NUMBER 52, 19 pages 22 May 1997

BISHOP MUSEUM
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AVIFAUNAL OBSERVATIONS FROM THE BISHOP MUSEUM EXPEDITION TO MT. DAYMAN, MILNE BAY PROVINCE, PAPUA NEW GUINEA

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AND
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ISSN 0893-1348

Printed on recycled paper

BISHOP MUSEUM
The State Museum of Natural and Cultural History
1525 Bernice Street
Honolulu, Hawai'i 96817-0916, USA

AVIFAUNAL OBSERVATIONS FROM THE BISHOP MUSEUM EXPEDITION TO MT. DAYMAN, MILNE BAY PROVINCE, PAPUA NEW GUINEA

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Abstract. This is the first published report on the avifauna of Garatin Ridge leading to Mt. Dayman, Milne Bay Province, Papua New Guinea. It is based on a collection of 79 specimens (representing 37 species), supplemented by field observations, and includes the description of a new subspecies, *Crateroscelis robusta pratti*. An additional 17 species were seen in the Agaun Valley. Canopy utilization, community structure, and behavioral data are presented for 81 species documented on Garatin Ridge. The avifauna of this region shows close affinities with those of the main body of the Owen Stanley Mountains and Central Highlands. Foraging guilds and mixed-species feeding flock compositions closely resemble those reported for other New Guinea montane regions. The typical flock demonstrates a "fluxing" quality in which species occasionally drop in and out of a core or nucleus group of species.

INTRODUCTION

Since 1961, zoologists of Bernice P. Bishop Museum have conducted a series of collecting expeditions to survey vertebrates and their ectoparasites in remote regions of Papua New Guinea. In 1985, a team comprising the two authors, Frank J. Radovsky (entomologist), Gary Isso (Wau Ecology Institute), and three local workers—Faithful Orogum, Steven Nenemot, and Arthur Claken—collected vertebrates on Garatin Ridge, Mt. Dayman, Papua New Guinea. Although collecting efforts were primarily concentrated on mammals and associated ectoparasites, an effort was also made to obtain collections of birds, reptiles, amphibians, and insects. Reports on mammals and their ectoparasites have been prepared for separate publication (Cole et al. 1997).

Located in central Milne Bay Province, Mt. Dayman (2,987 m) is one of three isolated mountain peaks that dominate the extremity of the eastern peninsula of New Guinea. Viewed from the air, the summit is actually the apex of a complex series of dissected ridges. All but the summit alpine grasslands are covered in dense forest. Human settlements are in valleys below 1,600 m; most are isolated by steep ridges. We chose this geographic region because of the relative lack of comprehensive collections from the area. Another consideration was the availability of a well-maintained, grassy landing strip at the village of Agaun, providing access to this relatively undisturbed region.

The eastern peninsular mountains support a variety of endemic vertebrates, including Helen's parotia (*Parotia lawsii helenae*), streaked bowerbird (*Amblyornis subularis*),

Papuan forest wallaby (*Dorcopsis macleayi*), broad-striped marsupial mouse (*Murexia rothschildi*), and Papuan bandicoot (*Peroryctes papuensis*), but little information about the general avifauna is available. The first documented visit to Mt. Dayman was by Guise in 1886 (reported in Brass 1956). Guise managed to obtain a small collection of birds from the north flank of the mountain. During the next 50 years two expeditions, Shaw-Mayer in 1926 and the American Museum of Natural History's Archbold Expedition in 1953, visited Mt. Dayman, but both collected few bird specimens (Laurie 1952; Brass 1956). The first expedition to visit the region expressly to collect birds was conducted by Australian CSIRO ornithologists R. Schodde and W. B. Hitchcock in 1969, but there are no published expedition reports of their findings to date (R. Schodde, pers. comm., 1990). In the early 1980s, the Agaun area was visited on several occasions by J. I. Menzies (Papua New Guinea National Museum), but he was interested mainly in the mammals of the region (pers. comm., 1987). This paper is the first to describe a collection of birds from Mt. Dayman and report on the ornithological observations made by the senior author.

We arrived by plane in Agaun on 22 February 1985. After lengthy negotiations, the Daga people agreed to us establishing a base camp at Dumae Creek (1,500 m) on a ridge they called Garatin, a major spur running west to the Mt. Dayman summit (Figure 1). Our camp was near that of the 1969 CSIRO expedition. Schodde and McKean (1973) referred to this same location as Dumae Ridge, Garatin Creek.

We found the Daga people to be well informed about the local bird and mammal fauna, and they were instrumental to our expedition's success. Because of restrictions imposed by the Daga, we were unable to free roam the ridge to establish forward base camps, and therefore were not able to access higher-elevation habitats as originally intended. We collected from Dumae Camp from 25 February until 18 March 1985. As a result of our inability to move and limited time in the field, the reports on the avifauna do not reflect seasonal variations or altitudinal movements. Some information is anecdotal, as told to us by the Daga, and is so indicated in the species accounts.

METHODS

Birds were collected with mist nets set from 20 m high in the canopy down to ground level. A pulley-and-rope technique was employed to elevate nets into the lower canopy. Terrestrial birds were captured in mist nets with their lowest panels at ground level. In addition, Daga hunters set snares that captured several of the larger species. Observations of mixed-species feeding flocks and canopy utilization were taken along five loop transects, walked twice a day by Engilis and/or Cole. The transects varied in length from 200 to 600 m. Birds observed along the transects were identified to species; canopy level and association with feeding flocks were also recorded. Observations were taken between 1,300 and 1,600 m elevation. Incidental observations constitute the remaining behavioral data. Each specimen was examined for ectoparasites, weighed, measured, and prepared as study skins or formalin-preserved specimens. Soft body and iris colors of fresh specimens were documented. We examined the specimens at Bishop Museum (BPBM) and, when needed, secured loans from the CSIRO Division of Wildlife Research (CSIRO) and American Museum of Natural History (AMNH) for subspecies comparisons. We follow species nomenclature in Beehler and Finch (1985) and subspecies nomenclature in Rand and Gilliard (1967); exceptions are cited. Bird specimens were examined and identified to subspecies when possible. Avian canopy utilization is discussed in the species accounts and tabulated in an appendix to this report.

