

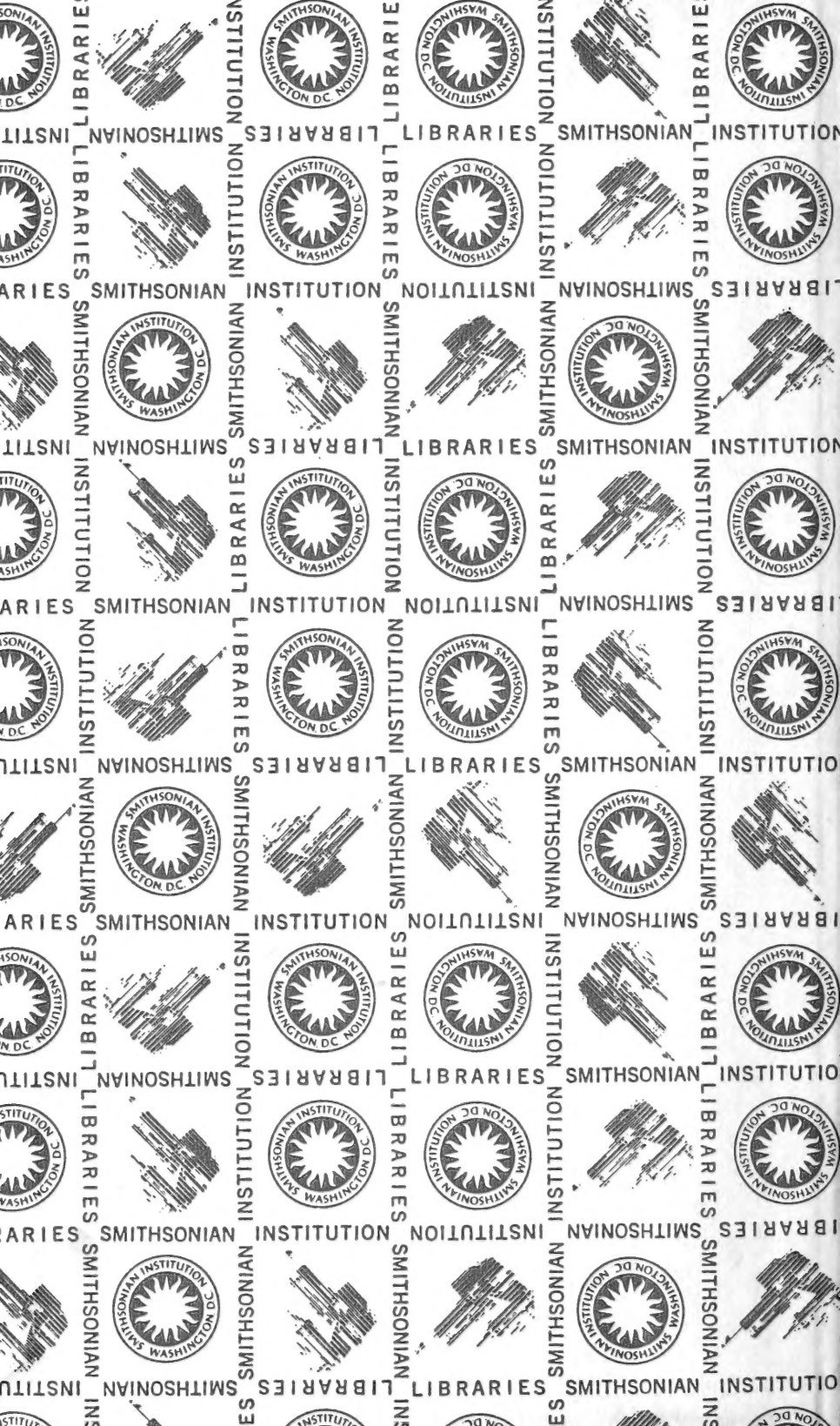
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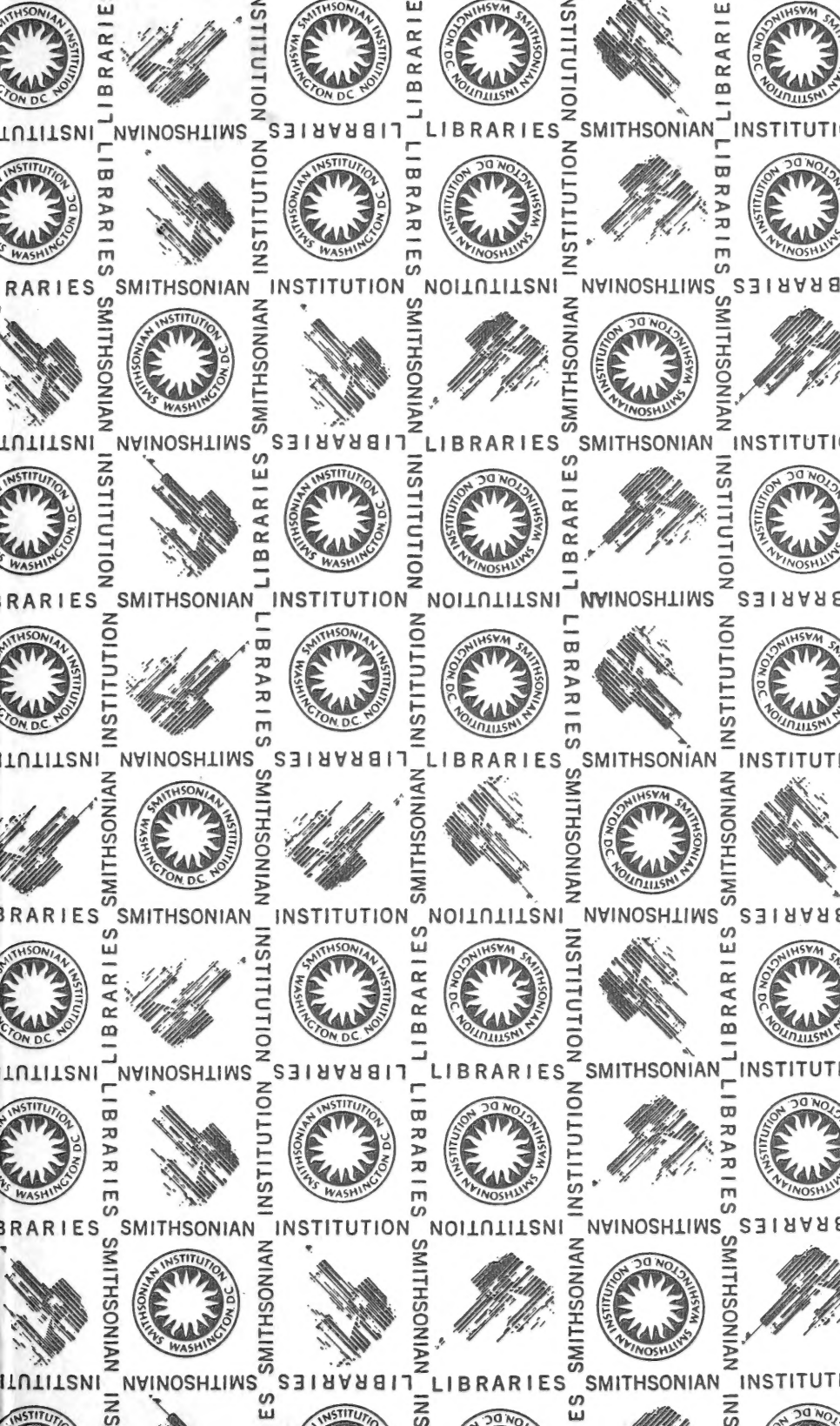
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BIRDS OF CALAYAN AND
FUGA, BABUYAN GROUP

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No. 4

Issued May 15, 1904



THE BIRDS OF CALAYAN AND FUGA, BABUYAN GROUP

BY RICHARD C. MCGREGOR

MANILA
BUREAU OF PUBLIC PRINTING
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INTRODUCTORY NOTE.

Due north of Luzon are a number of small islands known as the Babuyanes, and north of this group are the Batanes. The small lot of birds secured on Fuga Island by Mr. John Whitehead has been the only collection known from any of these islands. In August, 1903, we took a steamer to Aparri, in north Luzon, where after much delay we secured a native boat to take us to the Islands of Fuga and Calayan in the Babuyanes. I intended to visit Camiguin as well, but owing to the light and variable breezes it was found to be impracticable.

The present paper deals with the collection of over 1,000 skins which was made on Calayan and Fuga. A few species from Luzon and other islands are also discussed in their proper order. Three species from Ticao and one from Lubang, overlooked or not identified before, are now recorded for the first time and may be added to my lists from those islands in former bulletins. The nomenclature of this paper follows closely that of Sharpe's Hand List and the Catalogue of Birds. *Salangana* has been substituted for *Collocalia*, and *Otus* for *Scops*. My thanks are due to Secretary Worcester, who has continued to direct our collecting operations, and to Dr. Charles W. Richmond, of the United States National Museum, who has kindly identified a number of doubtful species.

The following species are described as new:

<i>Turnix worcesteri</i> .	<i>Eudynamis frater</i> .
<i>Macropygia phæa</i> .	<i>Zosterops flavissima</i> .
<i>Otus cuyensis</i> .	<i>Hyloterpe fallax</i> .
<i>Otus calayensis</i> .	

The following forms are new to the Philippines:

<i>Sphenocercus formosæ</i> .	<i>Acrocephalus sorgophilus</i> .
<i>Oceanodroma</i> , species.	<i>Chelidon dasyopus</i> .
<i>Sterna fluviatilis</i> .	<i>Clivicola riparia</i> .
<i>Polionetta zonorhyncha</i> .	<i>Astur cuculoides</i> .
<i>Mareca penelope</i> .	<i>Turdus pallidus</i> .
<i>Spodiopsar sericeus</i> .	<i>Antigone sharpei</i> .
<i>Chrysomitris spinus</i> .	<i>Fringilla montifringilla</i> .
<i>Saxicola ænanthe</i> .	

The following appear to be new to Luzon:

<i>Pandion haliaëtus.</i>	<i>Locustella ochotensis.</i>
<i>Tachornis infumata.</i>	

Added to list of Ticao birds:

<i>Charadrius dominicus.</i>	<i>Heteractites brevipes.</i>
<i>Anthus gustavi.</i>	<i>Circus melanoleucus.</i>

Added to list of Lubang birds:

Spizaëtus limnaëtus.

LIST OF PLATES.

- I. Fig. 1, *Turnix worcesteri*, new species, type ♀; fig. 2, *T. whiteheadi* Grant, ♀.
 II. *Antigone sharpei* Blani.
 III and IV. *Pelecanus philippensis* Gm.
 V. Fig. 1, *Hyloterpe albiventris* Grant ♀; fig. 2, *H. fallax*, new species, type ♀; fig. 3, *H. philippinensis* Walden ♀.

ZOÖGEOGRAPHICAL NOTES.

FUGA.

The name Fuga is scarcely known among the natives at Aparri, and on the island itself, as well as on Calayan, Fuga is known as "Babuyan." The round island marked "Babuyan" on the maps and situated about 30 miles to the northeast of Calayan is called "Babuyan Claro" by the natives. Off Musa, marked on the map as the only town on Fuga, the anchorage is poor, the ground being very foul. A sandy beach, sheltered by the two small islands Bari and Rigatin (the latter marked "Mabac" on my map), exists at the western end of the island, though there are plenty of hidden rocks here as elsewhere about the island.

Fuga is a low, scantily wooded island 12 miles long by 4 miles wide, distant about 18 miles from the nearest point of the Luzon coast. Along the shore is a fringe of small trees and brush, while the low, rolling ground of the interior is covered only with grass and a few stunted guava bushes. The island is of coral formation, and along the northern shore there are evidences of several elevations in steep coral cliffs, the summits of which are 100 feet or more above the present beach. There are no streams on the island. The seven days devoted to Fuga were quite enough to determine the general character of its bird fauna and to secure typical specimens of *Hypsipetes fugensis*, which were the main objects of our visit.

The island is scarcely worth a visit, as there is no forest and few birds. Besides the fruit thrush, *Cinnyris* and *Eudynamis* are the only birds of interest. Grant records seven species from Fuga. These were collected by Whitehead and are:

<i>Megapodius cumingi.</i>	<i>Endynamis</i> sp. inc.
<i>Carpophaga nuchalis.</i>	<i>Hypsipetes fugensis.</i>
<i>Accipiter gularis.</i>	<i>Oriolus chinensis.</i>
<i>Ninox japonica.</i>	

To these must be added *Butastur indicus*, *Haliaëtus leucogaster*, and *Falco peregrinus*, recorded by Whitehead in his Field Notes¹ on Philippine Birds. During our stay we observed 22 additional species, bringing the number of Fuga birds up to 32.

