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BIRDS COLLECTED DURING THE WHITNEY SOUTH SEA EXPEDITION. 55[1]

NOTES ON THE BIRDS OF NORTHERN MELANESIA. 1

BY ERNST MAYR

During the years 1927 to 1935 the Whitney South Sea Expedition explored the length and breadth of the Solomon Islands and the Bismarck Archipelago. The material gathered through the industry of Rollo H. Beck, William F. Coultas, F. P. Drowne, H. Hamlin, and the other members of the expedition, together with the rich collections of the Rothschild Museum, constitutes an unparalleled representation of the bird fauna of these islands.

Part of this material has been discussed previously in many of the generic revisions of the Whitney reports. Other parts of the collection are still unworked, except for a cursory inspection in connection with the preparation of the "Birds of the southwest Pacific." It seems legitimate to unite the notes on the birds of the Solomon Islands and of the Bismarck Archipelago in a single series, in view of the great similarities of their bird faunas. "Northern Melanesia" (see Mayr, 1941, Proc. 6th Pacific Sci. Congr., 1939, vol. 4, p. 193, for a definition of this concept) is a single zoogeographic unit.

CASSOWARIES

Only a single cassowary reaches northern Melanesia, *Casuarius b. bennetti* (New Britain). The exact differences between this form and *hecki* from the opposite coast of New Guinea (Huon Peninsula) cannot be described accurately without colored sketches of the soft parts taken in the field. Cassowaries are good swimmers, and there is little doubt that *bennetti* reached New Britain by swimming. Naturally, the chances for the success of such colonizations are very slight, particularly since a pair must have bridged this water gap simultaneously. As I have pointed out previously (1940, Amer. Mus. Novitates, no. 1056, p. 1), there are no valid records of wild specimens of *C. unappendiculatus* from New Britain.

GREBES

Only two species of little grebes are found in northern Melanesia. One of these, *Podiceps novaehollandiae*, has been reviewed by me recently (1943, Emu, vol. 43, pp. 3–7). Only two of its races have so far been found in this area: *P. n. rennellianus* on Rennell Island and an unidentified subspecies in the Admiralty Islands (see Heinroth, 1903, Jour. Ornith., vol. 51, p. 88). The striking differences in the downy plumage of the two species has been described and figured recently (Mayr, 1945, Emu, vol. 44, p. 232).

The other species, *Podiceps ruficollis*, has been found in New Ireland, where it was discovered by Peekel at Namatanai (Stresemann, 1923, Arch. Naturgesch., vol. 89, div. A, no. 7, p. 7), and on Bougainville, Solomon Islands. Here it was discovered by H. Hamlin in May, 1928, and seems to be not uncommon on lakes and ponds in the hills of this island. The Bougainville population belongs to an undescribed race:

Podiceps ruficollis collaris,
new subspecies

TYPE: A.M.N.H. No. 224673; male adult; Bougainville Island; May 3, 1928; Whitney South Sea Expedition (H. Hamlin).

Similar to *P. r. tricolor* Gray, but darker

[1] The preceding 10 papers in this series are American Museum Novitates nos. 1133, 1144, 1152, 1166, 1175, 1176, 1192, 1237, 1248, and 1269.

throughout; upper parts deep glossy black with a greenish sheen; a broad black collar separates the rufous of the throat from the mouse gray abdomen (mottled with buffy white); black of upper throat restricted to chin, but reaching eye; extent of white on inner webs of secondaries much reduced.

MEASUREMENTS: Wing, male adult, 108, two females (molting). Bill, male, 25, 21.9, female, 22.3, 22.7.

RANGE: Bougainville Island, Solomon Islands, also probably New Ireland and Huon Peninsula, northeastern New Guinea.

The Whitney expedition did not encounter this species on any of the other islands of the Solomons besides Bougainville. A small series from the Huon Peninsula (Wareo, R. H. Beck), is also darker than *tricolor*, particularly on the breast, but does not have the collar as well defined as *collaris*. Stresemann (1941, Jour. Ornith., vol. 89, p. 19) has already called attention to the dark color of Huon Peninsula birds. They are perhaps best referred to *collaris*. On Sentani Lake (north New Guinea), however, occurs a population of *tricolor* which is by no means darker than birds from the Moluccas or Celebes.

A series from the Kei Islands is much lighter, both above and below; it is best included with *vulcanorum* Rensch. I fail to see the character claimed by Rensch for this race, but find that birds from the Lesser Sunda Islands are of much lighter general coloration than Moluccan birds. None of these races has an eclipse plumage. The two adult females and one adult male from Bougainville have all the wing feathers in the sheath (May 3 to 5). This shows that these tropical grebes molt all primaries and secondaries simultaneously like their northern relatives.

MATERIAL EXAMINED: *Podiceps r. vulcanorum:* 8 ad., Lesser Sunda Islands; 3 ♂ ad., 5 ♀ ad., Kei Islands. *P. r. tricolor:* 4 ♂ ad., 4 ♀ ad., Celebes; 3 ♂ ad., Buru; 1 ♀ ad., Seran; 1 ♂ ad., Morotai; 3 ♂ ad., 2 ♀ ad., north New Guinea (Sentani Lake). *P. r. collaris:* 1 ♂ ad., 2 ♀ ad., Huon Peninsula; 2 ♂ ad., 2 ♀ ad., Bougainville, Solomon Islands.

