Comprehensive biodiversity survey of Wategora Reserve and Everley Park along Duck River, western Sydney

Version 1.5

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Executive summary

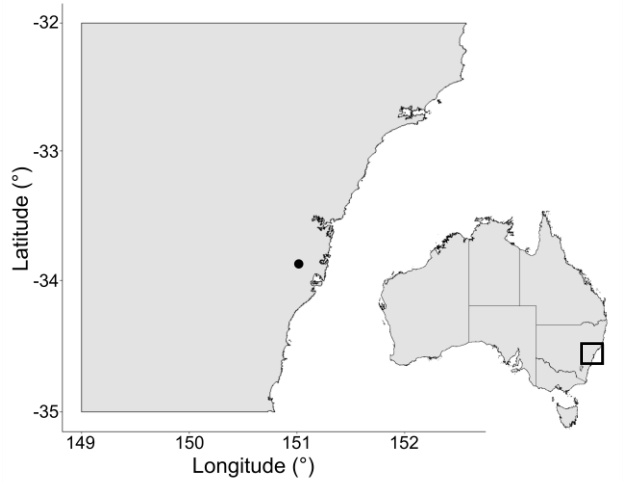
- Biodiversity survey conducted in Wategora Reserve and Everley Park along Duck River in western Sydney, across an area of ~25 ha in 2020-2022. Total survey time of ~378.6 hours.
- Total of 1932 species recorded, including a new species of silverfish discovered in the reserve and described from collected material as *Subtrinemura epigea*.
- In continuing surveys after 10 November 2022, a further 137 species found in ~59.6 hours.

Summary of observed species (to 10 November 2022):

Major group	**No. of species**
Algae	2
Bryophytes	24
Vascular plants	575
Birds	62
Mammals	6
Amphibians	3
Reptiles	13
Fishes	4
Nematodes	1
Segmented worms	5
Flatworms	4
Hydrozoans	1
Molluscs	12
Arachnids	127
Crustaceans	9
Myriapods	14
Entognathans	12
Insects	940
Slime moulds	3
Cyanobacteria	2
Fungi	113

Section 1 – Introduction

From 2020-2022 I surveyed Wategora Reserve, and the riparian vegetation adjacent to Everley Park directly south of the reserve, recording a total of 1932 species. The total survey area was ~0.25 km^2 (~25 ha), stretching ~1.3 km from north to south, and ~350 m at its widest point. Located in western Sydney, New South Wales, the survey area spans the suburbs of Chester Hill, South Granville and Auburn, and is under the jurisdiction of Cumberland Council. It is in a highly urbanised area, and is surrounded by sporting fields, a golf course, and industrial estates and commercial properties.



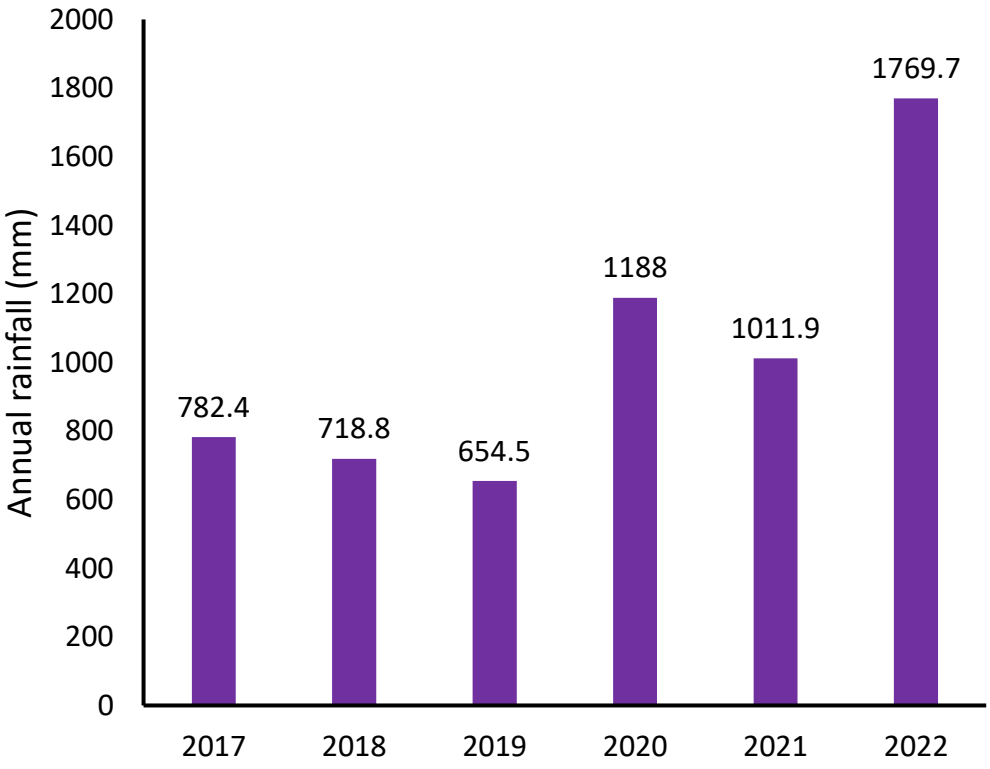
Location of survey area. Study area indicated by black circle.

Broader western Sydney region around the study area, highlighting the highly urbanised landscape. Satellite imagery from Nearmap AU, dated 19 November 2021. Survey area and immediate surrounds delineated by black rectangle.

I first visited the site on 25 April 2020, and then again on 8 May 2020; although I've included these days in my total survey time, I had not decided to conduct an extended survey at the time. My third visit was on 4 September 2020, and from then on I consistently surveyed the site until 19 December 2021. Excluding the first two surveys, I visited the site every 5-6 days on average. During this period, my longest absence was 31 days between 19 December 2020 and 19 January 2021, when I was out of Sydney. In total, I conducted 91 individual day surveys for a total of ~320.5 hours. On average, each day survey was ~3.5 hours (ranging from ~1.2 hours to ~6.1 hours). I also conducted 15 night surveys for a total of ~25.8 hours, and six other brief assorted trips during the day for ~4.5 hours, all up totalling ~350.8 hours. I conducted most day surveys by myself, but was also joined on various occasions by Kate Mesaglio, Daniel Smart, Peter Ridgeway, Damien Vella, Colin Gibson, Guy Taseski, and my mum and dad. Most night surveys were done with Kate Mesaglio, with Tony Iwane also joining one night survey.

I also visited the reserve on sixteen occasions in 2022 from January 22nd to November 10th. Adding these times to the other surveys, I spent a total of ~378.6 hours surveying the area. I have included all new species found in 2022 in my checklist despite the trips being outside my 'official' survey period. Note that I have continuted to visit the reserve sporadically during 2023 and 2024, and have also included these data.

Relative to the previous three years, rainfall was very high during my survey: in the six day period from 19-24 March 2021, 293.9 mm of rain fell. In some parts of Sydney, the first three months of 2022 saw ~1200 mm of rainfall, with rainfall already exceeding 2000 mm for 2022 by October 6th. I conducted surveys during all possible weather conditions, including during and immediately after heavy rain.



Annual rainfall during and preceding my survey. Note that there was no weather station within my survey area, so these rainfall data were extracted from the Bureau of Meteorology's gridded rainfall dataset (see Jones et al. 2009). The value for 2022 includes rainfall up to October 17th.

Survey techniques

Because my survey was designed to be comprehensive, I did not run any quadrats, transects, etc., but rather continuously surveyed the entire reserve ad nauseum. Most of the species I recorded were observed through simple active searching, but I also set up a UV lamp and moth sheet during many of my night surveys to survey insects. I endeavoured to survey as non-destructively as possible, but I did collect some insect specimens to send to experts for identification. I also collected a number of plant specimens and deposited them at the NSW Herbarium, some for identification and others for their value as vouchers.

My photographs were taken with a Nikon D5600 (upgraded to a Nikon D7500 during the survey) with a Tamron 18-400 lens, an Olympus Tough TG-5, and an iPhone 6s (upgraded to an iPhone 2020 SE during the survey).

iNaturalist

During my survey, I uploaded all of my observations as records to the biodiversity citizen science platform iNaturalist (see Mesaglio and Callaghan 2021). For almost all species recorded in my checklist, I uploaded at least one photographic or sound-based record (excluding a few species I was unable to photograph, but was able to positively identify by sight). I also uploaded many additional records for a large percentage of these species; these can all be searched for and viewed at this link.

When visiting my photographic vouchers, some names are different to those listed in this document; this is because iNaturalist does not follow the same taxonomic authorities as I have for some taxa. For example, whilst the Australian Plant Census (which I have followed) recognises *Callistemon* as a valid genus, Plants of the World Online (which iNaturalist largely follows) synonymises it under *Melaleuca*. I have ensured all names are a one-to-one match.

When following the above hyperlink, you'll note that the total species count is listed as 1678 (at time of writing), whereas I have listed 1932 species in this checklist. This is due to observations identified to taxonomic levels coarser to species. For example, in Section 9, I have listed two *Laccaria* spp., annotated as '*Laccaria* sp.1' and '*Laccaria* sp.2'. In iNaturalist, however, these are only counted as a single 'species', i.e., '*Laccaria*'.

All of my records on iNaturalist are dynamic. There may therefore be some discrepancies between the names I have listed in this checklist and those shown at the observations on iNaturalist due to identifications being added, or my identifications being corrected, since the time of writing.

For all species in this checklist, the final decision on an identification was mine, and thus any misidentifications are my responsibility.

Historical surveys

I was largely inspired to conduct this survey by the 'Price List'. Wategora Reserve was the focus (along with Rookwood Cemetery) of a botanical survey (of vascular plants only) from 1976-1978 by knowledgeable local resident Mr Tony Price. Although not formally published at the time, Price's 1979 report *The Vegetation of Duck River and Rookwood Cemetery, Auburn* (informally referred to as the 'Price List') was renowned for its comprehensiveness, and most surveys of Wategora Reserve since then have largely verified the continued presence of the most common species present without adding to Price's original survey (Hewitt 2013). However, in 1988, Price produced a second, updated list of native species for Wategora Reserve based on his continued observations and surveys since 1979. This list was presented to Ms Judith Rawling (the then Bush Management Officer at the National Trust of Australia (NSW)) by Price as part of a private report briefly summarising the vegetation communities present in the reserve, and several management-related issues that had arisen since his 1979 report. Although this report was partially reproduced in the *Duck River Open-Space Bushland Survey* report produced by Rawling (representing Greening Australia's Go-Green Urban Bush Management Unit; Rawling 1990), and his updated native species count was referred to, the list itself was published in the report due to a printing error (see details below). There also exist two additional lists building on Price's 1979 and 1988 lists:

1. Rawling and Mr John Neff conducted a brief survey of the non-native plant species in the reserve from November-December 1990; this was published as 'Appendix No. Two' in the *Duck River Open-Space Bushland Survey*. This Appendix was accidentally printed a second time in place of Price's 1988 list.

2. Mr Colin Gibson, a knowledgeable local expert and founding member of the Bankstown Bushland Society, produced an addendum (with one contribution from Ms Francine Bell) of additional native species in the reserve that had not been observed by Price from 1976-1988. Although this list spanned Gibson's observations from 1988-1992, a 1990 version of it was meant to be published in the *Duck River Open-Space Bushland Survey* as an addendum to Price's 1988 list. This list was never published.

Colin was kind enough to provide me with access to physical copies of these lists and reports. I consolidated these four historical species lists into a single master historical list and updated all names. I'm currently working on a more formal analysis involving this consolidated list and my own survey, but in summary:

From 1976-1992, a total of 538 vascular plant species were recorded from Wategora Reserve, including 300 native species from 1976-1992 and 238 non-native species from 1976-1990.

Whilst the main aim of my survey from a vascular plant perspective was to allow a comparison with this master historical list, I aimed to establish baseline data for the survey area for all other taxa.

Acknowledgements

I am indebted to many experts and passionate naturalists who have been kind enough to identify many of my observations over the course of my survey. The full list of all 821 (at time of writing) iNaturalist users who either provided new identifications for me, or confirmed my own identifications, can be found at this link. However, there are a number of people I'd like to explicitly mention here due to the valuable and/or high volume of 'improving' identifications (i.e., identifications to a finer level than what I could provide) they made for me. In no particular order:

Plants generally – Rhys Meyers, Scott W. Gavins, Guy Taseski, David Chan, Craig Robbins, Jason Stewart, Greg Steenbeeke, Sam Pyne, Adrian Gale

Grasses – Alan Bedggood, Harry Rose, Kevin Faccenda

Moths – Victor Fazio III, Nick Lambert, Ethan Beaver

Bees – John Ascher

Heteroptera - Danilo Lüdke, Ryan Shofner

Wasps - Susanna Heideman, Jeong Yoo

Molluscs – Ben Travaglini, Kevin Bonham

Orthopteroid insects – Matthew Connors

Orchids – Izak Schoon

Spiders – Ben Kurek, Jim Murray, Ethan Yeoman

Flies – Tony Daley, Chris Lambkin, Shaun Winterton, Even Dankowicz, Martin Hauser

Cicadas – Joel Poyitt, David Emery, Nathan Emery, Lindsay Popple, Christie Foster, Ben McBurney

Arthropods generally – Nicholas John Fisher, Brendon Cotterill

Butterflies – Peter Ewin

Odonata – Graham Winterflood, Reiner Richter, Christopher Burwell, John Tann, Deb Ralph

Ants – Katrina Sandiford, Emmett Collins-Sussman, Mark Ayers, Nigel Main, Daniel Kurek

Beetles – Boris Büche, Michael Geiser, Mark Hura, Martin Lagerwey, Samuel Brown, Francesco Vitali, Stephan Gottwald

Eucalypts – Dean Nicolle

Sedges, rushes, knotweeds – Karen Wilson

Flatworms – Leigh Winsor

Bryophytes, lichens – Max Mallen-Cooper

Birds (feathers) – Valia Pavlou, Tim Wang

Scale insects – Lyn Cook, Penelope Mills

Robber flies – Chris Cohen, 'asiola'

Mites – Ray Fisher

Myriapods, silverfishes - Nikola Szucsich

Ferns – Robert Gawen, Barbara Parris

Hoppers - Solomon Hendrix

Euphorbia – Nathan Taylor, Tchaylet Handel

Ligustrum - Cliff Tyllick

Aquatic insects – Matthew Pintar

Mosquitoes – Cameron Webb, Stephen Fricker

Cockroaches – 'sabutaro'

Fungi – Sofia Zvolanek, Konan Farrelly

Springtails – Jurek Radwański

Neuroptera – Vladislav Grigorenko

Isopods – Agapakis Nikos

Psyllids – Franceso Martoni

Gamochaeta – Guy Nesom

I want to reiterate here that this list is by no means exhaustive; there are many people who provided one or two highly valuable identifications, but who I have not mentioned by name due to space constraints. There are also many users who provided confirming identifications, which are also valuable. They can all be found at the provided link above, so please have a read through all of the names. I also need to thank the fantastic communities in the following Facebook identification groups: Australian Reptile/Amphibian Identification, Australian spider identification page, Fungi of the Sydney Region, Snails of Australia, and Australia & New Zealand Fungus Identification. An especially tremendous thank you is in order for the NSW Native Plant Identification page, the contributors to which provided me with many identifications of my plant observations. In particular, Lachlan Copeland, Peter Richards, Paul Rossington, Colin Gibson, Rob Miller, Gavin Phillips, Peter Wilson, Mat Misdale, Karen Wilson and Tony Rodd made many invaluable identifications for me (although again, this list is not exhaustive). A great thanks also to Peter Jobson for identifying my herbarium specimens; to Peter Dixon, Peter Ridgeway, Daniel Smart and Colin Gibson for invaluable information on the history of the reserve; to Paul Mesaglio, Carol Mesaglio, Kate Mesaglio, Pete Crowcroft and Nick Lambert for proofreading this report; and to Will Cornwell for all his help.

A number of experts were also kind enough to make identifications for me via email:

Beetles – Chris Reid

Silverfishes – Graeme Smith

Cleridae – Justin Bartlett

Cecidomyiidae – Peter Kolesik

Thrips – Laurence Mound

Hoppers – Murray Fletcher

Megalyra – Scott R. Shaw

Bryophytes – Chris Cargill

Dryinidae – Massimo Olmi

Assassin bugs – Daniel Swanson

Leaf miners – Ying Luo

Crane flies – Zac Billingham

Miridae – Gerry Cassis

Eumeninae – James M. Carpenter

Mutillidae – Madalene Giannotta

Hemiptera – Mallik Malipatil

Sawflies – Stefan Schmidt

Liverworts – Matt Renner

Thynnidae – Graham Brown

Millipedes – Cathy Car

Polyxenidae – Megan Short

Springtails – Penelope Greenslade

Molluscs – Michael Shea, Stephanie Clark

Bees – Terry Houston, Michael Batley

In compiling this section, I have undoubtedly forgotten some people, and I apologise profusely to them; your identifications were greatly appreciated.

I'd like to acknowledge that my survey was conducted on the land of the Wategora Clan of the Dharug Nation.

Survey dates

Day surveys

Date	Survey time (min)	Cumulative survey time (min)
25/04/2020	139	139
8/05/2020	52	191
4/09/2020	81	272
7/09/2020	215	487
10/09/2020	232	719
13/09/2020	287	1006
17/09/2020	317	1323
20/09/2020	214	1537
23/09/2020	233	1770
25/09/2020	240	2010
26/09/2020	286	2296
1/10/2020	256	2552
6/10/2020	276	2828
8/10/2020	227	3055
27/10/2020	275	3330
31/10/2020	99	3429
2/11/2020	240	3669
5/11/2020	70	3739
10/11/2020	224	3963
12/11/2020	226	4189
17/11/2020	177	4366
19/11/2020	221	4587
22/11/2020	259	4846
26/11/2020	191	5037
30/11/2020	195	5232
3/12/2020	228	5460
6/12/2020	216	5676
10/12/2020	224	5900
13/12/2020	208	6108
16/12/2020	158	6266
19/12/2020	153	6419
19/01/2021	179	6598
23/01/2021	120	6718
29/01/2021	146	6864
3/02/2021	190	7054
12/02/2021	178	7232
17/02/2021	144	7376
23/02/2021	225	7601
27/02/2021	218	7819
3/03/2021	228	8047
8/03/2021	198	8245
15/03/2021	258	8503
22/03/2021	147	8650
25/03/2021	213	8863
27/03/2021	272	9135

30/03/2021	270	9405
3/04/2021	234	9639
8/04/2021	219	9858
13/04/2021	178	10036
20/04/2021	261	10297
2/05/2021	268	10565
10/05/2021	173	10738
15/05/2021	187	10925
19/05/2021	187	11112
23/05/2021	189	11301
31/05/2021	179	11480
4/06/2021	154	11634
11/06/2021	186	11820
15/06/2021	224	12044
19/06/2021	132	12176
24/06/2021	188	12364
29/06/2021	127	12491
5/07/2021	183	12674
12/07/2021	185	12859
20/07/2021	191	13050
28/07/2021	162	13212
3/08/2021	184	13396
11/08/2021	200	13596
18/08/2021	240	13836
23/08/2021	180	14016
30/08/2021	232	14248
3/09/2021	188	14436
8/09/2021	229	14665
11/09/2021	249	14914
19/09/2021	232	15146
23/09/2021	170	15316
28/09/2021	278	15594
3/10/2021	297	15891
7/10/2021	249	16140
12/10/2021	240	16380
17/10/2021	235	16615
23/10/2021	300	16915
31/10/2021	282	17197
2/11/2021	219	17416
9/11/2021	220	17636
16/11/2021	243	17879
23/11/2021	230	18109
29/11/2021	211	18320
8/12/2021	215	18535
13/12/2021	364	18899
16/12/2021	329	19228

Night surveys

Date	Survey time (min)	Cumulative survey time (min)
7/02/2021	98	98
18/02/2021	115	213
12/03/2021	60	273
7/04/2021	100	373
14/04/2021	120	493
18/04/2021	68	561
4/10/2021	103	664
18/10/2021	128	792
22/10/2021	103	895
24/10/2021	53	948
25/10/2021	118	1066
5/11/2021	90	1156
8/11/2021	167	1323
12/11/2021	104	1427
17/12/2021	121	1548

Brief assorted trips

Date	Survey time (min)	Cumulative survey time (min)
15/02/2021	20	20
19/02/2021	25	45
22/06/2021	125	170
6/07/2021	33	203
25/08/2021	20	223
18/12/2021	46	269

2022 surveys (day)

Date	Survey time (min)	Cumulative survey time (min)
22/01/2022	27	27
6/02/222	21	48
15/02/2022	25	73
3/03/2022	35	108
4/03/2022	40	148
5/04/2022	96	244
14/09/2022	166	410
15/10/2022	235	645
17/10/2022	92	737
23/10/2022	32	769
26/10/2022	302	1071
30/10/2022	271	1342
3/11/2022	45	1387

2022 surveys (night)

Date	Survey time (min)	Cumulative survey time (min)
30/04/2022	120	120
28/10/2022	81	201
10/11/2022	85	286

The author at the southern entrance to Wategora Reserve.

Sheet with UV globe, set up at night to survey insects.

Section 2 – Maps and site information

a) Map of survey area. The red box represents the area covered by map b; b) Everley Park and adjacent riverine vegetation. The solid white line delineates the southern section of the survey area, and the numbers represent the major features discussed in detail below. All satellite imagery from Nearmap AU, dated 5 June 2021.

Southern Riverine Stretch

The following sites/features/areas of land correlate with the numbered locations in Map b from page 14 above, and are referred to extensively throughout this document. Note that the photographs shown here were taken at various times throughout the survey, and some of the depicted scenes have changed somewhat due to heavy rain, vegetation growth, etc.

This map depicts the section of the survey area along Everley Park that I refer to as the **southern riverine stretch**. It is delineated by the solid white lines and consists of:

- Duck River, represented by the dotted white line. This creek flows northwards, i.e., from the bottom of the map upwards.
- Riparian vegetation either side of the creek – this vegetation belongs to the endangered ecological community *River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*. Although there are many native species along this strip, especially the tree/shrub layer which includes *Angophora floribunda*, *Casuarina glauca*, *Melaleuca nodosa*, *Melaleuca styphelioides*, *Melaleuca linariifolia*, *Callistemon salignus*, *Acacia parramattensis*, *Acacia decurrens*, and *Bursaria spinosa*, it is extremely degraded and weed-infested, with non-native species such as *Bidens pilosa*, *Tropaeolum majus*, *Tradescantia fluminensis*, *Cestrum parqui*, *Ligustrum sinense*, *Ligustrum lucidum*, *Erythrina crista-galli*, *Galium aparine, Morus alba*, *Senna pendula* subsp. *glabrata*, *Paspalum urvillei*, *Salix babylonica*, *Alternanthera philoxeroides*, and *Ricinus communis* all present in large numbers or enormous, dense patches. The climbers *Cardiospermum grandiflorum*, *Anredera cordifolia*, and *Lonicera japonica* are also abundant.
- Narrow sections of parkland and sporting fields either side of the vegetation, from which the non-native grass *Cenchrus clandestinus* is constantly invading the riparian vegetation.

This section of the creek and its vegetation have undergone extensive management in the past few decades, including spraying and removal of weeds, native species plantings, and erosion control. In particular, much of the native mid- and understorey along this stretch has been planted or has self-seeded from plantings.

Enormous, dense patch of Tropaeolum majus, Tradescantia fluminensis and Galium aparine along the southern riverine stretch, spanning more than 50 m in length. The creek is to the immediate right of the shot.

1. '**Toilet block**' – lit up at night, even when the light towers along the sporting fields turn off, sometimes attracting moths and other interesting insects.

2. '**Creek crossing**' – this is a concrete weir stretching across the width of the creek; four large circular holes in the base of the weir control the flow of water through this section of the creek, especially after heavy rain and storms, helping combat the rampant erosion along the length of the creek. Having said this, during the heavy rains and flooding in mid to late March 2021, the creek surged several metres and rose above the height of the weir, hugely increasing the flow and causing heavy erosion of the banks. Although there are a few spots along the creek where you can cross from one side to the other due to the creek dramatically narrowing (in one section, the creek is reduced to just 5-10 cm in width) or via branches and other vegetation jutting across its width, this is the easiest way to cross. The far southern tip of the survey area is bounded by a *Eucalyptus robusta* jutting over the creek ~5-10 m south of this crossing. The weir's design also means it traps large items of debris and rubbish approaching from the south; throughout most of my survey, 2-3 of the 4 holes in the weir were blocked by such debris, reducing the water flow even further. Ten metres north of the crossing, at the western bank, is a large stormwater entrance that emerges onto a flooded concrete platform; this platform then extends into a thin concrete 'bridge' across to the eastern bank of the creek (that is, the eroding section of bank directly adjacent to the creek). When I checked this area on 12 October 2021, this concrete bridge had broken and toppled into the creek after heavy rain over the preceding week.

Above: the weir/creek crossing under normal flow conditions.

Below: the weir/creek crossing during the heavy rains and flooding in mid to late March 2021.

The concrete bridge just north of the creek crossing, having broken and toppled into the creek sometime in early October 2021 after heavy rain.

3a, 3b. '**Long jump pit**' and '**Double long jump pit**' – on the sporting fields, used as reference points.

4a, 4b, 4c. '**Three light towers**' – as above, used as reference points. I refer to them as the first, second and third light towers moving from south to north.

5. '**Everley Park**' – all of the parkland/sporting fields to the west of the creek are collectively Everley Park. Whenever I mention species occurring '**along the edge of Everley Park at the southern riverine stretch**', I'm referring to the interface where the sporting fields and the left/western edge of the riparian vegetation meet. Any time I mention the '**eastern bank of the southern riverine stretch**', I'm referring to everything to the east/right of the creek (the dotted line in Map b on page 14).

Typical vegetation along the edge of Everley Park (after mowing of the fields).

Typical vegetation along the eastern bank of the southern riverine stretch (looking southwards).

6. '**Ancient eucalypt hybrid**' – this is a *Eucalyptus fibrosa* subsp. *fibrosa* × *Eucalyptus moluccana*, with a 3.07 m circumference at breast height. Apparently, a circumference this great indicates the tree is 250+ years old, and thus precedes European settlement.

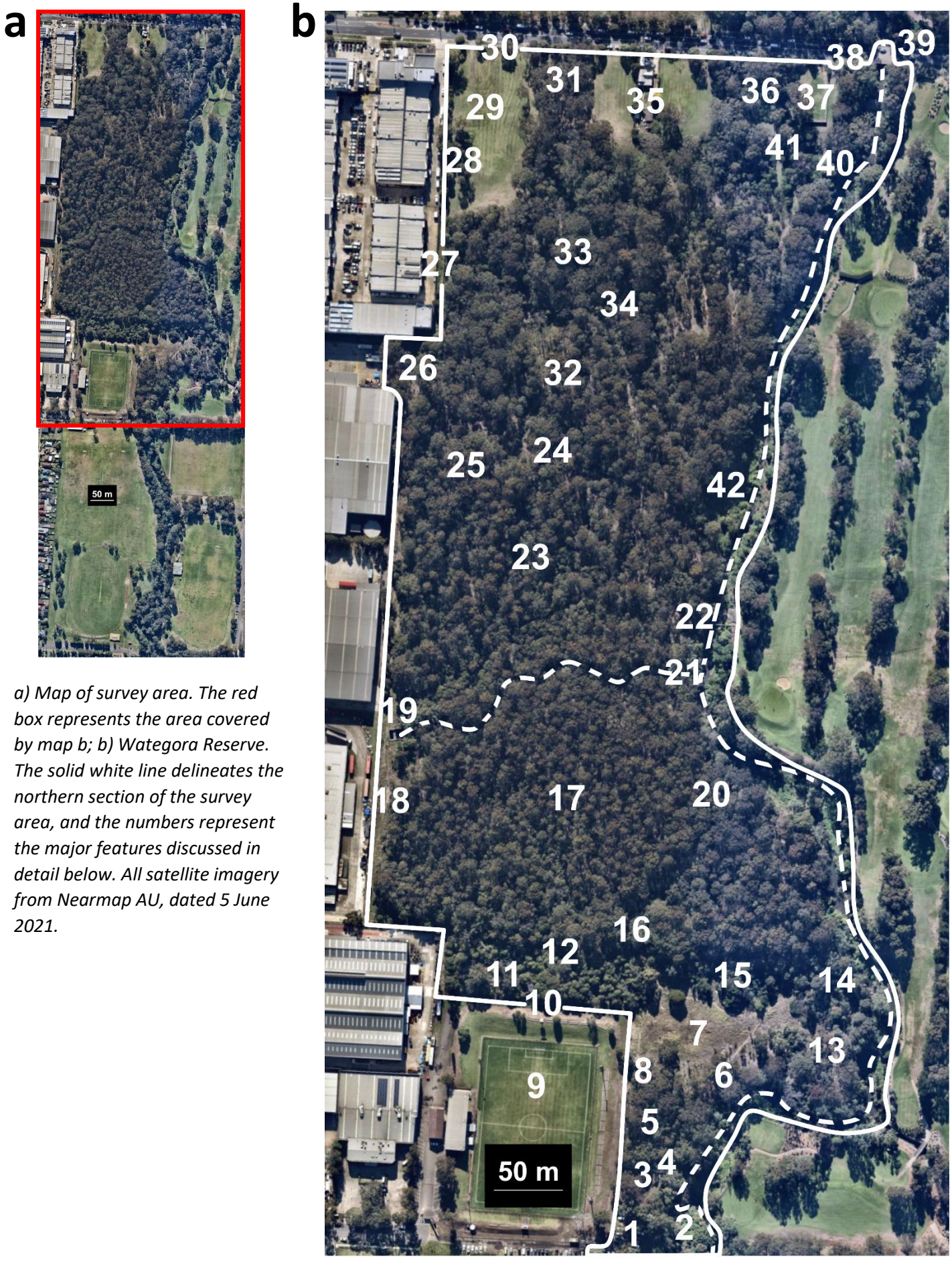
Putative Eucalyptus fibrosa × Eucalyptus moluccana, circumference at breast height of 3.07 m, estimated 250+ years old.

7. '**Big kink in the creek'** – used as a reference point.

8. '**Gap in the chain-link fence**' – for ~100 m along the border of the riparian vegetation and the large patch of mown lawn is a chain-link fence; halfway along it is an opening that allows access to the riparian vegetation. Used as a reference point.

9. '**Council plantings**' - In mid-late June 2021, huge swathes of weeds were cleared along a ~140 m stretch at the edge of Everley Park, and holes dug in preparation for plantings (specifically sometime between 15 and 22 June 2021; the holes weren't there during my survey on the 15th, but were there on the 22nd). At some point in the ensuing three weeks, the holes were filled with tube stock saplings of twelve species (I first observed them on 12 July 2021). Three of these (*Eucalyptus crebra, Acacia floribunda, Dodonaea viscosa*) represent 'new' species that were not previously present within the survey area. Unfortunately, within 2-3 weeks of the plantings, a number of saplings had already died/started to die. By October-November 2021, most were dead. By October 2022, it was almost impossible to tell any management was ever conducted there, with fewer than ten saplings remaining out of the original 100+, and the weeds having grown back even more vigorously than before.

a) Map of survey area. The red box represents the area covered by map b; b) Wategora Reserve. The white lines indicate the approximate position of all formal paths throughout the reserve. All satellite imagery from Nearmap AU, dated 5 June 2021.



a) Map of survey area. The red box represents the area covered by map b; b) Wategora Reserve. The solid white line delineates the northern section of the survey area, and the numbers represent the major features discussed in detail below. All satellite imagery from Nearmap AU, dated 5 June 2021.

Wategora Reserve

The following sites/features/areas of land correlate with the numbered locations in Map b from page 22 above, and are referred to extensively throughout this document. Note that the photographs shown here were taken at various times throughout the survey, and some of the depicted scenes have changed somewhat due to heavy rain, vegetation growth, etc.

This map depicts the section of the survey area that I refer to as **the reserve (proper)**. It is currently known as **Wategora Reserve**, but has been referred to historically (in both conversation and official documents) as Duck River Reserve, the Duck River Open-Space, and Duck River Bushland Reserve. It is bounded by Wellington Road to the north, Auburn Golf Course to the east, and a commercial/industrial complex to the west. It is delineated by the solid white lines and consists of:

- Duck River, represented by the dotted white line running north-south. This creek flows northwards, i.e., from the bottom of the map upwards. Some sections of the eastern bank are eroding to reveal huge amounts of old rubbish and debris, including industrial waste.
- What I refer to as the '**western arm of the creek'** (referred to as 'Cross Creek' in several historical documents), represented by the dotted white line running east-west. This arm flows eastwards, i.e., from the left of the map towards the right, where it joins with the main creek. Both banks (but especially the northern bank) are heavily eroding, with some sections 3-4 metres above the water. Although there are a number of common native species along the banks of this creek, including *Lepidosperma laterale*, *Juncus usitatus*, *Pittosporum multiflorum*, *Acacia fimbriata*, *Persoonia linearis*, *Adiantum aethiopicum*, and *Pellaea falcata*, the banks are very weedy, with *Phoenix canariensis*, *Callistemon viminalis*, *Bryophyllum delagoense*, *Bryophyllum pinnatum*, *Crassula multicava*, *Asparagus asparagoides*, *Cyperus* spp., *Pellaea viridis*, and *Ageratina adenophora* all common among many non-native species. There is a large pollutant trap around the stormwater entrance at its western end, but despite this, this arm of the creek is strewn with a lot of rubbish.
- A strip of riparian vegetation either side of the creek (excluding the western arm) – this vegetation belongs to the endangered ecological community *River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*. Just like the section of the creek along the southern riverine stretch, the riparian vegetation in the reserve is dominated by weeds, with all of the same species as the southern riverine section, plus a few other notable species such as *Phoenix canariensis*, *Euryops chrysanthemoides*, *Acer negundo*, *Lantana camara*, *Cyperus eragrostis*, and *Artemisia verlotiorum* also especially common.
- The rest of the vegetation throughout the reserve. This vegetation belongs to the critically endangered ecological community *Cooks River/Castlereagh Ironbark Forest of the Sydney Basin*, although a mosaic of different vegetation types are present, including grassland, open scrub, and woodland.

This reserve has undergone extensive management in the past few decades, including spraying and removal of weeds, native species plantings, and erosion control.

Duck River along the periphery of the southern grassy woodland.

Duck River near the creek-spanning pipe.

Heavy erosion on the eastern bank of Duck River, along the edge of Auburn Golf Course.

A section of the eastern bank that, having already started to strongly erode, had large sections swept away during the heavy rains and flooding in mid to late March 2021, exposing large quantities of industrial waste and debris.

Western arm of the creek. Most of this arm is quite shaded, especially compared to the main creek.

The water along this arm of the creek is almost always brown and sediment-filled from the constantly eroding banks.

A number of sections along the northern bank of the western arm of the creek are experiencing severe erosion; here, the top of the bank is 3–4 m above the water.

Occasionally, the water in the western arm will turn a dark brown-black colour, presumably due to input from the stormwater entrance at its western mouth.

1. '**Carpark immediately below the reserve**' – used on weekends for Everley Park and Melita Stadium. Mixture of planted (e.g., *Hesperocyparis lusitanica*) and remnant (e.g., *Eucalyptus eugenioides*) trees, but the ground layer is largely just weeds and degraded lawn (especially *Poa annua*) due to constant trampling by cars and foot traffic. There's a large patch of exposed dirt that always floods/becomes a huge puddle after rain. This area is often strewn with rubbish.

2. '**Large *Canna indica* patch at the southern end of the reserve**' – this entire section of the creek was strongly impacted by the heavy rains and flooding in mid to late March 2021, with all of the vegetation (including the *C. indica*) flattened or washed away, and the banks heavily eroded.

3. '**Southern entrance to the reserve**' – this is the only way to enter the reserve from Everley Park. This entrance is a metal fence/barrier designed to allow foot traffic through, but prevent entry by cars or large trail bikes. This fence was torn open sometime in late February/early March 2022, and has not been fixed as of November 2022.

Southern entrance to the reserve proper.

4. '**Grassland at the far southern end of the reserve**' – small strip of grassland immediately north of the southern edge of the reserve, running east-west. Mixture of native and non-native species, although the latter have come to dominate in 2022.

5. '**Far southern bushland**' – depicted as exotic grassland on maps dating to the early 1990s, but from the early 2000s onwards this section was noted as a 'secondary regeneration area'. This section is now *Melaleuca*/*Eucalyptus* scrub, the core with a ground layer of *Commelina cyanea* and multiple *Einadia* species. This section of bushland, especially at the western and eastern thirds, saw an incredible increase in the diversity and coverage of non-native weeds during the wet conditions of

2022. This entire section of bushland first flooded during the heavy rains and flooding in mid to late March 2021 and was under ~15 cm of water, although this rapidly evaporated as soon as the rain ended. During this flooding, large numbers of Striped Marsh Frogs (*Limnodynastes peronii*) and Common Eastern Froglets (*Crinia signifera*) appeared and were calling from this section; it was also utilised by at least one Eastern Long-necked Turtle (*Chelodina longicollis*). Standing water (ranging from small to large pools) was present here for most of 2022 due to constant rain.

Flooding in the far southern bushland during the heavy rains in mid to late March 2021.

6. '**Edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland**' – there are many sections of metal fencing throughout the reserve, mostly used to close off illegal paths and encourage regeneration, but I mention this section specifically because it's the only spot where the regionally significant native pea *Zornia dyctiocarpa* is found in the reserve. Part of this fence was crushed on 23/24 August 2021 when a large eucalypt fell on it during powerful winds.

7. '**Southern exotic grassland**' – large grassland dominated by a large diversity of non-native species, including huge numbers/patches of *Verbena bonariensis*, *Verbena quadrangularis*, *Eragrostis curvula*, *Cirsium vulgare*, *Senecio madagascariensis*, *Avena barbata*, *Rumex crispus*, *Gladiolus undulatus*, *Medicago polymorpha*, *Plantago lanceolata* and *Briza subaristata* among many, with different species abundant/dominating under different conditions/times of the year. However, there are also large patches of the native grass *Themeda triandra* (some of which are plantings), the native fern *Cheilanthes sieberi* subsp. *sieberi* (although mostly along the edges of the grassland), and scattered native trees and shrubs, e.g., *Acacia ulicifolia*, *Acacia parramattensis, Acacia falcata*, and two huge *Melaleuca decora* that date back to at least 1943 (based on historical air imagery). Most of

this grassland is on the western side of the main path running northwards into the southern bushland, but it also extends eastwards of the path, up to the edge of the southern grassy woodland where the grassy layer transitions into almost entirely *Themeda triandra* and *Imperata cylindrica*. This grassland has noticeably expanded during 2022, in particular invading the southern bushland and along the fence abutting Melita Stadium.

Southern exotic grassland during a time when Verbena bonariensis and *Verbena quadrangularis were especially dominant (November 2020).*

One of the two huge, old-growth Melaleuca decora in the southern exotic grassland.

8. '**Patch of fallen *Melaleuca* bark sheets**' – large patch of 10-15 *Melaleuca decora* bark sheets lying on the ground at the interface between the northwestern corner of the far southern bushland and the southwestern corner of the southern exotic grassland. These were valuable habitat/microrefugia for a diverse and abundant assemblage of invertebrates, including land planarians, trapdoor spiders, centipedes, woodlice, scorpions, slugs, and ants among many, and indeed this was where I discovered the new silverfish species *Subtrinemura epigea*. As of mid-October 2022, this area has been completely invaded and smothered by dense patches of *Eragrostis curvula, Avena barbata* and *Lolium multiflorum* from the southern exotic grassland, and the sheets are now absent. Any new sheets falling off the trees are unable to reach the ground past the grasses, preventing their use as habitat.

The patch of Melaleuca bark sheets at the edge of the southern exotic grassland in March 2021.

The same area in October 2022.

9. '**Melita Stadium**' – mostly used for football and rugby league.

10. '**Section of western exotic grassland above Melita Stadium**' – almost entirely non-native grasses and other weeds, including *Digitaria sanguinalis*, *Cynodon dactylon*, *Galium aparine, Bromus*

catharticus, *Cardamine hirsuta*, *Euphorbia peplus*, *Rumex crispus* and *Malva parviflora*. A few large patches of 'weedy' natives such as *Wahlenbergia gracilis* and *Portulaca oleracea.*

11. '**Isolated *Melaleuca* patch***'* – rectangular section of trees, mostly *Melaleuca nodosa, M. styphelioides*, and *M. decora*, sitting above Melita Stadium and cut off by exotic grassland on all sides. Almost the entire patch is planted; the area is shown as a continuation of the southern exotic grassland in maps from the early 1990s, and indeed historical air imagery of the reserve shows that there were very few trees here as recently as 2004. The only remnant/original trees here are a small grove of ~7-10 *M. decora* running north-south halfway across the patch; they seem to be similar in age, possibly older, than the two large *M. decora* in the southern exotic grassland. This section also includes a few *Eucalyptus grndis* and an *E. microcorys*, most of which are planted. The ground layer is dominated by *Oplismenus hirtellus* and *Commelina cyanea*, as well as incredible quantities of the non-native grass *Ehrharta erecta*.

12. '**Western split grassland**' – another grassland dominated by non-native weeds, including *Atriplex prostrata*, *Stachys arvensis*, *Amaranthus viridis, Urospermum picroides, Verbena* spp., and *Bidens pilosa* among many. Also some large patches of the native species *Commelina cyanea* and *Convolvulus erubescens*.

13. '**Southern grassy woodland**' – at its core, one of the most weed-free sections in the reserve, and indeed there are a number of native species in this section found nowhere else in the reserve. The native grasses *Themeda triandra* and *Imperata cylindrica* dominate, with large numbers/patches of *Opercularia diphylla*, *Entolasia stricta*, *Hibbertia pedunculata*, *Pimelea linifolia*, *Goodenia hederacea*, and *Polymeria calycina* in the herb/small shrub layer, and a middle shrub/small tree layer of *Acacia falcata*, *Acacia longifolia*, *Acacia parramattensis, Leptospermum trinervium*, *Leptospermum polygalifolium* subsp. *polygalifolium*, *Bursaria spinosa, Pultenaea villosa*, *Dillwynia sieberi* and *Melaleuca nodosa* among others. There are also large numbers of the small fern *Cheilanthes sieberi* subsp. *sieberi.* However, the section of creek abutting this section is very weedy (although this is true along all sections of the creek), with many species starting to creep into the woodland, such as *Tradescantia fluminensis* and *Lonicera japonica.* There are also three non-native weed species that have started to invade the 'outer core' of this woodland (especially during 2022): *Lantana camara, Ligustrum sinense* and *Ehrharta erecta*. The 'inner core' is still largely intact and free of woody weeds and non-native grasses, with only *Centaurium erythraea* and *Senecio madagascariensis* present. Interestingly, historical maps label this section as *Themeda* grassland, and satellite imagery from as recently as 2005 shows very open habitat and few trees or shrubs compared to the current composition, indicating a relatively rapid transition from almost pure grassland to woodland. This section was historically used as overflow parking for Melita Stadium before the installation of the fence/barrier at the southern end of the reserve; the vegetation community present now is almost entirely natural regeneration.

Southern grassy woodland in early summer 2021, with Acacia parramattensis and Pimelea linifolia flowering prolifically, and a dominant grassy layer of Themeda triandra and Imperata cylindrica.

Southern grassy woodland in early-mid spring 2021.

Eastern edge of the southern grassy woodland in mid-spring 2020, with Melaleuca nodosa flowering prolifically. Note that the ground layer/undergrowth is much more open here closer to the creek.

14. '**Swale to the immediate right of the main path coming from the southern exotic grassland**' – as you enter the southern bushland from the main path cutting through the southern exotic grassland, there's a large swale directly to the right of the path. It filled with water after the heavy rains and flooding in mid to late March 2021 and, thanks to being relatively shaded, remained as an ephemeral pool for a number of weeks, providing a perfect breeding ground for thousands of mosquitoes, including *Aedes procax*, *A. vittiger*, and *A. notoscriptus*. It has been permanently inundated for almost the entirety of 2022. Large patches of *Alternanthera denticulata* and *Scutellaria racemosa* grow in and around the swale.

15. '**Open woodland directly above the southern exotic grassland**' – this section is dominated by a wide, exposed (but shaded in some parts), damp, heavy clay path. The path is covered in a high diversity biocrust community of lichens, liverworts and mosses. These almost entirely disappeared during hot/dry weather in mid to late spring 2021, but then started to reappear at the end of November after heavy rain returned, and have boomed throughout 2022. Species include *Asterella drummondii*, *Cladia aggregata*, *Cladia muelleri*, *Campylopus introflexus*, *Fossombronia* and *Chiloscyphus semiteres*, which provide habitat for a high diversity of small invertebrates. There are also a number of large meat ant (*Iridomyrmex purpureus*) nests along the path. The edges of the path are lined by a number of native shrubs/small trees, including *Acacia parramattensis*, *Pultenaea villosa*, *Callistemon linearis*, *Callistemon pinifolius*, *Lissanthe strigosa* and *Daviesia ulicifolia*, and very large numbers/patches of *Juncus usitatus, Dichelachne micrantha* and *Austrostipa rudis*. Where the southern exotic grassland transitions into this woodland, there are large patches of the non-native species *Sida rhombifolia* and *Cestrum parqui*. This woodland (especially the eastern end) has seen a large increase in the number of non-native weeds during the heavy rains of 2022, with species such

as *Plantago lanceolata, Soliva sessilis, Senecio madagascariensis, Hypochaeris radicata,* and *Taraxacum officinale* among others all appearing and proliferating. *Plantago myosuros* subsp. *myosuros* is also hugely prolific along the path edges here.

Inundation of the main path in the open woodland directly above the southern exotic grassland after heavy rain in early March 2022.

Once the water drained away, the bryophyte community in this section boomed.

16. '**Weedy swale in the southern bushland**' – broad, large swale filled and surrounded with mostly non-native species, including *Phalaris aquatica*, *Cyperus eragrostis, Scutellaria racemosa*, *Rumex crispus*, *Verbena* spp., *Nothoscordum gracile*, and *Bidens pilosa*, although there are also large patches of the native species *Imperata cylindrica* and *Commelina cyanea*. This swale has been inundated for most of 2022, and the surface covered in the native species *Lemna disperma*.

17. '**Southern bushland**' – this core section of bushland stretches from the open woodland directly above the southern exotic grassland northwards to the western arm of the creek. This section is woodland and open forest, with the canopy dominated by *Eucalyptus fibrosa*, *Eucalyptus moluccana* and *Melaleuca decora*, and is relatively moist compared to the rest of the reserve. There's also a dense stand of unusually tall/skinny *Melaleuca nodosa* right in the centre that regenerated after a recent fire; this area is quite shaded and the understorey and ground layer are very sparse. Other common native climber, shrub and small tree species include *Melaleuca styphelioides*, *Callistemon salignus*, *Denhamia silvestris*, *Breynia oblongifolia, Acacia pubescens*, *Exocarpos cupressiformis*, *Tylophora barbata*, *Polyscias sambucifolia*, *Notelaea longifolia*, *Dodonaea triquetra*, *Ozothamnus diosmifolius*, *Myrsine variabilis*, *Correa reflexa* var. *reflexa*, *Dillwynia sieberi*, *Myoporum boninense*, and *Leucopogon juniperinus*. Dominant herbs include *Lobelia purpurascens*, *Eremophila debilis*, *Commelina cyanea*, *Plectranthus parviflorus*, and *Brunoniella australis*. Unfortunately, a number of non-native weeds are spread throughout this section, including *Lantana camara, Ochna serrulata*, *Olea europaea*, *Bryophyllum delagoense*, and *Bidens pilosa*. *Ehrharta erecta* is also abundant. The clay paths in this section rapidly dry out and deeply crack without consistent rain.

Typical vegetation in much of the southern bushland, with the understorey/ground layer a mosaic of shrubs/small trees and bare leaf litter, and the canopy dominated by Eucalyptus fibrosa, Eucalyptus moluccana and Melaleuca decora.

The dense stand of Melaleuca nodosa in the core of the southern bushland. Note the large shaded patches, and the sparse understorey/ground layer.

18. '**Western exotic grassland**' – runs along most of the western periphery of the reserve up to the western alcove, but the main section is south of the stormwater entrance. Huge, dense patches of grasses dominate this section. Although non-native grass and herb species are most common here, including large, dense patches of *Chloris virgata*, *Lolium rigidum*, *Setaria parviflora*, *Eragrostis curvula, Nothoscordum gracile*, *Paspalum dilatatum*, *Cynodon dactylon*, *Petrorhagia nanteuilii*, and *Linum trigynum*, there are also some large patches of native grasses and herbs such as *Wahlenbergia gracilis, Solenogyne bellioides*, *Calotis cuniefolia*, *Calotis lappulacea*, *Bothriochloa macra*, *Eriochloa pseudoacrotricha*, and *Euchiton sphaericus*. Most of these natives are spread across the very large patches of dry, exposed clay near the stormwater entrance.

Western exotic grassland.

Large patches of exposed soil at the western exotic grassland in 2021, although these are now greatly reduced due to rapid growth of non-native grasses here throughout 2022.

19. '**Stormwater entrance**' – the western arm of the creek flows eastwards from this point. A large pollutant trap is built around this entrance, but it seems to let a lot of rubbish through (although perhaps it **is** working effectively, and the rubbish I've observed in the creek is just a small percentage of the large amount of rubbish travelling through the system).

20. '**Swale at the green mesh track**' – at this spot, the main path becomes a green mesh track for ~10 metres that passes over a swale. Like most of the swales in the reserve, it filled considerably during the heavy rains and flooding in mid to late March 2021 and provided habitat/breeding grounds for frogs and mosquitos. The section of creek to the immediate east of this mesh track/swale is especially weed-infested, with enormous, dense patches of non-native species. This swale extends for ~50-60 metres southwestwards of the mesh track itself, and becomes the '**shaded, damp swale in the southern bushland**'. Both of these swales have been permanently inundated for almost all of 2022. Around the shaded, damp swale in the southern bushland are large numbers/patches of *Commelina cyanea, Cyperus eragrostis, Rumex conglomeratus, and Rumex brownii*.

Commelina cyanea dominating the shaded, damp swale in the southern bushland.

21. '**Central bridge**' – located where the western arm of the creek meets/flows into the main creek. Made of the same material as the green mesh track.

22. '**Large, exposed patch of soil near the creek-spanning pipe**' and '**creek-spanning pipe**'– after crossing the central bridge (walking northwards) and emerging into the open, there was a large area of dry, exposed clay covered with large patches of native Asteraceae, although unfortunately these were cleared in early 2022 during public works. Most of these patches were *Calotis lappulacea*, but *Euchiton involucratus*, *Euchiton sphaericus*, and *Vittadinia cuneata* subsp. *cuneata* were also present. Jute Mat was installed on the slope here after the works were finished, however, it has already started to tear and break apart due to heavy rains, and the slope is eroding. Around this area (from the bridge northwards) is a deposit of Minchinbury Sandstone, on which there is a large stand of *Eucalyptus punctata*. Also directly in line with this area is a large sewage pipe that spans the width of the creek, connecting the reserve and the golf course. The creek around this pipe is usually quite fast-flowing. Underneath the pipe is a broken concrete pillar; the top of it has been hollowed out by weathering/erosion, and is often filled with water from rain, providing a microhabitat for mosquito larvae, snails, and other aquatic invertebrates.

Close-up of the exposed soil just north of the central bridge, showing evidence of the Minchinbury Sandstone deposit.

The ephemeral pool on the broken concrete pillar underneath the creek-spanning pipe, an important microhabitat for a number of aquatic invertebrates.

23. '**Central bushland**' – this core section of bushland stretches from the western arm of the creek northwards to the central split path. The southern half of this section is mostly open scrub dominated by *Melaleuca decora* and *Melaleuca nodosa*, which then transitions into woodland with more eucalypts (mostly *Eucalyptus fibrosa* and *Eucalyptus moluccana*) moving northwards; both halves are relatively dry. Common native climber, shrub and small tree species include *Notelaea longifolia, Acacia pubescens, Pandorea pandorana, Phyllanthus gunnii, Dodonaea triquetra, Kunzea ambigua, Lepidosperma laterale, Lomandra multiflora, Breynia oblongifolia, Bursaria spinosa, Exocarpos cupressiformis, Tylophora barbata, Lissanthe strigosa, Daviesia ulicifolia,* and *Leocopogon juniperinus*. Dominant herbs/small plants include *Brunoniella australis, Oxalis perennans, Lobelia purpurascens, Dichondra repens,* and *Cheilanthes sieberi* subsp. *sieberi*. Non-natives include *Ochna serrulata, Bidens subalternans,* and *Asparagus aethiopicus*. Across October and early November 2021, there was a large sewage overflow (caused by tree roots entering a pipe and causing a large blockage) that originated from the western perimeter of the reserve and spread ~70 m (along an old, dry creek line, close to and parallel to the western edge) into the northwestern quadrant of this bushland section. The sewage was actively flowing close to the source, but towards the end of the plume it became a series of large, stagnant pools. Tens of thousands of mosquitoes (*Culex quinquefasciatus*) bred in the plume (both the free-flowing and stagnant parts), with large patches of cyanobacteria also covering the stagnant pools. A number of plants in the general vicinity seemed to be detrimentally affected, e.g., patches of *Dichondra repens* along the edges of the overflow began to die off. The western perimeter running along the edge of the central bushland was engulfed by weeds throughout 2022.

A Melaleuca-dominated section of the central bushland.

Typical vegetation in the northern half of the central bushland, with more eucalypts, especially Eucalyptus fibrosa, present.

Cyanobacteria-covered plume formed by the sewage leak in the central bushland.

24. '**Central split path**' – wide, exposed clay path cutting northwest-southeast across almost the entire width of the reserve. The substrate here is quite stony/gravelly in parts, particularly towards the western end. The path is lined by native shrubs and herbs such as *Daviesia ulicifolia, Goodenia hederacea, Thysanotus tuberosus, Pimelea linifolia* subsp. *linifolia, Lissanthe strigosa, Callistemon linearis* and *Lepidosperma laterale*. Also lining the path were many relatively rare small native species (mostly Asteraceae) uncommon or absent elsewhere in the reserve, such as *Diuris maculata, Pterostylis rufa, Chrysocephalum apiculatum, Glossocardia bidens, Linum marginale,* and *Vittadinia cuneata* subsp. *cuneata*, and large beds of the moss *Campylopus introflexus* and the lichen *Cladia aggregata*. The central split path was one of the most important areas in the reserve for rare native plant species prior to the public works in 2022 (see Section 4). Unfortunately, much of this diversity was buried by mulch.

The central split path, previously one of the most important areas in the reserve for rare plants, in late September 2021, pre-public works.

25. '**Two parallel swales in the central bushland**' – running along what seem to be old, long-dry creek lines for ~20-30 m, these two swales didn't become inundated until mid-2022. However, a rich community of native plants quickly appeared in and around them, including *Elatine gratioloides, Gratiola pedunculata, Juncus usitatus, Hydrocotyle sibthorpoides, Centipeda minima* subsp. *minima*, *Juncus planifolius* and *Centella asiatica*. Striped Marsh Frog eggs were also seen here.

The right-hand swale of the two parallel swales in the central bushland.

26. '**Western alcove**' – the fence that runs along the western perimeter of the reserve (separating it from the industrial complex) opens here into a small alcove. The entire alcove is covered in mulch/wood chips, and so almost all of the plants in here (except for a few large *Melaleuca* and *Eucalyptus*) are non-native weeds, such as *Bidens pilosa, Ipomoea purpurea, Veronica persica, Lysimachia arvensis*, and *Chenopodium album*; these exploded in numbers during 2022 to cover the entire area. In the northwestern corner of this alcove is a very wet, boggy section of mud in which there are a number of earthworms, land planarians, terrestrial amphipods and various fly larvae (e.g., Chironomidae, Stratiomyidae).

Northwestern corner of the western alcove. Despite its looks, this area has a rich diversity of invertebrates.

27. '**Sandstone wall at the northwestern corner of the reserve**' – separates the reserve from the commercial complex to the west. Lots of non-native weeds along the length of this wall, including *Bidens pilosa, Lactuca* spp.*, Ligustrum sinense,* and *Hypochaeris radicata*. Also huge patches of *Imperata cylindrica*.

28. '**Small, isolated patch of bush**' – a ~30 m x 10 m planted patch of vegetation. Mix of species including *Lomandra longifolia, Hakea sericea, Melaleuca nodosa,* and *Callistemon salignus*. Looking at historical air imagery, this entire patch (except for one tree) seems to have been planted sometime between 2005 and 2012.

29. '**Northwestern lawn**' – there used to be a house in the far northwestern corner of the reserve, but it was demolished sometime between June and August 2020, leaving behind a large expanse of lawn (which is still mown and sprayed). Seems to be mostly composed of the grasses *Cynodon dactylon* and *Digitaria didactyla*, along with typical lawn weeds.

30. '**Northwestern entrance to the reserve**' – one of two northern entrances to the reserve.

31. '**Far northern bush behind the bench seat**' – small patch of mostly planted vegetation (mostly shrubs/small trees common elsewhere throughout the reserve such as *Acacia falcata* and *Callistemon linearis*), although some of the small herbs and grasses such as *Laxmannia gracilis, Alternanthera* sp. A Flora of New South Wales (M.Gray 5187) J.Palmer*, Echinopogon ovatus, and Microlaena stipoides* are naturally occurring. Abutting the southern edge of this patch is a wooden bench seat dedicated to Tony Price.

32. '**Pile of large cardboard boxes**' - over the course of my survey, someone kept consistently dumping large cardboard boxes into a pile at the right of the northwestern path through the northern bushland. Each time it rains they get saturated, dry out, and continue to break down. A number of invertebrates (ants, termites, woodlice among many) use them as shelter.

33. '**Swale in the northern bushland**' - in the northern section of the northern bushland is a swale surrounded by fairly dense vegetation. I first visited this spot on 4 June 2021; it was an ephemeral swamp, being full of water (from the periods of heavy rain from March through to May, and then again on the morning of that day). The microhabitat formed here resulted in a number of water-associated plants appearing and flourishing, including natives such as *Alternanthera denticulata, Persicaria decipiens, Juncus usitatus,* and *Elatine gratioloides* (and later, *Gratiola pedunculata*), and non-natives such as *Cyperus eragrostis* and *Scutellaria racemosa*. There is also a huge diversity of aquatic invertebrates that appears here when water is present, including three different native aquatic snails, water fleas, flatworms, mosquitoes, mayflies, ostracods, copepods, and beetles among others. Although the water does seem to be retained here for a longer period of time compared to other swales in the reserve, it does still dry up quickly during hot weather. For example, on 23 October 2021, it was full, with the water ~20 cm deep and covering the entire swale. On 31 October 2021, the water had dropped dramatically, with the total area of water reduced to a third, and the depth perhaps 10 cm maximum. Just two days later, the water had significantly dropped again, with the eastern 'shoreline' receding half a metre. Six hours later on the same day (2 November 2021), the total area of water had been reduced to perhaps 20 cm x 20 cm and barely a few centimetres deep, and all water was gone by the next day. Despite this rapid water loss, the soil around and in the swale does seem to stay quite damp, mostly thanks to the large amounts of leaf litter and decaying vegetation that have built up around/in it; stepping on this litter causes water to well up from underneath. This seems to have helped the plants persist even during periods when the swale dries up, and probably helps facilitate rapid recolonisation by aquatic invertebrates as well. The swale and the surrounding areas flooded significantly again after heavy rain from 5-12 November 2021, and indeed Striped Marsh Frogs were heard calling from the swale on 12 November 2021. After heavy rain from 21-27 November 2021, the swale greatly increased in size to over 50 m in length and ~40 cm at its deepest. This swale was permanently inundated during 2022, and was the first major swale in the reserve with consistent water.

The swale in the northern bushland at its deepest section (~40 cm).

34. '**Northern bushland**' – this core section of bushland stretches from the central split path to the northwestern lawn in the northwest and the northern grassy woodland to the northeast. This section is woodland and open forest, and is largely split into two distinct sections. The western third (separated from the rest of the northern bushland by the major northwestern path) is not as open, with the tree layer mostly *Melaleuca decora* interspersed with *Eucalyptus fibrosa* and *Eucalyptus moluccana*. The central and eastern thirds are mostly very open (large amounts of light) woodland and forest with a strong ground layer of the native grass *Themeda triandra* (mostly in the middle third), and *Eucalyptus amplifolia* subsp. *amplifolia* also appearing as a dominant tree species. Either side of the northwestern path are large numbers of *Lepidosperma laterale* and *Gahnia aspera,* as well as a number of large moss beds, although unfortunately the path was greatly degraded during the public works in 2022. Common native shrub and small tree species throughout the northern bushland include *Acacia decurrens, Acacia parramattensis, Callistemon linearis, Callistemon pinifolius, Ozothamnus diosmifolius, Dodonaea triquetra, Bursaria spinosa, Lissanthe strigosa,* and *Breynia oblongifolia*. Dominant herbs/small plants include *Oxalis perennans, Brunoniella australis, Lobelia purpurascens, Dichondra repens, Senecio hispidula, Caesia parviflora, Echinopogon caespitosus, Centella asiatica, Commelina cyanea, Cyanthillium cinereum, Laxmannia gracilis,* and *Boronia polygalifolia*. Non-native species include *Solanum seaforthianum, Solanum pseudocapsicum, Ochna serrulata, Bidens pilosa,* and *Chlorophytum comosum.*

Typical vegetation in the central/eastern section of the northern bushland, with a relatively lower density of trees compared to other sections (but mostly taller trees), high amounts of light and a strong grassy ground layer of Themeda triandra.

The northwestern path cutting through the northern bushland, late 2021. Note the large clumps of Lepidosperma laterale. Unfortunately many of these were cleared during public works.

Various blown-in signs and dumped rubbish that have become important microrefugia for invertebrates. From top-left, clockwise: cardboard boxes in the northern bushland; metal sign at the interface between the western exotic grassland and southern bushland; corflute sign in the southern exotic grassland; metal sign in the southern grassy woodland.

35. '**House**' – currently occupied. I did not record or photograph any of the plants associated with this house to preserve the owner's privacy.

36. '**Large swale leading from the far northern stormwater entrance**' – in between the occupied house and the empty lot is a stormwater pipe passing underneath Wellington Road and away from the reserve. Extending southwards for ~50 metres from this pipe is a long swale filled with a mix of native and non-native species, including *Plectranthus parviflorus, Passiflora suberosa, Polyscias sambucifolia, Centella asiatica, Callistemon linearis, and Murraya paniculata*.

37. '**Empty lot**' – there used to be a house here, but it was demolished sometime between January and April 2019. A '**metal fence surrounding the empty lot'** remained for much of the survey period, along with an abandoned garden bed of plants (mostly non-native succulents) at the northeastern corner, however, the fence was removed at some point in October 2022. The lawn inside the lot is still mown, similar to the northwestern lawn. Directly along the western edge of the lot are two ~17 m tall, 100+ (possibly 200+) year old *Eucalyptus amplifolia* subsp. *amplifolia*; a huge diversity of invertebrates can be found on their trunks.

The two huge Eucalyptus amplifolia subsp. amplifolia next to the empty lot.

The empty lot after removal of the fence in October 2022.

38. '**Northeastern entrance to the reserve**' - one of two northern entrances to the reserve.

39. '**Wellington Road bridge**' – the creek passes under Wellington Road at this point.

40. '**Metal stairway at the northern end of the reserve**' – after entering the reserve from the northeastern entrance and walking along the main path, there's a small path leading to the left (towards the creek); this leads down a small flight of metal stairs, which takes you along the creek and back towards the Wellington Road bridge.

41. '**Northern grassy woodland**' – stretching in an oblique arc underneath the empty lot is a mosaic of low, open, grassy woodland and exotic grassland. Aside from the usual *Melaleuca* and *Eucalyptus*, the tree layer is mostly *Acacia decurrens*, with common small trees and shrubs including *Ozothamnus diosmifolius* (quite dominant here)*, Kunzea ambigua, Indigofera australis*, and *Plectranthus parviflorus*, and large patches of native herbs lining the paths/interspersed in the grasslands, including *Calotis cuneifolia, Vittadinia sulcata, Euchiton sphaericus, Goodenia hederacea, Scaevola albida, Cotula australis,* and *Wahlenbergia gracilis*. The non-native species are mostly grasses such as *Megathyrsus maximus, Cynodon dactylon, Lolium perenne, Bromus catharticus, Briza minor, Briza maxima, Eragrostis tenuifolia, Eragrostis curvula, Ehrharta erecta,* and other weeds such as *Soliva sessilis, Verbena bonariensis, Hypochaeris albiflora, Linum trigynum, Lepidium bonariense, Sonchus oleraceus, Capsella bursa-pastoris, Gamochaeta* spp.*, Taraxacum officinale,* and *Modiola caroliniana*.

Typical vegetation in the northern grassy woodland, with the tree layer dominated by Acacia decurrens and the ground layer mostly non-native grasses, especially (in 2022) Eragrostis curvula.

42. '**Huge sea of weeds along the creek in line with the central split path**' - ~70 metres directly north of the creek-spanning pipe is a huge, massively dense, high diversity patch of non-native weeds. This patch is ~25 metres wide stretching from the edge of the path to the creek, and ~70 metres tall. Walking through this patch is quite difficult, with most of it waist, chest, or even head-high.

One of the major paths in the central bushland, completely inundated after heavy rains in March 2022. This was a common sight throughout the La Niña conditions during the survey, especially in 2022.

Section 3 – Threats

It is clear that Wategora Reserve – and the adjoining vegetation along Everley Park – hosts an extraordinary amount of biodiversity. However, this biodiversity is imperilled by a myriad of threats. In this section I outline the threatening processes I observed during my survey, provide context on the driving causes behind them, and assess which of these threats are having (or have the potential to have) the greatest impact. Note that I also refer to and discuss a number of these threats elsewhere throughout the other sections.

Non-native plants

The continued spread and proliferation of non-native plants is currently the most significant threat to the survey area's biodiversity. I observed 314 non-native plant species during my survey, exceeding the number of natives (287). Undoubtedly, many of these non-natives are having little to no impact on biodiversity in the survey area. For example, there are a number of non-native garden escapees (e.g., *Dimorphotheca ecklonis*, *Talinum paniculatum, Dracaena draco*) represented by just one or two individuals, or a single small patch, in the survey area. Many of these are unlikely to survive and establish themselves long-term, and will die off at some point. However, it is possible that some of these are sleeper weeds, and may pose a threat in the future, so they should still be monitored. There are also a number of non-native species that, whilst more common, are seemingly having little to no impact at time of writing. For example, the small herb *Richardia stellaris* is quite widely distributed throughout the survey area, however, it only ever occurs in tiny patches of just a few individuals, and the patches are highly fragmented from each other. There are also some species that, whilst quite common and sometimes present in large patches, currently have restricted distributions within the survey area. For example, *Gladiolus undulatus*, whilst quite common, is entirely restricted to the northern perimeter of the southern exotic grassland, and seems unlikely to spread any further under current conditions.

On the topic of sleeper weeds, there are certainly a great deal of these within the survey area. To clarify, I am referring to weeds which have naturalised in the survey area, but have not yet experienced rapid population increases or large increases in their extent. Whilst the term is often used to refer to species that may 'sleep' for decades before becoming significant weeds, I am using the term here to refer to species which may start to have noticeable negative impacts within the space of the next few years assuming favourable conditions and if left unchecked. Given most of these species are currently at relatively low numbers in the survey area, they are perhaps one of the highest priorities to remove/deal with pre-emptively and prevent them from taking hold. Within the survey area, I believe the top ten most notable sleeper weeds that warrant action are (in no particular order):

1. *Olea europaea* subsp. *cuspidata*. Currently represented by just ~9-10 individuals; two especially large ones in the far southern bushland, and small saplings scattered elsewhere.

2. *Urospermum picroides*. Large, dense patch of several hundred plants at the edge of the huge sea of weeds along the creek in line with the central split path (and creeping westwards), large patches in the western split grassland, several individuals/small patches on the eastern bank of the southern riverine stretch, one individual in the shaded, damp swale in the southern bushland, two individuals at the edge of the central split path, and one at the grassland at the far southern end of the reserve. This species is certainly considerably more abundant than the other nine sleeper species I've listed

here, however, I believe it has the potential to explode in numbers even more and become a serious problem in the reserve.

3. *Bryophyllum delagoense*. Quite common along the creek, but nowhere near as common as I've seen at some other locations in NSW. Only just starting to slowly creep into the bushland.

4. *Tecoma stans*. One large tree on the eastern creek bank, with an increasing number of daughter plants beneath it, and a medium-sized tree at the central bridge.

5. *Passiflora suberosa*. Currently a single large patch at the large swale leading from the stormwater entrance (plus one small seedling near the central split path, but I removed that).

6. *Watsonia meriana* var. *bulbillifera*. Initially present as two patches along the creek, but individuals have started to appear in the intact core of the southern grassy woodland.

7. *Fraxinus griffithi*. Currently present at just three locations along the creek.

8. *Dolichandra unguis-cati*. Single individual under the Wellington Road bridge.

9. *Delairea odorata*. Several large patches along the creek.

10. *Stenotaphrum secundatum*. One small patch in the northern bushland, and another in the southern exotic grassland.

Large patch of Passiflora suberosa.

An eleventh species worth mentioning here is *Acacia baileyana*. Although currently represented by just two individuals in the survey area, it's an important species to monitor due to the presence of *Acacia pubescens*. *Acacia pubescens* is a state and federally listed Vulnerable species, and Wategora Reserve represents one of its largest remaining populations. One threat faced by *A. pubescens* is hybridisation with (among a number of *Acacia* species naturalised in Sydney) *A. baileyana*, so ideally the latter should be eradicated from the survey area before spreading more.

I have also observed a significant number of non-native species that, whilst not yet present within the survey area, are naturalised within a 1 km radius of it. Whilst some of these are relatively innocuous and are unlikely to have significant impacts, others may be future invaders and thus should also be monitored.

However, there are also a great number of non-native plant species that are negatively impacting the survey area's biodiversity right now. Not only are there many species threatening this biodiversity, but there are also many different types of impact. I won't explain every single one of these threats in detail here, but I will touch on each, and focus on some of the more significant threats.

Before discussing the threats, it is also worth noting here that, of the 32 non-native plant species considered 'Weeds of National Significance' by the federal government, nine occur within the survey area, namely: *Alternanthera philoxeroides, Asparagus aethiopicus, Asparagus asparagoides, Dolichandra unguis-cati, Senecio madagascariensis, Lantana camara, Anredera cordifolia, Genista monspessulana* and *Opuntia* spp.

Altered water flow. Non-native plants have reduced water flow at numerous spots along the creek, often considerably so. At several locations, huge *Phoenix canariensis* and *Salix babylonica* are growing directly in/across the creek, often almost halting the water flow entirely. At one spot, a huge *Salix* has reduced the creek to ~5-10 cm in width and just a few millimetres in depth. There are also enormously dense patches of *Alternanthera philoxeroides* impacting water flow.

Enormous patch of Alternanthera philoxeroides along the creek.

Spread of disease. There are a number of planted patches of *Dianella caerulea* throughout the survey area. At some point during a planting, *Anaphothrips carlylei,* a thrips species that induces flowers galls in *Dianella,* was introduced into the survey area. These thrips have slowly started to spread to and afflict local provenance *D. caerulea*.

Excessive shading. In many patches along the creek, the growth of dense stands of non-native trees and shrubs has completed blocked all light from reaching the ground. At these areas, the ground is either entirely bare, or there are only shade-tolerant weeds, with native herbs unable to establish.

Smothering of trees and shrubs. Along the creek are many enormous, dense patches of non-native creepers, most notably *Cardiospermum grandiflorum*, *Lonicera japonica*, *Anredera cordifolia*, and *Araujia sericifera*. Many of these patches have climbed and entirely smothered even 15-20 m tall trees, and indeed in some cases have caused them to collapse under the immense weight. At some point in early-mid January 2021, many large patches of *Cardiospermum grandiflorum* along the creek were skirted. However, a number of patches were left untouched, and these rapidly spread back to the trees where the skirting had occurred.

Competition/displacement. The most widespread and significant threat posed by non-native plants within the survey area is outcompeting and displacing native species. The most serious threats seem to manifest in two different ways:

1. Enormous, monotypic patches. Many non-native plant species are present in the survey as massive, dense patches that completely exclude any native species. Although most of these patches occur along the creek or in the large exotic grasslands, there are also some species that are either creeping into intact bushland and woodland, or have already successfully invaded. Within the survey

area, the most abundant patch-forming species posing the greatest threats to native plants include *Tropaeolum majus, Oxalis pes-caprae, Eragrostis curvula, Megathyrsus maximus, Cenchrus clandestinus, Briza subaristata, Galium aparine, Verbena bonariensis, Verbena quadrangularis, Asparagus aethiopicus, Sida rhombifolia, Cestrum parqui, Bidens pilosa, Scutellaria ramosa, Medicago polymorpha, Avena barbata, Ehrharta longiflora, Ipomoea indica, Plantago lanceolata, Ehrharta erecta, Tradescantia fluminensis* and *Bromus catharticus,* with many others also beginning to emerge as significant threats. You'll notice that many of these species are grasses, and indeed I observed more non-native grasses (42) during my survey than native grasses (35). Concurrently, I was unable to find 24 of the native grasses found in previous surveys within Wategora Reserve; I suspect at least some of these were driven to local extinction through the invasion and proliferation of non-native grasses.

The most significant of these patch-forming species, and probably the greatest threat out of any non-native plant species in the survey area, is the grass *Ehrharta erecta*. It has spread and proliferated into almost every section in the entire survey area, including the most intact and otherwise weed-free sections of bushland and woodland. Even within the short timespan of my survey, I watched it spread and increase in abundance, responding especially positively after heavy rain in 2022. In some areas, it has formed enormous, dense patches to the detriment of all other grasses and herbs. I suspect it is far too late to eliminate it entirely from the survey area, and control efforts may have to be limited to halting any further spread.

Huge, dense patches of Ehrharta erecta in the southern bushland.

Huge, dense patches of Ehrharta erecta at the isolated Melaleuca patch.

Although always abundant along the creek during my survey, *Tradescantia fluminensis* has also exploded throughout 2022, also in response to rain, and is one of the biggest threats after *Ehrharta erecta*. It has now begun to invade bushland at a number of locations (e.g., it has already crept into the edges of the southern grassy woodland, and almost entirely smothered the *Macrozamia spiralis* growing there) and should be one of the highest priorities to deal with.

Huge patch of Tradescantia fluminensis marching into the southern bushland from the creek.

2. Abundant and widespread individuals. There are also many non-native plants that, whilst not forming large, dense patches or stands, are abundant and spread throughout much of the survey area, and pose similar threats to native plant species by outcompeting and displacing them. Many of these species are largely confined to 'weedy' areas such as path edges or along the creek (e.g., *Ricinus communis, Ligustrum lucidum*) but there are also some that have invaded intact sections of bushland and woodland. The most abundant and widespread of these are *Lantana camara, Ochna serrulata, Asparagus asparagoides,* and *Ligustrum sinense.* In the case of *Lantana camara*, I must have crowned at least 100 individuals within the reserve, but for every individual I removed, there would be another five or six that had popped up the next time I visited.

Notably, I also observed three naturalised, non-native plant species within Wategora Reserve that were previously unrecorded by PlantNET as naturalised in NSW: *Rothmannia globosa, Salvia hispanica* and *Ruta chalepensis*.

Rothmannia globosa

Salvia hispanica

Ruta chalepensis

Non-native animal species – vertebrates

I observed ten non-native vertebrates during my survey: four birds, two fishes and four mammals.

It's difficult for me to assess the impact of the birds, as they aren't necessarily having direct, observable negative impacts. I suspect the Rock Doves and Spotted Doves are having little to no impact given how uncommon they are, and how little they seem to interact with other species in the survey area (generally seen at the edges on power lines, fences, etc.). I observed large groups of up to 45 Common Starlings roving across the edges of Everley Park feeding on non-native grasses and herbs, so they're perhaps contributing to spreading these weeds. Whilst I didn't actually see any interactions between Common Mynas and other birds, they're probably competing for nest cavities and other resources.

The European Carp seem to be restricted to the deeper stretches of the creek (which makes sense, given the huge size some of them have reached). I've observed them hunting Dusky Moorhen chicks, but I would be very surprised if they're not also feeding on a number of other native species, including fishes and aquatic vegetation. Eastern Gambusia are quite common; I haven't observed them directly preying on anything native, but again, I would be surprised if they aren't feeding on native fish eggs, frog eggs, etc.

The mammals are having more of an obvious/observable impact (aside from the two *Rattus*, which I only glimpsed for a brief second). There is at least one Javan Rusa deer that frequents the reserve; it feeds on a number of native shrubs (including some individual plants that have been heavily defoliated), tramples smaller native herbs and grasses, and is contributing to erosion along the creek banks. I've seen one fox cub, heard one fox screaming at night, and found a few fox remains, so there are clearly at least a couple that use the reserve; these are undoubtedly preying on native animals.

There are many pet cats, and some possible ferals, that I've seen inside and around my survey area. I watched two of these actively stalking small birds, including Superb Fairywrens, and have also found a number of dead, native birds that didn't seem to match the remains of birds killed by the resident Brown Goshawk. It's disappointing that the owners of these cats allow them to roam freely, especially given Wategora Reserve is a designated 'Wildlife Protection Area' under the NSW Companion Animals Act 1998, which prohibits cats from entering the reserve at all. In a similar vein, any dogs entering the reserve are required to always be leashed, and only remain on established paths, yet I observed numerous dog owners bringing dogs into the reserve without leashes, including cases where their dog was leashed outside the reserve, but they then unleashed it to walk inside the reserve.

Large cat stalking Superb Fairywrens.

Non-native animal species – invertebrates

I observed 30 non-native invertebrates during my survey: seven snails/slugs, two spiders, two millipedes, one woodlouse, and 18 insects.

Like the vertebrates, the non-native invertebrates in the survey area are a mix of seemingly 'innocuous' species having little to no observable impacts, and species having clearer, observable negative impacts. It's important to acknowledge for the former group that these species may well be having negative impacts in the reserve, but I have yet to observe them. For example, the spider *Pholcus phalangioides* is known to prey on native spider species, and thus may be detrimentally impacting these species. However, I've only seen this species under the Wellington Road bridge at the northern end of the reserve, and it is not especially common; it is therefore difficult to assess the threat it poses. A similar case exists for a number of the other species, for which I've only observed a single individual. Although some non-native species are quite common in the reserve, e.g., the millipede *Heterocladosoma* sp., which is native to south-east Queensland, it is still unclear to me whether they are having negative impacts on other species. If any impacts do exist, they are likely to involve more indirect effects such as displacement via out-competition.

From my observations, the most impactful non-native invertebrates in the survey area seem to be *Apis mellifera* (European Honey Bee), *Pieris rapae* (Cabbage White Butterfly), and *Aphis nerii* (Oleander Aphid). *Apis mellifera* and *P. rapae* are abundant throughout the survey area, and are highly indiscriminate pollinators. I've observed them pollinating many native plant species (possibly outcompeting native pollinators), but also a huge number of non-native plant species, including many cases where they seem to be the sole pollinators of said species in the survey area. For these cases especially, it seems likely that *A. mellifera* and *P. rapae* are contributing to the persistence/spread of the non-native plants. *Apis mellifera* have also established hives inside two nest boxes within the reserve, excluding the native mammal species they were intended for (bats and possums).

Apis mellifera nesting in nest box intended for possums.

In the case of *Aphis nerii*, its impacts seem to be restricted to just one native plant species, but a highly significant one. There's a single tiny patch of two individual *Vincetoxicum woollsii* in the reserve; this cryptic, native climber is a state and federally listed Endangered species. It was first collected in Sydney in the 1860s, and then went almost 140 years without being observed in the region (although there are a number of populations in northern NSW/far southeastern Queensland) before being rediscovered in Chullora in 1999 (Gibson 2008). The individuals within my survey area likely represent only the third known population within Greater Sydney. Unfortunately, the patch is surrounded by a number of non-native plant species, including the climber *Araujia sericifera.* Both *V. woollsii* and *A. sericifera* are in Apocynaceae, the main host family for the aphid *Aphis nerii*. In late 2021/early 2022, after the *V. woollsii* appeared aboveground following consistent rain, *A. nerii* appeared en masse on the *V. woollsii*, having invaded from the nearby *A. sericifera*. Throughout early 2022, both individuals were consistently defoliated by hundreds of aphids. I have removed as many as possible, but as long as the *A. sericifera* are present nearby, the aphids will continue to migrate across.

Aphis nerii on the endangered climber Vincetoxicum woollsii.

Notably, a number of the non-native insect species in the survey area are actually biocontrol species and have positive impacts, including *Agasicles hygrophila* (control for *Alternanthera philoxeroides*), *Procecidochares utilis* (*Ageratina adenophora*), *Urophora stylata* (*Cirsium vulgare*) and *Octotoma scabripennis* (*Lantana camara*). In the case of *Agasicles hygrophila*, it is actually the loss of this species for the survey area that has had negative impacts; after almost wiping out the dense infestations of *Alternanthera philoxeroides* along the creek, the beetle disappeared sometime in spring 2021 and the *A. philoxeroides* has bounced back strongly.

Side effects of public works

Due to ageing infrastructure, the Emergency Relief Structures forming part of the sewage system running underneath the survey area had to be replaced. The works were carried out by Sydney Water, starting in late February/late March 2022, and finishing at some point before 14 September 2022. This work was necessary to prevent sewage overflows and protect the system from damage caused by heavy rains, especially important during this La Niña period. Unfortunately, however, the works had a number of significant impacts on the reserve, especially on a number of rare plant species.

1. **Removal of topsoil near the creek-spanning pipe**. The actual work was conducted near the creek-spanning pipe, and much of the topsoil here was removed during digging. This was the only known

location in the survey area of the moss *Gigasperma repens*, so this species is now possibly locally extinct. The largest patches of *Calotis lappulacea* and *Vittadina cuneata* var. *cuneata* in the reserve were also present here, and were also cleared (although the former have just started to reappear). Jute Mat was installed on the slope here after the works were finished, however, it has already started to tear and break apart due to heavy rains, and the slope is eroding.

2. **Clearing of vegetation**. In order to access the work site, excavators/trucks had to drive through the reserve to the creek-spanning pipe. Starting from the northwestern entrance to the reserve, the vehicles drove through the northwestern lawn, along the northwestern path through the northern bushland, along the central split path, and then along the main path in the reserve. Vegetation had to be cleared along all of these path edges to allow access. Along the northwestern path, both of the *Chorizema parviflorum,* the only two known individuals in the reserve, were cleared, with this species now possibly locally extinct. The two *Carex breviculmis* in front of the *Chorizema* were also cleared, reducing the known population in the reserve to a single patch of five individuals in the southern grassy woodland. Large numbers of *Lepidosperma laterale* were removed from this path edge.

Along the central split path, the only two *Olearia microphylla* at that location were cleared; with the third individual in the southern bushland found dead on 15 October 2022, and the fourth individual (also in the southern bushland) unable to be relocated (presumed also dead), this species may possibly be locally extinct.

Vegetation was also cleared around the immediate area surrounding the creek-spanning pipe; this included the removal of the only *Eucalyptus tereticornis* within the reserve (as it was unfortunately right over the area requiring excavation), and the clearing of a patch of 5-6 *Lissanthe strigosa* that were the largest, and most robust and healthy-looking individuals in the reserve, and were likely 100+ years old.

3. **Burial under mulch and gravel**. To prevent damage to tree roots, and prevent the vehicles getting bogged in the heavy clay soil, tremendous amounts of mulch were laid down on the northwestern path in the northern bushland, on the central split path, and then on the main path in the reserve. Large amounts of gravel were also laid down on these paths.

Initial laying down of mulch along paths in the reserve.

Unfortunately, the consistent heavy rain throughout the works not only washed a lot of mulch off into the bushland, concentrating it within ~five metres either side of the paths, but it also mixed with the mulch and the clay to form a foul-smelling slurry that then compacted and hardened in the sun/during dry weather to form a concrete-like layer that was essentially impossible to remove (the constant rain was also detrimental in that it delayed the works). This has had five main impacts:

a. **Alteration of drainage**. The mulch and gravel have formed ridges along the path edges, preventing water from draining off as effectively as before, resulting in more water pooling on the paths during/after moderate rain and the soil staying saturated for longer. Heavier rain then streams down the side of these ridges, and has already started to erode the surface and form ruts on the outer sides of the ridges.

b. **Destruction of invertebrate habitat**. Many invertebrates, including the large wolf spider *Portacosa cinerea* and numerous ant species among others, use the paths throughout the reserve as

habitat, digging burrows and tunnels in the clay. The burial of these paths would have killed large numbers of these invertebrates, and the now hard, impenetrable layer is much tougher to penetrate, making it poorer quality habitat in future. Several very large, old *Iridomyrmex purpureus* nests were also buried and wiped out.

c. **Promotion of non-native weeds**. It's unclear to me whether any weeds were brought into the reserve via vehicle tires, or whether they were all already in the seedbank waiting for the right conditions, but the addition and persistence of the mulch has caused large numbers of non-native weeds to appear and flourish along the affected paths, and also begin to invade bushland from the paths. Almost all of these non-native species were previously entirely absent from these sections of the reserve, including *Nothoscordum gracile, Facelis retusa, Urospermum picroides, Ranunculus sceleratus,* and *Bidens subalternans*. Other species which were already present along these paths have greatly increased their numbers due to the persistently saturated, higher nutrient conditions, including *Senecio madagascariensis, Cirsium vulgare,* and *Sonchus oleraceus*. At the creek-spanning pipe, the removal of the large patches of *Calotis lappulacea* and *Vittadinia cuneata* var. *cuneata* has seen large patches of *Medicago*, *Plantago lanceolata* and *Senecio madagascariensis* establish.

d. **Burial of native vascular plants, including rare species.** The central split path was one of the most important areas in the reserve for rare native plant species prior to the works. Unfortunately, much of this diversity was along the path edges, which were completely buried by the mulch. Some of the more notable impacted species include *Glossocardia bidens* (loss of almost all known individuals except for a single small patch in the southern bushland), *Vittadinia cuneata* var. *cuneata*, *Diuris maculata* (loss of only known individual, now possibly locally extinct), *Pterostylis rufa*, *Chrysocephalum apiculatum* (loss of only known individual, now possibly locally extinct), and *Dipodium punctatum*. Because of how thick and hard this mulch and gravel layer has become, it's unclear to me whether any material in the seedbank could even penetrate it.

e. Burial of native bryophytes. The northwestern path in the northern bushland and the central split path were two of the five most significant bryophyte hotspots in the reserve. The edges of the central split path were dominated by large mixed beds of the moss *Campylopus introflexus* and the lichen *Cladia aggregata*, providing important habitat for small herbs and many invertebrate species. The western edge of the northwestern path was also characterised by dense *Campylopus introflexus* beds, whilst the path itself was covered in a high diversity of other mosses and liverworts, including *Asterella drummondii, Fossombronia* sp., and multiple *Riccia* spp. Almost all of these have now been destroyed.

Above: the central split path in late September 2021, pre-works.

Below: the central split path in mid-October 2022, post-works.

Close up of the central split path in mid-October 2022, showing the hardened, heavily compacted layer of mulch, gravel and clay.

Constant rain and flooding

The Australian east coast experienced triple consecutive La Niñas across 2020-2022 and literally unprecedented rainfall, with over 2200 mm of rain falling in Sydney in 2022 by early October. Whilst these conditions have had huge benefits for many native species within the survey area, and rain is one of the most important processes here, it has also been to the detriment of some species, and exacerbated the effects of other threats discussed in this section.

Much of the most serious erosion along the creeks has occurred during and immediately after heavy rain and the flooding caused by it, including the collapse of large sections of creek banks. There are also many locations (mostly swales and other depressions) throughout the reserve that have been almost permanently inundated throughout much of 2022 in particular, driving large increases in mosquito numbers, and drowning native plant species. Most significantly, the constant rain has driven the explosive spread and proliferation of weeds, including massive increases in already common species such as *Ehrharta erecta, Tradescantia fluminensis*, *Sida rhombifolia* and *Bidens pilosa*, into areas of the reserve where they were never previously present. This has been especially noticeable at the swale at the green mesh track, which lies at the interface between the southern bushland and the creek. This area has been permanently flooded for most of 2022, and has actually joined up with the creek. Even during periods without rain, when this connection is (temporarily) severed, the soil is heavily saturated. Consequently, a number of aquatic weeds have invaded the swale and its edges from the creek, and are threatening to move into the southern bushland proper,

including *Alternanthera philoxeroides, Rorippa nasturtium-aquaticum, Tropaeolum majus* and *Callitriche stagnalis.* Within the course of just a few weeks, the area around the empty lot and the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside it went from a mown lawn to a dense, waist-high jungle of weeds.

The constant rain has also driven rapid growth of individual non-natives; the *Cinnamomum camphora* at the northern grassy woodland has almost doubled in height over the past six months, whilst a number of invasive Asteraceae and grasses went from basal rosettes or small tufts to 1.5+ metres tall in the space of a few months.

Inundation due to heavy rain at the swale at the green mesh track, which lies at the interface between the southern bushland and the creek. Note the incursion of weeds.

Drought

At the other end of the spectrum, periods of low rainfall and high temperatures also have negative impacts on the reserve and its biodiversity. During an unusual (in the context of this period of La Niñas) spell of hot and dry weather in mid-late spring 2021, many of the liverworts and mosses across the reserve desiccated and died off. This change was especially notable in the open woodland directly above the southern exotic grassland, the main path running through which hosts a rich diversity of bryophytes; these almost entirely disappeared for several months before bouncing back when the rain returned. Other native plants were also noticeably impacted by drought periods, with a number of species dying back or wilting. Even in late October 2022, after months and months of constant rain, a brief spell of a few dry, warm days saw some of the smaller/less shaded swales start to dry out, and the moss and lichen beds start to desiccate. Similarly, a single week of warm weather without rain in early November 2022 caused a number of swales that had been inundated for almost the entirety of 2022, like the swale at the green mesh track, dramatically dry out and reduce in size.

Strongly cracking clay soil in the southern bushland, despite rain falling just a week before this photo.

Rubbish/litter

Like many natural areas in urban environments, the survey area has an issue with rubbish, both through carelessness and intentional littering (I've observed both: food wrappers falling out of pockets or bags without people realising, but also people deliberately discarding cigarette butts, coffee cups, etc.). Throughout most of the survey this wasn't a huge issue in the reserve proper, although there was a noticeable increase in general rubbish on paths during some of the hard

lockdowns (with the reserve being one of the few places locals could exercise). The biggest source of general garbage is the creek, with often large quantities of trash (ranging from chocolate wrappers and small plastic fragments all the way up to tyres and shopping trolleys) washing into the survey area from upstream, especially after heavy rain. This problem is particularly bad at the creek crossing at the far southern end of the survey area, and along the western arm of the creek.

The most serious issue, however, is the deliberate dumping of industrial waste and other non-'casual' waste into the reserve. Whilst some of this is coming directly from the factories and industrial estate abutting the western edge of the reserve (every now and then I'll find scrap timber or other junk that has clearly been thrown over the fence into the reserve, being far too heavy to have been blown over by wind), most of it is being dumped into the northern and central bushland by bad actors physically entering the reserve. Among many items, I've found rolls of barbed wire, insulation batts, aerosol and paint cans, plastic and rubber tubing, mattresses, and scrap metal, and there's a pile of large cardboard boxes in the northern bushland that kept getting bigger and bigger during my survey.

There are also large quantities of asbestos in the reserve that are starting to rise to the surface, and sections of the eastern bank of the creek are heavily eroding to reveal large quantities of industrial waste that had previously been buried.

Large quantities of debris and rubbish, including a tyre, shopping trolley, wooden pallet, and various plastic items, altering the water flow at the creek crossing and polluting the water.

Erosion

Erosion is rampant along the creek lines throughout the survey area, and indeed there are large stretches directly along the creek that are almost entirely inaccessible due to the danger of the banks completely collapsing into the water (aside from the environmental damage, this also means there may be some species I've missed out on observing). The western arm of the creek is the worst-affected area, with the northern bank up to 4 metres above the water level in some places. There are also very badly affected stretches along the eastern bank of the main creek line, especially along the edges of the southern grassy woodland and the huge sea of weeds; in some of these spots, the banks are also now several metres above the water.

Above: geotextile mattress on the eastern creek bank, photo taken in December 2021.
Below: the same mattress in October 2022, destroyed by constant heavy rain and flooding.

The constant erosion is undoubtedly a major contributor to the poor water quality throughout the survey area, and indeed after heavy rain the water turns dirty brown due to the quantities of clay being washed into it from the banks. It's also a threat to native plant species growing directly on the creek banks. There are only six individual *Persoonia linearis* in the survey area, and two of them (the largest/oldest two) are growing right on the edge of heavily eroding banks; a large storm event could easily topple them both into the creek, which has already happened for several large *Melaleuca* and *Eucalyptus*.

Western arm of the creek after rain.

Trampling by bikes

I've seen numerous people come into the reserve (including kids, teenagers and adults) with trail bikes and mountain bikes and ride them off path, and on several occasions I watched small native

herbs (including the orchid *Pterostylis rufa*) get trampled by bike riders. The southern entrance to the reserve has a metal fence/barrier that is designed to stop trail bikes coming in, but I've watched riders lift them over the top. This fence was torn open sometime in late February/early March 2022; whether the intention was to allow easier bike access or not, that has certainly been one result of the vandalism. I reported the damage in early March, but as of November it was still not fixed, and indeed had been torn open even more.

Absence of fire

In the 1980s and 90s (and likely in the decades before), there were frequent fires in the reserve (some natural, most arson; Greening Australia 1990, pers. comm. C. Gibson, P. Dixon). Whilst preventing frequent, intentionally-lit fires has been beneficial for the reserve (given multiple fires per year is too frequent for many of the native plant species in the reserve to re-establish and mature), the almost total suppression of fire has been to the detriment of some native plants, with several fire-adapted species noted to be common during Price's survey completely absent during my survey (e.g., *Commersonia dasyphylla*). The lack of fire has also allowed several *Melaleuca* stands to become incredibly dense and block out almost all light reaching the forest floor, creating zones with an almost entirely absent shrub layer and undergrowth.

Sewage

More often than not when walking near the western end of the western arm of the creek, the smell of sewage is very strong. The water in the western arm of the creek is also often heavily discoloured (including a few instances where it was almost black). Given this arm is fed by a large stormwater entrance, polluted water is clearly entering the reserve on a consistent basis. Given the main creek is also fed by multiple drains and stormwater entrances, and that a number of sewage lines run under and along the reserve, this issue will only continue into the future.

More significantly, there was a serious sewage leak in the reserve in late 2021. On 7 October 2021 I noticed water pooling at the western edge of the reserve, adjacent to the central bushland. However, it had been raining that week, and there was no obvious smell, so I didn't think anything of it. Three weeks later, when I walked past that spot again (I infrequently took that path during my surveys, as it was a hotspot for huge *Hortophora* orbweaver webs spanning the entire path), the smell of sewage was overpowering. On further investigation, not only had the pools of water increased in size, but water was actively flowing from the western edge into the central bushland. The 'water' turned out to be raw sewage: tree roots had entered a pipe and over time caused a large blockage, resulting in a massive overflow. It spread ~70 m into the northwestern quadrant of the central bushland along an old, dry creek line. The flow was quite fast close to the source, but towards the end of the plume it became a series of large, stagnant pools. Tens of thousands of mosquitoes (*Culex quinquefasciatus*) bred in the plume (both the free-flowing and stagnant parts), with huge patches of cyanobacteria also covering the stagnant pools. I reported the issue to Sydney Water, and the blockage was cleared and the sewage cleaned up, but there were already negative impacts. Large patches of *Dichondra repens*, *Oxalis perennans* and other small native herbs began to die off along the edges of the overflow, and a number of weeds (e.g., *Sonchus oleraceus*, *Sida rhombifolia*, *Cirsium vulgare*, *Bidens pilosa*) which are common elsewhere in the reserve, but had been absent in this section of bushland, suddenly appeared.

Cyanobacteria growing on surface of sewage plume in the central bushland.

Inappropriate plantings

I touched on this above, but there have been many inappropriate plantings throughout the survey area over time. These fall into three main categories:

1. Species that do occur elsewhere in Sydney, but do not naturally occur in the survey area. These include *Podocarpus spinulosus, Eucalyptus robusta, Eucalyptus umbra, Acacia floribunda, Dodonaea viscosa,* and *Eucalyptus paniculata*. Most of these cases are present only as singletons or a handful of individuals, and are probably not having any major negative impacts on other species (and perhaps they're having no impact at all), but they just seem like a waste when local species could be planted instead.

2. Species that do occur in the reserve, but the plantings are from different provenances. There have been a number of plantings of a very tall form of *Themeda triandra* along the edges of the southern grassy woodland and southern exotic grassland, which also seems to be outcompeting and replacing the shorter, slighter native form. Ideally, plantings should be done from seeds/material taken from individuals within the reserve.

3. Species that do not naturally occur in Sydney. These include species native to other parts of Australia (northern NSW, Queensland, etc.), e.g., *Lophostemon confertus*, *Corymbia citriodora*, and *Dianella brevipedunculata*, and species entirely non-native to Australia, e.g., *Strelitzia reginae* and *Hesperocyparis lusitanica*. Although some of these cases are similar to point 1 above, e.g., there is only a single *Lophostemon confertus* in the survey area, and it does not seem to be having any negative impacts on other species, others, such as *Corymbia citriodora* and *Dianella*

brevipedunculata, are starting to self-seed and spread throughout the reserve, with new plants radiating out from their parents.

Plantings outside the survey area are also negatively impacting the species within it. The non-native species *Agapanthus praecox* subsp. *orientalis* is planted extensively along the western edge of Auburn Golf Course, directly abutting the eastern edge of the survey area, and has now invaded at multiple locations.

Removal/theft of native plants

This is probably the most minor of the threats I've listed here, but I saw a woman uproot an entire 1.5 m *Ozothamnus diosmifolius* and walk out of the reserve with it. I have also noted a few other native plant species that have mysteriously disappeared, presumably also taken.

Misidentifications

On several occasions, I have noticed the native herb *Commelina cyanea* either torn out or sprayed with herbicide, with these incidents occurring where the *Commelina* is co-occurring with the non-native herb *Tradescantia fluminensis*; a misidentification here has caused the destruction of a native species instead of an invasive one. Although the two are somewhat similar, especially when not in flower, it is quite easy to distinguish them when taught the differences between the two species. On a similar note, it seems that the plantings of *Dianella brevipedunculata*, non-native to Sydney, stem from that species being sold under the name *Dianella revoluta*, a species which **does** occur naturally in the survey area. Again, the two can be easily distinguished when the important features are highlighted. Better identification resources for agencies or individuals conducting weed removal would be greatly beneficial.

Inherent rarity of species

There are many native species present in the survey area that are (or were) represented by just a handful of plants, or indeed even a single individual. In some cases they're directly threatened by human activities, e.g., the only known *Diuris maculata* in the reserve was unfortunately buried under the thick, impenetrable layer of mulch and clay that formed after the public works in mid-2022, and is now possibly locally extinct. In many cases, however, the greatest threat to them is their low population size, in that a single chance event or extended period of unfavourable conditions could wipe them out within the reserve. For example, the entire population of *Leucopogon affinis* in the reserve consists of a single small patch of three individuals on the northern bank of the western arm of the creek. If this section of the creek bank was to erode during heavy rain (as a number of nearby sections already have), this species could become locally extinct. Indeed, this process has already occurred for some species. *Asterolasia correifolia* and *Pomaderris discolor* were known in the reserve from just a single individual for a number of years, with both dying (likely due to extended drought conditions before the recent La Niña) in recent years.

The only known Pomaderris discolor in the reserve, now dead.

Noise and odour pollution

The western perimeter of the reserve is abutted by an industrial and commercial complex. Any time I walk along that section of the survey area, there's a powerful, foul smell constantly emanating from the factories and wafting into the reserve. The complex is also often very loud, with trucks, construction, and other noises filtering into the reserve. Combined with the noise from the major road abutting the survey area to the north, and the sporting fields to the south, the area is rarely quiet, and I can only imagine the birds, mammals, etc., are impacted in some way.

Lack of follow-up after management

A number of positive works have been conducted within the survey area over the last few years, but unfortunately many of them have had little to no long-term positive impacts due to a lack of follow-up once completed. Three examples:

1. In mid-late June 2021, huge swathes of weeds were cleared along a ~140 m stretch at the edge of Everley Park, and holes dug in preparation for plantings (specifically sometime between 15 and 22 June 2021; the holes weren't there during my survey on the 15th, but were there on the 22nd). At some point in the ensuing three weeks, the holes were all filled with tube stock saplings (I first observed them on 12 July 2021). As provided by Cumberland Council, the twelve planted species were: *Eucalyptus crebra, Eucalyptus moluccana, Eucalyptus tereticornis, Eucalyptus eugenioides, Acacia falcata, Acacia parramattensis, Acacia floribunda, Dodonaea viscosa, Bursaria spinosa, Melaleuca decora, Ozothamnus diosmifolius,* and *Melaleuca nodosa*. Unfortunately, none of these plantings were watered or fertilised, and the weeds around them were not kept in check after the initial clearing. Within 2-3 weeks of the plantings, a number of saplings had already died/started to die. By October-November 2021, most were dead. By October 2022, it was almost impossible to tell any management was ever conducted there, with fewer than ten saplings remaining out of the original 100+, and the weeds having grown back even more vigorously than before.

2. Many of the large patches of *Cardiospermum grandiflorum* along the eastern bank of the southern riverine stretch were skirted in January 2021. However, some patches were left intact, and as of October 2022, these had grown to replace the skirted patches.

3. After the public works in mid-2022, a number of saplings and assorted herbs were planted in Jute Mat on an eroding slope near the creek-spanning pipe, to replace the vegetation that had been cleared for the works. However, as with the first example above, none of these plantings seemed to have been watered or fertilised, and as of October 2022, almost half were already dead.

Mowing

The sporting fields constituting Everley Park are regularly mown; this isn't an issue in and of itself, however, the ground staff mow all the way to the edge of the vegetation along the southern riverine stretch. Unfortunately, this means that the many 'weedy' native herbs and grasses growing along this interface are also regularly mown, including *Wahlenbergia gracilis*, *Calotis cuneifolia*, *Cyperus gracilis, Bothriochloa macra,* and *Rytidosperma pilosum*. The abandoned lot is also regularly mown, and the large patches of *Rumex brownii* growing in there destroyed. A large patch of *Dypshania cristata* appeared around the lot in May 2021; this area was subsequently mown and the *Dysphania* cleared; it hasn't appeared again since.

Spraying of herbicides

Along with mowing, the sporting fields are often sprayed with herbicides to combat weeds. Unfortunately, spray drift has killed some native species along the edge of Everley Park on a few occasions. I have also seen a number of patches of *Commelina cyanea* patches that have been sprayed, presumably because they were mistaken for the non-native *Tradescantia fluminensis*.

Section 4 – Significant plant species, and most important processes and entities

Whilst there are many plant species that are locally rare within the survey area, represented by just one or a small handful of individuals, a lot of these are more common/widely distributed across Sydney or NSW. However, as listed by James, McDougall and Benson in their 1999 *Rare Bushland Plants of Western Sydney* (2nd edition), there are five regionally significant plants considered rare in Western Sydney that I've observed in the reserve.

