

THE BIRDS OF BAWEAN ISLAND, JAVA SEA.

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Bawean Island lies in the Java Sea, about 175 miles south of Borneo, and about 75 miles north of eastern Java. It is nearly square, some 11 miles long by 10 miles wide, and has an area of approximately 100 square miles. The surface is mountainous, and the highest point reaches an altitude of about 2,200 feet above sea level. The island is of volcanic origin and has still many volcanic cones and some hot springs. Its rocks are chiefly lava, basalt, and limestone; and extensive coral reefs fringe its coastal base. A lake of some 15 acres occupies the crater of Mount Telaga, an extinct volcano.

The island supports a human population of about 50,000, mostly near the coast, and these inhabitants speak a peculiar language. Little of the virgin forest remains: the largest tract is on the northern slope of the mountains in the center of the island; another area lies on the western coast; and the rest comprises only a few small patches on the eastern and southern slopes of the mountains. Low brush and tall bamboos cover most of the remaining portions of the island. There are numerous cattle on Bawean, and their trails run everywhere through the scrub. Wild mammals, except for two or three species, chiefly pigs and flying foxes, are not numerous.

Dr. W. L. Abbott visited Bawean Island from November 19 to 28, 1907, and made a collection of 35 specimens of birds, which he presented to the United States National Museum. This collection, though small, is of much interest, since 7 of the 15 species represented prove to belong to undescribed forms, most of them, so far as known, confined to this island.

Previous to Doctor Abbott's visit, knowledge of the birds of Bawean Island came chiefly from a short article by Dr. A. G. Vorderman,¹ in which he records 18 species, mostly from specimens collected. Doctor Abbott found birds very scarce, but his collection adds 8 species to the list, making a total of 26 now known to inhabit this

¹ *Natuurk. Tijds. Nederlandsch-Indië*, vol. 51, 1892, pp. 417-422.

island. These are as follows, those marked with an asterisk being unrepresented in Doctor Abbott's collection:

1. *Fregata minor minor* (Gmelin).
2. *Butorides javanicus javanicus* (Horsfield).*
3. *Ardea sumatrana* Raffles.*
4. *Spilornis bassus baweanus* Oberholser.¹
5. *Gallus varius* (Shaw).
6. *Actitis hypoleuca* (Linnaeus).*
7. *Geopelia striata* (Linnaeus).*
8. *Chalcophaps indica* (Linnaeus).*
9. *Spilopelia tigrina* (Temminck).
10. *Cuculus canorus telephonus* Heine.
11. *Eudynamis honorata* (Linnaeus).*
12. *Sauropatis chloris cyanescens* Oberholser.
13. *Ceyx rufidorsus innominatus* Salvadori.*
14. *Strix baweana* Oberholser.²
15. *Collocalia linchi linchi* Horsfield and Moore.*
16. *Pycnonotus plumosus plumosus* Blyth.
17. *Microtarsus chalconcephalus baweanus* (Finsch).
18. *Microtarsus atriceps abbotti* Oberholser.¹
19. *Malococincla abbotti baweana* Oberholser.¹
20. *Orthotomus cineraceus* Blyth.*
21. *Gracula javensis baweana* Oberholser.¹
22. *Anthreptes malacensis baweanus* Oberholser.¹
23. *Cinnyris ornata ornata* Lesson.
24. *Dicaeum flammeum* (Sparman).
25. *Ploceus manyar* (Horsfield).*
26. *Munia punctulata nisoria* (Temminck).*

As may be seen by examination of the above list of Bawean birds, the avifauna of this island is, on the whole, most closely allied to that of Java, but it has also a marked Bornean infusion.

The only published papers of any consequence treating of the birds of Bawean Island are the two cited below, and the second of these mentions but a single species:

VORDERMAN, A. G. Bijdrage tot de Kennis der Avifauna van het Eiland Bawean-Natuurk. Tijds. Nederlandsch-Indië, vol. 51 (ser. 8, vol. 12), 1892, pp. 417-422.

FINSCH, O. Zur Catalogisirung der Ornithologischen Abtheilung.—Brachypodius baweanus: Notes Leyden Mus., vol. 22, March, 1901, pp. 209-211.

