

BIRDS COLLECTED BY MR. F. SHAW-MAYER
IN THE CENTRAL HIGHLANDS OF NEW GUINEA

1950-1951

BY

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1950-1951

By R. W. SIMS

(with Field Notes and Photographs by W. T. Loke)

(Received 13th July, 1955)

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SYNOPSIS

This is a report on the birds collected by Mr. F. Shaw-Mayer in the Central Highlands of New Guinea, mainly in 1950 and 1951. Two-hundred and seventy-two specimens were obtained in the Wahgi region, principally on Mount Giluwe. Eighty-eight species and races are represented of which one race was new to science.

INTRODUCTION

I. *General*

MR. F. SHAW-MAYER has lived and collected for many years in New Guinea and has travelled widely in the eastern half of the country. In recent years he has travelled mainly in the Central Highlands and a collection of birds from that area forms the subject of this report.

The Central Highlands of New Guinea were almost inaccessible prior to 1945 and little was known of the region, its inhabitants or its fauna. In recent years, however, the establishment of an airfield at Nondugl has made it more accessible and advantage has been taken of this for making collections by others besides Mr. Shaw-Mayer. In 1950, and again in 1952, Mr. E. T. Gilliard of the American Museum of Natural History made large collections of birds in the Wahgi region; and during the intervening year, 1951, Count Gyldenstolpe also visited the area. The reports on these

expeditions were in the course of preparation when I started identifying and making notes on Mr. Shaw-Mayer's specimens. The appearance of the first (Mayr and Gilliard, 1954) greatly facilitated the completion of these notes. The facts recorded below and the taxonomic conclusions arrived at differ for the most part only in points of detail, such as ranges of dimensions and various minor aspects of plumage colour, differences which one would expect to find in two sets of random samples from the same area. There are, however, a number of additional facts some of which suggest slight modification to Mayr and Gilliard's conclusions. These notes had been completed when I learnt that Count Gyldenstolpe's report was in the press. When it was published (Gyldenstolpe, 1955) I read it in conjunction with my own notes and referred to many specimens again. Generally there was a large measure of agreement but on one or two points our conclusions were not identical, mainly because of differences in age or sex of the specimens, or as a result of making comparisons with material from different areas.

Mr. Shaw-Mayer gave brief field notes on some specimens and a number of these are quoted here. Additional important field notes were made by Mr. Loke Wan Tho of Singapore. Mr. Loke joined Mr. Shaw-Mayer during September and October, 1952, when they travelled together up the Wahgi valley from Nondugl to Tomba. There Mr. Loke compiled most of his field notes which he kindly sent to me; and extracts from most of them are included here. Two of his photographs are also published with his kind permission.

I wish to acknowledge the generous co-operation of the authorities in the museums at Berlin, Harvard, Leiden, New York and Pittsburgh. They have very kindly lent me specimens for examination or made critical notes on specimens sent to them for comparison. I would also like to acknowledge the help afforded to me by Mr. R. P. Derek Goodwin. He made a preliminary examination of the Shaw-Mayer Collection and I found his notes most useful. Finally I wish to thank Mr. J. D. Macdonald for reading the manuscript and for his helpful criticism.

2. *Methods*

The report of the American Museum of Natural History Expeditions (Mayr and Gilliard, 1954) contained descriptions of the topography and ecology of the area, and lists of the birds typical of the various habitats and their zoogeographical affinities. These subjects, therefore, receive no further treatment in this report except where new information is presented.

The sequence of the families, genera and species and the nomenclature are that of Mayr (1941*b*). In that work a synonymy of each name is given and consequently only the original reference to each name is normally given here.

The specimens are listed under their British Museum (Natural History) register numbers together with information provided by the collector. The dimensions are given in millimetres; the wings were flattened when they were measured so the measurement given is the arc; the bill measurement is that of the exposed part of the culmen.

3. Summary of New Information

(a) Additions to the list of the birds of the Wahgi region (Gyldenstolpe, 1955).

Casarius bennetti shawmayeri.¹*Dupetor flavicollis gouldi*.*Falco peregrinus ernsti*.*Porzana pusilla palustris*.*Neositta papuensis alba*.²*Alcyone azurea ochrogaster*.*Cisticola exilis diminuta*.*Petroica bivittata bivittata*.*Aplonis metallica metallica*.

(b) Zoogeographical affinities of Wahgi region birds not listed by Mayr and Gilliard, 1954.

Southern affinities (Australia) :

*Porzana pusilla palustris**Cisticola exilis diminuta*

North-eastern affinities (Huon Peninsula) :

Turnix maculosa giluwensis

Western affinities (Mountains of Dutch New Guinea) :

Neositta papuensis alba

South-eastern affinities :

Casarius bennetti shawmayeri (Krätke Mountains)*Circus spilonotus spilothorax**Petroica bivittata bivittata*

Northern affinities (Sepik Region) :

*Alcyone azurea ochrogaster**Astrapia stephaniae femina*

(c) Habitats of Wahgi region birds not listed by Mayr and Gilliard, 1954.

Grasslands—4,000 ft. to 7,500 ft.

*Dupetor flavicollis gouldi**Anas superciliosa rogersi**Circus spilonotus spilothorax**Turnix maculosa giluwensis**Alcyone azurea ochrogaster**Cisticola exilis diminuta*

Mid-mountain forest—7,500 ft. to 9,000 ft.

*Casarius bennetti shawmayeri**Scolopax saturata rosenbergii**Aplonis metallica metallica**Astrapia stephaniae femina**Neositta papuensis alba*

Timber-line, edge of the alpine grasslands—11,000 ft.

Petroica bivittata bivittata

COLLECTING LOCALITIES

October, 1946 : Menebe, Mount Hagen, 5,000 ft.

October, 1950 : Headwaters of the Minj River, Kubor Range, 8,000 to 9,000 ft.

November, 1950 ; Minj, Wahgi River, 5000 ft. ; and the forested slopes of the Kubor Range.

December, 1950 and January, 1951 ; Forested ridges on the west slopes of the Hagen Range near Welya, 7,500 ft. to 10,000 ft.

¹ Racial identity problematical, Gyldenstolpe (1955).² Possibly includes *Neositta papuensis wahgiensis* Gyldenstolpe, 1955.

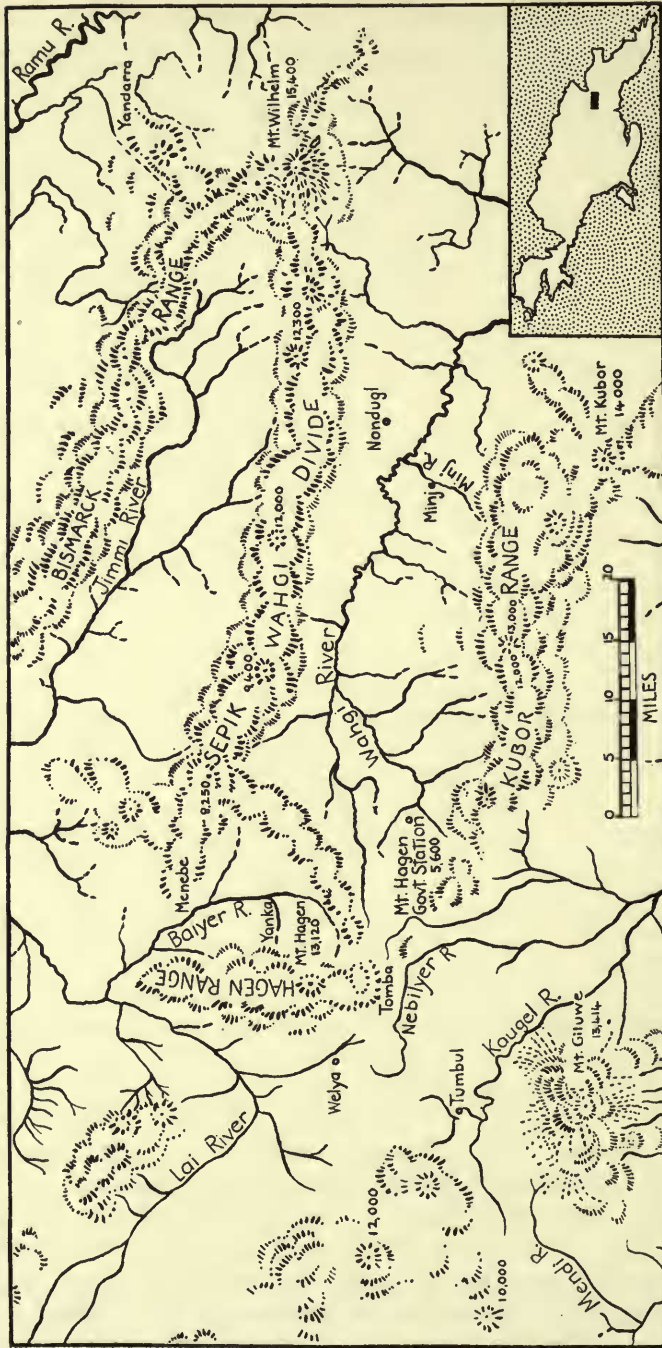


FIG. 1.—Map of the Wahgi region, Central Highlands, New Guinea.

February and March, 1951: South slopes of the Hagen Range near Tomba, 8,000 to 10,000 ft.

March to July, 1951: Plateau grasslands north of Mount Giluwe, 7,300 ft. Lamende Range north-west of Mount Giluwe, 8,500 ft. (23rd March). Moss Forest, 10,000 ft.; and the alpine grasslands, 11,000 ft.; Mount Giluwe (24-28th April).

Moss Forest, 10,000 ft.; and the alpine grasslands, 11,000 feet, Lamende Range (11th to 14th May).

Forested north slopes, 7,500 to 8,500 ft.; and the mid-mountain grasslands, 9,000 ft., Mount Giluwe (20th to 30th May).

Mount Giluwe rises to 13,414 ft. above sea-level from a grassland plateau of 7,300 ft.. The lower slopes of the mountain are forested up to about 9,000 ft. where the mid-mountain grasslands commence. These are separated from the alpine grasslands of the summit by the moss forest that extends approximately from 10,000 ft. to 11,000 ft.. The distribution of the forests and grasslands appears to be similar on the Lamende Range and characteristic of the mountains of this area; fuller details, particularly of the Bismarck, Hagen and Kubor Ranges, were given by Mayr and Gilliard (1954: 323).

ANNOTATED LIST OF BIRDS COLLECTED IN THE WAHGI REGION
BY MR. F. SHAW-MAYER

Casarius bennetti shawmayeri Rothschild

Casarius papuanus shawmayeri Rothschild, 1937, Bull. Brit. Orn. Club, 57, p. 120. Arau district, Krätke Mountains, New Guinea.

1954.17.266; 1 ♀; Menebe, north of Mount Hagen, 5,000 ft.; October, 1946.

MEASUREMENTS. 1 ♀—height of back from ground, 860; total length, 1,170.

COLOURS: bill and casque, shiny black; legs, horn; iris, brown. STOMACH CONTENTS: remains of hard fruits.

The specimen and a drawing of the head and neck at death agree with the type. The record extends the known range of *shawmayeri* about 150 miles north-west from the Krätke Mountains to the Hagen Range. It is probable that this race is found throughout the Wahgi Valley area, but it remains to be seen how far it extends into the mountains on each side. Mr. Gilliard saw a cassowary on Mount O'-Mar in the Kubor range which he believed was this race (Mayr and Gilliard, 1954: 331), and the present specimen taken near Mount Hagen supports his provisional identification.

Dupetor flavicollis gouldi (Bonaparte)

Ardetta gouldi Bonaparte, 1855, Consp. Gen. Av. 2, p. 132. New South Wales, Australia.

1953.17.1; 1 ♂; Mount Giluwe, 7,300 ft.; June, 1951.

MEASUREMENTS: 1 ♂—wing, 209; tail, 76; bill, 69. COLOURS; bill, upper mandible dark horn and lower mandible light horn; legs, brown-grey; iris, yellow. STOMACH CONTENTS: water insects,

Anas superciliosa rogersi Mathews

Anas superciliosa rogersi Mathews, 1912, Austr. Av. Rec. 1, p. 33. Augusta, south-western Australia.

1953.17.2-4; 1 ♂, 2 juv. ♂; Mount Giluwe, 7,300 ft.; June, July, 1951.

MEASUREMENTS: 2 juv. ♂—wing, 229, 239; tail, 68, 71; bill 46, 48. 1 ♂—wing 250; tail 96; bill 47. COLOURS: bill, slate (ad. ♂ black at base of lower mandible); legs, pale brown flesh (ad. ♂ greenish pale brown, darker on webs of feet); iris, brown. STOMACH CONTENTS: insect larvae, grass seeds and river gravel.

These birds were taken on the plateau north of Mount Giluwe where the species was plentiful. The June birds appear to be juveniles because the feathers of the undersurface have a dark brown streak unlike the adult, where they are dark brown and fringed with cinnamon. The primaries are fully grown and show no signs of wear, yet the wing is shorter than the adult's. In this respect the young birds approach the smaller size of the other New Guinea race, *pelewensis*, which differs from *rogersi* only in the shorter wing—*pelewensis*, 230; *rogersi*, 250—Amadon (1945: 3); nevertheless, this pair appear to be young birds of the larger form, *rogersi*. I have not seen any material of comparable age and plumage, but it is likely that the primaries of the juvenile plumage which persist throughout the first adult plumage are shorter than the primaries of the full adult plumage. The young birds have started to moult and a few adult patterned feathers have come in on the undersurface; the wing does not appear to be involved in the moult. The July bird, taken nearly six weeks later, is completing moult. The feathers of the undersurface of all three specimens are variably stained a rust colour, probably with iron oxide.

Salvadorina waigiensis Rothschild and Hartert

Salvadorina waigiensis Rothschild and Hartert, 1894, Novit. Zool. 1, p. 683. ? Waigeu, possibly Vogelkop, north western New Guinea.

1953.17.5-6; 2 ♀; Mount Giluwe, 7,300-7,200 ft.; April, July, 1951.

MEASUREMENTS: 2 ♀—wing, 180-185; tail, 95; bill, 34-35. COLOURS: bill, dull yellow with black along the centre of the upper mandible; legs, yellowish horn (webs of feet almost black); iris, dark brown. STOMACH CONTENTS: river gravel, water beetles and other small aquatic insects.

Accipiter melanochlamys schistacinus (Rothschild and Hartert)

Astur melanochlamys schistacinus Rothschild and Hartert, 1913, Novit. Zool. 20, p. 482. Mt. Goliath, Oranje range, central New Guinea.

1953.17.7-8; 1 ♂, 1 ♀; Mount Giluwe; 8,000 ft.; May, July, 1951.

MEASUREMENTS: 1 ♂—wing, 216; tail, 160; bill, 15.5. 1 ♀—wing, 251; tail, 184; bill, 18. COLOURS: bill, black (cere—♂ yellow and ♀ orange-yellow); legs,

♂ bright yellow and ♀ orange ; claws, black ; iris, ♂ bright yellow and ♀ bright orange.
 STOMACH CONTENTS : ♂, remains of small bird ; ♀, remains of frog.

The female (July) is in moult and the new black feathers of the back have a greenish metallic lustre in contrast to the worn feathers which have faded to a rusty brown-black. The male (May) is a young bird in fresh immature plumage. The exposed parts of the feathers of the back are chestnut in colour edged with rufous brown, the unexposed parts being white. The feathers of the shoulders and most of the head are white tipped with black, while the crown is chestnut in colour. The primaries and the retrices are dark brown with black-brown barring above ; they are silvery below with irregular cinnamon coloured areas, particularly on the inner webs. The feathers of the under-surface are cream in colour with a median chestnut stripe while those of the legs are more buffy with a narrow rufous stripe.

Circus spilonotus spilothorax Salvadori and D'Albertis

Circus spilothorax Salvadori and D'Albertis, 1875, Ann. Mus. Civ. Genova, 7, p. 807. Yule Island, south-eastern New Guinea.

1953.17.9 ; 1 ♂ ; Mount Giluwe, 7,300 ft.; July, 1954.

MEASUREMENTS : 1 ♂—wing, 375 ; tail, 220 ; bill, 21.5. COLOURS : bill, black (cere, bluish horn ; dorsal surface, greenish yellow.) ; legs, dull yellow ; claws, black ; iris, bright yellow ; inside of mouth, blue-grey.

" I often observed this fine bird soaring over the grasslands of the plateau, sometimes high in the air, at other times a few feet above the grass. Several times it came to rest on the ground, but it was not observed to be eating anything. At the approach of the hunter it was off, sailing with speed in ever widening circles. Once noticed at dusk, but more often during the early morning. It appeared to be alone." (F. S.-M.).