UNRECORDED BIRDS OBSERVED ON FUGA.

Gallus gallus.	Centropus viridis.
Streptopelia dussumieri.	Corone philippina.
Chalcophaps indica.	Calornis panayensis.
Charadrius dominicus.	Munia jagori.
Ægialitis peroni.	Anthus rufulus.
Orthorampus magnirostris.	Cinnyris whiteheadi.
Demiegretta sacra.	Dicæum pygmæum.
Ninox japonica.	Otomela lucionensis.
Eurystomus orientalis.	Acanthopneuste borealis.
Halcyon chloris.	Cisticola exilis.
Merops bicolor.	Hirundo gutturalis.
Eudynamis frater.	

All of these are Philippine birds or common migrants, except *Eudynamis frater*, which is here described from Calayan, and *Hypsipetes fugensis*, which is of an Asiatic genus with representative species in Japan, Loo Choo, and Formosa. The Fuga species is abundant on Calayan. The only other species of interest is *Cinnyris whiteheadi*, now recorded for the first time outside of Luzon. Zoölogically Fuga must be classed with Calayan because of the occurrence of the three species mentioned and the absence of all the peculiar Luzon genera.

CALAYAN.

Calayan lies about 25 miles north of Fuga and is a little larger than that island. It has a moderately high central ridge of hills. The whole island is covered with heavy forest interspersed with occasional patches of tall "cogon" grass. The natives told me that numerous species of valuable timber trees abound. I know only that the woods are well suited for woodpeckers, hornbills, etc. The absence of such birds was a continual wonder to me. Along the beach just above high water is a belt of large-flowered trees known locally as "butun"—Tagalo name, "by-ac-to-ro." Nothing of value in the way of birds was ever taken in these butun trees except a small hawk, several specimens of which were killed here and nowhere else. Wild guavas are abundant. An inferior variety of banana is planted to a considerable extent, though it can not be said that it is cultivated. Cocoanut trees exist in small patches. Tobacco, corn, rice, and camotes are cultivated in quantities sufficient for local use. I understand that some rice is exported in case of a large crop. I was told that a good quality of cotton is grown, but I did not see any of it. Carabaos and pigs, both of which may have escaped from domestication, appear to be the only wild mammals.

¹ Field Notes on Birds Collected in the Philippine Islands in 1893-1896 [part 1], Ibis, 1899, pp. 81-111.

There are numerous small rivers on Calayan, four of them being within a mile of the town. The island seems to have been pretty much all under the sea, for I found coral limestone extensively over the lower parts and at the highest points visited. Near the eastern point of the island, however, there are fairly well-preserved basaltic columns.

The climate is excessively wet. During the time we were there scarcely thirty-six consecutive hours passed without at least a shower. In November and December there were continuous heavy rains, which interfered seriously with our work. The strong northerly and north-easterly winds reduced the temperature below the point of comfort. On October 20 a typhoon, which destroyed the church and many houses, cut down all of the bananas and ruined much of the rice, which was nearly ripe. The natives told me that this was the strongest wind they had ever seen.

Some 95 species of birds were noted on Calayan, of which the following are Philippine:

Leucotreron leclancheri.	Uroloncha everetti.
Amaurornis olivacea.	Cinnyris whiteheadi.
Podicipes philippinensis.	Dicæum pygmæum.
Salangana marginata.	Zosterops meveni.
Eudynamis mindanensis.	Pardaliparus elegans.
Corone philippina.	Muscicapula luzonensis.
Oriolus chinensis.	

The above species are enough to outweigh the presence of two Asiatic genera (*Hypsipetes* and *Sphenocercus*).

Calayan, Fuga, and probably the other Babuyanes (Camiguin, Dalupiri, and Babuyan) belong zoölogically with the Philippines, but by no means can they be joined with the Luzon group. The genera *Hypsipetes* and *Sphenocercus*, with representative species of *Macropygia*, *Otus*, *Eudynamis*, and *Hyloterpe*, give Calayan a very distinct fauna. The negative evidence is even stronger, for of the forty or fifty species peculiar to the Luzon group only *Cinnyris whiteheadi* and *Zosterops meveni* occur on Calayan. The following genera are altogether wanting: *Penelopides*, *Dicrurus*, *Dendrophila*, *Megalurus*, *Orthotomus*, *Cittocincla*, *Pycnonotus*, *Artamides*, *Hypothymis*, *Rhipidura*, *Pitta*; also all the woodpeckers, parrots, sunbirds (but one), and flower-peckers (but one). As we spent four months on the island there is little probability that any of these forms occur and were overlooked.

A number of species added to the Philippine list from Calayan are of interest, but as they are probably migrants they afford no evidence as to the faunal relationship of the Babuyanes. It is probable that most of them will be taken in Luzon.

NOTES ON THE SPECIES OBSERVED.

MEGALOPIDIUS CUMINGI Dillwyn.

Abundant on Fuga, where several specimens were killed and many

more were seen. Few seen on Calayan, but many of the pinkish eggs brought in by the natives during September and October. Small young "tabon" were killed early in October. The Calayan name is "ou-cong."

GALLUS GALLUS (Linn.).

Abundant on Fuga; rare on Calayan.

TURNIX WHITEHEADI Grant; Handbook Game Birds, II, 1897, p. 276.

Known only from three birds purchased in Manila by Mr. John Whitehead. In August, 1902, we rediscovered this species in the Quinta Market, Manila. The natives said the birds were caught at Parañaque, which is a town on Manila Bay. In our series of twenty skins the sexes constantly differ, and I add a description of the adult female, together with a series of measurements:

Adult female.—No. 1322, Philippine Museum Collection. Purchased in Quinta Market, Manila, August 26, 1902. Probably from Parañaque.

Description.—Similar to adult male, but distinguished by a dark chestnut collar, narrow on hind neck, wide on sides of neck. General color of upper parts black; feathers of head broadly tipped with dull chestnut; down middle of head from bill to hind neck a distinct line of pale straw yellow, terminated by the cervical collar; remainder of feathers on upper parts barred with dull chestnut; some of the interscapulars edged with whitish; lateral feathers of lower back, rump, and upper tail coverts broadly edged and tipped with dark buff. Primaries light brown edged with paler; primary coverts rather blackish brown; bastard wing blackish brown, the largest plume broadly edged with white externally; secondaries light brown with a mottled edging of darker brown and whitish; tertiaries and scapulars much like the back, the latter broadly edged with buffy yellow; secondary coverts mostly dull chestnut, each feather with a large black spot and light buff edges. Whole sides of face pale buff, most of the feathers black tipped, forehead similar. Chin, upper throat, lower breast, and abdomen white; lower throat and upper breast covered by a patch of dark buff, which also extends over sides of these areas; some feathers on sides of these areas each with a large black spot; a few feathers under wings largely dull chestnut. Total length, 5.25 inches; wing, 2.26; tail, 1.02; culmen, 0.43; depth of bill at angle of gonys, 0.14; tarsus, 0.73; middle toe with claw, 0.60.

Measurements of Turnix whiteheadi.

Sex.	Wing.	Tail.	Culmen.	Tarsus.
Male	2.32	0.90	0.40	0.72
Do	2.40	1.10	.36	.68
Do	2.30	.87	.40	.65
Do	2.32	.66	.40	.70
Do	2.23	.80	.38	.65
Female	2.38	.88	.41	.72
Do	2.53	.85	.39	.66
Do	2.36	.80	.42	.68
Do	2.42	.72	.38	.68

Turnix whiteheadi evidently begins nesting in August, for several live birds from the market during that month contained eggs. Two of these eggs we were able to preserve entire. As may be seen by the measurements, they are rather short. The short diameter crosses the long diameter near its middle, and the outline slopes gently to the smaller end, producing a shape less pyriform than in the eggs of our American partridges.

DESCRIPTIONS.

No. 1. August 26, 1902.—White with numerous obscure lilac-shell markings; around the larger end a band of dark sienna 0.20 inch wide, whose edges are ragged and near which are a very few brown spots. The dark zone incloses a white and unspotted area 0.35 inch in diameter. This egg measures 0.78 by 0.63.

No. 2. August 16, 1902.—Very similar to the other egg, but the dark band more broken on margins and entire larger end to middle covered with a dark-brown wash. The edge of this color area is well defined and slightly irregular, a few fine specks along its edge; smaller end of egg with a faint brown wash. This egg measures 0.79 by 0.65.

If egg No. 1 were half immersed in strong coffee it would be colored nearly like egg No. 2. As these eggs were taken from the oviduct—that is, before they were deposited normally—I am inclined to think that they may be somewhat abnormal, or not fully colored, and No. 1 especially tends to confirm this idea.

TURNIX WORCESTERI, new species.

Type.—No. 1350, adult female, Philippine Museum Collection. Purchased in Quinta Market, Manila, August 30, 1902. Probably from Parañaque, Luzon.

Description.—General color above, black; on the forehead, spotted with white; on crown and nape, feathers tipped with pale buff and some edged with white, producing an incomplete white line on middle of head (this line may be perfect in a well-made skin); feathers on back and rump barred and tipped with pale buff, on the interscapular area edged also with white; feathers on sides of face mostly white with black tips; lores white; feathers on sides of neck black, each with a wide subterminal bar of white; a small black spot behind ear; breast and throat rusty buff, extending up each side of the white chin area as rusty buff tips to the feathers and bounded above by the black-tipped white feathers of malar region; flanks, under tail coverts, and sides of abdomen and breast are also rusty buff, but paler; center of abdomen white; a few feathers on sides of abdomen are barred with blackish brown. Primaries, their coverts, and secondaries blackish gray; four outer primaries narrowly edged with whitish; secondaries barred with whitish on outer web. Scapulars like the back but with wide edges of whitish buff.





1, TURNIX WORCESTERI ♀; 2, T. WHITEHEADI ♀. (SLIGHTLY REDUCED.)

Secondary coverts blackish mottled and edged with pale buff. Tail blackish, edged with pale buff. Bill pale bluish; legs flesh pink, nails slightly darker; irides very pale yellow. Length, 5 inches; wing, 2.80; tail, 0.93; culmen, 0.41; depth of bill at angle of gonys, 0.23; tarsus, 0.66; middle toe with claw, 0.71.

This bird is known to us from the type specimen purchased in the market where it was found with others of the same genus. It is readily distinguishable from any other Luzon *Turnix* by its very deep, short bill.

SPHENOCERCUS FORMOSÆ Swinh.; Salvadori, Cat. Bds., XXI, p. 13, Pl. I.

Fairly abundant on Calayan, where it is called "pu-nai," a name used for *Osmotreron* in many of the Philippine Islands. This bird may be distinct from the Formosa species, which is said to occur in the mountains of that country, but I can find nothing in our series of a dozen skins to justify a separation, and a comparison will be necessary for final identification. The genus is new to the Philippines.

LEUCOTRERON LECLANCHERI (Bp.).

Three specimens from Calayan agree with some from Luzon and Mindoro. Shy and difficult to obtain.

CARPOPIHAGA NUCHALIS Cab.; Grant, Ibis, 1896, p. 487 (Fuga); Whitehead, Ibis, 1899, p. 487.

Both Grant and Whitehead were very sure that the single specimen which they had from Fuga was distinct from *C. nuchalis* of Luzon. Our four skins from Fuga and Calayan are alike and have a dark-purplish nuchal band. With no Luzon material at hand for comparison it is necessary to let these stand as *nuchalis*. Fairly common on Fuga and abundant on Calayan.

About the middle of November these birds collect in large flocks, sometimes numbering 100 or more. They are easily killed if they happen to pass near one, but when feeding or resting in trees they take fright at the first sign of danger. All specimens killed were extremely fat, so that good skins were out of the question. Name on Calayan, "balug."

COLUMBA GRISEIGULARIS (Wald. and Layard).

A few were seen in the tops of the heaviest timber. One killed was so fat that I made no attempt to get more.

MACROPYGIA PHÆA, new species.

Specific characters.—Somewhat similar to *M. tenuirostris* Bp., but larger and much darker; the inner webs of first three primaries uniform, the others but narrowly, if at all, edged with rufous.

Type.—No. 3933, adult male, Philippine Museum Collection, Calayan Island, Babuyanes, P. I. Collected November 18, 1903, by R. C. McGregor and A. Celestino.

