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NOVEL AVIFAUNAL INVENTORY OF GUNUNG Q, AN OVERLOOKED OUTLYING MOUNTAIN RANGE IN PAPUA, INDONESIA

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ABSTRACT

Papua is the second-largest island on earth and a major centre of biodiversity, but remains underexplored. The island's montane fauna is particularly rich in endemic species, but most of its exploration has historically focused on the main cordillera that stretches across the island from east to west. Exploration of a number of smaller, isolated outlying mountain ranges has recently produced a substantial amount of new species discovery. We explored the avifauna of Gunung Q, an isolated outlying mountain in the province of Papua (Jayapura) rising to ~1800m, with no topographic connection to any nearby mountain range. To the best of our knowledge, Gunung Q has never previously been inventoried by biologists. Our fieldwork, which encompassed exploration of the mountain only up to ~1100m, produced various new regional records and suggests that Gunung Q has the potential for substantial undiscovered endemism at higher elevations.

Key words: avifauna, Gunung Q, outlying mountain, Papua

INTRODUCTION

Papua, the second largest island in the world after Greenland with an approximate size of 786,000 km^2, is divided roughly equally between Indonesia and Papua New Guinea and is among the biologically most diverse regions globally due to its complex biogeography. The island's complicated tectonic and geological history has resulted in heterogenous landscapes spanning from coastal habitats and grasslands to rich montane and lowland rainforests and glaciers up to 4,600 m above sea level on Puncak Jaya (Hall, 2002; Heads, 2002; Mack & Dumbacher, 2007; Hall et al., 2011; Cámara-Leret et al., 2020; Supriatna & Margules, 2025). The backbone of Papua is formed by the central range (or central cordillera) that extends almost continuously from the Bird's Head Peninsula in the west to southeastern New Guinea, dividing the island into a northern and southern watershed, with multiple isolated outlying mountains in the northern part separated by major lowland river basins, constituting sky islands, each of them with their own set of endemic fauna (Hartert, 1930; Mayr, 1930; Diamond, 1969). These factors

in combination have generated a diverse and distinctive Australasian avifauna, which is clearly distinct from that of neighboring Asia, reaching a total of around 800 bird species, roughly 650 of them on the Indonesian side alone (Wallace, 1863; Wallace, 1869; Mayr, 1944; Mack & Dumbacher, 2007; Beehler & Pratt, 2016; Supriatna & Margules, 2025).

Ornithological exploration in Indonesian Papua has a rich history nearly spanning two centuries. One of the first and most influential publications on Papuan ornithology was *Ornitologia della Papuasia e delle Molucche*, which was largely based on the specimens collected by Odoardo Beccari and Luigi d'Albertis in the Bird's Head Peninsula and coastal islands (Salvadori, 1880). In the 20th century, the Archbold Expeditions, which almost covered the whole of Papua between 1933 and 1964, shifted the paradigm of biodiversity exploration towards systematics, biogeography, and ecology. The 3rd Archbold Expedition took place in the former Dutch Territory between 1938 and 1939 around the Snow Mountain, Idenburg River, and Cyclops Mountain (Archbold et al., 1942). A seminal work of Mayr (1930), the "List of New Guinea Birds", was published not long after the 3rd expedition, another important foundation for the ornithology of Papua (Hartert, 1930; Beehler & Pratt, 2016).

Papuan exploration in the 21st century has not been as productive as the Archbold Expeditions. As fewer new avian discoveries remained in Papua's lowlands and central cordillera, several exploratory surveys were conducted in outlying, isolated, or less visited mountain areas, especially around the Bird's Head Peninsula. Despite their considerably smaller volume and shorter duration, these sorties shone a spotlight on multiple areas that appeared to remain underexplored, with a distinct potential to find new avian taxa to science. The Foya expeditions were a collaborative effort between several organizations, including Indonesian researchers and global NGOs, to explore the Foja mountains east of the Mamberamo River in 2005 and 2007 (Fig. 1), resulting in significant new species discovery and rediscovery of lost taxa, such as Foya Honeyeater (*Melipotes carolae*) and Golden-fronted Bowerbird (*Amblyornis flavifrons*), respectively (Beehler et al., 2007; Beehler & Prawiradilaga, 2010; Beehler et al., 2012). A multi-disciplinary joint research expedition between France and Indonesia in the Lengguru massif in 2014 was probably the biggest of the millennium as yet, revealing some new lineages and potential new species (Arida et al., 2021). A smaller contingent of the bird group continued this work with an expedition to the Kumawa mountains in 2017, discovering a new species to science, the Satin Berrypecker (*Melanocharis citreola*; Milá et al., 2021).

Recent expeditions, such as those to Foya and Lengguru, have placed a focus back on the overlooked outlying mountains of Papua. In general, the island of Papua is a premier site for ornithological studies due to its rich endemic radiations of species belonging to extraordinary families which are only present on the island (Diamond & Bishop, 2023). The present contribution outlines our fieldwork on one of the forgotten outlying mountains of Papua: Gunung Q in Papua Province, Indonesia. We provide a novel avifaunal inventory for this site and elaborate on its potential for additional future discoveries.

MATERIALS AND METHODS

Gunung Q (called Gunung Ji by locals) is located around 130 km south of Jayapura, and around 106 km north of the section of the central cordillera called 'Star Mountains' or Pegunungan Bintang, separated by a stretch of lowlands around 30–40 km wide, near the border between Indonesia and Papua New Guinea (Fig. 1). The highest elevation of Gunung Q is at 1,769 m above sea level. Administratively, it is part of Papua Province (as defined under the new provincial boundaries post-2025), Regency of Keerom, and District of Kaisenar.