DUCKS

Whatever geographical variation occurs among the ducks of the Australian region, it affects nearly always size only. This has been shown in a number of recent revisions. For *Anas superciliosa*, see Amadon (1943, Amer. Mus. Novitates, no. 1237, pp. 1–5); for *Anas gibberifrons*, see Ripley (1942, Auk, vol. 59, pp. 90–99); for *Nyroca australis*, see Mayr (1940, Amer. Mus. Novitates, no. 1056, p. 7); and for *Nettapus coromandelianus*, see Mayr (1938, Zool. Ser. Field Mus. Nat. Hist., vol. 20, p. 464). *Dendrocygna arcuata* is to be added to this list as is evident from the subsequently listed measurements. On the whole all these species follow Bergmann's rule. None of the tropical populations are of larger size than those from subtropical Australia. However, in none of these species is there any noticeable size difference between birds from southern and from tropical Australia. The populations with the smallest size are found on islands, as *Anas superciliosa pelewensis* in Polynesia and Papua, *Anas gibberifrons remissa* on Rennell Island, *Nyroca australis extima* in the New Hebrides, *Nettapus cor. coromandelianus* on New Guinea and Malaysia, and *Dendrocygna arcuata pygmaea* on New Britain and (? subsp.) Fiji. Populations on tropical mountain lakes may have the large size of subtropical birds (*Anas superciliosa* and *Nyroca australis*).

Dendrocygna arcuata

For many years an argument has been carried on whether or not there was geographical variation in this species. Nevertheless I fail to find any paper in which a serious attempt has been made to study this question. My own investigations indicate that there are no constant color differences between the various populations of the species. The edges of the feathers of the upper parts may be more rufous or more clay colored, the spots on the breast may be larger or smaller or more like a cross bar, the under parts may be deeper or paler rufous, and the light shaft streaks on some of the scapulars may be more or less pronounced. This variation shows no geographical pattern. However, there is a striking size variation, on the basis of which I recognize three races.

Dendrocygna arcuata arcuata Horsfield

Anas arcuata Horsfield, 1824, Zoological researches in Java, pl. 65. Java.

Of medium size. A series from the Philippines measures: wing, male, 193, 194, 197, 200, female, 183, 184, 197; bill, male, 42, 42, 43, 44, female, 40, 41.5, 43.5. Professor O. Neumann sent me the following wing measurements of Philippine birds: male, 183, 198, female, 195. Kuroda lists male, 190–191, female, 183. No Java birds have been available to me, but Kuroda (1936, Birds of Java, p. 567) gives male, 192.5, adult, 190; bill, male, 40.5–45.5, female, 43, which agrees with the measurements of Philippine birds.

Birds from Celebes and the Lesser Sunda Islands, though slightly larger, are best included with this race: Celebes, wing, male, 201, 201, female, 201, unsexed, 193, 200; bill, male, 48, female, 44, unsexed, 40, 42. Sumba, male, wing, 203, bill, 43.

Range: Borneo, Sumatra, Java, Lesser Sunda Islands (Bali, Sumba, and Timor), Celebes, Amboina, Philippines.

Dendrocygna arcuata australis Reichenbach

Dendrocygna arcuata (australis) Reichenbach, 1850, Novitiae ad synopsin avium, no. 4, p. 4 (based on Gould, Birds of Australia, vol. 7, pl. 14). Port Essington, Northern Territory.

Dendrocygna javanica peroni Mathews, 1912, Austral Av. Rec., vol. 1, p. 86. Fitzroy River, northwest Australia.

Measurements: Large. Wing, male adult, 200, 200, 206, 208, 211, 212, 212, 215, 216, 217, 219, 220, 221, 222 (213.8), female adult, 207, 210, 210, 210, 212, 213, 215, 216 (211.6), unsexed, 209, 215, 216, 216, 218, 219. Total, 200–222 (213.5). Bill, male, 42, 42, 43, 43.5, 44, 45, 45, 45, 46, 46, 46, 47, 47; female, 42, 44, 44, 44, 44.5, 45, 45, 46; unsexed, 44, 44, 46, 46, 46, 48.5. Total 42–48.5 (44.7).

Range: Australia, rarer in the southern half; south New Guinea.

The populations from New Caledonia and northern New Guinea remain to be measured before it can be determined whether they belong to *australis* or are intermediate in size between *australis* and the smaller races of the species.

Dendrocygna arcuata pygmaea, new subspecies

Type: A.M.N.H. No. 333686; male adult; Maulo, Wide Bay, New Britain; April 6, 1933; Whitney South Sea Expedition (W. F. Coultas).

In coloration like the other two races of the species, but much smaller. Wing, male, 173, 178, 183, female, 175, 173. Bill, male, 40.5, 42.5, 43.5, female, 40.5, 42.5.

Range: New Britain.

The extinct population from the Fiji Islands may have also belonged to this small race. A single immature male from Vanua Levu has a wing length of 176; bill, 39.

Dendrocygna guttata Schlegel

New Britain is the only island in northern Melanesia where this species occurs. Wing, male, 208, 209, 210, 212, 213, 222, female, 206, 217. A series of males from the Moluccas has a range of variation from 208–222, exactly as in the New Britain series.