Description.—Upper parts, including wings and tail, blackish brown; back and rump feathers with wide edges of very dark-bluish slate (these

edges are very obscure); entire head dark chestnut brown, a little lighter on forehead, the occiput and nape dark; entire side of head below and behind eye of same shade as forehead; the chin and upper throat light chestnut, restricted laterally by dark sides of face; rest of lower parts dark chestnut brown, minutely vermiculated with black, which is heaviest on breast, where the black tends to form crescent marks; sides of neck and top of head also finely vermiculated. Abdomen, under tail coverts, and axillaries uniform dark chestnut (in one specimen the black specks and vermiculations extend onto abdomen and under tail coverts); breast and abdomen with a vinous wash; lining of wing dark chestnut mixed with blackish brown. Upper breast, sides of neck, and hind neck metallic green when held toward the light, metallic purple when held away from the light. Wings uniform blackish brown above; below the first three primaries are without chestnut margins; the innermost primaries are narrowly margined with chestnut on basal half. From above the short outer pair of tail feathers chestnut, with a wide blackish bar near tip; second pair mostly blackish with a wide diagonal chestnut bar about 2 inches from tip; remaining feathers blackish brown. Bill brown with reddish base; legs dark reddish brown, nails brown; irides of three rings, outer crimson, middle black, inner straw. Total length, 16.25 inches; wing, 7.78; tail, 7.80; culmen, 0.70; tarsus, 0.94.

Type of female.—No. 3714, Philippine Museum Collection. Calayan Island, October 23, 1903. Collected by R. C. McGregor and A. Celestino.

Description.—Resembles the male, but feathers of lower throat extensively black with chestnut tips; just posterior of the light chin spot the feathers are almost solid black, some having chestnut bases and others chestnut tips; the sides of neck are blackish with small chestnut specks on feathers, behind ear coverts forming irregular bars. No metallic gloss below and much restricted above where it is mostly green, only a faint trace of purple being detected. Colors of bill, legs, and eyes as in male. Total length, 16 inches; wing, 7.70; tail, 7.68; culmen, 0.70; tarsus, 0.85.

The present species seems to be one of the darkest forms yet described. It is larger and darker than *tenuirostris* of the Philippines, which is said to have the tail much darker chestnut brown than the allied *phaseanella* (Australia) and *emiliana* (Java, North Borneo, Lombok). It certainly does not approach the wide ranging *ruficeps* (Java, Sumatra, Borneo, and Malay Peninsula), which has the wing only 5.5–5.8 inches. (Cat. Bds., Vol. XXI, p. 347.)

The species is rather abundant on Calayan, and its habits do not differ from those of *M. tenuirostris*. Like *Sphenocercus*, it was feeding on tree fruits when we reached the island in September, but a typhoon during the latter part of October cut down most of the higher fruiting branches with their protecting foliage and both these species of doves

were then found in small trees and bushes. Known to the natives as "a-la-ga'-dang."

With regard to the female plumage of *M. tenuirostris*, our specimens tend to confirm the statements of Salvadori (Cat. Bds.) and Grant (Ibis, 1895, p. 470) that the adult female differs in plumage from the male. One of our specimens from Benguet taken May 1, 1903, showed unmistakable signs of being a breeding female and resembles the plumage described for young birds, including the "broad rufous-cinnamon edges on the upper wing coverts." A breeding male taken at the same time and place has rufous-cinnamon edges to the wing coverts. It seems probable that two or perhaps three seasons are required for either sex of this species to attain the *fully* adult plumage.

STREPTOPELIA DUSSUMIERI (Temm.).

Rare on Calayan, where it is called "pagau."

ONOPOPELIA HUMILIS (Temm.).

One of a pair killed in a Calayan rice field November 13; no others seen.

CHALCOPHAPS INDICA (Linn.).

This green ground dove occurs in its usual numbers on both islands visited. One specimen from Fuga, where the species is rather more common than on Calayan, is albinistic. A few feathers on the breast, abdomen, shoulders, back, and rump and one tail feather are pure white. (No. 2995, Coll. Phil. Mus.) On Calayan it is called "li-mu'-kin."

SULA SULA (Linn.)?

September 7 as we were nearing the Island of Calayan a pair of gannets circled about our boat. They were probably of this species, but I never saw them again and in fact have never seen gannets near a beach in the Philippines.

ANTIGONE SHARPEI Blanf.; Sharpe, Hand List Birds, p. 178 (Malay Peninsula, etc.).

Antigone antigone SHARPE, Cat. Bds., XXIII, p. 264.

This bird is well known to the Tagalos as "tipol," but seems to be unrecorded from these Islands. A mounted specimen said to have been taken at Aparri has been received in exchange from Father Sanchez, of the Jesuit Museum, Manila. Secretary Worcester had a live bird of this species for some time, said to have been taken in Candaba swamp. The bird is now in the Botanical Gardens, Manila.

DISSÖURA EPISCOPUS (Bodd.)?

A large bird believed to have been of this species was occasionally seen on Calayan.

POLIOLIMNAS (?) species.

Once or twice I flushed a small rail from a rice field on Calayan, but could not be sure as to the genus. A liberal reward offered for a "took-

ling" resulted in the production of two black downy young on October 8, but no adults.

AMAURORNIS OLIVACEA (Meyen).

One specimen from Calayan; several others seen. The local name is "ba-na-ti-ran."

GALLINULA CHLOROPUS (Linn.).

One immature specimen from Calayan.

PODICIPES PHILIPPENSIS (Bonn.).

There is no place on Calayan where one would expect to find grebes, and I was surprised to get a specimen on the small river near town. The specimen was taken November 15 and is in fall plumage, lacking any trace of rufous. Skins taken by us at Jalajala, Laguna de Bay, on January 5, 1902, have attained nearly the complete plumage of the breeding bird.

OCEANODROMA, species.

On July 28 while our steamer was weathering a typhoon at Mariveles near the mouth of Manila Bay I secured a single mangled petrel still alive. The native boy from whom I bought it said that two or three had come aboard two nights before. The bird is an *Oceanodroma* of the *melania* style of coloration, but the skin is in such bad condition, lacking the tail altogether, that I can not make out the species. The family appears to be unrecorded from the Philippines.

I believe *Puffinus leucomelas* is the only species of Tubinares so far recorded from these Islands. I have not yet taken a shearwater here, but more than once have seen them off the west coast of Luzon, and when going from Aparri to Calayan in a native boat large Tubinares, certainly of two species, were seen. One may have been an albatross.

STERNA FLUVIATILIS Naum.

October 21, after a strong typhoon, two terns appeared off the beach at Calayan. One killed appears to be an immature male of the above species.

ORTHORAMPHUS MAGNIROSTRIS (Vicill.).

Three specimens from Calayan and Fuga. Occurs sparingly along the beaches of both islands. In Calayan known as "ta-ba-lá-lan."

GLARIOLA ORIENTALIS Leach.

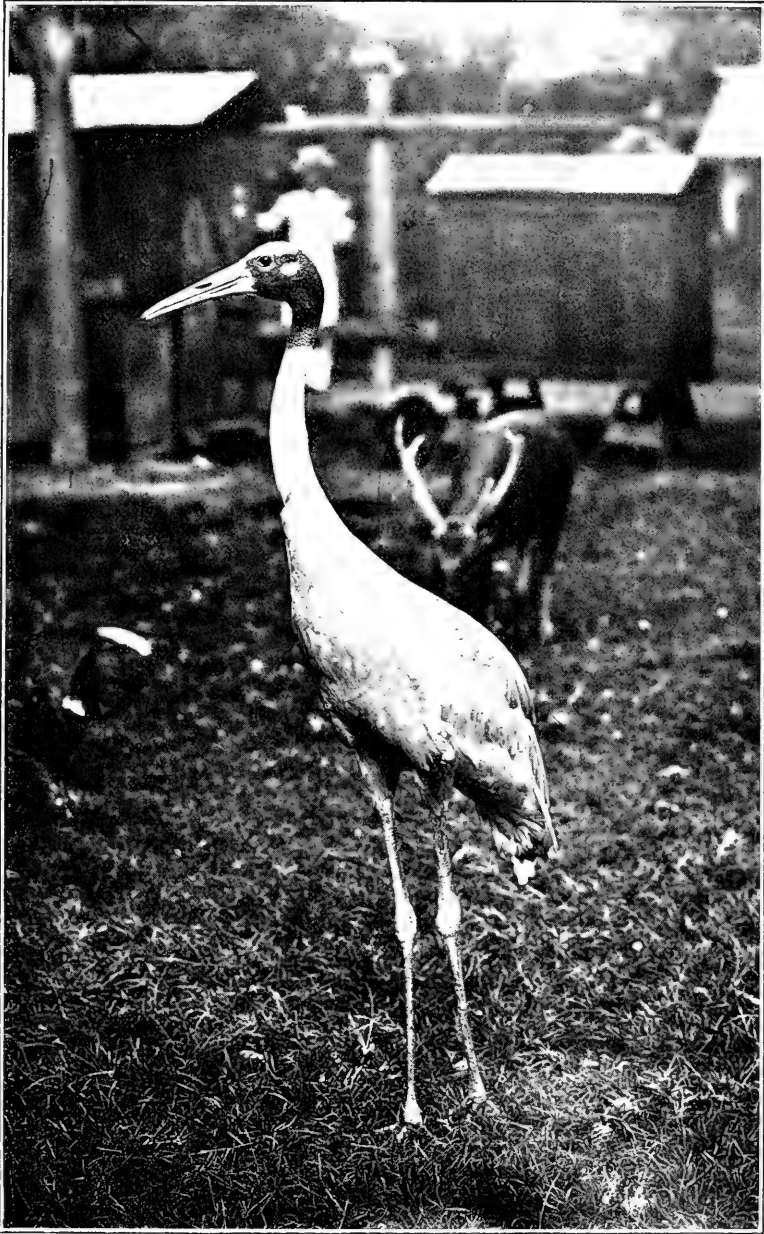
A few specimens taken on Calayan.

HYDROPHIASIS CHIRURGUS (Scop.).

One killed December 5 on Calayan.

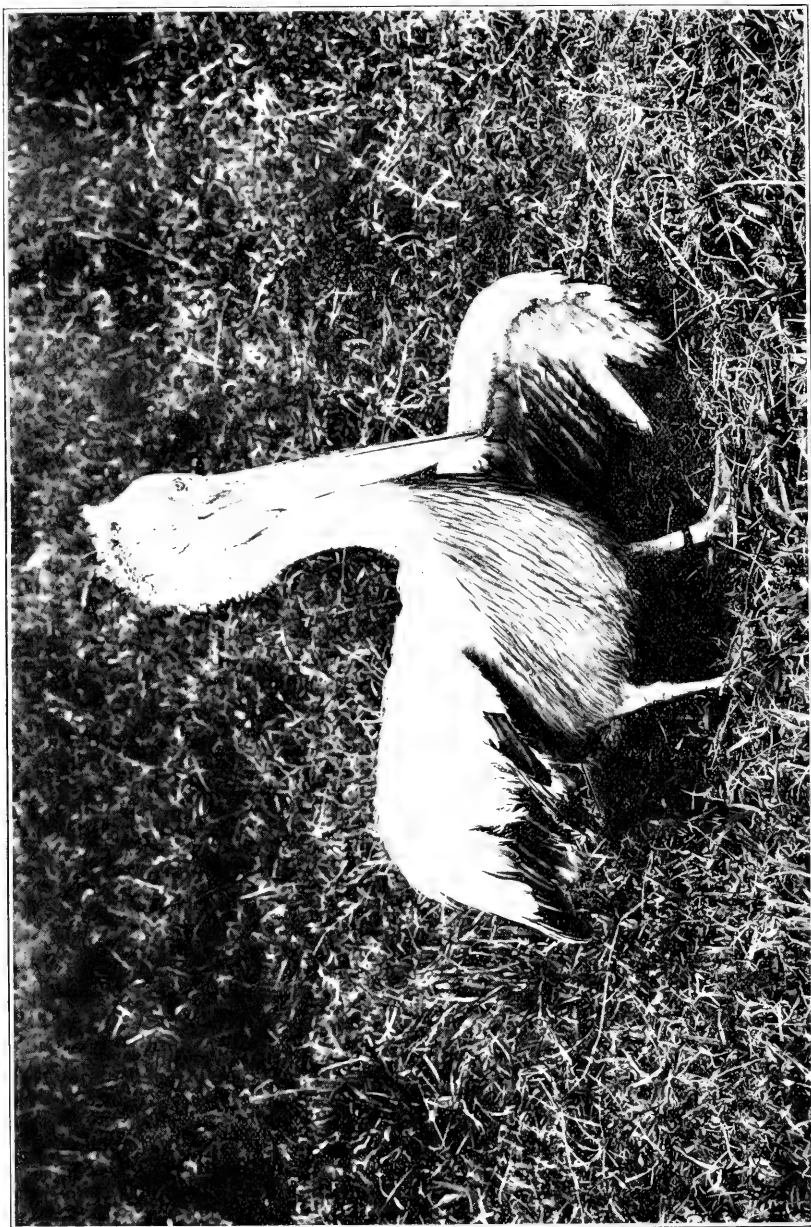
CHARADRIUS DOMINICUS (P. L. S. Müll.).