A vegetation analysis was conducted to document dominant forest trees, determine percentage of canopy cover, and describe forest physiognomy. These data were gathered to better document avian canopy utilization. Vegetation survey techniques and analysis

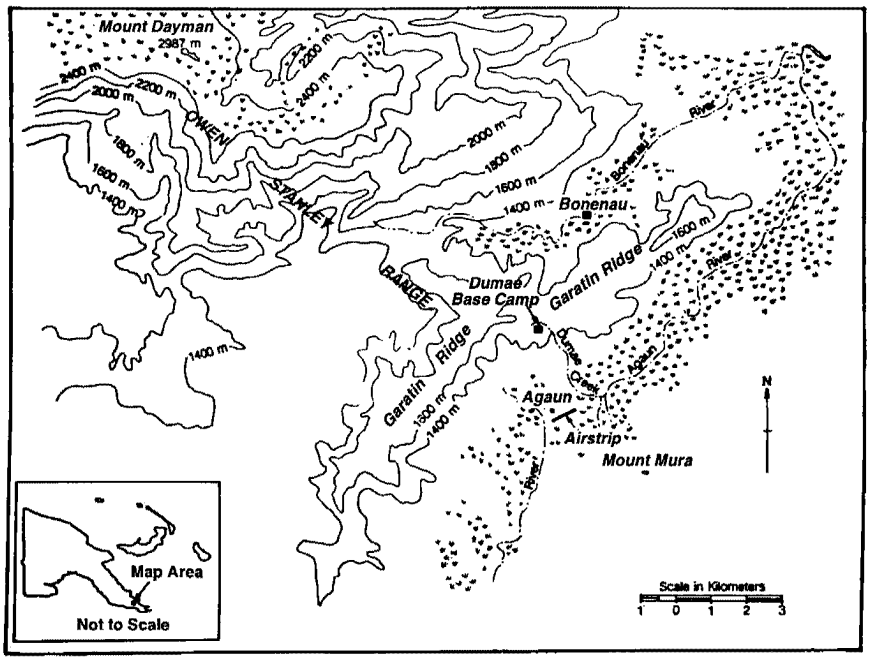

Figure 1. Location of Dumae Creek base camp on Garatin Ridge. Adapted from 1:100,000 topographic map (Dayman Sheet), Royal Australian Survey Corps, 1966.

were adopted from Mueller-Dombois and Ellenberg (1974). Three 100 by 20 m strip transects were established near Dumae Camp. Stations were set at 10 m intervals along the transects. At each station data were recorded for percentage cover, canopy height, and tree diameter at breast height. Percentage cover was estimated using the assumption that each canopy layer is capable of obtaining 100% cover. Clinometer and measuring tape were used to calculate canopy heights at each station. One hundred plant specimens were collected along the transects. These were identified by Ellen Woodley of the Wau Ecology Institute and deposited in the WEI Herbarium. Temperatures (°C) and rainfall (mm) were recorded with a high/low thermometer and a rain gauge.

FOREST DESCRIPTION

The forest on Garatin Ridge between 1,400 and 1,600 m is transitional in nature, being composed of dominant plants and physiognomic components of both mid-montane and lower montane forest as described by Johns (1982). Some of the dominant (i.e, tallest) canopy trees documented were *Prumnopitys* (Podocarpaceae), *Lithocarpus* and *Nothofagus* (Fagaceae), *Metrosideros* (Myrtaceae), and *Garcinia* (Clusiaceae). Emergent *Araucaria* (Araucariaceae), observable at long distances, formed small scattered groves along the ridges. Forty-five species of plants were identified from the 100 samples taken.

The lower limit of the cloud forest is at 1,500 m. Beyond this elevation an increase in epiphytes, mosses, lianas, and ground cover was noted. Two cloud forest indicator species, *Dawsonia* (Polytrichaceae) and *Asplenium* (Aspleniaceae), formed dense ground cover

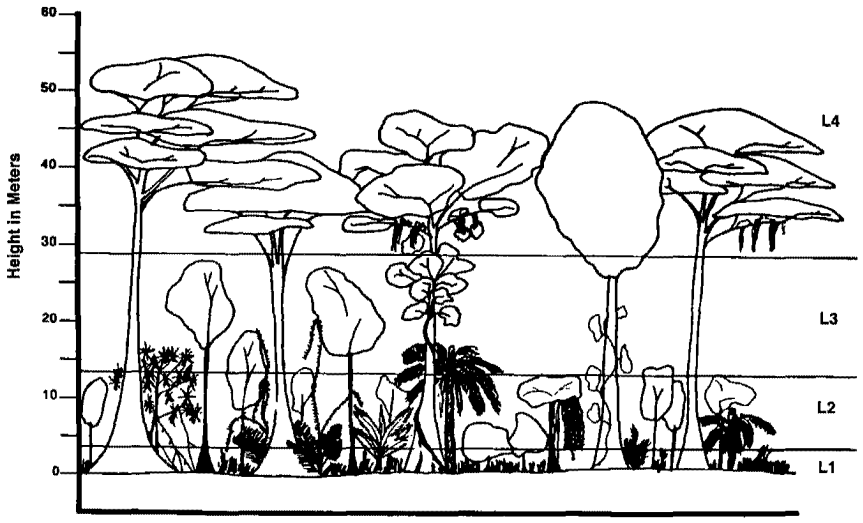

Figure 2. Typical primary rainforest physiognomy at Dumae Creek, 1,525 m elevation.

above 1,500 m. Below this altitude the forest was mesic, with larger-statured trees, particularly *Lithocarpus*. Many of the epiphytes documented along the transects and throughout the forest were climbing bamboos, vacciniums, rhododendrons, and orchids. Tree ferns of various genera were also fairly common in the subcanopy. *Pandanus* (Pandanaceae) was most common along water courses and small forest bogs.

The forest in this area was composed of four distinct canopy layers (Figure 2). The height of the primary layer averaged 46 m. Canopy emergents uncommonly exceeded 50 m. The subcanopy was composed of two distinct layers; the upper averaged 18 m, the lower 7.4 m. The ground layer varied according to exposure but averaged 1.1 m. The surface of the canopy, as viewed from the air, revealed an uneven but continuous cover. The percentage cover of the forest at 1,500 m on Garatin Ridge averaged 194% (range, 330–90%) (Table 1). Measurements, physiognomy, and species composition on Garatin at 1,500 m were similar to those taken by the senior author at 2,000 m on Mt. Missim in Morobe Province.

Table 1. Average percentage cover of canopy layers in mixed, montane rainforest on Garatin Ridge

Canopy Layer (2 sample points)	Mean%	Max%	Min%
L1	59	100	40
L2	38	90	10
L3	32	60	10
L4	65	80	30
Total cover	194	330	90

CLIMATE

With the exception of our second day of observation (26 February), we recorded measurable rainfall (>1 mm) every day we were in camp. Total rainfall recorded from 25 February through 20 March was 333 mm. Maximum rainfall recorded in a 24-hour period was 42 mm (27 February). Mean high and low temperatures were 21°C (range 19°–25°) and 15.7°C (range 13°–19°).

AVIAN SPECIES ACCOUNTS

Seventy-nine specimens, representing 37 species, were collected. We observed an additional 61 species for a total of 98, with 81 from Garatin Ridge and 17 from the Agaun Valley.

Aepypodius arfakianus arfakianus
Common Name: Wattled Brush-turkey
Specimens Examined: 1 male (BBM-NG 109542); 1 specimen (109294) on which ectoparasites were recovered was discarded in the field.
Soft Body Colors: Maxilla gray, mandible gray with horn-green tip; legs orange-brown; iris dark brown

Otidiphaps nobilis cervicalis
Common Name: Pheasant Pigeon
Specimen Examined: 1 female (BBM-NG 109597)
Soft Body Colors: Legs dull yellow-green scutes, edged with crimson; iris red
Taxonomy: The specimen exhibited the gray nape patch and oil-green rump and tail coverts characteristic of *O. n. cervicalis*.