There is much individual, but no geographical, variation of color. Immature birds have streaks along the flanks, like the adults of other species of *Dendrocygna*, not spots like adult *guttata*. This indicates that the spots of this simply colored species are not a primitive feature.

Herons

Most of the species of herons that occur in northern Melanesia have been revised in recent years, and nothing further needs to be said. This is true for *Demigretta sacra* (1941, Mayr and Amadon, Amer. Mus. Novitates, no. 1144), for *Nycticorax caledonicus* (1942, Amadon, Amer. Mus. Novitates, no. 1175), and for *Butorides striatus* (1940, Mayr, Amer. Mus. Novitates, no. 1056, pp. 4–7). O. Meyer (1936, Vögel des Bismarck Archipels, pp. 34, 48) lists *Butorides s. macrorhynchus* as winter "visitor from the north" for New Ireland and New Hanover. Except for this unsubstantiated reference, there are curiously no records of this species from the Bismarck Archipelago. This is particularly surprising since the species is common in western New Guinea (Geelvink Bay)

and in the Solomon Islands. However, it seems to be equally rare or absent in northern New Guinea.

There are a few New Britain records of *Ixobrychus sinensis*, but this species occurs in the Bismarck Archipelago obviously only as a migrant. Coultas obtained specimens at Maulo, Wide Bay, New Britain (one male adult, two male immatures, testes small, January 10, 12, March 29) and at Ahu Island, Ninigo Group (two male adults, testes small, June 9, 11). The black bittern (*Dupetor flavicollis*) is the only member of the heron family occurring in northern Melanesia which remains to be revised.

Dupetor flavicollis

Nearly every author who has worked with this species has first emphasized the presence of considerable geographical variation but has finally ended by including all the birds of the Australian region with *gouldi*. There is no doubt that nearly every extensive series collected at a single locality is different from any other series of the species. However, this variation is so haphazard and there is so much individual variation superimposed that it will be best to follow Hartert's lead (1926, Novit. Zool., vol. 33, p. 174) and unite all these populations under a single subspecific name.

The all-black phase of the male is represented in our collections by specimens from the Aru Islands, Doini Island (southeast New Guinea), and from Witu Island. Every male (except one) from the latter island is in this phase. The whitish phase, which was originally discovered by Rev. Otto Meyer (Stresemann, 1926, Ornith. Monatsber., vol. 34, pp. 118–119), is known so far only from New Britain. Coultas collected three males and three females in this more or less albinistic plumage at Wide Bay.

Dupetor flavicollis gouldi Bonaparte

The following notes indicate the trends of geographical variation in this species.

Six adult males from New South Wales (type locality of *gouldi*) are dark sooty slate gray above. Underneath they are also rather dark. The line on the middle of the throat is composed of rufous feathers with broad black tips. A single male from Melville Island (type of *melvillensis*) and another single male from Parry's Creek (type of *disneyi*) agree in coloration with New South Wales birds. Males from mid-Queensland and from Cape York are more brownish above and on breast and throat.

Two adult females from New South Wales and four from Northern Territory are dark brownish fuscous above. They have rather little rufous in the plumage. The feathers along the middle of the upper throat are broadly tipped with black. A single female from Parry's Creek is distinctly more rufous brown, particularly on throat and breast.

A single adult female from Timor (type locality of *australis*) is a rather rufous bird. It agrees in general coloration with the female from Parry's Creek, but is paler on the upper parts. In the color of the under parts it can be matched with females from the Moluccas, north New Guinea, and New Britain. The back is somewhat paler rufous, less brownish than any of them. Still the difference is much smaller than between New South Wales females and the Parry's Creek female.

New Guinea males, on the whole, are blacker than Australian males, particularly on the breast. New Guinea females are very variable, but most of them belong to the rufous phase.

Males from Woodlark Island, the Louisiades, and the Bismarck Archipelago are the black extreme. They have very little brownish on breast and throat; the feathers along the middle of the throat are black. Some birds from the Moluccas are equally black.

Females from the Bismarck Archipelago include some very rufous specimens, similar to the Parry's Creek female; others are more gray brown and can be matched with typical New South Wales females.

As bewildering as the color variation is that of size, as illustrated in table 1. Australian birds undoubtedly have the shortest bill; those from the tropics are of rather uniform relative size.

The single female from Timor (wing, 202,

bill, 68, relative bill length, 33.7) has a shorter bill than any other adult specimen. It seems advisable to recognize *australis* on this character and on the paleness of the plumage, and to unite provisionally all the other populations under the name *gouldi*.

Dupetor flavicollis is widespread in the Bismarck Archipelago. It occurs not only on the large islands but also on most of the smaller ones. I have examined specimens from Witu Island, New Britain, New Ireland, New Hanover, Feni Island, Lihir Islands, Manus (Admiralty Islands), and Ahu (Ninigo group).

Dupetor flavicollis woodfordi
Ogilvie Grant

ADULT MALE: Similar to *gouldi* male, but even blacker underneath; black streak along middle of upper throat very wide, throat and breast pure black, without rufous brown; white streaks on breast and throat scanty and narrow.

ADULT FEMALE: Very different from female *gouldi;* upper parts a bright tawny rufous; crown, wings, and tail slate gray; under parts buffy ochre with a line of small black dots along the middle of upper throat.