In comparison with other birds of this race this specimen is considerably darker in colour, both above and below. The upper-parts are a rusty black and lack the typical silvery white wash which is present only over the upperside of all except the inner and outer pairs of retrices. The inner retrices are almost black above and the outer a faded chestnut colour, none being spotted like those of other specimens. This bird exhibits a type of melanism not uncommon among birds of prey, but it appears to be darker than any reported by Rand (1941a : 1).

Falco peregrinus ernesti Sharpe

Falco ernesti Sharpe, 1894, Ibis, Ser. 6, 4 : 545. Mt. Dulit, Sarawak.

1953.17.10. ; 1 ♂ ; Mount Giluwe, 7,3000 ft.; July, 1951.

MEASUREMENTS : 1 ♂—wing, 292 ; tail, 144 ; bill, 19. COLOURS : bill, dark horn around cere and gape, base of mandible yellow ; legs, yellow (claws, black) ; iris, black (skin around eye, yellow).

Aepyodius arfakianus (Salvadori)

Talegallus arfakianus Salvadori, 1877, Ann. Mus. Civ. Genova, 9 : 333. Arfak Mountains, north-western New Guinea.

1953.17.11-12; 1 ♂, 1 ♀; Mount Giluwe, 9,000 ft.; April, July, 1951.

MEASUREMENTS: 1 ♂—wing, 278; tail, 132; bill, 31. 1 ♀—wing, 272; tail, 145; bill, 30. COLOURS: bill, yellowish-green-horn; legs, greenish-yellow (♀, frontal scutes, dark horn); iris, greenish yellow; head, pale bluish white, reddish colouring along top of gape from back of beak to below eye (♂, purple comb and wattles, bluish area on crown to hinder end of the base of the comb; ♀, two small pinkish wattles—no comb—bluish area above wattles). STOMACH CONTENTS: pieces of hard fruits.

The birds were taken in the forest on the north slopes of Mount Giluwe. An egg was found in the oviduct of the female (July).

Synoicus ypsilophorus lamonti Mayr and Gilliard

Synoicus ypsilophorus lamonti Mayr and Gilliard, 1951, Amer. Mus. Novit. No. 1524, p. 1. Tomba Central Highlands, New Guinea.

1953.17.13-24; 7 ♂, 5 ♀; Mount Giluwe, 7,500-7,200 ft.; April, May, 1951.

MEASUREMENTS: 7 ♂: wing, 90-100; bill, 12-13.5. 5 ♀—wing, 93-98; bill, 12-13. COLOURS: bill, black, bluish horn at base; legs, greenish yellow; iris, yellow-orange. STOMACH CONTENTS: chiefly grass seeds, some insects and gravel.

Most of the specimens of this fine series match closely 2 ♂ and 2 ♀ of the race *lamonti* taken by Mr. Gilliard at Tomba, which is only a few miles north of Mount Giluwe. The exception is the male bird (No. 1953.17.19) taken on 27th May. In general colour it is a much paler brown, more heavily barred above and below and the white shaft streaks of the feathers of the back are wider and more pronounced. It was sent to the American Museum of Natural History where, in Mr. Gilliard's absence, Dr. Amadon kindly compared it with other material of *S. ypsilophorus*. He found that it was unlike any other bird of this species and that the differences between this specimen and other examples of *lamonti* are greater than those between *lamonti* and neighbouring races. As these races appear to be fairly stable in their characteristics we have concluded that this specimen is probably aberrant.

"This quail was plentiful on the grasslands at 7,000 feet, and on the grasslands on the north slopes of Mount Giluwe up to 8,000 feet. Sometimes a single bird would flush, at other times three or more. Much of the country is peaty, almost swampy, and these conditions seem to suit it best" (F. S.-M.).

FIELD NOTES. Six of these quail were started up in pairs from the long grass near Nondugl. A roughly made nest of grass was found on the ground among the weeds near some land under cultivation on 15th September. The nest contained four buff-coloured eggs with thickly distributed minute brown spots.

Excalfactoria chinensis subspecies ?

Tetrao chinensis Linnaeus, 1766, Syst. Nat. 12th ed., 1, p. 277. China.

1953.17.25-33; 3 ♂, 6 ♀; Mount Giluwe, 7,500-7,200 ft.; April, May, 1951.

MEASUREMENTS: 3 ♂—wing, 65-68; bill, 8-9. 6 ♀—wing, 65-70; bill, 9-10.

COLOURS: bill, black; legs, orange, orange-yellow (2 ♀ with greenish tinge); iris, 3 ♂—brownish-red; 6 ♀—dark brown. STOMACH CONTENTS: grass seeds and gravel.

The series was collected on the grasslands north of Mount Giluwe. The birds are in fresh plumage with the exception of the female taken on 7th April which is in moult although it had an egg in the oviduct. Two races of *E. chinensis* have been described from New Guinea, *papuensis* Mayr and Rand from Mafulu in the south-east and *novaeguineae* Rand from the Balim River in the Snow Mountains. Mount Giluwe is approximately midway between the type localities of these races and, as might be expected, the birds from there exhibit characteristics of both. The series was compared with specimens of both races collected by Dr. Rand. The adult males differ but little from a male taken at Lake Daviumbo on the Fly River and compared with typical *papuensis* the bluish colour of the head is slightly less pronounced and the small feathers of the head have dark grey-brown tips; in this respect they approach the characteristics of *novaeguineae*. The adult female from Mount Giluwe differ from *papuensis* only in the colour of the under-parts, where there are gradations from the richer colour of *papuensis* to the paler colour of *novaeguineae*.

The series is almost intermediate between *papuensis* and *novaeguineae*. I am not, therefore, naming them racially. Furthermore, Dr. Rand's birds are in old plumage, whereas in most of these the plumage is fresh.

Turnix maculosa giluwensis Sims

Turnix maculosa giluwensis Sims, 1954, Bull. Brit. Orn. Club, 74, p. 37. Mount Giluwe, Central Highlands, New Guinea (8,000 ft.).

1953.17.34-41¹; 1 ♂, 1 juv. ♂; 3 ♀, 3 juv. ♀; Mount Giluwe, 8,000-7,200 ft.; May, June, 1951.

MEASUREMENTS: 2 ♂—wing, 65; tarsus, 18.5-19; bill, 10-11. 6 ♀—wing, 70-75; tarsus, 19-20; bill, 11.5-14. COLOURS: bill, yellowish, ridge and tip dark horn; feet, yellow with greenish tinge; iris, cream. STOMACH CONTENTS: grass seeds and small insects.

This fine series of Button-quail was taken on the open and lightly wooded grasslands around Mount Giluwe. It appears that this is the first time that such a large series of *T. maculosa* has been taken in one locality in New Guinea; the males, particularly, are rare to collections. On examination these birds were found to be distinct enough to recognize as representatives of a new race of *T. maculosa* in

¹ Type 1953.17.40

comparison with the other two New Guinea races, *furva* Parkes from Finschhafen on the east coast of the Huon Peninsula and *horsbrughi* from Yule Island off the south-east coast. They differ from these races by the underparts being considerably paler, but resemble *furva* by being very dark above. In size *giluwensis* is closer to *horsbrughi* than to *furva*, which is slightly larger. The one June bird is in fresh plumage the others are involved in moult.

Rallus pectoralis captus Mayr and Gilliard

Rallus pectoralis captus Mayr and Gilliard, 1951, Amer. Mus. Novit. No. 1524, p. 2. Tomba, Central Highlands, New Guinea.

1953.17.42; 1 ♂; Hagen Range, 8,000 ft.; February, 1951.

1953.17.43-45; 1 ♂, 1 juv. ♂, 1 ♀; Mount Giluwe, 7,500-7,300 ft.; April, June, 1951.

MEASUREMENTS: 3 ♂—wing, 102-104; tail, 37-40; bill, 33. 1 ♀—wing, 102; tail, 40; bill, 34. COLOURS: bill, dull red, dark horn near tip; legs, brownish grey; iris, yellow to brown (juv. ♂, grey brown). STOMACH CONTENTS: slugs and water insects.

The adult male and female taken in February and April respectively are in worn plumage; the barring of the abdomen is faded and the flanks are stained a pinkish hue. The adult male taken in June is in fresh plumage; but the young male, also taken in June, is in full moult. In this bird the new feathers of the under-parts, unlike the worn ones, are strongly barred like those of the adults. The adult male from the Hagen Range is toptotypical and both it and the other adult male show the characteristics of *captus* given by Mayr and Gilliard, but the wings average a little longer (wing, ♂ 95-102), like those of specimens taken at Nondugl by Gyldenstolpe (1955: 32). The adult female, in comparison with the adult male, has the back paler in colour by being a clearer olive-brown, less reddish. In the juvenile male the crown and the neck lack the maroon-chestnut of the adult and there is a reduction in the white barring of the back. In this respect the young bird agrees with a series of adults of *R. p. pectoralis* (Temminck) from eastern Australia.

Rallus philippensis wahgiensis Mayr and Gilliard.

Rallus philippensis wahgiensis, Mayr and Gilliard, 1951, Amer. Mus. Novit. No. 1524, p. 3. Nondugl, Central Highlands, New Guinea.

1953.17.46; 1 ♂; Mount Giluwe; 7,500 ft.; July, 1951.

MEASUREMENTS: 1 ♂—wing, 153; tail, 76; bill, 31; tarsus, 41. COLOURS: bill, dark horn, base of lower mandible reddish; legs, light brown; iris, reddish brown. STOMACH CONTENTS: insects.

This specimen differs only in size from a toptotypical male collected by Mr. Gilliard. The wing and the tail are longer and the tarsus shorter, the measurements of

wahgiensis given by Mayr and Gilliard are : wing, 137, 140 ; tail, 62.5 ; tarsus, 44, 45. In this respect it matches specimens taken at Nondugl by Gyldenstolpe (1955 : 32).

Porzana pusilla palustris Gould

Porzana palustris Gould, 1843, Proc. Zool. Soc. Lond. 1842, p. 139. Tasmania.

Porzana pusilla mayri Junge, 1953, Zool. Meded., Leiden, 31, p. 247. Paniai, western New Guinea.

1953.17.47-49 ; 2 ♀, 1 juv. ♀ ; Mount Giluwe, 8,000-7,500 ft. ; May, June, 1951.

MEASUREMENTS : 3 ♀—wing, 79-83 ; tail, 35-40 ; bill, 14.3-15. COLOURS : bill, olive-green, tip horn colour ; legs, olive-green ; iris, orange-red. STOMACH CONTENTS : small insects.

The Mount Giluwe birds may be distinguished from a series of *palustris* from eastern Australia on very slight colour differences. The upper-parts of the New Guinea birds are somewhat warmer in tone and the under-parts a slightly clearer grey, but these differences may be attributable to the freshness of the skins. Junge (1952 : 247) was the first to report the presence of this species in New Guinea. He distinguished a new race, *mayri*, on a series from Paniai separating it from the Australian birds on a greater wing length. The measurements of the material before me, however, do not support this separation for there is some variation.

Australian birds, in B.M. (N.H.) :	Wing, 75-81	} 75-85
" " (Junge, 1952 : 247) :	" 80-85	
New Guinea " in B.M. (N.H.) :	" 79-83	} 76-83
" " (Junge, 1952 : 247) :	" 76-79	

Porzana tabuensis edwardi Gyldenstolpe

Porzana tabuensis edwardi Gyldenstolpe, 1955, Ark. f. Zool., Ser. 2, 8, p. 3. Nondugl, Central Highlands, New Guinea.

1953.17.50-56 ; 2 ♂, 1 juv. ♂ ; 2 ♀, 2 juv. ♀ ; Mount Giluwe, 8,000-7,500 ft. ; March, April, June, 1951.

MEASUREMENTS : 3 ♂—wing, 78-85 ; tail, 41-50 ; bill, 18-19. 4 ♀—wing, 78-80 ; tail, 41-46 ; bill, 16-18. COLOURS : bill, black ; legs, coral-red ; iris, orange-red. STOMACH CONTENTS : insects and grass seeds.

Gyldenstolpe (1955 : 34) separated the birds of the Wahgi Valley on their darker colour and slightly longer bill in comparison with a series of *tabuensis* from the Tuamotu Archipelago and Rapa Island. These characters are present in the Mount Giluwe birds and distinguish them from a series from various Pacific islands. The adult male taken in April is in worn plumage, while that taken in June is in fresh. The fresh plumage is more vinous above and more blue than slate-grey below. The young male, 31st March, differs from the adult in having the chin and throat white and the

abdomen and under-wing coverts a pale whitish-grey. This bird is in moult. The adult females taken in April are starting moult with a few new feathers coming through on the back. Of the two young females one, 5th April, has nearly completed moult; while the other, 7th April, has only a few new feathers coming through on the back.

Rallicula forbesi subspecies?

Rallicula forbesi Sharpe, 1887, in Gould's "Birds of New Guinea", pt. 23, pl. (70). Owen Stanley Range, south-western New Guinea.

1953.17.57; 1 ♂; Hagen Range; 8,000 ft.; February, 1951.

1953.17.58-62; 1 ♂, 4 ♀; Mount Giluwe; 7,400-7,300 ft.; May, June, July, 1951.

MEASUREMENTS: 2 ♂—wing, 111-112; tail, 77-79; bill, 24-25. 4 ♀—wing, 108-112; tail, 63-68; bill, 24-26. COLOURS: bill, brown-black; legs, brown-black to black; iris, pale to dark brown.

The two males differ only very slightly from the type and a series of *forbesi* from south-eastern New Guinea in that the plumage is somewhat richer in tone. The four females, on the other hand, exhibit an interesting variation. Although they appear to be inseparable from the allotype and a series of *forbesi* in most respects there are differences in the speckling and the occurrence of a red-chestnut fringe on the feathers of the back. The July bird agrees with the allotype in colour and pattern in that over the back the speckling is the typical buff colour and many of the feathers are fringed imperfectly with a red-chestnut colour. Gradations are found in the other females to the colour and pattern of a May bird (1953.17.62) in which the spotting is no longer buff but white, and replaced over the scapulars by white streaks; also none of the feathers of the back have a red-chestnut fringe. The markings of this specimen so approached the description of the race *steini* which Rothschild described on one female from the Weyland Mountains that it was sent to the American Museum to be compared with the unique type. There Dr. Amadon, in Mr. Gilliard's absence, kindly examined the specimens and found that the Mount Giluwe bird matched the type. Mayr and Gilliard (1954: 335) described a similar variation in a Wahgi region series which they named *steini* mainly on the length of the tail. The present series, however, cannot be separated from the nominate form on measurement, while on plumage most of the birds approach *forbesi*. It seems that if the present series were combined with the birds reported by Mayr and Gilliard then phenotypical *forbesi* and *steini* would be present in approximately equal numbers in addition to the specimens grading between the two. In view of this I do not venture to name the birds of the present series at racial level.

One explanation of the occurrence of this variation in these series from the Wahgi region could be that the two races have come into breeding contact following a period of reproductive isolation. It seems that such an interpretation, based on the material available, would not be entirely incorrect because a population showing such a high incidence of heterogeneity would be unlikely to occur in a cline. It seems equally

unlikely that the type of *steini* and other specimens that resemble it are variants for no similarly patterned birds have been reported from southeast of the Wahgi region.

***Pluvialis dominca fulva* (Gmelin)**

Charadrius fulvus Gmelin, 1789, Syst. Nat. 1, pt. 2, p. 687. Tahiti.

FIELD NOTE. Six of these plovers were seen together in a "paddock" at Nondugl on 15th September. A few of the black feathers of the breeding plumage could be seen on the under-surface of some of the birds.

***Scolopax saturata rosenbergii* Schlegel**

Scolopax rosenbergii Schlegel, 1871, Ned. Tijdschr. Dierk. 4, p. 54. Arfak Mts., north-western New Guinea.

1953.17.63-65; 2 ♂, 1 ♀; Mount Giluwe, 9,500-9,000 ft.; May, June, 1951.

1953.17.66-67; 1 ♂, 1 ♀; Lamende Range, 9,500-9,000 ft.; June, 1951.

MEASUREMENTS: 2 ♂—wing, 145-146; tarsus, 33-34; bill, 82-83. 3 ♀—wing, 148-155; tarsus, 32-35; bill, 83-87. COLOURS: bill, brown-black horn; legs, dark brown-grey; iris, dark brown. STOMACH CONTENTS: worms, grubs, small beetles and other insects.

"The Woodcock is a bird of the high mountain-forest on Mount Giluwe and the Lamende Range. It lives on the ground, where it searches for insects and digs for worms and grubs. During the early morning it will often rise and fly high above the trees, where it can be heard calling; later it drops down again on to the forest floor" (F. S.-M.).

The black barring of the feathers of the back is appreciably heavier than in topotypical specimens of *rosenbergii*. In this respect the present series is similar to the specimens that I have seen from the Oranje Mountains taken by Dr. Rand who considered that this difference was of no racial significance. (1942b: 439). The wing measurements are less than those of Dr. Rand's specimens but Shaw-Mayer's birds are in moult and it seems that the primaries are not fully grown. In these moulting birds the brown of the new feathers is noticeably redder and darker than that of the old.

