

An update on the Black-naped Pheasant-pigeon and search for Long-billed Myzomela on Fergusson Island, Papua New Guinea

Jordan Boersma^{*1,2}, Jason J. Gregg², Doka Nason^{1,3}, Serena Ketaloya^{1,3}, Daisy Parascos^{1,4}, and Elimo Malesa^{1,5}

Author Affiliations:

1. Cornell Lab of Ornithology, Cornell University, Ithaca, NY, USA
2. Department of Ecology, Montana State University, Bozeman, MT, USA
3. Porotona Village, Milne Bay Province, Papua New Guinea
4. Alotau Township, Milne Bay Province, Papua New Guinea
5. Basima Village, Milne Bay Province, Papua New Guinea

*correspondence: jordan.boersma@gmail.com

ABSTRACT

Searching for *lost species*— those without conclusive documentation for a decade or longer— has emerged as a core goal of conservationists during the current extinction crisis. While documenting these species is an important first step, sustained efforts to study and conserve these often data-deficient and rare taxa are necessary to increase prospects for long-term survival. Here we report on an expedition in June–July 2025 to Fergusson Island, Papua New Guinea, to conduct follow-up research on the Black-naped Pheasant-pigeon (*Otidiphaps insularis*), formerly lost to Western Science for 126 years until documentation in 2022. In addition, we sought to collect voucher media for another lost bird species: the Long-billed Myzomela (*Myzomela longirostris*), a small canopy-dwelling bird without formal documentation since 1988. Unfortunately, our trail cameras and on-foot surveys failed to detect either species, though our efforts were greatly truncated by poor weather conditions. Recent developments in the resource extraction sector on Fergusson raise the stakes for ongoing efforts to conserve its threatened taxa.

INTRODUCTION

We are presiding over the sixth mass extinction event, with species being lost at an alarming rate to climate change and habitat loss (Ceballos et al. 2015). In many taxonomic groups, species are lost before ever being described to science (Cowie et al. 2022). In better studied taxa, like birds, hundreds of bird species in North America alone are declining precipitously (Rosenberg et al. 2019) and many have escaped detection for extended periods (Rutt et al. 2024), causing concerns that they have gone extinct or could in the near term. These so-called “lost species”, are taxa without voucher media for ten or more years (Long and Rodriguez 2022), have emerged as major priorities for targeted search efforts. While determining whether these species remain extant is a critical first step, simply finding lost species does nothing to avert the high risk of extinction many of these species face (Martin et al. 2023; Rutt et al. 2024).

The Black-naped Pheasant-pigeon (*Otidiphaps insularis* Salvin and Godman 1883) was lost to the Western Scientific record for 126 years before a targeted search for this species in 2022

resulted in trail camera images of two individuals ~5km apart on Fergusson Island, Papua New Guinea (Gregg et al. preprint in revision). This species was initially described from two specimens collected in 1881, with one last specimen– the last known observation up until 2022– being taken in 1896 (Kirwan and van Grouw 2023; Kirwan et al. 2023). Despite an extended period without formal documentation, local people in three villages in eastern Fergusson identified this species from an illustration as “Auwo”, a name given to it based on the sound of its call, and two locals had continued to observe this species up to present day in 2022 and helped document this species (Gregg et al. preprint in revision). The current range and population size of this Pheasant-pigeon remains unknown. Lack of documentation by ornithologists for over a century coupled with recent habitat loss on Fergusson, the only island known to harbor the species, has resulted in a Critically Endangered designation on the IUCN Redlist (BirdLife International 2026).

The Long-billed Myzomela (*Myzomela longirostris* Mayr and Rand 1935) is the only other lost bird species to the D'Entrecasteaux Archipelago, having been described from a specimen collected in 1935 and without formal documentation since the last specimen was collected in 1988 on Goodenough Island (LeCroy and Peckover 1999), which lies just west of Fergusson. This species was previously known only from Goodenough, until multiple individuals were observed by JB, JG, and DN in upper montane habitat on Fergusson in 2019 (Gregg et al. 2020), however no photographs or audio recordings support these observations, hence its inclusion as a lost species. This small, canopy-dwelling bird is likely restricted to only the highest mountains of Goodenough and Fergusson, so the lack of recent documentation most likely stems from limited surveys of this range-restricted species (Boersma et al. 2025).