MEASUREMENTS: Wing, male adult, 192 (Tetipari), female, 182, 190, 186 (Guadalcanal, Ulawa), 198, 200, 207 (Vangunu, Choiseul, Vella Lavella). Bill (same sequence of specimens), male, 78, female, 70, 71, 76, 77, 76, 79; bill index, male, 40.6, female, 38.5, 37.3, 40.8, 38.9, 38.0, 38.1.

Two females from Rennell Island are paler than the Solomon Islands series. They have been described as *pallidior* (Mayr, 1931, Amer. Mus. Novitates, no. 486, p. 5). Additional material from Rennell is required to substantiate the validity of this form. A female from Ulawa (eastern Solomon Islands) is nearly as pale as the Rennell specimens.

HAWKS

The taxonomy of many of the hawks of northern Melanesia is uncomplicated. This is true for some of the widespread species, like *Haliaeetus leucogaster* (Bismarck Archipelago), *Pandion haliaetus melvillensis* (see Amadon, 1941, Emu, vol. 40, pp. 375–377), or *Haliastur indus girrenera* (see Hartert, 1929, Amer. Mus. Novitates, no. 364, p. 2). It is also true for some of the well-defined, localized endemic species and races, such as *Haliaeetus sanfordi* (see Mayr, 1936, Amer. Mus. Novitates, no. 828, pp. 1–3), *Accipiter (gentilis) meyerianus* (see Mayr, 1934, Amer. Mus. Novitates, no. 709, pp. 1–2), *Accipiter princeps* (see Mayr, 1934, Amer. Mus. Novitates, no. 709, pp. 3–4), *Accipiter brachyurus* (New Britain), and *Henicopernis longicauda fuscatus* (New Britain). The species *luteoschistaceus* and *eichhorni* will be discussed in a forthcoming revision of the superspecies *Accipiter rufitorques*. The geographical variation of the following three species is, however, still insufficiently described.

TABLE 1

VARIATION IN MEASUREMENTS OF ADULT MALES OF *Dupetor flavicollis* (MEANS IN PARENTHESES)

	No. of specimens	Wing length	Bill (culmen from 1st feather to tip)	Relative length of bill (in per cent of wing length)
Torres Strait, including south New Guinea, Cape York, and Melville Island	7	193–214 (206.5)	71–78 (75.1)	34.6–38.0 (36.4)
Bismarck Archipelago	10	201–215 (208.8)	72–85 (77.3)	34.1–40.4 (37.2)
Idenburg River, north New Guinea	8	206–222 (214.4)	80–86 (81.9)	36.4–40.3 (38.2)
Sentani Lake, north New Guinea	8	204–225 (217.1)	73–82 (79.2)	33.3–38.7 (36.5)
Moluccas	4	211–227 (219.0)	80–86 (82.6)	36.3–37.8 (37.2)
Eastern New Guinea	5	215–230 (220.2)	80–83 (82.0)	35.7–38.6 (36.8)
New South Wales	6	217–226 (222.0)	71–82 (77.0)	31.4–36.7 (34.7)

Accipiter novaehollandiae

This widespread species breaks up into numerous races. Hartert (1929, Amer. Mus. Novitates, no. 364, pp. 4–5) has described the geographical variation in the Solomon Islands. His account is correct except for the fact that the Florida group is inhabited by *rufoschistaceus* (not by *pulchellus*). To the four races known to Hartert an endemic Malaita race (*malaitae*) is to be added (see Mayr, 1931, Amer. Mus. Novitates, no. 504, p. 4). Curiously the species is absent from San Cristobal and surrounding islands. The white phase, which is present in the Australian races and in some of those of the New Guinea area (see Mayr, 1940, Amer. Mus. Novitates, no. 1056, pp. 9–11), is absent in northern Melanesia.

Very little work has so far been done on the taxonomy of this species in the Bismarck Archipelago. In 1913 Rothschild and Hartert received two males from Rook Island. At the time they had virtually no material from New Britain (the type locality of *dampieri*) but many specimens from Manus, New Hanover, and New Ireland. The Rook Island birds were much smaller than these and were therefore separated by them as *rooki* (1914, Novit. Zool., vol. 21, p. 288). In 1926 when these authors received a good series from Talasea, New Britain, they realized that there was no size difference between New Britain and Rook Island birds and placed their own *rooki* as a synonym of *dampieri* (1926, Novit. Zool., vol. 33, p. 128). They mentioned that different races might be described from Manus and St. Matthias.

In 1933 Stresemann received two specimens from the Lihir Islands and described the strikingly distinct race *lihirensis* (Stresemann, 1933, Ornith. Monatsber., vol. 41, p. 114). Since then the American Museum of Natural History has not only acquired the Rothschild Collection but has also received an unparalleled series of specimens from many islands in the Bismarck Archipelago through the diligence of William F. Coultas. A study of this material shows that the following forms of the species can be distinguished in the Bismarck Archipelago.

Accipiter novaehollandiae dampieri Gurney

Urospizias dampieri GURNEY, 1882, Ibis, p. 453. New Britain.

ADULT MALE: Rather similar to *leucosomus*, but middle of upper throat pale rufous, more distinctly contrasting with the gray sides of the throat. Upper parts much lighter gray. Rufous of under parts lighter and more pinkish. Thighs and under tail-coverts much lighter, the latter sometimes white. Seven of 25 males with a faint barring of the under parts, particularly the flanks. Differs from the Solomon Islands races by the much lighter, less rust-colored under parts and by the pink, not gray, throat. Upper parts also lighter.

