ZOOLOGICAL RESULTS OF THE DUTCH NEW GUINEA EXPEDITION, 1939. No. 5[1])

THE BIRDS

by

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The present paper is the report on a collection of birds brought together during the expedition of the "Koninklijk Nederlandsch Aardrijkskundig Genootschap" to the Wissel Lake area in 1939. The zoologist of this expedition Prof. Dr. H. Boschma collected with the assistance of two mantris of the Buitenzorg Museum in this district from mid-August till mid-November, whilst also some collecting work was done at the Etna Bay. Of great importance was the help of the natives, who brought many birds that otherwise would have been difficult to obtain. Included in this report is a small collection made by Mr. J. P. K. van Eechoud in the same district in 1938. For permission to include it here I am indebted to the authorities of the Buitenzorg Museum. Though birds were only one of the many groups of animals that have been collected and no field notes have been made, this collection from an area where never has been collected before, is of much importance.

The collection contains, together with that of van Eechoud, 137 species of which 3 are new to New Guinea: *Limicola falcinellus* (migrant), *Porzana pusilla* and *Megalurus gramineus*.

Described as new were 12 races of the following species: *Rallus pectoralis, Porzana pusilla, Ptilinopus viridis, Ducula rufigaster, Malurus alboscapulatus, Megalurus gramineus, Phylloscopus trivirgatus, Pitohui kirrhocephalus, Neositta papuensis, Ptiloprora guisei, Dicaeum geelvinkianum, Lonchura castaneithorax* (cf. Zool. Mededelingen, vol. 31, no. 22, July 11, 1952). Of

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1) Previous numbers of the Zoological Results of the Dutch New Guinea Expedition 1939:

No. 1. L. D. Brongersma, A new Scincid Lizard. Nova Guinea, n.s., vol. 5, pp. 272-283, 2 pls., 4 text-figs.

No. 2. F. P. Koumans, The Fishes. Ibid., pp. 284-288, 1 text-fig.

No. 3. L. B. Holthuis, Decapoda Macrura with a Revision of the New Guinea Parastacidae. Ibid., pp. 289-328, 8 pls.

No. 4. Jean G. Baer, Temnocéphales. Zool. Meded., vol. 32 no. 13, pp. 119-140, 1 pl., 12 text-figs.

these 9 originated from the Wissel Lake district, 1 from the Etna Bay, 1 from the southern slopes of the Snow Mountains, and 1 from Meos Num in the Geelvink Bay. Moreover an interesting hybrid between two species of birds of paradise was brought home.

Another result of this expedition is that from many species or subspecies the known range is largely extended. An extension to the east show: *Ptilinopus viridis pectoralis, Megalurus timoriensis stresemanni.* The known range is extended much more to the west in the following species or subspecies: *Salvadorina waigiuensis, Circus spilonotus spilothorax, Excalfactoria chinensis novaeguineae, Rallicula rubra subrubra, Psittacella modesta collaris, Aegotheles archboldi, Coracina longicauda grisea, Saxicola caprata belensis, Clytomyias insignis oorti, Gerygone ruficollis insperata, Heteromyias albispecularis centralis, Pachycephala lorentzi, Loria loriae inexpectata.*

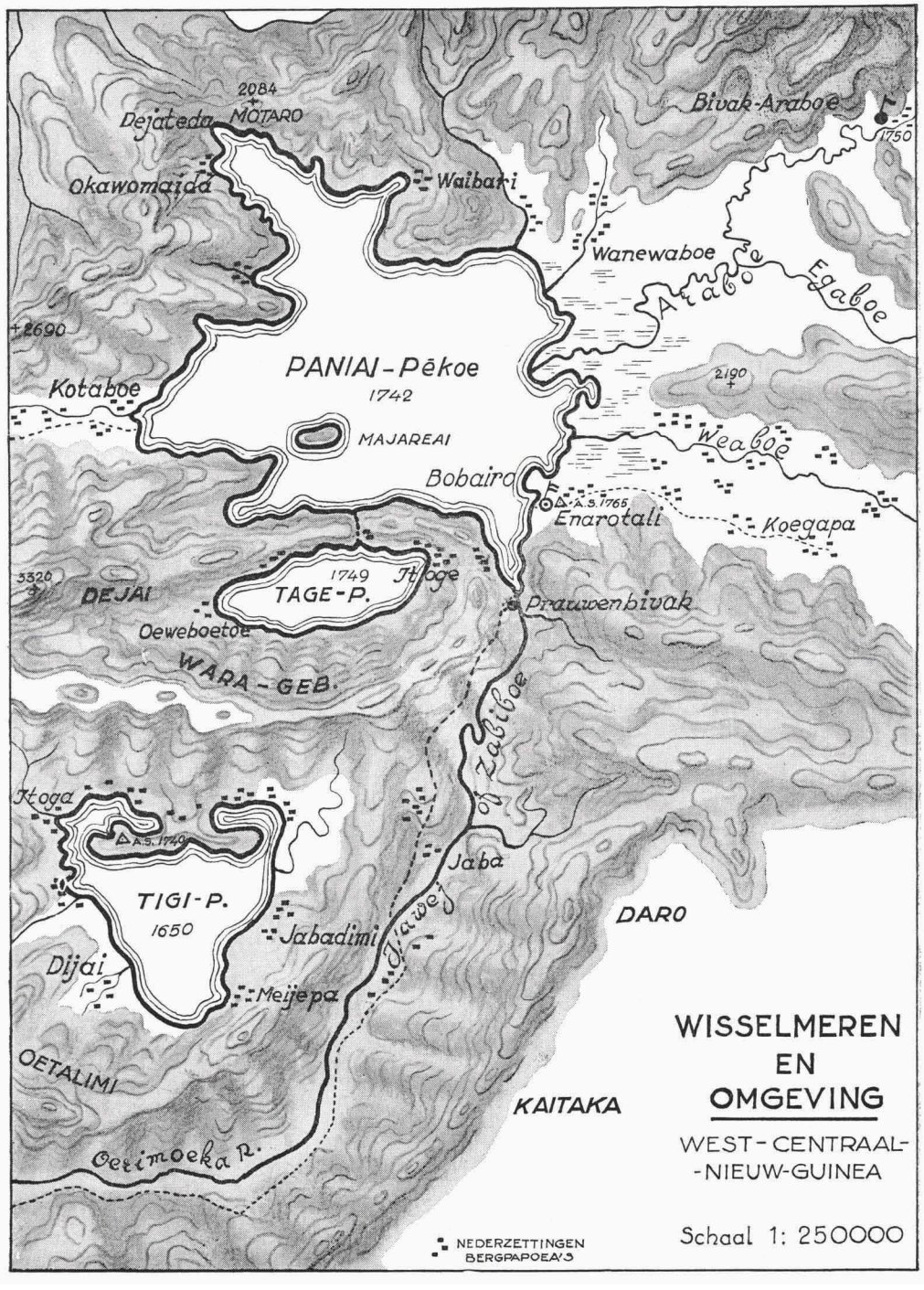
All the latter birds show that the avifauna of the Wissel Lake district is nearly related to that of the Snow Mountains. From these the following forms were up till now only known from the northern slopes of the mountains: *Excalfactoria chinensis novaeguineae, Rallicula rubra subrubra, Aegotheles archboldi, Heteromyias albispecularis centralis.* Only from the southern slopes were known: *Psittacella modesta collaris* and *Loria loriae inexpectata.*

On the other hand there is an unmistakable influence of elements only known from the Weyland Mountains, namely: *Amalocichla incerta olivascentior, Parotia carolae carolae, Climacteris placens steini, Melidectus belfordi joiceyi, Pycnopygius cinereus dorsalis. Malurus alboscapulatus* from the Wissel Lakes also is nearest related to the Weyland Mountain population.

Southern forms in the avifauna are: *Porphyrio porphyrio melanotus, Philemon novaeguineae aruensis, Megalurus gramineus* and the form of *Porzana pusilla* is also nearest related to the Australian birds.

I have much pleasure in thanking especially Dr. E. Mayr and Dr. D. Amadon from the American Museum of Natural History, New York, who always helped by sending all the material for comparison I wanted, and by giving freely information of material under their care. Also Dr. E. Stresemann and Dr. W. Meise from the Berlin Museum, Mr. E. Banks from the British Museum (Natural History), and Mr. L. Glauert from the Perth Museum were always ready to give the help I needed.

All the localities where has been collected in the Wissel Lake region can be found on the accompanying map. The only station of which I do not know the exact locality is Oeroemara, where van Eechoud collected one specimen of *Lophorina superba.*


2084
MOTARO
Dejateda
Okawomaida
Waibari
Bivak-Araboe
1750
Wanewaboe
Araboe
Egaboe
+2690
PANIAI-Pēkoe
1742
2190
Kotaboe
MAJAREAI
Weaboe
Bobaira
Δ A.S. 1765
Enarotali
Koegapa
3320
DEJAI
1749
TAGE-P.
Ttoge
Prauwenbivak
Oeweboetoe
WARA-GEB.
Ttoga
Δ A.S. 1749
TIGI-P.
1650
Jaba
Jabadini
DARO
Dijai
Meijepa
OETALIMI
KAITAKA
Oetimoeka R.
WISSELMEREN
EN
OMGEVING
WEST-CENTRAAL-
-NIEUW-GUINEA
Schaal 1: 250000
NEDERZETTINGEN
BERGPAPOEA'S

Sula leucogaster plotus (Forst.)

Pelecanus Plotus Forster, Descr. Anim., ed. Licht., 1844, p. 278 (near New Caledonia).

South coast New Guinea, slightly west of the Etna Bay: 1 ♂ (November 30).

Measurements: Wing 385. Tail 186. Culmen 97. Tarsus 47 mm.

Irides: very pale grey. Bill: pale grey. Feet: greenish grey.

Phalacrocorax melanoleucos melanoleucos (Vieill.)

Hydrocorax melanoleucos Vieillot, Nouv. Dict. d'Hist. Nat., nouv. éd. 8, 1817, p. 88 (New South Wales).

Paniai Lake: 1 ♂, 1 ♀ (September 30, November 13).
Bobairo: 1 ♂, 1 ♀ (September 24 and 30).

Measurements: Wing ♂♂ 242, moulting; ♀♀ 235, 238. Tail ♂♂ 160, moulting; ♀♀ 160, 161. Culmen ♂♂ 28, 30; ♀♀ 28, 30. Tarsus ♂♂ 39, 39; ♀♀ 37, 37 mm.

Irides: black. Bill: culmen ridge black, other parts yellow. Feet: black.

Notophoyx novaehollandiae novaehollandiae (Lath.)

Ardea novae Hollandiae Latham, Ind. Orn., 2, 1790, p. 701 (New South Wales).

Paniai Lake: 1 ♂ (November 12).
Bobairo: 1 ♂, 2 ♀♀ (September 15, 19, 20).

Measurements: Wing ♂♂ 318, 338; ♀♀ 308, 310. Tail ♂♂ 122, 136; ♀♀ 121, 131. Culmen ♂♂ 76, 83; ♀♀ 70, 76. Tarsus ♂♂ 100, 103; ♀♀ 85, 90 mm.

Irides: pale grey and pale green. Bill: black. Feet: yellow and yellowish grey.

In Dutch New Guinea only known from the neighbourhood of Merauke (Stresemann & Paludan, Mitt. Zool. Mus. Berlin, vol. 20, 1935, p. 454) and the Balim River (Rand, Bull. Am. Mus. Nat. Hist., vol. 79, 7, 1942, p. 427). Mayr in his List of New Guinea Birds, 1941, p. 8 records it from Wamal (Princesse Marianne Straits).

Egretta garzetta nigripes (Temm.)

Ardea nigripes Temminck, Manuel d'Orn., ed. 2, 4, 1840, p. 376 (Sunda Islands).

Etna Bay: 1 ♂ (November 28).

Measurements: Wing 256. Tail 61. Culmen 91. Tarsus 102. Middle toe and claw 69 mm.

Irides: pale yellow. Bill: black with yellowish grey under mandible. Feet: black greyish green.

Demigretta sacra sacra (Gm.)

Ardea sacra Gmelin, Syst. Nat. 1, pt. 2, 1789, p. 640 (Tahiti).

Etna Bay: 1 ♂, 1 ♀ (November 21 and 28).

Measurements: Wing ♂ 275 (primary moult); ♀ 275. Tail ♂ 94; ♀ 84. Culmen ♂ 85; ♀ 84. Tarsus ♂ 78; ♀ 73 mm.

Irides: yellow. Bill: black or grey. Feet: pale greenish or greenish grey. Toes: yellow green.

Ixobrychus sinensis (Gm.)

Ardea Sinensis Gmelin, Syst. Nat. 1, pt. 2, 1789, p. 642 (China).

Paniai Lake: 8 ♂♂, 8 ♀♀ (November 4, 5, 6, 8, 10, 11, and 19).
Araboebivak: 2 ♀♀ (October 2 and 28).

Measurements: Wing ♂♂ 136, 136, 137, 137, 139, 140, 140, 142; ♀♀ 134, 134, 135, 135, 135, 136, 138, 140, 142, 144. Tail ♂♂ 40, 41, 42, 42, 43, 43, 46, 46; ♀♀ 39, 39, 40, 40, 41, 41, 42, 42, 42, 42. Culmen ♂♂ 49, 49, 51, 51, 51, 52, 52, 53; ♀♀ 47, 47, 48, 49, 50, 50, 51, 51, 52, 52.5. Tarsus ♂♂ 46, 46, 47, 47, 47, 47, 48, 48; ♀♀ 43, 44, 45, 45, 45, 46, 46, 46, 47, 47 mm.

Irides: yellow or pale yellow. Bill: yellowish, maxilla dark grey. Feet: yellow green, under side of toes yellow.

All birds are in the immature plumage. The Leiden Museum possesses an adult specimen from Misol, collected by von Rosenberg in 1866.

Anas superciliosa pelewensis Hartl. & Finsch

Anas superciliosa var. *pelewensis* Hartlaub & Finsch, Proc. Zool. Soc. London, 1872, p. 108 (Palao Islands).

Paniai Lake: 2 ♂♂, 2 ♀♀, 6 pulli (September 26, November 9, 12 and 16).
Bobairo: 8 ♂♂, 3 ♀♀ (August 25, 27, September 15, 19, 24 and 30).
Enarotali: 4 ♀♀, 2 — (September 11, 14, 15).
Zariboe River: 2 ♀♀ (August 25).
Coll. van Eechoud: Vivresbivak, Oerimoeka River: 1 ♂ (18-10-1938).

Measurements: Wing ♂♂ 223, 233, 241, 241, 243, 244, 247, 247, 249, 249, 250; ♀♀ 220, 225, 229, 233, 233, 236, 236, 240, 241, 244, 245; unsexed 230, 247. Tail ♂♂ 76, 80, 82, 83, 83, 84, 87, 88, 89, 90, 90; ♀♀ 73, 73, 78, 79, 80, 80, 81, 82, 84, 86, 88; unsexed 80, 82. Culmen ♂♂ 48, 48, 48, 49, 50, 50, 50, 50, 51, 52, 54; ♀♀ 45, 45, 45, 47, 47, 47, 48, 49, 49, 51, 51; unsexed 46, 50. Tarsus ♂♂ 40, 40, 41, 41, 42, 42, 43, 43, 43, 44, 44; ♀♀ 38, 39, 39, 39, 41, 41, 41, 42, 42, 43, 43; unsexed 40, 41 mm.

Irides: yellowish brown or pale brown, in one (♂) pale grey. Bill: grey. Feet: yellowish grey, webs grey.

In all specimens the primaries are in good condition and probably moulted not long before. In some specimens new tail feathers are growing out. The specimens with the small wing measurements probably represent immature birds. The measurements agree well with those for the race *pelewensis* given by Amadon in his revision of the species (Am. Mus. Novit., no. 1237, 1943). *Pelewensis* is said to occur also in northern New Guinea. Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 7, 1942, p. 430) suggests that there is a slight increase in size with increase of altitude. The birds from the Wissel Lake district, all from the same altitude, include, however, the whole variation range in size mentioned by Rand for all differences in altitude. Thus I do not think that these differences are very pronounced.

Amadon (l.c.) showed that birds from Celebes (described as *percna* by Riley) and other East Indian Islands can best be placed with the larger Australian race *rogersi*. The measurements of the material in the Leiden Museum confirm this conclusion and as Amadon has seen rather scanty material from this area, I include our measurements here: Timor 255, 237 (imm.), Flores 251, Lombok 247 (worn), 248 (worn), 258, 258, 262, 269, N. Celebes 258, 261, Java 235 (imm.), 248, 252, 256, 263 mm. The Sumatran birds mentioned by Robinson & Kloss (Journ. Fed. Malay St. Museums, vol. 11, 1924, p. 220) and now in the Leiden Museum range rather low 225-256 mm (20 specimens), 3 additional specimens measure 230, 248, 252 mm. The species is a breeding bird in Sumatra, and therefore possibly nearly all these birds are immature.

I do not follow Delacour & Mayr, who threw *superciliosa, poecilorhyncha* and *luzonica* into one species (Wilson Bull., vol. 57, 1945, p. 20). Undoubtedly these forms are nearly related, but they are differentiated far enough to be considered as species.

Salvadorina waigiuensis Rothsch. & Hart.

Salvadorina waigiuensis Rothschild & Hartert, Novit. Zool., vol. 1, 1894, p. 683 (Waigeu?).

Araboebivak: 1 ♂ (November 3).
Coll. van Eechoud: Oerimoeka River: 1 ♂ (12-10-1938).

Measurements: Wing 189, 199. Tail 99, 103. Culmen 36, 36. Tarsus 38, 39 mm.

Irides: brown, Bill: pale yellow. Feet: yellow.

The known distribution of this duck is now brought a good deal more

to the west in Dutch New Guinea. It was known from the Oranje Mountains, where it has been collected by Lorentz, Versteeg and Rand. The type locality originally given is doubtful.

Haliastur indus girrenera (Vieill.)

Haliaetus girrenera Vieillot, Gal. Oiseaux, vol. 1, 1822, p. 31, pl. 10 (restricted type locality — New South Wales).

Bobairo: 1 ♀ (September 10).
Araboebivak: 1 ♀ (October 5).

Measurements: Wing 365, 383. Tail 189, 190. Culmen 24, —. Tarsus 48, 52 mm.

Irides: brown. Bill: yellowish grey, in the other pale green, pale grey below.

Accipiter cirrhocephalus papuanus (Rotsch. & Hart.)

Astur cirrhocephalus papuanus Rothschild & Hartert, Novit. Zool., vol. 20, 1913, p. 482 (Utakwa River, Nassau Range).

Araboebivak: 1 ♂ (October 18).

Measurements: Wing 184. Tail 132. Culmen 11. Tarsus 54. Middle toe and claw 35 mm.

Irides: yellow. Bill: black. Feet: yellow.

The red neckband is incomplete, but indicated. Chin and throat are grey.

Circus spilonotus spilothorax Salvad. & d'Alb.

Circus spilothorax Salvadori & d'Albertis, Ann. Mus. Civ. Genova, vol. 7, 1875, p. 807 (Yule Island, SE. New Guinea).

Paniai Lake: 1 ♂, 1 ♀ imm. (September 24, November 17).
Araboebivak: 1 ♂, 1 ♂ imm., 1 ♀ imm. (October 5 and 15).

Measurements: Wing ♂♂ ad. —, —, ♂ imm. 383; ♀♀ imm. 388, 418. Tail: ♂♂ ad. 214, 224, ♂ imm. 219; ♀♀ imm. 225, 226. Culmen ♂♂ ad. 23, 23, ♂ imm. 23; ♀♀ imm. 23, 24. Tarsus ♂♂ 84, 89, ♂ imm. 86; ♀♀ imm. 90, 91 mm.

Irides: ♂♂ yellow; ♀♀ imm. dark yellow or brown. Bill: black. Feet: yellow or pale yellow.

These specimens are a welcome addition to the scanty material known of these New Guinean Harriers. Both ♂♂ have the wing tips so heavily damaged that no measurements can be taken. The upper parts are rather black, chin, throat and upper breast with heavy black and blackish brown

longitudinal streaks, lower breast with some thin streaks of the same colour, abdomen and thighs pure white. Tail feathers are very worn, a few are new ones. All tail feathers are bluish grey. Central rectrices with an indication of subterminal black spots, the others unspotted and with white along the inner web, the edge is broadest in the outer rectrices. The new ones white tipped. No rufous on any of the rectrices. In this respect these birds differ from those described by Rand (Am. Mus. Novit., no. 1102, 1941, p. 2). In his discussion of the scanty material available he just stresses this point as a difference between *spilothorax* and *spilonotus*. Unfortunately I have not seen *spilonotus*, but our material shows that the character does not hold.

The immature ♂ is blackish brown above, the upper wing coverts rather blackish. Feathers on the head slightly edged with brownish. Upper tail coverts white with thin longitudinal chestnut brown central streaks. Central tail feathers greyish brown with an indication of the proximal bars. All rectrices with a blackish subterminal bar. Tips of rectrices worn, but probably edged whitish grey. All rectrices except the central pair with 4 transverse bars. In the outer tail feathers the proximal bars are strongly rufous tinged. Chin, throat and upper breast with heavy longitudinal brownish streaks. From lower breast to abdomen, thighs and under tail coverts these streaks become thinner and more rufous coloured. Both ♀ ♀ are probably immature birds, being strongly rufous below. In one specimen (wing 388 mm, November 17) the primaries are moulting, the third is growing out, the fourth probably not yet full grown. In this specimen the feathers of the head are edged with rufous yellow as are the upper wing coverts in both specimens. Feathers on side of head yellowish white with small dark central streaks. Upper parts brownish black, lower back with some of the feathers rufous edged. Upper tail coverts white with two transverse brownish black bars. Tail feathers greyish brown with seven transverse blackish brown bars. In the lateral tail feathers the greyish brown is replaced by rufous white. Feathers of throat and breast with broad longitudinal blackish brown bars edged with yellowish rufous or whitish. Lower breast and abdomen more rufous brown, lower abdomen and under tail coverts pale rufous. Feathers of thighs yellowish rufous. The large specimen (wing 418, October 5) differs in having the feathers of the head much narrower. Feathers on the side of the head rufous brown without white or yellowish. The under side more warm rufous tinged. Longitudinal streaks on upper breast more rufous, edges rufous, not yellowish. Thighs warm rufous. They differ considerably from the ad. ♀ ♀ described by Rand (l.c.).

Compared with 2 ♀ ♀ of *approximans gouldi* the New Guinea birds differ by the paler streaks on the head (more whitish and yellowish, less

rufous). Feathers on the side of the head differ in both specimens exactly in the same way as described for the New Guinea birds. In *gouldi* the tails have six tail bars, which have small rufous bands on both sides of the bar. The under parts in *gouldi* have less yellowish and the streaks are more pronounced. Perhaps the bill is slightly smaller. The measurements of both specimens of *gouldi* are: Wing 374, 411. Tail 213, 238. Culmen 22 mm.

Much more material is wanted before these interesting harriers from New Guinea are clearly understood.

Excalfactoria chinensis novaeguineae Rand

Excalfactoria chinensis novaeguineae Rand, Am. Mus. Novit., no. 1122, 1941, p. 1 (Balim River, Snow Mountains).

Paniai Lake: 8 ♂♂, 7 ♀♀, 1 ♀ imm., 3 pulli (November 4, 5, 7, 9, 11, 12, 13, 14, 15, 18 and 20).

Araboebivak: 4 ♂♂, 2 ♀♀ (October 26, November 2, 3 and 4).

Measurements: Wing ♂♂ 66, 67, 67, 67, 68, 68, 68, 69, 69, 69, 70, 70; ♀♀ 69, 69, 69, 69, 70, 70, 70, 70, 71; ♀ imm. 61. Tail ♂♂ 19, 20, 21, 21, 21, 21, 22, 22, 22, 23, 24, 25; ♀♀ 19, 22, 23, 24, 24, 24, 25, 25, —; ♀ imm. 18. Culmen ♂♂ 9, 9, 10, 10, 10, 10, 10, 10 10, 10, 10, 11; ♀♀ 9, 10, 10, 10, 10, 10, 10, 10, 10; ♀ imm. 10. Tarsus ♂♂ 18, 19, 19, 19, 20, 20, 20, 20, 20, 20, 21, 21; ♀♀ 19, 19, 20, 20, 20, 20, 21, 21, 21; ♀ imm. 20 mm.

Irides: ♂♂ red, ♀♀ brown. Bill: dark grey. Feet: yellow.

The species was not yet known so far to the West in New Guinea. Compared with 2 ♂♂, 5 ♀♀ of *australis*, 3 ♂♂, 3 ♀♀ of *papuensis*, 4 ♂♂, 1 ♀ of *novaeguineae*. For the loan of material from the the latter two races I am indebted to the authorities of the American Museum of Natural History. It appears that the birds from the Wissel Lake district are very near to *novaeguineae* described by Rand from the Balim valley between 1600 and 2200 m altitude, except that the first average larger. According to Rand (l.c.) the wing of *novaeguineae* ranges:

♂♂ (10)	61-68 (average 65.6)	mm,
♀♀ (10)	65-70 („ 67)	mm.

