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Birds Collected on Batanta, off Western New Guinea, by E. Thomas Gilliard in 1964

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INTRODUCTION

Gilliard had thought about making a collection on the island of Batanta for a long time. It seemed to be a most promising place to find birds that had not been collected for many years—possibly some of the birds of paradise, thought to be lone hybrids, nesting in its rainy mountain forests. He hoped to find the Yellow-fronted Bower Bird (Amblyornis flavifrons), of which only three specimens had ever been taken. Possibly he would find the shy Mound Builder (Aepopodius bruijnii) of the nearby island of Waigeu, a bird for which 10 or more expeditions had searched unsuccessfully during the century 1837–1937. He was disappointed not to find the rarities, but it may probably be concluded that the latter two species do not occur on Batanta. Negative information is both hard to prove and useful.

On the evening of Friday, June 12, 1964, Gilliard wrote in his diary (all quotations are from his field notes): "Sorong to Batanta. This was a wonderful day. Up at 5:10 and bellowed everyone out of bed." The party boarded a small boat and that evening landed at the village of Wailibit on the south side of the island, and across the strait from Salawati. There is a beautiful sandy beach and a small stream flows off the

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mountain side into the sea at Wailibit. It is a beautiful but malarious place, Gilliard wrote. He and his party camped in the rain on the mountain above that point for 20 days. They left the island on July 8.

Collecting with him were Dr. Karla Somadikarta of Djakarta, Java; two taxidermists named Toja and Tojibun, and three men of Batanta: Frederick Day, Obed Day, and Johan Kapista. Gilliard wrote of Somadikarta that he was a marvelous camper, very hard working, and a great help generally. They did well indeed. They collected 231 skins of 60 species; they added 16 species to a formerly known list of 103, and three species to the avifauna of all the islands lying west of New Guinea (Salawati, Batanta, Waigeu, Misol).

BIRDS NOT PREVIOUSLY RECORDED FROM BATANTA

Rallina tricolor maxima Mayr
Micropsitta keiensis (new subspecies described on p. 8)
Cacatua galerita triton Temminck
Cacomantis castaneiventris arfakianus Salvadori
Chalcites malayanus poecilurus (Gray)
Chalcites meyerii (Salvadori)
Collocalia esculenta esculenta (Linnaeus)
Sericomis spilodera (new subspecies described on p. 15)
Gerygone chloronota aruensis Büttikofer
Monarcha chrysomela melanonotus Sclater
Nectarinia sericea sericea (Lesson)
Nectarinia jugularis frenata Müller
Glycichaera fallax pallida Stresemann and Paludan

The following species have not been recorded from any of the islands west of New Guinea:

Eupetes castanonotus (new subspecies described on p. 14) Poecilodryas placens (Ramsay) Meliphaga montana (new subspecies described on p. 22)

Pitohui ferrugineus (new subspecies described on p. 19) has previously been recorded from Batanta, but in such small numbers that geographical variation could not be recognized with certainty.

Of the above list only five species are mountain (or hill) birds exclusively; these are *Chalcites meyerii*, *Eupetes castanonotus*, western populations of *Sericornis spilodera*, and *Meliphaga montana*. To these *Diphyllodes respublica* and *Melilestes megarhynchus*, having been collected above 2000 feet on Batanta previously, should be added.

Of particular note are the apparent relationships of *Chalcites malayanus* and *Meliphaga montana*.

Salawati and Batanta are west of westernmost New Guinea and separated from the mainland and each other by straits no more than 2 to

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4 miles in width. Distances between suitable habitats are greater, being about 10 miles from Batanta to Salawati and 90 miles to the foothills of the Tamrau Mountains of New Guinea. The strait between Batanta and Waigeu is 16 miles wide, but the barrier for birds is nearly 40 miles, being low and swampy. Batanta is 33 miles long and varies from 8 to 10 miles in width, but Mt. Besar, near the center of the island, is 3510 feet in height.

Gilliard wrote of his climb to the top as follows: "June 16, Tuesday: At 8 A.M. began ascent of Mt. Besar with Obed Day. It was a slow but rewarding task. At 9 A.M. we came on a steep wall of loose stones (a talus slope) surmounted by a crown of cliffs. The wall was low but hard to pass, which we did by circling the base of the cliffs until we found a way up. By 9:20 we were past the worst part of the climb—it really was nothing—and we could once again walk without fear of dislodging rocks. One that we pushed over from a point of near balance crashed about 150 feet through the steep-sloped forest. At 10 A.M. we reached a hilltop—a flat spot fit for a camp but now black leeches were numerous and many were ascending our legs. This did not seem to bother Obed Day, although I am sure he has not spent as much time among leeches as I have—and they bothered me. In fact I hate the things. Leeches began at about 2000 feet. At 10:15, cutting slowly, we got onto a second top. Here we found much pandanus, many tree ferns and noted moss on most of the treetrunks. At 10:30 we were in a 3000-foot forest by all appearances. The trees were more heavily mosscovered, rattan curled here and there, draping itself like ships' hawsers over the ground. The abundance of this valuable 'rope' and the wonderful thickness (up to 3 inches) indicated with certainty that no one had come this way in decades, if ever. All the locals say 'never.' However, I suspect that I am on a trail used by ancient paradisebird collectors. The terrain features we followed were just too perfect and too direct a way to the summit forests not to have been found by someone before. Again and again it thinned to a knife edge between forested gorges, but always it ascended steeply except for a few little flat areas the size of a tennis court. Everywhere the steep slope was covered with great forest. At about 2500 feet I heard the last Diphylodes respublica and at about 2000 feet the last Paradisaea rubra. At about 2500 feet the ecology seemed suddenly changed. Ferns covered the ground, red crab-claw ground lilies appeared. The trees were shorter. Now I began watching the ground like a hawk, looking for a bower—the bower of Amblyornis flavifrons. No one here knows of anything remotely similar to the bower I described to them, but then these are water and shore people,

and no natives live away from the beach on all of Batanta Island! So now that I was in *Amblyornis* country, I watched with great care. Birds called that I knew, a *Melidectes*, for example; also I heard a whistle which resembled *Loria*, but many calls were unfamiliar. Hornbills occurred right to the summit forests.

"At 11:15, after having gone on ahead for a while after Obed pleaded a sore arm (he had chopped 5000+ trees and vines), I too quit chopping and tied a handkerchief on a tree where I will have a leaf house erected tomorrow. We then started down the trail we had cut through the massed vegetation and in just one hour, at 12:12 P.M., we reached camp.

