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BIRDS COLLECTED DURING THE WHITNEY SOUTH SEA EXPEDITION. XXXVI¹

NOTES ON NEW GUINEA BIRDS. III

By Ernst Mayr

This paper contains a continuation of my revisions of New Guinea genera, treating the families *Columbidae* and *Psittacidae*. Some of the results of my studies of these families have already been incorporated by me in the third volume of Peters', 'Checklist of Birds of the World,' when I read galley. Other studies were made at a more recent date and the results are published here for the first time. The measurements of all the wings were made with a rule, and the variable curvature of the wing was eliminated as much as possible. I am grateful to Dr. Junge for kind information on some material of the Leiden Museum.

Columbidae

Ptilinopus pulchellus pulchellus (Temminck)

Birds from Waigeu have the breast very light gray, birds from southeast New Guinea have it rather dark gray. But since the difference is not very marked and since topotypes from northwest New Guinea are about intermediate, it seems best not to name a new form.

Ptilinopus rivoli and forms

According to the literature, the two very similar forms *Ptilinopus* prasinorrhous and miqueli are to be considered as species, because they occur together on Jobi Island (Stresemann and Paludan, 1932, Novit. Zool., XXXVIII, pp. 205, 216, 242). This point of view is apparently not correct. *Ptilinopus rivoli prasinorrhous* is a bird which occurs in Geelvink Bay only on small islands, such as Numfor, Pulu Manim, Mios Korwar, Padaido (Traitors Is.), and possibly on some of the islets off the south coast of Jobi (Bruijn coll.). *Ptilinopus rivoli miqueli*, however, is the bird of the mainland of Jobi, where it occurs even in the lower mountains, up to an altitude of at least 450 m. (Stein coll.). There seems to be no objection to keeping both forms in one species.

¹ Previous papers in this series comprise American Museum Novitates, Nos. 115, 124, 149, 322, 337, 350, 356, 364, 365, 370, 419, 469, 486, 488, 489, 502, 504, 516, 520, 522, 531, 590, 609, 628, 651, 665, 666, 709, 714, 820, 828, 912, 915, 933 and 939.

Ptilinopus nainus nainus (Temminck)

An adult male from the Hydrographers Mts. (Eichhorn coll.) extends the range of this species considerably toward the east. The bird is very deep saturated green, not yellowish green, as all the other specimens from the south coast of southeast New Guinea in the Rothschild Collection. This is undoubtedly only due to a type of individual variation which also occurs in other species of this genus, as for example in *Ptilinopus aurantiifrons* and *Ptilinopus rivoli bellus*. I have before me specimens of *Ptilinopus aurantiifrons* from the Aru Islands which are as dark green as the darkest of a series of north New Guinea birds. I cannot submit to the opinion of Stresemann and Paludan (1935, Mitt. Zool. Mus. Berlin, XX, p. 451) that *novaeguineae* is a valid race.

Ptilinopus nainus minimus Stres. and Pal. (Waigeu) was described on the basis of its small size (σ ad. 78, σ juv. 83, φ 78). The type of nainus from Lobo Bay measures 85.5, according to kind information of Dr. Junge. Additional specimens in the Leiden Museum measure as follows (Dr. Junge *in litt.*): Misol, σ 80, φ 79; "Papua" (v. Musschenbroek), σ 84, φ 79. Specimens in the Rothschild Collection from east New Guinea measure as follows: Mt. Gayata, σ 89, φ 89.5; Port Moresby and Aroa River, σ 87, 91.5, φ 86.5, 88; Hydrographer Mts., σ 87. It is probable that birds from eastern New Guinea average larger than such from west New Guinea. The birds of Misol must be referred to minimus.

Ducula concinna aru Salomonsen

This is a needless synonym of *Ducula concinna separata* Hartert (1896, Novit. Zool., III, p. 180.—Kei Islands) which was not even mentioned in the original description of *aru* (1934, Bull. Brit. Orn. Club, LIV, p. 87.—Aru Islands, in the Moluccas (sic!)). Incidentally, two of the three characters given by Salomonsen are invalid on account of individual variation, and the conspicuous grayness of the under parts of *separata*, on which Hartert based his description is not at all mentioned. It is possible, however, that Aru specimens average somewhat smaller than birds from the Kei Islands.