In June-July 2025 we visited hill and montane habitat on Fergusson with the goal of collecting more observations and natural history information on the Black-naped Pheasant-pigeon, and capturing conclusive voucher media proving the presence of Long-Billed Myzomela. We worked alongside Indigenous landowners to place trail cameras in suspected microhabitat for the Pheasant-pigeon, and surveyed upper montane habitat where members of our team previously observed the lost Myzomela. While we failed to document either species, here we describe our efforts and compile recent developments that affect the conservation status of Fergusson's taxa.

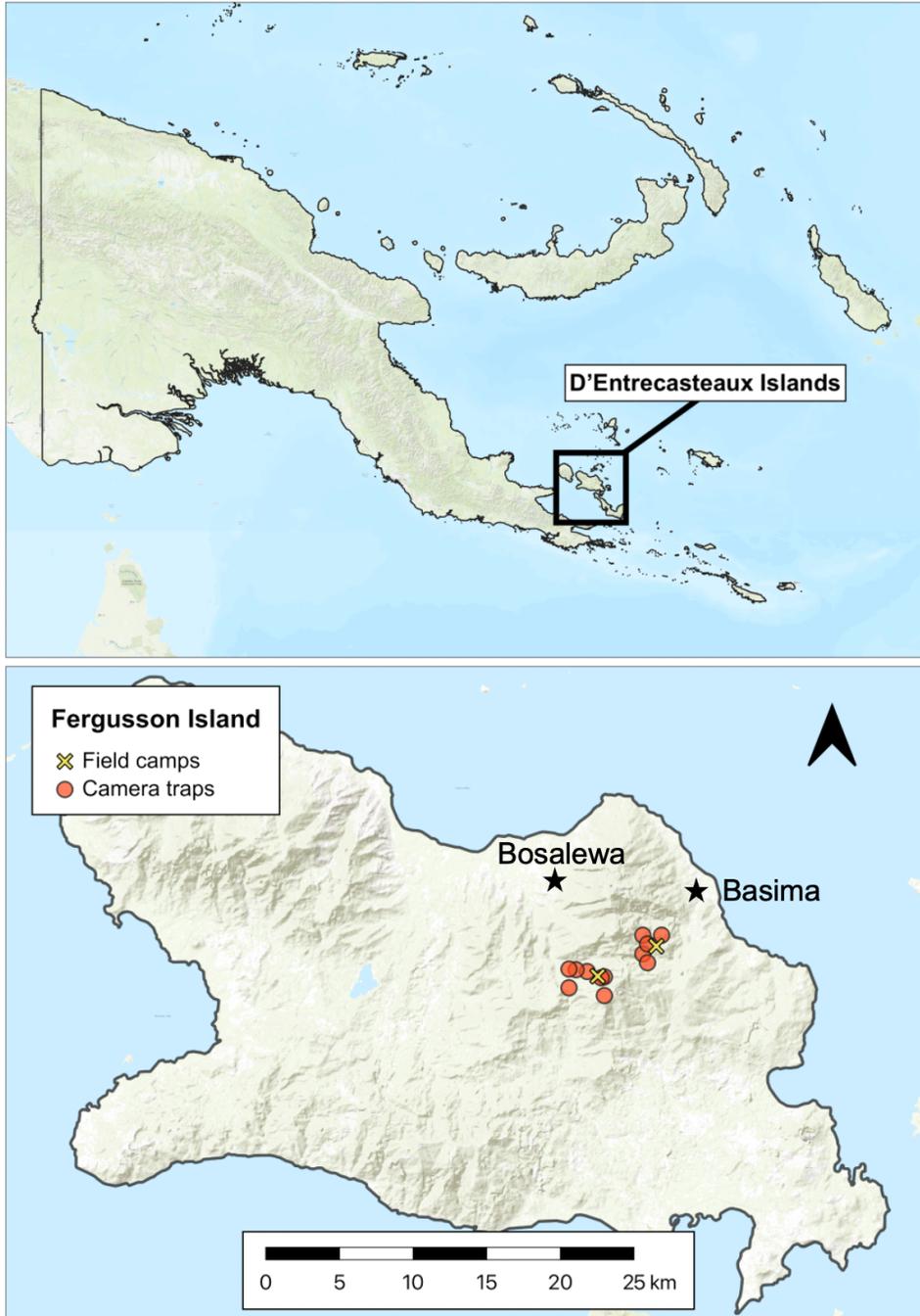


Figure 1. Camera trap and field camp locations on the 2025 expedition to Fergusson Island.