Abundant in flocks on both Calayan and Fuga. On Calayan it is called "ca-sa-huit'." We have a specimen in mottled plumage, a male,



ANTIGONE SHARPEI.





PELECANUS PHILIPPINENSIS.

which was taken on Ticao April 17, 1902. The species should be added to the list of birds from that island.

ÆGIALITIS DUBIA (Scop.).

Fairly abundant on Calayan.

ÆGIALITIS ALEXANDRINA (Linn.).

Fairly abundant on Calayan.

ÆGIALITIS PERONI (Bp.).

Fairly abundant along beaches on both Fuga and Calayan.

OCHTHODROMUS MONGOLUS (Pall.).

Two specimens from Calayan.

HETERACTITIS BREVIPES (Vieill.).

One killed on Calayan October 21 was the only specimen seen. A female was collected on Ticao May 27, 1902, and is to be added to the Ticao list.

TRINGOIDES HYPOLEUCUS (Linn.).

Abundant on Calayan.

RHYACOPHILUS GLARIOLA (Gm.).

One specimen from Calayan.

LIMONITES RUFICOLLIS (Pall.).

Very rare; one killed October 23 on Calayan.

GALLINAGO STENURA (Kuhl).

Snipe were abundant on Calayan, and the only one preserved is of this species, of which the only previous Philippine record is Mindanao. About Manila *Gallinago megala* Swinh. is the common species. Two specimens of *G. gallinago* (Linn.) were taken by us at Pandacan, a suburb of Manila, but *stenura* appears to be rare.

Key to the Philippine species of Gallinago.

- A. Tail feathers, 20 or more, the outer ones stiffened and very narrow; dark bars on axillaries wider than the white bars.
- a.* Tail shorter, about 1.90 inches; outer feathers narrower— *G. stenura.*
 b. Tail longer, about 2.10 inches; outer feathers wider— *G. megala.*
- B. Tail feathers, usually 14, normal; dark bars of axillaries narrow or obsolete— *G. gallinago.*

NYCTICORAX NYCTICORAX (Linn.).

A dozen or more roosted during the day in a thicket of trees near the beach. A young bird was preserved. Another was killed as it sat alone in some brush near a small stream. Calayan only.

MESOPHOYX INTERMEDIA Wagl.

One or two pairs on Calayan feeding in same fields as *Bubulcus*. One female collected.

DEMIEGRETTA SACRA (Gm.).

Observed about the beaches of Fuga and Calayan.

BUBULCUS COROMANDUS (Bodd.).

A small band always to be seen in company with the cattle on Calayan. Local name, "la-guác." The species was not noted on Fuga.

BUTORIDES JAVANICA (Horsf.).

Rare; one specimen from Calayan.

ARDETTA SINENSIS (Gm.).

From Calayan only, where a live bird was brought to us October 23. Local name, "rat."

POLIONETTA ZONORHYNCHA (Swinh.).

Anas zonorhyncha SALVADORI, Cat. Bds., XXVII, p. 211.

On December 7 a dozen birds of this species rested on a small river near the beach, and a single female was killed. This is probably its most southern capture. Bill jet black with a broad tip of bright yellow; most of the nail black; irides tan brown; legs and feet light salmon; nails black; webs dusky.

QUERQUEDULA QUERQUEDULA (Linn.).

A male in ragged plumage was collected October 29 on Calayan.

NETTIUM CRECCA (Linn.).

Querquedula crecca WHITEHEAD, Ibis, 1899, p. 501 (Benguet Province).

Secretary Worcester killed two males in Bulacan, Luzon, in January, 1903. A male, October 26, and a female, November 10, were killed on Calayan.

FULIGULA FULIGULA (Linn.).

Salvadori says of this species: "Accidental in the Malay Archipelago (Philippines and Borneo)." I believe, however, that it is a regular fall and winter visitant to our northern islands at least. We have specimens from the Laguna de Bay, Luzon, and it was common on Calayan considering the scant accommodation for ducks. I have seen numbers of them in Quinta Market, Manila. Parties of from two to five could usually be found on a small river or some of the carabao wallows, where they feed on small fresh-water mollusks or the larvæ of frogs.

MARECA PENELOPE (Linn.); Salvadori, Cat. Bds., XXVII, p. 231.

A male from Calayan, November 26. No more were seen. Previously unrecorded from the Philippines.

SPATULA CLYPEATA (Linn.).

One specimen from Calayan. "Dulumpapa" is the name used for any species of the duck tribe.

PELECANUS PHILIPPENSIS Gm.

The Philippine pelican has been recorded but rarely from the Islands and probably it is strictly confined to fresh-water marshes and lakes





PELECANUS PHILIPPINENSIS.

of the largest islands. Possibly it occurs on Luzon only. Whitehead did not meet with it, and neither the Steere expedition nor the Menage expedition obtained a specimen. A specimen of this species in the Museum was killed by Secretary Worcester in Tarlac Province, Luzon, February 22, 1904. The two accompanying plates of the pelican are from photographs of a live bird owned by Secretary Worcester.

PHALACROCORAX CARBO (Linn.).

Calayan. The first specimen was seen and killed October 26. This bird retains some white feathers of the young plumage, and another, taken November 11, is nearly pure white below. After this date three or four cormorants took up quarters along the river. Known as "casili," although this name belongs properly to the snake bird (*Plotus*). "Dalumpapa" and "papa" also are used as names for the cormorant by people of Calayan.

CIRCUS SPILONOTUS Kaup; Sharpe, Cat. Bds., I, p. 58.

About a dozen marsh hawks were collected on Calayan. Two of these are nearly adult and seem to be *C. spilonotus*. Some of the young birds agree with Sharpe's description of the young of *C. aruginosus*, but after reading what Grant says I believe these birds are the young of *spilonotus*. (Cf. Grant, Ibis, 1895, p. 437.) A small *Circus* from Ticao and three from Calayan are probably immature examples of *C. melanoleucus*, though we have no description of the young bird.

PITHECOPHAGA JEFFERYI Grant.

The Philippine Museum has acquired by exchange a male of this fine eagle. It is said that the bird came from Albay Province, Luzon. Señor Andres Celestino tells me that it was taken alive and kept for some time in a cage. This seems quite probable, as the tail is badly broken and the primaries are clipped. Chord of culmen, 2.90; depth of upper mandible at base of culmen, 1.46; width of upper mandible where cere meets tomium, 0.66; tarsus, 3.88; tail, about, 13; wing over, 20. I feel reasonably certain that I fired at a bird of this species at Irisan. I believe there is no positive record of its having been taken in Luzon.

ACCIPITER GULARIS (Temm. and Schl.).

This little hawk was fairly common on Calayan and easily killed in the fringe of "butun" trees along the beach. The species seems to have been migrating, as I saw none after October 4. One of these birds killed September 22 had met with a curious accident. A twig about 5 inches long and one-eighth inch in diameter had passed through a fold of skin back of the wing and about an inch of the twig protruded above. I imagine the stick was picked up when the hawk struck at some bird or lizard.

ASTUR CUOULOIDES (Temm.); Sharpe, Cat. Bds., I, p. 115, Pl. IV, fig. 2; McGregor, Bull. Phil. Mus., No. 3, p. 15.

As this species seems to be new to the Philippines I should state that the record is based upon a single specimen from Cagayancillo Island identified for me by Dr. Richmond. Bill blue black, greenish at base; cere orange; feet light orange; nails black; iris very dark brown. The stomach contained a lizard.

SPIZAËTUS LIMNAËTUS (Horsf.); Sharpe, Cat. Bds., I, p. 273.

A male specimen killed by us on Lubang in November.

SPIZAËTUS PHILIPPENSIS Gurney; Sharpe, Cat. Bds., I, p. 261 (foot-note).

This species is to be added to list of Irian, Benguet, birds. At Mari-veles also we collected a male in February, 1902. In the description in Catalogue of Birds, fourth line from bottom, "thighs and toes" should read "thighs and tarsi."

BUTASTUR INDICUS (Gm.).

Abundant on Calayan. On September 18 and again on the 22d there were large flocks of this species sailing and circling overhead fully 200 yards high. Over forty were counted in one flock. Before these dates none had been seen. On October 14 I noted numbers flying low down, and killed one. Again on October 17 and 18 great numbers passed overhead in long, straggling bands flying in one direction. After this the species was often seen, and one bird was taken in a trap set for fruit thrushes. Native name, "coo-yab'."

FALCO PEREGRINUS Tunst.

A female from Calayan; others seen. This, like the various species of *Circus*, is called "ma-ma-óo."

PANDION HALIAËTUS (Linn.).

A female taken at Puerto Galera, Mindoro, in December. A mounted specimen in the Museum was taken in the vicinity of Manila. Secretary Worcester killed another over some marsh land near Manila. This species seems to be unrecorded from Luzon.

HALIAËTUS LEUCOGASTER (Gm.).

Observed on Fuga and Calayan.

NINOX MINDORENSIS Grant.

No. 1767, adult male, Philippine Museum Collection. Puerto Galera, Mindoro. Collected December 2, 1902, by R. C. McGregor and A. Celestino.

Description.—Top of head, neck, and sides of neck narrowly barred with buff; feathers of throat with broad blackish shaft stripes; a large and conspicuous white area on each side of throat. Most of the under parts tawny buff with narrow brown bars and touches of white; lighter and whiter posteriorly; under tail coverts white. On scapulars and greater coverts large white spots, roundish in form on the latter. Tail dark brown with about eight narrow buff bars. The feathers below eye

and of ear coverts are elongated and decomposed, the tips of longest feathers being merely hairs. Wing, 6.30; tail, 3.50; tarsus, 1.19; culmen, from base of bill, 0.76.

This example appears to be the second known specimen of *Ninox mindorensis*. The type, a female, was collected by Whitehead "in the lowlands about the base of Monte Dulungan, in Mindoro." Judging from Grant's description of the female (*Ibis*, 1896, p. 463), the sexes of this species are similar. The bird is so different from *N. philippinensis* that I took it to be a young bird at first. Dr. Richmond examined our specimen and confirmed my identification.

NINOX PHILIPPINENSIS Bp.

An immature male from Aparri, August 8, appears to be of this species. The bird came aboard our steamer in the evening.

NINOX JAPONICA (Temm. and Schl.); Grant, *Ibis*, 1896, p. 141 (Fuga).

Several specimens from Calayan, where it is called "cok-cok," are identical with three from Fuga and with one from Cuyo, the latter identified by Dr. Richmond.

OTUS¹ CUYENSIS, new species.

Scops sp. MCGREGOR, Bull. Phil. Mus., No. 3, p. 15.

Type.—No. 1900, adult male, light phase, Philippine Museum Collection. Cuyo Island, Paragua Province, P. I. Collected January 12, 1903, by R. C. McGregor and A. Celestino.

Description.—Feathers of head and neck heavily streaked with blackish brown, the edges more or less notched with whitish and light rufous; "horns" also blackish, but edges rufous; back dark rufous, finely speckled with blackish, clearer rufous on upper tail coverts. Each outer scapular with a large white spot on outer web followed by a blackish spot on tip and bordered toward base by a dark brown line. Chin and upper throat whitish with narrow brown shaft stripes, the webs marked more or less with cinnamon; remainder of under parts dark cinnamon, more or less cross-banded with white and dark brown, each feather with a blackish brown shaft stripe; the coloration is heaviest across the upper breast owing to the greater width of the shaft stripes and reduction of the white areas; middle of abdomen almost pure white; the flank feathers with narrow shaft lines and wide white bars; thighs rufous brown; wings mostly sandy cinnamon more or less mottled with brown; outer web of primaries regularly notched with five or six spots of white or whitish cinnamon bordered with dark brown; similar notches on secondaries but less prominent owing to darker color of spots. Quills below brownish with slightly lighter irregular and almost obsolete bars. Bastard wing with similar light notches on outer web; on the first

¹ *Otus*, Pennant. Cf. Stone, *Auk*, 1903, p. 275.

feather the notches are white. Coverts generally uniform, but some feathers of median series with large white patches on outer webs. Tail about the same as back with about eight irregular and almost obsolete cross bars. The short plumulaceous feathers below and behind the eye are finely mottled with pale cinnamon, brown, and whitish. Behind ear the feathers of incomplete ruff broadly tipped with blackish brown forming a prominent dark band on side of head. Bristly feathers of lores whitish at bases; tips blackish brown; the longest about 0.80 of an inch; anterior bristles pale cinnamon. Tarsi feathered to bases of toes. Bill, cere, and feet dirty brown; nails, horn brown; irides, yellow. Total length, 9.25 inches; wing, 6.68; tail, 3.25; culmen, 0.89; tarsus, 1.38; middle toe with claw, 1.30.