Ducula chalconota (Salvadori)

In 1901, Rothschild and Hartert called attention to the fact that Arfak birds were smaller than specimens from southeast New Guinea (Novit. Zool., VIII, p. 113). In 1931, I separated the east New Guinea form *smaragdina* on the basis of the more greenish, less reddish-purple gloss of the upper parts (Mitt. Zool. Mus. Berlin, XVII, p. 706). Recently Stresemann and Paludan suggested that the green-backed form might have to be separated in two races, a small western one and a large eastern one (1936, Mitt. Zool. Mus. Berlin, XXI, p. 235).

The material of the Amer. Mus. measures as follows:

Arfak Mts.	♂ 196, 197, 201, no sex, 197, 204, 207,
	218
Mt. Wondiwoi	♂ 213
Weyland Mts. (Stein and Shaw Mayer)	♂ 196, 208, ♀205, 208, 212
Orange Range (Mt. Goliath)	♂ 213, 217, ♀ 209
Mts. of southeast New Guinea	♂ 206, 208, 211, 214, 217, 220, 221, 223,
	224, 230, 233
	Q 211, 215, 215, 216, 218, 218, 220, 221
Mts. of Huon Peninsula (Mayr and Beck)	♂ 218, 219, 220, 221, 223, 223, 228, 231,
	232
	♀ 21 3 , 214, 219, 219, 225

These measurements show clearly that there is so much overlap that it seems inadvisable to separate the Weyland Mt. form.

Macropygia amboinensis (Linnaeus)

The American Museum now possesses a great deal more material than I had seen in 1930 (see 1931, Mitt. Zool. Mus. Berlin, XVII, p. 707). The result of a study of these specimens shows that Hartert's and Rothschild's arrangement, as long ago as 1901, was essentially correct (1901, Novit. Zool., VIII, pp. 121–125).

Macropygia amboinensis doreya Bonaparte

For characters see H. and R., op. cit., p. 122. There is a considerable degree of individual variation in a series from the Vogelkop and it is, therefore, impossible to separate any races on the Aru Islands, the Western Papuan Islands and on Biak. Three adult males from the Aru Islands are heavily barred on the throat, rather deep rufous on the belly and very extensively vinaceous on the throat; the back is very dark and the sheen on the hindneck mainly reddish; there is very little trace of gray on the head. Two Waigeu birds are quite different from each other, but both are heavily barred on the throat, rather dark above and rather pale on chin and upper throat; a single male from Biak (in poor condition) is fairly well barred on the throat, rather light on the abdomen, rather rufous on the back and has some gray on crown and hindneck; the gloss on the hindneck is greenish.

Macropygia amboinensis maforensis Salvadori

Island of Numfor. A pale, strongly barred, and gray capped form (see R. and H., op. cit., p. 123).

Macropygia amboinensis kerstingi (Reichenow)

If a large series of this form is examined almost all the differences, as compared with *cinereiceps*, disappear (see Mayr, *loc. cit.*, p. 707). There is a tremendous amount of individual variation. Almost the only character which remains is the darker, more earth-brown coloration of the upper parts; there are fewer specimens with a pure gray crown and nape than in the D'Entrecasteaux Archipelago and more specimens with a strong rufous wash of forehead, throat and sides of face. Specimens from the type region (Astrolabe Bay and Ramu) are not as dark as birds from further west (Weyland, Mamberano and Cyclop Mts.).

Macropygia amboinensis cinereiceps Tristram

The material collected by the Archbold-Rand Expedition shows clearly that *goldiei* cannot be maintained as a valid race, although there is a small average difference between birds from the D'Entrecasteaux Archipelago and southeast New Guinea (1937, Bull. Amer. Mus. Nat. Hist., LXXIII, p. 38).

Macropygia amboinensis carteretia Bonaparte

I quite agree with Hartert that *hüskeri* Neumann (New Hanover) is not a valid form (1925, Novit. Zool., XXXII, p. 119). The New Hanover specimens average slightly darker on the back and tail, but there are specimens on New Ireland, New Britain and Rook Island, which absolutely match the New Hanover birds. There are no other differences.

Macropygia amboinensis admiralitatis, new subspecies

TYPE.—No. 334701, Amer. Mus. Nat. Hist.; $rac{1}{3}$ ad.; Metawari, Manus, Admiralty Islands; March 3, 1934; Whitney S. S. Exp. (William F. Coultas).