The wing measurements of the birds from the Wissel Lake district are:

♂♂ (12)	66-70 (average 68.1)	mm,
♀♀ (9)	69-71 („ 69.6)	mm.

The colour in the ♂♂ is more or less variable in the Wissel Lake birds, one ♂ is rather bluish and in this respect comes near to *papuensis*. The single ♀ of *novaeguineae* I have seen is slightly paler (less blackish) on the

upper parts. The slight size difference, that exists between the birds from the Balim valley and the Wissel Lake district I consider too small to recognize in literature and list the latter therefore as *novaeguineae*.

In the Leiden Museum there is one mounted specimen (♀) collected by Bernstein in 1865 and labelled New Guinea. If this is correct the bird must come from Sorong or somewhere else in the Vogelkop. The species has never been collected there again. Compared with a specimen from Dodingo, Halmahera (*lineata*) the specimens are nearly exactly alike on the upper parts. The "New Guinea" bird, however, is darker blackish brown on breast and abdomen and with more pronounced black transverse bars, which are especially heavy and broad on the abdomen. Below it is darker too than any of the other specimens from New Guinea. I consider this record, however, not quite trustworthy untill more material from there is collected.

Rallus pectoralis connectens Junge

Rallus pectoralis connectens Junge, Zool. Mededelingen, vol. 31, no. 22, 1952, p. 247 (Paniai, New Guinea).

Paniai Lake: 11 ♂♂, 2 ♂♂ imm., 2 ♂♂ juv.; 6 ♀♀, 1 ♀ juv., 7 pulli (October 7-30, November 2-19).

Araboebivak: 7 ♂♂, 1 ♂ imm., 1 ♂ juv.; 10 ♀♀, 2 ♀♀ imm., 1 ♀ juv. (November 4-18).

Between Paniai Lake and Koegapa: 1 ♂ juv. (September 4).

Measurements: Wing ♂♂ 98, 99, 99, 99, 100, 100, 100, 101, 101, 101, 101, 102, 102, 102, 102, 103, 103, 104, ♂♂ imm. 97, 100, 106; ♀♀ 96, 96, 97, 97, 97, 97, 98, 99, 100, 100, 101, 101, 103, 103, 105, 108, ♀♀ imm. 105, 105. Tail ♂♂ 36, 37, 38, 39, 39, 39, 39, 40, 40, 41, 41, 41, 42, 43, 43, 44, 45, —, ♂♂ imm. 35, 41, 42; ♀♀ 35, 35, 36, 36, 37, 37, 38, 39, 40, 40, 41, 41, 42, 43, —, —, ♀♀ imm. 34, 38. Culmen ♂♂ 34, 34, 35, 36, 36, 37, 37, 37, 37, 37, 37, 37, 38, 38, 38, 39, 39, 41, ♂♂ imm. 35, 35, 36; ♀♀ 32, 33, 33, 34, 34, 34, 34, 35, 35, 36, 36, 36, 36, 36, 37, 37, ♀♀ imm. 34, 36. Bill from lateral feathering: ♂♂ 31, 32, 33, 33, 33, 34, 34, 34, 34, 34, 34, 35, 35, 35, 36, 37, 37, 37, ♂♂ imm. 34, 34, 35; ♀♀ 30, 31, 32, 32, 32, 33, 33, 33, 34, 34, 34, 34, 35, 35, 35, 35, ♀♀ imm. 33, 33. Tarsus ♂♂ 29, 30, 30, 30, 30, 31, 31, 31, 31, 31, 31, 32, 32, 32, 32, 32, 33, 33, ♂♂ imm. 30, 30, 30; ♀♀ 28, 29, 30, 30, 30, 30, 30, 31, 31, 31, 32, 32, 32, 32, 32, 33, ♀♀ imm. 29, 30 mm.

Irides: pale brown to dark orange (once yellow). Bill: violet red with culmen ridge and tip dark. Feet: rose greyish.

Compared with 2 ♂♂, 1 ♀ of *mayri* from Arfak, 1 ♂, 2 ♀♀ of *alberti* from SE. New Guinea. In the colour of the upper parts *connectens*

in general agrees well with *alberti,* both have a large amount of reddish brown on the upper side. In the series from the Wissel Lake district there is, however, a rather large variation. A few specimens (4) are nearly unseparable from the duller coloured *mayri.* The colour of the head in *connectens* is very variable. It can be lively brownish red to blackish brown in the other extreme with different stages between.

In the colour of the under parts the new race differs from *alberti* in having the grey of the breast paler, also the abdomen is paler coloured, less blackish. In this respect *connectens* corresponds closely with *mayri.* Moreover *alberti* is smaller, especially the bill. According to Hartert (Novit. Zool., vol. 14, 1907, p. 451) *alberti* measures:

Wing 93.5-95 mm, culmen 26-30.5 mm.

In *connectens* these measurements are:

Wing ♂♂ (18) 98-104 mm, culmen 34-41 mm,
♀♀ (16) 96-108 mm, culmen 30-37 mm.

In *mayri* (cf. Hartert, Novit. Zool., vol. 36, 1930, p. 121):

Wing ♂♂ (3) 104-107 mm, culmen 38-39 mm,
♀♀ (3) 101-104 mm, culmen 34.5-36 mm.

The difference with *mayri* is that the upper parts are in general more overflown with reddish brown and that *connectens* on an average has smaller wing measurements.

The specimen mentioned by Rand from the Bele River (Bull. Am. Mus. Nat. Hist., vol. 79, 7, 1942, p. 436) is extremely reddish on the upper parts and has the cheeks and lores of a darker grey than in nearly all the specimens of *connectens.* Mayr and Gilliard included this specimen into their recently described race *captus* (Am. Mus. Novit., no. 1524, 1951, p. 2). According to the description *captus* has a smaller bill than *connectens.* Culmen ♂♂ *captus* 32-34.5, *connectens* 34-41; ♀♀ *captus* 29-34, *connectens* 32-37 mm. The occurrence of *pectoralis* in the Wissel Lake district fills the gap that existed in the known distribution of this species between Arfak Mountains and the area north of Mt. Wilhelmina (Bele River).

Rallus philippensis yorki (Math.)

Eulabeornis philippensis yorki Mathews, Austr. Avian Record, vol. 2, 1913, p. 6 (Cape York, Queensland).

Paniai Lake: 2 ♀♀ (November 9-15).

Measurements: Wing 129, 135. Tail 60, —. Culmen 26, 27. Bill from lateral feathering 22, 24. Culmen from base of forehead 29, 30. Tarsus 35, 37 mm.

Irides: yellow and dark orange. Bill: dark rose (purplish red). Feet: grey.

The ♀ of November 9 has the primaries of the left wing moulting, the other wing is quite normal.

The arrangement of the different populations of this rail from New Guinea, the Moluccas and other islands in the western part of its range is still far from satisfactory and by the lack of material, birds from these regions are mostly included into the race of northern Australia (*yorki*). It is useful therefore to give a more detailed description of the material in the Leiden Museum. The individual variation, which is rather large in the western part of the range, makes it difficult to draw sharp lines. The measurements (in mm) of the different populations are given below.

	Wing	Tail	Culmen	Bill from lateral feathering	Tarsus
Philippines (♂)	141	62	30	27	42
N. Celebes (15)	134-145	47-67	27-34	23-29	37-45
C. Celebes (6)	130-147	56-85	27-33	24-29	38-43
Timor (1)	150	65	35	30	45
Gunung Api (3)	123-132	49-56	26-29	23-25	35-36
Ambon ♂♂ (4)	137-153 (1 of 162)	58-67	30-35	26-31	41-42 (1 of 45)
♀♀ (2)	137-146	60-67	29	25-26	39
Buru (2 —, 2 ♀♀)	143-151	66-68	28-34	24-29	38-41
Kur (♂)	145	66	33	28	41
P. Pandjang near Goram (♀)	140	65	29	26	37
Aru Islands (♀)	139	63	27	24	—
Wissel Lakes (2 ♀♀)	129-135	60	26-27	22-24	35-37
Merauke (2 —)	133-146	63-70	27-32	24-28	38
N. Australia (*yorki* ?)	138	61	27	23	37
S. Australia (8)	144-154	61-69	27-35	26-30	37-42
Palao Islands (♀)	124	59	—	—	40

Here follows a more detailed description of the different populations.

Celebes. Seen 5 —, 3 ♂♂, 7 ♀♀ from northern Celebes (Menado, Gorontalo, Limbotto Lake, Tondano, Bolaang, Mongondon, Modajag), 3 ♂♂, 1 ♂ juv., 2 ♀♀ from Central Celebes (Kolawi, Kantewoe). The first were collected in January, April, May, November, 6 birds are undated. The Central Celebes birds were collected in October and November.

This is a variable population, I could not see sexual differences in plumage.

In general the heads are rather dark caused by the black streaks, the brown colour of head and hind neck can be warm rufous as in a specimen from Kolawi, in a bird from Kantewoe, however, the same colour is much paler,

more yellowish. Hind neck and upper back can vary between uniform black to more yellowish or greyish green with practically no black. Some specimens are heavily spotted with white dots, which even can form white bars, undependently of the colour or the upper back. White dots never quite absent on these parts. Rest of upper parts variable too, two birds from Gorontalo are rather black, one with rather large white spots on the wing feathers, others with much less black and white. Dark specimens with much white on the hind neck show also white spots on lower back and rump. In others white spots are quite absent in these parts. The breadth of the black bars on breast and abdomen vary too, often central parts of breast and abdomen whitish with the black bars thinner and not so decidedly black coloured, in others, however, the black bars are not interrupted. Isabel coloured breast band absent or sometimes faintly indicated, so in a specimen from Tondano, Koelawi and the juvenile specimen from Kantewoe. In these specimens the breast feathers have isabel coloured edges, feathers never quite isabel coloured. Throat white, greyish in a few specimens.

As far as the measurements are concerned, the wing does not exceed 147 mm. This agrees perfectly with the measurements given by Stresemann (Journ. f. Ornith., vol. 89, 1941, p. 28) for 13 birds from Celebes.

Philippines. One specimen from the Philippines is only different by the slightly paler edges of the feathers on the head.

Timor. A bird from Timor agrees with Celebes birds, but is larger. Mayr (Bull. Am. Mus. Nat. Hist., vol. 83, 2, pp. 145-146) synonymized Timor birds with *chandleri* from Celebes and his birds from Timor fall within the variation range of the wing measurements of Celebes birds.

Ambon. Seen 4 ♂♂, 2 ♀♀, 1 ♀ nestling, all collected by Hoedt. The nestling (7-8-1865) proves that Ambon has an endemic population. The specimen has well developed contour feathers, wing not yet grown out. Five of the six adult birds (July) have a well developed breast band. There is some variation, however, in the breadth as well as in the colour of this band. The colour can be pale yellowish or much more vividly isabel coloured. Under parts strongly barred black and white, slightly more pronounced than in the Celebes population, less whitish in centre of breast and abdomen. Chin and throat as in Celebes birds. Upper parts of head rather dark, edges of feathers slightly less rufous than in most of the Celebes birds. Hind neck rufous with blackish spots, but not different from Celebes birds, showing the same variation. Upper back rather blackish, well spotted or banded with white, rest of upper parts rather dark of about the same intensity as the darker Celebes birds. White spots on lower back and rump can be present or absent. One bird (♀) is different and has the black on

the upper parts much reduced with broad greyish green edges along the feathers and with practically no white spots on hind neck and rest of upper parts, which make the upper parts paler than the palest birds from Celebes. Another bird is a giant with a long and heavy bill (wing 162 mm) and moreover entirely lacks the breast band. It may be a migrant, though I cannot say from where it comes. Measurements of the Ambon birds on an average larger than Celebes birds.

Buru. Seen 2 ♀ ♀, 2 —, collected by Hoedt and Teysmann. The 2 ♀ ♀ were collected in November. They are very near the birds from Ambon. One has the edges of the feathers of the head more rufous. One lacks the breast band. Under parts less strongly barred than in birds from Ambon. Measurements about the same in both populations.

Kur and P. Pandjang. Both birds were collected by Von Rosenberg in September. They are very dark on the upper parts. Head heavily streaked black, edges small and brown. Much black on back and rump, white spots on these parts rather few, which causes that the birds are darker than any of the birds described above. No white spots on lower back and rump. Breast band well developed and vividly coloured. In the bird from Kur the feathers of the breast band are edged with black. Under parts heavily barred black and white as in the most heavily barred specimens from Ambon. Measurements as in small Ambon birds.

Australia. The Leiden Museum possesses 4 birds from Australia, one only with an exact locality (Randwich, N.S. Wales). Of the others one is rather small and probably belongs to *yorki* from N. Australia (cf. Mayr, Am. Mus. Novit., no. 1007, 1938, pp. 4-5). The other skins judging by the wing measurements belong to *australis*. Moreover, I saw 4 specimens from Botany Swamps, N.S. Wales, kindly sent on loan by the American Museum of Natural History and one juvenile without exact locality from the Basel Museum. In this series of 9 birds from Australia, 3 (the specimen of *yorki* included) are rather pale with less black on the upper parts than the others. The bird from Randwich is darkest. The feathers on the head have only very thin rufous edges. The birds from Botany Swamps are very near birds from Ambon and Buru. The wing measurements are practically identical, wing/culmen index varies in Ambon birds from 4.1-5.0, in Australian birds 4.2-4.9. The barring of the under parts is the same as is the amount of black and white spotting on mantle and upper parts. The breadth of the black and rufous bars on the primaries is variable in both populations. It may be that in *australis* the colour of the hindneck is warmer rufous brown on an average, but one of the birds from Ambon is unseparable in this respect. The superciliary streak is slightly paler (more

whitish, less greyish) in most of the birds from Ambon, though this too is not constant. In the birds from Australia the breadth and colour of the breast band is more uniform than in the birds from the Moluccas.

Aru Islands. One bird from the Aru Islands is very near the small Australian specimen (*yorki*).

S. New Guinea. The birds from the Wissel Lakes are small and so is a bird from Merauke in the Leiden Museum. The latter is slightly blacker on the upper parts than the birds from the Wissel Lakes, as is a very bad skin from the Basel Museum which also comes from Merauke (wing 134 mm). Two birds from Merauke reported by Bangs & Peters (Bull. Mus. Comp. Zoöl., vol. 67, 1926, p. 423) agree perfectly with our birds in size. Another bird from Merauke collected by Koch (cf. Van Oort, Nova Guinea, vol. 9, Zool., 1909, p. 57) is much larger (wing 146 mm), is paler on the upper parts and especially on the head. It corresponds more with the paler coloured Australian birds (a straggler ?).

G. Api. The small birds from the Wissel Lakes and Merauke are very near the specimens of *xerophila* from Gunung Api (Van Bemmel, Treubia, vol. 17, 1940, p. 470) in measurements as well as in coloration. Under parts and colour of the head are exactly the same. In two specimens of *xerophila* the upper parts are blacker on back and rump and more heavily spotted with white on these parts than in the birds from the Wissel Lakes and the smaller specimens from Merauke. The third specimen of *xerophila* is less black and the edges of the feathers of the upper parts are broader and paler olive brown, less spotted with white. The feathers of the upper parts in this specimen are worn.

Palao Islands. One bird from the Palao Islands is extremely small and has the upper back nearly uniform black with many thin white bands. Under parts without breast band and barring about the same as in Celebes birds.

Summarizing it can be said that the status of *chandleri* from Celebes is still uncertain and it will be necessary to compare a series of birds from the Philippines with a series from Celebes to see if both populations are really different. Birds from Timor and Flores are very near Celebes birds though on an average larger. Birds from Ambon differ from Celebes birds by larger average measurements, in having a well defined breast band in most of the specimens and a slightly heavier barring of the under side. Buru birds are very near Ambon birds though there may be a slight difference in the barring of the under side. I am unable to find constant distinguishing characters between birds from the Moluccas and *australis* from Australia. Therefore the Moluccan birds can for the time being better

stand under that name and not under *yorki* as has been done by recent authors, *yorki* being smaller. If the endemic population is augmented by migrants from Australia I cannot decide at the moment. All birds have been collected in July, August (nestling) and September. One gets the impression that the Moluccas are a transition zone between *chandleri* and *australis,* which would give an explanation for the large variation in measurements and the lacking of the breast band in some specimens. The population is nearest to *australis,* however. Birds from Kur and P. Pandjang are darker, but more material must show if this is a constant character. The small birds from southern New Guinea for the time being can best be included into *yorki,* though I am not convinced that this arrangement is final. I have not seen topotypical specimens of *yorki,* but according to Mayr (l.c.) the difference between *australis* and *yorki* is mainly a size difference and the measurements of the birds from the Wissel Lakes and two of the Merauke specimens fall into the variation range of *yorki* or are even slightly smaller. In colour they correspond with the darker Australian birds. *Xerophila* can be upheld on account of the darker and more heavily spotted upper parts in two of the three specimens and more pronounced black central streaks on the feathers of rump and upper tail coverts. Birds from Palao are probably different, but more material is needed for comparison.

Porzana pusilla mayri Junge

Porzana pusilla mayri Junge, Zool. Mededelingen, vol. 31, no. 22, 1952, p. 247 (Paniai, New Guinea).

Paniai Lake: 2 ♂♂, 2 ♀♀ (November 4 and 18).

Measurements: Wing ♂♂ 76, 79; ♀♀ 78, 78. Tail: ♂♂ 39, 42; ♀♀ 45, 45. Culmen ♂♂ 15, 15; ♀♀ 15, 15. Bill from lateral feathering ♂♂ 13, 14; ♀♀ 14, 14. Bill from base of skull: ♂♂ 16, 16.5; ♀♀ 16, 16. Tarsus ♂♂ 24, 24; ♀♀ 24, 24 mm.

Irides: orange red or orange. Bill: green, culmen ridge greyish. Feet: greenish grey or pale green.

The species had not yet been recorded from New Guinea. The birds are small and therefore near the Australian race *palustris,* from which they differ, by smaller size. We have only one mounted specimen of *palustris* (♂) with a wing of 82 mm, tail 43 mm, culmen 15 mm, bill from lateral feathering 13.5 mm, bill from base of skull 17 mm. Mayr kindly supplied me with additional measurements from Australian birds (about 20 adult specimens from New South Wales) and his measurements show that the size difference is essential. There seems to be no sexual difference in size

and the measurements given for the Australian birds are: wing 80-85, tarsus 25-25.5, bill from lateral feathering to tip 14-14.5, from skull base 17-17.5 mm.

Compared with our Australian bird the birds from New Guinea have the upper sides of wing and sides of neck warmer brown, less tawny coloured.

Compared with 3 ♂♂, 3 ♀♀ from Java, 1 ♂ from Sumatra and 1 ♀ from Ceram, which at the time being, I cannot separate from the nominal race (cf. Junge, Zool. Mededelingen, vol. 29, 1948, p. 313) the ♂♂ of *mayri* are clearer grey below and the ♀♀ clearer whitish grey. The colour of the upper parts is slightly warmer brown (more rufous) in 3 of the specimens of *mayri,* in 1 ♂ the colour is the same as in the Java birds. The measurements of the birds from Java, Sumatra and Ceram are: wing 84-91, culmen 15-17, bill from lateral feathering 14-16, bill from base of skull 17-19, tarsus 26-29 mm (cf. also Voous, Limosa, vol. 21, p. 87).

Porzana tabuensis tabuensis (Gm.)

Rallus tabuensis Gmelin, Syst. Nat. 1, pt. 2, 1789, p. 717 (Tonga Tabu, Tonga Islands).

Paniai Lake: 8 ♂♂, 7 ♂♂ imm., 1 ♂ juv.; 20 ♀♀, 2 ♀♀ imm., 1 ♀ juv., 1 pullus, 1 — (November 1-18).
Araboebivak: 1 ♀ (October 28).
Bobairo: 1 ♂, 1 ♂ juv. (October 2).

Measurements: Wing ♂♂ 79, 80, 81, 82, 83, 83, 84, 85, 86, ♂♂ imm. 79, 79, 80, 81, 82, —, —; ♀♀ 78, 79, 79, 79, 79, 79, 79, 80, 80, 80, 80, 80, 80, 81, 81, 81, 82, 82, 83, 83, 84, ♀♀ imm. 75, 75. Tail ♂♂ 42, 43, 44, 44, 44, 45, 46, 47, 47, ♂♂ imm. 39, 39, 40, 41, 43, —, —; ♀♀ 38, 39, 39, 40, 40, 40, 41, 41, 41, 41, 41, 41, 41, 42, 43, 43, 43, 43, 45, —, —, ♀♀ imm. 38, 40. Culmen ♂♂ 18, 19, 19, 19, 19.5, 20, 20, 20, 20, ♂♂ imm. 17, 18, 18, 18, 19, —, —; ♀♀ 16,5, 17, 17, 17, 17, 17, 17, 17, 17, 17, 17, 17.5, 17.5, 17.5, 17.5, 18, 18, 18, 18, 18, 18.5, ♀♀ imm. 16.5, 16.5. Tarsus ♂♂ 29, 31, 31, 32, 32, 32, 32, 32, 32.5, ♂♂ imm. 30, 31, 31, 31, 32, —, —, ♀♀ 27, 27, 28, 28, 28, 28, 28.5, 29, 29, 29, 29, 29, 29, 29, 30, 30, 30, 30, 30, 30, 30, ♀♀ imm. 30, 30 mm.

Irides: brown orange red or red, the eyelids red, in juv. and pullus grey, one green. Bill: black. Feet: mostly pale red, sometimes more greyish.

This is the largest series brought together in New Guinea up till now. In Dutch New Guinea it was only known from Arfak and the northern slopes of the Snow Mountains, where Rand found this race at an altitude

of 1600 m, while the paler and slightly larger *richardsoni* was found at an altitude of 3225 m. The question if the nominal race is breeding in New Guinea was not yet quite settled, but the young in down and the juvenile specimens show that *tabuensis tabuensis* is sedentary at the Wissel Lakes. The young in down is a bird probably just hatched. The down is entirely glossy green, the maxilla with a yellow base and black tip. The juvenile specimen which is in the most advanced stage has the down just replaced by contour feathers. On the head is still the greenish blue down, only on the crown it has new brown feathers. Greenish blue down is also found at the sides of the rump. A white streak edged by dark brown plumes is found from base of mandible to breast. Sides of head mottled whitish brown. Under side whitish grey brown as in immature specimens. Tip and base of maxilla black, central part yellowish. Feathers of wing not yet grown out. Both other juvenile specimens are smaller than the one just described and more downy feathers are found. Contour feathers of the breast are more greyish, less brown. The immature birds have the chin whitish and the under parts whitish brown grey. Colour of back not chocolate, more sepia brown.

In the adult specimens there is some variation in the colour of the upper side, in some specimens the colour is more rufous brown, not dark chocolate brown as in most specimens.

Amadon (Am. Mus. Novit., no. 1175, 1942, pp. 10-11) showed that in this species there is little geographical variation. There are size differences which are so small and often overlapping, that the birds from South Australia, Tasmania, New Zealand and Chatham Islands only can be separated from the nominal race. Amadon synonymized many of the described races with *tabuensis tabuensis*. In the Leiden Museum the following specimens, of which I give the measurements (in mm), are present:

	Wing	Tarsus	Culmen
Australia (3)	85-90	27-29	19-21
Pitts Island, Chatham Islands (1)	80	28	17
New Caledonia (1)	81	28	17
Vitu Levu, Fiji Islands (2)	75-77	25-26	17-18
Philippines (1)	74	24	16

Amadon's conclusion that the birds from New Caledonia are not so small as formerly supposed is supported by the measurements of our specimen. The single bird from the Philippines is rather small and though an adult bird it has the colour of the upper parts as in immature New Guinean specimens. More material, however, must show if Hachisuka's race *filipina* can stand.

Rallicula rubra subrubra Rand

Rallicula rubra subrubra Rand, Am. Mus. Novit., no. 1072, 1940, p. 3 (Lake Habbema region, north of Mt. Wilhelmina).

Araboebivak: 4 ♂♂, 4 ♀♀ (October 28-30, November 2, 6).

Measurements: Wing ♂♂ 93, 94, 99, 103; ♀♀ 93, 97, 97, 97. Tail ♂♂ 56, 58, 59, 63, ♀♀ 50, 55, 60, —. Culmen ♂♂ 23, 23, 24, 25, ♀♀ 23, 23, 23, 23. Tarsus ♂♂ 37, 37, 37, 40, ♀♀ 35, 36, 36, 38 mm.

Irides: pale brown. Bill: black. Feet: black.

This series perfectly agrees with the description given by Rand for *subrubra* from the northern slopes of the Snow Mountains. They differ from *klossi* by larger size and slightly paler coloration of the head, sides of head and especially of chin and throat. From *rubra rubra* they differ also by slightly paler coloration of these parts, by absence of the blackish tips to the feathers of the nape and the reduced white barring of the under side of the wing.

In one of the males the feathers of back and wing coverts have black central streaks, showing that the bird is not fully adult. One of the females has blackish on the feathers of the head. Another male is darker, more purplish brown than the other three.

It is interesting to find this race in the Wissel Lake district, pushed in between the population of *klossi* inhabiting the Weyland Mountains and the southern range of the Nassau Mountains.

Amaurornis olivacea moluccanus (Wall.)

