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A BIRD COLLECTION FROM THE SOLOMON ISLANDS

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During two years of service with the Army of the United States in the Solomon Islands from 1943 to 1945, I accumulated a small collection of birds numbering 267 specimens. Dr. Ernst Mayr's work on the collections of the Whitney Expedition in the American Museum of Natural History so well covers this group of islands that a general report on the present collection is not warranted. I made some new observations, however, on the interesting group of glossy starlings (Sturnidae), and am able to report a few well-known species from the Solomons for the first time.

NOTES ON APLONIS BRUNNEICAPILLUS DANIS

Aplonis brunneicapillus was described by Danis in 1938 from a single specimen from Buin, Bougainville, in the Paris Museum. He erected a new genus for it, *Rhinopsar*, which was synonymized in 1943 by Amadon, who discovered another specimen from Rendova in the collection of the American Museum.

On July 15, 1944, I collected a single immature specimen on Bougainville (Empress Augusta Bay). Subsequently, Mr. John E. Chattin of the Museum of Vertebrate Zoology and I collected a series of nine specimens, two immature, on Guadalcanal, in the Solomon Islands. I am thus able to add to the description of both adult and immature *brunneicapillus*. There appear to be no grounds indicating racial difference between Bougainville, Rendova, and Guadalcanal specimens.

Description (*adult male and female*).—Bill very deep with rostrum remarkably arched, the fine, silky feathers of the forehead nearly obscuring the nares as in Danis' description of the type and becoming very long and filamentous on head, nape, and throat. Tail wedge-shaped, with middle rectrices elongate as in *A. metallica nitida*, but

general color iridescent French Green[1] instead of Fluorite Green as in that species. Head color varies from Chocolate to Warm Sepia, grading about the eye and on the ear coverts into Dull Purplish-black, this color extending to the throat and upper breast. Lores greenish-black. Almost all adults show a slight trace of the immature character of purple edging in the individual feathers of the head (see below). Rest of bird iridescent French Green except remiges and rectrices, which reflect a Dark Delft Blue and are narrowly edged with the prevalent green. The heads of the adults vary from Chocolate to Warm Sepia, being deepest in the single male specimen. The green edging of the remiges and rectrices varies independently and may be the result of wear, since it is absent on the primaries and on nearly all the tail feathers, which clearly show wear; in fact, the tails of all but the immature specimens are badly frayed and broken, the elongated central rectrices in all but one adult being broken off very short. The bill is black. The iris is white.

Immature specimens.—The long filamentous feathers of head and throat, so characteristic of adults, show only the bare beginnings in the immature specimens collected. The oldest of the three shows the feathers of the forehead half-developed but not covering the nares; none show the filamentous character of the head and throat feathers. The bill is not nearly so deep or arched as in adults and is little larger than that of *A. m. nitida*. The top of the head and the nape are a dark purplish hue entirely unlike the adults, the individual feathers being French Green, tipped with Dark Vinaceous Gray. This color grades into deep greenish-black on the lores and into green on the ear coverts and above the eyes. The rest of the upper parts are of the same green as in the adults, but individual feathers are less broadly edged. The under parts are dark blackish-brown, mottled with the green of the narrowly tipped contour feathers. Inconspicuous fine white streaking is evident along the median area of the belly but not on the flanks. A few fine streaks occur on the upper breast, emerging on the throat into a fine streak pattern of brownish-black and white. The remiges and rectrices appear duller in tone than in adults and are scarcely or not at all edged with green. The primaries and rectrices show more iridescence than in adults; possibly they are not worn. The primaries are shorter and more bluntly rounded. The bill is black. The iris is olive.

The smaller size of the bill in immatures seems to support Amadon in placing this species in *Aplonis*.

[1] Capitalized names of colors indicate the Ridgway nomenclature.