METHODS

On June 21, 2025 we arrived at Basima, a large village in the shadows of Fergusson's highest mountains, which has served as a home base for our previous expeditions in 2019 and 2022. After making arrangements with Indigenous landowners, we made camp on a ridge at ~970m asl on Oya Nai, the second tallest mountain on Fergusson on June 23. We placed five trail

cameras (Figure 1) along game trails suspected to have been left by large terrestrial birds, of which there are only two on Fergusson: Orange-footed Megapode (*Megapodius reinwardt* Dumont 1823) and Black-naped Pheasant-pigeon. These cameras were placed at range of 969-1084m asl and left for 50.4 to 90.4 hours (mean 67.5 hours). All trail cameras employed for this expedition were Bushnell CORE™ DS-4K No Glow Trail Cameras (Overland Park, KS, USA) set to record photographs and videos without delay when triggered. Each camera was mounted to a ~1m PVC pole, which was driven into the ground, resulting in a camera height of ~10cm.

From 25 – 29 June we conducted informal surveys, documenting all bird species by sight and sound, in primary montane forest between 950 – 1250m asl. When flowering trees were located we sat for 20-120 minutes beneath them, as the Long-billed Myzomela is principally nectarivorous (Higgins et al. 2023). We also used playback to aid our search for the Myzomela (~6 hours across 4 days) and Pheasant-pigeon (~8 hours across 6 days) using vocalizations played from a JBL Go 3 bluetooth speaker (Los Angeles, CA, USA). Due to no recordings existing for either of the species we were searching for, we employed vocalizations of Red-collared Myzomela (*Myzomela rosenbergii* Schlegel 1871), the species *M. longirostris* was split from (Higgins et al. 2023), and Grey-naped Pheasant-pigeon (*Otidiphaps cervicalis* Ramsay 1880), which is suspected to sound similar to congener *O. insularis* (Gregg et al. preprint in revision).

On June 30 we traveled by small boat from Basima to Bosalewa village. After two days of making arrangements with landowners in Bosalewa and Duda Ununa, we trekked up the Kwama river to a camp members of our team last used in 2022 at ~860m asl, in an area that produced detections of the Black-naped Pheasant-pigeon (Boersma et al. 2025, Gregg et al. preprint in revision). We placed 7 trail cameras along potential *O. insularis* game trails in primary hill forest on July 2nd and 3rd at 570-992m asl. These cameras recorded for 38.9 – 70.3 hours before we trekked back down to Bosalewa village on July 5th at the end of our expedition. In addition, we used playback as described above for Pheasant-pigeon, but not for Myzomela as we did not access elevations that would support this species.

RESULTS

Trail camera detections

Our trail cameras operated for 30.5 trail camera days, producing a total of 8 independent captures, resulting in a rate of 0.3 captures per camera day. Four bird species were detected (Figure 2): Variable Shrikethrush (*Colluricincla fortis* Gadow 1883), Papuan Pitta (*Erythropitta macklotii* Temminck 1834), Orange-footed Scrubfowl, and Puff-backed Honeyeater (*Meliphaga aruensis* Sharpe 1884). The only other taxa detected by our trail cameras were rats (*Rattus exulans* Peale 1848 and unidentified rat species), which made up 38% of all detections. Notably, no Black-naped Pheasant-pigeons were captured by trail cameras, despite nearly 400 trail camera hours in an area known to support the species, and nearly 70 additional hours in habitat likely to support the species based on 2022 results (Boersma et al., 2025; Gregg et al., preprint in revision).

Survey findings

Our on-foot surveys failed to detect the Black-naped Pheasant-pigeon or Long-billed Myzomela. We never received a response to playback of congeneric calls for either the Pheasant-pigeon or Myzomela, despite using playback over 4 days in known Pheasant-pigeon habitat and 5 days in the same forest where members of our team previously observed the Myzomela multiple times. While searching for the latter, we observed Island Leaf-Warbler (*Phylloscopus poliocephalus* Salvadori 1876) responding to playback of Red-collared Myzomela calls and we watched several other species visiting flowering trees above 1000m: Puff-backed Honeyeater, Red-capped Flowerpecker (*Dicaeum geelvinkianum* Meyer 1884), Oya Tabu White-eye (*Zosterops crookshanki* Mayr and Rand 1935), Spectacled Longbill (*Oedistoma iliolophus* Salvadori 1876), and Papuan Black Myzomela (*Myzomela nigrita* Gray 1858).

