

Predicting high pathogenicity avian influenza H5N1 susceptibility in wild birds

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Abstract

High pathogenicity avian influenza (HPAI) has caused widespread sickness and mortality in poultry and wildlife, especially since the emergence of a novel H5 virus belonging to clade 2.3.4.4b in 2021. The ongoing panzootic caused by this lineage has infected an unprecedented diversity of species across the globe, seeming capable of impacting all birds. Here, we analyse outbreak notifications of HPAI in wild birds to understand the impacts of species' ecologies and phylogeny on HPAI notifications and predict host susceptibility to HPAI H5N1 for Australia, as the only continent thus far unaffected by this virus. We found a significant family-level phylogenetic signal in HPAI notifications in wild birds, showcasing that the panzootic is not impacting all bird groups equally. Furthermore, we found that adding ecological traits to this phylogenetic information does not improve explanatory power of HPAI notifications, presumably because many ecological traits are conserved across members of a family. Using the family-level phylogenies to predict HPAI H5N1 susceptibility in Australian birds, we predict that families of Australian seabirds, shorebirds, and waterbirds will be most susceptible to HPAI H5N1 once it arrives on the continent. Our results provide an empirical indication of species susceptible to HPAI H5N1, which can be used to direct monitoring efforts and disease management globally. With special reference to Australia, our predictions of HPAI H5N1 susceptibility can be used in conjunction with conservation status and other species-specific information to inform preparedness activities, monitoring, and response upon incursion.

Keywords

Avian influenza; HPAI H5N1; host susceptibility

Introduction

High pathogenicity avian influenza (HPAI) has wreaked havoc on poultry and wildlife for decades, causing tremendous financial and conservation harm. Low pathogenicity avian influenza (LPAI) viruses are often associated with wild waterfowl, and particularly ducks, and have occasionally evolved into HPAI viruses following spill over events into poultry [1]. HPAI has particularly surged into focus since 2021 due to the emergence of a H5N1 virus belonging to clade 2.3.4.4b that is referred to as HPAI H5N1 [2, 3]. The current panzootic caused by this HPAI H5N1 virus is unprecedented in scale, having spread to every region except Oceania (including Australia and New Zealand) and causing large scale mortalities in poultry and wild birds, increasingly also spilling over into mammalian wildlife and livestock [3-5]. HPAI H5N1 has led to mass mortality events in wildlife and cause for conservation concern in some impacted species. For example, HPAI H5N1 is associated with 60% reductions in both northern gannets in the UK [6] and Dalmatian pelicans in Greece [7], and a 91% mortality rate of Caspian terns in Kazakhstan [8]. At the same time, the spread of the virus is also increasingly facilitated by some of these wild bird species. The HPAI H5N1 panzootic is set apart by increased host promiscuity, no longer being highly adapted specifically to poultry (e.g. [9]) and spreading geographically via far-ranging waterfowl, seabirds, and potentially other wild bird species [10, 11]. As such, understanding the new disease landscape for this virus, and notably what species are vulnerable to infection and may play a role in the maintenance and dispersal of the virus is of paramount importance, both to understand why HPAI H5N1 has had such drastic impacts on diverse wildlife and to be able to sketch this panzootic's future trajectory.

HPAI H5N1 has now been detected in over 400 different avian species during the current panzootic [5, 12]. Presence of LPAI, from which HPAI evolves, has a strong phylogenetic signal in wild birds [13], meaning avian influenza is more prevalent in certain closely-related clusters of species. Notably, there is phylogenetic signal of LPAI across different orders (with major reservoirs in waterfowl [Anseriformes], followed by shorebirds [Charadriiformes]), but with distinct variation remaining across families and species within orders [13]. However, how well that phylogenetic signal is preserved in the current panzootic is not well understood, and is potentially very different given the

diversity of birds currently impacted. The apparent expansion of hosts from LPAI to the current HPAI H5N1 impacts the predictability of its epidemiology, and notably our understanding of which species may be severely impacted by HPAI H5N1 as it spreads across the world.

Transmission of HPAI H5N1 within and between species might also depend on an individual's interaction with the transmission pathway. Avian influenza transmission occurs through faecal-oral pathways, which can take place directly through interaction with faecal matter or indirectly through interaction with contaminated water, where the virus can persist for a long time [14, 15]. Colony breeding, and specific colony traits such as distance between nests, have also been implicated in HPAI H5N1 spread [14, 16]. Based on infection patterns in predatory birds and mammals, HPAI H5N1 is also capable of spreading via consumption of infected birds [1, 17] and potentially via kleptoparasitism [18]. These distinct transmission pathways present particularly “risky ecologies” for birds to have, in terms of likelihood of encountering the virus: association with water, likely contact with faecal matter, dense flocking behaviour, and scavenging or predation are all likely to increase the probability of a species encountering HPAI H5N1. However, empirical testing of these potentially “risky ecologies” across known cases of H5N1 are lacking (but see [16]). Improved understanding of how ecological traits can increase disease exposure will furthermore improve our predictive power of which species are likely to be impacted once HPAI H5N1 reaches the last region it hasn't infected, Oceania (including Australia and New Zealand), and other more isolated parts of the world that have so far escaped exposure to the virus.

In this paper, we evaluate the influence of ecological traits and phylogenetic relationships on species' HPAI notifications and use this to predict susceptibility to HPAI of naïve, Australian species. We analysed notifications of HPAI in wild birds reported to the World Organisation of Animal Health (WOAH) across the world since the start of the panzootic. Using phylogenetic generalised linear mixed models, we modelled notifications of HPAI H5N1 in wild birds against multiple predictors: a family-level phylogeny and ecological traits that might influence disease exposure (habitat, diet, and congregation behaviour). Following model selection, we predict HPAI H5N1

susceptibility in Australian birds, as the last remaining continent not yet affected by the current panzootic. Here, our measure of “susceptibility” is the predicted number of HPAI notifications, which is modelled based on HPAI notifications to WOA.

Methods

To model factors predicting HPAI H5N1 notifications in wild birds, we used the WOA World Animal Health Information System (WAHIS) database of HPAI notifications. An HPAI notification in the WAHIS database can represent a) a notification of an HPAI detection in an environmental sample from the recorded wild bird species, b) a notification of an HPAI detection in the species, but where the individual had no obvious or reported clinical signs of sickness/death, and c) a notification of HPAI in sick and dead wild birds of the reported species. While underreporting of outbreaks is likely an issue with this database [5], it still provides a minimum indication of HPAI notifications because each notification may represent a single bird or multiple birds from a single species. The database was accessed on 06/01/2025 and filtered to only include notifications of outbreaks reported in wild birds of known species since October 2021. In 99% of the cases, the serotype of the HPAI notification was evaluated and established to be HPAI H5. We therefore assume that the majority (if not all) notifications used in our study relate to HPAI H5N1. It should be noted that WOA bears no responsibility for the integrity or accuracy of the data, including but not limited to any deletion, manipulation, or reformatting of data that may have occurred beyond its control.

Because of the links between disease transmission pathways and ecological traits like aquatic lifestyles, certain feeding ecologies, and tendency to congregate, we modelled how ecological traits might influence HPAI H5N1 notifications in wild birds. Initial ecological categorisations of habitat and trophic niche were obtained from Avonet [19]. In our analyses, we wanted to avoid categorisations that were too narrow (e.g. differentiating between frugivores and granivores) or perhaps arbitrarily differentiated between species with otherwise similar ecologies (e.g. denominating the Common Merganser as inhabiting “riverine” habitat, but other mergansers as “wetland”). Therefore, we modified some habitat and trophic niche categorisations based on

information in Birds of the World [20], and broadened the groupings. We thus had three categories for habitat: Terrestrial, Freshwater, and Coastal/Marine, and three categories for diet: Predators (including scavengers, vertebrate and invertebrate predators), Plant-based diets (including aquatic and terrestrial plant material), and Omnivores (including any species that were both predators and plant-based feeders). We used BirdLife's list of congregating birds as our initial starting points for whether species were known to congregate or not (Y/N), and supplemented this with information from Birds of the World [20]. For a full list of species and our ultimate ecological categorisation for these species, see Supporting Information Table S1.

To predict HPAI susceptibility in Australian birds in the event of HPAI H5N1 incursion into Australia, we used the BirdLife Working List of Australian Birds dataset (<https://birddata.birdlife.org.au/whats-in-a-name>) to generate a list of Australian bird species. The list was refined to exclude rare vagrants and uncommon non-native species. Similar to how we treated the WAHIS dataset, we used Avonet's and BirdLife's ecological data on habitat, diet, and congregation as starting points, with refinement and broadening of categories to generate matching ecological traits. The full list of Australian birds we used, their ecological categorisations, and their IUCN status can be found in Supporting Information Table S2.

Statistical analyses

All analyses were conducted in R version 4.4.0. [21].

To model HPAI H5N1 notifications in birds, we used a phylogenetic generalised linear mixed model (GLMM) in the 'brms' package [22]. We used a Poisson distribution of the number of HPAI notifications, modelled against the phylogeny. For the phylogeny, we used the family-level phylogeny from [23]. We used family, rather than species-level phylogeny to avoid reporting biases for more common species, when species in the same family are likely to share similar ecological traits and immune system architecture. This was especially relevant for our next step, outlined below, wherein we used the model of HPAI notifications to predict HPAI H5N1 susceptibility in Australian species (we wanted to avoid drastically uneven outbreak notification estimates for

Australian species in the same family, but where some species were closely related to a species with high HPAI notifications). We built upon the phylogenetic GLMM to include the ecological traits of species: habitat (N = 3 categories), diet (N = 3 categories), and whether the species is known to congregate (Y/N). We fitted three models that had one single ecological predictor (habitat, diet, or congregation), and then an additional model that included all 3 ecological predictors. We evaluated model fit of these against the null, phylogeny-only model using leave-one-out (LOO) cross validation information criterion (IC), which is interpreted similarly to AIC where low values are associated with better models.

The next step in our analyses was to predict which Australian species may be susceptible to HPAI H5N1 once it arrives in Australia, based on patterns of HPAI H5N1 notifications elsewhere in the world. We used the HPAI notification data to predict numbers of HPAI H5N1 notifications in Australian birds, and use this as our metric of predicted susceptibility to HPAI H5N1. Most (~98%) of HPAI notifications in the WAHIS database since October 2021 report deaths for species that have outbreak notifications, which means that our predicted susceptibility to infection is also linked to a species' likelihood of experiencing sickness and death. To predict susceptibility to HPAI H5N1, we first added the Australian bird families to our above phylogeny [23], thus resulting in a phylogeny with the families in the WAHIS database and the Australian families. Using the 'castor' package [24], we predicted HPAI H5N1 notification likelihood onto the Australian species. This was done using hidden state prediction via phylogenetic independent contrasts, using the family-level phylogeny with both known and unknown HPAI notifications (wherein known HPAI notifications were expressed as an average per family). Through this, we retrieved predicted HPAI H5N1 notifications for Australian bird families, which we interpreted as their predicted susceptibility to HPAI H5N1.

Plots were made using 'ggtree' [25] and 'ggplot2' [26]. Lastly, we extracted IUCN Redlist status for Australian species using the 'rredlist' package [27], to ascertain the conservation status of any species predicted to be highly susceptible to HPAI H5N1 and

thus highlight species that may be at greater risk due to pre-existing vulnerabilities or due to other reasons than vulnerability to HPAI H5N1.

Results

When analysing notifications of HPAI H5N1 in wild birds since October 2021 using the phylogeny-only model, we found a statistically significant phylogenetic signal (Pagel’s λ : 0.54, 95% CI: 0.04 – 0.84). There were predominantly high numbers of HPAI H5N1 notifications amongst Sulidae (gannets and boobies), Laridae (gulls, terns, and noddies), and Anatidae (ducks, geese, and swans). To a lesser extent, other seabirds (like Pelecanidae [pelicans] and Alcidae [auks]), crows and ravens (Corvidae), and birds of prey (like Falconidae and Accipitridae) also had higher numbers of HPAI H5N1 notifications (Figure 1).

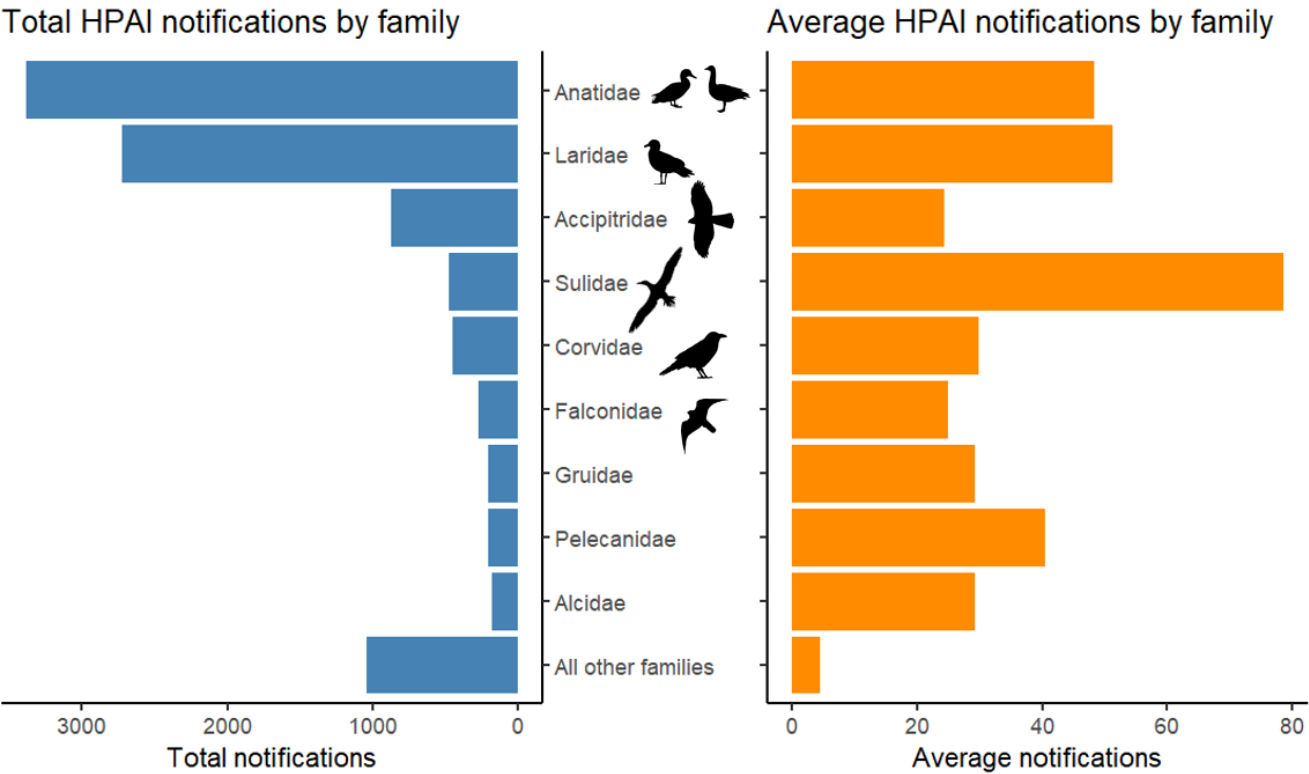


Figure 1. HPAI H5N1 notifications in wild birds 2021 – 2024. The left panel shows total HPAI H5N1 notifications made to WOA H WAHIS per family, while the right panel shows average HPAI H5N1 notifications per family. A few key families are highlighted by inclusion of bird icons from phylopic.org, going down from the top: Anatidae, Laridae, Accipitridae, Sulidae, Corvidae, and Falconidae.

211

212 Using leave-one-out (LOO) cross validation, we compared the fit of this null, phylogeny-
213 only model and that of the ecological traits models. There were 4 models with
214 ecological traits, where 3 models consisted of a single ecological trait (habitat, diet, or
215 congregation) and a fourth model that included all three ecological traits. All four of
216 these models included the phylogeny. There was substantial overlap in the standard
217 errors of the LOO ICs computed for the models, which means that the additional
218 variables in our ecological models did not significantly improve model fit over the null,
219 phylogeny-only model (Figure S1; [28]). Therefore, we present results for the simpler,
220 phylogeny-only model.

221

222 When predicting Australian species' HPAI H5N1 susceptibility (defined as their
223 predicted HPAI H5N1 notifications), the predominant groupings of predicted
224 notifications were similar to that of the training model (Figure 2). The highest predicted
225 HPAI H5N1 susceptibility was predicted for Australian Sulidae (gannets and boobies),
226 followed by Anhingidae (darters), Laridae (gulls, terns and noddies), and Anatidae
227 (ducks, geese, and swans). Based on global HPAI H5N1 notification data since 2021 and
228 the family-level phylogeny, the model predicted 79 HPAI H5N1 notifications in Sulidae
229 family members, followed by 54 in Anhingidae, 51 in Laridae, and 48 in Anatidae family
230 members. Other Australian bird families, like Pelecanidae (pelicans), Corvidae (crows
231 and ravens), and Falconidae (falcons, hobbies, and kestrels), were also predicted to be
232 susceptible. Furthermore, some families endemic to Australia, such as Anseranatidae
233 (containing the magpie goose – *Anseranas semipalmata*), were predicted to be
234 moderately susceptible to HPAI H5N1 with a predicted 27 notifications. Predicted HPAI
235 H5N1 notifications for all Australian bird families in our list are reported in Supporting
236 Information Table S3.