Exceedingly similar to M. amb. amboinensis (L.), but distinctly darker above, particularly on the tail; shafts of the tail-feathers black, not brown; gloss on hind-neck green, not greenish purple; throat paler, less cinnamon; throat and breast more strongly washed with vinaceous; differs from all the other neighboring forms by the barring of the entire under parts, which includes in some specimens the outer under tail-coverts; differs from *meeki* through larger size and general rufous coloration.

Wing, ♂ 167-173 (168.8), tail 190-200; ♀, wing 159-162.

⁺ RANGE.—Manus, Admiralty Islands (Metawari, Petaiya, Pepitalai, Drabui).

Psittacidae

Probosciger aterrimus

The geographical variation of this species in the New Guinea Region was until recently very insufficiently understood, as can be seen, for example, by Stresemann's account (1923, Arch. f. Naturgesch., LXXXIX, fasc. 8, pp. 54–55). The material collected in eastern New Guinea by the Whitney South Sea Expedition and by the Archbold-Rand New Guinea Expedition sheds a great deal of new light on the range of several of the forms.

(1) **Probosciger aterrimus aterrimus** (Gmelin)

This Australian race was discovered in south New Guinea by Archbold and Rand (1937, Bull. Amer. Mus. Nat. Hist., LXXII, p. 55). The wings of two males measure 353 and 373. This race is probably also found on the lower Eilanden and Noord Rivers, where van Oort measured a series as: 334–374.

(2) **Probosciger aterrimus alecto** (Temminck)

A series from the Western Papuan Islands is distinctly larger than *intermedius*, but smaller than *goliath*.

Wing, 3^a ad., 357, 9 ad., 344, 348, 348, 3^a juv., 343, 349, 359, 9 juv., 329, 334. Tail, 3^a ad., 249, 9 ad., 244, 245, 260, 3^a juv., 228, 250, 268, 9 juv., 231,248. Culmen (sector), 3^a ad., 98, 9 ad., 71, 76, 77, 3^a juv., 84, 84, 9 juv. 73.

Immature birds are characterized by the whitish tip of the bill, by the barring of the under parts and by the more blackish plumage of the upper side.

(3) **Probosciger aterrimus intermedius** (Schlegel)

A series from the Aru Islands measures as follows:

Wing, *I* ad., 332, 333, *Q* ad., 308, 314, *Q* imm., 315.

Tail, J ad., 222, 223, Q ad., 218, 224, Q imm., 220.

Culmen, 3 ad., 83, 87, 9 ad., 69, 70, 9 imm., 71, 73.

The immatures do not show any barring of the under parts.

(4) Probosciger aterrimus goliath (Kuhl)

This race, the type-locality of which Stresemann has fixed on the Onin Peninsula (op. cit., p. 54), was known to occur in northwest New Guinea, west of Lobo Bay and the head of Geelvink Bay. A good series (6 3 ad., 3 9 ad.) from the south coast of southeast New Guinea. cannot be separated from northwest New Guinea birds either by characters of coloration or by size.

I find the following measurements in a small series of northwest New Guinea birds:

Wing, *A* ad., 391, 400, 400, *Q* ad., 353.

Tail, 3 ad., 260, 266, 276, 9 ad., 245.

Southeast New Guinea birds (south coast) measure as follows:

Wing, ♂ ad., 377, 385, 392, 393, 397, 407, ♀ ad., 355, 366, 387. Tail, ♂ ad., 248, 252, 254, 258, 274, 285, ♀ ad., 247, 253, 277.

The ranges of the northwest and southeast New Guinea population of *goliath* appear to be entirely separated in south New Guinea by the range of *aterrimus*. It is, however, quite possible that the true *aterrimus* is restricted to the coastal lowlands opposite Cape York, and that in the foothills of the central range, a population occurs, which is closer to *goliath* (although slightly smaller) than to *aterrimus*. If this is the case, the range of *goliath* would run continuously from northwest New Guinea along the southern slopes of the central chain to Milne Bay and Sariba Island in southeast New Guinea.

(5) **Probosciger aterrimus stenolophus** (van Oort)

This form with the narrow lanceolate crest-feathers is the most pronounced subspecies of this species. It extends much farther east than was hitherto recorded. A typical specimen was collected by the Whitney South Sea Expedition at the Bofu district, east of Collingwood Bay.