1. *Acacia pubescens*

Text from James, McDougall and Benson (1999):

"*Bushy, hairy shrub to 4 m high with bipinnate leaves, (family FABACEAE subfamily Mimosoideae). Flowers Aug-Oct. Found on the Cumberland Plain in clay soils, often associated with gravels and ironstone. Endemic to the Sydney region and once widespread in Canterbury–Bankstown–Fairfield area. Most populations are small, fragmented and outside conservation reserves. Listed Vulnerable under the TSC Act and coded vulnerable (3VCa) nationally.*"

Within the survey area:

Very common and widespread throughout almost all sections of the survey area. Often large patches formed by suckering, including near the large, exposed patch of soil near the creek-spanning pipe, and in the southern grassy woodland. There's also quite a large patch just above the weedy swale in the southern bushland. This species is listed as vulnerable both at a state-level and nationally, and the reserve is one of the last main sites where it's found in large numbers, with most other occurrences as very small patches or individuals along trainlines or roadsides. Flowering observed in early-mid September 2020, and again in early-mid September 2021. Despite large numbers of pollinators observed visiting flowers, very few seed pods were produced.

2. *Callistemon linearifolius*

Text from James, McDougall and Benson (1999):

"*Shrub to 4 m high (family MYRTACEAE) with red bottlebrush flowers spring-summer. Occurs on sandy alluvial soils or sandstone. Early records for Parramatta and Liverpool districts but only recent record is from Salt Pan Creek, Bankstown. Coded rare (2RCi) on the national list.*"

Within the survey area:

Scattered stands and individuals throughout the reserve proper: a stand of 5-7 large individuals in the central bushland; one individual along the creek near metal stairway at the northern end of the reserve; one individual along the edge of the central split path; one individual in the central bushland; one individual in the northern bushland near the stand of *Callistemon linearis* and *Callistemon pinifolius*; two small saplings at the interface between the southern bushland and the western split grassland; and, a small stand of three individuals on the eastern edge of the northern bushland. Flowering observed from late October to early November 2020, and in mid-June 2021. This species is listed as vulnerable at a state-level.

3. *Solenogyne dominii*

Text from James, McDougall and Benson (1999):

"*Small herb with a rosette of toothed leaves at base and magenta-tinted flowers in small heads on robust, unbranched stalks (family ASTERACEAE). Recorded from Mount Annan, St Marys (ADI site), and near Prospect in Cumberland Plain Woodland.*"

Within the survey area:

Uncommon. One individual in the northwestern corner of the central bushland, one along the western edge of the central bushland, and a small patch of 8-10 individuals in the northern bushland directly next to the patch of *Pterostylis oblonga*. Flowering observed in mid-April 2021.

4. *Stackhousia muricata*

Text from James, McDougall and Benson (1999):

"*Herb to 60 cm high with narrow leaves, and small yellow-green tubular flowers arranged in loose spikes (family STACKHOUSIAEAE). Leaves and fruit minutely rough, otherwise similar to the more common Stackhousia viminea. Old records from Camden and Glenfield with recent records from Old Toongabbie, Minto, Mulgoa and Holsworthy.*"

Within the survey area:

Individuals and small patches appeared in the southern grassy woodland, central bushland, and along the edges of the central split path from mid-November to mid-December 2021 after heavy rain in mid-November 2021. Flowering observed from late November 2021.

5. *Vincetoxium woollsii* (in *Rare Bushland Plants of Western Sydney* as *Tylophora woollsii*)

Text from James, McDougall and Benson (1999):

"*Slender, woody climber with heart-shaped leaves (family ASCLEPIDADACEAE). Extremely rare. Collected once at Parramatta around 1860 but now believed extinct in Sydney region. Coded endangered (2E) nationally.*"

Within the survey area:

Two small individuals found at the base of a *Eucalyptus fibrosa* at the southwestern corner of the central bushland, surrounded by the non-natives *Araujia sericifera, Asparagus asparagoides, Anredera cordifolia*, and *Ehrharta erecta.* This is a federally and state-listed endangered species, and indeed is perhaps 'Sydney's rarest plant' per Gibson (2008); after first being collected in the 1860s at Parramatta, it was not seen in Sydney until 1999, when a small patch was discovered by Gibson in Norfolk Reserve, Chullora (~5.6 km southeast of the patch I discovered). That patch seemingly died out in the early 2000s during the Millennium Drought, but has now reappeared there after heavy rains during the La Niña conditions of the past couple of years.

Concerningly, the two individuals in Wategora Reserve seem to be threatened by oleander aphids (*Aphis nerii*). On several occasions in December 2021 I found leaves covered in aphids. I then checked in on the patch on 22 January 2022. One of the individuals was covered in hundreds of aphids and was almost entirely defoliated. The other individual looked healthier, but also had several dying leaves covered in aphids, so I removed these. The nearby large patches of the invasive vine *Araujia sericifera* are almost certainly the source of the aphids.

I checked them again on 6 February 2022. The first individual had been 100% defoliated, whilst the second individual was covered in hundreds of aphids as well. I tried to remove as many as I could, but the outlook for it seems grim as long as the nearby *Araujia sericifera* remain. On 30 April 2022 the (aerial portion of the) large individual had completely disappeared, and the small individual, whilst having regrown some leaves, was yet again covered in many aphids.

In positive news, both individuals were present and thriving in mid-September 2022, with no signs of any aphids on them at all.

I will note that in late November 2021, Daniel Smart collected a small cutting (under license) and propagated it in his greenhouse. It grew rapidly, and in late September 2022 it began to flower prolifically; the flower characters (including glabrous corollas) confirmed the identification.

During my survey, I also discovered a new species of silverfish, which has since been described as *Subtrinemura epigea* (Smith et al. 2022).

I first spotted one on 30 March 2021 under one of the bark sheets at the patch of fallen *Melaleuca* bark sheets, after the heavy rains and flooding in mid to late March 2021. After a family identification from entomologist Nikola Szucsich, and contacting silverfish expert Graeme Smith, it seemed like it may be a new species. I returned four days later and managed to find another individual (luckily, a male), which I collected into ethanol. It was confirmed as a new species, and described.

Subtrinemura epigea.

Type location for Subtrinemura epigea.

Although thousands of species occur within the survey area across many different habitats and micro-habitats, some of these entities seem to play more important roles than others. In this section I outline what I perceive as some of the most important species, habitats, and environmental processes within the survey area from a 'big picture' perspective, i.e., which of these processes and entities are the most important for driving and supporting diversity.

Moss and lichen beds

One of the most noticeable aspects within Wategora Reserve is the ubiquity of bryophytes and lichens covering the soil. I'm unsure whether the soil (heavy clay) in the reserve is a favourable substrate, whether I just haven't paid close enough attention to biocrust species elsewhere, or if something else is driving this diversity, but they seem to be especially rich and widespread within the reserve compared to other areas in urban and suburban Sydney. These beds are one of the most critical microhabitats in the reserve. Although I recorded 24 different liverwort, hornwort and moss species, plus 12 lichens (with many more species that I've likely missed or overlooked), it's only two of these species that are the 'keystone' species within these beds: the moss *Campylopus introflexus* (I will note here that I need to take a closer look at this species in future, and collect some specimens, as I think I'm likely lumping together multiple entities as '*C. introflexus*') and the lichen *Cladia aggregata*. Other species also play an important role in some specific areas of the reserve, such as *Cladia muelleri* or *Asterella drummondii*, but it is largely *Campylopus introflexus* and *Cladia aggregata* that dominate.

These beds act as a crucial microhabitat for other plant species, trapping moisture and maintaining a damp microclimate, an especially important function during dry and hot conditions given how rapidly the clay in the reserve dries out and begins to crack. Indeed, there are a number of native plant species within the reserve that seem to exclusively grow within or alongside these beds, including *Drosera lunata, Diuris maculata, Pterostylis oblonga, Chrysocephalum apiculatum, Crassula peduncularis,* and *Triptilodiscus pygmaeus*. Many of the other bryophyte species also seem to only grow in association with these beds, and they act as important microrefugia for a large diversity of invertebrates, both predators and prey. They also play an important role in erosion control, an increasing problem within the survey area.

Before the public works in 2022, there were five major moss/lichen bed hotspots in the reserve:

1. **The western edge of the northwestern path through the northern bushland**. A narrow, but quite long strip extending for tens of metres along the immediate edge of the path, mostly composed of *Campylopus introflexus*. Very shaded, and always damp even in dry conditions. One of only three known locations in the reserve for *Hydrocotyle sibthorpoides*. Unfortunately this bed was entirely destroyed during the 2022 public works.

2. **Along the northeastern edge of the central bushland, close to the central split path.** Quite a large patch, dominated by *Cladia aggregata.* Much of this patch is in full sun, and so it dries out more than other patches, especially given *Cladia aggregata* seems to retain less moisture than *Campylopus introflexus*. High diversity of small native herbs here, as well as a large diversity of small shrubs (which is somewhat unusual for these beds) such as *Hibbertia peduncularis* and *Pimelea linifolia* subsp. *linifolia*.

3. **The open woodland directly above the southern exotic grassland**. This site contains the largest, healthiest, most contiguous beds in the reserve. Huge beds of both *Campylopus introflexus* and *Cladia aggregata*, as well as many other bryophyte and lichen species (the highest diversity of anywhere in the reserve) line both edges of the main path for ~50 metres, and cross/cover the path at many spots as well. This is the only location where *Crassula peduncularis* and *Triptilodiscus pygmaeus* are found in the reserve. Like site no. 2, there is also a high diversity of native shrubs supported within the beds here, including *Pultenaea villosa, Macrozamia spiralis, Hibbertia aspera,* and *Boronia polygalifolia*. Much of the diversity on the path itself disappeared during very hot and dry conditions in mid to late spring 2021, and the large beds edging the path dried up considerably, but this site has flourished throughout 2022 with the constant rain.

Mixed community of the moss Campylopus introflexus and the lichen Cladia aggregata, completely covering the soil at the southern edge of the main path running through the open woodland directly above the southern exotic grassland, and supporting a diverse community of native grasses and herbs.

4. **The eastern third of the northern bushland**. The bed here is very diffuse/spread across quite a broad area, and is probably a number of discrete patches in actuality, but there's a fair bit of connectivity between them all during wet conditions. Mosaic of *Campylopus introflexus* and *Cladia aggregata*, with *Cladia muelleri* also often forming a large part of these beds. Supports the largest *Drosera lunata* population in the reserve.

5. **The central split path**. This was one of the most significant sites in the reserve, with a large, thick bed running for tens of metres along the northern edge of the path, and a shorter/thinner, but still significant, bed along the southern edge. The only known *Diuris maculata* individual in the reserve was found here, as well as the only know *Chrysocephalum apiculatum* individual, and the largest population of *Thysanotus tuberosus*. There were especially huge patches of *Campylopus introflexus* covering tens of square metres at the eastern end of the path. Unfortunately these beds were heavily damaged during the 2022 public works; the southern edge bed was all but entirely destroyed, and so too were the biggest and healthiest segments on the northern edge. There are still parts of the northern edge bed intact due to how far into the bushland they extended.

Swales

Perhaps equally as important as the moss and lichen beds, and possibly more so from an invertebrate perspective, are the swales scattered throughout the reserve. These large depressions allow rain to accumulate, forming ephemeral to semi-permanent pools (depending on their size and weather conditions) that play host to a huge diversity of aquatic invertebrates, as well as frogs and a number of plants. There are many minor swales across the reserve, but the largest and most important and diverse swales are: the swale to the immediate right of the main path coming from the southern exotic grassland; the weedy swale in the southern bushland; the swale at the green mesh track and the shaded, damp swale in the southern bushland it becomes; the swale in the northern bushland; and, the parallel swales in the central bushland. I already discussed each of these in Section 2, so won't go into great detail here, but they support an amazing diversity of aquatic beetles, mosquitoes, copepods and ostracods, aquatic snails, mayflies and more. I have recorded the native plants *Elatine gratioloides, Gratiola pedunculata, Centipeda minima* subsp. *minima* and *Juncus planifolius* exclusively from in and around flooded swales, and the best patches of *Alternanthera denticulata* and *Hydrocotyle sibthorpoides* are around swales.

Rain

Although I listed constant rain as one of the threats faced by the survey area, neither the moss and lichen beds nor the swales would be able to support the diversity they host without consistent rain. During very hot and dry conditions in mid to late spring 2021, many of the moss and lichen beds significantly desiccated, or even (temporarily) disappeared entirely. The return of rain revitalised them and allowed them to expand and thrive. Before the heavy rains and flooding in mid to late March 2021, none of the major swales contained significant standing water at any point during my survey, and indeed it wasn't until the even rainier conditions of 2022 that most of these swales became permanently/semi-permanently inundated. At this point in time, the soil throughout the reserve has become so saturated that even small amounts of rain now form standing water on the surface.

Periods of heavy rain and flooding were the only occasions I observed Common Eastern Froglets (*Crinia signifera*) and Common Snake-Necked Turtles (*Chelodina longicollis*). A number of plants only appeared aboveground and flowered after periods of consistent rain, including *Asperula conferta, Hypoxis hygrometrica* and *Thysanotus tuberosus*; *Drosera lunata* only appeared in the reserve after several years' worth of rain; and, the only patch of *Mentha diemenica* bounced back strongly after rain after nearly dying off. A large percentage of the fungal species I recorded during my survey only appeared during and immediately after rain (including an undescribed native *Agaricus* sp., which

only appeared three times in the reserve, and only after torrential rain), and many of my sightings of live *Sauroconcha sheai* snails at night were during rainy conditions. Ditto, there were many other invertebrates I observed exclusively during and after rain, such as *Missulena bradleyi*, onychiurid and hypogastrurid springtails, and mayflies.

Undescribed Agaricus sp. Fruiting bodies appeared just three times at a single spot near the central bridge, on all three occasions immediately after torrential rain.

Eastern Mouse Spider (Missulena bradleyi), observed on a rainy night in early April 2021.

‘Super pollinator’ plant species

I recorded almost 250 interactions between pollinating insects and flowering plants during my survey, covering more than 100 insect species interacting with 50+ plant species, however, half of these were on just two plant species: *Kunzea ambigua* and *Leptospermum polygalifolium* subsp. *polygalifolium*. Neither of these are among the most common or widespread plant species in the reserve, but they attract and support a disproportionately large and diverse community of pollinators. *Leptospermum polygalifolium* subsp. *polygalifolium* is almost entirely restricted to the southern grassy woodland, with a few scattered individuals elsewhere, with flowering mostly restricted to November. *Kunzea ambigua* is more common and widespread across the survey area, but still relatively patchy and never present as large patches, with flowering from October through to December. For many pollinator species, the only time I ever observed them during my survey was on one (or both) of these two plant species. There are also other a number of other plants which, whilst not supporting as many pollinators as *Kunzea* and *Leptospermum*, also play host to an impressive diversity of insects, including *Angophora floribunda, Acacia parramattensis* and *Melaleuca nodosa*.

Castiarina sexguttata, a jewel beetle I only observed on Leptospermum polygalifolium subsp. polygalifolium.

Castiarina erythroptera, a jewel beetle I only observed on Kunzea ambigua.

Fallen logs, bark sheets and blown-in signs

As with moss and lichen beds and swales, fallen logs and bark sheets are a valuable microhabitat within the reserve, supporting a large diversity of arthropods and other invertebrates. These are particularly important during dry conditions, retaining moisture and creating a damp microclimate beneath them.

Interestingly, the same important role is also played by blown-in signs. Throughout the reserve are a number of large, rectangular signs, some metal and some corflute, that have either blown into the reserve or been dumped into it. Locations of these signs include the southern exotic grassland, western exotic grassland, southern bushland, southern grassy woodland, and the open woodland directly above the southern exotic grassland. Although they're polluting the reserve and should possibly be removed, they actually serve as refugia for a high diversity of species. These include not just a wide range of invertebrates, but also Red-bellied Black Snakes (*Pseudechis porphyriacus*) and 4-5 skink species.

Copper-tailed Skink (Ctenotus taeniolatus) underneath a metal sign at the interface between the western exotic grassland and southern bushland.

A pentatomid, Buthumka reducta, found underneath a corflute sign in the western exotic grassland.

Section 5 – Plants

Please refer to the maps in Section 2 for explanations of all place/location names used throughout this section (e.g., 'northern bushland', 'southern exotic grassland', 'large, exposed patch of soil near the creek-spanning pipe').

Where possible I have made identifications to an infraspecific level (e.g., subspecies, varieties), however, this was not always feasible due to missing diagnostic characters. In cases where multiple varieties or subspecies of the same species were present in the survey area (e.g., for *Caesia parviflora*), I noted their presence in the annotation for that species.

* indicates species that are non-native to the study area. This includes species native to other countries (e.g., *Lantana camara*), species native to other Australian states or regions of NSW but **not** to Sydney (e.g., *Callistemon viminalis*), species for which all individuals in the survey area are planted or have self-seeded from planted individuals, regardless of whether they're native to Sydney or not (e.g., *Dodonaea viscosa*), and species for which all individuals in the survey area likely originated from nearby parent plants in cultivation or self-seeded from these (e.g., *Livistona australis*).

I have followed the taxonomy of the Australian Plant Census (APC) for most vascular plants; AlgaeBase for all algae; and, Australian Moss Name Index (AusMoss) for all bryophytes. I have deviated from APC for several species, but provide author names for all species to avoid confusion.

I have provided flowering times for as many native species as possible, up until mid-December 2021. For any listed native species without this information, I did not observe them flowering during the survey. I also did not provide flowering times for any of the listed grass species and some other graminoids, as I did not consistently monitor these groups after initially finding each species. Most of my reported flowering times are comprehensive, however, times for some species may not reflect the entire window due to e.g., having first observed that species after it had already started flowering. I refer to flowering for a number of species as 'starting again in [date in late 2021]'; these species were still flowering when I finished the 'official' period of my survey in mid-December 2021. I noted several flowering times for 2022 for species that I only found during this year, but otherwise did not list flowering times for 2022 here due to conducting far fewer and more inconsistent (time-wise) surveys during this year compared to 2021.

I have categorised the listed vascular plant species based on growth habit as per PlantNET. For species listed by PlantNET as two possible habits, e.g., 'shrub or small tree', I categorised them as the main growth habit present in the survey area.

Major group	Group	Species
Algae	Epibionts	1
	Free-living	1
Bryophytes	Hornworts	1
	Liverworts	11
	Mosses	12
Vascular plants	Aquatics	7
	Climbers	38
	Graminoids	109
	Ferns	11
	Herbs	227

	Shrubs	73
	Subshrubs	16
	Succulents	16
	Trees	78

Algae

Epibionts

Pithophoraceae

1. *Basicladia ramulosa* Ducker 1958

Growing profusely on the carapace of an Eastern Long-necked Turtle (*Chelodina longicollis*) submerged in the creek near the swale at the green mesh track. Particularly dense towards the posterior end of its carapace, with a large bare patch near the anterior (scraped off?). Identified using Ducker (1958) and Skinner et al. (2008).

Photographic voucher: https://www.inaturalist.org/observations/72424990

Free-living

Cladophoraceae

2. *Cladophora glomerata* (Linnaeus) Kützing 1843

Growing in the creek on rocks, the creek bed and submerged debris at the far southern end of the creek, alongside the creek crossing. Identified based on habit, habitat and distribution information in Skinner and Entwisle (2004).

Photographic voucher: https://www.inaturalist.org/observations/72760328

Bryophytes

Hornworts

Notothyladaceae

1. *Phaeoceros carolinianus* (Michx.) Prosk.

Medium-sized patch growing on the western creek bank near the creek-spanning pipe, wedged between two patches of *Lunularia cruciata*. It was washed away during heavy rains and flooding in mid to late March 2021, but then reappeared at the same spot sometime between 2 May 2021 (when I checked the spot, and it was absent) and 18 August 2021 (when I checked again, and it had appeared).

Photographic voucher: https://www.inaturalist.org/observations/59433434

Liverworts

Aytoniaceae

2. *Asterella drummondii* (Taylor) R.M.Schust. ex D.G.Long

Common, always on exposed clay soil (and almost always in shaded, damp areas). Mostly in the open woodland directly above the southern exotic grassland, but there are also patches along the creek and along the northwestern path through the northern bushland (although unfortunately this population was cleared during public works in 2022). Carpocephala seen in September 2020. Almost all patches seemed to die back during warm/dry weather in mid-late spring 2021, but then came back strongly from mid-late November 2021 onwards after heavy rain.

Photographic voucher: https://www.inaturalist.org/observations/72002641

Fossombroniaceae

3. *Fossombronia* sp.1

Tiny patch on exposed clay soil in the open woodland directly above the southern exotic grassland among *Cladia aggregata* and *Asterella drummondii*. Very desiccated.

Photographic voucher: https://www.inaturalist.org/observations/59948599

4. *Fossombronia* sp.2

Not uncommon, always on exposed clay soil (and almost always in shaded, damp areas). Mostly in the open woodland directly above the southern exotic grassland, with some patches also along the northwestern path through the northern bushland (although unfortunately this population was cleared during public works in 2022). Identified by Chris Cargill as either *F. papillata* or *F. caledonica* due to the conspicuous antheridia. Spores required for confirmation of which species. Almost all patches seemed to die back during warm/dry weather in mid-late spring 2021, but then started to come back in mid-late November 2021 after heavy rain.

Photographic voucher: https://www.inaturalist.org/observations/72002642

Lejeuneaceae

5. *Cololejeunea minutissima* (Sm.) Schiffn.

Small, epiphytic liverwort growing at around eye-level and above on the trunk of a living eucalypt (unsure of species) in the northern grassy woodland, directly along the eastern edge of the large swale leading from the stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/81530292

Lophocoleaceae

6. *Chiloscyphus semiteres* (Lehm. & Lindenb.) Lehm. & Lindenb.

Number of huge patches on damp, exposed clay soil in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/78197447

Lunulariaceae

7. **Lunularia cruciata* (L.) Dumort.

Abundant along the creek, and often present as large patches along eroding sections of creek banks. Despite being non-native, I wonder if this species is playing an important role in preventing even further erosion along some of these creek sections.

Photographic voucher: https://www.inaturalist.org/observations/59431949

Ricciaceae

8. *Riccia asprella* Carrington & Pearson

Few small patches along the western bank of the creek, always on exposed clay soil; one near the metal stairway at the northern end of the reserve, and one on an eroding section near the creekside *Xanthorrhoea minor* subsp. *minor*.

Photographic voucher: https://www.inaturalist.org/observations/71289220

9. *Riccia cartilaginosa* Steph.

A number of patches on exposed clay soil; one at the interface between the western exotic grassland and bushland, one in the northern bushland (although unfortunately this patch was cleared during public works in 2022), and several along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/78196760

10. *Riccia crinita* Taylor

One medium-sized patch on exposed clay soil in the northern bushland, just above the central split path (although unfortunately this population was cleared during public works in 2022), and a very small patch on the eroding creek bank near the creekside *Xanthorrhoea minor* subsp. *minor*, among *Asterella drummondii* and other *Riccia* spp. The latter patch was an incidental find identified by Chris Cargill within an *A. drummondii* sample I collected.

Photographic voucher: https://www.inaturalist.org/observations/78197465

11. *Riccia* sp.1

Very small patch on exposed clay soil on the eroding creek bank near the creekside *Xanthorrhoea minor* subsp. *minor*, among *Asterella drummondii* and other *Riccia* spp.

Photographic voucher: https://www.inaturalist.org/observations/72428954

12. *Riccia subbifurca* Warnst. ex Croz.

Very small patch on exposed clay soil the eroding creek bank near the creekside *Xanthorrhoea minor* subsp. *minor*, among *Asterella drummondii* and other *Riccia* spp (this was an incidental find identified by Chris Cargill in an *Asterella drummondii*/*Riccia* sample I collected). Also a medium-sized patch on exposed clay soil, abutting the fenceline from the empty lot at the northeastern woodland; some of this patch was cleared by mowing in early December 2021.

Photographic voucher: https://www.inaturalist.org/observations/78197459

Mosses

Amblystegiaceae

13. **Leptodictyum riparium* (Hedw.) Warnst.

Growing atop the broken concrete pillar underneath the creek-spanning pipe, in and around the ephemeral pool that forms on the pillar after rain. Capsules appeared in early October 2021 after heavy rain.

Photographic voucher: https://www.inaturalist.org/observations/97004916

Bartramiaceae

14. *Philonotis* sp.

Patches growing on soil on the western creek bank at the northern section of the reserve. Based on distribution and habitat information in Gilmore (2012), *P. tenuis* seems most likely.

Photographic voucher: https://www.inaturalist.org/observations/66182200

Brachytheciaceae

15. *Brachythecium* sp.

Single large, contiguous patch at the southern grassy woodland/southern bushland interface on damp, exposed clay soil. *Brachythecium albicans*, *B. latinervium* and *B. paradoxum* all eliminated as options based on distribution and habitat information in Hedenäs (2012).

Photographic voucher: https://www.inaturalist.org/observations/68751705

Bryaceae

16. *Gemmabryum coronatum* (Schwägr.) J.R.Spence & H.P.Ramsay

Single, very small patch growing on a thin layer of wet clay on rock directly alongside the creek (on the eastern side) at the far southern end of the survey area. Growing among *Fissidens*.

Photographic voucher: None; this was an incidental find identified by Max Mallen-Cooper in a *Fissidens* sample I collected.

17. *Rosulabryum* sp.

Somewhat common. Scattered patches on exposed clay soil in the southern grassy woodland, the open woodland directly above the southern exotic grassland, the southern exotic grassland and the western split grassland, usually among grasses and leaf litter. Also a number of patches dotted throughout the northern bushland. Possibly *R. subtomentosum*.

Photographic voucher: https://www.inaturalist.org/observations/78196780

Ditrichaceae

18. *Eccremidium* sp.

Very small patch on exposed clay soil in the open woodland directly above the southern exotic grassland, growing among *Campylopus introflexus*. This was an incidental capture in a photograph of other mosses.

Photographic voucher: https://www.inaturalist.org/observations/59948598

Fissidentaceae

19. *Fissidens* sp.

Few patches growing on a thin layer of wet clay on rock directly alongside the creek (on the eastern side) at the far southern end of the survey area. Also a large patch at the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/69000885

Gigaspermaceae

20. *Gigaspermum repens* (Hook.) Lindb.

Medium-sized patch on the large patch of dry, exposed clay soil near the large pipe spanning the creek. Mostly female individuals. Possibly now locally extinct in the reserve after this patch was unfortunately cleared during public works in 2022.

Photographic voucher: https://www.inaturalist.org/observations/58474837

Leucobryaceae

21. *Campylopus introflexus* (Hedw.) Brid.

Abundant and widespread throughout almost all sections of the reserve proper. Often growing on exposed soil and along path edges, and often growing with/among the lichen *Cladia aggregata*.

I need to take a closer look at this species in future, and collect some specimens, as I strongly suspect that I'm lumping at least two entities together into '*C. introflexus*'.

Photographic voucher: https://www.inaturalist.org/observations/68751909

Pottiaceae

22. Pottiaceae sp.1

Fairly widespread throughout the survey area, including in the southern grassy woodland, southern exotic grassland, the open woodland directly above the southern exotic grassland, and along the creek, often on exposed clay soil. Possibly two or more cryptic species. Similar to *Barbula*.

Photographic voucher: https://www.inaturalist.org/observations/69707250

23. Pottiaceae sp.2

Single small clump growing on a large chunk of sandstone dumped (?) into the far-southern bushland. Capsules observed. Possibly *Trichostomum brachydontium*.

Photographic voucher: https://www.inaturalist.org/observations/78196764

Thuidiaceae

24. *Thuidiopsis* sp.

Quite common along the western arm of the creek. Mostly directly on the exposed clay banks (especially large patches on the southern bank), but also occasionally on fallen logs.

Photographic voucher: https://www.inaturalist.org/observations/66182209

Vascular plants

Aquatics

Amaranthaceae

1. **Alternanthera philoxeroides* (Mart.) Griseb.

Very abundant along the length of the creek, always growing in huge, dense mats in and alongside the water. Also creeping onto the edges of Everley Park at the southern riverine stretch. Starting from ~January 2021, many patches were completely defoliated due to herbivory by alligatorweed flea beetles (*Agasicles hygrophila*). Unfortunately, however, as of spring 2021, many patches had grown back to their original extent, with the beetles seemingly having moved elsewhere. In mid-September 2022, a small patch had also appeared at the swale at the green mesh track.

Photographic voucher: https://www.inaturalist.org/observations/68311917

Araceae

2. *Lemna disperma* Hegelm.

Few small patches floating on the water's surface, close to the eastern creek bank along the southern riverine stretch at the big kink in the creek. Large quantities also appeared at the weedy swale in the southern bushland after it remained almost permanently flooded throughout mid-late 2022. Only present where the water is stagnant or very slow-flowing.

Photographic voucher: https://www.inaturalist.org/observations/72760334

Brassicaceae

3. **Rorippa nasturtium-aquaticum* (L.) Hayek

Abundant and widespread along the length of the creek, including the western arm. Several plants also at the swale at the green mesh track.

Photographic voucher: https://www.inaturalist.org/observations/59431943

Elatinaceae

4. *Elatine gratioloides* A.Cunn.

Large population of many patches (probably 100+) growing in and around the two parallel swales in the central bushland. Also a few small patches scattered around the edges of the swale in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/140047228

Plantaginaceae

5. **Callitriche stagnalis* Scop.

Small to medium-sized patches scattered along the length of the creek. One small patch also appeared (and then died off) in the southern exotic grassland after inundation during heavy rains and flooding in mid to late March 2021. Large patches seen along and adjacent to the swale at the green mesh track in September 2022.

Photographic voucher: https://www.inaturalist.org/observations/66367191

Potamogetonaceae

6. *Potamogeton crispus* L.

Large, fully submerged patch in a relatively deep section of creek at the far northern section of the reserve. Visible from the western creek bank.

Photographic voucher: https://www.inaturalist.org/observations/68474749

Typhaceae

7. *Typha orientalis* C.Presl

Single small patch growing in water along the eastern creek bank in the southern section of the reserve, at a particularly difficult to access stretch ~30 m north of the creekside *Xanthorrhoea minor* subsp. *minor*.

Photographic voucher: https://www.inaturalist.org/observations/65060638

Climbers

Apocynaceae

8. **Araujia sericifera* Brot.

Abundant and widespread throughout the survey area. Especially common along the creek, particularly along the southern riverine stretch, but patches present (and expanding) in all sections of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/59426734

9. *Vincetoxicum barbatum* (R.Br.) Kuntze

Very common in the southern and central bushland, both climbing trees/shrubs and as patches across the ground. Also a few patches in the northern bushland. Flowering observed in late November 2020 and late November 2021.

Photographic voucher: https://www.inaturalist.org/observations/139076016

10. *Vincetoxicum woollsii* (Benth.) Kuntze

Two small individuals found at the base of a *Eucalyptus fibrosa* at the southwestern corner of the central bushland, surrounded by the non-natives *Araujia sericifera, Asparagus asparagoides, Anredera cordifolia*, and *Ehrharta erecta.* This is a federally and state-listed endangered species, and indeed is perhaps 'Sydney's rarest plant' per Gibson (2008); after first being collected in the 1860s at Parramatta, it was not seen in Sydney until 1999, when a small patch was discovered by Gibson in Norfolk Reserve, Chullora (~5.6 km southeast of the patch I discovered). That patch seemingly died out in the early 2000s during the Millennium Drought, but has now reappeared there after heavy rains during the La Niña conditions of the past couple of years.

Concerningly, the two individuals in Wategora Reserve seem to be threatened by oleander aphids (*Aphis nerii*). On several occasions in December 2021 I found leaves covered in aphids. I then checked in on the patch on 22 January 2022. One of the individuals was covered in hundreds of aphids and was almost entirely defoliated. The other individual looked healthier, but also had several dying leaves covered in aphids, so I removed these. The nearby large patches of the invasive vine *Araujia sericifera* are almost certainly the source of the aphids.

I checked them again on 6 February 2022. The first individual had been 100% defoliated, whilst the second individual was covered in hundreds of aphids as well. I tried to remove as many as I could, but the outlook for it seems grim as long as the nearby *Araujia sericifera* remain. On 30 April 2022 the (aerial portion of the) large individual had completely disappeared, and the small individual, whilst having regrown some leaves, was yet again covered in many aphids.

In positive news, both individuals were present and thriving in mid-September 2022, with no signs of any aphids on them at all.

I will note that in late November 2021, Daniel Smart collected a small cutting (under license) and propagated it in his greenhouse. It grew rapidly, and in late September 2022 it began to flower prolifically; the flower characters (including glabrous corollas) confirmed the identification.

Photographic voucher: https://www.inaturalist.org/observations/101251019

Asparagaceae

11. **Asparagus asparagoides* (L.) W.Wight

Abundant and widespread, and present throughout almost all sections of the survey area. Especially common along the creek (including the western arm), and in the southern bushland and northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/58476754

12. *Eustrephus latifolius* R.Br.

Very common and widespread in almost all sections of the survey area (excluding the grasslands). Flowering observed in late September to early October 2020, and early October to mid-November 2021.

Photographic voucher: https://www.inaturalist.org/observations/58476782

Asteraceae

13. **Delairea odorata* Lem.

Large patches scattered along the creek, mostly around the northern half of the southern riverine stretch and southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/59111086

Basellaceae

14. **Anredera cordifolia* (Ten.) Steenis

Abundant, with huge, dense patches present along the creek, often entirely smothering trees. Especially abundant along the southern riverine stretch. Starting to encroach into the southern, central and northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/59420266

Bignoniaceae

15. **Campsis × tagliabuana* (Vis.) Rehder

Medium-sized patch growing behind/through the chain-link fence at the eastern bank of the creek along the southern riverine stretch, among a dense patch of *Cenchrus clandestinus*.

Photographic voucher: https://www.inaturalist.org/observations/101512817

16. **Dolichandra unguis-cati* (L.) L.G.Lohmann

One young plant on the western creek bank under the Wellington Road bridge.

Photographic voucher: https://www.inaturalist.org/observations/70803501

17. *Pandorea pandorana* (Andrews) Steenis subsp. *pandorana*

Very common and widespread, with patches in the southern bushland, central bushland, northern bushland, southern grassy woodland, and along the southern riverine stretch. Especially common along the western arm of the creek, although the largest, densest patches are along the southern riverine stretch. Most individuals are relatively narrow-leaved, but there's a patch in the southern bushland (climbing a *Eucalyptus moluccana*) with conspicuously large, broad, rounded leaves (https://www.inaturalist.org/observations/103134342). Flowering observed in mid-September 2020.

Photographic voucher: https://www.inaturalist.org/observations/59860814

Caprifoliaceae

18. **Lonicera japonica* Thunb.

Abundant, with huge, dense patches present along the creek, especially along the southern riverine stretch and at the creek-spanning pipe. One patch in the northern bushland, and starting to invade the southern grassy woodland from the creek at multiple locations.

Photographic voucher: https://www.inaturalist.org/observations/65201167

Convolvulaceae

19. *Convolvulus erubescens* Sims

One large patch on the eastern creek bank along the southern riverine stretch at the big kink in the creek, and another large patch in the western split grassland, spilling into the southern bushland. Flowering observed from late November 2020 to late January 2021, starting again in late November 2021.

Photographic voucher: https://www.inaturalist.org/observations/65389925

20. **Convolvulus farinosus* L.

At least four to five large patches along the length of the creek within the reserve proper, on both the western and eastern banks of the creek, always at highly weedy spots. Biggest patches at the creek-spanning pipe and along the creek near the swale at the green mesh track.

Photographic voucher: https://www.inaturalist.org/observations/64027815

21. **Ipomoea indica* (Burm.) Merr.

Common along the creek, almost always on the eastern bank. Not in many locations, but always very large, dense patches where present.

Photographic voucher: https://www.inaturalist.org/observations/65059614

22. *_Ipomoea purpurea_ (L.) Roth

Few patches abutting the concrete walls and sandstone wall at the northwestern corner of the reserve, mostly growing in mulch/wood chips, and one small patch on the eastern bank of the creek along the southern riverine stretch, near the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/155421976

23. *Polymeria calycina* R.Br.

Abundant and widespread, present in almost all sections of the survey area, although uncommon along the southern riverine stretch. Especially common in the southern grassy woodland. Flowering observed on and off for most of the survey period outside of winter 2021.

Photographic voucher: https://www.inaturalist.org/observations/60692650

Cucurbitaceae

24. *_Cucumis melo_ L.

Single young plant on the eastern bank of the creek along the southern riverine stretch, near the big kink. Presumably originated from someone eating melon at the nearby sporting fields, and throwing the leftovers (including the seeds) alongside the creek.

Photographic voucher: https://www.inaturalist.org/observations/78802652

Dilleniaceae

25. *Hibbertia dentata* R.Br. ex DC.

Single small patch in the southeastern corner of the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66643055

Fabaceae

26. *Desmodium rhytidophyllum* F.Muell. ex Benth.

Two or three plants in a very small area at the interface between the southern grassy woodland and southern bushland, close to the creek.

Photographic voucher: https://www.inaturalist.org/observations/82519137

27. *Desmodium varians* (Labill.) G.Don

Not especially common, but widely spread across the reserve, with a few large patches in the far southern bushland, central bushland, and northern grassy woodland. Flowering observed in early April 2021.

Photographic voucher: https://www.inaturalist.org/observations/72765668

28. *_Dipogon lignosus_ (L.) Verdc.

One large patch growing on the chain-link fence at the eastern bank of the creek along the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/134957307

29. *Glycine clandestina* J.C.Wendl.

Abundant and widespread, present in almost all sections of the survey area. Flowering observed in September 2020, and starting again in early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/59864240

30. *Glycine microphylla* (Benth.) Tindale

One medium-sized patch in the far southern bushland, and one along the creek at the far northern end of the reserve. I suspect this is probably more common than I've recorded due its similarity to *G. clandestina* at a glance. Flowering observed in mid-February 2021.

Photographic voucher: https://www.inaturalist.org/observations/69444721

31. *Glycine tabacina* (Labill.) Benth.

Somewhat common and widespread. Large patch at the far southern end of the creek along the path leading to the creek crossing, with other scattered patches throughout the far southern, southern and central bushland. Flowering observed in late October 2020 and early May 2021.

Photographic voucher: https://www.inaturalist.org/observations/78197466

32. *Hardenbergia violacea* (Schneev.) Stearn

Abundant and widespread, present in almost all sections of the survey area. Often prostrate on exposed soil. There's a particularly massive/dense patch growing over a metal fence alongside the main path in the northern bushland. Flowering observed from September-October 2020, and starting again early August 2021.

Photographic voucher: https://www.inaturalist.org/observations/58476751

33. *Kennedia rubicunda* (Schneev.) Vent.

One large patch at the southeastern corner of the southern grassy woodland, growing over two *Macrozamia spiralis* and nearby plants, and a smaller patch 20-30 m westwards, also along the creek bank. Flowering observed in late September 2020, and August to early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/60813985

34. *Pullenia gunnii* (Benth. ex Hook.f.) H.Ohashi & K.Ohashi

Relatively widespread, with patches in the southern bushland, northern bushland, and (especially) along the western arm of the creek. Flowering observed in early April 2021 and mid-December 2021.

Photographic voucher: https://www.inaturalist.org/observations/72753615

Lauraceae

35. *Cassytha paniculata* R.Br.

Large patches present in the southern grassy woodland, the open woodland directly above the southern exotic grassland, and the northern bushland, with some especially huge, dense patches in the latter near the swale. Flowering observed starting from mid-late July 2021.

Photographic voucher: https://www.inaturalist.org/observations/94085981

Menispermaceae

36. *Sarcopetalum harveyanum* F.Muell.

Several medium to large-sized patches along the southern bank of the western arm of the creek. Male flowers observed in late October 2022.

Photographic voucher: https://www.inaturalist.org/observations/140486176

Passifloraceae

37. **Passiflora edulis* Sims

Two decent sized patches alongside each other in the southern grassy woodland, both draped over trees and climbing over the ground.

Photographic voucher: https://www.inaturalist.org/observations/82519133

38. **Passiflora suberosa* L.

Very large patch in the large swale leading from the stormwater entrance, plus a single small seedling in the northern bushland, just above the central split path.

Photographic voucher: https://www.inaturalist.org/observations/71288313

Pittosporaceae

39. *Billardiera mutabilis* Salisb.

Two small patches in the southern bushland, just above the open woodland directly above the southern exotic grassland. Identified based on leaves and fruits, and the key in Cayzer et al. (2004), with a glabrous-fruited form of *B. scandens* eliminated.

Photographic voucher: https://www.inaturalist.org/observations/66763912

Ranunculaceae

40. *Clematis aristata* R.Br. ex Ker Gawl.

Occasional patches in the southern bushland and northern bushland, certainly far less common than *A. glycinoides*. Flowering observed in early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/96999111

41. *Clematis glycinoides* DC.

Abundant and widespread throughout the southern, central and northern bushland, with many large patches smothering other plants. Often climbing over metal fences along paths. Prolific flowering observed in September 2020, with flowering starting again in mid-August 2021, building to prolific again by late August/early September 2021, but continuing into early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/58476779

Sapindaceae

42. **Cardiospermum grandiflorum* Sw.

Abundant, with huge, dense patches present along the creek, often entirely smothering trees. Especially abundant along the southern riverine stretch. Large patches were skirted in ~January 2021. Unfortunately, in early March 2022, I discovered a medium-sized patch in the far southern

bushland, the first time I had seen this species away from the creek; it had already started to choke several trees.

Photographic voucher: https://www.inaturalist.org/observations/65196247

Solanaceae

43. *_Solanum seaforthianum_ Andrews

Mostly restricted to the northern bushland and northern grassy woodland, with one small patch in the southern bushland. Somewhat common around the northern edge of the northern bushland in particular, often prolifically flowering and fruiting.

Photographic voucher: https://www.inaturalist.org/observations/65867783

Vitaceae

44. *Cayratia clematidea* (F.Muell.) Domin

Occasional patches in the northern bushland and northern grassy woodland, climbing over *Kunzea ambigua*, *Melaleuca* and *Eucalyptus*. Flowering observed in early to mid-December 2020, and starting again in mid-December 2021.

Photographic voucher: https://www.inaturalist.org/observations/66505900

45. *Cissus antarctica* Vent.

Several very large patches on the southern bank of the western arm of the creek, spread over both the ground and across/over shrubs and trees, with these patches noticeably expanding throughout 2021 and 2022. Flowering observed starting from mid-December 2021.

Photographic voucher: https://www.inaturalist.org/observations/103134379

Graminoids

Agapanthaceae

46. *_Agapanthus praecox_ subsp. *orientalis* (F.M. Leight.) F.M. Leight.

Scattered along the eastern creek bank, with one small patch also in the southern grassy woodland. All of these almost certainly originate from Auburn Golf Course to the east; this species is planted extensively along the course's western edge (i.e., along the eastern bank of the creek).

Photographic voucher: https://www.inaturalist.org/observations/66642343

Asparagaceae

47. *Lomandra filiformis* (Thunb.) Britten

Common, scattered throughout the northern bushland, central bushland (particularly large patch here close to the two parallel swales), southern bushland, southern grassy woodland, the open woodland directly above the southern exotic grassland, and along the edge of Everley Park at the southern riverine stretch, at the third light tower. Often along path edges. Flowering observed in September 2020, and starting again in early October 2021.

Multiple subspecies, some of which may be elevated to full species in future pending revision of this taxon, are present in the reserve.

Photographic voucher: https://www.inaturalist.org/observations/59860164

48. *Lomandra longifolia* Labill.

Very common and widespread throughout the southern bushland, central bushland, northern bushland, southern grassy woodland, along the central split path, and along the creek. Especially common along the southern riverine stretch, although many of these are likely plantings. A number of different 'morphs' present (a slender form and a larger, strappier form), so some of these plantings probably include multiple different varieties. Flowering observed from September-November 2020, and in September 2021.

Photographic voucher: https://www.inaturalist.org/observations/58811977

49. *Lomandra multiflora* (R.Br.) Britten subsp. *multiflora*

Quite common and widespread throughout the reserve in the southern bushland, central bushland, northern bushland, the southern grassy woodland, the open woodland directly above the southern exotic grassland, and along the central split path. Like *L. filiformis*, often along path edges. Flowering observed in September-October 2020, and in late September to early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/60690434

Cyperaceae

50. *Carex breviculmis* R.Br.

Two individuals along the eastern edge of the northwestern path through the northern bushland, at the same spot as the *Chorizema parviflorum*, although unfortunately this population was cleared during public works in 2022. There's a second small patch of five individuals in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/87826740

51. *Carex inversa* R.Br.

Scattered patches along the edge of Everley Park at the southern riverine stretch, and other small patches dotted across the edges of the far southern bushland and northern bushland. Flowering observed in mid-November 2020, early April to mid-May 2021, and starting from early December 2021.

Photographic voucher: https://www.inaturalist.org/observations/73285446

52. **Cyperus aggregatus* (Willd.) Endl.

Single plant appeared in late February 2021 at the far southern end of Everley Park at the southern riverine stretch, near the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/70026600

53. **Cyperus eragrostis* Lam.

Very common and widespread along the creek, with patches also in the northern grassy woodland and southern exotic grassland, and along the edge of Everley Park at the southern riverine stretch,

especially in/around standing water after rain. Patches consistently appear in bushland (and generally persist afterwards, even when the swales dry up) at the various swales, including large patches at the swale in the northern bushland, and at the weedy swale and the shaded, damp swale in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/70492071

54. *Cyperus gracilis* R.Br.

Common and widespread across the survey area, especially along the southern riverine stretch (particularly on the eastern bank) and path edges.

Photographic voucher: https://www.inaturalist.org/observations/68751686

55. **Cyperus involucratus* Rottb.

Two medium-sized patches along the western arm of the creek, and one small patch at the Wellington Road bridge.

Photographic voucher: https://www.inaturalist.org/observations/61377753

56. **Cyperus sesquiflorus* (Torr.) Mattf. & Kük.

Huge numbers appeared along the edge of Everley Park at the southern riverine stretch after heavy rain and flooding in mid to late March 2021, and then disappeared soon after.

Photographic voucher: https://www.inaturalist.org/observations/71783041

57. *Ficinia nodosa* (Rottb.) Goetgh., Muasya & D.A.Simpson

Single small patch in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/60800879

58. *Fimbristylis dichotoma* (L.) Vahl

Fairly widespread throughout the reserve proper, with small patches scattered in the southern exotic grassland, near the western alcove, in the northern bushland, and in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/70025241

59. *Gahnia aspera* (R.Br.) Spreng.

Very common in the northern bushland, especially along the northwestern path, and fairly common along the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/59860810

60. *Gahnia melanocarpa* R.Br.

Only three small patches: one on the southern bank of the western arm of the creek (two individuals), and two (growing directly next to each other) on the northern bank of the western arm of the creek (2-4 individuals each).

Photographic voucher: https://www.inaturalist.org/observations/72143624

61. *Isolepis cernua* (Vahl) Roem. & Schult.

One patch creekside on wet clay soil at the creek-spanning pipe (western bank), growing among *Alternanthera philoxeroides* and other aquatic weeds.

Photographic voucher: https://www.inaturalist.org/observations/60694723

62. *Lepidosperma laterale* R.Br.

Abundant and widespread, present throughout almost all sections of the reserve proper, especially in the southern, central and northern bushland, along the creek (in particular the western arm of the creek) and along path edges. Especially common either side of the northwestern path through the northern bushland, with large, dense patches on the western side (although unfortunately large swathes of this population were cleared during public works in 2022). There are at least two distinct 'forms' present which will eventually correspond to two different species (confirmed by Russell Barrett): a much larger, more robust form (see e.g., https://www.inaturalist.org/observations/179470371), and a smaller form (see e.g., https://www.inaturalist.org/observations/179471329).

Photographic voucher: https://www.inaturalist.org/observations/58815994

63. *Schoenoplectus tabernaemontani* (C.C.Gmel.) Palla

Single small patch of 2-3 plants near the large *Canna indica* patch at the southern end of the reserve. I couldn't find this patch again after the heavy rain and flooding in mid to late March 2021 (which impacted this particular stretch of the creek especially badly), so it seems likely the plants were washed away.

Photographic voucher: https://www.inaturalist.org/observations/66177968

64. *Schoenus apogon* Roem. & Schult.

Patch of 6-8 individuals in the eastern third of the northern bushland, growing on damp, shaded, heavy clay. Elsewhere, smaller patches of ~1-3 individuals in the open woodland directly above the southern exotic grassland, in the northern bushland, around the two parallel swales in the central bushland, and at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland. Flowering observed from mid to late October 2022.

Photographic voucher: https://www.inaturalist.org/observations/138800495

Hemerocallidaceae

65. **Dianella brevipedunculata* R.J.F.Hend.

Ten to twelve planted individuals in the northern grassy woodland, with a few scattered, self-seeded individuals starting to creep towards the northern bushland, and one self-seeded individual having made it all the way to the western edge of the reserve, near the southwestern corner of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/103134364

66. *Dianella caerulea* Sims

Very common and widespread, present throughout almost all sections of the survey area. Flowering observed throughout September 2020, starting again late September 2021. There are two distinct entities present in the survey area. The first form is larger, more robust, strongly erect with taller

stems, and forms very large, strongly rhizomic patches (https://www.inaturalist.org/observations/195137692). This form is effectively only present in the northern third of the reserve, and usually grows in more fertile soil. The second form is smaller, usually more sprawling/less erect with shorter stems, and is only weakly rhizomic (https://www.inaturalist.org/observations/195137690). It is present throughout the reserve, but is definitely more common in the middle and southern sections.

Photographic voucher: https://www.inaturalist.org/observations/60803656

67. *Dianella longifolia* R.Br. var. *longifolia*

Scattered individuals in the southern exotic grassland, near the huge sea of weeds along the creek in line with the central split path, along the edge of the carpark immediately below the reserve, and in the northern bushland, including at the swale. Not as common as the other two *Dianella*, and more often found in swampier areas. Flowering observed from September 2020 all the way through to early May 2021, and then starting again in early December 2021 (although they almost certainly started flowering well before this for the 2021/2022 season, it's uncommon enough in the reserve that I didn't spot one again until early December 2021). Some individuals seem to display characters from multiple *Dianella* species, so the presence of hybrids (whether naturally occurring or planted) seems possible.

Photographic voucher: https://www.inaturalist.org/observations/68314075

68. *Dianella revoluta* R.Br.

Common and widespread, although not as much so as *D. caerulea*, including in the far southern bushland, southern exotic grassland, along the central split path, and in the northern bushland. Some planted patches also likely. Flowering observed in September-October 2020, starting again late August 2021.

Photographic voucher: https://www.inaturalist.org/observations/61846654

Juncaceae

69. **Juncus articulatus* L.

Individuals scattered along the path's edge in the open woodland directly above the southern exotic grassland, appearing in heavy, damp clay after rain.

Photographic voucher: https://www.inaturalist.org/observations/139077090

70. *Juncus bufonius* L.

Large numbers appeared after rain along the northwestern path through the northern bushland, growing out of the mulch laid down in mid-2022 during public works. Also appeared in smaller numbers along the main path running past the large patch of bare soil near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/140321181

71. **Juncus imbricatus* Laharpe

One patch in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/61381215

72. **Juncus microcephalus* Kunth

Few scattered patches in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/65631286

73. *Juncus planifolius* R.Br.

Few small patches around the edges of one of the two parallel swales in the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/140047224

74. *Juncus subsecundus* N.A.Wakef.

Few scattered patches in the southern exotic grassland, and one in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/60695658

75. *Juncus usitatus* L.A.S.Johnson

Very abundant and widespread. Many patches in the southern exotic grassland and along the length of the creek, including along the western arm. Also common in the northern bushland (at the swale in the northern bushland), southern bushland, central bushland, and the open woodland directly above the southern exotic grassland. This species particularly boomed in numbers throughout 2022 thanks to the constant heavy rain, with many patches appearing in and around flooded swales and standing water throughout the reserve.

Photographic voucher: https://www.inaturalist.org/observations/70025228

Juncaginaceae

76. *Triglochin striata* Ruiz & Pav.

I found a medium-sized patch of young, emerging plants on a muddy, heavy clay section of the northern bank (directly along the water) of the western arm of the creek in early December 2020. In late February 2021 I found another similar patch ~15-20 metres westwards of the first patch, however, since then, I haven't seen this species at all along this section of the creek, and I suspect it was washed away during the heavy rains and flooding in mid to late March 2021. Also one small patch along a similarly muddy, heavy clay section of the eastern creek bank near the large *Canna indica* patch at the southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/70030217

Poaceae

77. *Anthosachne scabra* (R.Br.) Nevski

A few large patches in the northern grassy woodland and along path edges at the eastern edge of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/60688544

78. *Aristida vagans* Cav.

Quite common, with patches spread throughout the northern grassy woodland, northern bushland, far southern bushland, southern grassy woodland, and across the edges of the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/85735681

79. *Austrostipa rudis* (Spreng.) S.W.L.Jacobs & J.Everett

A particularly large patch in the southern grassy woodland, and a smaller patch in the northern bushland. Also prolific in the open woodland directly above the southern exotic grassland, appearing there in October 2022. At least two subspecies are present; *A. r.* subsp. *australis* and *A. r.* subsp. *rudis*, with the former definitely present in the southern grassy woodland, and the latter definitely present in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/140955686

80. *Austrostipa verticillata* (Nees ex Spreng.) S.W.L.Jacobs & J.Everett

Medium-sized patch on the eastern bank of the southern riverine stretch at the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/81004414

81. **Avena barbata* Pott ex Link

Abundant in the southern exotic grassland and western exotic grassland, mostly in spring and summer. Also large patches along the edge of Everley Park at the southern riverine stretch, and one very large patch at the northern edge of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/60501711

82. *Bothriochloa macra* (Steud.) S.T.Blake

A number of large patches in the western and southern exotic grasslands (including on the large patches of exposed soil at the western section), as well as in the central bushland near the central split path, and along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/74606917

83. **Briza maxima* L.

Large patches in the southern exotic grassland, with smaller patches in the northern grassy woodland, in the western split grassland, and along the creek in the reserve proper.

Photographic voucher: https://www.inaturalist.org/observations/60690441

84. **Briza minor* L.

Large patches in the northern grassy woodland, with smaller patches at the northwestern lawn, in the southern exotic grassland, and along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/60688540

85. **Briza subaristata* Lam.

Abundant in the southern exotic grassland, with huge patches present. Also present along the edge of Everley Park at the southern riverine stretch, in the southern grassy woodland, and in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/61847301

86. **Bromus catharticus* Vahl

Abundant along the edge of Everley Park at the southern riverine stretch, and in the southern exotic grassland and western exotic grassland. Also patches at the northwestern lawn, and in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/59114577

87. *Capillipedium spicigerum* S.T.Blake

Two small patches at the interface between the narrow strip of exotic grassland to the right of the main path leading into the southern bushland, and the native grasses leading into the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/66506377

88. **Cenchrus clandestinus* (Hochst. ex Chiov.) Morrone

Enormous, dense patches in the southern exotic grassland, one of the dominant species there. Also hugely abundant along the southern riverine stretch, with much of the sporting fields (both Everley Park and those on the eastern bank) using it as turf.

Photographic voucher: https://www.inaturalist.org/observations/81004425

89. **Chloris gayana* Kunth

Occasional patches along the southern riverine stretch (on both banks), and one patch near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/70237843

90. *Chloris truncata* R.Br.

One large patch at the periphery of the northern bushland, abutting the house, one along the edge of Everley Park at the southern riverine stretch, in between the two long-jump pits, and a smaller patch along the eastern bank of the southern riverine stretch, at the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/79362247

91. *Chloris ventricosa* R.Br.

Single small patch next to the central bridge.

Photographic voucher: https://www.inaturalist.org/observations/59860789

92. **Chloris virgata* Sw.

Scattered patches at the southern exotic grassland, western exotic grassland, and eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/70237844

93. **Cynodon dactylon* (L.) Pers.

Abundant and widespread. Large, dense patches in the southern exotic grassland, one of the dominant species there alongside *Cenchrus clandestinus*. Also very common along the southern riverine stretch, in the western exotic grassland (especially the section above Melita Stadium), and on exposed soil throughout the survey area. Almost certainly an escapee from the Auburn Golf Course and/or sporting field lawns.

Photographic voucher: https://www.inaturalist.org/observations/70797010

94. *Cymbopogon refractus* (R.Br.) A.Camus

Scattered throughout the southern, central and northern bushland, often along path edges.

Photographic voucher: https://www.inaturalist.org/observations/76498692

95. *Dichelachne crinita* (L.f.) Hook.f.

Single small patch on the northern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/61377751

96. *Dichelachne micrantha* (Cav.) Domin

A few scattered patches in the northern bushland, mostly along the northwestern path, and a small patch on the northern bank of the western arm of the creek. Large patches appeared in the open woodland directly above the southern exotic grassland in October 2022, mostly along the path edges.

Photographic voucher: https://www.inaturalist.org/observations/140955684

97. **Digitaria didactyla* Willd.

Originally planted as lawn/turf grass at the northwestern lawn, now self-spreading eastwards towards the bushland.

Photographic voucher: https://www.inaturalist.org/observations/195139200

98. **Digitaria sanguinalis* (L.) Scop.

Large patches scattered across the survey area, including the section of western exotic grassland above Melita Stadium, the western split grassland, both banks of the southern riverine stretch, and the periphery of the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/69444744

99. **Echinochloa crus-galli* (L.) P.Beauv.

Scattered patches in the section of western exotic grassland above Melita Stadium.

Photographic voucher: https://www.inaturalist.org/observations/68475200

100. *Echinopogon caespitosus* C.E.Hubb. var. *caespitosus*

Common and widespread, with patches in the southern bushland, central bushland, northern bushland, at the southeastern corner of the open woodland directly above the southern exotic grassland, and in the large swale leading from the stormwater entrance. Most common in the northern bushland, with some especially large patches.

Photographic voucher: https://www.inaturalist.org/observations/64026351

101. *Echinopogon ovatus* (G.Forst.) P.Beauv.

Medium-sized patch near the northeastern entrance to the reserve, and a small patch in the far northern bush behind the bench seat.

Photographic voucher: https://www.inaturalist.org/observations/81004437

102. **Ehrharta erecta* Lam.

Incredibly abundant and widespread throughout almost all sections of the survey area. One of the main non-native species found throughout sections of otherwise relatively undisturbed bushland, and one of the few non-natives to have invaded the core of the southern grassy woodland. Over the course of my survey, it has increasingly expanded into almost all sections of bushland. Enormous, dense patches in the isolated *Melaleuca* patch. One of the biggest threats in the reserve.

Photographic voucher: https://www.inaturalist.org/observations/60505989

103. **Ehrharta longiflora* Sm.

Abundant, especially along the southern riverine stretch, with patches also in the central bushland near the stormwater entrance, northern bushland along path edges, western exotic grassland, northern grassy woodland, southern exotic grassland, and the Wellington Road bridge.

Photographic voucher: https://www.inaturalist.org/observations/60696740

104. **Eleusine indica* (L.) Gaertn.

Big patches along the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/73824735

105. **Eleusine tristachya* (Lam.) Lam.

Especially common along the southern riverine stretch, with one or two patches in the far southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/64715192

106. *Entolasia marginata* (R.Br.) Hughes

Scattered patches in the northern and southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/64026352

107. *Entolasia stricta* (R.Br.) Hughes

Quite common, with some huge patches in the southern bushland. Also a number of patches in the southern grassy woodland and northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/59860160

108. *Eragrostis brownii* (Kunth) Nees

Scattered patches in the southern grassy woodland and northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/76487191

109. **Eragrostis curvula* (Schrad.) Nees

Abundant in the western exotic grassland (especially near the stormwater entrance), southern exotic grassland (starting to invade the far southern bushland), and the northern grassy woodland, and common along the southern riverine stretch, along the southern edge of the central split path

(towards the western end), and in the huge sea of weeds along the creek in line with the central split path. Large patches of this species were dug out at the northern grassy woodland in late 2021.

Photographic voucher: https://www.inaturalist.org/observations/61846635

110. *Eragrostis leptostachya* (R.Br.) Steud.

A few small, scattered patches throughout the northern bushland and along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/72754964

111. **Eragrostis lugens Nees*

A few scattered patches on the edge of the northern bushland, perpendicular to the bench seat.

Photographic voucher: https://www.inaturalist.org/observations/79914630

112. **Eragrostis pilosa* (L.) P.Beauv.

Single large patch at the section of western exotic grassland above Melita Stadium. Note that this may actually be *E. pectinacea*, a species not currently recognised as occurring in Australia, and to which apparently the name *E. pilosa* has been misapplied in Australia. I don't have enough knowledge in this group to confirm this or not, so have retained the name *E. pilosa* for now.

Photographic voucher: https://www.inaturalist.org/observations/69444742

113. **Eragrostis tenuifolia* (A.Rich.) Hochst. ex Steud.

One small patch on the eastern bank of the southern riverine stretch, a few small patches along the edge of Everley Park at the southern riverine stretch, and scattered plants near the northeastern entrance to the reserve, and in the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/76505904

114. *Eriochloa pseudoacrotricha* (Stapf ex Thell.) J.M.Black

Scattered patches in the western exotic grassland, especially on the large patches of exposed soil at the western section, and one small patch in the grassland at the far southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/68313837

115. *Imperata cylindrica* (L.) P.Beauv.

Abundant and dominant in the southern grassy woodland, with particularly large patches also in the western third of the northern bushland, in the weedy swale in the southern bushland, and along the length of the creek. When present, always as very large patches.

Photographic voucher: https://www.inaturalist.org/observations/63626617

116. *Lachnagrostis filiformis* (G.Forst.) Trin.

Medium-sized patch in a wet clay creek bank along the southern grassy woodland. A number of patches also appeared in the open woodland directly above the southern exotic grassland in mid-late 2022.

Photographic voucher: https://www.inaturalist.org/observations/63865461

117. **Lolium multiflorum* Lam.

Very common in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/63625220

118. **Lolium perenne* L.

Abundant and widespread, with large patches in the northern grassy woodland, the empty lot, and along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/64030548

119. **Lolium rigidum* Gaudin

Large patches in the western exotic grassland, with some scattered patches in the southern exotic grassland, southern bushland, and along the creek.

Photographic voucher: https://www.inaturalist.org/observations/59426748

120. **Megathyrsus maximus* (Jacq.) B.K.Simon & S.W.L.Jacobs

Abundant along the creek, especially along the southern riverine stretch. Large patches started to appear in the northern grassy woodland and along the western edge of the central bushland in the second half of 2021.

Photographic voucher: https://www.inaturalist.org/observations/76464584

121. **Melinis repens* (Willd.) Zizka

A few small patches in the northern grassy woodland around the large mulch piles, along the creek near the swale at the green mesh track, and along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/65620975

122. *Microlaena stipoides* (Labill.) R.Br. var. *stipoides*

Big patches on the periphery of the northern bushland and in the northern grassy woodland. Also patches at the northern edge of the southern grassy woodland, in the isolated *Melaleuca* patch, and in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/79911979

123. *Oplismenus hirtellus* (L.) P.Beauv.

Fairly common and widespread throughout the far southern bushland, central bushland, northern bushland, southern bushland, and isolated *Melaleuca* patch, with some big patches in particular in the latter two, and on the northern bank of the western arm of the creek. Usually in shaded areas.

Taxonomic note: if I were to follow PlantNET taxonomy here, there are two *Oplismenus* present in the reserve, *O. aemulus* (present throughout most of the reserve) and *O. imbecillis* (present on the northern bank of the western arm of the creek, and in the southern bushland, see e.g., https://www.inaturalist.org/observations/70491552). However, these two names are synonymised under *O. hirtellus* by the APC.

Photographic voucher: https://www.inaturalist.org/observations/70241622

124. *Panicum simile* Domin

A few medium-sized patches in the core of the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/73280479

125. *Paspalidium criniforme* S.T.Blake

Scattered small patches in the southern grassy woodland, mostly near the southeastern corner, and a small patch on the southern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/103134912

126. *Paspalidium distans* (Trin.) Hughes

One small patch among *Cladia aggregata* in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/71288317

127. **Paspalum dilatatum* Poir.

Abundant and widespread in the western exotic grassland, in the southern exotic grassland, along the edges of the northwestern lawn, and along the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/65390511

128. **Paspalum quadrifarium* Lam.

Cluster of plants in the southern exotic grassland, either side of the main path leading into the southern bushland. These have been sprayed multiple times, but seem to keep bouncing back. One small patch also in the far southern bushland, and a very large population along the creek at the eastern edge of the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/61377741

129. **Paspalum urvillei* Steud.

Very common and widespread along the length of the creek.

Photographic voucher: https://www.inaturalist.org/observations/64715197

130. **Phalaris aquatica* L.

Few patches in the weedy swale in the southern bushland, and one small patch along the creek in line with the central split path.

Photographic voucher: https://www.inaturalist.org/observations/64585582

131. *Phragmites australis* (Cav.) Trin. ex Steud.

Very common growing along and in the length of the creek.

Photographic voucher: https://www.inaturalist.org/observations/43260480

132. **Poa annua* L.

Large patch in the carpark immediately below the reserve, around the edges of the huge puddle that forms after rain. Fairly abundant along the edge of Everley Park at the southern riverine stretch

during winter-early spring 2021, as well as along the edge of the empty lot and at the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/59112967

133. *Poa sieberiana* Spreng. var. *sieberiana*

Several patches in western section of the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/65390515

134. **Polypogon lutosus* (Poir.) Hitchc.

One small patch at the far southern end of the creek, growing on the concrete ledge extending from the flooded concrete platform on the western creekbank directly north of the creek crossing, one at the creek-spanning pipe, and two on the eastern bank of the southern riverine stretch (one near the creek crossing and one near the large *Canna indica* patch at the southern end of the reserve).

Photographic voucher: https://www.inaturalist.org/observations/186979048

135. **Polypogon viridis* (Gouan) Breistr.

Single plant growing in a wet clay creek bank along the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/63865291

136. *Rytidosperma erianthum* (Lindl.) Connor & Edgar

Small patch along the edge of the path, just above the large, exposed patch of soil near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/70237859

137. *Rytidosperma fulvum* (Vickery) A.M.Humphreys & H.P.Linder

Somewhat common, with scattered patches in the southern bushland, northern bushland, the open woodland directly above the southern exotic grassland, the southern grassy woodland, and the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/65870642

138. *Rytidosperma pallidum* (R.Br.) A.M.Humphreys & H.P.Linder

One small patch along the periphery of the southern exotic grassland, alongside the main path leading into the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/59860171

139. *Rytidosperma pilosum* (R.Br.) Connor & Edgar

One patch of a few small tufts along the edge of Everley Park at the southern riverine stretch, near the second light tower.

Photographic voucher: https://www.inaturalist.org/observations/61849185

140. *Rytidosperma setaceum* (R.Br.) Connor & Edgar

Fairly common and widespread in the southern, central and northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66362782

141. *Rytidosperma tenuius* (Steud.) A.Hansen & Sunding

Scattered patches along the edge of Everley Park at the southern riverine stretch, and in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/65870643

142. **Setaria parviflora* (Poir.) Kerguelen

Huge numbers appeared along the edge of Everley Park at the southern riverine stretch after heavy rain and flooding in mid to late March 2021. Large patches also in the southern and western exotic grasslands.

Photographic voucher: https://www.inaturalist.org/observations/65389933

143. **Setaria pumila* (Poir.) Roem. & Schult.

Large patches appeared in the southern exotic grassland after the heavy rains and flooding in mid to late March 2021. Patches also scattered in the northern grassy woodland, northern woodland, the open woodland directly above the southern exotic grassland, and along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/58814519

144. **Sorghum halepense* (L.) Pers.

Large patch in the western exotic grassland, abutting the stormwater entrance. Also several large patches along the southern riverine stretch, and a small patch along the edge of the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/65390512

145. **Sporobolus africanus* (Poir.) Robyns & Tournay

Occasional; a few patches along the edge of Everley Park at the southern riverine stretch, and in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/59860135

146. *Sporobolus creber* De Nardi

A few patches at the large, exposed patch of soil near the creek-spanning pipe, and one small patch at the southern grassy woodland/southern bushland interface.

Photographic voucher: https://www.inaturalist.org/observations/70237856

147. **Sporobolus fertilis* (Steud.) Clayton

One small patch in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/99067437

148. **Stenotaphrum secundatum* (Walter) Kuntze

Very small patch in the northern bushland along the northwestern path, and a few small patches along the main path cutting through the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/140488499

149. *Themeda triandra* Forssk.

Abundant and widespread, present throughout almost all sections of the survey area. Especially common in the southern exotic grassland (one of the few native grass species there) and the southern grassy woodland, and large patches also present throughout all sections of bushland, particularly the northern bushland. There are a number of plantings of this species in the southern exotic grassland; these are not local provenance, and are a much taller/robust form.

Photographic voucher: https://www.inaturalist.org/observations/58811632

150. **Triticum* sp.

Single small patch growing at the base of the ancient eucalypt hybrid. Had been sprayed with herbicide.

Photographic voucher: https://www.inaturalist.org/observations/59861459

151. **Vulpia bromoides* (L.) Gray

One small patch in the grassland at the far southern end of the reserve, with a few small patches along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/140488374

152. **Vulpia muralis* (Kunth) Nees

Somewhat common along the edge of Everley Park at the southern riverine stretch, with an especially large patch at the first light tower, scattered patches in the southern exotic grassland, and small patches growing in the large, damp *Campylopus introflexus* patches along the western edge of the northwestern path through the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/61847303

153. **Vulpia myuros* f. *megalura* (Nutt.) Stace & R.Cotton

One medium-sized patch along the edge of Everley Park at the southern riverine stretch, next to the first light tower, and a single small patch on the northern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/60800873

Xanthorrhoeaceae

154. *Xanthorrhoea minor* R.Br. subsp. *minor*

Three individual plants on the western bank of the creek at the southern bushland, near an erosion protection geotextile mattress, and a few small patches totalling ~8-10 plants in the central bushland. Flowering observed in November 2020.

Photographic voucher: https://www.inaturalist.org/observations/64585580

Ferns

Aspleniaceae

155. *Asplenium australasicum* (J.Sm.) Hook.

Two individuals, both quite young, growing in eroding sections of the northern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/84278872

Blechnaceae

156. *Blechnum rupestre* (Kaulf. ex Link) Christenh.

Single plant on the eastern bank of the creek, along a highly eroded stretch of creekbank near the swale at the green mesh track.

Photographic voucher: https://www.inaturalist.org/observations/72430455

Dennstaedtiaceae

157. *Pteridium esculentum* (G.Forst.) Cockayne

Scattered plants along the creek at the southern grassy woodland, all within an area of ~10 m². Mostly small individuals.

Photographic voucher: https://www.inaturalist.org/observations/69444749

Pteridaceae

158. *Adiantum aethiopicum* L.

Abundant and widespread, with typically dense patches where present. Especially large patches along the western arm of the creek, and at the shaded, damp swale and weedy swale in the southern bushland, with smaller patches in the southern grassy woodland near the creek. Almost always in damp and strongly shaded areas.

Photographic voucher: https://www.inaturalist.org/observations/60506936

159. *Cheilanthes distans* (R.Br.) Mett.

One tiny patch of two young plants growing in a vertical section of creekbank at the western arm of the creek, very close to the stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/76505967

160. *Cheilanthes sieberi* Kunze subsp. *sieberi*

Very abundant and widespread, present throughout almost all sections of the reserve proper, with especially large numbers in the southern exotic grassland, southern grassy woodland, and on patches of exposed soil.

Photographic voucher: https://www.inaturalist.org/observations/79914591

161. *Pellaea falcata* (R.Br.) Fée

Relatively common growing creekside, in both wet and drier clay, and often near patches of *P. viridis*. Mostly along the southern riverine stretch (where I'm yet to observe any *P. viridis*) and the western arm of the creek. Particularly large patch on the eastern creek bank at the far southern end of the creek, just north of the creek crossing. There's also a huge patch in the southern bushland,

~60-70 m north of where the main path comes from the southern exotic grassland, and a smaller patch near the weedy swale in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/61381227

162. *Pellaea nana* (Hook.) Bostock

Single small plant under a sandstone ledge at the far southern end of the creek. Very similar to *P. rotundifolia*, but that species is currently considered to be absent (in the wild) from Australia (Brownsey et al. 2020).

Photographic voucher: https://www.inaturalist.org/observations/72429975

163. **Pellaea viridis* (Forssk.) Prantl var. *viridis*

Relatively common growing creekside, in both wet and drier clay. Most common along the western arm of the creek, and near the central bridge.

Photographic voucher: https://www.inaturalist.org/observations/59431934

164. *Pteris tremula* R.Br.

Two individuals in the creekbank near the Wellington Road bridge (in a spot that gets inundated after heavy rain, so I'm unsure how these two plants survive semi-regular submersion), and one small, deformed individual growing from mulch in the western alcove.

Photographic voucher: https://www.inaturalist.org/observations/65870641

Thelypteridaceae

165. *Christella dentata* (Forssk.) Brownsey & Jermy

One large individual (albeit flattened after the heavy rain and flooding in mid to late March 2021) along a highly eroded stretch of creekbank, next to the *Blechnum rupestre*, and one smaller individual creekside along the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/72429137

Herbs

Acanthaceae

166. *Brunoniella australis* (Cav.) Bremek.

Abundant and widespread in the far southern, southern, central and northern bushland. Flowering observed from mid-November 2020 to mid-January 2021 (although I also found fruiting individuals all the way back to early October 2020, so clearly there was some flowering sometime in September 2020), starting again early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/65066620

167. *Brunoniella pumilio* (R.Br.) Bremek.

A few medium-sized patches in the western third of the northern bushland, and in the central bushland. Certainly far less common than *B. australis*.

Photographic voucher: https://www.inaturalist.org/observations/72146933

Aizoaceae

168. *Tetragonia tetragonoides* (Pall.) Kuntze

One small patch of 4-5 plants growing among weeds at the far southern end of Everley Park at the southern riverine stretch, close to the creek crossing, one individual on the eastern bank of the southern riverine stretch, and a patch of 20-25 individuals at the southeastern corner of the southern grassy woodland. Flowering observed in mid-late January 2021 and mid-December 2021.

Photographic voucher: https://www.inaturalist.org/observations/101250476

Alliaceae

169. **Nothoscordum gracile* (Aiton) Stearn

Very common and widespread, sporadically appearing en masse after rain in the southern and western exotic grasslands in particular, as well as along the eastern bank of the southern riverine stretch and in the swale at the green mesh track. Also appeared in moderate numbers along the main path near the large, exposed patch of soil near the creek-spanning pipe, growing out of the mulch laid down in mid-2022 during public works.

Photographic voucher: https://www.inaturalist.org/observations/63625932

Amaranthaceae

170. *Alternanthera denticulata* R.Br.

Common and fairly widespread. Several large patches in the southern exotic grassland, with some patches at the far southern end of Everley Park at the southern riverine stretch. There is also a large patch at the swale to the immediate right of the main path coming from the southern exotic grassland, and an especially large patch at the swale in the northern bushland. Also growing in and around the two parallel swales in the central bushland. Interestingly there seem to be two forms present; a prostrate form and a more upright/erect form, with the upright form more common under wet conditions. Flowering observed on and off for most of the survey period.

Photographic voucher: https://www.inaturalist.org/observations/69707258

171. *Alternanthera* sp. A Flora of New South Wales (M.Gray 5187) J.Palmer

Scattered patches at the edge of the northern bushland, perpendicular to the bench seat, and in the far northern bush behind the bench seat. Flowering observed on and off for most of the survey period outside of winter 2021.

The VicFLORA profile for this species notes its “preference for heavier soils which may be winter-wet”, the exact conditions present here. Also important to note the similar species *A. nana*, which has “larger and relatively broader leaves”.

This is a currently undescribed phrase name species.

Photographic voucher: https://www.inaturalist.org/observations/140486178

172. **Alternanthera pungens* Kunth

Scattered patches near the northeastern entrance to the reserve, and along the northern periphery of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/72765660

173. **Amaranthus viridis* L.

Common and widespread, with large patches along the southern riverine stretch, in the western split grassland, and near the Wellington Road bridge. Appeared en masse in mid-January 2021 after being entirely absent previously. One of the biggest patches appeared along the edge of Everley Park at the southern riverine stretch where/when the stand of large *Acacia parramattensis* was cut down.

Photographic voucher: https://www.inaturalist.org/observations/68313298

174. **Gomphrena celosioides* Mart.

Never especially common or dense at any particular location, but small patches quite widespread across the survey area, including in the northern grassy woodland, along the northern edge of the northern bushland, in the western exotic grassland, and along the edge of Everley Park at the southern riverine stretch. Often on exposed soil.

Photographic voucher: https://www.inaturalist.org/observations/70025235

Amaryllidaceae

175. **Clivia* sp.

Single plant on the northern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/69444735

176. **Hippeastrum* hybrid

Two plants, growing directly next to each other, on a steep section of the eastern bank of the southern riverine stretch, almost in line with the third light tower.

Photographic voucher: https://www.inaturalist.org/observations/99838393

Apiaceae

177. **Apium graveolens* L.

Small scattered patches growing creekside, including on the western bank of the southern riverine stretch at the big kink in the creek, near the kink but on the eastern bank, along the edges of the southern grassy woodland, in the huge sea of weeds along the creek in line with the central split path, and near the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/65202474

178. *Centella asiatica* (L.) Urb.

Common and widespread; large patches throughout the northern bushland (including at the swale), with decent-sized patches also in the central bushland (including around the two parallel swales), at the periphery of the southern grassy woodland and southern bushland, around the shaded, damp swale in the southern bushland, and at the interface between the southern exotic grassland and the open woodland directly above it.

Photographic voucher: https://www.inaturalist.org/observations/70237863

179. **Cyclospermum leptophyllum* (Pers.) Sprague ex Britton & P.Wilson

Very common, especially along the edge of Everley Park at the southern riverine stretch. Also large patches in the southern exotic grassland, at the northern edge of the northern bushland, and at the two parallel swales in the central bushland, with smaller patches in the weedy swale in the southern bushland and the western split grassland. Two individuals also seen in the southern bushland, along the edge of the path near the green mesh track.

Photographic voucher: https://www.inaturalist.org/observations/66177963

180. **Foeniculum vulgare* Mill.

Common along the southern riverine stretch, almost always on the eastern bank. One small patch in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/65201154

181. **Petroselinum crispum* (Mill.) Fuss

Scattered individuals along the southern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/140490612

Apocynaceae

182. **Asclepias curassavica* L.

One plant at the far southern end of the creek, just to the south of the creek crossing, one near the Wellington Road Bridge, and a young individual in the far southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/140038435

Araceae

183. **Colocasia esculenta* (L.) Schott

Large patch alongside the large *Canna indica* patch at the southern end of the reserve. Although I have placed this entity under *C. esculenta* per APC taxonomy, it should be identified as *C. fontanesii* under other taxonomic schemes; Australia still treats this entity as a cultivar/form of *C. esculenta*.

Photographic voucher: https://www.inaturalist.org/observations/66177965

184. **Zantedeschia aethiopica* (L.) Spreng.

Single small individual in a marshy, shaded spot at the mouth of a stormwater drain near the creek crossing. Presumably washed down the drain from someone's garden waste, and managed to take root and start growing.

Photographic voucher: https://www.inaturalist.org/observations/98464650

Araliaceae

185. **Hydrocotyle bonariensis* Lam.

Large patches creekside at the central bridge, the creek-spanning pipe, and on the eastern bank of the creek along the huge sea of weeds.

Photographic voucher: https://www.inaturalist.org/observations/60694704

186. *Hydrocotyle sibthorpioides* Lam.

Two very small patches in the northern bushland, both on the western edge of the northwestern path, and both growing in large, damp *Campylopus introflexus* patches. I found these patches in mid-late September 2020, however, they disappeared shortly after, and the *Campylopus* patches were then unfortunately cleared during public works in 2022. A tiny patch in the northern central bushland, near the central split path, and medium-sized patches scattered around the two parallel swales in the central bushland, with flowering and fruiting observed in mid-late October 2022 at both of these locations.

Photographic voucher: https://www.inaturalist.org/observations/140043120

Asparagaceae

187. *Arthropodium* sp. South-east Highlands (N.G.Walsh 811) Vic. Herbarium

Very common and widespread throughout the southern bushland (most common here), central bushland, northern bushland, and northern grassy woodland. Often along path edges. Flowering observed from November 2020 to April 2021, and then starting again mid-December 2021. Some individuals reaching ~1.2 m high.

This is a currently undescribed phrase name species.

Photographic voucher: https://www.inaturalist.org/observations/65390509

188. **Asparagus officinalis* L.

Several scattered plants in the southern and far southern bushland, and a few along the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/66362774

189. **Chlorophytum comosum* (Thunb.) Jacques

Several huge patches in the western third of the northern bushland, a large patch further eastwards in the northern bushland, and scattered individuals along both banks of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/66362780

190. *Laxmannia gracilis* R.Br.

Somewhat common and widespread, with patches in the southern grassy woodland, northern bushland, far northern bush behind the bench seat, and the open woodland directly above the southern exotic grassland. Flowering observed in mid-November 2020, and from late November 2021.

This is an interesting case from an identification perspective. Many of the individuals throughout the reserve have a very compact, prostrate habit, suggesting *L. compacta*. However, most of the inflorescences across many plants are 4-5 flowered, which aligns with *L. gracilis* (4-17 flowered vs. 7-11 flowered). Also, every single flower on every individual that I checked had the outer tepals conspicuously shorter than the inner tepals, which is also listed as a point of difference compared to *L. compacta* (which usually has the outer tepals equal to or longer than the inner tepals). I've

therefore listed these as *L. gracilis*, and suspect the habit may be due to the local environmental conditions (e.g., poor soil).

Photographic voucher: https://www.inaturalist.org/observations/102152628

191. *Thysanotus tuberosus* R.Br.

Ten to fifteen individuals appeared along the northern edge of the central split path and into the northern bushland in mid-December 2021, after heavy rains. At ~9:50 am, all individuals were in full flower; four hours later, all flowers had closed. Smaller patch of 6-8 individuals also found in the eastern third of the northern bushland, and one individual at the northern central bushland. Scattered individuals in the southern bushland. Aside from the southern bushland, all individuals growing among *Campylopus introflexus* and *Cladia aggregata* moss/lichen beds.

Photographic voucher: https://www.inaturalist.org/observations/103134383

Asteraceae

192. **Ageratina adenophora* (Spreng.) R.M.King & H.Rob.

Very common along the creek, with especially large patches near the creek-spanning pipe, along the southern grassy woodland, and along the western arm of the creek. Single small individual along the northwestern path through the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/59431939

193. **Ageratina riparia* (Regel) R.M.King & H.Rob.

Occasional patches along the creek, not as common as *A. adenophora*. Largest patches near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/59431938

194. **Arctotheca calendula* (L.) K.Lewin

Fairly common along the southern riverine stretch, both along the edge of Everley Park and on the eastern bank. Small patches also at the northwestern lawn, and along the bottom of the carpark immediately below the reserve. I also found an enormous, multi-stemmed, 75 cm tall individual (https://www.inaturalist.org/observations/94416789) growing at the big kink in the creek, far exceeding the maximum height of 30-40 cm listed by most sources.

Photographic voucher: https://www.inaturalist.org/observations/58813367

195. **Artemisia verlotiorum* Lamotte

Very common, with some very large patches along the creek. Largest patches ~70-80 m north of the creek-spanning pipe and near the large *Canna indica* patch at the southern end of the reserve, with several huge patches growing at the latter in the months after the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/62015337

196. **Bidens alba* (L.) D.C.

Not uncommon on creek banks along the southern riverine stretch, with some also growing on the eastern bank of the creek along the huge sea of weeds, along the edge of the carpark immediately

below the reserve, and a few patches in the grassland at the far southern end of the reserve, growing among patches of *Bidens pilosa*.

Photographic voucher: https://www.inaturalist.org/observations/91612814

197. **Bidens pilosa* L.

Highly abundant and widespread, present throughout the survey area. The largest patches are along the length of the creek, especially along the edge of Everley Park at the southern riverine stretch, and around the weedy swale and the shaded, damp swale in the southern bushland, but large patches are present throughout almost every section of the survey area (although almost never deep into the 'core'/centre of the large intact sections of bushland), with the core of the southern grassy woodland one of the few areas free of this species. Often along path edges.

Photographic voucher: https://www.inaturalist.org/observations/74607904

198. **Bidens subalternans* DC.

A few large patches present along the creek at the far northern end of the reserve, and in the central bushland just above the western arm of the creek, close to the stormwater entrance. Also scattered patches along the sides of the main eastern paths through the central and northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/110461816

199. *Brachyscome triloba* Gaudich.

Quite widespread and fairly common throughout the reserve proper, especially the central and southern bushland and along the central split path, but only ever as individuals or small patches of 2-4 (never any large patches). Flowering observed for most of the survey period outside of winter 2021.

Photographic voucher: https://www.inaturalist.org/observations/140486177

200. *Calotis cuneifolia* R.Br.

Abundant and widespread throughout the survey area, probably one of the most common native species here. Almost always on exposed soil and/or among grasses, with the largest patches in the northern grassy woodland, western exotic grassland, and along the western periphery of the southern and central bushland. Also a number of patches along the edge of Everley Park at the southern riverine stretch, mostly near the third light tower. Often along path edges. Flowering observed on and off for most of the survey period.

Photographic voucher: https://www.inaturalist.org/observations/58476736

201. *Calotis lappulacea* Benth.

Quite common, although not as much as *C. cuneifolia*. Large patches often growing alongside patches of *C. cuneifolia*, and always in the same type of habitat, i.e., path edges, exposed soil and/or among grasses. The biggest patch was at the large, exposed patch of soil near the creek-spanning pipe, but unfortunately this patch was cleared during public works in 2022 (although happily, some individuals had started to reappear here as of late October 2022). Extant large patches in the western exotic grassland and along the main path in the eastern section of the southern bushland, with smaller patches also in the central bushland. Flowering observed on and off for most of the survey period.

Photographic voucher: https://www.inaturalist.org/observations/58814546

202. **Carduus pycnocephalus* L.

Single individual along the southern edge of the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/68751234

203. *Centipeda minima* (L.) A.Braun & Asch. subsp. *minima*

Several small to medium-sized patches growing around the edges of the two parallel swales in the central bushland. Flowering observed in late October 2022.

Photographic voucher: https://www.inaturalist.org/observations/140047235

204. *Chrysocephalum apiculatum* (Labill.) Steetz

Single individual found growing along the edge of the central split path (western side) in early November 2021. It was flowering when first found, and continued to flower throughout November 2021. Possibly now locally extinct in the reserve after this area was unfortunately buried under a thick, impenetrable layer of mulch and clay during public works in 2022.

Photographic voucher: https://www.inaturalist.org/observations/100060389

205. **Cirsium vulgare* (Savi) Ten.

Quite common along the southern riverine stretch, and abundant in the southern exotic grassland (where there are some particularly huge individuals reaching almost 2 m tall), with some individuals also in the weedy swale in the southern bushland, the swale at the green mesh track, the far southern bushland, and the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/60166927

206. *Cotula australis* (Sieber ex Spreng.) Hook.f.

Abundant along the edge of Everley Park at the southern riverine stretch and at the northwestern lawn.. There are also large patches in the northern grassy woodland, and in the grassland at the far southern end of the reserve. Flowering observed in early September to early October 2020, in early May 2021, and starting again early September 2021.

Photographic voucher: https://www.inaturalist.org/observations/94090063

207. **Crassocephalum crepidioides* (Benth.) S.Moore

One large individual growing on the eastern bank of the southern riverine stretch, close to the water, and a much smaller individual in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/95373475

208. *Cyanthillium cinereum* (L.) H.Rob. var. *cinereum*

Very common and widespread throughout the southern grassy woodland, southern bushland, central bushland, and northern bushland. Flowering observed in late September to mid-November 2020, and starting again in early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/60812889

209. **Dimorphotheca ecklonis* DC.

Single individual found on the western bank of the creek, halfway between the huge sea of weeds along the creek in line with the central split path and the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/100667701

210. **Erechtites valerianifolius* (Link ex Spreng.) DC.

Single individual on the edge of one of the two parallel swales in the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/140047233

211. **Erigeron bonariensis* L.

Not uncommon, although most plants along the edge of Everley Park at the southern riverine stretch, with a few scattered individuals along the section of western exotic grassland above Melita Stadium, and in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/61380391

212. **Erigeron sumatrensis* Retz.

Individuals dotted throughout the southern half of the reserve, including along the creek at the southern grassy woodland, in the weedy swale in the southern bushland, and along the section of western exotic grassland above Melita Stadium.

Photographic voucher: https://www.inaturalist.org/observations/96999089

213. *Euchiton involucratus* (G.Forst.) Holub

Occasional, with small scattered patches at the large, exposed patch of soil near the creek-spanning pipe, in the open woodland directly above the southern exotic grassland, and in the far southern bushland. Flowering observed in mid-late October 2022.

Photographic voucher: https://www.inaturalist.org/observations/139722277

214. *Euchiton sphaericus* (Willd.) Holub

Abundant and widespread throughout almost all sections of the reserve proper. Most common in grassland and on exposed soil. Flowering observed on and off for most of the survey period.

Photographic voucher: https://www.inaturalist.org/observations/60505983

215. **Euryops chrysanthemoides* (DC.) B.Nord.

Very common and widespread along the length of the creek, especially within the bounds of the reserve proper.

Photographic voucher: https://www.inaturalist.org/observations/43268951

216. **Facelis retusa* (Lam.) Sch.Bip.

Occasional patches near the northeastern entrance to the reserve, along the edge of Everley Park at the southern riverine stretch, and in the northern bushland. A few individuals also appeared along the edge of the central split path after the mulch was laid down in mid-2022 during public works.

Photographic voucher: https://www.inaturalist.org/observations/59113764

217. **Galinsoga parviflora* Cav.

Abundant along the length of the creek. The largest patches are at the far southern and far northern tips of the creek (especially on the eastern bank of the southern riverine stretch, near the creek crossing), and along the creek near the swale at the green mesh track.

Photographic voucher: https://www.inaturalist.org/observations/59112964

218. **Gamochaeta calviceps* (Fernald) Cabrera

Scattered patches at the weedy swale in the southern bushland, along the central split path, and in the northern grassy woodland. Some specimens may be *G. subfalcata* (per Guy Nesom), but I need to collect more vouchers and photograph more individuals to confirm this.

Photographic voucher: https://www.inaturalist.org/observations/61848107

219. **Gamochaeta impatiens* G.L.Nesom

Several scattered individuals growing on rocks and bare clay at the far southern end of the creek, just north of the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/186970328

220. **Gamochaeta pensylvanica* (Willd.) Cabrera

Scattered patches across the northern grassy woodland, western exotic grassland, in the empty lot, and on the eastern bank of the southern riverine stretch

Photographic voucher: https://www.inaturalist.org/observations/95373479

221. **Gamochaeta* sp.

Scattered patches in the northern grassy woodland (see https://www.inaturalist.org/observations/66182199 for a second example in addition to the link below). I showed my photographs of these specimens to Guy Nesom, and he believes they may be an undescribed species. At the very least, they seem to represent an entity not currently recognised as present in Australia.

In addition to the four *Gamochaeta* species listed here, they may also be a fifth species present in the reserve, which I've seen in the northern grassy woodland (https://www.inaturalist.org/observations/186978623) and along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*. Guy Nesom says it's similar to *G. chionesthes*, but not completely sure.

Photographic voucher: https://www.inaturalist.org/observations/186978626

222. *Glossocardia bidens* (Retz.) Veldkamp

One small patch at the northeastern corner of the southern bushland, roughly in line with the creek-spanning pipe, a few small patches along the path's edge at the eastern edge of the central bushland, and a few small patches scattered along the central split path. The patches at the two latter locations were unfortunately buried under a thick, impenetrable layer of mulch and clay during public works in 2022. Flowering observed in mid-March 2021 and starting again in late November 2021.

Photographic voucher: https://www.inaturalist.org/observations/72765648

223. *_Hypochaeris albiflora_ (Kuntze) Azevedo-Gonc. & Matzenb.

Abundant and widespread, with patches and individuals in the northern grassy woodland (especially common here), northern bushland, western exotic grassland, western split grassland, at the weedy swale in the southern bushland, along the central split path, and along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/59428931

224. *_Hypochaeris glabra_ L.

Single plant growing on the southern creekbank of the western arm of the creek, close to the stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/66505919

225. *_Hypochaeris radicata_ L.

Abundant and widespread, especially in the southern exotic grassland and along the edge of Everley Park at the southern riverine stretch. Also scattered throughout the southern, central and northern bushland, almost always along path edges, in the northern grassy woodland, and in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/83110493

226. *_Lactuca saligna_ L.

Single plant creekside at the far southern end of the creek, just north of the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/61379838

227. *_Lactuca serriola_ L.

Very common and widespread. Most common along the southern riverine stretch, in the section of western exotic grassland above Melita Stadium, and in the isolated *Melaleuca* patch, but also present in the northern grassy woodland, along the northern section of creek, and at the northwestern lawn along the sandstone wall. Both forms, *L. s.* f. *serriola* and *L. s.* f. *integrifolia*, are present.

Photographic voucher: https://www.inaturalist.org/observations/59112970

228. *_Lactuca virosa_ L.

Small patch along the sandstone wall at the northwestern corner of the reserve, and a small patch near the northeastern entrance to the reserve. Very different to the *L. serriola* I've seen throughout the survey area. Presumably a garden escapee from nearby.

Photographic voucher: https://www.inaturalist.org/observations/65870652

229. *Lagenophora sublyrata* (Cass.) A.R.Bean & Jian Wang ter

Mostly restricted to a relatively small area in the core of the southern bushland, although quite common within this area, with a number of large patches. One of the few herbs/ground-layer plants to grow within the huge, dense patch of *M. nodosa* in the centre/core of the southern bushland. Outside of this area, there are a few scattered patches along a path edge in the central bushland,

close to the western arm of the creek. Flowering observed in early April 2021 and from mid-December 2021.

Photographic voucher: https://www.inaturalist.org/observations/73280478

230. *Senecio hispidulus* A.Rich.

Somewhat common, and quite widespread. Mostly in the southern, central and northern bushland, especially along path edges, but also dotted throughout the southern grassy woodland, along the southern riverine stretch, in the southern exotic grassland, and on the eastern bank of the southern riverine stretch, near the gap in the chain-link fence. Flowering observed from late September to early October 2020, and in early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/61846637

231. **Senecio madagascariensis* Poir.

Abundant and widespread throughout the survey area. Based on Thompson's (2005) revision of the *S. pinnatifolius*/*S. lautus* complex, the most reliable characters for differentiating *S. madagascariensis* and *S. pinnatifolius* are the number of phyllaries ('mostly c. 20' vs. 'mostly c. 13 or mostly c. 20' [and thus even this character is not always useful]) and achene length (1.5-2.2 mm long vs. 2.0-4.5 mm long). Neither of these characters are appreciable without close examination of individual plants, and indeed achene length is not measurable at all when the plants are not fruiting. Without checking every single individual plant in the survey area, it is not possible to quantify exactly how common these two species are relative to each other, however, I have largely got the 'gizz' of them now and can usually pick which species I'm seeing at a glance (but there are always some I have to double check). I spent a lot of time during my survey checking many individual plants and measuring achenes when present, and *S. madagascariensis* is undoubtedly the overwhelmingly dominant species here, being present in effectively all sections of the survey area.

Photographic voucher: https://www.inaturalist.org/observations/95373492

232. *Senecio pinnatifolius* A.Rich. var. *pinnatifolius*

Rare, with a few individuals in the open woodland directly above the southern exotic grassland, and along the edge of Everley Park at the southern riverine stretch, near the large *Corymbia citriodora*. Flowering observed in mid-September to early October 2020, and mid-January 2021.

Photographic voucher: https://www.inaturalist.org/observations/68313297

233. *Sigesbeckia orientalis* L.

A few small patches: in and around the swale to the immediate right of the main path coming from the southern exotic grassland; in the southern half of the open woodland directly above the southern exotic grassland; at the northwestern corner of the southern grassy woodland where it starts to transition into the southern exotic grassland; and, on the eastern bank of the southern riverine stretch, near the creek crossing. Flowering observed in early October 2020, mid-April 2021, and from mid-November 2021.

Photographic voucher: https://www.inaturalist.org/observations/61850139

234. *Solenogyne bellioides* Cass.

Quite common, but almost entirely restricted to exposed soil. Mostly along the western edge of the reserve, starting from just north of the stormwater entrance to the western arm of the creek and running all the way to the western end of the central split path. Also along the northwestern path through the northern bushland, ending where it emerges onto the northwestern lawn. Flowering observed from late November 2020 to early May 2021, and starting again late November 2021.

Photographic voucher: https://www.inaturalist.org/observations/74609081

235. *Solenogyne dominii* L.G.Adams

Uncommon. One individual in the northwestern corner of the central bushland, one along the western edge of the central bushland, and a small patch of 8-10 individuals in the northern bushland directly next to the patch of *Pterostylis oblonga*. Flowering observed in mid-April 2021.

Photographic voucher: https://www.inaturalist.org/observations/74609066

236. **Soliva sessilis* Ruiz & Pav.

Abundant, with large patches along the edge of Everley Park at the southern riverine stretch between the first and third light towers, on the eastern bank of the southern riverine stretch, just below the carpark immediately below the reserve, in the northern grassy woodland, and at the northwestern lawn, although mostly as small patches. A tiny patch also seen along the western edge of the northwestern path, growing in a large, damp *Campylopus introflexus* patch. A number of patches appeared along the path's edge in the open woodland directly above the southern exotic grassland in mid-late 2022.

Photographic voucher: https://www.inaturalist.org/observations/94089723

237. **Sonchus asper* (L.) Hill

Single individual seen in the southern bushland, adjacent to the swale to the immediate right of the main path coming from the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/99063829

238. **Sonchus oleraceus* L.

Very abundant and widespread, especially along the length of the creek. Also in the empty lot, along the edge of Everley Park at the southern riverine stretch, in the northern grassy woodland, in the central bushland, at the northwestern lawn, and in all grasslands.

Photographic voucher: https://www.inaturalist.org/observations/59113754

239. **Symphyotrichum subulatum* (Michx.) G.L.Nesom

Not uncommon, with patches scattered along the entire length of the creek. Two individuals also at the western end of the shaded, damp swale in the southern bushland, and a few scattered individuals in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/70491542

240. **Tagetes minuta* L.

Single individual found on the eastern bank of the southern riverine stretch, near the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/102981555

241. **Taraxacum officinale* F.H.Wigg.

Abundant along the edge of Everley Park at the southern riverine stretch and in the carpark immediately below the reserve, with patches also in the northern grassy woodland, at the northwestern lawn, along the edge of the path near the green mesh track, and in the open woodland directly above the southern exotic grassland. One individual also seen along the northwestern path through the northern bushland.

Note that, from PlantNET: "Taxonomy of introduced apomictic *Taraxacum* in Australia is not well understood. The name *Taraxacum officinale* F.H.Wigg. has been applied (in the sense of a species aggregate) to these taxa, but defined taxonomic limits and appropriate nomenclature is lacking for Australian plants." Thus, my listing of *T. officinale* here should be treated as effectively *Taraxacum* sect. *Taraxacum*.

Photographic voucher: https://www.inaturalist.org/observations/59111082

242. *Triptilodiscus pygmaeus* Turcz.

Diffuse patch of ~20-25 plants growing among *Campylopus introflexus* moss beds on wet, heavy clay at the eastern end of the open woodland directly above the southern exotic grassland. Flowering observed from mid-October 2022.

Photographic voucher: https://www.inaturalist.org/observations/139722128

243. **Urospermum picroides* (L.) Scop. ex F.W.Schmidt

Large, dense patch of several hundred plants at the edge of the huge sea of weeds along the creek in line with the central split path (including a ~1.7 m individual, despite their height listed to generally reach 0.5 m); as of late October 2022, this patch has started to creep westwards. Also several individuals/small patches growing on the eastern bank of the southern riverine stretch, including in line with the double long-jump pit and near the creek crossing, and one individual in the shaded, damp swale in the southern bushland. Two individuals also appeared along the edge of the central split path after the mulch was laid down in mid-2022 during public works, plus one at the grassland at the far southern end of the reserve. Large patches in the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/97428411

244. *Vittadinia cuneata* DC. var. *cuneata*

Somewhat common, often on exposed soil, almost always as individuals or small patches. Sightings in the central bushland (including at the northwestern corner), along the central split path, in the southern bushland, and at the large, exposed patch of soil near the creek-spanning pipe (although unfortunately this patch was cleared during public works in 2022). Flowering observed on and off for most of the survey period.

Photographic voucher: https://www.inaturalist.org/observations/81529606

245. *Vittadinia sulcata* N.T.Burb.

A few scattered patches in the northern grassy woodland among patches of *Calotis cuneifolia*. Flowering observed in November 2020.

Photographic voucher: https://www.inaturalist.org/observations/64025930

Brassicaceae

246. **Brassica fruticulosa* Cirillo

Very abundant along the length of the creek, especially the southern riverine stretch, with smaller patches the central bushland near the western arm of the creek, and in the far southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/86683756

247. **Brassica oleracea* L.

Quite common along the length of the creek, with patches and individuals just south of the large *Canna indica* patch at the southern end of the reserve, at the creek along the southern grassy woodland, at the southern riverine stretch in line with the two long-jump pits, at the Wellington Road bridge, at the creek-spanning pipe, and near the swale at the green mesh track.

Photographic voucher: https://www.inaturalist.org/observations/60802825

248. **Brassica × napus* L.

Single plant on the eastern bank of the southern riverine stretch. I extensively discuss my identification process for this specimen at the link below.

Photographic voucher: https://www.inaturalist.org/observations/90753838

249. **Brassica rapa* L.

One enormous plant on the eastern bank of the creek along the huge sea of weeds. I'm fairly confident that *B. rapa* is the only option here given the size of the leaves; each mature leaf was ~70 cm x 35 cm, with *B. rapa* leaves listed as reaching 90 cm x 35 cm (Vélez-Gavilán 2018) and no other *Brassica* species reaching anywhere close to this. Other leaf characters (e.g., bristly, arranged spirally in a basal rosette during the vegetative stage) also match *B. rapa*.

Photographic voucher: https://www.inaturalist.org/observations/91612826

250. **Capsella bursa-pastoris* (L.) Medik.

Very common. Mostly along the edge of Everley Park at the southern riverine stretch, but also patches in the grassland at the far southern end of the reserve, on the eastern bank of the southern riverine stretch, in the northern grassy woodland, and at the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/59864244

251. **Cardamine hirsuta* L.

Quite common along the length of the creek. There's a huge, long patch at the section of western exotic grassland above Melita Stadium, and small patches in the grassland at the far southern end of the reserve, the northern grassy woodland, and along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/58813390

252. *Cardamine paucijuga* Turcz.

Single small patch on the creekbank near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/59431947

253. **Lepidium africanum* (Burm.f.) DC.

Single plant along the edge of Everley Park at the southern riverine stretch, adjacent to the double long jump pit, one plant at the far western edge of the northern grassy woodland, and a small patch in the central bushland just above the large, exposed patch of soil near the creek-spanning pipe.

There's a small, dense *Lepidium* that I saw on the edge of the northern bushland, perpendicular to the bench seat (https://www.inaturalist.org/observations/65066626); I'm unsure if it's a different species, *L. pseudotasmanicum*, or a depauperate *L. africanum* (or possibly even something else).

Photographic voucher: https://www.inaturalist.org/observations/61379854

254. **Lepidium bonariense* L.