The writer is indebted to Doctor Abbott for the above given descriptive facts concerning Bawean Island; and, as usual, to Dr. C. W. Richmond, assistant curator of the Department of Birds in the United States National Museum, for various courtesies.

Measurements in this paper are all given in millimeters; and have been taken as in the author's paper on *Butorides virescens*.³ The names of colors are from Mr. Ridgway's recently published Color Standards and Color Nomenclature.

Notes on Doctor Abbott's specimens follow.

¹ New subspecies, described beyond.

² New species, see p. 190.

³ Proc. U. S. Nat. Mus., vol. 42, 1912, p. 533.

Family FREGATIDAE.

FREGATA MINOR MINOR (Gmelin).

[*Pelecanus*] *minor* GMELIN, Syst. Nat., vol. 1, pt. 2, 1789, p. 572 (no locality; type locality designated as "the eastern half of the Indian Ocean," by Rothschild, Novit. Zool., vol. 22, February, 1915, p. 145).

One specimen: Adult male, No. 181398, U.S.N.M., November 21, 1907. "Iris brown; bill pale leaden; gular pouch brick red; feet dark brown." It is in good adult plumage though molting some of the contour feathers, particularly on the cervix; and the wings and tail are intact. It measures: Total length (in flesh), 870 mm.; wing, 545; tail, 390; exposed culmen, 103; tarsus, 20.3; middle toe, 45.

This example agrees, in so far as I can see, with the birds from the eastern Indian Ocean. The name for this race is, as Doctor Rothschild has shown,¹ *Fregata minor minor*, since the original *Pelecanus minor*² applies pretty certainly to the East Indian bird; at least not to that of the West Indies as Mr. Mathews has contended.³

Family BUTEONIDAE.

SPILORNIS BASSUS BAWEANUS, new subspecies.⁴

Subspecific characters.—Similar to *Spilornis bassus bassus* from Sumatra, but smaller, and darker both above and below.

Description.—Type, adult female, No. 181446, U.S.N.M.; Bawean Island, Java Sea, November 25, 1907; Dr. W. L. Abbott. Pileum black, the feathers all with pure white bases which show through the black, particularly on the occiput, in the form of irregular spots; rest of upper surface clove brown, the feathers marginally rather lighter, the back sparingly sprinkled with small dots of dull white, the scapulars and feathers of rump and upper tail-coverts tipped with white; tail above with a broad basal band, extending about 80 mm. from the root of the feathers, clove brown, this succeeded by another broad band, about 35 to 40 mm. wide, of brownish black, this followed in turn by a broad band, 35 mm. wide on outer pair of rectrices, 50 mm. wide on middle pair, of tulle buff, partly paling to white on the inner webs of outer feathers, everywhere heavily mottled and clouded with grayish avellaneous, least so on the inner webs of outermost rectrices, this again succeeded by still another wide band of slightly brownish black, and finally tipped narrowly (3 to 8 mm.) with avellaneous; under surface of tail with a broad basal band of white, mottled with mouse gray, a narrower succeeding

¹ Novit. Zool., vol. 22, February 12, 1915, pp. 145-146.

² Gmelin, Syst. Nat., vol. 1, pt. 2, 1789, p. 572.

³ Austral Avian Record, vol. 2, December 19, 1914, p. 118; Birds Australia, vol. 4, pt. 3, June 23, 1915, pp. 240-281.

⁴ An earlier name for *Falco bacha* Daudin (*Spilornis bacha* Authors) is *Falco bassus* J. R. Forster (Naturgesch. African. Vögel, 1798, p. 55); and this species should therefore stand as *Spilornis bassus* (Forster). See Richmond, Proc. U. S. Nat. Mus., vol. 35, 1902, p. 592.