Porzana moluccana Wallace, Proc. Zool. Soc. London, 1865, p. 480 (Ambon and Ternate).

Araboebivak: 1 ♀ (November 1).

Measurements: Wing 139. Tail 56. Culmen 28. Tarsus 46. Middle toe and claw 54 mm.

Irides: brown. Bill: dark greenish grey. Feet: pale grey.

This species has not yet been recorded from this altitude and was considered a bird from the lowland swamps.

There has been some difference of opinion about the status of the New Guinea population of this species. Schlegel described *frankii* from the Vogelkop (Notes Leyden Mus., vol. 1, 1879, p. 172) which was synonymized by most authors with *moluccanus*. Van Oort afterwards followed by Siebers (Treubia, vol. 7, suppl., 1930, p. 200) considered *frankii* as a good species. Hartert (Novit. Zool., vol. 36, 1930, p. 124) found that the birds from the

Vogelkop are slightly different from Moluccan birds and called them *A. o. frankii*. Mayr and Rand (Bull. Am. Mus. Nat. Hist., vol. 73, 1937, p. 25) listed birds from SE. New Guinea as *frankii*. Afterwards Mayr (Am. Mus. Novit., no. 1007, 1938, p. 11) regarded *frankii* again as a synonym of *moluccanus*. Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 438), however, maintained the name *frankii* for birds from Arfak and northern Dutch New Guinea. Earlier the same author (Am. Mus. Novit., no. 992, 1938, p. 1) reported the occurrence of the Australian race *ruficrissum* in SE. New Guinea (Daru).

Compared with a series from Ternate (11), Ambon (2), Ceram (1), Halmahera (1), Tidore (1), Misol (4) it appears that the specimen from Araboebivak belongs to *moluccanus*. The only difference is that the New Guinea specimen is slightly more greenish on nape, sides of neck and upper back than any of the other birds. This is a variable character in the series from the Moluccas and Misol, however, these parts can be more greyish or more greenish tinged caused by individual variation. The under parts of the bird from Araboebivak are pale slate grey with the chin whitish, lower belly and under tail coverts isabella colour. There is a good deal of variation in the colour of the under side in the series from the Moluccas and Misol. In immature birds the under parts are whitish, in adult birds it is slate grey or (in some specimens) darker slate grey, which is individual variation as is shown in the series from Ternate. In the palest birds some white feathers or white edged feathers can sometimes be found. The colour of the lower belly and under tail coverts also is variable and is rather dark in a few specimens. According to Mayr (Am. Mus. Novit., no. 1007, 1938, p. 11) the latter is a ♂ character. Unfortunately many of our specimens are unsexed.

Birds from northern New Guinea: Andai (1), Sentani Lake (1), Simbang, Huon Gulf (3), are uniform dark slaty grey on the under parts, slightly darker than the darkest specimens from the Moluccas. The same is true for the colour of the lower belly and under tail coverts, which is sepia. As far as the upper parts are concerned I cannot see much difference between dark birds from the Moluccas and the north New Guinea birds. Another difference in the material before me is found in the length of the tarsus and especially the toes, which may be longer in the birds from northern New Guinea, as Siebers (l.c.) already suggested. There is no difference in wing or culmen length. It is possible therefore that birds from Arfak and northern New Guinea are slightly different from birds from the Moluccas and south Dutch New Guinea, but more material must show if these differences are constant.

Measurements (in mm):

		Wing	Culmen	Tarsus	Middle toe and claw
Ternate	(11)	135-151	27-33	47-54	54-62
Ambon	(2 ♀♀)	137-143	28-30	47-50	48-54
Ceram	(1)	155	30	50	61
Tidore	(1)	137	29	52	59
Halmahera	(1)	worn	30	51	58
Misol	(4)	139-152	29-31	46-51	51-53
Andai	(1)	worn	30	58	64
Sentani Lake	(♀)	141	30	52	68
Simbang	(3)	135-138	30-35	54-56	64-67

Schlegel's type specimen of *frankii* is an aberrant bird and cannot be placed without comment in the series of the other birds. It is an immature bird, but it has the under parts not whitish as one expects, but about warm sepia (according to Ridgway's Color Standards and Nomenclature). Most feathers underneath are thinly edged with black. The throat is greyish not whitish. The upper parts are more rufous brown tinged than any of the compared skins with no trace of grey or green on hind neck and upper back as in the other specimens. Many feathers again edged with a small blackish bar. The measurements are: wing 140, tail 59, culmen 29, tarsus 48, middle toe and claw 60 mm. Tarsus and toes are smaller than in the other birds from Arfak and northern New Guinea.

Porphyrio porphyrio melanotus Temm.

Porphyrio melanotus Temminck, Manuel d'Orn., ed. 2, 2, 1820, p. 701 (New South Wales).

Paniai Lake: 3 ♂♂, 3 ♀♀, 1 —, 2 pulli (September 15, November 6-17).
Bobairo: 1 ♂ (August 27).
Araboebivak: 1 ♂ (October 6).

Measurements: Wing ♂♂ 265, 265, 267, 268, 275; ♀♀ 257, —, —; unsexed 250. Tail ♂♂ 95, 95, 95, 96, 102; ♀♀ 89, —, —; unsexed 94. Culmen (bill and front shield) ♂♂ 68, 69, 71, 71, 79; ♀♀ 63, 64, 66, unsexed —. Tarsus 87, 87, 88, 94, 94; ♀♀ 79, 84, 89, unsexed 85 mm.

Irides: red, dark orange or red brown. Bill: red. Feet: rose or greyish rose, one (♂) dark yellow.

This series of birds is a good deal larger than the birds (*melanopterus*) commented upon by Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 438) from the area north of the Snow Mountains. All birds from the Wissel Lakes are plain breasted, uniform in colour and agree in coloration and wingmeasurements with birds from northern Australia. Compared with 11 birds from Australia of which the measurements (in mm) are:

		Wing	Culmen
Cape York	♂♂ (2)	258-268	60-67
unsexed	(3)	262-268	61-68
E. Australia	(1)	268	75
W. Australia	(1)	280	75
S. Australia	(4)	248-298	61-75

In Australia there is probably an increase in size to the west and south. Is the large Tasmanian race *fletcheri* also inhabiting South Australia?

Birds from the Moluccas (*melanopterus*) are smaller and the wing measurements do not exceed 263 mm.

		Wing	Culmen
Ceram ♂♂	(2)	239-257	63-70
♀	(1)	222	60
unsexed	(2)	238-250	68-72
Buru ♂♂	(2)	239-257	67-69
♀♀	(3)	240-248	67-69

See also the measurements given by Siebers (Treubia, vol. 7, suppl., 1930, pp. 202-203) and Mayr (Am. Mus. Novit., no. 1007, 1938, p. 13).

The pulli show that the species is breeding at the Wissel Lakes. The pulli are black with white tipped feathers at the head, back, chin and throat. Two of the ♀♀ are moulting. All wing feathers are thrown off and new primaries and secondaries are just breaking through the sheath. The tail feathers are also moulting.

Up till now all New Guinea birds were considered to be *melanopterus*.

Pluvialis dominica fulva (Gm.)

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

Etna Bay: 1 ♂ (November 24).
Paniai Lake: 1 ♀ (November 17).

Measurements: Wing ♂ 171, ♀ 164. Tail ♂ 62, ♀ 63. Culmen ♂ 24, ♀ 21. Tarsus ♂ 42, ♀ 42 mm.

Irides: dark brown. Bill: black. Feet: grey.

Charadrius leschenaultii leschenaultii Less.

Charadrius leschenaultii Lesson, Dict. Sci. Nat., éd. Levrault, vol. 42, 1826, p. 36 (Pondicherry, India).

Etna Bay: 1 ♂, 3 ♀♀ (November 25).

Measurements: Wing ♂ 134, ♀♀ 139, 141, 141. Tail ♂ 52, ♀♀ 48, 50, 51. Culmen ♂ 23, ♀♀ 22, 23, 24. Tarsus ♂ 36, ♀♀ 36, 36, 36 mm.

Irides: chocolate brown. Bill: black. Feet: grey.

Numenius phaeopus variegatus (Scop.)

Tantalus variegatus Scopoli, Del Flor. et Faun. Insubr., fasc. 2, 1786, p. 92 (Luzon).

Bobairo: 1 ♂ (September 20).

Measurements: Wing 224. Tail 88. Culmen 67. Tarsus 56 mm.

Irides: dark brown. Bill: black. Feet: grey.

Tringa nebularia (Gunn.)

Scolopax nebularia Gunnerus in Leem's Beskr. Finm. Lapper, 1767, p. 251 (Trondhjem, Norway).

Paniai Lake: 1 — (November 16).
Bobairo: 1 ♀ (August 27).

Measurements: Wing 185, 184 +. Tail 75, 77. Culmen 52, 58. Tarsus 58, 60 mm.

Irides: dark brown and black. Bill: dark grey and black. Feet: pale grey and yellowish grey.

Recorded only a few times from the mainland of New Guinea. The ♀ is moulting the contour feathers, fresh blackish coloured feathers are growing out on mantle and wing coverts.

Actitis hypoleucos (L.)

Tringa Hypoleucos Linné, Syst. Nat., ed. 10, pt. 1, 1758, p. 149 (Sweden).

Araboebivak: 1 ♂ (October 4).
Bobairo: 2 ♀♀ (August 27, September 9).
Enarotali: 1 ♀ (September 11).

Measurements: Wing ♂ 110; ♀♀ 108, 114, 116. Tail ♂ moulting; ♀♀ 52, 55, 58. Culmen ♂ 24; ♀♀ 26, 26, 28. Tarsus ♂ 25; ♀♀ 25, 26, 26 mm.

Irides: brown and black. Bill: grey and black. Feet: pale grey.

Capella megala (Swinhoe)

Gallinago megala Swinhoe, Ibis 1861, p. 343 (Peking).

Paniai Lake: 1 ♀ (November 14).
Araboebivak: 1 ♀ (October 4).

Measurements: Wing 144, 146. Tail 54, 54. Culmen 62, 67. Tarsus 35, 36 mm.

Irides: dark brown. Bill: dark grey or black. Feet: grey or yellowish grey.

Ereunetes ruficollis (Pall.)

Trynga ruficollis Pallas, Reise versch. Prov. Russ. Reichs, vol. 3, 1776, p. 700 (Kulussutai, southern Transbaikalia).

Etna Bay: 9 ♂♂, 10 ♀♀ (November 24-28).

Measurements: Wing ♂♂ 96, 96, 96, 96, 97, 98, 99, 103, —; ♀♀ 94, 96, 98, 99, 99, 99, 100, 102, 104, 104. Tail ♂♂ 41, 41, 42, 42, 43, 43, 44, 47, 52; ♀♀ 42, 43, 43, 43, 44, 44, 44, 45, 47, moulting. Culmen ♂♂ 16, 16, 16, 16, 16.5, 17, 18, 18, 18; ♀♀ 17, 17, 17, 18, 18, 18, 18, 19, 19, 19. Tarsus ♂♂ 18, 18, 18, 18, 18, 19, 19, 19, 19; ♀♀ 19, 19, 19, 19, 19, 19, 19, 19, 19.5, 19.5 mm.

Irides: black. Bill: black. Feet: black.

The name *Eurenetes* Illiger 1811 replaces *Erolia* Vieillot 1816 (cf. Mayr & Delacour, Zoologica 30, 1945, p. 107).

All birds are in winter plumage, some show new dark feathers on mantle and head.

Ereunetes acuminata (Horsf.)

Totanus acuminatus Horsfield, Trans. Linn. Soc. London, vol. 13, pt. 1, 1821, p. 192 (Java).

Paniai Lake: 3 ♂♂ (November 3-9).
Bobairo: 3 ♂♂, 3 ♀♀ (August 27).

Measurements: Wing ♂♂ 127 (♀ ?), 132, 137, 138, 140, 142; ♀♀ 126, 130, 134. Tail ♂♂ 47 (♀ ?), 54, 58, 58, 59, —; ♀♀ 50, 50, 51. Culmen ♂♂ 24, 25 (♀ ?), 25, 26, 27, 27; ♀♀ 24, 25, 28. Tarsus ♂♂ 28 (♀ ?), 30, 30, 31, 32, 32; ♀♀ 29, 30, 31 mm.

Irides: black, greyish brown or dark brown. Bill: black or dark grey (nearly black). Feet: pale grey, yellowish grey or greenish grey.

Limicola falcinellus sibirica Dresser

Limicola sibirica Dresser, Proc. Zool. Soc. London, 1876, p. 674 (Siberia and China).

Etna Bay: 1 ♂, 1 ♀ (November 25 and 28).

Measurements: Wing ♂ 106; ♀ 106. Tail ♂ 37; ♀ 37. Culmen ♂ 30; ♀ 29. Tarsus ♂ 21.5; ♀ 21 mm.

Irides: black. Bill: black. Feet: yellowish grey.

This is a new record for New Guinea. The ♀ has the contour feathers rather worn, in the ♂ new dark feathers are coming through the old worn plumage on mantle and head.

Chlidonias hybrida fluviatilis (Gould)

Hydrochelidon fluviatilis Gould, Proc. Zool. Soc. London, 1842 (1843), p. 140 (Interior of New South Wales).

Bobairo: 4 ♂♂ (August 27).
Mt. Moeno near Paniai Lake: 1 ♂ (September 3).

Measurements: Wing 232, all others are moulting. Central tail feathers 61, 63, 67, 68, 72. Longest tail feathers 79, 84, 85, 88, moulting. Culmen 29, 30, 31, 31, 33. Tarsus 23, 24, 24, 24, 24 mm.

Irides: black, in one specimen brownish grey. Bill: dark red. Feet: dark red.

This is a rather high altitude for this species. The species badly needs a revision.

Ptilinopus rivoli bellus Sclater

Ptilinopus bellus Sclater, Proc. Zool. Soc. London, 1873, p. 696, pl. 57 (Hatam, Arfak Mts.).

Bobairo: 2 ♂♂ (August 25 and September 22).
Between Paniai Lake and Koegapa: 1 ♂ (September 2).
Coll. van Eechoud: Vivresbivak, Oerimoeka River: 1 ♂ (1-11-1938).
No locality: 1 — (no date).

Measurements: Wing 135, 137, 138, 142, 142. Tail 81, 81, 86, 86, 89. Culmen —, —, 15, 17, 17. Tarsus 22, 22, 23, 23, 24 mm.

Irides: pale yellow or pale red. Bill: yellow or pale yellow. Feet: red or pale red.

Below I give the measurements (in mm) of the specimens of the races *prasinorrhous* and *miqueli* in the Leiden Museum.

		Wing	Tail	Culmen
prasinorrhous:				
Gr. Kei Isl.	(7)	119-131	64-76	15-18
L. Kei Isl.	(3)	117-120	67-72	15
P. Kur	(2)	125-126	67-74	15-16
P. Tiur	(4)	116-126	70-79	15-16
P. Watubela	(4)	118-124	71-79	15-16
Goram	(3)	121-131	63-77	15-16
P. Pandjang near Goram	(2)	119-122	69-73	15-16
Misol	(2)	120-123	68-77	15-17
Gag	(8)	119-128	69-77	14-18
Gebe	(6)	122-125	71-79	14-17
P. Damar, east of Halmahera	(2)	125-133	79-83	14-16
Ambon	(2)	128	78	15
Buru	(6)	119-130	68-78	13-15
Numfor	(8)	124-131	66-79	15-16
Mios Korwar	(1)	124	72	15
miqueli:				
Japen	(4)	123-132	68-80	13-15
Meos Num	(4)	127-134	74-87	14-15

Ptilinopus viridis pectoralis (Wagler)

Columba pectoralis Wagler, Oken's Isis 22, 1829, p. 740 (Manokwari restricted by Mayr).

Etna Bay: 4 ♂♂, 2 ♀♀ (November 24-28).

Measurements: Wing ♂♂ 114, 115, 117, 117; ♀♀ 114, 118. Tail ♂♂ 62, 62, 62, 67; ♀♀ 58, 61. Culmen ♂♂ 15, 15, 15, 16; ♀♀ 14, 15. Tarsus ♂♂ 22, 23, 23, 24; ♀♀ 21, 23 mm.

Irides: orange. Bill: yellow. Feet: red.

The collecting of these birds at Etna Bay extends the known range of this species slightly more to the east. Up till now it was known as far as Lobo Bay.

From *pectoralis* the Leiden Museum possesses moreover 2 ♂♂ from Amberbaki, 1 ♂ Mansinam, 1 ♂, 1 ♀ Lobo Bay. From Waigeu 1 ♂, 1 ♀, Batanta 1 —, Misol 7 ♂♂, 4 ♀♀, Gagi 1 ♂, Gebe 3 ♂♂, 1 ♀. The material is too old and discoloured to judge colour differences. The measurements show that the New Guinea birds on an average are largest. The birds from Waigeu range rather small, but Stresemann & Paludan (Novit. Zool. 38, 1932, p. 182) give the wing measurements of 6 ♂♂ from this island as 112.5-116 mm.

		Wing	Tail	Culmen
New Guinea	(11)	113-121 (average 116)	56-67	14-16
Waigeu	(2)	111-112	55-58	14
Batanta	(1)	112	—	14
Misol	(11)	109-119 (average 113)	56-61	12-15
Gagi	(1)	111	60	14
Gebe	(4)	110-112	56-67	13-15

From *viridis viridis* the following material is available: Ambon, Haruku and Nusa Laut 8 ♂♂, 10 ♀♀, 7 —, Buru 7 ♂♂, 4 ♀♀, Ceram 1 ♂, 1 ♀, 1 —, Manawoka 3 ♂♂, 2 ♀♀, Goram 2 ♂♂.

Siebers (Treubia 7, suppl., 1930, p. 175) supposed that Buru birds might be larger than those from Ceram and Ambon. This is not confirmed by the material I had before me. It may be that the bill in birds from Buru is slightly smaller. The slight colour differences described by Siebers I could not check on our old material.

Measurements (in mm):

		Wing	Tail	Culmen
Ambon, Haruku & Nusa Laut	(25)	110-123 (average 115.5)	53-65	13-16
Buru	(11)	111-120 („ 115.2)	54-62	12-13
Ceram	(3)	113-120 („ 115.7)	57-60	13-15
Manawoka	(5)	111-119 („ 116)	58-63	13-15
Goram	(2)	113-118 („ 115.5)	60-63	13

The type series of *Ptilinopus viridis geelvinkianus* consists of 2 ♂♂, 1 ♂ imm. from Numfor and 3 ♂♂ from Meos Num collected by von Rosenberg. Moreover there is 1 ♂ from Andai, Vogelkop, which record is reported as very doubtful by Mayr in his List of New Guinea Birds (1941, p. 40). As a matter of fact there is no doubt about the identification of the bird, which is correct. The date of collecting (1-3-1870) confirms that von Rosenberg really got it at the place indicated. It may be, however, that the bird was bought from the natives, who brought it from one of the islands, where this race occurs.

There are 3 other mounted birds 1 ♂, 1 ♀ from Soëk (Biak) and 1 ♀ from Numfor (Mafoor), which were reported by Schlegel (Mus. Pays Bas, Columbae, 1873, p. 24) as *pectoralis*. This statement has given some trouble in literature and even caused that *geelvinkianus* was considered a separate species occurring side by side with *pectoralis* in the same area. Reexamination of the material showed me that both ♀♀ (Soëk and Mafoor) are not *pectoralis*, but ♀♀ of *geelvinkianus*. The ♂ belongs to *pectoralis* (wing 111 mm), as it shows a small purple patch on the breast and the grey spots on the tertiaries. Both characters are lacking in the above mentioned ♀♀, in which, moreover, the grey on the head extends further backwards than in ♀♀ of *pectoralis*. For the ♂ the collecting date given is March 1869, in which month von Rosenberg collected at Soëk. It may be that the occurrence of *pectoralis* on Soëk (Biak) has to be explained in the same way as is given above for the occurrence of *geelvinkianus* in Andai (Manokwari), or it may be a straggler.

The measurements (in mm) of the specimens, formerly called *geelvinkianus*, in the Leiden Museum are:

		Wing	Tail	Culmen
Numfor	♂♂ (3)	106-113	46-59	13-14
Numfor	♀ (1)	106	55	14
Biak (Soëk)	♀ (1)	107	55	15
Andai	♂ (1)	111	54	14
Meos Num	♂♂ (3)	113-115	53-58	15

Additional measurements are given by Stresemann & Paludan (Novit. Zool., vol. 38, 1932, p. 205) for 8 specimens from Numfor, which range from 104.5-112 mm. Mayr & de Schauensee (Proc. Ac. Nat. Sc. Philadelphia, vol. 91, 1939, p. 18) measured 4 specimens from Biak, which had wing measurements of 107-112 mm. Dr. F. Capra kindly supplied the wing measurements of the specimens collected by Beccari and present in the Genoa Museum: Korido (Biak) ♂ 109, ♀♀ (2) 109-110, P. Manin (Numfor) ♂♂ (2) 109-111, ♀ 108, Doreh (Bruyn leg.) ♀ 108, Meos Num ♂♂ (2) 112-117, ♀ 112 mm.

This shows that of the 21 specimens from Numfor and Biak not one reaches a wing measurement of 113 mm. The specimens from Meos Num are exceedingly large. In the material before me it is also shown that the latter have heavier bills. The same can be said from 2 birds from Marai Island off the south of Japen (Mayr in litt.). They also have very large wing measurements: 115 and 117 mm.

Earlier I restricted the type locality of *geelvinkianus* to Numfor and described the larger birds from Meos Num as *Ptilinopus viridis pseudo-geelvinkianus* (Zool. Mededelingen, vol. 31, no. 22, 1952, p. 247). Birds from Marai Island belong to this race.

Ptilinopus aurantiifrons Gray

Ptilinopus aurantiifrons G. R. Gray, Proc. Zool. Soc. London, 1858, p. 185, pl. 137 (Aru Islands).

Etna Bay: 1 ♂, 1 ♀ (November 28).

Measurements: Wing ♂ 134; ♀ 135. Tail ♂ 64; ♀ 61. Culmen ♂ 20; ♀ 19. Tarsus ♂ 22; ♀ 22 mm.

Irides: orange. Bill: yellow. Feet: red.

The orange front band is rather small in these 2 specimens, much broader in 2 specimens from near the Humboldt Bay, but the character is variable in 5 birds from the Aru Islands. The measurements do not show much difference, though the Humboldt Bay specimens range rather small. Stresemann & Paludan (Mitt. Zool. Mus. Berlin, vol. 20, 1935, p. 451), however, record small measurements for birds from Merauke.

Ducula rufigaster rufigaster (Quoy & Gaim.)

Columba rufigaster Quoy & Gaimard, Voy. Astrolabe, Zool. 1, 1830, p. 245, pl. 27 (Doreh, New Guinea).

Etna Bay: 1 ♀ (November 21).

Measurements: Wing 200. Tail 116. Culmen 21. Tarsus 35 mm.

Irides: red. Bill: black. Feet: dark red.

I compared and measured the material of *Ducula rufigaster* present in the Leiden Museum. The measurements (in mm) are:

		Wing	Tail	Culmen
Andai	(3)	187-192	106-113	18-20
Arfak Mts.	(1)	185	105	18
Sorong	(3)	188-197	110-116	18-20
Salawati	(3)	191-194	112-115	17-20
Waigeu	(1)	193	112	18

		Wing	Tail	Culmen
Misol	(4)	199-204	110-123	18-20
Etna Bay	(4)	196-203	112-116	18-21
Noord River	(17)	190-206	106-118	18-22
Japen	(4)	190-195	104-112	18-19
Tawarin, Humboldt Bay	(1)	195	111	20

These measurements suggest that birds from Etna Bay and Misol range larger than those from the Vogelkop, Waigeu and Salawati. Additional measurements from material in the American Museum of Natural History, kindly supplied by Dr. E. Mayr, show, however, that the variation range of birds from Misol and Waigeu do not differ materially from the other populations. The given measurements are Misol (4) wing 190.5-201.5, Waigeu (4) wing 187-196 mm.

The birds from Japen and Tawarin are of about the same size as birds from the Vogelkop, but they are separable on the characters given by Stresemann & Paludan in their original description of *uropygialis* (Novit. Zool. vol. 38, 1932, p. 243) having rump and upper tail coverts more reddish, less blue tinged than in the nominal race. In the latter the amount of blue on rump and upper tail coverts is rather variable, in 2 specimens from Misol these parts are dark violet blue with hardly any trace of red.

The series from the Noord River, south of the Oranje Mountains, are more or less intermediate in this character between *rufigaster* and *uropygialis*. In the colour of the head, though it is variable too in these birds, they correspond with birds from the nominal race, having the head greyish and not so brownish as in *uropygialis*. In the slightly larger size they agree with birds from the Etna Bay and Misol. They differ, however, from all other material compared, by the decidedly paler breast and abdomen, which never reaches the warm brown colour of the other populations and were recently described as *pallida* (Zool. Mededelingen, vol. 31, no. 22, 1952, p. 248).

Pallida also occurs on the southern slopes of the Nassau range, as is shown by some skins from the Setekwa and Mimika Rivers in the British Museum, which I could compare thanks to the kindness of Mr. E. Banks.

Reinwardtoena reinwardtsi griseotincta Hart.