ADULT FEMALE: Much larger and darker. More often barred underneath. Only four of 38 females without bars. Nineteen with very conspicuous bars. Differs from female *leucosomus* by being more reddish, less rusty underneath, by having no gray on the lower throat, by having the middle of the upper throat rufous, and by being grayer and lighter above. Differs from Solomon Islands races as the male. Differs from the female of *malaitae* by having a much lighter gray of upper parts and sides of head, and a less conspicuous barring of the breast.

IMMATURE FEMALE: Under parts with regular well-defined cross bars. Crissum and under tail-coverts white with few bars. Thighs pale rufous. Middle of upper throat with heavy gray brown streaks. Upper parts slaty brown, tail with faint bars, head darker. Very different from *leucosomus* and the other New Guinea races which lack the regular barring of the under parts. Fairly similar to the Solomon Islands races but barring heavier and more suffused with rufous. Barring on lower abdomen and crissum more pronounced.

IMMATURE MALE: Less heavily barred than female, lower abdomen whitish. Thighs paler, bars of under parts usually more rufous. A rufous collar across upper back sometimes indicated.

MEASUREMENTS: Wing, male adult, 188–197 (193.3) [New Britain], 190, 195 [Rook], male immature, 186–198 (192.3), female adult, 212–234 (224.5), female im-

mature, 218–231 (222.8). Tail, male adult, 135–145 (140.2), male immature 140–149, female adult, 155–176 (165.2), female immature, 160–171.

RANGE: New Britain, Rook Island.

A single immature male from the Talele Islands is very small (wing, 186) and less heavily marked than any of the mainland birds.

Accipiter novaehollandiae lavongai, new subspecies

TYPE: A.M.N.H. No. 532872, Rothschild Collection; New Hanover (Lavongai); February 9, 1923; A. F. Eichhorn.

Similar to *A. n. dampieri* but much larger. Wing, male immature, 211, against 186–198 in *dampieri;* tail, 153, against 140–149; female immature, wing, 245, 253, against 218–231 in *dampieri;* tail, 178, 194, against 160–171. Bars on each feather of under parts of male rather short, often reduced to an arrow-shaped spot. Thighs pale rufous. Immature female rather heavily barred underneath, and one of the two females with a prominent rufous wash.

RANGE: New Hanover (Lavongai), (?) New Ireland, (?) Tabar group.

The taxonomic position of the New Ireland population is still obscure. An immature male from the southern tip of New Ireland is rather light underneath with rufous, somewhat ill-defined barring. This specimen does not differ materially from a few extreme birds in the New Britain series. An adult male and an immature female from the Curtis collection are reputed to have come from "? New Ireland." They are old, poorly made skins and do not seem to show any striking differences from the New Britain series, and they may well be from that island. The male is rather large, and the bars on the under parts of the female are rather rufous. These New Ireland specimens measure as follows: wing, male adult, 201, male immature, 204, female immature, 229. Tail, male adult, 144, male immature, 153, female immature, 164. More New Ireland material needs to be examined.

A series of birds from Tabar Island, Tabar group, differs from *lihirensis* in the adult plumage by lacking the barring of flanks and under tail-coverts. The single immature female agrees in coloration tolerably well with one of the two immature *lavongai.* The bars, however, are somewhat more rufous, less blackish. There is little of a general rufous wash on the under parts. Until adults of *lavongai* and more immatures from Tabar are available, it will be best to unite the two populations under the name *lavongai.*

The measurements of the Tabar population are as follows: wing, male adult, 221, 222, 225, 228, male immature, 219, female adult, 254, 256, 258, 260, female immature, 248. Tail, male adult, 154, 157, 158, 159, 160, male immature, 159, female adult, 187, 188, 192, 193, female immature, 186. This indicates that Tabar birds average larger than Lavongai specimens.

Accipiter novaehollandiae lihirensis Stresemann

Accipiter novaehollandiae lihirensis STRESEMANN, 1933, Ornith. Monatsber., vol. 41, p. 114. Lihir, Lihir Islands.

A very large and dark race.

ADULT FEMALE: Similar to *dampieri* but with more gray on the upper throat. Breast and abdomen deep rusty rufous. Upper parts darker gray. Lower flanks and under tail-coverts with regular rufous and white bars.

ADULT MALE: Very similar to adult female but with the barring of flanks and under tail-coverts obsolete. Middle of upper throat often grayish. Somewhat similar to the Solomon Islands races but darker slate gray above and the red of the under parts of a different shade, more deep vinaceous rather than rusty rufous.

IMMATURE: Very densely barred with rufous underneath, approaching the adult coloration. Crissum and under tail-coverts white with obsolete barring. Upper throat with dense brownish gray streaking. Upper parts dark slaty brown. The bars of the under parts are a little coarser and the white bars more conspicuous in the males.

MEASUREMENTS: Wing, male adult, 212–232 (219.7), male immature, 211, 211, female adult, 252–263 (256.2), female immature, 247, 248, 251, 259. Tail, male adult, 153–168 (158.8), male immature, 154,

155, 157, female adult, 184–198 (188.7), female immature, 180–186 (182.6).