"June 18, Thursday: Camp II, Day 4, Mt. Besar. If I have failed to describe the weather adequately, it is because it has been horrible, rain, rain, and more rain. It is unbelievable. We look down at sunlight from a canopy of rain. It literally has rained as many as 12 out of 24 hours per day. Today we were pinned down by a deluge as we began to erect a blind at a display court. Finally we got it done, ditching the canvascovered blind, etc. In the afternoon I set up recorder and Leica with long lens, but the rain began falling and I quit in disgust. At 3 P.M. our team came down the mountain with only six birds. Imagine, four men at work hunting since 6:30 A.M. (when I rushed them out of camp) and only six birds to show for that effort! The total for today was only nine. Tomorrow I am going to the summit camp at dawn to remain two days. Perhaps we can do better that way."

In all only 11 trained naturalists have visited Batanta since 1860, not including the collectors that worked for Bruijn, the dealer of Ternate. Apparently not one of them ever reached the top of Mt. Besar.

A summary of the ornithological history of the island follows:

		Repositories of
Dates	Collectors	Collections
1860	C. E. H. Rosenberg	Leiden
1864 (November)	H. A. Bernstein	Leiden
1865 (April)	H. A. Bernstein	Leiden
1869 (June 27-July 4)	C. E. H. Rosenberg	Leiden
1872 (March)	O. Beccari and d'Albertis	Genoa
1875 (June)	O. Beccari	Genoa
1878 (April)	M. Laglaize	Paris
1879 (July)	A. Bruijn's collectors	London, Paris, New York
1883 (October)	Wilfred Powell	New York, London
1883 (October)	F. H. Guillemard	London
1934 (April)	W. G. L. Frost	London
1938	S. D. Ripley	New Haven
1949 (May)	Sten Bergman	Stockholm

SPECIES COLLECTED OR OBSERVED

Casuarius sp.?

"Dr. Somadikarta saw a small Cassowary in a pen at Solol, Salawati Island. Casuarius u. unappendiculatus Blyth is the subspecies of Salawati. It was a young bird and was found in the forest near the now-abandoned village of Wyom. Frederick Day of Wailibit Village, Batanta, tells me that wild Cassowaries occur on that island. The native name is Olow, and sometimes Moruk."

Demigretta sacra sacra (Gmelin)

A single male, not in breeding condition, was taken on July 4 near a stream behind Wailibit village about a half mile from the sea. The iris is dark brown; the bill, black; and the feet are blackish. The plumage is bluish black; the throat, grayish.

Haliastur indus subspecies

Brahminy kites were seen soaring above a gorge, at 1000 to 1500 feet in altitude, on June 18 and June 22.

Spizaetus gurneyi (Gray)

This species has been recorded from Waigeu but not from Batanta. Gilliard wrote of it as follows: "Mt. Besar (1500 feet), June 29 (about 10:30 A.M.). While walking through the tall original forest I was jolted by the sight of a large eagle-like bird perched about 60 feet away, and below me, in a tall tree that sprang from the bottom of a steep gorge. It stood erect, with its long tail canted slightly forward. It was fearless. I moved a little and focused my monocular. The plumage was generally dark brown but with an irregular grayish brown bar on the upper wing coverts. The head was lead gray, tinged with flesh color, and unfeathered from the bill to the eyes, this area narrowing in a V to a point between the eyes. The bill was sharply hooked and of a grayish (?fleshy) color except for a black tip."

Rallina tricolor maxima Mayr

This bird had not previously been collected on Batanta, but it was observed by Bergman. One male was collected on swampy ground in tall lowland forest near Wailibit village on July 2. The local people call it "min hu gul." Recorded on the label are the following data: iris brownish, eye ring (narrowly) salmon orange, bill yellowish green with "culmen

and outer" dusky blackish, feet sooty brownish black.

Traces of molt were found on the body plumage.

Because of its large size the specimen is referable to *R. t. maxima* Mayr, 1949, of nearby Waigeu (wing, 148 mm.; exposed culmen, 30 mm.; tarsus, 50 mm.; see Mayr, 1949, p. 14, for comparative measurements). This bird is not so heavily streaked below as the type of *maxima*, and the color of the back is obscured by the worn condition of the feathers. Probably larger samples will show that there is a greater overlap in measurements. Mees (1965, p. 153) synonymizes this race.

Ptilinopus pulchellus pulchellus (Temminck)

A pair of Pretty Fruit Doves were collected at about 1500 feet on the side of Mt. Besar on June 24.

Megaloprepia magnifica puella (Lesson)

Four males and a single female were taken in tall trees of rain forest on the side of Mt. Besar between June 16 and June 30. The following notes were made: iris scarlet; upper mandible and cere blood-red; lower mandible yellow or greenish yellow; feet either grayish green or pale yellow. The birds were in medium to heavy molt. The left testis of a single male was slightly enlarged. The native name is recorded in the diary as "may-lit," on a label as "kamiow."

Ducula pinon pinon (Quoy and Gaimard)

A single male was collected near sea level above Wailibit village on June 21. Its testes were enlarged. The notes recorded are: iris red; bill gray; naked ocular area dark wine-red; feet purplish red. The wing, tail, and body were in heavy molt. The local name was recorded as either "wee pin" or "kum kum."

Ducula rufigaster rufigaster (Quoy and Gaimard)

One female was collected from a large tree on the side of Mt. Besar on June 24. The recorded notes are: iris red, unfeathered area about the eye wine-red, eyelid gray, and feet wine-red. Partial molt was noted. "May lete" is the native name.

Reinwardtoena reinwardtsi griseotincta Hartert

A female was collected on the side of Mt. Besar (about 2200 feet) on

GREENWAY: BIRDS

June 26. The recorded notes are: iris deep scarlet, with a narrow, gray, inner rim; bill horn brown; "flesh surface of bill" and eye ring vinaceous scarlet; and feet strawberry red. Local people called it "youp."

Chalcophaps stephani stephani Pucheran

Because it has a white forehead, an unsexed specimen collected near sea level near Wailibit village on July 8 is thought to be a male.