Very common and widespread throughout the survey area. Especially common along path edges in the southern bushland and in the northern grassy woodland, along the southern riverine stretch, and in the grassland at the far southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/59428924

255. **Lepidium didymum* L.

Fairly common along the southern riverine stretch, but almost exclusively on the eastern bank, and often directly on the creekbank.

Photographic voucher: https://www.inaturalist.org/observations/66177966

256. **Raphanus raphanistrum* L.

Single large individual in the huge sea of weeds along the creek in line with the central split path.

Photographic voucher: https://www.inaturalist.org/observations/100667698

Campanulaceae

257. *Lobelia anceps* L.f.

One small patch growing on a muddy section of the northern bank of the western arm of the creek. Flowering observed in mid-January 2021.

Photographic voucher: https://www.inaturalist.org/observations/68314491

258. *Lobelia purpurascens* R.Br.

Very abundant and widespread throughout the far southern bushland, southern bushland, central bushland, northern bushland, southern grassy woodland, and the open woodland directly above the southern exotic grassland. One of the dominant ground herbs. Flowering observed in late November 2020, starting again in late November 2021.

Photographic voucher: https://www.inaturalist.org/observations/65391404

259. *Wahlenbergia gracilis* (G.Forst.) A.DC.

Very abundant and widespread. Huge numbers in all grasslands, and also very common along the edge of Everley Park at the southern riverine stretch. Often on the periphery of bushland and woodland, and along paths, disappearing moving away from these edges. Flowering observed on and off for most of the survey period outside of winter 2021.

Photographic voucher: https://www.inaturalist.org/observations/59125868

Cannaceae

260. *_Canna indica_ L.

Common along the southern riverine stretch, with the biggest patch along the creek at the southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/66176444

Caryophyllaceae

261. *_Cerastium glomeratum_ Thuill.

Very common along the length of the creek and along the edge of Everley Park at the southern riverine stretch, with large patches also in the southern exotic grassland, at the northwestern lawn, and in the western exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/59114578

262. *_Paronychia brasiliana_ DC.

Quite common along the edge of Everley Park at the southern riverine stretch, with a medium-sized patch also near the northeastern entrance to the reserve.

Photographic voucher: https://www.inaturalist.org/observations/59114588

263. *_Petrorhagia dubia_ (Raf.) G.Lopez & Romo

Several large patches in the section of western exotic grassland immediately north of the stormwater entrance, growing on exposed soil and among grasses.

Photographic voucher: https://www.inaturalist.org/observations/60814543

264. *_Petrorhagia nanteuilii_ (Burnat) P.W.Ball & Heywood

Several large patches in the section of western exotic grassland immediately north of the stormwater entrance, growing on exposed soil and among grasses, with some individuals creeping further north along the western edge of the reserve. Also scattered individuals in the central bushland, at the far northern tip of the creek, and along the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/60696746

265. *_Polycarpon tetraphyllum_ (L.) L.

Very common along the length of the creek, with patches also in the northern grassy woodland, and near the swale at the green mesh track.

Photographic voucher: https://www.inaturalist.org/observations/60695657

266. *_Silene gallica_ L. var. _gallica_

Somewhat common in the western exotic grassland, including the section above Melita Stadium, with one patch also along the creek near the metal stairway at the northern end of the reserve, one individual along the central split path, and one individual along the western perimeter of the reserve, near the western alcove.

Photographic voucher: https://www.inaturalist.org/observations/59428930

267. **Spergularia levis* Cambess.

A medium-sized patch of ~10 individuals on the edge of the northern bushland, perpendicular to the bench seat, as well as one small patch in the far northern bush behind the bench seat.

Photographic voucher: https://www.inaturalist.org/observations/64716517

268. **Stellaria media* (L.) Vill.

Very common along the length of the creek, especially the southern riverine stretch, as well as patches in the northern grassy woodland and at the northwestern lawn. There's a particularly large patch along the creek near the metal stairway at the northern end of the reserve that appeared in early November 2020.

Photographic voucher: https://www.inaturalist.org/observations/68475525

Celastraceae

269. *Stackhousia muricata* Lindl.

Individuals and small patches appeared in the southern grassy woodland, central bushland, and along the edges of the central split path from mid-November to mid-December 2021 after heavy rain in mid-November 2021. Flowering observed from late November 2021.

Photographic voucher: https://www.inaturalist.org/observations/102155625

Chenopodiaceae

270. **Atriplex prostrata* Boucher ex DC.

Very large patch at the eastern end of the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/64716502

271. **Beta vulgaris* L.

Two individuals along the creek bank near the metal stairway at the northern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/97428420

272. **Chenopodium album* L.

Somewhat common and widespread. Most common along the southern riverine stretch, with individuals also scattered in the section of western exotic grassland above Melita Stadium, the western alcove, and the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/68996020

273. **Chenopodium murale* L.

Single young plant on the eastern bank of the southern riverine stretch, in a weedy patch of lawn.

Photographic voucher: https://www.inaturalist.org/observations/83112286

274. *Dysphania carinata* (R.Br.) Mosyakin & Clemants

Large patch appeared in the northern grassy woodland in early May 2021, growing among weeds. Flowering observed in early May 2021.

Photographic voucher: https://www.inaturalist.org/observations/76498733

275. *Dysphania pumilio* (R.Br.) Mosyakin & Clemants

Large patches present in the northern grassy woodland and along the northern periphery of the northern bushland from February to April 2021.

Photographic voucher: https://www.inaturalist.org/observations/69001185

276. *Einadia hastata* (R.Br.) A.J.Scott

Very common and widespread throughout the survey area. Especially common along the southern riverine stretch, in the northern grassy woodland, and along path edges.

Photographic voucher: https://www.inaturalist.org/observations/58816026

277. *Einadia polygonoides* (Murr) Paul G.Wilson

Several patches in the far southern bushland, and one small patch along the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/64585574

278. *Einadia trigonos* (Schult.) Paul G.Wilson

Very common and widespread throughout the survey area, including in the far southern bushland, northern grassy woodland, and along the southern riverine stretch. Often along the edges of paths or in weedy sections.

Photographic voucher: https://www.inaturalist.org/observations/61381212

Commelinaceae

279. *Commelina cyanea* R.Br.

Abundant and widespread throughout the survey area, especially in wetter and/or more shaded sections where it's one of the dominant ground herbs. Especially large patches throughout the far southern bushland, southern bushland, isolated *Melaleuca* patch, and along sections of the creek. Huge patches growing in and around the weedy swale and the shaded, damp swale in the southern bushland. Flowering observed on and off for most of the survey period outside of winter 2021.

Photographic voucher: https://www.inaturalist.org/observations/66765412

280. **Tradescantia fluminensis* Vell.

Highly abundant along the length of the creek, with enormous, dense patches in many locations; one of the most abundant non-native species. This species also invaded sections of the southern bushland within the course of my survey, with large dense patches also now in the southern bushland along the edges of the swale at the green mesh track and the shaded, damp swale in the southern bushland. Huge patches are also present at the southeastern corner of the southern grassy woodland immediately along the creek edge, almost entirely smothering the patch of *Macrozamia spiralis* there. It has also begun to invade the central bushland from along the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/59112968

281. **Tradescantia pallida* (Rose) D.R.Hunt

Small patch along the fenceline inside the empty lot, at the southeastern corner. Clearly a remnant from before the lot was abandoned that has managed to cling on for more than three years since the house was demolished.

Photographic voucher: https://www.inaturalist.org/observations/97984444

Convolvulaceae

282. *Dichondra repens* J.R.Forst. & G.Forst.

Highly abundant and widespread throughout the survey area; one of the dominant ground herbs. Especially large patches throughout all sections of bushland, as well as along the edge of Everley Park at the southern riverine stretch. There seem to be two forms present: one with noticeably smaller leaves that are less hairy on both surfaces (also less hairy stems) that seems to prefer wetter micro-sites (https://www.inaturalist.org/observations/195139175), and one with larger leaves that are very hairy on both surfaces (also hairier stems) that seems to prefer drier micro-sites (https://www.inaturalist.org/observations/195139174). The larger-leaved form is also quite common along the edge of Everley Park at the southern riverine stretch. Flowering observed in September 2020 and September 2021.

Photographic voucher: https://www.inaturalist.org/observations/58814542

Droseraceae

283. *Drosera lunata Buch.-Ham. ex DC.*

Three populations found within the reserve, all on damp, heavy clay and all among *Campylopus introflexus* and *Cladia aggregata* moss/lichen beds: one in the open woodland directly above the southern exotic grassland, one in the northern central bushland, near the central split path, and one in the eastern third of the northern bushland. This last population is quite large and spread out over a largeish area (individuals spread across ~40 m running north-south), and contains a lot of individuals. Flowering observed in mid-October 2022.

This was an extremely exciting find; I spent more than two years searching for *Drosera* (with it having been recorded here in the 1970s). I had given up hope and assumed it had become locally extinct, before managing to find multiple patches in mid-October 2022. These patches almost certainly appeared aboveground in response to the constant heavy rain throughout 2022.

Both white and pink-flowered individuals are present in the reserve. I collected specimens of both, and Peter Jobson identified both as *D. lunata* (thankfully I collected individuals with fruit and seeds, with seed size and morphology an important character for differentiating members of the *D. peltata* complex of which *D. lunata* is a part; see Gibson et al. 2012).

I think some more sampling is warranted, however, to make sure another species from the complex (*D. gunniana, D. auriculata, D. peltata,* etc.) isn't also present.

Photographic voucher: https://www.inaturalist.org/observations/138800493

Euphorbiaceae

284. **Euphorbia maculata* L.

Scattered patches at the far southern end of Everley Park at the southern riverine stretch, and a few small patches at the eastern entrance to the western split grassland, and in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/68475508

285. **Euphorbia peplus* L.

Fairly common and widespread, with large patches in the section of western exotic grassland above Melita Stadium, the western split grassland, northern grassy woodland, and along the edge of Everley Park at the southern riverine stretch. Few individuals along the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/68313835

286. **Euphorbia prostrata* Aiton

A few small patches along the fenceline at the northwestern entrance to the reserve.

Photographic voucher: https://www.inaturalist.org/observations/74609087

287. **Euphorbia serpens* Kunth

Fairly common and widespread throughout the southern half of the reserve and along the edge of Everley Park at the southern riverine stretch. Most patches are in the far southern bushland and the southern exotic grassland, especially along path edges and on exposed soil, with the largest patch/most plants near the patch of fallen *Melaleuca* bark sheets. Small patches also in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/65065443

Fabaceae

288. **Lotus angustissimus* L.

Large patches along the edge of Everley Park at the southern riverine stretch, with some patches also in the northern grassy woodland, and at the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/60691653

289. **Lotus subbiflorus* Lag.

Large patches in the southern exotic grassland and western exotic grassland, with a few smaller patches in the grassland at the far southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/60169661

290. **Medicago lupulina* L.

Few small patches in the far southern bushland, along the edge of Everley Park at the southern riverine stretch, and on the eastern bank of the creek along the huge sea of weeds.

Photographic voucher: https://www.inaturalist.org/observations/64717484

291. **Medicago polymorpha* L.

Enormous, dense patches in the southern exotic grassland, completely smothering all other plants in some sections (although these were at their largest/densest in spring 2020, with a large reduction in biomass/extent from spring 2021 onwards). Also large patches along the edge of Everley Park at the

southern riverine stretch, and smaller patches in the section of western exotic grassland above Melita Stadium, the northern grassy woodland, the far southern bushland, near the creek-spanning pipe, and at the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/58814511

292. **Medicago truncatula* Gaertn.

Single, tiny patch along the southern riverine stretch, near the third light tower.

Photographic voucher: https://www.inaturalist.org/observations/86684735

293. **Trifolium campestre* Schreb.

Few small patches in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/64029922

294. **Trifolium dubium* Sibth.

Some large patches along the edge of Everley Park at the southern riverine stretch, and in the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/59113767

295. **Trifolium glomeratum* L.

Scattered small patches in the southern exotic grassland, northern grassy woodland, western split grassland, and at the large, exposed patch of soil near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/60695648

296. **Trifolium repens* L.

Abundant along the edge of Everley Park at the southern riverine stretch, with a number of patches also along the creek within the reserve proper, and at the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/58816035

297. **Vicia hirsuta* (L.) Gray

Scattered patches in the southern exotic grassland, with a few small patches in the western alcove.

Photographic voucher: https://www.inaturalist.org/observations/60166926

298. **Vicia sativa* L.

Very common in the southern exotic grassland, with some patches also in the section of western exotic grassland above Melita Stadium, northern grassy woodland, western alcove, on the mown lawn at the chain-link fence along the eastern bank of the southern riverine stretch, and along the creek near the swale at the green mesh track. Two subspecies, *V. s.* subsp. *nigra* and *V. s.* subsp. *sativa*, are present.

Photographic voucher: https://www.inaturalist.org/observations/59111098

299. **Vicia tetrasperma* (L.) Schreb.

Patches in the southern exotic grassland, in the section of western exotic grassland above Melita Stadium, and on the western bank of the creek, halfway between the huge sea of weeds along the creek in line with the central split path and the creek-spanning pipe. More common than *V. hirsuta*, but not as common as *V. sativa*.

Photographic voucher: https://www.inaturalist.org/observations/70239920

300. *Zornia dyctiocarpa* DC.

Ten to twelve individual plants all located along a ~10 m stretch at the interface between the southwestern corner of the southern grassy woodland and the southern exotic grassland, both along the section of metal fence abutting the main path cutting through the southern exotic grassland and on the western side of the path at the edge of the southern exotic grassland. Flowering observed in late February 2021, and starting again in late November 2021 (with flowers still present in early April 2022). For most of the survey there were only 2-3 visible plants, but the rest appeared (and flowered) after heavy rain in late November 2021.

Photographic voucher: https://www.inaturalist.org/observations/101753213

Gentianaceae

301. **Centaurium erythraea* Rafn

Common, with most patches in the southern exotic grassland and southern grassy woodland. Also patches in the northern grassy woodland, the grassland at the far southern end of the reserve, and along the sandstone wall at the northwestern corner of the reserve. Few scattered individuals in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/60813993

302. **Centaurium tenuiflorum* (Hoffmanns. & Link) Fritsch

Far less common than *C. erythraea*, with scattered plants in the southern exotic grassland, the grassland at the far southern end of the reserve, and on the eastern bank of the southern riverine stretch. Often growing alongside *C. erythraea*.

Photographic voucher: https://www.inaturalist.org/observations/65202472

Geraniaceae

303. *Geranium homeanum* Turcz.

Single small patch along the edge of the creek at the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/84944824

304. *Geranium solanderi* Carolin var. *solanderi*

Small to medium patches at: the northern bank of the western arm of the creek, directly alongside the stormwater entrance; the eastern bank of the southern riverine stretch, near the creek crossing; along the creek just south of the large *Canna indica* patch at the southern end of the reserve; directly next to the creek crossing; among weeds on the western bank of the creek at the southern riverine stretch, ~40-50 m south of the big kink in the creek; and, on the eastern bank of the creek at the southern riverine stretch, at the big kink in the creek. Flowering observed in early to mid-November 2020 and late September 2021.

Photographic voucher: https://www.inaturalist.org/observations/64718537

305. *Pelargonium inodorum* Willd.

Only four individuals found: one on the edge of the weedy swale in the southern bushland, one in the central bushland, and two in the northern bushland along a path's edge. Flowering observed in late September to early October 2020.

Photographic voucher: https://www.inaturalist.org/observations/138799854

Goodeniaceae

306. *Goodenia hederacea* Sm. subsp. *hederacea*

Very common and widespread throughout almost all sections of the reserve proper, one of the more common ground herbs. Especially common in the southern grassy woodland. Flowering observed from mid-September 2020 all the way through to early June 2021, and then starting again early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/60506925

307. *Goodenia paniculata* Sm.

Present only in the southern grassy woodland, and mostly restricted to a thin, exposed soil path running through the *Themeda triandra*. Large numbers tend to pop up after rain, including a patch of several hundred individuals in mid-December 2021. Flowering observed in late November 2020, mid-January 2021, and starting again in mid-November 2021. Flowers also seen in early April 2022.

Photographic voucher: https://www.inaturalist.org/observations/102981567

308. *Scaevola albida* (Sm.) Druce var. *albida*

Very common and widespread throughout the reserve proper. Especially common in the southern bushland (particularly around the margins of the weedy swale and the shaded, damp) and along path edges in the northern grassy woodland, with a number of patches also in the southern grassy woodland, and in the northern bushland. Flowering observed for most of the survey period outside of winter 2021.

Photographic voucher: https://www.inaturalist.org/observations/60506917

Haloragaceae

309. *Gonocarpus humilis* Orchard

Four to five small patches in the northwestern quadrant of the southern bushland along a roughly 25-30 metre stretch, with another cluster of small patches also in the southern bushland, ~160-170 m to the southeast. Flowering observed in mid-October 2022.

Photographic voucher: https://www.inaturalist.org/observations/139076018

Hemerocallidaceae

310. *Caesia parviflora* R.Br.

Quite common and widespread throughout the reserve proper, including in the southern grassy woodland, the northern grassy woodland, and all sections of bushland (especially the northern bushland). Two forms are present in the reserve; the blue/purple flowered *C. p.* var. *vittata*, and the

white/pale pink flowered *C. p.* var. *parviflora* (https://www.inaturalist.org/observations/65390514). Flowering observed from late September through to November 2020, and starting again in mid-October 2021.

Photographic voucher: https://www.inaturalist.org/observations/63629466

Hypericaceae

311. *Hypericum gramineum* G.Forst.

Common, with most patches throughout the southern grassy woodland and the open woodland directly above the southern exotic grassland. Some smaller patches in the northern and central bushland. Flowering observed on and off for most of the survey period outside of winter 2021.

Photographic voucher: https://www.inaturalist.org/observations/73292376

Hypoxidaceae

312. *Hypoxis hygrometrica* var. *villosisepala* R.J.F.Hend.

Appeared in relatively high numbers in the southern grassy woodland and all sections of bushland immediately during and after the heavy rains and flooding in mid to late March 2021, and then disappeared by the end of April 2021. Appeared en masse in mid-December 2021, again in response to heavy rains, and also in response to the heavy rains and flooding in mid-February to early March 2022, and again in early April 2022. Flowering observed during their entire aboveground presence.

Photographic voucher: https://www.inaturalist.org/observations/103134905

Iridaceae

313. **Crocosmia* × *crocosmiiflora* (Lemoine ex E.Morren) N.E.Br.

One medium-sized patch on the western bank of the southern riverine stretch at the big kink in the creek, and a few individuals at the interface between the southern grassy woodland and the southern bushland, close to the creek in quite a wet section.

Photographic voucher: https://www.inaturalist.org/observations/68311923

314. **Dietes grandiflora* N.E.Br.

Two individuals in the creekbank at the far southern end of the creek, one on the northern bank of the western arm of the creek, and 4-5 on the southern bank of the western arm of the creek. Presumably originated from plantings in the Auburn Golf Course.

Photographic voucher: https://www.inaturalist.org/observations/59426833

315. **Freesia* hybrid

Scattered plants in the southern bushland abutting the open woodland directly above the southern exotic grassland, along the western arm of the creek, in the central bushland, and near the large, exposed patch of soil near the creek-spanning pipe. Consistently seen flowering in August-September each year across 2020-2022.

Photographic voucher: https://www.inaturalist.org/observations/92211242

316. **Gladiolus undulatus* L.

Large patch in the northern half of the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/65620956

317. *_Romulea rosea_ var. _australis_ (Ewart) M.P.de Vos

Very widespread, with small patches and scattered plants in the open woodland directly above the southern exotic grassland, at the interface between the southern exotic grassland and southern grassy woodland, in the northern grassy woodland, along the edges of the central split path, and in the western exotic grassland. Most common along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/59862904

318. *_Sisyrinchium rosulatum_ E.P.Bicknell

Initially only present in the reserve as a single small patch along the northwestern path through the northern bushland. However, after the heavy rains throughout 2022, it suddenly appeared in large numbers across almost the entire reserve, with patches present in virtually all sections of the survey area by October 2022. Most common on bare soil or along path edges.

Photographic voucher: https://www.inaturalist.org/observations/138799862

319. *_Watsonia meriana_ var. _bulbillifera_ (J.W.Mathews & L.Bolus) D.A.Cooke

Large patch at the huge sea of weeds along the creek in line with the central split path, with a number of individuals also appearing in the southern grassy woodland in late June 2021. Small patch also seen along the southern riverine stretch just northwards of the third light tower.

Photographic voucher: https://www.inaturalist.org/observations/65060640

Lamiaceae

320. *_Lamium amplexicaule_ L.

Medium-sized patch along the edge of Everley Park at the southern riverine stretch, adjacent to the double long jump pit, and a smaller patch around 40 m further south. Several small patches also at the northwestern lawn, near the ancient eucalypt hybrid, and on the eastern bank of the southern riverine stretch at the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/58813370

321. _Mentha diemenica_ Spreng.

Single small patch, ~2-3 metres across, in the north-central section of the northern bushland close to where the path emerges onto the western edge of the northern grassy woodland. Flowering observed in early May 2021.

This patch came close to dying off in spring 2021. In early October I happened to walk past the patch and notice a number of yellow/brown leaves out of the corner of my eye. Upon looking closer, perhaps half of the patch was dying. As of 2 November 2021, perhaps 75% of the patch was dead or dying (at least the above-ground vegetative part). Thankfully, most of the patch had recovered and seemed to be flourishing again by mid-December 2021, after heavy rains throughout November and December 2021. As of mid-September 2022 the patch looks healthy, but a huge wave of weeds is

rapidly moving towards it from the northern grassy woodland, including *Bidens pilosa* and more *Ehrharta erecta*.

Photographic voucher: https://www.inaturalist.org/observations/82520151

322. **Salvia hispanica* L.

Uncommon, scattered along the southern riverine stretch, on both banks of the creek southwards from the big kink. When I found these (early August 2021), this species was not listed by PlantNET as naturalised in NSW, so I collected a voucher specimen to send to the herbarium (I've also seen it naturalised in bushland along Salt Pan Creek, ~20 km further south).

Photographic voucher: https://www.inaturalist.org/observations/89750427

323. **Scutellaria racemosa* Pers.

Very common and wideapread, with very large patches in the southern exotic grassland, along the edge of Everley Park at the southern riverine stretch, and around every flooded swale throughout the various sections of bushland.

Photographic voucher: https://www.inaturalist.org/observations/61850137

324. **Stachys arvensis* (L.) L.

Quite common and widespread, with patches in the southern exotic grassland, western split grassland, western exotic grassland, northern grassy woodland, and the section of western exotic grassland above Melita Stadium.

Photographic voucher: https://www.inaturalist.org/observations/58814508

Linaceae

325. *Linum marginale* A.Cunn.

Mostly restricted to a relatively small area of the northern and central bushland surrounding the western half of the central split path, usually as medium-large patches. Outside this area, there is one small patch deeper into the northern bushland, one at the eastern edge of the central bushland, and one at the southeastern corner of the southern bushland. Flowering observed from mid-September to February 2021, then starting again mid-September 2021.

Photographic voucher: https://www.inaturalist.org/observations/59433539

326. **Linum trigynum* L.

Very common and widespread. Most common in the southern exotic grassland and on the periphery of the southern grassy woodland, with patches also in the northern grassy woodland, the open woodland directly above the southern exotic grassland, western exotic grassland, and along the central split path.

Photographic voucher: https://www.inaturalist.org/observations/59127548

Lythraceae

327. *Lythrum hyssopifolia* L.

A medium-sized patch in the southern exotic grassland, growing among *Scutellaria racemosa*, a few individuals near the patch of fallen *Melaleuca* bark sheets, a few individuals along the northwestern

path through the northern bushland growing out of the mulch laid down in mid-2022 during public works, and a small patch along the edge of Everley Park at the southern riverine stretch, just northwards of the long jump pits. Flowering observed in late October 2020.

Photographic voucher: https://www.inaturalist.org/observations/63625207

Malvaceae

328. **Malva nicaeensis* All.

Single plant in the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/140043168

329. **Malva parviflora* L.

Not uncommon. Scattered patches in the section of western exotic grassland above Melita Stadium, the carpark below the reserve, near the northeastern entrance to the reserve, and on the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/58816034

330. **Modiola caroliniana* (L.) G.Don

Abundant, especially along the edge of Everley Park at the southern riverine stretch and in the southern exotic grassland. Patches also in the section of western exotic grassland above Melita Stadium, the northern grassy woodland, and at the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/58813383

Nyctaginaceae

331. **Mirabilis jalapa* L.

Scattered patches along the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/69706167

Onagraceae

332. *Epilobium billardiereanum* subsp. *cinereum* (A.Rich.) P.H.Raven & Engelhorn

Common, but almost entirely restricted to a band running along the northern edge of the southern exotic grassland, stretching from the isolated *Melaleuca* patch in the west to the northwestern corner of the southern grassy woodland in the east. Several scattered individuals also deeper into the core of the southern exotic grassland, and a few individuals at the eastern end of the open woodland directly above the southern exotic grassland. Flowering observed from early November 2020 to late January 2021, and starting again in late October 2021.

Photographic voucher: https://www.inaturalist.org/observations/64585573

333. **Epilobium ciliatum* Raf.

Single individual growing in the sporting field lawn on the edge of Everley Park at the southern riverine stretch, near ancient eucalypt hybrid.

Photographic voucher: https://www.inaturalist.org/observations/140047220

334. **Epilobium hirsutum* L.

Single plant at the far southern end of the creek, growing on the concrete ledge extending from the flooded concrete platform on the western creekbank directly north of the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/68996005

335. **Oenothera indecora* subsp. *bonariensis* W.Dietr.

Single plant on a stony section of the eastern bank of the creek, along the huge sea of weeds in line with the central split path.

Photographic voucher: https://www.inaturalist.org/observations/65874719

Orchidaceae

336. *Dipodium punctatum* (Sm.) R.Br.

Common stretching in a band from just above the central split path, down through the central bushland (including along the banks of the western arm of the creek), and through the southern bushland, reaching the edge of the open woodland directly above the southern exotic grassland; particularly large patch of 30-40 individuals at this southern limit. The first flowering individual I found was from early December 2020, with flowering lasting through to mid-February 2021. The first flowering individual I spotted for the 2021/2022 season was on 9 November 2021, in the northern bushland. At least 80-90 individuals, although undoubtedly more that I didn't find.

Photographic voucher: https://www.inaturalist.org/observations/66365055

337. *Diuris maculata* Sm.

Single flowering individual along the edge of the central split path, seen flowering in early August 2021, with a second individual that never flowered directly next to it. The flowers were already starting to collapse/wither by late August 2021. Lachlan Copeland noted that this is most likely *D. maculata*, as opposed to *D. pardina*, based on "distribution and brown markings being not that prominent…True *pardina* is probably much further west." Possibly now locally extinct in the reserve after unfortunately being buried under a thick, impenetrable layer of mulch and clay during public works in 2022.

Photographic voucher: https://www.inaturalist.org/observations/90752551

338. *Pterostylis oblonga* D.L.Jones

Single tiny patch covering less than 0.5 m^2, perhaps 30-40 plants, along a path's edge in the northern bushland. When I first found this patch, all individuals were just rosettes; I checked on it once or twice a week for almost five months, with the first flower fully developing sometime between 11 August 2021 and 18 August 2021 (and at least 5-6 others in hot pursuit). By 23 August 2021, that first flower had already started to collapse, with the other 6-7 flowers fully developed, and 2-3 more emerging. On 23 September 2021, several individuals were observed fruiting, with two still in flower. Two or three still in flower on 7 October 2021.

Importantly, a note from Lachlan Copeland regarding the identification of this species: "[I would] tentatively call [these specimens] *oblonga*, with the caveat that the difference between [P.] *erecta* and *oblonga* is pretty obscure and I'm not convinced they are distinct at the species level."

Colin Gibson has also collected specimens from very close by (~5 km southwest) that were deposited and confirmed as *P. oblonga*.

Photographic voucher: https://www.inaturalist.org/observations/91613687

339. *Pterostylis nutans* R.Br.

Two patches present, both along path edges in the southern bushland. The first patch is relatively close to the western arm of the creek. I first found this patch in late September 2020, at which point only fruit were present, with all flowering having ended; I observed flowering starting ~mid-May 2021, with most flowers having either died off or turned to fruit by late August 2021. This patch is the largest with a few hundred plants, although they're quite closely clustered and cover perhaps ~5 m^2 at most. The second patch is ~50-60 metres southeast of the first patch. It's slightly smaller than the first, and flowering began sometime in June 2021. When I checked on the large patch on 23 October 2021, almost all of the rosettes had disappeared, despite them having persisted after flowering in 2020. As of 15 February 2022, however, many of the rosettes had reappeared, and the patch was seen flowering en masse again in mid-September 2022.

Photographic voucher: https://www.inaturalist.org/observations/79914612

340. *Pterostylis rufa* R.Br.

Medium-sized patch of ~150-200 individuals (although this may be an underestimate, the true number is perhaps closer to 250; I haven't tried to count them as it's impossible to get too close to the core of the patch without trampling individuals) on a long mound of soil at the far southwestern corner of the northern bushland, on the periphery of the central split path. When I first found this patch, all individuals were just rosettes; I checked on it once or twice a week for almost five months, with the first flower fully developing sometime between 8 September 2021 and 11 September 2021 (with perhaps 8-9 others in hot pursuit). On 19 September 2021, there were at least 20 individuals in flower/very close to, with perhaps another 20 again with well-developed flowering stems. On 7 October 2021 the patch was flowering prolifically, with at least 100-120 individuals in full flower, and more budding, and on 12 October 2021 there were 150+ individuals flowering. I also found a second patch of perhaps 20-25 individuals on 12 October 2021 along the edge of the central split path, ~20 m southeastwards of the main patch (although unfortunately some of the individuals in this patch were crushed by the truck that had to drive into the reserve to allow the sewage overflow at the western perimeter of the reserve to be fixed), and, on 2 November 2021, ~15 individuals spilling down the southern and southwestern side of the mound of soil, reaching up to 10 m away from the main patch. Both patches were still flowering in early November 2021, with some individuals starting to fruit as well. Flowering was still occurring as of 19 December 2021, but certainly well past its peak.

When I checked on the large patch on 30 April 2022, the entire mound of soil had been smothered in *Asparagus asparagoides* and *Plantago lanceolata*. On 14 September 2022 there were visible rosettes and a number of individuals with flowering stalks starting to appear, but in far fewer numbers than in 2021. Flowering was well under way in mid-late October 2022.

Photographic voucher: https://www.inaturalist.org/observations/97428436

Oxalidaceae

341. **Oxalis corniculata* L.

Abundant along the edge of Everley Park at the southern riverine stretch, with patches also along the edges of the southern exotic grassland (mostly on exposed soil), in the northern grassy woodland, at the northwestern lawn, and along some path edges in the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/60692666

342. **Oxalis debilis* var. *corymbosa* (DC.) Lourteig

Occasional, always as small patches; one along the fenceline of the empty lot, two in the large swale leading from the far northern stormwater entrance, two on the eastern bank of the southern riverine stretch, and one in the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/83598218

343. **Oxalis latifolia* Kunth

Common and widespread, with patches along the southern riverine stretch, on the edges of the southern and northern bushland, and along the creek (including the western arm).

Photographic voucher: https://www.inaturalist.org/observations/66182204

344. *Oxalis perennans* Haw.

Very common and widespread throughout the southern bushland, central bushland, and northern bushland. Flowering observed on and off for most of the survey period.

Photographic voucher: https://www.inaturalist.org/observations/64590155

345. **Oxalis pes-caprae* L.

Very common, with large patches along the eastern bank of the creek along the southern riverine stretch, and along the creek near the swale at the green mesh track. Also along the creek at the southern grassy woodland, and in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/72760331

346. *Oxalis radicosa* A.Rich.

Single plant in the central bushland along a path's edge, although I've probably underestimated its abundance (mistaking it for *O. perennans* or *O. corniculata* when not flowering or fruiting).

Photographic voucher: https://www.inaturalist.org/observations/59433518

347. *Oxalis thompsoniae* B.J.Conn & P.G.Richards

Single small patch seen in the western exotic grassland, near the stormwater drain. Flowering observed in mid-December 2021.

Photographic voucher: https://www.inaturalist.org/observations/103134384

Papaveraceae

348. **Fumaria bastardii* Boreau

A few patches along the creek, near the swale at the green mesh track.

Photographic voucher: https://www.inaturalist.org/observations/58815986

349. *_Fumaria muralis_ Sond. ex W.D.J.Koch subsp. _muralis_

Very abundant, with especially huge patches along the length of the southern riverine stretch, and large patches on the northern edges of the northern bushland and northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/64030795

350. *_Papaver dubium_ L.

Small patch of three individuals at the interface between the southern exotic grassland and the open woodland directly above it.

Photographic voucher: https://www.inaturalist.org/observations/101744423

351. *_Papaver somniferum_ subsp. _setigerum_ (DC.) L.Corb.

Two individuals in the northern grassy woodland, and one at the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/64029923

Phyllanthaceae

352. *_Phyllanthus tenellus_ Roxb.

One medium-sized patch along the edge of Everley Park at the southern riverine stretch, just north of the large _Corymbia citriodora_ at the far southern end of the survey area.

Photographic voucher: https://www.inaturalist.org/observations/102981548

353. _Poranthera microphylla_ Brongn.

Abundant and widespread, usually as medium-sized patches; present in almost all sections of the reserve. There's a huge patch along the western edge of the southern bushland, creeping into the western exotic grassland. Flowering observed from late September to early November 2020, and late August to late November 2021.

Photographic voucher: https://www.inaturalist.org/observations/62016069

Phytolaccaceae

354. *_Phytolacca octandra_ L.

Single plant in the far southwestern corner of the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/65390513

Plantaginaceae

355. _Gratiola pedunculata_ R.Br.

Hundreds of individuals growing in and around the two parallel swales in the central bushland, with a few small patches also in/around the swale in the northern bushland. Flowering observed in late October 2022.

Photographic voucher: https://www.inaturalist.org/observations/140047221

356. *_Misopates orontium_ (L.) Raf.

Individuals and small patches scattered throughout the western exotic grassland just above the stormwater entrance, the northern grassy woodland, the grassland at the far southern end of the reserve, the central bushland, and at the edge of the huge sea of weeds along the creek in line with the central split path.

Photographic voucher: https://www.inaturalist.org/observations/60505952

357. *Plantago debilis* R.Br.

Patches scattered throughout the southern bushland, central bushland and northern bushland, often near path edges. Most common along the western periphery of the reserve near the western alcove. Flowering observed from early April to early May 2021, and again in October 2021.

Photographic voucher: https://www.inaturalist.org/observations/72762573

358. **Plantago lanceolata* L.

Very abundant and widespread, present in almost all sections of the reserve. Huge numbers especially in the southern exotic grassland. Also common in most other exotic grasslands in the survey area, along the southern riverine stretch, at the northwestern lawn, in the open woodland directly above the southern exotic grassland, on the long mound of soil at the far southwestern corner of the northern bushland, and along path edges in the reserve proper.

Photographic voucher: https://www.inaturalist.org/observations/58476787

359. **Plantago major* L.

Not uncommon along the eastern banks of the southern riverine stretch and the section of creek abutting the southern grassy woodland, always very close to the water. Few scattered individuals also at the far southern end of the creek, on the western bank near the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/65196249

360. **Plantago myosuros* Lam. subsp. *myosuros*

This species is hugely prolific along the path's edges (1000+ individuals) in the open woodland directly above the southern exotic grassland, and one or two small patches along path edges in the southern bushland. Highly variable in size, with mature/flowering individuals ranging from barely 10 cm tall with 1-2 flowering spikes, up to 40-50 cm tall with 5-6 flowering spikes. Seems to respond especially positively to rain. Identified by Peter Jobson from vouchered specimens.

There are also several large patches along stony sections of the path's edge at the interface between the western exotic grassland and the southern and central bushland, above and below the stormwater entrance. These individuals are very depauperate compared to the open woodland population. Scattered patches also along the edge of Everley Park at the southern riverine stretch, in the northern grassy woodland, and creekside at the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/139076011

361. **Veronica anagallis-aquatica* L.

Single plant growing among other weeds on the western bank of the southern riverine stretch at the big kink in the creek, and a very small patch on the creekbank at the northern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/65202477

362. **Veronica arvensis* L.

Somewhat common along the edge of Everley Park at the southern riverine stretch. Small patches also seen in the grassland at the far southern end of the reserve, and on the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/97428407

363. **Veronica persica* Poir.

Somewhat common and quite widespread, with patches along the edge of Everley Park at the southern riverine stretch, on the creekbank abutting the southern grassy woodland, along the creek at the creek-spanning pipe, in the western alcove, and in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/89752054

364. *Veronica plebeia* R.Br.

Fairly common and widespread throughout the far southern bushland, southern bushland (especially here), central bushland, and northern bushland. Flowering observed from mid to late November 2020, and starting again in late November 2021.

Photographic voucher: https://www.inaturalist.org/observations/64718550

Polygonaceae

365. *Persicaria decipiens* (R.Br.) K.L.Wilson

Abundant and widespread along the length of the creek, with many large dense patches. There's also a small patch at the swale in the northern bushland. Flowering observed on and off for most of the survey period.

Photographic voucher: https://www.inaturalist.org/observations/66177964

366. *Persicaria lapathifolia* (L.) Delarbre

Somewhat common, with large patches along the creek, but not as common as *P. decipiens*. The largest patch is under/immediately north of the Wellington Road bridge, with others scattered along the southern riverine stretch, including at the big kink in the creek and near the creek crossing. Flowering observed in early February and mid-August 2021.

Photographic voucher: https://www.inaturalist.org/observations/70797009

367. **Polygonum aviculare* L.

Fairly common along the edge of Everley Park at the southern riverine stretch, especially after rain, with a large patch also in the far southern bushland, and some smaller patches near the house.

Photographic voucher: https://www.inaturalist.org/observations/59428926

368. *Rumex brownii* Campd.

Very common in the empty lot. Patches scattered along the southern riverine stretch, including at the northern edge of Everley Park close to the ancient eucalypt hybrid, just south of the large *Canna indica* patch at the southern end of the reserve, and on the eastern bank (especially common here near the creek crossing). Large patch present at the shaded, damp swale in the southern bushland. Flowering observed in early-mid September 2021.

Photographic voucher: https://www.inaturalist.org/observations/64030542

369. *_Rumex conglomeratus_ Murray

Common along the length of the creek, directly along the water. Patches also along the southern riverine stretch (with a particularly large patch along the edge of Everley Park, near the long jump pits), along the section of creek abutting the southern grassy woodland, and near the creek-spanning pipe. Large patch also present at the shaded, damp swale in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66362769

370. *_Rumex crispus_ L.

Abundant and widespread. Large patches in the southern exotic grassland, in the section of western exotic grassland above Melita Stadium, along the southern riverine stretch, near the creek-spanning pipe, and in the weedy swale in the southern bushland (a particularly large patch).

Photographic voucher: https://www.inaturalist.org/observations/63625216

371. *_Rumex sagittatus_ Thunb.

Not uncommon, with patches along the eastern bank of the southern riverine stretch, along the creek immediately north of the large _Canna indica_ patch at the southern end of the reserve, and at the interface between the western split grassland and the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/70025223

Portulacaceae

372. _Portulaca oleracea_ L.

Common, and almost always on exposed/depauperate soil in very weedy settings. Enormous patches pop up occasionally along the fence line in the section of western exotic grassland above Melita Stadium, with patches also in the western split grassland and scattered along the southern riverine stretch. Flowering observed in early to mid-February 2021.

Photographic voucher: https://www.inaturalist.org/observations/68313836

Primulaceae

373. *_Lysimachia arvensis_ (L.) U.Manns & Anderb.

Very common, mostly in the southern exotic grassland, western exotic grassland, and along the edge of Everley Park at the southern riverine stretch. Also in the western alcove, and at the northwestern lawn. Both the blue-flowered (https://www.inaturalist.org/observations/183056338) and orange-flowered (https://www.inaturalist.org/observations/103134914) forms are present in the survey area. Although not yet recognised by Australian authorities, the blue colour morph has recently been elevated to full species status as _L. loeflingii_ (Jiménez-López et al. 2022). Most of my observations of _L. loeflingii_ were from the western exotic grassland, with some also in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/58814510

Ranunculaceae

374. *_Ranunculus sceleratus_ L.

Single individual found along the edge of the main path immediately north of the large, exposed patch of soil near the creek-spanning pipe. First found in mid-September 2022 after public works, growing directly along a mitre drain.

Photographic voucher: https://www.inaturalist.org/observations/134956481

Rubiaceae

375. *Asperula conferta* Hook.f.

A huge patch appeared in a very open section of the northern bushland in late October/early November 2020 after rain, but disappeared soon after.

Photographic voucher: https://www.inaturalist.org/observations/64026921

376. **Galium aparine* L.

Highly abundant along the length of the creek, with enormous, dense patches in many locations; one of the most abundant non-native species in the survey area. Also large patches in the southern exotic grassland, and some smaller patches at the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/58816015

377. *Galium leiocarpum* I.Thomps.

Two patches, one relatively small and the other quite large (with the smaller patch close to the central bridge, and the larger patch more westwards) on eroding sections of the northern bank of the western arm of the creek. A small patch also at the edge of the weedy swale in the southern bushland. Flowering observed in early-mid September 2021.

Photographic voucher: https://www.inaturalist.org/observations/140486164

378. *Opercularia diphylla* Gaertn.

Quite common and widespread. Especially common in the southern grassy woodland, with patches also in the southern bushland, central bushland, northern bushland, and southern exotic grassland. Flowering observed on and off for most of the survey period.

Photographic voucher: https://www.inaturalist.org/observations/59860163

379. **Richardia stellaris* (Cham. & Schltdl.) Steud.

Never common at any one spot, and always present as either a few individuals or a very small patch, but very widespread across almost the entire survey area, including in the southern grassy woodland, southern exotic grassland, central bushland, southern bushland, the open woodland directly above the southern exotic grassland in bushland, the western exotic grassland, and along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/70030209

Rutaceae

380. **Ruta chalepensis* L.

One individual on the eastern bank of the southern riverine stretch, at the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/140043130

Scrophulariaceae

381. **Verbascum virgatum* Stokes

Six or seven individuals appeared in the northern grassy woodland, close to the empty lot, in late October 2021.

Photographic voucher: https://www.inaturalist.org/observations/102152629

Solanaceae

382. **Solanum americanum* Mill.

Common and widespread throughout most of the survey area. Most common along the length of the creek, but also in the southern grassy woodland and all sections of bushland. Flowering observed from early September to mid-November 2020.

Photographic voucher: https://www.inaturalist.org/observations/65204239

383. **Solanum chenopodioides* Lam.

One plant along the creek near the swale at the green mesh track, one on the western bank of the southern riverine stretch, near the second light tower, one in the far southern bushland, and a few scattered individuals in the western exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/85738306

384. **Solanum lycopersicum* L.

Single plant in the huge sea of weeds along the creek in line with the central split path.

Photographic voucher: https://www.inaturalist.org/observations/65870656

385. **Solanum nigrum* L.

Occasional along the southern riverine stretch, with plants also dotted along path edges in the southern bushland, and along the southern bank of the western arm of the creek. Not as common as *S. americanum*, although the two are difficult to differentiate when mature fruits are not present, so I may be underestimating this species' abundance.

Photographic voucher: https://www.inaturalist.org/observations/60177333

386. **Solanum sisymbriifolium* Lam.

Single plant at the far southern tip of the southern riverine stretch, next to the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/59426726

Talinaceae

387. **Talinum paniculatum* (Jacq.) Gaertn.

A medium-sized patch appeared along the edge of Everley Park at the southern riverine stretch where/when the stand of large *Acacia parramattensis* was cut down.

Photographic voucher: https://www.inaturalist.org/observations/71288322

Tropaeolaceae

388. *_Tropaeolum majus_ L.

Highly abundant along the length of the creek, with enormous, dense patches in many locations; one of the most abundant non-native species in the survey area. Few small patches creeping onto Everley Park. One individual at the shaded, damp swale in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/60500089

Urticaceae

389. *_Parietaria judaica_ L.

Quite common along the length of the creek, usually as small to medium-sized patches, with several patches in the western alcove, and a small patch also in the large swale leading from the far northern stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/60505960

Verbenaceae

390. *_Verbena bonariensis_ L.

Abundant in the southern exotic grassland, with large patches also present in the northern grassy woodland, western grassland, and western split grassland. Scattered along the southern riverine stretch, and some individuals at the southwestern corner of the northern bushland also. This is quite a popular species with butterflies; I've seen *Candalides hyacinthus, Pieris rapae, Danaus petilia,* and *Belenois java* all pollinating it.

Photographic voucher: https://www.inaturalist.org/observations/63625205

391. *_Verbena quadrangularis Vell._

Very common, with patches in the southern exotic grassland, western exotic grassland, western split grassland, at the weedy swale in the southern bushland, along the southern riverine stretch, and on the northern bank of the western arm of the creek, near the stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/138799865

Violaceae

392. *_Viola banksii_ K.R.Thiele & Prober

A few individuals planted in Jute Mat near the creek-spanning pipe, after public works in mid-2022.

Photographic voucher: https://www.inaturalist.org/observations/138799826

Shrubs

Apocynaceae

393. *_Gomphocarpus physocarpus_ E.Mey.

Occasional, mostly as singletons scattered along the creek, with one individual along the western perimeter of the reserve, one in the northern grassy woodland, and two at the far northeastern corner of the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/62015053

Araliaceae

394. *Polyscias sambucifolia* subsp. *Long leaflets (P.G.Neish 208) Vic. Herbarium*

Very common and widespread throughout almost all sections of the reserve proper. Some amazing variation in leaf size and shape seen; there's a medium-sized patch near the weedy swale in the southern bushland with long/skinny leaved individuals (e.g., https://www.inaturalist.org/observations/96999098) growing directly alongside individuals with very large, almost circular leaves (e.g., https://www.inaturalist.org/observations/96999092). Flowering observed in early December 2020 and mid-December 2021.

Photographic voucher: https://www.inaturalist.org/observations/66177487

Asparagaceae

395. **Asparagus aethiopicus* L.

Very common and widespread throughout almost all sections of the survey area. Most common along the creek. One of the few non-native species to consistently appear across all sections of bushland, even in relatively 'intact', otherwise weed-free areas.

Photographic voucher: https://www.inaturalist.org/observations/65203313

Asteraceae

396. *Cassinia sifton* Orchard

One large individual on the edge of the southern grassy woodland, with a smaller individual nearby growing next to patches of *Acacia brownii*.

Photographic voucher: https://www.inaturalist.org/observations/65389936

397. *Olearia microphylla* (Vent.) Maiden & Betche

Two individuals along the edge of the central split path, and two individuals in the southern bushland. Prolific flowering observed in August-September 2020, and August-September 2021. A single flower appeared on one of the individuals in the southern bushland in mid-November 2021 after heavy rain.

It seems like this species may now be locally extinct in the reserve; the individuals at the central split path were unfortunately cleared during public works in 2022, I found one of the southern bushland individuals dead in mid-October 2022, and I could no longer find the second southern bushland individual, so presumably it also died.

Photographic voucher: https://www.inaturalist.org/observations/59433529

398. *Olearia viscidula* (F.Muell.) Benth.

Single individual in the southeastern corner of the southern bushland. Flowering observed in mid-late September 2021.

Photographic voucher: https://www.inaturalist.org/observations/66362775

399. *Ozothamnus diosmifolius* (Vent.) DC.

Abundant and widespread throughout almost all sections of the survey area. There's an especially large patch in the northern bushland just above the central split path (with some individuals reaching 3+ m high), and another in the northern grassy woodland. Flowering started early August 2021. One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project. Flowering observed for most of the survey period outside of autumn 2021.

Photographic voucher: https://www.inaturalist.org/observations/58476783

Berberidaceae

400. **Nandina domestica* Thunb.

Occasional; 4-5 individuals scattered along the northern section of the creek, and one in the large swale leading from the far northern stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/60501720

Celastraceae

401. *Denhamia silvestris* (Lander & L.A.S.Johnson) M.P.Simmons

Very common and fairly widespread throughout the southern grassy woodland, the open woodland directly above the southern exotic grassland, and all sections of bushland, but especially common in the southern bushland. Flowering observed in early to mid November 2020 and late October to November 2021, with spot flowering in-between in late August 2021.

Photographic voucher: https://www.inaturalist.org/observations/101250481

Ericaceae

402. *Leucopogon affinis* R.Br.

Single tiny patch of three individuals on the northern bank of the western arm of the creek, relatively close to the stormwater entrance. Flowering observed in late August-September 2021.

Photographic voucher: https://www.inaturalist.org/observations/94412971

Euphorbiaceae

403. **Ricinus communis* L.

Abundant and widespread along the length of the creek. In early April 2021, after the heavy rains and flooding in mid to late March 2021, a huge number of seedlings appeared along bare sections of the eastern creek bank where vegetation had been swept away. A large number of seedlings also appeared along the eastern bank of the southern riverine stretch in late October 2021 after rain earlier in the month.

Photographic voucher: https://www.inaturalist.org/observations/68311927

404. *Homalanthus populifolius* Graham

Two very small saplings appeared in the muddy northwestern corner of the western alcove in early February 2021.

Photographic voucher: https://www.inaturalist.org/observations/167145153

Fabaceae

405. *Acacia falcata* Willd.

Very common and widespread throughout almost all sections of the survey area. Most common around the interface between the far southern bushland, southern exotic grassland, and southern grassy woodland. Flowering observed in late April to early May 2020, and late April to late May 2021, starting again in early April 2022. One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project.

Photographic voucher: https://www.inaturalist.org/observations/58811526

406. *Acacia longifolia* (Andrews) Willd. subsp. *longifolia*

Very common and widespread throughout almost all sections of the survey area. Particularly common along the length of the creek, and in the southern grassy woodland. Flowering observed in early September 2020, and then prolifically throughout the 2021 winter.

Photographic voucher: https://www.inaturalist.org/observations/84944833

407. *Acacia longissima* H.L.Wendl.

Two small plants at the interface between the far southern bushland and the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/88906374

408. **Acacia podalyriifolia* A.Cunn. ex G.Don

Three individuals: one in the northern bushland, one on a precipitous section of the eastern bank of the creek along the southern riverine stretch, and one (very small sapling) at the far southern end of the survey area, near the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/65620972

409. *Acacia pubescens* (Vent.) R.Br.

Very common and widespread throughout almost all sections of the survey area. Often large patches formed by suckering, including near the large, exposed patch of soil near the creek-spanning pipe, and in the southern grassy woodland. There's also quite a large patch just above the weedy swale in the southern bushland. This species is listed as vulnerable both at a state-level and nationally, and the reserve is one of the last main sites where it's found in large numbers, with most other occurrences as very small patches or individuals along trainlines or roadsides. Flowering observed in early-mid September 2020, and again in early-mid September 2021. Despite large numbers of pollinators observed visiting flowers, very few seed pods were produced.

Photographic voucher: https://www.inaturalist.org/observations/134957322

410. *Acacia ulicifolia* (Salisb.) Court

Scattered individuals across the western half of the far southern bushland, mostly along the Melita Stadium fenceline, and along the southern edge of the southern exotic grassland. Flowering observed in September 2020 and September 2021.

Photographic voucher: https://www.inaturalist.org/observations/59426743

411. *Daviesia ulicifolia* Andrews

Very common and widespread throughout the reserve proper, mostly in the southern grassy woodland, the open woodland directly above the southern exotic grassland, and in all sections of bushland. Two subspecies, *D. u.* subsp. *stenophylla* and *D. u.* subsp. *ulicifolia*, are present. Interestingly, there has been a considerable die-off of this species along the northern edge of the southern grassy woodland (and also to a much smaller degree in the open woodland directly above the southern exotic grassland), with a large patch of perhaps 15-20 large, dead individuals. Flowering observed in September 2020 and from May to late September 2021, with some spot flowering also occurring in mid-December 2021 after heavy rain, and in early April 2022.

Photographic voucher: https://www.inaturalist.org/observations/58476752

412. *Dillwynia sieberi* Steud.

Quite common and widespread throughout almost all sections of the reserve proper. Most common in the southern bushland and the southern grassy woodland. Flowering observed for almost the entire survey period.

Photographic voucher: https://www.inaturalist.org/observations/58476776

413. **Genista monspessulana* (L.) L.A.S.Johnson

Medium-sized patch on the eastern bank of the creek along the southern riverine stretch, running along the chain-link fence, and a large patch in the southern grassy woodland consisting of at least 20-30 small seedlings and saplings (I tried to remove as many of these as I could), a handful of larger (~1 m tall) individuals, and one very large (> 2 m tall) individual which I assume is the parent plant for many of the other smaller ones.

Photographic voucher: https://www.inaturalist.org/observations/65389930

414. *Indigofera australis* Willd. subsp. *australis*

Quite common, and very widespread throughout almost all sections of the survey area. Especially common along the southern riverine stretch (where many individuals are likely planted), and along path edges in the northern grassy woodland. Flowering observed in September 2020, and from late July to October 2021.

Photographic voucher: https://www.inaturalist.org/observations/134957347

415. *Pultenaea villosa* Willd.

Quite common throughout the southern grassy woodland, the open woodland directly above the southern exotic grassland, and the southern bushland, with a few scattered individuals in the northern bushland. Flowering observed from September-October 2020, and mid-June to mid-November 2021.

Photographic voucher: https://www.inaturalist.org/observations/58814513

416. **Senna pendula* var. *glabrata* (Vogel) H.S.Irwin & Barneby

Abundant and widespread along the entire length of the creek.

Photographic voucher: https://www.inaturalist.org/observations/43268952

Lamiaceae

417. *Plectranthus parviflorus* Willd.

Quite common and fairly widespread, usually along path edges. Especially large patches in the southern bushland along the southern bank of the western arm of the creek, along path edges in the northern grassy woodland, around the large, exposed patch of soil near the creek-spanning pipe, and in the large swale leading from the stormwater entrance. Interestingly, the individuals in this large swale are all very large-leaved and more robust than those elsewhere in the reserve. Flowering observed on and off for most of the survey period outside of winter 2021.

Photographic voucher: https://www.inaturalist.org/observations/61850576

Loranthaceae

418. *Amyema gaudichaudii* (DC.) Tiegh.

Quite common and widespread, always on *Melaleuca decora*. Some host trees with up to 7-8 individuals. Most common along the southern riverine stretch, but also on trees in the far southern bushland, southern exotic grassland, northern bushland and along the creek. Flowering observed in November 2020, then starting again mid-September 2021.

Photographic voucher: https://www.inaturalist.org/observations/64591173

419. *Amyema miquelii* (Lehm. ex Miq.) Tiegh.

Very common throughout the reserve proper, including the southern bushland, western exotic grassland, northern bushland, and at the junction between the far southern bushland, southern exotic grassland, and southern grassy woodland. Hosts always *Eucalyptus*. There are some incredible congregations of individuals in the western exotic grassland and along the western edge of the southern bushland; some eucalypts are covered in so many *A. miquelii* they look like they could collapse under the weight. Flowering observed in late November to mid-December 2020, and starting again late November 2021.

Photographic voucher: https://www.inaturalist.org/observations/66506364

420. *Dendrophthoe vitellina* (F.Muell.) Tiegh.

Fairly common, mostly along the length of the creek and in the far southern bushland. Always on *Eucalyptus*. Mixture of very large individuals high in the canopy, and smaller individuals closer to the ground. Flowering observed in October-November 2020 and early September to mid-November 2021.

Photographic voucher: https://www.inaturalist.org/observations/62013248

421. *Muellerina eucalyptoides* (DC.) Barlow

Occasional, certainly less common than the other three mistletoe species in the survey area. Scattered along the southern riverine stretch, on the edges of the southern exotic grassland, and in the western exotic grassland. Always on *Eucalyptus*.

Photographic voucher: https://www.inaturalist.org/observations/61375436

Malvaceae

422. **Pavonia hastata* Cav.

Individuals and small to medium-sized patches scattered throughout the reserve, including along the large swale leading from the stormwater entrance, at the large, exposed patch of soil near the creek-spanning pipe, in the huge sea of weeds along the creek in line with the central split path, along the creek near the creek-spanning pipe, and on the eastern edge of the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/81528776

Myrtaceae

423. *Callistemon linearifolius* (Link) DC.

Scattered stands and individuals throughout the reserve proper: a stand of 5-7 large individuals in the central bushland; one individual along the creek near metal stairway at the northern end of the reserve; one individual along the edge of the central split path; one individual in the central bushland; one individual in the northern bushland near the stand of *Callistemon linearis* and *Callistemon pinifolius*; two small saplings at the interface between the southern bushland and the western split grassland; and, a small stand of three individuals on the eastern edge of the northern bushland. Flowering observed from late October to early November 2020, and in mid-June 2021. This species is listed as vulnerable at a state-level.

Photographic voucher: https://www.inaturalist.org/observations/63626605

424. *Callistemon linearis* (Schrad. & J.C.Wendl.) Colvill ex Sweet

Quite common, and widespread. There's a large patch either side of the northwestern path through the northern bushland (at the top of the path), and a number of individuals lining the central split path. Also scattered throughout the far southern bushland. Flowering observed in late October/early November 2020, and late October to November 2021, with some spot flowering in-between in May 2021. Often growing with *Callistemon pinifolius*.

Photographic voucher: https://www.inaturalist.org/observations/63626599

425. *Callistemon pinifolius* (J.C.Wendl.) Sweet

Quite common, and widespread. There's a large patch either side of the northwestern path through the northern bushland (at the top of the path), a number of individuals lining the path in the open woodland directly above the southern exotic grassland. Also a few individuals scattered throughout the far southern bushland and central bushland. Flowering observed in late October/early November 2020, and late October to November 2021, with some spot flowering in-between in May 2021. Often growing with *Callistemon linearis*.

Photographic voucher: https://www.inaturalist.org/observations/63626627

426. *Kunzea ambigua* (Sm.) Druce

Somewhat common and quite widespread. Almost always as small to medium-sized patches, with patches in the central bushland, northern bushland, northern grassy woodland, along the creek at the edge of the huge sea of weeds in line with the central split path, and along the edge of the carpark immediately below the reserve. Hugely popular with insect pollinators; I've recorded more than 50 insect species at *K. ambigua* flowers throughout the survey area, and on warm, sunny days in late spring/summer, there are often thousands of insects (a large percentage of which are mordellid beetles) on a single bush. Flowering observed from late October to mid-December 2020, starting again in early October 2021. Spot flowering also observed in March and July 2021.

Photographic voucher: https://www.inaturalist.org/observations/64716515

427. *Leptospermum polygalifolium* Salisb. subsp. *polygalifolium*

Common, but almost entirely restricted to the core of the southern grassy woodland, where it's one of the most common shrubs/small trees. Outside this population, there is a large individual near the swale in the northern bushland, and a small (planted) individual along the edge of Everley Park at the southern riverine stretch. Flowering observed in late November 2020, and then starting again in early November 2021.

Photographic voucher: https://www.inaturalist.org/observations/65389937

428. *Leptospermum trinervium* (Sm.) Joy Thomps.

Common, but entirely restricted to the southern grassy woodland and the open woodland directly above the southern exotic grassland. There are a few particularly large and robust individuals in the southern grassy woodland. Flowering observed in late October to early November 2020.

Photographic voucher: https://www.inaturalist.org/observations/64585578

429. **Melaleuca armillaris* (Sol. ex Gaertn.) Sm.

Single individual along the southern riverine stretch, near the third light tower. Almost certainly planted.

Photographic voucher: https://www.inaturalist.org/observations/87822760

430. *Melaleuca diosmatifolia* Dum.Cours.

Occasional. Two small patches in the northern bushland near the stand of *Callistemon linearis* and *Callistemon pinifolius*, and a few small individuals in the southern bushland along the path's edge; these individuals are likely all planted. One individual in the central bushland, and two others in the southern bushland (one on the southern periphery, and one deeper into the core of this section), all of which seem to be naturally occurring.

Photographic voucher: https://www.inaturalist.org/observations/66036110

431. *Melaleuca nodosa* (Sol. ex Gaertn.) Sm.

Abundant and widespread, one of the most common native large shrub/small tree species throughout the survey area. Usually growing as a large, laterally-spreading shrub, with big patches along the southern riverine stretch, in the southern grassy woodland (where there's an especially large clump of individuals), and along the edges of the isolated *Melaleuca* patch, and scattered individuals across the southern bushland, along the edge of the western exotic grassland, in the small, isolated patch of bush, and along the creek. Also common in the central bushland. Interestingly, in the very centre/core of the southern bushland, there's a huge, dense patch of *M. nodosa* that have all grown straight upwards as spindly trees (https://www.inaturalist.org/observations/61845507). This patch appeared after a fire (unsure when), with the individuals all growing at the same time/rate; the underlayer is very sparse here due to reduced light from the crowded canopy. Another fire occurred relatively recently at this patch, ~5 years ago, as evidenced by charred bark on a number of individuals. Flowering observed from late September to October 2020, and late September to October 2021. One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project.

Photographic voucher: https://www.inaturalist.org/observations/61375433

432. *_Melaleuca thymifolia_ Sm.

Two small individuals near the creek-spanning pipe, with another small (possibly planted) individual in the northern bushland, near the stand of _Callistemon linearis_ and _Callistemon pinifolius_.

Photographic voucher: https://www.inaturalist.org/observations/83598300

Ochnaceae

433. *_Ochna serrulata_ (Hochst.) Walp.

Always present as individuals (rather than patches), but quite common and very widespread; present throughout almost every section of the survey area. Most common along the creek, including the western arm of the creek, and pervasive in all sections of bushland; there are individuals present in even the most intact parts of the bushland, including in sections where there are very few or no other non-native species. Also a large individual in the abandoned garden alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/93017272

Oleaceae

434. *_Ligustrum sinense_ Lour.

Abundant and widespread along the length of the creek. Also scattered throughout the southern grassy woodland and the northern bushland, plus a number of large individuals in the abandoned garden alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/84944825

435. *_Ligustrum vulgare_ L.

One individual growing among the dense patches of _Lepidosperma laterale_ along the western side of the northwestern path through the northern bushland, and one in the southern grassy woodland. There are almost certainly more individuals than this in the survey area that I likely dismissed as _L. sinense_ at a glance.

Photographic voucher: https://www.inaturalist.org/observations/61377744

436. _Notelaea ovata_ R.Br.

Only two individuals found; one alongside the northwestern path that cuts through the northern bushland, close to where it meets the central split path; and, one in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/64716511

Onagraceae

437. *_Ludwigia peruviana_ (L.) H.Hara

Occasional, scattered along the creek within the reserve southwards from the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/65060636

Phyllanthaceae

438. *Breynia oblongifolia* (Müll.Arg.) Müll.Arg.

Very common and widespread throughout the southern bushland, central bushland, northern bushland, southern grassy woodland, and the open woodland directly above the southern exotic grassland. Especially common in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/61848122

439. *Phyllanthus gunnii* Hook.f.

Very common throughout the southern and central bushland, with a particularly large, dense patch in the central bushland, close to the central split path.

Photographic voucher: https://www.inaturalist.org/observations/60803678

Pittosporaceae

440. *Bursaria spinosa* Cav. subsp. *spinosa*

Abundant and widespread throughout almost all sections of the survey area, one of the most common shrub species. Prolific flowering observed in mid to late January 2021, with some spot flowering in mid-May 2021. There's a large patch at the far western edge of the northern grassy woodland with many individuals afflicted by witches' broom growth (https://www.inaturalist.org/observations/85738322). One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project.

Photographic voucher: https://www.inaturalist.org/observations/68313268

441. *Pittosporum multiflorum* (A.Cunn. ex Loudon) L.Cayzer, Crisp & I.Telford

There's a single individual along the edge of the carpark immediately below the reserve (which is almost certainly planted), and a very large, dense patch (naturally occurring) of ~30-40 plants in the southern bushland along the southern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/81004435

442. *Pittosporum revolutum* W.T.Aiton

Very common and widespread, especially along the southern riverine stretch and in the southern and northern bushland. There are two particularly large patches: one in the western third of the northern bushland, and one in the southern bushland at the end of the short dead-end path leading from the open woodland directly above the southern exotic grassland. Flowering observed in September 2020 and September to early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/59111092

Podocarpaceae

443. **Podocarpus spinulosus* (Sm.) R.Br. ex Mirb.

Single small individual along the southern riverine stretch, near the third light tower. Almost certainly planted given the normal habitat for this species is sheltered coastal sites and gullies along ranges.

Photographic voucher: https://www.inaturalist.org/observations/64715196

Polygalaceae

444. *_Polygala virgata_ Thunb.

Single individual along the edge of the creek at the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/94085976

Primulaceae

445. _Myrsine variabilis_ R.Br.

Fairly common, but seemingly entirely restricted to the southern bushland, often along path edges. Most individuals are young saplings, with very few taller/older plants. Flowering observed in mid-July 2021.

Photographic voucher: https://www.inaturalist.org/observations/84278864

Proteaceae

446. _Hakea sericea_ Schrad. & J.C.Wendl.

One individual in the far northern bush behind the bench seat, two in the small, isolated patch of bush (both planted), and one along the edge of the carpark immediately below the reserve. Flowering observed in August 2021.

Photographic voucher: https://www.inaturalist.org/observations/64716514

Rhamnaceae

447. _Pomaderris discolor_ (Vent.) Poir.

I was told by Dan Smart that he'd seen a single _P. discolor_ in the southern grassy woodland ~4-5 years ago. A spent a number of hours searching the area, but couldn't find it. On 19 June 2021 I walked with Dan and Damien Vella, and Dan was able to find it immediately, although it was dead. We're unsure if the species is present in the seedbank.

Photographic voucher: https://www.inaturalist.org/observations/83597823

448. *_Rhamnus alaternus_ L.

Single medium-sized shrub in the southern bushland, covered in _Clematis glycinoides_.

Photographic voucher: https://www.inaturalist.org/observations/94412959

Rosaceae

449. *_Cotoneaster glaucophyllus_ Franch.

Single large individual on a steep, eroding section of the northern bank of the western arm of the creek, near the stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/79362242

450. *_Pyracantha crenulata_ (D.Don) M.Roem.

Single individual, ~2.5 m tall, in the large swale leading from the stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/81528780

451. **Rubus anglocandicans* A.Newton

Never particularly common at any one spot, and always present as small- or medium-sized patches, but relatively widespread. Mostly scattered along the length of the creek, including along the edge of the southern grassy woodland and in the huge sea of weeds along the creek in line with the central split path, with a medium-sized patch also along the northern edge of the central bushland, and a small patch at the shaded, damp swale in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/60803679

452. *Rubus parvifolius* L.

One small patch in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/96999082

Rutaceae

453. *Correa reflexa* (Labill.) Vent. var. *reflexa*

Quite common, but almost entirely restricted to the southern bushland. I've only found a single individual outside that section: one in the northern bushland near the central split path. There are a few particularly large patches near the weedy swale in the southern bushland. Prolific flowering observed from May-July 2021.

Photographic voucher: https://www.inaturalist.org/observations/84278863

454. **Murraya paniculata* (L.) Jack

Occasional, scattered across the northern half of the reserve; one along the creek, one in the large swale leading from the stormwater entrance, three in the northern bushland, and one on the western edge of the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/69444731

455. *Zieria smithii* Andrews

One small patch in the southern grassy woodland close to the creek, a small individual next to the large, exposed patch of soil near the creek-spanning pipe, and scattered individuals in the southern and central bushland either side of the western arm of the creek. The biggest patch consists of four small individuals in the central bushland, a few metres into the bushland from a main path, with 2-3 larger individuals on the other side of this patch as well. A large number of small saplings appeared in mid-late 2022 at this patch. Flowering observed in September 2020, and from mid-June to mid-November 2021.

Photographic voucher: https://www.inaturalist.org/observations/60802819

Sapindaceae

456. *Dodonaea triquetra* J.C.Wendl.

Very common and widespread throughout the southern, central and northern bushland, along the western arm of the creek, and in the southern grassy woodland. Probably most common in the southern bushland. There's a particularly large patch on the edge of the western exotic grassland, near the stormwater entrance. Flowering observed on and off throughout most of the survey period.

Photographic voucher: https://www.inaturalist.org/observations/58470815

Scrophulariaceae

457. *Myoporum boninense* subsp. *australe* Chinnock

Individuals scattered throughout the southern and central bushland, mostly within 20-30 m of the western arm of the creek. Flowering observed from March-May 2021.

Photographic voucher: https://www.inaturalist.org/observations/71288321

Solanaceae

458. **Cestrum aurantiacum* Lindl.

Two individuals found; one along the edge of Everley Park at the southern riverine stretch, close to the ancient eucalypt hybrid, and one near the swale at the green mesh track. I've only been able to differentiate them from the hugely abundant *C. parqui* when flowering/fruiting, so there are probably at least a few other individuals.

Photographic voucher: https://www.inaturalist.org/observations/61846644

459. **Cestrum parqui* L'Hér.

Highly abundant, and indeed one of the most abundant non-native species. Mostly along the length of the creek. Creeping into bushland, woodland and grassland at a number of locations, however, aside from a large patch in the open woodland directly above the southern exotic grassland, and one individuals in the southern bushland, these invaders are mostly along the edges of each section.

Photographic voucher: https://www.inaturalist.org/observations/61846646

460. **Solanum mauritianum* Scop.

Single small individual at the southwestern corner of the isolated *Melaleuca* patch.

Photographic voucher: https://www.inaturalist.org/observations/66506370

461. **Solanum pseudocapsicum* L.

Not uncommon, and fairly widespread across the northern half of the reserve. Most common in the northern bushland, but some also in the central bushland, far southern bushland, along the northern section of the creek, near the creek-spanning pipe, and along path edges at the eastern edge of the central bushland. Almost always as individuals.

Photographic voucher: https://www.inaturalist.org/observations/70493478

Strelitziaceae

462. **Strelitzia reginae* Aiton

Single large, planted individual at the fenceline along the northern perimeter of the reserve. It was planted sometime between 1 November 2012 and 22 April 2014; it's absent on satellite imagery on the former date, and present on the latter date, but the position it's in is obscured by shadows on the intervening dates with available imagery.

Photographic voucher: https://www.inaturalist.org/observations/95373501

Thymelaeaceae

463. *Pimelea linifolia* Sm. subsp. *linifolia*

Abundant in the southern grassy woodland, growing among *Themeda triandra* and *Imperata cylindrica*, with scattered individuals and patches in the central and northern bushland, mostly either side of the central split path. Flowering observed for almost the entire survey period.

Photographic voucher: https://www.inaturalist.org/observations/59127547

Verbenaceae

464. **Lantana camara* L.

Abundant and widespread throughout the survey area, and indeed present throughout almost every section of the survey area. There are many huge patches along the length of the creek; a number of these (particularly along the creek near the swale at the green mesh track) are very popular with superb fairywrens. Probably the most pervasive non-native species in the survey area, in the sense that I've found it in deep in the core/centre of every section of bushland and woodland in places where there are no other non-natives, even in the southern grassy woodland. I've crowned a huge number of these, but they continue to reappear.

Important to note here that, after a future revision of the aggregate species *Lantana camara*, there will be two *Lantana* species present in the reserve: 1) One of the common pink/white varieties (https://www.inaturalist.org/observations/60684556), and 2) a variety with orange and pink flowers that has very prominent recurved spines on the stems (https://www.inaturalist.org/observations/180231719). See Johnson (2007) for detailed information. Unfortunately I only learned about these in 2023, and so did not document the relative abundances of each 'species' within the reserve, or any habitat preferences.

Photographic voucher: https://www.inaturalist.org/observations/60684556

Zamiaceae

465. *Macrozamia spiralis* (Salisb.) Miq.

Nine individual plants found: southeastern corner of the southern grassy woodland, near the creek (two individuals); the open woodland directly above the southern exotic grassland; the southern bushland immediately above the open woodland directly above the southern exotic grassland (two individuals); further north in the southern bushland, ~20 m away from the western arm of the creek; northern edge of the central bushland, near the central split path; far eastern section of the northern bushland; and, in the southwestern corner of the northern bushland. The two individuals in the southern grassy woodland are smothered by *Tradescantia fluminensis* and *Kennedia rubicunda*; Damien Vella and I removed as much of the *Tradescantia* as we could on multiple occasions. The larger individual at this spot produced a cone sometime in early-mid June 2021 (https://www.inaturalist.org/observations/83593606), and the fruited in late October 2021, indicating there are both male and female plants in the reserve. Currently listed as endangered by the IUCN, although the last assessment was in 2009.

In mid-October 2022, Damien removed a large amount of *Tradescantia* again at the southern grassy woodland patch, and revealed what seem to be two additional small individuals; it's unclear whether these are new plants that have seeded, or are actually part of the other two individuals, having suckered up.

Photographic voucher: https://www.inaturalist.org/observations/103134381

Subshrubs

Asparagaceae

466. **Asparagus virgatus* Baker

Single small patch of 2-3 individuals in the far southwestern corner of the southern bushland, right along the edge of the western exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/62015028

Dilleniaceae

467. *Hibbertia aspera* DC. subsp. *aspera*

Occasional, with individuals scattered in the southern bushland and southern grassy woodland, and one individual at each of the large, exposed patch of soil near the creek-spanning pipe, and the open woodland directly above the southern exotic grassland. Flowering observed on and off for most of the survey period outside of winter 2021.

Photographic voucher: https://www.inaturalist.org/observations/59125869

468. *Hibbertia diffusa* R.Br. ex DC.

Two or three small patches scattered throughout the southern grassy woodland, and one medium-sized patch at the very edge of the southern bushland, on the periphery of the swale to the immediate right of the main path coming from the southern exotic grassland. Flowering observed in mid-late November 2020, and starting again late October 2021.

Photographic voucher: https://www.inaturalist.org/observations/65203305

469. *Hibbertia pedunculata* R.Br. ex DC.

Abundant in the southern grassy woodland, growing among *Themeda triandra* and *Imperata cylindrica*, with patches in the central and northern bushland either side of the central split path, and a few individuals in the open woodland directly above the southern exotic grassland. Flowering observed in September-October 2020, and starting again mid-September 2021.

Photographic voucher: https://www.inaturalist.org/observations/59862892

Ericaceae

470. *Leucopogon juniperinus* R.Br.

Quite common and widespread throughout the reserve proper, including in the southern grassy woodland, the open woodland directly above the southern exotic grassland, and the southern, central and northern bushland. There's a particularly huge patch in the western third of the northern bushland, close to the huge patch of *Pittosporum revolutum*. Flowering observed in September 2020, May-June 2021, and in April 2022.

Photographic voucher: https://www.inaturalist.org/observations/59433521

471. *Lissanthe strigosa* (Sm.) R.Br.

Quite common and widespread throughout the reserve proper, including in the southern grassy woodland, the open woodland directly above the southern exotic grassland, and the southern, central and northern bushland. Often along path edges throughout the bushland sections. Both of the known subspecies, *L. s.* subsp. *strigosa* and *L. s.* subsp. *subulata*, are present in the reserve. Many individuals in the reserve are quite small and depauperate. There was a patch of 5-6 individuals near the creek-spanning pipe that were quite large, robust and healthy-looking; it is very possible these individuals were 100+ years old, however, unfortunately this patch was cleared during public works in 2022. Flowering observed in early-mid September 2020, and August-September 2021.

Photographic voucher: https://www.inaturalist.org/observations/59125870

Fabaceae

472. *Acacia brownii* (Poir.) Steud.

Few small to medium-sized patches entirely restricted to the southern grassy woodland. Flowering observed in early September 2020, and mid-August to September 2021.

Photographic voucher: https://www.inaturalist.org/observations/58814506

473. *Bossiaea buxifolia* A.Cunn.

Single plant in the southern grassy woodland, growing among/next to a patch of *Acacia brownii*. Flowering observed in late August-early September in both 2020 and 2021.

Photographic voucher: https://www.inaturalist.org/observations/58814504

474. *Bossiaea prostrata* R.Br.

One medium-sized patch along the northern edge of the southern grassy woodland, with a few scattered individuals nearby.

Photographic voucher: https://www.inaturalist.org/observations/93017292

475. *Chorizema parviflorum* Benth.

Two individuals on the eastern edge of the northwestern path through the northern bushland. Flowering observed in late September 2020, and starting again in early December 2021. Possibly now locally extinct in the reserve after the vegetation at this spot was unfortunately cleared during public works in 2022; I couldn't find either plant in mid-September 2022.

Photographic voucher: https://www.inaturalist.org/observations/60509426

Lythraceae

476. **Cuphea hyssopifolia* Kunth

Single small individual on the eastern bank of the creek, directly alongside the water, ~30-40 m north of the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/102982319

Malvaceae

477. *Lasiopetalum parviflorum* Rudge

Six individuals (two dead) in the southern bushland; five of these are within the core of this section, with the sixth just above the weedy swale. Flowering observed in early-mid September 2021. The first dead individual was already dead when I first found it in early October 2020. The second individual was healthy, and flowered and fruited in 2021, before dying at some point in mid-2022.

Photographic voucher: https://www.inaturalist.org/observations/94412965

478. **Sida rhombifolia* L.

Abundant and widespread throughout the survey area, and indeed one of the most abundant and widespread non-native species. Most common along the length of the creek, but present in almost all sections of the survey area. Particularly large patches in the open woodland directly above the southern exotic grassland, the weedy swale in the southern bushland, and on the eastern bank of the creek along the southern riverine stretch near the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/61380394

Rubiaceae

479. *Opercularia varia* Hook.f.

Relatively uncommon, with small patches scattered throughout the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/72146918

Rutaceae

480. *Boronia polygalifolia* Sm.

Very common and widespread throughout the northern bushland. Also two or three scattered patches in the open woodland directly above the southern exotic grassland, and the southern grassy woodland. Flowering observed on and off for most of the survey period outside of winter 2021. Both pink and white-flowered forms present.

Photographic voucher: https://www.inaturalist.org/observations/60506927

Scrophulariaceae

481. *Eremophila debilis* (Andrews) Chinnock

Fairly common and widespread throughout the southern, central and northern bushland. Flowering observed in late November 2020 and early February 2022.

Photographic voucher: https://www.inaturalist.org/observations/65630584

Succulents

Asparagaceae

482. **Agave* sp.

Large patch in the abandoned garden alongside the empty lot. Unsure if *A. angustifolia* or *A. americana*.

Photographic voucher: https://www.inaturalist.org/observations/97984415

483. *_Yucca_ sp.

One plant in the abandoned garden alongside the empty lot, and two small individuals along the edge of Everley Park at the far southern end of the survey area, underneath the large *Corymbia citriodora* (presumably the same species).

Photographic voucher: https://www.inaturalist.org/observations/97984430

Asphodelaceae

484. **Aloe arborescens* Mill.

Several patches in the abandoned garden alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/97984421

485. **Aloe maculata* All.

There's a small patch near the northeastern entrance to the reserve, and a much larger patch close to the creek here, having escaped at some point from the abandoned garden alongside the empty lot. There are also several patches still in the abandoned garden.

Photographic voucher: https://www.inaturalist.org/observations/97428417

Cactaceae

486. **Cereus* sp.

Single large individual in the abandoned garden alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/97984432

487. **Opuntia ficus-indica* (L.) Mill.

I found a single large cladode on the eastern bank of the creek, directly alongside the water, ~30-40 m north of the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/102981552

488. **Opuntia monacantha* Haw.

Three individuals on a very precipitous, eroding section of the western creekbank along the southern riverine stretch, near the third light tower, and one large individual along the edge of the creek at the southern grassy woodland. There's also a huge individual, several metres tall, in the abandoned garden alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/96999076

489. **Selenicereus undatus* (Haw.) D.R.Hunt

Single plant in the abandoned garden alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/97984416

Crassulaceae

490. **Bryophyllum delagoense* (Eckl. & Zeyh.) Schinz

Very common along the length of the creek, especially along the western arm of the creek and near the swale at the green mesh track. Starting to creep into the southern bushland from these creek lines, with one small isolated patch also already in the core of the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/83110457

491. **Bryophyllum fedtschenkoi* (Raym.-Hamet & H.Perrier) Lauz.-March.

Small patch in the abandoned garden alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/97984441

492. **Bryophyllum pinnatum* (Lam.) Oken

Patches mostly along the southern bank of the western arm of the creek, especially towards the stormwater entrance, with one patch near the central bridge and one along the creek towards the northern end of the reserve. Usually growing alongside *B. delagoense*.

Photographic voucher: https://www.inaturalist.org/observations/59426774

493. **Crassula multicava* Lem.

Number of large patches on both banks of the western arm of the creek, as well as a few smaller patches and scattered individuals along the creek from the huge sea of weeds in line with the central split path down to the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/62015335

494. *Crassula peduncularis* (Sm.) F.Meigen

Many large patches in the open woodland directly above the southern exotic grassland, growing in wet, heavy, shaded clay along the edges and down the centre of the path. Growing amongst/with patches of *Campylopus introflexus* and *Asterella drummondii*. First found in mid-September 2022, so presumably it appeared above ground as a response to the consistent rain throughout the year.

Photographic voucher: https://www.inaturalist.org/observations/134956478

495. *Crassula sieberiana* (Schult. & Schult.f.) Druce

Few small patches along the edge of the main path immediately north of the large, exposed patch of soil near the creek-spanning pipe. First found in mid-September 2022 after public works finished; the patches were only growing directly along a mitre drain, so they possibly only appeared due to the disturbance.

Photographic voucher: https://www.inaturalist.org/observations/134956479

496. **Sedum praealtum* A.DC.

Single plant in the abandoned garden alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/97984429

Didiereaceae

497. **Portulacaria afra* (L.) Jacq.

Single plant in the abandoned garden alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/97984414

Trees

Anacardiaceae

498. **Harpephyllum caffrum* Bernh. ex C.Krauss

Five or six large trees scattered along the western arm of the creek (across both banks; three of these were cut/knocked down in mid-2021). There are also two individuals in the western exotic grassland at the far southwestern corner of the reserve (although three of these were cut/knocked down sometime in late August/early September 2021), and a sapling in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66362781

499. **Pistacia chinensis* Bunge

Occasional, widespread throughout the reserve proper, with scattered individuals in the southern bushland (including two large individuals), southern grassy woodland, the large swale leading from the stormwater entrance, the central and northern bushland either side of the central split path, and along the creek.

Photographic voucher: https://www.inaturalist.org/observations/65620978

Arecaceae

500. **Archontophoenix alexandrae* (F.Muell.) H.Wendl. & Drude

Single small sapling on the western creekbank along the southern riverine stretch, ~40 m north of the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/73824728

501. **Livistona australis* (R.Br.) Mart.

Five to six individuals spread along the southern riverine stretch, always close to the water, with one young sapling on the southern bank of the western arm of the creek, near the stormwater entrance, and an adult on the northern bank of the western arm of the creek, further eastwards. This species is an interesting case with regards to native versus non-native status. In a conversation with Peter Dixon, he told me that based on a historical biogeography mapping project he was involved with, *L. australis* was indeed once naturally found across the area. However, populations were wiped out by early settlers, who used the leaves for making hats and food, and the current individuals present along the creek are almost certainly all garden escapees.

Photographic voucher: https://www.inaturalist.org/observations/65203302

502. **Phoenix canariensis* H.Wildpret

Spread quite consistently along the length of the creek, including the western arm of the creek, with some huge individuals present in a number of locations (e.g., near the creek-spanning pipe and along the creek near the swale at the green mesh track). There's also a small sapling on the edge of the central split path.

Photographic voucher: https://www.inaturalist.org/observations/59420275

503. **Syagrus romanzoffiana* (Cham.) Glassman

Mostly scattered along the length of the creek, plus a large individual in the northern grassy woodland, two small saplings in the far southern bushland, and a small sapling in the western exotic grassland at the far southwestern corner of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/64026345

Asparagaceae

504. **Dracaena draco* (L.) L.

One individual, perhaps ~1 m tall, in the far eastern section of the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/66506376

Bignoniaceae

505. **Jacaranda mimosifolia* D.Don

Four small saplings in the central bushland, either directly along the western arm of the creek, or along path edges near the creek, with a larger individual (~1.8 m tall) in the southern bushland, and a ~3 m tall individual creekside along the southern riverine stretch, in line with the second light tower.

Photographic voucher: https://www.inaturalist.org/observations/70491555

506. **Tecoma stans* (L.) Juss. ex Kunth

One large tree on the eastern bank along the southern riverine stretch at the big kink in the creek, with an increasing number of saplings (some already medium-sized) beginning to appear beneath and around it. Also a medium-sized tree on a steep section of the northern bank of the western arm of the creek, right next to the central bridge.

Photographic voucher: https://www.inaturalist.org/observations/65388299

Casuarinaceae

507. *Allocasuarina littoralis* (Salisb.) L.A.S.Johnson

Single tree at the southeastern corner of the isolated *Melaleuca* patch, on the periphery of the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/66176443

508. *Casuarina cunninghamiana* Miq. subsp. *cunninghamiana*

Scattered individuals along the southern riverine stretch, mostly along the southern half of this section, and a few individuals along the creek within the reserve. There's also a small stand of 7 very large individuals along the edge of Everley Park, parallel to the long jump pits; I'm unsure if these were planted a long time ago, or if they're old remnants of what may have been a larger population. I'm fairly confident at least some individuals are naturally occurring, however, a number of younger individuals have recently 'invaded' after this species was extensively planted by Bankstown council at Maluga Passive Park (~2-3 km southwards) in the past few decades. It seems to also be starting to hybridise with *C. glauca*.

Photographic voucher: https://www.inaturalist.org/observations/61846628

509. *Casuarina glauca* Sieber ex Spreng.

Abundant along the length of the creek, on both banks, and especially along the southern riverine stretch. Also a few scattered individuals in the western exotic grassland at the far southwestern corner of the reserve. Flowering observed in early September 2020 and early September 2021.

Photographic voucher: https://www.inaturalist.org/observations/59860143

Cupressaceae

510. **Hesperocyparis lusitanica* (Mill.) Bartel

Three large, planted individuals at the edge of the carpark immediately below the reserve, and one younger (but still large) naturalised individual in the northern grassy woodland, presumably having self-seeded from the carpark trees.

Photographic voucher: https://www.inaturalist.org/observations/65389934

Euphorbiaceae

511. **Triadica sebifera* (L.) Small

Single small individual on the western creekbank along the southern riverine stretch, ~30-40 m north of the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/73824730

Fabaceae

512. **Acacia baileyana* F.Muell.

One individual in the southern bushland, on the edge of the weedy swale, and one small sapling in the western exotic grassland, on the edge of the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/65620963

513. *Acacia binervia* (J.C.Wendl.) J.F.Macbr.

Relatively small patch of ~10-15 individuals (mixture of large and small trees) along the eastern edge of the northwestern path through the northern bushland. Flowering observed late August to mid-September 2021.

Photographic voucher: https://www.inaturalist.org/observations/93017296

514. *Acacia decurrens* Willd.

Very common and widespread throughout the survey area, with individuals present in almost all sections. Most common in the northern grassy woodland, where it's the dominant small tree species, and along the creek. Prolific flowering observed in September 2020, and from mid-July through to September 2021.

Photographic voucher: https://www.inaturalist.org/observations/89750436

515. *Acacia fimbriata* A.Cunn. ex G.Don

Somewhat common, and fairly widespread, mostly from the western arm of the creek northwards; mostly scattered throughout the northern bushland and on both banks of the western arm of the

creek, as well as occasionally along the main creek (although there is also a patch of 4-5 large trees in the southern bushland). Prolific flowering observed in July-August 2021.

Photographic voucher: https://www.inaturalist.org/observations/89750429

516. *_Acacia floribunda_ (Vent.) Willd.

One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project. I checked out all of the planted saplings (across all species), but didn't take any photos (given most were too young to identify from photos alone), so I'm unsure exactly how many *A. floribunda* saplings were planted here.

Photographic voucher: none, but presence confirmed with council-provided species list.

517. *Acacia implexa* Benth.

One small sapling at the far eastern edge of the central bushland, a medium-sized individual (~3-3.5 m tall) in the southern bushland near the weedy swale, and a larger/more mature individual (~5-6 m tall) in the southern grassy woodland alongside a large patch of *Melaleuca nodosa*. Spot flowering observed in early August 2021, and then flowering observed starting from early December 2021.

Photographic voucher: https://www.inaturalist.org/observations/85868993

518. *Acacia parramattensis* Tindale

Very common and widespread throughout the survey area. Most common in the southern grassy woodland, in the open woodland directly above the southern exotic grassland, along the edges of the southern exotic grassland, and along the southern riverine stretch. One of the best stands, located near the toilet block along the edge of Everley Park, was cut down in early 2021. One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project. Prolific flowering observed in November 2020, starting again in mid-November 2021.

Photographic voucher: https://www.inaturalist.org/observations/65632540

519. *_Erythrina crista-galli_ L.

Very common and widespread along the length of the creek, including the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/63622311

Lauraceae

520. *_Cinnamomum camphora_ (L.) J.Presl

Occasional, scattered along the length of the creek, with one individual in the northern grassy woodland. Most individuals are small- to medium-sized trees, but there's one very large tree near the large *Canna indica* patch at the southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/64025937

Malvaceae

521. *_Brachychiton acerifolius_ (A.Cunn. ex G.Don) F.Muell.

One individual, ~2.5-3 m tall, at the far northern end of the reserve, near the northeastern entrance to the reserve. Very likely naturalised from a nearby garden plant.

Photographic voucher: https://www.inaturalist.org/observations/60500077

522. **Brachychiton discolor* F.Muell.

One small sapling in a weedy section of the northern bushland. Very likely naturalised from a nearby garden plant.

Photographic voucher: https://www.inaturalist.org/observations/93017299

523. *Brachychiton populneus* (Schott & Endl.) R.Br. subsp. *populneus*

Single individual in a densely vegetated section of the southern bushland, ~40-50 m north of the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/84944840

524. **Hibiscus mutabilis* L.

One small tree on the eastern bank of the creek at the far northern end of the survey area, immediately next to the Wellington Road bridge, and two saplings on the eastern bank of the creek at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/81004412

Meliaceae

525. *Melia azedarach* L.

Not especially common, but quite widespread along the length of the creek – including along the edge of Everley Park at the southern riverine stretch (near the first light tower), parallel with the far southern bushland, halfway between the creek-spanning pipe and the huge sea of weeds along the creek in line with the central split path – with three individuals also along the western periphery of the central bushland, one in the northern bushland, and one in the large swale leading from the stormwater entrance. The individual along the edge of Everley Park at the southern riverine stretch is quite large, and is the only one I've seen flowering and fruiting; it flowered in late September to early October 2020, late April 2021, and late September to mid-October 2021.

Photographic voucher: https://www.inaturalist.org/observations/61376782

Moraceae

526. *Ficus rubiginosa* Desf. ex Vent.

Three individuals scattered throughout the northern half of the reserve: a small epiphytic individual (not yet strangling) growing from the base of a *Melaleuca* on the eastern edge of the central bushland; a larger individual beginning to strangle a *Melaleuca* on the western edge of the central bushland; and, a (larger again, but nowhere near full size) individual strangling a *Eucalyptus* in the western third of the northern bushland. Most likely spread into the reserve by the flying foxes that fly over/stop to feed in the reserve every night. There's also a small individual growing on the northern side of the Wellington Road Bridge which is probably the same species.

Sadly, on 3 September 2021, I discovered that someone had cut down the central bushland individual, and torn it off its host tree.

Photographic voucher: https://www.inaturalist.org/observations/65390518

527. *_Morus alba_ L.

Abundant and widespread along the length of the creek. Single young sapling in the core of the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/59426729

Myrtaceae

528. _Angophora floribunda_ (Sm.) Sweet

Abundant and widespread along the length of the creek, especially along the southern riverine stretch and the southern grassy woodland. Also a small patch at the northwestern corner of the open woodland directly above the southern exotic grassland, on the edge of the southern bushland. Prolific flowering observed from mid-November to mid-December 2020, starting again in late October 2021.

Photographic voucher: https://www.inaturalist.org/observations/60802830

529. _Callistemon salignus_ (Sm.) Colvill ex Sweet

Quite common along the southern riverine stretch, and not uncommon scattered throughout the southern bushland. Scattered individuals also along the rest of the creek, and at the small, isolated patch of bush. There's a particularly huge individual just below the large _Canna indica_ patch at the southern end of the reserve. Flowering observed in October 2020, and late September to late October 2021, with some spot flowering in-between in mid-May 2021, and in early April 2022.

Photographic voucher: https://www.inaturalist.org/observations/61848145

530. *_Callistemon viminalis_ (Sol. ex Gaertn.) G.Don

Very common and widespread along the length of the creek, including the western arm of the creek, always directly in the creekbank/along the water. Also occasionally along the edge of Everley Park at the southern riverine stretch. A number of young individuals have recently popped up near the creek crossing. This species is a very common street planting in the surrounding suburbs, so presumably these are the source.

Photographic voucher: https://www.inaturalist.org/observations/99066338

531. *_Corymbia citriodora_ (Hook.) K.D.Hill & L.A.S.Johnson

Two planted individuals along the edge of Everley Park at the far southern end of the survey area (one very large/old individual, the other also large but smaller/younger), and two very large individuals at the far northwestern corner of the northern bushland (presumably also both planted). A number of small saplings have also recently appeared in the open woodland directly above the southern exotic grassland, possibly originating from the industrial complex directly abutting the western edge of the reserve (where apparently there are quite a few mature planted individuals).

Photographic voucher: https://www.inaturalist.org/observations/58809745

532. *_Eucalyptus albens_ Benth.

Fallen branchlet found on the path on the eastern bank of the southern riverine stretch, ~40-50 m north of the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/81004411

533. *Eucalyptus amplifolia* Naudin subsp. *amplifolia*

Very common throughout the northern bushland, and indeed one of the dominant tree species in this section. There are two particularly large (~17 m tall), 150+ year old individuals directly alongside the left-hand/western edge of the empty lot (https://www.inaturalist.org/observations/101246168), which are an absolute gold mine for a huge diversity of invertebrates, especially at night. Also fairly widespread along the edge of Everley Park at the southern riverine stretch, although I suspect most of these are planted. Flowering observed in mid-November 2021.

Photographic voucher: https://www.inaturalist.org/observations/59111079

534. **Eucalyptus camaldulensis* Dehnh. subsp. *camaldulensis*

Single small branchlet with a leaf and buds, found alongside the creek at the southern riverine stretch, in line with the two long-jump pits. Definitely planted.

Photographic voucher: https://www.inaturalist.org/observations/95375190

535. *Eucalyptus capitellata* Sm.

Occasional and scattered, a few individuals at each of: the western edge of the southern bushland, on the periphery of the western exotic grassland; the southern grassy woodland; and, along the edge of Everley Park at the southern riverine stretch. Flowering observed in September 2020.

Photographic voucher: https://www.inaturalist.org/observations/59426749

536. **Eucalyptus crebra* F.Muell.

Single individual along the edge of Everley Park at the southern riverine stretch, ~20 m north of the first light tower, which I think is almost certainly planted. One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project.

Photographic voucher: https://www.inaturalist.org/observations/94085958

537. *Eucalyptus eugenioides* Sieber ex Spreng.

Not especially common in any one section, but quite widespread, with individuals or small stands along the edge of Everley Park at the southern riverine stretch, at the carpark immediately below the reserve, along the creek in the northern section of the reserve, along the western arm of the creek, and at the northwestern corner of the open woodland directly above the southern exotic grassland, along the periphery of the isolated *Melaleuca* patch (interestingly the large individual at this spot fell sometime in late September 2021, but survived, and is indeed still thriving as of October 2022, with new shoots appearing from the trunk, and flowering occurring) and the southern bushland. Flowering observed in September 2020, and June-September 2021. One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project.

Photographic voucher: https://www.inaturalist.org/observations/60690413

538. *Eucalyptus fibrosa* F.Muell.

Abundant and widespread throughout the survey area, and indeed one of the dominant tree species in the reserve proper. At the northeastern corner of Everley Park, just below the carpark immediately below the reserve, there's a huge *Eucalyptus fibrosa* × *Eucalyptus moluccana* hybrid, with a 3.07 m circumference at breast height. Apparently, a circumference this great indicates the tree is 250+ years old, and thus precedes European settlement.

Photographic voucher: https://www.inaturalist.org/observations/62015019

539. *Eucalyptus globoidea* Blakely

Small stand in the southern grassy woodland, lining the eastern edge along the creek, and at least one individual along the edge of Everley Park at the southern riverine stretch, ~20 m north of the first light tower. Price noted he observed this species along the western arm of the creek, but I haven't managed to find that population yet due to an absence of fruit (and thus difficulty differentiating them from *E. eugenioides*). Flowering observed in late July to mid-August 2021.

Photographic voucher: https://www.inaturalist.org/observations/84278856

540. *Eucalyptus longifolia* Link

Small stand along the creek ~50 m southeast of the swale at the green mesh track, one large individual in the western alcove, and one large individual in the carpark immediately below the reserve. I've also found several fruits on the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/72144144

541. **Eucalyptus microcorys* F.Muell.

One large, planted individual at the eastern edge of the isolated *Melaleuca* patch, on the periphery of the southern exotic grassland, with another planted individual alongside the ancient eucalypt hybrid. There's also a smaller individual deeper into the isolated *Melaleuca* patch, which most likely self-seeded from the planted one.

Photographic voucher: https://www.inaturalist.org/observations/79908676

542. *Eucalyptus moluccana* Roxb.

Abundant and widespread throughout the survey area, and indeed one of the dominant tree species in the reserve proper. Flowering observed from mid-January to late March 2021. One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project.

Photographic voucher: https://www.inaturalist.org/observations/68314079

543. **Eucalyptus paniculata* Sm.

Single large, planted individual along the edge of Everley Park at the southern riverine stretch, near the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/83110467

544. *Eucalyptus punctata* DC.

Not uncommon throughout the northern bushland. Also a large dead individual in the southern bushland, and a big stand around the large, exposed patch of soil near the creek-spanning pipe, associated with the outcropping of Minchinbury Sandstone.

Photographic voucher: https://www.inaturalist.org/observations/72144140

545. *Eucalyptus resinifera* Sm. subsp. *resinifera*

Small stand at the interface between the far southern bushland and the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/79908670

546. **Eucalyptus robusta* Sm.

Scattered along the eastern bank of the creek at the southern riverine stretch, mostly within the first 100 m of creek above the southern limit of the survey area. Flowering observed in late May/early June 2021.

Photographic voucher: https://www.inaturalist.org/observations/66642330

547. **Eucalyptus grandis* W.Hill

One huge, planted individual near the creek just above the northeastern corner of the southern grassy woodland (probably one of the tallest trees in the survey area), three large, planted individuals growing side by side at the southwestern corner of the isolated *Melaleuca* patch, and a number of younger individuals now naturalising/self-spreading from these latter plantings.

Photographic voucher: https://www.inaturalist.org/observations/82519139

548. *Eucalyptus tereticornis* Sm.

Two individuals on the eastern bank of the creek at the southern riverine stretch, growing behind and either side of the gap in the chain-link fence, and one large individual directly on the western creekbank next to the creek-spanning pipe. Unfortunately this latter individual was cleared in early 2022 to facilitate public works. Flowering observed in late October 2021. One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project.

Photographic voucher: https://www.inaturalist.org/observations/74605501

549. **Eucalyptus umbra* R.T.Baker

Small stand along the edge of Everley Park at the southern riverine stretch, close to the stand of *Casuarina cunninghamiana*. Flowering observed in May 2021, and again in late September 2021.

Photographic voucher: https://www.inaturalist.org/observations/78802660

550. **Lophostemon confertus* (R.Br.) Peter G.Wilson & J.T.Waterh.

Single large, planted tree along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*. This was a fortuitous find; a large branch from the tree broke off and fell to the ground, and it was this branch (with its distinct leaves and fruits) that I spotted first.

Photographic voucher: https://www.inaturalist.org/observations/90745282

551. *Melaleuca decora* (Salisb.) Britten

Abundant and widespread throughout the survey area, and indeed one of the dominant tree species in the reserve proper. There are two huge individuals in the southern exotic grassland that are least 80 years old; they're present in historical aerial imagery dating all the way back to 1943. There are also 6-7 other huge, old-growth individuals in the centre of the isolated *Melaleuca* patch. Prolific

flowering observed in mid-late November 2020, starting again in mid-December 2021, with some spot flowering also observed in mid-August 2021. One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project.

Photographic voucher: https://www.inaturalist.org/observations/65388301

552. *Melaleuca linariifolia* Sm.

Scattered along the southern riverine stretch, mostly along the edge of Everley Park. One small individual also in the western split grassland, and one very small sapling in the northern bushland near the stand of *Callistemon linearis* and *Callistemon pinifolius*. Flowering observed in late October/early November 2020, starting again in early November 2021.

Photographic voucher: https://www.inaturalist.org/observations/63622281

553. *Melaleuca styphelioides* Sm.

Very common and widespread throughout the survey area, especially along the length of the creek and throughout all sections of bushland. Flowering observed in mid to late November 2020, and starting again in early November 2021, with some spot flowering in-between in late August 2021. Interestingly, virtually all of the individuals in the southern bushland and central bushland are multi-stemmed, some extremely so, and quite mallee-like.

Photographic voucher: https://www.inaturalist.org/observations/61847313

554. **Syzygium floribundum* F.Muell.

Three individuals – two large trees and one small sapling – on the southern bank of the western arm of the creek, presumably garden escapees.

Photographic voucher: https://www.inaturalist.org/observations/66036104

555. **Syzygium oleosum* (F.Muell.) B.Hyland

One large tree on the southern bank of the western arm of the creek, growing alongside the *S. floribundum*, and one small individual in the huge sea of weeds along the creek in line with the central split path. Presumably garden escapees.

Photographic voucher: https://www.inaturalist.org/observations/66176442

556. **Tristaniopsis laurina* (Sm.) Peter G.Wilson & J.T.Waterh.

Single relatively small individual growing out of the western creek bank along the southern riverine stretch at the big kink in the creek. This species is a common street planting in the surrounding suburbs, so presumably these are the source.

Photographic voucher: https://www.inaturalist.org/observations/66642346

Oleaceae

557. **Fraxinus griffithii* C.B.Clarke

One tiny sapling underneath a large *Salix babylonica* on the western bank of the creek at the southern riverine stretch, just above the big kink in the creek, one medium-sized tree at the creek-crossing, and a medium-sized, prostrate patch (presumably one or two small trees that had fallen

and been half-buried by other weeds, but continued to grow) alongside the creek at the southern riverine stretch, in line with the two long-jump pits.

Photographic voucher: https://www.inaturalist.org/observations/101246154

558. *_Ligustrum lucidum_ W.T.Aiton

Abundant and widespread along the length of the creek, with a small individual also in the far southern bushland, and a medium sized individual in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/76464609

559. _Notelaea longifolia_ Vent. f. _longifolia_

Abundant and widespread throughout the reserve proper, especially in all sections of bushland. Flowering observed from March-June 2021. Large numbers afflicted by the native tingid _Froggattia olivinia_.

Photographic voucher: https://www.inaturalist.org/observations/81004429

560. *_Olea europaea_ subsp. _cuspidata_ (Wall. ex G.Don) Cif.

Occasional, but somewhat widespread, with individuals in the far southern bushland, along the southern bank of the western arm of the creek, in the southern bushland, and along the creek.