RANGE: Lihir group (Lihir, Mahur, Malie, Sinabiet, Masahet) and Tanga Islands (Boang).

Accipiter novaehollandiae matthiae, new subspecies

TYPE: A.M.N.H. No. 532870, Rothschild Collection; St. Matthias Island; July 7, 1923; A. F. Eichhorn.

ADULT MALE: Similar to *lihirensis* but smaller and upper parts less dark, more like *dampieri*. Thighs and under tail-coverts deep rufous like the rest of the under parts. The immature female differs from *dampieri* by having the entire under parts washed with rufous and from *lihirensis* by having the cross bars more blackish and better defined. The under tail-coverts are pale rufous.

MEASUREMENTS: Wing, male adult, 202, female immature, 235. Tail, male adult, 150, female immature, 181.

RANGE: St. Matthias Island.

Accipiter novaehollandiae manusi, new subspecies

TYPE: A.M.N.H. No. 335324; male immature; Lombrum, Manus, Admiralty Islands; July 26, 1934; Whitney South Sea Expedition (W. F. Coultas).

Similar to *dampieri* but larger and darker. Adult females never barred underneath. Upper parts darker gray. Under tail-coverts deep rufous like the rest of the under parts. Adult males differ likewise by being of larger size and darker colored. Barring always absent. Under tail-coverts usually paler than remainder of under parts. Immature females are very different from immature *dampieri*. The barring of the under side is much less pronounced and more irregular. Sometimes the bars are resolved into irregular spots. The upper throat is whitish. Barring of the tail seems to be more pronounced. Immature males are even less marked underneath. Two of three males are pure buffy white underneath with a faint indication of a few shaft streaks. The upper parts similar.

A single immature female from Rambutyo Island is more heavily marked than two Manus females; a single immature female from Nauna is buffy white underneath with a few drop-shaped spots.

MEASUREMENTS: Wing, male adult, 198–213 (203.7), male immature, 199, 202, 204, female adult, 235, 235, 239, female immature, 227, 233, 237. Tail, male adult, 143–154 (147.3), male immature, 138, 143, 146, female adult, 170, 170, 176, 178, female immature, 172, 174, 176. A single immature female from Nauna Island is rather small (wing, 217, tail, 168).

RANGE: Manus, San Miguel, Rambutyo, Nauna, Admiralty Islands.

THE RACES OF *Accipiter albogularis* IN THE SOLOMON ISLANDS

Recent revisers, as Hartert (1929, Amer. Mus. Novitates, no. 364, p. 3) and Peters (1931, Check-list of birds of the world, vol. 1, p. 218) list *Accipiter albogularis* as a monotypic species, occurring throughout the Solomon Islands. This is not correct, since *sharpei* Oustalet (Santa Cruz Islands) is clearly conspecific (Mayr, 1945, Birds of the southwest Pacific, p. 202). On the Solomon Islands also the species is divided into three races, the detailed description of which will be published in a forthcoming revision of the superspecies *Accipiter rufitorques*. The three races are apparently indistinguishable in the adult plumage, but are very marked in the immature plumage. They are: *albogularis* Gray (San Cristobal, Ugi, Santa Anna), *woodfordi* Sharpe (Guadalcanal, Florida, Choiseul, Treasury, Bougainville), and an undescribed race from the central Solomon Islands. As first reviser, I choose the name *woodfordi* for the Guadalcanal race in preference to the misleading name *holomelas*, in accordance with Article 28 of the International Rules. Both names were published simultaneously by Sharpe who himself expressed preference for the name *woodfordi*.

Accipiter albogularis gilvus, new subspecies

TYPE: A.M.N.H. No. 533349, Rothschild Collection; male immature; Kulambangra, Solomon Islands; March 12, 1901; A. S. Meek.

Immatures differ from those of *woodfordi* by being much less heavily marked underneath. The streaks on the chest are narrower; the under wing-coverts are almost unmarked. The feathers of the thighs are marked with narrow, dark brown shaft streaks, while in *woodfordi* the markings are rufous and arrow-shaped. The ground color of the under parts is deeper, pale ochraceous, not buffy white. The two adult males are white bellied but lack the rufous collar. Size as in *woodfordi*.

RANGE: Vella Lavella, Kulambangra, New Georgia, and Rendova.

SPECIMENS EXAMINED: *A. a. albogularis*, 3 ad., 6 imm.; *woodfordi*, 13 ad., 12 imm. (including one each from Mus. Comp. Zoöl. and Zool. Mus. Univ. Michigan); *gilvus*, 2 ad., 3 imm.

THE RACES OF *Aviceda subcristata* IN NORTHERN MELANESIA

The splendid new material collected by the Whitney South Sea Expedition permits the undertaking of the long needed revision of the populations of this species on the islands northeast of New Guinea. Not even the named races of the area (*gurneyi*, *bismarcki*) have been adequately described previously. The New Guinea races were discussed by me recently (1940, Amer. Mus. Novitates, no. 1056). Tail index in the following lists of measurements indicates relative length of tail, expressed as a percentage of the wing length. Tail tip indicates length of the black tip of the tail, expressed as percentage of total length of tail. In the Solomon Islands three races occur which are very similar to one another.

Aviceda subcristata gurneyi Ramsay

Baza Gurneyi RAMSAY, 1883, Jour. Linnean Soc., London, vol. 161, p. 130. Ugi (restricted type locality) and "Cape Pitt" (by error).