CACATUA BRISSON

The generic name *Cacatua* Brisson has been in use in the ornithological literature for a period of more than one hundred years. It is the name used in the 'Cat. Birds,' in Sharpe's 'Handlist,' in Salvadori's 'Orn. Pap. Mol.,' and in every single monograph of the parrots published during the last century. Recently Mathews replaced it by *Kakatoe* Cuvier which in my opinion is nothing but a *nomen nudum*. I shall continue to use the generic name *Cacatua* Brisson, until more valid reasons for its rejection have been advanced.

Cacatua galerita triton Temminck is the name that was applied for a long time for the birds of New Guinea, and the islands of its immediate vicinity (New Guinea Region). It is characterized by a yellow, upward curved crest, and by the bluish color of the naked circumocular space. In 1861, Rosenberg separated the birds of Misol (restricted type-locality) and Salawati as macrolopha on the basis of their much smaller size. Later authors combined the large Waigeu birds with macrolopha which was the cause of much confusion and gave Mathews the excuse to name the Aru Islands birds aruensis. In 1888, Finsch listed some *Cacatua* from the Trobriand Islands as *trobriandi* without giving any characters. Lately (1923) Dr. Stresemann named the large population of the Huon Peninsula *kwalamkwalam*.

Peters (1937, 'Check-List of Birds,' pp. 173–174) admitted all these names and assigned definite ranges to every one of them. Certain discrepancies in the literature have caused me to reinvestigate the matter and have led me to conclusions which differ quite radically from the arrangement adopted by Peters.

I have personally measured wing, tail and culmen of 105 specimens. and have added the wing-measurements of 68 birds from the literature. The startling result is that in the 22 populations examined by me there is a gradual increase of size from the small Trobriand-Woodlark population to the giant birds of the Huon Peninsula. There are no sharp breaks anywhere and the small populations are scattered over the small islands east and west of New Guinea and in south New Guinea. There are no color differences between the birds of the various populations and if any races are recognized, the birds from Merauke, Aru Islands, Misol, Numfor, and the Louisiades would have to be one subspecies, separated from another to occur on the mainland of New Guinea, Waigeu, Jobi This is a case quite similar to that found in *Podargus papuen*and Biak. sis (Amer. Mus. Novit., No. 939, p. 9) and Psittrichas fulgidus (see below, p. 9). To combine birds from different localities under one name, suggests that they are to be considered particularly closely related. This is, however, undoubtedly untrue in the case of the cockatoos. The only factor which joins the birds of the small populations together, is their small size. If we could investigate other characters, such as proportions, physiological properties, etc., we would probably arrive at quite a different arrangement. In view of all this, it is probably the best solution to list all the populations of white cockatoos in the New Guinea Region as Cacatua galerita triton Temminck without forgetting that they differ considerably in size.

Most collectors neglect to indicate on the labels the color of the naked area around the eye. It is supposed to be blue in *triton*, and white in the Australian *galerita*. A single specimen from Merauke (Leiden Museum) has this area described as "WHITE." It is possible that the small population of south New Guinea is a descendant of *galerita* and not of *triton*, and deserves to be separated subspecifically.

The wing-length of 22 populations of *Cacatua galerita triton* arranged according to size (measurements from the literature in italics):