Type.—No. 2185, adult female, light phase. Philippine Museum Collection. Cuyo Island. Paragua Province, P. I. Collected March 5, 1903, by R. C. McGregor and A. Celestino.

Not essentially different from male, but white notches on primaries and bastard wing with a cinnamon wash. Total length, 9.25 inches; wing, 6.90; tail, 3.27; culmen (tip broken), 0.83; tarsus, 1.38; middle toe with claw, 1.26.

No. 1912, January 12, 1903, red phase.—The pattern of coloration is the same as in the light phase; white and whitish markings nearly all replaced by rufous; chin and upper throat and modified feathers below and behind eye almost clear rufous; blackish brown markings on breast very wide. A few whitish bars on abdomen and flanks.

I have been unable to define the specific characters for this owl, as we have on hand none of the other species except *O. longicornis*, with which of course this has nothing to do. Dr. Richmond, who examined specimens, writes: "Apparently new. Does *not* belong to the *lempigi* group, but more inclined to the *menadensis* style of coloration." This bird is abundant on Cuyo and is known as "bu-caó." The female type was flushed from the end of a hollow horizontal limb where she probably had a nest with eggs, as the ovary contained one egg soon to be deposited. I greatly regretted that we had to leave Cuyo the next day and were thus unable to get the eggs.

OTUS CALAYENSIS, new species.

Type.—No. 4058, adult male, light phase. Philippine Museum Collection. Calayan Island, P. I. Collected December 15, 1903, by R. C. McGregor and A. Celestino.

Description.—Lower parts dark cinnamon finely mottled with brown and white, a few feathers on throat and breast with dark-brown shaft stripes or spots; abdomen, flanks, and under tail coverts extensively white with very little cinnamon and the brown mostly reduced to fine speckles; thighs and tarsi cinnamon with cross lines of dark brown. Upper parts dark rufous finely mottled with blackish brown, producing

a rather uniform coloration; lores, continuous with a line above eyes, white; tips of nasal and loreal bristles dusky brown or cinnamon, the longest about 0.80 of an inch. Modified feathers of ear-coverts and below eye finely speckled with white and dark brown; behind this the incomplete ruff forms a conspicuous rufous band along side of head, but most of the feathers tipped with dusky brown. Feathers of "horns" dark rufous with irregular blackish spots toward tips. Wings coverts and scapulars about same as back, some of latter with a large white area on outer web. Exposed surface of quills and tail similar and a little lighter than back; tail crossed by several irregular lighter bars. Quills dusky brown: outer webs of outer primaries notched with pale cinnamon; inner webs of quills crossed by pale cinnamon bars which become very wide on secondaries. Tarsi feathered nearly to toes. Bill, feet, and nails brown, the feet with a slight green wash; irides bright yellow. Total length, 8.50 inches wing, 6.66; tail, 3.35; culmen, 0.84; tarsus, 1.23; middle toe with claw, 1.13.

Type of female.—No. 4077, Philippine Museum Collection. Calayan Island, P. I. Collected January 2, 1904, by R. C. McGregor and A. Celestino. In every way similar to the male. Total length, 8.00 inches; wing, 6.48; tail, 3.20; culmen, 0.83; tarsus, 1.24; middle toe with claw, 1.12. In the red phase the white markings except a few bars and freckles on abdomen and flanks are replaced by rufous.

This species is common enough on Calayan, but like all the small owls rather difficult to obtain. We took a pair in the light phase and a pair in the red phase of plumage. They were often heard calling in the woods and one flew into our house early one morning. Known to the natives as "cok-cok babuy," or pig owl, from a notion that it follows the wild hogs. Its call may be written "cok-cok," but *Ninox*, to which the natives apply the name "cok-cok," was silent except for a low chattering as it flew goatsucker-like after beetles. *Otus* was often found about houses near the forest. Its food was beetles and locusts.

EURYSTOMUS ORIENTALIS (Linn.).

Abundant on both Calayan and Fuga. Known as "ta-ga-tac."

ALCEDO ISPIDA Linn.

Rather scarce along the beach and rivers of Calayan. The native name given me for this kingfisher is "ma-min-di'-ta." *Ceryx* is lacking on Calayan.

HALCYON COROMANDUS (Latham).

More common on Calayan than on any other island we have visited. This species was found in deep woods and thickets, where it fed upon land mollusks and small land crabs. Known as "sa-luc-sac."

HALCYON CHLORIS (Bodd.).

Seen on Fuga only.

HALCYON LINDSAYI (Vigors).

One of my hunters killed a male of this species at his home in Silang, Cavite Province, Luzon, and brought it to Manila.

MEROPS BICOLOR Bodd.

Several seen on Fuga.

CAPRIMULGUS JOTAKA Temm. and Schl.; Bourns and Worcester, Minn. Acad. Sci., Oc. Papers, vol. 1, p. 42 (Palawan).

One female from Calayan, where it is extremely rare and shy. In Bulletin No. 1 I described the female plumage of *Caprimulgus griseatus*. I have now received from Mr. William Eagle Clarke his fourth paper on Negros birds and find that he had already described this plumage.

SALANGANA¹ MARGINATA (Salvad.).

Collocalia marginata MCGREGOR, Bull. Phil. Mus., No. 1, p. 9; *ibid*, No. 3, p. 9.

This little swift, previously believed to be extremely rare, was abundant on Calayan during our entire stay. During the stormiest weather it was feeding for many hours and often in company with the smaller swallows. If the weather was calm large parties of swifts hawked high about the trees or played among the tree tops, occasionally turning a somersault with no apparent reason. At other times, when the wind was strong off shore, they were found hunting low near the beach, thus securing the protection of a thick fringe of trees which grew just above high water. During such times it was an easy matter to get near them, as they had little fear. I caught one with a butterfly net on a stormy day. Two were brought me alive which were said to have entered houses. Local name, "nido"; also called by some "sá-lum-pi-ping-aú," but the latter name refers more strictly to the various species of *Hirundo*.

In September most of the birds had the first primary but partly grown and this is true of a few up to the middle of November or later. Specimens with flesh-colored feet, which I take to be young of the year, do not differ from the adult in plumage, nor is this peculiar, for the nestling of *S. linchi* is almost exactly like the adult. In these two species a single plume grows from the upper side of the hind toe, the tip of the plume reaching about middle of claw.

Measurements of Salangana marginata.

No.	Sex.	Locality.	Date.	Wing.	Tail.
3383	Male	Calayan	Sept. 29	4.12	1.59
3465	do	do	Oct. 4	4.03	1.56
3503	do	do	Oct. 7	4.03	1.66
3724	do	do	Oct. 25	4.20	1.80
3944	do	do	Nov. 19	4.08	1.59
3285	Female	do	Sept. 24	4.10	1.63
3464	do	do	Oct. 4	4.15	1.63
3505	do	do	Oct. 7	4.00	1.64
3671	do	do	Oct. 17	4.04	1.65
3913	do	do	Nov. 15	4.06	1.60

¹*Salangana*, Geoffr. St.-Hilaire. Cf. Richmond, Proc. U. S. N. M., Vol. XXV, p. 301.

CHÆTURA, species.

Large swifts were seen a few times on both Fuga and Calayan. During a heavy rain I saw a party flying low, but to my disgust they all took to the hills before I could come within range.

TACHORNIS INFUMATA (Scl.); McGregor, Bull. Phil. Mus., I, p. 5 (Ticao).

During a recent trip to Anao, Tarlac Province, we were fortunate in killing a bird of this species. A few others were seen, but it was by no means common. This fork-tailed swift is now recorded from Luzon for the first time.

EUDYNAMIS MINDANENSIS (Linn.).

Occurs on Calayan in same localities as the following species, but is much less common. The two species are known to the natives as "tu-aoo." Probably occurs on Fuga also, but during our short stop there we got samples of the larger species only.

There seems to be much variation among the females of this species as stated by Captain Shelley (Cat. Bds., XIX, p. 317). None of our female specimens is barred with white on upper tail coverts and tail as described by Shelley and they are probably young birds. However, that the very young female bird is black there is no doubt, as our series from Calayan contains females in which the black and spotted plumages are variously mixed. For example, a female taken October 2 has seven tail feathers uniform black and three tail feathers black barred with rufous buff. The uniform feathers are evidently of the old plumage. We have others in which the wings and body feathers show similar mixtures.

Whitehead got one male *Eudynamis* on Fuga which Grant was unwilling to refer to any described species, pointing out, however, that it was larger than *E. mindanensis*. On Calayan we found both large and small birds of this genus, the large ones being by far the more common. For this species I propose a new name.

ENDYNAMIS FRATER, new species.

Eudynamis sp. inc. GRANT, Ibis, 1896, p. 125 (Fuga).

Eudynamis mindanensis WHITEHEAD, Ibis, 1899, p. 394 (Fuga).

Specific characters.—Similar to *E. mindanensis* (Linn.), but much larger, the female more nearly uniform black above and with head more rufous.

Type.—No. 3697, male, Philippine Museum Collection. Calayan Island, Babuyan, P. I. Collected October 22, 1903, by R. C. McGregor and A. Celestino.

Description.—Entire plumage glossy blue-black. Bill dusky greenish; irides crimson; legs and feet dark steel blue; nails brown. Total length, 19.25 inches; wing, 9.52; tail, 9.34; exposed culmen, 1.24; bill from nostril, 0.87.

Type.—No. 3201, female, Philippine Museum Collection. Calayan Island. Collected September 18, 1903, by R. C. McGregor and A. Celestino.

Description of female.—Above dark brown with a faint purple gloss on wing coverts and scapulars. Top of head, neck, and sides of face with shaft stripes of rufous; back, rump, and wings with small spots of tawny rufous. Quills and tail barred with same color. Lower parts buff (inclining to white on middle of breast) barred with black. A more or less distinct white band from base of bill to below posterior edge of ear coverts, wider posteriorly; below this a wide band of dark rufous mixed with black; ear coverts similar; chin and throat striped with black and tawny buff. Bill dusky greenish; irides crimson; legs and feet steel blue; nails brown. Total length, 19.25 inches; wing, 9.45; tail, 8.94; exposed culmen, 1.25; bill from nostril, 0.88.

Habitat.—Calayan and Fuga, Babuyan group, P. I.

Measurements of Eudynamis mindanensis.

No.	Sex.	Locality.	Date.	Wing.	Tail.	Culmen.	Bill from nostril.
1765	Male	Puerto Galera	Dec. 2	8.22	7.93	1.19	0.83
1717	do	do	Nov. 23	7.72	7.68	1.06	.74
1906	do	Cuyo	Jan. 13	8.34	7.75	1.06	.75
1972	do	Cagayancillo	Jan. 25	7.75	7.80	1.14	.76
2149	do	do	Feb. 13	7.62	7.35	1.20	.85
1217	do	Masbate	July. 1	8.46	7.94	1.20	.80
752	do	Ticao	Apr. 15	8.00	7.82	1.14	.78
3182	do	Calayan	Sept. 17	7.38	7.11	1.12	.76
3141	do	do	Sept. 15	7.45	7.15	1.16	.70
3270	do	do	Sept. 23	7.90	7.44	1.10	.80
3402	do	do	Sept. 30	7.25	7.18	1.11	.75
3444	do	do	Oct. 3	7.88	7.38	1.08	.80

Measurements of Eudynamis frater.

No.	Sex.	Locality.	Date.	Wing.	Tail.	Culmen.	Bill from nostril.
3032	Male	Fuga (albino)	Sept. 1	9.36	8.80	1.26	0.85
3183	do	Calayan (albino)	Sept. 17	10.25	9.00	1.28	.93
3697	do	Calayan (type)	Oct. 22	9.52	9.34	1.24	.87
3139	do	do	Sept. 15	9.44	8.90	1.24	.87
3308	do	do	Sept. 25	9.19	10.00	1.32	.89
3612	do	do	Oct. 12	9.55	9.00	1.16	.85
3628	do	do	Oct. 13	9.08	9.08	1.25	.93

In spite of the great variation in the size of these cuckoos, as shown by the accompanying tables, I believe the large birds represent a distinct species. At least some of the variation in wing and tail measurements is due to the more or less incomplete growth of these parts. This species has a strong tendency to albinism. The following specimens are interesting:

No. 3140, male, Calayan, September 15, 1903.—In left wing one of the greater coverts and tip of longest primary white. In right wing white spot on one short tertiary and on one primary covert. One white feather on abdomen. One buff barred feather on abdomen.

No. 3612, male. Calayan, October 12, 1903.—Abdomen and side of hind neck each with one white feather.

No. 3032, male. Fuga, September 1, 1903.—Except wings and tail entire plumage with many white feather, sides of neck, breast, and abdomen more than half white. Six tail feathers more or less white toward base. Wings black except primary coverts, which are all white on one wing; nearly all white on the other wing; some of primaries mottled with white. One secondary pure white in each wing.