ADULT MALE: Similar to *stenozona*, but breast and belly purer white; pale rufous-ochre more clearly restricted to crissum and under tail-coverts; bars across breast and abdomen blackish slate gray without any brownish tinge; under wing-coverts more whitish; top of head averaging much paler gray; brownish parts of plumage (back and scapulars) more distinctly suffused with gray; subterminal black bars on tail ill defined, often only indicated as a dark gray band.

FEMALE: Similar to male and approximately of the same wing length; tail longer; terminal tail bar (black tip) shorter; upper tail-coverts more brownish; subterminal dark tail bars browner and more clearly defined; bars of breast and abdomen narrower, more brownish black, not grayish black.

Immatures are characterized by the narrow pale margins of the feathers of back and wing-coverts, by the narrower tail feathers, by the whitish buff admixture to the gray of the throat, by the more pronounced blackish line in the middle of the throat, and by the scantier barring of breast and abdomen. The differences between the sexes and age classes are the same in all three races from the Solomon Islands.

MEASUREMENTS: Wing, male adult, 304 (San Cristobal), 298, 300 (Guadalcanal), female adult, 317 (Santa Anna), 301 (Guadalcanal). Tail (same sequence of specimens), male, 185, 175, 180, female, 197, 185. Tail index, male, 60.8, 58.3, 60.4, female 62.2, 61.4. Tail tip, male, 48.1, 37.1, 43.8, female, 40.1, 37.3.

RANGE: San Cristobal, Ugi, Santa Anna, Malaita, and Guadalcanal.

Unfortunately not a single good series of adults from any of these islands is available for examination. Ramsay (1882, Proc. Linnean Soc. New South Wales, vol. 7, p. 32) had six specimens from Ugi, but does not describe them in detail. The single female from Santa Anna is exceptional in the almost complete obliteration of the barring of the under parts, as mentioned by Hartert (1929, Amer. Mus. Novitates, no. 364, p. 2). A single immature from Malaita likewise shows only little barring. Specimens from Guadalcanal are fairly well barred on breast and abdomen, but barring is reduced on the axillaries. The population from this island is somewhat intermediate between *gurneyi* and the two western races.

Aviceda subcristata robusta, new subspecies

TYPE: A.M.N.H. No. 228276; male adult; Mt. Maitombi, Choiseul; October

26, 1929; Whitney South Sea Expedition (E. Mayr).

Similar to *gurneyi*, but larger; under parts, particularly of females, more heavily barred; axillaries of males always barred; under tail-coverts averaging deeper ochraceous.

MEASUREMENTS: Wing, male adult, 300, 313, 315, 322, female, 309, 310, 320, 321, 322, 324. Tail, male, 179, 182, 187, 189, female, 191, 197, 197, 200, 200, 205. Tail index, male, 57.8, 58.7, 59.7, 59.7, female, 61.4, 61.6, 62.1, 62.4, 63.3, 63.7. Tail tip, male, 40.7, 42.8, 44.5, 48.1, female, 28.4, 30.2, 33.0, 33.4, 34.0, 34.5.

RANGE: Choiseul and Ysabel, Solomon Islands.

Aviceda subcristata proxima, new subspecies

TYPE: A.M.N.H. No. 220633; male adult; Kieta District, Bougainville, Solomon Islands; January 11, 1928; Whitney South Sea Expedition (H. Hamlin).

Very similar to *robusta*, but smaller and less heavily barred underneath, tail slightly longer.

MEASUREMENTS: Wing, male adult, 290, 292, 293, 295, 297, female adult, 291, 291, 292, 297. Tail, male, 174, 179, 180, 180, 181, female, 182, 184, 186, 187, 188. Tail index, male, 60.0, 60.7, 60.9, 61.4, 61.7, female, 62.3, 63.3, 63.3, 63.9. Tail tip, male, 39.1, 44.3, 44.7, 45.6, 47.2, female, 29.1, 34.4, 35.3, 35.8, 37.2.

RANGE: Bougainville and Shortland Island, Solomon Islands.

In the central Solomon Islands and on the Russell Islands a population occurs which is somewhat intermediate between *robusta* and *proxima*, both in size and in the width of the bars of the under parts. In size, however, all specimens except two from Rendova are closer to *proxima*. It is, therefore, advisable to associate them with that subspecies.

MEASUREMENTS: Wing, male adult, 298 (Bagga), 296, 300 (Gizo), 289 (New Georgia), 298, 308 (Rendova), 302 (Russell), female adult, 297 (Vella Lavella), 301, 312 (Rendova). Tail (same sequence of specimens), male, 177, 179, 177, 174, 178, 185, 185, female, 183, 186, 195. Tail index, male, 59.4, 60.4, 59.0, 60.2, 59.7, 60.1, 61.2, female, 61.7, 61.8, 62.5. Tail tip, male, 49.2, 44.2, 46.8, 44.8, 44.9, 44.3, 45.4; female, 32.8, 33.3, 34.3.

Aviceda subcristata bismarckii Sharpe

Baza bismarckii SHARPE, 1888, *in* Gould, Birds of New Guinea, pt. 25, text to plate. New Ireland.