***Gallicolumba beccarii beccarii* (Salvadori).**

Chalcophaps beccarii Salvadori, 1875, Ann. Mus. Civ. Genova, 7, p. 974. Hatam, Arfak Mountains, north-western New Guinea.

1953.17.68; 1 ♂; Hagen Range, 8,000 ft.; March, 1951.

1953.17.69; 1 ♂; Mount Giluwe, 7,500 ft.; May, 1951.

MEASUREMENTS: 2 ad. ♂—wing, 107, 109; tail, 60, 70; bill, 14. COLOURS: bill, black; legs, dark purple; iris, brown-black. STOMACH CONTENTS: hard seeds.

Charmosyna papou goliathina Rothschild and Hartert

Charmosyna stellae goliathina Rothschild and Hartert, 1911, Novit. Zool. 18, p. 160. Mt. Goliath, Oranje Range, central New Guinea.

1953. 17. 70-73; 2 ♂, 2 ♀; Mount Giluwe, 9,000-8,500 ft.; April, June, July, 1951. MEASUREMENTS: 2 ♂—wing, 151, 155; tail, 297, 324; bill, 18. 2 ♀—wing, 150, 152; tail, 256, 280; bill, 17, 19. COLOURS: bill, orange to dark red; legs, bright orange; iris, orange-red. STOMACH CONTENTS: flowers and fruit pulp.

The two males are in the dark phase plumage. The June and July birds of both sexes are completing moult.

FIELD NOTE. Native name, "Kai-niginch".

Oreopsittacus arfaki grandis Ogilvie-Grant

Oreopsittacus grandis Ogilvie-Grant, 1895, Bull. Brit. Orn. Club, 5, p. 15. Owen Stanley Mountains, south-eastern New Guinea.

1953. 17. 74-76; 1 ♂, 2 ♀; Hagen Range, 9,500-9,000 ft.; December, 1950. MEASUREMENTS: 1 ♂—wing, 81; tail, 84; bill, 8. 2 ♀—wing, 82, 86; tail, 85; bill, 8, 9. COLOURS: bill, black; legs, green-grey; iris, black-brown.

These birds match *grandis* except in wing length. In this respect the females are larger than both *grandis* and *major* and the males intermediate,—*grandis*: ♂, 73-76; ♀, 73—*major*: ♂, 85-87; ♀, 80—(Ogilvie-Grant, 1915: 169).

Neopsittacus musschenbroekii major Neumann

Neopsittacus musschenbroekii major Neumann, 1924, Ornith. Monatsber. 32, p. 38. Schraderberg, Sepik Mountains, northern New Guinea.

1953. 17. 77; 1 ♂; Mount Giluwe, 7,500 ft.; June, 1951. MEASUREMENTS: 1 ♂—wing, 114; tail, 101; bill, 16. COLOURS: bill, yellow; legs, brown-grey; iris, orange-red. STOMACH CONTENTS: fruits and berries.

Other birds taken in the same area were identified as *major* by Mayr and Gilliard (1954: 339) but the present example differs from other material of the species in being much darker. Compared with *major*, the crown, collar, nape and sides of the throat are browner and washed with crimson. The chin and throat are dark brown with a greenish wash. The back appears to be very dark due to the feathers being fringed with dark brown. Some of the primary wing coverts, the outer webs of the primaries and the upper surfaces of the two central rectrices are almost entirely dark brown with a slight greenish wash. The pattern of the underparts is similar to *major*, but the green is replaced by olive and the crimson by a yellowish-brown. This specimen may be an abnormally pigmented bird of the race *major*, although the possibility that it represents a distinct form should not be overlooked.

Psittacella brehmii pallida A. B. Meyer

Psittacella pallida A. B. Meyer, 1886, Zeitschr. ges. Ornith. 3, p. 3. Astrolabe Mountains, south-eastern New Guinea.

Psittacella bürgersi Reichenow, 1918, Journ. f. Ornith. 66, p. 244. Schraderberg, Sepik region, northern New Guinea.

Psittacella brehmi ornata Mayr, 1931, Mitt. Zool. Mus. Berlin, 17, p. 720. Dawong, Herzog Mountains, south-eastern New Guinea.

1953.17.78-79; 1 ♂, 1 ♀; Mount Giluwe, 8,500 ft.; June, 1951.

1953.17.80-81; 1 ♂, 1 juv. ♀; Hagen Range, 9,000 ft.; February, 1951.

MEASUREMENTS: 2 ♂—wing, 122, 125; tail, 86; bill, 18, 20. 1 ♀—wing, 127; tail, 87; bill, 18. 1 juv. ♀—wing, 122; tail, 86; bill, 17. COLOURS: bill, metallic blue-grey, becoming white towards tip in juvenile; legs, dark grey, green-grey in the ad. ♂; iris, orange, grey in juvenile. STOMACH CONTENTS: hard berries and seeds.

Gyldenstolpe (1955: 57) described much of the individual variation in both coloration and size in the birds of this species from central and south-eastern New Guinea. He showed that *bürgersi* should be regarded as a synonym of *pallida* and agreed with Mayr (1941: 69) who had previously united *ornata* with *pallida*. Of the present specimens the adult female and the juvenile were sent to the Berlin Museum, where Professor Stresemann, who kindly made the comparison, found that they closely matched the type of *P. bürgersi* Reichenow. In view of the evidence presented by Gyldenstolpe I am naming the birds of this present series *pallida*. Compared with a small series of *intermedia* from southern Dutch New Guinea the Wahgi region birds are more bluish-green above with a greenish wash over the crown; and the sides of the head are more greyish in colour.

Psittacella picta excelsa Mayr and Gilliard

Psittacella picta excelsa Mayr and Gilliard, 1951, Amer. Mus. Novit. No. 1524, p. 6. Mount Orata, Kubor Mountains, Central Highlands, New Guinea.

1953.17.82; 1 ♂; Hagen Range, 9,000 ft.; February, 1951.

1953.17.83; 1 juv. ♂; Kubor Range, 8,000 ft.; October 1950.

1953.17.84; 1 ♂; Mount Giluwe, 11,000 ft.; April, 1951.

MEASUREMENTS: 2 ♂—wing, 114, 116; tail, 73; bill, 14, 15. 1 juv. ♂—wing, 103; tail, 68; bill, 12.5. COLOURS: bill, pale blue, yellowish (juv. ♂); legs, grey; iris, orange-yellow, grey-yellow (yg. ♂). STOMACH CONTENTS: seeds and small hard berries.

The adult from the Hagen range differs from the Mount Giluwe bird and a topotypical specimen taken by Mr. Gilliard in that the golden-yellow patches on each side of the neck are joined over the neck by a narrow band of the same colour. The young male resembles a topotypical female also collected by Mr. Gilliard.

Psittacella modesta hallstromi Mayr and Gilliard

Psittacella modesta hallstromi Mayr and Gilliard, 1951, Amer. Mus. Novit. No. 1524, p. 5
Yandarra, north slope of Mount Wilhelm, Bismarck Mountains, New Guinea.

1953.17.85-87; 2 ♂, 1 ♀; Mount Giluwe, 8,500-8,000 ft.; April, June, 1951.

1953.17.88; 1 juv. ♂; Kubor Range, 8,000 ft.; October, 1950.

1953.17.89; 1 ♂; Hagen Range, 9,500 ft.; February, 1951.

MEASUREMENTS: 4 ♂—wing, 98-101; tail, 59-62; bill, 14. 1 ♀—wing, 102; tail, 64; bill, *damaged*. COLOURS: bill, metallic blue-grey; legs, dark blue-grey; iris, orange (2 ad. ♂), yellow-brown (2 imm. ♂), dark brown (1 ad. ♀). STOMACH CONTENTS: seeds and pieces of hard berries.

The young male taken in October is starting to moult from juvenile plumage in which the throat and breast are an olivaceous colour and lack the ashy-brown of the adult male. The feathers of the breast are also faintly barred with yellow as in the female where the orange and black barring of the breast merges into the plain green of the abdomen and flanks. The head and the nape are the same colour as the back although the feathers at the base of the bill are washed with blue and some on the hind neck are heavily barred with orange and black. The February bird is in worn plumage, while the April and June birds are in fresh plumage. The testes of the June male are enlarged.

Cacomantis pyrrhophanus excitus Rothschild and Hartert

Cacomantis excitus Rothschild and Hartert, 1907, Novit. Zool. 14, p. 436. Angabunga River, south-eastern New Guinea.

1953.17.90-91; 1 ♂, 1 juv. ♂; Mount Giluwe, 7,500 ft.; April, May, 1951.

MEASUREMENTS: 1 ♂—wing, 145; tail, 140; bill, 17. 1 juv. ♂—wing, 122; tail, 100; bill, 14. COLOURS: bill, black; legs, yellow; iris, dark brown. STOMACH CONTENTS: caterpillars and flying insects.

These birds were taken in the wooded country on the north slopes of Mount Giluwe. The May bird is similar to a male from the Utakwa River in Dutch New Guinea except that the grey of the chin extends to the throat. The young male which is in fresh plumage (April) is plain chestnut above and rufous-brown irregularly barred with black below.

Chalcites meyerii (Salvadori)

Chrysococcyx meyerii Salvadori, 1874, Ann. Mus. Civ. Genova, 6, p. 82. New name for *Chrysococcyx splendidus* A. B. Meyer, 1874, Sitzungsber. Akad. Wiss. Wien, 69, p. 81. Hatam, Arfak Mountains. (NOT Gray, 1847).

1953.17.92; 1 ♂; Wahgi River; 5,000 ft.; November, 1950.

MEASUREMENTS: 1 ♀—wing, 88; tail, 65; bill, 12.5. COLOURS: bill, black; legs, blue-grey; iris, dark brown.

Tyto tenebricosa arfaki (Schlegel)

Strix tenebricosa arfaki Schlegel, 1879, Notes Leyden Mus. 1, p. 101. Arfak Mountains, north-western New Guinea.

1953.17.95; 1 ♂; Hagen Range, 8,500 ft.; March, 1951.

1953.17.96; 1 ♀; Lamende Range, 8,500 ft.; March, 1951.

MEASUREMENTS: 1 ♂—wing, 275; tail, 119; tarsus, 62. 1 ♀—wing, 292; tail, 130; tarsus, 73. COLOURS: bill, dark horn (ad. ♂, lower mandible pale horn); legs, dark flesh; iris, brown-black. STOMACH CONTENTS: 1 ♂, remains of a rat.

Tyto longimembris papuensis Hartert

Tyto longimembris papuensis Hartert, 1929, Novit. Zool. 35, p. 103. Owgarra, Angubunga River, south-eastern New Guinea.

1953.17.93-94; 1 ♂, 1 ♀; Mount Giluwe, 7,400 ft.; May, 1951.

MEASUREMENTS: 1 ad. ♂—wing, 343; tail, 114; tarsus, 84. 1 ad. ♀—wing, 357; tail, 123; tarsus, 97. COLOURS: *not recorded*. STOMACH CONTENTS: nil.

“♂, taken from nest in tree-hollow brooding three well incubated eggs; time, 10 a.m. ♀, taken near hollow containing nest; time, 10 a.m. Usually one or two of these Grass Owls could be seen flying low over the grasslands or sitting on an old tree fern stump during the late afternoon or at dusk. The species was, however, uncommon on the plateau, possibly the altitude was a little too great for it. It was plentiful on the grasslands east of the Hagen Range at about 5,000 feet.” (F. S.-M.).

It is interesting that the male was taken while brooding the eggs as it is generally accepted that it is not usual for the males of this species to share in incubation. The eggs were “well incubated” on the 26th May, so it appears that the breeding season of the New Guinea bird is similar to that of *walleri*, from Australia, which breeds during May and June. It is worth mentioning, perhaps, that in November, 1946, Mr. Shaw-Mayer collected a pair of Grass Owls at Yanka and in comparison the birds from Mount Giluwe are slightly more tawny above and none of the feathers of the back have white shaft streaks. The male from Yanka resembles the females in that the feathers of the sides of the face-ring and the chin are tipped with brown and the face is washed with the same colour, whereas these parts are white in the male from Mount Giluwe.

Ninox theomarcha theomarcha (Bonaparte)

Spiloglaux theomarcha Bonaparte, 1885, Compt. Rend. Acad. Sci. Paris, 41, p. 654. Triton Bay, south-western New Guinea.

1953.17.97; 1 juv. ♀; Hagen Range, 8,200 ft.; February, 1951.

MEASUREMENTS: 1 juv. ♀—wing, 188; tail, 98; tarsus, 29. COLOURS: bill, dark horn; legs, pale green-flesh; iris, bright yellow. STOMACH CONTENTS: remains of large insects.

The bird has started post-juvenile moult with new feathers coming through on the breast, but towards the vent the paler juvenile plumage persists.

***Podargus papuensis* Quoy and Gaimard**

Podargus papuensis Quoy and Gaimard, 1830, Voy. Astrolabe, Zool. 1, p. 207 (pl. 13). Dorey, Vogelkop, north-western New Guinea.

1953.17.98; 1 ♀; Mount Giluwe, 7,300 ft.; May, 1951.

MEASUREMENTS: 1 ad. ♀—wing, 285; tail, 271; tarsus, 20. COLOURS: bill, horn; legs, dark grey; iris, dark orange-red. STOMACH CONTENTS: beetles.

Taken in the woodlands at the north base of Mount Giluwe.

***Aegotheles albertisi salvadori* Hartert**

Aegotheles salvadori Hartert, 1892, Cat. Bds. Brit. Mus. 16, p. 649. Astrolabe Mountains, south-eastern New Guinea.

1953.17.99-103; 2 ♂, 1 ♀, 2 juv. ♀; Hagen Range, 8,500 ft.; February, 1951.

1953.17.104-105; 1 juv. ♂, 1 juv. ♀; Mount Giluwe, 7,500 ft.; April, May, 1951.

MEASUREMENTS: 3 ♂—wing, 118-121; tail, 97-98; bill, 8-9. 4 ♀—wing, 116-125; tail, 97-102; bill, 8-9. COLOURS: bill, upper mandible dark horn and lower mandible pale horn; legs, dark flesh; iris, dark brown. STOMACH CONTENTS: insects.

Nearest to *salvadori* but like the specimens described by Mayr and Gilliard (1954: 342) they differ from the typical form by the underparts being somewhat more coarsely marked. The younger birds are moulting, the older are mostly in worn plumage.

***Aegotheles insignis insignis* Salvadori**

Aegotheles insignis Salvadori, 1875, Ann. Mus. Civ. Genova, 7, p. 916. Hatam, Arfak Mountains, north-western New Guinea.

1953.17.106; 1 ♂; Mount Wilhelm, Bismark Range; 6,000 ft.; May, 1951.

1953.17.107-111; 2 ♂, 1 juv. ♂, 3 ♀; Hagen Range, 8,500-8,000 ft.; February, March, 1951.

1953.17.112-114; 1 juv. ♂, 2 ♀; Mount Giluwe, 8,000-7,500 ft.; March, June, 1951.

MEASUREMENTS: 4 ♂—wing, 157-170; tail, 132-142; tarsus, 21-22. 5 ♀—wing, 158-177; tail, 135-155; tarsus, 21-23. COLOURS: bill, upper mandible dark brown and lower mandible pale horn; legs, flesh; iris, dull yellow to brown. STOMACH CONTENTS: beetles and other insects.

This series exhibits the colour phases of this race reported by Hartert (1930 : 95) and Rand (1942*b* : 456). There are three light phase and six dark phase birds, three of the latter being considerably darker than any I have seen before.

Eurostopodus archboldi (Mayr and Rand)

Lycornis archboldi Mayr and Rand, 1935, Amer. Mus. Novit. No. 814. p. 4. Mount Tafa, Wharton Range, south-eastern New Guinea.

1953.17.119; 1 ♂; Tomba, Hagen Range, 8,000 ft.; February 1951.

1953.17.120-121; 2 ♀; Mount Giluwe, 7,500-7,300 ft.; May, June, 1951.

MEASUREMENTS: 1 ♂—wing, 120; tail, 156; bill, 9.5. 2 ♀—wing, 123, 125; tail, 145, 149; bill, 10. COLOURS: bill, black; legs, dark grey; iris, brown-black. STOMACH CONTENTS: insects.