No. 3183, male; Calayan, September 17, 1903.—White much as in No. 3032 except wings and tail, which are normal except one partially white feather in right wing. Many feathers of abdomen and thighs and sides of breast black barred with buff. This seems to be an aberrant specimen.

No. 1703, female; Puerto Galera, Mindoro, November 22, 1902.—Is a specimen of *Centropus mindorensis* with a white feather in crown and two or three white feathers in breast. Captain Shelley notes a similar albinism in the British Museum specimen. Steere (List of Bds. and Mams. Philippines, p. 12) says of this species: "All black with bronze-green reflections. Head duller black. Wings slightly shaded with rufous, more apparent on edges of primaries." In this specimen of ours the head is quite as green as any other part and there is no rufous whatever on wings.

CUCULUS CANORUS Linn.

Five skins from Calayan, where the species is not rare. A half-grown female taken October 4 seems to indicate a late breeding season.

CENTROPUS VIRIDIS (Scop.).

Rather rare and shy on Fuga and Calayan. Usually travels through the tops of thick clumps of brush or hides in bamboo thickets. Local native name, "si-ga-cok'."

CORONE PHILIPPINA Bp.

Abundant on Fuga and I scarcely ever saw so many before as there are on Calayan. It is known as "uac-uac," and this name seems to be applied to the species in all the Islands. The above spelling is according to native style. In English I would write "wak," the "a" broad. Universally hated, as it spoils corn, eats small chickens, and carries off any fish or meat left unguarded. I have seen crows carry off young chickens, but can not say how much they injure crops.

CALORNIS PANAYENSIS (Scop.).

A flock of fifteen or twenty on Fuga, but curiously this common bird was not once seen on Calayan.

STURNIA VIOLACEA (Bodd.).

Abundant on Calayan for a short time. First seen October 8, when a flock of fifty or more were feeding in a fruit tree. Small parties also

feeding in fruit-bearing bushes. None were noted after October 16. Local name, "bilit china."

STURNIA SINENSIS (Gm.).?

One specimen killed September 15 is apparently of this species, but lacks the tawny buff color of our Luzon specimen.

SPODIOPSAR SERICEUS (Gm.); Sharpe, Cat. Bds., XIII, pp. 44 and 665.

Heterornis servicea CASSIN, U. S. Japan Exp., Vol. II, p. 238, pl. 5, 1856.

A specimen from Calayan seems to be some sort of *Spodiopsar*, and possibly the above in winter plumage. The back of our bird is brown, not "light ashy-gray." Otherwise it agrees with the description in the Catalogue of Birds and with the plate referred to above, which is omitted from the synonyms in the catalogue.

ORIOULUS CHINENSIS Linn.

Recorded from Fuga by Grant, where we found it abundant. Also conspicuous on Calayan, where it is called "kee-aú," in imitation of its cry.

MUNIA JAGORI Martens.

Rare on Fuga and Calayan. In this species there is much variation in the extent of black on the lower parts and in the color of the neck. In No. 529, Mariveles, Bataan Province, Luzon, the black is continuous from chin to belly, the breast having only the sides chestnut; head and neck are almost uniformly blackish brown, the forehead black, however. In No. 2862, Irison, Benguet Province, the black of breast and belly are separated by the chestnut for a quarter of an inch and the neck is brown, not blackish. This is the most usual style of coloration and the variations may be due partly to age. At present I refer all of our specimens to *M. jagori*.

UROLONCHA EVERETTI (Tweed.).

Occurs sparingly in Calayan, where it is known as "bi-lit."

EMBERIZA SULFURATA Temm. and Schl.

First seen on Calayan early in November, during which month five were collected. Very few others were seen. It was difficult to get, as it frequented low brush and was put up more by accident than otherwise. Whitehead collected this species in Luzon.

FRINGILLA MONTIFRINGILLA Linn.; Sharpe, Cat. Bds., XII, p. 178.

A rare migrant to Calayan, where three males in winter plumage were taken. First seen October 29, when two were killed. The third one killed November 30. A few others seen. The genus is new to the Philippines.

CHRYSOMITRIS SPINUS (Linn.).

Two males and two females killed on Calayan November 27. No others were seen. This genus appears to be new to the Philippines.

MOTACILLA OCULARIS Swinh.

The specimen recorded from Lubang (Bull. Phil. Mus., No. 3, p. 10) is a young female in first winter plumage with the crown like the back and the white frontal band just indicated. We now have a female from Calayan in second winter plumage, killed October 10. In this specimen the black forms a narrow crescent on the breast.

MOTACILLA MELANOPE Pall.

Common along the streams of Calayan. Sometimes found about towns.

MOTACILLA FLAVA Linn.

Usually in flocks in clearings or open grassy spots. Taken on Calayan.

LIMONIDROMUS INDICUS (Gm.).

A female specimen from Calayan October 7. Measurements: Wing, 3.10; tail, 2.80; exposed culmen, 0.50; tarsus, 0.86. Balabac appears to be the only previous Philippine record for this species.

ANTHUS GUSTAVI Swinh.

Specimens from Calayan, where it is not common. Found only in woods or thickets and never in flocks. Among our birds from Ticao I find a specimen of this species in fresh spring plumage. It was killed April 30. Omitted from list in Bulletin No. 1.

ANTHUS MACULATUS Hodgs.

A single male in fresh fall plumage was taken November 19 on Calayan. This specimen is more strongly olive above and the spots below are heavier than in April specimens from Benguet, Luzon. The spotted pipit has been recorded from Palawan and Luzon.

ANTHUS RUFULUS Vieill.

Specimens taken on Fuga and Calayan.

ANTHUS CERVINUS (Pall.).

This species has been recorded from Balabac, Luzon, and Mindanao. We now have a large series from Calayan, showing all stages of fall plumage. Some of these lack any trace of the fawn color and others have the color covering the whole side of the face and extending well onto the breast. Red-throated pipits were first detected November 3, but were probably present much earlier. They were found invariably in small flocks near town, squatting low in the short grass or feeding on refuse thrown out from the houses, where they perhaps picked up bits of meat and rice.

CINNYRIS WHITEHEADI Grant.

Abundant on both islands visited. During September found feeding in the bananas and cocoanuts and difficult to kill. Later, however, with the flowering of various small bushes, this fine species was found to be abundant and numbers were obtained without trouble. Calayan and

Fuga specimens are in every respect like those of Luzon in the Museum. Males in immature plumage were found during our entire stay and enable me to trace the plumage development with some certainty. In young birds the plumage is much like that of the female, with the upper parts grayer and lacking much of the olive green.

The brilliant adult plumage is first indicated by a few scattered red feathers on belly, metallic purple feathers in throat, black feathers of back, and metallic green of rump. These areas do not develop with any great regularity or in fixed sequence. In one specimen, with but a touch of red on each side of forebreast and three or four green feathers in rump, the purple along sides of chin and throat and black on side of neck is developed far in advance of others, with the belly very extensively green. The first new feathers, however, usually appear somewhere in the large red patch of breast and the green of rump, then the throat, black of back, and lastly top of head. The molt of wing can not be followed with much satisfaction and seems to bear but a general relation to molt of the body plumage, but there is usually considerable red in the breast before any new wing feathers show. The coverts appear to be first to change, followed by the inner secondaries, though in some the inner primaries change earlier than the secondaries. The tail molt is usually under way before that of the wing. One female has a single bright red feather on side of breast. There is no doubt as to the sex of this specimen. The Calayan name for *Cinnyris* is "sa-uit' sa-uit'."

DICÆUM PYGMÆUM (Kitt.).

Fairly abundant on both Calayan and Fuga.

ZOSTEROPS MEYENI Bp.

Abundant on Calayan, going about in small parties in the brush or at other times feeding in the high trees. There is some variation in the extent of yellow on the breast, but this is largely due to season. A skin from Benguet is very dingy, showing contact with smoke or burnt timber, just as has been observed in many United States birds. Name in Calayan, "ti-tit."

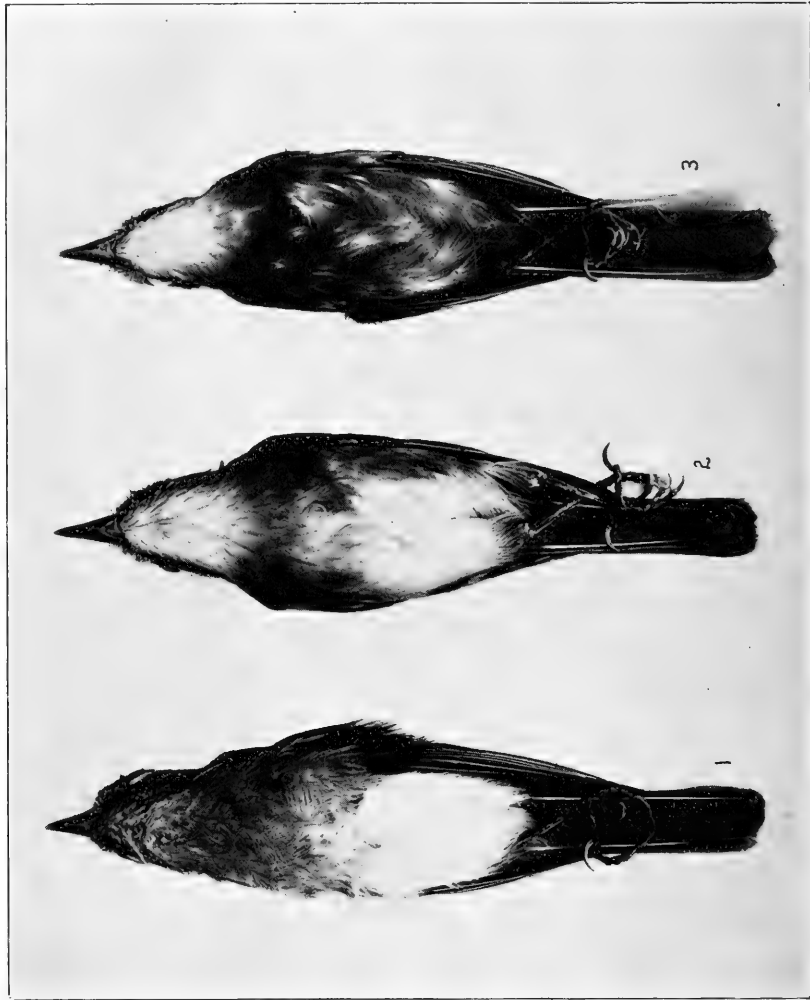
ZOSTEROPS FLAVISSIMA, new species.

Zosterops sp. inc., MCGREGOR, Bull. Phil. Mus., No. 3, p. 11.

Specific characters.—Similar to *Z. aureuloris* Grant, but larger; upper parts lighter, top of head and sides of head and neck yellower.

Type.—No. 2110, male in freshly molted plumage. Philippine Museum Collection. Cagayanillo Island, Paragua Province, P. I. Collected February 7, 1903, by R. C. McGregor and A. Celestino. Upper parts bright olive green, perhaps slightly more yellow on crown and neck, the upper parts exactly as in *Z. meyeri* in fresh plumage. Lower parts rich golden yellow, of the same color as the chin and throat in *meyeni*, slightly paler posteriorly; sides of head and neck like crown,





1, HYLOTERPE ALBIVENTRIS ♀; 2, H. FALLAX ♀; 3, H. PHILIPPINENSIS ♀. (REDUCED.)

flanks washed with olive; quills and coverts edged with same bright olive green as back, except first long primary and large feathers of bastard wing, which are blackish brown; inner webs of quills margined with white; under wing coverts white with pale, yellow wash; axillaries and edge of wing yellow, the latter darker; tail brown, edged above with olive green, the inner webs with narrow whitish margins. From gape to and below eye a black line; circle of eye feathers silky white; across the forehead and reaching eye on each side, a band of golden yellow shading into the color of the crown. Measurements of type: Length, 4.50; wing, 2.20; tail, 1.74; exposed culmen, 0.43; bill from nostril, 0.32; tarsus, 0.65. Female like male, possibly a trifle lighter below.

Measurements of 20 skins of each are as follows:

Males: Wing, 2.14–2.29 (average, 2.22); tail, 1.60–1.80 (average, 1.69; exposed culmen, 0.40–0.47 (average, 0.44); bill from nostril, 0.29–0.35 (average, 0.32); tarsus, 0.62–0.74 (average, 0.68).

Females: Wing, 2.11–2.27 (average, 2.17); tail, 1.58–1.75 (average, 1.65); exposed culmen, 0.40–0.46 (average, 0.43); bill from nostril, 0.30–0.34 (average, 0.32); tarsus, 0.63–0.80 (average, 0.68).