Otidiphaps nobilis nobilis Gould

This is the bird reported to Gilliard with a description that led to a belief that Aepopodius bruijnii occurs on Batanta. It is called "minosob" by local people. The specimen is a male collected at about 800 feet behind Wailibit village on July 6. The testes were slightly enlarged. The recorded notes are: irides crimson; bill salmon-red, with a paler tip; unfeathered area about the eyes grayish brown; feet pale salmon-yellow, with deep wine-red interscutal areas [the legs appear to have been red also], nails black.

In color this bird falls well within the range of individual variation of *nobilis*, as shown by six specimens from western New Guinea. The bird was in molt.

Trichoglossus haematodus (Linnaeus)

Gilliard collected a male and a female near the top of Mt. Besar (2850 and 3000 feet) on June 20 and 23. The sexual organs were slightly enlarged. Heavy molt was recorded on the wings, tail, and body of the male; traces, on the tail and body of the female. The local people call the bird "um pop."

(For an account of the variations of this species see Gyldenstolpe, 1955, p. 237; Mees, 1965, p. 164.)

Lorius lory major Rothschild and Hartert

A young male and a mature female were collected near sea level on July 3 and 4. The local name is recorded as "um pop."

There is considerable overlap in the length of the wings of birds from western New Guinea (lory) and that of those of Waigeu (major). Females of lory measure 154, 158, 162 mm.; those of major, 158, 159, 166 mm. Tails of major appear to be longer, measuring 100, 102, 102, as against 87, 90, 92 mm. for lory. The mantle, lower breast, and belly of major is paler blue, not blackish as in lory. This mature female from Batanta

agrees with major in color as well as in having a longer tail (100 mm.). According to Gyldenstolpe (1955, p. 385) the birds of Batanta are referable to major, not lory, to which Mayr (1941, p. 56) referred them. Gyldenstolpe's measurements show that no more than 30 per cent of the series from western New Guinea and Waigeu can be distinguished from each other by size alone. Mees (1965, p. 164) synonymizes this form.

TABLE 1

Measurements (in Millimeters and Grams) of Micropsitta

	Wing	Tail	Bill	Weight
Batanta				
Male adult	64	25	8	12
Male ?adult	57	26	8	11
Female adult	55	21	8	10
Female subadult	57	23	7.5	11
?Sex subadult	56.5	23	7	10
Waigeu				
Male adult	61	26	8	12.8
Male adult	58.5	24	_	12.8
Male subadult	56		_	11.6
Female adult	60	22	7	11
Misol				
Male adult	59	23	7	14
Male adult	59	25	7	14
Male adult	59	24	7	_
Female adult	57	22	7	12
Vogelkop, New Guinea				
Male adult	63	27	7	
Male adult	63	26	7	_
Female adult	58	21	7	_
Female adult	55	23	7	

Micropsitta keiensis sociabilis, new subspecies

Type: A.M.N.H. No. 789536, adult female, collected at 1000 feet on Mt. Besar, Batanta, off western New Guinea [West Irian], on July 1, 1964, by E. Thomas Gilliard.

Differs from the population of western New Guinea (chloroxantha) in the paler, greener (less brownish) shade of the crown; paler brown cheeks and lores; darker green back and somewhat greener (less yellowish) breast and belly. Two mature male paratypes have less red on the under parts. The irides are recorded as gray, not brown or brownish.

Birds of Misol and Waigeu, in series, appear somewhat darker green

on the back and under parts and slightly darker about the head, than typical *chloroxantha* from western New Guinea, but individuals cannot be distinguished.

Collected at the same time and place in a closely knit flock were four paratypes: A.M.N.H. No. 789535, adult male; A.M.N.H. No. 789534, adult male in heavy molt; A.M.N.H. No. 789537, mature female in molt; A.M.N.H. No. 789538, immature, not sexed. None were in breeding condition.

Perishable colors were reported as follows: eye and unfeathered surrounding area pale gray, cere paler vinaceous gray. Bills of an adult male (A.M.N.H. No. 789534) and the unsexed immature were yellow, with a brown or dusky spot at the tip; others were pale gray. Feet were pinkish white.

Variations due to age and sex have been little discussed. The two sexes are very similar. Females appear seldom, if ever, to have red bellies, and they are perhaps slightly smaller, most noticeably in the length of the tail (21–23 mm. as against 24.5–26 mm.). There is considerable overlap in the measurements of the length of the wing, although the average for males is greater (see table 1).

Subadult birds are identifiable by the shape of the fourth primary, which is lanceolate in fully adult birds but not so in the young. The face is somewhat paler. The above characters are apparent also in the related species *pusio*, a species in which adults and young are more easily differentiated, the color of the crown being green mixed with brown in the young, blue in the adults.

The color of the irides of adult *chloroxantha* from western New Guinea was recorded as brown by Gyldenstolpe (1955, p. 241), and this record is borne out by labels of specimens collected by Ripley on Misol, three of which he recorded as having had light brown eyes and one as yellow. Kuhn's labels recorded a mature male as having the irides coffee brown. Meek's label recorded brown eyes for three adults from the Snow Mountains and Eilanden River (*viridipectus*). An adult male from the Oriomo River, southeastern New Guinea, was recorded on a Rand label as having a grayish brown eye, but this shade is apparently exceptional.

In a series of 10 specimens from the Kei Islands (keiensis) six are recorded by the collector (Kuhn) as having brown or black eyes, and four, by Capt. C. Webster, as having red eyes. The variation here is probably due to the eye of the collector rather than that of the bird.

There is apparently little variation in the color of the eye in the related species *pusio*. In a series of three mature and three immature birds collected by Mayr in western New Guinea, all except one have brown

eyes. The exception is an immature male from Ifaar, Sentani Lakes, and the eye is recorded as "graubraun." Both mature and immature birds collected by Coultas on New Britain have eyes of various shades of brown.

It would be a coincidence indeed if the gray eyes of this series from Batanta should prove not to be a valid character of geographical variation.

This species has never before been found on the island of Batanta. Because less than 5 miles separate that island from Salawati, it would seem possible that there has been genetic interchange between populations of this parrotlet. Perhaps this is not necessarily probable, for these are not high-flying birds, confining themselves rather to searches for fungi on the bark of trees, and roosting as well as nesting in holes tunneled into termite nests (see Bergman, in Gyldenstolpe, 1955, p. 242). In the past, mention has been made of only two specimens collected on Salawati. Schlegel [1874 (1862–1894), vol. 3, p. 71] wrote that a very old male was killed at Sailolo, Salawati, on July 19, 1867. Salvadori had a specimen collected by Bruijn's hunters on Salawati in July, 1875. Salvadori (1880–1882, vol. 1, p. 117), comparing this with a specimen from Waigeu, also taken by Bruijn's men, wrote only: "Simile al precedente, ma col rosso delle parti inferiori alquanto piu ristretto." This statement must also be made of the specimens that Gilliard collected.