The male is in worn plumage and there is little spotting on the breast because many of the feathers have lost their rufous tips. The May female is in fresh plumage and shows numerous breast spots. A further difference between these specimens seems to be due to fading for the colour of these spots is paler in the male than in the female. These differences are interesting because they are qualitatively the same but quantitatively greater than those between two specimens collected by Dr. Rand; namely, a male taken at Lake Habbema in Dutch New Guinea and a topotypical female taken in September. These match the male and the May female respectively of the present series, even in the plumage of the male being more worn than that of the female. Rand (1942*b* : 457) suggested that the differences between these specimens might indicate that the Dutch New Guinea birds form another race, but on this point he was not certain. The evidence provided by the birds from the Central Highlands suggests that these are seasonal differences. Dr. Rand also noted a slight difference in the colour and clarity of the black markings and vermiculations of the scapulars and inner secondaries of his birds. In all the birds of the present series these tend to be closer to the Lake Habbema bird in colour and to the Mount Tafa bird in clarity, so it may well be that this small sample is from a mixed population.

Collocalia esculenta esculenta (Linnaeus)

Hirundo esculenta Linnaeus, 1758, Syst. Nat. 10th ed., p. 191. "China" error for Ambon (ex Rumphius).

FIELD NOTES: These swiftlets often occurred in pairs; once, however, about 12 were seen hawking for insects above a native clearing on a steep hillside at about 6,000 ft.. A nest was found under a bank beside a stream, in it were two elongate eggs a pale blue-white in colour (10th September). The nest was made of fine roots and thickly covered with a yellowish coloured dry lichen that hung from the trees.

Collocalia hirundinacea hirundinacea Stresemann

Collocalia fuciphaga hirundinacea Stresemann, 1914, Verh. Ornith. Ges. Bayern, 12, p. 7. Setakwa River, Dutch New Guinea.

FIELD NOTE : A few birds were seen, two being found on the nest. The nests were built of fine rootlets, thin black stalks and a few pieces of moss with some earth towards the bottom. An elongate egg was found in one of the nests.

Alcyone azurea ochrogaster Reichenow

Alcyone ochrogaster Reichenow, 1903, Journ. f. Ornith. 51, p.149. Ramu River, northern New Guinea.

1953.17.115; 1 ♀; Minj, Wahgi River, 5,000 ft.; November, 1950.

MEASUREMENTS : 1 ♀—wing, 77; tail, 33; bill, 46. COLOURS : bill, black; tip pale horn; legs, orange-red; iris, *not recorded*. STOMACH CONTENTS : insects.

This bird matches *ochrogaster* except that the upper-parts are a duller blue like *lessonii*.

Clytoceyx rex rex Sharpe.

Clytoceyx rex Sharpe, 1880, Ann. Mag. Nat. Hist. (5) 6, p. 231. East Cape, New Guinea.

1953.17.116; 1 ♀; Mount Wilhelm, Bismarck Range, 6,000 ft.; May, 1950.

MEASUREMENTS : 1 ♀—wing, 173; tail, 137; bill, 37. COLOURS : bill, pale horn (base of upper mandible dark horn); legs, green-grey; iris, black-brown. STOMACH CONTENTS : remains of large beetles.

This bird is more richly coloured than others I have seen of the species. This is interesting because Paludan described *septentrionalis* on the paler undersurface of three specimens from the nearby Sepik area. In size it is intermediate between *rex* and *imperator* van Oort from the Noord River—*imperator*, ♀: wing, 180; tail, 148; (van Oort, 1909: 79)—*rex*, ♀: wing, 160–165; tail, 115–125.

Halcyon sancta sancta Vigors and Horsfield.

Halcyon sancta Vigors and Horsfield, 1827, Trans. Linn. Soc. London, 15; p. 206. New South Wales, Australia.

1953.17.117–118; 2 ♂; Mount Giluwe, 7,600–7,500 ft.; May, 1951.

MEASUREMENTS : 2 ♂—wing, 91, 92; tail, 59, 60; bill, 35, 37. COLOURS : bill, black (lower mandible pale towards base); legs, dark-grey; iris, dark-brown.

These non-breeding visitors were taken in the wooded hills north of Mount Giluwe. Both are in moult.

Hirundo tahitica frontalis Quoy and Gaimard

Hirundo frontalis Quoy and Gaimard, 1830, Voy. Astrolabe, Zool. 1, p. 204, pl. 12. Dorey, north-western New Guinea.

FIELD NOTE. About 15 to 20 of these birds were to be seen on most evenings on the earthy bank around the pond at Nondugl (8th September).

Edolisima montona montona (Meyer)

Campephaga montona A. B. Meyer, 1874, Sitzungsber. Akad. Wiss, Wein, 69, p. 386. Arfak Mountains, north-western New Guinea.

1953.17.122; 1 ♂; Hagen Range, 8,000 ft.; March, 1951.

MEASUREMENTS: 1 ♂—wing, 135.5; tail, 101; bill, 16. COLOURS: bill, black; legs, black; iris, black-brown. STOMACH CONTENTS: berries.

Rothschild and Hartert (1907: 464) examined birds of this species and found that the adult males from the mountains of western New Guinea had longer wings than those from the mountains of the south-east; they named these shorter-winged birds *minus*. This difference in wing length, however, does not appear to be so well marked now that more material is available; Junge (1953: 40), for example, reported that the wing lengths of some adult males in a series from one locality in western New Guinea were within the range of measurements of *minus*. Nevertheless, until more material is available from other localities the species cannot be reviewed satisfactorily but it seems probable that when this is done *minus* will be found to be no longer a valid race separable on wing length. The specimen from the Hagen Range is similar in measurement to some of the birds reported by Junge.

Wing Length of Adult Males

Western New Guinea.		South-eastern New Guinea.	
Rothschild and Hartert	. 136.5-141.5	Rothschild and Hartert	. 128-132
Junge	. 131 -141.5	British Museum (Natural History)	125-134

Coracina longicauda longicauda (De Vis)

Grauculus longicauda De Vis, 1890, Ann. Rep. Brit. New Guinea, 1888-89, p. 59. Musgrave Range, south-eastern New Guinea.

FIELD NOTE. A nest was found about 50-60 ft. above the ground in a fork of a horizontal branch on a somewhat isolated tree in the forest near Tomba. It was saucer-shaped and built of fine rootlets, the outside was decorated with lichens and moss. There was one juvenile on 11 October, which was fed by both parents. The food appeared to consist mainly of winged insects, but on two occasions (13th October) lizards were brought. After being fed with the first one, which had been pushed down its throat with some difficulty, the young bird made a gurgling noise which may have

been a begging call somewhat stifled by the full crop. On the second occasion when a lizard was brought to the nest only the tail protruded from the adult's mouth, the adult then regurgitated the lizard to give it to the young. When the nest was examined on the following day (14th October) an uneaten green lizard was found there. The nest was kept under observation for about three and a half hours and the feeding visits that the adults paid to the nest during that time were recorded as follows :

08.35 : Male and female.	10.30 : Male.
08.37 : Female.	10.42 : Male.
08.47 : Female.	11.25 : Male and female.
09.43 : Male and Female.	12.07 : Male.

Nest sanitation was attempted only once, but that may have been because the birds had been disturbed. When it was not being fed the young bird remained wonderfully still, it never changed its position during the whole of the morning while it was being watched from the hide. On another day the bird was moved around in its nest so that it faced the sun, it turned immediately and resumed its former position.

Anthus gutturalis rhododendri Mayr

Anthus gutturalis rhododendri Mayr, 1931, Mitt. Zool. Mus. Berlin, 17, p. 692. Mongi-Busu, Saruwaged Mountains (2,600 m.), north-eastern New Guinea.

1953.17.123-124; 1 ♂, 1 juv. ♂; Hagen Range, 11,000 ft.; February, 1951.

1953.17.125-131; 4 ♂, 3 ♀; Mount Giluwe, 12,000-11,500 ft.; April, 1951.

MEASUREMENTS: 5 ♂¹—wing, 98-101; tail, 74-79; bill, 12-14. 3 ♀—wing, 94-97; tail, 74-77; bill, 13-14. COLOURS: bill, black; legs, dark horn; iris, dark brown. STOMACH CONTENTS: grass seeds and insects.

¹ Measurements of 1953.17.124 not given owing to broken plumage.

Anthus australis exiguus Greenway

Anthus australis exiguus Greenway, 1935, Proc. New England Zool. Club, 14, p. 35. Wau, Morobe district, north-eastern New Guinea.

1953.17.132-138; 3 ♂, 3 ♀, 1 juv. ♀; Mount Giluwe, 7,300 ft.; May, June, 1951.

MEASUREMENTS: 3 ♂—wing, 84-86; tail, 62; tarsus, 26-27; pollux (not claw), 9-9.5; claw of pollux, 10-13; bill, 13.5-14. 3 ♀—wing, 80-82; tail, 55-59; tarsus, 26; pollux (not claw), 9; claw of pollux, 11-13; bill, 12-14. 1 juv ♀—wing, 76; tail, 53; tarsus, 25; pollux (not claw), 9; claw of pollux, 12; bill, 13. COLOURS: bill, dark horn (lower mandible paler towards base); legs, dark flesh to horn; iris, dark brown. STOMACH CONTENTS: insects.

"This pipit was plentiful on the plateau at just over 7,000 feet. It was especially numerous on any cleared area of grassland and in the native gardens. As many as 50 to 60 were observed in the early morning and late afternoon on a recently made football field near Tumbal." (F. S.-M.).

No colour difference can be seen between most of the males and females of this series and the type and allotype respectively of *exiguus* kindly sent on loan to me by Mr. Greenway, One adult male, however (1953. 17. 134) is slightly paler, but warmer in colour above owing to the light brown edging to the feathers being wider than in the type; the breast and flanks are correspondingly warmer and are washed a light brown. They are also slightly larger, particularly in the length of the wing and tail, but probably not enough to be recognized racially.

FIELD NOTE. During September they were seen in pairs on the lawn around the house at Nondugl and on the grasslands where they were very common. One bird was seen in partial display, it flew typically pipit-like into the sky and then volplaned down.

***Saxicola caprata wahgiensis* Mayr and Gilliard**

Saxicola caprata wahgiensis Mayr and Gilliard, 1951, Amer. Mus. Novit. No. 1524, p. 8. Mafulu, south-eastern New Guinea.

1953. 17. 139-142; 2 ♂, 2 ♀; Mount Giluwe, 7,300 ft.; May, June, 1951.

MEASUREMENTS: 2 ♂—wing, 77, 79; tail, 55, 56; bill, 11. 2 ♀—wing, 77, 78; tail, 56, 58; bill, 11. COLOURS: bill, black; legs, black; iris, brown-black. STOMACH CONTENTS: insects (grubs and adults).

“Two or three of these friendly stone-chats are usually to be seen around any building in the grasslands on the plateau. Their song is the first bird call to be heard in the early morning.” (F. S.-M.).

Compared with the female specimen of *wahgiensis* collected by Mr. Gilliard at Nondugl the two females from Mount Giluwe are slightly darker below and on the sides of the neck. In the darker colour of the underparts these birds tend towards the Oranje Mountain bird, *belensis*, of which the females are larger than the present pair, Mayr and Gilliard (1951: 8).

FIELD NOTE. Native name, “Kompichente”. A nest was found built on the ground on a pile of pit-pit roots and stems. It contained two juveniles with the feathers of the first plumage newly broken through the skin (26th September). Only the female was seen to visit the nest. A pair was seen in the garden perched on sticks in the flower beds, each dropped down to the ground from time to time to pick up insects. A fairly tame bird often seen in the Mount Hagen area.

***Turdus poliocephalus erebus* Mayr and Gilliard**

Turdus poliocephalus erebus Mayr and Gilliard, 1952, Amer. Mus. Novit. No. 1577, p. 7. New name for *Turdus poliocephalus carbonarius* Mayr and Gilliard, 1951, Amer. Mus. Novit. No. 1524, p. 7. Mount Orata, Kubor Mountains, Central Highlands, New Guinea. (Not *Turdus carbonarius* Lichtenstein, 1823.)

1953. 17. 143-146; 3 ♂, 1 ♀; Mount Giluwe, 11,000 ft.; April, 1951.

MEASUREMENTS: 3 ♂—wing, 124-132; tail, 90-94; bill, 20-21. 1 ♀—wing, 123; tail, 92; bill, 21. COLOURS: ♂—bill, orange-yellow with darker tips; legs, orange; iris, brown with yellow eye ring; inside of mouth, orange. ♀—bill, upper mandible

dark horn, lower mandible orange; legs, dull orange; iris, dark brown — yellow eye ring. STOMACH CONTENTS: berries and small beetles.

“On the top of Mount Giluwe the blackbird leaves the shelter of the small timber in the late afternoon and flies into the open alpine grassland where it searches among the rocks and tussock-grasses for its food.” (F. S.-M.). The gonads of all the specimens were enlarged.

Melampitta lugubris longicauda Mayr and Gilliard

Melampitta lugubris longicauda Mayr and Gilliard, 1952, Amer. Mus. Novit. No. 1577, p. 1. Mount Tafa, Wharton Range, south-eastern New Guinea.

1953. 17. 147-148; 1 juv. ♂, 1 ♀; Mount Giluwe, 9,000-8,500 ft.; April, 1951.

MEASUREMENTS: 1 juv. ♂—wing, 83; tail, 33; tarsus, 40; bill, 15. 1 ♀—wing, 84; tail, 54; tarsus, 39; bill 16. COLOURS: bill, black; legs, black; iris, dark brown. STOMACH CONTENTS: small insects.

The juvenile male is tawny black with the under-parts washed with honey-brown. Its primaries appear to be fully grown, but the central rectrices are absent.

Crateroscelis robusta robusta (De Vis).

Gerygone robusta De Vis, 1898, Ann. Rep. Brit. New Guinea, 1896-97, p. 84. Wharton Range, south-eastern New Guinea.

1953. 17. 149-150; 2 ♂; Mount Giluwe, 8,000-7,500 ft.; June, 1951.

MEASUREMENTS: 2 ♂—wing, 64, 65; tail, 39, 40; bill, 12. COLOURS: bill, upper mandible dark horn and lower mandible light horn; legs, flesh; iris, yellow to orange-red.

Although these birds have been named *robusta* they differ from toponymical specimens by being more greyish in colour. In addition, the wing coverts, the lower part of the back, lower abdomen and flanks have a faint olivaceous wash. Mayr and Gilliard (1954: 345) and Gyldenstolpe (1955: 84) reported that among the birds from the Bismarck, Hagen and Kubor Mountains which they named *robusta* there was some variation in colour although a few specimens matched toponymical material. This pair from Mount Giluwe were sent to the Berlin Museum; there Professor Stresemann kindly compared them with the type of *albigula* Reichenow from Schraderberg in the Sepik Mountains, which is now regarded as a synonym of *robusta*. He found that they agreed with this specimen so it might appear that *albigula* is a valid race, but in view of the variation in the series collected by Mr. Gilliard and Count Gyldenstolpe I consider that it is better not to separate *albigula* on these two specimens.

Eupetes leucostictus loriae Salvadori

Eupetes loriae Salvadori, 1896, Ann. Mus. Civ. Genova, (2) 16, (= 36), p. 102. Moroka, south-eastern New Guinea.

1953. 17. 151, 153, 153a; 1 ♂, 1 ♀, 1 juv. ♀; Mount Giluwe, 8,500 ft.; May, June, 1951.

1953.17.152; 1 ♀; Hagen Range, 8,500 ft.; February, 1951.

MEASUREMENTS: 1 ♂—wing, 76; tail, 82; bill, 18. 2 ♀—wing, 84.86; tail, 94, 98; bill, 18, 19. 1 juv. ♀—wing, 82; tail, 84; bill, 17. COLOURS: bill, black; legs, brown-grey to brown-black; iris, dark brown.

These birds are completing moult or are in fresh plumage except the February bird, where the plumage is worn. They were taken in the forests of the north slopes of Mount Giluwe. Nearest to *loriae* but differ by being a clearer blue below, due to the green wash being restricted to the flanks, the sides of the thorax and to a small patch on the upper breast near the throat. (The blue, however, is not so bright as that of a specimen of *amabilis* received on loan from the American Museum of Natural History.) The upper-parts appear to be a brighter green, slightly less olivaceous in colour; this difference, however, may be due to fading on the part of the older specimens. The bills are somewhat more slender than in both topotypical *loriae* and *amabilis*, particularly the latter.