Ecological note.—The single immature from Bougainville was collected out of a flock of *A. c. cantoroides* in a native garden. The Guadalcanal series was taken on the north coast, mostly in one of the small, forested valleys that alternate with rolling grassland (with grass of the genus *Imperata*) about two miles inland from Kukum docks. The birds were shot out of high trees on August 25, 1944. Four specimens, including two immatures, were collected on October 24, 1944, about two miles up an oxbow of the Lunga River known as Lunga Run. They have been observed in a native garden much used by both *cantoroides* and *nitida*. Nothing is yet known about the nesting of the species, but the condition of the tails of adults seems to indicate that nests may be looked for in tree cavities. I have never seen tails of specimens of *A. metallica* frayed and broken as are those of this species.

MEASUREMENTS

Specimens from Guadalcanal

Field No.	Sex	Wing	† Tail	Culmen	Depth	Iris
*36	Ad. ♀	109	79	20	8.5	White
*39	Ad. ♀	107	69	21	9	White
*40	Ad. ♀	109	77	22	9	White
50	Ad. ♀	113	83	21	9	White
30	Ad. ♀	110	73	21.5	9	White
249	Ad. ♀	110	67	21	9	White
248	Ad. ♂	118	100	22.5	9.5	White
*246	Im. ♀?	107	73	21.5	7.5	Olive
247	Im. ♂	108	70	21	7.5	Olive

Specimen from Bougainville

X	Im.	102	68	20	7	Olive

* Specimen in Museum of Vertebrate Zoology.

† Tails are so badly frayed that only measurements of the immature specimens are accurate.

NOTES ON APLONIS METALLICA NITIDA GRAY AND A. CANTOROIDES CANTOROIDES GRAY

Aplonis metallica nitida and *A. cantoroides cantoroides* are the most abundant of the glossy starlings in the Solomon Islands, though the larger, less gregarious *Aplonis grandis* is not scarce. These two (*nitida* and *cantoroides*) are about the same size, but *nitida* has a graduated tail with elongate middle rectrices and is Fluorite Green with purple on back and breast, whereas *cantoroides* is Russian Green and has a truncate tail. The quite different nesting habits of these two abundant species suggest the possibility that their habitats bear on the degree of their susceptibility to blood parasites.

A study of the haematology of the two was carried out (Chattin, MS.) with a microscopic examination of thin blood films of birds collected on Guadalcanal. The presence of some factor other than chance seemed evident at once. Twelve out of thirteen specimens of *nitida* were positive for blood parasites (*Haemoproteus* and *Microfilaria*) while twelve specimens of *cantoroides* were negative. Subsequently, this finding was checked on Banika in the Russell Islands, where three specimens of *nitida* were infected and three of *cantoroides* were not.

It seems more logical to attribute this difference to environmental causes than to suppose a physiological immunity in *cantoroides*, especially as immunity to malaria parasites has never been demonstrated in vertebrates. But habitat and nesting differences between the two species can be demonstrated, for *nitida* is primarily a species of the mature rain forest where its numerous communal nests are hung under the canopies of large trees, while *cantoroides* is a species of secondary forest of river deltas, coastal communities, native gardens, and coconut groves. *A. metallica nitida* weaves a gourd-shaped nest of plant fiber resembling that of a weaver bird. Since there may be well over fifty such nests in a single tree with constant mingling of the members of a colony, favorable conditions are set up for insect vectors, such as the hippoboscid flies. *A. c. cantoroides*, however, nests in solitary pairs, using cavities in dead coconut trees or in dead forest trees in open situations away from the primary forest. The coconut trees topped by shell fire now supply numerous suitable nesting sites.

If it is assumed that the parasites are acquired through some dipteran vector at the nest site, it is not necessary that the species keep from mingling elsewhere to explain the difference. Nevertheless, though both species feed in the secondary forest of over-grown native gardens, they seem to keep well separated; mixed flocks have not been observed. Again, *nitida* may sometimes be found nesting in large, dead, forest trees standing in the cleared area of a native garden fully a hundred yards from forest. Whether this may be regarded as a relict population, remaining despite the clearing of the garden area, is not clear; but the killed tree naturally lacks the canopy of foliage so characteristic of the sites chosen by a colony in the forest. The point of interest is that such trees are typical nesting sites for the cavity-dwelling *cantoroides*, and thus the two species may be found nesting in adjacent dead trees in such cases; but observation over long periods reveals that they do not mingle.