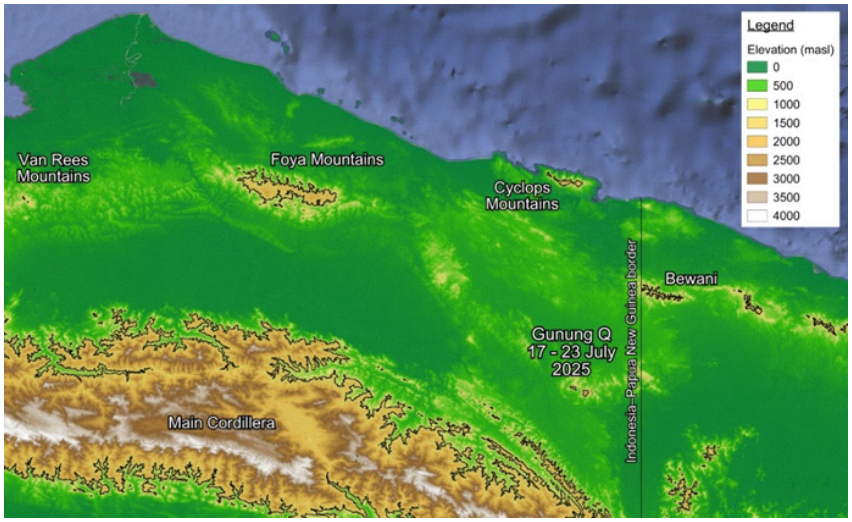

Figure 1. Excerpt of the northern-central part of the island of Papua, with the international border between Indonesia and Papua New Guinea running north to south. The 1200m isoline is shown in black, with elevations color-coded according to the legend. Gunung Q emerges as one of few outlying mountain ranges, clearly separated from the main cordillera, along with the Cyclops, Foya, Van Rees and Bewani Mountains.

Fieldwork was conducted between 14–24 July 2025. We travelled from Jayapura to Tefalma I (3.822342° S 140.565658° E) (Fig. 2), the closest village to the mountain, on 14 July 2025. After considerable logistical arrangements with local communities, we ascended part of the mountain on 17 July and surveyed it until 23 July 2025. We camped at 500 m asl (3.84181° S 140.6209° E), one of the highest altitudes along the trail from around Tefalma I with safe and reliable water, and hiked back and

forth to an obvious ridge at 1,100 m asl where we set up mist nests of various sizes (3.82487° S 140.627° E). Ascending further from this ridge was not possible because of a lack of water, the steep terrain and the long distances involved. Some birds were collected and prepared as skinned specimens to be deposited in the Museum Zoologicum Bogoriense, Cibinong.

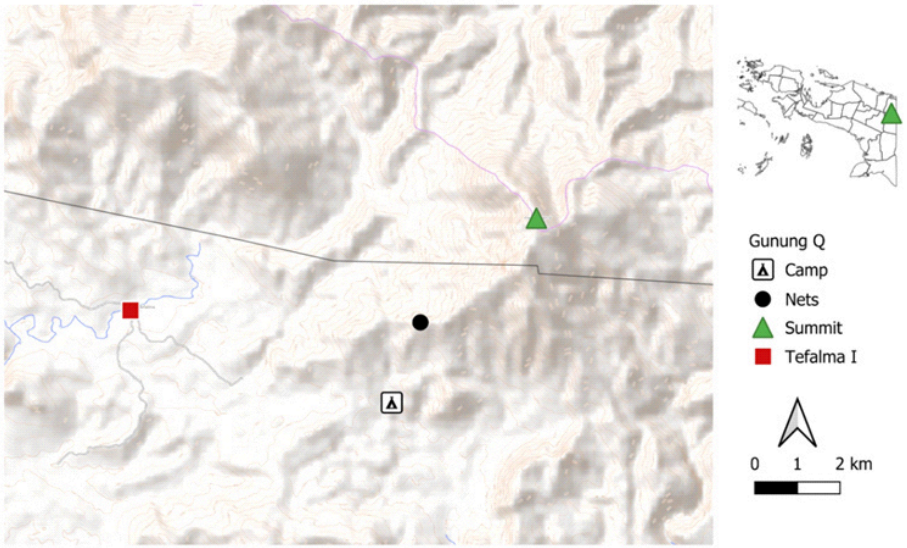

Figure 2. Fieldwork area in Gunung Q showing the locations of Tefalma I village, the field camp, and the mistnet deployment.

Despite the timing of our expedition in July, a month that is generally thought of as a good season for ornithological fieldwork in Papua, our visit to Gunung Q coincided with strong and persistent rainfall impairing our work. The local avifauna was silent and unresponsive, most bird individuals exhibiting extreme shyness, with no significant dawn chorus, suggesting that the local bird community was in incubation stage. Across more than a week on the mountain itself, we only encountered a single notable mixed foraging flock in the mid-morning of 22 July 2025. These conditions had a considerable adverse impact on our work, significantly reducing the number of species found.

RESULTS

The following is a list of all the avian species recorded during our fieldwork at Gunung Q. Birds are listed in taxonomic order. Birds that were positively identified are numbered. Additional birds that were not identified with absolute certainty are given in a letter format. Birds in bold font are considered interesting new records, often referring to highland or montane species that have never previously been recorded from this part of Papua.

1. Collared Brushturkey – *Talegalla jobiensis jobiensis*: Heard only, exclusively in lowlands up to ~600m, calling daily and at night

   a. *Casuarius* sp.: unidentified grunting and other sounds from cassowaries on 1-2 occasions at ~600-800m; droppings have also been attributed to this genus by our local guide Lukas

   b. Wattled Brushturkey – *Aepypodius arfakianus arfakianus*: Not seen by us, but local guide Lukas provided descriptions that this species can be found at higher elevations on Gunung Q

2. Great Cuckoo-Dove – *Reinwardtoena reinwardti griseotincta*: total of ~5 singletons flying by at Tefalma I and at the start of the trek around ~500m (16 July, 17 July, 23 July)

   a. *Macropygia doreya / amboinensis*: ~5 singletons at Tefalma I (16 July, 17 July), mostly fly-by's but one perched, identified as belonging to Slender-billed Cuckoodove complex on photos, but silent and hence not identified to species

3. Pheasant Pigeon – *Otidiphaps nobilis nobilis*: Three encounters on 22 July. One seen well at ~1050m as it crossed the trail and walked down the slope, with ~5 sec binocular views; one glimpsed for split seconds up to three times as it crossed the trail back and forth at ~800m; and one heard distantly at ~1100m

4. Victoria Crowned Pigeon – *Goura victoria beccarii*: 1 heard at dusk at camp around ~550m (18 July)

5. Purple-tailed Imperial Pigeon – *Ducula rufigaster uropygialis*: 1 foraging at ~650m in mid-morning feeding frenzy (22 July)