band of brownish black, another band of dull white clouded with mouse gray, still another of brownish black, and a relatively narrow paler tip of drab, between pale drab and avellaneous; primaries and secondaries brownish black, with two or three broad lighter bars, these dark brown, between olive brown and clove brown, on the outer webs, but changing partly or even largely to white mottled with the same brown on the inner side of the inner webs; tertials between olive brown and clove brown, more or less barred obscurely with a darker shade; all the wing-quills tipped with dull white; lesser wing-coverts brownish black, each feather with two white roundish terminal spots; median and greater coverts brown, between olive brown and clove brown, with obsolescent, in many cases broken, bars of darker, and two or more irregular terminal white markings on each feather, these spots varying much in size; lores and orbital ring naked, with but a few black hairs; supra-auricular region black like the crown; extreme anterior portion of chin and anterior end of malar stripe brownish black, the latter passing posteriorly into the blackish clove brown of cheeks and auricular region; rest of lower surface clove brown, lighter and shading toward olive brown on breast, sides of neck, and longest under tail-coverts, the chin, throat, and jugulum practically immaculate, with but an occasional small roundish spot of white; the breast and abdomen thickly marked with large roundish spots of white, these usually 10 or 12 on each feather, and mostly in pairs; the thighs and crissum with large more or less quadrangular pairs of white spots that almost coalesce into bars and occupy a relatively much larger portion of each feather than do the markings on the abdomen, thus producing a lighter general effect; axillars dark olive brown, with several pairs of large white spots; under wing-coverts varying from olive brown to brownish black, very heavily spotted and barred with white; "bill leaden, tip black."

This newly discovered race is apparently most closely allied to the Sumatran bird, which is true *Spilornis bassus*. The difference in size is chiefly in the bill, and otherwise is not very great, but the color characters separate it without difficulty. The Bawean bird is so much larger and darker than the Bornean *Spilornis pallidus* that it scarcely needs comparison.

The four birds obtained by Doctor Abbott are all adults in good plumage. Two of them, including the type, are in the regular brown phase of plumage; and the colors of the soft parts of the one other than the type, were, as indicated on the label: "Iris yellow; naked skin about eye yellow; feet dirty yellow." The two other birds are in the curious light phase, known in only a few forms of the genus, but apparently a true color phase, as this condition is certainly not due to age, sex, or season. It is characterized by a white head and lower parts and is very strikingly different from the normal phase. It is described below:

Adult male, No. 181444, U.S.N.M.; Bawean Island, Java Sea, November 27, 1907; Dr. W. L. Abbott. Pileum creamy white, the feathers of the central portion of crown and occiput with blackish brown subterminal bars, these broken or incomplete on the crown; cervix and rest of upper surface white with broad subterminal bars of fuscous black, fuscous, and light clove brown, these bars shading proximally into pale brown or buffy, very little of the light color showing on the upper surface posterior to the hind neck; tail basally pale clove brown, distally brownish black or blackish brown, crossed by two broad bars of mottled wood brown, shading in same places to avellaneous; wing-quills brown, varying from light to dark clove brown and fuscous, the greater portion of inner webs together with tips of all, white, barred throughout with blackish brown or brownish black; superior wing-coverts, their bases (except for brown bars) and their broad tips white, the lesser coverts more blackish; sides of head white, the auriculars much mixed with fuscous; sides of neck white, barred broadly with fuscous; lower surface white, posteriorly more or less washed with buffy, and with a slight malar streak of black, a few hastate markings of fuscous on breast, jugulum, and abdomen, rather broad irregular bars of warm fuscous on sides and flanks, narrow bars of same on thighs, and a few narrow more or less hastate pale brown bars on crissum; lining of wing white; "bill leaden, tip black; face yellow; iris pale greenish; feet brownish yellow."

The specimens collected by Doctor Abbott are all included in the following table of measurements:

Measurements of specimens of Spilornis bassus baweanus.

[Collected by Dr. W. L. Abbott.]

U.S.N.M. number.	Sex.	Locality.	Date.	Total length. ¹	Wing.	Tail.	Exposed culmen.	Culmen from cere.	Tarsus.	Middle toe.
181444	Male....	Bawean Island.....	Nov. 27, 1907	mm. 524	mm. 328	mm. 231	mm. 30.5	mm. 24.8	mm. 72	mm. 35
181447	Female...	...do.....	Nov. 19, 1907	510	330	208	32.5	25.5	76.5	37
181446	...do.....	...do ²	Nov. 25, 1907	512	328	213	32	27	72	33
181445	...do.....	...do.....	Nov. 27, 1907	523	328	219	33	27.5	76	33.5

Family PHASIANIDAE.

GALLUS VARIUS (Shaw).