Reinwardtoenas reinwardtsi griseotincta Hartert, Novit. Zool., vol. 3, 1896, p. 18 (Mailu, Orangerie Bay, East New Guinea).

Etna Bay: 1 ♂ (November 25).

Coll. van Eechoud: Vivresbivak, Oerimoeka River: 1 ♀ (1-11-1938).

Measurements: Wing ♂ 237, ♀ 234. Tail ♂ 281, ♀ 283. Culmen ♂ 21, ♀ 23. Tarsus ♂ 27, ♀ 27 mm.

Irides: brown (♂) or orange (♀). Bill: red with greyish tip. Feet: red.

Pseudeos fuscata incondita (Meyer)

Eos incondita A. B. Meyer, Zeitschr. ges. Ornith., vol. 3, 1886, p. 6, pl. I (South east New Guinea and Japen).

Coll. van Eechoud: Bobare (Bobairo): 1 ♀ (11-8-1938).

Measurements: Wing 162. Tail 95. Culmen 21. Tarsus 18 mm.

Irides: red.

A specimen in the red phase.

Psitteuteles goldiei (Sharpe)

Trichoglossus Goldiei Sharpe, Journ. Linn. Soc., London, Zool., vol. 16, 1882, p. 317 (Astrolabe Mountains).

Araboebivak: 1 ♀ imm. (October 30).

Measurements: Wing ♀ 106 (moulting). Tail moulting. Culmen 12. Tarsus 13 mm.

Eyes: black. Bill: black. Feet: grey.

This is an immature specimen with reddish forehead and purplish blue head. Ear coverts reddish blue, cheeks reddish. Compared with 2 adult birds from the Oranje Mountains the underside is much more yellow (less greenish) and the green streaks are smaller. Ogilvie-Grant (Ibis, suppl., 1915, p. 229) mentioned that an adult specimen from the Iwaka River, Nassau range had the under parts yellower green than in specimens from the Astrolabe Mountains. Mayr (in litt.), however, comparing material in the American Museum informs me that the size of the streaks and the yellowness of the under parts seems to vary individually.

Lorius lory rubiensis Meyer

Lorius erythrothorax rubiensis A. B. Meyer, Abh. Ber. Zool. Mus. Dresden, vol. 4, 1892-1893, no. 3, p. 10 (Rubi, south of the Geelvink Bay).

Etna Bay: 1 ♂, 1 ♀ (November 21 and 24).

Measurements: Wing ♂ 157, ♀ 150. Tail ♂ 88, ♀ 91. Culmen ♂ 25, ♀ 22. Tarsus ♂ 23, ♀ 21 mm.

Irides: yellow. Bill: red. Feet: black.

Charmosyna papou goliathina Rothsch. & Hart.

Charmosyna stellae goliathina Rothschild & Hartert, Novit. Zool., vol. 18, 1911, p. 160 (Mt. Goliath, Oranje Mountains).

Araboebivak: 1 ♂, 2 ♀♀ (October 25 and 30).

Coll. van Eechoud: Vivresbivak, Oerimoeka River: 1 ♂, 1 ♀ (12-10-1938).

Measurements: Wing ♂♂ 138, 139; ♀♀ 134, 138, 142. Tail ♂♂ 269, 277; ♀♀ 238, 256, —. Culmen ♂♂ 17, 17; ♀♀ 16, 16.5, 17. Tarsus ♂♂ 17, 18; ♀♀ 16, 17, 18 mm.

Irides: orange. Bill: red. Feet: yellow or dark yellow.

One of the specimens (♂) is in the dark phase, all others are in the bright phase.

Neopsittacus musschenbroekii medius Stres.

Neopsittacus musschenbroekii medius Stresemann, Mitt. Zool. Mus. Berlin, vol. 21, 1936, p. 231 (Sumuri, Weyland Mountains).

Bobairo: 2 ♂♂, 2 ♀♀ (August 24, September 8 and 10).
Enarotali: 2 ♂♂ (September 26).
Poewaida, east of Enarotali: 1 ♀ (September 9).
Between Paniai Lake and Koegapa: 1 ♂, 2 ♂♂ imm., 2 ♀♀ (September 2-18).
Araboebivak: 1 ♂, 3 ♂♂ imm., 3 ♀♀ (October 12-27 and November 4-6).

Measurements: Wing ♂♂ 115, 118, 119, 120, 121, 124, ♂♂ imm. 111, 112, 112, 114, —; ♀♀ 112, 114, 115, 115, 116 116, 119, 121. Tail ♂♂ 88, 94, 100, 103, 104, —. ♂♂ imm. 81, 85, 88, 92, —; ♀♀ 90, 90, 91, 97, 97, 98, 105, —. Culmen ♂♂ 16, 17, 17, 17, 17, 18, ♂♂ imm. 15, 16, 17, 17, —; ♀♀ 16, 16, 16, 16.5, 17, 17, 17. 17. Tarsus ♂♂ 13, 14, 14, 15, 15, 15, ♂♂ imm. 13, 14, 14, 15, —; ♀♀ 14, 14, 14, 15, 15, 15, 15, 16 mm.

Irides: dark yellow or orange (one ♀ pale yellow). Bill: yellow. Feet: grey.

Stresemann in his description of *medius* gives as the distinguishing characters between *musschenbroekii, medius* and *major* besides the difference in size, the colour of the cheek feathers. The shaft streaks of the nominal race are said to be greener than those of *medius* which are more yellow green and olive green in *major*. The colour of the shaft streaks is rather variable in the material before me. The series of the Wissel Lake region could be compared with 7 adult birds from the Arfak Mountains and it was shown that the shaft streaks in many of the former birds are greener than in the Arfak birds. In a few others this colour is the same in both series. The colour of the shaft streaks seems to be as variable as the colour of the breast and belly. Besides by the larger size the birds from the Wissel Lake region and the Oranje Mountains are separable by the clearer yellow tips of the tail feathers, the more rufous coloured nape and in general the more pronounced streaks on the head, though this is a variable character too.

I have not seen *major* from SE. New Guinea, the only difference described between *medius* and *major* is the colour of the shaft streaks in

the cheek feathers. Mayr (in litt.), however, pointed out that there are other differences between *major* and both other races, being the paler nape mixed with reddish, the more yellowish green of flanks and cheeks and the lighter more brick red under parts of *major.*

Neopsittacus pullicauda alpinus Og.-Grant

Neopsittacus musschenbroeki alpinus Ogilvie-Grant, Bull. B.O.C., vol. 35, 1914, p. 12 (Utakwa River, New Guinea).

Araboebivak: 1 ♂, 1 ♀ (October 10 and 12).

Measurements: Wing ♂ 111, ♀ 105. Tail ♂ 95, ♀ 91. Culmen ♂ 13, ♀ 13. Tarsus ♂ 14, ♀ 13 mm.

Irides: orange. Bill: yellow (♂), yellowish orange (♀). Feet: grey.

I cannot separate these two birds from a series of 10 birds from the Oranje Mountains. Compared with the measurements given by Rand (Bull. Am. Mus. Nat. Hist., vol. 79, art. 7, 1942, p. 449) for birds from the latter locality the ♂ from Araboebivak has a large wing measurement for the rather low altitude (1750 m) at which it is collected. The species can even come down to 800 m (Heuvel bivak, Oranje Mountains; cf. Nova Guinea, N.S., vol. 1, 1937, p. 162).

Psittaculirostris desmarestii intermedia (v. Oort)

Cyclopsitta desmarestii intermedia van Oort, Notes Leyden Mus., vol. 30, 1909, p. 229 (Sekru, Onin Peninsula).

Etna Bay: 1 ♂ (November 24).

Measurements: Wing 113. Tail 63. Culmen 19.5. Tarsus 17 mm.

Reexamining the material on which van Oort based the race *intermedia,* I find that all characters which van Oort mentioned for separating the birds from the Onin Peninsula from those of the Vogelkop hold good and that there is no reason to sink *intermedia* into the synonymy of *desmarestii.* In birds from Arfak and Doreh the colour of the front band is the same as in *intermedia.* Pileum and hind neck, however, are much more orange yellow in *intermedia.* The blue occipital spot is quite or nearly lacking in the majority of specimens of *intermedia,* more pronounced in *desmarestii.* The difference in the colour of the suborbital spot is very slight in both series. Differences in size do not exist:

		Wing	Tail	Culmen
desmarestii	(9)	110-115	60-64	18-21 mm
intermedia	(8)	108-113	57-66	18.5-21 mm

Cacatua galerita triton Temm.

Cacatua triton Temminck, Coup d'Oeil gén. sur les poss. Néerl. dans l'Inde archip., vol. 3, 1849, p. 405 (note) (Aiduma Island near Triton Bay, New Guinea).

Etna Bay: 1 ♂ (November 23).

Measurements: Wing 315. Tail 162. Culmen 46. Tarsus 35 mm.

Irides: black. Bill: grey. Feet: grey.

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

Psittacus pectoralis P. L. S. Müller, Syst. Nat., suppl., 1776, p. 78 (China errore — Onin Peninsula, New Guinea (restricted by Stresemann)).

Etna Bay: 1 ♂ (November 22).

Measurements: Wing 264. Tail 130. Culmen 46. Tarsus 26 mm.

Irides: dark orange. Maxilla: dark orange. Mandible: black. Feet: black.

Geoffroyus geoffroyi pucherani Souancé

Geoffroyus Pucherani Souancé, Rev. Mag. Zool., vol. 2, 8, 1856, p. 218 (Triton Bay, New Guinea).

Etna Bay: 1 ♂ (November 27).

Measurements: Wing 163. Tail 75. Culmen 22. Tarsus 16 mm.

Irides: pale yellow, nearly white. Maxilla red, mandible grey. Feet: grey.

Alisterus chloropterus wilhelminae (Og.-Grant)

Aprosmictus wilhelminae Ogilvie-Grant, Bull. Brit. Orn. Club, vol. 27, 1911, p. 83 (Kapare River, Nassau Mountains).

Araboebivak: 1 ♀ (October 6).

Measurements: Wing 191. Tail 205. Culmen 20. Tarsus 18 mm.

Irides: orange. Bill: orange. Feet: grey.

Psittacella modesta collaris Og.-Grant

Psittacella modesta collaris Ogilvie-Grant, Bull. B.O.C., vol. 35, 1914, p. 13 (Utakwa River, New Guinea).

Paniai Lake: 1 ♀ (September 4).
Bobairo: 1 ♂ (August 26).
Enarotali: 1 ♂, 1 ♀ (September 11 and 19).
Between Paniai Lake and Koegapa: 1 ♂ (September 4).
Araboebivak: 1 ♂ (October 30).

Measurements: Wing ♂♂ 96, 98, 99, 102; ♀♀ 98, 98. Tail ♂♂ 56, 60, 60, 62; ♀♀ 58, 62. Culmen ♂♂ 14, 14, 15, 15; ♀♀ 14, 14. Tarsus ♂♂ 15, 15, 15, 16; ♀♀ 15, 16.

The ♂♂ of these birds show some individual variation especially in the colour of the sides of the head and throat. These parts are rather pale in the bird from Bobairo, much darker brown in the ♂ from Enarotali. In the latter also the crown is darker. Compared with 3 ♂♂ from the Oranje Mountains two of them are slightly more yellowish brown on the crown, one, however, is unseparable from the birds from the Wissel Lake district. The yellow collar does not show much difference in both series, nor can I detect differences in the colour of the green upper parts.

I have not seen *subcollaris,* which Rand described from the northern slopes of the Oranje Mountains (Am. Mus. Novit., no. 1102, 1941, p. 8), but there seems to be no reason not to list these birds as *collaris.* Perhaps they show a slight tendency towards *subcollaris.*

The ♀ shows red tipped feathers on the collar and hind neck, the upper parts are slightly banded. The ♀ from Paniai has been preserved in spirits and is badly discoloured.

Up till now the most western locality where this race was known to occur was the Utakwa River in the southern range of the Nassau Mountains.

Psittacella brehmii intermixta Hart.

Psittacella brehmii intermixta Hartert, Novit. Zool., vol. 36, 1930, p. 107 (Mt. Goliath, Oranje Mountains).

Bobairo: 2 ♂♂, 1 ♂ imm. (August 25, September 10 and 21).
Enarotali: 1 ♂ (November 2).
Between Paniai Lake and Koegapa: 1 ♂ (September 7).
Araboebivak: 1 ♂, 1 ♀ (October 6 and 27).

Measurements: Wing ♂♂ 123, 128, 129, 131, 142, ♂ imm. 127; ♀ 128. Tail ♂♂ 85, 95 (moulting), 96 (worn), 107, —, ♂ imm. 96; ♀ 99. Culmen ♂♂ 20, 20, 21, 23, 23, ♂ imm. 20; ♀ 21. Tarsus ♂♂ 19, 19, 20, 21, 21, ♂ imm. 19; ♀ 18 mm.

Irides: orange, one dark yellow. Bill: pale grey to grey. Feet: grey or dark grey.

I cannot separate these birds from a series of birds from the southern slopes of the Snow Mountains. They show the same variation in the colour of the heads as I reported for the Snow Mountain birds (Nova Guinea, NS, vol. 1, 1937, p. 169). There is also variation in the intensity of the yellow and black colour on the under side and the black on the mantle in the ♀♀ from the Snow Mountains. Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 452) too pointed to the great variation in colour and size between the different populations of the Snow Mountains, Mt. Goliath and the Weyland Mountains.

Cacomantis pyrrhophanus excitus Rothsch. & Hart.

Cacomantis excitus Rothschild & Hartert, Novit. Zool., vol. 14, 1907, p. 436 (Angabunga River, SE. New Guinea).

Bobairo: 1 ♂, 1 ♀ (August 24, September 11).

Measurements: Wing ♂ 138; ♀ 142. Tail ♂ —; ♀ 134. Culmen ♂ 16, ♀ 17. Tarsus ♂ 19; ♀ 20 mm.

Irides: ♂ dark brown, ♀ chocolate brown. Bill: black. Feet: ♂ dark yellow, ♀ yellow.

Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 454) was the first who collected a larger series north of the Snow Mountains, further only known by single specimens from the southern slopes of the Oranje Mountains, Nassau range, Weyland Mountains and Arfak in Dutch New Guinea. Both specimens from Bobairo are adult, the ♀ being slightly darker below with a fine broken barring.

Cacomantis castaneiventris arfakianus Salvad.

Cacomantis arfakianus Salvadori, Ornith. Pap. Mol., Agg., 1889, p. 49 (Arfak Mountains).

Enarotali: 1 ♀ (September 25).

Measurements: Wing 115. Tail —. Culmen 17. Tarsus 18 mm.

Irides: brown. Bill: black. Feet: yellow.

The difference between *arfakianus* and the larger *weiskei* from SE. New Guinea seems to be rather illusive, though I am not yet convinced that there is not something in Hartert's suggestion (Novit. Zool., vol. 32, 1925, p. 171) that birds from the higher altitudes range larger than those from lower altitudes (cf. Nova Guinea, N.S., vol. 1, 1937, pp. 180-181).

Chalcites ruficollis (Salvad.)

Lamprococcyx ruficollis Salvadori, Ann. Mus. Civ. Genova, vol. 7, 1875, p. 913 (Hatam, Arfak Mountains).

Enarotali: 3 ♀ ♀ (September 7-21).

Measurements: Wing 94, 95, 96. Tail 60, 62, 63. Culmen 13, 14, —. Tarsus 16, 17, 17 mm.

Irides: dark brown or brown. Bill: black. Feet: yellowish grey.

The species was not yet represented in the collections of the Leiden Museum.

Chalcites meyerii (Salvad.)

Chrysococcyx meyerii Salvadori, Ann. Mus. Civ. Genova, vol. 6, 1874, p. 82 (Hatam, Arfak Mountains, New Guinea).

Araboebivak: 2 ♂♂, 2 ♀♀ (October 23 and 29, November 6).

Measurements: Wing ♂♂ 90, 91; ♀♀ 91, 95. Tail ♂♂ 62, 63; ♀♀ 64, 65. Culmen ♂♂ 14, —; ♀♀ 14, 15. Tarsus ♂♂ 14, 15; ♀♀ 16, 16 mm.

Irides: dark brown, eyelids ♂♂ white, ♀♀ vermillion red. Bill: dark grey. Feet: grey.

Ninox theomacha theomacha (Bp.)

Spiloglaux theomacha Bonaparte, Compt. Rend. Acad. Sci. Paris, vol. 41, 1855, Arfak Mountains, New Guinea).

Araboebivak: 1 ♂ (October 3).

Measurements: Wing 189. Tail 89. Culmen —. Tarsus 33 mm.

Irides: yellow. Bill: pale grey. Feet: pale yellow.

The mainland form of this species is new to the collections of the Leiden Museum. Compared with both type specimens (♂ and ♀) of *hoedtii* from Misol, the latter are paler brown above with the head greyish brown, not blackish as in *theomacha*. In the ♂ of *N. th. hoedtii* the under side is a trifle paler than in the specimen of the nominal race. Moreover *hoedtii* is smaller; wing ♂ 176, ♀ 177, tail ♂ 85, ♀ 88, culmen 16 mm in both specimens.

Podargus papuensis Quoy & Gaim.

Podargus papuensis Quoy & Gaimard, Voy. Astrolabe, Zool., 1, 1830, p. 207 (Doreh, Vogelkop, New Guinea).

Coll. van Eechoud: Oerimoeka River: 1 ♀ (11-10-1938).

Measurements: Wing 285. Tail 260. Culmen from base 44. Tarsus 24 mm.

Irides: orange.

Aegotheles insignis insignis Salvad.

Aegotheles insignis Salvadori, Ann. Mus. Civ. Genova, vol. 7, 1875, p. 916 (Hatam, Arfak Mountains, New Guinea).

Araboebivak: 4 ♂♂, 3 ♀♀ (October 16-29, November 2-7).

Measurements: Wing ♂♂ 164, 164, 166, 168; ♀♀ 164, 166, 176. Tail ♂♂ 126, 129, 129, —; ♀♀ 130, 132, 145. Culmen from base of skull

♂♂ 19, 20, 21, 22; ♀♀ 21, 23, 24. Tarsus ♂♂ 22, 22, 23, 23; ♀♀ 21, 23, 24 mm.

Irides: brown. Bill: mostly pale grey, one pale brown, two black. Feet: pale rose.

Two of these birds are preserved in spirit and badly discoloured. Perhaps one of these birds was in the brown phase, all others are rufous coloured. In one of the specimens (♂) the upper parts are distinctly banded, in another one these transverse bands are indistinct, but the colour of the upper parts is darker than in the other skins. Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 457) suggested that *pulcher* from SE. New Guinea can be better synomized with *insignis,* the size difference being very small.

A bird from the Arfak Mountains (July 1874) in the Leiden Museum measures: wing 157, tail 125, culmen from base of skull 20 mm. These measurements are rather small, but the variation in size seems to be nearly as great as in the colour (cf. also the measurements given by Rand (l.c.)).

Aegotheles albertisii salvadorii Hart.

Aegotheles salvadorii Hartert, Cat. Birds Brit. Mus., vol. 16, 1892, p. 649 (Astrolabe Mountains).

Paniai Lake: 1 ♂ (November 15).
Araboebivak: 2 ♂♂, 3 ♀♀ (October 13-30).

Measurements: Wing ♂♂ 123, 123, 127; ♀♀ 122, 123, 129. Tail ♂♂ 96, 99, 105; ♀♀ 97, 102, 103. Culmen ♂♂ 9, 9, 10; ♀♀ 9, 10, 10. Tarsus ♂♂ 20, 22, 22; ♀♀ 20, 20, 20 mm.

Irides: brown. Bill: black (3), grey (1), pale grey with black tip (2). Feet: pale rose, pale yellow (1).

Compared with 6 specimens of *Aegotheles albertisii salvadorii* from SE. New Guinea (Mt. Tafa, Murray Pass and Mambare River), kindly sent on loan by the American Museum of Natural History and with 2 specimens of *a. albertisii* from the Vogelkop. The specimens from the Wissel Lake district are nearest *salvadorii.* Four specimens are in the rufous phase, one in the black phase and another is more or less intermediate. The birds in the rufous phase from the Wissel Lakes are of a brighter rufous colour than birds from SE. New Guinea. The white spots in scapulars and wing coverts are larger and more pronounced, the rufous feathers on the upper side of the head are more numerous. On the breast the rufous is more pronounced than in the specimens of *salvadorii.* The specimen in the dark phase has the upper side finer speckled, less barred than in *salvadorii.*

The specimens of *albertisii albertisii* are also in the rufous phase, and are brighter rufous coloured on the upper parts and the black bars are heavier.

Though the specimens from the Wissel Lake district are not quite identical with true *salvadorii,* considering the enormous variability in this species it is unwise to separate them until much more material can be compared.

Aegotheles archboldi Rand

Aegotheles albertisii archboldi Rand, Am. Mus. Novit., no. 1102, 1941, p. 10 (9 km NE. of Lake Habbema, Oranje Mountains).

Araboebivak: 2 ♂♂ (October 28, November 4).

Measurements: Wing 120, 121. Tail 89, 95. Culmen 9, 9. Tarsus 19, 20 mm.

Irides: brown and pale brown. Bill: black and yellow. Feet: grey.

Compared with 6 specimens of *archboldi,* kindly sent on loan by the American Museum of Natural History. The birds from Araboebivak correspond closely with the birds from Lake Habbema and from north of Mt. Wilhelmina. This species also shows a large variation. One of the birds from Araboebivak is in the rufous phase, the other specimen is blacker coloured.

The interesting fact that *albertisii salvadorii* and *archboldi* are collected in the same locality shows that *archboldi* cannot be considered as a race of *albertisii,* but must be raised to specific rank.

Caprimulgus macrurus yorki Math.

Caprimulgus macrurus yorki Mathews, Novit. Zool., vol. 18, 1912, p. 291 (Cape York, Queensland).

Araboebivak: 1 ♂ juv. (October 24).

Irides: dark brown. Bill: grey. Feet: grey.

This is a fledgling of which wing and tail feathers are just growing out. That this species also occurs at higher altitudes was first mentioned by Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 457), who collected a specimen at 1600 m. This young bird has been collected at about 1750 m.

Collocalia esculenta esculenta (L.)

Hirundo esculenta Linné, Syst. Nat., 10th ed., 1758, p. 191 (Ambon).

Paniai Lake: 1 ♂ (September 30).
Enarotali: 1 ♂ (September 22).
Araboebivak: 1 ♂ (November 6).

Measurements: Wing 104, 105, —. Tail 41, 42, —. Culmen 3, 3, 3. Tarsus 8, 8, 8 mm.

Irides: dark brown or black. Bill: black. Feet: pale rose, black (1).

The ♂ from Araboebivak has the the wing feathers moulting, nearly all primaries are growing out. These specimens are rather small, considering the altitude at which they are collected (cf. Rand, Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 458).

Collocalia hirundinacea hirundinacea Stres.

Collocalia fuciphaga hirundinacea Stresemann, Verh. Ornith. Ges. Bayern, vol. 12, 1914, p. 7 (Setekwa River, south New Guinea).

Meijepa, Tigi Lake: 1 ♂ (November 12).

Measurements: Wing 114. Tail (longest tailfeathers) 46. Culmen 4. Tarsus 10 mm.

Lack of adequate material makes the identification of this single specimen difficult. I bring this bird to *hirundinacea* because the tarsi are slightly feathered on the sides and as it was collected at an altitude of 1650 m, where *vanikorensis* should not occur. On the other hand the under parts are rather smoky brown.

Syma megarhyncha wellsi Math.

Syma torotoro wellsi Mathews, Birds Australia, vol. 7, 1918, p. 113 (Upper Utakwa River, Nassau range).

Bobairo: 1 ♀ (August 22).
Between Paniai Lake and Koegapa: 1 ♀ (September 2).

Measurements: Wing 86, 93. Tail 63, 69. Culmen 37, —. Tarsus 16, 16 mm.

Irides: dark blue. Bill: orange with black culmen ridge. Feet: orange.

Sauromarptis gaudichaud (Quoy & Gaim.)

Dacelo gaudichaud Quoy & Gaimard, Voy. Uranie, Zool., 1825, p. 112, pl. 25 (Waigeu).

Etna Bay: 1 ♂ (November 21).

Measurements: Wing 132. Tail 91. Culmen 45. Tarsus 17 mm.

Irides: brown. Bill: pale green, culmen ridge black. Feet: pale green.

Halcyon sancta sancta Vig. & Horsf.

Halcyon sancta Vigors & Horsfield, Trans. Linn. Soc. London, vol. 15, 1827, p. 206 (New South Wales).

Bobairo: 2 ♂♂, 1 ♂?, 2 ♀♀ (September 11-26).
Enarotali: 1 ♂ (September 8).

Measurements: Wing ♂♂ 88, 92, 92, 95; ♀♀ 91, 92. Tail ♂♂ 55, 55, 56, 58; ♀♀ 57, 60. Culmen ♂♂ 34, 35, 35, —; ♀♀ 37, 39. Tarsus ♂♂ 12, 12, 12, 13; ♀♀ 12, 13 mm.

Irides: brown. Bill: grey, dark grey, black. Feet: grey to greyish brown.

Eurystomus orientalis pacificus (Lath.)