6. Pinon's Imperial Pigeon – *Ducula pinon jobiensis*: total of ~7 seen mostly at Tefalma I but also up to ~600m (16 July, 17 July, 22 July, 23 July), with more heard

7. Zoe's Imperial Pigeon – *Ducula zoeae*: ~3 seen at Tefalma I (16 July, 17 July), but heard much more widely

8. Wompoo Fruit Dove – *Megaloprepia magnifica septentrionalis*: 3 singletons seen (21 July, 22 July) at ~600-700m, but heard more widely

9. Eastern Superb Fruit Dove – *Ptilinopus superbus*: 1 seen at ~650m (22 July) and 1 at Tefalma I (17 July

10. White-bibbed Fruit Dove – *Ptilinopus rivoli bellus*: 1 pair seen at ~1100m (20 July; Fig. 3

Figure 3. Female White-bibbed Fruit Dove (Ptilinopus rivoli bellus) photographed on 20 July 2025 at ~1100m asl.

11. Pink-spotted Fruit Dove – *Ptilinopus perlatus perlatus*: 1 seen perched at Tefalma I (23 July
12. Orange-bellied Fruit Dove – *Ptilinopus iozonus iobiensis*: 4 singletons, both at Tefalma I and at the camp at ~550m (17 July, 18 July, 23 July
13. Coroneted Fruit Dove – *Ptilinopus coronulatus*: Total of ~5 seen at Tefalma I (16 July, 17 July, 23 July, Fig. 4); our photos show birds with a salmon-grey forecrown delimited from the green hindcrown by a bicolored band (thicker yellow and thinner purple), the throat being greyish-green (Fig. 3). These characters seem intermediate between the traits of subspecies *geminus* (type locality Yapen) and *quadrigeminus* (type locality Madang), which is consistent with the roughly intermediate geographic position

Figure 4. Coroneted Fruit Dove (Ptilinopus coronulatus) photographed on 17 July 2025 near Tefalma I showing (a) salmon-grey forecrown delimited from green hindcrown by bicoloured band and (b) greyish-green throat.

14. Papuan Mountain Pigeon – *Gymnophaps albertisii albertisii*: total of ~100, roughly divided into ~4 flocks, at Tefalma I and at the start of the trek around ~500m, always flying high, clearly identifiable through photos (16 July, 17 July, 18 July, 23 July; Fig. 5

Figure 5. Papuan Mountain Pigeons (Gymnophaps albertisii albertisii) flying by in a flock on 17 July 2025 near Tefalma I showing red orbital skin.

15. Marbled Frogmouth – *Podargus ocellatus ocellatus*: 1 heard at camp at ~550m after dusk on two nights (20 July, 21 July), possibly the same individual
16. Papuan Frogmouth – *Podargus papuensis*: 1 spot-lit and watched at night around camp at ~550m (20 July)
17. Moustached Treeswift – *Hemiprocne mystacea mystacea*: ~3 at Tefalma I (15 July)
18. Papuan Spinetail – *Mearnsia novaeguineae buergersi*: 1 seen from the camp at ~550m (21 July)
19. Glossy Swiftlet – *Collocalia esculenta nitens*: total of ~50 mostly around Tefalma I (16 July, 17 July, 23 July)
    a. *Aerodramus* sp.: total of ~30 mostly around Tefalma I (15 July, 16 July, 17 July, 23 July); they all exhibited a light-colored face, throat and breast contrasting against the dark cap; they were most likely *Aerodramus vanikorensis yorki*
    b. *Centropus* sp.: Sighting of 1 at dusk at ~700m remained inconclusive between *C. menbeki* and *C. bernsteini*; various distant coucal sounds were not identified to species level
20. Dwarf Koel – *Microdynamis parva grisescens*: heard widely at all elevations
21. White-eared Bronze Cuckoo – *Chalcites meyerii*: 1 caught in mistnet at ~1050m
22. Chestnut-breasted Cuckoo – *Cacomantis castaneiventris arfakianus*: heard widely on the mountain
23. Sahul Brush Cuckoo – *Cacomantis variolosus infaustus*: heard widely mostly at lower elevations
24. Great Cormorant – *Phalacrocorax carbo novaehollandiae*: total of ~3-5, seen flying along the river at Tefalma I (15 July, 16 July; Fig. 6); these records are consistent with Australian migrants, pointing to wintering populations even along smaller rivers in Papua's northern watershed, *contra* Gregory (2025)

Figure 6. Great Cormorant (Phalacrocorax carbo novaehollandiae) flying over Tefalma I on 16 July 2025 showing white cheek patch and yellow facial skin.

25. Papuan Boobook – *Ninox theomacha theomacha*: At least 1 spot-lit and observed at night (20 July) around the camp at ~550m, where up to 3 individuals were heard over several nights; also 1 mist-netted at ~1100m; the birds sometimes gave 1-syllabled renditions of the conventional doublet call note
26. Papuan Hawk-Owl – *Uroglaux dimorpha*: 1 heard at ~600m after dusk (22 July)
27. Long-tailed Honey Buzzard – *Henicopernis longicauda*: Total of ~4 seen circling in rare moments of good weather between ~500-550m, mostly from camp (17 July, 18 July, 23 July)
28. Pacific Baza – *Aviceda subcristata megala*: 1 seen flying over at Tefalma I (15 July)
29. Brahminy Kite – *Haliastur indus girrenera*: Singletons seen on three days at Tefalma I and at the camp at ~550m (15 July, 17 July, 19 July)
30. Blyth's Hornbill – *Rhyticeros plicatus*: Total of ~10 seen at all elevations up to ~1100m on virtually every day
31. Rainbow Bee-eater – *Merops ornatus*: Total of ~20 at Tefalma I and near the start of the trek at ~500m (15 July, 16 July, 17 July, 18 July, 23 July)

32. Oriental Dollarbird – *Eurystomus orientalis pacificus*: Total of ~3 around Tefalma I (16 July, 17 July, 23 July); the pale blue to greyish overall color indicated their migrant origin

33. Yellow-billed Kingfisher – *Syma torotoro torotoro*: Heard singing at ~550-700m on only ~5 occasions

34. Sacred Kingfisher – *Todiramphus sanctus sanctus*: 1-2 seen inside the village of Tefalma I over two days (16 July, 17 July)