237

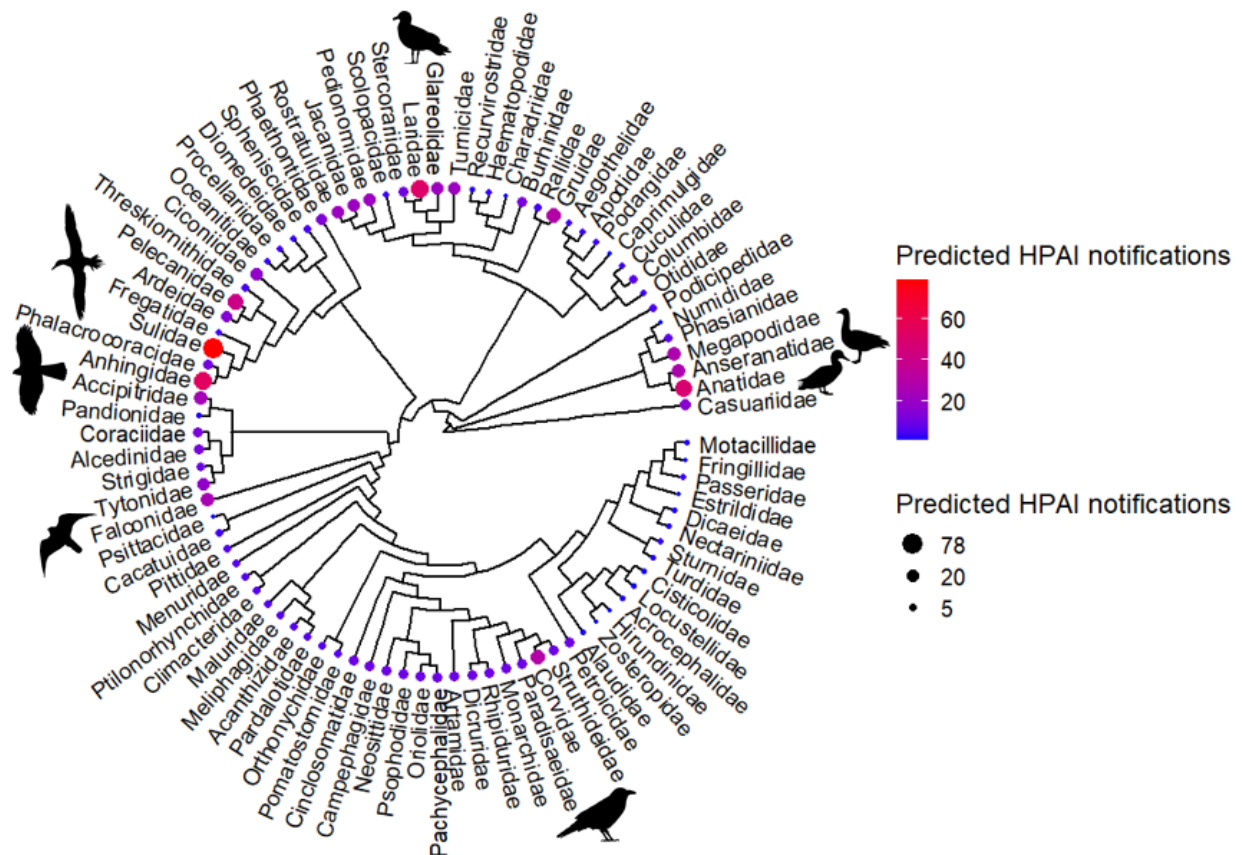


Figure 2. Predicted HPAI H5N1 susceptibility for Australian bird families. Each tip denotes a family, with the size and colour of the tip representing the predicted number of HPAI H5N1 notifications. A few key families are highlighted by inclusion of bird icons from phylopic.org, going clockwise from the top: Laridae, Anatidae, Corvidae, Falconidae, Accipitridae, and Sulidae.

Discussion

HPAI H5N1 2.3.4.4b has caused a panzootic of unprecedented scale [5], but has not yet spread to Australia [4]. Here, we modelled HPAI H5N1 notifications as a function of ecology and family-level phylogeny, finding that family-level phylogeny best explains number of HPAI H5N1 notifications. The importance of phylogeny in explaining avian influenza prevalence has been previously noted for low pathogenicity viruses [13], which we now expand for HPAI H5N1. Furthermore, we use phylogeny to predict HPAI H5N1 notifications in Australian birds (including for Australian endemic birds), as a metric of susceptibility to HPAI H5N1 infection and resulting disease once it reaches the continent.

255

256 While transmission of HPAI H5N1 is believed to link to ecological traits related to e.g.
257 (aquatic) habitat choice, (dabbling) foraging strategies, predation, and congregation,
258 including these ecological traits in our model did not significantly improve model fit.
259 However, we do not believe the support for our phylogeny-only model means that
260 ecological traits are not important – rather, there are specific traits as well as
261 combinations of traits yielding scenarios of probable disease transmission that are
262 likely captured by the family-level phylogeny. For example, Anatidae (ducks, geese, and
263 swans) have a high number of HPAI notifications globally and are among the families
264 predicted to be most susceptible to HPAI H5N1 in Australia, likely due to their aquatic
265 lifestyle. Conversely, we hypothesized terrestrial birds to have lower HPAI H5N1
266 notifications due to largely avoiding contact with HPAI virus contaminated water, but
267 many birds of prey (which have high HPAI H5N1 notifications) are terrestrial predators.
268 This specific interaction between diet and habitat may be important in predicting HPAI
269 H5N1 notifications, but it is captured already in the family-level phylogeny, as such
270 traits tend to be shared across members of a family and even entire orders. The
271 drawback of our approach is that the predicted HPAI H5N1 notifications are generalised
272 across species in a family. Generalising across families may be especially penalizing for
273 species that are ecological outliers compared to others within their family. For example,
274 our study predicts high HPAI H5N1 notifications for the Australasian wood duck
275 (*Chenonetta jubata*), despite its ecology differing from other ducks (it is an exclusively
276 grazing duck, while many others engage in filter feeding and dabbling) and its previous
277 identification as an outlier in having low LPAI virus and seroprevalence [13]. Despite
278 such exceptions, our predictions can serve as an initial guideline of species likely to be
279 impacted by HPAI H5N1, with additional information such as species' conservation
280 status, population size, and a variety of site- and species-specific factors used to
281 assess potential local impacts.

282

283 In our prediction of HPAI H5N1 susceptibility in Australian birds, we define susceptibility
284 as the predicted number of HPAI H5N1 notification for a taxonomic family (where high
285 numbers of predicted HPAI H5N1 notifications is interpreted as high susceptibility; with
286 79 HPAI H5N1 notifications in Sulidae being the highest score). This modelling is based

on data of “outbreak notifications” from WOA H W A H I S since October 2021 (the onset of the current panzootic), where most (~98%) species with notifications also have reported deaths from HPAI. This means that our predicted HPAI H5N1 susceptibility reflects how easily different birds become infected and subsequently die of HPAI. However, our susceptibility predictions largely ignore the role of different birds in maintaining and spreading HPAI H5N1, since different species might carry the virus and survive for different lengths of time. For example, bald eagles (*Haliaeetus leucocephalus*) had higher HPAI H5N1 seroprevalence (indicating higher survival rate) than other birds of prey [29], and HPAI antibodies in seabird eggs were higher in common eiders compared to other seabird species (such as gannets, which suffered HPAI-related mass mortality events; [30]). This suggests that species can play different roles in maintenance and spread of HPAI H5N1 after exposure to the virus, which is important to consider when predicting HPAI H5N1 susceptibility.

In this study, we used a family-level phylogeny to avoid biases associated with particular outlier species. Our approach may still carry some inherent biases, for example if a family is very speciose, very abundant, or contains very commonly sampled species. However, when comparing the mean number of HPAI H5N1 notifications per family to the number of species in that family, the correlation was low ($R^2 = -0.06$), meaning it is unlikely biases related to number of species in a family are entirely driving our predictions. Indeed, because we analysed the data using the family-level phylogeny that considers HPAI H5N1 notifications across a family (rather than just the total), we avoid some of the exaggerated total HPAI H5N1 notifications associated with very speciose and common families like Anatidae and Laridae (Figure 1). However, it may also be argued that this introduces its own form of bias, if it “punishes” the HPAI H5N1 susceptibility predictions for speciose and common families (hence why our model predicts Sulidae, rather than Anatidae, to be the most susceptible Australian family; Figure 1). It is also worth noting that our approach is inherently biased by people sampling for and reporting notifications of HPAI H5N1, where real numbers of HPAI H5N1 likely exceed recorded notifications by an order of magnitude [5]. Furthermore, differences in sampling effort between regions may exacerbate such biases, if certain

families are more common in sparsely sampled regions and are thus more less represented in WAHIS [12].

Partly because of biases in testing and reporting HPAI H5N1 outbreaks, we did not employ a presence/absence approach to modelling HPAI H5N1 notifications and predicting susceptibility in Australian species. Because of testing and reporting bias, we cannot assume that species absent from the WAHIS dataset of HPAI H5N1 notifications truly never had cases of HPAI H5N1, and thus we cannot assume that HPAI is absent. However, our approach of using numbers of HPAI H5N1 notifications still suffers from part of this bias and is likely to have influenced some of our predictions for Australian species. For example, Anhingidae (darters) are amongst families with the highest predicted notifications in Australia, but their non-Australian species are not currently represented in the WAHIS database. However, the American darter's (*Anhinga anhinga*) distribution includes regions severely impacted by the current panzootic, making it likely the species has encountered the virus but that it just has not been detected, tested and reported to WAHIS. The family's lack of representation in WAHIS means the model used the Anhingidae phylogenetic information, and its proximity to Sulidae and Phalacrocoracidae (the latter of which is also underestimated in WAHIS; [31]), to estimate a value between the two other families. The lack of Anhingidae representation in the WAHIS database, despite its probable interface with the virus, means the model may have over-estimated the susceptibility of Australasian darters to HPAI H5N1 based on its relationship to Sulidae. An opposite scenario may also be possible and potentially detrimental: in some cases, our model may have falsely predicted a family as *not* susceptible to HPAI H5N1. This further highlights the importance of not relying on our predicted susceptibility in isolation, but also considering additional information. The wide host range of the current panzootic highlights that all species are capable of contracting the virus. However, lack of notifications and our assumptions of relative completeness in the WAHIS database impacts our predictions for Australian families susceptible to HPAI H5N1.

In our analysis, adding ecological traits like diet and habitat did not significantly improve the predictability of HPAI H5N1 notifications above our null, phylogeny-only model.

However, this does not mean those traits are not still important to consider when assessing virus incursion into new ranges, like Oceania. For example, traits like colony-breeding can amplify the risk to a species if the virus is able to spread rapidly through a large number of birds [16]. Australia hosts big breeding colonies of gannets, shearwaters, and other notable seabirds, which might expose them to the same colony-wide mass mortalities noted elsewhere [6, 31, 32]. Indeed, in our phylogeny-based predictions of HPAI H5N1 notifications in Australian birds, half of the top 50 birds are colony breeders. Therefore, even if dense flocking behaviour was not a major predictor of HPAI H5N1 notifications in our analysis, it is a trait worth bearing in mind when considering conservation impacts of HPAI H5N1 upon arrival in Australia.

A strength of our phylogeny-based approach to model and predict HPAI notifications is that it likely captures similarity in immune architecture between closely related species, in addition to the ecological similarities it captures. However, there are notable exceptions to the expectation that closely related species share genomic similarities. Such differences in species' immune architecture may influence their final susceptibility to HPAI, and thus represents another aspect worth considering when predicting HPAI H5N1 susceptibility in new ranges [33]. For example, the Australian black swan (*Cygnus atratus*) is more vulnerable to HPAI than white swans and some geese [33], likely because it lacks receptors for viral pattern recognition and has a poor immune response to HPAI [34]. These differences set black swans apart even from closely related species, like the mute swan (*Cygnus olor*). Should similar deficiencies in immune system architecture exist for other Australian birds, it is possible the HPAI H5N1 susceptibility for some Australian birds is underestimated in our analysis. While our predictions of Australian species' susceptibility to HPAI H5N1 can function as an important indicator of what is to come, expanded genomic and transcriptomic testing can further fine-tune such predictions.

Among other factors that can be important to consider when predicting HPAI H5N1 susceptibility in Australian birds is conservation status, where rampant disease spread may have a larger impact on more vulnerable populations. In Australian species with highest predicted HPAI H5N1 notifications (within the top 50 predicted HPAI H5N1

notifications), all but two are listed as Least Concern on the IUCN Red List status. Only the fairy tern (*Sternula nereis*) and the sarus crane (*Grus antigone*) are listed as Vulnerable. However, expanding this to species predicted to be moderately susceptible to HPAI H5N1 (top 80 predicted disease notifications), there is one species listed as Endangered (red goshawk – *Erythrotriorchis radiatus*), two additional birds listed as Vulnerable (grey falcon – *Falco hypoleucos* and malleefowl – *Leipoa ocellata*), and one Near Threatened (letter-winged kite – *Elanus scriptus*). It is notable that most of these are birds of prey, suggesting that while HPAI H5N1 is primarily predicted to impact waterbirds, the notable conservation impacts of HPAI H5N1 incursion into Australia may focus on predators. The impact to predators might be similar to effects seen elsewhere, such as declining peregrine falcon (*Falco peregrinus*) populations in the Netherlands, where over 80% of tested dead birds were infected with HPAI H5N1 [35]. Conservation vulnerability of predators to HPAI H5N1 also underscores the potential conservation concerns to mammalian predators [17], as has been noted in South American pinnipeds [36].

Conclusion

HPAI H5N1 has dramatically impacted wildlife in the wake of its spread across the world. While it has infected an unprecedented diversity of species, we found that a family-level phylogeny was sufficient to explain HPAI H5N1 notifications in wild birds, potentially because ecological traits are often conserved across members of a family. Using this same phylogeny to predict HPAI H5N1 notifications in Australian birds, where the virus has yet to spread, we are able to predict that Sulidae, Laridae, and Anatidae family members are likely to be most susceptible to HPAI H5N1. Similarly, we are able to predict susceptibility in Australian endemic families, such as the magpie geese (*Anseranas semipalmata*). Such predictions may provide important support for those undertaking planning for HPAI H5N1 incursion into Australia. Evaluating the accuracy of such predictions (and the method used to generate them) will only be possible once HPAI H5N1 does indeed reach Australian shores, and relies on continued and expanding monitoring efforts.

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425

426 **Conflicts of interest/Competing interests**

427 The authors declare no conflicts of interest.

428

429 **Availability of data and material**

430 Data and code will be made public upon acceptance

431

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Supporting information

Table S1: Species ecological traits used in our phylogenetic generalised linear mixed models of HPAI notifications.

Table S2: Australian species ecological traits used in our prediction of Australian species' susceptibility to HPAI

Table S3: HPAI susceptibility of Australian bird families, as indicated by the predicted number of disease notifications

Figure S1: LOO ELPD estimates of the full model with ecological traits and the null, phylogeny-only model

580 *Table S1: Species ecological traits used in our phylogenetic generalised linear mixed*
581 *models of HPAI notifications. Species are listed by their binomial name, their common*
582 *name, and their taxonomic family. Traits include whether they congregate or not (Y/N),*
583 *their general habitat, and their general diet.*

Species binomial name	Species common name	Family	Congregator?	Habitat Grouping	Diet Grouping
<i>Anthropoides virgo</i>	Demoiselle Crane	Gruidae	Y	Terrestrial	Omnivore
<i>Catharacta antarctica</i>	Brown Skua	Stercorariidae	Y	Marine/Coastal	Predator
<i>Catharacta chilensis</i>	Chilean Skua	Stercorariidae	Y	Marine/Coastal	Predator
<i>Catharacta maccormicki</i>	South Polar Skua	Stercorariidae	Y	Marine/Coastal	Predator
<i>Catharacta skua</i>	Great Skua	Stercorariidae	Y	Marine/Coastal	Predator
<i>Circus aeruginosus</i>	Western Marsh Harrier	Accipitridae	Y	Freshwater	Predator
<i>Clangula hyemalis</i>	Long-tailed Duck	Anatidae	Y	Freshwater	Predator
<i>Corvus cornix</i>	Hooded Crow	Corvidae	N	Terrestrial	Omnivore
<i>Corvus monedula</i>	Western Jackdaw	Corvidae	N	Terrestrial	Omnivore
<i>Erithacus rubecula</i>	European Robin	Muscicapidae	N	Terrestrial	Omnivore
<i>Euphagus cyanocephalus</i>	Brewer's Blackbird	Icteridae	N	Terrestrial	Omnivore
<i>Lagopus lagopus</i>	Willow Ptarmigan	Phasianidae	N	Terrestrial	Plant-based diet
<i>Larus atricilla</i>	Laughing Gull	Laridae	Y	Marine/Coastal	Predator
<i>Larus audouinii</i>	Audouin's Gull	Laridae	Y	Marine/Coastal	Predator
<i>Larus brachyrhynchus</i>	Short-billed Gull	Laridae	Y	Marine/Coastal	Predator
<i>Larus ichthyaetus</i>	Pallas's Gull	Laridae	Y	Marine/Coastal	Omnivore
<i>Larus melanocephalus</i>	Mediterranean Gull	Laridae	Y	Marine/Coastal	Omnivore
<i>Larus modestus</i>	Grey Gull	Laridae	Y	Marine/Coastal	Predator
<i>Larus pipixcan</i>	Franklin's Gull	Laridae	Y	Marine/Coastal	Omnivore
<i>Leucocarbo bougainvillorum</i>	Guanay Cormorant	Phalacrocoracidae	N	Marine/Coastal	Predator
<i>Melospiza melodia</i>	Song Sparrow	Passerellidae	N	Terrestrial	Omnivore
<i>Nannopterum auritus</i>	Double-crested Cormorant	Phalacrocoracidae	N	Marine/Coastal	Predator
<i>Nannopterum brasilianus</i>	Neotropic Cormorant	Phalacrocoracidae	N	Freshwater	Predator
<i>Nannopterum brasilianus</i>	Neotropic Cormorant	Phalacrocoracidae	N	Freshwater	Predator
<i>Passerculus sandwichensis</i>	Savannah Sparrow	Passerellidae	N	Terrestrial	Omnivore
<i>Phalacrocorax lucidus</i>	White-breasted Cormorant	Phalacrocoracidae	Y	Freshwater	Predator

Phalcoboenus chimango	Chimango Caracara	Falconidae	N	Terrestrial	Omnivore
Picus viridis	European Green Woodpecker	Picidae	N	Terrestrial	Predator
Pygoscelis papua	Gentoo Penguin	Spheniscidae	Y	Marine/Coastal	Predator
Scolopax rusticola	Eurasian Woodcock	Scolopacidae	Y	Terrestrial	Omnivore
Sylvia atricapilla	Eurasian Blackcap	Sylviidae	N	Terrestrial	Omnivore
Thalasseus acuflavidus	Cabot's Tern	Laridae	Y	Marine/Coastal	Predator
Zenaida asiatica	White-winged Dove	Columbidae	N	Terrestrial	Plant-based diet
Accipiter brachyurus	New Britain Sparrowhawk	Accipitridae	N	Terrestrial	Predator
Accipiter cooperii	Cooper's Hawk	Accipitridae	N	Terrestrial	Predator
Accipiter gentilis	Northern Goshawk	Accipitridae	N	Terrestrial	Predator
Accipiter gentilis	Northern Goshawk	Accipitridae	N	Terrestrial	Predator
Accipiter gularis	Japanese Sparrowhawk	Accipitridae	N	Terrestrial	Predator
Accipiter nisus	Eurasian Sparrowhawk	Accipitridae	N	Terrestrial	Predator
Accipiter striatus	Sharp-shinned Hawk	Accipitridae	N	Terrestrial	Predator
Aechmophorus occidentalis	Western Grebe	Podicipedidae	Y	Freshwater	Predator
Aegolius acadicus	Northern Saw-whet Owl	Strigidae	N	Terrestrial	Predator
Agelaius phoeniceus	Red-winged Blackbird	Icteridae	Y	Freshwater	Omnivore
Aix galericulata	Mandarin Duck	Anatidae	Y	Terrestrial	Omnivore
Aix sponsa	Wood Duck	Anatidae	Y	Freshwater	Omnivore
Alca torda	Razorbill	Alcidae	Y	Marine/Coastal	Predator
Alectoris rufa	Red-legged Partridge	Phasianidae	N	Terrestrial	Plant-based diet
Alle alle	Little Auk	Alcidae	Y	Marine/Coastal	Predator
Alopochen aegyptiaca	Egyptian Goose	Anatidae	Y	Freshwater	Omnivore
Amazona ochrocephala	Yellow-crowned Amazon	Psittacidae	N	Terrestrial	Omnivore
Anas acuta	Northern Pintail	Anatidae	Y	Freshwater	Omnivore
Anas carolinensis	Green-winged Teal	Anatidae	Y	Freshwater	Omnivore
Anas crecca	Eurasian Teal	Anatidae	Y	Freshwater	Omnivore
Anas flavirostris	Yellow-billed Teal	Anatidae	Y	Freshwater	Omnivore
Anas fulvigula	Mottled Duck	Anatidae	Y	Freshwater	Omnivore
Anas platyrhynchos	Mallard	Anatidae	Y	Freshwater	Omnivore
Anas poecilorhyncha	Indian Spot-billed Duck	Anatidae	Y	Freshwater	Omnivore