Coracias pacifica Latham, Index Ornith., Suppl., 1801, p. 27 (New South Wales).

Bobairo: 1 ♂ (September 24).

Measurements: Wing 189. Tail 89. Culmen 22. Tarsus 17 mm. Height of bill 12.5 mm. Wing-tail ratio 47 %. Wing-tip index 37 %.

Irides: coffee brown. Bill: red. Feet: red.

A specimen of the migratory race from Australia.

Hirundo tahitica frontalis Quoy & Gaim.

Hirundo frontalis Quoy & Gaimard, Voy. Astrolabe, Zool. 1, 1830, p. 204, pl. 12 (Doreh, Vogelkop, New Guinea).

Etna Bay: 1 ♂, 1 ♀ (November 25).
Paniai Lake: 2 ♂♂ (September 7-9).
Bobairo: 1 ♂ (August 27).
Enarotali: 2 ♂♂, 1 ♀ (September 9).

Measurements: Wing ♂♂ 107, 107, 109, 109, 114, 115; ♀♀ 107, 113. Tail (outermost feathers) ♂♂ —, 48, 49, 50, 51, 53; ♀♀ 47, 51. Culmen ♂♂ 9, 9, 9, 9, 10, 10; ♀♀ 9, 10. Tarsus 9, 10, 10, 10, 10, 10; ♀♀ 9, 10 mm.

Irides: brown. Bill: black. Feet: black.

Edolisoma montanum montanum (Meyer)

Campephaga montana A. B. Meyer, Sitzungsber. Akad. Wiss. Wien, vol. 69, p. 386 (Arfak Mountains).

Between Paniai Lake and Koegapa: 1 ♀ (September 8).

Araboebivak: 3 ♂♂, 1 ♀ (October 7-29).

Measurements: Wing ♂♂ 131, 138, 141; ♀♀ 132, 135. Tail ♂♂ 101, 109, 113; ♀♀ 102, 108. Culmen ♂♂ 17, 18, 18; ♀♀ 17, 18. Tarsus ♂♂ 26, 27, 28; ♀♀ 27, 27 mm.

Irides: dark brown, black (1). Bill: black. Feet: black.

Coracina caeruleogrisea strenua (Schleg.)

Campephaga strenua Schlegel, Ned. Tijdschr. Dierkunde, vol. 4, 1873, p. 44 (Arfak Peninsula, New Guinea).

Between Paniai Lake and Koegapa: 1 ♀ (September 7).
Coll. van Eechoud: Bobare (Bobairo): 1 ♀ (14-10-1938).

Measurements: Wing 165, 168. Tail 155, —. Culmen 30, —. Tarsus 28, — mm.

Irides: black. Bill: black. Feet: black.

Coracina longicauda grisea Junge

Coracina longicauda grisea Junge, Nova Guinea (N.S.), vol. 3, 1939, p. 5 (Hellwig Mountains, Oranje range (2600 m)).

Between Paniai Lake and Koegapa: 1 ♂ (September 7).
Araboebivak: 1 ♂, 1 ♀ (October 7).

Measurements: Wing ♂♂ 165, 169; ♀ 161. Tail ♂♂ 146, 147; ♀ 145. Culmen ♂♂ 19, —; ♀ 21. Tarsus ♂♂ 29, 30; ♀ 29 mm.

Irides: brown or black. Bill: black. Feet: black.

This small race was up till now only known from the Oranje Mountains. The collecting of these birds at the Wissel Lakes brings the known distribution of the species much more to the west. The nominal race occurs in the mountains of eastern New Guinea.

Motacilla cinerea caspica (Gm.)

Parus caspicus Gmelin, Reise durch Russland, vol. 3, 1774, p. 104 (Enseli, N. Persia).

Bobairo: 1 ♂ (October 1).
Araboebivak: 1 ♂, 2 ♀♀ (October 11, 28).

Measurements: Wing ♂♂ 81, 83; ♀♀ 81, 85. Tail ♂♂ 87, 90; ♀♀ 88, —. Culmen ♂♂ 13, 13; ♀♀ 12, 12. Tarsus ♂♂ 20, 20; ♀♀ 20, 20 mm.

Irides: ♂♂ brown, ♀♀ black. Bill ♂♂ black, ♀♀ dark grey. Feet: yellowish grey.

Saxicola caprata belensis Rand

Saxicola caprata belensis Rand, Am. Mus. Novit., no. 1072, 1940, p. 4 (Balim River, Snow Mountains).

Paniai Lake: 1 ♂ (November 6).
Araboebivak: 2 ♂♂ (October 8 and 26).

Measurements: Wing 81, 82, 85. Tail 58, 58, 61. Culmen 13, 13, 14. Tarsus 24, 24, 24 mm.

Irides: pale or dark brown. Bill: black. Feet: black.

As I have no ♀ ♀ at my disposition, it is difficult to tell if these birds are exactly like *belensis,* described by Rand from north of Mt. Wilhelmina. They agree, however, perfectly in the larger size, which character separates *belensis* from *aethiops* from NE. and E. New Guinea. Perhaps on an average the birds from the Wissel Lakes are even slightly larger than birds from north of the Snow Mountains. A parallel case therefore as in *Excalfactoria chinensis novaeguineae.* The collecting of these birds, much more to the west than hitherto known, is a support for Stresemann's hypothesis that this species (like some other species of the grasslands) reached the Papuan region via Celebes and the Lesser Sunda Islands (J. f. Ornith., vol. 87, 1939, pp. 321-325) and removes much of the doubt expressed by Mayr (Bull. Am. Mus. Nat. Hist., vol. 83, 1944, p. 156), who remarked that the species was never found in South New Guinea or Australia.

Amalocichla incerta olivascentior Hart.

Amalocichla incerta olivascentior Hartert, Novit. Zool., vol. 36, 1930, p. 85 (Mt. Wondiwoi, Wandammen Mountains).

Araboebivak: 1 ♀, 1 ♀ imm. (October 28).

Measurements: Wing ♀ 77, ♀ imm. 75. Tail ♀ 57, ♀ imm. 56. Culmen ♀ 15, ♀ imm. 15. Tarsus ♀ 34, ♀ imm. 33 mm.

Irides: brown. Bill: dark grey. Feet: pale greyish.

Compared with 3 skins from the Weyland Mountains, received on loan from the American Museum of Natural History, I cannot point out any significant difference. The adult bird has a still deeper coloured breast band than in the birds from the Weyland Mountains. Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 7, p. 466) included birds from north of the Oranje Mountains in *olivascentior,* though the colour of the upper parts was quite different, more olive coloured. Rand was not certain if the colour difference was not caused by foxing. The upper parts in the birds before me are exactly alike, though the Weyland Mountain birds were much earlier collected. Therefore it may be that the birds north of the Snow Mountains represent another race.

The immature specimen has buff feathers on the head, wing coverts and some on the mantle.

Crateroscelis robusta sanfordi Hart.

Crateroscelis sanfordi Hartert, Novit. Zool., vol. 36, 1930, p. 81 (Cyclops Mts.).

Paniai Lake: 1 ♂ (November 6).
Araboebivak: 1 ♀, 2 ♂ ♂ juv. (October 16 and 28).

Measurements: Wing ♂ 76; ♀ 74. Tail ♂ 41; ♀ 38. Culmen ♂ 13; ♀ 12.5. Tarsus ♂ 28; ♀ 27 mm.

Irides: ♂ pale orange, ♀ brown, ♂♂ juv. dark brown. Bill: ♂ greyish, ♀ black, ♂♂ juv. black and dark grey. Feet: pale grey to yellowish grey.

All specimens have been preserved in spirit and are discoloured. The birds were kindly compared by Dr. E. Mayr and the specimen that is the least discoloured agrees well with a series of *steini* from the Weyland Mountains. This race was described from the Weyland Mountains by Stresemann & Paludan in 1934, but included into *sanfordi* by Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 7, 1942, p. 468).

Eupetes leucostictus centralis Mayr

Eupetes leucostictus centralis Mayr, Am. Mus. Novit., no. 869, 1936, p. 1 (Weyland Mountains, 1800 m).

Araboebivak: 2 ♂♂, 2 ♀♀ (October 12-30, November 4).

Measurements: Wing ♂♂ 80, 81; ♀♀ 77, 79. Tail ♂♂ 83, 89; ♀♀ 83, 86. Culmen ♂♂ 18, 18; ♀♀ 16, 18. Tarsus ♂♂ 31, 32; ♀♀ 31, 31 mm.

Irides: brown or black. Bill: pale brown black. Feet: pale brown, pale grey, grey.

These birds differ from 2 birds from Wondiwoi, Wandammen exactly as Mayr stated in the original description of *centralis*.

Ifrita kowaldi brunnea Rand

Ifrita kowaldi brunnea Rand, Am. Mus. Novit., no. 1074, 1940, p, 2 (Mt. Kunupi, Weyland Mountains).

Araboebivak: 1 ♂ imm. (October 25).

Measurements: Wing 85. Tail 59. Culmen 14. Tarsus 27 mm.

Irides: dark brown. Bill: black. Feet: grey.

In this bird the blue is restricted to the nape and a few blue feathers on the front. The superciliary line is rusty brown, which also points to an immature bird. The only difference between this bird and a bird from the Aroa River, SE. New Guinea (collected 1900) is that the bird from Araboebivak has the under parts less brownish. Though Rand in his description of *brunnea* from the Weyland Mountains and the Nassau range says that the outer edges of the remiges in these birds are more rufous brown than in birds from SE. New Guinea, I find in the 2 skins before me just the reverse. Rand remarked that this species foxes badly in collections and that

older material cannot be used for comparison with fresher skins. On this and geographical grounds I list this bird with some hesitation as *brunnea*.

Malurus alboscapulatus randi Junge

Malurus alboscapulatus randi Junge, Zool. Mededelingen, vol. 31, no. 22, 1953, p. 248 (Paniai, New Guinea).

Paniai Lake: (♀) (November 11).
Enarotali: 1 ♂ (September 27).
Between Paniai Lake and Koegapa: 1 ♂ imm., 1 ♀ (September 23).
Weramoeka near Paniai Lake: 1 ♂ imm. (August 21).
Araboebivak: 8 ♂♂, 3 ♀♀ (October 8-31).

Measurements: Wing ♂♂ 52, 52, 53, 53, 54, 54, 55, 55, 56, ♂♂ imm. 50, 50; ♀♀ 51, 52, 52, 53, (♀) 54. Tail ♂♂ 43, 44, 44, 45, 45, 45, 45, 48, 52, ♂♂ imm. 49, 51; ♀♀ 47, 47, 47, 48, (♀) 49. Culmen ♂♂ 10, 11, 11, 11, 11, 11, 11.5, 11.5, 12, ♂♂ imm. 10, 11; ♀♀ 11, 11, 11, 11, (♀) 11. Tarsus ♂♂ 22, 22, 22, 22, 23, 23, 24, 24, —, ♂♂ imm. 22, 22; ♀♀ 22, 22, 23, 24, (♀) 22 mm.

Irides: dark brown or black. Bill: black. Feet: dark grey or black.

The ♀♀ and immature birds are black underneath without any white. Therefore they are like *aida* from northern New Guinea (Humboldt Bay district), but they are decidedly larger.

Aida measures: ♂♂ wing 48-51, tail 34-43 (1 of 46[1])) mm,
♀♀ wing 45-49, tail 39-43 mm.

(cf. Hartert, Novit. Zool., vol. 36, 1930, p. 78; Mayr & Rand, Am. Mus. Novit., no. 814, 1935, p. 9 and Rand, Bull. Am. Mus. Nat. Hist., vol. 79, 7, 1942, p. 470). One ♂ and one ♀ from Sentani Lake and 1 ♂ from Pionierbivak, Mamberamo River, present in the Leiden Museum measure: Wing ♂♂ 48, 51; ♀ 45. Tail ♂♂ 34, 40; ♀ — (cf. also Hartert, Nova Guinea, vol. 15, 1932, p. 462).

The measurements of *randi* are: ♂♂ (9) wing 52-56, tail 43-52 mm,
♀♀ (5) wing 52-54, tail 47-49 mm.

This is the largest race known in New Guinea.

Birds from the Weyland Mountains seem to be more or less intermediate in size. Hartert & Paludan (Mitt. Zool. Mus. Berlin, vol. 21, 1936, p. 219) report birds from that region with wing measurements for the ♂♂ 50-54, ♀♀ 49-52 mm.

Both immature birds are sooty black with some white feathers on the chin. Four specimens between September 27 and October 31 show tail moult.

1) This is a specimen from the Idenburg River. Rand (l.c.) remarks that the tails of birds from this locality are slightly longer.

Clytomyias insignis oorti Rothsch. & Hart.

Clytomias insignis oorti Rothschild & Hartert, Novit. Zool., vol. 14, 1907, p. 460 (Aroa River, SE. New Guinea).

Araboebivak: 2 ♀ ♀ ((October 28).

Measurements: Wing 59, 59. Tail 72, 74. Culmen 14, 15. Tarsus 25, 26 mm.

Irides: pale brown. Bill: black. Feet: pale grey, pale rose.

The nominal race of this rare species was described from the Arfak Mountains by Sclater. Comparing the type specimen (♀), which is in the Leiden Museum, with both specimens from the Wissel Lakes I find that the latter are slightly more brownish on the upper parts. The under parts are much more ochraceous coloured. The throat is not white as in *insignis*, but also tinged with ochraceous. Compared with 3 ♂♂, 1 ♀ from the Angabunga River, upper Aroa River and Mambare River (*oorti*), received on loan from the American Museum of Natural History, it is shown that in 3 out of the 4 specimens the under parts are darker ochraceous, one specimen is paler and like the birds from Araboebivak. I cannot see much difference in the colour of the upper parts. Birds from SE. New Guinea are slightly smaller than those from the Wissel Lake district, but the difference does not seem particularly striking and is bridged by the birds from Mount Hagen (Mayr in litt.).

Locustella fasciolata (Gray)

Acrocephalus fasciolatus G. R. Gray, Proc. Zool. Soc. London, 1860, p. 349 (Batjan, N. Moluccas).

Araboebivak: 1 ♀ imm. (November 7).

Measurements: Wing 85. Tail 67. Culmen 15.5. Tarsus 27.5 mm.

Irides: pale brown. Bill: black. Feet: pale brown.

The strongly yellow tinged under parts show that the bird is an immature specimen. The species was known from the Weyland Mountains, not yet from the Nassau range.

Acrocephalus arundinaceus cervinus De Vis

Acrocephalus cervinus De Vis, Ibis 1897, p. 386 (Boirave, Orangerie Bay, SE. New Guinea).

Araboebivak: 1 ♀ juv. (November 1).

Irides: dark brown. Bill: blackish. Feet: grey.

This is a young specimen with outgrowing wings and tail and it shows that the species is breeding in this locality. Mayr (The Emu, vol. 47, 1948, pp. 205-210) revised the Reed-Warblers of these regions and brought the New Guinea birds to this race. With only this juvenile bird at hand I follow him without comment.

Megalurus gramineus papuensis Junge

Megalurus gramineus papuensis Junge, Zool. Mededelingen, vol. 31, no. 22, 1952, p. 248 (Paniai, New Guinea).

Paniai Lake: 2 ♂♂, 2 ♂♂ imm., 6 ♀♀ (October 1-November 9).
Majepa, Tigi Lake: 1 ♂ (November 12).

Measurements: Wing 56, 56, 57, ♂♂ imm. 51, 56; ♀♀ 53, 54, 55, 56, 56, 59. Tail ♂♂ 57, 57, 61, ♂♂ imm. 47, growing out; ♀♀ 56, 60, 60, —, —, —. Culmen ♂♂ 9, 9.5, 10, ♂♂ imm. 8, 9; ♀♀ 8.5, 9, 9, 9, 10, 10. Tarsus ♂♂ 19, 20, 20, ♂♂ imm. 20, 20; ♀♀ 19, 19, 19, 20, 21, 21.

Irides: grey. Maxilla: brown or black. Mandibula: yellowish. Feet: pale grey.

This is a most interesting discovery. The species is not only new to New Guinea, but in Australia only known from Tasmania, Victoria, New South Wales and in West Australia from the southwest to Sharks Bay (Hamelin Pool) in the midwest (Serventy & Whittell, Birds of Western Australia, 1948, p. 291). It is a very secretive species, a weak flyer and in Australia known as a local and stationary bird (Bryant, The Emu, vol. 40, 1940, p. 162).

Especially Mathews has split up the Australian population into many races, on which I am unable to give an opinion. I saw 2 skins from Victoria and 2 from South Australia (all ♂♂), received from the American Museum of Natural History. I cannot see much differences between these skins, but the difference between these and the New Guinea birds is very marked.

The upper parts in the New Guinea birds are darker, the dark streaks are broader and blacker. The whole upper surface is overflown with a warm rusty brown tinge, which is especially pronounced on front, pileum and rump. Chin, throat and breast with the dark shaft lines heavier and much more pronounced than in the skins from Australia. The flanks in the New Guinea birds are darker fulvous brown. In size there is not much difference, the Australian birds measure: wing 56-61, tail 60-61, culmen 10, tarsus 21 mm.

Milligan (The Emu, vol. 2, 1903, pp. 201-202) described from West Australia (Lake Yanchep, 35 miles N. of Perth) *Megalurus striatus*. After-

wards Mathews (Austral. Avian Record, vol. 4, 1921, p. 137) renamed it *milligani*, because Milligan's name was preoccupied. From Milligan's original description it is clear that the New Guinea birds are nearest related to this race.

Thanks to the kindness of Mr. L. Glauert of the Perth Museum I was able to compare 3 specimens of *milligani* from Lake Yanchep. Two of these were collected in December 1902 and probably represent cotypes. It was shown that the New Guinea birds are much more rusty brown tinged on the upper parts, especially on front and rump. *Papuensis* has the front without the blackish streaks which are found in *milligani*. The West Australian birds have the dark streaks on the upper parts as broad as in the birds from New Guinea and of the same black colour. I cannot see much difference in the under parts, in *milligani* the streaks of chin, throat and breast are as pronounced as in *papuensis*. In the latter the colour of the flanks is slightly darker brown. A difference in size I could not find, *milligani* measures: wing 53-57, tail 59-60, culmen 10-11, tarsus 20-21 mm. I was not able to make a direct comparison between the skins from Victoria, South Australia and those from Lake Yanchep, but from what is said above it is clear that *milligani* is a separable race.

Both immature birds have the dark streaks on the upper parts less pronounced, have hardly any dark streaks on throat and breast and have the under parts yellowish tinged. A specimen collected on 2-10-1939 shows wing moult.

Megalurus timoriensis stresemanni Hart.

Megalurus timoriensis stresemanni Hartert, Novit. Zool., vol. 36, 1930, p. 79 (Kofo, Anggi Lakes, Arfak Mountains).

Paniai Lake: 2 ♂♂, 3 ♀♀, 1 — (November 6-14).
Meijepa, Tigi Lake: 1 ♀ (November 12).
Araboebivak: 7 ♂♂, 4 ♀♀, 1 —, 2 juv. (♂ and ♀) (October 3-November 6).

Measurements: Wing ♂♂ 67, 69, 70, 71, 72, 73, 74, 74, 76; ♀♀ 67, 68, 68, 69, 70, 70, 71, 72, unsexed 71, 71. Tail ♂♂ 95, 97, 100, 102, 105, 106, —, —, moulting; ♀♀ 86, 89, 91, 93, 93, 95, 96, —, unsexed 86, 102. Culmen ♂♂ 11, 11, 11.5, 12, 12, 12.5, 12.5, 13, 13; ♀♀ 11, 11, 11.5, 11.5, 11.5, 12, 12, —, unsexed 12, 13. Tarsus ♂♂ 26, 26.5, 26.5, 27, 27, 27, 27, 28, 28; ♀♀ 25, 25, 25, 25, 26, 26, 27, 27, unsexed 27, 28 mm.

Irides: pale brown. Bill: brown. Feet: pale rose.

These birds agree well with 2 topotypical specimens of *stresemanni*, which I received for comparison from the American Museum of Natural History.

There is some variation in the colour of the upper parts, in some specimens the feathers are edged with rufous, in other slightly more fulvous. This is found in the Arfak birds as well as in those from the Wissel Lakes. In the latter the under tail coverts have also black shaftlines, the flanks and breast too are rich buff tinged. In size too both populations agree well, birds from Arfak have according to Hartert (l.c.) a wing length of 72-77 mm. Four specimens from the Balim River are less rufous above and have the under tail coverts without black shaftlines.

Both juvenile specimens have the abdomen buffish brown coloured, the breasts still unfeathered.

Sericornis nouhuysi nouhuysi Van Oort

Sericornis arfakiana nouhuysi Van Oort, Nova Guinea, vol. 9 (Zool.), 1909, p. 90 (Hellwig Mountains, Oranje range).

Araboebivak: 7 ♂♂, 10 ♀♀ (October 13-November 4).

Measurements: Wing ♂♂ 63, 63, 64, 66, 67, 69, 70; ♀♀ 61, 61, 62, 62, 62, 63, 64, 64, 64, 65. Tail ♂♂ 40, 42, 43, 46, 46, 48, moulting; ♀♀ 40, 41, 41, 42, 43, 44, 44, 44, 45, moulting. Culmen ♂♂ 11, 11, 11, 11, 12, 12, 12; ♀♀ 10, 11, 11, 11, 11, 11, 12, 12, 12, 12. Tarsus ♂♂ 22, 22, 23, 23, 23, 23, 24; ♀♀ 21, 21, 22, 22, 22, 22, 22, 22, 22, 23 mm.

Irides: brown or reddish brown. Bill: black or dark grey. Feet: pale grey, pale rose or whitish.

This series again shows a variation range which is nearly as large as Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 7, 1942, p. 473) gives for the wing measurements of material from different altitudes. Two of the ♂♂ (the largest specimens) show the same slight colour difference that is mentioned by Rand for birds from the higher altitudes. These birds being slightly paler and more ochraceous below, I cannot see any appreciable difference between these birds and a series from the Oranje Mountains.

Two ♂♂ and four ♀♀ have been preserved in spirit, are discoloured and much more rufous tinged.

Sericornis perspicillatus Salvad.

Sericornis perspicillatus Salvadori, Ann. Mus. Civ. Stor. Nat., Genova, vol. 36, 1896, p. 99 (Moroka, SE. New Guinea).

Bobairo: 2 ♂♂ (August 22).
Araboebivak: 1 ♀ (October 27).

Measurements: Wing ♂♂ 54, 57; ♀ 51. Tail ♂♂ 39, 40; ♀ 39. Culmen ♂♂ 9.5, 10; ♀ 9. Tarsus ♂♂ 18, 18; ♀ 18 mm.

Irides: brown or pale brown. Bill: black. Feet: pale yellowish or pale rose.

Gerygone ruficollis insperata De Vis

Gerygone insperata De Vis, Ann. Report Brit. New Guinea, 1890/1891, p. 94 (Mt. Suckling, SE. New Guinea).

Bobairo: 1 ♀ (August 22).
Araboebivak: 1 ♀ (October 18).

Measurements: Wing 53, 56. Tail 38, 40. Culmen 8, 8. Tarsus 16, 16 mm. Wing/tail index 71.4, 71.7.

Irides: red. Bill: black. Feet: black.

Both birds correspond well with 4 specimens from the Balim River, collected by Rand. They are slightly browner on the sides of the head and breast than in 3 Balim River specimens. Another specimen from the same locality is very near the birds from the Wissel Lake district. In the Snow Mountains the species was for the first time collected by Rand. The occurrence in the Wissel Lake district brings the known distribution much more to the west. The species is new to the collections of the Leiden Museum.

Phylloscopus trivirgatus paniaiae Junge

Phylloscopus trivirgatus paniaiae Junge, Zool. Mededelingen, vol. 31, no. 22, 1952, p. 248 (Araboebivak, New Guinea).

Araboebivak: 2 ♂♂, 1 ♀ (October 21-28).

Measurements: Wing ♂♂ 55, 58; ♀ 54. Tail ♂♂ 38, 38; ♀ 36. Culmen ♂♂ 9, 9.5; ♀ 8.5. Tarsus ♂♂ 19, 20, ♀ 19 mm.

Irides: brown or black. Bill: Maxilla grey, mandible yellow. Feet: grey.

Compared with 4 specimens from the Bele River (*guilanettii*) and 2 specimens from the Weyland Mountains (*albigularis*), kindly sent on loan by the American Museum of Natural History. The birds from Araboebivak are nearest to *guilanettii,* but not identical. They differ in having the upper parts and especially the edges of the primaries and remiges more golden brown (less greenish). The head is slightly darker in *paniaiae,* the sides of the head are not very different. The new race differs from *albigularis* in lacking the white throat and sides of head, which are yellow tinged. The colour of the upper parts is nearer to *albigularis* though still browner tinged.

Peltops montanus Stres.

Peltops blainvillei montanus Stresemann, Anz. Ornith. Ges. Bayern, vol. 1, 1921, p. 35 (Hunsteinspitze, Sepik Mountains).

Araboebivak: 1 ♂, 3 ♀♀ (October 13-27).

Measurements: Wing ♂ 119; ♀♀ 110, 116, 117. Tail ♂ 90; ♀♀ 88, 88, 93. Culmen ♂ 21; ♀♀ 19, 20, 22. Tarsus ♂ 16; ♀♀ 16, 17, 17 mm.