35. Rufous-bellied Kookaburra – *Dacelo gaudichaud*: Heard on ~3-4 occasions, mostly at Tefalma I but also at ~600m

36. Palm Cockatoo – *Probosciger aterrimus stenolophus*: Three singletons seen well between 500-550m (18 July, 23 July)

37. Sulphur-crested Cockatoo – *Cacatua galerita triton*: Total of ~20 seen, with sightings on almost every day at all elevations visited

38. Pesquet's Parrot – *Psittrichas fulgidus*: Total of ~12 across several days, mostly fly-by's at Tefalma I but also 2 perched at the start of the trek at ~500m (16 July, 17 July, 18 July, 19 July, 23 July)

39. Red-fronted Lorikeet – *Hypocharmosyna rubronotata rubronotata*: Total of ~15 around Tefalma I seen in flight and perched (17 July), identification made easier with photos; many more lorikeets of the same size were seen flying around here, but we did not conclusively identify those additional individuals from Red-flanked Lorikeet *H. placentis*.

    a. Charmosynopsis pulchella / Charmosyna josefinae: 4 individuals flying over at Tefalma I before dusk (16 July) were photographed but could not be identified as to whether they were Fairy or Josephine's Lorikeets.

40. Black-capped Lory – *Lorius lory viridicrissalis*: Total of ~30 seen up to ~600m (16 July, 17 July, 18 July, 19 July, 21 July, 23 July), heard more often

41. Brown Lory – *Chalcopsitta duivenbodei duivenbodei*: 2 seen flying over (23 July) at Tefalma I

42. Coconut Lorikeet – *Trichoglossus haematodus haematodus*: Total of ~40 seen up to ~550m (15 July, 16 July, 17 July, 18 July, 23 July)

43. Papuan Eclectus – *Eclectus polychloros polychloros*: Total of ~25 seen up to ~550m (15 July, 16 July, 17 July, 18 July, 19 July, 23 July)

44. Red-cheeked Parrot – *Geoffroyus geoffroyi minor*: Total of ~35 seen up to ~650m (16 July, 17 July, 18 July, 21 July, 22 July, 23 July)

45. Papuan Pitta – *Erythropitta macklotii habenichti*: heard mostly between ~500-600m on an almost-daily basis

46. White-eared Catbird – *Ailuroedus buccoides geislerorum*: 1 sighting at ~650m during a mid-morning feeding frenzy (21 July); also 1 photographed by team member without further details

47. Masked Bowerbird – *Sericulus aureus*: 1 male seen poorly (but recognizably, with brief glimpses of its black head patch) at its bower at ~1050m (22 July); besides this active bower (Fig. 7), two more destroyed bowers were found at the same elevation.

Figure 7. Bower of Masked Bowerbird (*Sericulus aureus*) photographed on 22 July at ~1050m with Olympus recorder LS-12 for scale against (a) depth and (b) height of bower. Small light blue berries of a local plant can be seen in the bower.

48. Wallace's Fairywren – *Sipodotus wallacii*: Three pairs were seen from ~550m (at camp) to ~1100m (21 July, 22 July, 23 July)

49. Broad-billed Fairywren – *Chenorhamphus grayi*: 1 pair caught in mistnet at ~1100m (21 July; Fig. 8)

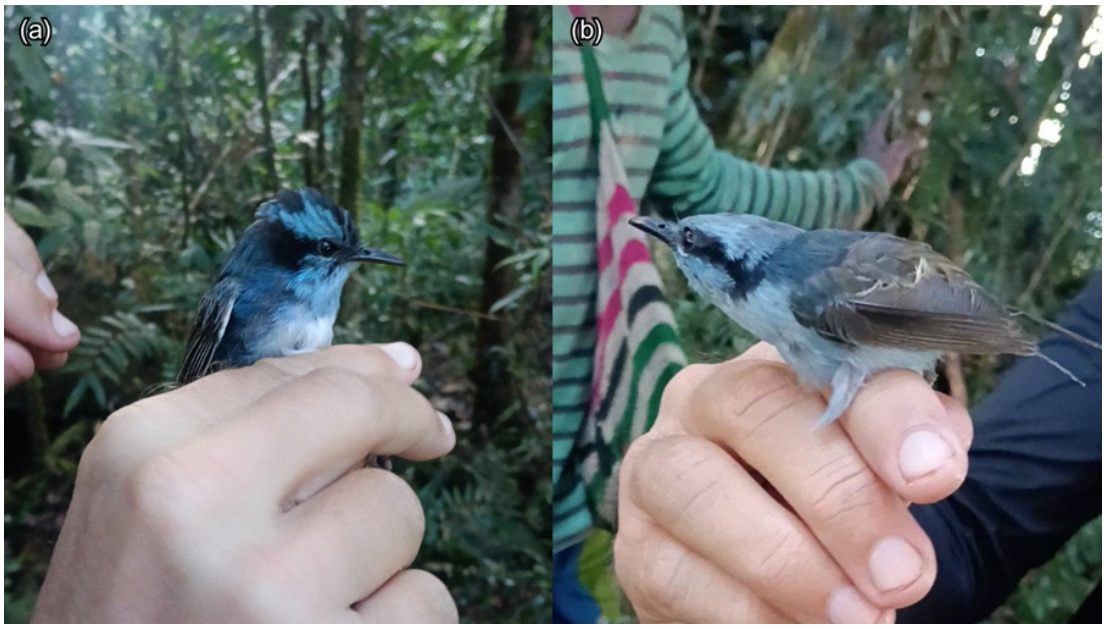

Figure 8. A pair of Broad-billed Fairywrens (*Chenorhamphus grayi*) captured on 21 July 2025 using mist nets along the ridge at ~1050m, with the (a) female showing a black crown, white belly and more contrasting plumage and the (b) male showing its pale blue underparts and pale cap.

50. Plain Honeyeater – *Pycnopygius ixoides proximus*: ~2 seen near the start of the trek at ~500m (17 July, 18 July)

51. Streak-headed Honeyeater – *Pycnopygius stictocephalus*: 1 seen at Tefalma I (17 July)

52. Puff-backed Honeyeater – *Meliphaga aruensis sharpei*: 1+1 mistnetted at ~1050m (21 July, 22 July), showing a massive yellow earspot with long extension, a thin yellow rictal line (as opposed to patch) and fluffy rump feathers with prominent white bases.