TROBRIAND-WOODLARK: J 270, 283; Q 259, 260, 268, 273, 274, 274, 276, 277. ARU ISLANDS: 260, 280, 280, 2901; J 286; 9 264, 274, 276, 279, 286. ST. AIGNAN: J 277, 280, 284, 284; 9 270, 270. Rossel: J 273, 273, 283, 284; Q 270, 272, 274, 274, 295. Sudest: 7 268, 277, 297; 9 269, 276, 277, 278, 281, 282. MISOL: ♂ 275, 283; ♀ 274, 282. DARU-MERAUKE: 2771; J 283, 290; 9 260, 281, 282, 283, 286. D'ENTRECASTEAUX ARCH.: ♂ 284; ♀ 267, 290, 292. LOWER MAMBERANO: J 286, 289, 290, 291, 300, 308; Q 275. Numfor: 280¹; ♂ 297; ♀ 288, 303, 303. NOORD RIVER: 300, 3051; Q 285, 297, 298, 300. UTAKWA RIVER: etc.: J 300, 305, 307, 312, 322; Q 285, 297, 298, 300. NORTH NEW GUINEA (SEPIK, etc.): J 297, 302, 306, 310, 314, 318, 320; Q 302. WAIGEU: 303¹; ♂ 300, 320, 320; ♀ 309. VOGELKOP AND ARFAK: 310, 3201; J 304, 331; 9 308, 322, 325. ONIN PENINSULA: \bigcirc 310, 326. ASTROLABE BAY: 313, 319, 320, 320, 325, 3271; J 300, 309, 313, 313, 315, 326, 336; 9 311, 320, 328. JAPEN (JOBI): ♂ 298, 318, 321, 329; ♀ 310, 326, 331. NORTHERN SOUTHEAST NEW GUINEA: 314, 315, 316, 319, 325, 331; 9 319, 324, 333. SOUTHERN SOUTHEAST NEW GUINEA: 301, 3101; J 328, 335; 9 314, 316, 326, 328. 355. HUON PENINSULA: 3061; J 318, 334, 336, 338, 338, 347, 348, 354; Q 320, 321, 325, 330, 330, 332, 339. BIAK ISLAND: 355. I have prepared similar tables for the variation of the length of tail

and culmen, but they do not differ very much from the variation of the wing-length and do not seem worth publishing. It may be mentioned that a good deal of the variation on New Guinea may be ascribed to vertical variation. Birds from the lower Mamberano are smaller than those from the upper, the same is true for the Fly River; birds from the mountains of the Vogelkop and of the Huon Peninsula average distinctly larger than specimens of the adjoining coasts. One of the principal reasons why the population of eastern New Guinea shows such large measurements is that there are practically no lowlands in eastern New Guinea, most of the terrain being covered by hills and mountains.

Psittrichas fulgidus Lesson

There is no geographical variation of coloration in this species, but a great deal of variation of size.

I have already called attention to the heavy weight of Saruwaged birds in an earlier paper (1931, Mitt. Zool. Mus. Berlin, XVII, p. 702).

¹ Unsexed.

Birds from the Huon Peninsula also have longer wings than birds from other districts of New Guinea. The various populations in New Guinea measure as follows:

HUON PENINSULA (mountains): σ^2 ad., wing 314, 319, 322, 335, 337, tail 191, 202, 205, culmen 41.5, 45, 45; \circ ad., wing 312, 316, 322, 323, tail 190, 198, 198, culmen 38, 40, 42.

NORTH COAST OF SOUTHEAST NEW GUINEA (mountains): 315 tail 196, culmen 42; 9 ad., wing 318, tail 201, culmen 41.

SOUTH COAST OF SOUTHEAST NEW GUINEA (lowlands and mountains): 7 ad., 305, 306, 311, 315, 317, 323, tail 181, 184, 186, 191, culmen 41, 42, 43, 45; 9 ad., wing 302, 313, tail 179, 186, culmen 38, 40.

ASTROLABE BAY (lowlands?): σ ad., wing 315, tail 181, culmen 44; σ imm., wing 301, 310, tail 173, 184, culmen 38.5, 42; \circ ad., wing 310, 315, tail 185, 194, culmen 38, 39.

EAST COAST OF GEELVINK BAY (lowlands): 7 ad., wing 291, tail 165, culmen 41; 9 ad., wing 273, 290, tail 158, 165, culmen 38.5, 39.

WONDIWOI MTS.: 3^a ad., wing 320, tail 178, culmen 40; 9 ad., wing 290, tail 168, culmen 39; 9 imm., wing 284, tail 176, culmen 38.

VOGELKOP (lower slopes): 7 ad., wing 291, 292, 296, 303, 304, 304, 305, 305,

307, tail 162, 163, 173, 175, 175, 179, 180, 181, culmen 38.5, 38.5, 40, 40, 40.5, 41.5, 42; ♀ ad., wing 298, 303, 304, tail 166, 174, 180, culmen 38, 38, 38.5.

ARFAK MTS. (1500 m.): A ad., wing 330, tail 185, culmen 40.

CENTRAL RANGE (Snow Mts., etc.): σ^2 ad., wing 284, 291, 296, tail 163, 188; Q ad., wing 272, 283, 289, tail 162, 162, 169, culmen 37.5.