Anas rubripes	American Black Duck	Anatidae	Y	Freshwater	Omnivore
Anser albifrons	Greater White-fronted Goose	Anatidae	Y	Terrestrial	Plant-based diet
Anser anser	Greylag Goose	Anatidae	Y	Freshwater	Plant-based diet
Anser brachyrhynchus	Pink-footed Goose	Anatidae	Y	Terrestrial	Plant-based diet
Anser caerulescens	Snow Goose	Anatidae	Y	Terrestrial	Plant-based diet
Anser erythropus	Lesser White-fronted Goose	Anatidae	Y	Terrestrial	Plant-based diet
Anser fabalis	Taiga Bean Goose	Anatidae	Y	Freshwater	Plant-based diet
Anser rossii	Ross's Goose	Anatidae	Y	Freshwater	Plant-based diet
Antigone canadensis	Sandhill Crane	Gruidae	Y	Freshwater	Omnivore
Antigone vipio	White-naped Crane	Gruidae	Y	Freshwater	Omnivore
Aquila chrysaetos	Golden Eagle	Accipitridae	N	Terrestrial	Predator
Aquila fasciata	Bonelli's Eagle	Accipitridae	N	Terrestrial	Predator
Aquila heliaca	Eastern Imperial Eagle	Accipitridae	N	Terrestrial	Predator
Ara macao	Scarlet Macaw	Psittacidae	Y	Terrestrial	Omnivore
Ardea alba	Great Egret	Ardeidae	Y	Freshwater	Predator
Ardea cinerea	Grey Heron	Ardeidae	Y	Freshwater	Predator
Ardea cocoi	Cocoi Heron	Ardeidae	Y	Freshwater	Predator
Ardea herodias	Great Blue Heron	Ardeidae	Y	Freshwater	Predator
Ardenna gravis	Great Shearwater	Procellariidae	Y	Marine/Coastal	Predator
Ardenna grisea	Sooty Shearwater	Procellariidae	Y	Marine/Coastal	Predator
Ardenna tenuirostris	Short-tailed Shearwater	Procellariidae	Y	Marine/Coastal	Predator
Arenaria interpres	Ruddy Turnstone	Scolopacidae	Y	Marine/Coastal	Predator
Arenaria melanocephala	Black Turnstone	Scolopacidae	Y	Marine/Coastal	Predator
Asio flammeus	Short-eared Owl	Strigidae	N	Terrestrial	Predator
Asio otus	Long-eared Owl	Strigidae	N	Terrestrial	Predator
Athene noctua	Little Owl	Strigidae	N	Terrestrial	Omnivore
Aythya affinis	Lesser Scaup	Anatidae	Y	Freshwater	Omnivore
Aythya americana	Redhead	Anatidae	Y	Freshwater	Omnivore
Aythya collaris	Ring-necked Duck	Anatidae	Y	Freshwater	Omnivore
Aythya ferina	Common Pochard	Anatidae	Y	Freshwater	Omnivore
Aythya fuligula	Tufted Duck	Anatidae	Y	Freshwater	Omnivore
Aythya marila	Greater Scaup	Anatidae	Y	Freshwater	Omnivore
Aythya valisineria	Canvasback	Anatidae	Y	Freshwater	Omnivore
Balearica regulorum	Grey Crowned Crane	Gruidae	Y	Freshwater	Omnivore

Bonasa umbellus	Ruffed Grouse	Phasianidae	N	Terrestrial	Plant-based diet
Branta bernicla	Brant Goose	Anatidae	Y	Terrestrial	Plant-based diet
Branta canadensis	Canada Goose	Anatidae	Y	Terrestrial	Plant-based diet
Branta hutchinsii	Cackling Goose	Anatidae	Y	Terrestrial	Plant-based diet
Branta leucopsis	Barnacle Goose	Anatidae	Y	Terrestrial	Plant-based diet
Branta ruficollis	Red-breasted Goose	Anatidae	Y	Terrestrial	Plant-based diet
Branta sandvicensis	Nene	Anatidae	N	Terrestrial	Plant-based diet
Bubo bubo	Eurasian Eagle-Owl	Strigidae	N	Terrestrial	Predator
Bubo scandiacus	Snowy Owl	Strigidae	N	Terrestrial	Predator
Bubo virginianus	Great Horned Owl	Strigidae	N	Terrestrial	Predator
Bubulcus ibis	Western Cattle Egret	Ardeidae	Y	Terrestrial	Omnivore
Bucephala albeola	Bufflehead	Anatidae	Y	Freshwater	Omnivore
Bucephala clangula	Common Goldeneye	Anatidae	Y	Freshwater	Omnivore
Buteo buteo	Common Buzzard	Accipitridae	N	Terrestrial	Predator
Buteo jamaicensis	Red-tailed Hawk	Accipitridae	N	Terrestrial	Predator
Buteo japonicus	Eastern Buzzard	Accipitridae	N	Terrestrial	Predator
Buteo lagopus	Rough-legged Buzzard	Accipitridae	N	Terrestrial	Predator
Buteo lineatus	Red-shouldered Hawk	Accipitridae	N	Terrestrial	Predator
Buteo platypterus	Broad-winged Hawk	Accipitridae	N	Terrestrial	Predator
Buteo regalis	Ferruginous Hawk	Accipitridae	N	Terrestrial	Predator
Buteo swainsoni	Swainson's Hawk	Accipitridae	Y	Terrestrial	Predator
Buteogallus urubitinga	Great Black Hawk	Accipitridae	N	Terrestrial	Predator
Cairina moschata	Muscovy Duck	Anatidae	Y	Freshwater	Omnivore
Calamospiza melanocorys	Lark Bunting	Passerellidae	Y	Terrestrial	Omnivore
Calidris alba	Sanderling	Scolopacidae	Y	Marine/Coastal	Predator
Calidris alpina	Dunlin	Scolopacidae	Y	Freshwater	Predator
Calidris canutus	Red Knot	Scolopacidae	Y	Marine/Coastal	Predator
Calidris fuscicollis	White-rumped Sandpiper	Scolopacidae	Y	Freshwater	Predator
Calidris maritima	Purple Sandpiper	Scolopacidae	Y	Terrestrial	Predator
Calidris mauri	Western Sandpiper	Scolopacidae	Y	Terrestrial	Predator
Calidris pusilla	Semipalmated Sandpiper	Scolopacidae	Y	Terrestrial	Predator

Callipepla californica	California Quail	Odontophoridae	N	Terrestrial	Omnivore
Caprimulgus fossii	Square-tailed Nightjar	Caprimulgidae	N	Terrestrial	Predator
Caracara plancus	Crested Caracara	Falconidae	N	Terrestrial	Omnivore
Caracara plancus	Crested Caracara	Falconidae	N	Terrestrial	Omnivore
Carduelis carduelis	European Goldfinch	Fringillidae	N	Terrestrial	Plant-based diet
Cathartes aura	Turkey Vulture	Cathartidae	Y	Terrestrial	Predator
Centrocercus urophasianus	Sage Grouse	Phasianidae	N	Terrestrial	Plant-based diet
Cephus grylle	Black Guillemot	Alcidae	Y	Marine/Coastal	Predator
Charadrius hiaticula	Common Ringed Plover	Charadriidae	Y	Marine/Coastal	Predator
Charadrius mongolus	Lesser Sand Plover	Charadriidae	Y	Freshwater	Predator
Charadrius nivosus	Snowy Plover	Charadriidae	Y	Marine/Coastal	Predator
Chlidonias hybrida	Whiskered Tern	Laridae	Y	Freshwater	Predator
Chloephaga melanoptera	Andean Goose	Anatidae	Y	Freshwater	Plant-based diet
Chloephaga picta	Upland Goose	Anatidae	Y	Terrestrial	Plant-based diet
Chloris chloris	European Greenfinch	Fringillidae	N	Terrestrial	Plant-based diet
Chondestes grammacus	Lark Sparrow	Passerellidae	Y	Terrestrial	Omnivore
Ciconia boyciana	Oriental Stork	Ciconiidae	Y	Freshwater	Predator
Ciconia ciconia	White Stork	Ciconiidae	Y	Terrestrial	Predator
Ciconia nigra	Black Stork	Ciconiidae	Y	Terrestrial	Predator
Circus assimilis	Spotted Harrier	Accipitridae	N	Terrestrial	Predator
Circus cyaneus	Hen Harrier	Accipitridae	Y	Terrestrial	Predator
Circus pygargus	Montagu's Harrier	Accipitridae	Y	Terrestrial	Predator
Columba livia	Rock Dove	Columbidae	Y	Terrestrial	Plant-based diet
Columba palumbus	Common Wood Pigeon	Columbidae	Y	Terrestrial	Omnivore
Columbina inca	Inca Dove	Columbidae	Y	Terrestrial	Plant-based diet
Coragyps atratus	Black Vulture	Cathartidae	Y	Terrestrial	Predator
Corvus albus	Pied Crow	Corvidae	N	Terrestrial	Omnivore
Corvus brachyrhynchos	American Crow	Corvidae	Y	Terrestrial	Omnivore
Corvus brachyrhynchos	American Crow	Corvidae	Y	Terrestrial	Omnivore
Corvus corax	Northern Raven	Corvidae	N	Terrestrial	Omnivore
Corvus corone	Carrion Crow	Corvidae	N	Terrestrial	Omnivore
Corvus frugilegus	Rook	Corvidae	Y	Terrestrial	Omnivore

Corvus macrorhynchos	Large-billed Crow	Corvidae	Y	Terrestrial	Omnivore
Corvus ossifragus	Fish Crow	Corvidae	Y	Marine/Coastal	Omnivore
Corvus splendens	House Crow	Corvidae	Y	Terrestrial	Omnivore
Coscoroba coscoroba	Coscoroba Swan	Anatidae	Y	Freshwater	Omnivore
Cyanocitta cristata	Blue Jay	Corvidae	N	Terrestrial	Omnivore
Cyanoliseus patagonus	Burrowing Parrot	Psittacidae	Y	Terrestrial	Omnivore
Cygnus atratus	Black Swan	Anatidae	Y	Freshwater	Plant-based diet
Cygnus buccinator	Trumpeter Swan	Anatidae	Y	Freshwater	Plant-based diet
Cygnus columbianus	Tundra Swan	Anatidae	Y	Freshwater	Plant-based diet
Cygnus columbianus	Tundra Swan	Anatidae	Y	Freshwater	Plant-based diet
Cygnus cygnus	Whooper Swan	Anatidae	Y	Freshwater	Plant-based diet
Cygnus melancoryphus	Black-necked Swan	Anatidae	Y	Freshwater	Plant-based diet
Cygnus olor	Mute Swan	Anatidae	Y	Freshwater	Plant-based diet
Dendrocopos major	Great Spotted Woodpecker	Picidae	N	Terrestrial	Omnivore
Dendrocygna bicolor	Fulvous Whistling Duck	Anatidae	Y	Freshwater	Omnivore
Dendrocygna viduata	White-faced Whistling Duck	Anatidae	Y	Freshwater	Omnivore
Egretta caerulea	Little Blue Heron	Ardeidae	Y	Freshwater	Predator
Egretta garzetta	Little Egret	Ardeidae	Y	Freshwater	Predator
Egretta thula	Snowy Egret	Ardeidae	Y	Freshwater	Predator
Enicognathus ferrugineus	Austral Parakeet	Psittacidae	N	Terrestrial	Omnivore
Enicognathus leptorhynchus	Slender-billed Parakeet	Psittacidae	Y	Terrestrial	Omnivore
Eudyptes chrysocome	Southern Rockhopper Penguin	Spheniscidae	Y	Marine/Coastal	Predator
Falco biarmicus	Lanner Falcon	Falconidae	N	Terrestrial	Predator
Falco cherrug	Saker Falcon	Falconidae	N	Terrestrial	Predator
Falco columbarius	Merlin	Falconidae	N	Terrestrial	Predator
Falco mexicanus	Prairie Falcon	Falconidae	N	Terrestrial	Predator
Falco peregrinus	Peregrine Falcon	Falconidae	N	Terrestrial	Predator
Falco rusticolus	Gyr Falcon	Falconidae	N	Terrestrial	Predator
Falco sparverius	American Kestrel	Falconidae	N	Terrestrial	Predator
Falco tinnunculus	Common Kestrel	Falconidae	N	Terrestrial	Predator
Fratercula arctica	Atlantic Puffin	Alcidae	Y	Marine/Coastal	Predator

<i>Fregata magnificens</i>	Magnificent Frigatebird	Fregatidae	Y	Marine/Coastal	Predator
<i>Fregata minor</i>	Great Frigatebird	Fregatidae	Y	Marine/Coastal	Predator
<i>Fringilla coelebs</i>	Common Chaffinch	Fringillidae	N	Terrestrial	Predator
<i>Fulica americana</i>	American Coot	Rallidae	Y	Freshwater	Plant-based diet
<i>Fulica armillata</i>	Red-gartered Coot	Rallidae	Y	Freshwater	Plant-based diet
<i>Fulica atra</i>	Eurasian Coot	Rallidae	Y	Freshwater	Plant-based diet
<i>Fulmarus glacialis</i>	Northern Fulmar	Procellariidae	Y	Marine/Coastal	Predator
<i>Fulmarus glacialoides</i>	Southern Fulmar	Procellariidae	Y	Marine/Coastal	Predator
<i>Gallinago gallinago</i>	Common Snipe	Scolopacidae	Y	Freshwater	Predator
<i>Gallinago stenura</i>	Pin-tailed Snipe	Scolopacidae	Y	Freshwater	Predator
<i>Gallinula chloropus</i>	Common Moorhen	Rallidae	Y	Freshwater	Omnivore
<i>Gallus gallus</i>	Red Junglefowl	Phasianidae	N	Terrestrial	Omnivore
<i>Garrulus glandarius</i>	Eurasian Jay	Corvidae	N	Terrestrial	Omnivore
<i>Gavia immer</i>	Common Loon	Gaviidae	Y	Freshwater	Predator
<i>Gavia pacifica</i>	Pacific Loon	Gaviidae	Y	Freshwater	Predator
<i>Gavia stellata</i>	Red-throated Loon	Gaviidae	Y	Freshwater	Predator
<i>Gelochelidon nilotica</i>	Gull-billed Tern	Laridae	Y	Marine/Coastal	Predator
<i>Geranoaetus melanoleucus</i>	Black-chested Buzzard-Eagle	Accipitridae	N	Terrestrial	Predator
<i>Geranoaetus polyosoma</i>	Variable Hawk	Accipitridae	N	Terrestrial	Predator
<i>Geronticus eremita</i>	Northern Bald Ibis	Threskiornithidae	Y	Terrestrial	Predator
<i>Grus grus</i>	Common Crane	Gruidae	Y	Freshwater	Omnivore
<i>Grus japonensis</i>	Red-crowned Crane	Gruidae	Y	Freshwater	Omnivore
<i>Grus monacha</i>	Hooded Crane	Gruidae	Y	Freshwater	Omnivore
<i>Gymnogyps californianus</i>	California Condor	Cathartidae	N	Terrestrial	Predator
<i>Gypaetus barbatus</i>	Bearded Vulture	Accipitridae	N	Terrestrial	Predator
<i>Gyps fulvus</i>	Griffon Vulture	Accipitridae	Y	Terrestrial	Predator
<i>Haematopus ater</i>	Blackish Oystercatcher	Haematopodidae	Y	Marine/Coastal	Predator
<i>Haematopus moquini</i>	African Oystercatcher	Haematopodidae	Y	Marine/Coastal	Predator
<i>Haematopus ostralegus</i>	Eurasian Oystercatcher	Haematopodidae	Y	Marine/Coastal	Predator
<i>Haematopus palliatus</i>	American Oystercatcher	Haematopodidae	Y	Marine/Coastal	Predator

Haliaeetus albicilla	White-tailed Eagle	Accipitridae	Y	Terrestrial	Predator
Haliaeetus leucocephalus	Bald Eagle	Accipitridae	Y	Freshwater	Predator
Haliaeetus pelagicus	Steller's Sea Eagle	Accipitridae	Y	Freshwater	Predator
Hirundo rustica	Barn Swallow	Hirundinidae	Y	Terrestrial	Predator
Hydroprogne caspia	Caspian Tern	Laridae	Y	Freshwater	Predator
Junco hyemalis	Dark-eyed Junco	Passerellidae	N	Terrestrial	Plant-based diet
Larosterna inca	Inca Tern	Laridae	Y	Marine/Coastal	Predator
Larus argentatus	European Herring Gull	Laridae	Y	Marine/Coastal	Predator
Larus armenicus	Armenian Gull	Laridae	Y	Freshwater	Predator
Larus belcheri	Belcher's Gull	Laridae	Y	Marine/Coastal	Predator
Larus brunnicephalus	Brown-headed Gull	Laridae	Y	Freshwater	Predator
Larus cachinnans	Caspian Gull	Laridae	Y	Marine/Coastal	Predator
Larus californicus	California Gull	Laridae	Y	Marine/Coastal	Predator
Larus canus	Common Gull	Laridae	Y	Marine/Coastal	Predator
Larus cirrocephalus	Grey-headed Gull	Laridae	Y	Freshwater	Predator
Larus delawarensis	Ring-billed Gull	Laridae	Y	Marine/Coastal	Predator
Larus dominicanus	Kelp Gull	Laridae	Y	Marine/Coastal	Predator
Larus fuscus	Lesser Black-backed Gull	Laridae	Y	Marine/Coastal	Omnivore
Larus genei	Slender-billed Gull	Laridae	Y	Marine/Coastal	Predator
Larus glaucescens	Glaucous-winged Gull	Laridae	Y	Marine/Coastal	Predator
Larus glaucoides	Iceland Gull	Laridae	Y	Marine/Coastal	Predator
Larus glaucoides	Iceland Gull	Laridae	Y	Marine/Coastal	Predator
Larus hartlaubii	Hartlaub's Gull	Laridae	Y	Marine/Coastal	Predator
Larus hyperboreus	Glaucous Gull	Laridae	Y	Marine/Coastal	Omnivore
Larus maculipennis	Brown-hooded Gull	Laridae	Y	Freshwater	Predator
Larus marinus	Great Black-backed Gull	Laridae	Y	Marine/Coastal	Predator
Larus michahellis	Yellow-legged Gull	Laridae	Y	Marine/Coastal	Predator
Larus novaehollandiae	Silver Gull	Laridae	Y	Marine/Coastal	Omnivore
Larus novaehollandiae	Silver Gull	Laridae	Y	Marine/Coastal	Omnivore
Larus occidentalis	Western Gull	Laridae	Y	Marine/Coastal	Predator
Larus philadelphia	Bonaparte's Gull	Laridae	Y	Freshwater	Predator
Larus ridibundus	Black-headed Gull	Laridae	Y	Freshwater	Predator
Larus ridibundus	Black-headed Gull	Laridae	Y	Freshwater	Predator