Photographic voucher: https://www.inaturalist.org/observations/59860156

Phyllanthaceae

561. _Glochidion ferdinandi_ (Müll.Arg.) F.M.Bailey var. _ferdinandi_

Occasional, mostly restricted to the southern-most quarter of the reserve proper. One individual in the southern exotic grassland, under one of the two huge _Melaleuca decora_, a few saplings in the southern grassy woodland, and a small stand of 3-4 individuals close to the creek at the interface between the southern grassy woodland and the southern bushland. Also one individual in the northern bushland along the sandstone wall at the northwestern corner of the reserve, one near the swale in the northern bushland, and one on the eastern bank of the creek, directly alongside the water, ~30-40 m north of the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/61847307

Pittosporaceae

562. *_Auranticarpa rhombifolia_ (A.Cunn. ex Hook.) L.W.Cayzer, Crisp & I.Telford

Single individual ~6-7 m tall in the southern bushland. I actually first found this species on 10 December 2020, and photographed it multiple times over the ensuing few years, but misidentified it as _Myrsine variabilis_, which is common here. It wasn't until 21 August 2023 when I observed it fruiting that realised what it was.

Photographic voucher: https://www.inaturalist.org/observations/179491648

563. *_Hymenosporum flavum_ (Hook.) F.Muell.

Single individual along the edge of the creek at the southern grassy woodland. Almost certainly a garden escapee. Flowering observed in early November 2021.

Photographic voucher: https://www.inaturalist.org/observations/84944826

564. *Pittosporum undulatum* Vent.

Fairly common and widespread. Most common along the length of the creek and in the southern bushland, but there are at least one or two scattered individuals present in most sections. Often growing in weedy sections. Flowering observed in September 2020 and August-September 2021.

Photographic voucher: https://www.inaturalist.org/observations/58470671

Proteaceae

565. **Grevillea robusta* A.Cunn. ex R.Br.

Fairly common and widespread. Mostly scattered along the edge of Everley Park at the southern riverine stretch (along the stretch between the first and third light towers), with quite a few individuals along a small, eroding section of the eastern creek bank in line with the swale at the green mesh track. Also individuals at the swale at the green mesh track itself, along the western arm of the creek, and in the northern grassy woodland, southern bushland, and northern bushland. One quite large individual at the creek crossing (which flowered in October 2021), two large individuals along Everley Park (one flowering in October 2021), and one large individual near the weedy swale in the southern bushland. All other individuals fairly young saplings.

Photographic voucher: https://www.inaturalist.org/observations/58811394

566. **Macadamia integrifolia* Maiden & Betche

Single small sapling in the far southwestern corner of the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/176908716

567. *Persoonia linearis* Andrews

Uncommon, and mostly restricted to the southern third of the reserve. There are three individuals in the central bushland along the northern bank of the western arm of the creek, all relatively close to the stormwater entrance (including a very large tree on a steep, eroding section of the bank), one in the southern bushland, one along the creek at the southern grassy woodland, and one on the western creek bank at the southern riverine stretch, near the first light tower. Flowering observed in late November 2020 and June 2021.

Photographic voucher: https://www.inaturalist.org/observations/65201179

Rosaceae

568. **Eriobotrya japonica* (Thunb.) Lindl.

Two individuals along the southern riverine stretch, near the third light tower.

Photographic voucher: https://www.inaturalist.org/observations/65203303

Rubiaceae

569. **Rothmannia globosa* (Hochst.) Keay

Small stand of five individuals at the eastern end of the western split grassland. I remember seeing it in the surrounding suburbs in the past as a garden tree, so presumably an escapee. Flowering observed in early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/97428409

Salicaceae

570. **Salix babylonica* L.

Scattered along the length of the creek, including one or two along the western arm of the creek. There are some particularly huge individuals along the southern riverine stretch that have reduced the water flow in a number of locations (at one spot, the water flow is restricted to ~10 cm in width) and contributed to heavy erosion.

Photographic voucher: https://www.inaturalist.org/observations/65202481

Santalaceae

571. *Exocarpos cupressiformis* Labill.

Very common and widespread throughout the southern and central bushland, including along the creek at these sections. Worryingly, a large number of individuals (mostly in the southern bushland, some in the central bushland) are afflicted with some kind of woody canker (https://www.inaturalist.org/observations/58815992), apparently fungal in origin (Scurfield 1965).

Photographic voucher: https://www.inaturalist.org/observations/58476778

Sapindaceae

572. **Acer negundo* L.

Fairly common and widespread along the length of the creek, including the western arm of the creek. A number of saplings appeared on the eastern bank of the southern riverine stretch in late October 2022.

Photographic voucher: https://www.inaturalist.org/observations/59424499

573. **Cupaniopsis anacardioides* (A.Rich.) Radlk.

Two saplings in the southern grassy woodland (one close to the creek), one along the southern riverine stretch, and 4-5 scattered throughout the southeastern section of the southern bushland. This species is an emerging native weed (from street plantings) in Western Sydney, with natural populations found in littoral rainforest/coastal scrub.

Photographic voucher: https://www.inaturalist.org/observations/81004428

574. **Dodonaea viscosa* Jacq.

One of the twelve species for which tube stock saplings were planted in late June/early July 2021 along the edge of Everley Park as part of a Cumberland Council project. I checked out all of the planted saplings (across all species), but didn't take any photos (given most were too young to identify from photos alone), so I'm unsure exactly how many *D. viscosa* saplings were planted here.

Photographic voucher: none, but presence confirmed with council-provided species list.

Ulmaceae

575. **Ulmus parvifolia* Jacq.

Five individuals found; three along the creek, from the creek-spanning pipe northwards, one on the eastern bank of the southern riverine stretch, and one in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66177475

Section 6 – Vertebrates

Please refer to the maps in Section 2 for explanations of all place/location names used throughout this section (e.g., 'northern bushland', 'southern exotic grassland', 'large, exposed patch of soil near the creek-spanning pipe').

* indicates species that are non-native to the study area.

I have followed the taxonomy of The Clements Checklist of Birds of the World for all birds, and the Australian Faunal Directory (AFD) for most other vertebrates. I have deviated from the AFD for several vertebrate species, but have provided author names for all species to avoid any confusion.

I have categorised the listed bird species by feeding guild, mostly following the guilds defined by Garnett et al. 2015.

Major group	Group	Species
Birds	Fishes and/or aquatic invertebrates	6
	Foliage/herbs	3
	Fruits	3
	Invertebrates	17
	Invertebrates, including aquatic	2
	Invertebrates/vertebrates	4
	Nectar/pollen	3
	Omnivorous	9
	Seeds	8
	Seeds/corms/tubers	3
	Seeds/fruits	2
	Vertebrates	2
Mammals	Bats	2
	Canids	1
	Cats	1
	Deer	1
	Rodents	1
Amphibians	Frogs	3
Reptiles	Dragons	2
	Geckos	1
	Skinks	7
	Snakes	2
	Turtles	1
Fishes	Non-perciform fishes	2
	Perciform fishes	2

Birds

Fishes and/or aquatic invertebrates

Anhingidae

1. Australasian Darter - *Anhinga novaehollandiae* (Gould, 1847)

Single male perched on a rock in the centre of the creek where it runs along the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/66360722

Ardeidae

2. Great Egret - *Ardea alba* Linnaeus, 1758

I was creekside (~50 m south of the big kink in the creek) taking photos of plants when a large Eastern Great Egret suddenly flew down and landed in the creek. Within a second or two of landing, it speared a Striped Gudgeon and swallowed it whole before flying off again.

Photographic voucher: https://www.inaturalist.org/observations/65196245

3. White-faced Heron - *Egretta novaehollandiae* (Latham, 1790)

Single individual skulking across the edges of Everley Park in the days after the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/71999506

Pelecanidae

4. Australian Pelican - *Pelecanus conspicillatus* Temminck, 1824

Single individual seen in late November 2021, flying southwestwards over the reserve.

Photographic voucher: https://www.inaturalist.org/observations/101742758

Phalacrocoracidae

5. Little Pied Cormorant - *Microcarbo melanoleucos* (Vieillot, 1817)

Single individual perched on the eastern bank of the creek, close to the Wellington Road Bridge.

Photographic voucher: https://www.inaturalist.org/observations/81527192

6. Pied Cormorant - *Phalacrocorax varius* (Gmelin, 1789)

Single individual briefly glimpsed swimming and then flying southwards along the creek, starting from near Wellington Road Bridge. Disappeared before I could get a photo.

Photographic voucher: none, but unmistakeable and a species I've seen and photographed many times elsewhere.

Foliage/herbs

Anatidae

7. Australian Wood Duck - *Chenonetta jubata* (Latham, 1801)

Common, usually seen as pairs. Always along the creek or along the edge of Everley Park at the southern riverine stretch/the eastern bank thereof. Big group of 18 enjoying the flooded park during the heavy rains and flooding in mid to late March 2021. I've seen a few perched in large eucalypts around the carpark immediately below the reserve (https://www.inaturalist.org/observations/84277023), and at the eastern bank of the southern riverine stretch, near the chain-link fence, so they seem to be nesting along the creek. One duckling seen with two adults near the creek crossing in mid-September 2021, and four ducklings (quite large) seen with two adults near the Wellington Road bridge in early October 2021 (https://www.inaturalist.org/observations/97426602). Seen feeding on *Hypochaeris albiflora* and assorted non-native grasses on the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/99054502

8. Pacific Black Duck - *Anas superciliosa* Gmelin, 1789

Occasional. Three or four seen at the big kink in the creek, and a group of 10 enjoying the flooded park during the heavy rains and flooding in mid to late March 2021, with scattered sightings of individuals or pairs elsewhere along the length of the creek. Four adults seen with four ducklings near the Wellington Road bridge in early October 2021.

Photographic voucher: https://www.inaturalist.org/observations/102151711

Rallidae

9. Dusky Moorhen - *Gallinula tenebrosa* Gould, 1846

Very common along the length of the creek. Adults, juveniles and chicks all seen, with family groups including up to 8 or 9 chicks (usually hanging around the creek where it runs along the southern grassy woodland).

Photographic voucher: https://www.inaturalist.org/observations/60799633

Fruits

Cuculidae

10. Channel-billed Cuckoo - *Scythrops novaehollandiae* Latham, 1790

Three adults seen (and heard, very loudly) high in the canopy in the southern bushland in December 2020. One individual heard on 16 November 2021 from somewhere on the western side of the reserve proper, either at the southwestern corner of the northern bushland or the northwestern corner of the central bushland, and one heard along the edge of Everley Park at the southern riverine stretch on 29 November 2021. A young juvenile (https://www.inaturalist.org/observations/103133115) also seen in the northern bushland on 16 December 2021, with Pied Currawong parents. One individual heard calling from the southern bushland on 17 October 2022.

Photographic voucher: https://www.inaturalist.org/observations/66642350

11. Eastern Koel - *Eudynamys orientalis* (Linnaeus, 1766)

Adult males and females seen and heard from late October 2020 through to late January 2021, mostly along the edges of the southern and central bushland. Two juveniles seen, one with a Red Wattlebird host parent, the other with a Pied Currawong. First heard for the 2021/2022 season in the surrounding suburbs on 3 September 2021, but not until 3 October 2021 in the survey area.

Photographic voucher: https://www.inaturalist.org/observations/65618880

Oriolidae

12. Australasian Figbird - *Sphecotheres vieilloti* Vigors & Horsfield, 1827

Heard calling twice: once from somewhere at the edge of the southern bushland where the main path comes from the southern exotic grassland, and once at the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/61845514 (sound recording)

Invertebrates

Acanthizidae

13. White-browed Scrubwren - *Sericornis frontalis* (Vigors & Horsfield, 1827)

Small group of four foraging along the southern riverine stretch (near the third light tower) during the heavy rains and flooding in mid to late March 2021, and then (presumably) the same group sighted again five days later at the same spot.

Photographic voucher: https://www.inaturalist.org/observations/71780039

14. Yellow Thornbill - *Acanthiza nana* Vigors & Horsfield, 1827

Occasional, scattered throughout the southern bushland, always actively foraging high in the canopy.

Photographic voucher: https://www.inaturalist.org/observations/73823722

Campephagidae

15. Black-faced Cuckoo-shrike - *Coracina novaehollandiae* Gmelin, 1789

Occasional, scattered across the reserve proper. Most sightings in the southern and northern bushland, with one at the southwestern corner of the isolated *Melaleuca* patch. I found a large pile of feathers in the northern bushland, close to where the Brown Goshawk roosts, so that Cuckoo-shrike seems to have met an abrupt end.

Photographic voucher: https://www.inaturalist.org/observations/84024222

Coraciidae

16. Dollarbird - *Eurystomus orientalis* (Linnaeus, 1766)

Pair seen on 7 October 2021, flying from the southeastern corner of the isolated *Melaleuca* patch across the southern bushland, calling loudly.

Photographic voucher: none, as I was photographing a plant at the time and had my large camera turned off, but unmistakeable both visually and with respect to their very distinct call (I've also seen and photographed this species many times elsewhere).

Dicruridae

17. Spangled Drongo - *Dicrurus bracteatus* Gould, 1843

Sighted twice (presumably the same individual) in the southern bushland next to the central bridge between mid-June and late July 2021.

Photographic voucher: https://www.inaturalist.org/observations/88905217

Hirundinidae

18. Welcome Swallow - *Hirundo neoxena* (Gould, 1842)

Common along the edge of Everley Park at the southern riverine stretch, zipping across the sporting fields for insects. Occasionally seen flying over the reserve proper. They're also nesting under the Wellington Road bridge.

Photographic voucher: https://www.inaturalist.org/observations/98464098

Maluridae

19. Superb Fairywren - *Malurus cyaneus* (Ellis, 1782)

One of the most common birds throughout the survey area, especially in the reserve proper, where they're present in every 'closed' section (i.e., the non-grassland sections; I've almost never seen them in any of the grasslands). Also along the southern riverine stretch (but less common here). More often heard than seen, with most sightings brief glimpses as they flit between/through patches of dense vegetation.

Photographic voucher: https://www.inaturalist.org/observations/64584492

Monarchidae

20. Magpie-lark - *Grallina cyanoleuca* (Latham, 1801)

Very common along the southern riverine stretch, occasionally in the reserve proper (usually along the creek). Multiple nests spotted along the southern riverine stretch, usually in *Casuarina glauca* overhanging the creek.

Photographic voucher: https://www.inaturalist.org/observations/59856611

Pachycephalidae

21. Australian Golden Whistler - *Pachycephala pectoralis* (Latham, 1801)

Single juvenile seen in the eastern half of the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/73278843

22. Rufous Whistler - *Pachycephala rufiventris* (Latham, 1801)

One juvenile seen in the northwestern section of the southern bushland, close to the western arm of the creek, in mid-July 2021, with two individuals heard calling to each other in roughly the same spot in early November 2021 (I spotted one of them, a juvenile, but I didn't see the second individual).

Photographic voucher: https://www.inaturalist.org/observations/86682040

Pardalotidae

23. Spotted Pardalote - *Pardalotus punctatus* (Shaw & Nodder, 1792)

Occasional in the southern and central bushland starting from winter 2021, with one also heard calling from along the creek abutting the northern bushland. Two or three sightings, but all other encounters have been hearing pairs calling to each other. I found a feather on the northern bank of the western arm of the creek, so perhaps a nesting site.

Photographic voucher: https://www.inaturalist.org/observations/76440151

Petroicidae

24. Eastern Yellow Robin - *Eopsaltria australis* (Shaw, 1790)

Small groups of up to five heard calling throughout the southern bushland from late October to mid-December 2021.

Photographic voucher: https://www.inaturalist.org/observations/102981008

25. Rose Robin - *Petroica rosea* Goudl, 1840

Single female seen in the southeastern corner of the northern bushland in late April 2020.

Photographic voucher: https://www.inaturalist.org/observations/43268890

Rhipiduridae

26. Grey Fantail - *Rhipidura fuliginosa* Gould, 1840

Occasional throughout the southern, central and northern bushland, always very active.

Photographic voucher: https://www.inaturalist.org/observations/79360456

27. Rufous Fantail - *Rhipidura rufifrons* (Latham, 1801)

Single individual seen flitting rapidly from tree to tree, along the southern bank of the western arm of the creek, in early November 2020. Unfortunately it was raining heavily at the time, and I'd put my camera away to avoid getting it wet.

Photographic voucher: none, but unmistakeable and a species I've seen and photographed elsewhere.

28. Willie Wagtail - *Rhipidura leucophrys* Latham, 1801

Very common along the southern riverine stretch, especially around the southern end near the toilet block and creek crossing, occasionally in the reserve proper (mostly at the isolated *Melaleuca* patch, in the northern grassy woodland, or in the southern exotic grassland).

Photographic voucher: https://www.inaturalist.org/observations/65388293

Zosteropidae

29. Silvereye - *Zosterops lateralis* (Latham, 1801)

Uncommon, sightings in the southern bushland and along the creek near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/72424987

Invertebrates, including aquatic

Charadriidae

30. Masked Lapwing - *Vanellus miles* (Boddaert, 1783)

Uncommon. Usually along the edge of Everley Park at the southern riverine stretch, but one pair seen at the northwestern lawn. Sometimes heard calling at night.

Photographic voucher: https://www.inaturalist.org/observations/84942684

Threskiornithidae

31. Australian White Ibis - *Threskiornis molucca* Cuvier, 1829

Very common along the southern riverine stretch, occasionally in the reserve proper (usually along the creek). There were huge numbers, 80-90 individuals, roaming the sporting fields during the heavy rains and flooding in mid to late March 2021. Also several hanging around the sewage overflow along the western periphery of the reserve. Twenty-five to thirty individuals seen foraging in the southern grassy woodland in mid-September 2022 after heavy rain. Nesting also observed along the creek at the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/99853731

Invertebrates/vertebrates

Alcedinidae

32. Laughing Kookaburra - *Dacelo novaeguineae* (Hermann, 1783)

Common throughout the entire survey area, and indeed not uncommon to see/hear 4-5 in one day.

Photographic voucher: https://www.inaturalist.org/observations/71999512

Artamidae

33. Grey Butcherbird - *Cracticus torquatus* (Latham, 1801)

Not uncommon. Most often seen in the far southern bushland (and often getting harassed by Noisy Miners), with sightings also along the southern riverine stretch, in the southern bushland, and in the northern bushland close to the creek. I got swooped several times by one in the far southern bushland on 12 October 2021, so presumably they're nesting there.

Photographic voucher: https://www.inaturalist.org/observations/98464073

Corvidae

34. Australia Raven - *Corvus coronoides* Vigors & Horsfield, 1827

Quite common throughout the survey area, although more often heard than seen. Most common along the western arm of the creek. I found one dead individual in the southern bushland (under a large dead tree) that had been decapitated, torn apart and eaten; possibly the work of a Powerful Owl. I've seen them get chased by quite a number of other birds, including Noisy Miners, Pied Currawongs, and Magpie-larks. I watched one attacking and trying to eat a Blackish Blind Snake (*Anilios nigrescens*) in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/65196272

Podargidae

35. Tawny Frogmouth - *Podargus strigoides* (Latham, 1801)

Seen during both day and night. During the day, I saw a group of three along the southern riverine stretch, near the second light tower, and one individual in the core of the central bushland. During night walks, I've seen five individuals: one in the northern bushland, one on fence along Everlery Park, one along the central split path, one in the southern bushland, and one in the northern grassy woodland (with the latter two both seen on the same night, and both very unfazed by my presence). I've also found skeletal remains in the southern bushland, and feathers in the central bushland near the creek-spanning pipe, the southern bushland near the green mesh track, the southern grassy woodland, and the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/65388307

Nectar/pollen

Psittaculidae

36. Musk Lorikeet - *Glossopsitta concinna* (Shaw, 1791)

I didn't see/hear this species at all until 25 March 2021, which was when many of the eucalypts (such as *Eucalyptus moluccana*) along the southern riverine stretch began to flower. From that point onwards, across autumn and winter 2021, they were quite common along this stretch, however, they largely disappeared again as spring 2021 arrived and many of the eucalypts finished flowering. I've also seen large groups (15-20) in eucalypts in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/87821078

37. Rainbow Lorikeet - *Trichoglossus moluccanus* (Gmelin, 1788)

Abundant throughout the survey area, perhaps the most common bird. During one survey, I watched a few birds land in and drink from a shallow section of the creek near the creek crossing, something I had never seen before. One individual seen using a nest box in the central bushland (https://www.inaturalist.org/observations/102981004).

Photographic voucher: https://www.inaturalist.org/observations/66034703

38. Scaly-breasted Lorikeet - *Trichoglossus chlorolepidotus* (Kuhl, 1820)

Only seen on two occasions; two individuals in mid-June 2021 and a single individual in early October 2020, with both sightings at the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/61375444

Omnivorous

Artamidae

39. Australian Magpie - *Gymnorhina tibicen* (Latham, 1801)

Quite common throughout the survey area, especially along the edges of the reserve proper. Juveniles often seen.

Photographic voucher: https://www.inaturalist.org/observations/98464100

40. Olive-backed Oriole - *Oriolus sagittatus* (Latham, 1801)

At least two individuals (possibly more) heard calling from high in the canopy at the far southern end of the survey area, around the creek crossing. I spent 20 minutes trying to actually spot them, but they were too elusive.

Photographic voucher: https://www.inaturalist.org/observations/94409408 (sound recording)

41. Pied Currawong - *Strepera graculina* (Shaw, 1790)

Very common throughout the survey area, especially in the southern bushland and along the southern riverine stretch. I watched one along the southern riverine stretch eating mulberries (*Morus alba*).

Photographic voucher: https://www.inaturalist.org/observations/62013275

Corcoracidae

42. White-winged Chough - *Corcorax melanorhamphos* (Vieillot, 1817)

Occasional, although their comings and goings seem to be unpredictable. I first spotted them in mid-September 2020 at the open woodland directly above the southern exotic grassland. They were consistently present in the reserve throughout September before disappearing for all of October 2020. This was followed by sightings in early November 2020 and late November/early December 2020, before they disappeared entirely again until early March 2021. After that single early March 2021 sighting, they disappeared for all of autumn and winter 2021, and then started to appear again on and off from late September 2021 onwards. They seem to have claimed all of the reserve as their territory, appearing in the open woodland directly above the southern exotic grassland, the southern bushland, the western split grassland, the central split path, the northern bushland, and the northern grassy woodland and exotic grassland. I've also seen them multiple times in the adjacent golf course and along the creek north of Wellington Road, as well as at the far southern end of the southern riverine stretch on one occasion. Usually as a group of anywhere from 7-11 individuals, including chicks and juveniles (although I saw a single individual in the southern bushland in early October 2021). Very charismatic birds. Daniel Smart saw a few individuals feeding on ants among leaf litter.

Photographic voucher: https://www.inaturalist.org/observations/66034718

Meliphagidae

43. Noisy Miner - *Manorina melanocephala* Latham, 1801

Abundant throughout the survey area, in competition with Rainbow Lorikeets for title of the most common bird. Regularly seen chasing and harassing a wide range of other birds. I spotted a nest with chicks along the southern riverine stretch, at the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/98464067

44. Red Wattlebird - *Anthochaera carunculata* (Shaw, 1790)

Very common throughout the survey area, especially at the far southern end of the southern riverine stretch and around the creek crossing, and along the interface between the southern bushland and the open woodland directly above the southern exotic grassland. More often heard than seen. Seen feeding on *Grevillea robusta* at the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/99853729

45. Yellow-faced Honeyeater - *Caligavis chrysops* (Latham, 1801)

Uncommon. Seen on four occasions, usually as groups of 5-7, with sightings at the southern bushland, the central bushland along the northern bank of the western arm of the creek, near the creeks-spanning pipe, and at the far southern end of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/87821080

Sturnidae

46. *Common Myna - *Acridotheres tristis* (Linnaeus, 1766)

Somewhat common. Usually along the park edges at the southern riverine stretch, especially near the toilet block, or at the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/59294882

47. *Common Starling - *Sturnus vulgaris* Linnaeus, 1758

Occasional. Usually seen near the toilet block at the bottom of Everley Park, on the eastern bank of the southern riverine stretch, or across the sporting fields, with one or two sightings at the northwestern lawn. Often seen as large groups of 20-40 individuals. Juveniles (https://www.inaturalist.org/observations/100666687) seen in early to mid-November 2021.

Photographic voucher: https://www.inaturalist.org/observations/66642357

Seeds

Cacatuidae

48. Galah - *Eolophus roseicapillus* (Vieillot, 1817)

Common, although almost always along the southern riverine stretch or in the carpark immediately below the reserve. Usually feeding on grass seeds along the sporting fields in groups of 2-7. Huge group of 62 individuals in late March 2021 having a feast after the lawns were mown. They also love feeding on *Acacia decurrens* seed pods along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/76440130

49. Yellow-tailed Black-cockatoo - *Calyptorhynchus funereus* (Shaw, 1794)

Group of three individuals initially heard calling, and then seen flying northwards along the creek within the reserve proper.

Photographic voucher: none, as I had turned my camera off to conserve battery, but unmistakeable and a species I've seen and photographed many times elsewhere.

Columbidae

50. Common Bronzewing - *Phaps chalcoptera* (Latham, 1790)

Single individual seen in mid-November 2021. It was initially on the ground at the edge of the southern bushland where the main path comes from the southern exotic grassland. I didn't notice it at first, and accidentally flushed it, with it then flying into the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/101246172

51. Crested Pigeon - *Ocyphaps lophotes* (Temminck, 1822)

Common, usually along the park edges at the southern riverine stretch, or at the northern grassy woodland and exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/86682038

52. *Rock Dove - *Columba livia* Gmelin, 1789

Uncommon, with all my sightings at the northwestern lawn. Also a large pile of feathers in the northwestern corner of the northern bushland; unsure if this was a victim of a cat or the Brown Goshawk.

Photographic voucher: https://www.inaturalist.org/observations/65388317

53. *Spotted Dove - *Streptopelia chinensis* (Scopoli, 1768)

Occasional. Always at the far southern end of the southern riverine stretch, or along the sandstone wall at the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/63622277

Estrildidae

54. Red-browed Finch - *Neochmia temporalis* (Latham, 1801)

Seemingly uncommon, although I suspect I'm underestimating their abundance, given they tend to be quite secretive in the reserve. I've seen small groups in the open woodland directly above the southern exotic grassland, the northern bushland, and the southern bushland near the creek.

Photographic voucher: https://www.inaturalist.org/observations/73823721

Psittaculidae

55. Red-rumped Parrot - *Psephotus haematonotus* (Gould, 1838)

Fairly common, usually small groups of 2-6, and usually with a mix of males and females. Almost always hanging around the carpark immediately below the reserve, occasionally on the grass near the toilet block and along the eastern bank of the southern riverine stretch. One sighting of a pair in the far southern bushland, inspecting a tree hollow.

Photographic voucher: https://www.inaturalist.org/observations/98464062

Seeds/corms/tubers

Cacatuidae

56. Little Corella - *Cacatua sanguinea* Gould, 1843

Five sightings, all of flocks (one numbering 149 individuals) flying over the survey area from the golf course.

Photographic voucher: https://www.inaturalist.org/observations/86682045

57. Long-billed Corella - *Cacatua tenuirostris* Kuhl, 1820

Seen on three occasions; a group of five flying overhead at the far southern end of the southern riverine stretch, a group of four perched in a small grove of *Angophora floribunda* on the eastern bank of the southern riverine stretch, and a group of three flying over Everley Park into the reserve.

Photographic voucher: https://www.inaturalist.org/observations/84277017

58. Sulphur-crested Cockatoo - *Cacatua galerita* (Latham, 1790)

Occasional, usually flying over the reserve (calling raucously) from the golf course.

Photographic voucher: https://www.inaturalist.org/observations/64584478

Seeds/fruits

Psittaculidae

59. Australian King-Parrot - *Alisterus scapularis* (Lichtenstein, 1818)

Single sighting of two individuals roosting near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/62013271

60. Eastern Rosella - *Platycercus eximius* (Shaw, 1792)

Occasional. Most often seen around the carpark immediately below the reserve, but also spotted in the southern exotic grassland, the far southern bushland (inspecting a tree hollow), the southern bushland near the creek, and along the edge of Everley Park at the southern riverine stretch. Often seen hanging around Red-rumped Parrots.

Photographic voucher: https://www.inaturalist.org/observations/66034708

Vertebrates

Accipitridae

61. Brown Goshawk - *Accipiter fasciatus* (Vigors and Horsfield, 1827)

Seen three times in the northern bushland, once roosting in a large eucalypt on the eastern edge of the northwestern path, once deeper into the core of this section of bushland, and once flying southwards overhead. On my walk through the reserve with Peter Ridgeway and Daniel Smart, they noted seeing it circling the southern edge of the reserve when they arrived. It also seems like it visits the southern grassy woodland, as I've heard raptor alarm calls from Noisy Miners there. I've found

multiple large piles of feathers under tall trees in the northern bushland, from Black-faced Cuckoo-shrikes and Rock Doves; presumably the leftovers from goshawk meals.

Photographic voucher: https://www.inaturalist.org/observations/59856633

62. Whistling Kite - *Haliastur sphenurus* (Vieillot, 1818)

Single individual observed circling over the reserve during the heavy rains and flooding in mid to late March 2021.

Photographic voucher: none due to its flight over a densely canopied section of the reserve, but I tracked it through my camera lens (just couldn't get a clean shot), and it's a species I've seen and photographed many times elsewhere and am confident of identifying in flight.

Additional bird data

I also kept eBird lists during each of my bird surveys. I saw an average of 15.5 bird species per survey, however, this average was lowered somewhat by some surveys for which I did not stay long due to inclement weather, or for which I only surveyed the reserve proper, leaving out the southern riverine stretch. The 'true' average is probably therefore ~18. The most bird species I saw in a single survey was 26 (on both 12 October 2021 and 8 December 2021).

Number of bird species seen per survey	Frequency
3	1
4	1
5	2
6	1
7	1
8	4
9	2
10	2
11	5
12	3
13	8
14	8
15	9
16	6
17	8
18	7
19	6
20	4
21	3
22	2
23	2
24	4
26	2

Species	Percentage of surveys observed	Most individuals seen in a survey
Noisy Miner (*Manorina melanocephala*)	95.56	54
Rainbow Lorikeet (*Trichoglossus moluccanus*)	91.11	81
Laughing Kookaburra (*Dacelo novaeguineae*)	90.00	8
Magpie-lark (*Grallina cyanoleuca*)	85.56	15
Willie Wagtail (*Rhipidura leucophrys*)	84.44	8
Superb Fairywren (*Malurus cyaneus*)	83.33	24
Australian Magpie (*Gymnorhina tibicen*)	77.78	12
Australian Raven (*Corvus coronoides*)	74.44	26
Pied Currawong (*Strepera graculina*)	73.33	12
Dusky Moorhen (*Gallinula tenebrosa*)	72.22	10
Red Wattlebird (*Anthochaera carunculata*)	70.00	10
Australian White Ibis (*Threskiornis molucca*)	67.78	88
Crested Pigeon (*Ocyphaps lophotes*)	64.44	11
Red-rumped Parrot (*Psephotus haematonotus*)	56.67	16
Common Myna (*Acridotheres tristis*)	52.22	20
Galah (*Eolophus roseicapilla*)	50.00	53
Welcome Swallow (*Hirundo neoxena*)	32.22	15
Common Starling (*Sturnus vulgaris*)	31.11	45
Grey Butcherbird (*Cracticus torquatus*)	30.00	3
Spotted Pardalote (*Pardalotus punctatus*)	22.22	4
Spotted Dove (*Streptopelia chinensis*)	21.11	3
Australian Wood Duck (*Chenonetta jubata*)	21.11	18
Eastern Rosella (*Platycercus eximius*)	21.11	2
White-winged Chough (*Corcorax melanorhamphos*)	17.78	16
Sulphur-crested Cockatoo (*Cacatua galerita*)	16.67	15
Pacific Koel (*Eudynamys orientalis*)	16.67	3
Musk Lorikeet (*Glossopsitta concinna*)	14.44	25
Black-faced Cuckooshrike (*Coracina novaehollandiae*)	12.22	2
Pacific Black Duck (*Anas superciliosa*)	12.22	10
Masked Lapwing (*Vanellus miles*)	10.00	2
Grey Fantail (*Rhipidura albiscapa*)	8.89	5
Red-browed Finch (*Neochmia temporalis*)	5.56	7
Yellow-faced Honeyeater (*Caligavis chrysops*)	5.56	7
Little Corella (*Cacatua sanguinea*)	5.56	149
Rock Dove (*Columba livia*)	4.44	3
Yellow Thornbill (*Acanthiza nana*)	4.44	5
Eastern Yellow Robin (*Eopsaltria australis*)	4.44	5
Silvereye (*Zosterops lateralis*)	3.33	15
Brown Goshawk (*Accipiter fasciatus*)	3.33	1
Long-billed Corella (*Cacatua tenuirostris*)	3.33	5
Channel-billed Cuckoo (*Scythrops novaehollandiae*)	3.33	3
Scaly-breasted Lorikeet (*Trichoglossus chlorolepidotus*)	2.22	2
Tawny Frogmouth (*Podargus strigoides*)	2.22	3
White-browed Scrubwren (*Sericornis frontalis*)	2.22	4
Spangled Drongo (*Dicrurus bracteatus*)	2.22	1
Australasian Figbird (*Sphecotheres vieilloti*)	2.22	1
Rufous Whistler (*Pachycephala rufiventris*)	2.22	2
Olive-Backed Oriole (*Oriolus sagittatus*)	2.22	2

Australasian Darter (*Anhinga novaehollandiae*)	1.11	1
Australian King-Parrot (*Alisterus scapularis*)	1.11	2
Golden Whistler (*Pachycephala pectoralis*)	1.11	1
Great Egret (*Ardea alba*)	1.11	1
Little Pied Cormorant (*Microcarbo melanoleucos*)	1.11	1
Pied Cormorant (*Phalacrocorax varius*)	1.11	1
Rose Robin (*Petroica rosea*)	1.11	1
Rufous Fantail (*Rhipidura rufifrons*)	1.11	1
Whistling Kite (*Haliastur sphenurus*)	1.11	1
White-faced Heron (*Egretta novaehollandiae*)	1.11	1
Yellow-tailed Black-Cockatoo (*Calyptorhynchus funereus*)	1.11	3
Dollarbird (*Eurystomus orientalis*)	1.11	1
Common Bronzewing (*Phaps chalcoptera*)	1.11	1

Mammals

Bats

Pteropodidae

1. Grey-headed Flying-fox - *Pteropus poliocephalus* Temminck, 1825

Abundant at night-time, mostly during spring and summer. On the occasions when I've visited the survey area at dusk, there's been a stream of thousands of them flying southwards overhead, coming from either the nationally important camp at Parramatta Park or the smaller camp at Clyde. Hundreds of these stop off in the reserve throughout the bushland, feeding on eucalypt flowers and mistletoe fruits in the canopy. I've also found a *Pteropus* skull at the eastern end of the central split path (https://www.inaturalist.org/observations/103134903) that's probably *P. poliocephalus.*

Photographic voucher: https://www.inaturalist.org/observations/69197661

Unidentified to family

2. Chiroptera, unidentified

During a night walk with my sister in early April 2021, we both saw a small microbat rapidly flit across the central split path at ~10:20 PM (passing through our torch beams), making a rapid 'chitchitchit' call. Far too quick for a photo, but clearly identifiable as a small bat. Six bat species (not including Grey-Headed Flying Fox) have been recorded from the general area (Applied Ecology Pty Ltd 2012), so it could have been any of those (or indeed something else yet to be recorded). On several other night walks in October and November 2021, we've heard (presumably) the same species calling, again from around the central split path, but also in the southern bushland.

Photographic voucher: none, but clearly a bat, and clearly not a Grey-headed Flying Fox.

Canids

Canidae

3. *Red Fox - *Vulpes vulpes* Linnaeus, 1758

Seemingly uncommon. I've found a set of remains (skull, vertebrae) in the northern bushland, scat in the central bushland near the central split path, and a fresh footprint along the central split path after rain. The only live encounters I've had were spotting a young/small individual from ~30 m away at the western exotic grassland (but it bolted into the bushland as soon as it saw me), and hearing an individual screaming at night somewhere in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66507321

Cats

Felidae

4. *Domestic Cat - *Felis catus* Linnaeus, 1758

Multiple individuals seen along the edge of Everley Park at the southern riverine stretch, and on the northern edge of the northern bushland, with the latter actively stalking small birds. I've also seen a cat walking across the central split path, and have found some skeletal remains in the northern grassy woodland. At night, there are often at least 5-6 cats roaming freely along Everley Park. At least some of these individuals are pets, being very clean and well-groomed (plus with collars), with their owners allowing them to roam wherever they like, but some are possibly ferals. This is concerning given the reserve has been designated a Wildlife Protection Area under the NSW Companion Animals Act 1998, which prohibits cats from entering at all times.

Photographic voucher: https://www.inaturalist.org/observations/82516267

Deer

Cervidae

5. *Javan Rusa - *Rusa timorensis* (Blainville, 1822)

At least one individual regularly inside the reserve. I've found piles of scat in the southern and central bushland, and along the southern riverine stretch near the big kink in the creek, as well as footprints in the northern bushland. I've only seen/heard the deer itself on perhaps 2-3 occasions; these have been very brief glimpses through the treeline from ~40-50 m away, followed by the deer spooking and bolting after detecting me getting closer. I suspect it probably stays in the adjacent Auburn Golf Course during the day.

Photographic voucher: https://www.inaturalist.org/observations/65391398

Rodents

Muridae

6. **Rattus* sp.

Two large, dark brown/black rats seen at the northwestern corner of the southern exotic grassland, scurrying into the isolated *Melaleuca* patch. I assume they were either *R. rattus* (Black Rat) or *R. norvegicus* (Brown Rat), but the native *R. fuscipes* (Bush Rat) is probably a slim possibility too.

Photographic voucher: none, but clearly recognisable as *Rattus*.

Amphibians

Frogs

Limnodynastidae

1. Striped Marsh Frog - *Limnodynastes peronii* (Duméril & Bibron, 1841)

Appeared en masse in the far southern bushland after it flooded during the heavy rains and flooding in mid to late March 2021, with prolific calling for at least a week. I then found a small individual in late March under a rock in the open woodland directly above the southern exotic grassland, and a huge individual at night-time in the middle of the path at the large, exposed patch of soil near the creek-spanning pipe. Heard calling from the swale in the northern bushland and the swale at the green mesh track throughout late 2021 and much of 2022, after they flooded following heavy rain in early to mid-November 2021.

The far southern bushland flooded again after the heavy rains and flooding in mid-February to early March 2022, and Striped Marsh Frogs could again be heard calling en masse from this area. I also saw large numbers of tadpoles in various swales across the reserve (e.g., the shaded, damp swale in the southern bushland, the swale in the northern bushland, and the swale at the green mesh track) in early April 2022 after the continued rain and flooding. Calling heard from the swale to the immediate right of the main path coming from the southern exotic grassland in late October 2022, and an egg mass (https://www.inaturalist.org/observations/140047238) seen in one of the two parallel swales in the central bushland, also in late October 2022.

Photographic voucher: https://www.inaturalist.org/observations/72430445

Myobatrachidae

2. Common Eastern Froglet - *Crinia signifera* Girard, 1853

Calling from the flooded far southern bushland during the heavy rains and flooding in mid to late March 2021, at the same area as the Striped Marsh Frogs. Also heard calling in the central bushland (along a heavily flooded path) after the heavy rains and flooding in mid-February to early March 2022.

Photographic voucher: https://www.inaturalist.org/observations/107810210 (sound recording)

Pelodryadidae

3. Peron's Tree Frog - *Litoria peronii* (Tschudi, 1838)

Just above the large, exposed patch of soil near the creek-spanning pipe, along the side of the main path, is a large *Eucalyptus punctata* with a small hollow at ~waist height. The hollow is almost always filled with water, and there has consistently been a large Peron's Tree Frog in the hollow every survey I've done. Sometimes you can see a second, smaller individual in there as well, (although I'm unsure if it's actually always there but is sometimes obscured/deeper in the hollow). In spring 2021,

there were a number of occasions where the small individual was present, but I couldn't see the larger one.

Photographic voucher: https://www.inaturalist.org/observations/59431954

Reptiles

Dragons

Agamidae

1. Australian Water Dragon - *Intellagama lesueurii* (Gray, 1831)

Abundant and widespread along the length of the creek, including the western arm of the creek. Interestingly, the population here is very skittish compared to others I've encountered along the NSW coast. At other sites, I'm often able to get quite close to individuals and take photos without them reacting or really acknowledging my presence at all. Here, however, I usually can't get within even 15-20 m of any individuals; as soon as they detect me (even when I'm moving slowly/quietly), they make a mad scramble from the bank and launch themselves into the creek. There was one occasion where I accidentally spooked one, it leaped into the water, swam across the creek, and stayed in the water at the opposite bank; I watched it for five minutes, and it spent that entire time frozen, looking back at me.

I saw one young individual sitting on a large rock at the creek crossing, with a small scat next to it on the rock. The scat had attracted a number of blowflies (*Chrysomya megacephala*, *Calliphora augur*), and every now and then the dragon plucked one out of the air to eat.

Photographic voucher: https://www.inaturalist.org/observations/98464038

2. Eastern Bearded Dragon – *Pogona barbata* (Cuvier, 1829)

One individual seen in September 2020 the southern exotic grassland. When my sister and I first found it, we were convinced it was dead; it didn't move or react in any way when we got close, it didn't seem to be breathing, and it didn't move when we rolled it over with a stick to check for wounds. It was also lying with hind legs splayed back, one front leg bent back awkwardly, and its hind legs and tail seemed a bit desiccated/malnourished. But turns out it was alive still. Ten to fifteen minutes before we found it, someone walked ahead of us on the path with an unleashed German shepherd (as a Wildlife Protection Area under the NSW Companion Animals Act 1998, dogs are prohibited from entering the reserve unleashed); the dog may have either scared the dragon, so it was playing dead, or actually injured it, perhaps an internal/spinal injury given there were zero signs of any physical trauma/wounds/blood. I can't definitively confirm this though, and it may have already been sick/injured.

In an exciting find, I then saw another one (unsure if the same or a second individual) in the western split grassland in late October 2022.

Photographic voucher: https://www.inaturalist.org/observations/60169654

Geckos

Diplodactylidae

3. Eastern Stone Gecko - *Diplodactylus vittatus* Gray, 1832

Single individual seen near the eastern edge of the central bushland, immediately north of the *Eucalyptus punctata* with the Peron's Tree Frogs in it, during a night walk. It was initially resting in the middle of the path, and then moved into the leaf litter.

Photographic voucher: https://www.inaturalist.org/observations/103224101

Skinks

Scincidae

4. Common Blue-tongued Skink - *Tiliqua scincoides* (White, 1790)

Occasional, with sightings along the edge of Everley Park at the southern riverine stretch (at the southern end of park), at the creek crossing, in the carpark immediately below the reserve, in the central bushland near the central split path, in the southern exotic grassland, along the edge of the southern grassy woodland, and at the interface between the western exotic grassland and the southern bushland (underneath a metal sign). All large adults. I also (sadly) found a dead individual in the northern grassy woodland. There were obvious bite marks/puncture wounds along its dorsum, so I assume it was attacked by a cat or fox. I had walked along that path ~15 hours earlier and it wasn't there, so it was very freshly dead. I also watched one individual try to travel from the southern exotic grassland into the southern grassy woodland, but it couldn't get past the section of metal fence abutting the main path cutting through the southern exotic grassland; on multiple occasions it almost got its head stuck in the chain links trying to fit through. After a few minutes it managed to find a spot where the fence had been bent at the base, and got under.

Photographic voucher: https://www.inaturalist.org/observations/71290295

5. Copper-tailed Skink - *Ctenotus taeniolatus* (White, 1790)

Single individual on the periphery of the western exotic grassland and southern bushland, found under a blown-in metal sign. It raced off into the western exotic grassland soon after.

Photographic voucher: https://www.inaturalist.org/observations/74609054

6. Delicate Skink - *Lampropholis delicata* (De Vis, 1888)

Seemingly abundant and widespread throughout the reserve, but it's difficult to assess exactly how common they are given their similarity to *L. guichenoti*, and that most encounters with them are as a split-second glimpse racing through leaf litter. There are often a few inside the tree hollow with the Peron's Tree Frog.

Photographic voucher: https://www.inaturalist.org/observations/60692671

7. Eastern Water Skink - *Eulamprus quoyii* (Duméril & Bibron, 1839)

Not uncommon, and fairly widespread along the length of the creek, including the western arm of the creek. Usually on rocks or logs creekside. Also spotted at the swale in the northern bushland, and three individuals found under a large blown-in metal sign in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/69706166

8. Elegant Snake-eyed Skink - *Cryptoblepharus pulcher* (Sternfeld, 1918)

Fairly common and widespread throughout the reserve, usually on tree trunks. There was a large eucalypt on the edge of the southern exotic grassland that consistently had at least 3-4 individuals on it, basking in the sun, however, it fell down during powerful winds on 23/24 August 2021.

Photographic voucher: https://www.inaturalist.org/observations/60169671

9. Pale-flecked Garden Sunskink - *Lampropholis guichenoti* (Duméril & Bibron, 1839)

As with *L. delicata*, seemingly common and widespread amongst the leaf litter, but difficult to confidently gauge abundance. Also seen inside the tree hollow with the Peron's Tree Frog.

Photographic voucher: https://www.inaturalist.org/observations/59864236

10. Weasel Skink - *Saproscincus mustelinus* (O'Shaughnessy, 1874)

One individual seen in the open woodland directly above the southern exotic grassland, under the same rock (at the same time) as the Striped Marsh Frog I found there, with a second individual seen at the central bridge. I also found a large tail (https://www.inaturalist.org/observations/102154254) along the edge of Everley Park at the southern riverine stretch, near the first light tower. It was very freshly dropped (within the last 30 seconds) after what must have been an encounter with a magpie/currawong/kookaburra/etc., and continued to thrash around for at least five minutes.

Photographic voucher: https://www.inaturalist.org/observations/72430443

Snakes

Elapidae

11. Red-bellied Black Snake - *Pseudechis porphyriacus* (Shaw, 1794)

Fairly common and widespread throughout the survey area. Most of my sightings have been along the southern riverine stretch, usually close to the water, but I've also seen individuals in the middle of the main path cutting through the far southern bushland, along the edge of Everley Park at the southern riverine stretch, in the southern grassy woodland, at the interface between the western exotic grassland, in the southern bushland (including at the weedy swale, and two sightings under the same metal sign), and along the western arm of the creek. I also found a shed skin (https://www.inaturalist.org/observations/61845509) along the northern edge of the western third of the northern bushland. Most encounters have been a brief glimpse followed by the snake racing into dense vegetation (including one occasion where I almost stepped on a snake in tall grass without realising), but on two occasions I was able to get close for photos during cold weather (having said that, the snake in the southern grassy woodland was not impressed with me getting too close, and reared up at me).

Photographic voucher: https://www.inaturalist.org/observations/81527201

Typhlopidae

12. Blackish Blind Snake - *Anilios nigrescens* (Gray, 1845)

I was in the southern bushland, close to the western arm of the creek, when I saw an Australian Raven (with a second individual close by) attacking/pecking something among the leaf litter repeatedly. As I slowly got closer, taking photos, I realised it was a small snake. I then had somewhat of an internal debate as to whether I should 'interfere' in nature. Whether it was the right decision

or not, I ended up shooing the ravens away. Getting close to the snake among the leaf litter, I had a moment where I thought it was actually a huge earthworm, but then realised it was a blind snake (the first one I've ever seen in person). I waited until it slid back beneath the leaf litter before leaving. I have no idea whether the snake ended up surviving; it didn't have any obvious external wounds, despite having been pecked, picked up and grabbed repeatedly, but it may have had internal injuries.

I was also interested in how the ravens found the snake in the first place, given these blind snakes normally spend their time underground feeding on ants and termites. When I first spotted the ravens, there were also two White-winged Choughs walking away from the general area; my best guess is that the choughs were fossicking around and digging through the leaf litter, as they regularly do throughout the reserve, happened to accidentally uncover the snake, and the ravens then spotted it and swooped down opportunistically.

Photographic voucher: https://www.inaturalist.org/observations/98469928

Turtles

Chelidae

13. Eastern Long-necked Turtle – *Chelodina longicollis* (Shaw, 1794)

Two individuals seen; one on the interface between the far southern bushland and southern exotic grassland during late-March (when the former was flooded), and one in the creek a few days later, north of the swale at the green mesh track. The first individual had a damaged shell, with a large chunk out of the front-left, as well as a large crack/deformed area that seemed to have partially healed over (possibly hit by a car?). The second individual had its carapace covered with the epibiont alga *Basicladia ramulosa*.

Photographic voucher: https://www.inaturalist.org/observations/72424989

Fishes

Non-perciform fishes

Anguillidae

1. Longfin Eel - *Anguilla reinhardtii* Steindachner, 1867

Occasional. Have seen five or six thus far at the creek crossing. One individual was ~60-70 cm long, and was on the northern side of the crossing; I watched it swim against the water flow, through one of the crossing's openings, and back to the southern side. All of the others have been hanging around the shaded, relatively deep, slow-flowing section of creek to the immediate south of the creek crossing, including a small (perhaps ~20 cm) juvenile hiding under some rocks, and a huge individual (~1 m) I saw during a night walk. Several individuals also seen at the central bridge, always during night walks, including a huge individual over 1 m long.

Photographic voucher: https://www.inaturalist.org/observations/65388295

Cyprinidae

2. *European Carp - *Cyprinus carpio* Linnaeus, 1758

Somewhat common in the creek, but thus far I've only seen them at the central bridge and in the creek along the southern grassy woodland. Quite a few huge individuals, some of the biggest carp I've seen anywhere. On one occasion I watched two individuals stalk a group of 9-10 baby Dusky Moorhens.

Photographic voucher: https://www.inaturalist.org/observations/102980992

Eleotridae

3. Striped Gudgeon - *Gobiomorphus australis* (Krefft 1864)

Single individual in the creek along the southern riverine stretch, ~50 m south of the big kink in the creek. This was a fortuitous sighting; I was creekside taking photos of plants when a large Eastern Great Egret suddenly flew down and landed in the creek. Within a second or two of landing, it speared something, and I managed to snap a single shot before it swallowed it.

Photographic voucher: https://www.inaturalist.org/observations/65196244

Poeciliidae

4. *Eastern Gambusia - *Gambusia holbrooki* Girard, 1859

Quite common, with a number of schools along the length of the creek, including the western arm of the creek (although close to the central bridge). Always in very shallow, stagnant/slow-flowing sections of the creek, usually quite close to the banks. Often in schools of 50-60+.

Photographic voucher: https://www.inaturalist.org/observations/64714147

Section 7 – Non-arthropod invertebrates

Please refer to the maps in Section 2 for explanations of all place/location names used throughout this section (e.g., 'northern bushland', 'southern exotic grassland', 'large, exposed patch of soil near the creek-spanning pipe').

* indicates species that are non-native to the study area.

I have followed the taxonomy of the Australian Faunal Directory (AFD) for most taxa. I have deviated from the AFD for several taxa, but have provided author names for all species to avoid any confusion.

Major group	Group	Species
Flatworms	Aquatic flatworms	1
	Land planarians	3
Hydrozoans	Hydroids	1
Molluscs	Aquatic snails	5
	Land snails	3
	Slugs	4
Nematodes	Nematodes	1
Segmented worms	Earthworms	4
	Leeches	1

Flatworms

Aquatic flatworms

Unidentified to family

1. Dalytyphloplanida, unidentified

Number of these seen in the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021.

Photographic voucher: https://www.inaturalist.org/observations/100060396

Land planarians

Geoplanidae

2. *Australopacifica scaphoidea* (Steel, 1900)

Similar abundance to *Caenoplana coerulea*, but less widespread; I've only seen them at the patch of fallen *Melaleuca* bark sheets (under the sheets), at the interface between the southern exotic grassland and the open woodland directly above it (underneath large metal and corflute signs that have blown into the reserve), and in mud under chunks of masonry in the western alcove.

Photographic voucher: https://www.inaturalist.org/observations/88908315

3. *Caenoplana coerulea* Moseley, 1877

Not uncommon, and widespread throughout the reserve, although I didn't see a single individual in winter 2021. Most common in the open woodland directly above the southern exotic grassland, and at the patch of fallen *Melaleuca* bark sheets (under the sheets), but also seen in the central bushland, southern bushland, northern bushland, and central split path. Observed during both day and night, and seen predating on millipedes.

Photographic voucher: https://www.inaturalist.org/observations/60177335

4. *Parakontikia ventrolineata* (Dendy, 1892)

Relatively widespread, but a little less common than the other two planarian species. Observed in the open woodland directly above the southern exotic grassland, in the southern bushland, along the western perimeter of the reserve ~65 m north of the stormwater entrance, at the small swale in the northern bushland, and in mud under chunks of masonry in the western alcove.

Photographic voucher: https://www.inaturalist.org/observations/69594619

Flatworms

Hydroids

Hydridae

1. *Hydra* sp.

Single individual found attached to the shell of a live *Physa acuta* in the shaded, damp swale in the swale at the green mesh track, after it filled up from heavy rains and flooding throughout early 2022.

Photographic voucher: https://www.inaturalist.org/observations/114130400

Molluscs

Aquatic snails

Bithyniidae

1. *Gabbia vertiginosa* (Frauenfeld, 1862)

Large numbers seen in the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021. I found several live individuals among the mud, with their apertures sealed off by their opercula, when the swale (temporarily) dried up in early November 2021, so it seems like they're able to persist during dry conditions and wait for rain to return.

Photographic voucher: https://www.inaturalist.org/observations/99867514

Physidae

2. **Physa acuta* Draparnaud, 1805

Common and widespread. There are quite large numbers of live individuals in the ephemeral pool atop the broken concrete pillar underneath the creek-spanning pipe (although they seem to largely disappear from here as soon as the water level starts dropping), as well as several in the creek near the creek crossing. I've found a large number of empty shells in mud along the southern bank of the western arm of the creek. Interestingly, I also found a number of live individuals at the swale to the immediate right of the main path coming from the southern exotic grassland, after an ephemeral pool formed there during the heavy rains and flooding in mid to late March 2021. This pool was 40-50 m away from the nearest section of creek, so I assume that at some point during the rain the flooding extended from the swale all the way to the creek. There were also large numbers of live individuals in the swale at the green mesh track, after it filled up from heavy rains and flooding throughout early 2022.

Photographic voucher: https://www.inaturalist.org/observations/97004926

Planorbidae

3. *Gyraulus scottianus* (Johnston, 1879)

Number seen in the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021. Not as common as *Gabbia vertiginosa* or *Isidorella hainesii*.

Photographic voucher: https://www.inaturalist.org/observations/99867509

4. *Isidorella hainesii* (Tryon, 1866)

Large numbers seen (including both adults and juveniles) in the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021. I also found a single empty shell in the swale in late September 2021, when the water had all dried up.

Note that Ponder et al. (2020) indicate this genus is in need of revision, and thus species concepts may change.

Photographic voucher: https://www.inaturalist.org/observations/99867507

Tateidae

5. *Posticobia brazieri* (Smith, 1882)

I found a single individual along the creek near the metal stairway at the northern end of the reserve on a night walk, during rain in early April 2021. Given this is an aquatic species, it must have been washed onto the bank when the creek flooded. This was actually a fortuitous/incidental find; I was photographing a *Milax gagates*, and it was only when I got home that I realised I had accidentally captured this species in the photo as well.

Photographic voucher: https://www.inaturalist.org/observations/73281380

Land snails

Camaenidae

6. **Bradybaena similaris* (Férussac, 1821)

Single empty shell found along the southern riverine stretch, in line with the double long-jump pit.

Photographic voucher: https://www.inaturalist.org/observations/95836574

7. *Sauroconcha sheai* (S.A.Clark, 2009)

Very common and widespread, and indeed the reserve is an important stronghold for this species, especially after the population at Rookwood Cemetery became locally extinct due to fires and land clearing in the 1980s (M. Shea, personal communication). Thus far I've found 88 live individuals and 101 empty shells (it is important to note here that, whilst all of my sightings of empty shells represent unique individuals, it is very possible that my tally of sightings of live individuals includes individuals that I've seen multiple times across different nights).

Only four live individuals were seen during the day: one in the northern bushland, next to a large bolete (possibly intending to feed on it); one in the core of the central bushland; one in the open woodland directly above the southern exotic grassland, under a fallen *Melaleuca* bark sheet; and, a juvenile in the southern bushland, under a loose piece of bark ~2 m up the trunk of a *Melaleuca nodosa*. All other live individuals were seen during night walks, and usually when either it was drizzling rain, or there had been considerable rain during the day that had not dried up, with relatively few live individuals seen during drier conditions. When searching at night, we (my sister and I) largely stuck to the main paths, so the live individuals we saw likely represent a small percentage of the total population. Individuals were sighted across almost the entire reserve from north to south, although most that we saw were concentrated in the far southern bushland. The most individuals we found in a single survey was 42 between 9:45 PM and 11:09 PM on 18 February 2021, with a mixture of juveniles and adults seen. Adults were often seen with their 'head wart' everted, indicating the production of pheromones and active mate seeking (M. Shea, personal communication).

Similar to live individuals, I've found empty shells across almost the entire reserve, and indeed have found them at spots where I've yet to see live ones (such as the western alcove), reinforcing that the true population here seems to be relatively large. At least some of the empty shells were likely victims of the blowfly *Amenia* sp., which parasitises land snails and is also quite common throughout the reserve.

A number of sources list this species as *Meridolum sheai*, however, Köhler and Bouchet (2020) indicate that *Meridolum* is not a currently available name.

Previous records of the endangered *Sauroconcha corneovirens* (Cumberland Plain Land Snail) from Wategora Reserve are misidentifications of *S. sheai*, with the two species very similar morphologically.

Photographic voucher: https://www.inaturalist.org/observations/69790099

Helicidae

8. **Cornu aspersum* (Müller, 1774)

Fairly common on the sandstone wall at the northwestern corner of the reserve. I also found a single, young individual on a *Chlorophytum comosum* on the northern bank of the western arm of the creek, and an adult on the eastern bank of the southern riverine stretch, near the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/63629456

Slugs

Agriolimacidae

9. **Deroceras* sp.

Uncommon; one seen along the creek bank near the creek crossing, and a few individuals in the open woodland directly above the southern exotic grassland, underneath a blown-in metal sign (including two individuals mating).

Photographic voucher: https://www.inaturalist.org/observations/76505940

Limacidae

10. **Ambigolimax* sp.

Almost all sightings in the open woodland directly above the southern exotic grassland, and at the patch of fallen *Melaleuca* bark sheets, with a few individuals seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during night walks. Fairly common, can be reliably found by lifting up fallen bark sheets. Either *A. nyctelius* or *A. valentianus*, but need dissection or DNA to differentiate.

Photographic voucher: https://www.inaturalist.org/observations/103224104

11. **Limacus flavus* (Linnaeus, 1758)

I found a single, drowned/discoloured individual on the flooded concrete platform at the stormwater entrance above the creek crossing; it must have been washed into the pipes after the rain in early April 2021.

Photographic voucher: https://www.inaturalist.org/observations/73285436

Milacidae

12. **Milax gagates* (Draparnaud, 1801)

Not uncommon; seen at the patch of fallen *Melaleuca* bark sheets (under the sheets), in the southern exotic grassland, in the open woodland directly above the southern exotic grassland, in the northern grassy woodland, and along the creek near the metal stairway at the northern end of the reserve. Seen during both day and night.

Photographic voucher: https://www.inaturalist.org/observations/98600475

Nematodes

Nematodes

Neotylenchidae

1. *Fergusobia* sp.

Large, globular galls, mostly at leaf bases, observed on a young *Angophora floribunda* along the southern riverine stretch, near the second light tower. Based on the information and images in Davies et al. (2014), I'm fairly confident these are caused by an association between a nematode (*Fergusobia* sp.) and a fly (*Fergusonina* sp.).

Photographic voucher: https://www.inaturalist.org/observations/78819009

Segmented worms

Earthworms

Unidentified to family

1. Oligochaeta, unidentified sp.1

Before I start any of these earthworm entries, I will emphasise that I have very little knowledge of earthworms, and that from what I can gather from reading online, identification is quite difficult in most cases without a physical specimen. I therefore suspect that I am underestimating the earthworm diversity present throughout the survey area, and am probably lumping multiple entities together for several of my species.

This entity is quite a large species, and seems to be one of the more common/widespread ones throughout the reserve. Most sightings have been in the mud at the western alcove, and at the patch of fallen *Melaleuca* bark sheets, under sheets, but I've also seen one on the eastern bank of the creek near the large *Canna indica* patch at the southern end of the reserve. Distinct medial, reddish structure running the length of each individual. I've seen a number of individuals in the western alcove that are somewhat similar, but are very skinny/small, so I'm unsure if they're juveniles or a different species.

Photographic voucher: https://www.inaturalist.org/observations/66176448

2. Oligochaeta, unidentified sp.2

A medium-sized species that I've only seen at the far southern end of the survey area. Both of my sightings have been of underwater individuals: one in the water on the flooded concrete platform at the stormwater entrance above the creek crossing, and one in the creek itself just above the creek crossing. Both individuals were moving around freely, and did not seem 'distressed' or to be trying to actively leave the water (i.e., they didn't seem to be drowning), however, both sightings were after heavy rain, so I'm unsure whether this is an aquatic species, or a terrestrial species that had been washed into the water.

Photographic voucher: https://www.inaturalist.org/observations/73285437

3. Oligochaeta, unidentified sp.3

This is definitely an aquatic species. There are hundreds of individuals, all anchored in the sediment/scum and waving their heads around (suspension feeding?) in the water on the flooded concrete platform at the stormwater entrance above the creek crossing. Quite small and thin. I've also seen what is either the same species, or something very similar, in the ephemeral pool atop the broken concrete pillar underneath the creek-spanning pipe (https://www.inaturalist.org/observations/97004924). See https://www.youtube.com/watch?v=bN3OpJvAhm4 for a video of the individuals at the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/72760323

4. Oligochaeta, unidentified sp.4

I'm not 100% certain, but this seems to be a different species to 'Oligochaeta, unidentified sp.1'. I've seen a few of these, all at the patch of fallen *Melaleuca* bark sheets, under sheets. Very pale body, and distinct orange clitellum.

In addition to these four earthworm species, I also saw hundreds of drowned individuals in standing water along the path through the open woodland directly above the southern exotic grassland (https://www.inaturalist.org/observations/140043164), after it flooded from heavy rain in late October 2022. It was difficult to tell if they matched any of the four listed earthworm species.

Photographic voucher: https://www.inaturalist.org/observations/87824989

Leeches

Erpobdellidae

5. Erpobdellidae, unidentified

After rain in early April 2021, the creek swelled, and formed a number of ephemeral pools in depressions along its banks. I spotted this predatory leech in one of these pools near the flooded concrete platform at the stormwater entrance above the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/73285438

Note on additional species

On 3 April 2021, I found a large, eroded/discoloured oyster shell (probably *Magallana gigas*; https://www.inaturalist.org/observations/72760329) in the creek adjacent to the creek crossing. Ten days later, I found a similarly old, eroded, discoloured *Cabestana spengleri* shell (https://www.inaturalist.org/observations/73826170) on the creek bank, ~50 m further north. *Magallana gigas* is an estuarine species, and *C. spengleri* is a marine species, yet the creek is entirely freshwater where I found both shells. After some enquiries, I was told that this section of the creek used to be the site of an Aboriginal midden. Thus, given neither of these species naturally occur within my survey area, I have not included them in my species list.

Section 8 – Arthropods

Please refer to the maps in Section 2 for explanations of all place/location names used throughout this section (e.g., 'northern bushland', 'southern exotic grassland', 'large, exposed patch of soil near the creek-spanning pipe').

* indicates species that are non-native to the study area. Note that I only annotated species as non-native if I was sure about their establishment means, and thus there are likely at least a few species in this appendix that are non-native but have not been annotated as such (especially those taxa which I was unable to identify to species).

I have followed the taxonomy of the Australian Faunal Directory (AFD) for most taxa. I have deviated from the AFD for several taxa, but have provided author names for all species to avoid any confusion.

Throughout this appendix, I refer to many of the listed arthropod species as interacting with plant species in some way (e.g., pollinating). If I say a species was seen on '**a** *Genus species*', I observed that arthropod species on a single individual of that plant species. If I say a species was seen on '*Genus species*', I observed that arthropod species on a number of individuals of that plant species.

Major group	Group	Species
Arachnids	Harvestmen	1
	Mites	13
	Pseudoscorpions	1
	Scorpions	1
	Spiders	111
Crustaceans	Amphipods	2
	Copepods	1
	Ostracods	2
	Water fleas	1
	Woodlice and pillbugs	3
Myriapods	Centipedes	6
	Millipedes	7
	Pseudocentipedes	1
Entognathans	Diplurans	1
	Springtails	11
Insects	Ants	36
	Bark and book lice	4
	Bees	21
	Beetles	166
	Butterflies	25
	Caddisflies	3
	Cicadas	11
	Cockroaches	17
	Damselflies	8
	Dragonflies	9
	Earwigs	1
	Flies	168
	Grasshoppers, katydids, crickets and allies	32

	Hoppers, aphids, scale insects and allies	69
	Lacewings, antlions and allies	8
	Mantises	4
	Mayflies	2
	Moths	198
	Sawflies	3
	Silverfishes	2
	Stick insects	2
	Termites	4
	Thrips	7
	True bugs	61
	Wasps	67
	Unsure of placement	12

Arachnids

Harvestmen

Assamiidae

1. *Dampetrus* sp.

I've seen this species three times (although I'm unsure if these were all of the same individual), with all these sightings underneath a blown-in metal sign at the interface between the western exotic grassland and the southern bushland. The first individual I saw played dead after I disturbed it. Almost certainly an undescribed species.

Photographic voucher: https://www.inaturalist.org/observations/74609057

Mites

Eriophyidae

2. **Cecidophyes rouhollahi* Craemer 1999

Prolific leaf galls observed on *Galium aparine* along the creek and in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/192187861

Erythracaridae

3. Erythracaridae, unidentified

Single individual on a fallen bark sheet at the eastern bank of the southern riverine stretch. Beautiful colouration, very hirsute.

Photographic voucher: https://www.inaturalist.org/observations/70492073

Erythraeidae

4. Callidosomatinae, unidentified

Occasional, with sightings in the southern bushland, the northwestern corner of the central bushland, and the large swale leading from the stormwater entrance. All of my sightings have been on eucalypt trunks, with most of them on *Eucalyptus fibrosa*.

Photographic voucher: https://www.inaturalist.org/observations/69708033

5. Erythraeidae, unidentified sp.1

Eight or nine individuals attached to a *Calolampra* (cockroach) nymph (the nymph having been paralysed by a wasp, *Tachysphex* sp.). Seen near the bench seat on the edge of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66367207

6. Erythraeidae, unidentified sp.2

Three individuals attached to the femora of a meat ant (*Iridomyrmex purpureus*). Seen in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66507315

7. Erythraeidae, unidentified sp.3

Two individuals attached to the abdomen of a moth (*Idaea philocosma*). Seen along the edge of the shaded, damp swale in the southern bushland, at night. I've also seen three very similar erythraeid mites on the dorsum of another moth species, *Aeolochroma metarhodata* (https://www.inaturalist.org/observations/103225375), at the same spot and also at night; I'm unsure if these are the same species.

Photographic voucher: https://www.inaturalist.org/observations/100314950

8. *Rainbowia* sp.

One large individual seen on a *Gamochaeta calviceps* in the northern grassy woodland. I've also found numerous other *Rainbowia* (or at least what seem to be this genus), including on a large eucalypt trunk in the southern bushland during a night walk (https://www.inaturalist.org/observations/97137728), and on the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, also during night walks (https://www.inaturalist.org/observations/98600483, https://www.inaturalist.org/observations/100670992), but I'm unsure if these are different species.

Photographic voucher: https://www.inaturalist.org/observations/60691652

Eupodidae

9. Eupodidae, unidentified

Single tiny individual on the sporophyte of a Pottiaceae moss at the edge of the open woodland directly above the southern exotic grassland, alongside the main path leading from the southern exotic grassland into the southern bushland. An incidental find; I was photographing the moss and only noticed the mite in the shot at home.

Photographic voucher: https://www.inaturalist.org/observations/60173030

Trombidiidae

10. Allothrombiinae, unidentified

Quite common and widespread throughout the survey area, present in most sections. Always actively scurrying around amongst leaf litter, mosses, or on tree trunks. I assume my many sightings of this subfamily actually represent multiple species, but I would need to collect specimens to even have a chance of differentiating these putative different species, so have lumped them all here.

Photographic voucher: https://www.inaturalist.org/observations/71289234

Tydeidae

11. Tydeidae, unidentified

Single tiny individual on a *Denhamia silvestris* leaf on the southern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/85738308

Unidentifiable to family

12. Acariformes, unidentified sp.1

Single tiny individual on the underside of a *Cheilanthes sieberi* subsp. *sieberi* frond in the southern bushland. An incidental find; I was photographing the fern and only noticed the mite in the shot at home.

Photographic voucher: https://www.inaturalist.org/observations/58814533

13. Astigmata, unindentified

Ten to fifteen individuals (deutonymph stage) attached to the dorsum, near the eyes, of an Eastern Mouse Spider (*Missulena bradleyi*) in the northern bushland. Possibly Acaridae.

Photographic voucher: https://www.inaturalist.org/observations/73284425

14. Trombidioidea, unidentified

Three individuals, two of them quite large relative to their host (almost as big as the host's head), attached to a chloropid fly ('Oscinellinae unidentified sp.1') in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66507304

Pseudoscorpions

Tridenchthoniidae

15. Tridenchthoniinae, unidentified

Seen underneath a blown-in metal sign at the interface between the southern exotic grassland and the open woodland directly above it. An incidental find; I was photographing an *Artioposthia scaphoidea*, and only noticed the pseudoscorpion in the shot at home.

Photographic voucher: https://www.inaturalist.org/observations/76505934

Scorpions

Buthidae

16. *Lychas marmoreus* (C.L. Koch, 1845)

Two individuals seen: one at the patch of fallen *Melaleuca* bark sheets, under a sheet, and one on a *Melaleuca decora* trunk in the southern bushland, seen during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/69790107

Spiders

Actinopodidae

17. *Missulena bradleyi* Rainbow, 1914

Single large male wandering through the northern bushland at night, during/after rain in early April 2021. Apart from one early defensive display, it was quite timid/placid and didn't react to gentle pokes to keep it on the path where I could take photographs. A number of mites were attached to its dorsum, near the eyes.

Photographic voucher: https://www.inaturalist.org/observations/73284421

Araneidae

18. *Araneus circulissparsus* (Keyserling, 1887)

Two individuals along the edge of Everley Park at the southern riverine stretch; one adult, and one very small juvenile, the latter near the third light tower. A number of individuals (at least 4-5) also seen on a young eucalypt in the far southern bushland, during a night walk, and one individual seen on a *Kunzea ambigua* in the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/140955347

19. *Araneus dimidiatus* (L. Koch, 1871)

Not uncommon in the southern bushland and along the central split path, although I've only seen them during night walks.

Photographic voucher: https://www.inaturalist.org/observations/97137740

20. *Araneus* sp.

Single individual seen in the southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/99417630

21. *Argiope keyserlingi* Karsch, 1878

Common and widespread throughout the survey area, and present in almost all sections. Males, females, juveniles and egg sacs all observed. One interesting sighting was a large female along the southern riverine stretch with all four of its right legs missing (https://www.inaturalist.org/observations/65204224). I've also seen a few individuals in the southern exotic grassland with particularly large prey items in their webs, including the grasshopper *Acrida conica* and the cicada *Aleeta curvicosta*.

Photographic voucher: https://www.inaturalist.org/observations/64718539

22. *Deliochus* sp.

Single individual on a *Bursaria spinosa* in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/69708031

23. *Dolophones* sp.

One large, spectacular adult on a dead section of a eucalypt leaf in the far southern bushland, and a juvenile (presumably the same species) at the swale to the immediate right of the main path coming from the southern exotic grassland. I've also seen another young individual along the northern edge of the western third of the northern bushland, and one near the huge sea of weeds along the creek in line with the central split path (https://www.inaturalist.org/observations/102983736), preying on an *Apolinus lividigaster*; the latter had a prominent dorsal protuberance, so I'm unsure if this was a different species.

Photographic voucher: https://www.inaturalist.org/observations/72429981

24. *Eriophora pustulosa* (Walckenaer, 1842)

Not uncommon, although all sightings during night walks. Seen near the swale in the northern bushland, in the southern bushland near the central bridge, and on the metal fence surrounding the empty lot. Males and females seen.

Note that at some point this species will be moved to a new genus (currently annotated as 'NGEN05' in Scharff et al. (2020)).

Photographic voucher: https://www.inaturalist.org/observations/100925521

25. *Hortophora transmarina* (Keyserling, 1865)

NOTE: When I wrote the following section of text, *Eriophora* had not yet been revised. However, on 2 November 2021, the new genus *Hortophora* was erected (Framenau et al. 2021). *Eriophora transmarina* and *Eriophora biapicata*, which I refer to below, were transferred to this new genus. I have kept this text because I think it is still useful, but have also included an updated passage below it.

OLD TEXT:

This is a tricky one. Whyte and Anderson (2017) note that "*Eriophora* is not a correct genus for Australian araneids and future revisions will rename them", and that "[*Eriophora*] are rather hard to identify, because many similar Orb-weavers, described and undescribed, share similar shapes, patterns and colours." Further Scharff et al. (2020) indicate that *Eriophora* is polyphyletic, and that new genera are likely to be erected to accommodate species currently contained within *Eriophora*. Finally, on Ron Atkinson's webpage, he notes:

"The descriptions given by Davies for these species [*E. biapicata* and *E. transmarina*] are now very difficult to access but it is generally agreed that the males and females of both *E. biapicata* and *E. transmarina* are so similar in appearance (both varying greatly in surface markings from specimen to specimen) that the two species can only be distinguished by a careful comparison of their genitalia. Indeed, there is some justification for suggesting they are not separate species but are actually part of what should be referred to as the '*Eriophora transmarina* complex'."

Thus, it is clear that identifying Australian *Eriophora* is difficult, and that species concepts are not entirely clear. Having said that, there is, at the very least, one additional (on top of *E. pustolosa*, a distinct/easily identified species) species of *Eriophora* present in the reserve. This species (assuming for now all sightings are of one species) is quite common and widespread throughout the reserve, and is present in most sections. During the day, most sightings are of individuals hiding/resting on plants, often between/under leaves. During night surveys, however, I've seen many females in enormous webs spanning entire path widths, with some of these reaching several metres across. Indeed, some of the females in the reserve are enormous. I've also observed a number of different 'morphs', including spotted, striped and plain individuals. Comparing the main photo at http://www.findaspider.org.au/find/spiders/125.htm with an individual I observed at https://www.inaturalist.org/observations/60696735, the two are an almost perfect match, and it is therefore tempting to list both *E. biapicata* and *E. transmarina* for the survey area. However, as indicated in the text above, it is very possible that all of my sightings represent just one species. Alternatively, there could be two, or perhaps even more, species present in the reserve that are currently lumped under *E. biapicata* and *E. transmarina*. Thus, I think the best approach for my checklist is to treat them all as one 'species', *Eriophora* sp., until more work is done on this genus.

UPDATED TEXT:

Framenau et al. (2021) included a comprehensive key (for both males and females), so starting from early November 2021 I began photographing *Hortophora* again (after having stopped due to the aforementioned difficulties with identification). Unfortunately, most of the individuals that I found were sub-adult females, which don't seem to be identifiable. However, I did manage to find one male, which keys to *H. transmarina*. Thus, it is clear that, at the very least, *H. transmarina* does occur in the reserve. What is still unclear is whether all individuals in the reserve are *H. transmarina*, or whether *H. biapicata* is also present (or indeed if there are other *Hortophora* species too). It seems like none of the photos I took before Framenau et al. (2021) was published are useful for identifications, but here they are for reference: https://www.inaturalist.org/observations?captive=any&place_id=any&project_id=85664&taxon_id=1308421&verifiable=any&without_taxon_id=389177

Photographic voucher: https://www.inaturalist.org/observations/100671008

26. *Phonognatha graeffei* (Keyserling, 1865)

Abundant and widespread throughout the survey area, and present in almost all sections. Usually in webs strung between vegetation at knee to hip height. Often seen out of their leaves during night walks.

Photographic voucher: https://www.inaturalist.org/observations/69231002

27. *Plebs bradleyi* (Keyserling, 1887)

Fairly common along the western arm of the creek, with one individual also seen along the creek near the metal stairway at the northern end of the reserve, and a couple at the two parallel swales in the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/98469929

28. *Plebs eburnus* (Keyserling, 1886)

Very abundant and widespread throughout the entire survey area. Always in webs strung between vegetation, stretching all the way from ground level to above head height. On any given survey I'll

end up inadvertently walking into at least 20-30 webs, some of which I invariably walk face first into while concentrating on looking for plants.

I also observed an individual in a web strung between two *Exocarpos cupressiformis* in the southern bushland (https://www.inaturalist.org/observations/58815993), and what I suspect was another in the central bushland among dry leaf litter, that may possibly be an undescribed *Plebs* or something similar, but I'm unsure.

Photographic voucher: https://www.inaturalist.org/observations/59864233

29. *Poecilopachys australasia* (Griffith & Pidgeon, 1833)

Single individual seen on the underside of a *Myrsine variabilis* leaf in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/140481319

30. *Poltys* sp.

Single individual in the southern bushland on an *Ozothamnus diosmifolius*. It was initially huddled up on the plant, but as I approached for a photo it seemed to notice me, unfurled, and began posturing and waving its front legs about.

Photographic voucher: https://www.inaturalist.org/observations/60174880

31. *Salsa* sp.

Somewhat common, with sightings in the southern bushland (especially along path edges), the western split grassland, and along the edge of Everley Park at the southern riverine stretch between the first and second light towers. Most commonly seen during night walks. Either *S. fuliginata* or *S. brisbanae*.

Photographic voucher: https://www.inaturalist.org/observations/59127539

32. *Trichonephila edulis* (Labillardière, 1799)

One large female in the southern grassy woodland, with a couple of males in her web.

Photographic voucher: https://www.inaturalist.org/observations/74607895

33. *Trichonephila plumipes* (Latreille, 1804)

One large female in a very large web (spanning the entire path) in the central bushland. Male also present.

Photographic voucher: https://www.inaturalist.org/observations/110462140

Arkyidae

34. *Arkys lancearius* Walckenaer, 1837

One adult at the swale at the green mesh track. I've also seen a very small juvenile *Arkys* (https://www.inaturalist.org/observations/60174871) being predated on by an *Opisthoncus* at the edge of the southern bushland where the main path comes from the southern exotic grassland, which is probably the same species.

Photographic voucher: https://www.inaturalist.org/observations/148303397

Cheiracanthiidae

35. *Cheiracanthium gracile* L. Koch, 1873

I was in the northern bushland when I noticed something walking along the underside of my broad brim hat in my peripheral vision; turned out to be a large male *C. gracile* hitching a ride. I think I may have also seen a large female in the weedy swale in the southern bushland, inside a leaf protecting an egg sac (https://www.inaturalist.org/observations/63628807), but didn't see enough of her to be sure.

Photographic voucher: https://www.inaturalist.org/observations/60177339

36. *Cheiracanthium* sp.

What I assume were a male and female, seen on a bipinnate *Acacia* during a night walk, along the edge of Everley Park at the southern riverine stretch between the second and third light towers. Possibly *C. mordax,* but I'm unsure.

Photographic voucher: https://www.inaturalist.org/observations/73937827

Clubionidae

37. *Clubiona cycladata* Simon, 1909

One individual seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk, and one seen on a *Melaleuca decora* on the eastern bank of the southern riverine stretch, at the big kink in the creek (with this one having seemingly died shortly after moulting).

Photographic voucher: https://www.inaturalist.org/observations/99417649

38. *Clubiona* sp.

One individual seen on a large eucalypt trunk in the southern bushland, during a night walk, with another in a curled leaf with an egg sac in the southern grassy woodland.

I've also seen several small green *Clubiona* (https://www.inaturalist.org/observations/99273305) in the southern bushland and northern grassy woodland during night walks, however, I suspect these may be juveniles of one of the two species I've listed above.

Photographic voucher: https://www.inaturalist.org/observations/99273307

Corinnidae

39. *Battalus adamparsonsi* Raven, 2015

Somewhat common, and quite widespread, with sightings in the carpark immediately below the reserve, the southern bushland, the northern bushland, and on the eastern bank of the southern riverine stretch, at the big kink in the creek. Almost always seen on large eucalypt trunks, and usually seen during night walks.

Photographic voucher: https://www.inaturalist.org/observations/99417641

40. *Leichhardteus conopalpis* Baehr & Raven, 2013

One large individual seen during a night walk, roaming across an exposed clay path in the northern bushland. I'm quite confident of this ID based on both other images of this species, and biogeography. In Raven (2015), *L. conopalpis* is the only species in the genus listed as found in/near

the study area; all other *Leichhardteus* species have ranges nowhere near Sydney, and many seem to be fairly narrow-range endemics in e.g., Queensland rainforest. There are also three Australian Museum records of this species in the ALA, all within 10 km of mine.

Photographic voucher: https://www.inaturalist.org/observations/69231021

41. *Nyssus coloripes* Walckenaer, 1805

Seen on the metal fence/barrier at the southern entrance to the reserve, on a eucalypt at the northern perimeter of the reserve, in the northern grassy woodland, and on the bench seat on the edge of the northern bushland. Very speedy as usual.

Photographic voucher: https://www.inaturalist.org/observations/43272694

Deinopidae

42. *Deinopis subrufa* L. Koch, 1878

Two large females observed, one in the open woodland directly above the southern exotic grassland, and one in the northern bushland, with one male seen in the weedy swale in the southern bushland. The northern bushland female was a cool encounter; I found her during a night walk, and watched her hunt. Also one moult found on the northern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/71060475

Desidae

43. *Badumna insignis* (L. Koch, 1872)

Common. Often seen in the southern bushland on *Eucalyptus fibrosa* trunks along the edge of the main path, with some on the large, chunky-barked eucalypts along the edge of the carpark immediately below the reserve. Large numbers also on the metal fence surrounding the empty lot. Almost never active during the day, but often visible inside their webs and on the fence during night walks. I've also seen one individual in a web on the underside of the Wellington Road bridge, several on a *Eucalyptus fibrosa* in the northern bushland, one on the large *Corymbia citriodora* at the far southern end of the survey area, and a couple on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/69231007

44. *Badumna loginqua* (L. Koch, 1867)

Not uncommon, with individuals seen at the western alcove (along the concrete wall), in the southern bushland, at the far southern end of the survey area (both around the eaves of the toilet block and on the large *Corymbia citriodora*), in the carpark immediately below the reserve, and on the underside of the Wellington Road bridge, with most individuals at the latter.

Photographic voucher: https://www.inaturalist.org/observations/69790103

45. Desidae, unidentified

One small individual seen among leaf litter in the northern bushland, with another spotted floating down the western arm of the creek, near the stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/64030555

Filistatidae

46. *Wandella* sp.

Occasional, with sightings in the carpark immediately below the reserve, and at the interface between the northern bushland and northern grassy woodland. All individuals seen on large eucalypt trunks and during night walks.

Photographic voucher: https://www.inaturalist.org/observations/98974621

Gnaphosidae

47. *Eilica* sp.

Seen twice, both times in the southern bushland; once among dry leaf litter, and once (during a night walk) on a dead eucalypt trunk. Very obvious ant mimic, probably mimicking *Polyrhachis* and/or *Camponotus* and/or *Dolichoderus*: distinct golden-tipped abdomen, and (the eucalypt individual) very jerky and ant-like movements when walking. The leaf litter individual was one of the fastest spiders I've ever encountered, almost impossible to photograph.

Photographic voucher: https://www.inaturalist.org/observations/73284437

48. Gnaphosidae, unidentified

Single individual seen on the main path cutting through the southern exotic grassland, during a night walk. Seen walking among *Camponotus consobrinus* ants.

Photographic voucher: https://www.inaturalist.org/observations/98600462

Hahniidae

49. *Scotospilus ampullaria* (Hickman, 1948)

Tiny individual in the southern bushland, underneath a loose piece of bark on a *Melaleuca nodosa* trunk.

Photographic voucher: https://www.inaturalist.org/observations/79914617

50. *Scotospilus* sp.

Single individual seen on a large eucalypt trunk at the northern edge of the northern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/114130436

Hersiliidae

51. *Tamopsis* sp.

Not uncommon, almost always on large *Melaleuca* or eucalypt trunks, with sightings at the northwestern corner of the central bushland, at the southwestern corner of the northern bushland, along the northern bank of the western arm of the creek, at the edge of the southern bushland where the main path comes from the southern exotic grassland, on the metal fence surrounding the empty lot, and along the central split path during a night walk. Both males and females seen. Possibly *T. fickerti*.

Photographic voucher: https://www.inaturalist.org/observations/92215145

Idiopidae

52. *Arbanitis* sp.

One very feisty male at the patch of fallen *Melaleuca* bark sheets, under a sheet. I couldn't see any obvious web or burrow, and it was gone the next time I checked the sheets, so I suspect it was on the move. Total length excluding legs was ~11-12 mm, total width including legs was ~34-35 mm. Very defensive/quick to react; a gentle tap on the leg immediately resulted in rearing up, raising pedipalps and exposing fangs.

Photographic voucher: https://www.inaturalist.org/observations/70029793

Lamponidae

53. *Lampona* sp.

One individual seen on a large *Eucalyptus fibrosa* trunk (possibly hunting the *Badumna insignis* on the tree) in the southern bushland, during a night walk. Probably *L. cylindrata* or *L. murina*. I've seen a small lamponid (https://www.inaturalist.org/observations/98974533; also during a night walk) along the edge of Everley Park at the southern riverine stretch, on the first light tower, but I'm unsure if it's a second species or a juvenile of this species. I then saw a second adult (https://www.inaturalist.org/observations/103223475; next to the tree with the Peron's Tree Frogs, during a night walk) that was much fatter/less elongate than the first, but I have no clue if these represent two different species, male/female, etc.

Photographic voucher: https://www.inaturalist.org/observations/97137725

Linyphiidae

54. Erigoninae, unidentified

One tiny individual on a *Lactuca serriola* at the far southern end of the survey area.

Photographic voucher: https://www.inaturalist.org/observations/59112976

Lycosidae

55. *Artoria* sp.

Occasional, almost always seen scuttling across/through beds of the moss *Campylopus introflexus*, usually in the open woodland directly above the southern exotic grassland, or along the edge of the northwestern path through the northern bushland. One individual seen among stick litter in the grassland at the far southern end of the reserve, and one on the clay path in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/58814528

56. *Venator spenceri* Hogg, 1900

Common and widespread throughout the reserve proper, with sightings in the far southern bushland, southern bushland, northern bushland, and along the central split path. Most sightings are during night walks, and most of the individuals I see seem to be males based on the measurements given in Framenau (2015). Having said that, I have also seen a few very large, and very strikingly coloured females. It is possible that some of the individuals I've been identifying as *Venator spenceri* are actually a *Venatrix* sp. (https://www.inaturalist.org/observations/69789419, https://www.inaturalist.org/observations/63628809), but I'm not 100% sure.

Photographic voucher: https://www.inaturalist.org/observations/71060471

57. *Portacosa cinerea* Framenau, 2017

Very common and widespread throughout the reserve proper, with sightings in the open woodland directly above the southern exotic grassland, western exotic grassland, southern bushland, central bushland, northern bushland, central split path, and around the central bridge, but almost entirely restricted to exposed, hard-packed clay soil (a preference also noted by Framenau (2017)), especially along the main paths through the sections listed above.

During the day, most sightings are of their distinct burrows: a large, roughly circular opening in the ground, with a distinct trapdoor (which is uncommon for wolf spiders). If you wait beside a burrow for long enough, you can often see its inhabitant slowly edge towards the surface (e.g. https://www.inaturalist.org/observations/58808790), although they're usually easily spooked and will retreat deep back inside. My sister and I had one amusing encounter during a night walk. We were shining a torch into a burrow, when the occupant climbed its way to the surface, gave us an indignant look (I promise), and pulled its trapdoor over the burrow entrance. During night walks, however, I've seen a number of individuals roaming around outside their burrows, including some impressively large females. The millipede 'Polydesmida, unidentified sp.1' seems to be a popular prey item, with a number of burrows sporting a graveyard of millipede remains around their edges.

One individual I previously identified as *P. cinerea* may actually be a *Tasmanicosa* sp. (https://www.inaturalist.org/observations/60692658).

Photographic voucher: https://www.inaturalist.org/observations/69231015

Mimetidae

58. *Australomimetus* sp.

One individual seen in the southern bushland, during a night walk. I've seen another *Australomimetus*, also in the southern bushland during a night walk, which has slightly different dorsal markings (https://www.inaturalist.org/observations/100669822), but I assume this is just variation and that this is the same species.

Photographic voucher: https://www.inaturalist.org/observations/99273325

Miturgidae

59. *Argoctenus* sp.

Single individual seen on riparian vegetation at the Wellington Road bridge.

Photographic voucher: https://www.inaturalist.org/observations/97430846

60. *Hestimodema* sp.

Single individual seen on exposed soil in the southern exotic grassland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/98974555

61. *Mituliodon tarantulinus* (L. Koch, 1873)

Not uncommon. Usually seen at the patch of fallen *Melaleuca* bark sheets (adults, juveniles and an egg sac all seen under bark sheets) or along the central split path during night walks (mostly large

adults), with a few sightings also in the open woodland directly above the southern exotic grassland (a few juveniles seen under a blown-in metal sign at the latter).

Photographic voucher: https://www.inaturalist.org/observations/69708015

62. *Nuliodon fishburni* Raven, 2009

Single individual seen among leaf and bark litter in the grassland at the far southern end of the reserve, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/103223467

Oxyopidae

63. *Oxyopes amoenus* L. Koch, 1878

Often seen on *Kunzea ambigua* (when flowering) in the northern grassy woodland, with one individual seen on an *Acacia pubescens* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/93018811

64. *Oxyopes* sp.1

One individual seen at the interface between the isolated *Melaleuca* patch and the southern exotic grassland, and another on a *Eucalyptus amplifolia* along the edge of Everley Park at the southern riverine stretch, during a night walk. These are either *O. gracilipes* or *O. exilis*, and based on descriptions in Whyte and Anderson (2017), I think *O. gracilipes* seems the likeliest (the lateral darker bands on the carapace are much thicker than the inverted 'V' in the carapace's centre). However, they also note that the two species are very hard to differentiate even under a microscope, and may actually represent a species cluster, so I'll leave it at genus.

Photographic voucher: https://www.inaturalist.org/observations/103223464

65. *Oxyopes* sp.2

Quite a small individual seen among leaf litter in the far southern bushland, the only *Oxyopes* I've seen on the ground in the reserve. Noticeably different patterning and colouration to other *Oxyopes* in the reserve as well, including a distinct orange dorsal patch, so I'm happy to treat it as a unique species here.

Photographic voucher: https://www.inaturalist.org/observations/65065440

66. *Oxyopes variabilis* L. Koch, 1878

Common and widespread throughout the reserve, including in the southern exotic grassland, southern grassy woodland, southern bushland, northern bushland, and the open woodland directly above the southern exotic grassland. Almost always on shrubs or small trees, including *Kunzea ambigua*, *Acacia longifolia*, *Ozothamnus diosmifolius*, and *Angophora floribunda*, waiting to ambush insects. On one occasion, I watched an individual catch and take down a damselfly (*Ischnura heterosticta*) ~5 times its own body length. There are quite a wide range of morphs/colour patterns in the reserve that I'm calling '*O. variabilis*', so it's possible that I'm lumping multiple entities under this one species.

Photographic voucher: https://www.inaturalist.org/observations/66507306

Pholcidae

67. **Pholcus phalangioides* (Fuesslin, 1775)

Not uncommon on the underside of the Wellington Road bridge.

Photographic voucher: https://www.inaturalist.org/observations/60505974

Pisauridae

68. *Megadolomedes australianus* (L. Koch, 1865)

Occasional, always close to water. Most sightings along the western arm of the creek, close to the central bridge, with individuals also seen on the side of the flooded concrete platform at the stormwater entrance above the creek crossing, and at the large swale leading from the stormwater entrance. Both adults and juveniles seen.

Photographic voucher: https://www.inaturalist.org/observations/66037619

69. *Ornodolomedes* sp.

One large individual seen on a *Melaleuca decora* trunk in the central bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/141680216

Salticidae

70. *Clynotis severus* (L. Koch, 1879)

Occasional and fairly widespread, with sightings in the isolated *Melaleuca* patch, southern bushland, large swale leading from the stormwater entrance, along the edge of the carpark immediately below the reserve, on the metal fence surrounding the empty lot, and along the edge of Everley Park at the southern riverine stretch. Almost always on large eucalypts with chunky bark.

Photographic voucher: https://www.inaturalist.org/observations/78197449

71. *Cytaea alburna* Keyserling, 1882

Single adult on a eucalypt at the interface between the northern bushland and the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/78197470

72. *Helpis minitabunda* (L. Koch, 1880)

Uncommon; one sighting at the weedy swale in the southern bushland, one in the central bushland, one at the southern bank of the western arm of the creek (which had caught a '*Philobota* sp.1'), and one on the metal fence surrounding the empty lot. Most sightings of juveniles.

Photographic voucher: https://www.inaturalist.org/observations/100038626

73. *Holoplatys* sp.1

Single individual in the northern grassy woodland. When I found it, it was dangling limply by a silk thread from one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot. It was almost completely unresponsive when I handled it, so I assume it had been parasitised/paralysed. Possibly *H. planissima*.

Photographic voucher: https://www.inaturalist.org/observations/65874704

74. *Holoplatys* sp.2

Two individuals seen on the metal fence surrounding the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/95836592

75. *Holoplatys* sp.3

Single individual seen on a large dead eucalypt in the northern woodland.

Photographic voucher: https://www.inaturalist.org/observations/101251672

76. *Maratus griseus* (Keyserling, 1882)

Not especially common, with sightings along the edge of Everley Park at the southern riverine stretch, and at the central bridge. Typically in weedy areas, and always on the ground or on low-lying herbs and grasses, hunting small insects. Only females seen thus far. One seen with a syrphid as prey.

Photographic voucher: https://www.inaturalist.org/observations/59431942

77. *Maratus scutulatus* (L. Koch, 1881)

Fairly common and widespread. Most common along the edge of Everley Park at the southern riverine stretch, but also seen in the western split grassland, the large swale leading from the stormwater entrance, the southern grassy woodland, the northern grassy woodland, and along the western arm of the creek. Typically in weedy areas, and always on the ground or on low-lying herbs and grasses, hunting small insects. Males and females both seen. One seen with the fly *Poecilohetaerus aquilus* as prey.

Photographic voucher: https://www.inaturalist.org/observations/59861448

78. Myrmarachnini, unidentified

One individual running on the metal fence running along the main path through the southern bushland. Very much the ant mimic; frantic movements, constantly raising and waving its forelegs (à la antennae), twitching abdomen. Seems like it's probably *Damoetas nitidus*, but I'm not 100% sure.

Photographic voucher: https://www.inaturalist.org/observations/72762569

79. *Opisthoncus abnormis* L. Koch, 1881

One male seen in the northern bushland, and one female in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/72002904

80. *Opisthoncus alborufescens* L. Koch, 1880

Single female seen on an *Acacia parramattensis* during a night walk, along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/69789338

81. *Opisthoncus nigrofemoratus* (L. Koch, 1867)

Single female seen on a eucalypt on the edge of the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/78196771

82. *Opisthoncus polyphemus* (L. Koch, 1867)

Single female seen on a *Sonchus oleraceus* on the eastern bank of the southern riverine stretch, near the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/99859998

83. *Opisthoncus serratofasciatus* L. Koch, 1881

Not uncommon, with sightings in the southern bushland, including at the entrance where the main path comes from the southern exotic grassland (most individuals are around this area), the southern grassy woodland, the northern grassy woodland (a female with an egg sac), and along the edge of Everley Park at the southern riverine stretch, mostly at the far southern end of the survey area. Both males and females seen, although most of my observations have been females. Usually on small to medium-sized grasses and shrubs. One seen with a *Plebs eburnus* as prey.

In addition to the five *Opisthoncus* listed above, I've also seen a male (https://www.inaturalist.org/observations/88908730), in the northern grassy woodland on a *Solanum americanum*, that I've been unable to identify. I'm unsure if it's a sixth species.

Photographic voucher: https://www.inaturalist.org/observations/93018817

84. *Paraphilaeus daemelii* (Keyserling, 1883)

Single individual seen in the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/101753215

85. *Pungalina plurilineata* Richardson, 2016

Large (pregnant?) female seen along the southern riverine stretch, in line with the first light tower. Another individual also seen on a large eucalypt trunk along the northern edge of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/90750947

86. *Saitis virgatus* Otto & Hill, 2012

Occasional. All sightings in the southern bushland, and all with individuals rapidly scurrying among leaf litter. I assume most were hunting ants given I saw one having actually caught one.

Photographic voucher: https://www.inaturalist.org/observations/60174890

87. Salticidae, 'Exclamation Point'

Single individual seen among bark litter at the base of one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot. This is a known but undescribed species (also an undescribed genus) referred to as 'Exclamation Point' (see Whyte 2018).

Photographic voucher: https://www.inaturalist.org/observations/101251674

88. *Sandalodes bipenicillatus* (Keyserling, 1882)

Five individuals seen: one male and two females in the southern bushland, one male in the southern grassy woodland, and one female in the northern grassy woodland. Two of the females were seen during night walks, with one of them having caught a small *Opisthoncus*.

Photographic voucher: https://www.inaturalist.org/observations/66367203

89. *Sandalodes superbus* (Karsch, 1878)

One female seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, one male seen in the northern bushland on a fence post, and another male seen at the large, exposed patch of soil near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/97429636

90. *Servaea incana* (Karsch, 1878)

One individual in the northern grassy woodland (on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot), and one on the eastern bank of the southern riverine stretch, near the big kink in the creek, also on a large eucalypt trunk.

Photographic voucher: https://www.inaturalist.org/observations/90750946

Sparassidae

91. *Delena cancerides* Walckenaer, 1837

Two individuals seen, both during night walks. One very large individual was wedged underneath a bark sleeve (still attached to the eucalypt) next to the *Eucalyptus punctata* with the Peron's Tree Frogs in it, whilst the other (much smaller, unsure if mature) was in the northern bushland, feeding on a *Polyrhachis* on a eucalypt trunk

Photographic voucher: https://www.inaturalist.org/observations/71060453

92. *Heteropoda jugulans* (L. Koch, 1876)

Not uncommon. One very large, spectacularly-coloured individual at the patch of fallen *Melaleuca* bark sheets, under a sheet, with another in the southern bushland, sitting in the middle of a path during a night walk. I've also seen a juvenile at the patch of fallen *Melaleuca* bark sheets, and a few moults (southern bushland, and near the northeastern entrance to the reserve).

Photographic voucher: https://www.inaturalist.org/observations/72761547

93. *Isopeda villosa* L. Koch, 1875

Fairly common, with sightings (including adults and juveniles) just north of the large, exposed patch of soil near the creek-spanning pipe, and in the northern grassy woodland, all during night walks and mostly on the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot (4-5 individuals often seen on a single eucalypt at night). Moults also found in the southern bushland, central bushland, and northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/98600477

94. *Neosparassus calligaster* (Thorell, 1870)

Two moults found: one in the central bushland, and one at the interface between the northern bushland and northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/70243669

95. *Neosparassus diana* (L. Koch, 1875)

One juvenile seen during a night walk on a eucalypt along the edge of the central split path, one larger individual in the southern exotic grassland, nestled inside a dead flower head of a *Cirsium vulgare,* and one adult in the southern bushland, during a night walk. I've also seen a large ball of vivid green and yellow *Neosparassus* juveniles on a grass stem along the western periphery of the reserve (https://www.inaturalist.org/observations/72146937); I assume they're either *N. calligaster* or *N. diana* rather than a third species.

Photographic voucher: https://www.inaturalist.org/observations/60812882

96. *Pediana regina* (L. Koch, 1875)

Some huge individuals seen during night walks, including on the main path near the central bridge, along the central split path, and on a *Melaleuca* trunk in the southern bushland. A smaller individual seen in the northern bushland on a eucalypt, and a juvenile on an information sign in the northern grassy woodland, near the creek.

Photographic voucher: https://www.inaturalist.org/observations/71060472

Tetragnathidae

97. *Leucauge dromedaria* (Thorell, 1881)

Somewhat common along the length of the creek, including the western arm of the creek, almost always with webs either directly overhanging the water, or nearby on the creekbank. Occasionally seen in the southern bushland, central bushland, and the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/60177331

Theridiidae

98. *Cryptachaea gigantipes* (Keyserling, 1890)

One large, dead individual found dangling underneath the Wellington Road bridge, and a smaller, live individual found in a web in a corner of the concrete wall surrounding the western alcove.

Photographic voucher: https://www.inaturalist.org/observations/70803500

99. *Cryptachaea veruculata* (Urquhart, 1886)

Occasional, with sightings in the southern exotic grassland, along the creek near the Wellington Road bridge, on the information sign in the grassland at the far southern end of the reserve, and on the metal fence surrounding the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/100668115

100. *Dipoena* sp.1

Single individual seen on a large eucalypt in the southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/99417629

101. *Dipoena* sp.2

Single individual found at night on my moth sheet in the northern bushland. I've also seen a somewhat similar individual (https://www.inaturalist.org/observations/100925520) on a large

eucalypt just above the large, exposed patch of soil near the creek-spanning pipe, during a night walk, but I'm unsure if this is a different species.

Photographic voucher: https://www.inaturalist.org/observations/99417689

102. *Euryopis* sp.1

One adult seen on the creek-spanning pipe. I've also seen a juvenile (along the edge of Everley Park at the southern riverine stretch, near the ancient eucalypt hybrid) which had slightly different dorsal markings, but I assume is the same species.

Photographic voucher: https://www.inaturalist.org/observations/65874720

103. *Euryopis* sp.2

Single small individual (juvenile?) seen on the large *Corymbia citriodora* at the far southern end of the survey area.

Photographic voucher: https://www.inaturalist.org/observations/93018806

104. *Janula bicornis* (Thorell, 1881)

Single individual seen in the southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/98974580

105. *Latrodectus hasselti* Thorell, 1870

Uncommon. An adult female seen in the northern grassy woodland, inside a hollowed out wooden post, and an adult male at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/73281382

106. **Steatoda capensis* Hann, 1990

Two females seen under large rotting logs in the central bushland, one with an egg sac.

Photographic voucher: https://www.inaturalist.org/observations/70244334

107. *Thwaitesia nigronodosa* (Rainbow, 1912)

One individual in the southern bushland, close to the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/60174896

Thomisidae

108. *Australomisidia pilula* (L. Koch, 1867)

One large individual on an *Acacia decurrens* in the open woodland directly above the southern exotic grassland, and a smaller individual on an *Acacia pubescens* near the large, exposed patch of soil near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/93018828

109. *Cymbacha* sp.

Tiny (~2 mm) individual in the southern bushland among leaf litter, near the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/61382096

110. *Isala* sp.

Single individual seen on a *Eucalyptus fibrosa* trunk in the southern bushland near the creek, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/114130393

111. *Runcinia* sp.

Single individual seen on an *Eragrostis curvula* in the southern exotic grassland, having caught a small flying ant.