53. Mimic Honeyeater – *Meliphaga analogus flavida*: Total of ~7 seen, some at Tefalma I, some roughly between ~500–650m along the trek (17 July, 18 July, 22 July, 23 July); their "chup" call was omnipresent at lower elevations; birds at this site seemed overall large in body size, with a sturdy beak (but less thick than Puff-backed), with a prominent yellow rictal spot, lack of any olive or yellow tones to under- and upperparts, and lack of breast mottling.

54. Forest Honeyeater – *Meliphaga montana*: 1 seen briefly but clearly at ~650m, with prominent white (not yellow) ear patch and dark-brown (not olive) overall coloration. The subspecies affiliation here at Gunung Q is uncertain.

55. Obscure Honeyeater – *Caligavis obscura obscura*: 1 mistnetted at ~1050m (21 July; Fig. 9); also, repeatedly heard at close quarters at camp at ~550m (23 July), but conclusive viewing attempts were frustrated by its shy nature.

Figure 9. Obscure Honeyeater (*Caligavis obscura obscura*) captured on 21 July 2025 using mist nets along the ridge at ~1050m.

56. Long-billed Honeyeater – *Melilestes megarhynchus stresemanni*: 1 mistnetted at ~1050m (22 July)

57. Ruby-throated Myzomela – *Myzomela eques primitiva*: 1 observed at start of trek around ~500m (17 July); 1 mistnetted at ~1050m (22 July)

58. New Guinea Friarbird – *Philemon buceroides jobiensis*: Total of ~12 seen from Tefalma I all the way to the camp at ~550m (15 July, 16 July, 17 July, 20 July, 23 July), with more heard

59. Tawny-breasted Honeyeater – *Xanthotis flaviventer philemon*: Only 1 seen at fruiting tree at camp around ~550m (23 July)

60. Papuan Babbler – *Garritornis isidorei*: Group of ~3-4 constituted the core of a mixed flock during a mid-morning feeding frenzy at ~650m (22 July); also 1 seen crossing the road near the start of the trek at ~500m (18 July)

61. Obscure Berrypecker – *Melanocharis arfakiana*: Repeatedly gave its high-pitched song bout – on and off over the course of ~2 hours – around a fruiting tree at the camp around ~550m on the day of the descent (22 July; Fig. 10), allowing for confirmatory sound recordings. A brief sighting of a female-looking flowerpecker at the fruiting tree was extremely likely this species, but could not be conclusively confirmed, and the singing individuals were so shy as to frustrate any viewing attempts.

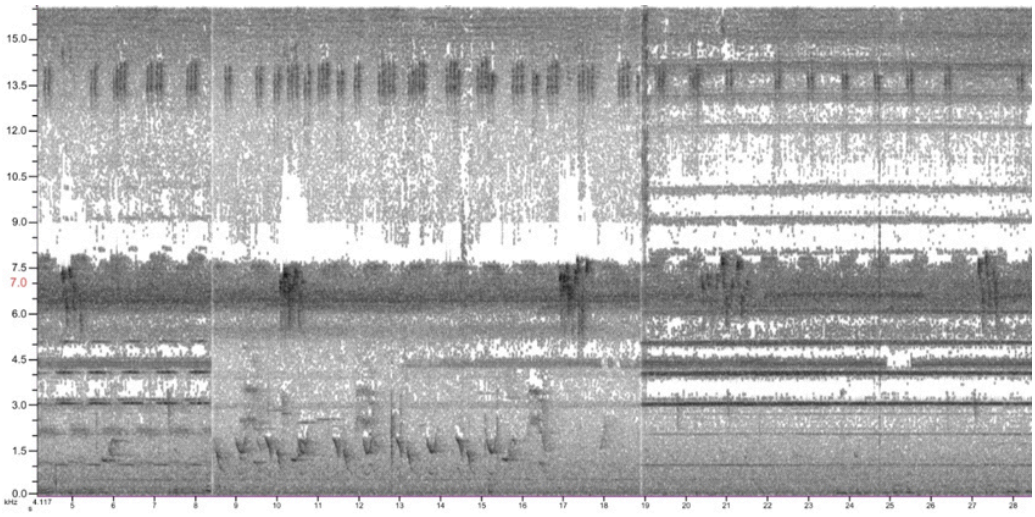

Figure 10. Recording of Obscure Berrypecker (*Melanocharis arfakiana***)** taken on 22 July 2025 at the main camp at ~550m with an iPhone 11. The Berrypecker song are the notes centered around 7kHz. The white areas at higher frequency reflect the inability of the mobile phone to record high-pitched sounds. However, comparison with vetted recordings of this species confirm that the motifs depicted constitute nearly the entirety of the bird's song.

62. Black Berrypecker – *Melanocharis nigra unicolor*: 4 singletons (both sexes) seen between ~500-650m (18 July, 19 July, 22 July)

63. Yellow-bellied Longbill – *Toxorhamphus novaeguineae novaeguineae*: 1 seen at camp at ~550m (23 July); 1 mistnetted at ~1050m (22 July); heard much more widely, but apparently shy this time of year

64. Spectacled Longbill – *Oedistoma iliolophus iliolophus*: Total of 3 mistnetted at ~1050m (21 July, 22 July), but they oddly escaped our attention outside the net

65. Pygmy Longbill – *Oedistoma pygmaeum pygmaeum*: 1 pair observed foraging at flowering tree at ~500m near the start of the trek (17 July)

66. Goldenface – *Pachycare flavogriseum lecroyae*: 1 seen at ~650m (22 July; Fig. 11), looking very intense orange overall; more were heard all the way up to ~1050m.

Figure 11. Goldenface (*Pachycare flavogriseum lecroyae*) photographed on 22 July 2025 at ~650m, with intense orange plumage distinctive of subspecies *lecroyae*.