These measurements of more than 50 specimens indicate that birds from the Huon Peninsula average larger and birds from the central Range and south New Guinea (Rand MS.) average smaller than typical birds from the Vogelkop. This variation is, however, much obscured by the fact that this species is very much subject to altitudinal variation. The differences in size of lowland and mountain birds from the same district is much bigger than that between mountain birds or lowland birds from different parts of New Guinea. Furthermore, the typical population from the lowlands of the Vogelkop (wing, σ^2 291–307) is just about intermediate in size between birds from south New Guinea and those from the Huon Peninsula (wing, σ^2 314–337). It seems better in view of these objections, not to split this species into size races.

ALISTERUS MATHEWS

Neumann considers all the forms in this genus to be subspecies of *amboinensis* in his review of the genus *Alisterus* (1929, Verh. VI. Intern. Ornith. Kongr., pp. 436–454). It seems preferable, however, to keep the Australian group, *scapularis*, as a separate species, and to group the remaining forms in two species: *amboinensis* and *chloropterus*. The

fact that Shaw Mayer collected both Alisterus chloropterus wilhelminae Og.-Grant and Alisterus amboinensis dorsalis Quoy and Gaimard at the same locality and at the same altitude in one of the ranges of the Weyland Mts., makes it advisable to keep the two specifically separated. (See Rothschild, 1936, Mitt. Zool. Mus. Berlin, XXI, p. 232.)

Alisterus amboinensis wiedenfeldi Neumann

According to the original description the only difference of this form, as compared with *moszkowskii* is that the female has the yellowish-green wing-band broader and more yellowish. A series of females from Humboldt Bay agrees quite well with this characterization except that the only immature female has no wing-band at all. The only female of *moszkowskii* in the Rothschild Collection (from the east coast of Geelvink Bay), which shows the wing-band vague and greenish, is also a juvenal, and it is quite possible that this character is only a sign of immaturity. I regard *wiedenfeldi* Neumann a synonym of *moszkowskii* until it is actually shown that the adult females of the western part of north New Guinea have a different color of the wing-band than females from the eastern part. (It may be said at this occasion that the immature male possesses a wing-band, although not as broad and not as clearly colored as the adult male; its back is, however, green as in the female.)

Alisterus amboinensis stresemanni Neumann

Neumann says of this form (op. cit., p. 447): "I can find no differences between the series collected by Meek in the eastern [sic!] Snow Mts. and the type collected by Bürgers at the Lordberg (upper Sepik)." The Meek specimens show indeed quite well the characters on which stresemanni was named, but they were collected in August and October, 1910, when Meek was in the western Snow Mts. (Utakwa River). In fact the series collected by Meek is practically topotypical of *wilhelminae*. The alleged differences are entirely due to preparation. I have not seen the type of stresemanni, but it is clearly a synonym of wilhelminae, if it agrees with the Meek series, as Neumann says. A single adult male from the Weyland Mts., labeled stresemanni, agrees also perfectly with the Meek series. A. c. wilhelminae is very close to callopterus. More material from the upper Fly River will probably show that not even wilhelminae can be maintained.

Alisterus chloropterus chloropterus Ramsay

In 1931, I called attention to the large measurements of a series from the Saruwaged Mts. (1931, Mitt. Zool. Mus. Berlin, XVII, p. 702). Not one of the birds of a series from southeast New Guinea reached the large size of the Huon Peninsula birds (Mayr and Rand, 1937, Bull. Amer. Mus. Nat. Hist., LXXIII, p. 58). Adult males from southeast New Guinea usually measure about 185–192, while Huon Peninsula birds usually have a wing of more than 200 mm. I have, however, examined one adult male from the Huon Peninsula (Beck coll.) with a wing of only 189 mm.

Many males of *chloropterus* from southeast New Guinea have forehead and loral region washed with yellow, which I have never seen in a specimen from the Huon Peninsula. Adult females from southeast New Guinea have the upper side of the central tail-feathers largely bluish; it is greenish in all of the Huon Peninsula females examined by me.

All this indicates that the Huon Peninsula is inhabited by a population which is somewhat different from southeast New Guinea birds. More material must be collected at the Huon Peninsula before this population can be named.