Photographic voucher: https://www.inaturalist.org/observations/97003680

112. *Sidymella bicuspidata* (L. Koch, 1874)

Single individual seen in the southern bushland during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/97137733

113. *Sidymella rubrosignata* (L. Koch, 1874)

Two adults seen on a *Kunzea ambigua* in the northern grassy woodland. I've also seen a smaller, similar *Sidymella* (https://www.inaturalist.org/observations/64029933), also on *K. ambigua* in the northern grassy woodland, which I assume was a juvenile.

Photographic voucher: https://www.inaturalist.org/observations/140048570

114. *Stephanopis altifrons* O.P.-Cambridge, 1869

Not uncommon, although all sightings during night walks, and always seen on large eucalypt or *Melaleuca decora* trunks. Seen in the northern grassy woodland (often on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot) and the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/99273322

115. *Tharpyna decorata* Karsch, 1878

Sightings in the northern bushland and northern grassy woodland, all on large eucalypts with chunky bark/large bark sleeves (typically on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot).

Photographic voucher: https://www.inaturalist.org/observations/71783040

116. *Tharrhalea* sp.

Occasional on small shrubs in the southern grassy woodland, with one also seen on a *Kunzea ambigua* in the northern grassy woodland. All individuals quite small and seemingly juveniles.

I've also seen an adult *Tharrhalea* on a *Kunzea ambigua* in the carpark immediately below the reserve with distinct red dorsal patterning (https://www.inaturalist.org/observations/140955349), but I'm unsure if it's a different species, or an adult of the putative juveniles that I've seen.

Photographic voucher: https://www.inaturalist.org/observations/61381221

117. *Tmarus* sp.

One individual on the information sign in the grassland at the far southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/84279335

118. *Zygometis xanthogaster* (L. Koch, 1875)

One very large (pregnant I think) female on one of the huge *Melaleuca decora* in the southern exotic grassland, with a smaller individual on a *Kunzea ambigua* along the edge of the carpark immediately below the reserve, with a large moth (*Neumichtis spumigera*) it had caught.

Photographic voucher: https://www.inaturalist.org/observations/70029794

Toxopidae

119. *Toxopsoides* sp.

Occasional, usually among leaf litter and mosses in the open woodland directly above the southern exotic grassland, with one sighting during a night walk near the northeastern entrance.

Photographic voucher: https://www.inaturalist.org/observations/73281374

Trachelidae

120. *Orthobula* sp.

A (very active) mating pair at the patch of fallen *Melaleuca* bark sheets.

Photographic voucher: https://www.inaturalist.org/observations/70027365

Trochanteriidae

121. *Hemicloea* sp.

One individual seen on a *Melaleuca decora* in the southern bushland, one on a large eucalypt trunk in the northern bushland, and one on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot all during night walks.

Photographic voucher: https://www.inaturalist.org/observations/98600464

122. *Trachycosmus sculptilis* Simon, 1893

Single individual underneath a blown-in metal sign at the interface between the western exotic grassland and the southern bushland (same sign as the harvestman).

Photographic voucher: https://www.inaturalist.org/observations/89752065

Zodariidae

123. *Habronestes bradleyi* (O.P.-Cambridge, 1869)

I saw two of these on the same day, one in the central bushland and one along the central split path. I watched one hunt and catch a meat ant (*Iridomyrmex purpureus*), which they seem to be excellent mimics of given their colouration (reddish-purple head and black/dark abdomen) matches that of

the ants almost perfectly (they can also apparently detect the ants' alarm pheromones, as well as mimic them themselves). Very fast and active.

Photographic voucher: https://www.inaturalist.org/observations/72002908

124. *Habronestes macedonensis* (Hogg, 1900)

Single individual seen during a night walk at the eastern edge of the central bushland, in the middle of the main path. It was very sedentary compared to other Zodariidae and Corinnidae in the reserve, and mostly just stood still with a very odd, upright stance. Fairly confident of the ID given it matches the description in Baehr (2003) quite well, including the dorsal abdominal patterning being a perfect match for Figure 37.

Photographic voucher: https://www.inaturalist.org/observations/69231017

125. *Habronestes* sp.

Single individual at the patch of fallen *Melaleuca* bark sheets. When I spotted it, it had just caught a *Polyrhachis* ant that was considerably larger than itself. Small possibility this may be a *Pentasteron*, however, *Habronestes* seems most likely.

Photographic voucher: https://www.inaturalist.org/observations/70027378

126. *Neostorena* sp.

One individual seen during a night walk at a sandy patch along the eastern edge of the central bushland, close to the large, exposed patch of soil near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/73937832

127. *Storosa obscura* Jocqué, 1991

One individual seen during a night walk along the central split path. Quite active.

Photographic voucher: https://www.inaturalist.org/observations/73937838

Crustaceans

Amphipods

Talitridae

1. Talitridae, unidentified sp.1

Somewhat common in mud under chunks of masonry in the western alcove. They're always very active whenever I lift any of these chunks, and rapidly bury themselves in the mud, so I haven't managed to get any decent photos yet. Most individuals are very dark, but I've also seen a few white/very pale ones; I'm unsure if these are a separate species, or teneral individuals.

Photographic voucher: https://www.inaturalist.org/observations/69708043

2. Talitridae, unidentified sp.2

Single individual seen directly alongside the creek at the creek-spanning pipe, among the liverwort *Lunularia cruciata* and a hornwort, *Phaeoceros* sp. I'm happy enough treating this as a different

species to 'Talitridae, unidentified sp.1' given the two have different colouration, different patterning, and different microhabitats.

Photographic voucher: https://www.inaturalist.org/observations/91617659

Copepods

Cyclopidae

3. Cyclopidae, unidentified

Number of individuals seen (throughout October 2021) in the ephemeral pool atop the broken concrete pillar underneath the creek-spanning pipe, including females with eggs. On 23 October 2021 the water level had already noticeably dropped again, and all of the copepods seemed to have already disappeared. I've also seen what seems to be the same species (https://www.inaturalist.org/observations/99867498) in the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021.

Photographic voucher: https://www.inaturalist.org/observations/97985888

Ostracods

Unidentifiable to family

4. Ostracoda, unidentified

Moderate numbers in the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021. These seem to be a different species to 'Ostracoda, unidentified sp.1', being green (versus yellow) and very rounded (versus elongate).

Photographic voucher: https://www.inaturalist.org/observations/100060404

5. Podocopida, unidentified

I first found these on 25 September 2020 in the ephemeral pool atop the broken concrete pillar underneath the creek-spanning pipe, with perhaps a few hundred individuals present. For much of winter 2021 the pool was completely dried out, but it filled again in late September 2021 after heavy rain. On 3 October 2021, there were thousands of ostracods in there. I assume the adults laid 'resting eggs'/'winter eggs' that survived the periods when the pool dried up, and then hatched once water appeared again, similar to *Daphnia*. See https://www.youtube.com/watch?v=C-8york42xU for a video of them swimming. On 23 October 2021 the water level had already noticeably dropped again, and all of the ostracods seemed to have already disappeared.

Photographic voucher: https://www.inaturalist.org/observations/97004928

Water fleas

Daphniidae

6. *Daphnia* sp.

Thousands seen (https://www.inaturalist.org/observations/100060402) in the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021. *Daphnia carinata* s.l., but would need microscopy or sequencing.

Photographic voucher: https://www.inaturalist.org/observations/99867519

Woodlice and pillbugs

Armadillidae

7. Armadillidae, unidentified

Common throughout the reserve proper, usually under bark sheets or among leaf litter. Usually quick to roll into a ball when disturbed. Reliably found in often large numbers at the patch of fallen *Melaleuca* bark sheets, under the sheets, with other sightings also in the open woodland directly above the southern exotic grassland, southern bushland, northern bushland, and the western alcove. Most individuals have at least some yellow colouration/patterning, although this is almost entirely absent in some (https://www.inaturalist.org/observations/70029791), whilst very prominent in others (https://www.inaturalist.org/observations/100669817).

Photographic voucher: https://www.inaturalist.org/observations/76505910

Philosciidae

8. Philosciidae, unidentified

Fairly common, usually at damp, shaded sites, and typically in ones or twos. Sightings along the creek near the metal stairway, in the open woodland directly above the southern exotic grassland, in the northern grassy woodland (on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot), on the southern bank of the western arm of the creek among damp moss beds and at the patch of fallen *Melaleuca* bark sheets, under the sheets. Often seen during night walks. I've also seen a number of mancae (small, post-larval juveniles; https://www.inaturalist.org/observations/100671001) among bark litter in the large swale leading from the stormwater entrance, and on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, which are presumably the same species.

Photographic voucher: https://www.inaturalist.org/observations/60177328

Porcellionidae

9. **Porcellio scaber* Latreille, 1804

Single individual seen on a large eucalypt trunk at the northern edge of the northern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/114130437

Myriapods

Centipedes

Cryptopidae

1. *Cryptops* sp.

One individual at the patch of fallen *Melaleuca* bark sheets, under a sheet. Probably *C. spinipes*.

Photographic voucher: https://www.inaturalist.org/observations/72761549

Scolopendridae

2. *Cormocephalus esulcatus* Pocock, 1901

I've seen three individuals at the patch of fallen *Melaleuca* bark sheets, all under the sheets. Seemed to be less active/more placid compared to the *C. westwoodi* in the reserve.

Photographic voucher: https://www.inaturalist.org/observations/72761545

3. *Cormocephalus westwoodi* (Newport, 1844)

More common than *C. esulcatus*. The first one I found was at the southwestern corner of the isolated *Melaleuca* patch, deep underneath bark litter at the base of one of the large *Eucalyptus grandis*. I handled it as gently as I could with my tweezers to get photos, but it was still very feisty and repeatedly bit the tweezers. I've also seen individuals among bark/stick litter in the open woodland directly above the southern exotic grassland, at the patch of fallen *Melaleuca* bark sheets, under a sheet, and at the weedy swale in the southern bushland (drowned when the swale flooded during the heavy rains and flooding in mid to late March 2021). Always very active.

Photographic voucher: https://www.inaturalist.org/observations/70241614

Scutigeridae

4. *Allothereua maculata* (Newport, 1844)

One individual seen around the base of one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/141680217

Unidentified to family

5. Geophilomorpha, unidentified

Single individual among wet leaf litter at the edge of the northern grassy woodland. Unfortunately I only got a single, rubbish photo before it disappeared into the litter.

Photographic voucher: https://www.inaturalist.org/observations/71289224

6. Lithobiomorpha, unidentified

Single individual seen at the patch of fallen *Melaleuca* bark sheets, under a sheet.

Photographic voucher: https://www.inaturalist.org/observations/102982739

Millipedes

Paradoxosomatidae

7. **Heterocladosoma* sp.

Very common, although most sightings made during night walks. Often seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, with sightings also in the southern bushland, central bushland, northern bushland (usually also on large eucalypts), and on the large *Corymbia citriodora* at the far southern end of the survey area. Mating pairs often seen. I observed an unusual interaction between one of these millipedes and an *Ambigolimax* slug; the millipede spent 10-15 minutes 'nibbling' at/'tasting' the slug (https://www.inaturalist.org/observations/100671003).

I'm confident of this ID; Rowe and Sierwald (2006) note that, for both males and females, "Colouration striking: blackish brown body with blood-red legs, antennae and sternites."

UPDATE: After discussing with Bob Mesibov, I have downgraded this identification to genus as, although the entity here is *probably H. bifalcatum*, this identification cannot be confirmed without examination of male gonopods, and there are one or two other possible species (also from SE Queensland) this could be.

Photographic voucher: https://www.inaturalist.org/observations/100669820

Polyxenidae

8. **Polyxenus lagurus* (Linnaeus, 1758)

Single individual at the patch of fallen *Melaleuca* bark sheets, under a sheet. This was an incidental find; I was actually photographing some kind of spider egg sac, and only noticed the millipede in the image at home. Excitingly, this was a significant find, as per Megan Short:

"What a fantastic find!! Your photo is excellent and shows key diagnostic characters of the distinctive species well. I am extremely interested to learn for the first time that what is almost certainly *Polyxenus lagurus* (order Polyxenida, family Polyxenidae, subfamily Polyxeninae) is to be found in Sydney. My colleague and I have found it in various locations in Melbourne but have never had the opportunity to investigate if it is found in other states. This is the first record from outside Melbourne and Geelong. The species is native to Europe and is also found throughout USA. It is obviously a highly successful tramp species, and in many parts of Europe, USA and also in Melbourne, populations are all female with the species reproducing parthenogenetically. My guess is that the Sydney population is highly likely to be all female. The discovery of the species in Australia changed the thinking about the species as it was once thought to be native to both Europe and USA ...now it is thought that it has been introduced to USA just as it has here."

Photographic voucher: https://www.inaturalist.org/observations/69708016

Unidentified to family

9. Polydesmida, unidentified sp.1

Extremely abundant throughout the reserve proper, pervasive in almost every section. Often present in large groups on tree trunks or on clay paths, and indeed on a few occasions after rain, there have been huge aggregations of tens of thousands of individuals moving across paths in the central and northern bushland. One of the most important detritivores in the reserve, and also an important prey species; remains are often littered around the burrows of the lycosid *Portacosa cinerea*, and I've also seen many in spider webs and being predated by land planarians.

Photographic voucher: https://www.inaturalist.org/observations/60177344

10. Polydesmida, unidentified sp.2

Not uncommon on eucalypt trunks and on exposed clay soil, mostly throughout the southern and central bushland. Considerably larger than 'Polydesmida, unidentified sp.1', around triple the length.

Photographic voucher: https://www.inaturalist.org/observations/63629454

11. Polydesmida, unidentified sp.3

Uncommon. I've only seen them in the far southern bushland, and only during night walks. Very easily spooked/quick to roll up.

Photographic voucher: https://www.inaturalist.org/observations/69789343

12. Polydesmida, unidentified sp.4

Occasional, with sightings at the interface between the far southern bushland and southern exotic grassland, and further into the southern bushland, all during night walks. Very distinct patterning and quite robust. Noticeably 'rounder'/less dorso-ventrally flattened than other species in the reserve.

Photographic voucher: https://www.inaturalist.org/observations/69789487

13. Polydesmida, unidentified sp.5

Single individual found at the patch of fallen *Melaleuca* bark sheets, on a rotting *Melaleuca* branchlet under one of the sheets. Very sluggish, played dead when I interacted with it. Could be Haplodesmidae (if so, probably *Agathodesmus* sp.), Dalodesmidae (if so, probably *Asphalidesmus* sp.), or Pyrgodesmidae.

Photographic voucher: https://www.inaturalist.org/observations/102982737

Pseudocentipedes

Scutigerellidae

14. Scutigerellidae, unidentified

A few individuals in mud under chunks of masonry in the western alcove. Almost certainly a *Hanseniella* sp., but my photo wasn't quite clear enough to confirm.

Photographic voucher: https://www.inaturalist.org/observations/69594616

Entognatha

Diplurans

Unidentified to family

1. Rhabdura, unidentified

Occasionally seen at the patch of fallen *Melaleuca* bark sheets, under the sheets. Probably Campodeidae.

Photographic voucher: https://www.inaturalist.org/observations/102982738

Springtails

Entomobryidae

2. *Entomobrya* sp.

On a eucalypt trunk at the interface between the far southern bushland and southern exotic grassland. Relatively large, very distinct anterior dorsal patterning/colouration.

Photographic voucher: https://www.inaturalist.org/observations/60169651

3. Entomobryidae, unidentified

Seen during a night walk along the edge of Everley Park at the southern riverine stretch, at the large patch of exposed soil around the third light tower. Distinct iridescent blue dorsal markings and very hirsute.

Photographic voucher: https://www.inaturalist.org/observations/69789335

Hypogastruridae

4. Hypogastruridae, unidentified

Hundreds feeding on the gills of an '*Amanita* sp.2' in the northern grassy woodland during/after rain in early April 2021.

Photographic voucher: https://www.inaturalist.org/observations/73281388

Isotomidae

5. Isotomidae, unidentified

In mid-February 2021 I took a large sample of mud from the western alcove so that I could raise some stratiomyid larvae to adults. The day after I brought the sample home, I spotted this very small (few millimetres long) springtail in the container emerging from the mud.

Photographic voucher: https://www.inaturalist.org/observations/69654804

Neanuridae

6. Neanurinae, unidentified

Single individual on a chunk of bark on the ground in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/73292365

7. Pseudachorutinae, unidentified

A few individuals feeding on the gills of a *Russula rosea* in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/87826203

Onychiuridae

8. Onychiuridae, unidentified

Incredible numbers seen in the northern bushland and northern grassy woodland during a night walk during/after rain in early April 2021, with literally hundreds of thousands of individuals swarming over wet leaf litter.

Photographic voucher: https://www.inaturalist.org/observations/73281389

Unidentified to family

9. Entomobryoidea, unidentified sp.1

Uncommon, almost always near water; I've seen this species on the western creekbank near the large *Canna indica* patch at the southern end of the reserve, on the southern bank of the western arm of the creek, and in the southern bushland near the creek. Much more slender/elongate than the other Entomobryoidea/Entomobryidae species I've seen in the reserve.

Photographic voucher: https://www.inaturalist.org/observations/70027357

10. Entomobryoidea, unidentified sp.2

Seen underneath a blown-in metal sign at the interface between the southern exotic grassland and the open woodland directly above it. Very small, much smaller than the other Entomobryoidea/Entomobryidae species I've seen in the reserve, and not as hirsute.

Photographic voucher: https://www.inaturalist.org/observations/78196769

11. Poduromorpha, unidentified

Two individuals on a *Lamium amplexicaule* along the edge of Everley Park at the southern riverine stretch. An incidental find; I was photographing the plant, and only noticed the two springtails in the shot at home.

Photographic voucher: https://www.inaturalist.org/observations/89752058

12. Symphypleona, unidentified

Single tiny individual feeding on a slime mould ('Myxomycetes, unidentified'), at night, on a damp rotting log in the southern bushland, near the creek.

Photographic voucher: https://www.inaturalist.org/observations/69790118

Insects

Ants

Formicidae

1. *Anonychomyrma* sp.

I was in the southern exotic grassland when I noticed something walking along the underside of my broad brim hat in my peripheral vision; turned out to be a winged, female *Anonychomyrma* hitching a ride.

Photographic voucher: https://www.inaturalist.org/observations/62016046

2. *Aphaenogaster longiceps* (Smith, 1858)

Abundant throughout the southern bushland, with their distinctive nest entrances often appearing en masse along path edges after rain. I've also seen an *Aphaenogaster* queen in the southern bushland during a night walk (https://www.inaturalist.org/observations/97139226), but I'm unsure if it's a different species.

Photographic voucher: https://www.inaturalist.org/observations/68751904

3. *Camponotus aeneopilosus* Mayr, 1862

Fairly common throughout the southern bushland and central bushland, and also seen at the far southern bushland. Most encounters are with individuals, but I've also found nests under rotting logs and fallen *Melaleuca* bark sheets.

Photographic voucher: https://www.inaturalist.org/observations/68751900

4. *Camponotus consobrinus* (Erichson, 1842)

Very common throughout the southern bushland, southern exotic grassland, and the open woodland directly above the southern exotic grassland. Also seen near the creek-spanning pipe. Nests often underneath fallen *Melaleuca* bark sheets or rotting logs, or on exposed soil in the middle of paths. Usually very active at night. One individual also seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/60173039

5. *Camponotus elegans* Forel, 1902

Very common and fairly widespread, with sightings in the southern bushland, along the central split path, and at the patch of fallen *Melaleuca* bark sheets, under the sheets. Almost all of my sightings from the southern bushland have been of individuals on *Eucalyptus fibrosa* trunks, whereas at the patch of fallen *Melaleuca* bark sheets, they have a number of nests under the sheets. Very consistently seen during night walks, certainly more often than during day-time surveys.

Photographic voucher: https://www.inaturalist.org/observations/76505925

6. *Camponotus nigriceps* (Smith, 1858)

Single dead individual found among mosses in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/78196783

7. *Camponotus suffusus* (Smith, 1858)

Not uncommon throughout the southern bushland and central bushland, often on exposed soil, including nests in the middle of the path running past the large, exposed patch of soil near the creek-spanning pipe. I've also seen major workers (https://www.inaturalist.org/observations/66643705). Interestingly, they seem to be most common on the sandier soils around the outcropping of Minchinbury Sandstone near the central bridge and creek-spanning pipe. On 16 December 2020, I found three queens (two dealate [one in the southern bushland, one at the interface between the southern exotic grassland and the open woodland directly above it], and one alate [near the bench seat]) which, comparing with images online, I think may be *C. suffusus* queens (e.g.,

https://www.inaturalist.org/observations/66643704). However, they may be another *Camponotus* species I haven't listed above; I'm not skilled enough in ant ID to be sure.

Photographic voucher: https://www.inaturalist.org/observations/100925524

8. *Crematogaster* sp.

Common and widespread, with sightings in the northern bushland, at the central bridge, in the northern grassy woodland, and at the edge of the southern bushland where the main path comes from the southern exotic grassland. Often seen in large congregations (e.g., https://www.inaturalist.org/observations/100671005). I'm not 100% sure that all the individuals I've seen have been all the one species.

On 17 September 2020, I also found a number of alates in the central bushland and northern grassy woodland (https://www.inaturalist.org/observations/59864245) which may have been *Crematogaster* queens, however, I'm certainly not sure about this; it's possible these are alates of another species I've listed here, or something different/new entirely.

Photographic voucher: https://www.inaturalist.org/observations/60174876

9. Formicidae, unidentified

Several very tiny ants (few millimetres) milling around on the main path between the southern exotic grassland and the southern grassy woodland. Seen during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/74362646

10. *Iridomyrmex purpureus* (Smith, 1858)

Very abundant and widespread throughout the reserve proper, and indeed probably the most abundant ant species in the survey area. Ubiquitous in almost all sections. Sightings can be split into two categories:

1. Nests. There are many huge, unmissable nests throughout the reserve (https://www.inaturalist.org/observations/94085980), including in the open woodland directly above the southern exotic grassland, northern bushland, central bushland, southern bushland, western exotic grassland, southern exotic grassland, at the large, exposed patch of soil near the creek-spanning pipe, and along the central split path. These are almost always along the edges of paths, and conform to the 'typical' nests of this this species, i.e., at least 1-2 m across, not shaded, embedded with many stones/sticks/debris items. During a night walk, my sister and I found one nest in the northern bushland with all its entrances plugged by ants (https://www.inaturalist.org/observations/69231026). I also found large female alates (https://www.inaturalist.org/observations/58816025) at nests in early September 2020.

I had one interesting encounter where I was walking through the northern bushland, heard a strange bird call I didn't recognise, and stood still to try spot it in the canopy. After a minute or two, I felt something tickling my inner thigh, looked down, and realised I'd been standing directly on top of a nest, and now had hundreds of ants in my trousers. I had to strip down and shake/flick them all off; amazingly, not a single one bit me (and apparently this species cannot sting).

2. Individuals. Singletons/small groups away from their nests are very frequently encountered throughout almost the entire reserve. I've seen them scavenging a dead Australian White Ibis, and a number of insect species, including *Anthela* sp., *Apis mellifera*, *Caledia captiva*, and *Caedicia* sp. (although I'm unsure how many of these prey items were already dead and subsequently scavenged

versus how many were killed by the ants), as well as actively attacking and tearing apart a live *Lipotriches* (*Austronomia*) sp. (unclear though whether it was already injured). I've also seen them tending to *Cryptes baccatus* on *Acacia longifolia* at the edge of the southern bushland where the main path comes from the southern exotic grassland, and interacting with *Apiomorpha munita* galls at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/92215153

11. *Iridomyrmex* sp.1

Observed tending to leafhoppers (*Eurymeloides punctata*) on *Eucalyptus amplifolia* along the edge of Everley Park at the southern riverine stretch, ~30-40 m south of the first light tower. I'm fairly sure these are a different species to *I. purpureus*, as they're considerably/noticeably smaller, and with subtly different colouration.

Photographic voucher: https://www.inaturalist.org/observations/70026610

12. *Iridomyrmex* sp.2

Not uncommon, and fairly widespread, with sightings along the edge of the carpark immediately below the reserve (on *Kunzea ambigua*), in the southern bushland (tending to a *Jalmenus evagoras* caterpillar on an *Acacia parramattensis)*, in the northern grassy woodland (attending to *Jalmenus evagoras* caterpillars and chrysalises on *Acacia decurrens*), in the southern grassy woodland (on a *Leptospermum polygaliifolium* subsp. *polygaliifolium*), and along the edge of Everley Park at the southern riverine stretch, at the third light tower. I'm unsure if I'm actually conflating multiple different *Iridomyrmex* species here into the one entity, but at the very least they're clearly different to *I. purpureus* and *Iridomyrmex* sp.1 listed above. Possibly *I. mayri* or *I. obscurior*.

Photographic voucher: https://www.inaturalist.org/observations/74607900

13. *Melophorus* sp.

Only seen on two occasions: a single individual at the interface between the western exotic grassland and southern bushland, near the stormwater entrance, and a nest with a number of workers bustling about and in/out the entrance along the edge of the central split path.

Photographic voucher: https://www.inaturalist.org/observations/72002907

14. *Meranoplus minor* Forel, 1902

I've found one individual on a *Dianella* along the edge of the central split path, several on an *Ozothamnus diosmifolius* along the edge of the central split path (seemingly tending to aphids), and 30+ individuals at the northeastern corner of the southern bushland, crawling over a number of *Apiomorpha strombylosa* galls (both male and female galls) on a eucalypt branchlet. I'm unsure what the nature of the gall interaction was.

Photographic voucher: https://www.inaturalist.org/observations/68314487

15. *Meranoplus* sp.1

Single individual seen in the southern bushland. Possibly *M. curvispina*.

Photographic voucher: https://www.inaturalist.org/observations/64030557

16. *Meranoplus* sp.2

Single individual seen along the central split path during a night walk. Tentative ID of *M. froggatti*.

Photographic voucher: https://www.inaturalist.org/observations/97137755

17. *Monomorium* sp.

Occasional in the southern bushland, with nests under/near rotting logs.

Photographic voucher: https://www.inaturalist.org/observations/69000904

18. *Myrmecia brevinoda* Forel, 1910

Single large nest off the side of the path in the core of the southern bushland. Very defensive, with a number of individuals emerging from the nest to square off with/advance towards me as I was taking photos. One managed to creep up behind me, crawled up my leg, and stung me (through my pants) on the knee; was like a red-hot poker being stabbed into my leg for 10 minutes afterwards.

Photographic voucher: https://www.inaturalist.org/observations/101752856

19. *Myrmecia fulvipes* Roger, 1861

One individual seen scurrying up a eucalypt trunk in the southern bushland, along the main path running alongside the creek, with another seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/102695295

20. *Myrmecia* sp.

Single large individual seen on the metal fence surrounding the empty lot. Possibly *M. gilberti*.

Photographic voucher: https://www.inaturalist.org/observations/102156606

21. Myrmicinae, unidentified sp.1

On 16 December 2020, I found hundreds, possibly thousands, of these male alates caught in several large spider webs (probably *Hortophora* webs) at the interface between the northern bushland and northwestern lawn. My listing of these as a separate species is a bit tentative, but they're so distinct compared to anything else I've seen, including the alates I've seen for quite a number of other species.

I've also found another, much larger alate in a spider web at the western entrance to the western split grassland (https://www.inaturalist.org/observations/70241617), but am unsure where to place this one.

Photographic voucher: https://www.inaturalist.org/observations/66643713

22. Myrmicinae, unidentified sp.2

Single individual seen on a young eucalypt at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland, during a night walk. Unfortunately I only got two rubbish photos, but it was clearly something very distinct to all the other ants I've seen/listed for the survey area.

Photographic voucher: https://www.inaturalist.org/observations/103223470

23. *Notoncus* sp.

Single, tiny (few mm) individual seen in the open woodland directly above the southern exotic grassland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/74362641

24. *Nylanderia* sp.

Several individuals seen along the section of metal fence abutting the main path cutting through the southern exotic grassland, during a night walk. I've also found a single (barely alive) winged *Nylanderia* in the southern grassy woodland (https://www.inaturalist.org/observations/102155623); I'm unsure if this is the same species.

Photographic voucher: https://www.inaturalist.org/observations/74362646

25. *Papyrius nitidus* (Mayr, 1862)

Large number of individuals found in the southern bushland, crawling over and in/out of a large 'Termitoidae, unidentified sp.3' nest at the base of a eucalypt near the creek. I'm unsure if the termite nest had been abandoned, and the ants moved in, or whether the ants are a commensal of some sort. Whichever the case, after first spotting them on 19 February 2021 they were still there on 8 September 2021, suggesting they've probably permanently moved in.

Photographic voucher: https://www.inaturalist.org/observations/69804849

26. *Pheidole* sp.1

Occasional, seen in the northern grassy woodland (including scavenging a *Paralaea* sp.) and along the northern bank of the western arm of the creek, scavenging an *Austroargiolestes icteromelas*. I've also seen what I think is the same species crawling over a budding *Dipodium punctatum*, also on the northern bank of the western arm of the creek. Both major and minor workers seen.

Photographic voucher: https://www.inaturalist.org/observations/66037741

27. *Pheidole* sp.2

Occasional, seen in the northern bushland, along the northern bank of the western arm of the creek, and at the central bridge. Almost all sightings have been of them scavenging something, including an *Apis mellifera*, an *Anthela ocellata* caterpillar, and an unidentifiable arthropod. Both major and minor workers seen. Similar to *P. bos*.

Photographic voucher: https://www.inaturalist.org/observations/79914637

28. *Polyrhachis ammon* (Fabricius, 1775)

Very common and widespread throughout the reserve proper, present in almost all sections, and indeed one of the most commonly seen ant species. Often seen on eucalypts and *Acacia*, and often interacting with scale insects. Also observed pollinating *Kunzea ambigua*.

Photographic voucher: https://www.inaturalist.org/observations/60814552

29. *Polyrhachis* (*Campomyrma*) sp.

Somewhat common in the southern bushland and central bushland, with a few sightings also in the carpark immediately below the reserve and in the far southern bushland. Mostly seen on eucalypt trunks during night walks.

Photographic voucher: https://www.inaturalist.org/observations/98974587

30. *Polyrhachis ornata* Mayr, 1876

Only two individuals seen, one on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, and one in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/59864248

31. *Polyrhachis phryne* Forel, 1907

Single individual seen on a *Eucalyptus fibrosa* in the southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/98974563

32. *Polyrhachis vermiculosa* Mayr, 1876

Only two individuals seen, one in the southern bushland and one at the interface between the southern exotic grassland and southern grassy woodland, interacting with some kind of scale insect or gall.

Photographic voucher: https://www.inaturalist.org/observations/70029800

33. *Rhytidoponera metallica* (Smith, 1858)

Very common and widespread throughout the survey area (especially along the southern riverine stretch), present in almost all sections, and one of the most commonly seen ant species. Seen tending to the hopper 'Cicadellidae, unidentified sp.1' along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/69000889

34. *Rhytidoponera* sp.

Single individual seen on a large eucalypt trunk along the northern edge of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/102695292

35. *Technomyrmex* sp.

A strange case. On a number of *Melaleuca decora* in the survey area, there are a number of large galls ('Insecta, unidentified sp.10). There are no openings/holes whatsoever on the galls; they're completely sealed. I cut open a few 'old' galls (they seem to become very woody and desiccated with age) to check out the contents; most just contained frass and moults of their former occupants. But one of them (from along the edge of Everley Park at the southern riverine stretch, just north of the small stand of 7 *Casuarina cunninghamiana*) had three *Technomyrmex* queens inside, along with a whole bunch of ant eggs. I don't see how it was physically possible for the ants to be inside; there are zero openings or entrances at all on any of these galls, let alone any big enough for the ants.

Photographic voucher: https://www.inaturalist.org/observations/93446919

26. *Tetramorium* sp.

Single individual found along the central split path, during a night walk. One of the smallest ants I've seen, probably 2-3 mm maximum.

Photographic voucher: https://www.inaturalist.org/observations/73937836

Bark and book lice

Lepidopsocidae

37. Lepidopsocidae, unidentified

One individual in the southern bushland on a wooden post.

Photographic voucher: https://www.inaturalist.org/observations/66037610

Unidentified to family

38. Psocodea, unidentified sp.1

One individual in the southern grassy woodland among *Entolasia* patches.

Photographic voucher: https://www.inaturalist.org/observations/63628791

39. Psocodea, unidentified sp.2

Small individual landed on my hand (unfortunately right after I'd used mosquito spray on myself due to a plague of *Aedes notoscriptus* after heavy rain, so it died) at the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/97429633

40. Psocodea, unidentified sp.3

Single individual seen on a *Eucalyptus fibrosa* at the far eastern edge of the central bushland, near the huge sea of weeds.

In addition to these four listed psocid species, I also saw large number of nymphs around the *Eucalyptus punctata* tree hollow with the Peron's Tree Frog in it (https://www.inaturalist.org/observations/140332682), and on a *Eucalyptus fibrosa* in the central bushland (https://www.inaturalist.org/observations/141680218), both during night walks; I'm unsure if they're the nymphs of one of the above four species, or a fifth species.

Photographic voucher: https://www.inaturalist.org/observations/103134908

Bees

Apidae

41. *Amegilla bombiformis* (Smith, 1854)

Two individuals seen, one in the large swale leading from the stormwater entrance and one in the northern eucalypt. Very hyperactive and difficult to photograph.

Photographic voucher: https://www.inaturalist.org/observations/68994573

42. *Amegilla* sp.

Single individual at the patch of fallen *Melaleuca* bark sheets, pollinating *Verbena bonariensis*. I'm fairly confident this is either *A. asserta* or *A. murrayensis* based on the key and images in Leijs et al. (2017), and I'm certainly heavily leaning towards *A. asserta*, however, my photos didn't quite show abdominal segment T5 well enough (the character for which the key separates these two species) for me to be 100% confident.

Photographic voucher: https://www.inaturalist.org/observations/69706172

43. **Apis mellifera* Linnaeus, 1758

Very abundant and widespread throughout the survey area. Observed pollinating a huge range of plant species, both native and non-native, including but not limited to *Brassica napus, Cotoneaster glaucophyllus, Acacia decurrens, Genista monspessulana, Eucalyptus moluccana, Angophora floribunda, Melaleuca styphelioides, Leptospermum polygaliifolium* subsp. *polygaliifolium, Acacia parramattensis, Kunzea ambigua, Tradescantia fluminensis* and *Brassica fruticulosa*. I've also seen a hive inside a possum box (https://www.inaturalist.org/observations/66642355), and a colony inside a hollow at the base of one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot (https://www.inaturalist.org/observations/140047248).

Photographic voucher: https://www.inaturalist.org/observations/66182217

44. *Thyreus nitidulus* (Fabricius, 1804)

Single individual hovering over exposed soil and leaf litter in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/69443597

45. *Xylocopa* (*Lestis*) sp.

Single individual seen pollinating *Leptospermum polygaliifolium* subsp. *polygaliifolium* in the southern grassy woodland. Either *X. aerata* or *X. bombylans.*

Photographic voucher: none, as it unfortunately flew off before I could get a photo, but a highly distinct and unmistakeable genus/subgenus that I've seen and photographed many times before elsewhere.

Colletidae

46. *Euryglossa* sp.

Two individuals, including an all-black form, seen pollinating *Kunzea ambigua* along the edge of the carpark immediately below the reserve. Michael Batley noted that:

"The most likely candidate is *E. ephippiata*, but firm identification requires a microscope. This, and some other species of *Euryglossa*, are highly variable with respect to the areas of orange cuticle. All-black specimens of *E. ephippiata* are common, so I believe you have two colour forms of a single species. Another possibility is *E. subsericea* which is, on average, a smaller species, but size is not a reliable character to use and the two species are extremely hard to separate. I have taken both *E. ephippiata* and *E. subsericea* from *Kunzea ambigua* in the Sydney area."

I've also seen what I'm almost certain is this species digging a burrow into the ground in the southern bushland (https://www.inaturalist.org/observations/103134909).

Photographic voucher: https://www.inaturalist.org/observations/64591896

47. *Hylaeus* sp.

Single individual seen pollinating a *Melelauca styphelioides* along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/65391377

48. *Leioproctus* sp.

At least two definite sightings, one in the northern bushland pollinating *Dillwynia sieberi*, and one along the edge of Everley Park at the southern riverine stretch pollinating *Acacia parramattensis*. However, there have been many occasions where I've seen small to medium-sized native bees similar to this rapidly flitting from flower to flower, and been unable to get a photograph or good look at them to positively identify them, so it is likely this species is at least somewhat common and widespread.

Photographic voucher: https://www.inaturalist.org/observations/59865006

49. *Pachyprosopis kellyi* Cockerell, 1916

Single tiny female seen in the northern grassy woodland, digging into bark litter at the base of one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/69000921

Halicitidae

50. *Lassioglossum* sp.1

Single dead individual found at the large *Canna indica* patch at the southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/66182214

51. *Lassioglossum* sp.2

Single individual seen pollinating *Angophora floribunda* on the eastern bank of the southern riverine stretch, near the chain-link fence.

Photographic voucher: https://www.inaturalist.org/observations/66037603

52. *Lassioglossum* (*Chilalictus*) sp.1

Quite common and widespread throughout most of the survey area. Seen pollinating a large variety of species, both native and non-native, including *Senecio madagascariensis, Calotis cuneifolia, Taraxacum officinale, Hypochaeris radicata,* and *Dillwynia sieberi*.

Photographic voucher: https://www.inaturalist.org/observations/94089722

53. *Lassioglossum* (*Chilalictus*) sp.2

Fairly common and widespread throughout most of the survey area. Seen pollinating a large variety of (thus far, only native) species, including *Acacia pubescens, Dodonaea triquetra* and *Ozothamnus diosmifolius*. There have been many occasions where I've seen small to medium-sized native bees similar to this and *Lassioglossum* (*Chilalictus*) sp.1 rapidly flitting from flower to flower, and been unable to get a photograph or good look at them to positively identify them, so I'm almost certain there are actually more than two species present in the survey area.

Photographic voucher: https://www.inaturalist.org/observations/69708036

54. *Lassioglossum* (*Homalictus*) sp.1

One individual seen in the open woodland directly above the southern exotic grassland, disappearing beneath a bed of *Campylopus introflexus* moss, and another seen pollinating a *Callistemon salignus* along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/60173042

55. *Lassioglossum* (*Homalictus*) sp.2

Single individual resting on an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch, near the third light tower.

Photographic voucher: https://www.inaturalist.org/observations/93018801

56. *Lassioglossum* (*Parasphecodes*) sp.

Not uncommon throughout the survey area (assuming all of the individuals with rich red abdomens like this that I've seen are the same species), especially along the southern riverine stretch. Seen pollinating a number of plant species, including *Acacia parramattensis* and *Angophora floribunda*.

Photographic voucher: https://www.inaturalist.org/observations/102982330

57. *Lipotriches* (*Austronomia*) sp.1

Single tiny individual at the western entrance to the western split grassland, flitting rapidly from flower to flower. Interestingly, despite there being a number of species in flower in the immediate vicinity, it exclusively visited *Wahlenbergia gracilis* flowers.

Photographic voucher: https://www.inaturalist.org/observations/64717496

58. *Lipotriches* (*Austronomia*) sp.2

Single individual roosting on a grass flowering spike (*Eragrostis curvula*, I think) early in the morning, along the edge of Everley Park at the southern riverine stretch, in line with the long jump pit. Similar to *L. flavoviridis*.

Photographic voucher: https://www.inaturalist.org/observations/65630569

59. *Lipotriches* (*Austronomia*) sp.3

Single individual resting on a grass stem in the southern exotic grassland. Similar to *L. australica*. I also found a somewhat similar individual in the central bushland, close to the central split path, being torn alive by *Iridomyrmex purpureus* (https://www.inaturalist.org/observations/70803854), but I'm unsure if it's the same species.

Photographic voucher: https://www.inaturalist.org/observations/72146953

Megachilidae

60. *Megachile* sp.

One individual seen pollinating *Kunzea ambigua* along the edge of the carpark immediately below the reserve, with another seen in the northern grassy woodland, also on *Kunzea ambigua*. Michael Batley noted that:

“Your *Megachile* species may be either *M. heliophila* or *M. ferox*, probably the latter." [having previously collected it on *K. ambigua*].

Photographic record: https://www.inaturalist.org/observations/64590168

Unidentified to family

61. Anthophila, unidentified

Single individual on *Kunzea ambigua* in the northern grassy woodland. I’m fairly sure it was *Megachile mystaceana*, but I only got a look for a few seconds and didn’t get a photo.

Photographic voucher: none, but clearly recognisable as a bee, and unmistakeably different to any other bee I’ve listed above.

Beetles

Aderidae

62. Aderidae, unidentified sp.1

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100673717

63. Aderidae, unidentified sp.2

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. I’m fairly confident this is a different species to ‘Aderidae, unidentified sp.1’; it has a much broader pronotum, the eyes are almost touching medially, the elytral patterning/colouration is different, and the antennae are different.

Photographic voucher: https://www.inaturalist.org/observations/100673718

Anthicidae

64. Anthicidae, unidentified

Single individual found inside the seed capsule of a *Dietes grandiflora* near the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/59426832

Anthribidae

65. Choraginae, unidentified

Single, very tiny individual among dry leaf litter in the southern bushland, near the central bridge.

Photographic voucher: https://www.inaturalist.org/observations/60174891

66. *Dendropemon subfasciatus* (Fahraeus, 1839)

Single individual on the metal fence surrounding the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/78197461

67. *Euciodes suturalis* Pascoe, 1866

One individual found on my boot whilst walking through the western exotic grassland, with another found on my hand after brushing against grasses in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/100668110

Attelabidae

68. *Euops* sp.

Single individual found along the edge of Everley Park at the southern riverine stretch, ~40-50 m south of the first light tower.

Photographic voucher: https://www.inaturalist.org/observations/70026608

Belidae

69. *Rhinotia lineata* (Donovan, 1805)

Single individual seen on an *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the toilet block.

Photographic voucher: https://www.inaturalist.org/observations/64591275

70. *Rhinotia* sp.

Occasional on *Acacia parramattensis* and *A. decurrens* in the southern exotic grassland, western exotic grassland, southern grassy woodland, and along the edge of Everley Park at the southern riverine stretch. Either *R. brunnea* or *R. sparsa*.

Photographic voucher: https://www.inaturalist.org/observations/96467588

Bostrichidae

71. *Xylopsocus* sp.

Single individual briefly alighted on my hand at the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/69000884

Brentidae

72. *Cordus* sp.

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100675182

Buprestidae

73. Buprestidae, unidentified

Single individual seen on an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch, near the ancient eucalypt hybrid. Unfortunately, it flew off right as I went to take a photo. Was a very dark, metallic blue, probably a *Melobasis* (but noticeably different to the *Melobasis* listed below) or similar.

Photographic voucher: none, but unmistakeable as a jewel beetle given the shape, colouration etc.

74. *Castiarina erythroptera* (Boisduval, 1835)

Occasionally seen pollinating *Kunzea ambigua* in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/99861965

75. *Castiarina sexguttata* (Macleay, 1863)

Two individuals seen on a *Leptospermum polygaliifolium* subsp. *polygaliifolium* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/102156152

76. *Diphucrania* sp.

Single individual seen on a *Leptospermum polygaliifolium* subsp. *polygaliifolium* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/102155635

77. *Melobasis* sp.

Single individual found (dead, in a spider web) on the metal fence surrounding the empty lot. In the *M. purpurascens* group.

Photographic voucher: https://www.inaturalist.org/observations/70493477

Cantharidae

78. *Chauliognathus lugubris* (Fabricius, 1801)

Single individual seen at the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/140048073

79. *Chauliognathus sydneyanus* (Blackburn, 1892)

Hundreds of individuals, mostly mating pairs, seen on a *Leptospermum polygaliifolium* subsp. *polygaliifolium* in the southern grassy woodland. Single mating pair also seen on a *Kunzea ambigua* in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/101251678

80. *Chauliognathus tricolor* (Castelnau, 1840)

Abundant and widespread throughout the survey area in summer through to early autumn 2021, with sightings in almost every section. Mating pairs often seen. I've also seen a number of cantharid larvae (https://www.inaturalist.org/observations/59127525), almost always among mosses/lichens in the open woodland directly above the southern exotic grassland (with one in the grassland at the far southern end of the reserve), which I think are probably also *C. tricolor*.

Photographic voucher: https://www.inaturalist.org/observations/68314498

81. *Heteromastix* sp.

Occasional, with sightings in the southern exotic grassland, the open woodland directly above the southern exotic grassland, and the northern grassy woodland (dead, in a spider web on the metal fence surrounding the empty lot).

Photographic voucher: https://www.inaturalist.org/observations/60696721

Carabidae

82. Carabidae, unidentified

Single individual seen running on the sandstone wall bordering the northwestern lawn. Something in Lebiinae or similar.

Photographic voucher: https://www.inaturalist.org/observations/97430861

83. *Carenum* sp.

Pair of elytra found among leaf litter in the northern grassy woodland. I searched for living individuals during several night walks, but no luck. Maybe *C. interruptum*.

Photographic voucher: https://www.inaturalist.org/observations/70803504

84. Harpalini, unidentified

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup. I've also seen another individual under a large blown-in corflute sign in the southern exotic grassland, which I'm fairly sure is the same species.

Photographic voucher: https://www.inaturalist.org/observations/98601728

85. *Homethes* sp.

Occasionally seen scurrying about moss and lichen beds in the open woodland directly above the southern exotic grassland, during night walks.

Photographic voucher: https://www.inaturalist.org/observations/74362642

86. Lebiini, unidentified

Two individuals seen, both during night walks: one on the metal fence surrounding the empty lot, and one on a large eucalypt trunk in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/99417677

87. *Pentagonica* sp.

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100673696

88. Pterostichinae, unidentified

Two large adults seen crawling through mud in the western alcove. I've also found a very impressive larva (https://www.inaturalist.org/observations/93446931) at the same spot, which I'm almost certain is the same species.

Photographic voucher: https://www.inaturalist.org/observations/71289763

89. *Scopodes* sp.

Not uncommon, but all sightings in the open woodland directly above the southern exotic grassland. Always scurrying about moss, lichen and liverwort beds.

Photographic voucher: https://www.inaturalist.org/observations/72430446

Cerambycidae

90. *Ancita* sp.

Occasional along the edge of Everley Park at the southern riverine stretch. All sightings on *Acacia parramattensis*. Very close to *Ancita basicristata* in Ślipiński and Escalona (2016)

Photographic voucher: https://www.inaturalist.org/observations/64719349

91. *Coptocercus aberrans* (Newman, 1840)

Single individual seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/100670993

92. *Obrida fascialis* (White, 1846)

Single individual seen on a *Leptospermum polygaliifolium* subsp. *polygaliifolium* in the southern grassy woodland. This sighting seems to fill an interesting, considerable distributional gap of (digitised) records of this species.

Photographic voucher: https://www.inaturalist.org/observations/102156153

93. *Pempsamacra tillides* Newman, 1838

Not uncommon, with sightings along the edge of the carpark immediately below the reserve (on *Kunzea ambigua*), along the edge of Everley Park at the southern riverine stretch (on *Bursaria spinosa* and *Acacia parramattensis*), and in the southern grassy woodland (on *Leptospermum polygaliifolium* subsp. *polygaliifolium*).

Photographic voucher: https://www.inaturalist.org/observations/64591181

94. *Phoracantha semipunctata* (Fabricius, 1775)

Seen at night along the edge of the central split path and in the northern bushland, attracted to my UV lamp/moth sheet setup. I've also found a single, damaged elytron (https://www.inaturalist.org/observations/70241615) on a *Eucalyptus grandis* at the southwestern corner of the isolated *Melaleuca* patch; I'm pretty sure it's a different *Phoracantha* species, as the patterning does seem to be distinct from that of *P. semipunctata*, but I'm just not quite confident enough to list it separately given it is damaged and seems to perhaps be a little discoloured.

There are also a number of large, dead eucalypts throughout the southern bushland, central bushland and northern bushland with extensive boring damage (e.g.,

https://www.inaturalist.org/observations/96999122); I'm unsure if these are also *Phoracantha*-related. On top of these, I've also found a large, dead *Acacia decurrens* in the northern bushland with extensive boring damage (https://www.inaturalist.org/observations/97984413); I'm unsure if *Phoracantha* is always *Eucalyptus*-specific, or if it can also attack *Acacia*.

Photographic voucher: https://www.inaturalist.org/observations/97139211

95. *Stenoderus suturalis* (Olivier, 1795)

Several seen on *Kunzea ambigua* along the edge of the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/64591175

96. *Syllitus rectus* (Newman, 1841)

Several seen on *Kunzea ambigua* at the northern edge of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/64718547

Chrysomelidae

97. **Agasicles hygrophila* Selman & Vogt, 1971

Very common and widespread along the entire length of the creek, always at patches of alligatorweed (*Alternanthera philoxeroides*), the species for which they were introduced into Australia to control.

This was an interesting case. I first spotted this species on 3 February 2021; before that date, I didn't see a single one, despite having observed and photographed many patches of alligatorweed over the preceding months (not to mention it's a very conspicuous beetle that I think I would have been very unlikely to miss). From this date onwards, however, I saw them frequently along the entire creek, and indeed over the ensuing months, they completely decimated/defoliated most of the (aquatic) alligatorweed in the survey area (e.g., https://www.inaturalist.org/observations/72424991). I've been told that, in the 1980s, this section of Duck River was infested with the invasive aquatic weed *Salvinia molesta*. However, there was a 'rogue' release by persons unknown of *Cyrtobagous salviniae*, a weevil species used as a biocontrol, and it completely wiped out the *Salvinia* (and indeed I haven't observed *Salvinia* here at all). I'm wondering if perhaps the seemingly sudden appearance of *Agasicles hygrophila* reflects a similar situation. Alternatively, they may have naturally made their way to this section of Duck River, given there are/were known populations in the Georges River.

Photographic voucher: https://www.inaturalist.org/observations/69000883

98. Alticini, unidentified

One individual seen huddling among galls on a eucalypt leaf along the edge of Everley Park at the southern riverine stretch, at the third light tower, and a mating pair seen on a *Eucalyptus amplifolia* along the edge of Everley Park at the southern riverine stretch, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/90750938

99. *Aporocera flaviventris* (Saunders, 1843)

Several mating pairs seen on a young eucalypt in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/99063819

100. *Aporocera* sp.1

Single individual seen on *Persicaria* under the Wellington Road bridge.

Photographic voucher: https://www.inaturalist.org/observations/69445221

101. *Aporocera* sp.2

Single individual seen on a eucalypt (*Eucalyptus amplifolia* from memory) along the edge of Everley Park at the southern riverine stretch, between the two long-jump pits.

Photographic voucher: https://www.inaturalist.org/observations/70026607

102. *Aporocera* sp.3

One individual seen on a *Solanum americanum* along the edge of Everley Park at the southern riverine stretch, near the long jump pits.

Photographic voucher: https://www.inaturalist.org/observations/140048079

103. *Argopistes* sp.

Large numbers seen on *Notelaea longifolia* flowers throughout the southern bushland. This is a new host plant record for the genus (per Chris Reid).

Photographic voucher: https://www.inaturalist.org/observations/72431090

104. *Cadmus* sp.

One seen on a eucalypt along the edge of Everley Park at the southern riverine stretch, near the second light tower, with another seen on a eucalypt along the northern edge of the western third of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/91617644

105. *Calomela pulchella* (Baly, 1856)

Fairly common in the open woodland directly above the southern exotic grassland, and the southern bushland, with a few sightings also along the edge of Everley Park at the southern riverine stretch. Almost always on *Acacia parramattensis* or *A. decurrens*.

Photographic voucher: https://www.inaturalist.org/observations/59127541

106. *Calomela juncta* Lea, 1903

Single individual seen on a wooden post in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/144655916

107. *Chalcolampra* sp.

Single individual seen resting on a *Paspalum quadrifarium* in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/72431100

108. Chrysomelidae, unidentified

Single individual seen along the edge of Everley Park at the southern riverine stretch, near the first light tower, during a night walk. Unfortunately I only got two very rubbish photographs before it disappeared, but it's clearly something different to the other chrysomelids I've listed.

Photographic voucher: https://www.inaturalist.org/observations/98600459

109. *Dicranosterna immaculata* (Marsham, 1808)

Not uncommon in the southern exotic grassland, with one sighting also at the far northwestern corner of the northern bushland. Always on *Acacia parramattensis* or *A. decurrens*.

Photographic voucher: https://www.inaturalist.org/observations/60169653

110. *Ditropidus* sp.

Quite common, including many mating pairs, on *Acacia pubescens* in the southern bushland (especially at the large patch of *A. pubescens* above the weedy swale) and around the large, exposed patch of soil near the creek-spanning pipe. Also some individuals seen along the edge of Everley Park at the southern riverine stretch, between the second and third light towers, and in the southern bushland immediately above the open woodland directly above the southern exotic grassland; both of these sightings were on either *Acacia parramattensis* or *Acacia decurrens* (I cannot remember which; it is possible both sightings were on *A. parramattensis*, both on *A. decurrens*, or one on each).

Photographic voucher: https://www.inaturalist.org/observations/92215537

111. Bromiini, unidentified

One individual found on a *Malva neglecta* in the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/140048555

112. Eumolpinae, unidentified sp.1

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/97139215

113. *Lamprolina* sp.

Very abundant and widespread throughout the entire survey area. Almost always on *Bursaria spinosa*, sometimes with 100+ individuals on a single plant, but also seen on *Pittosporum undulatum* (including one large individual at the edge of the large swale leading from the stormwater entrance, on which there were hundreds upon hundreds of *Lamprolina*, perhaps 1000+).

Photographic voucher: https://www.inaturalist.org/observations/59127542

114. Luperini, unidentified

Occasional in the southern exotic grassland and along the edge of Everley Park at the southern riverine stretch on *Acacia parramattensis* and *Acacia decurrens*. I also found hundreds of them on *Ozothamnus diosmifolius* near the creek at the northeastern corner of the northern bushland, in mid-November 2021. A few individuals also spotted on the large *Cotoneaster glaucophyllus* on the northern bank of the western arm of the creek, near the stormwater entrance, when it was flowering in late November 2021, and on *Acacia pubescens* in the southern grassy woodland. Possibly *Adoxia benallae*.

Photographic voucher: https://www.inaturalist.org/observations/94414541

115. *Monolepta* sp.

Occasional in the open woodland directly above the southern exotic grassland, southern exotic grassland, and at the edge of the southern bushland where the main path comes from the southern exotic grassland. Seen on *Sigesbeckia orientalis* and *Calotis cuneifolia*.

Photographic voucher: https://www.inaturalist.org/observations/72430449

116. *Monolepta subsuturalis* Blackburn, 1896

Occasional, seen on *Acacia parramattensis* in the southern exotic grassland, and on *Acacia pubescens* in the southern grassy woodland. Two colour morphs seen (including mating observed between the two).

Photographic voucher: https://www.inaturalist.org/observations/61849196

117. *Nisotra breweri* Baly, 1877

Two individuals seen on a *Malva neglecta* in the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/140048556

118. **Octotoma scabripennis* Guérin-Méneville, 1844

Two individuals seen on a *Lantana camara* along the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/140486172

119. *Paropsis atomaria* Olivier, 1807

Single individual seen on a eucalypt at the small, isolated patch of bush.

Photographic voucher: https://www.inaturalist.org/observations/71289766

120. *Paropsis lutea* (Marsham, 1808)

Two individuals seen, both on eucalypts; one at the northeastern entrance to the reserve, and at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/73285448

121. *Paropsis maculata* (Marsham, 1808)

Single individual seen on a *Eucalyptus amplifolia* in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/70803863

122. *Paropsis ornata* (Marsham, 1808)

Mating pair seen on an *Angophora floribunda* on the eastern bank of the southern riverine stretch, near the chain-link fence..

Photographic voucher: https://www.inaturalist.org/observations/95836579

123. *Paropsisterna beata* (Newman, 1842)

Two individuals seen along the edge of Everley Park at the southern riverine stretch, one climbing up the first light tower and one on a *Eucalyptus amplifolia* (during a night walk), and a single elytron found at the base of a dead *Eucalyptus punctata* in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/72002636

124. *Paropsisterna crocata* (Boisduval, 1835)

Single individual seen on a eucalypt along the edge of Everley Park at the southern riverine stretch, near the first light tower.

Photographic voucher: https://www.inaturalist.org/observations/78803741

125. *Paropsisterna irina* (Chapuis, 1877)

Single individual seen on a *Kunzea ambigua* along the edge of the carpark immediately below the reserve, presumably having dropped down from a nearby eucalypt.

Photographic voucher: https://www.inaturalist.org/observations/59114598

126. *Paropsisterna nigerrima* (Germar, 1848)

One live individual (although playing dead) found in the middle of the path going northwards from the large, exposed patch of soil near the creek-spanning pipe, and a dead (squashed) individual found near the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/60177334

127. *Paropsisterna* sp.

One live individual found on a *Pittosporum revolutum* (presumably having dropped down from a nearby eucalypt) along the edge of the carpark immediately below the reserve, with a dead individual found in a spider web on a large eucalypt next to the house. Similar to *P. decolorata*. Possibly undescribed.

In addition to all the *Paropsis* and *Paropsisterna* species listed above, I've also found two different paropsine larvae. The first 'species' (https://www.inaturalist.org/observations/70239913) was a large aggregation on a eucalypt along the edge of Everley Park at the southern riverine stretch, ~30-40 m south of the first light tower. I have no clue which species these belong to. I've seen the second one (https://www.inaturalist.org/observations/68751911) on three occasions, all on eucalypts, with one along the edge of the central split path, one along the northern edge of the northern bushland, and one in the far southern bushland. These are probably *Paropsis variolosa*, but there are a few other candidates.

Photographic voucher: https://www.inaturalist.org/observations/63627194

128. *Peltoschema oceanica* (Boisduval, 1835)

Single individual seen in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/61381217

129. *Peltoschema* sp.

Single dead individual found in a spider web along the western perimeter of the reserve. I've also found a *Peltoschema* larva on an *Acacia binervia* in the northern bushland (https://www.inaturalist.org/observations/68314493) which is possibly the same species.

Photographic voucher: https://www.inaturalist.org/observations/83114090

130. *Psylliodes* sp.

Number of individuals on *Solanum americanum* along the edge of Everley Park at the southern riverine stretch, between the long jump pits and the toilet block.

Photographic voucher: https://www.inaturalist.org/observations/59426839

131. *Trachymela orbicularis* (Chapuis, 1877)

Seen twice along the edge of Everley Park at the southern riverine stretch, near the first light tower (one of these during a night walk), both on *Angophora floribunda*.

I've also seen another similar *Trachymela* (https://www.inaturalist.org/observations/95836576), also on *Angophora floribunda* but on the eastern bank of the southern riverine stretch, near the chain-link fence; I'm unsure if this is a different species.

Photographic voucher: https://www.inaturalist.org/observations/59114581

132. *Trachymela* sp.

Single individual seen on a eucalypt on the eastern bank of the southern riverine stretch, near the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/93446924

Cleridae

133. Cleridae, unidentified

Single individual seen on a *Eucalyptus amplifolia* along the southern riverine stretch, ~40 m north of the double long-jump pit.

Photographic voucher: https://www.inaturalist.org/observations/102982336

134. *Eleale pulcher* (Newman, 1840)

Quite common throughout the reserve, with sightings in the southern bushland, northern grassy woodland, southern grassy woodland, and along the edge of the carpark immediately below the reserve. Most commonly seen on *Kunzea ambigua* and *Ozothamnus diosmifolius*, also seen on *Leptospermum polygaliifolium* subsp. *polygaliifolium*.

Photographic voucher: https://www.inaturalist.org/observations/63862786

135. *Eleale* sp.

Quite common, especially in the northern grassy woodland; also seen along the edge of the carpark immediately below the reserve. All sightings on *Kunzea ambigua*, with a number of mating pairs seen. From Justin Bartlett:

"Well, the pronotum is clearly transversely rugulose, and it keys out to *E. aspera* using Elston's (1921) key.

That key, however, is now 100 years old and does not contain all *Eleale* species. I also know of other specimens that clearly represent a different species that would also key out to *E. aspera*. The main difference (I think?) is size of elytral punctation and depth of the emargination of the terminal antennomere.

My photos of the two *Eleale aspera* syntypes (one in Paris, one in London) suggest that true *E. aspera* is the species with a smaller antennal emargination. Yours conforms to this character well enough . . . so it's relatively safe to call it E. aspera.

I would be calling it *Eleale* c.f. *aspera*…until you get them under a microscope."

Photographic voucher: https://www.inaturalist.org/observations/64029932

136. *Eunatalis* sp.

Seen on a *Eucalyptus fibrosa* trunk in the northern grassy woodland, attracted to my UV lamp/moth sheet setup at night (the tree was one of two I had tied the net to). Based on the key in Gerstmeier and Seitner (2013), this is either *E. pernodulosa* or *E. spadicea*.

Photographic voucher: https://www.inaturalist.org/observations/98601725

137. *Lemidia subaenea* Gorham, 1877

Single individual seen on a *Cestrum parqui* along the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/91617643

138. *Trogodendron fasciculatum* (Schreibers, 1802)

Single individual found on a large, fallen eucalypt in the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/64717491

Coccinellidae

139. *Apolinus lividigaster* (Mulsant, 1853)

Several seen on *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch, between the third light tower and the ancient eucalypt hybrid, and one dead individual being preyed on by a *Dolophones* near the huge sea of weeds along the creek in line with the central split path.

Photographic voucher: https://www.inaturalist.org/observations/93446911

140. *Coccinella transversalis* Fabricius, 1781

One individual seen at the interface between the southern exotic grassland and the open woodland directly above it, one on the eastern bank of the southern riverine stretch near the creek crossing, and a single elytron found in a spider web on the metal fence surrounding the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/64589758

141. Coccidulinae, unidentified

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225320

142. Coccinellidae, unidentified

Single individual seen on a *Melaleuca thymifolia* in the northern bushland. Possibly *Rhyzobius*.

Photographic voucher: https://www.inaturalist.org/observations/83593612

143. *Coelophora inaequalis* (Fabricius, 1775)

Common and widespread throughout the entire survey area, with sightings in the southern exotic grassland, southern grassy woodland, open woodland directly above the southern exotic grassland, northern bushland, western alcove, at the creek-spanning pipe, along the southern riverine stretch, and along the edge of the carpark immediately below the reserve. Seen on a wide variety of plants, including *Salix babylonica, Kunzea ambigua, Ozothamnus diosmifolius, Acacia parramattensis, Acacia longifolia, Campsis × tagliabuana, Acacia falcata, Solanum americanum* and *Arthropodium* sp. South-east Highlands (N.G.Walsh 811) Vic. Herbarium. Most sightings of adults, but some larvae also seen.

Photographic voucher: https://www.inaturalist.org/observations/65204233

144. *Cryptolaemus montrouzieri* Mulsant, 1853

One adult seen on an *Acacia pubescens* just above the large, exposed patch of soil near the creek-spanning pipe, with another seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk. I've also seen a larva (https://www.inaturalist.org/observations/101251686) on a large eucalypt in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/93018827

145. *Harmonia conformis* (Boisduval, 1835)

Quite common, with sightings in the southern bushland, just above the weedy swale (on *Acacia pubescens*), at the southwestern corner of the isolated *Melaleuca* patch, in the section of western exotic grassland above Melita Stadium (with a number of them on *Rumex conglomeratus*), and along the edge of Everley Park at the southern riverine stretch, mostly between the third light tower and the ancient eucalypt hybrid (interestingly there were very large numbers at this stretch all throughout August and September 2021, all on *Acacia decurrens*), but also near the toilet block, including on *Acacia falcata*. Adults, pupae and larvae seen.

Photographic voucher: https://www.inaturalist.org/observations/90750933

146. *Harmonia testudinaria* (Mulsant, 1850)

Single individual seen on the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/90750951

147. *Henosepilachna vigintioctopunctata* (Fabricius, 1775)

Somewhat common, although almost all sightings around a relatively small stretch along the edge of Everley Park at the southern riverine stretch, in line with the long jump pits to the creek crossing, with one sighting also on the eastern bank of the southern riverine stretch. Almost always on *Solanum americanum*, one sighting on *Bidens pilosa* (likely resting only).

Photographic voucher: https://www.inaturalist.org/observations/60169642

148. *Illeis galbula* (Mulsant, 1850)

Occasional, with most sightings on vegetation along the creek, including near the big kink in the creek and at the creek-spanning pipe. Two individuals also seen along the edge of Everley Park at the southern riverine stretch, one near the ancient eucalypt hybrid, and one on an *Acacia falcata* near the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/60694725

149. *Micraspis frenata* (Erichson, 1842)

Quite common and widespread throughout the reserve proper, with sightings at and around the large *Canna indica* patch at the southern end of the reserve (with quite a few larvae on the *Canna indica*), just below the carpark immediately below the reserve, in the western split grassland, at the creek spanning pipe, in the northern grassy woodland, in the northern bushland, and along the creek near the Wellington Road bridge. Seen on a wide variety of plants, including *Bidens pilosa, Lolium perenne, Canna indica, Rumex brownii, Kunzea ambigua, Commelina cyanea* and *Lepidium didymum*. Adults and larvae seen.

Photographic voucher: https://www.inaturalist.org/observations/68314486

Corylophidae

150. Corylophidae, unidentified

Single individual seen on the large *Corymbia citriodora* along the edge of Everley Park, at the far southern end of the survey area.

Photographic voucher: https://www.inaturalist.org/observations/58813355

Curculionidae

151. Baridinae, unidentified

Single individual seen on a *Eucalyptus capitellata* along the edge of Everley Park at the southern riverine stretch, ~20 m south of the first light tower.

Photographic voucher: https://www.inaturalist.org/observations/94089725

152. Curculionidae, unidentified

Single individual seen on a *Polyscias sambucifolia* in the southern bushland, near the weedy swale. Roughly the size of a *Chrysolopus spectabilis* weevil, mottled dark and light brown, rostrum was quite elongate and curved. Unfortunately it leapt off the plant as I went to take a photo, and disappeared among the leaf litter.

Photographic voucher: none, but unmistakeable as a weevil, and very clearly different to any of the other weevils I've observed in the survey area.

153. Gonipterini, unidentified sp.1

Not uncommon, with sightings (including mating pairs) in the northern bushland, along the eastern bank of the southern riverine stretch, and at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland. Seen on a number of eucalypts, including *Eucalyptus amplifolia* and *Angophora floribunda*.

Photographic voucher: https://www.inaturalist.org/observations/93446936

154. Gonipterini, unidentified sp.2

Single individual seen on a eucalypt in the northern bushland (interestingly, the same plant at the same time as a mating pair of 'Gonipterini, unidentified sp.1').

Photographic voucher: https://www.inaturalist.org/observations/93446937

155. Laemosaccini, unidentified

Single individual seen on an *Acacia parramattensis* at the edge of the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/140955355

156. *Leptopius robustus* (Olivier, 1807)

Quite common and widespread throughout the survey area (assuming that all of the large *Leptopius* that I've seen are indeed the same species, which at face value they seem to be), with sightings in the southern bushland, northern bushland, southern grassy woodland, the open woodland directly above the southern exotic grassland, and along the southern riverine stretch (both along the edge of Everley Park, and on the eastern bank). Seen on quite a wide variety of plants, including *Acacia longifolia, Melaleuca styphelioides, Casuarina glauca*, *Dodonaea triquetra,* and an assortment of eucalypt species.

I found one interesting dead individual in the northern bushland. Before dying, it had climbed to the top of a medium-sized shrub (perhaps ~2 m off the ground), and held onto the branchlet very tightly. The weevil was covered in a number of black, discoloured patches, and had a large parasite of some description starting to emerge from its rear (https://www.inaturalist.org/observations/63629483). I have no idea if the parasite was a 'worm' (e.g., Nematomorpha), or an insect larva.

Photographic voucher: https://www.inaturalist.org/observations/65391387

157. *Mandalotus* sp.

Single individual found underneath a metal blown-in sign at the interface between the southern exotic grassland and the open woodland directly above it.

Photographic voucher: https://www.inaturalist.org/observations/78803745

158. **Naupactus peregrinus* (Buchanan, 1939)

Single dead individual found at the patch of fallen *Melaleuca* bark sheets, during a night walk. It was holding tightly onto a branchlet and had been parasitised by a fungus ('Cordycipitaceae, unidentified').

Photographic voucher: https://www.inaturalist.org/observations/69789465

159. *Oxyops fasciatus* (Boisduval, 1835)

Single individual seen on a eucalypt along the eastern bank of the southern riverine stretch, at the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/96459189

160. **Pantomorus cervinus* (Boheman, 1840)

Single individual seen along the edge of Everley Park at the southern riverine stretch, at the third light tower.

Photographic voucher: https://www.inaturalist.org/observations/72002909

161. Scolytinae, unidentified

Single tiny individual dropped down onto my phone from a dead *Eucalyptus punctata* in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/97005842

Dermestidae

162. *Anthrenus verbasci* (Linnaeus, 1767)

Fairly common and widespread throughout the reserve proper, with sightings the along the edge of the carpark immediately below the reserve, at the interface between the isolated *Melaleuca* patch and the southern exotic grassland, near the large, exposed patch of soil near the creek-spanning pipe, at the small, isolated patch of bush, and in the northern grassy woodland. Seen pollinating a wide variety of plants, including *Zieria smithii, Eucalyptus eugenioides, Kunzea ambigua* and *Melaleuca nodosa*.

Photographic voucher: https://www.inaturalist.org/observations/59431936

163. *Trogoderma froggatti* Blackburn, 1892

Occasional, with most sightings along the edge of Everley Park at the southern riverine stretch, including on *Melaleuca nodosa*. One individual seen on *Clematis glycinoides* in the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/58813352

164. *Trogoderma* sp.

Fairly common, with sightings in the southern bushland, northern grassy woodland, at the small, isolated patch of bush, along the edge of Everley Park at the southern riverine stretch, and just above the large, exposed patch of soil near the creek-spanning pipe. Usually seen on *Melaleuca nodosa, Acacia pubescens,* and *Kunzea ambigua*.

In addition to these three dermestids I've listed, I've also found a dermestid larva (https://www.inaturalist.org/observations/66507320) on a Red Fox skull in the northern bushland, however, I'm unsure if it belongs to any of these species.

Photographic voucher: https://www.inaturalist.org/observations/93018843

Dytiscidae

165. Dytiscidae, unidentified

Not uncommon. Always seen in swales and ephemeral pools formed by rain, including in a small, ephemeral, puddle along the edge of the western exotic grassland near the western entrance/exit to the western split grassland, in the shaded, damp swale in the southern bushland, in the swale in the northern bushland, and in the two parallel swales in the central bushland. Mating pairs seen.

Photographic voucher: https://www.inaturalist.org/observations/140048561

166. *Rhantus suturalis* (W.S. Macleay, 1825)

Large numbers of adults and larvae (https://www.inaturalist.org/observations/114130405) seen in a series of large puddles that formed along a path through the central bushland after heavy rains and flooding late April 2022.

Photographed voucher: https://www.inaturalist.org/observations/114130412

Elateridae

167. *Anilicus xanthomus* (W.S. Macleay, 1826)

Single individual seen on a *Kunzea ambigua* along the edge of the carpark immediately below the reserve. Probably 6-7 mm long, classic click beetle head and thorax shape. Relatively short antennae with somewhat chunky segments. The anterior half of its elytra were a vivid orange. Unfortunately it flew off right as I went to take a photo, but I'm almost 100% confident of my ID.

Photographic voucher: none, but I made a drawing (https://www.inaturalist.org/observations/102152626)

172. *Dicteniophorus* sp.

Single individual seen on creekside vegetation along the southern riverine stretch, ~40 m south of the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/65204225

168. Elateridae, unidentified sp.1

Single individual found on an *Acacia pubescens* in the southern bushland, just above the weedy swale. Dropped to the leaf litter and played dead.

Photographic voucher: https://www.inaturalist.org/observations/78196759

169. Elateridae, unidentified sp.2

Single elytron found along the edge of Everley Park at the southern riverine stretch, at the first light tower.

Photographic voucher: https://www.inaturalist.org/observations/92444755

170. Elateridae, unidentified sp.3

One individual seen on a large eucalypt trunk in the southern bushland and one along the central split path, both during night walks.

Photographic voucher: https://www.inaturalist.org/observations/100669826

171. Elateridae, unidentified sp.4

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927913

Erotylidae

173. *Episcaphula pictipennis* Crotch, 1876

Single adult found on my sleeve after walking out of the northern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/140332711

Hydraenidae

174. *Hydraena* sp.

Single individual seen in the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021.

Photographic voucher: https://www.inaturalist.org/observations/100060403

Lycidae

175. Lycidae, unidentified

Seen in very large numbers (including many mating pairs) in the southern grassy woodland, at the edge of the huge sea of weeds along the creek in line with the central split path, and in the northern bushland. Seen pollinating *Kunzea ambigua, Leptospermum trinervium,* and *Leptospermum polygalifolium* subsp. *polygalifolium*, with hundreds, maybe even thousands, of individuals flying around, and on the flowers of, individual plants. One of two genera: *Xylobanus* or *Stadenus*.

Photographic voucher: https://www.inaturalist.org/observations/65065786

176. Metriorrhynchini, unidentified

Mating pair seen on a *Leptospermum polygalifolium* subsp. *polygalifolium* in the southern grassy woodland. Probably *Trichalus* sp.

Photographic voucher: https://www.inaturalist.org/observations/102156158

177. *Porrostoma rhipidium* (W.S. Macleay, 1826)

Not uncommon, and fairly widespread, with sightings along the edge of Everley Park at the southern riverine stretch, on the eastern bank of the southern riverine stretch, at the interface between the isolated *Melaleuca* patch and the southern exotic grassland, in the southern grassy woodland, and in the northern grassy woodland. Seen on *Kunzea ambigua, Eucalyptus eugenioides, Leptospermum polygaliifolium* subsp. *polygaliifolium*, *Angophota floribunda*, and *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/63629467

178. *Trichalus ampliatus* Waterhouse, 1877

Single individual seen in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/79914636

Meloidae

179. Nemognathinae, unidentified

Single individual seen pollinating an *Angophora floribunda* (high up in the canopy) on the eastern bank of the southern riverine stretch, near the chain-link fence.

Photographic voucher: https://www.inaturalist.org/observations/66034701

Melyridae

180. *Balanophorus* sp.

Two individuals seen: one at the patch of fallen *Melaleuca* bark sheets, and another on an *Angophora floribunda* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/66765423

181. *Dicranolaius cinctus* (Redtenbacher, 1867)

Single male seen on a *Melaleuca decora* in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/65874707

182. Melyridae, unidentified

Single individual seen on an *Acacia parramattensis* just below the large *Canna indica* patch at the southern end of the reserve. Possibly *Carphurus* or *Helcogaster*.

Photographic voucher: https://www.inaturalist.org/observations/59861462

Mordellidae

183. *Hoshihananomia leucosticta* (Germar, 1848)

Single individual seen along the edge of Everley Park at the southern riverine stretch, between the second and third light towers.

Photographic voucher: https://www.inaturalist.org/observations/64591170

184. *Hoshihananomia multiguttata* (Waterhouse, 1878)

Single individual seen on a *Leptospermum polygaliifolium* subsp. *polygaliifolium* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/102983720

185. *Mordella sydneyana* Blackburn, 1893

During spring and summer 2020, and spring 2021, there were thousands of small mordellids on *Kunzea ambigua* in the northern grassy woodland, on *Ozothamnus diosmifolius* in the northern grassy woodland, southern bushland, and southern grassy woodland, and on *Acacia parramattensis* along the southern riverine stretch and in the southern grassy woodland. Among these are definitely two species that co-occur on the same plants at the same time (*Mordella sydneyana* and 'Mordellidae, unidentified'), but I suspect that I'm underestimating the small mordellid diversity in the reserve, and that there may be an additional 1-2 species at the very least, but I would need to collect specimens to be sure.

Photographic voucher: https://www.inaturalist.org/observations/99861983

186. Mordellidae, unidentified

See entry above.

Photographic voucher: https://www.inaturalist.org/observations/63629468

Nitidulidae

187. Nitidulidae, unidentified

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937860

Ptinidae

188. Dorcatomini, unidentified

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100675183

189. *Stagetomorphus lanigera* (Olliff, 1889)

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98601715

Rhipiceridae

190. *Rhipicera femorata* Kirby, 1818

Two males seen – one on a *Grevillea robusta* along the edge of Everley Park at the southern riverine stretch, near the second light tower, and one on the eastern bank of the southern riverine stretch, at the big kink in the creek – and one dead female (https://www.inaturalist.org/observations/70803852) found in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/70027349

Scarabaeidae

191. *Adoryphorus coulonii* (Burmeister, 1847)

One adult female found on the eastern bank of the southern riverine stretch, at the big kink in the creek, with another seen at the southern edge of the southern bushland (with the latter squeaking very loudly/indignantly when I picked it up to take photos).

Photographic voucher: https://www.inaturalist.org/observations/69707256

192. *Ataenius* sp.

Several individuals found in a puddle in the middle of the path in the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/105339541

193. *Chondropyga* sp.

Single individual flew past me along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*. Unsure if *C. dorsalis* or *C. gulosa* (or perhaps one of the rarer species?).

Photographic voucher: none, but unmistakeable; I've seen and photographed this genus many times elsewhere.

194. *Eupoecila australasiae* (Donovan, 1805)

Single individual seen pollinating an *Angophora floribunda*, high in the canopy, at the western edge of the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/66504442

195. *Glycyphana stolata* (Fabricius, 1781)

Common and widespread throughout the survey area, with sightings along the edge of the carpark immediately below the reserve, in the southern exotic grassland, at the small, isolated patch of bush, in the northern grassy woodland, and along the edge of Everley Park at the southern riverine stretch. Seen on a variety of plants, including *Melaleuca nodosa, Kunzea ambigua* (on which it's most common)*, Bursaria spinosa, Acacia decurrens* and *Acacia parramattensis*.

Photographic voucher: https://www.inaturalist.org/observations/147816267

196. **Heteronychus arator* (Fabricius, 1775)

Not uncommon, with sightings in the southern exotic grassland, and along the edge of Everley Park at the southern riverine stretch, including during night walks.

Photographic voucher: https://www.inaturalist.org/observations/94089728

197. *Liparetrus* sp.1

Not uncommon, with sightings in the northern bushland, northern grassy woodland, and along the edge of Everley Park at the southern riverine stretch, at the second light tower.

Photographic voucher: https://www.inaturalist.org/observations/93446947

198. *Liparetrus* sp.2

One individual seen on a eucalypt in the far southern bushland, with another found trying to burrow into the clay soil in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/101251006

199. Melolonthinae, unidentified sp.1

Very common and widespread throughout the survey area, with sightings in the northern bushland, far southern bushland, northern grassy woodland, along the central split path, and along the edge of Everley Park at the southern riverine stretch. Seen on a wide variety of plants, including *Acacia decurrens, Kunzea ambigua,* and assorted eucalypts. Also often attracted to my UV lamp/moth sheet setup along the edge of the central split path, in the northern bushland, and along the edge of the shaded, damp swale in the southern bushland, with at least 40-50 attracted to my moth sheet on a single occasion in mid-December 2021. Sightings during both day and night walks. I suspect that the individuals I'm lumping in here as one species may actually be at least two very similar species, possibly more. The most conspicuously hairy of the four unidentified Melolonthinae species I've listed here.

Photographic voucher: https://www.inaturalist.org/observations/103225371

200. Melolonthinae, unidentified sp.2

Number of individuals seen feeding on *Eucalyptus amplifolia* along the edge of Everley Park at the southern riverine stretch, ~30 m north of the double long-jump pit, during a night walk. Medium-sized, most darkly coloured of the four unidentified Melolonthinae species I've listed here.

Photographic voucher: https://www.inaturalist.org/observations/103223456

201. Melolonthinae, unidentified sp.3

Single dead individual found in the far southern bushland, during a night walk. Prominent parallel striations on the elytra.

Photographic voucher: https://www.inaturalist.org/observations/69789393

202. Melolonthinae, unidentified sp.4

Number of individuals seen feeding on *Eucalyptus amplifolia* along the edge of Everley Park at the southern riverine stretch, ~30 m north of the double long-jump pit, during a night walk. One individual also found on an *Acacia decurrens* in the northern bushland, during a night walk. Probably the smallest of the four unidentified Melolonthinae species I've listed here.

I've also seen a very similar individual (at the same stand of *Eucalyptus amplifolia*) that looks almost identical except for being much paler coloured (https://www.inaturalist.org/observations/103223459); I'm unsure if this is a different species.

Photographic voucher: https://www.inaturalist.org/observations/103223462

203. *Neorrhina punctatum* (Donovan, 1805)

Occasional, with sightings at the creek-spanning pipe (on a *Bursaria spinosa*), at the western edge of the open woodland directly above the southern exotic grassland (on an *Angophora floribunda*, high in the canopy), and along the edge of the carpark immediately below the reserve (on *Kunzea ambigua*).

Photographic voucher: https://www.inaturalist.org/observations/64719348

204. *Onthophagus* sp.

Occasional in the southern bushland during night walks. Unfortunately all of the individuals I've seen have been females, which are very difficult to identify for this genus.

Photographic voucher: https://www.inaturalist.org/observations/97137722

205. *Phyllotocus kingii* Macleay, 1864

Not uncommon. Seen pollinating *Kunzea ambigua* in the northern grassy woodland, and *Leptospermum polygaliifolium* subsp. *polygaliifolium* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/64029928

206. *Phyllotocus macleayi* Fischer, 1823

Several individuals seen on an *Angophora floribunda* at the eastern bank of the southern riverine stretch, near the chain-link fence.

Photographic voucher: https://www.inaturalist.org/observations/66037604

207. *Phyllotocus scutellaris* Macleay, 1864

Seen on *Kunzea ambigua* along the edge of the carpark immediately below the reserve, on a *Leptospermum polygaliifolium* subsp. *polygaliifolium* in the southern grassy woodland, and on *Melaleuca styphelioides* along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/65391376

208. *Rhopaea verreauxii* Blanchard, 1851

One large (dead) individual found in a spider web in the central bushland, with another (live) individual seen in the southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/102156605

209. *Sericesthis* sp.

Large numbers seen swarming over and feeding on *Eucalyptus amplifolia* along the edge of Everley Park at the southern riverine stretch, ~30 m north of the double long-jump pit, during a night walk. A number also seen in the southern bushland, also feeding on (young) eucalypts at night.

Photographic voucher: https://www.inaturalist.org/observations/103223458

Scirtidae

210. Scirtidae, unidentified

Large numbers seen in swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021, including many individuals walking upside-down on the water's surface (https://www.inaturalist.org/observations/99867510).

Photographic voucher: https://www.inaturalist.org/observations/100038633

Staphylinidae

211. Pselaphinae, unidentified

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672574

212. *Stenus* sp.1

Single individual seen running through mosses in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/72430444

213. *Stenus* sp.2

One individual seen running on the water's surface at the shaded, damp swale in the southern bushland, after it filled with rain in mid-October 2021, with several others seen on wet vegetation around the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021.

Photographic voucher: https://www.inaturalist.org/observations/98469924

Tenebrionidae

214. *Adelium brevicorne* Blessig, 1861

Occasional, with sightings in the southern bushland, at the patch of fallen *Melaleuca* bark sheets, and along the central split path. Mostly seen during night walks. I'm unsure if the individuals I've seen also include a second species (e.g., https://www.inaturalist.org/observations/97137735).

Photographic voucher: https://www.inaturalist.org/observations/70492095

215. *Euomma lateralis* Boheman, 1858

Large numbers swarming over a *Eucalyptus fibrosa* trunk in the southern bushland. I've also seen a number of individuals at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/63628801

216. Amarygmini, unidentified

Occasionally seen on large eucalypt trunks, with sightings in the carpark immediately below the reserve, and along the edge of Everley Park at the southern riverine stretch, near the toilet block.

Photographic voucher: https://www.inaturalist.org/observations/58813356

217. *Ecnolagria* sp.

Not uncommon, with sightings along the edge of Everley Park, in the northern bushland, and on the eastern bank of the southern riverine stretch. Probably *Ecnolagria grandis*.

Photographic voucher: https://www.inaturalist.org/observations/97985877

218. Heleini, unidentified

Two dead individuals found; one (largely intact) in the far southern bushland, with another (without a head or thorax) in the southern bushland, being scavenged by *Crematogaster* ants.

Photographic voucher: https://www.naturalist.org/observations/69790147

219. Lagriina, unidentified

Single individual seen on a eucalypt in the far southern bushland. Possibly *Ecnolagria tomentosa*.

Photographic voucher: https://www.inaturalist.org/observations/70492088

220. *Leiochrodes suturalis* Westwood, 1883

Single individual seen at the far southern end of the creek, on the concrete ledge extending from the flooded concrete platform on the western creekbank directly north of the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/97985874

221. *Lepturidea* sp.

One individual seen in the northern bushland on an *Ozothamnus diosmifolius*.

Photographic voucher: https://www.inaturalist.org/observations/97430856

222. *Nocar* sp.

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100673706

223. *Ospidus chrysomeloides* Pascoe, 1866

Single individual seen on a large eucalypt trunk, near the northwestern entrance to the reserve.

Photographic voucher: https://www.inaturalist.org/observations/66643724

224. *Pterohelaeus* sp.1

Occasional, with sightings in the carpark immediately below the reserve, in the northern grassy woodland (on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot), and in the southern exotic grassland. Almost always seen wedged under bark/bark sheets on large trees, including *Melaleuca decora* and *Eucalyptus*.

Photographic voucher: https://www.inaturalist.org/observations/69789341

225. *Pterohelaeus* sp.2

Small individual seen in the southern bushland, during a night walk. Played dead very convincingly.

Photographic voucher: https://www.inaturalist.org/observations/97137726

226. *Seirotrana catenulata* (Boisduval, 1835)

One individual found inside a large rotting log in the central bushland, which played dead very convincingly when I first uncovered it, and another seen in the southern bushland during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/70244337

Unidentified to family

227. Coleoptera, unidentified

Single individual seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk. Possibly Euxestidae or Discolomatidae, but I couldn't get good enough photos to really make a decent ID.

Photographic voucher: https://www.inaturalist.org/observations/98600482

Butterflies

Hesperiidae

228. *Cephrenes augiades* (C. Felder, 1860)

No live individuals encountered, but I found a single wing in the central bushland. An almost perfect match for the left forewing of a pale form female of this species, as pictured in Braby (2016).

Photographic voucher: https://www.inaturalist.org/observations/74609061

229. *Ocybadistes walkeri* Heron, 1894

Abundant and widespread, and possibly the most common butterfly species in the survey area (certainly the most common native species), with sightings in almost every section. Seen pollinating

a wide variety of species, including *Calotis cuneifolia*, *Ligustrum sinense*, *Kunzea ambigua*, and *Rorippa nasturtium-aquaticum*, although most often seen perching on grasses.

I will note that it is very possible that some of the individuals I've seen have actually been either *O. flavovittata* or *Suniana sunias*, both of which are very similar to/difficult to differentiate from *O. walkeri*, especially when they're in flight and for encounters where photographs weren't taken. There is at least one individual I've seen (https://www.inaturalist.org/observations/64029924) that, based on the patterning/colouration on the underside of the right-hand forewing, could be *Suniana sunias*, but I'm not confident enough to make the call.

Photographic voucher: https://www.inaturalist.org/observations/70492074

230. *Toxidia peron* (Latreille, 1824)

Several individuals pollinating *Kunzea ambigua* in the northern grassy woodland, with one seen in the northern bushland, and one in the western exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/97429637

231. *Trapezites praxedes* (Plötz, 1884)

Single individual seen in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/140478574

Lycaenidae

232. *Erina hyacinthina* (Semper, 1879)

Not uncommon, with sightings in the southern bushland, central bushland, northern grassy woodland, and northern bushland. Most individuals I've encountered have been very flighty and difficult to approach without spooking them. Seen pollinating a *Verbena bonariensis*.

Photographic voucher: https://www.inaturalist.org/observations/99861988

233. *Jalmenus evagoras* (Donovan, 1805)

I initially saw a single adult from ~25 m away in the northern bushland, close to the creek, and a single caterpillar (https://www.inaturalist.org/observations/74607899) on an *Acacia parramattensis* in the southern bushland, being tended to by ants ('*Iridomyrmex* sp.2'), both in April 2021. In mid-December 2021 I chanced upon a recent mass emergence at the northern grassy woodland. There were at least 40-50 adults fluttering around and landing on plants (including *Bursaria spinosa* and *Acacia decurrens*), plus at least that many chrysalises and caterpillars (https://www.inaturalist.org/observations/102981003; on *Acacia decurrens*) being attended to by *Iridomyrmex* sp.2. Many of the adults were then seen roosting at night on the same plants a few days later.

As of early April 2022, a number of the *A. decurrens* at the southwestern corner of the northern grassy woodland had been almost entirely defoliated by caterpillars.

Photographic voucher: https://www.inaturalist.org/observations/102981005

234. *Zizina otis labradus* (Godart, [1824])

Fairly abundant and widespread, although mostly restricted to the reserve proper, with very few sightings along the southern riverine stretch. Sightings in almost all sections of the reserve, and

probably the second most common native butterfly after *Ocybadistes walkeri*. Seen pollinating a wide variety of species, including many non-natives such as *Convolvulus farinosus*, *Senecio madagascariensis*, and *Bidens alba*.

Photographic voucher: https://www.inaturalist.org/observations/66507309

Nymphalidae

235. *Danaus petilia* (Stoll, 1790)

Rare, with just two individuals seen on a single occasion in the southern exotic grassland, pollinating *Verbena bonariensis*.

Photographic voucher: https://www.inaturalist.org/observations/69706173

236. **Danaus plexippus* (Linnaeus, 1758)

Not uncommon, with adults seen in the southern exotic grassland, northern grassy woodland, along the edge of Everley Park at the southern riverine stretch, and along the length of the creek in the reserve proper. I've also seen caterpillars (https://www.inaturalist.org/observations/64220893) on *Gomphocarpus physocarpus* at the eastern edge of the northern bushland, and a chrysalis (https://www.inaturalist.org/observations/65874717; seemingly parasitised or diseased) at the edge of the huge sea of weeds along the creek in line with the central split path.

Photographic voucher: https://www.inaturalist.org/observations/66763149

237. *Euploea corinna* (W.S. Macleay, 1826)

Quite common, with sightings in the southern bushland (most sightings are in this section by far), far southern bushland, and southern grassy woodland. Often seen lazily fluttering around at or just above head height. Seen pollinating *Lantana camara*. This was the earliest butterfly species I saw in 2021 in the reserve after/during winter (first one seen 28 July 2021). Seen roosting at night in a *Melaleuca decora* in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/64584482

238. *Heteronympha merope* (Fabricius, 1775)

Somewhat common, with sightings in the far southern bushland, southern bushland, central bushland, and northern bushland. Almost always seen resting on the ground, occasionally on tree trunks.

Photographic voucher: https://www.inaturalist.org/observations/64025360

239. *Junonia villida* (Fabricius, 1787)

Occasional. All sightings in the southern exotic grassland, except for one in the central bushland and one in the northern grassy woodland. Almost always seen resting on the ground.

Photographic voucher: https://www.inaturalist.org/observations/65867792

240. *Tirumala hamata* (Macleay, 1826)

Occasional, almost always close to water. Sightings in the northern bushland near the creek, along the section of creek abutting the southern grassy woodland, in the northern grassy woodland, and, on several occasions, 2-3 individuals fluttering around the central bridge (including one encounter

where two *T. hamata* and one *Euploea corinna* were all chasing each other). Seen pollinating *Persicaria*.

Photographic voucher: https://www.inaturalist.org/observations/64714155

241. *Vanessa itea* (Fabricius, 1775)

Uncommon, with three sightings in the southern bushland, two resting on *Eucalyptus fibrosa* trunks and one resting in the middle of the path, and one in the southern grassy woodland pollinating *Pimelea linifolia*.

Photographic voucher: https://www.inaturalist.org/observations/62013268

242. *Vanessa kershawi* (McCoy, 1868)

Common and widespread, with sightings in the southern bushland, northern bushland, northern grassy woodland, southern grassy woodland, western exotic grassland, in the section of western exotic grassland above Melita Stadium, and along the edge of Everley Park at the southern riverine stretch. Seen pollinating *Taraxacum officinale*, *Nothoscordum borbonicum* and *Kunzea ambigua*.

Photographic voucher: https://www.inaturalist.org/observations/101246161

Papilionidae

243. *Graphium choredon* (C. & R. Felder, 1864)

Single individual seen resting on grasses along the edge of Everley Park at the southern riverine stretch, near the first long jump pit.

Photographic voucher: https://www.inaturalist.org/observations/70026605

244. *Papilio aegeus* Donovan, 1805

Occasional, with almost all sightings along the creek, including at the creek crossing, near the large *Canna indica* patch at the southern end of the reserve, and near the creek-spanning pipe. One individual seen in the northern bushland, and one in the southern bushland, fluttering around the swale to the immediate right of the main path coming from the southern exotic grassland. Usually on the wing and zipping past at a rate of knots.

Photographic voucher: https://www.inaturalist.org/observations/102980996

245. *Papilio anactus* Macleay, 1826

Single individual seen lazily fluttering in a clearing in the southern bushland. Briefly interacted with a large male *Papilio aegeus* in mid-flight.

Photographic voucher: https://www.inaturalist.org/observations/106218307

Pieridae

246. *Appias paulina* (Cramer, [1777])

Single individual seen on the northern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/70024057

247. *Belenois java* (Linnaeus, 1768)

Not uncommon for much of my survey, with most sightings in the southern exotic grassland and the open woodland directly above the southern exotic grassland, with one at the far southern end of the southern riverine stretch, near the large *Corymbia citriodora*. However, this species appeared in large numbers throughout much of the survey area throughout October 2022 (and indeed this species was abundant throughout Sydney more broadly during this period as well).

Seen pollinating a variety of species, including *Calotis cuneifolia, Leptospermum trinervium*, *Ozothamnus diosmifolius*, and *Verbena bonariensis*.

Photographic voucher: https://www.inaturalist.org/observations/63627188

248. *Delias aganippe* (Donovan, 1805)

One individual seen resting on a eucalypt at the eastern bank of the southern riverine stretch, near the big kink in the creek, one fluttering across a clearing in the northern grassy woodland, one flying around large mistletoes (*Amyema miquelii*) in the western exotic grassland, and one resting on a small *Melaleuca* in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/93013568

249. *Delias nigrina* (Fabricius, 1775)

Fairly common and widespread, with sightings in the southern bushland, central bushland, northern bushland, and near the creek crossing. Groups of anywhere up to 6-7 individuals often seen. Quite difficult to photograph, as almost all of my sightings have been of individuals/groups fluttering around the canopy.

Photographic voucher: https://www.inaturalist.org/observations/74609079

250. *Eurema hecabe* (Linnaeus, 1758)

Single individual seen pollinating *Kunzea ambigua* in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/65059619

251. *Eurema smilax* (Donovan, 1805)

One individual seen fluttering low above the grass on the eastern bank of the southern riverine stretch, with another doing the same along the edge of Everley Park at the southern riverine stretch, in between the two long-jump pits.

Photographic voucher: https://www.inaturalist.org/observations/98464039

252. **Pieris rapae* (Linnaeus, 1758)

Abundant, mostly along the southern riverine stretch (due to the abundance of *Brassica fruticulosa* there) and in the southern exotic grassland, but also seen in the carpark immediately below the reserve, southern grassy woodland, central bushland, and near the creek-spanning pipe. I'm yet to see one northwards of the central bushland, and almost all of my sightings of them in any bushland or woodland have been around the weedy edges of these sections. Probably the most common butterfly species in the survey area, competing with *Ocybadistes walkeri*. Seen pollinating a large variety of species, including *Pimelea linifolia, Nothoscordum borbonicum*, *Verbena bonariensis, Verbena quadrangularis, Glycine clandestina, Convolvulus farinosus, Leptospermum polygalifolium* subsp. *polygaliifolium, Kunzea ambigua, Calotis cuneifolia* and *Bidens pilosa*.

Photographic voucher: https://www.inaturalist.org/observations/63622291

Caddisflies

Calamoceratidae

253. *Anisocentropus* sp.

Found dead in a large *Hortophora* web strung across the path at the western exotic grassland. Based on the information in Neboiss (1980), this is either *A. bicoloratus* or *A. valgus*.

Photographic voucher: https://www.inaturalist.org/observations/68475518

Leptoceridae

254. Triplectidinae, unidentified

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/114130448

Unidentified to family

255. Annulipalpia, unidentified

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937840

Cicadas

Cicadidae

256. *Aleeta curvicosta* (Germar, 1834)

Uncommon, especially compared to other cicadas in the survey area. I found one large individual in an *Argiope keyserlingi* web in the southern exotic grassland on 3 February 2021, found a thorax in the southern bushland on 3 March 2021, and heard calling along the southern bank of the western arm of the creek on 10 May 2021. This last encounter was very late for any cicada throughout the survey area, and indeed before that encounter, the last cicada I heard calling in the survey area was on 25 March 2021, 46 days earlier.

Photographic voucher: https://www.inaturalist.org/observations/69000895

257. *Atrapsalta corticina* (Ewart, 1989)

Very common, but heard more often than seen, usually calling from eucalypts. Most encounters were around the edges of the southern exotic grassland, at the interfaces between it and the far southern bushland and southern grassy woodland. Also seen/heard at the interface between the northern bushland and the northwestern lawn, and in the northern grassy woodland. Encounters from 7 September 2020 to 19 November 2020, and then first heard again on 8 September 2021.

Photographic voucher: https://www.inaturalist.org/observations/64030793

258. *Clinopsalta autumna* Popple & Emery, 2017

Common and widespread throughout the reserve proper, but I only saw a single individual (on an *Acacia decurrens*, in the open woodland directly above the southern exotic grassland), with all other encounters being calls. Calls heard in the southern exotic grassland (from one of the large *Melaleuca decora*), western exotic grassland, eastern edge of the central bushland, northern bushland and northern grassy woodland. Encounters from 13 September 2020 to 6 December 2020, and then first heard again on 3 October 2021.

Photographic voucher: https://www.inaturalist.org/observations/64584479

259. *Cyclochila australasiae* (Donovan, 1805)

Single moult found on 19 November 2020 along the southern riverine stretch, near the big kink in the creek. Identified based on its large size (and there are definitely *Cyclochila australasiae* in the general area; I found a specimen [and heard calling] less than one month later ~1 km further south, outside the survey area).

Photographic voucher: https://www.inaturalist.org/observations/65201175

260. *Myopsalta mackinlayi* (Distant, 1882)

Rare. I saw/heard one individual in the northern grassy woodland on 2 November 2020, heard a second individual along the northern perimeter of the reserve on 6 December 2020, and then saw/heard a third individual in the northern bushland on 2 November 2021.

Photographic voucher: https://www.inaturalist.org/observations/100036552

261. *Popplepsalta notialis* (Popple, 2013)

Uncommon, with just two sightings. The first was on 25 September 2020, when I found a very recently emerged individual in the northern grassy woodland on an *Acacia decurrens*. I watched it inflate its wings, and also noticed a few other similar sized moults nearby, also on *A. decurrens*, which were presumably from the same species. The second encounter was on 30 November 2020 on the eastern bank of the creek along the huge sea of weeds, and coincidently, also of a very young adult; however, I watched this one actually emerge from its moult.

Photographic voucher: https://www.inaturalist.org/observations/65874718

262. *Psaltoda plaga* (Walker, 1850)

Very common and widespread throughout the survey area, although this was one of the latest emerging species, with the first call I heard not until 12 November 2020, with calls heard all the way until 25 March 2021, and then first heard again on 13 December 2021. Usually calling in very large numbers. Seemingly a popular prey item; I found several individuals in *Hortophora* webs, and watched Grey Butcherbirds eat them on multiple occasions. Encounters in the carpark immediately below the reserve, southern grassy woodland, southern bushland, central bushland, near the beach seat, along the southern riverine stretch, along the western arm of the creek, and along the western perimeter of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/66643703

263. *Yoyetta celis* (Moulds, 1988)

Abundant, and one of the most persistent species temporally, with encounters from 17 September 2020 to 29 January 2021, and then first heard again on 3 September 2021 (the first species to start calling for the 2021/2022 season). Most encounters were along the edge of Everley Park at the southern riverine stretch, especially southwards of the long jump pits. In particular, there's one patch of *Melaleuca styphelioides* along this stretch where I could consistently spot/hear multiple individuals during every survey. Also often calling from *Eucalyptus amplifolia*. Also encounters in the northern grassy woodland, the section of western exotic grassland above Melita Stadium, at the edge of the southern bushland where the main path comes from the southern exotic grassland, and at the patch of fallen *Melaleuca* bark sheets.

Photographic voucher: https://www.inaturalist.org/observations/62013250

264. *Yoyetta cumberlandi* Emery, Emery & Popple, 2015

Abundant and fairly widespread throughout the survey area, although only a single encounter (central bushland) was northwards of the western arm of the creek. Only sighted three times, with all other encounters being calls. Encounters ranged between 1 October 2020 to 26 November 2020 (and then first heard again on 31 October 2021), with locations in the far southern bushland, at the interface between the southern exotic grassland and southern grassy woodland, along the edge of Everley Park at the southern riverine stretch, on the eastern bank of the southern riverine stretch, near the big kink, at the patch of fallen *Melaleuca* bark sheets, and pervasive throughout the southern bushland, including near the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/65065442

265. *Yoyetta humphreyae* Moulds & Popple, 2018

Rare, with just two individuals seen, both on 3 December 2020: a female at the central bridge, and a male at the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/66037606

266. *Yoyetta repetens* Emery, Emery & Popple, 2015

Somewhat abundant, although only four encounters were not along the edge of Everley Park at the southern riverine stretch: one in the carpark immediately below the reserve, one at the interface between the southern exotic grassland and southern grassy woodland, one in the northern grassy woodland, and one on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot (seen at night). Almost as persistent temporally as *Y. celis*, with encounters from 1 October 2020 to 3 February 2021.

Photographic voucher: https://www.inaturalist.org/observations/63862780

Cockroaches

Blaberidae

267. *Calolampra* sp.

Somewhat common. Nymphs seen in the southern exotic grassland, central bushland, northern bushland, and near the bench seat on the edge of the northern bushland (with that individual having been paralysed by a *Tachysphex* wasp, and with a number of erythraeids attached to it), and

(beautifully patterned) adults seen in the southern exotic grassland, southern bushland, northern bushland, and far southern bushland. Mostly seen during night walks.

Photographic voucher: https://www.inaturalist.org/observations/63628787

268. *Laxta* sp.

Fairly common, with sightings in the northern bushland (including under the pile of large cardboard boxes), usually among dry leaf and stick litter, on large eucalypt trunks near the creek-spanning pipe and in the carpark immediately below the reserve, and in the southern bushland, often on the wooden fences running along the main path. Usually seen during night walks.

Photographic voucher: https://www.inaturalist.org/observations/99273332

269. *Panesthia* sp.

Not uncommon, with sightings of both nymphs and adults in the northern bushland and central bushland. All of the individuals I've found in the central bushland have been inside/under large rotting logs, feeding on the wood. I was also lucky enough to find a nymph in the process of moulting (https://www.inaturalist.org/observations/71290294); I watched it for at least 20 minutes, and it still hadn't fully emerged from the moult. Possibly *P. australis*, but *P. cribrata* is also a possibility.