Charmosyna pulchella bella
Common Name: Little Red Lorikeet
Specimen Examined: 1 female (BBM-NG 109502)
Soft Body Colors: Iris orange-red
Comments: This species was one of the most common lorikeets observed (see appendix). It was seen at all elevations surveyed and generally in groups of four to six birds. The specimen was netted in a garden at 1,100 m.

Charmosyna papou stellae
Common Name: Papuan Lorikeet
Specimen Examined: 1 female (BBM-NG 109501)
Soft Body Colors: Bill orange-red; legs yellow-orange; iris red
Comments: This lorikeet was common in mid-montane forest in the upper to middle canopy layers. Individuals of *C. papou* often associated with *C. pulchella*, particularly at fruiting trees.

Micropsitta bruijnii bruijnii
Common Name: Red-breasted Pygmy-Parrot
Specimens Examined: 1 male (BBM-NG 109295) and 1 female (109292)
Comments: This pygmy-parrot was common in small flocks (3–5 birds), often foraging creeper-like on tree trunks. Both specimens were netted 15 m above the ground. While hiking to Garatin Ridge, the senior author observed a pair of *M. bruijnii* darting across the forest trail. They landed on the trunk of a fruiting *Ficus*, inspecting white fleshy fruits growing in clumps on the trunk before flying off. On 8 March, we collected a male *M. bruijnii* (109295) in a mist net set next to a fruiting *Ficus*. The stomach contents of this specimen contained white fleshy fruit and seeds that we were able to determine (in the field) belonged to *Ficus*. We subsequently reexamined the preserved stomach of this

specimen at Bishop Museum and confirmed that the seeds were from *Ficus* fruit. A. L. Rand (1942) first reported that the Bruijn's pygmy-parrot gleaned tree limbs and trunks, feeding on fungus that formed "jelly-like layers on rotten wood." Subsequently, gleaning of lichens by pygmy-parrots has been noted by several observers (Forshaw 1989). R. Schodde (1977) mentioned finding soft vegetative material and small black objects resembling insects in the stomachs of pygmy-parrots he collected in New Britain. To our knowledge, our observations are the first to identify *Ficus* fruit as a dietary component of this species.

Alisterus chloropterus chloropterus
Common Name: Papuan King-Parrot
Specimen Examined: 1 male (BBM-NG 109283)
Soft Body Colors: Basal half of maxilla orange, distal half black, mandible black; legs black; iris yellow
Taxonomy: This specimen showed the blue neck and nape characteristic of *A. c. chloropterus*.
Comments: A large parrot regularly observed moving through the forest in the middle and upper canopy. Fairly common in the area of Dumae Camp. The specimen was collected by a hunter from the vicinity of Nipae, Central Province (6 km south of Agaun).

Ageotheles insignis insignis
Common Name: Feline Owlet-Nightjar
Specimen Examined: 1 male (BBM-NG 109578)
Soft Body Colors: Feet dusky pink; iris tan
Taxonomy: The wing measurement falls within the range of *A. i. insignis*.
Comments: This elusive and secretive night dweller was never recorded in the field during the expedition. The only evidence of it is this single specimen collected by a Daga hunter at 1,600 m on Magut Ridge. Stomach contents revealed body parts of ground-dwelling carabid beetles (identified by W. C. Gagné at BPBM, 1986).

Alcedo azurea lessonii
Common Name: Azure Kingfisher
Specimen Examined: 1 female (BBM-NG 109255)
Soft Body Colors: Bill black, with horn-colored tip; legs red; iris dark brown
Comments: In New Guinea, this species is normally restricted to lowland and hill forest and is rare above 1,500 m (Beehler et al. 1986). This specimen, collected at 1,600 m, was a surprise, but in retrospect consistent with the transitional avifaunal characteristics observed on Garatin Ridge.

***Melampitta lugubris* subsp.**
Common Name: Lesser Melampitta
Specimen Examined: 1 immature male (BBM-NG 109276)
Taxonomy: The differences between subspecies of *M. lugubris* are determined from adult birds. Subspecific status could not be assigned based on one specimen.
Comments: The black, mottled with rufous plumage characterized this specimen as an immature bird. *Melampitta lugubris* is a montane species becoming fairly common above 2,100 m. The species has, however, been recorded rarely as low as 1,450 m (Beehler et al. 1986). This specimen, at 1,525 m, probably represents an extraliminal wandering. We saw or heard no other melampittas in the area. The bird was captured in a snap-trap set for mammals along Dumae Creek.

Ifrita kowaldi kowaldi
Common Name: Blue-capped Ifrita
Specimens Examined: 1 male (BBM-NG 109175) and 1 sex? (109214)
Soft Body Colors: Legs black; iris brown
Comments: Ifritas were common in the vicinity of Dumae Camp. They were observed almost daily, usually in mixed-species feeding flocks. They foraged in a creeper-like fashion along branches and in epiphitic growths on tree trunks and branches. Ifritas were equally common in the lower stages of the forest and in the canopy. The two specimens were collected as they slept in a low shrub overhanging Dumae Creek. Others were observed sleeping in pairs and in close association with *Crateroscelis* and *Amalocichla*.

***Malurus alboscapulatus* subsp.**
Common Name: White-shouldered Fairy-Wren
Specimen Examined: 1 male (BBM-NG 109143)
Soft Body Colors: Bill black; feet gray; iris brown
Taxonomy: Subspecific characters for *M. alboscapulatus* are best determined with a larger series of specimens that includes females. We could not assign this specimen to a subspecies.
Comments: This fairy-wren was common in tall, dense, grassy habitat found in Agaun Valley. It was not encountered on Garatin Ridge.

***Crateroscelis robusta pratti* new subsp.**
Mountain Mouse-Warbler
Type: BBM-NG 109157; adult male; Papua New Guinea: Milne Bay Province, 2.3 km north, 0.4 km west of Agaun, Dumae Creek, 1,525 m; 9.908 S 149.383 E; in primary forest; 27 February 1985; A. Engilis, Jr.
Measurements: Total length 115 mm, tail 46 mm, wing arc 56 mm, exposed culmen 11.3 mm, tarsus 25.7 mm, fresh weight 16.5 g.
Specimens Examined: 3 males (BBM-NG 109157, 109379, 109380) and 1 female (109173); from CSIRO, 3 males and 3 females. No other specimens known.
Diagnosis: A boldly colored subspecies of *C. robusta*. Upperparts olive-brown, rump and tail coverts with rufous wash; primaries dark brown, leading edge rufous; breast band slate black and well defined; flanks gray-brown; belly white flecked with gray-brown; vent olive-gray; undertail coverts buff. Throat white, crown brown-black. Maxilla dark with horn-colored tip, lower mandible horn-colored; legs pale; iris red-brown.
Definitive Characteristics: *Crateroscelis r. pratti* is the darkest of the banded races of *C. r. robusta*. It is also a very small subspecies. The longest wing arc and diagonal tarsus lengths (Table 2) for *C. r. pratti* (26.2 mm and 59.0 mm) are smaller than the smallest measured for *C. r. robusta* (26.5 mm and 60.0 mm).
Etymology: Subspecies named in honor of ornithologist Thane K. Pratt for his work on Papuan avifauna, long-time friendship, and many hours spent together in the field.
Range: Collected only from the south slopes of Mt. Dayman.
Comparisons: The Dayman (BPBM and CSIRO) material was compared with the collection at BPBM. The CSIRO specimens were sent by R. Schodde, who collected them at Dumae Creek in 1969. The Dayman *Crateroscelis* shows close affinities with *C. r. robusta*, the only other band-breasted subspecies. The non-banded races are significantly different and variable: *C. r. sanfordi* has rufous underparts and is larger (wing 62–68 mm), and *C. r. deficens*, *C. r. peninsularis*, and *C. r. ripleyi* are similarly colored to *robusta* but males lack a distinct breast band. *Crateroscelis murina* and *C. nigrorufa* are uniformly colored below. Male specimens of *pratti* exhibited darker upperparts and a darker, bolder, breast band than all *robusta* examined. The three females were also darker on the breast and upperparts than female *robusta* and showed a distinct brunt brown breast band. There were few significant measurement differences between males and