ADULT MALE: Strikingly different from *gurneyi-proxima*. Bars of under parts pigeon gray, hardly darker than throat; white bars much narrower than gray bars, nape and upper back very pale gray; under tail-coverts deep ochraceous.

FEMALE: Breast and abdomen very heavily and coarsely barred with brownish black; under tail-coverts rufous ochre; throat dark gray; upper tail-coverts and tail-bars rather blackish gray; black tail tip very long; greater under wing-coverts barred with gray, lesser under wing-coverts ochraceous.

MEASUREMENTS: New Britain. Wing, male adult, 299–320 (309.8), female, 306–329 (316.5). Tail, male, 169–195 (183.4), female, 185–203 (193.9). Tail index, male, 56.5–62.0 (59.1), female, 60.0–62.7 (61.5). Black tail tip (in imm.) male, 80–103 (89.0), female, 70–97 (80.6). Tail tip (in per cent), male, 45.0–53.4 (48.8), female, 36.4–49.5 (41.6). Adult males from the mountains (not included in above measurements) average large: wing, 317, 323. A small series from New Ireland and New Hanover likewise seems to average rather large (at least in the wing). Wing, male adult, 314, 317, 319, 328; female adult, 322, 331+. Tail, male, 176, 184, 185, 189, female, 192, 194. Tail index, male, 56.0, 56.1, 58.4, 59.3, female, 57.8, 60.2. Black tail tip (in imm.), male, 68, 77, 82, 91, female, 72, 75. Tail tip (in per cent), male, 38.1, 40.7, 44.6, 49.2, female, 37.1, 39.1.

RANGE: New Britain, Duke of York Islands, New Ireland, and New Hanover.

The characteristics of this striking race, particularly the strong sexual dimorphism of coloration and the grayness of the bars in the male, are already indicated in the races of the Solomon Islands. On the other hand, *bismarckii* seems to have nothing to

do with *megala* of the opposite coast of New Guinea. It is, therefore, very probable that the Bismarck Archipelago was colonized by birds from the Solomon Islands.

Aviceda subcristata coultasi, new subspecies

TYPE: A.M.N.H. No. 325323; male adult; Lombrum, Manus Island, Admiralty Islands; July 25, 1934; Whitney South Sea Expedition (W. F. Coultas).

ADULT MALE: Similar to *megala* in size and general coloration, but paler gray on the throat and upper back; bars of breast and abdomen broader, deep brownish black, greater under wing-coverts with faint gray bars; black tail tip longer and tail relatively much shorter. Females also paler gray on throat and upper back, bars on under parts coarser and more blackish.

MEASUREMENTS: Wing, male, 304, 307.5, female, 317. Tail, male, 176, 178, female, 184. Length of tail tip (in imm.), male, 79, 83, female, 70. Relative tail length, male, 57.2, 58.5, female, 58. Tail tip (per cent), male, 44.4, 47.2, female, 38.0.

RANGE: Known only from Manus (Drabui, Lombrum, Petaiya), Admiralty Islands.

It gives me great pleasure to name this new bird in honor of its discoverer, William F. Coultas. The similarity with *megala* indicates clearly that the Manus population is not derived from *bismarckii* but was established by an invasion from northern New Guinea.

FALCONS

Only two falcons are found in the area. I have recently discussed what is known about the geographical variation of the peregrine falcon in the Papuan region. (Mayr, 1941, Amer. Mus. Novitates, no. 1133, pp. 1–2). *Falco peregrinus ernesti* Sharpe is known from New Britain, and Otto Meyer lists it also from New Ireland (1936, Vögel des Bismarck Archipel, p. 48). This is perhaps a mistake, because on page 35 of the same volume it is recorded only for New Britain. The peregrine falcon has not yet been found in the Solomon Islands, perhaps for lack of suitable cliffs. On August 19, 1929, I observed a falcon at Soraken, northern Bougainville, which was chasing small lories (*Vini placentis*). At the time I thought it was a peregrine, but I am now inclined to believe that it might have been a hobby. I saw the black cheek patch clearly, but lost sight of the bird too quickly to record any other identification marks.

TABLE 2

MEASUREMENTS OF WING AND TAIL IN *Falco severus papuanus*

	Celebes	Moluccas	New Guinea	New Britain	Solomon Islands (Gizo)
Wing					
♂ ad.	209		216, 217, 221		
♂ imm.		209	210, 214	215, 215	
♀ ad.	231, 242	240	228, 237, 238	227, 236	226
♀ imm.			230	234, 235, 240	
Tail					
♂ ad.	97		95, 96, 100		
♂ imm.		94	94, 97	95, 98	
♀ ad.	108, 111	108	101, 103, 104, 104, 107	104, 105, 106, 107, 107	97
♀ imm.			107	108, 109, 114	

Falco severus papuanus Meyer and Wiglesworth

After comparison of a considerable series of specimens from Celebes, the Moluccas, New Guinea, New Britain, and the Solomon Islands, I have come to the conclusion that geographical variation is negligible within this area. This agrees with the findings of Siebers (1930, Treubia, vol. 7, suppl., pp. 228–234). There is a certain amount of individual variation concerning the intensity of the rufous brown of the under-

parts, the whiteness of the throat, and the spotting of the breast. Birds in the first adult plumage may have more spotting on breast and under wing-coverts than older birds. The single specimen from the Solomon Islands is rather small.