Phasianus varius SHAW, in Shaw and Nodder, Nat. Misc., vol. 10, October, 1798, text to pl. 353 ("probably India"; locality wrong: I substitute Java as the type locality).

Two specimens:

Adult male, No. 181412, U.S.N.M.; November 28, 1907. Total length (in flesh) 545 mm. "Iris yellow; a narrow yellow line on

¹ Measured in the flesh by the collector.

² Type.

skin at front of neck, at upper edge of feathers; feet pale fleshy; front of tarsi and top of toes pale fleshy brown."

Nearly adult male, No. 181413, U.S.N.M.; November 20, 1907. Total length (in flesh) 593 mm. "Iris yellow brown; feet pale brownish fleshy."

Both these birds seem to be absolutely identical with examples from Java. They represent, therefore, a considerable northward extension of the range of the species. The immature specimen (No. 181413, U.S.N.M., Nov. 20) lacks but little of being adult, though the feathers of the lower parts are dull, some of them edged with rusty or pale brown; many of the wing-quills and superior coverts are barred with buff or tawny; the throat, sides, and top of the head are pretty well feathered; and the frontal comb is rudimentary. Some of the contour feathers are being replaced by molt.

Family CLARAVIIDAE.

SPILOPELIA TIGRINA (Temminck).

Columba tigrina TEMMINCK, Hist. Nat. générale des Pigeons, vol. 1, 1808-1811, pl. 43 [p. 158] (Batavia, Java).

Two specimens:

Adult male, No. 181417, U.S.N.M.; November 19, 1907. Length (in flesh), 300 mm.

Adult female, No. 181418, U.S.N.M.; November 19, 1907. Length (in flesh), 295 mm.

Both are in good plumage, though showing slight indications of molt among some of the contour feathers, particularly about the head and neck. They seem, furthermore, to be identical in both size and color with birds from the Malay Peninsula.

The genus *Spilopelia*,¹ here used for this species, is well differentiated from *Stigmatopelia*² by its longer tail, stouter bill and feet, and less tumid cere; and both *Spilopelia* and *Stigmatopelia* may readily be distinguished from *Streptopelia* (olim *Turtur*) by the peculiar bifurcate feathers of the neck and by other characters.

Family CUCULIDAE.

CUCULUS CANORUS TELEPHONUS Heine.

Cuculus telephonus HEINE, Journ. für Ornith., for September, 1863 (probably December, 1863), p. 352 (Japan).

One male, in immature plumage, No. 181464, U.S.N.M.; Bawean Island, November 21, 1907; "eyelids yellow; bill dark horn brown, greenish beneath at base; inside of mouth orange; feet yellow." Length, 331 mm.³

¹ *Spilopelia* Sundevall, Meth. Nat. Avium Disp. Tent., 1873, p. 100 (type, *Columba chinensis* Scopoli).

² *Stigmatopelia* Sundevall, Meth. Nat. Avium Disp. Tent., 1873, p. 100 (type, *Columba senegalensis* Linnaeus).

³ Measured in the flesh by the collector.

Family ALCEDINIDAE.

SAUROPATIS CHLORIS CYANESCENS, new subspecies.

Subspecific characters.—Similar to *Sauropatis chloris chloris*, but averaging smaller; male with upper surface rather more bluish, with less contrast between back and wings; ear-coverts more greenish; blackish nuchal band narrower, less distinct, and more overlaid by green; female with upper parts averaging darker; wings somewhat more bluish; ear-coverts more greenish; blackish nuchal band usually more washed with greenish.

Type.—Adult male, No. 170835, U.S.N.M.; Pulo Taya off the southeastern coast of Sumatra, July 28, 1899; Dr. W. L. Abbott.

Measurements.—Thirteen males average as follows: Wing, 109.3 mm.; tail, 67.7; exposed culmen, 45.3; tarsus, 16.4.

Geographical distribution.—Sumatra, Borneo, and neighboring islands.

The birds from Borneo, Sumatra, and many of their adjacent islands differ from other forms of the species, and are apparently worthy of subspecific separation.

Three specimens from Bawean Island are the same, though averaging slightly larger. Two of these (Nos. 181494 and 181495, U.S.N.M., taken, Nov. 20, 1907) are in molt of the contour feathers, remiges, and rectrices. Measurements of all are as follows:

Measurements of specimens of Sauropatis chloris cyanescens.