females of *C. r. pratti,* although female wing arc measurements averaged 2 mm shorter. *Crateroscelis r. pratti* is smaller than *C. r. robusta* and showed no overlap in two basic measurements (Table 2). The mean measurements reported for tarsus and wing arc in collections of *C. r. robusta* are 28 mm and 60 mm, respectively (Rand and Gilliard 1967). Our measurements of BPBM *C. r. robusta* confirmed these reported means. Male *C. r. pratti* measurements more closely matched those of female *C. r. robusta* measured. Beehler (1978) reports the altitudinal range for *C. robusta* to be 1,600–3,500 m. Whether the smaller measurements we note with *C. r. pratti* are due to some phenomenon of altitude is speculative, for we were not able to locate any other specimens collected this low (1,525 m).

Crateroscelis r. robusta is well represented in collections from the eastern mountains of Papua New Guinea. However, fewer specimens are known from the eastern Owen Stanley Range. It is therefore impossible to define the interface of these two races or to determine if a morphological cline exists. This might represent the easternmost population for this species.

Comments: This mouse-warbler was fairly common in the mid-montane forest down to 1,400 m. It was most frequently observed foraging in pairs, in foliage less than 2 m above the ground. It preferred dense tangles and masses of fallen branches. As we removed one male from a mist net, it burst into a long, bubbly, sweet song. *Crateroscelis murina* replaced this species below 1,400 m.

Table 2. *Crateroscelis robusta* measurements

Subspecies	n	Tarsus	Wing Arc
C. r. pratti	6	23.5–26.2 mm ($\bar{x}$ = 24.6)	54–59 mm ($\bar{x}$ = 57)
C. r. robusta	14	26.5–28.8 mm ($\bar{x}$ = 27.8)	60–64 mm ($\bar{x}$ = 62)

Sericornis nouhuysi oorti
Common Name: Large Scrub-wren
Specimens Examined: 3 males (BBM-NG 109203, 109204, 109213) and 4 sex? (109224, 109225, 109234, 109235)
Soft Body Colors: Bill black; legs pale brown; iris brown
Taxonomy: These specimens exhibited the overall olive color of *S. n. oorti* and showed the yellow face wash distinguishing them from *S. n. adelberti* (Pratt 1982).
Comments: Common down to 1,400 m. Observed foraging creeper-like along small branches, often in flocks of 35–40 birds, sometimes in association with *S. papuensis* and *S. perspicillatus*. *Sericornis nouhuysi* was one of the primary core species for understory mixed-species feeding flocks. Many other specimens were netted and released.

Sericornis papuensis papuensis
Common Name: Papuan Scrub-wren
Specimen Examined: 1 male (BBM-NG 109252)
Soft Body Colors: Bill dark brown; legs gray-brown; iris tan-brown
Comments: In New Guinea, *S. papuensis* becomes increasingly common above 1,800 m and is generally rare below 1,600 m (Beehler et al. 1986). Diamond (1985) reported this species as common from 1,500 to 2,000 m in the Foja Mountains of Irian Jaya. Along Garatin Ridge, below 1,600 m, this scrub-wren was encountered daily. It foraged in small

flocks, often in association with *S. nouhuysi*. *Sericornis papuensis* foraged in understory vegetation more than other *Sericornis* of the area.

Rhipidura atra atra
Common Name: Black Fantail
Specimens Examined: 1 male (BBM-NG 109251) and 1 female (109155)
Soft Body Colors: Maxilla black, lower mandible pale; legs black; iris dark brown
Comments: This understory flycatcher was encountered throughout the altitudinal range surveyed and was common in the understory. It was also encountered in gardens of Agaun. *Rhipidura atra* frequently joined understory mixed-species feeding flocks, traveling with them for only a short distance before dropping out. One male was observed following a *Cormobates* up a tree, apparently catching insects startled as the creeper moved up the trunk. The *Rhipidura* often moved quickly to pick insects from the trunk directly ahead of the creeper. This behavior was also noted by the senior author on Mt. Missim, Morobe Province.

Machaerirhynchus nigripectus saturatus
Common Name: Black-breasted Boatbill
Specimens Examined: 1 male (BBM-NG 109541) and 1 sex? (109275)
Soft Body Colors: Bill black with horn-colored tip; feet black
Taxonomy: These two specimens along with eight collected by CSIRO on Garatin Ridge in 1969 were compared to specimens borrowed from AMNH and those in BPBM. Males were measured and compared to males of *M. n. nigripectus* and *M. n. saturatus*. Wing and tail measurements were variable, particularly among specimens of *M. n. saturatus* and also the seven examples from the Dayman specimens. We measured 21 individuals representing two described subspecies. Based on plumage and overlap of measurements, we assigned the Dayman specimens to *M. n. saturatus*.
Comments: Fairly common in the middle canopy above 1,400 m. The song of *M. nigripectus* is described as a descending series of "buzz" notes (Beehler et al. 1986; Diamond 1972), but those of this locality also sang an ascending series of "buzz" notes.

Table 3. *Machaerirhynchus nigripectus* measurements

Subspecies	n (males)	Tail	Wing Arc	Tarsus
M. n. nigripectus	3	51–55 mm	59–60 mm	16.1–16.3 mm
M. n. saturatus	11	55–65 mm	60–67 mm	16.2–17.1 mm
Dayman specimens	7	54–59 mm	59–64 mm	15.7–17.1 mm

Microeca papuana
Common Name: Canary Flycatcher
Specimens Examined: 1 immature male (BBM-NG 109310), 1 female (109311), and 1 sex? (109312)
Soft Body Colors: Bill black; legs yellow (female); iris brown
Taxonomy: No described subspecies, and these specimens showed no difference when compared with specimens collected from other New Guinea locations.
Comments: Common but secretive in the subcanopy above 1,500 m. The immature differed from the adults by its two faint wingbars, dull orange-brown legs, and duller yellow underparts.