Larus schistisagus	Slaty-backed Gull	Laridae	Y	Marine/Coastal	Predator
Larus smithsonianus	American Herring Gull	Laridae	Y	Marine/Coastal	Predator
Leucocarbo atriceps	Imperial Shag	Phalacrocoracidae	Y	Marine/Coastal	Predator
Leucocarbo magellanicus	Rock Shag	Phalacrocoracidae	Y	Marine/Coastal	Predator
Lophodytes cucullatus	Hooded Merganser	Anatidae	Y	Freshwater	Predator
Lophura nycthemera	Silver Pheasant	Phasianidae	N	Terrestrial	Omnivore
Macronectes giganteus	Southern Giant Petrel	Procellariidae	Y	Marine/Coastal	Predator
Mareca americana	American Wigeon	Anatidae	Y	Freshwater	Omnivore
Mareca falcata	Falcated Duck	Anatidae	Y	Freshwater	Omnivore
Mareca penelope	Eurasian Wigeon	Anatidae	Y	Freshwater	Omnivore
Mareca strepera	Gadwall	Anatidae	Y	Freshwater	Omnivore
Marmaronetta angustirostris	Marbled Duck	Anatidae	Y	Freshwater	Omnivore
Megascops asio	Eastern Screech Owl	Strigidae	N	Terrestrial	Predator
Megascops choliba	Tropical Screech Owl	Strigidae	N	Terrestrial	Predator
Megascops kennicottii	Western Screech Owl	Strigidae	N	Terrestrial	Predator
Melanitta fusca	Velvet Scoter	Anatidae	Y	Freshwater	Predator
Melanitta nigra	Common Scoter	Anatidae	Y	Freshwater	Predator
Melanitta perspicillata	Surf Scoter	Anatidae	Y	Freshwater	Predator
Meleagris gallopavo	Wild Turkey	Phasianidae	N	Terrestrial	Omnivore
Mergus merganser	Common Merganser	Anatidae	Y	Freshwater	Predator
Mergus serrator	Red-breasted Merganser	Anatidae	Y	Freshwater	Predator
Microcarbo coronatus	Crowned Cormorant	Phalacrocoracidae	Y	Marine/Coastal	Predator
Milvus migrans	Black Kite	Accipitridae	Y	Terrestrial	Predator
Milvus milvus	Red Kite	Accipitridae	Y	Terrestrial	Predator
Morus bassanus	Northern Gannet	Sulidae	Y	Marine/Coastal	Predator
Morus capensis	Cape Gannet	Sulidae	Y	Marine/Coastal	Predator
Mycteria americana	Wood Stork	Ciconiidae	Y	Freshwater	Predator
Netta rufina	Red-crested Pochard	Anatidae	Y	Freshwater	Plant-based diet
Nisaetus nipalensis	Mountain Hawk-Eagle	Accipitridae	N	Terrestrial	Predator
Numenius arquata	Eurasian Curlew	Scolopacidae	Y	Terrestrial	Predator

Numenius phaeopus	Eurasian Whimbrel	Scolopacidae	Y	Marine/Coastal	Predator
Numida meleagris	Helmeted Guineafowl	Numididae	N	Terrestrial	Omnivore
Nycticorax nycticorax	Black-crowned Night Heron	Ardeidae	Y	Freshwater	Predator
Oxyura jamaicensis	Ruddy Duck	Anatidae	Y	Freshwater	Omnivore
Pachyptila desolata	Antarctic Prion	Procellariidae	Y	Marine/Coastal	Predator
Pandion haliaetus	Osprey	Pandionidae	Y	Marine/Coastal	Predator
Parabuteo unicinctus	Harris's Hawk	Accipitridae	N	Terrestrial	Predator
Passer domesticus	House Sparrow	Passeridae	Y	Terrestrial	Plant-based diet
Passer montanus	Eurasian Tree Sparrow	Passeridae	Y	Terrestrial	Plant-based diet
Pelecanus crispus	Dalmatian Pelican	Pelecanidae	Y	Freshwater	Predator
Pelecanus erythrorhynchos	American White Pelican	Pelecanidae	Y	Freshwater	Predator
Pelecanus occidentalis	Brown Pelican	Pelecanidae	Y	Marine/Coastal	Predator
Pelecanus onocrotalus	Great White Pelican	Pelecanidae	Y	Freshwater	Predator
Pelecanus thagus	Peruvian Pelican	Pelecanidae	Y	Marine/Coastal	Predator
Phalacrocorax capensis	Cape Cormorant	Phalacrocoraci dae	Y	Marine/Coastal	Predator
Phalacrocorax carbo	Great Cormorant	Phalacrocoraci dae	Y	Freshwater	Predator
Phalacrocorax punctatus	Spotted Shag	Phalacrocoraci dae	Y	Marine/Coastal	Predator
Phalaropus lobatus	Red-necked Phalarope	Scolopacidae	Y	Freshwater	Predator
Phasianus colchicus	Common Pheasant	Phasianidae	N	Terrestrial	Omnivore
Phoebastria irrorata	Waved Albatross	Diomedidae	Y	Marine/Coastal	Predator
Phoenicopiterus chilensis	Chilean Flamingo	Phoenicopterid ae	Y	Freshwater	Predator
Phoenicopiterus roseus	Greater Flamingo	Phoenicopterid ae	Y	Freshwater	Predator
Phylloscopus trochilus	Willow Warbler	Phylloscopidae	N	Terrestrial	Predator
Pica hudsonia	Black-billed Magpie	Corvidae	N	Terrestrial	Omnivore
Pica pica	Eurasian Magpie	Corvidae	N	Terrestrial	Omnivore
Piranga rubra	Summer Tanager	Cardinalidae	N	Terrestrial	Predator
Platalea ajaja	Roseate Spoonbill	Threskiornithid ae	Y	Freshwater	Predator

Platalea leucorodia	Eurasian Spoonbill	Threskiornithidae	Y	Freshwater	Predator
Platalea minor	Black-faced Spoonbill	Threskiornithidae	Y	Marine/Coastal	Predator
Plegadis chihi	White-faced Ibis	Threskiornithidae	Y	Freshwater	Predator
Plegadis falcinellus	Glossy Ibis	Threskiornithidae	Y	Freshwater	Predator
Pluvialis dominica	American Golden Plover	Charadriidae	Y	Terrestrial	Predator
Pluvialis squatarola	Grey Plover	Charadriidae	Y	Terrestrial	Predator
Podiceps auritus	Horned Grebe	Podicipedidae	N	Freshwater	Predator
Podiceps cristatus	Great Crested Grebe	Podicipedidae	Y	Freshwater	Predator
Podiceps grisegena	Red-necked Grebe	Podicipedidae	Y	Freshwater	Predator
Podiceps major	Great Grebe	Podicipedidae	Y	Freshwater	Predator
Podiceps nigricollis	Black-necked Grebe	Podicipedidae	Y	Freshwater	Predator
Podilymbus podiceps	Pied-billed Grebe	Podicipedidae	N	Freshwater	Predator
Poikilocarbo gaimardi	Red-legged Cormorant	Phalacrocoracidae	N	Marine/Coastal	Predator
Procellaria aequinoctialis	White-chinned Petrel	Procellariidae	Y	Marine/Coastal	Predator
Pterodroma macroptera	Great-winged Petrel	Procellariidae	Y	Marine/Coastal	Predator
Puffinus puffinus	Manx Shearwater	Procellariidae	Y	Marine/Coastal	Predator
Pygochelidon cyanoleuca	Blue-and-white Swallow	Hirundinidae	N	Terrestrial	Predator
Pyrrhula pyrrhula	Eurasian Bullfinch	Fringillidae	N	Terrestrial	Omnivore
Quiscalus mexicanus	Great-tailed Grackle	Icteridae	Y	Terrestrial	Omnivore
Quiscalus quiscula	Common Grackle	Icteridae	Y	Freshwater	Omnivore
Rallus aquaticus	Water Rail	Rallidae	N	Freshwater	Omnivore
Rissa tridactyla	Black-legged Kittiwake	Laridae	Y	Marine/Coastal	Predator
Rupornis magnirostris	Roadside Hawk	Accipitridae	N	Terrestrial	Predator
Rynchops niger	Black Skimmer	Laridae	Y	Freshwater	Predator
Sagittarius serpentarius	Secretarybird	Sagittariidae	N	Terrestrial	Predator
Somateria mollissima	Common Eider	Anatidae	Y	Marine/Coastal	Predator
Spatula clypeata	Northern Shoveler	Anatidae	Y	Freshwater	Predator
Spatula cyanoptera	Cinnamon Teal	Anatidae	Y	Freshwater	Omnivore

Spatula cyanoptera	Cinnamon Teal	Anatidae	Y	Freshwater	Omnivore
Spatula discors	Blue-winged Teal	Anatidae	Y	Freshwater	Omnivore
Spatula querquedula	Garganey	Anatidae	Y	Freshwater	Omnivore
Spatula rhynchotis	Australasian Shoveler	Anatidae	Y	Freshwater	Omnivore
Spheniscus demersus	African Penguin	Spheniscidae	Y	Marine/Coastal	Predator
Spheniscus humboldti	Humboldt Penguin	Spheniscidae	Y	Marine/Coastal	Predator
Spilornis cheela	Crested Serpent Eagle	Accipitridae	N	Terrestrial	Predator
Stercorarius parasiticus	Parasitic Jaeger	Stercorariidae	Y	Marine/Coastal	Predator
Sterna dougallii	Roseate Tern	Laridae	Y	Marine/Coastal	Predator
Sterna forsteri	Forster's Tern	Laridae	Y	Freshwater	Predator
Sterna hirundinacea	South American Tern	Laridae	Y	Marine/Coastal	Predator
Sterna hirundo	Common Tern	Laridae	Y	Marine/Coastal	Predator
Sterna paradisaea	Arctic Tern	Laridae	Y	Marine/Coastal	Predator
Sternula albifrons	Little Tern	Laridae	Y	Marine/Coastal	Predator
Streptopelia decaocto	Eurasian Collared Dove	Columbidae	Y	Terrestrial	Omnivore
Streptopelia turtur	European Turtle Dove	Columbidae	N	Terrestrial	Plant-based diet
Strix aluco	Tawny Owl	Strigidae	N	Terrestrial	Predator
Strix nebulosa	Great Grey Owl	Strigidae	N	Terrestrial	Predator
Strix uralensis	Ural Owl	Strigidae	N	Terrestrial	Predator
Strix varia	Barred Owl	Strigidae	N	Terrestrial	Predator
Sturnus vulgaris	Common Starling	Sturnidae	Y	Terrestrial	Omnivore
Sula leucogaster	Brown Booby	Sulidae	Y	Marine/Coastal	Predator
Sula neboxii	Blue-footed Booby	Sulidae	Y	Marine/Coastal	Predator
Sula sula	Red-footed Booby	Sulidae	Y	Marine/Coastal	Predator
Sula variegata	Peruvian Booby	Sulidae	Y	Marine/Coastal	Predator
Tachybaptus ruficollis	Little Grebe	Podicipedidae	Y	Freshwater	Predator
Tachycineta bicolor	Tree Swallow	Hirundinidae	Y	Freshwater	Predator
Tachyeres pteneres	Fuegian Steamer Duck	Anatidae	Y	Marine/Coastal	Predator
Tadorna ferruginea	Ruddy Shelduck	Anatidae	Y	Freshwater	Omnivore
Tadorna tadorna	Common Shelduck	Anatidae	Y	Marine/Coastal	Omnivore
Taeniopygia guttata	Sunda Zebra Finch	Estrildidae	Y	Terrestrial	Plant-based diet
Thalassarche melanophris	Black-browed Albatross	Diomedidae	Y	Marine/Coastal	Predator

<i>Thalasseus bergii</i>	Greater Crested Tern	Laridae	Y	Marine/Coastal	Predator
<i>Thalasseus elegans</i>	Elegant Tern	Laridae	Y	Marine/Coastal	Predator
<i>Thalasseus maximus</i>	Royal Tern	Laridae	Y	Marine/Coastal	Predator
<i>Thalasseus sandvicensis</i>	Sandwich Tern	Laridae	Y	Marine/Coastal	Predator
<i>Tringa flavipes</i>	Lesser Yellowlegs	Scolopacidae	Y	Freshwater	Predator
<i>Tringa melanoleuca</i>	Greater Yellowlegs	Scolopacidae	Y	Freshwater	Predator
<i>Tringa ochropus</i>	Green Sandpiper	Scolopacidae	Y	Freshwater	Predator
<i>Tringa semipalmata</i>	Willet	Scolopacidae	Y	Marine/Coastal	Predator
<i>Tringa totanus</i>	Common Redshank	Scolopacidae	Y	Freshwater	Predator
<i>Turdus merula</i>	Common Blackbird	Turdidae	N	Terrestrial	Omnivore
<i>Turdus migratorius</i>	American Robin	Turdidae	N	Terrestrial	Omnivore
<i>Turdus philomelos</i>	Song Thrush	Turdidae	N	Terrestrial	Omnivore
<i>Tyrannus verticalis</i>	Western Kingbird	Tyrannidae	N	Terrestrial	Omnivore
<i>Tyto alba</i>	Western Barn Owl	Tytonidae	N	Terrestrial	Predator
<i>Uria aalge</i>	Common Murre	Alcidae	Y	Marine/Coastal	Predator
<i>Uria lomvia</i>	Thick-billed Murre	Alcidae	Y	Marine/Coastal	Predator
<i>Urite penicillatus</i>	Brandt's Cormorant	Phalacrocoracidae	Y	Marine/Coastal	Predator
<i>Vanellus chilensis</i>	Southern Lapwing	Charadriidae	Y	Terrestrial	Omnivore
<i>Vanellus vanellus</i>	Northern Lapwing	Charadriidae	Y	Freshwater	Omnivore
<i>Xema sabini</i>	Sabine's Gull	Laridae	Y	Marine/Coastal	Predator
<i>Zenaida macroura</i>	Mourning Dove	Columbidae	N	Terrestrial	Plant-based diet

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586 *Table S2: Australian species ecological traits used in our prediction of Australian*
587 *species' susceptibility to HPAI. Species are listed by their binomial name, their common*
588 *name, and their taxonomic family. Traits include whether they congregate or not (Y/N),*
589 *their general habitat, their general diet, and their IUCN redlist status.*

Species binomial name	Species common name	Family	Congregator?	Habitat Groupings	Diet Groupings	IUCN status
<i>Acanthiza apicalis</i>	Inland Thornbill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Acanthiza ewingii</i>	Tasmanian Thornbill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Acanthiza inornata</i>	Western Thornbill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Acanthiza iredalei</i>	Slender-billed Thornbill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Acanthiza lineata</i>	Striated Thornbill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Acanthiza nana</i>	Yellow Thornbill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Acanthiza pusilla</i>	Brown Thornbill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Acanthiza reguloides</i>	Buff-rumped Thornbill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Acanthiza robustirostris</i>	Slaty-backed Thornbill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Acanthiza uropygialis</i>	Chestnut-rumped Thornbill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Acanthornis magna</i>	Scrubtit	Acanthizidae	N	Terrestrial	Predator	LC
<i>Aphelocephala leucopsis</i>	Southern Whiteface	Acanthizidae	N	Terrestrial	Predator	VU
<i>Aphelocephala nigricincta</i>	Banded Whiteface	Acanthizidae	N	Terrestrial	Predator	LC
<i>Aphelocephala pectoralis</i>	Chestnut-breasted Whiteface	Acanthizidae	N	Terrestrial	Predator	NT
<i>Calamanthus campestris</i>	Rufous Fieldwren	Acanthizidae	N	Terrestrial	Predator	LC
<i>Calamanthus cautus</i>	Shy Heathwren	Acanthizidae	N	Terrestrial	Predator	LC
<i>Calamanthus fuliginosus</i>	Striated Fieldwren	Acanthizidae	N	Terrestrial	Predator	LC
<i>Calamanthus montanellus</i>	Western Fieldwren	Acanthizidae	N	Terrestrial	Predator	LC