This species appears to be most nearly related to *Z. aureiloris*, but is distinguished by its larger size. I have compared *flavissima* with a March specimen of *aureiloris* from Mariveles and the two species are distinct. Our few skins of *Z. nigrorum* are in bad plumage, but that species is evidently much darker and greener than the new species.

Grant gives the following dimensions for *Z. aureiloris*:

“*Adult male*.—Total length about 4.5 inches, wing 1.85–2.05, tail 1.4–1.5, tarsus 0.6.

“*Adult female*.—Total length about 4.5 inches, wing 1.95–2.05, tail 1.4–1.5, tarsus 0.6.”

Abundant on Cagayancillo, where it is known as “tammig.”

PARDALIPARUS ELEGANS (Less.).

A number of skins from Calayan.

SAXICOLA CENANTHE (Linn.); Seebohm, Cat. Bds., V, p. 391.

A male bird killed near our house on Calayan October 24 is probably of this species in winter plumage. I believe this genus is unrecorded from the Philippines.

HYLOTERPE FALLAX, new species.

Specific characters.—Nearly related to *H. philippinensis* Walden, but at once distinguished by the paler and less extensive yellow on under surface and the heavier shaft streaks on throat.

Type.—No. 4040, adult male, Collection Philippine Museum, Calayan Island, Babuyan, P. I. Collected December 9, 1903, by R. C. McGregor and A. Celestino.

Description.—Head above grayish brown, very slightly olive; the rest of the upper parts, including tail and exposed edges of all wing feathers, dark olive green; ear coverts and region around eye grayish brown, a little lighter than top of head (in many specimens, probably immature, this area has a faint reddish wash); chin and throat white with distinct dusky shaft lines, bordered posteriorly by an obscure crecentric, dusky band; sides of breast and flanks dusky olive green; breast, abdomen, and under tail coverts yellow; anteriorly paler, but on under tail coverts nearly as rich sulphur yellow as in *H. philippinensis*; thighs yellow; edge of wing, under wing coverts, and axillaries white, washed with yellow; inner edge of quills edged with white. Bill black, legs plumbeous blue; nails flesh. Total length, 6 inches; wing, 3.19; tail, 2.60; tarsus, 0.83; exposed culmen, 0.60.

Type.—No. 3485, adult female, Collection Philippine Museum. Calayan Island, P. I. Collected October 6, 1903, by R. C. McGregor and A. Celestino.

In all respects like the male. Total length, 6 inches; wing, 3.12; tail, 2.70; tarsus, 0.88; exposed culmen, 0.56.

Ten males measure: Wing, 3.11–3.30 (average, 3.19); tail, 2.57–2.84 (average, 2.64); exposed culmen 0.55–0.63 (average, 0.59); tarsus, 0.77–0.88 (average, 0.83).

Ten females measure: Wing 3.00–3.28 (average, 3.14); tail, 2.48–2.80 (average, 2.60); exposed culmen, 0.54–0.62 (average, 0.58); tarsus, 0.76–0.89 (average, 0.82).

This well-marked race was perhaps derived from *H. philippinensis*. The latter species, however, has the entire lower breast, abdomen, and under tail coverts rich sulphur yellow. A comparison with *H. albiventris* is unnecessary, as that species has the posterior under surface white, with but a faint wash of yellow on under tail coverts. The majority of our specimens, which I take to be slightly immature, have the bill dark brown, the lower mandible a little the lighter. The variation in plumage is slight, consisting in the sides of face and breast band being washed more or less with faint reddish and in a slight variation in the strength of shaft streaks on throat. Some examples have a little more olive on crown and in others the exposed margins of inner primaries are washed with reddish brown, both of which points I take to be signs of slight immaturity.

This new form was abundant on Calayan and was found in thickets along the beach as well as in the deepest forests. Occasionally seen singly, but more often in bands of four to six or seven. Numerous specimens were secured without difficulty, as it was quite fearless, passing from the ground or low brush to the high trees and down again with little regard to the collector's presence. It was often killed by mistake, as it had a habit of perching motionless in low, thick brush or on the branch of a tall tree, when its plain colors made it difficult to identify.

For this reason I think its name appropriate. The native name is "sa-mot ba-sit'," which means "little Hypsipetes."

OTOMELA LUCIONENSIS (Linn.).

Abundant on Fuga and Calayan. On the latter island known as "ta-lal'."

ACANTHOPNEUSTE BOREALIS (Blas.).

Occurs on both Fuga and Calayan, but not common.

ACROCEPHALUS SORGOPHILUS (Swinh.); Seebohm, Cat. Bds., V, p. 94 (Amoy).

A little reed warbler collected at Taguig on the Laguna de Bay, January 19, 1902, is probably of this rare species known only from China. Dr. Richmond says that the specimen comes nearer to *A. sorgophilus* than to anything else he can find. Actual comparison with the type is probably necessary. The bird was killed in a bunch of reeds over the water and others could probably be found in the same locality.

ACROCEPHALUS ORIENTALIS (Temm. and Schl.).

Chinese reed warblers were very abundant on Calayan. September 25 and for a week after the guava and pangdan bushes were fairly alive with them. We have other specimens from Pandacan, a suburb of Manila (identified by Dr. Richmond), and from Taguig, on the Laguna de Bay.

LOCUSTELLA OCHOTENSIS (Midd.).

Recorded from Marinduque by Steere and from Mindoro by Grant. In January, 1902, we got two specimens in rice fields at Pandacan. These were identified by Dr. Richmond. On Calayan we secured fifteen examples.

LOCUSTELLA FASCIOLATA Seebohm, Cat. Bds., V, p. 109, Pl. V.

One specimen from Calayan is referred to this species.

HORORNIS SEEBOHMI (Grant).

We found this bird not uncommon at Irisan, where we took eight specimens. The young plumage is undescribed.

Juvenile.—No 2615. Sex? Philippine Museum Collection. Irisan, Benguet. Collected May 14, 1903, by R. C. McGregor and A. Celestino. Similar to the adult, but entire upper parts including head of a uniform olive rufous (in the adult forehead and crown are dark-russet brown without the olive wash); superciliary stripe, sides of face, and entire under parts strongly suffused with dirty olive, paler on chin and throat, and with a slight rufous tinge on posterior parts. Wings and tail as in the adult.

HORORNIS CANTURIENS (Swinh.).

Dr. Richmond identifies a skin from Mariveles as of this species. Previously recorded for Luzon, but rare. We got about a dozen specimens on Calayan.

HORORNIS MINUTA (Swinh.), Sharpe, Hand List Bds., IV, p. 236.

Cettia minuta SEEBOHM, Cat. Bds., V, p. 141.

Four specimens from Calayan are closely related to this species, but without other specimens I can not make a positive identification.

CHIMARRHORNIS BICOLOR Grant; McGregor, Bull. Phil. Mus., No. 3, p. 12.

In my last paper I noted a pair of this rare species. My native hunters, who remained in Benguet for some time after my return to Manila, brought down two additional specimens. An adult male was taken June 22. The plumage of the other is worth noting, as it is a young male of the year.

No. 2900, *Irisan*, Benguet, June 9, 1903.—The plumage is dark slate, almost dead black, a little paler on abdomen; wing coverts and feathers of lower parts tipped with gray; tail and wings are new and like those of the adult. New adult plumage shows in a few new feathers on head, back, breast, and abdomen.

CISTICOLA EXILIS (Vigs. and Horsf.).

Occurs on both islands visited. On Fuga it was found in dry, grassy fields and killed in small guava bushes. On Calayan it is confined to the rice fields and is known by the name "tic-tic-rú-bo," the first half of which is probably derived from its song.

TURDUS PALLIDUS Gm.; Sharpe, Hand List Bds., IV, p. 138.

Merula pallida SEEBOHM, Cat. Bds., V, p. 274.

One specimen from Calayan agrees fairly well with a single skin from the market at Nagasaki, Japan. The species is at once distinguished by the pale breast and flanks and the broad white tips of outer tail feathers.

TURDUS CHRYSOLAUS Temm.; Sharpe, Hand List Bds., IV, p. 139.

Merula chrysolais SEEBOHM, Cat. Bds., V, p. 275.

First observed November 28, when one of my hunters managed to mangle a specimen. After this date numbers were seen, usually in guavas and other thick brush. Extremely wild, so that only a dozen or so were secured. Known to the natives as "pir-pi-rú-ca."

TURDUS OBSCURUS Gm.; Sharpe, Hand List Bds., IV, p. 140.

Merula obscura SEEBOHM, Cat. Bds., V, p. 273.

But two specimens of this paler species were killed on Calayan.

PETROPHILA MANILLA Bodd.

In Calayan this species is fairly common about town, perching on stone walls, fences, or buildings.

CALLIOPE CALLIOPE (Pall.).

Calayan is the first island where we have found this species. On November 8 our first specimen was taken in a trap by a native boy. A few days later it became abundant. In the early morning and for a

short time before dark its whistling call was heard on every side. Though common this species is by no means easy to secure in good shape, as it stays in heavy underbrush and is constantly on the move. If the hunter waits patiently near a patch of guavas or bamboo thicket he will hear a rather low but clear two-syllable whistle. This may be rendered by the Tagalo name "piloy" perhaps as well as by any other word. This is repeated four or five times with great deliberation, then follows a low throaty "chuck," also repeated several times. *Calliope* has a pretty, low, warbling song, but does not often favor the listener with his song. Even the "piloy series may not be repeated by the same bird for half an hour. However, another bird at some distance will answer with this plaintive and far-carrying call note. To get sight of one means a long wait, and then it is not at all likely that you can more than see the bird. At the least noise it flies into the thickest part of its retreat. I was unable to find anyone on Calayan who had a name for the species. A specimen was purchased in Quinta Market, Manila, February 29, 1904.

HYPSSIPETES FUGENSIS Grant; Grant, Ibis, 1896, p. 113.

Grant's statement that "the top of head and neck are brown, like the back, instead of dark, slate gray" is misleading. The back is brown, the feathers faintly edged with dark olive brown, and while the head and neck are brown the feathers are edged with dark slate-gray, which makes considerable contrast between neck and mantle. The birds of Fuga and Calayan are identical, except that the latter have slightly longer bills. Bills from nostrils, in eight males from Fuga, measure 0.63-0.71 (average, 0.68). In the same number of males from Calayan I find 0.69-0.78 (average, 0.72). Ten specimens of each sex from Calayan taken in October yield the following measurements:

Males: Wing, 4.70-5.10 (average, 4.93); tail, 4.50-5.04 (average, 4.80); culmen, 1.02-1.10 (average, 1.07); tarsus, 0.82-0.97 (average, 0.91).

Females: Wing, 4.64-4.80 (average, 4.73); tail, 4.35-4.64 (average, 4.53); culmen, 0.98-1.10 (average, 1.02); tarsus, 0.84-0.94 (average, 0.91).

A specimen from Fuga has two white feathers in the crown. No. 3797, a male from Calayan, has the lower parts except chin and throat crossed by narrow obsolete light bars and the mantle and back are similarly barred. Otherwise the plumage is normal.

The molt of body plumage was about over when we reached the Islands, but the wings and tail often contained both old and new feathers up to the first of November.

The illustration of the "foot of *Hyppisipetes psaroides*, to show tarsal envelope without scutes" (Cat Bds., VI, p. 35), by no means represents the condition in *H. fugensis*, for the tarsi of this species are certainly scutellated in the specimens of our large series. Four specimens of *H. amaurotis* from Nagasaki, Japan, also show scutellated tarsi. According

to the key to genera of the sub-family Brachypodinae (t. c. p. 2.), this character puts these species in the genus *Ixocincla*. Neither can *Hypsipetes* and *Iole* be distinguished on the character of strongly or scantily developed rictal bristles. The tarsi of the latter, at least in the species *mindorensis* and *philippinensis*, are booted, which is perhaps enough to separate that genus from *Hypsipetes*.

Common on Fuga and even more abundant on Calayan, where the species fairly swarms. Wherever there are bushes or trees fruit thrushes may be heard on every side. Their song differs considerably from that of *Iole philippinensis* and is pitched in a higher key. They have harsh call and alarm notes similar to those of *Iole*. During October and November this species forms an important item of food for the people of Calayan. They are easily trapped, especially if the fruit of a small red pepper, of which these bulbuls are especially fond, is used for bait. They feed extensively on guavas during December and January. One native easily took 15 to 20 birds in a forenoon, but if the traps are not visited often the trapper finds nothing but a pair of legs for his pains. The crow is commonly reputed to be the culprit, and with good reason I believe. We caught a crow in one of our traps and at another time a hawk, *Butastur indicus*. I found these bulbuls an agreeable addition to my table in an island where fresh food is scarce at the best. Its name among the people of Calayan is "samot."

PERICROCOTUS CINEREUS Lafres.

One specimen, October 23. Calayan. Rare and hard to secure, as it travels in the highest trees and is always on the move.