FIELD NOTE. Native name, "Penkeklemo" or "Kengnan" (the latter is probably the name for *E. castanonotus*). A nest was found in a hole about 2 ft. above the ground in a half-dead stump of a tree-fern. An adult continued to visit the nest frequently and did not appear to be shy although the porters were nearby. It searched for insects on the ground by turning over moss and leaves with a quick movement of the bill; insects that were taken were too small to be identified. It is possible that both parents feed the young because a second visit to the nest followed too soon upon the first for the same individual to have found food so quickly. When it returned to the nest the bird remained near the ground and jumped into the nest-hole from immediately beneath it. Faeces were removed from the nest on several occasions. The nest was situated so that no sunlight fell directly on it and the nest hole faced to the east. On 5th October some of the vegetation was removed to allow more light to fall on the nest and two young birds covered with a heavy grey down were discovered there. They crouched down in the middle of the nest at first, then they stretched out their necks and started to hiss in a snake-like manner. The nest was then observed from a short distance away, after a while the juveniles started to preen; but when the sun began to fall directly on to the nest the young birds began to shift around and utter a harsh cry. Finally they jumped out of the nest and one of the parents lead them away along a small run through the undergrowth. The nest itself was circular in shape, with an external diameter of about 145 mm. and an internal one of about 75 mm.. It was heavily built on an untidy foundation of sticks, ferns and dead leaves, the inner cup was composed of fine rootlets lined with the skeletons of leaves, although one green leaf was removed from the nest. A second nest was found containing two young birds on 8th October; these were about the same stage of development as the young in the first nest. It was situated in a nest-hole about 3 ft. from the ground and similarly built to the first one only with less foundation. Both of the parents fed the young. The gape of the juvenile was white and the inside of the mouth a pale orange. The young were fed eleven times in one hour at the height of feeding, but only five times between 11.50 and 12.50 hours. On one occasion one of the parents sat on the nest and started to brood the young, when the other came to feed the juveniles it pushed the brooding parent off the nest; there appeared to be

no recognition behaviour. The adults were very tame and continued their search for insects to within an arm's length of the hide and ignored all noises that came from inside. A third nest was found in a hole towards the base of a tree-fern. In it were two eggs (16th October), Mayr and Gilliard (1954 : 345).

Ifrita kowaldi kowaldi (De Vis)

Todopsis kowaldi De Vis, 1890, Ann. Rep. Brit. New Guinea, 1888-89, p. 59. Owen Stanley Mountains, south-eastern New Guinea.

FIELD NOTE. Native name, "Kompe-chicko". A nest was found built about 12 ft. up in a slender sapling, it was thickly decorated with moss which gave it a massive appearance. In the nest there was one juvenile which seemed to suffer badly from the heat. Both parents fed the young bird; once the juvenile was given a cicada-like insect which was so large that the parent seemed to have difficulty in forcing it down the young bird's throat.

Malurus alboscapulatus subspecies ?

Malurus alboscapulatus A. B. Meyer, 1874, Sitzungsber. Akad. Wiss. Wien, 69, p. 469. Arfak Mountains, north-western New Guinea.

1953.17.154-157; 1 ♂, 2 juv. ♂, 1 ?; Mount Giluwe, 7,500-7,300 ft.; April, June, 1951.

MEASUREMENTS: 3 ♂—wing, 51-53; tail, 50-59; bill, 11.5-12.5. 1 ?—wing, 49; tail, 57; bill, 11. COLOURS: bill, black (unsexed specimen, lower mandible dark horn); legs, dark horn; iris, dark horn. STOMACH CONTENTS: insects.

Mayr and Gilliard (1954 : 346) and Gyldenstolpe (1955 : 88) reported that apart from wing size all the birds collected in the Wahgi region agreed with topotypical specimens of the race *mafulu* from the mountains of south-eastern New Guinea. It seems to me, however, that the adult male from Mount Giluwe is a closer match with a specimen of the longer winged race *balim* from the Snow Mountains which I had on loan from the American Museum of Natural History than with a specimen of *mafulu*. But, again, the immature birds seem to be a fairly close match with young *mafulu*. The birds from Mount Giluwe are also larger than birds of the race *tappenbecki* (♂, wing, 45-48) from the lower Ramu and Sepik rivers north of the Schrader-Bismarck Range, an area considerably nearer than either the Snow Mountains or Mafulu. Professor Stresemann who kindly compared the series with topotypical specimens of *tappenbecki* in the Berlin Museum was able to separate the immature birds on colour as well as wing length.

Megalurus timoriensis subspecies ?

Megalurus timoriensis Wallace, 1863, Proc. Zool. Soc. Lond. 1863, p. 489. Dilly, Timor.

SERIES A :

1953.17.158; 1 ♂; Mount Giluwe, 12,000 ft.; April, 1951.

1953.17.159-162; 1 juv. ♂, 3 ♀; Lamende Range, 11,000 ft.; May, 1951.

SERIES B :

1953.17.163-166 ; 4 ♂ ; Mount Giluwe, 7,300 ft.; April, 1951.

MEASUREMENTS : SERIES A : 2 ♂—wing, 73, 74 ; tail, 95.5, 96 ; bill, 12, 14. 3 ♀—wing, 68-71 ; tail, 93-97 ; bill, 12. SERIES B : 4 ♂—wing, 71-75 ; tail, 98-109 ; bill, 12-13. COLOURS : bill, upper mandible dark horn and the lower mandible pale horn ; legs, brownish dark flesh ; iris, SERIES A, light to dark brown—SERIES B, pale orange to light brown. STOMACH CONTENTS : insects.

Mayr and Gilliard (1951 : 9) described two races of this species of warbler from Mount Hagen. They named the birds of the summit (alpine) grasslands at 12,000 ft. *montanus* and those of the grass slopes at 7,800 ft. *wahgiensis*. The birds were separated mainly on the somewhat darker, more rufous, colouring of the light areas of the upper-parts of *montanus*. Through the kindness of the American Museum of Natural History I have examined two specimens of *montanus* and one of *wahgiensis* from the series on which the descriptions were based. The specimens in Series A and Series B listed above are distinguishable from each other and, as far as I can see, the high altitude series matches Mayr and Gilliards' lower altitude form *wahgiensis*, while the lower series on Mount Giluwe matches the high altitude *montanus*. The explanation of this curious reversal on two neighbouring peaks is not evident. It seems certain, at least, that the differences are not caused by seasonal changes in plumage for in both series there are birds in worn and fresh dress.

FIELD NOTE. Native name, "Kuchail" ("ll" as in Welsh).

Cisticola exilis diminuta Mathews.

Cisticola exilis diminuta Mathews, 1922, Birds Austr. 9, p. 373. Paterson Creek, Cape York, Queensland, Australia.

1953.17.167 ; 1 ♀ ; Mount Giluwe, 7,300 ft.; June, 1951.

MEASUREMENTS : 1 ♀—wing, 44 ; tail, 47 ; tarsus, 18 ; bill, 9.5. COLOURS : bill, horn colour, darker on ridge ; legs, flesh colour ; iris, dull brown. STOMACH CONTENTS : insects.

Generally regarded as being a species restricted to the grasslands below 4,000 ft. it is interesting that this specimen was taken at 7,300 ft.. The specimen is in winter plumage.

Sericornis perspicillatus Salvadori

Sericornis perspicillata Salvadori, 1896, Ann. Mus. Civ. Genova. (2) 16 (= 36), p. 99. Moroka, south-eastern New Guinea.

FIELD NOTE. A somewhat pear-shaped nest was found in the forest near Tomba. It was about 2 to 3 ft. above the ground, hanging by a few fibres from a twig. The entrance to the nest was about half-way up one side ; above it a small bulge formed a "porch". Two young birds were in the nest (15th October). Both parents fed the

young and during a period of one hour 16 visits were made with food ; nest sanitation occurring 3 times. During another period of watching for 30 minutes food was taken to the nest 7 times. Among the insects fed to the juveniles a moth, a small green caterpillar and a Tipulid were identified. The adults chattered noisily around the nest. They were active and seldom remained still, hopping around in the undergrowth and sideways up the stems of the bushes. They flirted their wings constantly, like birds of the genus *Phylloscopus*.

***Gerygone ruficollis insperata* De Vis**

Gerygone insperata De Vis, 1892, Ann. Rep. Brit. New Guinea, 1890-91, p. 94. Mount Suckling, south-eastern New Guinea.

FIELD NOTE. Native name, "W'un-monamp". A domed nest containing two fully-fledged juveniles was found on 3rd October in the forest near an area of swamp-land. One point of interest is that three different adults appeared to feed the young birds. Apart from this the behaviour of the adults was typical of most warblers ; they flitted with quick movements from branch to branch and never remained still for any length of time. Both the young and the adults were very noisy.

***Peltops montanus* Stresemann**

Peltops blainvillii montanus Stresemann, 1921, Anz. Ornith. Ges. Bayern, 1, p. 35. Hunstein-spitze, Sepik Mountains, northern New Guinea.

FIELD NOTE. One bird was seen in the forest at the top of a high tree, the identity of this blackbird with a white patch below and behind each eye and the crimson rump and vent was unmistakable.

***Rhipidura brachyrhyncha devisi* North**

Rhipidura devisi North, 1897, Proc. Linn. Soc. New South Wales, 22, p. 444. New name for *Rhipidura albicauda* De Vis, 1897, Ibis, p. 375. No type locality given (= ? Mt. Scratchley). (NOT *Rhipidura albicauda* North, 1895).

1953.17.168 ; 1 imm. ♂ ; Mount Giluwe, 7,500 ft. ; June, 1951.

MEASUREMENTS : 1 imm. ♂—wing, 71.5 ; tail, 92 ; tarsus, 24 ; bill, 8. COLOURS : bill, upper mandible dark horn, lower mandible light horn ; legs, pale flesh ; iris, brown-black. STOMACH CONTENTS : insects.

***Rhipidura albolimbata lorentzi* van Oort**

Rhipidura albo-limbata lorentzi van Oort, 1909, Nova Guinea, 9, (Zool.), p. 85. Hellwig Mountains, Oranje Range, New Guinea.

1953.17.169 ; 1 ♀ ; Mount Giluwe, 8,000 ft. ; June, 1951.

MEASUREMENTS : 1 ♀—wing, 82 ; tail, 85 ; bill, 10. COLOURS : bill, *not recorded* ; legs, black ; iris, brown-black. STOMACH CONTENTS : insects.

FIELD NOTE. Native name, "Ipenem". Two nests were found, one was built about 20 ft. above the ground in a tree, the other about 12 ft. up in a creeper. Each was a small neat cup with a "tail", the outsides were close-knit in appearance as if spiders' webs had been woven in. Both nests contained young (26th September) which the adults continued to feed while the party stood beneath the nests.

Rhipidura leucophrys melaleuca (Quoy and Gaimard)

Muscipeta melaleuca Quoy and Gaimard, 1830, Voy. Astrolabe, Zool. 1, p. 180. New Ireland.

1953.17.170; 1 ♂; Mount Giluwe, 7,300 ft.; June, 1951.

MEASUREMENTS: 1 ♂—wing, 104; tail, 103; tarsus, 25; bill, 13. COLOURS: bill, black; legs, black; iris, brown-black. STOMACH CONTENTS: insects.

Usually regarded as a bird of the coast, lowland lakes, swamps and rivers it is interesting that Mr. Shaw-Mayer found it to be "fairly plentiful" on the high plateau near Mount Giluwe. Mayr and Gilliard (1954: 348) reported that it was common at Nondugl at 5,000 ft., and that it was nesting at 7,000 ft.

FIELD NOTE. A common bird which spends most of the time on the ground. The tail is not spread out much compared with many other members of the genus. When the bird jumps up to a perch from the ground the long tail is swung pendulum-fashion in the manner of that of a shrike.

Machaerirhynchus nigripectus saturatus Rothschild and Hartert

Machaerirhynchus nigripectus saturatus Rothschild and Hartert, 1913, Novit. Zool. 20, p. 498. Mount Goliath, Snow Mountains, New Guinea.

1953.17.171; 1 ♂; Mount Giluwe, 8,000 ft.; May, 1951.

MEASUREMENTS: 1 ♂—wing, 64; tail, 62; bill, 11. COLOURS: bill, black; legs, black; iris, black-brown. STOMACH CONTENTS: small insects.

FIELD NOTE. Native name, "Koongnarémp". Fairly common in the forest.

Microeca papaua Meyer

Microeca papuana A. B. Meyer, 1875, (April), Sitzungsber. Abh. Nat. Ges. Isis, Dresden, 1875, p. 74. Arfak Mountains, north-western New Guinea.

1953.17.172; 1 ♂; Mount Giluwe, 7,500 ft.; May, 1951.

MEASUREMENTS: 1 ♂—wing, 78.5; tail, 48; bill, 10. COLOURS: bill, black; legs, yellow; iris, dark brown. STOMACH CONTENTS: insects.

This specimen is a little larger and darker in colour than the other birds of this species that I have seen and there is marked reduction in yellow on the outer webs of the primaries. Rand (1942b: 483) reported similar differences in the birds he

collected in the mountains of Dutch New Guinea and correlated the increase in size with altitude. He suggested that his birds appeared to be darker because the material with which they were being compared was foxed, and this may well account for the colour difference between the birds before me.

Petroica bivittata bivittata De Vis.

Petroeca bivittata De Vis, 1897, Ibis, p. 376. Mount Scratchley, south-eastern New Guinea.

1953.17.173, 176; 1 ♂, 1 ?; Mount Giluwe, 11,000–10,000 ft.; April, May, 1951.

1953.17.174–175; 2 ♂; Lamende Range, 11,000 ft.; May, 1951.

MEASUREMENTS: 3 ♂—wing, 73–77; tail, 46–48; bill, 9.0. 1 ?—wing, 73; tail, 45; bill, 9.0. COLOURS: bill, black; legs, black; iris, dark brown. STOMACH CONTENTS: small insects.

The April bird (sex ?) has started moulting, one bird taken in May is in fresh plumage the other two are completing moult. Collected on the alpine grasslands.

Peneothello sigillatus subspecies ?

Poecilodryas (?) *sigillatus* De Vis, 1890, Ann. Rep. Brit. New Guinea, 1888–89, p. 59. Mount Victoria, south-eastern New Guinea.

FIELD NOTE. An adult female was seen on 18th October on an empty nest which was half concealed in moss and creeper. The nest was built of moss, green ferns and rootlets, with a thick lining of moss and dead fern leaves. It measured approximately 50 mm. in diameter internally and 115 mm. externally, the cup being about 25 mm. deep.

Peneothello cyanus subcyaneus (De Vis)

Poecilodryas subcyanea De Vis, 1897, Ibis, Ser. 7, 3, p. 377. Mountains of south-eastern New Guinea.

1953.17.177; 1 ♂; Mount Giluwe, 7,500 ft.; May, 1951.

MEASUREMENTS: 1 ♂—wing, 99; tail, 68; bill, 15. COLOURS: bill, black; legs, black; iris, brown-black. STOMACH CONTENTS: small insects.

FIELD NOTE. Native name, "Goorgla". Nests were built in the forks of upright branches in the bushes, and appeared to be made mainly of fine rootlets covered with moss and lined with dried fern fronds. They were round and deep, being about 55 mm. in diameter and 45 mm. deep internally and 130 mm. in diameter and 80 mm. high externally. One nest, first examined on 18th September, contained one juvenile almost ready to fly; it was visited daily until 22nd September, when the young bird had flown. Another nest had one juvenile in it on 28th September, but this bird

had flown when the nest was examined on the following day. An egg was found in a nest 17th October. It was a pointed oval with a light olive ground colour; there were a few scattered dark brown spots and a fainter red-brown speckling that became more intense towards the broader end.

Heteromyias albispecularis centralis Rand.

Heteromyias albispecularis centralis Rand, 1940, Amer. Mus. Novit. No. 1074, p. 4. Near Bernhard Camp, Idenburg River, at 2,150 m., central New Guinea.

1953. 17. 178-180; 1 ♂, 1 juv. ♂, 1 ♀; Mount Giluwe, 8,000-7,800 ft.; April, June, 1951.

MEASUREMENTS: 2 ♂—wing, 99, 101; tail, 61, 62; bill, 17, 18. 1 ♀—wing, 98; tail, 58; bill, 17. COLOURS: bill, black with tip pale horn (juv. ♂, pale horn); legs, flesh; iris, dark brown. STOMACH CONTENTS: small beetles and other insects.

The two April birds are completing moult, although a few juvenile feathers still remain in the young male. The adult male (June) is in fresh plumage.

FIELD NOTE. Native name "Yamari." Several nests were found in dark parts of the moss forest where the light-meter read as low as 3.2 foot-candles for the most of one forenoon. They were built 7 to 10 ft. above the ground in the upper branches of young saplings, although one was found in a small bush where it was only 3 ft. from the ground. The nests appeared to be very similar in being heavily built on slender branches, which in some cases could not adequately support their weight. One nest that was examined was found to be about 90 mm. in diameter and 40 mm. deep; it was built of grass and twigs with a little moss and lined with thin fern rootlets. All the nests contained young birds. One juvenile examined on 20th September was blackish brown above with the shafts of the feathers lighter in colour. The breast was brown and the belly white with a brown wash. The gape and the inside of the mouth were yellow. The legs, which were long and strong, were flesh coloured. The irides were brown. Another nest, seen two days later on 22nd September, contained only one nestling which was quite naked; yet a week later, on 29th September, a nest was found with one juvenile which had well-grown wing quills. This young bird rose on its legs and with arched wings started to cheep when the parents returned to the nest. It was established that both parents fed the young whose main diet appeared to consist of earthworms. On two occasions a juvenile was seen to eject a bag of faeces on to the rim of the nest, one of the adults returned to the nest expressly to remove it—or so it appeared. The adults were never seen in the forest except at the nest. Sometimes they would return to the nest silently, at other times they would call quietly with a soft, musical piping sound. The young always answered this call, but not loudly. When the adult made this piping call the throat vibrated, but the bill remained closed. The alarm call was, "kak-kaktak-kak". Once when a nest was being examined an adult repeatedly exhibited a distraction display by "injury feigning" on the ground where it dragged one wing as if it were broken.