Photographic voucher: https://www.inaturalist.org/observations/84279351

Blattellidae

270. *Paratemnopteryx couloniana* (Saussure, 1863)

Single individual seen on a large eucalypt trunk in the carpark immediately below the reserve, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/99417610

Blattidae

271. *Methana caneae* Pope, 1953

Two adults seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk, and an adult female with ootheca seen near the central bridge, also during a night walk. I've also seen a large nymph (https://www.inaturalist.org/observations/69231018) on a *Melaleuca* along the central split path, also during a night walk, which is presumably the same species.

Photographic voucher: https://www.inaturalist.org/observations/98600476

272. *Methana convexa* (Walker, 1869)

One adult seen on a eucalypt along the central split path, and one in the southern bushland, both during night walks.

Photographic voucher: https://www.inaturalist.org/observations/71060473

273. *Periplaneta americana* (Linnaeus, 1758)

Single dead (squashed) individual on the path running along the eastern bank of the southern riverine stretch, at the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/98469914

274. Polyzosteriinae, unidentified

Large nymph seen on a eucalypt at the edge of the southern bushland where the main path comes from the southern exotic grassland, during a night walk. Probably *Platyzosteria*.

Photographic voucher: https://www.inaturalist.org/observations/69790098

Ectobiidae

275. *Anaplecta* sp.

Large numbers seen along the main path and among leaf litter in the southern bushland during a night walk. This is an intriguing record, as all other Australian *Anaplecta* records thus far have been from the Wet Tropics in Far North Queensland. I searched for them on a number of occasions, but never found any again after that night.

Photographic voucher: https://www.inaturalist.org/observations/97137721

276. *Balta* sp.

One adult female (with an ootheca) found caught in a spider web at the southeastern corner of the northern bushland, another adult seen in the carpark immediately below the reserve, and a nymph seen in the northern grassy woodland. All sightings during night walks. Possibly *B. stylata*.

Photographic voucher: https://www.inaturalist.org/observations/73284429

277. *Ellipsidion australe* (Saussure, 1863)

Not uncommon. Mostly among grasses at the far southern end of the survey area, around the large *Corymbia citriodora*, but also near the creek along the edge of the northern grassy woodland, in the southern exotic grassland, and along the edge of Everley Park at the southern riverine stretch. Almost all my sightings have been of nymphs. Seen on *Acacia parramattensis, Solanum americanum,* and assorted eucalypt species.

Photographic voucher: https://www.inaturalist.org/observations/102982743

278. *Ellipsidion* sp.

Single adult seen on a eucalypt at the eastern bank of the southern riverine stretch, at the big kink in the creek. Close to *E. humerale*, but possibly undescribed.

I've also found an ootheca on a eucalypt leaf along the northern edge of the western third of the northern bushland that probably belongs to one of these two *Ellipsidion* species (https://www.inaturalist.org/observations/102983728).

Photographic voucher: https://www.inaturalist.org/observations/65391383

279. *Hensaussurea halmaturina* (Tepper, 1893)

Single individual seen in the southern bushland near the creek, during a night walk. Seemingly quite a rare species, as there are only two other records of it in the ALA (from 1884 and 1917). Quite possibly the first photographs of a living individual of this species.

Photographic voucher: https://www.inaturalist.org/observations/69231006

280. *Johnrehnia concisa* (Walker, 1871)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225377

281. *Johnrehnia contraria* (Tepper, 1893)

Three individuals seen: one in the southern bushland, one at the central bridge (both of these during night walks), and one on the northern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/98974588

282. *Neotemnopteryx* sp.

Occasional. Most sightings among leaf and stick litter, including in the far southern bushland (during a night walk), in the southern grassy woodland, and under the Wellington Road bridge. One individual also seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Males and females seen. Probably *N. fulva*, but *N. gloriousa* is also a slim possibility.

Photographic voucher: https://www.inaturalist.org/observations/103225374

283. *Robshelfordia circumducta* (Walker, 1869)

Occasional, with almost all of my sightings during night walks, and almost all of them in the northern bushland, with one sighting of a nymph underneath a blown-in corflute sign in the open woodland directly above the southern exotic grassland. The nymphs, which I assume are the same species, are quite nicely patterned (https://www.inaturalist.org/observations/69231024).

Photographic voucher: https://www.inaturalist.org/observations/71060469

Damselflies

Argiolestidae

284. *Austroargiolestes icteromelas* (Selys, 1862)

Very abundant, although only sighted during spring and late winter. Very widespread along the length of the creek, but few sightings more than 20 m away from the water, with a few in the southern grassy woodland, southern bushland, and at the edge of the southern bushland where the main path comes from the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/90752547

Coenagrionidae

285. *Austroagrion watsoni* Lieftinck, 1982

Single female seen in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/60799627

286. *Ischnura aurora* (Brauer, 1865)

Single female seen at the creek along the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/65059617

287. *Ischnura heterosticta* (Burmeister, 1839)

Fairly common along the creek, mostly along the southern riverine stretch and at the southern bushland. Also a few sightings in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/60169668

288. *Xanthagrion erythroneurum* (Selys, 1876)

Occasional. Most sightings in the southern exotic grassland, but also seen in the northern grassy woodland, the northern bushland, the large swale leading from the stormwater entrance, and along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/63622297

Isostictidae

289. *Rhadinosticta simplex* (Martin, 1901)

Single male seen alongside the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/70492068

Lestidae

290. *Austrolestes analis* (Rambur, 1842)

Single male seen alongside the creek, just above the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/72431084

291. *Austrolestes leda* (Selys, 1862)

Abundant, the most common odonate in the survey area. Present throughout almost the entire survey area, with large numbers always seen at flooded swales and other standing water. Also seen along the creek.

Photographic voucher: https://www.inaturalist.org/observations/98464090

Dragonflies

Aeshnidae

292. *Adversaeschna brevistyla* (Rambur, 1842)

Occasional, with a few sightings along the central split path (including one in a large spider web), in the southern bushland, including at the weedy swale, and at the swale to the immediate right of the main path coming from the southern exotic grassland. Egg-laying observed at the two swales.

Photographic voucher: https://www.inaturalist.org/observations/70241621

293. *Anax papuensis* (Burmeister, 1839)

Large individual caught in a spider web in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/70493471

Corduliidae

294. *Hemicordulia australiae* (Rambur, 1842)

Occasional. Mostly seen flying along the creek, but also sighted in the southern bushland (in a spider web) and northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/73823716

295. *Hemicordulia tau* (Selys, 1871)

More common than *H. australiae*, but also mostly seen flying along the creek. Other sightings in the central and northern bushland, almost always perching on branches at around head height.

Photographic voucher: https://www.inaturalist.org/observations/60684551

Libellulidae

296. *Diplacodes bipunctata* (Brauer, 1865)

Quite common and widespread throughout the reserve proper, including both males and females. Most commonly seen at the interface between the southern exotic grassland and southern grassy woodland, flitting between and resting on grass patches, and around the northern grassy woodland and grassland. Also seen in the central bushland and along the central split path.

Photographic voucher: https://www.inaturalist.org/observations/70491045

297. *Diplacodes haematodes* (Burmeister, 1839)

Probably the most common and widespread dragonfly throughout the survey area. Sighted in the southern grassy woodland, southern exotic grassland, central bushland, along the central split path, along the western arm of the creek, at the large, exposed patch of soil near the creek-spanning pipe, on the eastern bank of the southern riverine stretch, and along the northern section of the creek. Mixture of males and females.

Photographic voucher: https://www.inaturalist.org/observations/63622296

298. *Orthetrum caledonicum* (Brauer, 1865)

Common, and quite widespread. Seen in the southern bushland, central bushland, northern bushland, northern grassy woodland, on the eastern bank of the southern riverine stretch, along the central split path, and at the interface between the southern exotic grassland and southern grassy woodland. One individual seen in the northern bushland during a night walk. Interestingly, most of my sightings have been of young or teneral males. One large individual seen preying on another dragonfly.

Photographic voucher: https://www.inaturalist.org/observations/60505094

299. *Orthetrum villosovittatum* (Brauer, 1868)

Rare; one male seen at the large *Canna indica* patch at the southern end of the reserve, and one female along the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/65196243

300. *Zyxomma elgneri* Ris, 1913

Single male perching in the northern bushland. This is the second most-southerly ever record of this species (the other one being ~4 km further south), only the second record further south than Nelson Bay, and one of only seven records in NSW (at time of writing).

Photographic voucher: https://www.inaturalist.org/observations/66507308

Earwigs

Anisolabididae

301. Anisolabididae, unidentified

Occasional. Mostly at the patch of fallen *Melaleuca* bark sheets, under sheets, but also seen in the northern bushland along the main path (during a night walk), at the carpark immediately below the reserve, and in the northern grassy woodland at the large pile of wood chips/mulch, crawling over the *Gymnopilus junonius* growing over the pile. I'm unsure whether my sightings are all of a single species, and include adults, juveniles and possibly some teneral individuals, or whether I've actually seen 2-3 species.

Photographic voucher: https://www.inaturalist.org/observations/69231019

Flies

Acroceridae

302. *Panops baudini* Lamarck, 1804

Two individuals seen in the southern grassy woodland, both pollinating *Pimelea linifolia* subsp. *linifolia*, and one individual (very sluggish, perhaps injured or parasitised) found along the side of the main path in the southern bushland during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/59862894

Agromyzidae

303. Agromyzidae, unidentified sp.1

Leaf mining and larva observed on *Crassocephalum crassioides* leaves on the eastern bank of the southern riverine stretch, close to the water.

Photographic voucher: https://www.inaturalist.org/observations/95375185

304. Agromyzidae, unidentified sp.2

Leaf mining observed on *Acacia longifolia* leaves at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/99860013

305. Agromyzidae, unidentified sp.3

Leaf mining observed on *Araujia sericifera* leaves at the southwestern corner of the central bushland, near the *Vincetoxicum woollsii*.

Photographic voucher: https://www.inaturalist.org/observations/134956482

306. **Chromatomyia syngenesiae* Hardy 1849

Extensive leaf mining on quite a large percentage of the *Sonchus oleraceus* throughout the entire survey area, including along the southern riverine stretch, in the western exotic grassland, in the section of western exotic grassland above Melita Stadium, and in the grassland at the far southern end of the reserve. Some plants have been so badly mined, the leaves are almost entirely white. Interestingly, most of this mining only seemed to first appear in late winter-early September 2021. I've also found this species mining *Bidens pilosa* leaves in the carpark immediately below the reserve and on the eastern bank of the southern riverine stretch, near the creek crossing (https://www.inaturalist.org/observations/96459186); mining *Gamochaeta pensylvanica* leaves along the creek bank at the southern riverine stretch, roughly in line with the double long-jump pit (https://www.inaturalist.org/observations/95375196); and, mining *Senecio hispidulus* leaves on the eastern bank of the southern riverine stretch, near the gap in the chain-link fence (https://www.inaturalist.org/observations/99860005).

I've also seen what I'm fairly sure is an adult of this species (https://www.inaturalist.org/observations/99860001); it was on a *Sonchus oleraceus* (on the eastern bank of the southern riverine stretch, near the creek crossing) right next to *Chromatomyia syngenesiae* leaf mining, and matches images of adults I can find online.

Photographic voucher: https://www.inaturalist.org/observations/93017279

307. *Liriomyza* sp.

Mating pair seen near the large *Corymbia citriodora* at the far southern end of the survey area. Unsure which plant they were on. Not *L. brassicae*.

Photographic voucher: https://www.inaturalist.org/observations/59113751

308. *Phytoliriomyza pittosporophylli* (Hering, 1962)

Prolific galls on *Pittosporum undulatum* in the southern bushland, along the western arm of the creek, and along the southern riverine stretch. This species was actually brought to my attention by James K. Douch more than two years after initially photographing the *Pittosporum* and posting it to iNaturalist. Upon returning to the reserve and checking multiple *P. undulatum* in the southern bushland, in the western split grassland, and along the western arm of the creek, the galls were on every individual I checked. This species is therefore almost certainly distributed throughout much of the survey area given *P. undulatum* is common and widespread throughout also.

Photographic voucher: https://www.inaturalist.org/observations/139076015

309. *Phytomyza* sp.

Prolific leaf mining seen on *Clematis glycinoides* leaves in the southern bushland at multiple locations, with large numbers of individuals affected.

Photographic voucher: https://www.inaturalist.org/observations/97003695

310. Phytomyzinae, unidentified

Leaf mining seen on *Cerastium glomeratum* leaves in the western exotic grassland, just above the stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/96471188

311. *Tropicomyia polyphyta* (Kleinschmidt, 1961)

Leaf mining seen on *Polyscias sambucifolia* leaves in the southern bushland, near the weedy swale. I tried rearing a pupa, but unfortunately it was parasitised. I've also seen similar leaf mining on a *Hymenosporum flavum* along the edge of the creek at the southern grassy woodland (https://www.inaturalist.org/observations/96999075), which may be the same species.

Photographic voucher: https://www.inaturalist.org/observations/96999094

Anthomyiidae

312. *Anthomyia medialis* Colless, 1982

Single individual seen among leaf litter in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/60174881

Asilidae

313. *Austrosaropogon* sp.

Two individuals seen, both along the edge of Everley Park at the southern riverine stretch: one on *Kunzea ambigua* along the edge of the carpark immediately below the reserve, and one on an *Acacia parramattensis* near the toilet block. Very active.

Photographic voucher: https://www.inaturalist.org/observations/64591188

314. *Blepharotes* sp.

Single huge individual flew past me along the northwestern path through the northern bushland. Too fast for a photograph, but easily recognised.

Photographic voucher: none, but unmistakeable, and a genus I've seen and photographed many times elsewhere in NSW.

315. *Cerdistus* sp.

Occasional, with sightings in the southern and northern bushland. Seen preying on an *Apis mellifera* near the central bridge, on one of the wooden railings, and preying on a *Camponotus* ant near the bench seat on the edge of the northern bushland, on a large eucalypt trunk.

Photographic voucher: https://www.inaturalist.org/observations/66037738

316. *Colepia malleola* (Walker, 1849)

Single individual seen in the southern bushland on a *Melaleuca* trunk, preying on a wasp ('Ichneumonoidea, unidentified sp.1').

Photographic voucher: https://www.inaturalist.org/observations/157036959

317. *Laphria rufifemorata* Macquart, 1846

Single individual seen on the information sign in the grassland at the far southern end of the reserve.

Photographic voucher: none, as I accidentally spooked it as I went to photograph it, but a very distinct species that I have seen and photographed elsewhere, and am confident of identifying by sight.

318. *Leptogaster* sp.

Single individual resting on a *Bursaria spinosa* along the edge of the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/59114596

319. *Ommatius coeraebus* Walker, 1849

Two individuals seen, both along the creek: one at the southern bushland, at the swale at the green mesh track, and one along the edge of the grassland at the far southern end of the reserve, preying on a fly (Muscidae?).

Photographic voucher: https://www.inaturalist.org/observations/72424983

320. *Ommatius* sp.

Single individual seen in the northern bushland. Very small species.

Photographic voucher: https://www.inaturalist.org/observations/66507307

321. *Zosteria rosevillensis* Hardy, 1935

Large individual along the creek in the northern section of the reserve, preying on a cicada (*Yoyetta cumberlandi*?).

Photographic voucher: https://www.inaturalist.org/observations/66182198

322. *Zosteria* sp.

Occasional in the southern bushland and central bushland, usually seen resting on *Eucalyptus* or *Melaleuca* tree trunks. One seen preying on an *Apis mellifera*.

Photographic voucher: https://www.inaturalist.org/observations/72144137

Bibionidae

323. *Bibio imitator* Walker, 1835

Very common and widespread throughout the survey area. One adult male seen on the underside of a *Pittosporum undulatum* leaf at the edge of the large swale leading from the stormwater entrance (https://www.inaturalist.org/observations/98600486), during a night walk, one on *Avena barbata* in the southern exotic grassland, and one on the metal fence surrounding the empty lot, also during a night walk. All other sightings of females, with observations across much of the survey area, including on *Kunzea ambigua*.

Photographic voucher: https://www.inaturalist.org/observations/140048075

324. *Dilophus* sp.

Single female seen in the open woodland directly above the southern exotic grassland. I've also seen several male *Dilophus* (all dead, in spider webs) on the metal fence surrounding the empty lot (https://www.inaturalist.org/observations/97429642), which may be the same species.

Photographic voucher: https://www.inaturalist.org/observations/58814520

Bombyliidae

325. *Anthrax maculatus* Macquart, 1846

One individual seen at the central bridge, and another in the southern bushland. Quite an irritating insect to try photograph, exhibiting the classic visual startle reflex seen in a lot of flies. Each time I tried to take a photo, it would fly a few centimetres into the air for a fraction of a second, and then land again in the same spot after the photo had been taken, meaning most of my photos missed it entirely, and the others captured it off-centre or blurred.

Photographic voucher: https://www.inaturalist.org/observations/66182205

326. *Comptosia* sp.

Single individual seen at a patch of exposed soil in the southern bushland. It kept hovering a few centimetres above the ground, with much 'shakier' flight than I've seen compared to other bee flies. Each time it landed, it would continue to vibrate its wings, something I also haven't seen before in other bee flies. Visual startle observed too.

Photographic voucher: https://www.inaturalist.org/observations/69000901

327. *Geron* sp.

Quite common and widespread, with sightings in the northern bushland, northern grassy woodland, at the swale to the immediate right of the main path coming from the southern exotic grassland, along the edge of the carpark immediately below the reserve, and along the edge of Everley Park at the southern riverine stretch. Seen pollinating a wide range of plants, including *Melaleuca styphelioides*, *Leptospermum polygaliifolium* subsp. *polygaliifolium, Scutellaria racemosa*, *Kunzea ambigua*, and *Myoporum insulare*. I'm unsure if these sightings all represent one species, or perhaps 2-3 similar species.

Photographic voucher: https://www.inaturalist.org/observations/63629476

328. *Villa fuscicostata* (Macquart, 1846)

Several individuals seen pollinating *Kunzea ambigua* in the northern grassy woodland. One dead individual also found in a spider web along the edge of the central split path.

Photographic voucher: https://www.inaturalist.org/observations/102151702

329. *Villa* sp.

Single, very flighty individual seen in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/71287368

Calliphoridae

330. *Amenia chrysame* (Walker, 1849)

Single individual seen resting on grass in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/63629453

331. *Amenia* sp.

Very common, ubiquitous throughout the reserve proper, present in almost all sections. Usually seen basking in the sun in the middle of paths/other patches of exposed soil, or on fallen logs. Also seen pollinating *Kunzea ambigua* and *Leptospermum polygaliifolium* subsp. *polygaliifolium*. Something around *A. dubitalis* or *A. imperialis*.

Photographic voucher: https://www.inaturalist.org/observations/69790132

332. *Calliphora augur* (Fabricius, 1775)

Large number of individuals on (what I can only assume was dog) poo in the southern bushland. I've also seen one individual pollinating *Kunzea ambigua* along the edge of the carpark immediately below the reserve, and one along the creek near the far southern end of the survey area. I'm not 100% confident these latter two individuals are both also *C. augur*.

Photographic voucher: https://www.inaturalist.org/observations/97985881

333. *Calliphora* sp.

Occasional, with sightings in the northern grassy woodland and along the edge of the carpark immediately below the reserve, pollinating *Kunzea ambigua* at both locations. Quite a large and distinct species. I've also seen a number of individuals at night along the edge of the central split path (e.g., https://www.inaturalist.org/observations/97139210 and https://www.inaturalist.org/observations/97139203), attracted to my UV lamp/moth sheet setup, that look similar to this species, but with some nonetheless clear differences; I'm unsure if this is due to variation, males/females, or whether it's because they're different species. I strongly suspect I'm underestimating the calliphorid diversity in the survey area; there are a number of very similar entities that I've seen, many of which I'm not confident enough to list as unique/separate species.

Photographic voucher: https://www.inaturalist.org/observations/64030794

334. Calliphoridae, unidentified

Single individual seen along the edge of Everley Park at the southern riverine stretch, between the two long-jump pits, pollinating *Senecio madagascariensis*. Very dark compared to the others listed above.

Photographic voucher: https://www.inaturalist.org/observations/58813363

335. Calliphorinae, unidentified

One individual seen along the edge of Everley Park at the southern riverine stretch, on the large patch of exposed soil around the third light tower (during a night walk), with another on a young eucalypt on the eastern bank of the southern riverine stretch, near the big kink in the creek. Possibly something like *Onesia* or *Bellardia*.

Photographic voucher: https://www.inaturalist.org/observations/69789333

336. *Chrysomya megacephala* (Fabricius, 1794)

Occasional, with sightings in the northern grassy woodland, northern bushland, and at the creek crossing, often on poo. I also found a huge congregation of them on a rotting sheep's head that someone so kindly dumped into the reserve, near the Wellington Road bridge. Seen pollinating *Kunzea ambigua* on multiple occasions.

Photographic voucher: https://www.inaturalist.org/observations/60692646

337. *Hemipyrellia fergusoni* Patton, 1925

Single individual seen in the northern grassy woodland, resting on what I think was a *Cayratia clematidea* stem. Interestingly it was quite placid, and let me handle the plant it was on and get very close without being disturbed.

Photographic voucher: https://www.inaturalist.org/observations/97986791

338. *Lucilia* sp.

Seen pollinating a *Kunzea ambigua* along the edge of the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/65062365

Cecidomyiidae

339. *Asphondylia acaciae* Kolesik, 2010

Large numbers of these galls on *Acacia falcata* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/93018819

340. *Asphondylia glabrigerminis* Kolesik, 2010

These galls are quite common on the open flowers of *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch, in the southern exotic grassland, and in the southern bushland. This is a new host plant record (per Peter Kolesik).

Photographic voucher: https://www.inaturalist.org/observations/90750936

341. *Austroacacidiplosis botrycephalae* Kolesik, 2012

Occasional clusters of galls on the leaf pinnules of *Acacia decurrens, Acacia parramattensis* and *Acacia pubescens* along the edge of Everley Park at the southern riverine stretch, in the southern grassy woodland, in the southern bushland, and just above the large, exposed patch of soil near the creek-spanning pipe. *Acacia parramattensis* and *A. pubescens* were not listed by Kolesik and Adair (2012), and thus these two species represent new hosts (confirmed by Peter Kolesik). Most common on *A. pubescens*.

Photographic voucher: https://www.inaturalist.org/observations/97003683

342. Cecidomyiidae, unidentified sp.1

Several large galls seen on a *Glycine clandestina* in the open woodland directly above the southern exotic grassland. Likely an undescribed species (per Peter Kolesik).

Photographic voucher: https://www.inaturalist.org/observations/73292364

343. Cecidomyiidae, unidentified sp.2

An interesting congregation of eight individuals flying around the base of one of the huge *Melaleuca decora* in the southern exotic grassland, constantly touching the bark and then pushing off to fly again. Comparing to images of adults across the other cecidomyiid genera/species I've listed here, I'm confident they're something different and aren't the adults belonging to any of the galls I've observed.

Photographic voucher: https://www.inaturalist.org/observations/98469917

344. *Dasineura acaciaelongifoliae* (Skuse, 1890)

Single large gall on an *Acacia longifolia* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/97003684

345. *Dasineura glomerata* Kolesik, 2005

Several large galls on the flowers of an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch, near the ancient eucalypt hybrid. This is a new host plant record (per Peter Kolesik).

Photographic voucher: https://www.inaturalist.org/observations/94414538

Ceratopogonidae

346. Ceratopogonidae, unidentified

Biting/feeding on a stink bug (*Poecilometis australasiae*) along the edge of Everley Park at the southern riverine stretch, near the toilet block.

Photographic voucher: https://www.inaturalist.org/observations/70026604

Chironomidae

347. Chironomidae, unidentified sp.1

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937867

348. Chironomidae, unidentified sp.2

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Similar to 'Chironominae, unidentified sp.2', but noticeably smaller.

Photographic voucher: https://www.inaturalist.org/observations/100675189

349. Chironominae, unidentified sp.1

On 15 February 2021, I collected a sample of wet mud from the western alcove to rear a stratiomyid larva I had found there. In the ensuing months, I encountered a number of other invertebrates that I had also incidentally collected in the mud. From day 42 (after collection) onwards, at least 15 of these midges emerged from the mud, having obviously been present as larvae and/or pupae.

In addition to the three chironomid species I've listed here, I've found large, bright-red Chironominae larvae ('bloodworms'; https://www.inaturalist.org/observations/97985891) in the ephemeral pool atop the broken concrete pillar underneath the creek-spanning pipe, living in benthic tubes constructed from sediment and debris. I've also found several Chironominae pupae (I think almost certainly the same species as the larvae) in the same ephemeral pool (https://www.inaturalist.org/observations/97985892); I suspect these are probably a different species to 'Chironominae, unidentified' given the difference in micro-habitat (wet mud on land/in bushland vs. fully submerged in freshwater pool), but I'm not 100% sure. They're definitely not 'Chironomidae unidentified' (a very small species) or 'Tanypodinae, unidentified' (different subfamily).

Photographic voucher: https://www.inaturalist.org/observations/72335584

350. Chironominae, unidentified sp.2

Not uncommon along the edge of Everley Park at the southern riverine stretch. Also seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Quite a large species.

Photographic voucher: https://www.inaturalist.org/observations/99860012

351. Chironominae, unidentified sp.3

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100673716

352. Tanypodinae, unidentified

Occasional, with sightings along the edge of Everley Park at the southern riverine stretch, near the toilet block (resting on *Bidens pilosa*), on the eastern bank of the creek alongside the huge sea of weeds line with the central split path (directly alongside the water), and along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/59861451

Chloropidae

353. *Apotropina albiseta* (Malloch, 1924)

Common, with hundreds seen in the far southern bushland, the grassland at the far southern end of the reserve, and the carpark immediately below the reserve, with a few sightings also at the northern grassy woodland. In the latter two, I've seen them pollinating *Kunzea ambigua* in large numbers. In the former two locations, there were constant, small clouds buzzing around my sister and me (during night walks); they'd periodically land on grass blades or our hands as we were taking photos, and then zip around again. Also seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/69789350

354. Oscinellinae, unidentified sp.1

Single individual on an *Einadia* in the northern grassy woodland, with several mites ('Trombidioidea, unidentified') attached.

Photographic voucher: https://www.inaturalist.org/observations/66507303

355. Oscinellinae, unidentified sp.2

Three individuals seen during a night walk, all on a dead/wrapped-up insect in an *Araneus dimidiatus* web along the edge of the central split path.

Photographic voucher: https://www.inaturalist.org/observations/98600470

Culicidae

356. *Aedes alternans* (Westwood, 1836)

Single, very large individual attracted to the lights of the toilet block at night.

Photographic voucher: https://www.inaturalist.org/observations/73937880

357. *Aedes notoscriptus* (Skuse, 1889)

Quite common, and present throughout most of the reserve, although they seem to be most common in shady areas of the southern bushland. Sightings from late September 2020 through to mid-March 2021, and then starting again early October 2021. Quite a nuisance, with large numbers often present on humid or overcast days, constantly trying (and often succeeding) to bite me, especially while I was preoccupied taking photos of other species. In late September 2020 there were hundreds in the ephemeral pool atop the broken concrete pillar underneath the creek-spanning pipe, including larvae, pupae, and emerging adults (https://www.inaturalist.org/observations/60694712). Also seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/70241626

358. *Aedes procax* (Skuse, 1889)

Hundreds seen emerging from the ephemeral pool that formed (during/after the heavy rains and flooding in mid to late March 2021) in the swale to the immediate right of the main path coming from the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/72761558

359. *Aedes vittiger* (Skuse, 1889)

Single individual seen in the southern bushland after the heavy rains and flooding in mid to late March 2021. One of the largest mosquitoes I've encountered, and one of the most persistent; it followed me (starting from the swale to the immediate right of the main path coming from the southern exotic grassland) for at least 20 minutes, constantly landing on me and trying to bite me despite persistent swatting.

Photographic voucher: https://www.inaturalist.org/observations/72761560

360. *Anopheles* sp.

Single larva seen in the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021. Almost certainly *Anopheles annulipes*, but *A. atratipes* and *A. stigmaticus* are also slim possibilities.

Photographic voucher: https://www.inaturalist.org/observations/100060408

361. *Coquillettidia linealis* (Skuse, 1889)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100673725

362. *Culex quinquefasciatus* Say, 1823

Initially, I found just one male and one female (dead in a spider web) along the central split path. However, across October and early November 2021, huge numbers bred in the plume of sewage overflow at the western perimeter of the reserve/northwestern quadrant of the central bushland. The sewage/water was absolutely seething with larvae (tens of thousands, if not more), with

thousands of adults also resting on vegetation around the sewage. On 31 October 2021, almost 100% of these adults were males. Also seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/99861998

363. *Toxorhynchites speciosus* (Skuse, 1889)

One large male seen on a large eucalypt trunk along the edge of the large swale leading from the stormwater entrance, and another large male on a *Eucalyptus fibrosa* at the southeastern corner of the northern bushland. Very difficult to photograph due to visual startle reflex. I've also seen what I suspect is a larva of this species (https://www.inaturalist.org/observations/100060411) in the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021.

Photographic voucher: https://www.inaturalist.org/observations/69001178

Dolichopodidae

364. *Austrosciapus* sp.

Not uncommon throughout most sections of the survey area, usually resting on large leaves or tree trunks. Very difficult to photograph due to visual startle. Unclear whether this is a single species I'm seeing, or multiple species.

Photographic voucher: https://www.inaturalist.org/observations/64027810

365. Dolichopodidae, unidentified sp.1

Occasionally seen along the creek, including at the creek crossing, and just south of the large *Canna indica* patch at the southern end of the reserve. Possibly Diaphorinae. I've also seen a similar individual (https://www.inaturalist.org/observations/97139219) at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/70027355

366. Dolichopodidae, unidentified sp.2

Single individual seen in the northern bushland on a *Eucalyptus amplifolia*. Unsure if *Austrosciapus*.

Photographic voucher: https://www.inaturalist.org/observations/71289757

367. Dolichopodidae, unidentified sp.3

Single individual seen on a *Myrsine variabilis* in the southern bushland. Possibly *Austrosciapus*.

Photographic voucher: https://www.inaturalist.org/observations/140481320

Drosophilidae

368. Drosophilidae, unidentified

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. Unfortunately too flighty and fast moving to get any photos.

Photographic voucher: none, but unmistakeable; I've also seen this species in my backyard (less than 2 km south of the survey area) at night.

Empididae

369. Chelipodini, unidentified

Number of individual seen along the northwestern path through the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/87826212

Ephydridae

370. *Hydrellia* sp.

Very common along the length of the creek, with large congregations of often hundreds of individuals on the water's surface/on vegetation along the creek banks under Wellington Road bridge, at the creek-spanning pipe, just south of the large *Canna indica* patch at the southern end of the reserve, and along the southern riverine stretch, under a huge *Salix babylonica* just north of the big kink in the creek. Often seen on *Persicaria* along the creek. Also common at the shaded, damp swale in the southern bushland, at the swale in the northern bushland (when they're filled with water), and on the surface of puddles along the main path through the southern bushland after heavy rain.

Photographic voucher: https://www.inaturalist.org/observations/98600469

371. *Hydrellia tritici* Coquillett, 1903

Fairly common at night along the edge of the central split path, in the northern bushland, and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Also seen at night resting on the shell of a (live) *Sauroconcha sheai* in the far southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/100314990

Fergusoninidae

372. *Fergusonina* sp.

Large, globular galls, mostly at leaf bases, observed on a young *Angophora floribunda* along the southern riverine stretch, near the second light tower. Based on the information and images in Davies et al. (2014), I'm fairly confident these are caused by an association between a nematode (*Fergusobia* sp.) and a fly (*Fergusonina* sp.).

Photographic voucher: https://www.inaturalist.org/observations/78803742

Heleomyzidae

373. *Tapeigaster brunneifrons* Malloch, 1927

Seen resting on a large bolete ('*Tylopilus* sp.2') at the base of a large *Melaleuca* in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/73826198

Hybotidae

374. *Hoplopeza pulcherrima* (Bezzi, 1904)

Quite common among the grasses along the edge of Everley Park at the southern riverine stretch, although mostly from around the double long-jump pit southwards. Also seen in the open woodland directly above the southern exotic grassland, in the weedy swale in the southern bushland, and along the northwestern path through the northern bushland, among the *Campylopus introflexus* beds.

Photographic voucher: https://www.inaturalist.org/observations/59864998

375. Ocydromiinae, unidentified

Large numbers in the same habitat and location as *Hoplopeza pulcherrima*.

Photographic voucher: https://www.inaturalist.org/observations/59861447

Lauxaniidae

376. *Depressa albicosta* Malloch, 1927

Fairly common and widespread throughout the survey area (although only ever seen in ones or twos), with sightings in the southern bushland, central bushland, northern bushland, the open woodland directly above the southern exotic grassland, and along the edge of Everley Park at the southern riverine stretch. Usually resting on grasses or low leaves (including on *Acacia pubescens* and *Einadia hastata*).

Photographic voucher: https://www.inaturalist.org/observations/60813999

377. Lauxaniidae, unidentified sp.1

Seen along the western creek bank in the northern section of the reserve.

I will note here that I've found it really difficult to assess how common and widespread each of these orange-bodied, red-eyed Lauxaniidae/*Sapromyza* species are (and exactly how many species I've seen; I'm fairly sure I'm underestimating the diversity that's actually present) as, at a glance, they all look very similar in the field, and it's only when I actually get photos that I can start to differentiate them (and even then, many of them are quite difficult to separate, as I'm unsure whether small morphological variations are meaningful or not regarding separation into different species).

Photographic voucher: https://www.inaturalist.org/observations/70803515

378. Lauxaniidae, unidentified sp.2

Seen in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/59864228

379. Lauxaniidae, unidentified sp.3

Seen on the western creek bank in the northern section of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/70803513

380. *Melanina* sp.

Large numbers seen pollinating *Kunzea ambigua* along the edge of the carpark immediately below the reserve, with two individuals also seen near the creek crossing. Also seen on *K. ambigua* in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/69707247

381. *Poecilohetaerus aquilus* Schneider, 1991

Somewhat common, mostly along the edge of Everley Park at the southern riverine stretch (and usually among grasses), as well as along the western arm of the creek. One individual also seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/59861446

382. *Sapromyza* sp.1

Seen on *Clematis* at the eastern edge of the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/59433510

383. *Sapromyza* sp.2

Seen at the creek-spanning pipe on *Artemisia verlotiorum*.

Photographic voucher: https://www.inaturalist.org/observations/60694703

384. *Sapromyza* sp.3

Seen in the northern grassy woodland, on *Kunzea ambigua*, and what I think is the same species at the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/64029941

385. *Steganopsis melanogaster* (Thomson, 1869)

Fairly common and widespread throughout the survey area, including in the western exotic grassland, at the huge sea of weeds along the creek in line with the central split path, in the northern grassy woodland, along the creek in the reserve, along the edge of the carpark immediately below the reserve (on a *Kunzea ambigua*), and along the edge of Everley Park at the southern riverine stretch. Usually resting on grasses or low leaves (including on *Acacia pubescens* and *Einadia hastata*).

Photographic voucher: https://www.inaturalist.org/observations/58476741

Limoniidae

386. *Dicranomyia* sp.

Large numbers seen at the shaded, damp swale in the southern bushland when it was completely flooded in early April 2022.

Photographic voucher: https://www.inaturalist.org/observations/110462139

387. *Discobola australis* (Skuse, 1890)

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/114130453

388. *Geranomyia* sp.

Seen in the southern bushland on *Clematis*. Very impressive proboscis.

Photographic voucher: https://www.inaturalist.org/observations/58476781

389. *Gynoplistia* sp.

Single waterlogged, dead individual found at the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/70243671

390. Limoniidae, unidentified

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Probably *Molophilus*.

Photographic voucher: https://www.inaturalist.org/observations/100314980

Milichiidae

391. Milichiidae, unidentified

Two individuals 'freeloading' on an *Apis mellifera* caught by a robber fly (*Cerdistus* sp.) at the central bridge.

Photographic voucher: https://www.inaturalist.org/observations/66037612

Muscidae

392. *Coenosia* sp.

Two individuals seen on a young eucalypt at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/97985878

393. *Helina* sp.

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225338

394. *Lispe* sp.

Several individuals seen on floating vegetation/leaf litter at the shaded, damp swale in the southern bushland and the swale in the northern bushland, after they filled up in mid-October 2021 following heavy rain. Abundant at the plume of sewage overflow at the western perimeter of the reserve/northwestern quadrant of the central bushland, especially after the source of the overflow was unblocked/fixed and the plume started to dry up. At the latter, they seemed to be engaging in some kind of courtship behaviour; several individuals (males?) were taking turns to land on floating vegetation next to another individual (female?), walk around it with their forelegs raised and waving, and then fly off.

Photographic voucher: https://www.inaturalist.org/observations/98469932

395. Muscidae, unidentified sp.1

Seen at the southeastern corner of the northern bushland, having been parasitised by an *Entomophthora* fungus. Probably *Helina*.

Photographic voucher: https://www.inaturalist.org/observations/58476766

396. Muscidae, unidentified sp.2

Seen along the creek in the northern section of the reserve. Somewhat similar to *Limnophora*.

Photographic voucher: https://www.inaturalist.org/observations/70803514

397. Muscidae, unidentified sp.3

Single individual seen on the metal fence surrounding the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/99861977

398. *Pygophora* sp.

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98601733

Phoridae

399. Phoridae, unidentified

Single individual seen scavenging (for what? Unsure) around a terrestrial flatworm (*Caenoplana caerulea*) in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/60173047

Pipunculidae

400. Pipunculidae, unidentified

Single individual seen in the shaded, damp swale in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/97003686

Platypezidae

401. *Lindneromyia* sp.1

Single individual seen along the edge of the northwestern path through the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/59864994

402. *Lindneromyia* sp.2

Single individual seen among vegetation around the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/81004768

Platystomatidae

403. *Pogonortalis doclea* (Walker, 1849)

Fairly common, with sightings in the far southern bushland and southern bushland. Almost always seen on the ground/among leaf litter.

Photographic voucher: https://www.inaturalist.org/observations/73285447

404. *Rivellia* sp.

Number of individuals on (what I can only assume was dog) poo in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/97985879

Psychodidae

405. Psychodinae, unidentified

Single individual seen on a large eucalypt trunk in the carpark immediately below the reserve. Possibly the non-native *Clogmia albipunctata*.

Photographic voucher: https://www.inaturalist.org/observations/71783021

Rhagionidae

406. *Chrysopilus* sp.

Several individuals seen resting on leaves along the creek around the southern grassy woodland, and along the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/63862788

Rhiniidae

407. *Stomorhina* sp.

One individual seen on an *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the toilet block. Several also seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup, and pollinating *Angophora floribunda* on the eastern bank of the southern riverine stretc.

Photographic voucher: https://www.inaturalist.org/observations/65062348

Sarcophagidae

408. Sarcophagidae, unidentified sp.1

Not uncommon, with sightings at the weedy swale in the southern bushland (of a mating pair), in the southern exotic grassland, and along the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/63622288

409. Sarcophagidae, unidentified sp.2

Single individual seen resting on grasses along the edge of Everley Park at the southern riverine stretch, near the second light tower.

Photographic voucher: https://www.inaturalist.org/observations/68751684

Scatopsidae

410. Scatopsidae, unidentified

Mating pair seen on a fallen log along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/59112978

Sciaridae

411. Sciaridae, unidentified sp.1

Occasional, seen multiple times in the southern bushland and far southern bushland.

I will note here that, as with the orange-bodied, red-eyed Lauxaniidae/*Sapromyza* species, I've found it difficult to assess how common and widespread many of these sciarids are, and exactly how many species I've seen, with many of them brown or black and with very little distinct patterning.

Photographic voucher: https://www.inaturalist.org/observations/60174892

412. Sciaridae, unidentified sp.2

At face value, seems to be somewhat common (although there is every chance I'm merging multiple species here), with sightings along the edge of Everley Park at the southern riverine stretch (including on the stipe of a *Hymenopellis* fungus), in the northern grassy woodland (during a night walk), and along the edge of the central split path, attracted to my UV lamp/moth sheet setup at night.

Photographic voucher: https://www.inaturalist.org/observations/58813377

413. Sciaridae, unidentified sp.3

Seems to be not uncommon, and fairly widespread, with sightings in the northern grassy woodland, and along the edge of Everley Park at the southern riverine stretch, including during night walks.

Photographic voucher: https://www.inaturalist.org/observations/72765658

414. Sciaridae, unidentified sp.4

Seen along the creek adjacent to the grassland at the far southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/93018808

Sepsidae

415. *Parapalaeosepsis plebeia* (De Meijere, 1906)

Seen resting on creekside vegetation just north of the creek crossing, along the edge of the carpark immediately below the reserve, and on the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/70492070

Sphaeroceridae

416. Sphaeroceridae, unidentified

Single individual seen resting on a log in the creek underneath the Wellington Road bridge.

Photographic voucher: https://www.inaturalist.org/observations/69445224

Stratiomyidae

417. *Acanthasargus flavipes* Hardy, 1932

Several individuals seen on a *Solanum americanum* along the edge of Everley Park at the southern riverine stretch, near the long jump pits.

Photographic voucher: https://www.inaturalist.org/observations/140048080

418. *Australoactina* sp.

One individual seen on a *Persicaria* on the eastern bank of the creek, just south of the Wellington Road bridge, with another seen on the large *Melia azedarach* along the edge of Everley Park at the southern riverine stretch, near the first light tower.

Photographic voucher: https://www.inaturalist.org/observations/97430847

419. Chiromyzinae, unidentified

Single male seen in the northeastern corner of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/43272708

420. *Exaireta spinigera* (Wiedemann, 1830)

Single individual seen along the creek, near the metal stairway at the northern end of the reserve. I suspect it had been parasitised by something; it was hanging from a leaf, with only its hind legs weakly twitching.

Photographic voucher: https://www.inaturalist.org/observations/70803505

421. *Inopus rubriceps* (Macquart, 1847)

Single female seen on the eastern bank of the southern riverine stretch, near the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/76505897

422. *Lagenosoma dispar* Brauer, 1882

Two females seen, one on a eucalypt along the edge of Everley Park at the southern riverine stretch, in line with the first long-jump pit, and one on a *Melaleuca nodosa* in the large swale leading from the stormwater entrance. Based on ALA records, this seems to be the most southern ever record of this species by ~300 km.

Photographic voucher: https://www.inaturalist.org/observations/63627190

423. *Odontomyia hunteri* (Macleay, 1826)

Single individual seen on a *Melaleuca nodosa* at the northern edge of the northern bushland where it emerges onto the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/70030223

424. *Odontomyia* sp.1

Seen twice: once on an *Acacia parramattensis* in the southern exotic grassland, and once on a *Cestrum auratiacum* along the edge of Everley Park at the southern riverine stretch, near the ancient eucalypt hybrid. Possibly/probably *O. decipiens*.

Photographic voucher: https://www.inaturalist.org/observations/61849202

425. *Odontomyia* sp.2

On 12 February 2021, I found a number of stratiomyid larvae (https://www.inaturalist.org/observations/69445238) in/on wet mud in the western alcove. Three days later, I collected one of these larvae (I could only find one at the time), with a large sample of mud, into a container with the intent of rearing it to an adult. As it turned out, there were at least 4-5 other larvae also in the mud. I spent the next two months checking the container each day, keeping the mud wet, adding decaying leaves, etc. On 10 April 2021, 54 days after collecting the larvae, a pupa appeared (https://www.inaturalist.org/observations/73454582) attached to a piece of bark in the container. I removed this and placed it into a separate container. However, four days later, an adult emerged in the original container, so obviously there were additional pupae hidden beneath the stick/bark/leaf litter on top of the mud. I released this adult (interestingly, it was a very clumsy flier). Two more adults emerged on 23 April 2021 (https://www.inaturalist.org/observations/74921217), which I also released. I continued to monitor the pupa I had removed and attempted to prevent it dehydrating using wetted paper towels placed into its container, however, a black mould constantly grew on these sheets. I kept this up for several months, but the adult never emerged, so I assume it died.

Photographic voucher: https://www.inaturalist.org/observations/73920643

Syrphidae

426. *Asiobaccha notofasciata* Thompson & Mengual, 2016

Single individual seen pollinating *Senecio madagascariensis* along the western perimeter of the reserve, near the western alcove.

Photographic voucher: https://www.inaturalist.org/observations/84025143

427. *Austalis copiosa* (Walker, 1852)

Several individuals seen pollinating *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the toilet block, several on a *Leptospermum polygaliifolium* subsp. *polygaliifolium* in the southern grassy woodland, and one on an *Angophora floribunda* on the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/65204215

428. *Betasyrphus* sp.

One individual seen pollinating *Veronica persica* along the southern riverine stretch, ~30 m south of the big kink in the creek, with another seen resting on a *Kunzea ambigua* along the edge of the carpark immediately below the reserve, during a night walk. This is an undescribed species listed as '*Betasyrphus* sp. nov. AU1' in the Canadian National Collection of Insects, Arachnids and Nematodes (per Jeffrey Skevington).

Photographic voucher: https://www.inaturalist.org/observations/90751382

429. *Citrogramma* sp.

Single individual seen on an *Acacia decurrens* in the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/88908319

430. *Eristalinus punctulatus* (Macquart, 1847)

Not uncommon, and fairly widespread throughout the reserve proper, with sightings in the southern grassy woodland, along the central split path, on the eastern bank of the creek at the huge sea of weeds in line with the central split path, in the northern grassy woodland, and in the northern bushland. Seen pollinating and resting on *Angophora floribunda* on multiple occasions.

I also saw several large Eristalini larvae (https://www.inaturalist.org/observations/99861992) in the plume of sewage overflow (where it was actively flowing) at the western perimeter of the reserve/northwestern section of the central bushland. I'm unsure if these belonged to *Eristalinus punctulatus*, *Austalis copiosa*, or a different species in this tribe.

Photographic voucher: https://www.inaturalist.org/observations/66765434

431. *Melangyna viridiceps* (Macquart, 1847)

Abundant and widespread throughout the survey area, with sightings in almost all sections. Seen pollinating a huge variety of plant species, both native and non-native, including (but not limited to) *Morus alba, Hypochaeris radicata, Taraxacum officinale, Senecio madagascariensis, Ageratina adenophora, Brassica fruticulosa, Kunzea ambigua, and Calotis cuneifolia*.

Photographic voucher: https://www.inaturalist.org/observations/58813358

432. *Monoceromyia macleayi* (Ferguson, 1926)

Mating pair seen on an *Avena barbata* at the eastern edge of the open woodland directly above the southern exotic grassland. Based on ALA records, this is the most southern record of this species (with the next record around Newcastle). These also seem to be the first photographs of living specimens of this species.

Photographic voucher: https://www.inaturalist.org/observations/65630574

433. *Psilota auricauda* Curran, 1926

Single female seen hovering around, and landing on, one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/101251675

434. *Psilota* sp.

Occasional: seen pollinating a *Kunzea ambigua* and an *Acacia decurrens* along the edge of the carpark immediately below the reserve, and an *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the toilet block.

Photographic voucher: https://www.inaturalist.org/observations/64590169

435. *Simosyrphus grandicornis* (Macquart, 1842)

Single individual seen in the southern bushland on an *Ozothamnus diosmifolius*. I strongly suspect that at least some of the individuals that I've chalked up as *Melangyna viridiceps* have actually been this species, and that I'm underestimating its abundance (and probably overestimating the abundance of *M. viridiceps*).

Photographic voucher: https://www.inaturalist.org/observations/101753216

436. *Sphaerophoria macrogaster* (Thomson, 1869)

Occasional, with sightings (all females) in the southern exotic grassland and along the edge of Everley Park at the southern riverine stretch. Usually seen pollinating *Taraxacum officinale*, with one sighting also on *Calotis cuneifolia*.

Photographic voucher: https://www.inaturalist.org/observations/79914590

Tabanidae

437. Tabanidae, unidentified

Several large individuals harassing and trying to bite me at the shaded, damp swale in the southern bushland, in shady areas along the creek at the southern grassy woodland, and near the central bridge.

Photographic voucher: https://www.inaturalist.org/observations/107862213

Tachinidae

438. Dexiini, unidentified

Occasional, always on large eucalypt trunks, with sightings along the eastern bank of the southern riverine stretch and in the large swale leading from the stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/71289230

439. Minthoini, unidentified

Mating pair seen on a eucalypt in the far southern bushland. One individual also seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/65391392

440. *Rutilia* sp.

Occasional, with sightings throughout the southern bushland. This is part of a species complex containing *R. splendida, R. decora, R. chersipho, R. corona* and *R. cryptica*.

Photographic voucher: https://www.inaturalist.org/observations/70243664

441. Tachinidae, unidentified sp.1

Single individual seen on a large eucalypt trunk (I think it was a *Corymbia citriodora*) at the northwestern corner of the northern bushland, along the sandstone wall. Probably Dexiini.

Photographic voucher: https://www.inaturalist.org/observations/63629460

442. Tachinidae, unidentified sp.2

Single individual seen pollinating *Kunzea ambigua* in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/63629480

443. Tachinidae, unidentified sp.3

Mating pair seen in the weedy swale in the southern bushland. Similar to

Photographic voucher: https://www.inaturalist.org/observations/65630577

444. Tachinidae, unidentified sp.4

Single individual seen along the edge of Everley Park at the southern riverine stretch, near the second light tower.

Photographic voucher: https://www.inaturalist.org/observations/68751683

445. Tachinidae, unidentified sp.5

Single individual seen just south of the large *Canna indica* patch at the southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/69707259

446. Tachinidae, unidentified sp.6

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937843

447. *Trigonospila* sp.

Occasional, with sightings at the eastern edge of the isolated *Melaleuca* patch, in the southern bushland, and in the northern bushland. Usually among leaf litter, sometimes on eucalypt leaves.

Photographic voucher: https://www.inaturalist.org/observations/79914605

448. *Tritaxys* sp.

Often one or two attracted to my UV lamp/moth sheet setup at night, along the edge of the central split path, in the northern bushland, and along the edge of the shaded, damp swale in the southern bushland. They're a menace when I'm trying to photograph moths and other insects on the sheet; they constantly buzz around, barrelling into other insects and knocking them off the sheet, and flying around/into me.

Photographic voucher: https://www.inaturalist.org/observations/100673693

Tephritidae

449. **Dioxyna sororcula* (Wiedemann, 1830)

Seen twice, both along the edge of Everley Park at the southern riverine stretch between the two long-jump pits; one on *Taraxacum officinale* and one on *Lamium amplexicaule*.

Photographic voucher: https://www.inaturalist.org/observations/89752060

450. **Procecidochares utilis* Stone, 1947

Single individual seen on an *Ageratina adenophora* on the southern bank of the western arm of the creek, near the stormwater entrance.

Photographic voucher: https://www.inaturalist.org/observations/66507327

451. *Sphenella ruficeps* (Macquart, 1851)

Single individual seen at night on the information sign in the grassland at the far southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/140332663

452. Tephritini, unidentified

Single individual seen on a *Convolvulus erubescens* on the eastern bank of the southern riverine stretch, at the big kink in the creek. Possibly *Austrotephritis pelia*.

Photographic voucher: https://www.inaturalist.org/observations/65391384

453. Tephritinae, unidentified

Single individual seen in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66507316

454. **Urophora stylata* (Fabricius, 1775)

Several individuals seen on *Cirsium vulgare* in the southern exotic grassland, with one also seen on *Kunzea ambigua* along the edge of the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/61850123

Therevidae

455. *Anabarhynchus plumbeoides* Lyneborg, 2001

Single dead individual found on a plastic-covered information sign at the interface between the northern bushland and the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/99064945

456. *Ectinorhynchus terminalis* (Walker, 1848)

One individual seen (on an *Acacia falcata*, I think) along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*, with another seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/63862779

457. *Ectinorhynchus* sp.

Occasional, with sightings (all females) in the northern grassy woodland, northern bushland, and along the edge of Everley Park at the southern riverine stretch. Always very active.

I've also found another *Ectinorhynchus* (https://www.inaturalist.org/observations/60694702), drowned in the ephemeral pool atop the broken concrete pillar underneath the creek-spanning pipe, that looks different to the two listed above. However, it was a male, and all my other sightings have been of females, so I'm unsure if it belongs to one of these species.

Photographic voucher: https://www.inaturalist.org/observations/58816017

458. *Neodialineura nitens* (White, 1916)

Single individual seen in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/60169656

Tipulidae

459. *Dolichopeza* sp.

Occasional along the western arm of the creek, always under overhanging, eroding sections of the northern creekbank.

Photographic voucher: https://www.inaturalist.org/observations/70493473

460. *Ischnotoma eburnea* (Walker, 1848)

Single individual found dead in a spider web on a *Eucalyptus fibrosa* along the southern riverine stretch, next to the third light tower.

Photographic voucher: https://www.inaturalist.org/observations/96459183

461. *Leptotarsus* (*Habromastix*) sp.

Fairly common. Often seen throughout the southern bushland, typically near the creek and as mating pairs, with large numbers also seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/72761559

Unidentified to family

462. Acalyptratae, unidentified

Single individual seen on a *Lomandra multiflora* in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/99860019

463. Calyptratae, unidentified

Single individual on a young eucalypt on the eastern bank of the southern riverine stretch. It kept raising its two forelegs into the air in a waving motion.

Photographic voucher: https://www.inaturalist.org/observations/99860010

464. Diptera, unidentified sp.1

Single tiny individual seen around the withered petal/dorsal sepal/labellum of a fruiting *Pterostylis nutans* in the southern bushland. This was actually an incidental find; I was photographing the orchid and only had the fly in the shot pointed out to me much later on. *Pterostylis* are pollinated by flies, with most known pollinators from Mycetophilidae (see e.g., Phillips et al. 2014, Kuiter and Findlater-Smith 2017), but some other families such as Sciaridae also visit.

Photographic voucher: https://www.inaturalist.org/observations/73091656

465. Diptera, unidentified sp.2

Single individual seen pollinating a *Kunzea ambigua* along the edge of the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/64591186

466. Diptera, unidentified sp.3

Number of polystyrene foam-like balls on *Brunoniella australis* in the southern bushland. Refer to discussion at https://www.inaturalist.org/observations/145650800 for explanation.

Photographic voucher: https://www.inaturalist.org/observations/74607901

467. Muscoidea, unidentified

Seen at night along the edge of Everley Park at the southern riverine stretch, near the second light tower, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937878

468. Sciaroidea, unidentified

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. One individual (of what I think is the same species) also seen on a *Melaleuca* (I think *M. styphelioides* from memory) along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/73937847

469. Tipulomorpha, unidentified

Single individual seen at the edge of the southern bushland where the main path comes from the southern exotic grassland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/114130390

Grasshoppers, katydids, crickets and allies

Acrididae

470. *Acrida conica* (Fabricius, 1781)

Very common in the southern exotic and western exotic grasslands. Always very active and flighty.

Photographic voucher: https://www.inaturalist.org/observations/68994569

471. Acrididae, unidentified

Quite an enigmatic one. I've seen this species three times: one adult on exposed soil along the central split path, one adult on exposed soil along a main path at the eastern half of the central bushland, and one nymph in the northern bushland close to the creek. Wings yellowish in flight. Possibly undescribed.

Photographic voucher: https://www.inaturalist.org/observations/69706175

472. Apotropina, unidentified

Single large nymph seen on exposed soil at the interface between the western exotic grassland and southern bushland, close to the stormwater entrance. Probably undescribed.

Photographic voucher: https://www.inaturalist.org/observations/59430559

473. *Apotropis tricarinata* (Stål, 1878)

Single individual seen in the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/69445245

474. *Austracris proxima* (Walker, 1870)

Fairly common in the southern exotic and western exotic grasslands, especially the former. Nymphs and adults seen.

Photographic voucher: https://www.inaturalist.org/observations/61845504

475. *Bermius brachycerus* Stål, 1878

One adult along the northern section of the creek, and one nymph at the southern bank of the western arm of the creek. Both resting on grasses.

Photographic voucher: https://www.inaturalist.org/observations/70803506

476. *Caledia captiva* (Fabricius, 1775)

Quite common in the southern exotic and western exotic grasslands.

Photographic voucher: https://www.inaturalist.org/observations/60169667

477. Catantopini, unidentified

Single nymph found at the far northeastern corner of the northern bushland, resting on a dead shrub. Possibly subtribe Peakesiina.

Photographic voucher: https://www.inaturalist.org/observations/58816013

478. Cratilopina, unidentified

Single adult male seen among dry leaf litter in the northern bushland at the edge of the centra split path. Probably undescribed, possibly something in *Caperrala*.

Photographic voucher: https://www.inaturalist.org/observations/68314492

479. *Chortoicetes terminifera* (Walker, 1870)

Single nymph seen in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/60169665

480. *Coryphistes ruricola* (Burmeister, 1838)

Not especially common, but quite widespread, with sightings in the northern bushland, central bushland, southern exotic grassland, northern grassy woodland, western exotic grassland, and along the western periphery of the reserve near the western alcove. Nymphs and adults seen.

Photographic voucher: https://www.inaturalist.org/observations/100668109

481. *Goniaea australasiae* (Leach, 1814)

Occasional, sighted in the far southern bushland, southern exotic grassland, southwestern corner of the northern bushland, and the northwestern corner of the central bushland. Mix of nymphs and adults, and a few different patterns/colours.

Photographic voucher: https://www.inaturalist.org/observations/61380397

482. *Macrotona securiformis* (Sjöstedt, 1921)

Occasional in the southern exotic grassland, and at the northern edge of the far southern bushland. Mixture of microhabitats, including on eucalypt trunks, on exposed soil, and among leaf litter and grasses.

Photographic voucher: https://www.inaturalist.org/observations/70029802

483. *Rhitzala modesta* Sjöstedt, 1921

Single nymph seen at the patch of fallen *Melaleuca* bark sheets, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/69789472

Anostostomatidae

484. *Penalva* sp.

Five or six individuals, mostly nymphs, seen at the western edge of the northwestern path through the northern bushland, during a night walk, all among the large, damp *Campylopus introflexus* patches at this spot. One larger individual seen in the southern bushland, also during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/99273312

Gryllacrididae

485. Gryllacrididae, unidentified

Single large (dead) adult found in a spider web along the northern perimeter of the reserve.

Photographic voucher: (https://www.inaturalist.org/observations/70244348)

486. *Hyalogryllacris* sp.

One adult male, having just moulted, seen in the southern bushland, during a night walk. Probably *H. hyalina*. I also saw a younger individual at the edge of the southern bushland where the main path comes from the southern exotic grassland (https://www.inaturalist.org/observations/114130387), which might be the same species, but I'm unsure.

Photographic voucher: https://www.inaturalist.org/observations/103224105

487. *Paragryllacris combusta* (Gerstaecker, 1860)

One large female seen ~3 m up a large eucalypt trunk in the northern bushland, close to the swale, during a night walk, with another seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, also during a night walk (around 2 m high).

In addition to the two gryllacridids listed above, I've also seen two different nymphs, both during night walks: one in the northern grassy woodland, on an *Acacia decurrens* (https://www.inaturalist.org/observations/71060445), and one along the edge of the central split path, attracted to my UV lamp/moth sheet setup (https://www.inaturalist.org/observations/73937861). I'm unsure if these are nymphs of any of the three species I've listed, or different species entirely.

Photographic voucher: https://www.inaturalist.org/observations/100313617

Gryllidae

488. Gryllinae, unidentified

One small nymph seen on the exposed soil of the northwestern path through the northern bushland, and one larger individual seen along the central split path during a night walk. Possibly *Velarifictorus*.

Photographic voucher: https://www.inaturalist.org/observations/71060466

489. *Lepidogryllus* sp.

Very common along the edge of Everley Park at the southern riverine stretch, among the sporting field grass/turf, although I've only seen them during night walks. One individual also seen in the western alcove. I've also seen a number of nymphs (on the exposed soil of the northwestern path through the northern bushland, and along the central split path during a night walk; e.g., https://www.inaturalist.org/observations/97137743) that are possibly the same species, but could also be *Velarifictorus*. At the very least these nymphs are something in Modicogryllini.

Photographic voucher: https://www.inaturalist.org/observations/69708048

Gryllotalpidae

490. Gryllotalpidae, unidentified

Seemingly quite common along the edge of Everley Park at the southern riverine stretch, burrowed under the soil, but only heard during night walks.

Photographic voucher: none (they're all underground), but very distinct call.

Mogoplistidae

491. Mogoplistini, unidentified

Occasional, with sightings in the far southern bushland, the open woodland directly above the southern exotic grassland, and the southern bushland (attracted to my UV lamp/moth sheet setup). All sightings except one during night walks.

Photographic voucher: https://www.inaturalist.org/observations/69789479

Pyrgomorphidae

492. *Atractomorpha* sp.

Fairly common along the edge of Everley Park at the southern riverine stretch, southwards of the first light tower, always amongst the grasses and turf. One sighting also along the creek near the metal stairway at the northern end of the reserve. Almost all of my sightings have been of nymphs, with only one adult seen. Probably *A. australis*.

Photographic voucher: https://www.inaturalist.org/observations/72002633

Tettigoniidae

493. Agraeciini, unidentified

Single nymph seen in the southern bushland, during a night walk. Most likely *Austrosalomona falcata*, but also a chance it's *Coptaspis brevipennis*, or perhaps *Larifugagraecia spuria*.

Photographic voucher: https://www.inaturalist.org/observations/103224107

494. *Caedicia* sp.

Two nymphs seen in the southern grassy woodland, one nymph seen on creekside vegetation at the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/62016049

495. *Conocephalomima barameda* Rentz, 2001

One female nymph seen on a large *Melaleuca decora* trunk in the northern bushland, during a night walk, and one adult male seen on an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch (https://www.inaturalist.org/observations/144655919).

Photographic voucher: https://www.inaturalist.org/observations/100925528

496. *Conocephalus semivittatus* subsp. *semivittatus (Walker, 1869)*

Quite common along the southern riverine stretch, including along the edge of Everley Park, among large patches of grasses. More often heard than seen.

Photographic voucher: https://www.inaturalist.org/observations/58813366

497. *Conocephalus upoluensis* (Karny, 1907)

One adult at the far southern end of the southern riverine stretch, near the creek crossing, and one nymph (likely the same species) being carried off by a *Sphex bilobatus* in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/73285434

498. *Pseudorhynchus lessonii* Audinet-Serville, 1838

Fairly common in the southern exotic grassland, although I've only actually seen a single adult individual. All of my other encounters have been hearing males calling; the calls are quite loud/piercing, and have a distinct 'electrical' quality, like standing next to a buzzing power station (https://www.inaturalist.org/observations/94409410). It took me ~10 minutes of searching to actually find the one male that I saw; I could hear it calling the entire time, but couldn't pinpoint exactly where it was. I ended up finding it nestled under a big clump of *Paspalum quadrifarium*. I've also seen a few nymphs (https://www.inaturalist.org/observations/74362635) during night walks, both at the southern exotic grassland and among grasses along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/60498645

499. *Torbia viridissima* (Brunner von Wattenwyl, 1878)

One very small nymph seen on a young eucalypt in the southern exotic grassland, a larger nymph on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, and a much later-stage nymph (near adult) found paralysed (by a *Sphex bilobatus*) in the western exotic grassland (https://www.inaturalist.org/observations/102983726).

Photographic voucher: https://www.inaturalist.org/observations/96467580

Trigonidiidae

500. *Bobilla* sp.

Single individual seen in the northern grassy woodland, scuttling through dry leaf litter. Probably *B. neobivittata*.

Photographic voucher: https://www.inaturalist.org/observations/93446949

501. Trigonidiini, unidentified

Single adult female seen at the patch of fallen *Melaleuca* bark sheets, during a night walk. Either *Trigonidium vittaticollis* or *Trigonidomorpha sjostedti*.

Photographic voucher: https://www.inaturalist.org/observations/69789469

Hoppers, aphids, scale insects and allies

Achilidae

502. *Achilus flammeus* Kirby, 1818

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927866

503. *Anabunda retortinervis* Emeljanov, 2005

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672560

504. Plectoderini, unidentified

Single individual seen on a large eucalypt trunk in the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/97429631

Aphalaridae

505. *Glycaspis* sp.1

Number of lerps on *Eucalyptus amplifolia* leaves along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/70239909

506. *Glycaspis* sp.2

Number of lerps seen on *Eucalyptus moluccana* leaves along the edge of the central split path.

I've also seen several other lerps (https://www.inaturalist.org/observations/95375206) on eucalypt leaves (unsure of species, but not *E. moluccana*) along the northern edge of the western third of the northern bushland that look extremely similar, but I'm unsure if these are a different species.

Photographic voucher: https://www.inaturalist.org/observations/100060418

507. Spondyliaspidinae, unidentified

Quite a few lerps on eucalypt leaves (I think *E. saligna*) at the southwestern corner of the isolated *Melaleuca* patch. On 7 October 2021 I brought five home with the intention of rearing them to adults to allow identification. Within two days, all of the lerps became covered with a mould-like fungus (https://www.inaturalist.org/observations/97634055), which may have developed due to the damp paper towel I placed in the containers to keep the lerps from drying out (this was despite me using paper towel that was very barely damp; I'd had the same issue when rearing *Odontomyia* sp.2 at home, with mould constantly growing on the damp paper towel I had in the container. Obviously reducing the amount of water wasn't enough. Also note that I haven't listed this fungus in my checklist: I'm unsure if the fungus originated in the reserve, and I brought it home on the leaves/lerps, or if it was already in my house, as the two containers I used to house the lerps were not brand new, and I'd previously used them to store other biological material).

Between 9 October and 13 October a number of nymphs appeared from their lerps (https://www.inaturalist.org/observations/97634058, https://www.inaturalist.org/observations/98087182), however, unfortunately, it turns out they had all been parasitised by encyrtid wasps (*Psyllaephagus* sp.), so none of them reached adulthood. Probably *Glycaspis granulata* based on the squarish shape of the lerps.

Photographic voucher: https://www.inaturalist.org/observations/97430868

508. *Spondyliaspis* sp.

Single lerp on a eucalypt leaf (cannot remember the species unfortunately) in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/79914634

Aphididae

509. Aphididae, unidentified sp.1

Single winged adult on a *Morus alba*, just below the large *Canna indica* patch at the southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/59114591

510. Aphididae, unidentified sp.2

Single individual on a *Medicago polymorpha* in the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/59125848

511. Aphididae, unidentified sp.3

Single nymph (?) on a *Vittadina cuneata* var. *cuneata* at the large, exposed patch of soil near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/60695654

512. Aphididae, unidentified sp.4

One winged adult and several nymphs on a *Fimbristylis dichotoma* in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/71289750

513. Aphididae, unidentified sp.5

One wingless adult and a number of nymphs (although I'm unsure if the nymphs are a different species) on *Bothriochloa macra* along the edge of Everley Park at the southern riverine stretch, just north of the first light tower.

Photographic voucher: https://www.inaturalist.org/observations/81004770

514. Aphididae, unidentified sp.6

Single nymph on a *Capsella bursa-pastoris* in the northern grassy woodland. I'm almost certain this is *Myzus persicae*.

Photographic voucher: https://www.inaturalist.org/observations/81530287

515. Aphididae, unidentified sp.7

Number of nymphs on a *Senecio madagascariensis* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/82520144

516. Aphididae, unidentified sp.8

Two individuals along the southern riverine stretch, in line with the two long-jump pits. Unsure of host plant.

Photographic voucher: https://www.inaturalist.org/observations/95375189

517. Aphididae, unidentified sp.9

Large numbers of adults and nymphs on *Sonchus oleraceus* along the southern riverine stretch, in line with the two long-jump pits.

Photographic voucher: https://www.inaturalist.org/observations/95375191

518. Aphididae, unidentified sp.10

One adult and one tiny nymph on a *Petrorhagia nanteuilii* along the southern riverine stretch, in line with the two long-jump pits.

Photographic voucher: https://www.inaturalist.org/observations/95375193

519. **Aphis nerii* Boyer de Fonscolombe, 1841

Seen in the northern grassy woodland, northern bushland, and along the western perimeter of the reserve, usually in large numbers on *Gomphocarpus physocarpus*. Also found on the rare, endangered native species *Vincetoxicum woollsii* in the central bushland (https://www.inaturalist.org/observations/102695283).

Photographic voucher: https://www.inaturalist.org/observations/72765663

520. **Brevicoryne brassicae* (Linnaeus, 1758)

Seen in large numbers on *Brassica fruticulosa* along the edge of Everley Park at the southern riverine stretch, and on a *Raphanus raphanistrum* in the huge sea of weeds along the creek in line with the central split path.

Photographic voucher: https://www.inaturalist.org/observations/61849193

521. *Hyperomyzus* sp.

Large numbers on *Sonchus oleraceus*, just below the large *Canna indica* patch at the southern end of the reserve. They're either *H. carduellinus* or *H. lactucae*, but microscopic examination is needed.

Photographic voucher: https://www.inaturalist.org/observations/68751698

522. **Hysteroneura setariae* (Thomas, 1878)

Seen on *Sporobolus africanus* in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/74607903

523. **Megoura crassicauda* Mordvilko, 1919

Seen on *Vicia sativa* in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/63627209

Aprophoridae

524. Aprophoridae, unidentified

Spittle seen on an *Acacia parramattensis* in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/141680207

Cicadellidae

525. *Arawa* sp.

Single individual seen among leaf litter in the far southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/69789436

526. *Austroagalloides* sp.

Single individual seen on a fallen chunk of *Eucalyptus grandis* bark, in the section of western exotic grassland above Melita Stadium.

Photographic voucher: https://www.inaturalist.org/observations/72430439

527. *Brunotartessus fulvus* (Walker, 1851)

Single individual seen in the northern bushland, on what I believe was a *Eucalyptus amplifolia*.

Photographic voucher: https://www.inaturalist.org/observations/70803864

528. Cicadellidae, unidentified sp.1

Adults and nymphs seen on a young eucalypt along the edge of Everley Park at the southern riverine stretch, at the first light tower. Being tended to by *Rhytidoponera metallica* ants. Identified as probably Ipoini by Murray Fletcher, but the taxonomy around these groups is in a bit of flux at the moment, so have left it at family.

Photographic voucher: https://www.inaturalist.org/observations/70492089

529. Cicadellidae, unidentified sp.2

Single individual seen on a large eucalypt in the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/98469916

530. Cicadellidae, unidentified sp.3

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672565

531. Eurymelinae, unidentified sp.1

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/97139220

532. Eurymelinae, unidentified sp.2

Single individual seen at the southwestern corner of the isolated *Melaleuca* patch, on what I think was a *Eucalyptus grandis*. Murray Fletcher noted that:

"I agree that this is a tough one. It keys reasonably well to *Katipo* which is Eurymelinae/Ipoini. The species often have red tegmen veins but this is not always the case. There are also species of *Eurymeloides* (Eurymelinae/Eurymelini) which have this mottled sort of appearance rather than distinct black and white patterning. This is the point where you need to examine the male genitalia. This will give a definitive answer for the tribe based on the presence of an accessory structure on the subgenital plates and the structure of the aedeagus will indicate which genus it is in. Max Day did some work on the Eurymelinae but decided to focus his attention on the Membracidae instead because the differentiation between the species of Eurymelinae, even those described species, is somewhat rubbery. He also considered there to be significant numbers of undescribed species in some of the variable genera. This brings genera like *Malipo* into possible contention if your specimen belongs to an undescribed species."

Photographic voucher: https://www.inaturalist.org/observations/97986805

533. *Eurymeloides punctata* (Signoret, 1850)

Hundreds of nymphs plus some adults on *Eucalyptus amplifolia*, along the edge of Everley Park at the southern riverine stretch, ~50-60 m south of the first light tower. Being tended to by both *Rhytidoponera metallica* and '*Iridomyrmex* sp.1'.

Photographic voucher: https://www.inaturalist.org/observations/70026609

534. *Macroceps* sp.

Single individual on a eucalypt in the far southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/72429980

535. *Stenocotis depressa* (Walker, 1851)

Not uncommon, seen in the northern grassy woodland and southern bushland. Always on large eucalypt trunks (often on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot). Several moults observed (https://www.inaturalist.org/observations/69000920) that could also be from *Stenocotis depressa* (probably), but could possibly also be *Ledromorpha planirostris*.

Photographic voucher: https://www.inaturalist.org/observations/72762568

Cixiidae

536. Cixiini, unidentified

Single individual found on my leg at the southern bank of the western arm of the creek. Possibly *Chidaea.*

Photographic voucher: https://www.inaturalist.org/observations/59430566

537. Pentastrini, unidentified

Single individual seen on a eucalypt trunk along the edge of Everley Park at the southern riverine stretch, during a night walk. Possibly *Oteana lubra* or *Ozoliarus*.

Photographic voucher: https://www.inaturalist.org/observations/69789339

Coccidae

538. *Ceroplastes rubens* Maskell, 1893

Number of individuals on *Rothmannia globosa* at the eastern end of the western split grassland

Photographic voucher: https://www.inaturalist.org/observations/101753214

539. *Ceroplastes* sp.

Number of individuals on *Dodonaea triquetra* alongside the creek near the northeastern entrance to the reserve, and on *Bursaria spinosa* in the southern bushland. Possibly *C. destructor*.

Photographic voucher: https://www.inaturalist.org/observations/95375209

540. Coccidae, unidentified

Several individuals on *Sonchus oleraceus* along the edge of Everley Park at the southern riverine stretch, near the toilet block.

Photographic voucher: https://www.inaturalist.org/observations/59113755

541. *Coccus longulus* (Douglas, 1887)

Several individuals on a *Denhamia silvestris* along the southern bank of the western arm of the creek, and several on a *Dodonaea triquetra* in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/85738310

542. *Cryptes baccatus* (Maskell, 1892)

There's a small group of *Acacia longifolia* either side of the path at the edge of the southern bushland where the main path comes from the southern exotic grassland; these are often covered in *C. baccatus* being tended to by *Iridomyrmex purpureus* ants. I've also seen them on *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the second light tower, and in the central bushland on *Acacia longifolia*, being tended to by *Rhytidoponera metallica* ants.

Photographic voucher: https://www.inaturalist.org/observations/60173054

543. *Parasaissetia nigra* (Nietner, 1861)

Number of individuals seen on *Denhamia silvestris* along the southern bank of the western arm of the creek, as well as large numbers on a few *Dodonaea triquetra* and on a young eucalypt, all in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/85738311

Diaspididae

544. Aspidiotini, unidentified

Several seen on *Acacia longifolia* leaves at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland. Possibly *Lindingaspis rossi*.

Photographic voucher: https://www.inaturalist.org/observations/99860017

545. Diaspidini, unidentified

Occasional, large-scale infestations on young *Melaleuca decora* in the southern bushland and northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/70493469

Eriococcidae

546. *Apiomorpha karschi* Rübsaamen, 1894

Single dead eucalypt leaf found in the southern bushland, near the creek, with almost 100% of one side of the leaf covered in male galls.

Photographic voucher: https://www.inaturalist.org/observations/70493460

547. *Apiomorpha munita* (Schrader, 1863)

Several huge galls on eucalypt stems at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland. Also a dried/shrivelled gall on a eucalypt in the central bushland, just below the central split path, and a similarly old/dried gall on a eucalypt in the southern bushland. Extensive galls (males and females) also seen on a young eucalypt in the southern bushland (https://www.inaturalist.org/observations/97003702), being tended to by *Crematogaster* ants.

Photographic voucher: https://www.inaturalist.org/observations/45235618

548. *Apiomorpha ovicola* (Schrader, 1863)

Large numbers of male and female galls on a eucalypt (either *Eucalyptus globoidea* or *E. eugenioides*) in the far southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/140043146

549. *Apiomorpha* sp.

Occasional galls on eucalypt stems (including *Eucalyptus amplifolia* and *Eucalyptus moluccana*) in the far southern bushland. These are from something in the *Apiomorpha floralis* species group, possibly *A. floralis* or *A. withersi*.

Photographic voucher: https://www.inaturalist.org/observations/70027361

550. *Apiomorpha strombylosa* (Tepper, 1893)

Several large, very globular (female) galls on a eucalypt stem in the southern bushland, along with a number of male (the tubular ones) galls. There were 30+ *Meranoplus minor* ants crawling over them.

In addition to these five *Apiomorpha* I've listed, I've also seen large numbers of male *Apiomorpha* galls on eucalypt leaves along the interface between the open woodland directly above the southern exotic grassland and the southern bushland (https://www.inaturalist.org/observations/59125873), however, these are not identifiable and thus I cannot assign them to one of the species above.

Photographic voucher: https://www.inaturalist.org/observations/93959818

551. Eriococcidae, unidentified

These galls are quite common on leaves of *Melaleuca decora* along the edge of Everley Park at the southern riverine stretch and along the edge of the carpark immediately below the reserve. These are formed by an undescribed species: "*Sphaerococcus*" sp. nr. *froggatti*. I collected a number of samples in late March 2021 and sent them to Lyn Cook. Apparently, my survey area is "not far from the original collection site for the species (Flemington-Homebush West)".

Photographic voucher: https://www.inaturalist.org/observations/71290305

Eurybrachidae

552. *Platybrachys decemmacula* (Walker, 1851)

Fairly common and widespread, almost always on large eucalypt trunks, with sightings of adults in the far southern bushland, southern bushland, central bushland, northern bushland, and northern grassy woodland. I've also seen many nymphs (e.g., https://www.inaturalist.org/observations/59112979) in the same sections, which are clearly Eurybrachidae, but I'm unsure if they're all *P. decemmacula* or if some belong to different species (e.g., the *Platybrachys* sp. listed below) as well.

Photographic voucher: https://www.inaturalist.org/observations/97003679

553. *Platybrachys* sp.

Single individual seen on a large *Eucalyptus fibrosa* trunk in the northern bushland. From a colleague (in Belgium) of Murray Fletcher:

"According to the present state of Eurybrachidae taxonomy, this guy is a *Platybrachys* sp. It is close to *P. leucostigma* but these species are impossible to identify without male genitalia study... I have a lot of work already done on that genus, and unfortunately still a lot to do before getting to a publication."

Photographic voucher: https://www.inaturalist.org/observations/97986786

Flatidae

554. Flatinae, unidentified

Single individual in the large swale leading from the stormwater entrance. Most likely a female *Colgar*. I've also seen a spectacular nymph (https://www.inaturalist.org/observations/100925525) on a eucalypt in the central bushland, during a night walk, which possibly belongs to this species.

Photographic voucher: https://www.inaturalist.org/observations/71289233

555. *Massila* sp.

Single individual along the edge of the creek abutting the southern grassy woodland. Unfortunately I didn't note the host plant.

Photographic voucher: https://www.inaturalist.org/observations/62016059

556. *Siphanta* sp.1

Not uncommon, with sightings along the edge of Everley Park at the southern riverine stretch, along the creek just north of the large *Canna indica* patch at the southern end of the reserve, in the southern bushland, and in the southern grassy woodland, including on *Daviesia ulicifolia*. Probably *Siphanta acuta*.

Photographic voucher: https://www.inaturalist.org/observations/59426848

557. *Siphanta* sp.2

Single individual seen on an *Acacia parramattensis* in the southern grassy woodland. From Murray Fletcher:

"There is a section of the genus *Siphanta* which look like this. If the genus were divided into separate genera, this one would belong to the genus *Parasalurnis*. The most widespread species is *Siphanta roseicincta* but there are overlaps with *S. lynae, S. rubra* and *S. subgranulosa*. Again, it is examination of the male genitalia that is the only reliable way of differentiating them."

Photographic voucher: https://www.inaturalist.org/observations/102156165

Membracidae

558. *Ceraon vitta* (Walker, 1851)

Single individual seen on an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch, at the third light tower.

Photographic voucher: https://www.inaturalist.org/observations/140481311

Monophlebidae

559. *Icerya acaciae* (Morrison & Morrison, 1923)

Single individual on an *Acacia pubescens* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/93018812

560. *Icerya purchasi* Maskell, 1879

Two individuals on *Acacia pubescens* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/91617656

561. Monophlebidae, unidentified

Single individual on a juvenile *Corymbia citriodora* in the open woodland directly above the southern exotic grassland. I've also seen another very similar individual (https://www.inaturalist.org/observations/96459187) on an *Angophora floribunda* on the eastern bank of the southern riverine stretch, near the chain-link fence, but I'm unsure if this is a different species.

Photographic voucher: https://www.inaturalist.org/observations/83112295

562. *Monophlebulus* sp.

One large individual on the large *Corymbia citriodora* at the far southern end of the survey area. I've also seen a very similar, but much smaller, individual on a young eucalypt in the southern exotic grassland (https://www.inaturalist.org/observations/96467583); unsure if this is the same species.

Photographic voucher: https://www.inaturalist.org/observations/140481292

Pseudococcidae

563. Pseudococcidae, unidentified

Occasionally seen on *Acacia decurrens*, and possibly also on *Acacia parramattensis*, in the large swale leading from the stormwater entrance, and along the edge of the northern grassy woodland near the creek. Possibly *Melanococcus*.

https://www.inaturalist.org/observations/69001179

564. *Pseudococcus* sp.

Single individual seen on an *Erythrina crista-galli* along the southern bank of the western arm of the creek. I've also seen a very similar individual (https://www.inaturalist.org/observations/99273309) in the southern bushland, during a night walk, but I'm unsure if this is the same species.

Photographic voucher: https://www.inaturalist.org/observations/59431932

Psyllidae

565. *Acizzia* sp.1

One individual seen on an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/90750934

566. *Acizzia* sp.2

A few individuals seen on *Acacia pubescens* in the southern bushland, just north of the weedy swale.

Photographic voucher: https://www.inaturalist.org/observations/92215137

Unidentified to family

567. Fulgoroidea, unidentified sp.1

Nymphs seen in the northern bushland and along the edge of Everley Park at the southern riverine stretch, including on *Senecio madagascariensis* and *Glycine clandestina*. Vaguely similar to *Scolypopa australis* nymphs, so possibly Ricaniidae.

Photographic voucher: https://www.inaturalist.org/observations/59954642

568. Fulgoroidea, unidentified sp.2

Number of nymphs on *Solenogyne bellioides* in the western exotic grassland/along the western perimeter of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/65391403

569. Fulgoroidea, unidentified sp.3

Dead individual found on a *Eucalyptus fibrosa* in the central bushland during a night walk, parasitised by a fungus ('Fungi, unidentified sp.6').

Photographic voucher: https://www.inaturalist.org/observations/141680213

570. Hemiptera, unidentified

Large numbers of some kind of bug (similar to *Aleuroctarthus*) on *Angophora floribunda* leaves on the eastern bank of the southern riverine stretch, near the chain-link fence.

Photographic voucher: https://www.inaturalist.org/observations/99860007

Lacewings, antlions and allies

Chrysopidae

571. *Apertochrysa edwardsi* (Banks, 1940)

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/97139217

572. *Mallada tripunctatus* (McLachlan, 1867)

Two individuals seen, both during night walks: one at the southern edge of the southern bushland, where the main path comes from the southern exotic grassland, and the other along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/69790116

Hemerobiidae

573. *Micromus tasmaniae* (Walker, 1860)

One individual seen resting on a grass blade in the grassland at the far southern end of the reserve, and one on the wall of the toilet block at night.

Photographic voucher: https://www.inaturalist.org/observations/78196762

Mantispidae

574. *Campion callosus* Lambkin, 1986

One individual at the southern edge of the southern bushland, where the main path comes from the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/65065449

Myrmeleontidae

575. *Myrmeleon* sp.

One adult seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. I've seen a very similar adult in the central bushland (https://www.inaturalist.org/observations/66642354), but got a single rubbish photo from far away, so I'm unsure if it's the same species.

I've also seen a large patch of antlion pitfall traps (https://www.inaturalist.org/observations/65065444) near the patch of fallen *Melaleuca* bark sheets (one of the only areas in the reserve with loose, sandy sediment rather than hard-packed clay). A few of the traps had ant remains strewn around the sides. I'm unsure if they belong to 'Myrmeleontidae, unidentified', or indeed if they're even in this family.

Photographic voucher: https://www.inaturalist.org/observations/103225378

Nymphidae

576. *Nymphes myrmeleonoides* Leach, 1814

Fairly common and widespread, usually seen flitting between vegetation, punctuated by brief rests on the underside of leaves/branches. Sightings of adults in the carpark immediately below the reserve, the southern grassy woodland, the southern bushland, and along the northern bank of the southern riverine stretch. I've also seen eggs on a eucalypt trunk in the northern grassy woodland.

I've also seen several large larvae (e.g., https://www.inaturalist.org/observations/65874715, https://www.inaturalist.org/observations/98974651), mostly in the northern bushland under the pile of large cardboard boxes, with one individual also seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk. The larvae were all covered in sediment and debris, presumably as camouflage. They're definitely in Nymphidae, but I have no idea if they're the larvae of *Nymphes myrmeleonoides*, or of a different species.

Photographic voucher: https://www.inaturalist.org/observations/66037620

Osmylidae

577. *Porismus strigatus* (Burmeister, 1839)

Mostly seen along the eastern bank of the southern riverine stretch, with one sighting in the southern bushland. Always on large eucalypt trunks.

Photographic voucher: https://www.inaturalist.org/observations/72762566

578. *Stenosmylus stenopterus* McLachlan, 1867

I've only seen this species at night; once in the southern bushland near the western arm of the creek, and then at least 25-30 individuals along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73284436

Mantises

Mantidae

579. *Archimantis latistyla* (Serville, 1838)

Occasional. Thus far I've found three oothecas (two in the southern bushland, and one at the western alcove), a large nymph (in the central bushland), and two moults from nymphs (near the central bridge, and along the southern riverine stretch).

Photographic voucher: https://www.inaturalist.org/observations/93446926

580. *Orthodera ministralis* (Fabricius, 1775)

Oothecas are somewhat common and widespread, always on eucalypt trunks, including along the edge of Everley Park at the southern riverine stretch, at the northwestern corner of the central bushland, and around the far northern bush behind the seat. I've also seen three nymphs, one at the interface between the southern exotic grassland and southern grassy woodland, one on the eastern bank of the southern riverine stretch, and one in the northern bushland (on a *Dipodium punctatum*), and an adult along the northwestern edge of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/78803767

581. *Pseudomantis albofimbriata* (Stål, 1860)

Similarly common and widespread to *Orthodera ministralis*, although most of my sightings have been of adults, including in the northern grassy woodland, at the northwestern edge of the northern bushland, along the southern riverine stretch, and in the central bushland near the western arm of the creek. I've also seen an ootheca on a eucalypt along the edge of Everley Park at the southern riverine stretch, a nymph on the southern bank of the western arm of the creek, another nymph on an *Acacia longissima* at the interface between the far southern bushland and the southern exotic grassland, and a nymph moult in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/69707241

582. *Tenodera australasiae* (Leach, 1814)

Three adults seen: one in the far southern bushland, one in the southern exotic grassland (the most skittish mantis I've ever seen; each time I got close for a photo it would spook and fly 5-10 m away), and a large, dead, very desiccated specimen in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/68751700

Mayflies

Unidentified to family

583. Ephemeroptera, unidentified sp.1

One live individual seen resting on vegetation at the far northern edge of the central bushland, right along the central split path, with a dead individual found in a large spider web at the weedy swale in the southern bushland, and another dead individual in a spider web on the metal fence surrounding the empty lot. The presence of these mayflies would seem to indicate there are at least some stretches of the creek with relatively high water quality, given their larvae are typically very sensitive to pollutants, and absent in low water quality systems.

Photographic voucher: https://www.inaturalist.org/observations/66507324

584. Ephemeroptera, unidentified sp.2

Single dead individual found in the carpark immediately below the reserve, floating in the huge puddle that forms after rain.

I've also found a single mayfly larva (https://www.inaturalist.org/observations/100060861) in the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021, but I'm unsure if it belongs to either of the two mayfly species I've listed (if it did, I would guess probably 'Ephemeroptera, unidentified sp.1' given it's the more common of the two, and I've seen them much closer to the swale than 'Ephemeroptera, unidentified sp.2').

Photographic voucher: https://www.inaturalist.org/observations/71290306

Moths

Adelidae

585. *Nemophora laurella* (Newman, 1856)

Single individual seen at the large swale leading from the stormwater entrance, pollinating a *Bursaria spinosa*.

Photographic voucher: https://www.inaturalist.org/observations/69001180

Anthelidae

586. *Anthela ocellata* (Walker, 1855)

Three large caterpillars seen: one under a rock in the open woodland directly above the southern exotic grassland, one in the southern exotic grassland feeding on grass, and a dead individual in the northern bushland being scavenged by '*Pheidole* sp.2' ants.

Photographic voucher: https://www.inaturalist.org/observations/70492098

587. *Anthela* sp.1

Single caterpillar seen on *Persicaria* under the Wellington Road bridge.

Photographic voucher: https://www.inaturalist.org/observations/64027814

588. *Anthela* sp.2

Single caterpillar seen feeding on *Dietes grandiflora* on the southern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/92215147

589. *Anthela* sp.3

Single caterpillar seen at the edge of the southern bushland/ the open woodland directly above the southern exotic grassland, where the main path comes from the southern exotic grassland. Unfortunately I cannot remember the host plant; possibly *Dianella*.

In addition to these four caterpillars, I've also found a single *Anthela* wing in the northern bushland, being scavenged by an *Iridomyrmex purpureus* (https://www.inaturalist.org/observations/58816012). Based on the pattern/colouration, it's

definitely not *A. ocellata*, but it could well belong to an adult from one of the other three *Anthela* caterpillars, so I haven't listed it separately.

Photographic voucher: https://www.inaturalist.org/observations/61850134

Cosmopterigidae

590. Cosmopterigidae, unidentified

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672583

591. *Glaphyristis marmarea* Meyrick, 1897

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225365

592. *Macrobathra desmotoma* Meyrick, 1886

Two individuals seen on *Acacia parramattensis*, one in the southern exotic grassland and one along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/65630571

Crambidae

593. *Agathodes ostentalis* (Geyer, 1837)

Single, dead individual found along the western arm of the creek, beside a number of *Erythrina crista-galli* saplings.

Photographic voucher: https://www.inaturalist.org/observations/66037618

594. *Culladia cuneiferellus* (Walker, 1863)

One individual seen on the wall of the toilet block at night.

Photographic voucher: https://www.inaturalist.org/observations/140332659

595. *Hednota pleniferellus* (Walker, 1863)

Single individual perched on a grass stem in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/70492097

596. *Herpetogramma licarsisalis* (Walker, 1859)

Seen at night along the edge of Everley Park at the southern riverine stretch, near the second light tower, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937877

597. *Hygraula nitens* (Butler, 1880)

Fairly common at night in the northern bushland and along the edge of the shaded, damp swale in the southern bushland (especially the latter), attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98601703

598. *Nacoleia rhoeoalis* (Walker, 1859)

Two individuals seen along the edge of Everley Park at the southern riverine stretch, both just north of the double long-jump pit, and one on the metal fence surrounding the empty lot, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/73285440

599. *Ostrinia furnacalis* (Guenée, 1854)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100673702

600. *Scoparia chiasta* Meyrick, 1885

One individual seen on a large eucalypt trunk along the northern edge of the western split grassland, and another on a large eucalypt trunk in the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/70241618

601. *Scoparia exhibitalis* Walker, 1866

Single individual seen on a large eucalypt trunk at the far southern end of the survey area, close to the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/59112977

Depressariidae

602. *Agriophara confertella* (Walker, 1864)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. I'm confident this is different to *Agriophara* sp.1.

Photographic voucher: https://www.inaturalist.org/observations/100675190

603. *Agriophara* sp.1

Several seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937870

604. *Agriophara* sp.2

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98975185

605. *Eupselia beatella* (Walker, 1864)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927890

606. *Hypertropha* sp.

Occasional throughout the survey area, with all sightings of frass hides on eucalypt leaves. Sightings along the northern edge of the western third of the northern bushland, along the edge of Everley Park at the southern riverine stretch, and at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland,

Photographic voucher: https://www.inaturalist.org/observations/70492083

607. *Thudaca circumdatella* (Walker, 1864)

Fairly common at night along the edge of the central split path, in the northern bushland, and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98601718

Elachistidae

608. *Leptozestis* sp.1

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98975177

609. *Leptozestis* sp.2

One individual seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/140048573

Erebidae

610. *Acyphas chionitis* (Turner, 1902)

One individual found among grasses in the northern grassy woodland, with another on the metal fence surrounding the empty lot. I've also seen another individual (https://www.inaturalist.org/observations/58813374) along the edge of Everley Park, near the second light tower, that is either *A. chionitis* or *Euproctis panabra*.

Photographic voucher: https://www.inaturalist.org/observations/71289223

611. *Acyphas semiochrea* (Herrich-Schäffer, 1855)

Single large caterpillar seen on *Acacia binervia* in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/76505968

612. *Amata nigriceps* (Butler, 1876)

Quite common throughout the southern bushland, central bushland, northern bushland, and northern grassy woodland in late spring/early summer 2020 when, on any given day, I'd see at least

10-15 flying past me as I walked through the reserve. Started to appear again in early December 2021.

Photographic voucher: https://www.inaturalist.org/observations/70803503

613. *Amphiongia chordophoides* (T.P. Lucas, 1892)

Single individual attracted to the lights of the toilet block at night.

Photographic voucher: https://www.inaturalist.org/observations/73197309

614. *Anestia semiochrea* (Butler, 1886)

One dead individual found on the path immediately north of the central bridge, one live male seen on a cocoon on an *Angophora floribunda* at the eastern bank of the southern riverine stretch, near the chain-link fence, and another live male on a *Melaleuca nodosa* at the small, isolated patch of bush. Also seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup. I've also seen several caterpillars on the metal fence surrounding the empty lot (https://www.inaturalist.org/observations/101251671), one or two unattended cocoons, and what I'm fairly sure was a wingless female on a cocoon with a large batch of eggs she'd just laid (https://www.inaturalist.org/observations/102983734).

Photographic voucher: https://www.inaturalist.org/observations/64718540

615. *Diatenes aglossoides* Guenée, 1852

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314948

616. *Euproctis melanosoma* (Butler, 1882)

Single caterpillar seen along the edge of Everley Park at the southern riverine stretch, near the second light tower. I cannot remember the host plant.

Photographic voucher: https://www.inaturalist.org/observations/72429977

617. *Grammodes justa* Walker, 1858

Single individual found among grasses in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/71289219

618. *Iropoca rotundata* (Walker, 1855)

A very cool find. Underneath a bark sleeve (still attached to the eucalypt) next to the *Eucalyptus punctata* with the Peron's Tree Frogs in it was a large, fluffy, wingless adult female, sitting on the cocoon from which she'd emerged.

Photographic voucher: https://www.inaturalist.org/observations/58816006

619. *Leptocneria reducta* (Walker, 1855)

On 23 February 2021 I found 231 eggs (https://www.inaturalist.org/observations/70026616) laid onto a *Melia azedarach* (white cedar) leaf along the southern riverine stretch, near the first light tower. Four days later, almost all of them had hatched.

Photographic voucher: https://www.inaturalist.org/observations/70239914

620. Lymantriinae, unidentified

Single individual seen on *Bidens pilosa* along the edge of Everley Park at the southern riverine stretch, near the second light tower.

Photographic voucher: https://www.inaturalist.org/observations/58813374

621. *Nyctemera amicus* (White, 1841)

Occasional, with sightings in the northern bushland, northern grassy woodland, and at the northwestern corner of the central bushland. Usually quite flighty and difficult to photograph.

Photographic voucher: https://www.inaturalist.org/observations/71287367

622. *Scoliacma nana* (Walker, 1854)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927871

623. *Utetheisa pulchelloides* Hampson, 1907

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup (but resting on leaf litter underneath it).

Photographic voucher: https://www.inaturalist.org/observations/73937873

Gelechiidae

624. *Ardozyga* sp.

Not uncommon at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/97139205

625. *Ardozyga stratifera* (Meyrick, 1904)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672559

626. Gelechiidae, unidentified sp.1

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98975178

627. Gelechiidae, unidentified sp.2

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314979

628. *Hypatima* sp.

One individual seen on a large eucalypt trunk on the eastern bank of the southern riverine stretch, at the big kink, with another seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/94414542

Geometridae

629. *Aeolochroma metarhodata* (Walker, 1863)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225376

630. *Anachloris uncinata* (Guenée, 1857)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672569

631. *Arhodia lasiocamparia* Guenée, 1858

One individual seen along the edge of the shaded, damp swale in the southern bushland, during a night walk, with another seen at the same spot, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100313618

632. *Chlorocoma* sp.

Single individual seen on a eucalypt in the northern grassy woodland, during a night walk. Either *C. melocrossa* or *C. dichloraria*. I also saw a very similar individual (https://www.inaturalist.org/observations/114130425) at the northern edge of the northern bushland, during a night walk, but am unsure if it's the same species.

Photographic voucher: https://www.inaturalist.org/observations/99417684

633. *Ciampa arietaria* (Guenée, 1857)

Single individual attracted to the lights of the toilet block at night.

Photographic voucher: https://www.inaturalist.org/observations/74362651

634. *Cleora* sp.

Single large caterpillar seen on a *Gahnia aspera* in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/65874716

635. *Comostola laesaria* (Walker, 1861)

Single individual seen along the edge of Everley Park at the southern riverine stretch, near the second light tower, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/103223466

636. *Cyclophora obstataria* (Walker, 1861)

Single individual attracted to the lights of the toilet block at night.

Photographic voucher: https://www.inaturalist.org/observations/73937824

637. *Dichromodes estigmaria* (Walker, 1861)

Quite common at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Also seen during the day among leaf litter in the southern bushland, and near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/70491041

638. *Dissomorphia australiaria* (Guenée, 1857)

Several seen in the southern bushland resting on the ground.

Photographic voucher: https://www.inaturalist.org/observations/66182210

639. *Dithalama cosmospila* Meyrick, 1888

Single individual seen in the southern bushland, close to the southern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/60814003

640. *Dysbatus* sp.

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. I've also seen another *Dysbatus* (https://www.inaturalist.org/observations/100927876) along the edge of the shaded, damp swale in the southern bushland, also attracted to my UV lamp/moth sheet setup, with differing wing patterns. Unfortunately, the differences between *D. stenodesma* and *D. singularis* are not entirely clear, and so I'm unsure which species I've seen, or whether both individuals are the same species versus one of each.

Photographic voucher: https://www.inaturalist.org/observations/73937839

641. *Ectropis argalea* Meyrick, 1892

Seen at night in the northern bushland and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225339

642. *Ectropis excursaria* (Guenée, 1857)

Single caterpillar seen on a *Xanthorrhoea minor* subsp. *minor* on the western bank of the creek near the erosion protection geotextile mattress.

Photographic voucher: https://www.inaturalist.org/observations/64589774

643. Ennominae, unidentified sp.1

Single caterpillar seen on an *Acacia parramattensis* in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/70029796

644. Ennominae, unidentified sp.2

Tiny caterpillar found on my sleeve in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/72146951

645. *Epicyme rubropunctaria* (Doubleday, 1843)

Single individual seen along the central split path during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/97137738

646. *Epidesmia tryxaria* (Guenée, 1857)

Very common and widespread, regularly sighted in the southern bushland, central bushland, and along the edge of Everley Park at the southern riverine stretch. Also regularly seen at night in the northern bushland and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. One of the most commonly observed moths in the survey area.

Photographic voucher: https://www.inaturalist.org/observations/70030213

647. *Epyaxa sodaliata* (Walker, 1862)

Single individual seen resting among *Ehrharta erecta* in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/60505988

648. *Gastrinodes* sp.

Single caterpillar seen in the southeastern corner of the southern bushland. Unsure of host plant ID.

Photographic voucher: https://www.inaturalist.org/observations/45235609

649. *Idaea inversata* (Guenée, 1857)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927870

650. *Idaea philocosma* (Meyrick, 1888)

Not uncommon at night in the northern bushland and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. One individual also seen resting on stick litter in the central bushland during the day.

Photographic voucher: https://www.inaturalist.org/observations/100314951

651. *Oenochroma vinaria* Guenée, 1857

Single large caterpillar seen on a *Hakea sericea* in the far northern bush behind the bench seat.

Photographic voucher: https://www.inaturalist.org/observations/70493479

652. *Paralaea* sp.

Dead individual seen on a path through the northern grassy woodland, being scavenged by '*Pheidole* sp.1' ants. Vaguely similar to *P. porphyrinaria*.

Photographic voucher: https://www.inaturalist.org/observations/79914635

653. *Phelotis cognata* (Walker, 1860)

Several seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672547

654. *Pholodes sinistraria* (Guenée, 1857)

Single adult seen on a large eucalypt trunk along the northern edge of the western split grassland. Quite a spectacular (and well-camouflaged) moth. One tiny caterpillar seen feeding on an *Acacia parramattensis* in the open woodland directly above the southern exotic grassland, with a larger (but still small) individual seen near the creek-spanning pipe (https://www.inaturalist.org/observations/102695294).

Photographic voucher: https://www.inaturalist.org/observations/70241620

655. *Phrissogonus laticostata* (Walker, 1862)

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98601690

656. *Poecilasthena pulchraria* (Doubleday, 1843)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927922

657. *Psilosticha pristis* (Meyrick, 1892)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927930

658. *Scopula optivata* (Walker, 1861)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225328

659. *Scopula rubraria* (Doubleday, 1843)

Single individual seen in the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/70027356

660. *Scopula* sp.

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314955

661. *Sigillictystis insigillata* (Walker, 1862)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927884

662. *Syneora emmelodes* (Turner, 1904)

Single individual seen near the large, exposed patch of soil near the creek-spanning pipe, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/147389255

663. *Taxeotis* sp.

Single, well-camouflaged individual seen resting among leaf litter on the southern bank of the western arm of the creek, near the central bridge.

Photographic voucher: https://www.inaturalist.org/observations/92215148

664. *Tephrosia* sp.

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. One individual also seen on a *Melaleuca styphelioides* in the southern bushland, during a night walk

Photographic voucher: https://www.inaturalist.org/observations/103225373

Glyphipterigidae

665. *Glyphipterix chrysoplanetis* (Meyrick, 1880)

Single individual seen pollinating a *Brassica fruticulosa* along the creek, near the Wellington Road bridge.

Photographic voucher: https://www.inaturalist.org/observations/64027808

Gracillariidae

666. *Caloptilia xanthopharella* (Meyrick, 1880)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927897

Lasiocampidae

667. *Entometa fervens* (Walker, 1855)

Single, huge caterpillar seen on a *Eucalyptus fibrosa* branch in the southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/73937828

668. *Genduara punctigera* (Walker, 1855)

Stunning moth seen on an *Ozothamnus diosmifolius* in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66367193

Lecithoceridae

669. *Lecithocera* sp.

Seen at night in the northern bushland and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314964

Limacodidae

670. *Doratifera vulnerans* (Lewin, 1805)

I've yet to see any adults, but seemingly fairly common and widespread throughout the reserve proper based on the number of cocoons I've seen, with a number of sightings of them (e.g., https://www.inaturalist.org/observations/69231023) throughout the southern bushland, central bushland, and northern bushland. I've also seen three caterpillars thus far, all on the same eucalypt along the northern edge of the western third of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/76505969

Noctuidae

671. *Agarista agricola* (Donovan, 1805)

Single individual seen around the northern edge of the northern bushland where it emerges onto the northwestern lawn. Quite a frustrating moth; I spent 15 minutes chasing it around, waiting for it to land so I could get a decent photo, but it spent the entire time fluttering back and forth without any consideration of me.

Photographic voucher: https://www.inaturalist.org/observations/71287372

672. *Australothis rubrescens* (Walker, 1858)

Single individual seen on an *Acacia decurrens* in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/68314496

673. *Comocrus behri* (Angas, 1847)

Not uncommon, with multiple sightings in the southern exotic grassland, far southern bushland, southern grassy woodland, and northern bushland. Often seen flying around mistletoes at the tops of eucalypts.