The people of Batanta call the bird "min mer lip."

Cacatua galerita triton Temminck

The species galerita has not previously been recorded from Batanta. A single male, apparently in breeding condition, was taken on Mt. Besar at about 2800 feet on June 30.

Gilliard noted that these birds were common below 1000 feet. On June 24 he wrote: "During the last week pairs have been seen at about 1500 feet altitude usually in the tops of the trees."

Traces of molt were observed in the body plumage. Perishable colors were recorded as follows: iris scarlet, unfeathered area around the eye ivory tinged with sky blue, bill black and feet blackish. "Why tot" is the local name.

Larius roratus pectoralis (P. L. S. Müller)

A single male was collected at sea level on July 3. The testes were slightly enlarged. The notes recorded are: iris scarlet and bill orange-red, paler at tip. The bird was in molt. Local people call it "lan."

Alisterus amboinensis dorsalis (Quoy and Gaimard)

Two females were taken at 2800 feet in altitude on Mt. Besar on June 30. Both had orange-yellow eyes and the bill generally blackish, with the basal half of the upper mandible orange-red. "Su ba" is the Batanta name.

Cacomantis castaneiventris arfakianus Salvadori

A single female was collected at about 1500 feet in altitude on the side of Mt. Besar on June 27. With regard to the striping of the rectrices, this bird is intermediate between *arfakianus* and *weiski*. There is considerable individual variation in this character.

The species castaneiventris has not previously been collected on Batanta, although it has been taken on Salawati.

Chalcites malayanus poecilurus (Gray)

The species malayanus has not before been recorded from Batanta, although it has been taken on Waigeu. One male was collected by Gilliard near sea level on July 5. It was in heavy molt. The testes were small. The soft parts were recorded as follows: iris red, eye ring orange-red, bill and feet black, weight 20 grams. This bird is more closely barred below than are two males from Daru, in southeastern New Guinea, and one from Misol (type locality of poecilurus) but is indistinguishable from a male from Dampier (= Karkar) and a female from Waigeu. The measurements are: wing, 91 mm.; tail, 58 mm.; bill, 21 mm.

Chalcites meyerii (Salvadori)

This species had never before been recorded from Batanta or any of the neighboring islands west of New Guinea, unless an extremely vague record by Beccari (*in* Sclater, 1876, p. 253) for Salawati can be credited; it was doubted by Salvadori (1880–1882).

A single female was taken on the summit of Mt. Besar at 3000 feet in altitude on June 19. The ovaries were small. Soft parts were recorded as follows: iris reddish brown, bill black, feet gray.

The crown is darker than in most specimens, but differs not at all from one taken in the Arfak Mountains of the Vogelkop. The bird is otherwise indistinguishable from series taken throughout the mountains of New Guinea. The measurements are: wing, 89 mm.; tail, 61 mm.; bill, 18 mm.; weight, 19 grams.

Caprimulgus macrurus schillmoelleri Stresemann

One female was collected at sea level on July 8. Measurements indicate a considerable range of individual variation, for Gyldenstolpe (1955, p. 386) recorded a female as: wing, 186 mm.; tail, 132 mm. The present specimen measures: wing, 174 mm.; tail, 118 mm. A female from Waigeu measures: wing, 173 mm.; tail, 119 mm. (See Mees, 1965, p. 171.)

Collocalia esculenta esculenta (Linnaeus)

The species *esculenta* has never before been recorded from Batanta. Gilliard collected but a single male on the summit of Mt. Besar (3000 feet) on June 19. The specimen is in heavy molt.

Ceyx lepidus solitarius Temminck

Four males and two females were collected at sea level and up to 2850 feet on the slopes of Mt. Besar between June 17 and July 3. The sexual organs of all were recorded as small. The notes on the soft parts are: eyes dark brown, bill black, and feet orange-yellow.

Sauromarptis gaudichaud (Quoy and Gaimard)

A male and female were taken on the side of Mt. Besar (1000 and 1800 feet) on June 16 and 24. Neither was in breeding condition. The irides were dark brown, the bill yellowish white, with the base and the tip of the maxilla blackish, and the feet grayish white, tinged with yellow. Locally called "hell-lo."

Halcyon sancta sancta Vigors and Horsfield

Two males and two females were taken, at sea level and at about 1000 feet. The eyes of three were brown; of a third (male?), whitish gray. Of all specimens, the maxillae were black; the mandibles, paler; the feet, brownish gray. According to Keast (1957, p. 62) it is not possible to identify these migrants accurately with regard to their breeding place in Australia, a fact that is borne out by an examination of series in the American Museum of Natural History.

Tanysiptera galatea galatea G. R. Gray

Two males, an adult female, and a juvenile female were taken on July 6 at sea level. The ovaries were enlarged; the testes, only slightly so. The irides were brownish gray, the bill was orange-red, and the feet were yellowish.

Rhyticeros plicatus subsp.?

Hornbills were seen commonly from 1500 to 3000 feet on Mt. Besar. The subspecies *ruficollis* Vieillot has often been collected on Batanta. Gilliard noted in his diary: "June 18, 1964: Hornbills are a feature of the Batanta forest. Their swishing, hissing wing noises and their powerful honking are heard daily and often for considerable periods as two or more birds whirl about in special feeding trees. Sometimes they can be seen high overhead flying ponderously and emitting a dull roar much like that of a distant jet airplane. At other times one or two will fly rather silently over the forest crown."

Pitta erythrogaster maclottii Temminck

A male and a female were collected at 300 feet and 1100 feet, respectively, on Mt. Besar on June 16 and 18. The sexual organs appear to have been very slightly enlarged. The recorded notes are: eyes of male chocolate-brown, those of female rust-brown; bill of male black, that of female dusky, with paler maxillar base. The differences in wing length that were noted by Gyldenstolpe (1955, p. 388) are bridged by individual variation.