<i>Calamanthus pyrrhopygius</i>	Chestnut-rumped Heathwren	Acanthizidae	N	Terrestrial	Predator	LC
<i>Gerygone chloronota</i>	Green-backed Gerygone	Acanthizidae	N	Terrestrial	Predator	LC
<i>Gerygone fusca</i>	Western Gerygone	Acanthizidae	N	Terrestrial	Predator	LC
<i>Gerygone levigaster</i>	Mangrove Gerygone	Acanthizidae	N	Terrestrial	Predator	LC
<i>Gerygone magnirostris</i>	Large-billed Gerygone	Acanthizidae	N	Terrestrial	Predator	LC
<i>Gerygone mouki</i>	Brown Gerygone	Acanthizidae	N	Terrestrial	Predator	LC
<i>Gerygone olivacea</i>	White-throated Gerygone	Acanthizidae	N	Terrestrial	Predator	LC
<i>Gerygone palpebrosa</i>	Fairy Gerygone	Acanthizidae	N	Terrestrial	Predator	LC
<i>Gerygone tenebrosa</i>	Dusky Gerygone	Acanthizidae	N	Terrestrial	Predator	LC
<i>Origma solitaria</i>	Rockwarbler	Acanthizidae	N	Terrestrial	Predator	LC
<i>Pycnoptilus floccosus</i>	Pilotbird	Acanthizidae	N	Terrestrial	Predator	VU
<i>Pyrrholaemus brunneus</i>	Redthroat	Acanthizidae	N	Terrestrial	Predator	LC
<i>Pyrrholaemus sagittatus</i>	Speckled Warbler	Acanthizidae	N	Terrestrial	Predator	LC
<i>Sericornis citreogularis</i>	Yellow-throated Scrubwren	Acanthizidae	N	Terrestrial	Predator	LC
<i>Sericornis frontalis</i>	White-browed Scrubwren	Acanthizidae	N	Terrestrial	Predator	LC
<i>Sericornis humilis</i>	Tasmanian Scrubwren	Acanthizidae	N	Terrestrial	Predator	LC
<i>Sericornis magnirostra</i>	Large-billed Scrubwren	Acanthizidae	N	Terrestrial	Predator	LC
<i>Smicronis brevirostris</i>	Weebill	Acanthizidae	N	Terrestrial	Predator	LC
<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk	Accipitridae	N	Terrestrial	Predator	LC
<i>Accipiter fasciatus</i>	Brown Goshawk	Accipitridae	N	Terrestrial	Predator	LC
<i>Accipiter novaehollandiae</i>	Grey Goshawk	Accipitridae	N	Terrestrial	Predator	LC
<i>Aquila audax</i>	Wedge-tailed Eagle	Accipitridae	N	Terrestrial	Predator	LC
<i>Aviceda subcristata</i>	Pacific Baza	Accipitridae	N	Terrestrial	Predator	LC

<i>Circus approximans</i>	Swamp Harrier	Accipitridae	N	Freshwater	Predator	LC
<i>Circus assimilis</i>	Spotted Harrier	Accipitridae	N	Terrestrial	Predator	LC
<i>Elanus axillaris</i>	Black-shouldered Kite	Accipitridae	N	Terrestrial	Predator	LC
<i>Elanus scriptus</i>	Letter-winged Kite	Accipitridae	N	Terrestrial	Predator	NT
<i>Erythrotriorchis radiatus</i>	Red Goshawk	Accipitridae	N	Terrestrial	Predator	EN
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	Accipitridae	N	Marine/Coastal	Predator	LC
<i>Haliastur indus</i>	Brahminy Kite	Accipitridae	N	Marine/Coastal	Predator	LC
<i>Haliastur sphenurus</i>	Whistling Kite	Accipitridae	N	Freshwater	Predator	LC
<i>Hamirostra melanosternon</i>	Black-breasted Buzzard	Accipitridae	N	Terrestrial	Predator	LC
<i>Hieraaetus morphnoides</i>	Little Eagle	Accipitridae	N	Terrestrial	Predator	LC
<i>Lophoictinia isura</i>	Square-tailed Kite	Accipitridae	N	Terrestrial	Predator	LC
<i>Milvus migrans</i>	Black Kite	Accipitridae	Y	Terrestrial	Predator	LC
<i>Acrocephalus australis</i>	Australian Reed-Warbler	Acrocephalidae	N	Freshwater	Predator	LC
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar	Aegothelidae	N	Terrestrial	Predator	LC
<i>Alauda arvensis</i>	Eurasian Skylark	Alaudidae	N	Terrestrial	Omnivore	LC
<i>Mirafra javanica</i>	Horsfield's Bushlark	Alaudidae	N	Terrestrial	Omnivore	LC
<i>Ceyx azureus</i>	Azure Kingfisher	Alcedinidae	N	Freshwater	Predator	LC
<i>Ceyx pusillus</i>	Little Kingfisher	Alcedinidae	N	Terrestrial	Predator	LC
<i>Dacelo leachii</i>	Blue-winged Kookaburra	Alcedinidae	N	Terrestrial	Predator	LC
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Alcedinidae	N	Terrestrial	Predator	LC
<i>Tanysiptera sylvia</i>	Buff-breasted Paradise-Kingfisher	Alcedinidae	N	Terrestrial	Predator	LC
<i>Todiramphus chloris</i>	Collared Kingfisher	Alcedinidae	N	Terrestrial	Predator	LC
<i>Todiramphus macleayii</i>	Forest Kingfisher	Alcedinidae	N	Marine/Coastal	Predator	LC
<i>Todiramphus pyrrhopygius</i>	Red-backed Kingfisher	Alcedinidae	N	Terrestrial	Predator	LC

<i>Todiramphus sanctus</i>	Sacred Kingfisher	Alcedinidae	N	Terrestrial	Predator	LC
<i>Anas castanea</i>	Chestnut Teal	Anatidae	Y	Freshwater	Omnivore	LC
<i>Anas gracilis</i>	Grey Teal	Anatidae	Y	Freshwater	Omnivore	LC
<i>Anas superciliosa</i>	Pacific Black Duck	Anatidae	Y	Freshwater	Omnivore	LC
<i>Aythya australis</i>	Hardhead	Anatidae	Y	Freshwater	Omnivore	LC
<i>Biziura lobata</i>	Musk Duck	Anatidae	Y	Freshwater	Predator	LC
<i>Cereopsis novaehollandiae</i>	Cape Barren Goose	Anatidae	Y	Terrestrial	Plant-based diet	LC
<i>Chenonetta jubata</i>	Australian Wood Duck	Anatidae	Y	Freshwater	Plant-based diet	LC
<i>Cygnus atratus</i>	Black Swan	Anatidae	Y	Freshwater	Plant-based diet	LC
<i>Dendrocygna arcuata</i>	Wandering Whistling-Duck	Anatidae	Y	Freshwater	Plant-based diet	LC
<i>Dendrocygna eytoni</i>	Plumed Whistling-Duck	Anatidae	Y	Terrestrial	Plant-based diet	LC
<i>Dendrocygna guttata</i>	Spotted Whistling-Duck	Anatidae	Y	Freshwater	Omnivore	LC
<i>Malacorhynchus membranaceus</i>	Pink-eared Duck	Anatidae	Y	Freshwater	Omnivore	LC
<i>Nettapus coromandelianus</i>	Cotton Pygmy-goose	Anatidae	Y	Freshwater	Plant-based diet	LC
<i>Nettapus pulchellus</i>	Green Pygmy-goose	Anatidae	Y	Freshwater	Plant-based diet	LC
<i>Oxyura australis</i>	Blue-billed Duck	Anatidae	Y	Freshwater	Omnivore	LC
<i>Radjah radjah</i>	Radjah Shelduck	Anatidae	Y	Marine/Coastal	Omnivore	LC
<i>Spatula rhynchotis</i>	Australasian Shoveler	Anatidae	Y	Freshwater	Omnivore	LC
<i>Stictonetta naevosa</i>	Freckled Duck	Anatidae	Y	Freshwater	Omnivore	LC
<i>Tadorna tadornoides</i>	Australian Shelduck	Anatidae	Y	Freshwater	Omnivore	LC
<i>Anhinga novaehollandiae</i>	Australasian Darter	Anhingidae	Y	Freshwater	Predator	LC
<i>Anseranas semipalmata</i>	Magpie Goose	Anseranatidae	Y	Freshwater	Plant-based diet	LC
<i>Aerodramus terraereginae</i>	Australian Swiftlet	Apodidae	Y	Terrestrial	Predator	LC
<i>Apus pacificus</i>	Fork-tailed Swift	Apodidae	Y	Terrestrial	Predator	LC
<i>Hirundapus caudacutus</i>	White-throated Needletail	Apodidae	Y	Terrestrial	Predator	LC

<i>Ardea alba</i>	Great Egret	Ardeidae	Y	Freshwater	Predator	LC
<i>Ardea intermedia</i>	Intermediate Egret	Ardeidae	Y	Freshwater	Predator	LC
<i>Ardea pacifica</i>	White-necked Heron	Ardeidae	Y	Freshwater	Predator	LC
<i>Ardea sumatrana</i>	Great-billed Heron	Ardeidae	N	Marine/Coastal	Predator	LC
<i>Botaurus poiciloptilus</i>	Australasian Bittern	Ardeidae	N	Freshwater	Predator	VU
<i>Bubulcus ibis</i>	Cattle Egret	Ardeidae	Y	Terrestrial	Predator	LC
<i>Butorides striata</i>	Striated Heron	Ardeidae	Y	Freshwater	Predator	LC
<i>Egretta garzetta</i>	Little Egret	Ardeidae	Y	Freshwater	Predator	LC
<i>Egretta novaehollandiae</i>	White-faced Heron	Ardeidae	Y	Freshwater	Predator	LC
<i>Egretta picata</i>	Pied Heron	Ardeidae	Y	Marine/Coastal	Predator	LC
<i>Egretta sacra</i>	Eastern Reef Egret	Ardeidae	Y	Marine/Coastal	Predator	LC
<i>Ixobrychus dubius</i>	Australian Little Bittern	Ardeidae	N	Freshwater	Predator	LC
<i>Ixobrychus flavicollis</i>	Black Bittern	Ardeidae	N	Freshwater	Predator	LC
<i>Nycticorax caledonicus</i>	Nankeen Night-Heron	Ardeidae	Y	Freshwater	Predator	LC
<i>Artamus cinereus</i>	Black-faced Woodswallow	Artamidae	N	Terrestrial	Predator	LC
<i>Artamus cyanopterus</i>	Dusky Woodswallow	Artamidae	N	Terrestrial	Predator	LC
<i>Artamus minor</i>	Little Woodswallow	Artamidae	N	Terrestrial	Predator	LC
<i>Artamus personatus</i>	Masked Woodswallow	Artamidae	Y	Terrestrial	Predator	LC
<i>Artamus superciliosus</i>	White-browed Woodswallow	Artamidae	Y	Terrestrial	Predator	LC
<i>Cracticus argenteus</i>	Silver-backed Butcherbird	Artamidae	N	Terrestrial	Omnivore	LC
<i>Cracticus mentalis</i>	Black-backed Butcherbird	Artamidae	N	Terrestrial	Predator	LC
<i>Cracticus nigrogularis</i>	Pied Butcherbird	Artamidae	N	Terrestrial	Omnivore	LC
<i>Cracticus torquatus</i>	Grey Butcherbird	Artamidae	N	Terrestrial	Omnivore	LC
<i>Gymnorhina tibicen</i>	Australian Magpie	Artamidae	N	Terrestrial	Predator	LC
<i>Melloria quoyi</i>	Black Butcherbird	Artamidae	N	Terrestrial	Omnivore	LC
<i>Strepera fuliginosa</i>	Black Currawong	Artamidae	N	Terrestrial	Omnivore	LC
<i>Strepera graculina</i>	Pied Currawong	Artamidae	N	Terrestrial	Omnivore	LC

<i>Strepera versicolor</i>	Grey Currawong	Artamidae	N	Terrestrial	Omnivore	LC
<i>Artamus leucorhynchus</i>	White-breasted Woodswallow	Artamidae	Y	Terrestrial	Predator	LC
<i>Burhinus grallarius</i>	Bush Stone-curlew	Burhinidae	N	Terrestrial	Predator	LC
<i>Esacus magnirostris</i>	Beach Stone-curlew	Burhinidae	N	Marine/Coastal	Predator	NT
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo	Cacatuidae	Y	Terrestrial	Omnivore	LC
<i>Cacatua leadbeateri</i>	Major Mitchell's Cockatoo	Cacatuidae	N	Terrestrial	Plant-based diet	LC
<i>Cacatua pastinator</i>	Western Corella	Cacatuidae	Y	Terrestrial	Plant-based diet	LC
<i>Cacatua sanguinea</i>	Little Corella	Cacatuidae	Y	Terrestrial	Plant-based diet	LC
<i>Cacatua tenuirostris</i>	Long-billed Corella	Cacatuidae	Y	Terrestrial	Plant-based diet	LC
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	Cacatuidae	N	Terrestrial	Omnivore	VU
<i>Calyptorhynchus banksii</i>	Red-tailed Black-Cockatoo	Cacatuidae	Y	Terrestrial	Plant-based diet	LC
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	Cacatuidae	N	Terrestrial	Plant-based diet	VU
<i>Eolophus roseicapilla</i>	Galah	Cacatuidae	Y	Terrestrial	Omnivore	LC
<i>Nymphicus hollandicus</i>	Cockatiel	Cacatuidae	Y	Terrestrial	Plant-based diet	LC
<i>Zanda baudinii</i>	Baudin's Black-Cockatoo	Cacatuidae	Y	Terrestrial	Omnivore	CR
<i>Zanda funerea</i>	Yellow-tailed Black-Cockatoo	Cacatuidae	Y	Terrestrial	Omnivore	LC
<i>Zanda latirostris</i>	Carnaby's Black-Cockatoo	Cacatuidae	Y	Terrestrial	Plant-based diet	EN
<i>Coracina lineata</i>	Barred Cuckoo-shrike	Campephagidae	N	Terrestrial	Omnivore	LC
<i>Coracina maxima</i>	Ground Cuckoo-shrike	Campephagidae	N	Terrestrial	Predator	LC
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	Campephagidae	N	Terrestrial	Predator	LC

<i>Coracina papuensis</i>	White-bellied Cuckoo-shrike	Campephagidae	N	Terrestrial	Predator	LC
<i>Edolisoma tenuirostre</i>	Common Cicadabird	Campephagidae	N	Terrestrial	Predator	LC
<i>Lalage leucomela</i>	Varied Triller	Campephagidae	N	Terrestrial	Predator	LC
<i>Lalage tricolor</i>	White-winged Triller	Campephagidae	N	Terrestrial	Predator	LC
<i>Caprimulgus macrurus</i>	Large-tailed Nightjar	Caprimulgidae	N	Terrestrial	Predator	LC
<i>Casuaris casuaris</i>	Southern Cassowary	Casuariidae	N	Terrestrial	Omnivore	LC
<i>Dromaius novaehollandiae</i>	Emu	Casuariidae	N	Terrestrial	Omnivore	LC
<i>Charadrius bicinctus</i>	Double-banded Plover	Charadriidae	Y	Freshwater	Predator	NT
<i>Charadrius leschenaultii</i>	Greater Sand Plover	Charadriidae	Y	Marine/Coastal	Predator	LC
<i>Charadrius mongolus</i>	Lesser Sand Plover	Charadriidae	Y	Freshwater	Predator	EN
<i>Charadrius ruficapillus</i>	Red-capped Plover	Charadriidae	Y	Marine/Coastal	Predator	LC
<i>Charadrius veredus</i>	Oriental Plover	Charadriidae	Y	Freshwater	Predator	LC
<i>Elsyornis melanops</i>	Black-fronted Dotterel	Charadriidae	N	Freshwater	Predator	LC
<i>Erythronyx cinctus</i>	Red-kneed Dotterel	Charadriidae	Y	Freshwater	Predator	LC
<i>Peltohyas australis</i>	Inland Dotterel	Charadriidae	N	Terrestrial	Predator	LC
<i>Pluvialis fulva</i>	Pacific Golden Plover	Charadriidae	Y	Terrestrial	Predator	LC
<i>Pluvialis squatarola</i>	Grey Plover	Charadriidae	Y	Terrestrial	Predator	VU
<i>Thinornis cucullatus</i>	Hooded Plover	Charadriidae	N	Marine/Coastal	Predator	VU
<i>Vanellus miles</i>	Masked Lapwing	Charadriidae	Y	Terrestrial	Predator	LC
<i>Vanellus tricolor</i>	Banded Lapwing	Charadriidae	N	Terrestrial	Omnivore	LC
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	Ciconiidae	Y	Freshwater	Predator	NT
<i>Cinclosoma alisteri</i>	Nullarbor Quail-thrush	Cinclosomatidae	N	Terrestrial	Omnivore	LC
<i>Cinclosoma castaneothorax</i>	Chestnut-breasted Quail-thrush	Cinclosomatidae	N	Terrestrial	Omnivore	LC
<i>Cinclosoma castanotum</i>	Chestnut Quail-thrush	Cinclosomatidae	N	Terrestrial	Omnivore	LC

<i>Cinclosoma cinnamomeum</i>	Cinnamon Quail-thrush	Cinclosomatidae	N	Terrestrial	Omnivore	LC
<i>Cinclosoma marginatum</i>	Western Quail-thrush	Cinclosomatidae	N	Terrestrial	Omnivore	LC
<i>Cinclosoma punctatum</i>	Spotted Quail-thrush	Cinclosomatidae	N	Terrestrial	Predator	LC
<i>Cisticola exilis</i>	Golden-headed Cisticola	Cisticolidae	N	Terrestrial	Predator	LC
<i>Cisticola juncidis</i>	Zitting Cisticola	Cisticolidae	N	Terrestrial	Predator	LC
<i>Climacteris affinis</i>	White-browed Treecreeper	Climacteridae	N	Terrestrial	Predator	LC
<i>Climacteris erythrops</i>	Red-browed Treecreeper	Climacteridae	N	Terrestrial	Predator	LC
<i>Climacteris melanurus</i>	Black-tailed Treecreeper	Climacteridae	N	Terrestrial	Predator	LC
<i>Climacteris picumnus</i>	Brown Treecreeper	Climacteridae	N	Terrestrial	Predator	LC
<i>Climacteris rufus</i>	Rufous Treecreeper	Climacteridae	N	Terrestrial	Predator	LC
<i>Cormobates leucophaea</i>	White-throated Treecreeper	Climacteridae	N	Terrestrial	Predator	LC
<i>Chalcophaps longirostris</i>	Brown-capped Emerald-Dove	Columbidae	N	Terrestrial	Omnivore	LC
<i>Columba leucomela</i>	White-headed Pigeon	Columbidae	N	Terrestrial	Omnivore	LC
<i>Columba livia</i>	Rock Dove	Columbidae	Y	Terrestrial	Plant-based diet	LC
<i>Ducula spilorrhhoa</i>	Torresian Imperial-Pigeon	Columbidae	Y	Terrestrial	Omnivore	LC
<i>Ducula whartoni</i>	Christmas Island Imperial-Pigeon	Columbidae	Y	Terrestrial	Omnivore	LC
<i>Geopelia cuneata</i>	Diamond Dove	Columbidae	N	Terrestrial	Plant-based diet	LC
<i>Geopelia humeralis</i>	Bar-shouldered Dove	Columbidae	N	Terrestrial	Plant-based diet	LC
<i>Geopelia placida</i>	Peaceful Dove	Columbidae	N	Terrestrial	Plant-based diet	LC
<i>Geophaps plumifera</i>	Spinifex Pigeon	Columbidae	N	Terrestrial	Plant-based diet	LC
<i>Geophaps scripta</i>	Squatter Pigeon	Columbidae	N	Terrestrial	Plant-based diet	LC