On 9 November 2021, I had one large individual follow me around and continually land on me (https://www.inaturalist.org/observations/100668105) for 15 minutes whilst I walked around the southern grassy woodland. I was wearing a bright red hat, so I can only assume it was mistaking me for mistletoe flowers (given all of the mistletoe species in the reserve have bright red or orange flowers). When I walked past again three hours later, it appeared again and landed on me several times once more.

Photographic voucher: https://www.inaturalist.org/observations/60169658

674. *Condica* sp.

Single individual attracted to the lights of the toilet block at night.

Photographic voucher: https://www.inaturalist.org/observations/74362628

675. *Cosmodes elegans* (Donovan, 1805)

One individual attracted to the lights of the toilet block at night, with another seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225355

676. *Cruria synopla* Turner, 1903

Single individual seen briefly alighting on an *Iridomyrmex purpureus* nest at the western end of the central split path.

Photographic voucher: https://www.inaturalist.org/observations/71289762

677. *Diarsia intermixta* (Guenée, 1852)

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937874

678. *Helicoverpa* sp.

One individual seen resting on a *Eucalyptus amplifolia* in the northern bushland. I've also seen a caterpillar (https://www.inaturalist.org/observations/66182212) on a *Canna indica* at the large *Canna indica* patch at the southern end of the reserve, which is probably the same species. Perhaps *H. armigera*.

Photographic voucher: https://www.inaturalist.org/observations/70803865

679. *Neumichtis spumigera* (Guenée, 1852)

Single individual seen on a *Kunzea ambigua* along the edge of the carpark immediately below the reserve. Within twenty seconds of spotting it, it was pounced on by a spider (*Zygometis xanthogaster*).

Photographic voucher: https://www.inaturalist.org/observations/65391389

680. Noctuidae, unidentified

Single caterpillar seen on a grass (unsure of species) along the edge of Everley Park at the southern riverine stretch, near the toilet block. I'm fairly sure it's either *Dasygaster padockina* or *Persectania dyscrita*.

Photographic voucher: https://www.inaturalist.org/observations/59861445

681. *Proteuxoa* sp.

Single dead individual found in a *Trichonephila edulis* web in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/74607896

682. *Proteuxoa testaceicollis* (Guenée, 1852)

Single individual attracted to the lights of the toilet block at night.

Photographic voucher: https://www.inaturalist.org/observations/73937879

683. *Spodoptera* sp.

Single individual attracted to the lights of the toilet block at night.

Photographic voucher: https://www.inaturalist.org/observations/73937823

684. *Tiracola plagiata* (Walker, 1857)

Early instar caterpillar found on a *Salix babylonica* along the creek, ~40-50 m south of the swale at the green mesh track.

Photographic voucher: https://www.inaturalist.org/observations/65065450

685. *Xanthoptera macrosema* (Lower, 1903)

Occasional at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927864

Nolidae

686. *Nola phaeogramma* (Turner, 1944)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314996

Notodontidae

687. *Ecnomodes sagittaria* (T.P. Lucas, 1900)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314972

688. *Trichiocercus sparshalli* (Curtis, 1830)

Single dead caterpillar found in a spider web on a large eucalypt trunk in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/71289754

Oecophoridae

689. *Barea* sp.1

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/97139199

690. *Barea* sp.2

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100673719

691. *Barea subviridella* (Turner, 1896)

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/99417698

692. *Chrysonoma fascialis* (Fabricius, 1775)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927852

693. *Chrysonoma paracycla* (Meyrick, 1884)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. I've also seen an extremely similar individual (https://www.inaturalist.org/observations/100673731) for which I'm unsure if it's also *C. paracycla*, or if it's instead *C. concisella*.

Photographic voucher: https://www.inaturalist.org/observations/100672593

694. *Compsotropha strophiella* Meyrick, 1884

Seen at night in the northern bushland and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927924

695. *Eochrois epidesma* (Meyrick, 1886)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672544

696. *Euchaetis metallota* Meyrick, 1883

Not uncommon at night in the northern bushland and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98601691

697. *Eulechria sigmophora* (Meyrick, 1884)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. My three sightings seem to represent the most northern ever records of this species.

Photographic voucher: https://www.inaturalist.org/observations/100673695

698. *Garrha ocellifera* (Meyrick, 1883)

Not uncommon at night in the northern bushland and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98975189

699. *Hemibela* sp.

Larval/pupal tube seen on a eucalypt in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/74362633

700. *Heteroteucha distephana* (Meyrick, 1884)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225368

701. *Hoplostega ochroma* (Meyrick, 1886)

Fairly common at night in the northern bushland and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98975175

702. *Leistarcha scitissimella* (Walker, 1864)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225347

703. *Mimobrachyoma maculifera* (Lower, 1899)

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup, with one individual also seen at night on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/98975180

704. Oecophoridae, unidentified sp.1

Single individual seen on an *Acacia parramattensis* in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/60169644

705. Oecophoridae, unidentified sp.2

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937866

706. Oecophoridae, unidentified sp.3

Single individual seen on the metal fence surrounding the empty lot, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/99417679

707. Oecophoridae, unidentified sp.4

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314971

708. Oecophoridae, unidentified sp.5

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225359

709. Oecophoridae, unidentified sp.6

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225361

710. Oecophoridae, unidentified sp.7

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100673708

711. Oecophoridae, unidentified sp.8

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/97139206

712. Oecophoridae, unidentified sp.9

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Similar to *MachimiaX serva* as per BOLD Australia (Hobern 2021a).

Photographic voucher: https://www.inaturalist.org/observations/100672550

713. Oecophoridae, unidentified sp.10

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/99417691

714. Oecophoridae, unidentified sp.11

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup. Similar to *Ironopolia* sp. ANIC1 as per BOLD Australia (Hobern 2021b).

Photographic voucher: https://www.inaturalist.org/observations/98975176

715. *Olbonoma triptycha* (Meyrick, 1884)

Quite common at night along the edge of the central split path and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Both males and females seen.

Photographic voucher: https://www.inaturalist.org/observations/100314977

716. *Palimmeces* sp.

One individual seen in the southern grassy woodland, and one in the southern bushland. Comparing to other images online, there are several very similar species, e.g., *P. lysizona* or *P. embologramma*, but I can't find any perfect matches.

Photographic voucher: https://www.inaturalist.org/observations/96467587

717. *Philobota cretacea* Meyrick, 1884

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314984

718. *Philobota glaucoptera* Meyrick, 1884

Single individual seen in the northern grassy woodland. Seemingly the first photographs of a living individual of this species.

Photographic voucher: https://www.inaturalist.org/observations/71289751

719. *Philobota* sp.1

Somewhat abundant throughout the reserve proper, and consistently seen across almost all sections. Possibly an undescribed species, although *Philobota ancylotoxa* is also very close to some individuals (e.g., https://www.inaturalist.org/observations/58476788); I'm possibly conflating multiple species under this entity.

Photographic voucher: https://www.inaturalist.org/observations/59127540

720. *Philobota* sp.2

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937856

721. *Philobota* sp.3

Single individual seen in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/60174885

722. *Philobota* sp.4

Seen during a night walk along the edge of Everley Park at the southern riverine stretch, near the ancient eucalypt hybrid, on an *Acacia parramattensis*.

Photographic voucher: https://www.inaturalist.org/observations/69789337

723. *Philobota transversella* (Walker, 1864)

Single individual seen at the edge of the southern grassy woodland, on the section of metal fence abutting the main path cutting through the southern exotic grassland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/99417614

724. *Phylomictis sarcinopa* Meyrick, 1920

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927862

725. *Ptyoptila matutinella* (Walker, 1864)

Not uncommon at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927901

726. '*SphyrelataX' nefanda* Meyrick, 1914

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225370

727. *Wingia lambertella* (Wing, 1850)

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98601702

728. *Zonopetala clerota* Meyrick, 1883

Seen at night in the northern bushland and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225340

729. *Zonopetala decisana* (Walker, 1863)

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98601724

730. *Zonopetala glauconephela* Meyrick, 1883

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100675184

731. *Zonopetala* sp.

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup. Similar to *Zonopetala* sp. ANIC8 as per BOLD Australia (Hobern 2021c).

Photographic voucher: https://www.inaturalist.org/observations/98975171

Psychidae

732. *Cebysa leucotelus* Walker, 1854

Not uncommon, with caterpillars in their cases seen in the open woodland directly above the southern exotic grassland (trundling along a large fallen eucalypt log, the same one utilised by *Williamsita* sp.), in the southern exotic grassland (on a large fallen eucalypt log), in the southern

bushland (on the wooden fences), and one on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot. More commonly seen during night walks.

Photographic voucher: https://www.inaturalist.org/observations/63628799

733. *Clania* sp.

Cases occasionally seen on trees throughout the survey area, including on *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, and on *Eucalyptus* in the central bushland. Either *C. ignobilis* or *C. lewinii*.

Photographic voucher: https://www.inaturalist.org/observations/64591274

734. *Hyalarcta huebneri* (Westwood, 1855)

Single case seen along the creek in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/58814537

735. *Hyalarcta nigrescens* (Doubleday, 1845)

Cases not uncommonly seen throughout the southern, central, and northern bushland, almost always attached to large eucalypts (except for one case I found attached to the wooden railing along the central bridge).

Photographic voucher: https://www.inaturalist.org/observations/66037739

736. *Lepidoscia arctiella* (Walker, 1869)

Two cases seen, one in the southern bushland and one along the southern bank of the western arm of the creek, both attached to *Juncus usitatus*.

Photographic voucher: https://www.inaturalist.org/observations/70030210

737. *Lepidoscia* sp.

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. I've also seen what I believe is a *Lepidoscia* case (https://www.inaturalist.org/observations/64591171) attached to an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch (and also a very small/young case just like this, on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot), but I'm unsure if this is from a different species.

Photographic voucher: https://www.inaturalist.org/observations/73937859

738. *Lomera* sp.

One tiny case found at the interface between the western exotic grassland and southern bushland, just south of the stormwater drain, attached to (from memory) a *Plantago myosuros*.

I've also found two other cases (one along the southern bank of the western arm of the creek, one in the carpark immediately below the reserve, both attached to large eucalypts) that seem to be made of the same material (e.g., https://www.inaturalist.org/observations/59861464), i.e., hollowed out rushes or grass stems of some kind, and are possibly *Lomera*, however, they're much larger, so I'm unsure if they're a different species.

On top of these, I've found two quite distinct cases (https://www.inaturalist.org/observations/63628804 and https://www.inaturalist.org/observations/69000892), one on an *Acacia parramattensis* in the open woodland directly above the southern exotic grassland, and one on an *Ozothamnus diosmifolius* in the southern bushland, both made of leaves from their 'host' plant. However, I'm unsure if these are early stages of one of the others I've found, or something different entirely.

Photographic voucher: https://www.inaturalist.org/observations/59430555

739. *Metura elongatus* (Saunders, 1847)

One case seen attached to a large *Melaleuca decora* in the southern grassy woodland, with another (smaller) case seen in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/96467589

Pterophoridae

740. *Sinpunctiptilia emissalis* (Walker, 1864)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225348

741. *Sphenarches anisodactylus* (Walker, 1864)

Single individual seen on a *Kunzea ambigua* along the edge of the carpark immediately below the reserve.

Photographic voucher: https://www.inaturalist.org/observations/64591187

Pyralidae

742. *Enchesphora* sp.

Single individual seen on the trunk of the ancient eucalypt hybrid.

Photographic voucher: https://www.inaturalist.org/observations/71783018

743. *Endotricha mesenterialis* (Walker, 1859)

Occasional along the edge of Everley Park at the southern riverine stretch, almost always resting on the underside of leaves.

Photographic voucher: https://www.inaturalist.org/observations/70026617

744. *Endotricha pyrosalis* Guenée, 1854

Occasional throughout the southern bushland, either resting on the underside of leaves like *E. mesenterialis*, or among leaf and stick litter.

Photographic voucher: https://www.inaturalist.org/observations/66037616

745. *Ephestiopsis oenobarella* (Meyrick, 1879)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672576

746. *Etiella behrii* (Zeller, 1848)

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/99417639

747. Phycitinae, unidentified sp.1

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672546

748. Phycitinae, unidentified sp.2

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937852

749. *Stericta concisella* (Walker, 1866)

Single individual seen on a large eucalypt trunk next to the ancient eucalypt hybrid.

Photographic voucher: https://www.inaturalist.org/observations/69804852

Sphingidae

750. *Theretra oldenlandiae* (Fabricius, 1775)

Huge, very impressive caterpillar seen in the northern bushland, feeding on *Cayratia clematidea*.

Photographic voucher: https://www.inaturalist.org/observations/69594615

Tineidae

751. *Edosa* sp.

Seen at night in the northern bushland and along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Similar to *Edosa* sp. ANIC12 as per BOLD Australia (Hobern 2021d).

Photographic voucher: https://www.inaturalist.org/observations/98975181

752. *Opogona stenocraspeda* (Meyrick, 1897)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100673704

753. *Opogona stereodyta* (Meyrick, 1897)

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225321

Tortricidae

754. *Clarana clarana* (Meyrick, 1881)

Single individual seen on a *Eucalyptus amplifolia* along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/71783019

755. *Crocidosema plebejana* Zeller, 1847

Single individual seen on the eastern bank of the southern riverine stretch, near the creek. Also seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927893

756. *Holocola thalassinana* Meyrick, 1881

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937864

757. *Thrincophora* sp.

Seen at night along the edge of Everley Park at the southern riverine stretch, near the second light tower, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/73937876

758. Tortricidae, unidentified sp.1

Single individual seen on a *Grevillea robusta* along the edge of Everley Park at the southern riverine stretch, near the second light tower.

Photographic voucher: https://www.inaturalist.org/observations/65062350

759. Tortricidae, unidentified sp.2

Single individual seen along the edge of Everley Park at the southern riverine stretch, near the first light tower, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/69789332

Unidentified to family

NOTE: There are many caterpillars and pupae/cocoons I have found throughout the survey area that I have been unable to identify, even to a family level. For some of these, it is clear that they are nonetheless different to all of the taxa I have listed above, and thus I have listed them as separate species below as well. However, for others, I cannot be certain that they do not correspond with one of my previously listed species for which I have only seen adults (for many of the adult moths I have seen, I cannot find any reference images of their caterpillars online), and so I have not listed them as separate species. Thus, at the end of this 'Unidentified to family' section, I have provided a list of URLs/photographic vouchers for these cases for future reference, in case they do turn out to be unique species.

760. Gelechioidea, unidentified sp.1

One individual seen resting on the ground in the northern bushland, during a night walk, with another on an *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, also seen during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/69231020

761. Gelechioidea, unidentified sp.2

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98975186

762. Gelechioidea, unidentified sp.3

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314952

763. Gelechioidea, unidentified sp.4

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314958

764. Gelechioidea, unidentified sp.5

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Either Oecophoridae or Depressariidae.

Photographic voucher: https://www.inaturalist.org/observations/100315002

765. Gelechioidea, unidentified sp.6

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100673730

766. Gelechioidea, unidentified sp.7

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927885

767. Gelechioidea, unidentified sp.8

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927938

768. Gelechioidea, unidentified sp.9

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927878

769. Gelechioidea, unidentified sp.10

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Either Oecophoridae or Depressariidae.

Photographic voucher: https://www.inaturalist.org/observations/100672588

770. Gelechioidea, unidentified sp.11

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. Probably Oecophoridae or Xyloryctidae.

Photographic voucher: https://www.inaturalist.org/observations/73937846

771. Gelechioidea, unidentified sp.12

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314994

772. Gelechioidea, unidentified sp.13

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100315005

773. Lepidoptera, unidentified sp.1

Single tiny moth seen in the southern bushland, near the central bridge. Probably the smallest moth I've ever seen, just a few millimetres long. Possibly Heliodinidae.

Photographic voucher: https://www.inaturalist.org/observations/70030208

774. Lepidoptera, unidentified sp.2

I've found several of these cocoons in the central bushland. I'm fairly sure they're from something in Saturniidae, but I still have enough doubt to not make a call. Definitely something unique though compared to all my other listed species.

Photographic voucher: https://www.inaturalist.org/observations/70243667

775. Lepidoptera, unidentified sp.3

This is quite a frustrating one. A single wing I found near the large, exposed patch of soil near the creek-spanning pipe. At face value, it seems very distinct and easily identifiable, but I haven't been able to find a match at all.

Photographic voucher: https://www.inaturalist.org/observations/70803867

776. Lepidoptera, unidentified sp.4

Huge, empty pupal casing found in the southern bushland among leaf litter. From one of the large moth families such as Cossidae or Hepialidae.

Photographic voucher: https://www.inaturalist.org/observations/84279344

777. Lepidoptera, unidentified sp.5

Another huge, empty pupal casing, this one in the central bushland and sticking out of a hole in the ground. Quite different structure to 'Lepidoptera, unidentified sp.4'.

Photographic voucher: https://www.inaturalist.org/observations/93018845

778. Lepidoptera, unidentified sp.6

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100314959

779. Lepidoptera, unidentified sp.7

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672584

780. Lepidoptera, unidentified sp.8

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927888

781. Lepidoptera, unidentified sp.9

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Either Plutellidae or Lecithoceridae.

Photographic voucher: https://www.inaturalist.org/observations/100673720

782. Pyraloidea, unidentified

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98601719

OTHER ASSORTED CATERPILLARS AND PUPAE:

https://www.inaturalist.org/observations/95836593: on a *Melaleuca decora* in the northern bushland.

https://www.inaturalist.org/observations/94414545: feeding on an *Arctotheca calendula* along the southern riverine stretch, at the big kink in the creek.

https://www.inaturalist.org/observations/87824995: found inside one of the 'Fungi, unidentified sp.1' galls that form on *Exocarpos cupressiformis* throughout the southern bushland.

https://www.inaturalist.org/observations/83593611: unsure of host plant.

https://www.inaturalist.org/observations/74609082: hide constructed between two *Eucalyptus amplifolia* leaves along the northern edge of the western third of the northern bushland, with frass visible.

https://www.inaturalist.org/observations/72761548: at the patch of fallen *Melaleuca* bark sheets, underneath a sheet. Another one also seen at the same spot, also under a sheet, beginning to make a cocoon.

https://www.inaturalist.org/observations/70239919: at the patch of fallen *Melaleuca* bark sheets, underneath a sheet, beginning to make a cocoon. Very possibly the same as the caterpillar above, as I couldn't get a dorsal shot.

https://www.inaturalist.org/observations/65874706: on a *Pteris tremula* along the western bank of the creek, near the Wellington Road bridge.

https://www.inaturalist.org/observations/64589759: in the southern grassy woodland.

https://www.inaturalist.org/observations/63628797: small caterpillar in the southern grassy woodland among leaf litter. Probably Geometridae.

https://www.inaturalist.org/observations/61379843: on the large *Corymbia citriodora* at the far southern end of the survey area.

https://www.inaturalist.org/observations/60684561: high up an *Acacia decurrens* in the northern grassy woodland. Maybe Anthelidae.

https://www.inaturalist.org/observations/45235607: in the northern grassy woodland, but I can't remember the host plant.

https://www.inaturalist.org/observations/96467591: in the southern bushland, on a large eucalypt. I'm very sure it's something in Arctiinae, but I can't rule out it belonging to one of the adults in this subfamily that I've seen and listed above.

https://www.inaturalist.org/observations/97986806: at the northwestern corner of the western alcove, on a dead eucalypt leaf. Quite confident it's in Arctiini, but I can't rule out it belonging to one of the adults in this tribe that I've seen and listed above (possibly belonging to *Amata nigriceps*?).

https://www.inaturalist.org/observations/61382091: found on my sleeve on the northern bank of the western arm of the creek. Something in Geometridae.

https://www.inaturalist.org/observations/63628800: brilliant green, seen looping up a *Eucalyptus fibrosa* trunk in the southern bushland. Something in Geometridae.

https://www.inaturalist.org/observations/59861456: on an *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the ancient eucalypt hybrid. Something in Geometridae.

Sawflies

Pergidae

783. *Lophyrotoma analis* (Costa, 1864)

One adult seen at the creekbank alongside the southern grassy woodland, on a large *Rumex conglomeratus*; presumably its host plant given Polygonaceae is the known host family for this species.

Photographic voucher: https://www.inaturalist.org/observations/62016060

784. *Lophyrotoma* sp.

One adult resting on a *Juncus* on the southern bank of the western arm of the creek. Possibly *Lophyrotoma interrupta*, but that's a guess.

Photographic voucher: https://www.inaturalist.org/observations/70030219

785. *Perga dorsalis* Leach, 1817

Two large larvae found crawling on the ground at the southern edge of the southern bushland, where the main path comes from the southern exotic grassland. Both very large and presumably ready to pupate soon; one was ~4 cm in length.

In addition to these three species, I also observed 15-20 larvae (https://www.inaturalist.org/observations/110462136) feeding on a young eucalypt along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*. I'm unsure if they're one of the *Lophyrotoma* listed above, or a separate species.

Photographic voucher: https://www.inaturalist.org/observations/60174874

Silverfishes

Lepismatidae

786. *Heterolepisma* sp.

Two individuals seen running in and out of the bark on a *Melaleuca decora* in the southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/98600466

Nicoletiidae

787. *Subtrinemura epigea* Smith, Mitchell & Mesaglio, 2022

This was a particularly exciting find. In late March 2021, I found a single silverfish at the patch of fallen *Melaleuca* bark sheets, under a sheet. It was quite active, running among bark and stick litter. It's likely that it only came to the surface after the heavy rains and flooding in mid to late March 2021, and normally lives within the soil. I sent my photos to researcher/expert Graeme Smith, and he noted:

"There is only a single species of non-ateluriinae Nicoletiidae described from NSW. It was collected in caves at Bungonia near Goulburn (*Subtrinemura anemonae* (Smith) of the subfamily Subnicoletiinae). While I can't say for sure I suspect your specimen represents an undescribed species close to *S. anemonae*. Your photos are good enough to show that it has a process on the pedicel of the antennae like one of those on *S. anemonae* but not good enough for me to see the other two. I thought it might also have the strange processes on the cerci but not with any

confidence… If you do find any more I'd love to get a specimen or several. Even if you don't manage to find a male, we don't have DNA for any species of *Subtrinemura* so try to collect in 100% ethanol."

I went back four days later and, very fortunately, managed to find a male at the same spot, collected it into ethanol, and sent it to Graeme, who confirmed that it was an undescribed species:

"Just had a look at your specimen and removed a leg for DNA extraction.. It is a male and has the same structures on the cerci at *Subtrinemura anemonae* but the secondary sexual characters of the antennae look different to the Bungonia species. At this stage I intend to describe it as a new species."

The species has now been described (Smith et al. 2022).

Photographic voucher: https://www.inaturalist.org/observations/72429982

Stick insects

Phasmatidae

788. *Ctenomorpha marginipennis* Gray, 1833

Large nymph seen on a *Melaleuca decora* in the central bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/141680215

789. *Didymuria violescens* (Leach, 1814)

Young nymph seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk, with two other young nymphs seen on *Eucalyptus fibrosa* in the southern bushland, also during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/140332688

Termites

Rhinotermitidae

790. *Heterotermes* sp.

Single alate seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. I also found some very pale/colourless workers under a rotting log in the southern bushland (https://www.inaturalist.org/observations/68751902; soldiers not sighted), the only occasion I've seen these workers; they may also be *Heterotermes*.

Photographic voucher: https://www.inaturalist.org/observations/100672545

Termitidae

791. Nasutitermitinae, unidentified sp.1

At face value, fairly common throughout the reserve proper, with sightings in the southern bushland, central bushland, northern bushland (including underneath the pile of large cardboard boxes), and along the central split path. Always in/under rotting logs. Although I've seen both workers and soldiers, I have no idea if all the sightings I'm lumping under 'Nasutitermitinae,

unidentified' are actually the one species, or represent multiple cryptic (cryptic from my perspective at least) species; I need to collect some soldiers and key them out under a microscope. Probably *Nasutitermes* or *Tumulitermes*.

I also got a brief glimpse of some workers under a rotting log in the southern bushland (https://www.inaturalist.org/observations/68751898; the log was quite heavy, and I could barely lift it. I didn't see any soldiers sighted); these may or may not be the same species as well.

Photographic voucher: https://www.inaturalist.org/observations/68751906

792. Nasutitermitinae, unidentified sp.2

There's a large dead eucalypt in the southern bushland covered in criss-crossing termite 'highways'. I've walked past it probably at least one hundred times, and only ever seen the termites themselves once; on 7 April 2021 at 11:40 PM during drizzle rain/after heavier rain earlier in the day. On that night, there were thousands bustling over the tree. Both workers and soldiers seen. It's possible that this species is actually the same as 'Nasutitermitinae, unidentified sp.1', however, the workers seemed to be different to me, and thus I have separated them here. Again, I need to collect some soldiers to clarify the situation. I've also seen these arboreal trails on a few live *Melaleuca* in the central bushland, but am unsure if they're the same species.

Photographic voucher: https://www.inaturalist.org/observations/73284439

Unidentified to family

793. Termitoidae, unidentified

Throughout the reserve proper are a fair number of these large termite mounds made from (in part, externally at least) hard-packed clay. All of the mounds I've discovered so far are scattered throughout the southern and central bushland, and often built at a tree base. I've never actually seen any of the inhabitants, but given all the other termites I've seen in the reserve have been inside/under rotting logs, I'm relatively confident these are a unique species (but will acknowledge I could be wrong given my very slim knowledge of termites). On a few occasions I've seen nests damaged/seemingly broken open (but by what? I haven't seen any echidnas, lace monitors, etc., in the reserve), and then, returning to them later, observed them completely repaired by the termites.

In addition to the four species I've listed above, I also saw a few alates (https://www.inaturalist.org/observations/60694711) in late September 2020, drowned in the ephemeral pool atop the broken concrete pillar underneath the creek-spanning pipe, and thousands of dead alates throughout the entire reserve in late October-early November 2021, but I have no idea if these are a new species again.

Photographic voucher: https://www.inaturalist.org/observations/70024059

Thrips

Phlaeothripidae

794. *Bactrothrips nativus* (Girault, 1928)

Single individual found crawling on a chunk of sandstone on the ground, just north of the central bridge.

Photographic voucher: https://www.inaturalist.org/observations/94090070

795. *Idolothrips spectrum* Haliday, 1852

Large individual on a eucalypt at the interface between the southern bushland and the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/60173053

Thripidae

796. *Anaphothrips carlylei* Girault, 1928

Distinct flower galls seen on quite a number of *Dianella caerulea* along the edge of Everley Park at the southern riverine stretch, along the creek in the reserve proper, in the southern exotic grassland, in the southern bushland, in the central bushland, along the edges of the central split path, and in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/102154252

797. Thripidae, unidentified

Three small individuals seen on *Glycine clandestina* flowers in the northern bushland. Laurence Mound said his guess would be *Thrips setipennis*, but impossible to tell from my photos alone. I've also seen several very similar individuals (https://www.inaturalist.org/observations/100668117) on a *Dimorphotheca ecklonis* in the huge sea of weeds along the creek in line with the central split path, and a somewhat similar individual (https://www.inaturalist.org/observations/99063815) on an E*pilobium billardiereanum* subsp. *cinereum* flower in the southern exotic grassland, but I'm unsure if these are all the same species.

Photographic voucher: https://www.inaturalist.org/observations/59864239

798. *Thrips hawaiiensis* (Morgan, 1913)

Number of individuals seen inside *Rothmannia globosa* flowers in the western split grassland. I collected several specimens and sent them to Laurence Mound, who identified them and noted that:

"It is typically common in SE Asia, but I have seen it from as far south as Sydney. Your locality is the closest to Canberra from which I have seen it."

Photographic voucher: https://www.inaturalist.org/observations/97429621

Unidentified to family

799. Thysanoptera, unidentified sp.1

Very tiny individual in the northern bushland. Unsure of the host plant as I found it on my shirt after brushing against vegetation.

Photographic voucher: https://www.inaturalist.org/observations/58476756

800. Thysanoptera, unidentified sp.2

One tiny individual on a flowering *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch (one of the large *Acacia parramattensis* at the southern end of the park that was cut down). An incidental find; I was photographing a fly and only noticed the thrips in the shot at home.

Photographic voucher: https://www.inaturalist.org/observations/65204219

True bugs

Alydidae

801. *Mutusca brevicornis* (Dallas, 1852)

Several adults at the large, exposed patch of soil near the creek-spanning pipe, all on *Sporobolus creber*. One nymph also seen in the northern grassy woodland, on an *Agaricus*.

Photographic voucher: https://www.inaturalist.org/observations/70243672

802. *Riptortus serripes* (Fabricius, 1775)

Single individual along the southern bank of the western arm of the creek, near the central bridge, feeding on *Acacia fimbriata* seeds.

Photographic voucher: https://www.inaturalist.org/observations/65065457

Coreidae

803. *Acantholybas* sp.

Mating pair seen at the patch of fallen *Melaleuca* bark sheets. Probably *A. brunneus*.

Photographic voucher: https://www.inaturalist.org/observations/74362629

804. *Amorbus atomarius* Stål, 1873

One adult seen at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland, during a night walk. Another seen in the far northern bush behind the bench seat.

Numerous nymphs (https://www.inaturalist.org/observations/66765405) observed in the large swale leading from the stormwater entrance, at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland, and in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/114130382

Corixidae

805. Corixinae, unidentified

Occasionally seen in the creek at the far southern end of the survey area, within the first ~50-60 m stretch northwards of the creek crossing.

Photographic voucher: https://www.inaturalist.org/observations/73826172

Cydnidae

806. *Adrisa* sp.

One seen in the northern grassy woodland, one at the edge of the southern bushland where the main path comes from the southern exotic grassland, and a third (dead) individual being scavenged

by *Iridomyrmex* ants just north of the central bridge. I've also seen a nymph in the northern grassy woodland (https://www.inaturalist.org/observations/66182197) which I assume is the same species. All individuals seen during night walks.

Photographic voucher: https://www.inaturalist.org/observations/100669818

Geocoridae

807. *Geocoris* sp.

Single individual under a large blown-in corflute sign in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/88908327

808. *Geocoris woodwardi* Malipatil, 1994

Single individual in the western exotic grassland, at the far western corner of the reserve, underneath a large blown-in corflute sign. Initially I thought this was *G. asetosus* based on Figure C, Plate 9, page 133 of Malipatil et al. (2020), but I was rightly corrected by Matthew Connors to *G. woodwardi*, the description of which in Malipatil (1994) matches perfectly (and has also been previously recorded in NSW).

Photographic voucher: https://www.inaturalist.org/observations/89752064

809. *Stylogeocoris elongatus* (Distant, 1901)

Single individual seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/98469945

Lygaeidae

810. *Nysius vinitor* Bergroth, 1891

Seen on *Gamochaeta pensylvanica* in the northern grassy woodland, and on *Senecio madagascariensis* along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/60505979

Miridae

811. *Austromiris viridissimus* Kirkaldy, 1902

Single individual seen on an *Acacia decurrens*, near the third light tower.

Photographic voucher: https://www.inaturalist.org/observations/99063801

812. Miridae, unidentified sp.1

Single individual seen on a *Kunzea ambigua* in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/98469942

813. Miridae, unidentified sp.2

Single individual seen on an *Ozothamnus diosmifolius* along the edge of the central split path.

Photographic voucher: https://www.inaturalist.org/observations/100060419

814. Miridae, unidentified sp.3

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672580

815. Mirinae, unidentified

Single individual seen on a flowering *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch, near the ancient eucalypt hybrid.

Photographic voucher: https://www.inaturalist.org/observations/134956475

816. Orthotylinae, unidentified

Single dead individual that had somehow managed to get itself wedged inside a plastic-covered information sign at the interface between the northern bushland and the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/63629464

817. *Rayieria acaciae* Namyatova & Cassis, 2013

One individual seen on an *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the toilet block, with two seen on an *Acacia podalyriifolia* on a very steep and eroding section of the eastern bank of the southern riverine stretch. Based on the information in Namyatova and Cassis (2013), these are both new host records.

Photographic voucher: https://www.inaturalist.org/observations/64591271

818. *Sidnia kinbergi* (Stål, 1859)

Number of individuals seen along the creek, with some on *Rumex conglomeratus* along the edge of the southern grassy woodland, and some on *Apium graveolens* along the southern riverine stretch at the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/65204226

819. *Xiphoidellus* sp.

Hundreds of individuals seen on a prolifically flowering *Melaleuca nodosa* at the small, isolated patch of bush, all on the flowers themselves. Also common on flowering *Melaleuca nodosa* along the edge of Everley Park at the southern riverine stretch, at the isolated *Melaleuca* patch, in the northern grassy woodland, and in the southern grassy woodland. I'm almost certain these are *X. unicolor* based on the key, images, and distribution information in Weirauch and Schuh (2011), but without examining the male genitalia, it's possible they're a new species. Interestingly, I didn't see this species at all in 2020, despite *M. nodosa* flowering prolifically then too. Also interestingly, as soon as the flowers on any given *M. nodosa* start to wither/get old, the mirids seem to abandon them; I've only seen them on individuals with quite fresh/newly opened flowers. One individual also seen on a flowering *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/96471200

Nabidae

820. *Nabis kinbergii* Reuter, 1872

One individual seen along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*, and another seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/103225363

Pachygronthidae

821. *Pachygrontha robusta* Slater, 1955

Single individual seen in the northern bushland, feeding on *Gahnia aspera* seeds.

Photographic voucher: https://www.inaturalist.org/observations/59865005

Pentatomidae

822. *Alcaeus varicornis* (Westwood, 1837)

Single individual on an *Acacia falcata* (on seed pods) along the edge of Everley Park at the far southern end of the survey area, near the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/94089729

823. *Buthumka reducta* Gross, 1975

Single individual in the western exotic grassland, at the far western corner of the reserve, underneath a large blown-in corflute sign.

Photographic voucher: https://www.inaturalist.org/observations/89752063

824. *Cermatulus nasalis* (Westwood, 1837)

Occasional along the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/65391379

825. *Commius elegans* (Donovan, 1805)

Single individual seen on an *Exocarpos cupressiformis* along the creek in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/70493461

826. *Coracanthella geophila* (Montrouzier, 1858)

Several individuals under a large blown-in corflute sign in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/88908321

827. *Cuspicona simplex* Walker, 1867

Occasional on *Solanum americanum* along the edge of Everley Park at the southern riverine stretch. One individual also seen on a *Melaleuca styphelioides* at the far southern end of the survey area, near the large *Corymbia citriodora*, and on a *Cestrum parqui* along the creek in the northern section of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/59426842

828. *Dictyotus inconspicuus* Dallas, 1851

One individual seen along the southern edge of the southern bushland on *Clematis*, and one on an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch, near the ancient eucalypt hybrid.

Photographic voucher: https://www.inaturalist.org/observations/97003698

829. *Eysarcoris distinctus* Schouteden, 1906

Several individuals under a large blown-in corflute sign in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/88908322

830. *Notius consputus* Stål, 1865

One individual seen on *Megathyrsus maximus* at the far southern end of the survey area, next to the creek crossing, and three seen at the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot (with two of these in a large *Hortophora* web).

Photographic voucher: https://www.inaturalist.org/observations/59112959

831. *Notius depressus* Dallas, 1851

Occasional, with sightings (including multiple mating pairs) in the central bushland, at the northern edge of the northern bushland, and along the edge of Everley Park at the far southern end of the survey area, on the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/69231011

832. *Ocirrhoe unimaculata* (Westwood, 1837)

One individual seen on the northern bank of the western arm of the creek, and another seen in the southern bushland on a *Polyscias sambucifolia*.

Photographic voucher: https://www.inaturalist.org/observations/66037623

833. *Oechalia schellenbergii* (Guérin, 1831)

Fairly common and widespread, with sightings in the northern grassy woodland, southern grassy woodland, southern exotic grassland, and along the edge of Everley Park at the southern riverine stretch. Adults (including mating pairs), juveniles (including one predating a caterpillar), and eggs all seen. Observed on a wide variety of plants, including *Acacia parramattensis* (which they seem to be most common on)*, Leptospermum polygalifolium* subsp. *polygalifolium, Exocarpos cupressiformis,* and *Ozothamnus diosmifolius*.

Photographic voucher: https://www.inaturalist.org/observations/60169657

834. *Oncocoris apicalis* (Dallas, 1851)

Mating pair seen on an *Asparagus asparagoides* along the creek in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/60812891

835. Pentatomidae, unidentified

Single individual seen on a *Senecio madagascariensis* along the edge of Everley Park at the southern riverine stretch, near the toilet block. Tentative ID is *Kalkadoona truncatella* (Walker, 1868).

Photographic voucher: https://www.inaturalist.org/observations/59113759

836. *Plautia affinis* (Dallas, 1851)

Single individual seen on a *Persicaria* along the southern riverine stretch, at the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/102982332

837. *Poecilometis australasiae* (Donovan, 1805)

Not uncommon, and fairly widespread, with sightings in the northern bushland, southern bushland, northern grassy woodland, and along the edge of Everley Park at the southern riverine stretch. Adults, nymphs and eggs (in the process of being laid) all seen. Observed on a wide variety of plants, including *Melelauca linariifolia*, *Acacia decurrens*, *Kunzea ambigua, Senecio hispidulus*, and *Daviesia ulicifolia*.

Photographic voucher: https://www.inaturalist.org/observations/64589778

838. *Poecilometis strigatus* (Westwood, 1837)

Occasional along the edge of Everley Park at the southern riverine stretch, and in the northern bushland. Seen on *Acacia decurrens* and *Sida rhombifolia*. Seemingly attracted to the colour yellow, as a large individual changed its flight path to head directly towards me and landed on my bright yellow hat.

In addition to *P. australasiae* and *P. strigatus*, I've seen many Halyini nymphs throughout the reserve (e.g., https://www.inaturalist.org/observations/79914621), always on large eucalypt trunks. I suspect at least some of these may be *Theseus modestus*, however, I am certainly not confident enough to list them as a species here, and have no idea if all of these nymphs are the same species (and if so, if they are indeed *T. modestus*), or if some of them are possibly *Poecilometis* nymphs (and if so, if they're nymphs of either of the two above species, or something different entirely).

Photographic voucher: https://www.inaturalist.org/observations/63627189

Pyrrhocoridae

839. *Dindymus circumcinctus* Stål, 1863

Not uncommon, with sightings in the southern bushland, at the patch of fallen *Melaleuca* bark sheets, along the central split path, and on the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/69790119

840. *Dindymus versicolor* (Herrich-Schaeffer, 1853)

Three nymphs seen, two in the open woodland directly above the southern exotic grassland, and one at the patch of fallen *Melaleuca* bark sheets, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/58814524

Reduviidae

841. *Ectomocoris decoratus* (Stål, 1863)

Not uncommon, but always seen at night. Most sightings are of adult males on the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot (https://www.inaturalist.org/observations/100671006), but I've also seen a nymph in the northern

bushland, attracted to my UV lamp/moth sheet setup (https://www.inaturalist.org/observations/99417700), and a micropterous adult female on a large eucalypt in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/99273326

842. *Empicoris* sp.

One individual seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. Likely either *E. rubromaculatus* or *E. aeneus*.

Photographic voucher: https://www.inaturalist.org/observations/73937848

843. *Opistoplatys australasiae* Westwood, 1835

Not uncommon. One individual found inside a large rotting log in the central bushland, which played dead very convincingly when I first uncovered it, one at the central bridge, one in the southern bushland, and a number seen along the central split paths. All individuals except for the one in the log seen during night walks.

Photographic voucher: https://www.inaturalist.org/observations/70244336

844. *Peirates* (*Brachysandalus*) sp.

Single individual seen racing through dry leaf litter in the northern bushland. Possibly *P. punctorius*. A note from Daniel Swanson:

"Basically *Peirates* is a widely-distributed Old World genus, whereas *Peirates* (*Brachysandalus*) or *Brachysandalus* is strictly Australasian — all Australian *Peirates*, to my knowledge, belong to the subgenus *Brachysandalus*. The changing taxonomic status of *Brachysandalus* over time has largely happened without justification. So honestly no one can criticize whichever way you do it, and I find it easier to just use *Brachysandalus* as a nice box for a group of Australian peiratines that may or may not be closely related (or congeneric) with *Peirates*.

I did also separate them in my 2019 key but I'm not 100% sure the characters I used work. It would take a systematic revision of "*Brachysandalus*" to really pin that down.

So your call on how you list it. If you want to use *Peirates*, you might consider *Peirates* (*Brachysandalus*). But whatever you do will be fine."

Photographic voucher: https://www.inaturalist.org/observations/59864243

845. Peiratinae, unidentified

Single nymph seen on a *Eucalyptus grandis* trunk at the southwestern corner of the isolated *Melaleuca* patch. Very frenetic movements, constantly running underneath bark strips; very difficult to photograph.

Photographic voucher: https://www.inaturalist.org/observations/59428929

846. *Pristhesancus plagipennis* Walker, 1873

Occasional, with sightings in the northern bushland (adult on a *Notelaea ovata*), southern bushland (mating pair on a *Pittosporum undulatum*), along the edge of the carpark immediately below the reserve (nymphs on *Kunzea ambigua*), and on the eastern bank of the southern riverine stretch (large nymph on *Angophora floribunda*).

Photographic voucher: https://www.inaturalist.org/observations/83593609

847. *Stenolemus bituberus* Stål, 1874

Two nymphs seen, one on a *Eucalyptus fibrosa* in the southern bushland and one on another large eucalypt in the carpark immediately below the reserve. I watched both individuals stalking *Badumna insignis*: walking extremely slowly, rocking back and forth with each step (mimicking a piece of debris blowing in the wind?), getting close to the spider web, and starting to tap the web. Two adults (https://www.inaturalist.org/observations/141680205) also seen on the same *Eucalyptus fibrosa* as one of the nymphs, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/70493465

848. *Tegea atropicta* Stål, 1863

Somewhat common throughout the southern bushland and central bushland. Always associated with termite nests, either on the large mound nests of the termite 'Termitoidae, unidentified sp.3', or on rotting logs with termites beneath them. Usually seen in ones or twos, but one occasion I observed ten individuals on a mound nest exhibiting classic hunting behaviour (rostrum inserted into a tunnel entrance in the nest, feeding on termites inside the nest). Adults and nymphs both seen.

Photographic voucher: https://www.inaturalist.org/observations/69445243

849. *Veledella raptrix* (Stål, 1866)

Single individual seen on a *Dodonaea triquetra* in the northern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/98974616

Rhopalidae

850. *Leptocoris tagalicus* Burmeister, 1834

Highly abundant, although almost entirely restricted to along the creek, especially the eastern bank of the southern riverine stretch. This distribution is driven by that of the non-native climber *Cardiospermum grandiflorum*, on which the bugs feed prolifically (a well-documented association, e.g., Carroll et al. 2005, Andres et al. 2013), which is present as enormous patches along the creek. Interestingly, the bugs seem to also have a strong association with the non-native dandelion *Taraxacum officinale*; they can frequently be seen feeding on them along the edge of Everley Park at the southern riverine stretch. The bugs are often coated in pollen after feeding, and so would seem to be quite good pollinators of the *Taraxacum* as well. Adults and nymphs both seen, and mating also frequently observed, with balls/aggregations of up to ten individuals often seen on the concrete path running along the eastern bank of the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/84025137

Rhyparochromidae

851. *Aristaenetus similis* Woodward & O'Donnell, 1988

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100672571

852. *Dieuches maculicollis* (Walker, 1872)

Not uncommon, although all of my sightings have been at the patch of fallen *Melaleuca* bark sheets, often under the sheets. Adults and nymphs seen.

Photographic voucher: https://www.inaturalist.org/observations/69708014

853. *Paramyocara iridescens* Woodward & Malipatil, 1977

Single (seemingly teneral) individual seen at the patch of fallen *Melaleuca* bark sheets.

Photographic voucher: https://www.inaturalist.org/observations/70027370

854. Rhyparochromidae, unidentified

Single nymph seen among stick and bark litter at the far northwestern corner of the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/70244342

Scutelleridae

855. *Choerocoris paganus* (Fabricius, 1775)

Huge congregation, including mating pairs, found feeding on the large patch of *Dodonaea triquetra* on the edge of the western exotic grassland, near the stormwater entrance. Nymphs also seen on an *Acacia parramattensis* in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/62016071

856. *Lampromicra aerea* (Distant, 1892)

Four adults seen in the southern bushland; one on a *Pittosporum undulatum*, one on a *Pittosporum revolutum*, one on a *Polyscias sambucifolia*, and one feeding on fruits on a *Breynia oblongifolia*.

Photographic voucher: https://www.inaturalist.org/observations/94414551

857. *Lampromicra senator* (Fabricius, 1803)

Single nymph found on a *Breynia oblongifolia*, at the edge of the southern bushland where the main path comes from the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/66763918

858. *Scutiphora pedicellata* (Kirby, 1826)

Single individual seen on a *Dodonaea triquetra* in the northern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/98600474

Tingidae

859. *Froggattia olivinia* Froggatt, 1901

Quite widespread and very common, with large numbers of nymphs seen on the underside of *Notelaea longifolia* leaves in the southern grassy woodland, southern bushland, and central bushland. As of 23 November 2021, quite a high proportion of *N. longifolia* were afflicted by them.

Photographic voucher: https://www.inaturalist.org/observations/60813984

Veliidae

860. Microveliinae, unidentified

Several individuals seen on the water's surface at the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021.

Photographic voucher: https://www.inaturalist.org/observations/99867483

Unidentified to family

861. Pentatomoidea, unidentified

Single nymph seen at the southwestern corner of the southern bushland. Doesn't match the nymphs of any of the other pentatomoid species I've listed above. Unfortunately I cannot remember the host plant.

Photographic voucher: https://www.inaturalist.org/observations/66037747

Wasps

Braconidae

862. Braconidae, unidentified sp.1

Somewhat common, mostly seen along the edge of Everley Park at the southern riverine stretch, and in the southern bushland. Often seen alighting on flowers, including on *Acacia parramattensis*. Quite small.

Photographic voucher: https://www.inaturalist.org/observations/65630568

863. Braconidae, unidentified sp.2

Single large individual resting high up on a eucalypt trunk at the interface between the northern bushland and northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/66360728

864. Braconidae, unidentified sp.3

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927903

865. *Callibracon* sp.

Several individuals seen flying around and landing on a *Bursaria spinosa* in the northern bushland. Similar to 'Braconidae, unidentified sp.2', but with an orange thorax instead of black.

Photographic voucher: https://www.inaturalist.org/observations/99861991

866. Microgastrinae, unidentified

Number of (seemingly all hatched) cocoons on a *Eucalyptus fibrosa* trunk in the southern bushland, with their (now dead) caterpillar host on top of them.

Photographic voucher: https://www.inaturalist.org/observations/110462137

Chrysididae

867. Chrysidini, unidentified

One individual seen on a large dead eucalypt in the northern bushland, about 30 seconds after I saw a *Primeuchroeus* sp. on the same tree. Much smaller than the *Primeuchroeus* sp., probably less than half the size.

Photographic voucher: https://www.inaturalist.org/observations/101251670

868. *Primeuchroeus* sp.

One individual seen on a large dead eucalypt in the northern bushland, with another seen (on the same day) on a large dead eucalypt in the southern bushland (the one where I've seen 'Termitoidae, unidentified sp.2'). Relatively large species.

Photographic voucher: https://www.inaturalist.org/observations/101251667

Crabronidae

869. *Bembix* sp.

Single individual seen flitting back and forth across a large patch of exposed clay in the northern bushland, and repeatedly entering/leaving a small burrow.

Photographic voucher: https://www.inaturalist.org/observations/65618881

870. *Cerceris* sp.

Single individual in the central bushland, just beneath the central split path. Very active, constantly moving about over/through the leaf litter.

Photographic voucher: https://www.inaturalist.org/observations/71290296

871. *Pison* sp.1

Seen in the northern bushland, resting on a dead eucalypt stump. I also saw what I think may have been this species on a *Kunzea ambigua* in the northern grassy woodland, however, I only got a very brief look at it before it flew off.

Photographic voucher: https://www.inaturalist.org/observations/65874710

872. *Pison* sp.2

Several individuals flitting around/landing on a large 'Termitoidae, unidentified sp.3' nest at the northwestern corner of the central bushland, trying to get inside it. Much smaller than *Pison* sp.2.

Photographic voucher: https://www.inaturalist.org/observations/99064333

873. *Pison* sp.3

Single individual seen on a floating leaf at the swale in the northern bushland in late October-early November 2021, after it filled with rain in early-mid October 2021.

Photographic voucher: https://www.inaturalist.org/observations/100038637

874. *Tachysphex* sp.

One female dragging a paralysed/dead *Calolampra* nymph across leaf litter in front of the bench seat on the edge of the northern bushland. One individual (presumably the same species) also seen on a *Bursaria spinosa* in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66367208

875. *Williamsita* sp.

In the open woodland directly above the southern exotic grassland, just above the main path running through it, there's a large fallen eucalypt log. My sister noticed some movement from beneath the log; we looked closer and spotted a large pile of frass/wood debris around the base. After waiting silently/very still for a few minutes, a large (female) wasp poked its head out. After a few minutes of pushing some more frass out of its burrow, it retreated and didn't re-emerge.

Initially, I thought I had easily identified it as *W. bivittata*; almost all of the other species in the genus seem to be restricted to other states (in addition to me eliminating them based on morphology), whilst there are three records of *W. bivittata* ~15 km away from mine (1944, 1950, 1951), and three more in the broader, Greater Sydney region. The nesting behaviour of *W. bivittata* was also described in McCorquodale et al. (1989), and matched very well with my observations. However, when checking this record again months later, I realised I had overlooked a second species also found near Sydney; *W. smithiensis*. So I went back to the original descriptions for each: *W. smithiensis* described as *Crabro tridentatus* in Smith (1868), and *W. bivittata* described as *Crabro bivittatus* in Turner (1908), with both being descriptions of females. Among other differences, *W. smithiensis* is described as having a clypeus with "three teeth at its anterior margin, one central, the others at the lateral angles". Conversely, *W. bivittata* as clypeus "with a median carina, slightly porrect at the apex, with a minute tooth on the apical margin on each side of the carina." Luckily all of my images show the clypeus/face quite well, including from slightly different angles. There is clearly no central tooth at the anterior margin of the clypeus, so I'm confident eliminating *W. smithiensis*.

However, a third contender came into the fray: *W. bushiella*. Initially, I eliminated it as a possibility on the basis of location; all of the documented specimens are from remote South Australia. However, after delving into all of the other species, I was able to get access to the 1974 paper by Leclercq in which this species is described. He says (note, I translated this from French) that *W. bushiella* "Looks a lot like *bivittata* (TURNER), at least as hardy. Can be recognised immediately by the legs of a beautiful red orange starting from the apex of the hips.", and [separately] "All femurs completely red orange". The individual I photographed clearly has red-orange femora. Conversely, in the same paper, *W. bivittata* is described as having "Mostly black femurs". So based only on these descriptions, it seems like I could be IDing this as *W. bushiella*. However, the location aspect is still bugging me, so I think it's safest to keep this at genus.

This is especially the case since there's a fourth species, *W. neglecta*, which I also cannot eliminate on morphology. The holotype is from South Australia, and all other specimens noted in Leclercq (2006) from Tasmania, with four ALA records all from Tasmania as well. However, only the male is described in Smith (1868), Turner (1915) noted the female was still unknown, and Leclercq (1974) still only referred to a male. Leclercq (2006) does include this species in their key to females (with a female listed as collected in Tasmania in 1983), but does not provide a full description. Unfortunately, the key only separates *W. neglecta* from *W. bushiella* and *W. bivittata* by tergite characters, which are not visible in my photos. There is thus a possibility *W. neglecta* is an option here, despite almost all specimens/records being from Tasmania.

Elimination of the other species, based on location and morphological data from Leclercq (2006), Leclercq (1974), records in the ALA, and original descriptions:

- *W. manifestata*. Holotype from Kalamunda, Western Australia, and all other specimens noted in Leclercq (2006) also from south-western Western Australia. Among other differences, noted as having "eyes separated at the base of the clypeus by a distance equal to about one-third of the length of the scape" by Turner (1915); my specimen has eyes separated by a much greater distance, almost a full scape length.
- *W. novocaledonica*. Holotype and paratypes from New Caledonia, and excluded from list of Australian species in the AFD. Also clearly different to the specimen pictured at https://endemia.nc/en/faune/fiche4606 (although I'm unsure if this is a male or a female).
- *W. ordinaria*. Holotype and allotype from Mackay, Queensland. Specimens noted in Leclercq (2006) from Bundaberg, Queensland and Larrakeyah, Northern Territory. Three ALA records all from Queensland, in line with or northwards of Fraser Island. Among other differences, noted by Leclercq (2006) as having "mandible well marked with lemon yellow"; my specimen lacks any such colouration on the mandibles.
- *W. riekiella*. Specimens noted in Leclercq (2006) collected from subtropical rainforest in northern NSW, and from the ACT. Noted by Leclercq (2006) as having "flagellomeres 1-5 (or 1-7) light red, the following black. Mandible entirely clear ferruginous"; my specimen only has the first flagellomere red (and perhaps hints on the second, but certainly not more than that), and the mandibles are opaque and multi-coloured. Also clearly differs compared to Figure 3 in Leclercq (1974), as well as having the femurs described as being "blackened rather widely below and behind", which is not the case with my specimen.
- *W. serena*. Holotype from Vanuatu, and excluded from list of Australian species in the AFD.
- *W. tasmanica*. Holotype from Tasmania, and all other specimens noted in Leclercq (2006) from Tasmania. Twenty nine ALA records all from Tasmania as well. Also noted as endemic to Tasmania by Maynard and Fearn (2021) and Leclercq (2006). Clearly different compared to specimens pictured in the ALA.
- *W. vedetta*. Holotype from Bunbury, Western Australia, and clearly different compared to images of the holotype (which is also a female), and Figure 4 in Leclercq (1974).

Photographic voucher: https://www.inaturalist.org/observations/66765424

Dryinidae

876. *Dryinus* sp.

Single female seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk. When I first spotted it, I thought it was an ant based on its gait/general movements. Then I thought it was a micropezid fly, as its posture when standing still and dorsal colouration/patterning seemed to match very well. Upon looking closer I realised it was actually a wasp. Whether it was mimicking an ant, or mimicking a micropezid (many of which mimic ants, so I guess probably mimicking an ant either way), I'm unsure. It was quite active, walking across the trunk, over and under bark sleeves, its antennae flickering constantly. It then pounced on a very small eurybrachid planthopper (almost certainly *Platybrachys*), held it with its mandibles and forelimbs, curled its abdomen around underneath itself, and began ovipositing into the hopper. After a few minutes it tossed (literally; see video at https://www.youtube.com/watch?v=sVU9jCksBGE) the hopper away.

Photographic voucher: https://www.inaturalist.org/observations/100676969

Encyrtidae

877. Encyrtidae, unidentified

Single tiny individual found on an *Acacia pubescens* in the southern bushland, just above the weedy swale.

Photographic voucher: https://www.inaturalist.org/observations/92215139

878. *Psyllaephagus* sp.

On 7 October 2021 I collected 5 lerps (from 'Spondyliaspidinae, unidentified') on eucalypt leaves (I think *Eucalyptus grandis*) from the southwestern corner of the isolated *Melaleuca* patch, with the intention of rearing them to adults. From 16-19 October 2021, adult *Psyllaephagus* wasps emerged, having parasitised the psyllids.

Photographic voucher: https://www.inaturalist.org/observations/98360940

Eulophidae

879. Eulophidae, unidentified

One tiny individual flew onto my hand in the southern bushland, rested briefly, and then flew off again.

Photographic voucher: https://www.inaturalist.org/observations/70029804

Eupelmidae

880. *Tineobius* sp.

Single individual in the northern bushland, resting on a eucalypt trunk.

Photographic voucher: https://www.inaturalist.org/observations/72765656

Evaniidae

881. Evaniidae, unidentified

Single individual seen on a large dead eucalypt in the northern bushland.

Photographic voucher: none, as it alighted on the tree whilst I was in the middle of photographing another wasp, and then flew off, but this family is unmistakeable, and I've seen and photographed a number of them elsewhere.

Gasteruptiidae

882. *Gasteruption spinigerum* Schletterer, 1889

Somewhat common throughout most sections of the reserve proper, and indeed often 2-3 individuals seen at the same spot/time. Very active, almost always seen flying very low to the ground, typically hovering over patches of exposed soil. Only two individuals seen deviating from this behaviour: one pollinating *Kunzea ambigua* at the edge of the huge sea of weeds along the creek in line with the central split path, and another hovering around a large dead eucalypt in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/65630576

Ichneumonidae

883. Campopleginae, unidentified

Single individual seen pollinating a *Kunzea ambigua* in the northern grassy woodland.

I've also found a cocoon hanging off a *Galium leiocarpum* on the northern bank of the western arm of the creek (https://www.inaturalist.org/observations/84279348), but an unsure if it belongs to a different species.

Photographic voucher: https://www.inaturalist.org/observations/99861987

884. Cryptinae, unidentified sp.1

One individual seen in the central bushland, flitting across leaf litter, with another darting over a large *Melaleuca decora* trunk near the weedy swale in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/97003689

885. Cryptinae, unidentified sp.2

Single individual seen along the southern riverine stretch, just south of the large *Canna indica* patch at the southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/70027354

886. **Ctenochares bicolorus* (Linnaeus, 1767)

Occasional along the creek, always very active, flitting from plant to plant.

Photographic voucher: https://www.inaturalist.org/observations/60799620

887. *Echthromorpha intricatoria* (Fabricius, 1804)

Occasional along the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/59426850

888. Enicospilus coarctatus (Brullé, 1846)

Seen at night in the northern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/98975173

889. Ichneumonidae, unidentified

Single individual seen among leaf litter at the edge of the southern bushland where the main path comes from the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/59862900

890. *Labium pilosum* Turner & Waterston, 1920

Single male seen at the large, exposed patch of soil near the creek-spanning pipe, pollinating *Calotis lappulacea*. Likely the first photo of a living individual of this species.

Photographic voucher: https://www.inaturalist.org/observations/59431937

891. *Labium* sp.

One individual seen resting on a grass stem in the northern grassy woodland, with another flying low to the ground in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/60691661

892. *Leptobatopsis* sp.

Seen in the southern bushland, and at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup. Possibly a male *Leptobatopsis mesominiata*.

Photographic voucher: https://www.inaturalist.org/observations/100673698

893. *Lissopimpla excelsa* (Costa, 1864)

Not uncommon, mostly along along the edge of Everley Park at the southern riverine stretch, but also in the southern exotic grassland and western exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/60799640

894. *Metopius* sp.

Two individuals seen, both along the central split path. Confirmed as *Metopius* based on the key in Gauld (1984), with the mid-leg tibiae only having one apical spur.

Photographic voucher: https://www.inaturalist.org/observations/63629457

895. *Ophion* sp.

Single (barely alive) individual found in the southern bushland on a *Melaleuca decora*. Much smaller than the two Ophioninae species listed below.

Photographic voucher: https://www.inaturalist.org/observations/102983722

896. Ophioninae, unidentified

Not uncommon, seen in the central bushland, northern bushland, and along the edge of Everley Park at the southern riverine stretch. Usually seen resting on the underside of leaves. Possibly *Enicospilus*.

Photographic voucher: https://www.inaturalist.org/observations/71290308

Megalyridae

897. *Megalyra fasciipennis* Westwood in Griffith, 1832

An amazing encounter. The following text is adapted from a paper I published with Scott R. Shaw describing this encounter (Mesaglio and Shaw 2022).

I first observed the female at 2:21 PM on the trunk of a large, standing, recently dead *Eucalyptus punctata*, ~1.8 m above the ground [in the southern bushland]. It was vertically-oriented, facing skywards, with the ovipositor inserted and probing into the tree and the ovipositor sheaths held freely above the trunk's surface. During oviposition, its abdomen constantly rotated from side to side across an almost 270° range of motion, possibly to facilitate deeper insertion of the ovipositor into the tree (see video at https://www.youtube.com/watch?v=Ov4TF-H672E). This rotation was often interspersed with abdominal pulsing or throbbing, which may have signalled the passage of eggs down the ovipositor. This first oviposition event lasted until 2:31 PM, at which point the wasp retracted the ovipositor from the tree and 'joined' it with the ovipositor sheaths, such that they

appeared to be one structure to the naked eye. It then cleaned its ovipositor, presumably to remove any small wood particles, by placing the base of the ovipositor between its two hind legs, and then dragging it upwards over the ovipositor so that it formed a large loop.

The wasp then became very active, walking across the tree trunk between ~1.2 and 1.8 m above the ground. During this period, its forewings rapidly flexed up and down (see video at https://www.youtube.com/watch?v=cToUKII170A), although the purpose of this was not entirely clear. It is possible this behaviour was a defensive display in response to my very close proximity whilst taking photographs and videos; similar 'wing buzzing' behaviour by vespid wasps in response to the movement of large objects, including human hands, towards nests, was observed by Jeanne (1972), however, this was also accompanied by the wasps bending their abdomens to the side and releasing a strong smell (possibly alarm pheromones), neither of which I observed. Alternatively, these movements may have been an attempt to mimic the wing patterns and behaviour of more common, stinging aculeate wasps in the area, such as *Fabriogenia*, possibly to reduce the chances of bird predation when walking across an exposed tree trunk. The wasp then moved beneath a large, loose bark sleeve (although remaining visible) at ~1.3 m above the ground. Throughout this time, it constantly tapped the bark with its antennae (see video at https://www.youtube.com/watch?v=rd7l83fTCTs) to create vibrations, the echoes from which it can then detect and use to determine where its hosts are boring inside the tree (Xiaoyi and Zhongqi 2008). This included directly inserting its antennae tips into small fissures in the bark.

After ~19 minutes of searching, it began a second oviposition attempt, this time oriented facing towards the ground. This lasted for ~4 minutes, and constituted several stages. First, it vigorously tapped the spot it had chosen for several seconds with its ovipositor. It then inserted its ovipositor into a small fissure in the bark, with the sheaths covering the entire ovipositor except for the tip inside the bark. Rather than actively drilling into the tree, a behaviour seen in other parasitoid wasp families such as Ichneumonidae and Orussidae (Fischer et al. 2013), the insertion appeared to be simply 'hole-poking' into a pre-existing opening in the bark, consistent with other accounts of oviposition in Meglyra (Shaw 1990b).

Over the ensuing ~2 minutes, the sheaths were then slowly drawn upwards along the length of the ovipositor, forming an increasingly large loop (see video at https://www.youtube.com/watch?v=77g76WWpDSg) until the sheaths 'detached' from the ovipositor and were held freely above the bark (see Vilhelmsen (2003) for an extensive discussion of the structure and function of the sheaths). After another ~2 minutes, the wasp withdrew the ovipositor, however, it did not clean it.

This was followed by another ~5-6 minutes of antennal tapping, but with very little movement away from the second oviposition site. During this time, it periodically rotated its body 180 degrees, alternating between facing skywards and facing towards the ground. At 2:59 PM, a third oviposition attempt occurred, again lasting ~4 minutes and echoing the behaviour during the second oviposition attempt. This time, however, the wasp cleaned its ovipositor after finishing. An additional ~10 minutes of antennal tapping around the same area ensued, and then a fourth oviposition, this time for ~7.5 minutes, again followed by cleaning. I timed this fourth oviposition event exactly: the ovipositor was first inserted at 2:13:17 PM; the sheaths entirely separated from the ovipositor at 2:15:55 PM; and, the ovipositor was retracted from the tree at 2:20:41 PM.

The wasp then became very active again, emerging from beneath the bark sleeve and walking across the trunk. This lasted for ~5-6 minutes, at which point it began to quickly ascend the trunk. TM lost sight of it ~5 metres up the tree at 3:26 PM.

Although I didn't directly observe the wasp's hosts, it is highly likely they were *Phoracantha* larvae (Shaw 1990a, Binoy et al. 2020). The eucalypt into which the wasp was ovipositing was recently dead, matching the feeding preferences of common species such as *P. semipunctata* within their native range (i.e., stressed or dead; Hanks et al. 1993). The characteristic trails formed by *Phoracantha* larval surface feeding were also present within 10-15 cm of the last three oviposition sites. I've also seen *P. semipunctata* along the central split path and in the northern bushland, and a *Phoracantha* elytron at the southwestern corner of the isolated *Melaleuca* patch.

Photographic voucher: https://www.inaturalist.org/observations/97123462

Mutillidae

898. Dasymutillini, unidentified sp.1

Seen twice, once in the northern grassy woodland and once in the southern bushland. Both sightings of very hyperactive individuals racing across exposed soil. Madalene Giannotta noted that whilst it fits into the current definition of *Ephutomorpha*, it will "certainly be transferred to a separate genus upon revision", and thus a genus ID would be uninformative here.

Photographic voucher: https://www.inaturalist.org/observations/59864242

899. Dasymutillini, unidentified sp.2

Single dead individual found on top of a 'Termitoidae, unidentified sp.3' nest in the southern bushland (the one that's been taken over by *Papyrius nitidus* ants).

Photographic voucher: https://www.inaturalist.org/observations/94085982

Pompilidae

900. Ageniellini, unidentified

Somewhat common and fairly widespread throughout most of the survey area, however, I've only ever seen them on large eucalypts, where they constantly flit and zip back and forth over the trunks (making it almost impossible to get a good photo). I've also seen one emerge from the *Eucalyptus punctata* tree hollow in which the Peron's Tree Frogs live. Presumably *Fabriogenia, Phanagenia* or *Auplopus*.

Photographic voucher: https://www.inaturalist.org/observations/98464058

901. *Calopompilus raptor* (Smith, 1862)

One individual seen on a young eucalypt at the northwestern corner of the southern grassy woodland, and one seen among leaf litter in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/102695297

902. *Cryptocheilus* sp.

One large individual seen along the edge of the central split path, one in the central bushland, one in the southern bushland, and two along the northern periphery of the northern bushland. Most individuals seen walking over leaf and stick litter.

Photographic voucher: https://www.inaturalist.org/observations/101246164

903. *Ferreola handschini* (Haupt, 1935)

Occasional. Almost all of my sightings have been in the southern exotic grassland or southern grassy woodland, with one at the weedy swale in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/66037745

904. *Psoropempula* sp.

Single individual seen in the core of the central bushland. It was running over leaf and stick litter, constantly touching the litter with its antennae and flickering its wings up and down in a manner so that, to the naked eye, it often appeared to be wingless. Evans (1974) suggests that this is to mimic Mutillidae. By eliminating other species based on distribution, I believe this should be one of three options: *P. erythrostethus, P. nulgarra*, or *P. puna*.

Photographic voucher: https://www.inaturalist.org/observations/101246160

Pteromalidae

905. *Perilampella hecataeus* (Walker, 1839)

Large galls seen on the flower buds of *Acacia decurrens* in the open woodland directly above the southern exotic grassland, at the northwestern corner of the northern bushland, and along the edge of Everley Park at the southern riverine stretch, near the ancient eucalypt hybrid. This species is noted as occurring on *A. decurrens* by Goolsby et al. (2001), and also by the Universal Chalcidoidea Database (see here). Also matches an image identified as this species here.

Photographic voucher: https://www.inaturalist.org/observations/94414539

906. *Thaumasura* sp.

Single, very placid individual on a fallen *Melaleuca* log in the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/95836584

907. *Trichilogaster acaciaelongifoliae* (Froggatt, 1892)

Number of galls on an *Acacia longifolia* on the southern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/92211251

Scelionidae

908. Scelionidae, unidentified sp.1

Single individual seen on a *Melaleuca decora* in the southern bushland, on what I'm fairly sure was a spider egg sac; the wasp seemed to be ovipositing into the sac. If this was indeed a spider egg sac, then this is perhaps in Baeini.

Photographic voucher: https://www.inaturalist.org/observations/98469923

909. Scelionidae, unidentified sp.2

A single, very tiny (perhaps 1-1.5 mm long) individual landed on my phone in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/98469950

Scoliidae

910. Scoliidae, unidentified

Single individual seen along the central split path. Unfortunately I spooked it before I could get a photo. *Austroscolia soror* or related species.

Photographic voucher: none, but unmistakeable, and a species I've seen a number of times elsewhere.

Sphecidae

911. *Sceliphron* sp.

Hundreds of nests attached to the underside of the Wellington Road bridge (that I've seen adults visiting), as well as a few adults seen in the western alcove. Based on location, most likely *S. laetum* or *S. formosum*.

Photographic voucher: https://www.inaturalist.org/observations/60505973

912. *Sphex bilobatus* Kohl, 1895

Occasional. Sightings in the southern exotic grassland, just north of the large, exposed patch of soil near the creek-spanning pipe, in the southern bushland (on *Melaleuca styphelioides* flowers), and in the western exotic grassland. Usually seen flying low to the ground along the edges of patches of grass, hunting for katydids. I watched one land on a *Juncus microcephalus*, grab a '*Conocephalus* sp.1', and then fly off with it in the southern exotic grassland. In another case, I found a paralysed *Torbia viridissima* next to the entrance to a burrow in the western exotic grassland. After watching it for a few minutes, a *Sphex bilobatus* flew down and began to search the area. After about 45 seconds it managed to find where it had left the katydid, picked it up, and flew half a metre to a smaller burrow into which it then disappeared, leaving the katydid at the entrance.

Photographic voucher: https://www.inaturalist.org/observations/65618877

Thynnidae

913. Thynnidae, unidentified sp.1

Congregation of at least 12-15 males on a *Leucopogon juniperinus* at the interface between the southern exotic grassland, southern bushland, and southern grassy woodland. Some of them had a lateral red thoracic patch, whilst others didn't, so it's possible two species are represented here. Noted by Graham Brown to be either *Thynnoides* or *Rhagigaster* (or possibly a mixture of both). I've seen a female in the southern grassy woodland (https://www.inaturalist.org/observations/63628790) that Graham Brown also noted to be either *Thynnoides* or *Rhagigaster*, so possibly the same species as here.

Photographic voucher: https://www.inaturalist.org/observations/60173034

914. Thynnidae, unidentified sp.2

Single small male flew down onto my hand, and then flew off again, near the bench seat on the edge of the northern bushland. Noted by Graham Brown to be either *Aeolothynnus* or *Chilothynnus*.

Photographic voucher: https://www.inaturalist.org/observations/71783038

915. *Thynnoides* sp.

Single, very sluggish male found at the western edge of the open woodland directly above the southern exotic grassland, crawling over mosses.

Photographic voucher: https://www.inaturalist.org/observations/59127528

Vespidae

916. *Abispa splendida* (Guérin, 1838)

Single large individual seen along the central split path, walking across the exposed clay soil and occasionally flying lazily to another spot.

Photographic voucher: https://www.inaturalist.org/observations/71287374

917. Eumeninae, unidentified

Single individual seen in the northern bushland. Initially I thought this was also *Abispa splendida*, however, looking at the photos again it's clear there are a number of differences in the patterning/colouration.

Photographic voucher: https://www.inaturalist.org/observations/71287369

918. *Paralastor* sp.1

Several individuals seen flying very low to the ground in the southern exotic grassland and the southern grassy woodland, zipping back and forth over exposed soil. Two of these individuals (separate sightings) hovered briefly over a hole in the ground several times; unsure if these were burrows.

Photographic voucher: https://www.inaturalist.org/observations/63861829

919. *Paralastor* sp.2

Single individual seen pollinating *Kunzea ambigua* along the edge of the carpark immediately below the reserve. Per James Carpenter, possibly *P. eriurgus* based on similar colour/patterning (has also been recorded from Sydney).

Photographic voucher: https://www.inaturalist.org/observations/64590170

920. *Paralastor* sp.3

Single individual pollinating *Angophora floribunda* on the eastern bank of the southern riverine stretch, near the chain-link fence. An incidental find; I was photographing the tree/flowers and only noticed the wasp in the shot at home.

Photographic voucher: https://www.inaturalist.org/observations/65388302

921. *Polistes humilis humilis* (Fabricius, 1781)

Occasional, seen along the southern riverine stretch, along the edge of the northern bushland, and at the northern perimeter of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/95375205

922. *Ropalidia plebeiana* Richards, 1978

Occasional, with individual adults seen along the edge of Everley Park at the southern riverine stretch, in the northern grassy woodland, and in the southern grassy woodland, and several nests with adults seen on *Melaleuca decora* at the northwestern corner of the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/69445242

923. **Vespula germanica* (Fabricius, 1793)

There's a subterranean nest at the base of a eucalypt near the central bridge. I've also seen two adults (one dead, one alive) further southwards/westwards into the southern bushland, and one live adult flying near the creek-spanning pipe, but I'm unsure if these belonged to the same nest.

Photographic voucher: https://www.inaturalist.org/observations/72144142

Unidentified to family

924. Chalcidoidea, unidentified sp.1

Single individual seen on a large dead eucalypt in the northern bushland. Clearly different to any of the other chalcidoid wasps I've seen in the reserve, but unfortunately I only got a single blurry photo before it flew off.

Photographic voucher: https://www.inaturalist.org/observations/101251669

925. Chalcidoidea, unidentified sp.2

Number of leaf galls found on an *Acacia fimbriata* along the northern edge of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/102695289

926. Ichneumonoidea, unidentified sp.1

Single individual in the southern bushland, being preyed on by a robber fly (*Colepia malleola*).

Photographic voucher: https://www.inaturalist.org/observations/70491043

927. Ichneumonoidea, unidentified sp.2

Single individual seen on a large eucalypt trunk in the southern grassy woodland. Very jerky, ant-like movements. I'm fairly sure it's an ichneumonid, but looked a bit odd, so I've stayed at superfamily.

Photographic voucher: https://www.inaturalist.org/observations/96467585

928. Ichneumonoidea, unidentified sp.3

Seen at night along the edge of the shaded, damp swale in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/100927891

Unsure of placement

Unidentified to family

929. Insecta, unidentified sp.1

Extensive leaf mining on eucalypt leaves (I think *Eucalyptus grandis*) at the southwestern corner of the isolated *Melaleuca* patch.

Photographic voucher: https://www.inaturalist.org/observations/97430869

930. Insecta, unidentified sp.2

Large galls on the leaves of a young eucalypt along the edge of Everley Park at the southern riverine stretch, next to the third light tower. Vaguely similar to the galls formed by the eulophid wasp *Ophelimus maskelli*, but much bigger. I've also seen a number of similar but smaller galls (e.g., https://www.inaturalist.org/observations/90750943), also on eucalypt leaves along the edge of Everley Park, but have no clue if these are a different species.

Photographic voucher: https://www.inaturalist.org/observations/87824984

931. Insecta, unidentified sp.3

Very extensive damage on eucalypt leaves in the southern grassy woodland, and along the edge of Everley Park at the southern riverine stretch (although I'm unsure if there are multiple species involved here that produce very similar tracks).

Photographic voucher: https://www.inaturalist.org/observations/96457045

932. Insecta, unidentified sp.4

Leaf mining on *Acacia falcata* in the central bushland, southern bushland, and southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/94414566

933. Insecta, unidentified sp.5

Relatively flattened galls on eucalypt leaves along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/93446913

934. Insecta, unidentified sp.6

Globular galls seen on eucalypt leaves (passing through the leaves) in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/93018814

935. Insecta, unidentified sp.7

Globular galls seen on eucalypt leaves (on one surface only) along the edge of Everley Park at the southern riverine stretch. At face value these are very common and widespread along this stretch, but I'm unsure if there are multiple species involved here that produce very similar galls (e.g., compare with https://www.inaturalist.org/observations/90750939).

Photographic voucher: https://www.inaturalist.org/observations/93018802

936. Insecta, unidentified sp.8

Very distinct gall on a eucalypt leaf (belonging to the eucalypt that fell during powerful winds in late August 2021, and crushed the section of metal fence abutting the main path cutting through the southern exotic grassland) in the southern grassy woodland. I've also found vaguely similar galls on eucalypt leaves (https://www.inaturalist.org/observations/81530309) in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/93018810

937. Insecta, unidentified sp.9

Fairly common galls, always on *Melaleuca decora*, with sightings along the edge of Everley Park at the southern riverine stretch, at the small, isolated patch of bush, in the far southern bushland, and in the southern bushland. The 'fresh'/new ones are always green, with the texture/feel of a hard lemon. Over time, they seem to desiccate, shrivel, turn brown, and become very woody (although I assume the new ones are also woody inside). I haven't opened any new ones, but cracking open old ones reveals frass and moults of their former occupants (whatever they are). Interestingly, there were three queen *Technomyrmex* ants inside one.

Photographic voucher: https://www.inaturalist.org/observations/92215129

938. Insecta, unidentified sp.10

What are probably galls (I initially thought they may be eggs) bursting from an *Acacia decurrens* branchlet in the northern grassy woodland. Very woody.

Photographic voucher: https://www.inaturalist.org/observations/91617663

939. Insecta, unidentified sp.11

Small, bright pink galls (likely) on eucalypt leaves along the northern edge of the western third of the northern bushland, and along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/74609083

940. Insecta, unidentified sp.12

Large numbers of galls seen on *Wahlenbergia gracilis* in the western exotic grassland and central bushland. I noticed these galls for the first time in mid-September 2022 at a nearby reserve, also prolifically affecting *W. gracilis*, and then at a few other Sydney locations too, after never having seen them before. Unsure if wasp or fly-induced, but I think most likely Cecidomyiidae (so fly-induced).

Photographic voucher: https://www.inaturalist.org/observations/140048558

Section 9 – Slime moulds, Cyanobacteria, and Fungi

Please refer to the maps in Section 2 for explanations of all place/location names used throughout this section (e.g., 'northern bushland', 'southern exotic grassland', 'large, exposed patch of soil near the creek-spanning pipe').

* indicates species that are non-native to the study area.

I have followed the taxonomy of The Nomenclatural Database of Eumycetozoa (Myxomycota) for all slime moulds, and Index Fungorum for all fungi.

I have endeavoured to be as non-speculative as possible with my fungal IDs given I did not collect any specimens/use microscopy, but some of these IDs should be considered somewhat tentative.

Major group	Group	Species
Slime moulds	Myxomycetes	3
Cyanobacteria	Cyanobacteria	2
Fungi	Boletes	7
	Cankers	1
	Coral fungi	3
	Crust fungi	1
	Earthballs	1
	Jelly fungi	1
	Lichens	12
	Moulds	4
	Mushrooms	49
	Parasitic fungi	4
	Puffballs	7
	Rusts and diseases	6
	Sac fungi	3
	Shelf fungi	8
	Stinkhorns	1
	Unsure of placement	5

Slime moulds

Myxomycetes

Arcyriaceae

1. *Arcyria obvelata* (Oeder) Onsberg

Small patch found in early April 2021 on a burnt section of bark on a living eucalypt (unsure of species) in the southern grassy woodland. Lightly poking it with a twig caused a stream of spores to fly off it.

Photographic voucher: https://www.inaturalist.org/observations/72761556

Tubiferaceae

2. *Tubifera ferruginosa* (Batsch) J. F. Gmel.

Small, old, dried patch on a rotting *Melaleuca* branch at the patch of fallen *Melaleuca* bark sheets, under a sheet.

Photographic voucher: https://www.inaturalist.org/observations/102982741

Unidentified to family

3. Myxomycetes, unidentified

I found this one at ~10:30 PM during a night walk, on a damp rotting log in the southern bushland, near the creek. It was being eaten by a few globular springtails ('Symphypleona, unidentified') and what I believe were two Lycidae larvae. Unfortunately it was too young to identify beyond class, and when I returned to the spot the next day, it had disappeared, presumably entirely consumed.

Photographic voucher: https://www.inaturalist.org/observations/69790113

Cyanobacteria

Cyanobacteria

Unidentified to family

1. Cyanobacteria, unidentified sp.1

Scattered patches on the southern bank of the western arm of the creek, the eastern bank of the creek underneath the Wellington Road bridge, and at several spots along the southern riverine stretch, almost always on wet, hard-packed clay.

Photographic voucher: https://www.inaturalist.org/observations/70030215

2. Cyanobacteria, unidentified sp.2

Across October and early November 2021, there was a large sewage overflow that originated from the western perimeter of the reserve and spread ~70 m into the northwestern quadrant of the central bushland. The sewage was actively flowing close to the source, but towards the end of the plume it became a series of large, stagnant pools. Here, there were many large patches of this cyanobacteria. Possibly Oscillatoriales or Nostocales.

Photographic voucher: https://www.inaturalist.org/observations/100036542

Fungi

Boletes

Boletaceae

1. Boletaceae, unidentified sp.1

Single large fruiting body in the southern bushland, lying in the middle of a path near the western arm of the creek. Worse for wear and being eaten by millipedes.

Photographic voucher: https://www.inaturalist.org/observations/59430561

2. Boletaceae, unidentified sp.2

Single large fruiting body in the northern bushland along a path's edge. Parasitised by an ascomycete fungus, *Hypomyces* sp., and also being feasted on by millipedes.

Photographic voucher: https://www.inaturalist.org/observations/60177342

3. *Boletellus deceptivus* Halling & N.A. Fechner

Single fruiting body on a steep section of the northern bank of the western arm of the creek, in a damp/shaded spot among wet leaf litter. Quite a spectacular fungus.

Photographic voucher: https://www.inaturalist.org/observations/72765652

4. *Boletus* sp.

Two, overlapping fruiting bodies in the southern grassy woodland in dry leaf litter. Easily the biggest macrofungi I've ever seen; the caps were more than 20 cm across.

Photographic voucher: https://www.inaturalist.org/observations/76472872

5. *Tylopilus balloui* (Peck) Singer

Single fruiting body in the southern bushland in wet leaf litter after rain in early April 2021. Brilliant colouration.

Photographic voucher: https://www.inaturalist.org/observations/73292371

6. *Tylopilus* sp.1

Single fruiting body along the edge of the central split path after heavy rains and flooding in mid to late March 2021, growing from among the moss *Campylopus introflexus*. Possibly *T. plumbeoviolaceus*. Distinct purple colouration.

Photographic voucher: https://www.inaturalist.org/observations/72431092

7. *Tylopilus* sp.2

Single fruiting body growing from the base of a large *Melaleuca* (either *M. decora* or *M. styphelioides* at that spot) in the northern bushland. Very close to *T. cervicolor*, which has also been recorded growing underneath *Melaleuca* (Leonard 2015).

Photographic voucher: https://www.inaturalist.org/observations/73826199

Cankers

Unidentified to family

8. Fungi, unidentified sp.1

Throughout the southern and central bushland, many of the *Exocarpos cupressiformis* are afflicted by hard, woody cankers growing around leaf axils and branchlets. In some cases, any terminal growth above the canker dies off, whilst in other cases it seems to stimulate 'witch's broom' style growth. These cankers were described in great detail by Scurfield (1965), and he posited that "The pathogen causing canker formation of *Exocarpos cupressiformis* was almost certainly fungal, though it was uncertain whether more than one species of fungus was involved", thus my inclusion of them here. In his book 'Insects of South-Eastern Australia: An Ecological and Behavioural Guide', Roger Farrow notes that these cankers are caused by a *Uromycladium* sp., however, this identification is refuted in some online discussions.

Photographic voucher: https://www.inaturalist.org/observations/58815992

Coral fungi

Clavulinaceae

9. *Clavulina* sp.1

Small patch in the southern bushland, quite close to the western arm of the creek, growing among leaf and stick litter.

Photographic voucher: https://www.inaturalist.org/observations/86684746

10. *Clavulina* sp.2

Two fruiting bodies seen in the northern bushland, among leaf litter. Possibly *C. cinerea*.

Photographic voucher: https://www.inaturalist.org/observations/140332685

Thelephoraceae

11. *Thelephora* sp.

Appeared en masse along the main clay path cutting through the southern exotic grassland (to the immediate west of the southern grassy woodland) after heavy rains and flooding in mid-February to early March 2022.

Photographic voucher: https://www.inaturalist.org/observations/107862214

Crust fungi

Stereaceae

12. *Aleurodiscus* sp.

On deadwood in the southern bushland during/after rain in early April 2021.

Photographic voucher: https://www.inaturalist.org/observations/73284440

Earthballs

Sclerodermataceae

13. *Scleroderma* sp.

Not uncommon throughout the reserve proper, present in the open woodland directly above the southern exotic grassland, central split path, northern bushland, and northern grassy woodland. Almost always emerging from exposed clay, although occasionally among mosses. Interestingly, many of the fruiting bodies I've seen are bursting out of the large *Iridomyrmex sanguineus* (meat ant) nests present at the sections mentioned above; these nests are constructed from very hard-packed clay, usually interspersed with stones.

Photographic voucher: https://www.inaturalist.org/observations/78196779

Jelly fungi

Dacrymycetaceae

14. *Dacryopinax spathularia* (Schwein.) G.W. Martin

Patches observed on large fallen logs in the southern exotic grassland, far southern bushland, and at the far southern end of Everley Park at the southern riverine stretch, next to the large *Corymbia citriodora*.

Photographic voucher: https://www.inaturalist.org/observations/71783027

Lichens

Chrysothricaceae

15. *Chrysothrix* sp.

Large patches covering the trunks of *Eucalyptus fibrosa* and large *Melaleuca* in the southern bushland and central bushland. Also seen on *Casuarina glauca* along the creek near the Wellington Road bridge. I'm unsure if these all represent the same species, or if there are multiple, host-specific species. At the very least, the patches on *E. fibrosa* are either *C. xanthina* or *C. candelaris*, probably the former.

Photographic voucher: https://www.inaturalist.org/observations/69708032

Cladoniaceae

16. *Cladia aggregata* (Sw.) Nyl.

Abundant throughout the reserve proper, and indeed probably the most common lichen in the survey area. Present in all sections, but most common along path edges, with especially large patches along the central split path, along the northern edge of the central bushland, along the path

running through the open woodland directly above the southern exotic grassland, and alongside paths in the northern bushland. There's a huge patch in particular running along the southern edge of this woodland path, probably exceeding 50 m^2. Often growing with the moss *Campylopus introflexus*. Large patches often appear (or are 'rejuvenated') after rain, although they dry out quite quickly when warmer/drier weather sets in.

Photographic voucher: https://www.inaturalist.org/observations/68751908

17. *Cladia muelleri* (Hampe) Parnmen, Elix & Lumbsch

Abundant throughout the reserve proper (possibly competing with *C. aggregata* for most common lichen), and usually growing near/with *C. aggregata*, almost always on exposed soil patches. Huge amounts of this species appeared all throughout the northern grassy woodland, southern grassy woodland, northern bushland and central bushland after heavy rain in early October 2021. Patches dry out quite quickly when warmer/drier weather sets in.

Photographic voucher: https://www.inaturalist.org/observations/68751897

18. *Cladonia cristatella* Tuck.

Occasional, always on fallen eucalypt logs. Most occurrences are quite small patches, but there are two large 'populations': one on the northern edge of the path running through the open woodland directly above the southern exotic grassland, and one at the central split path.

Photographic voucher: https://www.inaturalist.org/observations/58814521

19. *Cladonia* sp.

As with *C. cristatella*, not especially common, and always on fallen eucalypt logs, however, this species seems to prefer/be restricted to wetter and more shaded microhabitats; I've only found it in the southern bushland, and always on logs in damp swales.

Photographic voucher: https://www.inaturalist.org/observations/70241630

Parmeliaceae

20. *Flavoparmelia soredians* (Nyl.) Hale

Patches growing on a eucalypt near the first light tower along the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/68751680

21. *Xanthoparmelia* sp.

Quite common growing on rocks along the length of the creek, especially at the creek crossing, and the big kink in the creek, where large slabs of rock (some/most [?] of these sandstone) have been stacked along the banks. I assume there's likely more than one species present, but I'd need to collect specimens.

Photographic voucher: https://www.inaturalist.org/observations/69707252

Teloschistaceae

22. *Teloschistes* sp.

Growing on a *Melaleuca styphelioides* branchlet along the edge of Everley Park at the southern riverine stretch, in line with the long jump pit.

Photographic voucher: https://www.inaturalist.org/observations/62016043

Unidentified to family

23. Lecanoromycetes, unidentified

Number of patches growing on hard-packed clay, in the middle of the path leading from the northern grassy woodland into the northern bushland. Also small patches in the southern exotic grassland on exposed soil, and on rocks alongside the creek near the creek crossing. I assume there's likely more than one species present, but I'd need to collect specimens.

Photographic voucher: https://www.inaturalist.org/observations/71289753

24. Fungi, unidentified sp.2

Growing on shaded, damp, exposed clay soil along the edge of the northwestern path through the northern bushland. Somewhat *Cladia*-like.

Photographic voucher: https://www.inaturalist.org/observations/72431091

25. Fungi, unidentified sp.3

Large patches covering a large, fallen eucalypt branch in the southern bushland, close to the western arm of the creek. I suspect there's probably more than one species here.

Photographic voucher: https://www.inaturalist.org/observations/70030206

26. Fungi, unidentified sp.4

Small patches on dry, stony, exposed clay soil along the edge of the central split path. An incidental find; I was photographing the grasshopper and only noticed the fungi in the shot at home.

Photographic voucher: https://www.inaturalist.org/observations/69709065

Moulds

Phycomycetaceae

27. *Phycomyces* sp.

On the eastern bank of the southern riverine stretch, growing from a pile of dog poo.

Photographic voucher: https://www.inaturalist.org/observations/86684738

Unidentified to family

28. Fungi, unidentified sp.5

Growing on a rotting bolete in the central bushland. I'm unsure if the black and white patches are two separate species, or the same species at different stages.

Photographic voucher: https://www.inaturalist.org/observations/78197457

29. Mucorales, unidentified

Alongside the main path through the southern bushland, growing on what I think was some kind of scat (but didn't seem like dog poo).

Photographic voucher: https://www.inaturalist.org/observations/83114084

30. Pezizomycotina, unidentified

In late March 2021, I was exploring the trunk of a large *Eucalyptus grandis* at the southwestern corner of the isolated *Melaleuca* patch, when I noticed a small, dead skink underneath a bark sleeve. It was completely mummified, and covered in mould; I'm unsure if there were one or multiple species.

Photographic voucher: https://www.inaturalist.org/observations/72430438

Mushrooms

Agaricaceae

31. *Agaricus campestris* L.

One fruiting body appeared on the eastern bank of the southern riverine stretch after the heavy rains and flooding in mid to late March 2021, growing in the lawn abutting the chain-link fence. I also saw three fruiting bodies in the northern grassy woodland in mid-November 2021, after heavy rain 5-6 days earlier.

Photographic voucher: https://www.inaturalist.org/observations/72002631

32. *Agaricus* sp.1

During the heavy rains and flooding in mid to late March 2021, a number of these *Agaricus* appeared in leaf litter in the far southern bushland. Pale pink cap, with darker pink gills and stipe, turning to black.

Photographic voucher: https://www.inaturalist.org/observations/71783025

33. *Agaricus* sp.2

Several appeared in leaf litter in the southern grassy woodland during the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/72002639

34. *Agaricus* sp.3

Northern bushland among dry grass stems after the heavy rains and flooding in mid to late March 2021. Rich dark brown cap and gills.

Photographic voucher: https://www.inaturalist.org/observations/72002902

35. *Agaricus* sp.4

Two large specimens (one of them ~12 cm across the cap) appeared in leaf litter in the central bushland, just to the side of the path after crossing the central bridge, after the heavy rains and flooding in mid to late March 2021. Identified by Grace Boxshall as an undescribed native species. I returned three days later to collect a specimen, but they'd already started to decompose, with the gills turning a very dark brown. Several fruiting bodies appeared again in the same spot in late November and early December 2021 after heavy rain, but unfortunately I wasn't able to collect any again.

Fortunately, after heavy rains and flooding in mid-February to early March 2022, they re-appeared at the same spot, this time as 15-20 fruiting bodies, and I was able to collect a number of specimens.

Photographic voucher: https://www.inaturalist.org/observations/72431099

36. **Chlorophyllum molybdites* (G. Mey.) Massee

Eight or nine appeared in the lawn near the toilet block during the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/71783013

37. **Coprinus comatus* (O.F. Müll.) Pers.

Two fruiting bodies appeared at the interface between the isolated *Melaleuca* patch and the section of western exotic grassland above Melita Stadium. One was relatively 'fresh'/newly emerged, but the other had already started to seep jet-black liquid. I returned to the spot ~12 days later, and both had almost entirely dissolved. Distinct rotting fish smell.

Photographic voucher: https://www.inaturalist.org/observations/74607905

38. *Lepiota haemorrhagica* Cleland

A few scattered fruiting bodies growing in mulch/wood chips in the western alcove.

Photographic voucher: https://www.inaturalist.org/observations/70244345

39. *Lepiota* sp.

Single fruiting body in wet leaf litter in the northern bushland during the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/71783031

40. *Leucocoprinus* sp.

Single fruiting body emerging from a very thin layer of wet clay on sandstone, among a moss bed, right next to the creek crossing. Possibly in *Leucocoprinus heinemanii* complex.

Photographic voucher: https://www.inaturalist.org/observations/73285435

Amanitaceae

41. *Amanita flavella* (E.-J. Gilbert) E.-J. Gilbert & Cleland

Single fruiting body in leaf litter in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/72765655

42. *Amanita* sp.1

Large numbers of these observed in wet leaf litter in the northern bushland during a night walk in early April 2021, during/after rain. Tall and robust compared to the other *Amanita* in the reserve. I'm unsure if the entities that I've lumped into '*Amanita* sp.1' are all the one species, or if there are several similar species that I'm conflating, given I did not collect any specimens.

Photographic voucher: https://www.inaturalist.org/observations/73281396

43. *Amanita* sp.2

Appeared across the northern bushland at the same time as *Amanita* sp.1, also in wet leaf litter during/after rain. Also seen once in the central bushland in late February 2021. Less robust than *Amanita* sp.1, shorter, almost entirely white, stipe always very 'powdery' (I apologise for my ignorance of fungal terminology here). Again, as with *Amanita* sp.1, I'm not 100% sure if *Amanita* sp.2 represents one or multiple, cryptic species. I think there is a small possibility that *Amanita* sp.1 and sp.2 actually represent the same entity, however, I'm fairly confident that, in addition to *A. flavella* and *Amanita* sp.3, there are at least two other *Amanita* species in the reserve, if not more.

Photographic voucher: https://www.inaturalist.org/observations/73292377

44. *Amanita* sp.3

Several appeared (growing among mosses) in the open woodland directly above the southern exotic grassland after the heavy rains and flooding in mid to late March 2021. Brown cap.

Photographic voucher: https://www.inaturalist.org/observations/72146922

Crepidotaceae

45. *Crepidotus* sp.

Scattered along a eucalypt trunk in the far southern bushland during the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/71783024

Hydnangiaceae

46. *Laccaria* sp.1

Regularly appear in the southern exotic grassland, usually among dead grass stems on the path running along the top of this section.

Photographic voucher: https://www.inaturalist.org/observations/78196766

47. *Laccaria* sp.2

A few small patches in the open woodland directly above the southern exotic grassland, growing among mosses on damp, shaded clay. Very small, much smaller than *Laccaria* sp.1, and different enough to small fruiting bodies of *Laccaria* sp.1 for me to be comfortable the two are indeed different species.

Photographic voucher: https://www.inaturalist.org/observations/78196778

Hymenochaetaceae

48. *Coltricia* sp.

Small patch growing in exposed clay among mosses on the western bank of the creek towards the northern end of the reserve, directly alongside the water.

Photographic voucher: https://www.inaturalist.org/observations/70803516

49. *Fuscoporia* sp.

Large cluster of fruiting bodies growing from the base of a living *Eucalyptus fibrosa* in the southern bushland. Similar to *F. wahlbergii*.

Photographic voucher: https://www.inaturalist.org/observations/140481318

50. *Gymnopilus junonius* (Fr.) P.D. Orton

Hundreds growing from a large pile of wood chips/mulch in the northern grassy woodland. Also some growing from a large, fallen eucalypt log along the southern riverine stretch, near the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/78802685

51. *Gymnopilus* sp.1

Single fruiting body growing from a damp, fallen eucalypt log in the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/86684748

52. *Gymnopilus* sp.2

Two fruiting bodies emerging from a damp, fallen *Melaleuca* bark sheet at the interface between the far southern bushland and the southern exotic grassland. Pale colouration. Similar to *G. allantopus*.

Photographic voucher: https://www.inaturalist.org/observations/84942922

53. Hymenochaetaceae, unidentified

One large individual growing at the base of a large *Eucalyptus moluccana* in the far southern bushland, and two smaller individuals growing at ~eye height on a large eucalypt trunk at the southwestern corner of the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/101251025

Marasmiaceae

54. *Marasmius elegans* (Cleland) Grgur.

Small patch in leaf litter in the central bushland, close to the western arm of the creek, after the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/72146935

55. Marasmiaceae, unidentified

Single, spindly fruiting body emerging from a clay bank of the western arm of the creek, near the central bridge, after the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/72002898

Mycenaceae

56. *Hemimycena* sp.

Hundreds of tiny fruiting bodies on a *Eucalyptus fibrosa* trunk during the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/71783022

57. *Mycena* sp.

Appeared in a small hollow in the side of a *Eucalyptus fibrosa* trunk in the southern bushland after the heavy rains and flooding in mid to late March 2021. Also appeared in large numbers on several dead, standing eucalypts in the southern bushland after heavy rains and flooding in mid-February to early March 2022

Photographic voucher: https://www.inaturalist.org/observations/107806605

Niaceae

58. *Merismodes fasciculata* (Schwein.) Donk

Small patches growing over the base of a *Eucalyptus fibrosa* trunk, appearing during the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/71783030

Physalacriaceae

59. *Hymenopellis* sp.

One of the more common macrofungi throughout the survey area. Mostly along the southern riverine stretch, usually growing among weeds, but also seen in the western alcove, northern grassy woodland, and southern bushland. I suspect it's *H. gigaspora* or similar.

Photographic voucher: https://www.inaturalist.org/observations/72760327

Pleurotaceae

60. *Hohenbuehelia* sp.

Two fruiting bodies on a eucalypt trunk along the southern riverine stretch, near the third light tower. They seemed somewhat old/desiccated. I've also seen something vaguely similar on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot (https://www.inaturalist.org/observations/100670998), but have no idea if these are the same species.

Photographic voucher: https://www.inaturalist.org/observations/90750940

61. *Resupinatus* sp.

Scattered across a eucalypt trunk in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/71289221

Psathyrellaceae

62. *Candolleomyces* sp.

Medium-sized patch appeared on the eastern bank of the southern riverine stretch, near the big kink in the creek, after the heavy rains and flooding in mid to late March 2021. Growing among a big patch of *Modiola caroliana*.

Photographic voucher: https://www.inaturalist.org/observations/72002632

63. *Coprinellus* sp.

Observed during a night walk, scattered throughout the far southern bushland after rain in mid-February 2021.

Photographic voucher: https://www.inaturalist.org/observations/69789344

64. *Coprinellus* sect. *Setulosi*

I found a large chunk of Javan Rusa scat in the southern bushland with a number of caps poking out of it; cutting the scat open revealed a number of fungi throughout, some entirely contained within the scat.

Photographic voucher: https://www.inaturalist.org/observations/86684745

65. *Coprinopsis* sp.

One desiccated fruiting body among bark sleeves/litter in the southern bushland, close to the creek near the green mesh track.

Photographic voucher: https://www.inaturalist.org/observations/72430453

66. *Parasola* sp.

Small patch along the edge of Everley Park at the southern riverine stretch, growing among a big patch of *Bidens pilosa*.

Photographic voucher: https://www.inaturalist.org/observations/63627191

Russulaceae

67. *Russula rosea* Pers.

Single fruiting body in wet leaf litter in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/87824996

Schizophyllaceae

68. *Schizophyllum commune* Fr.

Several dried out fruiting bodies seen on a large fallen log at the far northwestern corner of the central bushland, and on a dead branch in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/138800492

Strophariaceae

69. *Leratiomyces ceres* (Cooke & Massee) Spooner & Bridge

A few scattered fruiting bodies growing in mulch/wood chips in the western alcove.

Photographic voucher: https://www.inaturalist.org/observations/74609071

Tricholomataceae

70. *Leucopaxillus* sp.

Single fruiting body emerging from bark litter after the heavy rains and flooding in mid to late March 2021, at the interface between the isolated *Melaleuca* patch and the section of western exotic grassland above Melita Stadium.

Photographic voucher: https://www.inaturalist.org/observations/72430436

Unidentified to family

71. Agaricomycetes, unidentified sp.1

Only seen growing in damp beds of the moss *Campylopus introflexus* in the open woodland directly above the southern exotic grassland, and along the western edge of the northwestern path through the northern bushland. Quite small.

Photographic voucher: https://www.inaturalist.org/observations/60173052

72. Agaricomycetes, unidentified sp.2

Small patch in wet leaf litter in the northern bushland. Possibly Russulaceae, but I'm unsure. Pale caramel colour.

Photographic voucher: https://www.inaturalist.org/observations/71289756

73. Agaricomycetes, unidentified sp.3

Single fruiting body emerging from heavy clay on the northern bank of the western arm of the creek, near the central bridge. Relatively large.

Photographic voucher: https://www.inaturalist.org/observations/70030212

74. Agaricomycetes, unidentified sp.4

Single fruiting body emerging from a large, fallen eucalypt log along the edge of the central split path, during the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/71783032

75. Agaricomycetes, unidentified sp.5

Multiple patches growing in wet bark/leaf litter on the northern edge of the northern bushland, during the heavy rains and flooding in mid to late March 2021. Fruiting bodies very delicate and easily broken. Possibly *Leucoprinus*.

Photographic voucher: https://www.inaturalist.org/observations/71783039

76. Agaricomycetes, unidentified sp.6

Single fruiting body emerging from the same large, fallen eucalypt log along the edge of the central split path as 'Agaricomycetes, unidentified sp.4', but a few days after the heavy rains and flooding in mid to late March 2021. Possibly an *Amanita*.

Photographic voucher: https://www.inaturalist.org/observations/72146946

77. Agaricomycetes, unidentified sp.7

Scattered across a *Eucalyptus fibrosa* trunk in the southern bushland after the heavy rains and flooding in mid to late March 2021.

Photographic voucher: https://www.inaturalist.org/observations/72431083

78. Agaricomycetes, unidentified sp.8

Growing from a dead eucalypt leaf in the southern bushland. Very spindly, with tiny caps.

Photographic voucher: https://www.inaturalist.org/observations/72762570

79. Agaricomycetes, unidentified sp.9

Single fruiting body emerging underneath a blown-in metal sign at the interface between the western exotic grassland and southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/76505961

Parasitic fungi

Cordycipitaceae

80. Cordycipitaceae, unidentified

Emerging from a dead, non-native weevil (*Naupactus peregrinus*) at the patch of fallen *Melaleuca* bark sheets.

Photographic voucher: https://www.inaturalist.org/observations/69789467

Entomophthoraceae

81. *Entomophthora* sp.

Parasitising a muscid fly (likely *Helina* sp.) in the northern bushland. The fungus had already caused the fly to crawl to the top of a branch and spread its wings, with spores streaming off into the air.

Photographic voucher: https://www.inaturalist.org/observations/58476763

Hypocreaceae

82. *Hypomyces* sp.

Growing over 'Boletaceae, unidentified sp.2' in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/90108942

Unidentified to family

83. Fungi, unidentified sp.6

Seen parasitising a planthopper on a *Eucalyptus fibrosa* ('Fulgoroidea, unidentified sp.3') in the central bushland.