Amalocichla incerta brevicauda
Common Name: Lesser Ground-Robin
Specimen Examined: 1 female (BBM-NG 109174)
Soft Body Colors: Maxilla black, lower dark brown; legs gray-brown; iris brown.
Comments: Rarely encountered in the field on Garatin Ridge. The specimen was obtained as it slept in a small bush overhanging Dumae Creek. It was sleeping in association with *Ifrita kowaldi*. Other observations were of birds, located by their songs, foraging on the forest floor.

Peneothello cyanus subcyanus
Common Name: Blue-grey Robin
Specimens Examined: 1 male (BBM-NG 109171) and 1 sex? (109193)
Soft Body Colors: Bill black; legs black; iris brown
Comments: Fairly common, above 1,500 m, in the understory, not more than 5 m above the ground. Several others were netted and released. On 15 March, one bird was observed exhibiting courtship behavior. It was perched about 3 m above the ground on a dead stick that overhung a trail. The bird sang a three- to five-noted flutelike song, delivered in bouts of three to five sets. Diamond (1972) reported this song as infrequently heard and less musical as the long song. We noted that on each note delivered the bird pumped its tail downward. Between song bouts it would acrobatically fly to another perch, sit, and then fly back to its original perch to repeat the process. The senior author watched it for four minutes, during which it repeated this behavior eight times.

Pachycephala soror bartoni
Common Name: Sclater's Whistler
Specimens Examined: 1 male (BBM-NG 109348) and 1 sex? (109296)
Soft Body Colors: Bill black; legs black; iris red-brown
Taxonomy: These specimens exhibited greenish tail feathers with black shafts and the shorter wing length characteristic of *P. s. bartoni*.
Comments: These specimens were netted 15 m above the ground at an elevation of 1,525 m. *Pachycephala soror* was, for the most part, replaced by *P. schlegelii* above 1,500 m.

***Pachycephala schlegelii* subsp.**
Common Name: Regent Whistler
Specimens Examined: 3 adult males (BBM-NG 109223, 109253, 109309), 1 female (109205), 2 immature males (109254, 109298), and 1 sex? (109297)
Soft Body Colors: Bill black; legs gray; iris brown
Taxonomy: These specimens did not clearly sort into any single subspecies. *Pachycephala s. schlegelii* and *P. s. obscurior* were ruled out on the basis of measurement differences. The distinguishing characteristics between *P. s. viridipectus* and *P. s. cylopum* are ambiguous at best, making positive determination difficult. The Garatin specimens exhibited characteristics of both subspecies.
Comments: Common above 1,500 m. Frequently observed in family groups of two to five individuals. The high proportion of immature birds, as indicated by rufous wash on their head, throat, nape, and rump, indicates that this population had recently completed breeding. *Pachycephala schlegelii* was often encountered in mixed-species feeding flocks with *Gerygone*, other *Pachycephala*, *Ifrita*, and *Acanthiza*. Additional birds were netted and released.

Melanocharis versteri maculiceps
Common Name: Fan-tailed Berrypecker
Specimen Examined: 1 sex? (BBM-NG 109314)
Taxonomy: This specimen exhibited the large white outer tail feather patches and pale underparts of *M. v. maculiceps*.
Comments: Sympatric with *M. striativentris* and *M. longicauda* between 1,400 and 1,600 m. Dumae Camp was at the lower limits for this common, montane berrypecker, thus accounting for our few observations (see appendix).

Melanocharis striativentris striativentris
Common Name: Streaked Berrypecker
Specimens Examined: 1 female (BBM-NG 10958) and 2 sex? (109282, 109332)
Soft Body Colors: Bill black; legs black; iris dark brown
Taxonomy: These specimens exhibited the grayish-brown axillaries and under tail coverts of *M. s. striativentris* rather than the white of *M. s. axillaris* and were missing the tail's white basal quarter, a characteristic of *M. s. prasina*. They were collected on the southern slope of Mt. Dayman, which is consistent with the known range of *M. s. striativentris*.
Comments: Fairly common between 1,400 and 1,600 m foraging singly or in pairs in the understory. This species exhibited a more specialized foraging behavior than other *Melanocharis* on Garatin Ridge. On several occasions, we observed *M. striativentris* forage by flying to the base of a subcanopy tree and then hitching and flycatching its way up, on hanging vegetation and epiphitic growth, to about 20 m and then flying to an adjacent tree to start the process over. We observed birds actively feed on insects and small fruits. We also observed them hover gleaning on the undersides of hanging vines. Unlike other berrypeckers in the area, *M. striativentris* was not observed joining mixed-species feeding flocks.

***Dicaeum pectorale* subsp.**
Common Name: Papuan Flowerpecker
Specimen Examined: 1 male (BBM-NG 109503)
Soft Body Colors: Bill black; legs dark brown; iris brown
Taxonomy: We were unable to assign this population to a subspecies based on one specimen. *Dicaeum* in New Guinea is complex and shows strong morphological variation (Beehler et al. 1986).

Zosterops novaeguineae crissalis
Common Name: New Guinea White-eye
Specimen Examined: 1 sex? (BBM-NG 109557)
Soft Body Colors: Bill black; legs gray; iris gray-brown
Comments: Common in large flocks in the canopy, rarely occurring lower than the middle layer. This species along with *Gerygone* formed the nucleus of insectivorous mixed-species feeding flocks in the canopy.

***Melilestes megarhynchus* subsp.**
Common Name: Long-billed Honeyeater
Specimens Examined: 2 males (BBM-NG 109537, 109538)
Soft Body Colors: Bill black; legs black; iris orange-yellow
Taxonomy: These specimens could not be assigned to subspecies because of unclear subspecific characteristics reported in the literature.
Comments: Observed and collected below 1,200 m. Most commonly observed in disturbed habitat, forest edge, and second growth. More often heard than seen.

***Toxorhamphus poliopterus* subsp.**
Common Name: Slaty-chinned Longbill
Specimen Examined: 1 male BBM-NG 109382.
Soft Body Colors: Bill black; legs slate-blue; iris red-brown.
Taxonomy: The differences among subspecies of *T. poliopterus* are slight, and it was impossible to determine the subspecies of the Dayman population based on one specimen. Comparisons with *T. poliopterus* from various locations in Papua New Guinea failed to show any significant differences.
Comments: Abundant above 1,100 m. Most often observed in primary forest and forest edge. Secretive, preferring the lower canopy layers. On 6 March, a bird was observed robbing a spider web. It hovered just below the web and grasped at trapped insects.

***Myzomela rosenbergii* subsp.**
Common Name: Red-collared Myzomela
Specimen Examined: 1 female (BBM-NG 109236)
Soft Body Colors: Bill black; legs black; iris brown
Taxonomy: It was impossible to determine the subspecies of the Dayman population based on one female specimen. Comparisons with *M. rosenbergii* from various locations in New Guinea failed to show any significant identifying features.
Comments: Common above 1,400 m. Most often encountered in small flocks foraging in the canopy. The female was netted in a forest clearing 2 m above the ground. Larger numbers were seen along Garatin Ridge. It was here, on 12 March, that we observed a male delivering an elaborate flight display. The bird was perched and singing from a shrub in the center of a clearing on the ridge. After delivering a fluid warbling song it would leap into the air and fly in a clockwise loop, starting to sing again, and land, low, on the opposite side of the shrub. It then hopped through the shrub to its original perch to repeat the display. The bird displayed for about four minutes, completing six loop-flights before it took to the canopy to join other foraging *Myzomela*.