Irides: red. Bill: black. Feet: black.

Rhipidura brachyrhyncha devisi North

Rhipidura devisi North, Proc. Zool. Soc. New South Wales, vol. 22, 1897, p. 444 (SE. New Guinea).

Araboebivak: 1 ♂, 1 ♀ (October 16, 20).

Measurements: Wing ♂ 67; ♀ 65. Tail ♂ 90; ♀ 85. Culmen ♂ 8; ♀ 8. Tarsus ♂ 19; ♀ 19 mm.

Irides: ♂ black, ♀ dark brown. Bill: ♂ grey, ♀ black. Feet: pale yellow.

The dimorphism in the colour of the tail has been discussed in extenso by Mayr & Rand (Bull. Am. Mus. Nat. Hist., vol. 73, 1, pp. 164-168). The ♂ from Araboebivak has the tail fuscous grey coloured, shafts of remiges white, except at the base where they are rufous tinged as are the outer and inner webs. In the ♀ the tail is rufous and brownish black. In accordance with the description given by Mayr and Rand the under parts of the ♂ are much paler than in the ♀. Mayr and Rand uphold the race *devisi* on the base that a ♂ from Arfak is slightly paler than the palest specimens from SE. New Guinea, the edges of the remiges are less rufous and that the central portion of the tail feathers is strongly brownish (not black) tinged and not set off sharply against the narrower terminal band.

Comparing the ♀ from Araboebivak with the type specimen of *brachyrhyncha* from Arfak and a ♂ and ♀ from the Oranje Mountains I cannot detect any appreciable difference in colour of the upper parts and edges of remiges. The colour of the head in the bird from Araboebivak is as in the ♀ from the Oranje Mountains, in the ♂ from the latter locality it is paler (cf. Junge, Nova Guinea, N.S., vol. 3, 1939, pp. 29-30). There is a difference, however, in the colour of the tail. In the bird from Araboebivak there is a broad terminal rufous band as in the Oranje Mountain birds. The colour of the dark central portion, however, is not black but brownish black as in the type specimen from Arfak. In the latter, however, the terminal band is narrow, but set off well against the darker central portion. The length of the terminal band is: Arfak ♀ (type) 12, Araboebivak ♀ 18.5, Oranje Mountains ♂ 19.5, ♀ 19 mm.

Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 478) compared a series from the Oranje Mountains and 2 ♂♂ from the Weyland Mountains and found that they compared well. We must conclude therefore that the Weyland Mountain birds had the central portion of the tail black, which makes it probable that the bird from Araboebivak is an individual variant. I list the birds from the Wissel Lake district as *devisi,* though the differences between *brachyrhyncha* and *devisi* in the material before me are reduced to the length of the terminal tail band.

Rhipidura atra atra Salvad.

Rhipidura atra Salvadori, Ann. Mus. Civ. Stor. Nat. Genova, vol. 7, 1875, p. 922 (Hatam, Arfak Mountains, New Guinea).

Araboebivak: 2 ♀ ♀ (October 20-31).

Measurements: Wing 72, 73. Tail 81, 84. Culmen 9, 10. Tarsus 19, 20 mm.

Irides: dark brown or black. Bill: grey, black. Feet: pale grey, grey.

One of the specimens has been preserved in spirits and is vivid fox brown coloured. The other specimen corresponds well with a ♀ from the Oranje Mountains. Both birds are darker than two specimens from Arfak (cf. Junge, Nova Guinea, N.S., vol. 3, 1939, p. 29). Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 478) reports the same for some skins from the Weyland Mountains, but includes them in *atra*. The reported individual variation is rather large in this species.

Rhipidura albolimbata albolimbata Salvad.

Rhipidura albo-limbata Salvadori, Ann. Mus. Civ. Stor. Nat. Genova, vol. 6, 1874, p. 312 (Hatam, Arfak Mountains, New Guinea).

Poewaida, east of Enarotali: 1 ♂ imm. (September 3).
Weramoeka near Paniai Lake: 1 ♀ (August 21).
Araboebivak: 1 ♂, 2 ♀ ♀ (October 11-30).

Measurements: Wing ♂ ♂ 72, 75; ♀ ♀ 75, 76, 76. Tail ♂ ♂ 75, 80; ♀ ♀ 77, 79, 80. Culmen ♂ ♂ 8, 8; ♀ ♀ 8, 8, 9. Tarsus ♂ ♂ 19, 20; ♀ ♀ 18, 19, 20 mm.

Irides: black, pale brown (1). Bill: black. Feet: black.

These birds are slightly darker on the upper parts than 3 Arfak specimens I have before me. They agree more with the birds from the Oranje Mountains. Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, pp. 479-480) discussed the individual, geographical and altitudinal variation in this species and concluded that only *lorentzi* from the higher altitudes (above 2200 m) of the Oranje Mountains can be maintained on account of its larger size. The overlap in the geographical variation is so great that all other populations can be better kept under the name *albolimbata*. I keep these birds therefore under the name of the nominal race.

Rhipidura leucophrys melaleuca (Quoy & Gaim.)

Muscipeta melaleuca Quoy & Gaimard, Voy. Astrolabe, Zool., vol. 1, 1830, p. 180 (New Ireland).

Etna Bay: 1 ♂, 1 ♀ (November 26, 28).

Measurements: ♂ 101; ♀ 97. Tail ♂ 99; ♀ 96. Culmen ♂ 16; ♀ 15. Tarsus ♂ 26; ♀ 25 mm.

Irides: dark brown. Bill: black. Feet: black.

Machaerirhynchus nigripectus saturatus Rothsch. & Hart.

Machaerirhynchus nigripectus saturatus Rothschild & Hartert, Novit. Zool., vol. 20, 1913, p. 498 (Mt. Goliath, Snow Mountains).

Paniai Lake: 1 ♂ (September 30).
Bobairo: 2 ♂♂ (August 24, 25).
Araboebivak: 6 ♂♂, 4 ♀♀, 1 — imm. (October 13-November 2).

Measurements: Wing ♂♂ 61, 62, 62, 63, 63, 63, 63, 65, 66; ♀♀ 61, 62, 62, 65, unsexed 62. Tail ♂♂ 57, 59, 60, 60, 60, 60, 61, 61, 63; ♀♀ 55, 56, 60, 66, unsexed 57. Culmen ♂♂ 11, 11, 11, 12, 12, 12, 12, 12, 13; ♀♀ 12, 12, 12, 13, unsexed 13. Tarsus ♂♂ 15, 16, 16, 16, 17, 17, 17, 17, 17; ♀♀ 15, 16, 16, 17, unsexed 17 mm.

Irides: dark brown, black. Bill: black. Feet: dark grey, black.

Not different from a small series of birds from the Snow Mountains.

Microeca papuana Meyer

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

Araboebivak: 2 ♂♂, 3 ♀♀ (October 11-24).

Measurements: Wing ♂♂ 77, 78; ♀♀ 73, 74, 74. Tail ♂♂ 45, 47; ♀♀ 43, 43, 44. Culmen ♂♂ 9, 10; ♀♀ 9, 10, 10. Tarsus ♂♂ 17, 17; ♀♀ 17, 17, 17 mm.

Irides: pale brown, brown. Bill: black. Feet: pale orange, yellow.

Poecilodryas albonotata griseiventris Rothsch. & Hart.

Poecilodryas albonotata griseiventris Rothschild & Hartert, Novit. Zool., vol. 20, 1913, p. 496 (Mt. Goliath, Snow Mountains).

Araboebivak: 1 ♂ (October 11).

Measurements: Wing 110. Tail 78. Culmen 15. Tarsus 23 mm.

Irides: brown. Bill: black. Feet: black.

Peneothello cyanus atricapilla (Hart. & Pal.)

Poecilodryas cyana atricapilla Hartert & Paludan, Ornith. Monatsber., vol. 42, 1934, p. 45 (Mt. Kunupi, Weyland Mountains).

Paniai Lake: 1 ♂, 2 ♀♀ (September 16, November 16).
Enarotali: 1 ♂ (September 27).
Araboebivak: 4 ♂♂, 3 ♂♂ imm., 6 ♀♀ (October 6-November 5).

Measurements: Wing ♂♂ 82, 84, 87, 89, 91, 92, ♂♂ imm. 83, 86, 87; ♀♀ 76, 82, 84, 84, 86, 86, 86, 86. Tail ♂♂ 56, 56, 56, 60, 63, — ♂♂ imm. 56, 59, 59; ♀♀ 51, 56, 57, 58, 60, 62, —, —. Culmen ♂♂ 12, 13, 13, 13,

14, — ♂♂ imm. 13, 13, 14; ♀♀ 12, 12, 12, 12, 13, 13, 13, —. Tarsus ♂♂ 24, 24, 24, 25, 25, 25, ♂♂ imm. 24, 25, 25; ♀♀ 23, 24, 24, 24, 24, 24, 24, 25 mm.

Irides: mostly dark brown, pale brown (1), black (3). Bill: black, dark grey (2). Feet: mostly black, dark grey (4), soles yellowish grey.

These birds correspond well with a series of birds from the Oranje Mountains. Three immature birds have still brown feathers on the head and under parts.

Heteromyias albispecularis centralis Rand

Heteromyias albispecularis centralis Rand, Am. Mus. Novit., no. 1074, 1940, p. 4 (near Bernhard Camp, Idenburg River at 2150 m).

Paniai Lake: 3 ♂♂ (November 3-16).
Araboebivak: 2 ♀♀ (October 13, 28).

Measurements: Wing ♂♂ 95, 96, 99; ♀♀ 90, 92. Tail ♂♂ 61, 62, 62; ♀♀ 57, 63. Culmen ♂♂ 16, 16, 17; ♀♀ 15, 16. Tarsus ♂♂ 32, 33, 35; ♀♀ 31, 33 mm.

Irides: ♂♂ pale brown, ♀♀ dark brown. Bill: dark grey or black (with pale tip in the ♂♂). Feet: pale grey.

Two ♂♂ are preserved in spirit and discoloured, the other ♂, however, has the lower back, upper tail coverts and tail less buffish tinged than in the ♀♀. The latter have, compared with a series of birds from south of the Snow Mountains (*rothschildi*) the upper back slightly darker, less olive brown. There is some variation in the series of *rothschildi,* one ♂ from Treubbivak has the upper back rather greyish. In one specimen (♀) from the Bele River, northern slopes of the Snow Mountains (*centralis*) the upper back is slightly greener.

As far as the colour of the under parts is concerned all birds from the Wissel Lakes show decidedly less buffish tinged under parts than the birds from south of the Oranje Mountains, even less than the single specimen of *centralis* I have before me. Though perhaps not quite identical, the birds from the Wissel Lake district can best be included in *centralis.* I have not seen material from the Weyland Mountains, which according to Rand (l.c.) is intermediate between *rothschildi* and *centralis,* but nearest to the first.

Pachycephala soror klossi Og.-Grant

Pachycephala soror klossi Ogilvie-Grant, Ibis, Jub. Suppl., no. 2, 1915, p. 88 (Utakwa Valley, Nassau range).

Araboebivak: 3 ♂♂, 3 ♀♀ (September 18-November 11).

Measurements: Wing ♂♂ 90, 90, 90; ♀♀ 88, 88, 90. Tail ♂♂ 61, 61, 62; ♀♀ 61, 61, 62. Culmen ♂♂ 12, 12, 13; ♀♀ 13, 13, 13. Tarsus ♂♂ 22, 22, 23; ♀♀ 22, 22, 23 mm.

Irides: brown. Bill: black. Feet: grey or black.

One specimen has been preserved in spirit and is badly discoloured.

Pachycephala schlegelii viridipectus Hart. & Pal.

Pachycephala schlegelii viridipectus Hartert & Paludan, Mitt. Zool. Mus. Berlin, vol. 21, 1936, p. 203 (Mt. Kunupi, Weyland Mountains).

Between Paniai Lake and Koegapa: 1 ♂ (September 2).
Araboebivak: 1 ♂ imm., 3 ♀♀, 1 ♀ imm., 1 — imm. (October 11-November 5).
Enarotali: 1 ♂ imm. (September 18).
Bobairo: 1 ♀ imm. (August 13).

Measurements: Wing ♂ 86, ♂♂ imm. 83, 85; ♀♀ 82, 83, 87, ♀♀ imm. 81, 85, unsexed imm. 81. Tail ♂ 64, ♂♂ imm. 66, 68; ♀♀ 61, 64, 64, ♀♀ imm. 70, —, unsexed imm. 63. Culmen ♂ 12, ♂ imm. 12, 13; ♀♀ 11, 12, 12, ♀♀ imm. 11, —, unsexed imm. 11. Tarsus ♂ 23, ♂♂ imm. 23, 23; ♀♀ 23, 23, 23, ♀♀ imm. 23, —, unsexed imm. — mm.

Irides: brown. Bill: black. Feet: grey.

These birds compare well with a series from the Oranje Mountains. I cannot detect much difference between the single adult ♂ and specimens of *schlegelii* from the Arfak Mountains. The differences between the ♀♀ are very clear. The Arfak skins have chin and throat whitish, in the birds from the Wissel Lakes and the Oranje Mountains range these parts are dark grey, the feathers of chin and throat whitish tipped. In the latter the greenish breast band is much broader and more pronounced. Upper parts of a darker olive green.

The immature birds have still chestnut brown feathers on crown and nape, chin and throat. The upper wing coverts too are still brown. One of the immature birds, which I think belongs to this species, differs from the other immature birds in having the lower breast and abdomen not yellow, but whitish mixed with some yellow feathers.

Pachycephala lorentzi Mayr

Pachycephala schlegelii lorentzi Mayr, Mitt. Zool. Mus. Berlin, vol. 17, 1931, p. 673 (Hellwig Mountains (2600 m)).

Paniai Lake: 1 ♀ imm. (September 2).
Bobairo: 1 ♂ (September 7).
Between Paniai Lake and Koegapa: 1 ♂ (September 2).
Araboebivak: 1 ♂, 1 ♂ imm., 1 ♀ (October 10-19).

Measurements: Wing ♂♂ 84, 85, 86, ♂ imm. 88; ♀ 81, ♀ imm. 87. Tail ♂♂ 57, 61, 61, ♂ imm. 62; ♀ 58, ♀ imm. 62. Culmen ♂♂ 10, 11, 11, ♂ imm. 11; ♀ 11, ♀ imm. 11. Tarsus ♂♂ 21, 22, 23, ♂ imm. 24; ♀ 22, ♀ imm. 23 mm.

Irides: brown or dark brown. Bill: black, ♂ imm. dark greyish brown. Feet: black or grey.

Rand (Am. Mus. Novit., no. 1102, 1941, pp. 12-13) made an end to the confusion that existed concerning the status of this form and showed that *lorentzi* has to be regarded as a separate species. Up till now the species was only known from the Oranje Mountains and the mountains of the upper Mamberamo, thus the collecting of this species in the Wissel Lake district brings the known distribution a good deal more to the west. I cannot see much difference between birds from the Oranje Mountains and the Wissel Lakes. In the latter the upper parts show some variation, some specimens are darker than the birds from the Oranje Mountains, others are unseparable.

The immature bird from Paniai Lake has the under parts whitish with yellow feathers coming through. It has only a few reddish brown feathers namely in the neck, upper tail coverts and some of the upper wing coverts. Judging by the small bill, which corresponds with those of the other specimens of *lorentzi* I think that the immature specimen belongs to this species. The ♂ imm. from Araboebivak shows more reddish brown feathers on the head, the upper wing coverts are edged with this colour.

Pachycephala rufinucha niveifrons Hart.

Pachycephala rufinucha niveifrons Hartert, Novit. Zool., vol. 36, 1930, p. 57 (Mt. Wondiwoi, Wandammen Mountains).

Paniai Lake: 1 ♀ juv. (November 18).
Between Paniai Lake and Koegapa: 1 ♂ (September 4).
Araboebivak: 1 ♂, 1 ♀, 1 ♀ imm. (October 17-November 4).

Measurements: Wing ♂♂ 83, 88; ♀ 87, ♀ imm. 86. Tail ♂♂ 68, 68; ♀ —, ♀ imm. 86. Tail ♂♂ 68, 68; ♀ —, ♀ imm. 68. Culmen ♂♂ 16, 17; ♀ 16, ♀ imm. 16. Tarsus ♂♂ 30, 31; ♀ 32, ♀ imm. 30 mm.

Irides: ♂♂ pale yellow; ♀ dark brown, ♀ imm. pale red, ♀ juv. dark grey. Bill: ♂♂ black, ♀ black, ♀ imm. and juv. grey. Feet: grey.

The ♀ is in adult dress, both ♂♂ have still some rufous on sides of head, wing coverts, flanks, breast and abdomen. The bird which I listed as ♀ imm. has much rufous on breast and abdomen, also on chin and sides of head, though the yellow of the throat and white of the breast and abdomen are

already visible. The juvenile bird is as described by Mayr & Rand (Bull. Am. Mus. Nat. Hist., vol. 73, 1937, p. 178) except that the back is not yet olive green, but more reddish brown. I see no difference between a ♀ from the Oranje Mountains and these birds.

Hartert in his original description already noted the curious variation in the colour of the iris.

Pitohui kirrhocephalus carolinae Junge

Pitohui kirrhocephalus carolinae Junge, Zool. Mededelingen, vol. 31, no. 22, 1952, p. 248 (Etna Bay, New Guinea).

Etna Bay: 3 ♂♂, 2 ♀♀ (November 24-28).

Measurements: Wing ♂♂ 117, 119, 121; ♀♀ 115, 117. Tail ♂♂ 102, 104, 106; ♀♀ 99, 102. Culmen ♂♂ 22, 25, 26; ♀♀ 25, 25. Tarsus ♂♂ 32, 32, 32; ♀♀ 32, 32 mm.

Irides: brown. Bill: grey, dark grey and black. Feet: grey and dark grey.

These birds are nearest to *decipiens*, differing, however, in being paler grey on head, chin and throat, paler chestnut brown on mantle and paler more yellowish brown on breast and abdomen. Also the upper side of the tail and the remiges are paler in the birds from the Etna Bay, dark grey and not blackish as in *decipiens*. *Rubiensis* I have not seen, but according to Meise (Abh. & Ber. Mus. Tierk. & Völkerk. Dresden, vol. 17, no. 4, 1929, pp. 19-20) and the original description (Meyer, Sitzungsber. Abh. Nat. Ges. Isis, Dresden, Abh. 1, 1884, p. 33) *rubiensis* shows a pronounced sexual dimorphism, which is decidedly not found in the birds from the Etna Bay. From the above mentioned descriptions I also conclude that there is no difference in the colour of the under parts between *decipiens* and *rubiensis* (cf. also Stresemann, Arch. f. Naturgesch., vol. 89, A, 7 & 8, 1923, p. 79). The colour of the bill in the birds from the Etna Bay is about the same as in the ♂♂ of *decipiens*. *Salvadorii*, which I have not seen either, is smaller and has a paler coloured bill. *Carolinae* differs from the 3 cotypes of *stramineipectus* from the Triton Bay by the much darker (less yellow) under parts and also the bills in *stramineipectus* are paler. From the nominal race *carolinae* differs by darker grey head, chin and throat, darker brown upper parts, darker wings and tail, darker bill and but slightly paler under parts. *Brunneivertex* from the Weyland Mountains and *nigripectus* from the Snow Mountains are quite different.

Pitohui nigrescens meeki Rothsch. & Hart.

Pitohui meeki Rothschild & Hartert, Novit. Zool., vol. 20, 1913, p. 507 (Mt. Goliath, Snow Mountains).

Poewaida near Enarotali: 1 ♂ (September 11).
Araboebivak: 2 ♀♀ (October 24, 27).

Measurements: Wing ♂ 128; ♀♀ 125, 126. Tail ♂ 102; ♀♀ 103, 105. Culmen ♂ 23; ♀♀ 21, 22. Tarsus ♂ 31; ♀♀ 30, 32 mm.

Irides: ♂ chocolate brown, ♀♀ brown and red. Bill: black. Feet: ♂ black, ♀♀ grey.

One of the ♀♀ has the throat and upper breast more yellowish brown coloured than the other specimen. The ♂ has the outer edges of the primaries brown, showing that it has not yet reached full adult dress. Abdomen not quite black, but more greyish. I cannot see essential differences from a ♂ and a ♀ from the Oranje Mountains.

Eulacestoma nigropectus clara Stres. & Pal.

Eulacestoma nigropectus clara Stresemann & Paludan, Ornith. Monatsber., vol. 42, 1934, p. 44 (Mt. Kunupi, Weyland Mountains).

Araboebivak: 1 ♂, 1 ♀ (October 30, November 5).

Measurements: Wing ♂ 72; ♀ 73. Tail ♂ 49; ♀ 48. Culmen ♂ 11; ♀ 12. Tarsus ♂ 19; ♀ 20 mm.

Irides: brown. Bill: black. Feet: grey.

This rare species was not yet represented in the collections of the Leiden Museum. The nearest places where it has been collected are Mt. Kunupi, Weyland Mountains to the west and Bele River, north of Mt. Wilhelmina, Oranje Mountains in the east.

Artamus leucorhynchus leucopygialis Gould

Artamus leucopygialis Gould, Proc. Zool. Soc. London, 1842, p. 17 (Australia).

Etna Bay: 3 ♂♂, 2 ♀♀ (November 25, 26).

Measurements: Wing ♂♂ 128, 137, 137; ♀♀ 127, 132. Tail ♂♂ 60, 60, 61; ♀♀ 57, 59. Culmen ♂♂ 18, 19, 19; ♀♀ 19, —. Tarsus ♂♂ 15, 16, 17; ♀♀ 16, 17 mm.

Irides: brown. Bill: grey. Feet: grey.

Artamus maximus Meyer

Artamus maximus A. B. Meyer, Sitzungsber. Akad. Wiss. Wien, vol. 69, 1874, p. 203 (Hatam, Arfak Mountains).

Paniai Lake: 1 ♀ (September 29).
Bobairo: 3 ♂♂, 1 ♀ (Augustus 22-September 10).
Poewaida near Enarotali: 6 ♂♂, 8 ♀♀ (September 3-26).
Araboebivak: 4 ♂♂, 1 ♀ (October 2-November 6).
Coll. van Eechoud: Bobare (Bobairo): 2 — (12-10-1938).

Measurements: Wing ♂♂ 163, 164, 165, 165, 165, 166, 167, 167, 167, 168, 169, 171, 174; ♀♀ 163, 163, 163, 163, 166, 167, 169, 171, 171, 172, 164, 168, —. Tail ♂♂ 69, 69, 70, 70, 71, 71, 72, 72, 73, 73, 74, 75, 76; ♀♀ 67, 68, 68, 69, 70, 70, 70, 71, 71, 71, 72, 72, 74. Culmen ♂♂ 22, 23, 23, 23, 23, 23, 23, 23, 24, 25, 25, 25, —; ♀♀ 22, 22, 23, 23, 23, 23, 24, 25, 25, 25, —, —, —. Tarsus ♂♂ 18, 18, 18, 19, 19, 19, 19, 19, 20, 20, 20, 20, 20; ♀♀ 19, 19, 19, 19, 19, 19, 20, 20, 20, 20, 20, 20, — mm.

Irides: brown, black, dark blue (1). Bill: bluish grey, pale grey, grey. Feet: grey.

These birds average slightly larger than those from the Oranje Mountains (cf. Rand, Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 493).

Mino dumontii dumontii Less.

Mino dumontii Lesson, Bull. des Sci. Nat. et de Géol., Férussac, vol. 10, 1827, p. 159 (Doreh, NW. New Guinea).

Etna Bay: 1 ♂ (November 28).

Measurements: Wing 150. Tail 73. Culmen 25. Tarsus 34 mm.

Irides: chocolate brown. Bill and feet: orange yellow.

Oriolus szalayi (Madarász)

Mimeta szalayi Madarász, Termés. Füzetek, vol. 24, 1900, pp. 76, 80 (Finschhafen, Huon Gulf).

Etna Bay: 1 ♂ (November 22).

Measurements: Wing 143. Tail 113. Culmen 32. Tarsus 24 mm.

Irides: red. Bill: chocolate brown. Feet: grey.

Cracticus cassicus cassicus (Bodd.)

Ramphastos cassicus Boddaert, Tabl. Planch. Enlum., 1783, p. 83 (New Guinea, restricted to the Vogelkop by Mayr).

Etna Bay: 2 ♂♂, 1 ♀ (November 22-28).

Measurements: Wing ♂♂ 170, 172; ♀ 167. Tail ♂♂ 123, 124; ♀ 126. Culmen ♂♂ 50, 51; ♀ 48. Tarsus ♂♂ 33, 33; ♀ 33 mm.

Irides: dark brown, black. Bill: grey. Feet: greyish black.

An examination of the material in the Leiden Museum showed that there is a large individual variation in the amount of black in the backs of the adult specimens. Notwithstanding this well known fact, there is certainly also a trend of geographical variation in this character. I cannot see much

difference between birds from northern and southern West New Guinea, nearly all have a considerable amount of white above, only 5 out of 40 have the backs nearly uniform black. There is not much difference in size, perhaps birds from the Mamberamo River average slightly larger, but more material may show that this is not essential.