Edolisoma melan batantae Gyldenstolpe and Mayr

One male was collected near sea level on July 2. It was in heavy molt. The original description (Gyldenstolpe, 1955, p. 389) implied that females of tommasonis Rothschild and Hartert of Jobi are barred below. Apparently they are not. Males of these subspecies cannot be distinguished.

Crateroscelis murina murina (Sclater)

Gilliard obtained a single male at about 1500 feet in altitude on Mt. Besar on June 28. It was in partial molt. The testes were small. The notes are: irides pale brown, maxilla black, mandible pinkish white, and feet pale gray. Measurements: wing, 60 mm.; tail, 46 mm.; bill, 16 mm. Weight, 16.5 grams.

This specimen is very dark on the head and back, indistinguishable from a male collected by Gilliard in the Victor Emanuel Range of central New Guinea in 1954. A male collected by Stein on Waigeu in 1931, a paratype of *capitalis*, is paler and browner (less olivaceous) on the head and back as are two specimens collected in 1903. These differences are due to postmortem change (foxing).

A series of seven males from the Setakwa River and the Vogelkop

show considerable variation. Specimens in fresh plumage have dark heads and are not distinguishable from this small series from Waigeu, or from a series of four males from Jobi. There is no real difference in measurements of these populations. The validity of the *capitalis* may well be questioned.

Eupetes castanonotus gilliardi, new subspecies

Type: A.M.N.H. No. 789541, adult female, collected on the forested summit of Mt. Besar (2800 feet), Batanta, off western New Guinea [West Irian], on June 20, 1964, by E. Thomas Gilliard.

Differs from the population of western New Guinea (castanonotus) and others, in the darker, more olivaceous (less chestnut), shade of the back of females and in the darker, almost black, crown. Under parts are a darker, duller shade of blue. Compared to saturatus of the Snow Mountains, which is also rather darker blue than castanonotus, the under parts are even duller, the difference being that between the Dusky Blue and Hortense Blue of Ridgway (1912). Unlike any example of any population examined, the females have feathers of the lower belly tipped with white.

The two females of the type series have the under-tail coverts broadly tipped with white; males have these feathers tipped with black. Both sexes of the western New Guinea population (castanonotus) have black-tipped under-tail coverts (seven males, three females) as do Snow Mountain birds (saturatus) as well (four males, four females). In this regard the Batanta females resemble those of the northern ranges of eastern New Guinea (pulcher) but not those of the southern parts of eastern New Guinea (pulcher) where the character varies, five females of the series at hand having the under-tail coverts white-tipped and two having them tipped with black. These white tips are of lesser extent than those in Batanta females. Rand (1940, p. 2) has summarized these variations.

Females from Batanta resemble those of western New Guinea (castanonotus) in having a dark blue eye stripe. Those of southeastern New Guinea have a pale brownish or pale blue eye stripe.

Males are slightly darker on the head and back than those of western New Guinea.

The type series consists of two males, two females, and a young female. All were found on the forest floor near a small stream near the summit of Mt. Besar (2800 feet). The adults were in small parties of three birds. Stomachs of all contained unidentified insects; one also contained the bones of what was thought perhaps to be a frog. A high-pitched and chattering call is recorded.

The species *castanonotus* has never been recorded from any of the islands west of New Guinea.

The genus *Ptiloprora* Peters, 1940, which comprises the species of New Guinea only, does not appear to serve a useful purpose; and the subgenus *Mollitor* Iredale, 1956, less than that.

Sericornis spilodera intermedia, new subspecies

Type: A.M.N.H. No. 789544, adult male, collected near the summit of Mt. Besar (2800 feet), Batanta, off western New Guinea [West Irian], on June 30, 1964, by E. Thomas Gilliard.

This population is intermediate between the populations of western New Guinea (spilodera) and the population of the island of Waigeu

TABLE 2

Measurements (in Millimeters and Grams) of Sericornis spilodera

	Wing	Tail	Bill	Weight
Male adult	59	43	14	11.5
Male adult	59	44	15	10.5
Female adult	57	40	13	9.5
Female adult	55.5	41	13	9.5
?Sex ?adult	55	40	14	10

(ferruginea). Birds of Batanta differ from spilodera in having the forehead ferruginous and the crown and hind neck grayish green, a shade that does not contrast strongly with the color of the back as does the blackish brown of the crown of spilodera. The throat and upper breast are not heavily spotted and streaked with blackish brown. The lores are pale brown, not gray as in spilodera, and the ear coverts are brownish gray or pale gray.

It follows that Batanta birds differ from those of nearby Waigeu (ferruginea) in the color of the crown and hind neck, the face and back (greener, less brownish). Sericornis s. granti of the Nassau and Oranje ranges (Snow Mountains) of central New Guinea resembles ferruginea but is generally browner on the back and more heavily spotted and streaked on the throat and upper breast.

Subadults of granti, collected by Meek and recorded as such by him, are less heavily spotted on the throat and breast (or are immaculate) and are recorded as having gray (not brown) eyes. A specimen from Waigeu with unspotted throat and breast resembles them. All have soft skulls. Four of the series of five paratypes are apparently adult; they are

recorded as having firm skulls and brown eyes. A fifth specimen, a male, is recorded as having "dull white" eyes; the skull is recorded as hard and the plumage resembles that of the other paratypes. Individual variation is the only explanation for the variation in color of the ear coverts. The color of the bills was recorded as "flesh gray" or with the maxilla brown and the mandible "pinkish-horn" or "grayish-white" or "bone." The feet were noted as pale brownish gray or pale gray. Two were taken at 1500 feet in altitude; and three, at 2800 to 3000 feet.

The stomachs of all contained small unidentifiable insects.

The measurements do not differ significantly from those of populations of western New Guinea (Manokwari, Siwi), Jobi, Waigeu, or the Snow Mountains (see table 2).

Gerygone chrysogaster notata Salvadori

A male and a female were collected at 1500 feet on the forested slopes of Mt. Besar on July 1. Neither was in breeding condition. The male was in heavy molt; the female was not. The notes as recorded are: irides deep brown, maxilla brownish and blackish, mandible paler, feet ash.

Gerygone chloronota aruensis Büttikofer

A single male was collected at the summit of Mt. Besar (3000 feet) on June 29. The species *chloronota* has not been recorded previously from Batanta. There is no apparent difference between this specimen and a series from Waigeu.

Rhipidura maculipectus Gray

A single specimen (not sexed) was collected at sea level on July 8.