<i>Geophaps smithii</i>	Partridge Pigeon	Columbidae	N	Terrestrial	Plant-based diet	LC
<i>Leucosarcia melanoleuca</i>	Wonga Pigeon	Columbidae	N	Terrestrial	Omnivore	LC
<i>Lopholaimus antarcticus</i>	Topknot Pigeon	Columbidae	N	Terrestrial	Omnivore	LC
<i>Macropygia phasianella</i>	Brown Cuckoo-Dove	Columbidae	N	Terrestrial	Plant-based diet	LC
<i>Megaloprepia magnifica</i>	Wompoo Fruit-Dove	Columbidae	N	Terrestrial	Omnivore	LC
<i>Ocyphaps lophotes</i>	Crested Pigeon	Columbidae	Y	Terrestrial	Omnivore	LC
<i>Petrophassa albipennis</i>	White-quilled Rock-Pigeon	Columbidae	N	Terrestrial	Plant-based diet	LC
<i>Phaps chalcoptera</i>	Common Bronzewing	Columbidae	N	Terrestrial	Plant-based diet	LC
<i>Phaps elegans</i>	Brush Bronzewing	Columbidae	N	Terrestrial	Plant-based diet	LC
<i>Phaps histrionica</i>	Flock Bronzewing	Columbidae	Y	Terrestrial	Plant-based diet	LC
<i>Ptilinopus regina</i>	Rose-crowned Fruit-Dove	Columbidae	N	Terrestrial	Omnivore	LC
<i>Ptilinopus superbus</i>	Superb Fruit-Dove	Columbidae	N	Terrestrial	Omnivore	LC
<i>Spilopelia chinensis</i>	Spotted Dove	Columbidae	N	Terrestrial	Plant-based diet	LC
<i>Spilopelia senegalensis</i>	Laughing Dove	Columbidae	N	Terrestrial	Plant-based diet	LC
<i>Eurystomus orientalis</i>	Oriental Dollarbird	Coraciidae	N	Terrestrial	Predator	LC
<i>Corvus bennetti</i>	Little Crow	Corvidae	Y	Terrestrial	Omnivore	LC
<i>Corvus coronoides</i>	Australian Raven	Corvidae	N	Terrestrial	Omnivore	LC
<i>Corvus mellori</i>	Little Raven	Corvidae	N	Terrestrial	Omnivore	LC
<i>Corvus orru</i>	Torresian Crow	Corvidae	Y	Terrestrial	Omnivore	LC
<i>Corvus tasmanicus</i>	Forest Raven	Corvidae	N	Terrestrial	Omnivore	LC
<i>Cacomantis castaneiventris</i>	Chestnut-breasted Cuckoo	Cuculidae	N	Terrestrial	Predator	LC
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo	Cuculidae	N	Terrestrial	Predator	LC
<i>Cacomantis variolosus</i>	Brush Cuckoo	Cuculidae	N	Terrestrial	Predator	LC
<i>Centropus phasianinus</i>	Pheasant Coucal	Cuculidae	N	Terrestrial	Predator	LC

<i>Chalcites basalis</i>	Horsfield's Bronze-Cuckoo	Cuculidae	N	Terrestrial	Predator	LC
<i>Chalcites lucidus</i>	Shining Bronze-Cuckoo	Cuculidae	N	Terrestrial	Predator	LC
<i>Chalcites minutillus</i>	Little Bronze-Cuckoo	Cuculidae	N	Terrestrial	Predator	LC
<i>Chalcites osculans</i>	Black-eared Cuckoo	Cuculidae	N	Terrestrial	Predator	LC
<i>Eudynamys orientalis</i>	Eastern Koel	Cuculidae	N	Terrestrial	Omnivore	LC
<i>Heteroscenes pallidus</i>	Pallid Cuckoo	Cuculidae	N	Terrestrial	Predator	LC
<i>Scythrops novaehollandiae</i>	Channel-billed Cuckoo	Cuculidae	N	Terrestrial	Omnivore	LC
<i>Cuculus optatus</i>	Oriental Cuckoo	Cuculidae	N	Terrestrial	Predator	LC
<i>Dicaeum hirundinaceum</i>	Mistletoebird	Dicaeidae	N	Terrestrial	Omnivore	LC
<i>Dicrurus bracteatus</i>	Spangled Drongo	Dicruridae	N	Terrestrial	Omnivore	LC
<i>Diomedea antipodensis</i>	Antipodean Albatross	Diomedidae	Y	Marine/Coastal	Predator	EN
<i>Diomedea exulans</i>	Wandering Albatross	Diomedidae	Y	Marine/Coastal	Predator	VU
<i>Thalassarche bulleri</i>	Buller's Albatross	Diomedidae	Y	Marine/Coastal	Predator	NT
<i>Thalassarche carteri</i>	Indian Yellow-nosed Albatross	Diomedidae	Y	Marine/Coastal	Predator	EN
<i>Thalassarche cauta</i>	Shy Albatross	Diomedidae	Y	Marine/Coastal	Predator	NT
<i>Thalassarche melanophris</i>	Black-browed Albatross	Diomedidae	Y	Marine/Coastal	Predator	LC
<i>Chloebia gouldiae</i>	Gouldian Finch	Estrildidae	Y	Terrestrial	Plant-based diet	LC
<i>Emblema pictum</i>	Painted Finch	Estrildidae	N	Terrestrial	Plant-based diet	LC
<i>Heteromunia pectoralis</i>	Pictorella Mannikin	Estrildidae	N	Terrestrial	Plant-based diet	LC
<i>Lonchura castaneothorax</i>	Chestnut-breasted Mannikin	Estrildidae	N	Terrestrial	Plant-based diet	LC
<i>Lonchura flaviprymna</i>	Yellow-rumped Mannikin	Estrildidae	Y	Terrestrial	Plant-based diet	LC
<i>Lonchura punctulata</i>	Nutmeg Mannikin	Estrildidae	Y	Terrestrial	Plant-based diet	LC
<i>Neochmia modesta</i>	Plum-headed Finch	Estrildidae	Y	Terrestrial	Plant-based diet	LC

<i>Neochmia phaeton</i>	Black-bellied Crimson Finch	Estrildidae	N	Terrestrial	Plant- based diet	LC
<i>Neochmia ruficauda</i>	Star Finch	Estrildidae	Y	Freshwater	Omnivore	LC
<i>Neochmia temporalis</i>	Red-browed Finch	Estrildidae	Y	Terrestrial	Plant- based diet	LC
<i>Poephila acuticauda</i>	Long-tailed Finch	Estrildidae	Y	Terrestrial	Plant- based diet	LC
<i>Poephila cincta</i>	Black- throated Finch	Estrildidae	N	Terrestrial	Plant- based diet	LC
<i>Poephila personata</i>	Masked Finch	Estrildidae	Y	Terrestrial	Omnivore	LC
<i>Stagonopleura bella</i>	Beautiful Firetail	Estrildidae	N	Terrestrial	Omnivore	LC
<i>Stagonopleura guttata</i>	Diamond Firetail	Estrildidae	Y	Terrestrial	Plant- based diet	VU
<i>Stagonopleura oculata</i>	Red-eared Firetail	Estrildidae	N	Terrestrial	Omnivore	LC
<i>Taeniopygia bichenovii</i>	Double- barred Finch	Estrildidae	N	Terrestrial	Plant- based diet	LC
<i>Taeniopygia castanotis</i>	Zebra Finch	Estrildidae	Y	Terrestrial	Plant- based diet	LC
<i>Falco berigora</i>	Brown Falcon	Falconidae	N	Terrestrial	Predator	LC
<i>Falco cenchroides</i>	Nankeen Kestrel	Falconidae	N	Terrestrial	Predator	LC
<i>Falco hypoleucos</i>	Grey Falcon	Falconidae	N	Terrestrial	Predator	VU
<i>Falco longipennis</i>	Australian Hobby	Falconidae	N	Terrestrial	Predator	LC
<i>Falco peregrinus</i>	Peregrine Falcon	Falconidae	N	Terrestrial	Predator	LC
<i>Falco subniger</i>	Black Falcon	Falconidae	N	Terrestrial	Predator	LC
<i>Fregata andrewsi</i>	Christmas Island Frigatebird	Fregatidae	Y	Marine/Coastal	Predator	VU
<i>Fregata ariel</i>	Lesser Frigatebird	Fregatidae	Y	Marine/Coastal	Predator	LC
<i>Fregata minor</i>	Great Frigatebird	Fregatidae	Y	Marine/Coastal	Predator	LC
<i>Carduelis carduelis</i>	European Goldfinch	Fringillidae	N	Terrestrial	Plant- based diet	LC
<i>Chloris chloris</i>	Common Greenfinch	Fringillidae	N	Terrestrial	Plant- based diet	LC
<i>Glareola maldivarum</i>	Oriental Pratincole	Glareolidae	Y	Terrestrial	Predator	LC
<i>Stiltia isabella</i>	Australian Pratincole	Glareolidae	Y	Terrestrial	Predator	LC
<i>Grus antigone</i>	Sarus Crane	Gruidae	N	Terrestrial	Omnivore	VU
<i>Grus rubicunda</i>	Brolga	Gruidae	N	Terrestrial	Omnivore	LC

<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	Haematopodidae	Y	Marine/Coastal	Predator	LC
<i>Haematopus longirostris</i>	Australian Pied Oystercatcher	Haematopodidae	Y	Marine/Coastal	Predator	LC
<i>Cheramoeca leucosterna</i>	White-backed Swallow	Hirundinidae	N	Terrestrial	Predator	LC
<i>Hirundo neoxena</i>	Welcome Swallow	Hirundinidae	Y	Freshwater	Predator	LC
<i>Petrochelidon ariel</i>	Fairy Martin	Hirundinidae	Y	Freshwater	Predator	LC
<i>Petrochelidon nigricans</i>	Tree Martin	Hirundinidae	Y	Terrestrial	Predator	LC
<i>Irediparra gallinacea</i>	Comb-crested Jacana	Jacanidae	Y	Freshwater	Predator	LC
<i>Anous minutus</i>	Black Noddy	Laridae	Y	Marine/Coastal	Predator	LC
<i>Anous stolidus</i>	Brown Noddy	Laridae	Y	Marine/Coastal	Predator	LC
<i>Chlidonias hybrida</i>	Whiskered Tern	Laridae	Y	Freshwater	Predator	LC
<i>Chlidonias leucopterus</i>	White-winged Black Tern	Laridae	Y	Freshwater	Predator	LC
<i>Gelochelidon macrotarsa</i>	Australian Gull-billed Tern	Laridae	Y	Marine/Coastal	Predator	LC
<i>Gelochelidon nilotica</i>	Common Gull-billed Tern	Laridae	Y	Marine/Coastal	Predator	LC
<i>Hydroprogne caspia</i>	Caspian Tern	Laridae	Y	Freshwater	Predator	LC
<i>Larus dominicanus</i>	Kelp Gull	Laridae	Y	Marine/Coastal	Predator	LC
<i>Larus novaehollandiae</i>	Silver Gull	Laridae	Y	Marine/Coastal	Omnivore	LC
<i>Larus pacificus</i>	Pacific Gull	Laridae	Y	Marine/Coastal	Predator	LC
<i>Onychoprion anaethetus</i>	Bridled Tern	Laridae	Y	Marine/Coastal	Predator	LC
<i>Onychoprion fuscatus</i>	Sooty Tern	Laridae	Y	Marine/Coastal	Predator	LC
<i>Sterna dougallii</i>	Roseate Tern	Laridae	Y	Marine/Coastal	Predator	LC
<i>Sterna hirundo</i>	Common Tern	Laridae	Y	Marine/Coastal	Predator	LC
<i>Sterna sumatrana</i>	Black-naped Tern	Laridae	Y	Marine/Coastal	Predator	LC
<i>Sternula albifrons</i>	Little Tern	Laridae	Y	Marine/Coastal	Predator	LC
<i>Sternula nereis</i>	Fairy Tern	Laridae	Y	Marine/Coastal	Predator	VU
<i>Thalasseus bengalensis</i>	Lesser Crested Tern	Laridae	Y	Marine/Coastal	Predator	LC
<i>Thalasseus bergii</i>	Greater Crested Tern	Laridae	Y	Marine/Coastal	Predator	LC

<i>Cincloramphus cruralis</i>	Brown Songlark	Locustellidae	N	Terrestrial	Predator	LC
<i>Cincloramphus mathewsi</i>	Rufous Songlark	Locustellidae	N	Terrestrial	Predator	LC
<i>Cincloramphus timoriensis</i>	Tawny Grassbird	Locustellidae	N	Freshwater	Predator	LC
<i>Poodytes carteri</i>	Spinifexbird	Locustellidae	N	Terrestrial	Omnivore	LC
<i>Poodytes gramineus</i>	Little Grassbird	Locustellidae	N	Freshwater	Predator	LC
<i>Amytornis ballarae</i>	Kalkadoon Grasswren	Maluridae	N	Terrestrial	Omnivore	VU
<i>Amytornis barbatus</i>	Grey Grasswren	Maluridae	N	Terrestrial	Omnivore	LC
<i>Amytornis dorotheae</i>	Carpentarian Grasswren	Maluridae	N	Terrestrial	Omnivore	VU
<i>Amytornis goyderi</i>	Eyrean Grasswren	Maluridae	N	Terrestrial	Plant-based diet	LC
<i>Amytornis merrotsyi</i>	Short-tailed Grasswren	Maluridae	N	Terrestrial	Omnivore	NT
<i>Amytornis modestus</i>	Thick-billed Grasswren	Maluridae	N	Terrestrial	Omnivore	LC
<i>Amytornis purnelli</i>	Dusky Grasswren	Maluridae	N	Terrestrial	Omnivore	LC
<i>Amytornis striatus</i>	Striated Grasswren	Maluridae	N	Terrestrial	Omnivore	LC
<i>Amytornis textilis</i>	Western Grasswren	Maluridae	N	Terrestrial	Omnivore	LC
<i>Amytornis woodwardi</i>	White-throated Grasswren	Maluridae	N	Terrestrial	Omnivore	EN
<i>Malurus amabilis</i>	Lovely Fairy-wren	Maluridae	N	Terrestrial	Predator	LC
<i>Malurus coronatus</i>	Purple-crowned Fairy-wren	Maluridae	N	Freshwater	Predator	LC
<i>Malurus cyaneus</i>	Superb Fairy-wren	Maluridae	N	Terrestrial	Predator	LC
<i>Malurus elegans</i>	Red-winged Fairy-wren	Maluridae	N	Terrestrial	Predator	LC
<i>Malurus lamberti</i>	Variegated Fairy-wren	Maluridae	N	Terrestrial	Predator	LC
<i>Malurus leucopterus</i>	White-winged Fairy-wren	Maluridae	N	Terrestrial	Predator	LC
<i>Malurus melanocephalus</i>	Red-backed Fairy-wren	Maluridae	N	Terrestrial	Predator	LC
<i>Malurus pulcherrimus</i>	Blue-breasted Fairy-wren	Maluridae	N	Terrestrial	Predator	LC
<i>Malurus splendens</i>	Splendid Fairy-wren	Maluridae	N	Terrestrial	Predator	LC

<i>Stipiturus malachurus</i>	Southern Emu-wren	Maluridae	N	Terrestrial	Predator	LC
<i>Stipiturus mallee</i>	Mallee Emu-wren	Maluridae	N	Terrestrial	Predator	EN
<i>Stipiturus ruficeps</i>	Rufous-crowned Emu-wren	Maluridae	N	Terrestrial	Predator	LC
<i>Alectura lathamii</i>	Australian Brush-turkey	Megapodidae	N	Terrestrial	Omnivore	LC
<i>Leipoa ocellata</i>	Malleefowl	Megapodidae	N	Terrestrial	Omnivore	VU
<i>Megapodius reinwardt</i>	Orange-footed Scrubfowl	Megapodidae	N	Terrestrial	Omnivore	LC
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Acanthorhynchus superciliosus</i>	Western Spinebill	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Acanthorhynchus tenuirostris</i>	Eastern Spinebill	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Anthochaera carunculata</i>	Red Wattlebird	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Anthochaera chrysoptera</i>	Little Wattlebird	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Anthochaera lunulata</i>	Western Wattlebird	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Anthochaera paradoxa</i>	Yellow Wattlebird	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Anthochaera phrygia</i>	Regent Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	CR
<i>Ashbyia lovensis</i>	Gibberbird	Meliphagidae	N	Terrestrial	Predator	LC
<i>Caligavis chrysops</i>	Yellow-faced Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Certhionyx variegatus</i>	Pied Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Cissomela pectoralis</i>	Banded Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Conopophila albogularis</i>	Rufous-banded Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Conopophila rufogularis</i>	Rufous-throated Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Conopophila whitei</i>	Grey Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Entomyzon cyanotis</i>	Blue-faced Honeyeater	Meliphagidae	Y	Terrestrial	Omnivore	LC
<i>Epthianura albifrons</i>	White-fronted Chat	Meliphagidae	N	Freshwater	Predator	LC

<i>Epthianura aurifrons</i>	Orange Chat	Meliphagidae	N	Terrestrial	Predator	LC
<i>Epthianura crocea</i>	Yellow Chat	Meliphagidae	N	Freshwater	Predator	LC
<i>Epthianura tricolor</i>	Crimson Chat	Meliphagidae	N	Terrestrial	Predator	LC
<i>Gavicalis fasciogularis</i>	Mangrove Honeyeater	Meliphagidae	N	Marine/Coastal	Omnivore	LC
<i>Gavicalis versicolor</i>	Varied Honeyeater	Meliphagidae	N	Marine/Coastal	Omnivore	LC
<i>Gavicalis virescens</i>	Singing Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Gliciphila melanops</i>	Tawny-crowned Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Grantiella picta</i>	Painted Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Lichenostomus cratitius</i>	Purple-gaped Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Lichenostomus melanops</i>	Yellow-tufted Honeyeater	Meliphagidae	Y	Terrestrial	Omnivore	LC
<i>Lichmera indistincta</i>	Brown Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Manorina flavigula</i>	Yellow-throated Miner	Meliphagidae	Y	Terrestrial	Omnivore	LC
<i>Manorina melanocephala</i>	Noisy Miner	Meliphagidae	Y	Terrestrial	Omnivore	LC
<i>Manorina melanophrys</i>	Bell Miner	Meliphagidae	Y	Terrestrial	Omnivore	LC
<i>Meliphaga lewinii</i>	Lewin's Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Meliphaga notata</i>	Yellow-spotted Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Melithreptus affinis</i>	Black-headed Honeyeater	Meliphagidae	N	Terrestrial	Predator	LC
<i>Melithreptus albogularis</i>	White-throated Honeyeater	Meliphagidae	N	Terrestrial	Predator	LC
<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater	Meliphagidae	Y	Terrestrial	Omnivore	LC
<i>Melithreptus chloropsis</i>	Gilbert's Honeyeater	Meliphagidae	Y	Terrestrial	Omnivore	LC
<i>Melithreptus gularis</i>	Black-chinned Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Melithreptus lunatus</i>	White-naped Honeyeater	Meliphagidae	Y	Terrestrial	Omnivore	LC