Meliphaga albonotata
Common Name: Scrub White-eared Meliphaga
Specimens Examined: 2 males (BBM-NG 109152, 109153)
Soft Body Colors: Bill black; gape yellow-orange; legs dark gray; iris brown.
Comments: These specimens were collected in Agaun Valley in scrub near garden plots. We did not encounter this species or other *Meliphaga* on Garatin Ridge.

Ptiloprora guisei guisei
Common Name: Rufous-backed Honeyeater
Specimens Examined: 1 male (BBM-NG 109264), 3 females (109172, 109179, 109180), and 4 sex? (109215, 109237, 109304, 109313)
Soft Body Colors: Bill black; legs steel blue-gray; iris lime green
Comments: Abundant above 1,400 m, *P. guisei* was ubiquitous, occurring in all habitat types and canopy layers. We encountered it in our nets daily. It was most often observed in mixed-species feeding flocks, where it foraged in foliage tips or along branches, often in an acrobatic fashion. A very active feeder, *P. guisei* never lingered in one area too long. Some birds flicked their tail, wrenlike, when agitated. Several were observed frequenting flowers.

Melidectes ochromelas batesi
Common Name: Cinnamon-browed Melidectes
Specimen Examined: 1 male (BBM-NG 109459)
Soft Body Colors: Small crimson-red throat wattles, yellow wattles at gape; bill gray-blue, tip light; legs pale gray; iris dark brown.

Taxonomy: Rare in collections. This specimen exhibited the grayer breast and bold superciliary line characteristic of *M. o. batesi*.
Comments: Despite the fact that *M. ochromelas* is reported as rare (Beehler et al. 1986; Rand and Gilliard 1967), it was relatively common on Garatin Ridge, in the upper canopy between 1,100 and 1,600 m. Heard calling in the early morning hours, its song resembled the "nrah, nrah, nrah" call of *Paradisaea rudolphi* but was faster, higher pitched, and more melodic. This *Meledictes* preferred to forage high in the canopy and remained quiet during the rest of the day, a secretive behavior that made observation difficult. It associated with birds of paradise, bowerbirds, and other large meliphagids. We netted the single specimen in a forest edge garden at 1,100 m.

Melipotes fumigatus fumigatus
Common Name: Common Smoky Honeyeater
Specimens Examined: 1 male (BBM-NG 109598) and 2 female (109351, 109476)
Soft Body Colors: Eye skin yellow-orange; bill black; iris brown
Comments: This noisy honeyeater was fairly common in canopy feeding flocks. It was the only large meliphagid commonly encountered in the subcanopy.

Chaetorhynchus papuensis
Common Name: Mountain Drongo
Specimens Examined: 3 males (BBM-NG 109233, 109293, 109418) and 1 female (109177)
Soft Body Colors: Bill black; legs black; iris brown
Comments: An aggressive, understory flycatcher and foliage gleaner that frequented the subcanopy. Observed in mixed-species feeding flocks, where its vocal nature made it conspicuous.

Amblyornis macgregoriae macgregoriae
Common Name: Macgregor's Bowerbird
Specimens Examined: 1 adult male (BBM-NG 109256) and 2 immature males (109206, 109381)
Soft Body Colors: Maxilla black, lower mandible brown; legs dark gray; iris brown
Comments: Common above 1,400 m. Associated in canopy, mixed-species feeding flocks with *Lophorina* and *Parotia*. All three specimens were netted on ridge tops in primary forest. We encountered several bowers, the lowest at 1,450 m. The bowers of these individuals had higher pedestals than those we have seen in other parts of New Guinea. The pedestal rims were completely lined with strips of bark. We are unaware of this adornment reported for *A. macgregoriae*.

Amblyornis subalaris
Common Name: Streaked Bowerbird
Specimen Examined: 1 male (BBM-NG 109585)
Soft Body Colors: Bill black; legs slate-gray; iris brown
Comments: This species was encountered in primary forest below 1,400 m, where it replaced *A. macgregoriae*. The three observations, all in mixed-species feeding flocks (associating with *Manucodia keraudrenii* and *Paradisaea raggiana*), were of birds foraging and calling in the canopy. As was typical for frugivorous species in the Garatin area, these flocks were loosely formed as they moved through the upper canopy. *Amblyornis subalaris* behavior and calls were similar to those of *A. macgregoriae*. We did not encounter any bowers. The single specimen was collected at 1,200 m and brought in by a local hunter.

Manucodia keraudrenii purpureoviolaceus
Common Name: Trumpet Manucode
Specimen Examined: 1 male (BBM-NG 109584)
Soft Body Colors: Bill black; legs black; iris red
Taxonomy: This specimen exhibited the glossy purple-blue back contrasting with green wings and purple-violet head of *M. k. purpureoviolaceus*.
Comments: Common below 1,400 m. The specimen was brought in by native hunters with the *Amblyornis subalaris* specimen and was presumably collected in the same feeding flock.

Parotia lawesii helenae
Common Name: Lawes' Parotia
Specimen Examined: 1 immature male (BBM-NG 109576)
Soft Body Colors: Bill dark; iris light blue with yellow outer ring
Taxonomy: Culmen and wing arc measurements agree with *P. l. helanae*. This specimen differed from the closely related nominate subspecies, *P. l. lawesii*, in the structure of its culmen (narrower) and supranaral tuft (extending farther onto the maxilla). The primary call differed from *P. l. lawesii*, with that of *helanea* being a loud, high pitched "scheek." It seemed to be delivered more frequently as the birds moved through the canopy. Beehler reports the call notes of *P. I. lawesii* on Mt. Missim to be a loud "shaak!" (pers. comm., 1989).
Comments: Common above 1,200 m. Usually in loosely formed mixed-species feeding flocks composed of birds of paradise, bowerbirds, and some meliphagids. The specimen was netted on Garatin Ridge. The stomach contained several purplish fruits.

DISCUSSION

Although there are many endemic forms described from New Guinea's southern mountain "islands," the avifauna of the Dayman region shares close affinities with the nearby Owen Stanley Range and with New Guinea's main central ranges, as described by other ornithologists (Glydenstolpe 1955; Diamond 1972; Beehler 1978). The specimens we collected revealed few distinctive morphological characteristics to separate them from described subspecies. Breeding conditions varied among the birds collected. *Microeca* and *Pachycephala* with immature plumage were collected and commonly observed, thus indicating a mid-austral spring breeding season. Other species such as *Rhipidura*, *Sericornis*, and *Crateroscelis* showed little evidence of gonad enlargement.

Distinctive patterns of canopy utilization commonly occur in New Guinea birds and have been well documented in the lowland avifauna (Bell 1982, 1983) and upland avifauna of the central ranges (Terborgh and Diamond 1970; Diamond 1972). Frequency of occurrence for all species documented on Garatin Ridge is listed in the appendix. Field observations revealed a canopy utilization and community structure on Garatin Ridge that parallel those reported by Diamond (1972) and Beehler (pers. comm., 1989) for the Central Highlands.