Rhipidura rufiventris gularis Müller

A series of five males, two females, and two of which the sex could not be determined, were taken on the slopes of Mt. Besar (1000 to 1500 feet) between June 16 and July 3. The irides are recorded as brown; the bills and feet, as black. The wings of males measure 84, 91, 91, 91, 91 mm.; a series from Waigeu, 84, 87, 88, 91, 92 mm. The bellies of all are washed with buff.

Monarcha alecto chalybeocephalus (Garnot)

Two females were collected between sea level and 1500 feet on July 3 and 5. The feathers of the head are short and greenish blue as in some

specimens from western New Guinea; this variation is apparently due to age.

Monarcha guttula (Garnot)

Three adult males, an adult, not sexed, and an immature bird not sexed, were taken between June 24 and July 2 at from 500 to 2200 feet on the slopes of Mt. Besar. All are remarkable in having the black feathers of the chin and throat extended in a narrow bib to the upper breast, unlike 17 specimens from Waigeu. Three birds of a series of 14 from western New Guinea might be said to approach this condition, and

TABLE 3

Measurements (in Millimeters and Grams) of Monarcha guttula

	Wing	Tail	Bill	Weight
Batanta				
Male adult	81	72	18	18
Male adult	82	74	17	19
?Male adult	79	_	18	18.5
?Sex adult	80	71	17	17.5
Waigeu				
Male adult	85	72	18	_
Male adult	83	73	17	
Male adult	82	72	17	_
Male adult	81	72	17	-

four from Jobi are not to be distinguished from Batanta skins by this or any other character. The immature Batanta bird differs from a series of 19 in apparently comparable plumage in having the gray throat heavily spotted with black and this area extended downward as in the adult. No other distinguishing characters can be found. Birds from Batanta and Waigeu average slightly larger than those of New Guinea, (but see Mayr and Rand, 1937, pp. 149, 150; and table 3 of the present paper).

Monarcha chrysomela melanonotus Sclater

A single male was collected at 1500 feet in altitude on June 29. The iris was recorded as dark brown; the bill gray, with black tip, and the feet were noted as gray.

The species *chrysomela* has never before been recorded from Batanta, although it has been found on Misol, Waigeu, and Salawati.

Arses telescophthalmus batantae Sharpe

Six males, four females, and an immature male were taken between June 16 and July 1 at altitudes of from 1500 to 2800 feet on Mt. Besar. None was in breeding condition. Only traces of molt in the body plumage were found in two specimens. The young male had the unfeathered area about the eye paler (grayish instead of cobalt or ultramarine).

Poecilodryas placens (Ramsay)

Six males and two females were collected at 2600 to 2800 feet near the summit of Mt. Besar between June 22 and 30. Two males had the testes slightly enlarged. The irides were brown; the bill black and the feet, yellow.

This species has never before been recorded from any island off the New Guinea coast. These birds average very slightly darker on the back than specimens from New Guinea, but the difference observed is merely individual variation and may well be due to postmortem change.

Pachycephala simplex griseiceps Gray

Four males, one female and a specimen not sexed were taken on Mt. Besar (100–3000 feet) between June 16 and 27.

Compared to a series of 14 skins from Waigeu all these (except the one not sexed) are very much browner on the breast. They are very slightly darker than most specimens of griseiceps from western New Guinea and slightly less heavily streaked on the throat, but they are closer to griseiceps than to waigeuensis.

Myiolestes megarhynchus batantae Meise

Fifteen males, 14 females, and four specimens not sexed were collected from sea level to the summit of Mt. Besar between June 17 and July 3.

Postmortem change is striking. Five specimens collected on Batanta between 1875 and 1895 are no longer recognizable, being very much paler and more rufous than the recently collected birds. They do not differ from a small series from Manokwari (type locality of megarhynchus).

A series collected in 1931 on Waigeu (affinis) differs from birds taken in western New Guinea in 1928 by their generally much grayer or greener (less brown) coloration.

Gilliard's collection shows that there are two plumage phases in the population. One has the feathers of the breast of a pale violet or pinkish shade, rather than pale brown washed with gray. Individual variation

in the amount of streaking on the throat and breast is very great. Females have paler, more greenish, less blackish brown heads than do males.

Mayr and de Schauensee (1939, p. 132) and Gyldenstolpe (1955, p. 288) have discussed other variations. See also Mees (1965, p. 189).

The recorded notes are: irides brown, mandibles "dull smoky brown," maxilla paler, feet grayish brown.

Pitohui kirhocephalus pallidus van Oort

Six males and one female were collected between 1500 feet and 3000 feet on Mt. Besar between June 16 and 25. This quite distinct subspecies was originally described from Batanta. It differs from *cerviniventris* of nearby Waigeu in being slightly grayer and paler on the head and back and much paler below. Irides were recorded as deep brown; the bill and feet, as black. The female has the gray "bib" paler and smaller than the males.

Pitohui ferrugineus fuscus, new subspecies

Type: A.M.N.H. No. 789553, adult female, collected near sea level on Batanta, off western New Guinea [West Irian], on June 4, 1964, by E. Thomas Gilliard.

Resembles the population of Waigeu (*leucorhynchus*) more closely than others but differs in its distinctly darker coloration, especially apparent on the crown, ear coverts, and back but less so on the under parts.

Three adult males (A.M.N.H. Nos. 789549–789551), four females (A.M.N.H. Nos. 789552, 789554–789556), and a specimen not sexed (A.M.N.H. No. 789557) are paratypes. These are quite uniform in the coloration of the plumage. The irides are recorded as pale orange-yellow (one male), creamy white, pinkish or vinaceous cream (three females); the bills, as whitish with darker tip; the feet, as gray or pale gray. All but three of the females were in molt. The testes of one male were slightly enlarged. The birds were taken between sea level and 1500 feet from June 16 to July 6.

The species ferrugineus has been recorded previously from Batanta but was identified as the subspecies leucorhynchus, the form of Waigeu. Mayr (1941, p. 158) correctly doubted this identification. A specimen in the American Museum of Natural History collected by Bruijn's men on Batanta in 1875 is only slightly more rufous (foxed) on the crown than Gilliard's specimens and is separable from specimens collected on Waigeu in 1883 and 1902 by its darker head and back. It is probable, therefore, that postmortem change does not affect the differences noted. Immatures resemble adults (Mayr and de Schauensee, 1939b, p. 133). Females have,

on the average, shorter wings than males but do not differ otherwise. No other measurable difference is apparent.