Birds from the Berau and Onin Peninsula, Triton and Etna Bay on an average, have slightly more white, with birds from Waigeu and Salawatti very near to them. Measurements show no significant differences with birds from North and South New Guinea.

Birds from Biak and Numfor I have before me are nearly pure white on the upper parts and on an average are larger.

The darkest birds are found on the Aru Islands with 9 out of 15 birds with nearly uniform black upper parts. Size about as birds from the mainland of New Guinea, perhaps averaging slightly smaller.

Birds from Misol are more or less intermediate in colour of upper parts between birds from the mainland and birds from the Aru Islands, perhaps averaging slightly larger than the latter.

Birds from Gebe are largest and have the most pronounced white upper parts, 9 out 12 birds have the upper parts pure white.

The larger individual variation, however, causes that all differences are average differences. Therefore it seems unwise to split up the population, but geographical variation is unmistakable. Birds from Gebe have nearly reached subspecific level.

Alltogether I saw 220 specimens. In the table of measurements (in mm) all unsexed specimens have been left out.

		Wing	Tail	Culmen
South New Guinea	♂♂ (12)	160-177	118-131	46-52
(Noord River, Merauke)	♀♀ (8)	156-168	116-127	44-46
Average	♂♂	167.5	125	50
	♀♀	164	122.5	45
Berau and Onin Peninsula,	♂♂ (7)	161-176	122-132	51-56
Triton and Etna Bay	♀♀ (10)	159-175	116-129	46-55
Average	♂♂	170	126	53
	♀♀	167.5	123	51
Mamberamo River	♂♂ (2)	172-177	127-137	50-52
(Pionierbivak)	♀♀ (3)	159-160 (184)	118-125 (145)	47-51
Average	♂♂	174.5	132	51
	♀♀	159.5 (167)	121.5 (129)	49
Humboldt Bay, Sentani Lake,	♂♂ (6)	156-176	119-134	50-51
Tor River	♀♀ (2)	170-176	125-135	50-55
Average	♂♂	166.5	128	51
	♀♀	173	130	52.5
Waigeu	♂♂ (3)	171-174	125-134	51-54
	♀♀ (3)	164-172	129-133	47-50

			Wing	Tail	Culmen
Average	♂♂		172	130	52.5
	♀♀		167	130	48.5
Salawatti	♂♂	(2)	167	127	49-53
	♀♀	(2)	156-166	117-126	45-46
Average	♀♀		161	120.5	45.5
Aru Islands	♂♂	(8)	151-168 (185)	117-132	43-55
	♀♀	(4)	157-175	122-133	45-52
Average	♂♂		164	123	49
	♀♀		164	125.5	49
Misol	♂♂	(4)	170-178	128-133	51-56
	♀♀	(4)	160-171	123-133	47-49
Average	♂♂		173	128.5	54
	♀♀		166.5	127	48
Gebe	♂♂	(3)	177-187	137-144	54-59
	♀♀	(9)	167-180	128-142	48-55
Average	♂♂		181	140.5	57
	♀♀		173.5	135	52
Biak	♂♂	(2)	174-180	132-139	50
Average	♂♂		177	135.5	—
Numfor	♀♀	(2)	167-179	128-133	53-54
Average	♀♀		173	130.5	53.5

Gymnocorvus tristis (Less. & Garn.)

Corvus tristis Lesson & Garnot, Bull. Sci. Nat. Géol. Férussac, vol. 10, 1827, p. 291 (Doreh, NW. New Guinea).

Etna Bay: 1 ♀ (November 27).

Measurements: Wing 316. Tail 222. Culmen 64. Tarsus 54 mm.

Irides: pale blue. Bill: pale rose. Feet: pale grey.

Paradigalla brevicauda Rothsch. & Hart.

Paradigalla brevicauda Rothschild & Hartert, Novit. Zool., vol. 18, 1911, p. 159 (Mt. Goliath, Snow Mountains).

Between Paniai Lake and Koegapa: 1 ♂ imm. (September 17).
Araboebivak: 2 ♂♂ imm. (October 23, 24).

Measurements: Wing 156, 160, 163. Tail 88, 88, 90. Culmen 32, —, —. Tarsus 43, 43, 44 mm.

Irides: brown, dark blue (1). Bill: black, dark grey (1). Feet: dark grey, grey (1).

Astrapia splendidissima subspec.

Paniai Lake: 1 ♀ (November 15).
Bobairo: 1 ♀ (September 7).
Between Paniai Lake and Koegapa: 1 ♀ (September 17).
Araboebivak: 1 ♂ imm. (November 6).
Coll. Van Eechoud: Vivresbivak (1750 m), Oerimoeka River: 1 ♀ (1-11-1938).

Measurements: Wing ♂ imm. 132; ♀ ♀ 130, 130, 132, 133. Tail (longest tailfeathers): ♂ imm. 210; ♀ ♀ 191, 197, 198, 202; (shortest tailfeathers): ♂ imm. 70; ♀ ♀ 66, 71, 72, 73. Culmen ♂ imm. 35; ♀ ♀ 33, 34, 34, 35. Tarsus ♂ imm. 38; ♀ ♀ 37, 37, 38, 40 mm.

Irides: coffee brown and dark grey. Bill: black. Feet: grey.

Unfortunately no adult ♂ ♂ have been collected which makes it difficult to decide to which race these birds belong. In the colour of the upper parts I cannot see much difference with a series of birds from the Oranje Mountains (*helios*). As far as size is concerned they agree more with the nominal race, judging by the measurements given by Mayr (Am. Mus. Novit., no. 869, 1936, p. 4) in the original description of *helios*. *Helios* wing ♀ ♀ 132-143, *spl. splendidissima* ♀ ♀ 129-133 mm. Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 496) however, gives measurements of *helios*, which range lower than those given by Mayr and myself (♀ ♀ 129-137 mm) Nova Guinea, N.S., vol. 3, 1939, p. 87). Therefore the status of the birds from the Wissel Lake district must remain unsettled till ♂ ♂ have been collected. Most probably they are intermediate between both races. According to Rand (l.c.) birds from Lake Habbema, Bele River and Bernhard Camp show already a tendency towards the nominal race.

Craspedophora magnifica magnifica (Vieill.)

Falcinellus magnificus Vieillot, Nouv. Dict. d'Hist. Nat., nouv. éd., 28, 1819, p. 167 (New Guinea, restricted to Doreh, Vogelkop).

Etna Bay: 1 ♀ (November 22).

Measurements: Wing 160. Tail 98. Culmen 54. Tarsus 37 mm.

Irides: brown. Bill: grey. Feet: grey.

The feathers of the head have pale brown central streaks and are edged with blackish brown, rest of feathers rufous brown, which gives the head a streaked and spotted appearance.

Epimachus fastosus atratus (Rothsch. & Hart.)

Falcinellus striatus atratus Rothschild & Hartert, Novit. Zool., vol. 18, 1911, p. 160 (Mt. Goliath, Snow Mountains).

Araboebivak: 1 ♀, 2 — (in ♀ plumage) (November 3-17).
Coll. Van Eechoud: Vivresbivak: 1 ♂ imm., 1 ♀ (15 and 16-11-1938)
Bobare (Bobairo): 1 ♂ (August 1939).

Measurements: Wing ♂ 203, ♂ imm., 190; ♀ ♀ 168, 182, unsexed 152, 157. Tail ♂ 810, ♂ imm. 332; ♀ ♀ 306, 188, unsexed 268, 257. Culmen ♂ 70, ♂ imm. —; ♀ ♀ 68, —, unsexed 52, 46. Tarsus ♂ 51, ♂ imm. 48, ♀ ♀ 45, 49, unsexed 47, 48 mm.

Irides: carmine and orange, unsexed specimens brown. Bill: black. Feet: grey.

Native name (Kepaukoe): Oewawa.

Both unsexed specimens are immature birds with the bills not yet grown out. One is more rufous above than any of the other skins. The under parts of the same specimen are suffused with brown, the bars are brownish black (not black). The amount of reddish brown on the wing feathers shows, however, that both specimens belong to *fastosus*.

Epimachus fastosus atratus (Rothsch. & Hart.) × **Lophorina superba feminina** Og.-Grant

Bobairo: 1 ♂ (September 14).

Measurements: Wing 168. Tail —. Culmen 43. Tarsus 41 mm.

Irides: chocolate brown. Bill: grey. Feet: grey.

This is a very remarkable specimen, which unfortunately lost its tail, which would have been of particular interest. I consider it to be a hybrid and the long feathers on the sides of breast clearly show the near relationship with *Epimachus fastosus*. These feathers are green glossed distally, the rest of the feathers purplish glossed. The feathers in the bird from Bobairo, however, are shorter and less elaborate than in *Epimachus*. The other parent is more difficult to trace. In general appearance the bird resembles *Craspedophora magnifica*, but it lacks the green glossy breast shield. The feathers are looser, not stiffly filled with pigment and are purplish glossed. This purplish gloss is found all over the breast and its flanks as well as on the chin, throat and sides of head. The feathers of lower breast and abdomen are about of the same colour as in *Epimachus* and *Craspedophora*, though slightly greener. The feathers on the upper side of the head show the same purplish and greenish glossed feathers as are found in *Epimachus*, *Craspedophora* and *Lophorina superba*. The feathers of the mantle are black with a purplish gloss, they lack the greenish glossed feathers which are found in *Epimachus*, but also the velvet black feathers which are found in *Craspedophora*, they are nearer the feathers of the upper parts of *Lophorina*. In the hybrid a cape of slightly longer black feathers is found on the hind neck and still longer feathers on the sides of neck. These feathers are not found in *Epimachus* nor in *Craspedophora*, but (though much longer) in *Lophorina*. The form of primaries and secondaries is about the same as in *Epimachus* and *Lophorina*, and different from the broad and bluntly pointed feathers in *Craspedophora*. The bill in size and form is a good intermediate

between *Epimachus* and *Lophorina,* it is shorter, heavier and more straight than in *Epimachus* and *Craspedophora,* longer than in *Lophorina.* Also the sizes of wing and tarsus are perfectly intermediate between *Epimachus* and *Lophorina* and smaller than would be expected in a cross between *Epimachus* and *Craspedophora.*

Summarizing I think the bird can be best considered a hybrid between *Epimachus fastosus* and *Lophorina superba.* The resemblance to *Craspedophora* seems to be more superficial. Though *Lophorina* has been involved in more cases of hybridisation than any other genus of birds of paradise, this is a cross, which has not yet been previously recorded.

Parotia carolae carolae Meyer

Parotia carolae A. B. Meyer, Bull. B.O.C., vol. 4, 1894, p. 6 ("Ambernoh River", apparently Weyland Mountains).

Araboebivak: 6 ♀♀ (October 6-23).
Coll. Van Eechoud: Vivresbivak, Oerimoeka River: 1 ♂ (16-10-1938).

Measurements: Wing ♂ 150; ♀♀ 140, 141, 141, 142, 142, 145. Tail ♂ 76; ♀♀ 89, 91, 91, 92, 93, 94. Culmen ♂ 19; ♀♀ 18, 19, 19, 20, 20, 20. Tarsus ♂ 49; ♀♀ 42, 42, 43, 43, 45, 47 mm.

Irides: pale yellow. Bill: black. Feet: grey and dark grey.

The ♂ from Vivresbivak corresponds closely with a ♂ from the Weyland Mountains (Mt. Kunupi) kindly sent on loan by Dr. W. Meise. The only difference is that the colour of the lower throat is yellowish brown in the Weyland Mountain specimen, nearly white in the specimen from Vivresbivak. A specimen from the Utakwa River (*meeki*) received from the British Museum also is very near these birds, the only difference I can see is that in this bird the black feathers of chin and throat lack the small yellowish brown tips, which are found in the other two specimens. The colour of the lower throat is yellowish brown as in the bird from the Weyland Mountains. Having too scanty material at hand to get a clear picture of the difference between the nominal race and *meeki,* the specimen was sent to Dr. E. Mayr for comparison. His conclusion is that the Wissel Lake specimen cannot be told apart from a series from the Weyland Mountains. There is no significant variation with respect to the dark chin spot and the colour of the upper throat, whether white or buffy, appears to be a matter of cleanliness of the skin (Mayr in litt.). Mayr mentions some variation concerning the golden spot in the centre of the crown, which can be richer or paler, as well as with regard to the bronze coloured tips on the feathers surrounding it, but he doubts if this variation is significant.

In the series of ♀ ♀ from Araboebivak the amount of greyish white on the forehead and along the crown is variable. A ♀ from the Itakwa river (*meeki*) and another from the Weyland Mountains do not show any appreciable difference.

Lophorina superba feminina Og.-Grant

Lophorina superba feminina Ogilvie-Grant, Ibis, Jubilee suppl. 2, 1915, p. 27 (Utakwa River, Nassau range).

Bobairo: 1 ♂, 1 ♀ (August 28, September 20).
Between Paniai Lake and Koegapa: 3 ♂ ♂ (September 8-17).
Poewaida near Enarotali: 1 ♂ (September 9).
Araboebivak: 4 ♂ ♂, 4 ♂ ♂ imm., 4 ♀ ♀, 1 ♀ imm. (October 3-November 4).
Coll. Van Eechoud: Vivresbivak, Oerimoeka River: 2 ♂ ♂ (16-10 and 1-11-1938).
Oeroemara: 1 ♂ (11-10-1938).

Measurements: Wing ♂ ♂ 136, 137, 137, 138, 138, 139, 139, 139, 139, 140, 140, 140, ♂ ♂ imm. 125, 129, 129, 132; ♀ ♀ 117, 118, 119, 120, —, ♀ imm. 119. Tail ♂ ♂ 82, 82, 84, 84, 85, 86, 86, 86, 87, 89, 90, 91, ♂ ♂ imm. 80, 82, 86, —; ♀ ♀ 78, 78, 81 84, 85, ♀ imm. 84. Culmen ♂ ♂ 23, 23, 23, 23, 24, 24, 24, 24, 25, 25, —, —, ♂ ♂ imm. 22, 23, 23, 24; ♀ ♀ 23, 23, 24, 25, 25, ♀ imm. 19. Tarsus ♂ ♂ 31, 31, 31, 32, 32, 32, 32, 32, 33, 33, 33, 34, ♂ ♂ imm. 32, 32, 32, —; ♀ ♀ 28, 29, 29, 29, 30, ♀ imm. 28 mm.

Irides: black, dark brown and grey. Bill: dark grey and black. Feet: grey, dark grey, black.

The adult ♀ ♀ are unseparable from ♀ ♀ of the Utakwa River (two seen) and the Snow Mountains. In the immature birds there is some variation. One of the immature ♂ ♂ has the upper parts browner and the immature ♀, which has still fluffy feathers on the under parts, has the upper parts still more rufous brown. Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 497) also mentioned a rather brownish coloured immature ♀ from the Bele River.

Paradisaea minor minor Shaw

Paradisea minor Shaw, Gen. Zool., 7, pt. 2, 1809, p. 486 (New Guinea, restricted to Doreh).

Etna Bay: 3 ♂ ♂, 1 ♂ imm., 1 ♀ (November 21-27).
Mapia (west of the lakes): 1 ♂ (undated).

Measurements: Wing ♂ ♂ 176, 180, 182, —, ♂ imm. 180; ♀ 160. Tail ♂ ♂ 118, 122, 127, —, ♂ imm. 130; ♀ 113. Culmen ♂ ♂ 34, 34, 36, 36, ♂ imm. 33; ♀ 22. Tarsus ♂ ♂ 43, 43, 44, —, ♂ imm. —, ♀ — mm.

Irides: pale yellow. Bill: grey. Feet: grey.

Loria loriae inexpectata Junge

Loria loriae inexpectata Junge, Nova Guinea, N.S., vol. 3, 1939, p. 77 (Bijenkorf, Oranje Mountains).

Bobairo: 1 ♀ (August 25).
Araboebivak: 1 ♂, 1 ♂ in change, 2 ♂♂ imm., 1 ♀ (October 15-November 4).

Measurements: Wing ♂♂ 104, 106, ♂♂ imm. 101, 106; ♀♀ 100, 104. Tail ♂♂ 71, 75, ♂♂ imm. 76, 78; ♀♀ 72, 73. Culmen ♂♂ 17, 19, ♂♂ imm. 18, 20; ♀♀ 16, —. Tarsus ♂♂ 37, 37, ♂♂ imm. 38, 38; ♀♀ 35, 37 mm.

Irides: ♂♂ black, dark brown, dark grey, ♀♀ black, pale yellow. Bill: black. Feet: black.

The single ♂ in full plumage has exactly the same greenish gloss on the innermost secondaries as the birds from the Oranje Mountains. Two ♂♂ are immature and in ♀ dress, another one is changing into the black dress of the adult ♂.

Archboldia papuensis Rand

Archboldia papuensis Rand, Am. Mus. Novit., no. 1072, 1940, p. 9 (Bele River, Snow Mountains).

Coll. Van Eechoud: Bobare (Bobairo): 1 ♂ (14-10-1938).

Measurements: Wing 153. Tail 124. Culmen 23. Tarsus 41 mm.

Irides: black.

Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 498) has already commented upon this specimen.

Amblyornis macgregoria mayri Hart.

Amblyornis macgregoria mayri Hartert, Novit. Zool., vol. 36, 1930, p. 30 (Weyland Mountains).

Araboebivak: 1 ♂ (October 6).

Measurements: Wing 140. Tail 91. Culmen 22. Tarsus 39 mm.

Irides: brown. Bill: black. Feet: black.

Differs from the skins of the birds from the Oranje Mountains in being slightly paler, less brownish. The same difference was described by Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 7, 1942, p. 498) between birds from the northern range of the Snow Mountains and birds from the Weyland Mountains, the latter being darker. Therefore Rand's conclusion that foxing is responsible for this colour difference seems to be correct.

Neositta papuensis intermedia Junge

Neositta papuensis intermedia Junge, Zool. Mededelingen, vol. 31, no. 22, 1952, p. 249 (Bobairo, New Guinea).

Bobairo: 1 ♂ (August 24).
Between Paniai Lake and Koegapa: 1 ♂, 3 ♀♀ (September 2).
Araboebivak: 3 ♂♂, 2 ♀♀, 1 ♀ imm. (October 8-21).

Measurements: Wing ♂♂ 82, 83, 84, 84, 85; ♀♀ 81, 81, 82, 82, 85, ♀ imm. 82. Tail ♂♂ 36, 37, 38, 38, 39; ♀♀ 36, 37, 37, 39, 40, ♀ imm. 40. Culmen ♂♂ 11, 12, 12, 12, 12; ♀ 11, 11, 11, 11.5, 12, ♀ imm. 11. Tarsus ♂♂ 15, 16, 16, 16, 16; ♀♀ 16, 16, 16, 16, 17, ♀ imm. 16 mm.

Irides: yellow, ♀ imm. white. Bill: yellow, black tipped, ♀ imm. black, base yellow. Feet: yellow.

This race is intermediate in colour between *papuensis* and *alba,* but nearest to *alba,* described by Rand and till now only known from the type locality Bernhard Camp on the Idenburg River. The series shows some variation. Two birds have the under side rather pale and the streaks pronounced. These birds are near a specimen of *alba,* which I could compare, though the streaks are slightly blacker in the birds from the Wissel Lake district. In the other specimens from this locality the streaks are decidedly darker (more blackish) and heavier. In two birds we even find the extreme that the whole under surface is rather blackish brown with very little white in it. The upper parts in the birds from the Wissel Lakes on the other hand are more warm brown than in the specimen of *alba,* which also has the streaks on the mantle more pronounced and more blackish. In the birds from the Wissel Lakes these streaks are more brownish and broader. There is some variation also in the colour of the upper parts, but none is near the specimen of *alba,* which can easily be picked out of the series. The series of *alba* in the American Museum of Natural History is rather uniform and there is not enough variation to show even an approach towards *papuensis* in the mentioned characters (Mayr in litt.). In the colour of the upper parts as well as in the rather dark under parts, which is found in some specimens, the Wissel Lake population reminds one of *papuensis* from Arfak, which of course is quite different by the sexual dimorphism in the colour of the head.

The immature ♀ has the feathers of the upper parts much paler brown than in adult specimens. Many feathers of back and upper wing coverts are white tipped. The upper side of the head is pale brown too, chin and throat grey (not white). The abdomen is streaked with pale brown, not blackish brown.

This is a rare species in collections and though the gap in the known

distribution between the Arfak population on the one hand (*papuensis*) and the central range of the Snow Mountains on the other (*alba* and *toxopeusi*) has been narrowed by the collecting of these birds in the Wissel Lake district, it is still unknown from the Weyland Mountains and the Onin Peninsula.

Climacteris placens steini Mayr

Climacteris placens steini Mayr, Am. Mus. Novit., no. 869, 1936, p. 5 (Mt. Sumuri, Weyland Mountains).

Araboebivak: 1 ♂, 1 — (October 27, November 2).

Measurements: Wing ♂ 85, — 84. Tail ♂ 65, — 65. Culmen ♂ 12, — 12. Tarsus ♂ 20, — 19 mm.

Irides: ♂ red, — brown. Bill: black. Feet: grey.

Both birds are not quite identical, the ♂ has the head darker, the markings on the front are shaftlines, in the other specimen the forehead has a more scaled appearance. In the ♂ the tail and upper tail coverts are slightly more grey than in the other bird. Compared with one bird from the Weyland Mountains (*steini*) and 4 of *inexpectata* from the northern range of the Snow Mountains, the birds from the Wissel Lake district are nearest to *steini*, the tail in the unsexed specimen being slightly clearer grey than in the specimen of *steini* I have seen, the streaks on the front being paler in *inexpectata*, the tails greyer. The spots on the third primary in the birds from Araboebivak are of about the same size as in *steini*, also the colour of breast and under parts correspond closely with the latter specimen.

Cinnyris sericea sericea Less.

Cinnyris sericeus Lesson, Dict. Sci. Nat. (Levrault), vol. 1, 1827, p. 1 (Doreh, NW. New Guinea).

Etna Bay: 1 ♂ (November 27).

Measurements: Wing 59. Tail 33. Culmen 18. Tarsus 14 mm.

Irides: brown. Bill: black. Feet: black.

Cinnyris jugularis frenata Müller

Nectarinia frenata S. Müller, Verh. Nat. Gesch. (Land en Volkenkunde), vol. 1, 1843, p. 173 (Lobo = Triton Bay).

Etna Bay: 1 ♀ (November 26).

Measurements: Wing 53. Tail 32. Culmen 19. Tarsus 15 mm.

Irides: dark brown. Bill: black. Feet: black.

Timeliopsis fulvigula montana Mayr

Timeliopsis fulvigula montana Mayr, Mitt. Zool. Mus. Berlin, vol. 17, 1931, p. 659 (Mt. Goliath, Snow Mountains).

Araboebivak: 1 ♂, 2 ♀♀ (October 19-November 2).

Measurements: Wing ♂ 78; ♀♀ 72, 74. Tail ♂ 57; ♀♀ 52, 55. Culmen ♂ 15; ♀♀ 15, 15. Tarsus ♂ 23; ♀♀ 20, 21 mm.

Irides: orange or red. Bill: grey or dark grey. Feet: grey.

Compared with 3 specimens of the nominal race from NW. New Guinea (included the type specimen) there is not much difference in size. The measurements of these birds are:

Hatam ♀ (type)	wing 76,	tail 57,	culmen 14 mm
Karon Mts. ♀?	wing 80,	tail 56,	culmen 16 mm
Tjobanda, Arfak Mts. ♂?	wing 75,	tail 57,	culmen 14 mm

The birds from the Wissel Lakes are more vividly green coloured on the upper parts, also greenish (not brownish) on the upper head. The same is found on the under parts, which are browner, less tinged with green, in the Arfak birds. The birds from Araboebivak correspond closely with the single ♂ from the Oranje Mountains I have before me.

Ramsayornis modestus (Gray)

Gliciphila modestus G. R. Gray, Proc. Zool. Soc. London, 1858, p. 174 (Aru Islands).

Etna Bay: 1 ♂ (November 25).

Measurements: Wing 69. Tail 41. Culmen 13. Tarsus 16 mm.

Irides: brown. Bill: brown. Feet: brown.

Myzomela rosenbergii rosenbergii Schleg.

Myzomela rosenbergii Schlegel, Ned. Tijdschr. Dierk., vol. 4, 1873, p. 38 (Arfak Mountains).

Paniai Lake: 1 ♂ fledgling (November 9).

Araboebivak: 16 ♂♂, 2 ♂♂ juv. in ♀-dress; 3 ♀♀, 2 pulli (October 7-November 6).

Measurements: Wing ♂♂ 61, 62, 63, 63, 63, 63, 64, 65, 65, 65, 65, 66, 66, 67, 67, 67, ♂♂ juv. 58, 60; ♀♀ 59, 59, 60. Tail ♂♂ 40, 41, 41, 41, 41, 42, 43, 43, 43, 43, 43, 44, 44, 44, 44, 45, ♂♂ juv. 37, 38; ♀♀ 37, 39, 40. Culmen ♂♂ 17, 17, 18, 18, 18, 18, 18, 18, 18, 18, 19, 19, 19, 19, —, —, ♂♂ juv. 16, 18; ♀♀ 17, 18, 19. Tarsus ♂♂ 16, 16, 16, 16, 16, 16, 16, 16, 17, 17, 17, 17, 17, 17, 17, 17, ♂♂ juv. 15, 16; ♀♀ 15, 16, 16 mm.