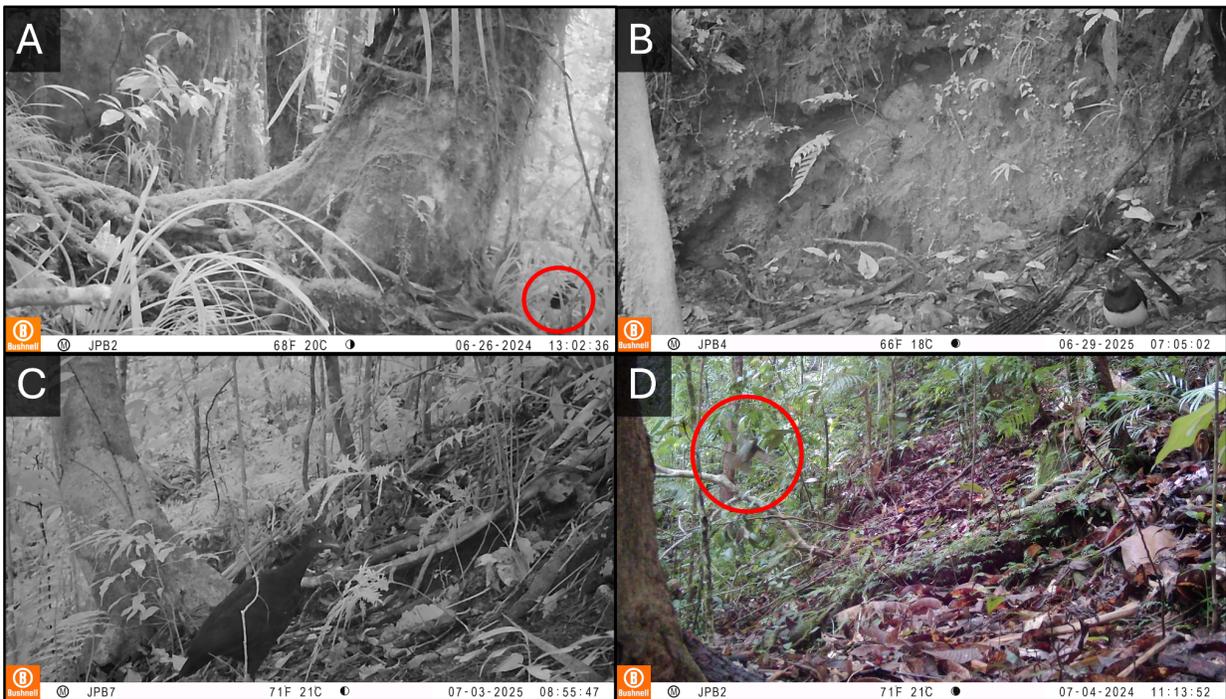


Figure 2. Trail camera captures of: **A.** Variable Shrikethrush (*Colluricincla fortis*), **B.** Papuan Pitta (*Erythropitta macklotii*), **C.** Orange-footed Scrubfowl (*Megapodius reinwardt*), and **D.** Puff-backed Honeyeater (*Meliphaga aruensis*).

DISCUSSION

Finding lost species offers a rare injection of optimism in conservation biology. However, such extended periods without documentation are often the result of these species remaining in small populations (Gumbs et al. 2023; Martin et al. 2023, McClure et al. 2023). Determining where and in what numbers formerly lost species remain is an important next step to inform conservation efforts to ensure their long-term survival. We set out to provide conclusive documentation of the Long-billed Myzomela and learn more about the recently found Black-naped Pheasant-pigeon's current range and natural history. While we did not encounter either

species, we cannot reasonably conclude this to reflect a change to either species' current status due to the scope of our efforts and challenging conditions that limited detection of avian species.