The measurements of the wing are: Batanta males, 148–151 mm.; Batanta females, 135–146; Waigeu males, 147–151; Waigeu females, 143–144. The Batanta males weighed from 111 to 121 grams; those from Waigeu, from 111 to 140.

Cracticus cassicus (Boddaert)

A male and a bird doubtfully identified as a female were taken near sea level on July 3. Irides are recorded as deep brown; bills, as gray-white, with black tip (male), and as bluish white, with black tip (female?).

Dicrurus hottentotus carbonarius Bonaparte

A single male was collected at 2200 feet in altitude on the slope of Mt. Besar on June 26. It was in molt. The testes were small. The length of the bill (from the anterior border of the nostril, 22 mm.) and the weight (90 grams) accord with those of carbonarius rather than with those of atrocaeruleus. (See Vaurie, 1949, p. 284; Ripley, 1959, p. 13, who recorded atrocaeruleus from Kofiao Island; and Ripley, 1964, p. 45.)

Nectarinea sericea sericea (Lesson)

A single male was taken near sea level on July 3. The recorded notes are: iris deep brown, bill and feet black. No evidence of molt was noted.

The species sericea has never been recorded from Batanta. In the more purplish, less blue, color of the iridescent throat feathers and in the length of the wing (59 mm., as against 54-58 for the subspecies cochrani of Waigeu) this specimen is closer to the population of the Vogelkop of western New Guinea.

Nectarinia jugularis frenata Müller

Four males and three females were collected between July 1 and July 4 at sea level. The eyes were brown; the bills and feet, black.

The species *jugularis* has not previously been recorded from Batanta. No difference between these birds and those of Waigeu and the mainland of New Guinea is apparent.

Glycichaera fallax pallida Stresemann and Paludan

A single female was collected near sea level on July 3. Traces of molt were found on the body plumage. The ovaries were small. The maxilla was dark grayish brown; the mandible, brown.

The species fallax has not before been recorded from Batanta. This skin resembles four skins from Waigeu in the gray head, which contrasts with the black, and the paler under parts.

Toxorhamphus novaeguineae novaeguineae (Lesson)

A male and a specimen not sexed were taken at 2000 feet on Mt. Besar on June 26, 27. Both had brown eyes, black bills, and gray feet. No difference between these two and seven from western New Guinea are apparent.

Melilestes megarhynchus vagans (Bernstein)

Five males and one female were collected near the summit of Mt. Besar (2200-3000 feet) between June 19 and 30. The irides were orange-red, the bills were gray, and the feet were black.

These specimens differ from those of Waigeu (vagans) in having the head black, and the tail and under parts slightly darker and greener. They resemble specimens from Jobi and the north coast of New Guinea (stresemanni) more closely, but are even slightly darker below than are these. No difference in thickness of the bill (see Hartert, 1930, p. 45) is apparent or measurable. Birds of Batanta and Waigeu resemble one another and differ from stresemanni in having the chin and throat clearer gray and slightly more heavily streaked. It appears therefore that the slight differences between vagans and stresemanni are bridged by the characteristics of the Batanta population. Probably stresemanni Hartert, 1930, should be regarded as a synonym of vagans Bernstein, 1864.

Xanthotis chrysotis fusciventris Salvadori

Four males and two females were taken between sea level and 2200 feet on Mt. Besar from June 26 to July 2. The eyes were dark or reddish brown; the bills, black; and the feet, gray.

Characters that distinguish this subspecies from that of western New Guinea (generally color greenish gray rather than brownish) are not due to postmortem changes, for these skins are identical to three collected on Waigeu in 1883 and 1902. In size they agree with western New Guinea birds. The wings measured: males, 104–107; females, 98–100. The birds of Misol are apparently smaller (see Ripley, 1957, p. 4).

Meliphaga aruensis sharpei (Rothschild and Hartert)

Three males and a single female were collected between June 24 and July 3 from sea level to 1500 feet in altitude. The eyes were dark brown;

the bills, black; and the feet, gray. The stomachs contained small fruit and seeds.

These skins are slightly more grayish olive and darker above and below than those of Waigeu and the nearby New Guinea mainland. The weights were: males, 30–30.5; female, 31 grams.

Meliphaga analoga analoga (Reichenbach)

Six males, one female, and a specimen not sexed but apparently a female were collected June 24 to July 3 on the slopes of Mt. Besar between 1000 and 1500 feet. The color of the irides varied from brown to grayish brown to dark gray to pale gray. The bills were black; the feet, gray or brownish gray. The weights were: males, 21.5–26; females, 19–24 grams.

Meliphaga montana margaretae,1 new subspecies

Type: A.M.N.H. No. 789558, adult male, collected at 2800 feet, near the summit of Mt. Besar, Batanta, off western New Guinea [West Irian], on June 30, 1964, by E. Thomas Gilliard.

Differs from *Meliphaga montana montana* (Salvadori) of nearby western New Guinea in its generally greener, less brownish, coloration. It differs also in having the forehead tinged with gray, and a scaly or spotted appearance of the crown and under parts (due to the black or gray centers of the feathers), and in these respects it resembles *Meliphaga montana huonensis* Rand, confined to the Huon Peninsula, as far as is known. It differs in degree, but markedly, from that subspecies in having the forehead more strongly washed with gray, the crown greener and more noticeably spotted, and the under parts more grayish green, less brownish.

In general shade of coloration, as well as the relative intensity of the dark marking on the feathers of the head and under parts, it resembles the species mimikae more closely than it does any of the eight subspecies of M. montana, including huonensis, the most distinct form. It differs at a glance from both forms of the species mimikae in having white, not yellow, auriculars and gape markings and in the slightly darker, more grayish green, head and back.

Spotted as they are, these two subspecies bridge the rather tenuous differences between the two species mimikae and montana, which occur together in the mountains of southeastern New Guinea. Indeed the only marked difference in color is that of the auriculars. The formula (wing × tail)/100 shows that forms of montana (montana, 62; huonensis, 65; margaretae,

¹ Named for Margaret T. Gilliard, the widow of E. Thomas Gilliard.

60) have relatively longer tails than those of mimikae (granti, 59; mimikae, 57). Meliphaga montana sepik (60) bridges the difference, but that form is very brown above, pale and unspotted below, and is readily distinguishable from mimikae.