The mechanism by which the flocks of these two species remain always separate may be the difference of voice, for the elaborate and varied voice patterns of the two are quite distinct. Their visual powers can scarcely be sufficiently acute to account for the complete separation of the two species in their flocks. The differences are of degree rather than of kind: the green of *cantoroides* is bluer than that of *nitida;* the eye is more orange and less red; the tail is shorter; and the streak pattern of the immatures is less clear-cut.

NEW AND RARE SPECIES

A few brief notes follow on birds rare in the Solomon Islands, collected for the first time in the group or for the first time on some particular island.

Haliaeetus sanfordi Mayr

A single specimen, sex indeterminable, was taken at Empress Augusta Bay, Bougainville, in July, 1944. This seems to be the first record for the island.

Circus approximans gouldi Bonaparte

A single female of this species was collected on the north coast of Guadalcanal about two miles inland from the mouth of the Teneru River on August 3, 1944. The wings were very badly frayed, with the primaries broken off at the ends and the tail partially so (wing 374 mm.; tail 262 mm.). Rand (1941) collected a similarly worn specimen at Lake Daviumbu in New Guinea.

The present specimen (coll. no. 103) was killed on a forested ridge overlooking a small marsh. The fresh remains of a large egg, perhaps of *Porphyrio*, were still in its mouth. This appears to be the first record from the Solomon Islands of this species, long known from eastern Australia, New Caledonia, and New Guinea.

Turnix maculosa salomonis Temminck

A male and a female of this race were collected one mile inland from the mouth of the Teneru River, Guadalcanal, on November 29, 1944. The male specimen (coll. no. 336) is in Chicago Museum; the female (coll. no. 337) is in the Museum of Vertebrate Zoology. Daniel Muenninck, collecting for the United States National Museum, took a specimen at the same time.

The species is not uncommon locally throughout the grassland of the Guadalcanal north coast, which seems to represent a filled-in

tidal swamp. The installation of airfields does not appear to have threatened the species seriously and may even have created more favorable conditions. The species was never encountered on the extensive grassland area of the adjacent ridges.

Acrocephalus arundinaceus meyeri Stresemann

Two specimens were taken. An immature was collected on the Teneru River on March 25, 1944. An adult with sex undeterminable was shot in the Empress Augusta Bay area of Bougainville in a marsh along the Torokina River.

There appears to be considerable difference of opinion as to whether Indo-Australian races should be put with the species *stentoreus* or with *arundinaceus*. Stresemann agrees with Hartert, who placed them under *stentoreus* (Stresemann, 1924), but Mayr (1945) places the Guadalcanal race, *meyeri*, under *arundinaceus*. My specimens agree in wing formula with *arundinaceus* rather than *stentoreus* but this is an extremely small bird (wing 65 mm. in the adult specimen) to be a race of *arundinaceus*. It might possibly be regarded as a distinct species.

Gymnorhina tibicen Latham

Two specimens were collected in the savanna-like coconut grove bordering the grassland four miles east of the Teneru River and one mile inland on Guadalcanal, on November 28, 1944. An adult male was taken at the same time out of the same family party by Daniel Muenninck, collecting for the United States National Museum.

Measurements of the adult male were as follows: wing 265 mm., tail 157 mm., culmen 53 mm., tarsus 56 mm. It appears to be nearest to typical *tibicen*, therefore, though somewhat smaller. The adult and three immature birds seen flying from one coconut tree to another in this unusual savanna-like grassland gave every appearance of being a family group and the species must have been introduced. On the entire north coast of Guadalcanal from Cape Esperance on the west to the Balasuma River on the east the field workers of malaria units never reported this species elsewhere.

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