The adults had a habit of remaining hidden in the undergrowth and of standing quietly on the nests, a form of behaviour that is more characteristic of a babbler than a flycatcher. The bird's long strong legs and heavy bill are other characters that suggest that this bird may have some affinity with the Timalinae. As opposed to these Timaloid tendencies adults were seen to perch sideways on the moss-covered trunks of the trees in a position curiously like that of a nuthatch.

***Pachycephala schlegelii obscurior* Hartert**

Pachycephala schlegelii obscurior Hartert, 1896, Novit. Zool. 3, p. 15. Eafa District, Owen Stanley Mountains, south-eastern New Guinea.

1953. 17. 181; 1 ♂; Mount Giluwe, 7,500 ft.; May, 1951.

MEASUREMENTS: 1 ♂—wing, 88; tail, 65; bill, 11. COLOURS: bill, black; legs, brown-black; iris, brown-black. STOMACH CONTENTS: insects.

***Pachycephala modesta hypoleuca* Reichenow**

Pachycephala hypoleuca Reichenow, 1915, Journ. f. Ornith. 63, p. 125. Schraderberg, Sepik Mountains, northern New Guinea.

1953. 17. 182–183; 1 ♂, 1 ♀; Lamende Range, 11,000 ft.; May, 1951.

MEASUREMENTS: 1 ♂—wing, 90; tail, 64; bill, 11. 1 ♀—wing, 89; tail, 65; bill, 12. COLOURS: bill, black; legs, dark grey to black; iris, dark brown. STOMACH CONTENTS: small grubs and insects.

These specimens were collected among the small trees on the alpine grasslands.

***Pachycephala rufinucha niveifrons* Hartert**

Pachycephala rufinucha niveifrons Hartert, 1930, Novit. Zool. 36, p. 57. Wondiwoi, Wandamen Mountains, north-western New Guinea.

1953. 17. 184; 1 juv. ♂; Hagen Range, 8,000 ft.; March, 1951.

1953. 17. 185–186; 2 ♂; Mount Giluwe, 8,000–7,800 ft.; April, 1951.

MEASUREMENTS: 3 ♂—wing, 89–91; tail, 68–70; bill, 16.5, (juv., 14). COLOURS: bill, black (juv., horn); legs, olivaceous grey-black (juv., horn); iris, yellow (juv., dark grey). STOMACH CONTENTS: insects.

Apart from having slightly longer wings these birds match material taken at lower altitudes on the Utkwa River (wing, 84–86). Rand (1942b: 489) showed that in this species wing length could be correlated with altitude, the birds from the higher altitudes being slightly larger.

FIELD NOTE. A nest was built in a fork of a branch about 7 ft. up in a bush. The outer part of the nest was made of ferns, coarse rootlets and green moss, the inner part of the thin fibres, fine rootlets and the skeletons of leaves. There were two well

incubated eggs in the nest on 17th October. These were a chalky white colour with black spots and a fainter underlay of grey spots. Another nest found two days later, on 19th October, contained two juveniles; the insides of their mouths were a pale orange apart from two prominent blue spots at the posterior of the palate. It is probable that the young were fed by both parents, but the nest was visited only infrequently. During a three and a half hour watch on the nest an adult visited it only four times during the first half hour, three times during the second, once during the third but four times during the last half-an-hour.

Myiolestes megarhynchus tappenbecki (Reichenow)

Colluricincla tappenbecki Reichenow, 1899, Journ. f. Ornith. 47, p. 118. Friedrich Wilhelms Hafen (= Madang), Astrolabe Bay, north-eastern New Guinea.

1953.17.187-190; 2 ♂, 2 ♀; Minj, Wahgi River, 5,000 ft.; November, 1950.

1953.17.191; 1 ♀; Mount Giluwe, 7,500 ft.; May, 1951.

MEASUREMENTS: 2 ♂—wing, 94, 96; tail, 76, 79; bill, 20, 21. 3 ♀—wing, 91—92; tail, 72—76; bill, 18—19. COLOURS: bill, 2 ♂, brown horn—3 ♀, horn; legs, blue-grey to dark grey; iris, brown. STOMACH CONTENTS: insects; 1 ♂, small (?)water snail.

All the four birds taken at Minj in November, 1950, were taken on the nest, the nests being built about one foot above the ground in long grass. It is interesting to note that these four birds are in different plumages. The two males are in full moult; and of the two November females one is in worn dress while the other is in fresh plumage. The plumage of the female taken in May shows some signs of wear.

Eulacestoma nigropectus subspecies ?

Eulacestoma nigropectus De Vis, 1894, Ann. Rep. Brit. New Guinea, 1893-94, p. 102. Mount Maneao, south-eastern New Guinea.

1953.17.192; ♀?; Mount Giluwe, 8,000 ft.; May, 1951.

MEASUREMENTS: 1 ♀?—wing, 71; tail, 52; bill, 11.5. COLOURS: bill, horn; legs, purple-flesh; iris, grey-brown. STOMACH CONTENTS: insects.

This is a juvenile, and in the absence of comparable material I cannot name it racially. It is probably *clara* Stresemann and Paludan as Mayr and Gilliard (1954: 354) reported that their birds from this area were that race.

Lanius schach stresemanni Mertens

Lanius schach stresemanni Mertens, 1923, Senckenbergiana, 5, p. 228. Kulungtufu, Saruwaged Mountains, north-eastern New Guinea.

1953.17.193, 195-196; 1 ♂, 2 ♀; Mount Giluwe, 7,300 ft.; May, June, 1951.

1953.17.194; 1 juv. ♂; Wahgi River, 5,200 ft.; November, 1950.

MEASUREMENTS: 1 ♂—wing, 101; tail, 140; bill, 16. 1 juv. ♂—wing, 95; tail, 105; bill, 13. 2 ♀—wing, 97, 98; tail, 121, 123; bill, 15. COLOURS: bill, black (juv. ♂, lower mandible, horn); legs, black; iris, brown-black. STOMACH CONTENTS: small grubs, beetles and other insects.

“Not many of this solitary species on the grasslands of the plateau. A bird here and there, as usual clinging to the stem of cane-grass.” (F. S.-M.). The adult male is in fresh plumage and the testes are slightly enlarged. The plumage of the young male is worn. The two females are completing moult with the outer primaries growing.

FIELD NOTE. Native name, “Komkompir”. Two deep-cupped nests, built about 6 ft. above the ground, were found in tall reeds. One, examined on 5th September, contained two eggs; but in the other, found on 23rd September in pit-pit country, were two well-grown juveniles.

Artamus maximus Meyer

Artamus maximus A. B. Meyer, 1874, Sitzungsber. Akad. Wiss. Wien, 69, p. 203. Hatam, Arfak Mountains, north-western New Guinea.

1953. 17. 197; 1 ♂; Minj, Wahgi River, 5,000 ft.; November, 1950.

MEASUREMENTS: 1 ♂—wing, 164; tail, 73; bill, 23. COLOURS: bill, blue-grey; legs, grey; iris, dark brown. STOMACH CONTENTS: small beetles.

Gyldenstolpe (1955: 121) separated *A. m. wahgiensis* mainly on the darker colour of the upper-parts of the birds from the Wahgi region in comparison with a series from the Arfak Mountains. The present specimen, however, hardly differs from the Arfak Mountain bird. The only variations in colour in the specimens I have examined appear to be correlated with age and season. In a series from south-eastern New Guinea there are some individuals lighter in colour than both the Wahgi River and Arfak birds, and others that are darker in colour. It seems that the lighter coloured birds are juveniles or adults in worn, faded plumage; while the darker birds are adults in fresh plumage. Unfortunately this series is incomplete in specimens taken in all months of the year, so the degree of seasonal variation cannot be established with certainty. As the individual variation is greater than that between the birds from the Central Highlands and the Arfak Mountains, I am not naming the present bird racially.

FIELD NOTE. Native name, “Kompurkaikir”. A nest was built about 50 ft. above the ground in the fork at the base of an upright branch of a dead tree in the forest. Three juveniles, almost ready to fly, were found in it (26th September). It is interesting that four or five different adults were observed to feed the young, and on one occasion three adults were seen on the nest at the same time! Communal nesting of this nature is rare and provides a subject for further investigation. Like many other communities this one was very noisy, with both the adults and the juveniles contributing to the chatter. The juvenile plumage was similar to that of the adult, but the dark areas of the body were flecked with a light brown; the bill of the young bird was horn coloured.

Aplonis metallica metallica (Temminck)

Lamprotornis metallicus Temminck, 1824, Planch. Col. d'Ois, pl. 266. "Celebes," by error for Amboina, Moluccas.

1953.17.198; 1 ♀; Mount Giluwe, 7,000 ft.; May, 1951.

MEASUREMENTS: 1 ♀—wing, 104; tail, 91; bill, 16. COLOURS: bill, black; legs, black; iris, bright orange-red.

"Few *Aplonis* were seen at 7,000 feet when this specimen was taken in the woodlands but the bird was plentiful at 5,300 feet." (F. S.-M.).

Pomareopsis briujni (Salvadori)

Grallina briujni Salvadori, 1875, Ann. Mus. Civ. Genova, 7, p. 929. Arfak Mountains, north-western New Guinea.

FIELD NOTE. Native name, "Notechll" ("ll" as in Welsh). This is a bird of the mountain stream, and one was seen by a rushing torrent at about 6,500 ft. When it alighted on a rock it fanned out its tail in the same manner as the Plumbeous Redstart, *Pheonicurus fuliginosus*, of the fast-flowing streams of the Himalayas.

Epimachus meyeri bloodi Mayr and Gilliard

Epimachus meyeri bloodi Mayr and Gilliard, 1951, Amer. Mus. Novit. No. 1524, p. 10. Mount Hagen, Central Highlands, 8,300 ft., New Guinea.

1953.17.199-200; 1 ♂, 1 juv. ♂; Hagen Range, 9,000 ft.; February, 1951.

1953.17.201; 1 ♀; Mount Wilhelm, Bismarck Range, 8,000 ft.; May, 1951.

MEASUREMENTS: 1 ♂—wing, 174; tail, 604; bill, 78. 1 juv. ♂—wing, 149; tail, 320; bill, 60. 1 ♀—wing, 149; tail, 312; bill, 76. COLOURS: bill, black; legs, dark grey (ad. ♂ black); iris, blue-grey. STOMACH CONTENTS: fruits.

The juvenile male resembles a series of adult females from the Hagen Range except in the length of the bill. The adult female from the Bismarck Range differs from this series in the upper-parts being lighter, less olivaceous, more like the ochraceous colour of the females of *meyeri*. Not until more material is available from the Bismarck Range will it be possible to assess the importance of this difference, but it may be that the Wahgi Gap country plays just as an important part in the distribution of the races of *E. meyeri* as it does in the distribution of the races of *Astrapia stephaniae*, (see below). The plumage of the present birds is fairly fresh, showing little signs of wear. Specimens taken in October in previous collections from Mount Hagen are in worn plumage and those taken in November are in full moult. It appears from the stomach contents of the birds that *E. meyeri* is not entirely frugivorous, for the stomachs of adult birds have been found to contain berries, grasshoppers and other insects in addition to various fruits.

Astrapia stephaniae femina Neumann

Astrapia stephaniae femina Neumann, 1922, Verh. Ornith. Ges. Bayern, 15, p. 236. Schraderberg, Sepik Mountains, 60 miles north of the Hagen Mountains, northern New Guinea.

1953.17.202 ; 1 ♀ ; Mount Wilhelm, 8,000 ft.; May, 1950.

MEASUREMENTS : 1 ♀—wing, 145 ; tail, 320 ; bill, 24. COLOURS : bill, black ; legs, blue-grey (feet, black) ; iris, black-brown. STOMACH CONTENTS : fruits.

Mayr and Gilliard (1952a) showed that the grasslands between the Hagen Range and the mountains of the Wahgi Divide (a westerly spur of the Bismarck Range) acted as a barrier in the distribution of *A. mayeri*, a species closely related to *A. stephaniae*. The same authors (1954 : 321) also described the deforestation in the Wahgi Valley, which they suggested formed another important barrier to forest birds. It appears, then, that the mountain forest birds of the Kubor Range along the south and the Hagen Range at the head of the Wahgi Valley are isolated by open country from the mountain forest birds of the Wahgi Divide and the Bismarck Range north of the valley. This barrier apparently influences the distribution of the races of *A. stephaniae*, for specimens collected in the Bismarck Range by Mr. F. Shaw-Mayer in 1946 have been matched with cotypical material of *femina*, and Gyldenstolpe (1955 : 127) identified his birds from north of the Wahgi Valley as this race. On the other hand, two specimens from Mount Giluwe (see below) appear to be *ducalis*, which is the race found to the south of the valley in the Kubor Range (Mayr and Gilliard, 1954 : 356). The adult females from the Bismarck Range are slightly more olivaceous above than the adult females of *ducalis* and the under-parts are rust coloured barred with black instead of a buffy colour barred with black. In the colour of the under-parts they agree with the differential characters given by Mayr and Gilliard (1954 : 356). (They do not, however, exhibit the subobsolete white streaks at the bases of the central tail feathers described by these authors.) The present specimen differs somewhat from other material in having a narrow chestnut collar barred with black across the shoulders, the colour of the collar becoming lighter laterally as it merges into the rust barred-black of the breast.

Astrapia stephaniae ducalis Mayr

Astrapia stephaniae ducalis Mayr, 1931, Mitt. Zool. Mus. Berlin, 17, p. 711. Dawong, Herzog Mountains, eastern New Guinea.

1953.17.203-204 ; 1 ♂, 1 ♀ ; Mount Giluwe, 8,500 ft.; March, April, 1951.

MEASUREMENTS : 1 ♂—wing, 165 ; tail, 660 ; bill, 20. 1 ♀—wing, 137 ; tail, 320 ; bill, 21. COLOURS : bill, black ; legs, dark grey ; iris, brown-black. STOMACH CONTENTS : fruits and berries.

FIELD NOTE. Five birds, females or immature males, were seen in the forest. In flight, with their long tails streaming behind, they were reminiscent of the Racquet-tailed Drongo, *Dissemurus paradiseus* ; the diving flight being particularly like that

of the Dicruridae. The birds appeared to be hunting for insects in the moss covering the branches of the trees ; one bird was seen to swallow what was probably a spider.

Astrapia mayeri Stonor

Astrapia mayeri Stonor, 1939, Bull. Brit. Ornith. Club, 59, p. 57. " Eighty to a hundred miles west of Mount Hagen," central New Guinea.

1953.17.205 ; 1 ♂ ; Mount Giluwe, 9,000 ft.; March, 1951.

1953.17.206-207 ; 1 juv. ♂, 1 ♀ ; Hagen Range, 9,000-8,500 ft.; December, 1950.

MEASUREMENTS : 1 ♂—wing, 177 ; tail, 852 ; bill, 13. 1 juv. ♂—wing, 170 ; tail, 350 ; bill, 12. 1 ♀—wing, 148 ; tail, 310 ; bill, 15. COLOURS : bill, black ; legs, blue-grey (feet, black) ; iris, brown-black. STOMACH CONTENTS : fruits and green berries.

FIELD NOTE. The branches of the forest trees on which the bird perches are thickly covered with moss. It is probably this layer of moss that prevents the long tail feathers from becoming damaged.

Astrapia stephaniae × *Astrapia mayeri*

1953.17.208 ; 1 ♂ ; Hagen Range, 8,000 ft.; March, 1951.

MEASUREMENTS : 1 ♂—wing, 167 ; tail, 821 ; bill, 18. COLOURS : bill, black ; legs, dark grey (feet black) ; iris, brown-black.

Close to *mayeri* in having the tail white for most of its length ; but the rachis of the distal two-thirds of the central rectrices are brown in colour, and the webs of these feathers are fringed irregularly with brown. The nasal tuft is reduced in size to that of an immature male of *mayeri*, that is intermediate between the condition in *mayeri* where the tuft is present and in *stephaniae* where it is absent. The primaries are darker than in *mayeri*, being a solid black with a purple lustre like those of *stephaniae*. Too much importance should not be attached to the proportion of hybrid specimens in collections, for in the field they occur in a limited area which happens to be one of the most accessible. Mr. Shaw-Mayer wrote (in correspondence 5th November, 1952) of the difficulties he had experienced in obtaining a series of hybrids, and that, " Over the greater part of their extensive range the species remain distinct. The overlapping areas where hybridism takes place are small. . . . "

Paradisaea apoda salvadorii Mayr and Rand

Paradisaea apoda salvadorii Mayr and Rand, 1935, Amer. Mus. Novit. No. 814, p. 11. Vanumai, Central Division Papua, south-eastern New Guinea.