On Garatin, mixed-species feeding flocks were regularly encountered at various levels in the forest strata, and each flock had distinctive core avifaunal elements. The same core species found on Garatin Ridge have been encountered in mixed flocks elsewhere in montane localities of Papua New Guinea (Terborgh and Diamond 1970; A. Engilis, Jr., pers. obs.). Key among core species in Garatin Ridge's understory flock were those that habitually foraged in groups: *Sericornis* and *Crateroscelis*. Flocks of these species were frequently joined by noisy, aggressive species such as *Rhipidura atra*, *Chaetorhynchus papuensis*, and *Peneothello cyanus*, thus forming the nucleus for the flock. Other species

frequently joined feeding assemblages as the flock moved through their territory, some staying with the flock for a long period while others seemed to disassociate quickly. This "fluxing" flock was the most frequently encountered type on Garatin Ridge. Bell (1983) reports similar flocking dynamics in lowland New Guinea. Mixed-species feeding flocks observed in Malaysia also exhibited fluxing species dynamics (McClure 1967; Waugh and Hails 1983).

Six assemblages, either guilds or organized mixed-species feeding flocks, were regularly encountered on Garatin Ridge. Each was distinguished by a dominant core species, location in the forest, and types of food items sought.

Garatin's terrestrial feeding guild was not as complex as those encountered in other montane regions of Papua New Guinea (A. Engilis, Jr., pers. obs.) or in the lowlands (Bell 1983), but with our limited field time gaps in this guild's composition would be expected. Forest rails (*Rallina*), megapodes (*Aepypodius*), and terrestrial pigeons (*Otidiphaps* and *Chalcophaps*) were the dominant non-passerine species. Fecal droppings of dwarf cassowary (*Casuarius bennettii*) were noted on flatter ridge tops. Terrestrial passerines included *Crateroscelis*, *Amalocichla*, and *Ptilorrhoa*. Nucleus species of the subcanopy mixed flocks (below 2 m) were primarily *Sericornis papuensis* and *S. nouhuysi*. Other core elements included *Rhipidura*, *Monarcha axillaris*, *Crateroscelis robusta*, *Peneothello cyanus*, and *Ptiloprora guisei*.

Sericornis was important in forming most subcanopy mixed flocks. The three sympatric species did sort themselves vertically in the forest layers. *Sericornis nouhuysi* was distributed evenly throughout all canopy layers and was the only *Sericornis* documented in the upper canopy. *Sericornis papuensis* occurred in a pattern similar to *S. nouhuysi* but was most frequently recorded in L1 and L2 (see Figure 2). *Sericornis perspicillatus* was mostly encountered in low understory shrubs and small trees below L3 and never on the ground.

Nucleus species of mid-canopy mixed flocks (2.0–19 m) included *Ifrita kowaldi*, *Pachycephala schlegelii*, *P. soror*, several small meliphagids, and *Microeca papuensis*. They were often joined by *Melanocharis versteri*, *Rhipidura atra*, *R. hyporethra*, *R. albolimbata*, and several other flycatchers. *Sericornis* was also observed in this layer, particularly below 9.0 m. Again, mid-canopy community structure was less complex than for those reported in the lowlands (Bell 1983).

Two discrete mixed-species feeding flocks, comprising frugivorous species and insectivorous species, respectively, were documented in the upper canopy. Frugivorous mixed flocks varied, with most transient and loosely formed. Frugivorous birds moved through the canopy, concentrating their foraging efforts on fruiting trees. Birds of paradise (*Lophorina* and *Parotia*), *Amblyornis*, and large meliphagids were frequently observed as core species in these flocks. Most parrots, lories, and fruit-doves were encountered in congregations at fruiting trees and infrequently moved through the canopy in mixed flocks. Noisy aggregations at fruiting trees attracted many other species (some seemingly not interested in the fruit), making these trees excellent sites to study flock movements and species assemblages.

Insectivorous canopy flocks were formed around large groups of small flocking species such as *Zosterops*, *Gerygone*, *Ifrita*, *Pachycephala*, and *Phyloscopus*. Insectivorous flocks were tightly formed and moved through portions of the Garatin Ridge canopy at predictable intervals, once mid-morning and again in late afternoon. One such flock passed through our campsite daily but only remained for a few minutes to forage.

The sixth feeding guild comprised those species that fed above the canopy on flying insects. The core species of the aerial guild were *Collocalia* swiftlets.

This expedition revealed some unexpected altitudinal distributions, particularly for species more typical of montane moss-forests. The fact that cloud forest habitat was encountered as low as 1,500 m may be a contributing factor. Extraliminal and seasonal wanderings may also explain a few anomalous occurrences (*Melampitta, Acanthiza, Alcedo azurea*). The summit and north flank of Mt. Dayman are still ornithologically neglected and virtually unexplored. More intensive surveys are necessary for us to understand the avifaunal affinities of the mountain fully. In particular, surveys in the upper elevation forests will help us formulate a better understanding of the region's ornithological communities. At the time of this writing, the villages of Agaun and Bonenau valleys were encroaching on the slopes of Garatin Ridge. Garden sites were common up to an elevation of 1,400 m. The isolated nature of Mt. Dayman's ridges makes them particularly vulnerable to this encroachment, and conservation measures may become an immediate concern.

ACKNOWLEDGMENTS

This expedition would not have been possible without the financial support of the University of Maryland (Department of Medical Entomology), Bernice P. Bishop Museum, University of California, Davis, and Wau Ecology Institute. A. Safford and J. I. Menzies were instrumental in assisting in expedition logistics while in Port Morseby. Ellen Woodley of WEI provided plant specimen identifications. A. Allison, B. Beehler, N. Evenhuis, and T. K. Pratt provided helpful comments on taxonomy and made several suggestions that greatly improved the text. Father Bruce and family graciously opened their house to us in Agaun. Our expedition would not have been a success were it not for the gracious and hardworking people of Agaun and neighboring villages. G. Isso, of WEI, was an invaluable part of our expedition team. His attention to detail and hard work served to unite our Western ways with those of the Agaun people. We also thank the vertebrate zoology staff of Bishop Museum for technical support in the production of this report.

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APPENDIX

Bird species observed and frequency of occurrence by canopy layer on Garatin Ridge, 25 February–20 March 1985. Canopy layers expressed as follows: T = terrestrial; L1 = ground cover (0–3 m); L2 = lower understory (3–12 m); L3 = high understory (12–28 m); L4 = canopy (35–55 m), A = aerial foraging strata.