67. Rusty Mouse-Warbler – *Origma murina murina*: Total of 3 pairs seen between ~550-600m (21 July, 23 July), but heard much more widely all the way up to ~1100m

68. Pale-billed Scrubwren – *Aethomyias spilodera spilodera*: 1 mistnetted at ~1050m (21 July)

69. Tropical Scrubwren – *Sericornis beccarii*: A pair (or small group?) was seen on one occasion, giving its melodious song and showing a few times for decent views at ~650m (21 July; Fig. 12); much confusion surrounds the taxonomy of this complex, and adjacent populations are variably attributed to the conspicuous "Tropical Scrubwren" (such as *S. beccarii cyclopum* from Cyclops Mountains) or to the drabber "Large Scrubwren" (such as *S. nouhuysi boreonesioticus* from the Bewani Mountains). The birds on Gunung Q seem more conspicuous in appearance, with clearly visible black-and-white shoulder patches and distinct white spectacles. This population may either be attributed to *cyclopum* or may require a new taxon name, but specimens will be needed for this determination.

Figure 12. Tropical Scrubwren (*Sericornis beccarii*) photographed on 21 July 2025 at ~650m, with black-and-white shoulder patches and distinct white spectacles characteristic of *Sericornis beccarii*.

70. Fairy Gerygone – *Gerygone palpebrosa wahnesi*: 1-2 males observed at ~700m (19 July)
71. Chestnut-backed Jewel-Babbler – *Ptilorrhoa castanonota uropygialis*: only ~3-4 distant vocal encounters, mostly above ~700m
72. Lowland Peltops – *Peltops blainvillii*: 1+1 seen at Tefalma I and at the start of the trek around ~500m (17 July); also heard once or twice again on subsequent days
73. Hooded Butcherbird – *Cracticus cassicus cassicus*: 2-3 seen at Tefalma I and near the start of the trek around ~500m (17 July, 18 July)
74. Boyer's Cuckooshrike – *Coracina boyeri boyeri*: Total of ~5 seen at Tefalma I and near the start of the trek at ~550m (17 July, 18 July)
75. Gray-headed Cuckooshrike – *Edolisoma schisticeps reichenowi*: One pair observed at length near the start of the trek at ~500m, giving their "huweet-cheew" duet, the male being grey (not black) overall, and the female reddish with blackish wing markings, black lores and white spectacles. The species was subsequently also heard higher up to ~700m.

76. Golden Cuckooshrike – *Campochaera sloetii sloetii*: Total of ~5 seen near the start of trek at ~500m (17 July, 18 July); also heard a few additional times
77. Black-browed Triller – *Lalage atrovirens*: Total of ~12 seen from Tefalma I all the way to ~700m (16 July, 17 July, 18 July, 19 July)
78. Rusty Whistler – *Pachycephala hyperythra sepikiana*: 1 mistnetted at ~1050m (21 July)
79. Grey Whistler – *Pachycephala simplex jobiensis*: 1-2 seen at start of trek around ~500m (18 July)
80. Little Shrikethrush – *Colluricincla megarhyncha hybridus*: 1 mistnetted at ~1050m (22 July)
81. Northern Variable Pitohui – *Pitohui kirhocephalus meyeri*: Total of ~8 seen from Tefalma I all the way to ~700m (16 July, 21 July, 22 July), but commonly heard at all elevations
82. Spangled Drongo – *Dicrurus bracteatus carbonarius*: Total of ~4 seen from Tefalma I all the way to ~650m (16 July, 22 July)
83. Northern Fantail – *Rhipidura rufiventris gularis*: ~6 seen between ~550–1050m (19 July, 20 July, 21 July, 23 July), heard almost every day
84. Sooty Thicket Fantail – *Rhipidura threnothorax threnothorax*: 1 seen vigorously singing at stream crossing at ~500m (21 July)
85. White-bellied Thicket Fantail – *Rhipidura leucothorax leucothorax*: 1 seen at start of trek around ~500m (17 July), more heard around here and at Tefalma I
86. Willie Wagtail – *Rhipidura leucophrys melaleuca*: Total of ~2 seen at Tefalma I (16 July, 17 July)
87. Rufous-backed Fantail – *Rhipidura rufidorsa rufidorsa*: Only 2-3 seen between ~600–900m (21 July, 22 July), but heard almost daily across all elevations visited
88. Shining Flycatcher – *Myiagra alecto chalybeocephala*: Total of ~4 seen around Tefalma I (16 July, 23 July), where often heard
89. Ochre-collared Monarch – *Arses insularis*: Total of ~3 seen at the start of the trek around ~500m (17 July, 18 July)
90. Spot-winged Monarch – *Symposiachrus guttula*: 1 seen around ~650m (21 July)

91. Golden Monarch – *Carterornis chrysomela aurantiacus*: Total of ~2 seen at the start of the trek around ~500m (17 July, 18 July)

92. Grey Crow – *Corvus tristis*: Total of ~12 seen from Tefalma I all the way to ~600m (17 July, 18 July, 20 July); heard (at least distantly) on most days

    a. probable *Manucodia chalybatus*: 1 individual seen in mixed flock during mid-morning feeding frenzy at ~650m (22 July) showed a distinct eyebrow ridge and should have been this species based on hill forest location, but the brevity of the sighting precludes certain identification

93. Magnificent Riflebird – *Ptiloris magnificus magnificus*: One female seen well (albeit briefly) in mixed flock during mid-morning feeding frenzy at ~650m (22 July), with two flushed views of single males around the same elevation; the species was heard widely at almost all elevations visited

94. Magnificent Bird-of-Paradise – *Diphyllodes magnificus chrysopterus*: Total of ~3 females seen between ~500–650m (at least on 21 July, 22 July); widely heard almost every day across all elevations visited

95. Lesser Bird-of-Paradise – *Paradisaea minor minor*: Total of ~7 seen from Tefalma I all the way to ~650m (17 July, 18 July, 22 July), and heard widely predominantly at lower elevations

96. Olive Flyrobin – *Kempiella flavovirescens*: 1 observed at ~800m (22 July); 1 mistnetted at ~1050m (21 July)

97. Black-chinned Robin – *Leucophantes brachyurus dumasi*: 1 shy individual singing vigorously and ultimately observed well several times at ~650m (21 July); the local population should be attributable to subspecies *dumasi* (type locality Humboldt Bay at Jayapura) because of its all-black upperparts (Fig. 13).