1953.17.209. 1 ♀ Wahgi River, 5,500 ft.; November, 1950.

MEASUREMENTS : 1 ♀—wing, 161 ; tail, 118 ; bill, 32. COLOURS : bill, blue-grey ; legs, brown-horn ; iris, bright yellow. STOMACH CONTENTS : fruits.

"Count Raggi's Bird-of-Paradise was fairly plentiful on the Wahgi River plateau ; finding sanctuary in the casuarina groves, small stands of secondary forest and in the few remnants left of the original oak forests. By mid-November (1950) they were breeding and several nests were observed ; in nearly every case the nests were high up, 50 to 60 feet, in casuarina trees. Each nest contained only one egg." (F. S.-M.).

Pteridophora alberti hallstromi Mayr and Gilliard

Pteridophora alberti hallstromi Mayr and Gilliard, 1951, Amer. Mus. Novit. No. 1524, p. 12. Near Tomba, Hagen Range, Central Highlands, New Guinea.

1953.17.210 ; 1 juv. ♂ ; Mount Wilhelm, 7,500 ft. ; May, 1950.

1953.17.211 ; 1 ♀ ; Hagen Range, 9,000 ft. ; February, 1951.

MEASUREMENTS : 1 juv. ♂—wing, 112 ; tail, 80 ; bill, 15. 1 ♀—wing, 122 ; tail, 81 ; bill, 15. COLOURS : bill, black ; legs, brown-black (juv. ♂, grey-brown) iris, dark brown ; inside of mouth of ♀, green. STOMACH CONTENTS : green berries.

FIELD NOTE. Native name, "Kongbuk" (adult male) ; "Doongbi" (adult female and juveniles). An adult male was seen in the forest at about 7,000 ft. The bird was preening and called occasionally, the sound was like the squeaking of rusty iron. The long head plumes were manoeuvred to avoid the branches of the tree. A solitary bird.

Loria loriae amethystina Stresemann

Loria loriae amethystina Stresemann, 1934, Ornith. Monatsber. 42, p. 144. Schraderburg, Sepik Mountains, northern New Guinea.

1953.17.212 ; 1 ♂ ; Mount Wilhelm, 6,500 ft. ; May, 1950.

1953.17.213 ; 1 ♂ ; Hagen Range, 9,000 ft. ; February, 1951.

MEASUREMENTS : 2 ♂—wing, 103, 106 ; tail, 71, 72 ; bill, 15.5, 16. COLOURS : bill, black ; mouth-wattles, creamy white ; legs, dark olive ; iris, dark brown. STOMACH CONTENTS : berries.

FIELD NOTE. A domed nest with an exceptionally wide round opening was built about 12 ft. up in a decayed tree-stump in the forest. It was deep-set in living moss and built of green ferns and moss with a lining of fern stalks. There was one juvenile in the nest (25th September). Its head and breast were a smoke-grey and the wings a darker grey ; the gape and the inside of the mouth were white in colour. While the nest was being watched during the early part of one morning the female returned about every 10 to 15 minutes to feed the young and called with a soft "wark, wark" each time she approached. The food was regurgitated and appeared to consist of large berries and plum-coloured fruits. A short while after being fed the young bird expelled the fruit stones from its crop, they were ejected with a force sufficient to shoot them out through the mouth of the nest. Faecal capsules were also ejected occasionally from the nest, but generally the female assisted with nest sanitation. When the nest was examined a few days later it was deserted and contained faeces and fruit stones.

Cnemophilus macgregorii kuboriensis Mayr and Gilliard

Cnemophilus macgregorii kuboriensis Mayr and Gilliard, 1954, Bull. Amer. Mus. Nat. Hist. **103**, p. 361. Mount Orata, Kubor Mountains, Central Highlands, New Guinea, + 9,000 ft.

1953.17.214; 1 ♂; Minj River, Kubor Range; 8,000–9,000 ft.; October, 1950.
MEASUREMENTS: 1 ♂—wing, 109; tail, 88; bill, 13; crest, 37. COLOURS: bill, black; legs, dark olive; iris, dark brown. STOMACH CONTENTS: fruits.

Mayr and Gilliard separated this race on the paler colour of the upper-parts in comparison with *sanguineus* from Mount Hagen. In colour it is closer to the scarlet-vermilion of *sanguineus* than the pale orange of *macgregorii* from south-eastern New Guinea; the colour of *kuboriensis* being orange-vermilion. This specimen was taken near the headwaters of the Minj River and it matches a series from the Bismarck Range, which suggests that there may be an east to west cline from the pale colour of *macgregorii* in the south-east to the deep, rich colour of *sanguineus* from the Hagen Range. The series consists of birds in new and worn plumage but there is little seasonal colour difference.

Cnemophilus macgregorii sanguineus Iredale

Cnemophilus macgregorii sanguineus Iredale, 1948, Australian Zool. **11**, p. 162. Kumdi, Mount Hagen district, Central Highlands, New Guinea.

1953.17.215; 1 juv. ♂; Hagen Range, 9,000 ft.; February, 1951.

1953.17.216; 1 imm. ♂; Mount Giluwe, 9,000 ft.; May, 1951.

MEASUREMENTS: 1 imm. ♂—wing, 109; tail, 85; bill, 20; crest, 36. 1 juv. ♂—wing, 113; tail, 87; bill, 20; crest, 21. COLOURS: bill, black (juv. ♂, tip dark horn); legs, brown-black to glossy black; iris, dark brown (juv. ♂, dull grey). STOMACH CONTENTS: fruits.

The young bird is a juvenile and indistinguishable from an adult female. The immature bird could well be described as "sub-adult", for in colour it is intermediate between the young bird and an adult male, but the collector has indicated on the field label that the testes were as large as those of a breeding adult male. From this it seems that the bird comes into breeding condition before it is fully adult. If this is so it would be interesting to determine its behaviour towards an adult female and her response. The primaries and rectrices of this specimen are as richly coloured as topotypical *sanguineus*; that is, darker than *kuboriensis* where these feathers are nearer the colour of *macgregorii*. It is on this character that I have been able to determine the racial identity of the bird.

Archboldia papuensis sanfordi Mayr and Gilliard

Archboldia papuensis sanfordi Mayr and Gilliard, 1950, Amer. Mus. Novit., No. **1473**, p. 1. Four miles west of Tomba, south-western slope of Mount Hagen, Central Highlands, New Guinea.

1953.17.217, 218, 220, 222; 3 ♂, 1 imm. ♂; Mount Giluwe, 9,000–8,500 ft.; March, April, May, 1951.

1953. 17. 219, 221, 223, ; 1 ♂, 1 juv. ♂, 1 imm. ♀ ; Hagen Range, 9,000–8,800 feet ; April, 1951.

MEASUREMENTS: 4 ♂—wing, 165–171 ; tail, 167–171 ; bill, 17–20. 1 juv. ♂—wing, 142 ; tail, 131 ; bill, 19. 1 imm. ♂—wing, 163 ; tail, 141 ; bill, 22. 1 imm. ♀—wing, 154 ; tail, 132 ; bill, 19. COLOURS: bill, black ; legs, grey-blue (imm. ♀, bright light blue) ; iris, dark brown. STOMACH CONTENTS: fruits.

These are the first specimens of this genus to be received by the British Museum (Natural History). In comparison with the description of this race the feathers of the crest in the male exhibit some variation. Although they are predominantly black-based with orange-gold tips some have an area of white between the black and the orange-gold and a few are tipped with black. All the specimens are in moult.

FIELD NOTE.—Near Tomba an area of the forest floor had been cleared to form a bower measuring approximately 5 ft. by 4 ft. The branches of the surrounding trees and a fallen tree trunk were densely decorated with the bamboo-like trailing vines of epiphytes which grow on high trees. Several branches were quite bare and smooth, probably from wear when the birds alighted and postured. The floor of the bower was strewn with the dead fronds of ferns. A number of shells of land snails were also found on the ground.

Amblyornis macgregoriae De Vis

(Text-fig 2)

Amblyornis macgregoriae De Vis, 1890 (22nd February), Ann. Rep. Brit. New Guinea, 1888–89, p. 61. Musgrave Range, south-eastern New Guinea.

1953. 17. 224 ; 1 ♂ ; Kubor Range, 7,000 ft. ; November, 1950.

1953. 17. 225–226 ; 1 ♂, 1 juv. ♂ ; Hagen Range, 9,000 ft. ; February, 1951.

1953. 17. 227 1 ♂ ; Lamende Range, 9,000 ft. ; June, 1951.

MEASUREMENTS: 4 ♂—wing, 134–137 ; tail, 83–86 ; bill, 17–19 ; crest, 60–65. COLOURS: bill, dark horn lighter towards base ; legs, dark olive-brown ; iris, dark brown. STOMACH CONTENTS: fruits.

Mayr and Gilliard (1954 : 363) discussed the small variations in colour and measurement found in this species. They considered that these were of a clinal nature and concluded that because of this it would be inadvisable to distinguish their birds from the Central Highlands as a separate race, although they differed somewhat from other populations. The material I have examined supports this conclusion, the underparts of the birds from the Central Highlands being, on the whole, rather more ashy in tone when compared with other populations. This difference however, is not constant and there is some individual variation for two adult males from Tomba match birds from the south-east. Although I have few adult males for comparison their measurements do not differ significantly from those of the birds from the Central Highlands.

MEASUREMENTS OF ADULT MALES OF *Amblyornis macgregoriae*

	Wing.	Tail.	Crest.
<i>macgregoriae</i> Owen Stanley Range (2)	132, 140	80	57, 61
<i>aedificans</i> Upper Waria River (2)	132, 138	80, 81	60, 61

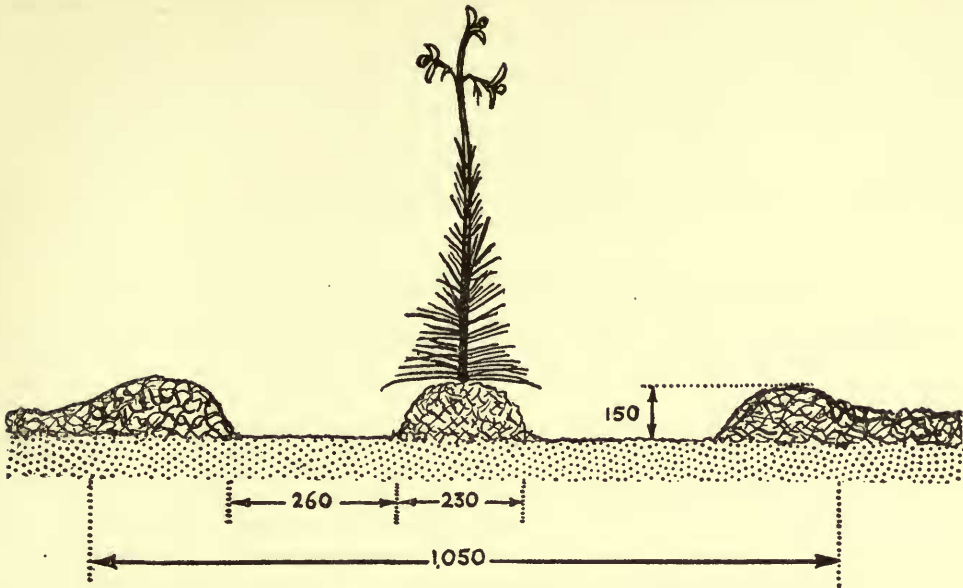


FIG. 2.—Sketch of a cross-section of the bower of *Amblyornis macgregoriae*. Measurements in millimetres. (After Loke Wan Tho.)

FIELD NOTE. Bowers were found on several occasions; they were roughly circular in plan, but the dancing ground invariably formed a perfect circle. Each bower was built around a central sapling of *Garcenia* which the natives call "Kichan". One bower found deep in the moss forest was built of a dark moss and the playground was devoid of leaves.

Chlamydera lauterbachii lauterbachii Reichenow

Chlamydera lauterbachii Reichenow, 1897, Ornith. Monatsber. 5, p. 24. Jagei River, upper Ramu River, Central Highlands, New Guinea.

1953.17.228-230; 1 ♂, 2 ♀; Minj, Wahgi River, 5,000 ft.; November, 1951.

MEASUREMENTS: 1 ♂—wing, 133; tail, 104; bill, 22. 2 ♀—wing, 126, 129; tail, 102, 103.5; bill, 22. COLOURS: bill, black; legs, olive-green; iris, brown. STOMACH CONTENTS: fruits and berries.

"This bower-bird is found in lightly wooded country. It was plentiful on the plateau drained by the Wahgi River, where it frequented small patches of secondary forest and the shrub around the edges of fields. It was often seen flying low from one small group of trees to another. The birds were breeding in November and several nests were observed. The normal clutch size appeared to be one egg. The bower is roughly circular in shape and about two feet in diameter. Inside there are two main runways approximately parallel to each other with their openings converging on opposite sides of the bower. The walls are about one foot high and built of interlaced

sticks. The runways, or ramps, incline upwards from the openings towards the middle of the bower where, at their highest, they are joined by a smaller transverse runway ; thus in plan they form an H. The transverse runway is about ten inches long with walls about eight inches high built of very small sticks and twigs. A small heap of blue-coloured stones was found in this transverse runway and more stones and a few dark blue fruits in the main ones." (F. S.-M.). The design and construction of the bower agrees with the description given by Marshall (1954).

Daphoenositta miranda kuboriensis Mayr and Gilliard

Daphoenositta miranda kuboriensis Mayr and Gilliard, 1952, Amer. Mus. Novit. No. 1577, p. 5. Mount O-Mar, Kubor Mountains, Central Highlands, New Guinea.

1953. I7.231-233 ; 1 ♂, 1 (?) imm. ♂, 1 ? ; Lamende Range, 10,000 ft.; May, 1951. MEASUREMENTS : 1 ♂—wing, 87 ; tail, 43 ; bill, 10.5. 1 (?) imm. ♂—wing, 81 ; tail, 42 ; bill, 9.0. 1 ?—wing, 82 ; tail, 40 ; bill, 10.0. COLOURS : bill, black ; legs, black (? , yellow) ; iris, cream ((?) imm. ♂, yellow). STOMACH CONTENTS : small insects.

From the description of this race it seems that the doubtfully sexed specimen may be a female as the feet and legs are yellow in colour, whereas they are dark green in an adult male. Its plumage is similar to that of other adults, so it is unlikely to be a young bird. The plumage is fairly fresh in all the birds and there is no sign of moult. The specimens were taken in the wet moss forest high on the Lamende Range.

Neositta papuensis alba Rand

Neositta papuensis alba Rand, 1940, Amer. Mus. Novit. No. 1072, p. 10. 15 km. south-west of Bernhard Camp, Idenburg, River, northern New Guinea.

Neositta papuensis wahgiensis Gyldenstolpe, 1955, Ark. f. Zool. 8, p. 153. Nondugl, Wahgi Valley, Central Highlands, New Guinea.

1953. I7.234-236 1 ♂, 2 juv. ♂ ; Mount Giluwe, 8,000 ft.; June 1951.

MEASUREMENTS : 1 ♂—wing, 84 ; tail, 38 ; bill (from nostril), 10.0. 2 juv. ♂—wing, 76.5, 78.5 ; tail, 34, 40 ; bill (from nostril), 9, 11. COLOURS : bill, pale yellow with black tip ; legs, yellow ; iris, yellow. STOMACH CONTENTS : insects.

The adult male matches a toptotypical male taken by Dr. Rand. It is characteristic of *alba* in having the head and neck pure white all round and the feathers of the breast and abdomen paler edged than in *papuensis*. The female of *alba* is unknown but Gyldenstolpe (1955 : 153) described a single female from Nondugl which he distinguished as *wahgiensis*. It seems probable that this female may represent the hitherto unknown female of *alba* because of the identity of the males from Mount Giluwe ; but this point cannot be settled until toptotypical females of *alba* have been collected. Meanwhile, I propose that *wahgiensis* should be regarded as a synonym of *alba*.

FIELD NOTE. Three birds were seen in a tree where they appeared to be hunting for insects. They worked their way up and along the branches searching carefully and at long length among the moss.

Myzomela adolphinae Salvadori

Myzomela adolphinae Salvadori, 1875, Ann. Mus. Civ. Genova, 7, p. 946. Arfak Mountains north-western New Guinea.