<i>Melithreptus validirostris</i>	Strong-billed Honeyeater	Meliphagidae	Y	Terrestrial	Omnivore	VU
<i>Microptilotis gracilis</i>	Graceful Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Myzomela erythrocephala</i>	Red-headed Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Myzomela obscura</i>	Dusky Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Myzomela sanguinolenta</i>	Scarlet Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Nesoptilotis flavicollis</i>	Yellow-throated Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Nesoptilotis leucotis</i>	White-eared Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Philemon argenticeps</i>	Silver-crowned Friarbird	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Philemon buceroides</i>	Helmeted Friarbird	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Philemon citreogularis</i>	Little Friarbird	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Philemon corniculatus</i>	Noisy Friarbird	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Phylidonyris niger</i>	White-cheeked Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Phylidonyris pyrrhopterus</i>	Crescent Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Plectorhyncha lanceolata</i>	Striped Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Ptilotula flavescens</i>	Yellow-tinted Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Ptilotula fusca</i>	Fuscous Honeyeater	Meliphagidae	Y	Terrestrial	Omnivore	LC
<i>Ptilotula keartlandi</i>	Grey-headed Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Ptilotula ornata</i>	Yellow-plumed Honeyeater	Meliphagidae	Y	Terrestrial	Omnivore	LC
<i>Ptilotula penicillata</i>	White-plumed Honeyeater	Meliphagidae	Y	Terrestrial	Omnivore	LC
<i>Ptilotula plumula</i>	Grey-fronted Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Purnella albifrons</i>	White-fronted Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Ramsayornis fasciatus</i>	Bar-breasted Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC

<i>Ramsayornis modestus</i>	Brown-backed Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Stomiopera flava</i>	Yellow Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Stomiopera unicolor</i>	White-gaped Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Sugomel nigrum</i>	Black Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Trichodere cockerelli</i>	White-streaked Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Xanthotis macleayanus</i>	Macleay's Honeyeater	Meliphagidae	N	Terrestrial	Omnivore	LC
<i>Menura alberti</i>	Albert's Lyrebird	Menuridae	N	Terrestrial	Omnivore	LC
<i>Menura novaehollandiae</i>	Superb Lyrebird	Menuridae	N	Terrestrial	Omnivore	LC
<i>Carterornis leucotis</i>	White-eared Monarch	Monarchidae	N	Terrestrial	Predator	LC
<i>Grallina cyanoleuca</i>	Magpie-lark	Monarchidae	N	Terrestrial	Predator	LC
<i>Monarcha frater</i>	Black-winged Monarch	Monarchidae	N	Terrestrial	Predator	LC
<i>Monarcha melanopsis</i>	Black-faced Monarch	Monarchidae	N	Terrestrial	Predator	LC
<i>Myiagra alecto</i>	Shining Flycatcher	Monarchidae	N	Freshwater	Predator	LC
<i>Myiagra cyanoleuca</i>	Satin Flycatcher	Monarchidae	N	Terrestrial	Predator	LC
<i>Myiagra inquieta</i>	Restless Flycatcher	Monarchidae	N	Terrestrial	Predator	LC
<i>Myiagra nana</i>	Paperbark Flycatcher	Monarchidae	N	Terrestrial	Predator	LC
<i>Myiagra rubecula</i>	Leaden Flycatcher	Monarchidae	N	Terrestrial	Predator	LC
<i>Myiagra ruficollis</i>	Broad-billed Flycatcher	Monarchidae	N	Terrestrial	Predator	LC
<i>Symposiachrus trivirgatus</i>	Spectacled Monarch	Monarchidae	N	Terrestrial	Predator	LC
<i>Anthus novaeseelandiae</i>	Australasian Pipit	Motacillidae	N	Terrestrial	Omnivore	LC
<i>Motacilla tschutschensis</i>	Eastern Yellow Wagtail	Motacillidae	Y	Terrestrial	Omnivore	LC
<i>Cinnyris jugularis</i>	Olive-backed Sunbird	Nectariniidae	N	Terrestrial	Omnivore	LC
<i>Daphoenositta chrysoptera</i>	Varied Sittella	Neosittidae	Y	Terrestrial	Predator	LC
<i>Numida meleagris</i>	Helmeted Guinea fowl	Numididae	N	Terrestrial	Omnivore	LC

<i>Garrodia nereis</i>	Grey-backed Storm-Petrel	Oceanitidae	Y	Marine/Coastal	Predator	LC
<i>Oceanites oceanicus</i>	Wilson's Storm-Petrel	Oceanitidae	Y	Marine/Coastal	Predator	LC
<i>Pelagodroma marina</i>	White-faced Storm-Petrel	Oceanitidae	Y	Marine/Coastal	Predator	LC
<i>Oriolus flavocinctus</i>	Green Oriole	Oriolidae	N	Terrestrial	Omnivore	LC
<i>Oriolus sagittatus</i>	Olive-backed Oriole	Oriolidae	N	Terrestrial	Omnivore	LC
<i>Sphecotheres vieilloti</i>	Australasian Figbird	Oriolidae	Y	Terrestrial	Omnivore	LC
<i>Orthonyx spaldingii</i>	Chowchilla	Orthonychidae	N	Terrestrial	Predator	LC
<i>Orthonyx temminckii</i>	Australian Logrunner	Orthonychidae	N	Terrestrial	Predator	LC
<i>Ardeotis australis</i>	Australian Bustard	Otididae	N	Terrestrial	Omnivore	LC
<i>Falcunculus frontatus</i>	Eastern Shrike-tit	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Falcunculus leucogaster</i>	Western Shrike-tit	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Falcunculus whitei</i>	Northern Shrike-tit	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Colluricincla boweri</i>	Bower's Shrike-thrush	Pachycephalidae	N	Terrestrial	Predator	VU
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Colluricincla megarhyncha</i>	Little Shrike-thrush	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Colluricincla woodwardi</i>	Sandstone Shrike-thrush	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Pachycephala inornata</i>	Gilbert's Whistler	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Pachycephala lanioides</i>	White-breasted Whistler	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Pachycephala melanura</i>	Mangrove Golden Whistler	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Pachycephala olivacea</i>	Olive Whistler	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Pachycephala pectoralis</i>	Golden Whistler	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Pachycephala rufiventris</i>	Rufous Whistler	Pachycephalidae	N	Terrestrial	Predator	LC
<i>Pachycephala rufogularis</i>	Red-lored Whistler	Pachycephalidae	N	Terrestrial	Predator	VU
<i>Pachycephala simplex</i>	Brown Whistler	Pachycephalidae	N	Terrestrial	Predator	LC

<i>Pandion haliaetus</i>	Osprey	Pandionidae	Y	Marine/Coastal	Predator	LC
<i>Lophorina paradisea</i>	Paradise Riflebird	Paradisaeidae	N	Terrestrial	Omnivore	LC
<i>Lophorina victoriae</i>	Victoria's Riflebird	Paradisaeidae	N	Terrestrial	Omnivore	VU
<i>Pardalotus punctatus</i>	Spotted Pardalote	Pardalotidae	N	Terrestrial	Predator	LC
<i>Pardalotus quadragintus</i>	Forty-spotted Pardalote	Pardalotidae	N	Terrestrial	Predator	EN
<i>Pardalotus rubricatus</i>	Red-browed Pardalote	Pardalotidae	N	Terrestrial	Predator	LC
<i>Pardalotus striatus</i>	Striated Pardalote	Pardalotidae	N	Terrestrial	Predator	LC
<i>Passer domesticus</i>	House Sparrow	Passeridae	Y	Terrestrial	Plant-based diet	LC
<i>Passer montanus</i>	Eurasian Tree Sparrow	Passeridae	Y	Terrestrial	Plant-based diet	LC
<i>Pedionomus torquatus</i>	Plains-wanderer	Pedionomidae	N	Terrestrial	Omnivore	EN
<i>Pelecanus conspicillatus</i>	Australian Pelican	Pelecanidae	Y	Freshwater	Predator	LC
<i>Drymodes brunneopygia</i>	Southern Scrub-robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Drymodes superciliaris</i>	Northern Scrub-robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Eopsaltria australis</i>	Eastern Yellow Robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Eopsaltria griseogularis</i>	Western Yellow Robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Heteromyias cinereifrons</i>	Grey-headed Robin	Petroicidae	N	Terrestrial	Predator	NT
<i>Melanodryas cucullata</i>	Hooded Robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Melanodryas vittata</i>	Dusky Robin	Petroicidae	N	Terrestrial	Predator	VU
<i>Microeca fascians</i>	Jacky Winter	Petroicidae	N	Terrestrial	Predator	LC
<i>Microeca flavigaster</i>	Lemon-bellied Flycatcher	Petroicidae	N	Terrestrial	Predator	LC
<i>Peneoenanthe pulverulenta</i>	Mangrove Robin	Petroicidae	N	Marine/Coastal	Predator	LC
<i>Petroica boodang</i>	Scarlet Robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Petroica goodenovii</i>	Red-capped Robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Petroica phoenicea</i>	Flame Robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Petroica rodinogaster</i>	Pink Robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Petroica rosea</i>	Rose Robin	Petroicidae	N	Terrestrial	Predator	LC

<i>Poecilodryas cerviniventris</i>	Buff-sided Robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Poecilodryas superciliosa</i>	White-browed Robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Quoyornis georgianus</i>	White-breasted Robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Tregellasia capito</i>	Pale-yellow Robin	Petroicidae	N	Terrestrial	Predator	LC
<i>Phaethon lepturus</i>	White-tailed Tropicbird	Phaethontidae	Y	Marine/Coastal	Predator	LC
<i>Phaethon rubricauda</i>	Red-tailed Tropicbird	Phaethontidae	Y	Marine/Coastal	Predator	LC
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant	Phalacrocoracidae	Y	Freshwater	Predator	LC
<i>Phalacrocorax carbo</i>	Great Cormorant	Phalacrocoracidae	Y	Freshwater	Predator	LC
<i>Phalacrocorax fuscescens</i>	Black-faced Cormorant	Phalacrocoracidae	Y	Marine/Coastal	Predator	LC
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant	Phalacrocoracidae	Y	Freshwater	Predator	LC
<i>Phalacrocorax varius</i>	Great Pied Cormorant	Phalacrocoracidae	Y	Marine/Coastal	Predator	LC
<i>Coturnix pectoralis</i>	Stubble Quail	Phasianidae	N	Terrestrial	Omnivore	LC
<i>Gallus gallus</i>	Red Junglefowl	Phasianidae	N	Terrestrial	Omnivore	LC
<i>Meleagris gallopavo</i>	Wild Turkey	Phasianidae	N	Terrestrial	Omnivore	LC
<i>Pavo cristatus</i>	Indian Peafowl	Phasianidae	N	Terrestrial	Omnivore	LC
<i>Phasianus colchicus</i>	Common Pheasant	Phasianidae	N	Terrestrial	Omnivore	LC
<i>Synoicus chinensis</i>	King Quail	Phasianidae	N	Terrestrial	Omnivore	LC
<i>Synoicus ypsilophorus</i>	Brown Quail	Phasianidae	N	Terrestrial	Omnivore	LC
<i>Pitta iris</i>	Rainbow Pitta	Pittidae	N	Terrestrial	Predator	LC
<i>Pitta versicolor</i>	Noisy Pitta	Pittidae	N	Terrestrial	Predator	LC
<i>Podargus ocellatus</i>	Marbled Frogmouth	Podargidae	N	Terrestrial	Predator	LC
<i>Podargus strigoides</i>	Tawny Frogmouth	Podargidae	N	Terrestrial	Predator	LC
<i>Podiceps cristatus</i>	Great Crested Grebe	Podicipedidae	Y	Freshwater	Predator	LC
<i>Poliiocephalus poliocephalus</i>	Hoary-headed Grebe	Podicipedidae	Y	Freshwater	Predator	LC
<i>Tachybaptus novaehollandiae</i>	Australasian Grebe	Podicipedidae	Y	Freshwater	Predator	LC

<i>Pomatostomus halli</i>	Hall's Babbler	Pomatostomidae	N	Terrestrial	Predator	LC
<i>Pomatostomus ruficeps</i>	Chestnut-crowned Babbler	Pomatostomidae	N	Terrestrial	Predator	LC
<i>Pomatostomus superciliosus</i>	White-browed Babbler	Pomatostomidae	N	Terrestrial	Predator	LC
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler	Pomatostomidae	N	Terrestrial	Predator	LC
<i>Ardenna bulleri</i>	Buller's Shearwater	Procellariidae	Y	Marine/Coastal	Predator	VU
<i>Ardenna carneipes</i>	Flesh-footed Shearwater	Procellariidae	Y	Marine/Coastal	Predator	NT
<i>Ardenna grisea</i>	Sooty Shearwater	Procellariidae	Y	Marine/Coastal	Predator	NT
<i>Ardenna pacifica</i>	Wedge-tailed Shearwater	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Ardenna tenuirostris</i>	Short-tailed Shearwater	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Bulweria bulwerii</i>	Bulwer's Petrel	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Calonectris leucomelas</i>	Streaked Shearwater	Procellariidae	Y	Marine/Coastal	Predator	NT
<i>Macronectes giganteus</i>	Southern Giant-Petrel	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Macronectes halli</i>	Northern Giant-Petrel	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Pachyptila turtur</i>	Fairy Prion	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Pelecanoides urinatrix</i>	Common Diving-Petrel	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Procellaria aequinoctialis</i>	White-chinned Petrel	Procellariidae	Y	Marine/Coastal	Predator	VU
<i>Procellaria parkinsoni</i>	Black Petrel	Procellariidae	Y	Marine/Coastal	Predator	VU
<i>Pseudobulweria rostrata</i>	Tahiti Petrel	Procellariidae	Y	Marine/Coastal	Predator	NT
<i>Pterodroma gouldi</i>	Grey-faced Petrel	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Pterodroma lessonii</i>	White-headed Petrel	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Pterodroma leucoptera</i>	Gould's Petrel	Procellariidae	Y	Marine/Coastal	Predator	VU
<i>Pterodroma macroptera</i>	Great-winged Petrel	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Pterodroma mollis</i>	Soft-plumaged Petrel	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Pterodroma neglecta</i>	Kermadec Petrel	Procellariidae	Y	Marine/Coastal	Predator	LC

<i>Pterodroma nigripennis</i>	Black-winged Petrel	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Pterodroma solandri</i>	Providence Petrel	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Puffinus assimilis</i>	Little Shearwater	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Puffinus gavia</i>	Fluttering Shearwater	Procellariidae	Y	Marine/Coastal	Predator	LC
<i>Puffinus huttoni</i>	Hutton's Shearwater	Procellariidae	Y	Marine/Coastal	Predator	EN
<i>Alisterus scapularis</i>	Australian King-Parrot	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Aprosmictus erythropterus</i>	Red-winged Parrot	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Barnardius zonarius</i>	Australian Ringneck	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Cyclopsitta diophthalma</i>	Double-eyed Fig-Parrot	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Glossopsitta concinna</i>	Musk Lorikeet	Psittacidae	Y	Terrestrial	Omnivore	LC
<i>Glossopsitta porphyrocephala</i>	Purple-crowned Lorikeet	Psittacidae	Y	Terrestrial	Omnivore	LC
<i>Glossopsitta pusilla</i>	Little Lorikeet	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Lathamus discolor</i>	Swift Parrot	Psittacidae	Y	Terrestrial	Omnivore	CR
<i>Melopsittacus undulatus</i>	Budgerigar	Psittacidae	Y	Terrestrial	Plant-based diet	LC
<i>Neophema chrysogaster</i>	Orange-bellied Parrot	Psittacidae	Y	Terrestrial	Plant-based diet	CR
<i>Neophema chrysostoma</i>	Blue-winged Parrot	Psittacidae	N	Terrestrial	Plant-based diet	VU
<i>Neophema elegans</i>	Elegant Parrot	Psittacidae	N	Terrestrial	Plant-based diet	LC
<i>Neophema petrophila</i>	Rock Parrot	Psittacidae	N	Terrestrial	Plant-based diet	LC
<i>Neophema pulchella</i>	Turquoise Parrot	Psittacidae	N	Terrestrial	Plant-based diet	LC
<i>Neophema splendida</i>	Scarlet-chested Parrot	Psittacidae	N	Terrestrial	Plant-based diet	LC
<i>Neopsephotus bourkii</i>	Bourke's Parrot	Psittacidae	N	Terrestrial	Plant-based diet	LC
<i>Northiella haematogaster</i>	Bluebonnet	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Pezoporus occidentalis</i>	Night Parrot	Psittacidae	N	Terrestrial	Plant-based diet	CR
<i>Pezoporus wallicus</i>	Ground Parrot	Psittacidae	N	Terrestrial	Plant-based diet	LC

<i>Platycercus adscitus</i>	Pale-headed Rosella	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Platycercus caledonicus</i>	Green Rosella	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Platycercus elegans</i>	Crimson Rosella	Psittacidae	Y	Terrestrial	Omnivore	LC
<i>Platycercus eximius</i>	Eastern Rosella	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Platycercus icterotis</i>	Western Rosella	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Platycercus venustus</i>	Northern Rosella	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Polytelis alexandrae</i>	Princess Parrot	Psittacidae	Y	Terrestrial	Plant-based diet	NT
<i>Polytelis anthopeplus</i>	Regent Parrot	Psittacidae	Y	Terrestrial	Plant-based diet	LC
<i>Polytelis swainsonii</i>	Superb Parrot	Psittacidae	N	Terrestrial	Plant-based diet	LC
<i>Psephotellus chrysopterygius</i>	Golden-shouldered Parrot	Psittacidae	N	Terrestrial	Plant-based diet	EN
<i>Psephotellus dissimilis</i>	Hooded Parrot	Psittacidae	N	Terrestrial	Plant-based diet	LC
<i>Psephotellus varius</i>	Mulga Parrot	Psittacidae	N	Terrestrial	Plant-based diet	LC
<i>Psephodus haematonotus</i>	Red-rumped Parrot	Psittacidae	Y	Terrestrial	Plant-based diet	LC
<i>Psitteuteles versicolor</i>	Varied Lorikeet	Psittacidae	N	Terrestrial	Plant-based diet	LC
<i>Purpureicephalus spurius</i>	Red-capped Parrot	Psittacidae	N	Terrestrial	Omnivore	LC
<i>Trichoglossus chlorolepidotus</i>	Scaly-breasted Lorikeet	Psittacidae	Y	Terrestrial	Omnivore	LC
<i>Trichoglossus moluccanus</i>	Rainbow Lorikeet	Psittacidae	Y	Terrestrial	Omnivore	LC
<i>Trichoglossus rubritorquis</i>	Red-collared Lorikeet	Psittacidae	Y	Terrestrial	Omnivore	LC
<i>Psophodes cristatus</i>	Chirruping Wedgebill	Psophodidae	N	Terrestrial	Omnivore	LC
<i>Psophodes nigrogularis</i>	Western Whipbird	Psophodidae	N	Terrestrial	Omnivore	LC
<i>Psophodes occidentalis</i>	Chiming Wedgebill	Psophodidae	N	Terrestrial	Omnivore	LC
<i>Psophodes olivaceus</i>	Eastern Whipbird	Psophodidae	N	Terrestrial	Omnivore	LC
<i>Ailuroedus crassirostris</i>	Green Catbird	Ptilonorhynchidae	N	Terrestrial	Omnivore	LC
<i>Chlamydera guttata</i>	Western Bowerbird	Ptilonorhynchidae	N	Terrestrial	Omnivore	LC