Species Observed	n	T	L	L	L3	L4	A
Henicopernis longicauda - Long-tailed Buzzard	4	0	0	0	0	100	0
Accipiter melanochlamys - Black-mantled Goshawk	2	0	0	0	0	100	0
Harpyopsis novaeguineae - New Guinea Harpy-Eagle	2	0	0	0	0	100	0
Aepypodius arfakainus - Wattled Brush-turkey	6	100	0	0	0	0	0
Rallina forbesi - Forbes' Forest-Rail	4	100	0	0	0	0	0
Macropygia amboinensis - Brown Cuckoo-Dove	16	0	0	13	87	0	0
Macropygia nigrirostris - Black-billed Cuckoo-Dove	18	0	0	12	44	44	0
Gallicolumba beccorii - Bronze Ground-Dove	2	0	0	0	100	0	0
Otidiphaps nobilis - Pheasant Pigeon	4	100	0	0	0	0	0
Ptilinopus superbus - Superb Fruit-Dove	2	0	0	0	100	0	0
Ptilinopus rivoli - White-breated Fruit-Dove	29	0	0	28	69	3	0
Ducula chalconota - Rufescent Imperial Pigeon	24	0	0	0	0	100	0
Gymnophaps albertisii - Papuan Mountain Pigeon	10	0	0	0	0	100	0
Trichoglossus haematodus - Rainbow Lorikeet	4	0	0	0	0	100	0
Charmosyna pulchella - Little Red Lorikeet	210	0	0	5	14	81	0
Charmosyna papou - Papuan Lorikeet	239	0	0	3	8	89	0
Neopsittacus musschenbroekii - Yellow-billed Lorikeet	24	0	0	0	50	50	0
Micropsitta bruijnii - Red-breasted Pygmy-Parrot	126	0	0	8	50	42	0
Geoffroyus simplex - Blue-collared Parrot	32	0	0	0	0	100	0
Alisterus chloropterus - Papuan King-Parrot	30	0	0	7	30	63	0
Cacomantis variolosus - Brush Cuckoo	5	0	0	40	60	0	0
Cacomantis castaneiventris - Chestnut-breasted Cuckoo	3	0	0	67	33	0	0
Ninox theomacha - Papuan Boobook	3	0	0	33	67	0	0
Aegotheles insignis - Feline Owlet-Nightjar	1	0	100	0	0	0	0
Aegotheles albertisi - Mountain Owlet-Nightjar	4	0	0	50	50	0	0
Collocalia hirundinacea - Mountain Swiflet	37	0	0	0	0	0	100
Collocalia escutenta - Glossy Swiftlet	52	0	0	0	0	0	100
Halcyon megarhyncha - Mountain Kingfisher	6	0	0	0	67	33	0
Alcedo azurea - Azure Kingfisher	1	0	0	100	0	0	0
Coracina caeruleogisea - Stout-billed Cuckoo-shrike	11	0	0	0	27	73	0
Coracina montana - Black-billied Cuckoo-shrike	27	0	0	0	11	89	0
Ptilorrhoa leucosticta - Spotted Jewel-babbler	6	100	0	0	0	0	0
Melampitta lugubris - Lesser Melampitta	1	100	0	0	0	0	0
Ifrita kowaldi - Blue-capped Ifrita	139	0	21	23	26	30	0
Phylloscopus trivirgatus - Island Leaf-Warbler	114	0	0	7	36	57	0
Crateroscelis murina - Rusty Mouse-Warbler	16	75	25	0	0	0	0
Crateroscelis robusta - Mountain Mouse-Warbler	62	6	71	13	0	0	0

Species Observed	n	T	L	L	L3	L4	A
Sericornis nouhuysi - Large Scrub-wren	240	7	31	24	26	12	0
Sericornis perspicillatus - Buff-faced Scrub-wren	90	0	10	72	18	0	0
Sericornis papuensis - Papuan Scrub-wren	90	9	31	47	13	0	0
Acanthiza murina - New Guinea Thornbill	24	0	0	17	50	33	0
Gerygone ruficollis - Brown-breasted Gerygone	50	0	0	40	12	84	0
Rhipidura brachyrhyncha - Dimorphic Fantail	6	0	0	16	84	0	0
Ripidura atra - Black Fantail	38	0	53	39	8	0	0
Rhipidura hyperythra - Chestnut-bellied Fantail	12	0	0	0	100	0	0
Rhipidura albolimbata - Friendly Fantail	21	0	0	14	76	10	0
Monarcha axillaris - Black Monarch	14	0	0	14	79	7	0
Machaerirhynchus nigripectus - Black-breasted Boatbill	14	0	0	29	57	14	0
Microeca papuana - Canary Flycatcher	12	0	0	0	100	0	0
Amalocichla incerta - Lesser Ground-Robin	6	66	0	33	0	0	0
Peneothello cyanus - Blue-grey Robin	26	0	31	62	7	0	0
Pachycephalopsis poliosoma - White-eyed Robin	4	0	50	50	0	0	0
Pachycepahla soror - Sclater's Whistler	60	0	50	33	1	7	0
Pachycephala schlegelii - Regent Whistler	68	0	6	47	33	14	0
Pachycephala rufinucha - Rufous-naped Whistler	5	0	40	60	0	0	0
Colluricincla megarhyncha - Little Shrike-thrush	5	40	60	0	0	0	0
Cormobates placens - Papuan Treecreeper	4	0	0	50	50	0	0
Melanocharis longicauda - Mid-mount Berrypecker	1	0	0	0	100	0	0
Melanocharis versteri - Fan-tailed Berrypecker	6	0	33	50	17	0	0
Melanocharis striativentris - Streaked Berrypecker	14	0	29	50	21	0	0
Dicaeum pectorale - Papuan Flowerpecker	3	0	0	33	33	33	0
Oreocharis arfaki - Tit Berrypecker	6	0	0	0	66	34	0
Zosterops atrifrons - Black-fronted White-eye	9	0	0	56	44	0	0
Zosterops novaeguineae - New Guinea White-eye	102	0	0	2	30	68	0
Melilestes megarhynchus - Long-billed Honeyeater	5	0	60	40	0	0	0
Toxorhamphus poliopterus - Slaty-chinned Longbill	45	0	44	53	3	0	0
Myzomela adolphinae - Mt. Red-headed Myzomela	19	0	0	16	84	0	0
Myzomela rosenbergii - Red-collared Myzomela	69	0	3	31	46	20	0
Xanthotis flaviventer - Black-throated Honeyeater	4	0	0	100	0	0	0
Ptiloprora guisei - Rufous-backed Honeyeater	57	2	26	32	21	19	0
Melidectes ochromelas - Cinnamon-browed Meledictes	21	0	0	7	28	65	0
Melidectes torquatus - Ornate Melidectes	5	0	0	0	40	60	0
Melipotes fumigatus - Common Smoky Honeyeater	28	0	0	0	25	075	0
Chaetorhynchus papuensis - Mountain Drongo	18	0	33	61	6	0	0
Artamus maximus - Great Wood-swallow	13	0	0	0	0	30	70
Amblyornis macgregortiae - Macgregor's Bowerbird	39	0	3	13	21	63	0
Amblyornis subalaris - Streaked Bowerbird	6	0	0	17	83	0	0
Manucodia keraudrenii - Trumpet Manucode	5	0	0	0	40	60	0
Lophorina superba - Superb Bird of Paradise	41	0	0	2	20	78	0
Parotia lawesii - Lawes' Parotia	34	0	0	3	9	88	0
Paradisaea raggiana - Raggiana Bird of Paradise	14	0	0	0	78	22	0