FIELD NOTE. A solitary bird. Two or three would usually be seen at intervals along the drive of the bungalow where we stayed at Nondugl. Each bird would perch on the top of one of the small trees of the casuarinas hedge.

Myzomela rosenbergii wahgiensis Gyldenstolpe

Myzomela rosenbergii wahgiensis Gyldenstolpe, 1955, Ark. f. Zool. 8, p. 155. Weiga, Sepik-Wahgi Divide, Central Highlands, New Guinea (7,400 ft.).

FIELD NOTE. Native name "Kaltentepal". A fairly common bird often seen flying from tree to tree in small flocks of a dozen or so, and heard calling out most of the time. A nest was found about 10 ft. above the ground in a small bush growing in a swamp, it was built of roots and lined with finer rootlets. Two young birds were found there (24th September), these were a dark chestnut brown above and a lighter brown below with a pale brown patch under the chin. The wings were a dark chestnut brown with a darker barring and the flight feathers black in colour. The gape and the inside of the mouth were yellow and the eyes brown, the legs were grey in colour, but the backs of the legs and the feet were yellow. Only the female was observed to feed the young birds, no male was seen to go to the nest. The juveniles defaecated with considerable force so that the faeces were ejected clear of the nest.

Melipotes fumigatus Meyer

Melipotes fumigatus A. B. Meyer, 1886, Zeitschr. ges. Ornith. 3, p. 22. Hufeisenbirge, south-eastern New Guinea.

1953.17.237-238; 1 ♂, 1 ♀; Hagen Range, 7,000 ft.; December, 1950; January, 1951.

MEASUREMENTS: 1 ♂—wing, 124; tail, 108; bill, 21. 1 ♀—wing, 115; tail, 100; bill, 20. COLOURS: bill, black; legs, grey-blue; iris, dark brown; skin of face, orange. STOMACH CONTENTS: berries and fruits.

The specimens match the description of the large-sized birds reported from the same locality by Mayr and Gilliard (1954: 366) who also described a smaller and somewhat darker bird from the neighbouring Wahgi-Divide. They did not distinguish

the birds trinominally because they were of the opinion that the differences were due not to geographical but to local altitudinal variations. In not naming these specimens racially I am following their decision. Gyldenstolpe (1955 : 157) identified the smaller bird as *goliathi* Rothschild and Hartert.

FIELD NOTE. Native name, "Mongkulle". Several nests were found slung from the forks at the ends of the branches of the trees. They were between 15 and 20 ft. above the ground and made of leaves lined with rootlets and covered on the outside with moss. One nest contained an egg on 23rd September which had a beige-pink ground colour and red-brown spots that were more numerous towards the broader end. Another nest contained one juvenile on 7th October; this was fed by only one of the parents, the other remained nearby and called unceasingly with a plaintive squeaking, "Wheet-wheet-wheet". The food given to the young appeared to be fruit, on two occasions plum-coloured fruit was clearly seen to be offered. The species was fairly common, the flight being somewhat similar to that of a bulbul. It is probable that the patch of bare skin around the eye changes colour. (Mayr and Gilliard, 1954 : 367, reported a change in colour of the skin of this area after a bird had hung upside down for a short time.—R. W. S.)

Melidectes fuscus fuscus (De Vis)

Acanthochoera fusca De Vis, 1897, Ibis, Ser. 7, 3, p. 383. Mount Scratchley, south-eastern New Guinea.

1953. 17.239 ; 1 ♂ ; Hagen Range, 10,000 ft.; February, 1951.

1953. 17.240-242 ; 1 ♂, 1 juv. ♂, 1 ♀ ; Mount Giluwe, 11,000-10,000 ft., April, May, 1951.

1953. 17.243 ; 1 ♀ ; Lamende Range, 10,000 ft., May, 1951.

MEASUREMENTS : 2 ♂—wing, 108, 110 ; tail, 109, 110 ; total culmen, 29 ; tarsus, 33, 34. 1 juv. ♂—wing, 96 ; tail, 99 ; total culmen, 27 ; tarsus, 29. 2 ♀—wing, 95, 99 ; tail, 96, 100 ; total culmen, 28 ; tarsus, 31, 33. COLOURS : bill, black ; legs—2 ♂, pale blue-grey—1 juv. ♂, dark horn—2 ♀, dark grey ; iris, dark brown ; skin posterior to eye, brick red ; eye-wattle, pale blue (in juv. ♂ both skin posterior to eye and the eye-wattle are pale yellow). STOMACH CONTENTS : insects.

Mayr and Gilliard (1954 : 367) showed that the birds of this species in the Wahgi region are intermediate between the nominate form from south-eastern New Guinea and *occidentalis* from the Oranje and Nassau Ranges, the latter being separated on its smaller size. One female (May) taken on a nest containing a young bird is in worn plumage. The February and April birds are in moult, while the only May male is in fresh plumage.

FIELD NOTE. Native name, "Orboöi". A nest containing one juvenile was found in the forest on 8th October. It was built of fine rootlets and lined with the red fibres of the frond of the tree-fern, the outside was decorated with moss. The juvenile was black in colour except for a blue-grey area of bare skin around the eye and other patches of bare skin near the ear and on the neck. The bill was black, the gape yellow

and the tongue was brush-like—the same as the tongue of the adult bird. The legs were a blue-flesh colour. Both parents fed the young bird, unlike the adults of *M. belfordi* and *Melipotés fumigatus*, where only one of the parents did so. Unlike the former they were very tame and the adults continued to feed the juvenile while the observer was nearby. The food that was presented to the young bird consisted of insects and probably some nectar. The female was recognizable; her wattles were very small and barely perceptible.

Melidectes princeps Mayr and Gilliard

Melidectes princeps Mayr and Gilliard, 1951, Amer. Mus. Novit. No. 1524, p. 13. Mount Wilhelm, Bismarck Mountains, Central highlands, New Guinea.

1953.17.244; ?; Minj River, Kubor Range, 9,000 ft.; October, 1950.

1953.17.245; ?; Hagen Range, 10,000 ft.; January, 1951.

MEASUREMENTS: 2 ?—wing, 112, 113; tail, 105, 106; bill, 42, 44. COLOURS: bill, black; legs, pale grey to blue; iris, dark brown; skin posterior to eye, bright yellow; wattle cream.

These are probably adult females. They appear to be too small to be males (adult male: wing, 117–123 mm.) and are probably not young birds because the bearded parts of the chin and throat are white in colour, whereas this area is a yellowish-white in immature birds—Mayr and Gilliard (1954: 13).

Melidectes belfordi (De Vis)

Melirrhophetes belfordi De Vis, 1890, Ann. Rep. Brit. New Guinea, 1888–89, p. 60. Mount Knutsford, south-eastern New Guinea.

1953.17.246–248; 3 ♂; Hagen Range, 7,500 ft.; December, 1950; January, 1951.

1953.17.249–250; 2 ♂; Mount Giluwe, 7,800–7,500 ft.; April, 1951.

MEASUREMENTS: 3 ♂—(Nos. 1953.17.246, 247, 250) wing, 144–153; tail, 120–126; bill, 40–42. 2 ♂—(Nos. 1953.17.248, 249) wing, 138, 139; tail, 110, 112; bill, 40, 42. COLOURS: 3 ♂ (Nos. 1953.17.246, 247, 250)—bill, black; legs, olive; iris, dark brown; skin around eye, pale blue. 2 ♂ (Nos. 1953.17.248, 249)—bill, pale blue-grey; legs, pale blue-grey; iris, dark brown; gape-wattle, cream; throat-wattle, brick red; skin around eye, pale green-blue. STOMACH CONTENTS: berries, small insects and spiders.

The series consists of birds which differ markedly in appearance; namely, “black-bills” (*belfordi*) and “wattle-birds” (*rufocrissalis*). These differences are so distinct that in the past *belfordi* and *rufocrissalis* were placed in different genera—*Melidectes* and *Melirrhophetes* respectively—and until recently were regarded as members of a super-species; however, Mayr and Gilliard (1952c) concluded that they were conspecific. The two forms are allopatric and generally the “black-bills” replace the “wattle-birds” above a critical altitude of 2,000 to 2,500 metres, where hybrids are

found grading between the two phenotypes. The present series was taken near the critical hybridization altitude and each bird exhibits some degree of heterogeneity. By adopting the scoring system used by Mayr and Gilliard (1952c) to indicate the degree of hybridization it is possible to show how much the individual specimens differ from the phenotypes. Assuming that a true "black-bill" scores 0 and a true "wattle-bird" 100, the birds before me score as follows:—

1953.17.246	.	.	.	.	3
1953.17.247	.	.	.	.	11
1953.17.250	.	.	.	.	22
1953.17.248	.	.	.	.	60
1953.17.249	.	.	.	.	89

Generally Nos. 246, 247, 250 could be regarded as "black-bills" and the other two specimens, Nos. 248 and 249, as "wattle-birds".

FIELD NOTE. Native name, "Arglua". Several nests were found built from 8 to 15 ft. above the ground in the slender forks towards the end of the branches. They looked like woven baskets of fine grasses and fern stalks, covered and suspended by moss. One nest, first examined on 4th October, was kept under observation; it contained only one juvenile. The young bird had a black head with a fringe of sandy coloured down around the crown and a lighter coloured patch around each eye. The upper-parts were dark grey and the under-parts somewhat lighter in colour, with white streaks on each side of the chin; the under-tail coverts were cinnamon. The bill was mainly grey in colour with some white on it. Both of the parents fed the young bird, but one did so less frequently than the other and usually remained close by the nest. The food appeared to consist mainly of insects; but it is probable the nectar was given also because sometimes one of the adults would return to the nest and stand over the juvenile and rapidly flick its long reddish tongue in and out of the young bird's mouth. When neither of the adults could be seen they could still be heard nearby making clucking noises; generally they were very noisy. One loud call that they made frequently was one of the common calls of the forest. Their alarm call could not be established with certainty, but it appeared to be either, "Quick-quick-quick-quick, kiow-kiow-kiow-kiow", or, "tolle-tolle-tolle, kiow-kiow-kiow-kiow"; in response to this call the young bird would freeze in the middle of the nest and close its eyes. They were very shy birds and easily disturbed.

Oreornis subfrenatus salvadorii (Hartert)

Ptilotis salvadori Hartert, 1896, Novit, Zool. 3, p. 531. Owen Stanley Mountains, south-eastern New Guinea.

1953.17.251; 1 ♂; Mount Giluwe, 7,800 ft.; April, 1951.

MEASUREMENTS: 1 ♂—wing, 105; tail, 95; bill, 21. COLOURS: bill, black (gape, yellow); legs, blackish yellow; iris, dark brown; bare skin behind eye, bright yellow. STOMACH CONTENTS: small insects.

Nearest to *salvadorii* but slightly lighter in colour ; it differs from *melanolaema* in being darker—the under-parts being less brownish and more greyish olive in colour. I am indebted to Professor Stresemann, who kindly compared the bird with material of the latter in the Berlin Museum.

Ptiloprora guisei umbrosa Mayr

Ptiloprora guisei umbrosa Mayr, 1931, Mitt. Zool. Mus. Berlin, 17, p. 666. Schraderberg (2,000 ft.), Sepik Mountains, Central Highlands, New Guinea.

1953. 17.252-253 ; 2 ♂ ; Mount Giluwe, 7,500 ft.; June, 1951.

MEASUREMENTS : 2 ad. ♂—wing, 88, 91 ; tail, 76 ; bill, 21, 22. COLOURS : bill, black ; legs, grey-blue ; iris, latteine green. STOMACH CONTENTS : small insects.

FIELD NOTE. Native name, " Tongklà ". A nest was found suspended on a living vine of *Hoya*. It was built of rootlets and dried leaves of the climbing bamboo and lined with the hairs from a tree-fern. The outside of the nest was decorated with living moss apart from one part that was covered by a broad leaf of the vine. The adult often held its tail high like a pipit as it jumped from branch to branch, sometimes it would dive to the ground in pursuit of insects and carry them to the nest. There were young in the nest on 10th October and both parents shared in rearing them ; the parents fed the young by clinging upside down to the vine. The call was a clear whistle, " Choo-weei-oo ", but as they approached the nest the adults made a "chucking" sound.

Paramythia montium montium De Vis

Paramythia montium De Vis, 1892, Ann. Rep. Brit. New Guinea, 1890-91, p. 95. Mount Suckling, south-eastern New Guinea.

1953. 17.267, 270-271 ; 1 ♂, 2 ♀ ; Mount Giluwe, 9,500-9,000 ft.; March, 1951.

1953. 17.268-269 ; 1 juv. ♂, 1 ♀ ; Hagen Range, 9,500 ft.; January, February, 1951.

MEASUREMENTS : 1 ♂—wing, 106 ; tail, 100 ; bill, 16. 1 juv. ♂—wing, 102 ; tail, 95 ; bill, 15. 3 ♀—wing, 105-106 ; tail, 89-98 ; bill, 15-16. COLOURS : bill, black ; legs, black ; feet, black. STOMACH CONTENTS : fruits and berries.

FIELD NOTE. Native name, " Kai-ingkun ".

Zosterops novaeguineae wahgiensis Mayr and Gilliard

Zosterops novaeguineae wahgiensis Mayr and Gilliard, 1951, Amer. Mus. Novit. No. 1524, p. 14. Nondugl, Wahgi Valley, Central Highlands.

1953. 17.254 ; 1 ♂ ; Wahgi River ; 5,200 ft.; November, 1951.

MEASUREMENTS : 1 ♂—wing, 62.5 ; tail, 42.5 ; bill, 11. COLOURS : bill, dark horn paler at base ; legs, grey ; iris, yellow-brown. STOMACH CONTENTS : berries.

FIELD NOTE. A flock of about 15 to 20 of these small birds was seen near the camp at Tomba.

Erythrura trichroa sigillifera (De Vis)

Lobospingus sigillifer De Vis, 1897, Ibis, Ser. 7, 3, p. 389. Mountains of south-eastern New Guinea, apparently Mount Scratchley.

1953.17.255, 257; 1 ♂, 1 juv. ♀; Hagen Range, 7,500 ft.; December, 1950; January, 1951.

1953.17.256 1 ♂ Mount Giluwe 8,500 ft.; May, 1951.

MEASUREMENTS: 2 ♂—wing, 60, 61; tail, 44; bill, 12. 1 juv. ♀—wing, 58; tail, 39; bill, 11. COLOURS: bill, black; legs, pale horn; iris, brown-black. STOMACH CONTENTS: small berries and seeds.

Lonchura spectabilis wahgiensis Mayr and Gilliard

Lonchura spectabilis wahgiensis Mayr and Gilliard, 1952, Amer. Mus. Novit. No. 1577, p. 7 Kegalsugl, Mount Wilhelm, Bismarck Mountains, Central Highlands, New Guinea; 8,000 ft.

1953.17.258; 1 ♀; Minj, Wahgi River, 5,000 ft.; November, 1950.

MEASUREMENTS: 1 ♀—wing, 49; tail, 32; bill, 10.5. COLOURS: bill, blue-grey; legs, dark blue-grey; iris, black. STOMACH CONTENTS: grass seeds.

Seen in large flocks on the grasslands. This specimen was taken on a nest containing four eggs.

Oreostruthus fuliginosus hagenensis Mayr and Gilliard

Oreostruthus fuliginosus hagenensis Mayr and Gilliard, 1954, Bull. Amer. Mus. Nat. Hist. 103, p. 372. Mount Hagen, Central Highlands, New Guinea.

1953.17.259-265; 4 ♂, 3 imm. ♂; Mount Giluwe, 11,500-9,000 ft.; April, May, June, 1951.

MEASUREMENTS: 4 ♂—wing, 67-68; tail, 44; bill, 9.5-10. 3 imm. ♂—wing, 66-68; tail, 40-44; bill, 8.5-9.5. COLOURS: 4 ♂—bill, coral red; legs, brown-horn; iris, orange-red. 3 imm. ♂—bill, black (gape, yellow); legs, brown-horn; iris, brown. STOMACH CONTENTS: grass seeds.

This race was separated on two specimens from Mount Hagen which differed, among other characters, from *fuliginosus* De Vis and *pallidus* Rand in the back being thinly diffused with blood-red markings. Now more material is available it seems that this character is not constant, for only one adult male in this series has any red on the back and then it is seen as a wash which is restricted to a small area. In other respects these birds match the description of *hagenensis*. The immature birds differ from the adults in the under-parts not being marked with blood-red. In comparison with *fuliginosus* the immature birds are darker above and lighter below. The adults are completing moult and the testes are enlarged. This fine series was taken on the mid-mountain and alpine grasslands of Mount Giluwe.

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PLATE 13.

Eupetes leucostictus. Adult, nest and nestlings. Wahgi region, Central Highlands, New Guinea, 8,000 ft. October 5th, 1952. Photo : Loke Wan Tho.