Figure 13. Black-chinned Robin (*Leucophantes brachyurus dumasi*) photographed on 21 July 2025 at ~650m, with all-black upperparts.

98. Black-sided Robin – *Poecilodryas hypoleuca hermani*: 1 observed at ~850m (22 July), but heard widely at nearly all elevations visited

99. Black-fronted White-eye – *Zosterops minor minor*: Total of ~4 seen from the start of the trek at ~500m all the way up to ~1100m (17 July, 21 July, 23 July); 1 mistnetted at ~1050m (22 July; Fig. 14); heard throughout on almost every day

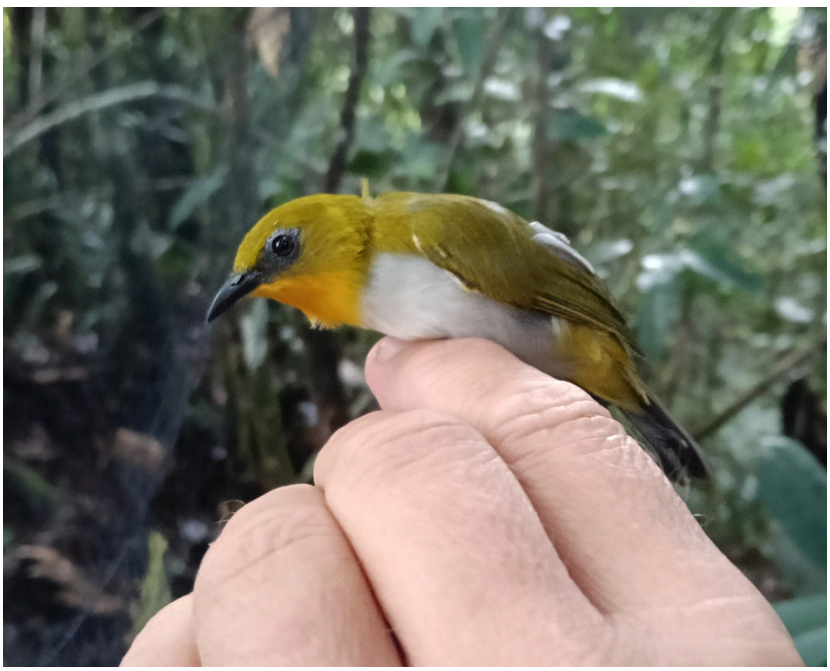

Figure 14. Black-fronted White-eye (*Zosterops minor minor*) captured on 21 July 2025 using mist nets along the ridge at ~1050m, with its characteristic greyish eye ring and an all-olive crown.

100. Metallic Starling – *Aplonis metallica metallica*: Total of 3 seen at Tefalma I perched on a bare tree (17 July)

101. Yellow-faced Myna – *Mino dumontii*: Total of ~10 seen from Tefalma I all the way to the camp at ~550m (16 July, 17 July, 18 July), more heard

102. Red-capped Flowerpecker – *Dicaeum geelvinkianum diversum*: 1 seen at Tefalma I (16 July)

103. Black Sunbird – *Leptocoma aspasia aspasia*: Total of ~4 seen at Tefalma I and at start of trek around ~500m (15 July, 18 July), where heard more often

104. Great-billed Mannikin – *Lonchura grandis destructa*: Total of 2 seen flying by at Tefalma I (23 July)

DISCUSSION

Our visit spanning a bit more than a week resulted in the discovery of over 100 bird species on Gunung Q, some of which are primarily of a montane distribution and have never been found in this part of Papua before (see bold-faced species in the list above). Unfortunately, poor seasonality (see Methods) resulted in an atmosphere of almost complete non-responsiveness and a distinct lack of vocal activity during our visit, possibly because the local avifauna was generally in its incubation stage, severely hampering our survey activity.

The difficult terrain of Gunung Q made it impossible for us to ascend higher than a ridge at ~1100m. Most notably, a lack of reliable water sources above ~600m asl meant that our camp had to be kept at lower hilly elevations, necessitating a daily hike to the ridge at ~1100m. Despite our attempts, we found it too challenging to ascend further from this ridge, as it would have meant traversing another ~1500m of rough terrain before additional elevational gains could be made. Given that the next water source was so far and equipment was heavy, this proved too difficult to do after daily hikes from 500m to 1100m along newly-cut trails.

Even though our highest reached altitude (~1100m) remained 600 elevational meters short of the peak of Gunung Q, the area had a distinct vegetational character, with a slow transition to large Araucaria trees. Many of the bird species found during our expedition were exclusively encountered in this zone. We have no doubt that further gains in elevation would have provided access to additional montane species. The highest elevations of Gunung Q may even harbor a distinct endemic element undescribed to science. However, future discovery will be reserved to the boldest – or most well-endowed – of researchers, as formidable barriers must be overcome

to reach these elevations. The terrain appears too rugged and the vegetation too lush to allow for helicopter landing pads. Work around the higher elevations of Gunung Q would require immense efforts to transport the water needed for researchers to carry out their survey over several days. Until such time, Gunung Q's avian riches will continue to remain uncharted and unknown by the world's ornithologists.

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REFERENCES

Archbold, R., Rand, A.L. & Brass, L.J. 1942. Results of the Archbold Expeditions. No. 41. Summary of The 1938-1939 New Guinea Expedition. *Bulletin of the American Museum of Natural History*, LXXIX(Art. III): 197–288.

Arida, E., Ashari, H., Dahruddin, H., Fitriana, Y.S., Hamidy, A., Irham, M., Kadarusman, Riyanto, A., Wiantoro, S., Zein, M.S.A., Hadiaty, R.K., Apandi, Krey, F., Kurnianingsih, Melmambessy, E.H.P., Mulyadi, Ohee, H.L., Saidin, Salamuk, A., Sauri, S., Suparno, Supriatna, N., Suruwaky, A.M., Laksono, W.T., Warikar, E.L., Wikanta, H., Yohanita, A.M., Slembrouck, J., Legendre, M., Gaucher, P., Cochet, C., Delrieu-Trottin, E., Thébaud, C., Mila, B., Fouquet, A., Borisenko, A., Steinke, D., Hocdé, R., Semiadi, G., Pouyaud, L. & Hubert, N. 2021. Exploring the vertebrate fauna of the Bird's Head Peninsula (Indonesia, West Papua) through DNA barcodes. *Molecular Ecology Resources*, 21(7): 2369–2387.