HEMICHELIDON GRISEICTICTA (Swinh.).

A few specimens from Calayan, where it is rare.

MUSCICAPULA LUZONIENSIS Grant.

A few specimens from Calayan, where it is rare and shy. Mr. Richmond has called my attention to a misprint in the tarsus measurements of this species, which is given as "1.7" in the original description (Ibis, 1894, p. 506). For two males from Irisan, Benguet, I find this measurement to be 0.70 and 0.72 of an inch, respectively. Females measure about the same. Grant (loc. cit.) states that the upper parts are "without any trace of bluish." All of our specimens are certainly blackish blue above.

Juvenile plumage.—No. 2878, female, Irisan, Benguet, June 7, 1903. No. 2939, male, Irisan, June 17, 1903.

Description of young male.—Upper parts dusky brown, each feather with a rusty yellowish buff spot, on the top of head and nape rather streaked; upper tail coverts rusty; sides of head like top without any indications of the adult markings; wings brown, the coverts bluish, each feather with a large buff spot; chin, throat, and upper breast white with a wash of buff; breast more heavily washed with buff, each feather with

black edges, producing a more or less striped effect; belly and under tail coverts white; lining of wing, axillaries, and flanks yellowish buff. In the back of this specimen there are several new bluish slate feathers of the adult plumage.

The female specimen is very much like the male, but upper parts slightly dull olive and washed rather than spotted with rusty buff. The tail is brown like the wings. Bill dusky above, lighter at tip, lower mandible and angle of mouth yellowish; legs white, nails light gray.

CHELIDON DASYPUS Bp.

Two specimens from Calayan. These agree well with Sharpe's description of Japanese birds (Cat. Bds., Vol. X, p. 93). Both our birds are females. In one of October 31 the feathers of hind breast and belly have narrow but distinct dusky shaft stripes. In the other of November 2 these feathers are pure white with a slight gray wash along sides. In both the rump feathers show dusky shafts. Bill black; irides dark brown; legs pale flesh; nails light brownish.

This species was rare on Calayan and seemed to affect the company of *Hirundo striolata*, sailing slowly about usually well out of reach. It was only by extreme patience that the two examples were taken.

CLIVICOLA RIPARIA (Linn.).

Two specimens from Calayan, taken October 30 and November 6 respectively, are undoubtedly of this species, which seems to be a new record for the Philippines. Both are immature birds, showing the whitish to wing coverts, secondaries, upper tail coverts, and rump said to be characteristic of the young (cf. Ridgway, Man. N. A. Bds., p. 463, 1887).

HIRUNDO GUTTURALIS Scop.

Obtained on Fuga and Calayan. On the latter island it was abundant, hawking from early morning till late in the evening and in all weathers. "Salunpipingau" is the native name of the swallow on Calayan.

HIRUNDO STRIOLATA (Boie)..

Seen only near the town on Calayan, where it appeared irregularly. Two or three were seen October 15, but on the 17th during a light rain 50 to 100 flew low about the church and rested on the roof. The next day and for several days not one was seen. Again on the 29th several were collected, and so on during our stay; at times feeding over rice fields or open grassy places at considerable altitude; rarely resting on the ground. On one such occasion I killed seven with a single load of No. 12 shot.

I am following previous Philippine records in referring the mosque swallow of Calayan to *H. striolata*, but there are several points in which our birds do not agree with the description. In the key to the species of *Hirundo*, *japonica* and *striolata* come together under "stripes on rump

very distinct" (Cat. Bds., Vol. X, p. 125), but on page 162, where the type of *striolata* is described, we find "lower back and rump light chestnut rufous with narrow blackish shaft lines, not very distinct." Now in all of our twenty-five adult birds the black shaft lines are very distinct. The wing measurements are intermediate between those given for *japonica* and *striolata*, thus being near *Hirundo substriolata* Hume. It is also stated that *striolata* has "no rufous on base of forehead." In our specimens there is a narrow but distinct frontal line of rufous passing back over lores and eye to large triangular patch on side of head. Philippine birds need to be compared with typical specimens.

No. 3788, immature male.—Calayan Island, P. I., October 31, 1903.

Pattern and color same as in adult, except back and top of head browner with less metallic blue; chestnut patch on side of head lighter; rump creamy white with three or four chestnut feathers of adult plumage; tail and wings browner and lacking blue gloss; tertiaries and coverts more or less tipped with whitish; the ground color of under parts is not much different from the adult, but the characteristic shaft stripes are everywhere lighter and greatly reduced, becoming obsolete on under tail coverts and absent on axillaries and lining of wing, except along edge of wing where there are a few narrow lines. Bill, legs, and nails black.

Measurements of Hirundo striolata.

No.	Sex.	Locality.	Date.	Wing.	Tail.	Tarsus.
3681	Male	Calayan	Oct. 17	4.64	3.72	0.54
3696	do	do	Oct. 22	4.82	3.98	.60
3746	do	do	Oct. 29	4.74		.61
3747	do	do	do	4.84	3.95	.55
3672	Female	do	Oct. 17	4.72	3.75	.61
3676	do	do	do	4.76	3.65	.58
3750	do	do	Oct. 29	4.75	3.84	.60
3957	do	do	Nov. 21	4.79	3.79	.60
3958	do	do	do	5.02	3.86	.59

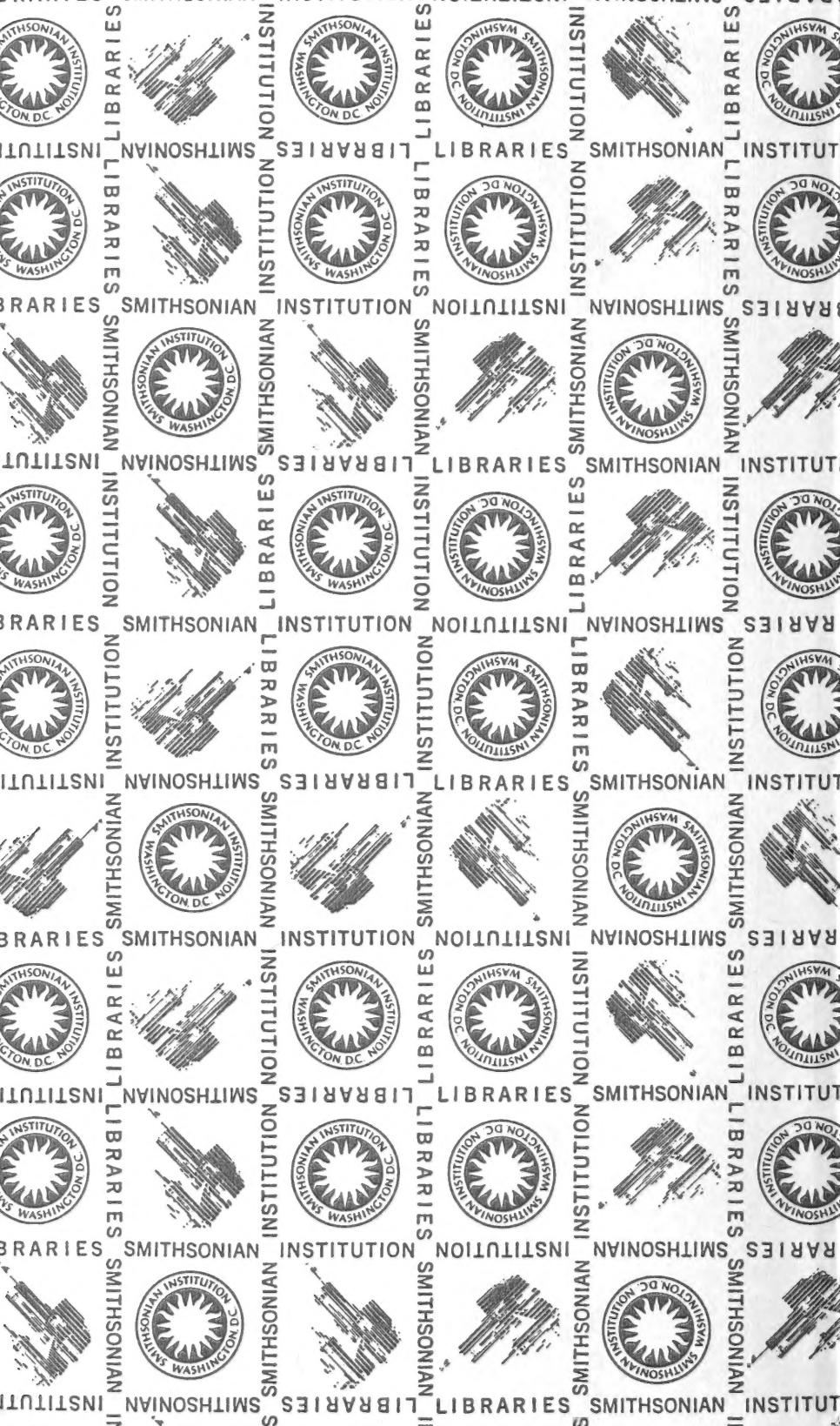


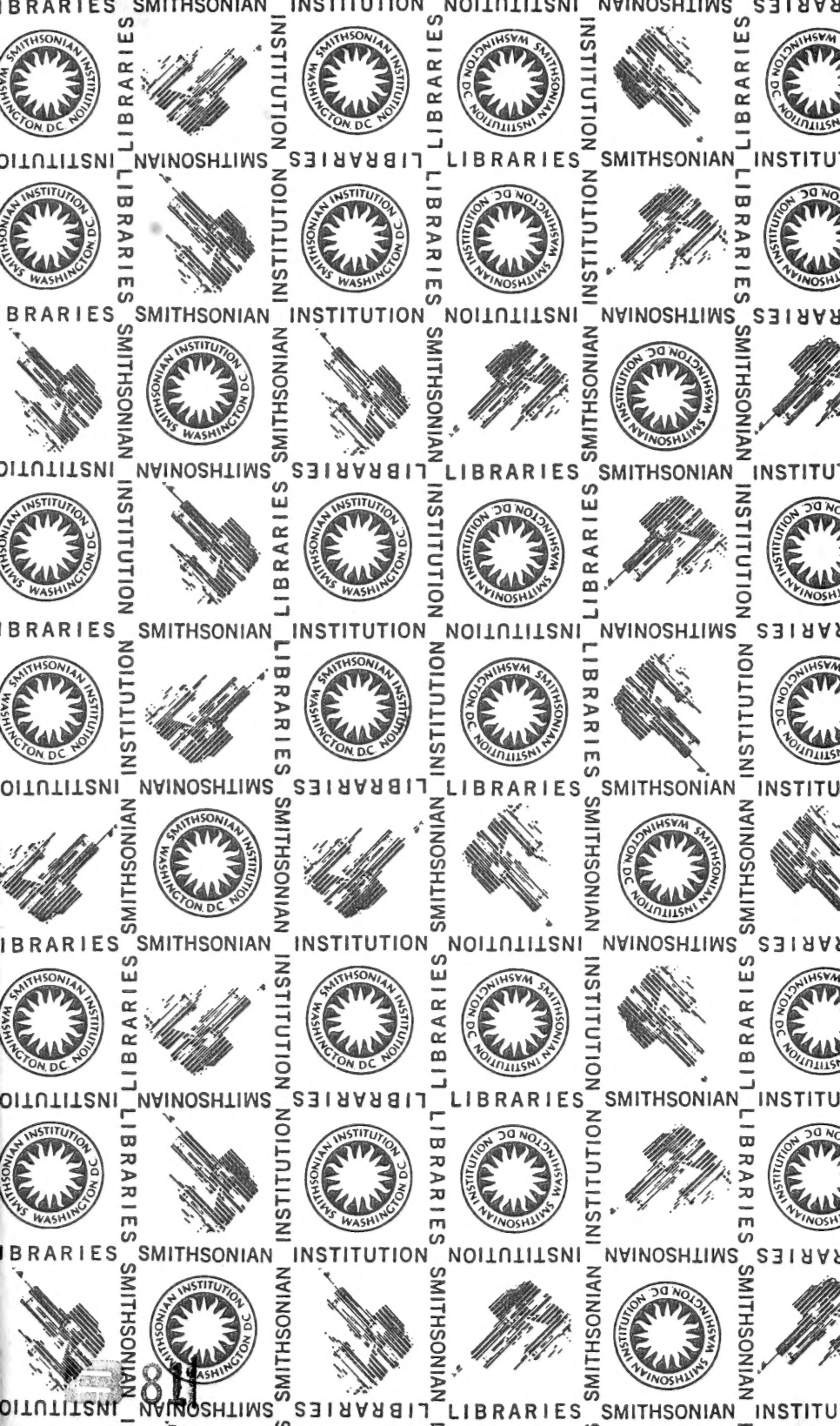












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Birds of Calayan and Fuga, Babuyan group