Irides: brown or black. Bill: black. Feet: black.

Two of the ♂♂ show some brownish feathers in the black feathers of the abdomen, showing that they have nearly finished their moult into the fully adult dress. In one of these birds wing coverts too are tipped with brown. The fledgling and pulli are in the brown plumage with only the secondaries edged with green.

Melipotes fumigatus goliathi Rothsch. & Hart.

Melipotes fumigatus goliathi Rothschild & Hartert, Bull. B.O.C., vol. 29, 1911, p. 34 (Mt. Goliath, Snow Mountains).

Paniai Lake: 1 ♂, 1 ♀ juv. (November 9-11).
Bobairo: 4 ♂♂, 3 ♀♀, 1 — (August 22-October 1).
Poewaida near Enarotali: 2 ♂♂ (September 5).
Weramoeka: 1 ♂ (August 21).
Between Paniai and Koegapa: 3 ♂♂, 2 ♀♀ (September 2-27).
Araboebivak: 12 ♂♂, 1 ♂ juv., 4 ♀♀ (October 4-November 6).
Coll. Van Eechoud: Bobare (Bobairo): 1 ♂ (11-10-1938).

Measurements: Wing ♂♂ 110, 111, 114, 114, 115, 115, 115, 116, 118, 119, 119, 120, 121, 121, 121, 121, 121, 122, 123, 125, 125, 129, ♂ juv. 116; ♀♀ 107, 107, 110, 110, 111, 112, 113, 113, 118, ♀ juv. 106, unsexed 110. Tail ♂♂ 95, 98, 101, 102, 102, 103, 104, 104, 104, 105, 105, 105, 106, 106, 106, 107, 107, 108, 108, 108, 109, 111, ♂ juv. —; ♀♀ 93, 95, 96, 96, 97, 98, 102, 102, —, ♀ juv. 98, unsexed 95. Culmen ♂♂ 18, 18, 19, 19, 19, 19, 19, 20, 20, 20, 20, 20, 20, 20, 21, 21, 21, 21, —, —, —, —, ♂ juv. —; ♀♀ 18, 18, 18, 19, 20, 21, —, —, —, ♀ juv. 17, unsexed 19. Tarsus ♂♂ 31, 32, 32, 32, 32, 32, 32, 32, 33, 33, 33, 33, 33, 33, 33, 34, 34, 34, 34, 34, 34, 34, ♂ juv. 33; ♀♀ 31, 31, 31, 31, 32, 32, 32, 32, 32, ♀ juv. 32, unsexed 31 mm.

Irides: brown. Bill: black. Feet: grey. Skin around the eye: yellow.

Native name: naboeroe (common bird).

These birds all from about the same altitude display a variation in wing measurements which exceed those given by Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 7, 1942, p. 503) for birds from 1800-3225 m. Therefore no altitudinal races can be distinguished as Rand already concluded.

Compared with a series from the Oranje Mountains I cannot see much difference, the latter are slightly more yellowish on the abdomen. Foxing? The juveniles have fluffy feathers and the head not so blackish as in adult birds. No whitish edges along the feathers of the under parts.

Melidectes belfordi joiceyi (Rotsch.)

Melirrhophetes belfordi joiceyi Rothschild, Novit. Zool., vol. 28, 1921, p. 285 (Mt. Kunupi, Weyland Mountains).

Paniai Lake: 2 ♂♂ (September 18, November 19).
Bobairo: 7 ♂♂, 2 ♀♀ (August 22-September 10).
Enarotali: 1 ♂ (September 14).
Poewaida: 1 ♂, 1 ♀ (September 3).
Araboebivak: 10 ♂♂, 1 ♂ juv., 8 ♀♀, 2 ♀♀ juv., 1 — (October 2-November 6).

Measurements: Wing ♂♂ 131, 131, 131, 132, 133, 133, 133, 133, 134, 134, 134, 134, 135, 135, 135, 135, 136, 136, 136, 137, 140; ♀♀ 115, 115 (worn), 118, 121, 121, 122, 122 (worn), 123, 124, 126, 126, unsexed 129. Tail ♂♂ 107, 108, 108, 108, 109, 109, 110, 110, 111, 111, 112, 113, 113, 114, 114, 115, 115, 115, 115, 118, 118; ♀♀ 97 (worn), 102, 103, 104, 104, 108, 108, 110, —, —, —, unsexed moulting. Culmen ♂♂ 29, 30, 30, 30, 30, 30, 30, 31, 31, 31, 31, 31, 31, 31, 31, 32, 32, 32, 32, 32, —; ♀♀ 28, 28, 28, 29, 29, 29, 29, 31, 31, —, —, unsexed 29. Tarsus ♂♂ 29, 30, 30, 30, 30, 30, 30, 31, 31, 31, 31, 32, 32, 32, 32, 32, 32, 32, 33, —, —; ♀♀ 29, 29, 29, 30, 30, 30, 30, 30, 31, 31, —, unsexed 30 mm.

Irides: dark brown or black. Bill: greyish black or black. Feet: grey, soles yellow.

This series could be compared with 2 ♂♂, 1 ♀ from Mt. Kunupi, Weyland Mountains (*joiceyi*), 3 ♂♂, 1 ♀ from the Utakwa River, Nassau range (topotypical *kinneari*) and a large series from the southern range of the Snow Mountains. Stresemann & Paludan (Mitt. Zool. Mus. Berlin, vol. 21, 1936, p. 195) already showed that the wing measurements of the Weyland Mountains birds are not so small as the original description of *joiceyi* suggested. The wing measurements given by Rothschild and by Stresemann & Paludan are:

		Wing
Weyland Mountains	♂♂ (16)	126-142
	♀♀ (10)	115-133
Wissel Lake district	♂♂ (21)	131-140
	♀♀ (11)	115-126 mm

This table shows that the birds from the Wissel Lakes fall entirely within the variation range of *joiceyi* from the Weyland Mountains.

The series from the Utakwa River measure wing ♂♂ (3) 133-136, ♀ (1) 123, a series from the Oranje Mountains ♂♂ (17) 130-144, ♀♀ (9) 118-130 mm. The size difference between *kinneari* and *joiceyi* therefore is only very slight. There is, however, a difference in the bill, which is decidedly weaker and smaller in *joiceyi* (♂♂ (4) 28-32, ♀♀ (2) 27-29 against ♂♂ 30-35, ♀♀ 28-33 mm in *kinneari*). Birds from the Snow Mountains have the bill perhaps slightly heavier than in true *kinneari*. The

birds from the Wissel Lake district agree in this respect with *joiceyi* (♂♂ 28-32, ♀♀ 29-31 mm).

The colour in the upper parts is variable, but *joiceyi* has the edges of the feathers on the back more olivaceous, only in a few specimens from the Wissel Lakes these edges are more greyish coloured. In the specimens of *kinneari* these edges are broader and much more greyish, in the specimens from the Oranje Mountains the grey is still more pronounced. The colour of the edges of the remiges is variable, mostly pure olivaceous, sometimes more brownish tinged, but this is individual. I cannot see a constant difference in the birds from different localities.

The under parts are similar in *joiceyi* and *kinneari,* though in the birds from the Wissel Lakes a few are slightly more brownish underneath than the others. In the series from the Snow Mountains nearly all birds are slightly browner underneath than birds from the Utakwa River, Wissel Lakes and Weyland Mountains. I am not sure, however, that this is not caused by foxing. I prefer it to keep birds from the Oranje Mountains under *kinneari,* also because the variation in the wing measurements, size of bill and colour of upper parts point to clinal variation.

The juvenile birds agree well with the description given by Mayr & Rand for a nestling bird of the nominal race (Bull. Am. Mus. Nat. Hist., vol. 73, 1937, p. 224).

Oreornis subfrenatus melanolaema (Rchw.)

Xanthotis melanolaema Reichenow, Journ. f. Ornith., vol. 63, 1915, p. 127 (Schraderberg, Sepik Mountains).

Bobairo: 4 ♀♀ (August 24-October 1).
Araboebivak: 1 ♂ (October 27).

Measurements: Wing ♂ 102, ♀♀ 85 (worn), 86 (worn), 86 (worn), 91. Tail ♂ —, ♀♀ 76, 79, 80, 84. Culmen ♂ 22, ♀♀ 21, 21, —, —. Tarsus ♂ 24, ♀♀ 23, 24, 24, 25 mm.

Irides: grey, dark brown (1). Bill: black. Feet: yellow, yellow grey (♂).

Ptiloprora guisei incerta Junge

Ptiloprora guisei incerta Junge, Zool. Mededelingen, vol. 31, no. 22, 1952, p. 249 (Bobairo, New Guinea).

Bobairo: 1 ♂ (August 29).

Measurements: Wing 90. Tail 81. Culmen 20. Tarsus 26 mm.

Irides: yellowish grey. Bill: black. Feet: grey.

This specimen is paler on throat and breast than a series of *lorentzi* (21) from the Oranje range and than *praedicta* (3) from Wandammen. The

streaks on the breast are greyish brown, not black, the pale edges along the feathers are greyish not whitish. The mantle and the upper tail coverts are slightly more greenish tinged than in *lorentzi* and come nearer *erythropleura dammermani*. Head and neck are coloured as in *guisei lorentzi*. Chin and throat in *incerta* show long thin, white longitudinal streaks. All the measurements are a good deal smaller than the minimum measurements found in ♂♂ of *lorentzi*. In 7 ♂♂ of this race the measurements are: wing 97-104, tail 85-94, culmen 21-22, tarsus 28-31 mm. A ♂ from Mt. Sumuri, Weyland Mountains (*praedicta*) measures: wing 95, tail 87, culmen 24, tarsus 29 mm and therefore closely corresponds with *lorentzi*. For differences between *lorentzi* and *praedicta* cf. Rand, Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 510. In the colour of the flanks *incerta* is nearest to *lorentzi*.

Certainly it is dangerous to describe a new race on a single specimen. The fact, however, that it falls strikingly out of a large series of *lorentzi*, which series is rather uniform and the fact that it is decidedly smaller make that I described it as new. I must add that I have considered the possibility that it could be a cross between *guisei* and *erythropleura*, but no specimens of *guisei lorentzi* have been collected in this area.

Ptiloprora erythropleura dammermani Stres. & Pal.

Ptiloprora erythropleura dammermani Stresemann & Paludan, Ornith. Monatsber., vol. 42, 1934, p. 44 (Mt. Sumuri, Weyland Mountains).

Enarotali: 2 ♂♂, 1 ♀, 1 — (September 7-21).
Between Paniai Lake and Koegapa: 1 ♀ (September 7).
Araboebivak: 1 ♂, 1 ♂ imm., 4 ♀♀ (October 11-30).

Measurements: Wing ♂♂ 79, 90, 90, ♂ imm. 78; ♀♀ 80, 80, 83, 83, 89, 89, unsexed 78. Tail ♂♂ 67, 75, 77, ♂ imm. 64; ♀♀ 65, 68, 68, 70, 72, 74, unsexed 66. Culmen ♂♂ 18, 18, 19, ♂ imm. 16; ♀♀ 17, 17, 17, 17, 18, 18, unsexed 16. Tarsus ♂♂ 23, 23, 24, ♂ imm. 24; ♀♀ 23, 23, 24, 24, 25, 25, unsexed 23 mm.

Irides: green, grey (imm.). Bill: black. Feet: grey.

These birds differ from 6 Arfak birds exactly as described in the original description of *dammermani*.

Pycnopygius cinereus dorsalis Stres. & Pal.

Pycnopygius cinereus dorsalis Stresemann & Paludan, Ornith. Monatsber., vol. 42, 1934, p. 44 (Mt. Kunupi, Weyland Mountains).

Paniai Lake: 1 ♀ (September 19).
Enarotali: 2 ♀♀ (September 4, 22).
Araboebivak: 4 ♂♂, 3 ♀♀ (October 9-November 5).

Measurements: Wing ♂♂ 111, 111, 114, 116; ♀♀ 103, 105, 105, 106,

107, 109. Tail ♂♂ 97, 98, 102, 102; ♀♀ 90, 90, 90, 92, 94, 96. Culmen ♂♂ 19, 20, 20, 20; ♀♀ 18, 19, 19, 20, —, —. Tarsus ♂♂ 29, 29, 30, 30; ♀♀ 27, 28, 28, 28, 29, 29 mm.

Irides: pale to dark brown. Bill: black, dark grey (2). Feet: grey.

Compared with 4 ♀♀ from the Vogelkop (Hatam, Warmendi, Arfak Mountains, Karon Mountains) the series from the Wissel Lakes differs as described by Stresemann & Paludan in the original description of *dorsalis* from the Weyland Mountains. Moreover the birds from the Vogelkop have the under parts paler (more greenish, less greyish). The Arfak birds measure: wing 101-106 mm. One specimen from *marmoratus* (Mt. Gayata, 4000 feet, Richardson's range, SE. New Guinea) is different by the paler spotted breast. Comparison with one topotypical ♀ from *dorsalis* showed no differences.

Philemon novaeguineae aruensis (Meyer)

Tropidorhynchus aruensis A. B. Meyer, Zeitschr. ges. Ornith., vol. 1, 1884, p. 21 (Aru Islands).

Etna Bay: 3 ♂♂, 3 ♀♀ (November 22-29).

Measurements: Wing ♂♂ 150, 154, 155; ♀♀ 142, 145, 147. Tail ♂♂ 129, 129, 129; ♀♀ 118, 122, 125. Culmen ♂♂ 44, 44, 47; ♀♀ 40, 42, 45. Tarsus ♂♂ 36, 38, —; ♀♀ 38, 38, — mm.

Irides: brown, red (1). Bill: black. Feet: grey.

In size this series agrees with *aruensis*, they are too small for the nominal race from the Vogelkop and too large for *brevipennis* from the Snow Mountains (cf. Junge, Nova Guinea, N.S., vol. 3, 1939, p. 66). The knobs on the culmen are rather variable in size. The wing of 4, unfortunately unsexed specimens from the Onin Peninsula (Kaukas 3, Fakfak 1) measure; wing 148, 150, 152, 157 mm. Perhaps birds from that region also belong to the smaller race *aruensis*, though well sexed material must prove if this is correct. *Aruensis* was considered to be restricted to the Aru Islands.

Dicaeum geelvinkianum obscurifrons Junge

Dicaeum geelvinkianum obscurifrons Junge, Zool. Mededelingen, vol. 31, no. 22, 1952, p. 249 (Paniai, New Guinea).

Paniai Lake: 2 ♂♂, 1 ♀ (September 27-November 17).
Enarotali: 1 ♂, 1 ♀ (September 27).
Araboebivak: 2 ♂♂ (October 9-28).

Measurements: Wing ♂♂ 56, 57, 58, 58, 58; ♀♀ 50, 55. Tail ♂♂ 28, 29, 30, 32, 32; ♀♀ 24, 27. Culmen ♂♂ 8, 9, 9, 9, 9; ♀♀ 8, 9. Tarsus ♂♂ 12, 12, 12, 12, 13; ♀♀ 11, 12 mm.

Irides: dark brown or black. Bill: black. Feet: dark grey or black.

In size these birds perfectly agree with the large race *centrale,* described by Rand from the Balim River on the southern drainage slope of the Snow Mountains. Compared with 2 ♂♂ and 2 ♀♀ of *centrale,* the birds from the Wissel Lake district differ, however, in being more greenish, less violet in colour on the upper parts. The under parts in the new race are darker, the abdomen being less yellowish, more greyish green. Most conspicious, however, is the lacking of the bright red on head and upper tail coverts, which are much duller, more brownish red. In this respect the birds are near to *maforense,* which, however, are smaller: wing ♂♂ (5) 51-53, ♀♀ (3) 47 mm. The breast patch in the ♂♂ of *obscurifrons* is more vividly (less orange red) coloured than in *maforense.* From *setekwa* it differs except by size and the difference in the red colour of head and upper tail coverts also by the much less purplish glossed upper parts, which are much greener.

Compared with 1 ♂ from *D. nitidum rosseli* from the Louisiade Archipelago, which is of the same size and has the same brownish red coloured head. *Obscurifrons* differs by the more purplish (not greenish) glossed upper parts, much less red on upper tail coverts, the greyish green (not yellowish) under parts, grey chin and greyish green feathers of the side of head.

One of the ♂♂ of *obscurifrons* is darker, more purplish, on the upper parts and has hardly any red on head and upper tail coverts. The specimen, however, has been preserved in spirit for some time.

In the Weyland Mountains the species *D. pectoralis* is found. South of the Snow Mountains *D. geelvinkianum setekwa* with the bright red coloured head and upper tail coverts occurs, on the northern slopes *centrale* and north of the mountains *diversum,* all nearly related to each other. It is surprising, therefore, to find in the Wissel Lake district a race which seems to be nearer related to *maforense* than to any of the other races. The question arises which race is found on the eastern coast of the Geelvink Bay.

Pristorhamphus versteri meeki Rothsch. & Hart.

Pristorhamphus versteri meeki Rothschild & Hartert, Bull. B.O.C., vol. 29, 1911, p. 36 (Mt. Goliath, Snow Mountains).

Paniai Lake: 1 ♀ (November 8).
Enarotali: 1 ♂, 1 ♀ (September 21-27).
Araboebivak: 2 ♂♂, 3 ♂♂ imm., 5 ♀♀ (October 12-30).

Measurements: Wing ♂♂ 62, 63, 64, ♂♂ imm. 63, 63, 66; ♀♀ 68, 68, 69, 69, 69, 70, 71. Tail ♂♂ 76, 76, 77, ♂♂ imm. 61, 65, 70; ♀♀ 56, 58,

60, 63, 64, 64, 66. Culmen ♂♂ 10, 10, 11, ♂♂ imm. 10, 10, 10; ♀♀ 10, 10, 10, 10, 11, 11, —. Tarsus ♂♂ 22, 22, 23, ♂♂ imm. 21, 22, 23; ♀♀ 22, 22, 23, 23, 23, 24, 24.

Irides: ♂♂ black or dark brown, ♂♂ imm. pale brown or brown, ♀♀ coffee brown. Bill: black. Feet: black or dark grey.

In four of the ♀♀ the under parts are greyer, more streaked than in the other ♀♀. In this respect they agree closely with the ♂♂ imm. Probably these ♀♀ are also immature birds. The series closely corresponds with birds from the Oranje Mountains.

Oreocharis arfaki (Meyer)

Parus (?) *arfaki* A. B. Meyer, Sitzungsber. Nat. Ges. Isis, Dresden, 1875, p. 75 (Arfak Mountains).

Araboebivak: 1 ♀ (October 30).

Measurements: Wing 74. Tail 44. Culmen 9. Tarsus 18 mm.

Irides: brown. Bill: black. Feet: pale grey.

Zosterops fuscicapilla fuscicapilla Salvad.

Zosterops fuscicapilla Salvadori, Ann. Mus. Civ. Genova, vol. 7, 1875, p. 955 (Arfak Mountains).

Araboebivak: 2 ♂♂, 1 ♀ (October 21-28).

Measurements: Wing ♂♂ 60, 60; ♀ 56.5. Tail ♂♂ 37, 39; ♀ 38. Culmen ♂♂ 10, 10; ♀ 10. Tarsus ♂♂ 16, 17; ♀ 15 mm.

Irides: ♂♂ pale yellow or dark red, ♀ pale yellow. Bill: black or dark grey, mandible with yellow base. Feet: grey.

One of the ♂ has been preserved in spirit and is badly discoloured, all yellow lipochrome being removed. Both remaining birds differ from 3 Arfak birds (cf. Junge, Nova Guinea, N.S., vol. 3, 1939, p. 47) by the more greenish, less clear yellow under parts; the upper parts are slightly greener. The same is reported by Rand (Bull. Am. Mus. Nat. Hist., vol. 79, 1942, p. 513) for birds north of the Oranje Mountains and for one bird south of this range (Junge, l.c.). It seems to be a rather constant difference. Moreover the heads of both birds from the Wissel Lakes are much blacker than in the Arfak birds. Black heads, however, are also found in Arfak birds (cf. Mayr & De Schauensee, Proc. Ac. Nat. Sci. Philadelphia, vol. 91, 1939, p. 238). The Arfak birds before me have no black bills, they are more greyish yellow. The wings measure: ♂♂ 58, 60.5, ♀ 58; tails ♂♂ 37, 39, ♀ 38 mm. More material is needed of this species before definite conclusions can be reached.

Erythrura papuana Hart.

Erythrura papuana Hartert, Novit. Zool., vol. 7, 1900, p. 7 (Arfak Mountains).
Araboebivak: 1 ♂ (October 8).

Measurements: Wing 69. Tail 59. Culmen 12. Tarsus 19 mm.

Irides: brown. Bill: black. Feet: yellowish grey.

This is another rare bird, which is new to the collections of the Leiden Museum. From West New Guinea only known from the Arfak Mountains. From SE. New Guinea from the Wharton and Owen Stanley range. Compared with one specimen from the Arfak Mountains and one from Mt. Tafa, British Papua, from the American Museum of Natural History, there are no essential differences. The specimen from Araboebivak has the under parts slightly less uniform green and it lacks the bronze tinge, which is found in the Arfak specimen on the sides of neck. The Arfak specimen has the tail feathers slightly paler red than the other specimens.

Lonchura castaneithorax boschmai Junge

Lonchura castaneithorax boschmai Junge, Zool. Mededelingen, vol. 31, no. 22, 1952, p. 249 (Araboebivak, New Guinea).

Paniai Lake: 1 ♂, 1 ♀ juv., 3 juvs. unsexed, of which one pull. (September 30-November 5).

Enarotali: 3 ♂♂, 1 ♀ (September 28).
Meijepa, Tigi Lake: 1 ♂ (November 12).
Araboebivak: 14 ♂♂, 10 ♀♀, 2 unsexed, 1 — imm., 1 ♀ juv., 1 ♀ pull. (October 6-November 11).

Measurements: Wing ♂♂ 49, 50, 50, 50, 50, 50, 50, 51, 51, 51, 51, 52, 52, 52, 52, 53, 53, 53, 53; ♀♀ 50, 50, 50, 51, 51, 51, 52, 52, 52, 52, —, unsexed 51, 51, unsexed imm. 51, ♀♀ juv. 50, 50, unsexed juv. 52, 52. Tail ♂♂ 33, 33, 34, 34, 35, 35, 35, 35, 36, 36, 37, 37, 38, 39, 39, 39, 40, —, —; ♀♀ 32, 34, 34, 36, 36, 36, 36, 36, 36, 36, 39, unsexed 32, 36, unsexed imm. —, ♀♀ juv. 31, 32, unsexed juv. 32, —. Culmen ♂♂ 9, 9, 9, 9.5, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, 11, 11, 11; ♀♀ 9.5, 9.5, 10, 10, 10, 10, 10, 10, 10.5, 10.5, unsexed 9.5, 10, unsexed imm. 10, ♀♀ juv. 9, 9, unsexed juv. 8, 8. Tarsus ♂♂ 15, 15, 15, 15, 15, 15, 15, 15, 15, 15, 15.5, 16, 16, 16, 16, 16, 16, 16, 16; ♀♀ 15, 15, 15, 15.5, 16, 16, 16, 16, 16, 16, 17, unsexed 15, 15, unsexed imm. 15, ♀♀ juv. 15, 15, unsexed juv. 15, 16 mm.

Irides: black, dark brown, in juv. black (3), dark grey (3). Bill: pale grey or grey, in juv. dark grey, nearly black. Feet: pale grey or grey, in juv. the soles are reported as pale yellow and nearly white.

This very marked race is nearest to *nigriceps* from SE. New Guinea. It differs, however, in the following points. The streaks on the black head and nape broader and darker, brownish as the back and not whitish brown as in *nigriceps*. In some specimens the streaks on the nape are so broad that the colour gradually passes into that of the back. Colour of back and rump rather dark chestnut brown as in the darkest specimen of *nigriceps*. In a few specimens grey edgings along the feathers are found. Upper tail coverts yellow straw colour, sometimes the feathers are thinly edged with darker reddish yellow colour, which is the colour of the upper tail coverts in *nigriceps*. Central tail feathers blackish brown with small yellow straw coloured edges, which are much broader and yellower in *nigriceps*. The chestnut coloured breast is darker and generally the chestnut colour goes further down in *boschmai*, the grey edgings are less conspicious than in *nigriceps* and often obsolete. The chestnut colour goes down the flanks, therefore the white on the abdomen is more restricted. Black bar between chestnut breast and white abdomen thinner and more irregular than in *nigriceps*.

The juveniles are uniform brown above, creamy buff on the abdomen, darker on the breast. Ear coverts blackish with small pale streaks.

It is interesting to find that *boschmai* is so much nearer to *nigriceps* than to *uropygialis*, which is described from the Menoo River on the south coast of the Geelvink Bay. *Nigriceps* was not known to occur farther to the west along the south coast of SE. New Guinea than Hall Sound. It is of interest that in the collections of the Leiden Museum there is a specimen of *nigriceps* bought from Frank in 1879, which is said to come from the Fly River. Remarkable also is the fact that the species was considered only to occur in the lowlands.