Beehler, B.M., Diamond, J.M., Kemp, N., Scholes III, E., Milensky, C. & Laman, T.G. 2012. Avifauna of the Foja Mountains of western New Guinea. *Bulletin of the British Ornithologists' Club*, 132(2): 84–101.

Beehler, B.M. & Pratt, T.K. 2016. Birds of New Guinea: Distribution, Taxonomy, and Systematics. Princeton University Press. https://www.degruyterbrill.com/document/doi.10.1515/9781400880713/html 14 January 2026.

Beehler, B.M. & Prawiradilaga, D.M. 2010. New taxa and new records of birds from the north coastal ranges of New Guinea. *Bulletin of the British Ornithologists' Club*, 130(4).

Beehler, B.M., Prawiradilaga, D.M. & Kemp, N. 2007. A new species of Smoky Honeyeater (Meliphagidae: Melipotes) from Western New Guinea. *The Auk*, 124(3): 1000–1009.

Cámara-Leret, R., Frodin, D.G., Adema, F., Anderson, C., Appelhans, M.S., Argent, G., Arias Guerrero, S., Ashton, P., Baker, W.J., Barfod, A.S., Barrington, D., Borosova, R., Bramley, G.L.C., Briggs, M., Buerki, S., Cahen, D., Callmander, M.W., Cheek, M., Chen, C.-W., Conn, B.J., Coode, M.J.E., Darbyshire, I., Dawson, S., Dransfield, J., Drinkell, C., Duyfjes, B., Ebihara, A., Ezedin, Z., Fu, L.-

F., Gideon, O., Girmansyah, D., Govaerts, R., Fortune-Hopkins, H., Hassemer, G., Hay, A., Heatubun, C.D., Hind, D.J.N., Hoch, P., Homot, P., Hovenkamp, P., Hughes, M., Jebb, M., Jennings, L., Jimbo, T., Kessler, M., Kiew, R., Knapp, S., Lamei, P., Lehnert, M., Lewis, G.P., Linder, H.P., Lindsay, S., Low, Y.W., Lucas, E., Mancera, J.P., Monro, A.K., Moore, A., Middleton, D.J., Nagamasu, H., Newman, M.F., Nic Lughadha, E., Melo, P.H.A., Ohlsen, D.J., Pannell, C.M., Parris, B., Pearce, L., Penneys, D.S., Perrie, L.R., Petoe, P., Poulsen, A.D., Prance, G.T., Quakenbush, J.P., Raes, N., Rodda, M., Rogers, Z.S., Schuiteman, A., Schwartsburd, P., Scotland, R.W., Simmons, M.P., Simpson, D.A., Stevens, P., Sundue, M., Testo, W., Trias-Blasi, A., Turner, I., Utteridge, T., Walsingham, L., Webber, B.L., Wei, R., Weiblen, G.D., Weigend, M., Weston, P., De Wilde, W., Wilkie, P., Wilmot-Dear, C.M., Wilson, H.P., Wood, J.R.I., Zhang, L.-B. & Van Welzen, P.C. 2020. New Guinea has the world's richest island flora. *Nature*, 584(7822): 579–583.

Diamond, J. & Bishop, K.D. 2023. What's so special about New Guinea birds?1. *Bulletin of the British Ornithologists' Club*, 143(2). https://bioone.org/journals/bulletin-of-the-british-ornithologists-club/volume-143/issue-2/bboc.v143i2.2023.a6/Whats-so-special-about-New-Guinea-birds1/10.25226/bboc.v143i2.2023.a6.full 16 January 2026.

Diamond, J.M. 1969. Preliminary results of an ornithological exploration of the North Coastal Range, New Guinea. *American Museum Novitates*, 2362.

Gregory, P. 2025. *Birds of New Guinea 2nd Edition Including Bismarck Archipelago and Bougainville*. Lynx Edicions, Barcelona.

Hall, R. 2002. Cenozoic geological and plate tectonic evolution of SE Asia and the SW Pacific: computer-based reconstructions, model and animations. *Journal of Asian Earth Sciences*, 20(353–431).

Hall, R., Cottam, M.A. & Wilson, M.E.J. 2011. The SE Asian gateway: history and tectonics of the Australia–Asia collision. *Geological Society, London, Special Publications*, 355(1): 1–6.

Hartert, E. 1930. III. List of the birds collected by Ernst Mayr. *Novitates Zoologicae*, XXXVI: 27–128.

Heads, M. 2002. Regional patterns of biodiversity in New Guinea animals. *Journal of Biogeography*, 29(2): 285–294.

Mack, A. & Dumbacher, J. 2007. Birds of Papua. In: A.J. Marshall & B.M. Beehler, eds. *The Ecology of Papua*. *Ecology of Indonesia*. Singapore: Periplus Editions.

Mayr, E. 1930. II. My Dutch New Guinea Expedition, 1928. *Novitates Zoologicae*, XXXVI: 20–26.

Mayr, E. 1944. Wallace's Line in the light of recent zoogeographic studies. *The Quarterly Review of Biology*, 19(1): 1–14.

Milá, B., Bruxaux, J., Friis, G., Sam, K., Ashari, H. & Thébaud, C. 2021. A new, undescribed species of *Melanocharis* berrypecker from western New Guinea and the evolutionary history of the family Melanocharitidae. *Ibis*, 163(4): 1310–1329.

Salvadori, T. 1880. *Ornitologia della Papuasia e delle Molucche*. Torino: STAMPERIA REALE DELLA DITTA G. B. PARAVIA E COMP.

Supriatna, J. & Margules, C. 2025. Papua. In *The National Parks of Indonesia*. Cham: Springer Nature Switzerland: 336–357. https://doi.org/10.1007/978-3-031-76638-1_7.

Wallace, A.R. 1863. On the physical geography of the Malay Archipelago. *The Journal of the Royal Geographical Society of London*, 33: 217–234.

Wallace, A.R. 1869. *The Malay Archipelago, the land of the orang-utan and the bird of paradise: a narrative of travel with studies of man and nature*. London: Macmillan and Co.