Both M. montana huonensis and M. m. margaretae have slightly longer bills than does any other subspecies of montana of which material is available.

 $\begin{tabular}{ll} TABLE~4\\ Measurements~(in~Millimeters~and~Grams)~of~\textit{Meliphaga~montana} \end{tabular}$

	Wing	Tail	Exposed Culmen	Weight
Male	89	71		31
Male	86.5	73	19	32
Male	86	70	18.5	30.5
Male	85	72	17	32
Male	88	72	17	29
Male	84	73	17	31.5
Male	86.5	70.5	18	29.5
Male	86	73		34
Female	79	68	15.5	24

The measurements of the exposed culmen of the various forms are (those of auga and huonensis from Rand, 1936, pp. 6, 8):

	MALES	FEMALES
montana	15 (7)	14 (1)
auga	15 (4)	14 (2)
huonensis	14.5 (1), 16 (3)	17.5 (1)
margaretae	17 (3), 18 (2), 19 (1)	15.5 (1)

Only one specimen (a male of huonensis, 14.5) of the series of 26 cannot be distinguished. It appears also that bills of margaretae may be shown to be longer than those of huonensis when more material of the latter becomes available (see table 4).

The species *montana* has never been recorded from any of the islands off New Guinea except Jobi.

A series of eight males (A.M.N.H. Nos. 789559-789566), one female (A.M.N.H. No. 789568), and a specimen not sexed (A.M.N.H. No. 789567) are paratypes; they were taken between 1900 and 3050 feet on Mt. Besar, June 18-30. The eyes were recorded as brown (one male, gray-brown); the bills, black, with yellow gape; the feet, gray. Traces of molt were observed. None was breeding. The stomachs contained small tree fruits and insects.

Philemon novaeguineae novaeguineae (Müller)

Two adult males and one immature were collected between sea level and 2200 feet on June 26 and June 30 and July 3. The eyes of the mature birds were rufous brown and grayish brown; those of the immature, dull gray. The bare skin of the heads was grayish black; the bills were black; the feet, dark gray. The stomach of one adult and that of the immature bird contained small tree fruits; that of the second adult contained insects.

Dicaeum pectorale Müller

A single male was taken near sea level on July 4. The eyes were brown, the bill was black, and the feet were blackish. The weight was 6.8 grams.

Gymnocorvus tristis (Lesson and Garnot)

Three males were collected June 2, 20, and 24 at 1500, 2200, and 3000 feet on Mt. Besar. Two of these specimens have the crown white; their eyes are recorded as pale blue and pale gray. The third specimen has a black crown and has black feathers scattered on the back and breast; the eyes were bluish gray. The bills were bone-white, with a pinkish or vinaceous tinge on the lower mandible; the feet, pale flesh.

Manucodia ater subalter Rothschild and Hartert

Two mature males and a female, apparently not quite mature, were taken at 200 and 1500 feet on Mt. Besar. The males represent an extreme in size of the cline described by Gilliard (1956). They represent also the blue color phase and more strikingly than any in the long series of specimens in the American Museum of Natural History. The female is greenish and does not differ from immature females from other parts of New Guinea. The irides of the males were reddish orange; those of the female, deep brown as in immature birds. The measurements of these birds are: two males, wing, 197, 199; tail, 166, 178; bill, 42, 43; of the female, wing, 172, tail, 151, bill, 38.

Diphyllodes respublica (Bonaparte)

The series of this species (see table 5) was collected from June 19 to June 30 between 1500 and 3000 feet on Mt. Besar. The testes of the mature male were enlarged.

Gilliard wrote in his diary that the birds were calling but that they did not approach their courts, of which he wrote as follows: "Court no. 2

TABLE 5

Measurements (in Millimeters and Grams) of Diphyllodes

	Wing	Tail, Except Central Feathers	Bill from Base	Weight
Immature male	Molt	Molt	25	62
Male	99	_	24	64
Immature male	98	55	26	
Immature male	101	55	24	65
Female	91	51	23	56
Female	95	Molt	25	52
Female	92	53		58
Female	94	53	25	59
Female	94	54		60

is in a bramble of saplings and vines in an open area of the forest near a landslide. It is on a 45° slope and is approximately 7 ft. by 10 ft. in size. The key display stage seems to be a limbless sapling 1 ft. 4 ins. thick at ground level and about 8 ft. tall. A fallen tree marks the upper edge of the ground clearing and a loose splay of vines averaging one half inch thick are in and over part of the cleared area. These may be used in display. All leaves have been removed from the tree and the vines. Looking straight up from the court one sees only the open sky across a breadth of 10 feet, then on one side is the feathery frond of a tree fern. Around the sides of the court are many vines and small saplings."

Paradisaea rubra Daudin

The measurements of the specimens that Gilliard collected are given in table 6. The testes were slightly enlarged. The ovaries of the female were not.

Gilliard recorded the following notes on the birds: "June 24: An adult male has been calling for days off and on from a particular spot in the forest. This morning I set out to find him although I had hoped to find

TABLE 6
Measurements (in Millimeters and Grams) of Paradisaea rubra

	Wing	Tail	Bill from Base	Weight
Male	171	121	35	220
Female	149	108	35	137
Female	150	112	34	156
Female	159	115	35	162
Female	153	110	34	147

a more active male or a tree full of males for study. After an hour of search through virgin forest, I came to a very large tree in which every 10 minutes or so, a male gave a few bugle calls. He was on a perch among the highest limbs and in half an hour of neck craning neither my sharpeyed boy nor I could spot him. But he must have spotted us because he became completely quiet after a time.

"Sound recordings of this male calling from this tree have been made by both Karla and myself.

"In the afternoon a male came again to the same tree. He seems to come morning and afternoon and to emit invitation calls, then to display above in the tree. Another lone male is across the gorge and went in one area of forest, still another is north of us near the wall at 2000 ft. I am beginning to believe that these birds display in an arena with only one bird to a tree. If this is so, I will have to be satisfied with a solitary bird in the film that I hope to make of this species on its display limb."

Ailuroedus buccoides oorti Rothschild and Hartert

A single male was collected at 1500 feet in altitude on Mt. Besar on June 25. The testes were not enlarged. The color notes are: eyes rufous brown; bill pearl gray; tibiotarsus olive-gray; feet gray; inside of bill and tongue grayish white. The bird was molting heavily. The weight was 172 grams.

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