Our expedition was limited to a very brief period, and we only had nine days in primary forest that could support one or both species. Among these, we had five full days in the area where members of our team had previously observed Long-billed Myzomela, though failed to capture evidence due to camera failure (Gregg et al. 2020). This species is known to occupy forests above 1,000m on Goodenough Island, and our previous observations of this species were from 1,000-1,300m on Oya Nai, Fergusson's second tallest mountain. We spent many hours observing flowering trees within this elevational band on Oya Nai, but did not see any Long-billed Myzomelas. Playback of congeneric Red-collared Myzomela, the species it was split from (Higgins et al. 2023), never produced a response except from Island Leaf-Warbler, whose song is qualitatively similar (Boersma pers. obs.).

We returned to the forest surrounding the Kwama River where we heard the most positive local reports of the Black-naped Pheasant-pigeon and captured trail camera images of the species in 2022 (Gregg et al. preprint in revision). We placed seven camera traps along suspected game trails for this species in this area and five on Oya Nai (Figure 1), but none captured images of *O. insularis*. Trail camera detection locations of the Pheasant-pigeon in 2022 suggest the likely presence of *O. insularis* in the area we surveyed on Oya Nai, despite a lack of positive results in 2025 and during our initial survey in 2019 (Gregg et al. 2020). We regularly used playback of congener *O. cervicalis* along ridges on Oya Nai and in the Kwama River area but never elicited a response. The hunter who seemed to have the most direct knowledge of *O. insularis* from our interviews in 2022 had stated that this species vocalizes most during May and June (Boersma and Gregg, unpublished data), so it is possible that we just missed the critical window when this species is most vocal.

We caution against drawing major conclusions about the current status of either of our target species based on our failure to detect them during this expedition. Pheasant-pigeons are known to be elusive and difficult to detect when not vocalizing, and the local Black-naped taxa is certainly quite rare on Fergusson. Our trip coincided with a period of heavy and consistent rain, which caused the forest to be unusually quiet even during the brief intervals between rainfall, resulting in half the trail camera detection rate as our previous expedition (Gregg et al., preprint in revision). No noticeable habitat changes have occurred in either the Oya Nai or Kwama River areas from our previous excursions in 2019 (Gregg et al. 2020) and 2022 (Boersma et al. 2025) to the 2025 expedition we report on here. Both continue to be rarely visited by few hunters and have not been the subject of any resource extraction.

The Long-billed Myzomela is unlikely to face hunting pressure being a small, canopy dwelling species, but is likely at risk to climate change and competitive exclusion, the so-called "escalator to extinction" (Freeman et al. 2018; Urban 2018) given it only occupies the very highest elevations on Fergusson and Goodenough Islands. The Black-naped Pheasant-pigeon continues to be at great risk to habitat loss from resource extraction on Fergusson Island. Much of Fergusson has already been logged and locals have told us on recent trips that agreements

have been signed with landowners to resume timber extraction (Gregg et al. preprint in revision). Perhaps most worryingly, alluvial gold deposits have been found recently across Fergusson, including within the Kwama river area that seems to be the most critical area for the Pheasant-pigeon in the eastern half of the island (Malesa, pers. obs.). A mining camp had been established in the nearby coastal village of Gameta shortly prior to our arrival to Fergusson in June 2025, which could represent a major threat to the remaining habitat for island endemics. Fergusson is the largest and most speciose island (Boersma et al. 2025) in the D'Entrecasteaux Archipelago Endemic Bird Area (Stattersfield et al. 1998), so it is of immediate importance to enact conservation measures with the guidance of local stewards.

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AUTHOR CONTRIBUTIONS

Conceptualization: JB, JG, DN; Data curation: JB; Formal analysis: JB; Funding acquisition: JB; Investigation: all; Methodology: JB, JG, DN; Project administration: JB, DN, SK, DP, EM; Resources: JB; Software: JB; Supervision: JB; Validation: JB; Visualization: JB, JG; Writing – original draft: JB; Writing – review & editing: JB, JG

ETHICAL STANDARDS

All activities described in this paper were approved by the Conservation and Environmental Protection Authority (CEPA) of Papua New Guinea and the Provincial Research Committee in Milne Bay Province. Local communities were consulted prior to commencing research, and customary landowners within the study area approved and assisted with activities. Our camera trap protocol was conducted according to Cornell University Institutional Animal Care and Use Committee (IACUC) protocol (#2009-0105).

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