<i>Chlamydera maculata</i>	Spotted Bowerbird	Ptilonorhynchidae	N	Terrestrial	Omnivore	LC
<i>Chlamydera nuchalis</i>	Great Bowerbird	Ptilonorhynchidae	N	Terrestrial	Omnivore	LC
<i>Ptilonorhynchus violaceus</i>	Satin Bowerbird	Ptilonorhynchidae	N	Terrestrial	Omnivore	LC
<i>Sericulus chrysocephalus</i>	Regent Bowerbird	Ptilonorhynchidae	N	Terrestrial	Omnivore	LC
<i>Amaurornis cinerea</i>	White-browed Crane	Rallidae	N	Freshwater	Omnivore	LC
<i>Amaurornis moluccana</i>	Pale-vented Bush-hen	Rallidae	N	Freshwater	Omnivore	LC
<i>Eulabeornis castaneiventris</i>	Chestnut Rail	Rallidae	N	Marine/Coastal	Predator	LC
<i>Fulica atra</i>	Eurasian Coot	Rallidae	Y	Freshwater	Plant-based diet	LC
<i>Gallinula tenebrosa</i>	Dusky Moorhen	Rallidae	N	Freshwater	Omnivore	LC
<i>Hypotaenidia philippensis</i>	Buff-banded Rail	Rallidae	N	Freshwater	Omnivore	LC
<i>Hypotaenidia sylvestris</i>	Lord Howe Woodhen	Rallidae	N	Terrestrial	Omnivore	EN
<i>Lewinia pectoralis</i>	Lewin's Rail	Rallidae	N	Freshwater	Omnivore	LC
<i>Porphyrio porphyrio</i>	Purple Swamphen	Rallidae	Y	Freshwater	Omnivore	LC
<i>Porzana fluminea</i>	Australian Spotted Crane	Rallidae	N	Freshwater	Omnivore	LC
<i>Tribonyx mortierii</i>	Tasmanian Native-hen	Rallidae	N	Freshwater	Omnivore	LC
<i>Tribonyx ventralis</i>	Black-tailed Native-hen	Rallidae	Y	Freshwater	Omnivore	LC
<i>Zapornia pusilla</i>	Baillon's Crane	Rallidae	N	Freshwater	Predator	LC
<i>Zapornia tabuensis</i>	Spotless Crane	Rallidae	N	Freshwater	Omnivore	LC
<i>Himantopus leucocephalus</i>	Pied Stilt	Recurvirostridae	N	Terrestrial	Predator	LC
<i>Cladorhynchus leucocephalus</i>	Banded Stilt	Recurvirostridae	Y	Freshwater	Predator	LC
<i>Recurvirostra novaehollandiae</i>	Red-necked Avocet	Recurvirostridae	Y	Freshwater	Predator	LC
<i>Rhipidura albiscapa</i>	Grey Fantail	Rhipiduridae	N	Terrestrial	Predator	LC
<i>Rhipidura dryas</i>	Arafura Fantail	Rhipiduridae	N	Terrestrial	Predator	LC
<i>Rhipidura isura</i>	Northern Fantail	Rhipiduridae	N	Terrestrial	Predator	LC
<i>Rhipidura leucophrys</i>	Willie Wagtail	Rhipiduridae	N	Terrestrial	Predator	LC

<i>Rhipidura phasiana</i>	Mangrove Fantail	Rhipiduridae	N	Terrestrial	Predator	LC
<i>Rhipidura rufifrons</i>	Rufous Fantail	Rhipiduridae	N	Terrestrial	Predator	LC
<i>Rostratula australis</i>	Australian Painted-Snipe	Rostratulidae	N	Freshwater	Omnivore	EN
<i>Actitis hypoleucos</i>	Common Sandpiper	Scolopacidae	Y	Freshwater	Predator	LC
<i>Arenaria interpres</i>	Ruddy Turnstone	Scolopacidae	Y	Marine/Coastal	Predator	NT
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	Scolopacidae	Y	Freshwater	Predator	VU
<i>Calidris alba</i>	Sanderling	Scolopacidae	Y	Marine/Coastal	Predator	LC
<i>Calidris canutus</i>	Red Knot	Scolopacidae	Y	Marine/Coastal	Predator	NT
<i>Calidris falcinellus</i>	Broad-billed Sandpiper	Scolopacidae	Y	Freshwater	Predator	VU
<i>Calidris ferruginea</i>	Curlew Sandpiper	Scolopacidae	Y	Marine/Coastal	Predator	VU
<i>Calidris melanotos</i>	Pectoral Sandpiper	Scolopacidae	Y	Freshwater	Predator	LC
<i>Calidris ruficollis</i>	Red-necked Stint	Scolopacidae	Y	Marine/Coastal	Predator	NT
<i>Calidris subminuta</i>	Long-toed Stint	Scolopacidae	Y	Freshwater	Predator	LC
<i>Calidris tenuirostris</i>	Great Knot	Scolopacidae	Y	Marine/Coastal	Predator	EN
<i>Gallinago hardwickii</i>	Latham's Snipe	Scolopacidae	Y	Terrestrial	Predator	NT
<i>Limosa lapponica</i>	Bar-tailed Godwit	Scolopacidae	Y	Marine/Coastal	Predator	NT
<i>Limosa limosa</i>	Black-tailed Godwit	Scolopacidae	Y	Marine/Coastal	Predator	NT
<i>Numenius madagascariensis</i>	Far Eastern Curlew	Scolopacidae	Y	Marine/Coastal	Predator	EN
<i>Numenius minutus</i>	Little Curlew	Scolopacidae	Y	Marine/Coastal	Predator	LC
<i>Numenius phaeopus</i>	Whimbrel	Scolopacidae	Y	Marine/Coastal	Predator	LC
<i>Tringa brevipes</i>	Grey-tailed Tattler	Scolopacidae	Y	Freshwater	Predator	LC
<i>Tringa glareola</i>	Wood Sandpiper	Scolopacidae	Y	Freshwater	Predator	LC
<i>Tringa incana</i>	Wandering Tattler	Scolopacidae	Y	Freshwater	Predator	LC
<i>Tringa nebularia</i>	Common Greenshank	Scolopacidae	Y	Freshwater	Predator	LC
<i>Tringa stagnatilis</i>	Marsh Sandpiper	Scolopacidae	Y	Freshwater	Predator	LC
<i>Xenus cinereus</i>	Terek Sandpiper	Scolopacidae	Y	Marine/Coastal	Predator	LC

<i>Eudyptula minor</i>	Little Penguin	Spheniscidae	Y	Marine/Coastal	Predator	LC
<i>Catharacta antarctica</i>	Brown Skua	Stercorariidae	Y	Marine/Coastal	Predator	LC
<i>Stercorarius parasiticus</i>	Arctic Jaeger	Stercorariidae	Y	Marine/Coastal	Predator	LC
<i>Stercorarius pomarinus</i>	Pomarine Jaeger	Stercorariidae	Y	Marine/Coastal	Predator	LC
<i>Ninox boobook</i>	Southern Boobook	Strigidae	N	Terrestrial	Predator	LC
<i>Ninox connivens</i>	Barking Owl	Strigidae	N	Terrestrial	Predator	LC
<i>Ninox leucopsis</i>	Tasmanian Boobook	Strigidae	N	Terrestrial	Predator	LC
<i>Ninox natalis</i>	Christmas Island Boobook	Strigidae	N	Terrestrial	Predator	VU
<i>Ninox novaeseelandiae</i>	Tasman Morepork	Strigidae	N	Terrestrial	Predator	LC
<i>Ninox rufa</i>	Rufous Owl	Strigidae	N	Terrestrial	Predator	LC
<i>Ninox strenua</i>	Powerful Owl	Strigidae	N	Terrestrial	Predator	LC
<i>Corcorax melanorhamphos</i>	White-winged Cough	Struthideidae	N	Terrestrial	Omnivore	LC
<i>Struthidea cinerea</i>	Apostlebird	Struthideidae	N	Terrestrial	Omnivore	LC
<i>Acridotheres tristis</i>	Common Myna	Sturnidae	Y	Terrestrial	Omnivore	LC
<i>Aplonis metallica</i>	Metallic Starling	Sturnidae	Y	Terrestrial	Omnivore	LC
<i>Sturnus vulgaris</i>	Common Starling	Sturnidae	Y	Terrestrial	Omnivore	LC
<i>Morus serrator</i>	Australasian Gannet	Sulidae	Y	Marine/Coastal	Predator	LC
<i>Sula dactylatra</i>	Masked Booby	Sulidae	Y	Marine/Coastal	Predator	LC
<i>Sula leucogaster</i>	Brown Booby	Sulidae	Y	Marine/Coastal	Predator	LC
<i>Sula sula</i>	Red-footed Booby	Sulidae	Y	Marine/Coastal	Predator	LC
<i>Platalea flavipes</i>	Yellow-billed Spoonbill	Threskiornithidae	Y	Freshwater	Predator	LC
<i>Platalea regia</i>	Royal Spoonbill	Threskiornithidae	Y	Freshwater	Predator	LC
<i>Plegadis falcinellus</i>	Glossy Ibis	Threskiornithidae	Y	Freshwater	Predator	LC
<i>Threskiornis moluccus</i>	Australian White Ibis	Threskiornithidae	Y	Freshwater	Predator	LC
<i>Threskiornis spinicollis</i>	Straw-necked Ibis	Threskiornithidae	Y	Terrestrial	Predator	LC
<i>Turdus merula</i>	Common Blackbird	Turdidae	N	Terrestrial	Omnivore	LC
<i>Zoothera heinei</i>	Russet-tailed Thrush	Turdidae	N	Terrestrial	Omnivore	LC

<i>Zoothera lunulata</i>	Bassian Thrush	Turdidae	N	Terrestrial	Omnivore	LC
<i>Turnix castanotus</i>	Chestnut-backed Button-quail	Turnicidae	N	Terrestrial	Omnivore	LC
<i>Turnix maculosus</i>	Red-backed Button-quail	Turnicidae	N	Terrestrial	Omnivore	LC
<i>Turnix melanogaster</i>	Black-breasted Button-quail	Turnicidae	N	Terrestrial	Omnivore	VU
<i>Turnix olivii</i>	Buff-breasted Button-quail	Turnicidae	N	Terrestrial	Omnivore	CR
<i>Turnix pyrrhorthorax</i>	Red-chested Button-quail	Turnicidae	N	Terrestrial	Omnivore	LC
<i>Turnix varius</i>	Painted Button-quail	Turnicidae	N	Terrestrial	Omnivore	LC
<i>Turnix velox</i>	Little Button-quail	Turnicidae	N	Terrestrial	Omnivore	LC
<i>Tyto alba</i>	Barn Owl	Tytonidae	N	Terrestrial	Predator	LC
<i>Tyto longimembris</i>	Eastern Grass Owl	Tytonidae	N	Terrestrial	Predator	LC
<i>Tyto multipunctata</i>	Lesser Sooty Owl	Tytonidae	N	Terrestrial	Predator	LC
<i>Tyto novaehollandiae</i>	Masked Owl	Tytonidae	N	Terrestrial	Predator	LC
<i>Tyto tenebricosa</i>	Greater Sooty Owl	Tytonidae	N	Terrestrial	Predator	LC
<i>Zosterops lateralis</i>	Silvereye	Zosteropidae	N	Terrestrial	Omnivore	LC
<i>Zosterops luteus</i>	Australian Yellow White-eye	Zosteropidae	N	Terrestrial	Omnivore	LC
<i>Zosterops natalis</i>	Christmas Island White-eye	Zosteropidae	N	Terrestrial	Omnivore	LC
<i>Zosterops tenuirostris</i>	Slender-billed White-eye	Zosteropidae	N	Terrestrial	Omnivore	VU

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593 *Table S3. Predicted HPAI H5N1 susceptibility of Australian bird families, as indicated by*
594 *the predicted number of HPAI notifications. Because we used a null, phylogeny-only*
595 *model with a family-level phylogeny to make predictions, the predictions do not vary*
596 *with species within families. Families with a * denote families not represented in the*
597 *WAHIS database (either because they are Australian endemics or because they lack*
598 *detection/reporting of HPAI), for whom our certainty in our predictions might be lower*
599 *(such as Anhingidae – see discussion). Table is arranged from most to least susceptible.*

Family	Predicted notifications
Sulidae	78
Anhingidae *	54
Laridae	51
Anatidae	48
Pelecanidae	40
Corvidae	30
Gruidae	29
Megapodidae *	27
Anseranatidae *	27
Falconidae	25
Accipitridae	24
Glareolidae *	21
Turnicidae *	21
Jacaniidae *	21
Rostratulidae *	21
Pedionomidae *	21
Tytonidae	18
Ciconiidae	18
Casuariidae *	16
Ardeidae	15
Phaethontidae *	13
Coraciidae *	12
Alcedinidae *	12
Burhinidae *	12
Phalacrocoracidae	11
Stercorariidae	11
Petroicidae *	10
Struthideidae *	10
Paradisaeidae *	10
Monarchidae *	10
Dicruridae *	10
Rhipiduridae *	10
Artamidae *	10
Oriolidae *	10
Pachycephalidae *	10
Psophodidae *	10
Neosittidae *	10

Campephagidae *	10
Cinclosomatidae *	10
Strigidae	9
Columbidae	7
Phasianidae	7
Orthonychidae *	6
Pomatostomidae *	6
Acanthizidae *	6
Pardalotidae *	6
Meliphagidae *	6
Maluridae *	6
Ptilonorhynchidae *	6
Climacteridae *	6
Menuridae *	6
Pittidae *	6
Spheniscidae	5
Podicipedidae	5
Passeridae	4
Cacatuidae *	4
Threskiornithidae	4
Fregatidae	4
Procellariidae	4
Apodidae *	4
Aegothelidae *	4
Podargidae *	4
Cuculidae *	4
Otididae *	4
Rallidae	4
Sturnidae	3
Oceanitidae *	3
Diomedidae	3
Scolopacidae	3
Haematopodidae	3
Motacillidae *	2
Nectariniidae *	2
Dicaeidae *	2
Turdidae	2
Locustellidae *	2
Cisticolidae *	2
Acrocephalidae *	2
Alaudidae *	2
Pandionidae	2
Recurvirostridae *	2
Fringillidae	1
Estrildidae	1
Zosteropidae *	1

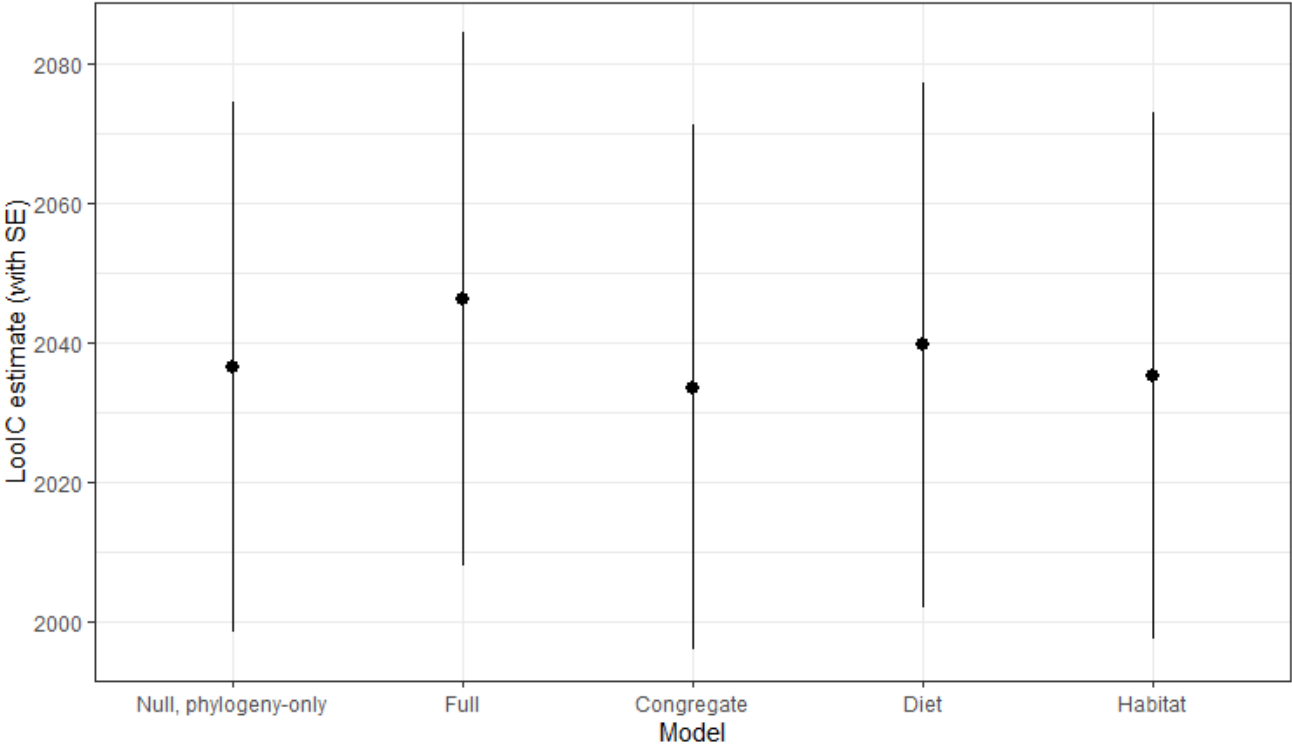
Hirundinidae	1
Psittacidae	1
Caprimulgidae	1
Charadriidae	1
Numididae	1

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603 *Figure S1. LOO ELPD estimates of the full model with ecological traits and the null,*
604 *phylogeny-only model. The substantial overlap of SEs in the computed LOO ELPD mean*
605 *the model fit does not drastically improve when adding the ecological variables in our*
606 *full model.*



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