Photographic voucher: https://www.inaturalist.org/observations/141680214

Puffballs

Geastraceae

84. *Geastrum* sp.1

Not uncommon along the edges of the carpark immediately below the reserve, almost always in dry bark/stick litter. Also seen on the eastern bank of the southern riverine stretch. Smaller than *Geastrum* sp.2, very easily disturbed/dislodged from the soil.

Photographic voucher: https://www.inaturalist.org/observations/58816036

85. *Geastrum* sp.2

A small patch appeared along the western creek bank near the metal stairway at the northern end of the reserve, during/after rain in early April 2021. I suspect they're probably *G. triplex* based on how large they were, but I'm not confident enough to eliminate *G. saccatum*.

Photographic voucher: https://www.inaturalist.org/observations/73281377

86. *Geastrum tenuipes* Berk.

Number of individuals found growing in mulch/wood chips in the western alcove after heavy rain in early October 2021. Only the 'head' (inner peridium) of each was actually at the surface, with the rest of the fruiting body beneath the mulch. Interestingly, I also found several individuals in quite dry, very stony exposed clay along the central split path.

Photographic voucher: https://www.inaturalist.org/observations/97984449

Lycoperdaceae

87. *Calvatia* sp.

Single large fruiting body in the lawn near the toilet block.

Photographic voucher: https://www.inaturalist.org/observations/97984401

88. Lycoperdaceae, unidentified sp.1

Single fruiting body alongside the creek at the far northern end of the southern riverine stretch, near the ancient eucalypt hybrid.

Photographic voucher: https://www.inaturalist.org/observations/70027353

89. Lycoperdaceae, unidentified sp.2

Large (~9 cm across) fruiting body at the eastern edge of the northern bushland, growing in wet leaf litter. It wasn't soft per se, but had zero structural integrity; poking it was like poking an empty paper bag filled with air, as if touching it too hard would make it collapse. I returned to it six days after originally finding it; it was still there, but starting to rot.

Photographic voucher: https://www.inaturalist.org/observations/86684749

90. *Lycoperdon* sp.

Not uncommon scattered throughout the reserve proper, almost always on exposed clay soil, sometimes among mosses. Seen in the southern bushland, northern bushland, and the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/72762567

Rusts and diseases

Melampsoraceae

91. **Melampsora lini* (Ehrenb.) Lév.

Growing on *Linum marginale* leaves (seen on multiple individuals) at the eastern edge of the central bushland, and along the central split path.

Photographic voucher: https://www.inaturalist.org/observations/96333846

Pucciniaceae

92. **Puccinia malvacearum* Bertero ex Mont.

Growing on the underside of *Malva parviflora* leaves in the carpark immediately below the reserve, and on *Malva neglecta* leaves in the western split grassland.

Photographic voucher: https://www.inaturalist.org/observations/58816031

93. **Puccinia thaliae* Dietel

First observed in early/mid-February 2021, afflicting many of the *Canna indica* in the large *Canna indica* patch at the southern end of the reserve. It seems to have had a considerable impact on the patch, with many of the plants dying off during the ensuing month.

Photographic voucher: https://www.inaturalist.org/observations/69445248

Raveneliaceae

94. *Uromycladium* sp.

Prolific fungal galls on an *Acacia brownii* in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/138799803

Unidentified to family

95. Fungi, unidentified sp.7

I'm fairly confident this is indeed a fungus. Afflicting a *Lophostemon confertus* leaf at the southern end of the southern riverine stretch, near the large *Corymbia citriodora*. Superficially similar to the *Coniella eucalyptorum* (family Schizoparmaceae) pictured in Figure 1A in Alvarez et al. 2016.

Photographic voucher: https://www.inaturalist.org/observations/90752541

96. Fungi, unidentified sp.8

As above, fairly sure this is a fungus (but not 100% sure). Seen on *Cayratia clematidea* near the empty lot, mostly the leaves, and slowly killing the plant. I've seen the same thing in multiple other locations in Sydney as well, including Garigal NP, Warriewood Wetlands, and Moore Park.

Photographic voucher: https://www.inaturalist.org/observations/134957350

Sac fungi

Ascobolaceae

97. Ascobolaceae, unidentified

Growing on the same scat in the southern bushland as 'Mucorales, unidentified'.

Photographic voucher: https://www.inaturalist.org/observations/83114085

Helotiaceae

98. *Phaeohelotium baileyanum* Baral & R. Galán

Appeared in large numbers in the southern grassy woodland in mid-May 2021.

Photographic voucher: https://www.inaturalist.org/observations/78802676

Pyronemataceae

99. *Pyronema* sp.

Quite an intriguing case. I found several small patches of this fungus growing on damp, exposed clay in the middle of the northwestern path in the northern bushland in late March 2021. However, this genus typically grows in response to fires, and there have been no fires in that section of the reserve since at least mid-2020, likely longer. And indeed, in the week or two before I found the patches, the entire path was actually underwater from heavy rains and flooding. I'm fairly confident my identification is correct, so I'm unsure how to explain this occurrence.

Photographic voucher: https://www.inaturalist.org/observations/72431096

Shelf fungi

Polyporaceae

100. *Cerioporus varius* (Pers.) Zmitr. & Kovalenko

Large patch in wet leaf litter in the southern bushland, after rain in early April 2021.

Photographic voucher: https://www.inaturalist.org/observations/73292369

101. *Coriolopsis* sp.

Growing on a fallen *Melaleuca* branch at the northwestern corner of the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/72002645

102. *Hexagonia vesparia* (Berk.) Ryvarden

Appeared on deadwood in the southern bushland during rain in early April 2021.

Photographic voucher: https://www.inaturalist.org/observations/73284441

103. *Lentinus arcularius* (Batsch) Zmitr.

Fairly common, and relatively widespread throughout the reserve proper, including in the far southern bushland, northern grassy woodland, southern grassy woodland, and central bushland along the western arm of the creek. Often appears in large numbers after rain.

Photographic voucher: https://www.inaturalist.org/observations/59865010

104. Polyporaceae, unidentified

Not uncommon in the southern and central bushland, always growing on slender *Melaleuca* trunks.

Photographic voucher: https://www.inaturalist.org/observations/70025236

105. *Pseudofavolus tenuis* (Fr.) G. Cunn.

Growing on a damp, rotting, fallen eucalypt log in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/81530308

106. *Trametes coccinea* (Fr.) Hai J. Li & S.H. He

Somewhat common throughout the reserve proper on fallen branches and logs, especially in the southern, central and northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/84942925

Unidentified to family

107. Polyporales, unidentified

Growing on a large tree trunk (I can't remember the genus) in the northern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/43272683

Stinkhorns

Phallaceae

108. *Aseroe rubra* Labill.

I've found this species growing in mulch/wood chips after rain elsewhere in Sydney, so after the heavy rains and flooding in mid to late March 2021, I searched the western alcove, which is filled with mulch/wood chips, in the hope some may have emerged. Luckily my hunch was correct, and I found a single desiccated fruiting body (must have emerged during the rain). I then found a further 6-7 individuals (fresher/not as desiccated as the first) in early September 2021, also in the western alcove, under a large blown-in corflute sign; interestingly this was after a period with very little rain. I found another 2 individuals, one of these 8 cm across (even being a little desiccated; easily the largest one I've ever found), after heavy rain in early October 2021, under the same sign as the September individuals.

Photographic voucher: https://www.inaturalist.org/observations/97986804

Unsure of placement

Punctulariaceae

109. *Punctularia strigosozonata* (Schwein.) P.H.B. Talbot

Growing on a large, fallen eucalypt log in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/63627199

Unidentified to family

110. Agaricomycetes, unidentified sp.10

Several patches growing at the base of a large, living eucalypt in the northern bushland.

Photographic voucher: https://www.inaturalist.org/observations/102156604

111. Fungi, unidentified sp.9

Growing on a eucalypt at the far southern end of the southern riverine stretch, near the creek crossing. It's similar to *Phlebiopsis crassa*, in which case it would be a shelf fungus, but I'm not confident enough to identify it definitively.

Photographic voucher: https://www.inaturalist.org/observations/78803740

112. Fungi, unidentified sp.10

A number of patches growing on a large, rain-saturated chunk of *Eucalyptus fibrosa* bark in the southern bushland. Very nodulose.

Photographic voucher: https://www.inaturalist.org/observations/82520150

113. Fungi, unidentified sp.11

Large patch growing on a section of exposed clay creekbank along the creek in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/82520161

Section 10 – Under-surveyed taxa

For some taxa, I'm confident that I've observed or identified all species currently present within the survey area. For some groups, however, the species I recorded during my survey are probably only scratching the surface. Some of the more obvious of these, and some of the low-hanging fruit, include:

1. **Nocturnal mammals**. My night surveys largely focused on invertebrates, with very little spotlighting targeting birds or mammals. At least six small bat species have been recorded from the reserve and general surrounding area as part of other surveys. Given I heard at least one of these species on several occasions at night, some surveys with an Anabat would be useful.

I would also be very surprised if Common Brushtail (*Trichosurus vulpecula*) and Common Ringtail Possums (*Pseudocheirus peregrinus*) were not present in the reserve, at the very least as occasional visitors.

2. **Fungi including lichens**. I recorded 113 species of fungus and lichen during my survey, but this would be the tip of the iceberg; I can only imagine how many species I missed out on observing during the constant rainfall of 2022. A lot of this diversity is probably cryptic and will require vouchering specimens, microscopy, chemical tests, DNA barcoding, etc.

3. **Bryophytes**. Similarly, the bryophyte diversity I've recorded thus far is probably a fraction of the true diversity present in the reserve. Again, better sampling of these taxa would require a more focused effort, and specimen collection and microscopy.

4. **Leaf litter invertebrates**. I did little to no leaf litter sampling during my survey. Collecting a few samples and sifting through them in a lab with a microscope would probably yield hundreds of micro-invertebrates pretty easily.

5. ***Plantago***. I think I'm also underestimating the native *Plantago* diversity in the survey area, and that closer inspection would reveal an extra species or two; possibly *P. varia* and/or *P. gaudichaudii*.

6. ***Vittadinia***. Ditto *Plantago*, possibly at least one more species present in the reserve that I'm currently overlooking.

7. ***Verbena***. As above, with several more species possibly present (non-natives, e.g. *V. incompta*).

8. ***Gamochaeta.*** As above.

9. ***Lepidosperma.*** As above.

10. **Aquatic taxa**. My surveying of water bodies has largely been restricted to standing water in swales, and only around the edges/shallow areas. There is likely a diverse community of aquatic invertebrates in Duck River proper, and in the deeper reaches of the larger flooded swales in the reserve, that I have missed entirely thus far. Similarly, there are almost certainly more aquatic plants (especially fully submerged species) that I am yet to observe.

11. **Grasses**. Although I observed 71 grass species during my survey, I'm certain there are more species present that either I've overlooked, or which haven't appeared yet due to lack of favourable conditions. Greater collection of specimens needed to really get on top of this group.

12. **Galls and leaf miners**. I've recorded a fair number of galling and mining species, but there are certainly many more that I've yet to find (and likely unrealised cryptic diversity within those that I have recorded). Rearing will be a must to identify many of these.

Section 11 – References

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Section 12 – Version history

Version 1.0 – released 5 December 2022

Summary:

- Initial release

Version 1.1 – released 17 December 2022

Summary:

- New section added
- 2 new species added/identified from existing observations
- Refined identification for 2 species
- Coarsened identification for 2 species (both still maintained as unique morphospecies)
- Description updated for 1 species
- Photographic voucher updated for 1 species
- Correction of 1 factual error
- Updated non-native plant species count
- Updated number of iNaturalist identifiers
- Total species count updated to 1928.

Details:

- Section 12, 'Version history', added to clearly document changes made with each new version
- New species of huntsman added after new identification added to existing observation: *Heteropoda jugulans*
- New species of eucalypt added after correcting identification added to existing observation: *Eucalyptus albens*
- Existing ant species, 'Myrmicinae, unidentified sp.1', refined to *Tetramorium* sp. (and thus 'Myrmicinae, unidentified sp.2' becomes 'Myrmicinae, unidentified sp.1', and 'Myrmicinae, unidentified sp.3' becomes 'Myrmicinae, unidentified sp.2')
- Existing ladybird species, 'Coccinellidae, unidentified sp.2', refined to 'Coccidulinae, unidentified' (and thus 'Coccinellidae, unidentified sp.1' becomes 'Coccinellidae, unidentified')
- Existing chrysomelid species, *Lamprolina aeneipennis*, was misidentified, so downgraded to *Lamprolina* sp. Also updated photographic voucher
- Existing mushroom species, *Formitiporia robusta*, was misidentified, so downgraded to 'Hymenochaetaceae, unidentified'
- Updated description for ant species, *Nylanderia* sp., and changed photographic voucher, after identification of existing observation added a new record
- In Section 1, under the subsection 'Historical surveys', corrected the statement that Gibson's unpublished 1990 list was meant to be published as 'Appendix No. One' in the *Duck River Open-Space Bushland Survey*. Appendix No. One was actually meant to be Price's 1988 list, and Gibson's list was meant to be published as an **addendum** to Appendix No. One, with neither being published
- In Section 3, updated the number of non-native plant species from 308 to 309

- In Section 1, updated the number of iNaturalist identifiers from 687 to 690
- Total species count updated from 1926 to 1928.

Version 1.2 – released 12 January 2023

Summary:

- 3 new species added/identified from existing observations
- Refined identification for 2 species
- Coarsened identification for 1 species (still maintained as unique morphospecies)
- Description updated for 1 species
- Photographic voucher updated for 1 species
- 1 species removed, merged with existing species
- Updated native plant species count
- Updated number of iNaturalist identifiers
- Total species count updated to 1930.

Details:

- New species of *Rubus* added after correcting identification added to existing observation: *Rubus parvifolius*
- New species of jumping spider added after new identification added to existing observation: *Paraphilaeus daemeli*
- New species of triangular spider added after new identification added to existing observation: *Arkys* sp.
- Existing weevil species, *Leptopius* sp., refined to *Leptopius robustus*
- Existing darkling beetle species, 'Alleculini, unidentified sp.1', refined to *Euomma lateralis* (and thus 'Alleculini, unidentified sp.2' becomes 'Alleculini, unidentified sp.1', and 'Alleculini, unidentified sp.3' becomes 'Alleculini, unidentified sp.2')
- Existing lycid beetle species, *Trichalus* sp., downgraded to 'Metriorrhynchini, unidentified', description updated, and photographic voucher updated
- Updated description for *Artoria* sp. after identification of existing observation added a new record
- Removed 'Araneinae, unidentified' due to uncertainty over identification, and text moved to description for *Plebs eburnus*
- In Section 3, updated the number of non-native plant species from 287 to 288
- In Section 1, updated the number of iNaturalist identifiers from 690 to 695
- Total species count updated from 1928 to 1930.

Version 1.3 – released 14 June 2023

Summary:

- New section added
- 1 new species added/identified from existing observations
- Refined identification for 8 species
- Coarsened identification for 2 species (still maintained as unique morphospecies)
- Description updated for 28 species

- Photographic voucher updated for 9 species
- 6 species removed, merged with existing species
- Adjusted 1 species name
- One to one name change for 2 species
- Amended or added phenology data for 9 plant species
- Added 1 new reference
- Updated list of vouchered plant species
- Correction of 1 typo
- Rewrote 1 section
- Family name amended for 1 species
- Updated number of iNaturalist identifiers
- Total species count updated to 1925

Details

- Section 13, 'Continuing surveys (11 November 2022 onwards)', added to document continued observations made within the survey area
- New species of lycid beetle added after new identification added to existing observation: *Trichalus ampliatus*
- Existing fungus species, 'Hymenochaetales, unidentified', refined to *Punctularia strigosozonata* and moved from 'mushroom' to 'unsure of placement' category
- Existing darkling beetle species, *Adelium* sp., refined to *Adelium brevicorne*
- Existing darkling beetle species, *Seirotrana* sp., refined to *Seirotrana catenulata*
- Existing fungus species, *Merismodes* sp., refined to *Merismodes fasciculata*
- Existing ostracod species, 'Ostracoda, unidentified sp.1', refined to 'Podocopida, unidentified' (and thus 'Ostracoda, unidentified sp.2' becomes 'Ostracoda, unidentified')
- Existing pseudoscorpion species, 'Pseudoscorpiones, unidentified', refined to 'Tridenchthoniinae, unidentified' (and thus placed into the family Tridenchthoniidae)
- Existing spider species, *Arkys* sp., refined to *Arkys lancearius*
- Existing leaf beetle species, *Calomela* sp., refined to *Calomela juncta*
- Existing fungus species, 'Zygomycota, unidentified', was misidentified, so downgraded to 'Fungi, unidentified sp.5' (and thus all the entities covering 'Fungi, unidentified sp.5' to 'Fungi, unidentified sp.10' all moved up one number)
- Existing millipede species, *Heterocladosoma bifalcatum*, downgraded to *Heterocladosoma* sp.
- Based on new information, corrected identifications, clarifying notes, etc., updated descriptions for: *Leptocneria reducta*, *Euomma lateralis,* 'Metriorrhynchini, unidentified', 'Lycidae unidentified', *Stenocotis depressa*, *Clavulina* sp.2, *Solanum nigrum, Solanum chenopodioides, Colocasia esculenta, Amorbus atomarius, Heteropoda jugulans, Pholodes sinistraria,* 'Luperini, unidentified', *Eucalyptus paniculata, Casuarina cunninghamii, Apiomorpha munita, Portacosa cinerea, Venator spenceri, Arkys lancearius, Austrostipa rudis, Lysimachia arvensis,* 'Cyanobacteria, unidentified sp.2', 'Insecta, unidentified sp.12', *Heterocladosoma* sp., *Adelium brevicorne, Glycyphana stolata, Philobota* sp., and *Calomela juncta*
- Photographic vouchers updated for *Ipomoea purpurea, Homalanthus populifolius, Colepia malleola, Popplepsalta notialis, Stenocotis depressa*, *Heteropoda jugulans*, *Syneora emmelodes, Glycyphana stolata,* and *Calomela juncta*

- Removed ‘Insecta, unidentified sp.2’ due to new identification, and text moved to description for *Apiomorpha munita* (and thus all the entities covering ‘Insecta, unidentified sp.3’ to ‘Fungi, unidentified sp.13’ all moved down one number)
- Removed *Heteropoda longipes* due to misidentification, and text moved to description for *Heteropoda jugulans*
- Removed *Amorbus alternatus* due to uncertainty over identification, and text moved to description for *Amorbus atomarius*
- Removed ‘Sterrhinae, unidentified’ due to misidentification
- Removed *Hyposidra talaca* due to misidentification, and text moved to description for *Pholodes sinistraria*
- Removed ‘Araneinae, unidentified’ due to uncertainty over identification, and text moved to description for *Plebs eburnus*
- Removed ‘Styloniscidae, unidentified’ due to misidentification
- *Austrostipa rudis* subsp. *australis* adjusted to *Austrostipa rudis* to reflect the additional presence of *Austrostipa rudis* subsp. *rudis* within the reserve
- Moth species *Nemophora sparsella* updated to *Nemophora laurella* to reflect name change
- Moth species *Proteuxoa cinereicollis* changed to *Proteuxoa testaceicollis* to correct misidentification
- Missing flowering times added, or incorrect times amended, for 9 plant species: *Xanthorrhoea minor* subsp. *minor, Calotis lappulacea, Calotis cuneifolia, Lobelia anceps, Goodenia paniculata, Linum marginale, Leptospermum trinervium, Leucopogon juniperinus, Melia azedarach*
- Following reference added: Jiménez-López, F.J., Viruel, J., Arista, M., Ortiz, P.L. and Talavera, M., 2022. Molecular approaches reveal speciation between red-and blue-flowered plants in the Mediterranean *Lysimachia arvensis* and *L. monelli* (Primulaceae). Botanical Journal of the Linnean Society, 199(2), pp.557-577.
- Updated list of vouchered plants with 23 additional species
- Corrected ‘Judith Rawlings’ to ‘Judith Rawling’ for all uses
- Rewrote the ‘Historical Surveys’ section on page 6 to amend some errors, and also remove information that will appear (more accurately) in an upcoming paper I’m working on.
- Family name for *Agapanthus praecox subsp. orientalis* amended from Alliaceae to Agapanthaceae
- In Section 1, updated the number of iNaturalist identifiers from 695 to 722
- Total species count updated from 1930 to 1925.

Version 1.4 – released 15 October 2023

Summary:

- Section 13 updated with additional survey data from 2023
- 2 new species added/identified from existing observations
- Refined identification for 10 species
- Coarsened identification for 2 species (still maintained as unique morphospecies)
- Description updated for 29 species
- Photographic voucher updated for 4 species
- 1 species removed
- Adjusted 1 species name
- One to one name change for 4 species

- Added 1 new reference, and removed 1 reference
- Correction of assorted typos
- Family name amended for 1 species
- Updated native and non-native plant species counts
- Updated number of iNaturalist identifiers
- Total species count updated to 1926.

Details

- Section 13, 'Continuing surveys (11 November 2022 onwards)', updated to document continued observations made within the survey area in 2023, including additional records observed by James K. Douch, Russell Barrett, and Nick Lambert
- New tree species added after new identification added to existing observation: *Auranticarpa rhombifolia*
- New grass species added after new identification added to existing observation: *Eragrostis lugens*
- Existing katydid species, *Pseudorhynchus* sp., refined to *Pseudorhynchus lessonii*
- Existing butterfly species, *Trapezites* sp., refined to *Trapezites praxedes*
- Existing spider species, *Scotospilus* sp., refined to *Scotospilus ampullaria* (and thus '*Scotospilus* sp.2' becomes '*Scotospilus* sp.')
- Existing katydid species, *Conocephalus* sp. 1, refined to *Conocephalus upoluensis*
- Existing katydid species, *Conocephalus* sp. 2, refined to *Conocephalus semivittatus* subsp. *semivittatus*
- Existing dermestid beetle species, 'Dermestidae, unidentified sp.1', refined to *Trogoderma froggatti*
- Existing dermestid species, 'Dermestidae, unidentified sp.2', refined to *Trogoderma* sp.
- Existing scarab beetle species, 'Aphodiinae, unidentified', refined to *Ataenius* sp.
- Existing darkling beetle species, 'Alleculini, unidentified sp.1, refined to *Lepturidea* sp.
- Existing darkling beetle species, 'Alleculini, unidentified sp.2, refined to *Nocar* sp.
- Existing millipede species, 'Haplodesmidae, unidentified', downgraded to 'Polydesmida, unidentified sp.5'
- Existing woodlouse species, *Spherillo* sp., downgraded to 'Armadillidae, unidentified'
- Based on new information, corrected identifications, clarifying notes, etc., updated descriptions for: *Lomandra filiformis, Digitaria didactyla, Lactuca virosa, Dolichandra unguis-cati, Gamochaeta calviceps, Gamochaeta impatiens, Gamochaeta pensylvanica, Gamochaeta* sp., *Genista monspessulana, Melaleuca thymifolia, Sorghum halepense, Senecio pinnatifolius, Senecio madagascariensis, Stenotaphrum secundatum, Diuris maculata, Eucalyptus paniculata, Lantana camara, Pseudorhynchus lessonii, Odontomyia* sp.1, 'Agraeciini, unidentified', *Ficus rubiginosa, Chromatomyia syngenesiae, Oplismenus hirtellus, Conocephalomima barameda, Conocephalus upoluensis, Lepidosperma laterale, Trogoderma froggatti, Lysimachia arvensis,* and *Lepturidea* sp.
- Photographic vouchers updated for *Lantana camara*, *Polypogon lutosus, Macadamia integrifolia,* and *Stenotaphrum secundatum*
- Removed *Dactylis glomerata* due to misidentification
- *Lomandra filiformis* subsp. *coriacea* adjusted to *Lomandra filiformis* to reflect the presence of multiple subspecies in the reserve
- Eucalypt species *Eucalyptus saligna* changed to *Eucalyptus grandis* to correct misidentification

- Asteraceae species *Pseudognaphalium luteoalbum* changed to *Gamochaeta calviceps* to correct misidentification
- Asteraceae species *Gamochaeta coractata* changed to *Gamochaeta impatiens* to correct misidentification
- Asteraceae species *Gamochaeta purpurea* changed to *Gamochaeta* sp. to correct misidentification
- Following reference added: Johnson, S., 2007. Review of the declaration of Lantana species in New South Wales. New South Wales Department of Primary Industries. https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0011/216848/Review-of-the-declaration-of-Lantana-species-in-NSW.pdf
- Following reference removed: Klaphake, V., 2004. Key to the Commoner Species of Sedges and Rushes of Sydney and the Blue Mountains. Van Klaphake
- Corrected assorted typos and made assorted small amendments to the text, including replacing all instances of *Eucalyptus saligna* with *Eucalyptus grandis* and amending the survey date listed as 7/12/21 to 8/12/21
- Family name for *Lasiopetalum parviflorum* amended from Sterculiaceae to Malvaceae
- In Section 3, updated the number of non-native plant species from 309 to 311, and the number of native plant species from 288 to 287 (accounting for the correction of *Pseudognaphalium luteoalbum* to *Gamochaeta calviceps*, and the addition of *Auranticarpa rhombifolia*)
- In Section 1, updated the number of iNaturalist identifiers from 722 to 732
- Total species count updated from 1925 to 1926.

Version 1.5 – released 31 January 2024

Summary:

- Section 13 updated with additional survey data from 2023 and 2024
- 8 new species added/identified from existing observations
- Refined identification for 6 species
- Coarsened identification for 1 species (still maintained as unique morphospecies)
- Description updated for 24 species
- Photographic voucher updated for 4 species
- 2 species removed
- One to one name change for 3 species
- Removed 1 reference
- Correction of assorted typos
- Amended text in 2 sections
- Updated number of iNaturalist identifiers
- Total species count updated to 1932.

Details

- Section 13, 'Continuing surveys (11 November 2022 onwards)', updated to document continued observations made within the survey area in 2023 and 2024
- New herb species added after correcting identification added to existing observation: *Carduus pycnocephalus*

- New mite species added after noticing the species in an existing observation: *Cecidophyes rouhollahi*
- New moth species added after noticing overlooked observation: *Philobota* sp.3
- New moth species added after noticing overlooked observation: *Philobota* sp.4
- New fly species added after new identification added to existing observation: 'Diptera, unidentified sp.3'
- New tree species added after correcting identification added to existing observation: *Brachychiton discolor*
- New grass species added after new identification added to existing observation: *Triticum* sp.
- New grass species added after correcting identification added to existing observation: *Sporobolus fertilis*
- Existing ichneumonid wasp, 'Enicospilini, unidentified', refined to *Enicospilus coarctatus*
- Existing ptinid beetle, *Stagetomorphus* sp., refined to *Stagetomorphus lanigerus*
- Existing scale insect, 'Diaspididae, unidentified sp.1', refined to 'Diaspidini, unidentified'
- Existing scale insect, 'Diaspididae, unidentified sp.2', refined to 'Aspidiotini, unidentified'
- Existing chrysomelid beetle, 'Eumolpinae, unidentified sp.2, refined to 'Bromiini, unidentified' (and thus 'Eumolpinae, unidentified sp.1' becomes 'Eumolpinae, unidentified')
- Existing hybotid fly, *Hoplopeza* sp., refined to *Hoplopeza pulcherrima*
- Existing scoliid wasp, *Austroscolia soror*, downgraded to 'Scoliidae, unidentified'
- Based on new information, corrected identifications, clarifying notes, etc., updated descriptions for: *Stagetomorphus lanigerus,* 'Aspidiotini, unidentified', *Vulpia myuros* f. *megalura, Echinopogon ovatus, Rainbowia* sp., *Dianella caerulea, Anaphothrips carlylei, Brachychiton acerifolius, Dichondra repens, Melaleuca styphelioides, Lomandra longifolia, Macrozamia spiralis, Hoplopeza pulcherrima,* 'Ocydromiinae, unidentified', *Eragrostis brownii, Eragrostis tenuifolia, Paspalum quadrifarium, Ehrharta longiflora, Polypogon lutosus, Echinochloa crus-galli, Dichelachne micrantha, Paspalidium criniforme, Amorbus atomarius,* and *Vulpia bromoides*
- Photographic vouchers updated for *Digitaria didactyla, Hoplopeza pulcherrima, Vulpia bromoides,* and *Dianella caerulea*
- Removed *Trichilogaster* sp. due to misidentification
- Removed *Dichelachne inaequiglumis* due to misidentification
- *Xylobosca* sp. changed to *Xylopsocus* sp. to correct misidentification
- 'Prosternini, unidentified' changed to *Dicteriophorus* sp. to correct misidentification
- *Heteromicta pachytera* changed to *Philobota* sp.2 to correct misidentification
- Following reference removed: Prinsloo, G.L. and Neser, O.C., 2007. Revision of the pteromalid wasp genus *Trichilogaster* Mayr (Hymenoptera: Chalcidoidea): gall-inducers on Australian acacias. African Entomology, 15(1), pp.161-184.
- Corrected assorted typos and made assorted small amendments to the text, including adding another identifier (Harry Rose) to the acknowledgements, and editing text in Section 3
- In Section 1, updated the number of iNaturalist identifiers from 732 to 821
- Total species count updated from 1926 to 1932.

Section 13 – Continuing surveys (11 November 2022 onwards)

Since formally wrapping up my survey on 10 November 2022, I have continued to sporadically visit the survey area when I've had the spare time, and have continued to observe new species. I want my 'core' survey to stay self-contained, so I have created this section to report all new species observed after 10 November 2022, as well as make any further notes on already observed species. I have arranged this section by survey. All observations from this period can be found at this link. From 8 February 2023 onwards, my Olympus Tough TG-5 has been replaced by a Canon EOS M50 Mark II with a Canon EF-M 28mm Macro lens.

Total cumulative survey time: 26,295 minutes (438.3 hours)

Total cumulative species: 2069

Continued cumulative summary of observed species

Major group	No. of species
Algae	2
Bryophytes	24
Vascular plants	596
Birds	62
Mammals	6
Amphibians	3
Reptiles	13
Fishes	4
Nematodes	1
Segmented worms	5
Flatworms	4
Hydrozoans	1
Molluscs	12
Arachnids	136
Crustaceans	9
Myriapods	14
Entognathans	12
Insects	1042
Slime moulds	3
Cyanobacteria	2
Fungi	118

Plants

Major group	Group	Species
Algae	Epibionts	1
	Free-living	1
Bryophytes	Hornworts	1
	Liverworts	11
	Mosses	12
Vascular plants	Aquatics	7
	Climbers	38
	Graminoids	112
	Ferns	14
	Herbs	236
	Shrubs	77
	Subshrubs	16
	Succulents	17
	Trees	79

Vertebrates

Major group	Group	Species
Birds	Fishes and/or aquatic invertebrates	6
	Foliage/herbs	3
	Fruits	3
	Invertebrates	17
	Invertebrates, including aquatic	2
	Invertebrates/vertebrates	4
	Nectar/pollen	3
	Omnivorous	9
	Seeds	8
	Seeds/corms/tubers	3
	Seeds/fruits	2
	Vertebrates	2
Mammals	Bats	2
	Canids	1
	Cats	1
	Deer	1
	Rodents	1
Amphibians	Frogs	3
Reptiles	Dragons	2
	Geckos	1
	Skinks	7
	Snakes	2
	Turtles	1
Fishes	Non-perciform fishes	2
	Perciform fishes	2

Non-arthropod invertebrates

Major group	Group	Species
Flatworms	Aquatic flatworms	1
	Land planarians	3
Hydrozoans	Hydroids	1
Molluscs	Aquatic snails	5
	Land snails	3
	Slugs	4
Nematodes	Nematodes	1
Segmented worms	Earthworms	4
	Leeches	1

Arthropods

Major group	Group	Species
Arachnids	Harvestmen	1
	Mites	14
	Pseudoscorpions	1
	Scorpions	1
	Spiders	119
Crustaceans	Amphipods	2
	Copepods	1
	Ostracods	2
	Water fleas	1
	Woodlice and pillbugs	3
Myriapods	Centipedes	6
	Millipedes	7
	Pseudocentipedes	1
Entognathans	Diplurans	1
	Springtails	11
Insects	Ants	38
	Bark and book lice	5
	Bees	21
	Beetles	182
	Butterflies	27
	Caddisflies	3
	Cicadas	11
	Cockroaches	17
	Damselflies	8
	Dragonflies	10
	Earwigs	2
	Flies	173
	Grasshoppers, katydids, crickets and allies	32
	Hoppers, aphids, scale insects and allies	80
	Lacewings, antlions and allies	9
	Mantises	4
	Mayflies	2
	Moths	242
	Sawflies	3

	Silverfishes	2
	Stick insects	2
	Termites	4
	Thrips	7
	True bugs	68
	Wasps	75
	Unsure of placement	15

Slime Moulds, Cyanobacteria, and Fungi

Major group	**Group**	**Species**
Slime moulds	Myxomycetes	3
Cyanobacteria	Cyanobacteria	2
Fungi	Boletes	7
	Cankers	1
	Coral fungi	3
	Crust fungi	1
	Earthballs	1
	Jelly fungi	1
	Lichens	12
	Moulds	4
	Mushrooms	50
	Parasitic fungi	4
	Puffballs	7
	Rusts and diseases	10
	Sac fungi	3
	Shelf fungi	8
	Stinkhorns	1
	Unsure of placement	5

7 December 2022

Day or night survey: night

Survey time: 105 minutes

Cumulative survey time since 10 November 2022: 105 minutes

Grand cumulative survey time: 22,823 minutes (380.4 hours)

New species observed: 18

Cumulative new species observed since 10 November 2022: 18

Grand cumulative species count: 1950

New species

Beetles

Cerambycidae

1. *Phoracantha synonyma* Newman, 1840

Large individual seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/143903512

Chrysomelidae

2. *Faex* sp.

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/143903517

Eucnemidae

3. Eucnemidae, unidentified

Seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/143903507

Earwigs

Pygidicranidae

4. *Cranopygia lueddemanni* Srivastava, 1984

Seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/143903497

Hoppers, aphids, scale insects and allies

Flatidae

5. Flatidae, unidentified

Mating pair seen in the carpark immediately below the reserve, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/143903467

Moths

Erebidae

6. *Dasypodia selenophora* Guenée, 1852

Dead adult found in the southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/143903483

7. *Lophotoma diagrapha* Turner, 1902

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/143903552

Gelechiidae

8. Gelechiidae, unidentified sp.3

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/143903543

Oecophoridae

9. *Antipterna trilicella* (Meyrick, 1885)

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389633

10. Oecophoridae, unidentified sp.12

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/143903519

11. *Oligoloba severa* (Meyrick, 1883)

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/143903466

12. *Stathmopoda melanochra* Meyrick, 1897

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/143903556

13. *Wingia aurata* (Walker, 1864)

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/143903511

Unidentified to family

14. Gelechioidea, unidentified sp.14

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/143903463

15. Lepidoptera, unidentified sp.10

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/143903537

Spiders

Araneidae

16. *Cyclosa* sp.

One individual seen in web in northern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/143903492

Theridiidae

17. *Euryopis* sp.3

Seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/143903508

True bugs

Rhyparochromidae

18. Cleradini, unidentified

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/143903533

Notes on already observed species and other important aspects of the survey area

- *Ectropis argalea* observed at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Alternanthera philoxeroides* has greatly increased at the swale at the green mesh track, extending into the shaded, damp swale in the southern bushland.
- '*SphyrelataX*' *nefanda* observed at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Pentagonica* sp. observed at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Hygraula nitens* observed at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- Adult *Methana caneae* seen in the southern exotic grassland, during a night walk. New location in survey area for this species.
- Small *Ctenomorpha marginipennis* nymph seen at the swale at the green mesh track. New location in survey area for this species.
- Large female *Ornodolomedes* with an egg sac (https://www.inaturalist.org/observations/143903496) seen on a *Melaleuca decora* trunk in the northern bushland, during a night walk. New location in survey area for this species.
- 'Mogoplistini, unidentified' seen on a *Melaleuca decora* trunk in the northern bushland, during a night walk. New location in survey area for this species.
- 'Aprophoridae, unidentified' spittle seen on an *Ozothamnus diosmifolius* in the northern bushland, and on an *Acacia* sp. along the main path coming from the southern exotic grassland into the southern bushland, during a night walk. New locations in survey area for this species.
- Small adult Striped Marsh Frog (*Limnoynastes peronii*) seen at the swale at the green mesh track, during a night walk; first adult seen at this spot after many egg masses previously observed here.
- *Neotemnopteryx* sp. mating pair seen in the southern bushland, during a night walk.
- Adult *Eristalinus punctulatus* seen resting on an *Acacia longifolia* at the swale at the green mesh track, during a night walk. New location in survey area for this species.
- Large adult *Poltys* sp. seen in web in the southern bushland, during a night walk (https://www.inaturalist.org/observations/143903475). Unsure if same species as previously recorded *Poltys* sp.
- *Odontomyia hunteri* seen along the main path coming from the southern exotic grassland into the southern bushland, during a night walk. New location in survey area for this species.
- Large *Caedicia* sp. nymph seen on an *Acacia parramattensis* along the main path coming from the southern exotic grassland into the southern bushland, during a night walk. New location in survey area for this species.
- *Poecilopachys australasia* seen on an *Acacia parramattensis* in the southern exotic grassland, during a night walk. New location in survey area for this species.
- *Ephestiopsis oenobarella* observed at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.

19 December 2022

Day or night survey: day

Survey time: 176 minutes

Cumulative survey time since 10 November 2022: 281 minutes

Grand cumulative survey time: 22,999 minutes (383.3 hours)

New species observed: 16

Cumulative new species observed since 10 November 2022: 34

Grand cumulative species count: 1966

New species

Beetles

Buprestidae

1. *Agrilus hypoleucus* Gory & Laporte, 1837

Seen on an *Acacia decurrens* along the southern riverine stretch, next to the third light tower.

Photographic voucher: https://www.inaturalist.org/observations/144655920

2. *Melobasis* sp.2

Seen on an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/144655912

Chrysomelidae

3. Cryptocephalini, unidentified

Seen on an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/144655910

4. *Edusella* sp.

Seen on an *Acacia parramattensis* in the western exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/144657058

5. Paropsina, unidentified

Seen on an *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the toilet block.

Photographic voucher: https://www.inaturalist.org/observations/144655229

6. *Rhyparida* sp.

Seen on an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/144655247

Curculionidae

7. Mesoptiliinae, unidentified

Seen on an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch.

Photographic voucher: https://www.inaturalist.org/observations/144655918

Butterflies

Lycaenidae

8. *Jalmenus ictinus* Hewitson, 1865

Caterpillar on an *Acacia decurrens* in the southern exotic grassland, being tended to by *Iridomyrmex purpureus* ants.

Photographic voucher: https://www.inaturalist.org/observations/144657044

Flies

Chironomidae

9. *Cricotopus albitarsis* Drayson, Cranston & Krosch, 2015

Seen resting on creekside vegetation on the eastern bank of the southern riverine stretch, near the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/144655221

Herbs

Asteraceae

10. **Cichorium intybus* L.

One individual on the eastern bank of the southern riverine stretch, in line with the double long-jump pit, and a small patch also on the eastern bank, just north of the big kink in the creek.

Photographic voucher: https://www.inaturalist.org/observations/144649644

Hoppers, aphids, scale insects and allies

Cicadellidae

11. Cicadellidae, unidentified sp.4

Seen on an *Acacia parramattensis* in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/144657043

12. Cicadellidae, unidentified sp.5

Seen on an *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the toilet block.

Photographic voucher: https://www.inaturalist.org/observations/144655230

Membracidae

13. *Sextius virescens* (Fairmaire, 1846)

Adults seen on *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch, and in the northern grassy woodland

Photographic voucher: https://www.inaturalist.org/observations/144655917

Lacewings, antlions and allies

Mantispidae

14. *Spaminta minjerribae* Lambkin, 1986

Number of adults seen on *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch. A likely parasitised individual also found in the southern exotic grassland (https://www.inaturalist.org/observations/144657046).

Photographic voucher: https://www.inaturalist.org/observations/144655915

True bugs

Rhyparochromidae

15. *Daerlac nigricans* Distant, 1918

One individual seen on a *Eucalyptus fibrosa* trunk in the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/149533161

Unsure of placement

Unidentified to family

16. Insecta, unidentified sp.13

Strange woody, horned gall on *Acacia parramattensis* branchlet in the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/144657042

Notes on already observed species and other important aspects of the survey area

- *Ceraon vitta* seen on an *Acacia decurrens* in the northern grassy woodland. New location in survey area for this species.

- Numerous *Parapalaeosepsis plebeia* seen at the swale in the northern bushland. New location in survey area for this species.
- Dead *Odontomyia hunteri* seen in the southern bushland, and a live individual seen in the southern exotic grassland. New locations in survey area for this species.
- Large numbers of *Calomela juncta* on *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch. New location in survey area for this species.
- *Rayieria acaciae* seen on an *Acacia decurrens* along the edge of Everley Park at the southern riverine stretch. New location in survey area for this species. Based on the information in Namyatova and Cassis (2013), this is also a new host record.
- *Peltoschema oceanica* seen on an *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the toilet block. New location in survey area for this species.
- *Monolepta subsuturalis* seen on an *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the toilet block. New location in survey area for this species.
- *Euryopis* sp.1 seen along the edge of Everley Park at the far southern end of the survey area, on the large *Corymbia citriodora*. New location in survey area for this species.
- Emaciated, collarless Domestic Cat (*Felis catus*) seen stalking water dragons at the creek crossing (https://www.inaturalist.org/observations/144655217).
- Fourth sighting of *Vanessa itea* in the southern bushland.
- Adult female *Psilota auricauda* seen flying around a *Eucalyptus fibrosa* in the southern bushland.
- *Heteromastix* sp. abundant on *Acacia parramattensis* in the southern exotic grassland, northern grassy woodland, and along the edge of Everley Park at the southern riverine stretch.
- *Rumex conglomeratus* now abundant along the creek and across the various swales within the survey area, especially the shaded, damp swale in the southern bushland. Small patch of *Cestrum aurantiacum* seen at the boundary between the southern exotic grassland and the open woodland directly above it. New location in survey area for this species.
- The carpark immediately below the reserve has now been paved with loose gravel, destroying the large patch of exposed dirt that always floods/becomes a huge puddle after rain (which was important damselfly habitat). Additionally, large quantities of soil have been pushed/dumped onto the native vegetation along the edge of the carpark, killing a number of individuals.
- All swales in the entire survey area have dried up, even the swale in the northern bushland.
- At the swale to the immediate right of the main path coming from the southern exotic grassland, the leaf litter and soil is teeming with thousands of Talitridae (presumably 'Talitridae, unidentified sp.1').
- After appearing sometime in October 2022, all *Triptilodiscus pygmaeus* have now disappeared from above ground.
- The bryophytes lining the path in the open woodland directly above the southern exotic grassland have once again all desiccated/disappeared.
- All of the *Mentha diemenica* seems to have been destroyed (pulled/sprayed/mown?); all surrounding weeds at the patch have also been cleared, so presumably collateral damage.
- Small patch of *Petroselinum crispum* seen on the eastern bank of the southern riverine stretch, in line with the double long-jump pit. New location in survey area for this species.
- Additional small patches of *Apium graveolens* seen on the eastern bank of the southern riverine stretch at new locations.

15 January 2023

Day or night survey: day

Survey time: 84 minutes

Cumulative survey time since 10 November 2022: 365 minutes

Grand cumulative survey time: 23,083 minutes (384.7 hours)

New species observed: 3

Cumulative new species observed since 10 November 2022: 37

Grand cumulative species count: 1969

New species

Moths

Gracillariidae

1. *Phyllocnistis diaugella* Meyrick, 1880

Leaf mining observed on *Breynia oblongifolia* leaves in the southern bushland and southern grassy woodland. Almost certainly like *Phytoliriomyza pittosporophylli*, in that this species would have been present in the survey area throughout my survey, but I just overlooked it. Also almost certainly more widely distributed in the reserve to match the distribution of *B. oblongifolia*.

Photographic voucher: https://www.inaturalist.org/observations/146580707

Rusts and diseases

Phragmidiaceae

2. *Phragmidium* sp.

Extensive infection on *Rubus anglocandicans* leaves in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/146580977

Unsure of placement

Unidentified to family

3. Insecta, unidentified sp.14

Several larvae observed on underside of *Rubus anglocandicans* leaves in the southern grassy woodland, among *Phragmidium* sp.

Photographic voucher: https://www.inaturalist.org/observations/146580704

Notes on already observed species and other important aspects of the survey area

- Several large *Persicaria lapathifolia* are now present at the large patch of bare soil near the creek-spanning pipe, presumably introduced during the public works in 2022.
- Increasingly large patches of *Tradescantia fluminensis* invading the central bushland from along the western arm of the creek.
- *Dipodium punctatum* observed flowering.
- Large patch of *Crocosmia* × *crocosmiiflora* seen in the central bushland along the edge of the central split path. New location in survey area for this species.
- More patches of *Araujia sericifera* found in the southern bushland.
- Large *Pseudomantis albofimbriata* nymph seen in the southern bushland. New location in survey area for this species.
- *Plebs bradleyi* now quite common in the southern bushland and central bushland.
- Numerous *Doratifera vulnerans* caterpillars seen on eucalypt leaves at the western end of the open woodland directly above the southern exotic grassland. New location in survey area for this species.

15 January 2023

Day or night survey: night

Survey time: 64 minutes

Cumulative survey time since 10 November 2022: 429 minutes

Grand cumulative survey time: 23,147 minutes (385.8 hours)

New species observed: 12

Cumulative new species observed since 10 November 2022: 49

Grand cumulative species count: 1981

New species

Ants

Formicidae

1. *Colobopsis macrocephala* (Erichson, 1842)

Winged queen seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/146605517

Beetles

Elateridae

2. Oophorini, unidentified

Seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/146605519

Scarabaeidae

3. **Cyclocephala signaticollis* Burmeister, 1847

Dead individual seen in a *Hortophora* web in the southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/146605505

Hoppers, aphids, scale insects and allies

Dictyopharidae

4. Dictyopharidae, unidentified

Seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/146605542

Mites

Unidentified to family

5. Acari, unidentified

Extremely small individuals (1 mm or smaller) seen on top of metal fence post at the central bridge, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/146605511

Moths

Crambidae

6. *Eudonia aphrodes* Meyrick, 1885

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/146605521

Gelechiidae

7. Gelechiidae, unidentified sp.4

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. Possibly *Ardozyga*.

Photographic voucher: https://www.inaturalist.org/observations/146605535

Geometridae

8. *Prasinocyma semicrocea* (Walker, 1861)

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/146605525

Noctuidae

9. *Athetis tenuis* (Butler, 1886)

Seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/146605537

Oecophoridae

10. Oecophoridae, unidentified sp.13

Seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/146605522

11. Oecophoridae, unidentified sp.14

Seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/146605515

True bugs

Rhyparochromidae

12. *Gyndes* sp.

Seen in the southern bushland, during a night walk. Similar to *G. cincticornis*, but possibly undescribed.

Photographic voucher: https://www.inaturalist.org/observations/146605506

Notes on already observed species and other important aspects of the survey area

- *Ectropis argalea* seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Compsotropha strophiella* seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Pogonortalis doclea* seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup.
- Lebiini, unidentified seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Thudaca circumdatella* seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species. This species now consistently turns up to most moth sheets I run in the survey area.
- *Yoyetta celis* seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup.
- *Ephestiopsis oenobarella* seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- Unidentified caterpillar seen feeding on *Clematis glycinoides* in the southern bushland, during a night walk. Unsure if a new species, or matchable to an already observed moth species in the reserve. https://www.inaturalist.org/observations/146605514.
- Possibly *Methana convexa* with egg case seen in the southern bushland, during a night walk.
- More *Ctenomorpha marginipennis* nymphs seen on *Acacia parramattensis* at the swale at the green mesh track, during a night walk.
- *Mallada tripunctatus* seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Ischnura aurora* seen at night in the southern bushland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species, and just the second total sighting.
- Adult Striped Marsh Frog (*Limnoynastes peronii*) seen among leaf litter in the southern bushland.

26 January 2023

Day or night survey: night

Survey time: 98 minutes

Cumulative survey time since 10 November 2022: 527 minutes

Grand cumulative survey time: 23,245 minutes (387.4 hours)

New species observed: 37

Cumulative new species observed since 10 November 2022: 86

Grand cumulative species count: 2018

New species

Beetles

Chrysomelidae

1. *Paropsis* sp.

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389268

Curculionidae

2. *Melanterius* sp.

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389261

Ripiphoridae

3. Pelecotominae, unidentified

Several seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389628

Hoppers, aphids, scale insects and allies

Aphalaridae

4. *Dasypsylla brunnea* Froggatt, 1900

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389650

Moths

Depressariidae

5. *Eupselia* sp.

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389649

Elachistidae

6. *Leptozestis* sp.3

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389266

Erebidae

7. *Eilema plana* (Boisduval, 1832)

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389241

8. *Rhapsa* sp.

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389635

Gelechiidae

9. Gelechiidae, unidentified sp.5

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389654

Geometridae

10. *Didymoctenia exsuperata* (Walker, 1860)

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389639

Noctuidae

11. *Agrotis infusa* (Boisduval, 1832)

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. An endangered species.

Photographic voucher: https://www.inaturalist.org/observations/147389626

12. *Proteuxoa hypochalchis* (Turner, 1902)

Several seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389238

Oecophoridae

13. *Hoplomorpha abalienella* (Walker, 1864)

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389259

14. Oecophoridae, unidentified sp.15

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389634

15. Oecophoridae, unidentified sp.16

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389385

16. Oecophoridae, unidentified sp.17

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389252

17. *Syringoseca rhodoxantha* (Meyrick, 1888)

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147388080

Pyralidae

18. *Araeopaschia* sp.

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389384

19. Epipaschiinae, unidentified

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389640

20. *Homoeosoma vagella* Zeller, 1848

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389644

21. *Scenedra decoratalis* (Walker, 1866)

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/151293538

Tortricidae

22. *Acroceuthes metaxanthana* (Walker, 1863)

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389374

23. *Authomaema diemeniana* (Zeller, 1877)

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389376

24. *Isotenes miserana* (Walker, 1863)

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389375

25. *Spilonota constrictana* (Meyrick, 1881)

Several seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389629

Yponomeutidae

26. *Zelleria* sp.

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389630

Unidentified to family

27. Gelechioidea, unidentified sp.15

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389652

28. Gelechioidea, unidentified sp.16

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389648

29. Lepidoptera, unidentified sp.11

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. Possibly *Zomariana*.

Photographic voucher: https://www.inaturalist.org/observations/147389258

True bugs

Rhyparochromidae

30. *Remaudiereana inornata* (Walker, 1872)

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389651

31. Lethaeini, unidentified

Seen on the *Eucalyptus punctata* with the Peron's Tree Frog in it, during a night walk. Probably an undescribed species.

Photographic voucher: https://www.inaturalist.org/observations/147388086

Spiders

Deinopidae

32. *Menneus aussie* Coddington, Kuntner & Opell, 2012

Large adult dropped onto me from out of a tree in the southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/147388082

Unidentified to family

33. Araneae, unidentified

Seen in the open woodland directly above the southern exotic grassland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/147388079

Wasps

Braconidae

34. Braconidae, unidentified sp.4

Several seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389380

35. Braconidae, unidentified sp.5

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389249

36. Braconidae, unidentified sp.6

Seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389379

Ichneumonidae

37. Ephialtini, unidentified

Several seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/147389647

Notes on already observed species and other important aspects of the survey area

- *Ephestiopsis oenobarella* seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Lissopimpla excelsa* seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Chlorocoma* sp. seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species. Presumably the same species as the existing listed *Chlorocoma* sp.
- *Antipterna trilicella* seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.

- *Thudaca circumdatella* seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- Adult psylloid seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup (https://www.inaturalist.org/observations/147389378), but no idea if it maps to one of my existing reported psylloid nymphs, or if it's something new.
- *Agriophara confertella* seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- Several *Spaminta minjerribae* seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Nabis kinbergii* seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Amenia* sp. seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Rhantus suturalis* seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- Number of *Dysbatus* sp. seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- Several *Syneora emmelodes* seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Phrissogonus laticostata* seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- A very similar moth to 'Oecophoridae, unidentified sp.14' seen at night in the open woodland directly above the southern exotic grassland, attracted to my UV lamp/moth sheet setup (https://www.inaturalist.org/observations/147389239). Unsure if this is the same species, but if it is, it's a new location in survey area for this species.
- Adult Striped Marsh Frog (*Limnoynastes peronii*) seen at the central bridge. New location in survey area for this species.
- Adult male *Ectomocoris decorata* seen on the *Eucalyptus punctata* with the Peron's Tree Frog in it, during a night walk. New location in survey area for this species.
- *Phelotis cognata* seen in the southern bushland, during a night walk. New location in survey area for this species.
- Possibly *Hyalogryllacris* sp. (seemingly same entity as https://www.inaturalist.org/observations/114130387) seen in the southern bushland in a large *Hortophora* web (https://www.inaturalist.org/observations/147388083).
- Adult *Eristalinus punctulatus* now fairly consistently seen resting on *Acacia longifolia* at the swale at the green mesh track at night.
- Large *Ctenomorpha marginipennis* seen on *Acacia parramattensis* at the boundary between the southern exotic grassland and the open woodland directly above it, during a night walk. New location in survey area for this species.

- Tawny Frogmouth (*Podargus strigoides*) seen in a eucalypt along the edge of Everley Park at the southern riverine stretch, adjacent to the double long jump pit, during a night walk.

1 February 2023

Day or night survey: day

Survey time: 185 minutes

Cumulative survey time since 10 November 2022: 712 minutes

Grand cumulative survey time: 23,430 minutes (390.5 hours)

New species observed: 2

Cumulative new species observed since 10 November 2022: 88

Grand cumulative species count: 2020

New species

Dragonflies

Libellulidae

1. *Rhyothemis graphiptera* (Rambur, 1842)

Adult flew past along the edge of Everley Park at the southern riverine stretch, near the long jump pit.

Photographic voucher: none, it was too fast for me, but an unmistakeable species I have seen and photographed many times elsewhere.

Shrubs

2. *Trema tomentosa var. aspera* (Brongn.) Hewson

Small sapling in bare clay on a steep slope near the creek-spanning pipe, in an area cleared by during the public works in 2022. Possibly emerged from the seedbank due to the disturbance.

Photographic voucher: https://www.inaturalist.org/observations/147816539

Notes on already observed species and other important aspects of the survey area

- The *Acacia podalyriifolia* in the northern bushland (that I last observed on 26 November 2020) has grown significantly, from being a sapling perhaps ~1.5 m tall, to now > 2.5 m tall and fruiting (https://www.inaturalist.org/observations/147816545).
- *Dipodium punctatum* still flowering.
- Small patch of *Epilobium billardiereanum* subsp. *cinereum* seen in the western split grassland. New location in survey area for this species.
- First time I've observed *Pavonia hastata* flowering in the survey area.
- *Stackhousia muricata* flowering.
- Mating pair of *Neorrhina punctatum* seen on a *Bursaria spinosa* subsp. *spinosa* in the western exotic grassland. New location in survey area for this species.

- Several large *Symphyotrichum subulatum* are now present at the large patch of bare soil near the creek-spanning pipe, presumably introduced during the public works in 2022.
- Huge amounts of Striped Marsh Frog (*Limnodynastes peronii*) eggs seen at the swale at the green mesh track and extending into the shaded, damp swale in the southern bushland (https://www.inaturalist.org/observations/147816536), having been laid among *Alternanthera philoxeroides* after the swale recently refilled after rain.
- The three *Xanthorrhoea minor* subsp. *minor* on the western bank of the creek at the southern bushland, near the erosion protection geotextile mattress, have been almost entirely smothered by *Cardiospermum grandiflorum*. I removed as much as I could.
- The ephemeral pool atop the broken concrete pillar underneath the creek-spanning pipe now seems to be a dead zone; despite water being present, I couldn't see a single macroscopic organism, with all algae and invertebrates having disappeared.
- *Calomela pulchella* seen on *Acacia pubescens* for the first time in the survey area (observation in the southern bushland).

2 February 2023

Day or night survey: day

Survey time: 63 minutes

Cumulative survey time since 10 November 2022: 775 minutes

Grand cumulative survey time: 23,493 minutes (391.6 hours)

New species observed: 1

Cumulative new species observed since 10 November 2022: 89

Grand cumulative species count: 2021

New species

Spiders

Tetragnathidae

1. *Tetragnatha* sp.

Large individual seen in a web hanging over the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/147879446

Notes on already observed species and other important aspects of the survey area

- Small patch of *Cardiospermum grandiflorum* seen in the northern section of the southern bushland, another new incursion from the creek lines.
- *Dipodium punctatum* still flowering.
- Small patch of *Bryophyllum pinnatum* seen in the northern section of the southern bushland, an incursion from the western arm of the creek.
- *Rumex sagittatus* seen at the swale at the green mesh track. New location in survey area for this species.
- Another uncollared, seemingly feral Domestic Cat (*Felis catus*) seen hanging around the southern entrance to the reserve.

8 February 2023

Day or night survey: day

Survey time: 175 minutes

Cumulative survey time since 10 November 2022: 950 minutes

Grand cumulative survey time: 23,668 minutes (394.5 hours)

New species observed: 1

Cumulative new species observed since 10 November 2022: 90

Grand cumulative species count: 2022

New species

Flies

Stratiomyidae

1. **Hermetia illucens* (Linnaeus, 1758)

Adult seen along the edge of Everley Park at the southern riverine stretch, near the second light tower.

Photographic voucher: none, as it flew away before I could get a photo, but an unmistakeable species I have seen and photographed many times elsewhere.

Notes on already observed species and other important aspects of the survey area

- *Amegilla* sp. seen along the edge of Everley Park at the southern riverine stretch, near the third light tower. New location in survey area for this species.
- *Aleeta curvicosta* heard calling in the southern bushland.
- *Bursaria spinosa* subsp. *spinosa* seen prolifically flowering.
- *Neorrhina punctatum* seen on a *Bursaria spinosa* subsp. *spinosa* at the eastern bank of the southern riverine stretch, near the big kink in the creek. New location in survey area for this species.
- *Eleale pulcher* seen on *Bursaria spinosa* subsp. *spinosa* along the edge of Everley Park at the southern riverine stretch, near the third light tower. New location in survey area for this species.
- *Oligoloba severa* seen on a eucalypt leaf at the edge of the southern grassy woodland, along the section of metal fence abutting the main path cutting through the southern exotic grassland. New location in survey area for this species.
- *Poecilometis strigatus* seen on an *Acacia parramattensis* at the boundary between the southern exotic grassland and the open woodland directly above it. New location in survey area for this species.
- *Camponotus suffusus* (subsp. *bendigensis*, which I'm unsure if my other *C. suffusus* sightings fall under) seen in the open woodland directly above the southern exotic grassland. New location in survey area for this species.

- First observations of adult *Froggattia olivinia* in the survey area (https://www.inaturalist.org/observations/148303395).
- First observation of *Ocybadistes walker* pollinating *Cyanthillium cinereum* in the survey area.
- Adult *Arkys lancearius* seen at the swale at the green mesh track. New location in survey area for this species.
- *Exocarpos cupressiformis* observed flowering for the first time in the survey area (https://www.inaturalist.org/observations/148303398).
- Large patches of *Fimbristylis dichotoma* seen at the parallel swales in the central bushland. New location in survey area for this species.
- The patches of *Centipeda minima* subsp. *minima* at the parallel swales in the central bushland have considerably expanded.

12 February 2023

Day or night survey: day

Survey time: 296 minutes

Cumulative survey time since 10 November 2022: 1246 minutes

Grand cumulative survey time: 23,964 minutes (399.4 hours)

New species observed: 3

Cumulative new species observed since 10 November 2022: 93

Grand cumulative species count: 2025

New species

Butterflies

Nymphalidae

1. *Charaxes sempronius* (Fabricius, 1793)

Four disembodied wings found on the edge of the southern bushland, along the path leading from the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/148582188

Hoppers, aphids, scale insects and allies

Ricaniidae

2. *Scolypopa australis* (Walker, 1851)

Adult seen at the eastern bank of the southern riverine stretch, near the big kink in the creek.

Photographic voucher: I didn't get a photo myself, but James K. Douch, who was with me during the survey, did get a photo (https://www.inaturalist.org/observations/148586895)

True bugs

Pentatomidae

3. *Agonoscelis rutila* (Fabricius, 1775)

One individual seen on *Megathyrsus maximus* at the far northeastern corner of the northern bushland, near the house.

Photographic voucher: https://www.inaturalist.org/observations/148582203

Notes on already observed species and other important aspects of the survey area

- First observations of *Henosepilachna vigintioctopunctata* larvae in the survey area. Seen on *Solanum americanum* along the edge of Everley Park at the southern riverine stretch, adjacent to the double long jump pit.
- Pink-flowering form of *Araujai sericifera* observed for the first time (https://www.inaturalist.org/observations/148582187).
- Large patch of *Phyllanthus tenellus* seen on the southern bank of the western arm of the creek. First record for this species within the reserve proper.
- In great news, the *Mentha diemenica* has reappeared, and was observed flowering.
- Adult *Amorbus atomarius* seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot. New location in survey area for this species.
- Small patch of *Asparagus officinalis* seen in the northern bushland. New location in survey area for this species.
- *Agasicles hygrophila* seen for the first time since spring 2021.
- Accompanied on survey by James K. Douch.

24 February 2023

Day or night survey: day

Survey time: 140 minutes

Cumulative survey time since 10 November 2022: 1386 minutes

Grand cumulative survey time: 24,104 minutes (401.7 hours)

New species observed: 3

Cumulative new species observed since 10 November 2022: 96

Grand cumulative species count: 2028

New species

Herbs

Asteraceae

1. **Helianthus annuus* L.

Two individuals, the taller one to 1.8 m tall, in full flower along the edge of the creek, just below the *Canna indica* patch at the southern end of the reserve.

Photographic voucher: https://www.inaturalist.org/observations/149533154

Euphorbiaceae

2. **Acalypha australis* L.

One individual at the large patch of bare soil near the creek-spanning pipe, presumably introduced during the public works in 2022 (or it emerged from the seedbank due to the disturbance).

Photographic voucher: https://www.inaturalist.org/observations/149533163

Spiders

Salticidae

3. *Simaetha* sp.

Seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/149533167

Notes on already observed species and other important aspects of the survey area

- Patches of *Digitaria sanguinalis* seen at the large patch of bare soil near the creek-spanning pipe, presumably introduced during the public works in 2022. New location in survey area for this species.
- Another *Daerlac nigricans* seen in the southern bushland, also on a *Eucalyptus fibrosa* trunk.

- *Apiomorpha munita* galls (male and female) seen on a young eucalypt in the open woodland directly above the southern exotic grassland. New location in survey area for this species.
- *Gomphocarpus physocarpus* seen in the southern exotic grassland. New location in survey area for this species.
- *Chauliognathus tricolor* seen along the edge of Everley Park at the southern riverine stretch, ~40 m south of the first light tower. One of very few sightings since autumn 2021.
- 'Pseudococcidae, unidentified' seen on an *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, near the long jump pit. New location in survey area for this species.
- *Pristhesancus plagipennis* nymphs (various instars) seen on *Acacia parramattensis* along the edge of Everley Park at the southern riverine stretch, between the long jump pit and the toilet block. New location in survey area for this species. One nymph observed preying on *Cuspicona simplex*; new location also for this species.

4 March 2023

Day or night survey: day

Survey time: 69 minutes

Cumulative survey time since 10 November 2022: 1455 minutes

Grand cumulative survey time: 24,173 minutes (402.9 hours)

New species observed: 4

Cumulative new species observed since 10 November 2022: 100

Grand cumulative species count: 2032

New species

Flies

Lauxaniidae

1. *Depressa atrata* Malloch, 1926

Seen in the far southern bushland resting on a dried grass stem.

Photographic voucher: https://www.inaturalist.org/observations/150190923

Hoppers, aphids, scale insects and allies

Machaerotidae

2. Machaerotidae, unidentified

Tubes observed on young eucalypt branchlets in the far southern bushland and the open woodland directly above the southern exotic grassland.

Photographic voucher: https://www.inaturalist.org/observations/150190924

Spiders

Salticidae

3. *Apricia jovialis* (L. Koch, 1879)

Seen in the southern exotic grassland, near the northernmost huge, old-growth *Melaleuca decora*.

Photographic voucher: https://www.inaturalist.org/observations/150190940

Wasps

Unidentified to family

4. Hymenoptera, unidentified

Extremely small (~1 mm or smaller) parasitic wasp seen next to foot of *Sextius virescens* on an *Acacia decurrens* in the open woodland directly above the southern exotic grassland. Only noticed it as an incidental capture in the photograph after the fact.

Photographic voucher: https://www.inaturalist.org/observations/150190932

Notes on already observed species and other important aspects of the survey area

- From this survey onwards and throughout March and April, *Chauliognathus lugubris* seen in plague proportions, with sightings in almost every section of the survey area.
- Patch of *Echinochloa crus-galli* seen along the edge of the carpark immediately below the reserve. New location in survey area for this species.
- Putative *Amorbus atomarius* nymph seen in the far southern bushland. New location in survey area for this species.
- Large Red-bellied Black Snake (*Pseudechis porphyriacus*) seen in the far southern bushland. Almost accidentally knelt on it whilst photographing a plant.
- Huge patch of *Alternanthera denticulata* seen in the far southern bushland in previously flooded section (https://www.inaturalist.org/observations/150190927). New location in survey area for this species.
- Small patch of *Paspalum dilatatum* seen in the southern grassy woodland. New location in survey area for this species.
- Similar spider to 'Araneae, unidentified' seen on an *Acacia parramattensis* in the open woodland directly above the southern exotic grassland. Unsure if same species or something different.
- Adult *Sextius virescens* seen on *Acacia decurrens* in the open woodland directly above the southern exotic grassland, being tended to by *Iridomyrmex purpureus* ants. New location in survey area for this species.
- Huge *Asparagus aethiopicus* (reaching ~1.8 m height) seen in core of southern grassy woodland.
- Several *Jalmenus ictinus* caterpillars seen on *Acacia decurrens* in the open woodland directly above the southern exotic grassland, being tended to by *Iridomyrmex purpureus* ants. New location in survey area for this species.
- *Calomela juncta* seen on an *Acacia decurrens* in the open woodland directly above the southern exotic grassland. New location in survey area for this species.
- One *Symphyotrichum subulatum* seen in the southern exotic grassland, at the base of the northernmost huge, old-growth *Melaleuca decora.* New location in survey area for this species.

16 March 2023

Day or night survey: night

Survey time: 81 minutes

Cumulative survey time since 10 November 2022: 1536 minutes

Grand cumulative survey time: 24,254 minutes (404.2 hours)

New species observed: 4

Cumulative new species observed since 10 November 2022: 104

Grand cumulative species count: 2036

New species

Flies

Bibionidae

1. *Plecia dimidiata* Macquart, 1846

Mating pair seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/151293550

Moths

Cosmopterigidae

2. *Macrobathra chrysotoxa* Meyrick, 1886

Seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup.

Photographic voucher: https://www.inaturalist.org/observations/151293545

Noctuidae

3. *Neumichtis nigerrima* (Guenée, 1852)

Seen on an *Acacia decurrens* in the far southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/151293523

True bugs

Miridae

4. Cylapinae, unidentified

Seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/151293544

Notes on already observed species and other important aspects of the survey area

- Adult *Leptocneria reducta* seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup (https://www.inaturalist.org/observations/151293551). New location in survey area for this species, and first adult seen.
- *Robshelfordia circumducta* seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- *Ardozyga stratifera* seen at night along the edge of the central split path, attracted to my UV lamp/moth sheet setup. New location in survey area for this species.
- More large adult *Deinopis subrufa* seen in the southern bushland, during a night walk.
- *Scenedra decoratalis* seen in the southern bushland, during a night walk. New location in survey area for this species.
- Unidentified caterpillar seen feeding on an *Acacia parramattensis* at the boundary between the southern exotic grassland and the open woodland directly above it, during a night walk. Unsure if a new species, or matchable to an already observed moth species in the reserve. https://www.inaturalist.org/observations/151293530.
- Adult *Pristhesancus plagipennis* seen on an *Acacia parramattensis* at the boundary between the southern exotic grassland and the open woodland directly above it, during a night walk. New location in survey area for this species.
- 'Aprophoridae, unidentified' spittle seen on an *Acacia decurrens* in the far southern bushland, during a night walk. New location in survey area for this species.
- *Ctenomorpha marginipennis* is now quite common in the reserve, with the population booming over the last four to five months. During this night walk, we observed at least 20 individuals, including at the boundary between the southern exotic grassland and the open woodland directly above it, the northern grassy woodland, and the swale at the green mesh track (most common here). Almost always on *Acacia parramattensis*. Nymphs (various instars) and adults both seen, including a mating pair (https://www.inaturalist.org/observations/151293541). Some adult females exceeding 20 cm length.

18 April 2023

Day or night survey: day

Survey time: 112 minutes

Cumulative survey time since 10 November 2022: 1648 minutes

Grand cumulative survey time: 24,366 minutes (406.1 hours)

New species observed: 2

Cumulative new species observed since 10 November 2022: 106

Grand cumulative species count: 2038

New species

Herbs

Rosaceae

1. **Potentilla indica* (Andrews) Th.Wolf

Small patch at the water's edge next to the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/183056346

Wasps

Pteromalidae

2. *Agamerion* sp.

Single individual seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot. Very jerky, ant-like movements and behaviour, and indeed with its distinct golden abdomen, was a very good *Polyrhachis* mimic. This is now the fourth putative *Polyrhachis* mimic I've observed in the survey area, including *Eilica* sp., *Daerlac nigricans*, and *Dieuches maculicollis*.

Photographic voucher: https://www.inaturalist.org/observations/155422031

Notes on already observed species and other important aspects of the survey area

- Large patch of *Ipomoea purpurea* seen on the eastern bank of the southern riverine stretch, ~20-30 m south of the big kink in the creek. New location in survey area for this species.
- *Bursaria spinosa* still flowering.
- Small patch of *Oxalis debilis* at the water's edge next to the creek-spanning pipe. New location in survey area for this species.
- *Ricinus communis* booming along the eastern bank of the southern riverine stretch.
- *Bidens pilosa* booming along the eastern bank of the southern riverine stretch, with huge patches currently present.
- *Exocarpos cupressiformis* still flowering.

- Patch of *Solanum seaforthianum* seen at the northwestern corner of the central bushland, near the western alcove New location in survey area for this species, and indeed this species seems to be rapidly spreading throughout the northern half of the reserve.
- *Hyalarcta huebneri* caterpillar in case seen on side of a termite mound ('Termitoidae, unidentified') at the northwestern corner of the central bushland. New location in survey area for this species.
- Female *Apiomorpha munita* gall seen on a young eucalypt (possibly *Eucalyptus amplifolia* subsp. *amplifolia*) at the northwestern corner of the central bushland. New location in survey area for this species.
- Mating pair of *Pristhesancus plagipennis* seen in the northern grassy woodland. New location in survey area for this species.
- *Ceroplastes* sp. seen on *Araujia sericifera* in the northern bushland. New location in survey area for this species, and also new host species record here.

28 April 2023

Day or night survey: day

Survey time: 104 minutes

Cumulative survey time since 10 November 2022: 1752 minutes

Grand cumulative survey time: 24,470 minutes (407.8 hours)

New species observed: 3

Cumulative new species observed since 10 November 2022: 109

Grand cumulative species count: 2041

New species

Hoppers, aphids, scale insects and allies

Triozidae

1. *Trioza adventicia* Tuthill, 1952

Prolific galls on the leaves of the *Syzygium oleosum* in the huge sea of weeds along the creek in line with the central split path.

Photographic voucher: https://www.inaturalist.org/observations/157037034

Herbs

Cyperaceae

2. **Cyperus brevifolius* (Rottb.) Endl. ex Hassk.

Small patch along the edge of Everley Park at the southern riverine stretch, just north of the long-jump pits.

Photographic voucher: https://www.inaturalist.org/observations/157033331

Succulents

Asparagaceae

3. **Dracaena trifasciata* (Prain) Mabb.

Small individual now present near the abandoned garden bed of plants at the northeastern corner of the reserve. There are no extant, planted individuals of this species among the other planted succulents and cacti here, so I assume this species has been dormant in the soil, having seeded from what presumably used to be plantings here, and is only now emerging under apparently favourable conditions.

Photographic voucher: https://www.inaturalist.org/observations/157037025

Notes on already observed species and other important aspects of the survey area

- A small *Opuntia monacantha* seen near the *Dracaena trifasciata*, seemingly having self-seeded from the large individual in the abandoned garden.
- *Camponotus aeneopilosus* seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot. New location in survey area for this species.
- Patch of four *Helianthus annuus* (the largest ~2.5 m tall) seen at the huge sea of weeds along the creek in line with the central split path. New location in survey area for this species.
- *Symphyotrichum subulatum* seen at the huge sea of weeds along the creek in line with the central split path. New location in survey area for this species. This species has expanded its distribution within the survey area considerably over the last 12 months, appearing in many new locations.
- *Euphorbia maculata* seen at the water's edge next to the creek-spanning pipe. New location in survey area for this species.
- J*uncus articulatus* seen at the water's edge next to the creek-spanning pipe. New location in survey area for this species.
- *Colepia malleola* seen on a wooden fence railing near the swale at the green mesh track. New location in survey area for this species.
- Despite now being sprayed at least 5-6 times, the large tussocks of *Paspalum quadrifarium* in the southern exotic grassland continue to come back to life.
- Large mass of *Leptocneria reducta* eggs seen again on a *Melia azedarach* leaf along the southern riverine stretch, near the first light tower.
- Large *Fraxinus griffithii* seen at the eastern bank along the southern riverine stretch at the big kink in the creek, next to the large *Tecoma stans*. New location in survey area for this species.
- White-flowering *Ipomoea purpurea* individual found at the creek crossing (https://www.inaturalist.org/observations/157033312).
- Little Pied Cormorant (*Microcarbo melanoleucos*) seen on the eastern bank of the creek, close to the Wellington Road Bridge. Just the second individual sighted in the survey area.
- Three or four *Trema tomentosa* var. *aspera* saplings now present on the steep slope near the creek-spanning pipe.

13 June 2023

Day or night survey: day

Survey time: 207 minutes

Cumulative survey time since 10 November 2022: 1959 minutes

Grand cumulative survey time: 24,677 minutes (411.3 hours)

New species observed: 0

Cumulative new species observed since 10 November 2022: 109

Grand cumulative species count: 2041

New species

Notes on already observed species and other important aspects of the survey area

- Huge group of ~180-200 Little Corellas (*Cacatua sanguinea*) present along the sporting fields near the reserve, feeding on grass seeds.
- *Homalanthus populifolius* sapling seen at the water's edge next to the creek-spanning pipe. New location in survey area for this species, and only the third individual I've seen in the reserve.
- *Epilobium ciliatum* seen at the water's edge next to the creek-spanning pipe. New location in survey area for this species, and the first individual seen within the reserve.
- Rather than a survey per se, this walk was a tour of the site with Peter Ridgeway, Linda Dedovic, Natalie Gray, Daniel Pisani and Max Raynaud (variously from Greater Sydney Local Land Services, Cumberland Council, and Total Earth Care) to discuss the new council grant for bush regeneration work in the reserve. This was a fantastic walk; the reserve's future now looks much more promising.

28 June 2023

Day or night survey: day

Survey time: 47 minutes

Cumulative survey time since 10 November 2022: 2006 minutes

Grand cumulative survey time: 24,724 minutes (412.1 hours)

New species observed: 0

Cumulative new species observed since 10 November 2022: 109

Grand cumulative species count: 2041

New species

Notes on already observed species and other important aspects of the survey area

- This was a very brief trip just to confirm the identifications for several plant species I was unsure about.

6 August 2023

Day or night survey: day

Survey time: 99 minutes

Cumulative survey time since 10 November 2022: 2105 minutes

Grand cumulative survey time: 24,823 minutes (413.7 hours)

New species observed: 4

Cumulative new species observed since 10 November 2022: 113

Grand cumulative species count: 2045

New species

Flies

Heleomyzidae

1. *Cairnsimyia* sp.

One adult seen on the trunk of a large eucalypt at the edge of the northwestern lawn.

Photographic voucher: https://www.inaturalist.org/observations/176908714

Graminoids

Cyperaceae

2. *Carex appressa* R.Br.

Several patches of large individuals seen in the Jute Mat near the creek-spanning pipe. Planted after public works in mid-2022, but I hadn't noticed them until now given they're now flowering and much more conspicuous than when sterile.

Photographic voucher: https://www.inaturalist.org/observations/195139177

Rusts and diseases

Brachybasidiaceae

3. **Kordyana brasiliensis* D.M. Macedo, O.L. Pereira & R.W. Barreto

Considerable infestations (as a biocontrol) on *Tradescantia fluminensis* along the southern riverine stretch, the western arm of the creek, the main creek, and the edges of the swale at the green mesh track and the shaded, damp swale in the southern bushland. Likely been present for quite a while, just without me having noticed.

Photographic voucher: https://www.inaturalist.org/observations/176906601

Shrubs

Fabaceae

4. *Hovea linearis* (Sm.) R.Br.

Single individual ~1 m tall seen in the central bushland, close to the northern bank of the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/176910010

Notes on already observed species and other important aspects of the survey area

- As I predicted above, I have now observed *Phytoliriomyza pittosporophylli* throughout much of the reserve, effectively occurring at every location where *Pittosporum undulatum* is.
- *Austroacacidiplosis botrycephalae* seen in the northern bushland on *Acacia decurrens*. New location in survey area for this species.
- At least 6-7 small *Macadamia integrifolia* saplings in the western third of the northern bushland. New location in survey area for this species.
- *Harmonia conformis* seen on *Acacia pubescens* near the large, exposed patch of soil near the creek-spanning pipe. New location in survey area for this species.
- Small *Tristaniopsis laurina* found along the creek near the creek-spanning pipe (https://www.inaturalist.org/observations/176908723). New location in survey area for this species, and the first record in the reserve proper.
- Small patch of *Veronica anagallis-aquatica* seen growing in the creek near the creek-spanning pipe. New location in survey area for this species.
- Small patch of *Passiflora suberosa* seen along the northern bank of the western arm of the creek, near the central bridge. New location in survey area for this species.
- I've now seen at least four individual *Asplenium australasicum*, although they're still all young and on the northern bank of the western arm of the creek.
- Several very large patches of *Lamium amplexicaule* seen at the northwestern lawn. New location in survey area for this species.
- Large *Cupaniopsis anacardioides* sapling seen just north of the central bridge. New location in survey area for this species.

13 August 2023

Day or night survey: day

Survey time: 79 minutes

Cumulative survey time since 10 November 2022: 2184 minutes

Grand cumulative survey time: 24,902 minutes (415 hours)

New species observed: 1

Cumulative new species observed since 10 November 2022: 114

Grand cumulative species count: 2046

New species

Shrubs

Solanaceae

1. **Capsicum annuum* L.

Two individuals along the fenceline near the northwestern corner of the central bushland, growing directly where the sewage overflow occurred in 2021. Fruiting prolifically.

Photographic voucher: https://www.inaturalist.org/observations/178127232

Notes on already observed species and other important aspects of the survey area

- An extremely exciting find, I found a single *Olearia microphylla*, in full flower, in the southern bushland; it isn't locally extinct! This now represents the only known individual in the reserve.
- Small patch of *Pteris tremula* found in the section of western exotic grassland above Melita Stadium. New location in survey area for this species.
- A very interesting adult *Tamopsis* seen in the southern exotic grassland. A large section of the lower trunk of one of the two huge, old-growth *Melaleuca decora* is blackened from being burnt; instead of the usual pale brown, the *Tamopsis* was completely black 9 https://www.inaturalist.org/observations/178127240), perfectly camouflaging!
- Very large *Cupaniopsis anacardioides* sapling (> 2 m tall) seen at the far southwestern corner of the southern bushland. New location in survey area for this species.

21 August 2023

Day or night survey: day

Survey time: 417 minutes

Cumulative survey time since 10 November 2022: 2601 minutes

Grand cumulative survey time: 25,319 minutes (422 hours)

New species observed: 5

Cumulative new species observed since 10 November 2022: 119

Grand cumulative species count: 2051

New species

Ferns

Cyatheaceae

1. *Cyathea cooperi* (Hook. ex F.Muell.) Domin

Two young individuals, one of them dead, on the northern bank of the western arm of the creek, very close to the water.

Photographic voucher: https://www.inaturalist.org/observations/179491647

Graminoids

Cyperaceae

2. *Machaerina juncea* (R.Br.) T.Koyama

Large patch on an eroding creekbank alongside the central bridge.

Photographic voucher: https://www.inaturalist.org/observations/179491646

Herbs

Brassicaceae

3. *Cardamine microthrix* I.Thomps.

Scattered patches along the northern bank of the western arm of the creek, directly on the water's edge. Also a few small patches on the eastern side of the central bridge where the western arm joins with the main creek.

Photographic voucher: https://www.inaturalist.org/observations/186970341

Insects

4. Insecta, unidentified sp.15

Numerous individuals on the fronds of a *Phoenix canariensis* along the creek, near the green mesh track. Presumably some kind of whitefly or scale insect, but not 100% sure.

Photographic voucher: https://www.inaturalist.org/observations/179491649

Shrubs

Rhamnaceae

4. *Pomaderris wendlandiana* (Schult.) G.Don

Large, diffuse patch of 7-9 individuals (hard to tell if a few putative individuals are actually multiple stems from the same individual, or different individuals just growing very closely together) ranging between < 1 m to ~1.8 m tall at the southwestern corner of the central bushland, close to the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/179491644

Notes on already observed species and other important aspects of the survey area

- This was a collecting trip I organised with the NSW Herbarium, with myself, Will Cornwell and fifteen herbarium staff (across a wide variety of roles, including taxonomists, botanists, illustrators) focusing on collecting physical vouchers in the reserve. In total, X specimens were collected.
- Small patch of *Kennedia rubicunda* seen just north of the central bridge, several metres into the canopy. New location in survey area for this species.

13 September 2023

Day or night survey: day

Survey time: 79 minutes

Cumulative survey time since 10 November 2022: 2680 minutes

Grand cumulative survey time: 25,398 minutes (423.3 hours)

New species observed: 4

Cumulative new species observed since 10 November 2022: 123

Grand cumulative species count: 2055

New species

Ants

Formicidae

1. *Platythyrea parallela* (Smith, 1859)

One individual seen on one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/183056648

Herbs

Asteraceae

2. *Pseudognaphalium luteoalbum* (L.) Hilliard & B.L.Burtt

Common in Jute Mat on the slope near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/183056349

Rusts and diseases

Pucciniaceae

3. **Puccinia myrsiphylli* (Thüm.) G. Winter

Considerable infestation (as a biocontrol) on *Asparagus asparagoides* along the western arm of the creek.

Photographic voucher: https://www.inaturalist.org/observations/183056635

Trees

Fabaceae

4. *Jacksonia scoparia* R.Br.

Single individual seen in the southern bushland. An exciting find, as this species was reported as rare by Price (1979), and I thought it had gone locally extinct.

Photographic voucher: https://www.inaturalist.org/observations/183050175

Notes on already observed species and other important aspects of the survey area

- Small *Morus alba* seen in the southern exotic grassland, along the Melita Stadium fenceline, and a large individual along the western arm of the creek. Both new locations in survey area for this species.
- Small *Ricinus communis* seen in the southern exotic grassland, along the Melita Stadium fenceline. New location in survey area for this species.
- Several *Urospermum picroides* along the path at the eastern edge of the central bushland. New location in survey area for this species.
- Small patch of *Cestrum aurantiacum* on the eastern bank of the southern riverine stretch. New location in survey area for this species.
- A new *Macrozamia spiralis* individual (now the eighth in the reserve) found in the southern bushland.
- More *Epilobium ciliatum* found near the creek-spanning pipe, further up the slope away from the water's edge.
- Empty *Sauroconcha sheai* shell found in in the central bushland, bringing the grand total to 102 empty shells.

24 September 2023

Day or night survey: night

Survey time: 108 minutes

Cumulative survey time since 10 November 2022: 2788 minutes

Grand cumulative survey time: 25,506 minutes (425.1 hours)

New species observed: 1

Cumulative new species observed since 10 November 2022: 124

Grand cumulative species count: 2056

New species

Spiders

Araneidae

1. *Celaenia calotoides* Rainbow, 1908

Female with five egg sacs seen on a large *Melaleuca* trunk in the southern bushland, during a night walk.

Photographic voucher: https://www.inaturalist.org/observations/184850560

Notes on already observed species and other important aspects of the survey area

- One *Icerya purchasi* seen on an *Acacia decurrens* in the open woodland directly above the southern exotic grassland, during a night walk. New host record for this species within the survey area, and a new location in survey area for this species.
- *Cryptes baccatus* seen on *Acacia parramattensis* in the open woodland directly above the southern exotic grassland, during a night walk. New location in survey area for this species.
- *Philobota cretacea* seen on a *Plantago lanceolata* flower head in the northern grassy woodland, during a night walk. New location in survey area for this species.

10 October 2023

Day or night survey: day

Survey time: 232 minutes

Cumulative survey time since 10 November 2022: 3020 minutes

Grand cumulative survey time: 25,738 minutes (429 hours)

New species observed: 7

Cumulative new species observed since 10 November 2022: 131

Grand cumulative species count: 2063

New species

Bark and book lice

1. Psocodea, unidentified sp.4

Several nymphs seen on *Dendrophthoe vitellina* leaves at the far southwestern corner of the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/186979053

Ferns

Aspleniaceae

2. *Asplenium flabellifolium* Cav.

Small population of ~6-7 plants growing out of the side of a steep, highly eroding creek bank to the immediate east of the central bridge.

Photographic voucher: https://www.inaturalist.org/observations/186970337

Herbs

Caryophyllaceae

3. **Sagina procumbens* L.

Numerous small, mat-like patches in Jute Mat on the slope near the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/186979043

Hoppers, aphids, scale insects and allies

Cicadellidae

4. Cicadellidae, unidentified sp.6

Single adult seen on *Dendrophthoe vitellina* leaves along the edge of Everley Park at the southern riverine stretch, near the first long jump pit. Possibly *Neovulturnus* sp.

Photographic voucher: https://www.inaturalist.org/observations/186979051

Psyllidae

5. *Acizzia miraculosa* Taylor, 2016

One adult and hundreds of nymphs (mostly very recently hatched, but some older nymphs too) on *Dendrophthoe vitellina* leaves at the far southwestern corner of the southern grassy woodland. Extensive pitting, presumably caused by them, also observed on the leaves. I collected specimens and mailed them to Francesco Martoni for identification. This is the first record of this species on this host plant.

Photographic voucher: https://www.inaturalist.org/observations/186969034

Wasps

Unidentified to family

6. Chalcidoidea, unidentified sp.3

Single individual seen moving erratically/rapidly up the trunk of one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot. Iridescent blue/green body, species is possibly *Agamerion coeruleiventris.*

Photographic voucher: https://www.inaturalist.org/observations/186978620

7. Chalcidoidea, unidentified sp.4

Very small individual seen moving erratically/rapidly up the trunk of one of the two huge *Eucalyptus amplifolia* subsp. *amplifolia* alongside the empty lot.

Photographic voucher: https://www.inaturalist.org/observations/186978621

Notes on already observed species and other important aspects of the survey area

- Adult *Harmonia testudinaria* on *Dendrophthoe vitellina* leaves at the far southwestern corner of the southern grassy woodland, hunting psyllids (*Acizzia* sp.3). New location in survey area for this species.
- *Philobota cretacea* at the far southwestern corner of the southern grassy woodland. New location in survey area for this species.
- *Bryophyllum pinnatum* now creeping across to the eastern side of the central bridge.
- Several *Melaleuca linariifolia* around the central bridge, on the banks of the creek. New location in survey area for this species.
- *Modiola caroliniana* seen on the southern bank of the western arm of the creek, near the central bridge. New location in survey area for this species.
- *Murraya paniculata* sapling seen along the western arm of the creek, directly next to the central bridge. New location in survey area for this species.

- *Polycarpon tetraphyllum* seen in the western exotic grassland. New location in survey area for this species.
- Four *Apiomorpha strombylosa* (https://www.inaturalist.org/observations/186978615), being tended to by *Iridomyrmex purpureus* ants, on young eucalypt saplings (possibly *Eucalyptus fibrosa*), in the western exotic grassland. New location in survey area for this species.
- *Pterostylis rufa* currently flowering, with a single fruit also observed (https://www.inaturalist.org/observations/186978618); first time I've seen this species fruit here.
- The *Melia azedarach* along the edge of Everley Park at the southern riverine stretch continues to consistently and prolifically flower every September/October. Large individual also found along the creek in line with the northern grassy woodland, a new location in survey area for this species.
- The *Potentilla indica* patch is now fruiting.
- *Polypogon lutosus* now prolific in Jute Mat on the slope near the creek-spanning pipe.
- Several patches of *Gamochaeta calviceps* in Jute Mat on the slope near the creek-spanning pipe. New location in survey area for this species.
- Several patches of *Gamochaeta impatiens* in the grassland at the far southern end of the reserve. New location in survey area for this species.

4 November 2023

Day or night survey: day

Survey time: 28 minutes

Cumulative survey time since 10 November 2022: 3048 minutes

Grand cumulative survey time: 25,766 minutes (429.4 hours)

New species observed: 0

Cumulative new species observed since 10 November 2022: 131

Grand cumulative species count: 2063

New species

Notes on already observed species and other important aspects of the survey area

- This was a very brief trip just to confirm the identifications for several plant species I was unsure about.
- I observed a small rodent run in front of me across the main path through the southern exotic grassland, disappearing into the dense grass. I assume it was probably the same *Rattus* sp. I previously observed at the northwestern corner of the southern exotic grassland, although it was small enough that this may have been a house mouse (*Mus musculus*).

30 November 2023

Day or night survey: day

Survey time: 111 minutes

Cumulative survey time since 10 November 2022: 3159 minutes

Grand cumulative survey time: 25,877 minutes (431.3 hours)

New species observed: 1

Cumulative new species observed since 10 November 2022: 132

Grand cumulative species count: 2064

New species

Mushrooms

Nidulariaceae

1. *Cyathus* sp.

Prolific along many sections of the main path leading from the northwestern lawn to the creek-spanning pipe, especially in sections with significant remaining mulch.

Photographic voucher: https://www.inaturalist.org/observations/192616641

Notes on already observed species and other important aspects of the survey area

- The main focus of this trip was to meet with council and bush regeneration representatives to check on the ongoing bush regeneration works being conducted in the western third of the northern bushland. Very pleasingly, almost all of the *Asparagus aethiopicus*, significant amounts of the *Chlorophytum comosum*, and assorted other weeds have been removed from here.
- *Rhyothemis graphiptera* seen at the eastern edge of the central bushland. New location in survey area for this species.

26 December 2023

Day or night survey: day

Survey time: 98 minutes

Cumulative survey time since 10 November 2022: 3257 minutes

Grand cumulative survey time: 25,975 minutes (432.9 hours)

New species observed: 3

Cumulative new species observed since 10 November 2022: 135

Grand cumulative species count: 2067

New species

Herbs

Fabaceae

1. **Melilotus indicus* (L.) All.

One individual, flowering and fruiting, on the creek bank next to the creek-spanning pipe.

Photographic voucher: https://www.inaturalist.org/observations/194867158

Ferns

Pteridaceae

2. *Pteris vittata* L.

One large individual on a highly eroding section of creekbank, growing among industrial waste, alongside the large *Christella dentata* population.

Photographic voucher: https://www.inaturalist.org/observations/194867148

Rusts and diseases

Unidentified to family

3. Fungi, unidentified sp.12

Prolific on *Acacia falcata* leaves in the southern grassy woodland.

Photographic voucher: https://www.inaturalist.org/observations/194867135

Notes on already observed species and other important aspects of the survey area

- Large patch of *Paspalum quadrifarium* seen along the creek just north of the central bridge. New location in survey area for this species.
- Dead Common Blue-tongued Skink seen on the northern edge of the far southern bushland.
- Small female *Trichonephila plumipes* seen in the southern exotic grassland. New location in survey area for this species.
- Large patches of *Anredera cordifolia* seen on the northern edge of the southern grassy woodland. New location in survey area for this species.
- *Octotoma scabripennis* seen on *Lantana camara* at the extreme southeast corner of the southern bushland, where it meets the southern grassy woodland. New location in survey area for this species.
- The highly eroding section of creekbank where previously a single *Christella dentata* was present now has large patches of this species
- Small patch of *Bryophyllum pinnatum* seen near the creek-spanning pipe. New location in survey area for this species.
- *Acacia podalyriifolia* sapling seen along the creek next to the creek-spanning pipe. New location in survey area for this species.
- *Morus alba* sapling seen along the fenceline at the western edge of the central bushland. New location in survey area for this species.
- The single small *Pteris tremula* individual in the western alcove is now a healthy patch.
- Small *Cinnamomum camphora* sapling seen in the western third of the northern bushland. New location in survey area for this species.

29 December 2023

Day or night survey: day

Survey time: 279 minutes

Cumulative survey time since 10 November 2022: 3536 minutes

Grand cumulative survey time: 26,254 minutes (437.6 hours)

New species observed: 2

Cumulative new species observed since 10 November 2022: 137

Grand cumulative species count: 2069

New species

Beetles

Chauliognathidae

1. *Chauliognathus imperialis* (Redtenbacher, 1867)

One individual seen in the southern grassy woodland, on *Tradescantia fluminensis*.

Photographic voucher: https://www.inaturalist.org/observations/195139204

Graminoids

Poaceae

2. *Digitaria parviflora* (R.Br.) Hughes

Single small patch seen at the northwestern corner of the southern bushland.

Photographic voucher: https://www.inaturalist.org/observations/195139189

Notes on already observed species and other important aspects of the survey area

- *Dianella brevipedunculata* seen at the southwestern corner of the southern bushland. New location in survey area for this species.
- Small *Brachychiton discolor* sapling seen on the eastern edge of northern bushland. New location in survey area for this species.
- Large *Eucalyptus fibrosa* subsp. *fibrosa* × *Eucalyptus moluccana* seen in the northern bushland, the second known individual here in addition to the individual along the edge of Everley Park.
- Large *Carex appressa* seen in the southern exotic grassland. New location in survey area for this species, and first non-planted occurrence.
- Small *Opuntia monacantha* seen on the southern bank of the western arm of the creek. New location in survey area for this species.

- Small *Fraxinus griffithii* sapling seen in the southern bushland. New location in survey area for this species, and the first record in the reserve proper.
- One of the *Vincetoxicum woollsii* was present aboveground again, essentially the first time I've seen either individual throughout 2023.
- *Polycarpon tetraphyllum* seen on the creekbank near the creek-spanning pipe. New location in survey area for this species.
- Small patch of *Richardia stellaris* seen on the edge of the northern bushland, perpendicular to the bench seat. New location in survey area for this species.
- *Apiomorpha munita* galls seen at the southeastern corner of the northern bushland. New location in survey area for this species.
- Empty *Sauroconcha sheai* shell found in in the northern bushland, bringing the grand total to 103 empty shells.

1 January 2024

Day or night survey: day

Survey time: 41 minutes

Cumulative survey time since 10 November 2022: 3577 minutes

Grand cumulative survey time: 26,295 minutes (438.3 hours)

New species observed: 0

Cumulative new species observed since 10 November 2022: 137

Grand cumulative species count: 2069

New species

Notes on already observed species and other important aspects of the survey area

- Channel-billed Cuckoo seen flying, and heard calling, along the edge of Everley Park at the southern riverine stretch, heading into the reserve.
- Large patches of *Richardia stellaris* seen along the edge of Everley Park at the southern riverine stretch.

Additional species observed by James K. Douch

Across several trips in February, May and July 2023 (one accompanying me, several by himself), James observed a number of species within the survey area that I have yet to see and/or photograph myself. Although I haven't included these in my personal species count, I've recorded them below given they are all invaluable records. This is especially true of the taxa James has now recorded from the reserve by taking water samples from the creek and swales and using microscopy, something I have yet to do.

Beetles

Agrypnini, unidentified - https://www.inaturalist.org/observations/175486379

Scaphidiinae, unidentified - https://www.inaturalist.org/observations/175486556

Ulomini, unidentified - https://www.inaturalist.org/observations/175486756

Flies

Calliphora ochracea Schiner, 1868 - https://www.inaturalist.org/observations/175486730

Fungi

Sanguinoderma rude (Berk.) Y.F. Sun, D.H. Costa & B.K. Cui - https://www.inaturalist.org/observations/163944421

Hoppers, aphids, scale insects and allies

Tanyscelis maskelli (Froggatt, 1894) - https://www.inaturalist.org/observations/149106607

Mites

Brachypylina, unidentified - https://www.inaturalist.org/observations/177127862

Ronaldothrombium sp. - https://www.inaturalist.org/observations/175486495

Moths

Asura cervicalis Walker, 1854 - https://www.inaturalist.org/observations/149106748

Eucyclodes metaspila Walker, 1861 - https://www.inaturalist.org/observations/149468440

Silverfishes

Atelurinae, unidentified - https://www.inaturalist.org/observations/175486318

Spiders

Arkys curtulus (Simon, 1903) - https://www.inaturalist.org/observations/149468824

Cycloctenidae, unidentified - https://www.inaturalist.org/observations/175486580

Kangarosa sp. - https://www.inaturalist.org/observations/163944517

True bugs

Reduviinae, unidentified - https://www.inaturalist.org/observations/149108422

Platycoris sp. - https://www.inaturalist.org/observations/149106770

Microscopy

Actinophryida, unidentified - https://www.inaturalist.org/observations/148675248

Actinophrys sp. - https://www.inaturalist.org/observations/148675230

Aeolosoma sp. - https://www.inaturalist.org/observations/148675255

Amoebozoa, unidentified - https://www.inaturalist.org/observations/148675233

Anabaena sp. - https://www.inaturalist.org/observations/148675253

Arcella sp. - https://www.inaturalist.org/observations/148675254

Bacillaria paxillifera (O.F.Müll.) N.I.Hendey 1951 - https://www.inaturalist.org/observations/148511329

Bacillariophyceae, unidentified sp.1 - https://www.inaturalist.org/observations/148675237

Bacillariophyceae, unidentified sp.2 - https://www.inaturalist.org/observations/148675235

Bacillariophyceae, unidentified sp.3 - https://www.inaturalist.org/observations/148675231

Bacillariophycidae, unidentified - https://www.inaturalist.org/observations/148675246

Bacteria, unidentified - https://www.inaturalist.org/observations/148675250

Branchiura sowerbyi Beddard, 1892 - https://www.inaturalist.org/observations/149126298

Catenulida, unidentified - https://www.inaturalist.org/observations/148675238

Centropyxis sp. - https://www.inaturalist.org/observations/149126315

Ciliophora, unidentified - https://www.inaturalist.org/observations/148675236

Closterium sp.1 - https://www.inaturalist.org/observations/148675256

Closterium sp.2 - https://www.inaturalist.org/observations/148675252

Coscinodiscophycidae, unidentified - https://www.inaturalist.org/observations/148511346

Cosmarium sp. - https://www.inaturalist.org/observations/148511345

Dactylobiotus sp. - https://www.inaturalist.org/observations/148511348

Difflugina, unidentified - https://www.inaturalist.org/observations/148511347

Euglena sp. - https://www.inaturalist.org/observations/148675249

Euglypha sp.1 - https://www.inaturalist.org/observations/149529318

Euglypha sp.2 - https://www.inaturalist.org/observations/148674744

Eunotia sp. - https://www.inaturalist.org/observations/148511331

Euplotes sp. - https://www.inaturalist.org/observations/148675228

Gastropoda, unidentified - https://www.inaturalist.org/observations/148511342

Gomphonema sp.1 - https://www.inaturalist.org/observations/148675251

Gomphonema sp.2 - https://www.inaturalist.org/observations/148675241

Helobdella europaea Kutschera, 1987 - https://www.inaturalist.org/observations/148511343

Hypotrichia, unidentified - https://www.inaturalist.org/observations/148675242

Ichthydium bifurcatum Preobrajenskaja, 1926 - https://www.inaturalist.org/observations/148674741

Lepadella sp. - https://www.inaturalist.org/observations/148511337

Licmophora sp. - https://www.inaturalist.org/observations/148511340

Loxodes sp. - https://www.inaturalist.org/observations/148675229

Macrobiotidae, unidentified - https://www.inaturalist.org/observations/149127019

Melosira varians C.Agardh - https://www.inaturalist.org/observations/148511326

Monactinus simplex (Meyen) Corda - https://www.inaturalist.org/observations/148511336

Naviculineae, unidentified - https://www.inaturalist.org/observations/148511330

Nematoda, unidentified - https://www.inaturalist.org/observations/148674743

Oligochaeta, unidentified sp.1 - https://www.inaturalist.org/observations/149529321

Oligochaeta, unidentified sp.2 - https://www.inaturalist.org/observations/149529320

Oligochaeta, unidentified sp.3 - https://www.inaturalist.org/observations/148511334

Oscillatoriales, unidentified - https://www.inaturalist.org/observations/148675232

Paracyclops sp. - https://www.inaturalist.org/observations/148676346

Paramecium sp. - https://www.inaturalist.org/observations/148675239

Peranema sp. - https://www.inaturalist.org/observations/148675234

Phacus tortus (Lemmermann) Skvortzov - https://www.inaturalist.org/observations/148674742

Philodina sp. - https://www.inaturalist.org/observations/148675240

Pinnularia sp. - https://www.inaturalist.org/observations/148675244

Pseudomicrothorax sp. - https://www.inaturalist.org/observations/148511332

Scenedesmaceae, unidentified - https://www.inaturalist.org/observations/148674738

Spirogyra sp. - https://www.inaturalist.org/observations/148511344

Surirella sp. - https://www.inaturalist.org/observations/148511333

Trachelomonas sp.1 - https://www.inaturalist.org/observations/149529316

Trachelomonas sp.2 - https://www.inaturalist.org/observations/148674740

Vaginicolidae, unidentified - https://www.inaturalist.org/observations/148675226

Vorticellidae, unidentified - https://www.inaturalist.org/observations/148511327

Additional species observed by Russell Barrett

During a trip on 21 August 2023 (a collecting trip with other NSW Herbarium staff in addition to Russell), Russell observed a species within the survey area that I have yet to photograph myself. Although I haven't included it in my personal species count, I've recorded it below given it is an invaluable record.

Beetles

Eurygeniinae, unidentified - https://www.inaturalist.org/observations/179455531

Additional species observed by Nick Lambert

During a trip (night walk) on 24 September 2023, Nick observed several species within the survey area that I have yet to see and/or photograph myself. Although I haven't included these in my personal species count, I've recorded them below given they are all invaluable records.

Hoppers, aphids, scale insects and allies

Aleuromarginatus sp. - https://www.inaturalist.org/observations/186110159

Platybrachys vidua Stål, 1863 - https://www.inaturalist.org/observations/185234627

Katydids

Coptaspis brevipennis Redtenbacher, 1891 - https://www.inaturalist.org/observations/186108966

Moths

Neargyria argyraspis (Meyrick, 1879) - https://www.inaturalist.org/observations/186153713

Philobota ancylotoxa Meyrick, 1884 - https://www.inaturalist.org/observations/186108965

Spiders

Intruda signata (Hogg, 1900) - https://www.inaturalist.org/observations/185237709

Isala cambridgei (Thorell, 1870) - https://www.inaturalist.org/observations/186153721