[Collected by Dr. W. L. Abbott.]

U.S.N.M. number.	Sex.	Locality.	Date.	Total length. ¹	Wing.	Tail.	Exposed culmen.	Tarsus.
181495	Male...	Bawean Island.....	Nov. 20, 1907	mm. 254	mm. 111.3	mm. 71.5	mm. 42	mm. 16.5
181493	Female	.....do.....	Nov. 19, 1907	262	110.8	73	46.5	17
181494	.....do.....	.....do.....	Nov. 20, 1907	265	114.5	69	48.3	17.3

This species is generically distinct from true *Halcyon* (type, *Halcyon senegalensis*) and should take the generic name *Sauropatis* Cabanis and Heine,² of which the type is *Halcyon sanctus* Vigors and Horsfield.

¹ Measured in the flesh by the collector.² Mus. Hein., pt. 2, January, 1860, p. 158.

Family BUBONIDAE.¹

STRIX BAWEANA, new species.

Specific characters.—Resembling *Strix orientalis seloputo* Horsfield, from Java, but much smaller and paler throughout; white spots on upper surface much reduced, more roundish, and less inclined to form bars; dark brown bars on lower surface much narrower.

Description.—Type, adult female, No. 181450, U.S.N.M.; Bawean Island, Java Sea, November 27, 1907; Dr. W. L. Abbott. Upper surface (in somewhat worn plumage) brown, between cinnamon brown and tawny, in places becoming more ochraceous, everywhere with roundish dots of dull white which on the nape and scapulars incline to irregular bars, the longer scapulars broadly barred with white and narrowly with clove brown and the brown of the upper surface; tail sepia, shading basally and on the inner webs of the feathers to cinnamon and cinnamon buff, barred with dull creamy white, broadly on inner webs, narrowly and irregularly on outer webs; primaries between clove brown and sepia, shading gradually on outer webs to cinnamon buff at the base, more or less sparingly spotted or barred on the outer vanes with creamy white, cream buff, and buff; broadly on inner vanes with various shades of lighter brown, tawny, ochraceous, and buff, the inner feathers tipped with whitish; secondaries and tertiaries sepia, broadly, but in places brokenly, barred with dull brown (between buffy brown and olive brown), dull white, and various shades of ochraceous, buff, and tawny, and tipped with dull white; wing-coverts brown like the back, the lesser series sparingly spotted with whitish, the median and greater series on the outer webs broadly barred with white and narrowly with clove brown, on the inner webs broadly with buffy white, buff, and ochraceous; facial disks dull cream buff, unmarked; entire lower surface creamy white, much tinged in places by the buffy clay color of the bases of the feathers, which show through, particularly on the throat, where they form a conspicuous throat patch; all the lower parts, except the chin, conspicuously, and regularly though rather narrowly barred with clove brown, most broadly on the throat; thighs and tarsi dull white, much tinged in places with cinnamon buff, and narrowly barred throughout with clove brown; lining of wing mixed creamy white, buff, and ochraceous, spotted and more or less barred with dark rufescent

¹ The family name Bubonidae should be retained for the horned owls and their allies, notwithstanding that the generic name *Strix* has been transferred to one of the genera of this group; for rather than to take the oldest generic name in a family as the basis for the family name, it is much better for various reasons to adhere for the family designation to the *type genus* (i. e., the genus from which the family name was first formed) whatever may subsequently become its generic name. This is a course parallel to that pursued in the case of type species of genera; is much more logical; and will obviate much, in fact nearly all, of the confusion arising from the transfer of family names from one group to another. In the present instance *Bubo* is the type genus of the family Bubonidae.

brown. Total length (in flesh),¹ 412 mm.; wing, 297; tail, 158; exposed culmen, 31; culmen without cere, 22.3; tarsus, 55; middle toe, 30.

Although this new bird, of which Doctor Abbott obtained unfortunately but a single specimen, is undoubtedly most closely allied to *Strix orientalis* Shaw (= *Strix sinensis* Latham), it is so different in coloration that it seems certainly to be specifically distinct. The dark barring of the lower surface is strikingly like that in *Strix ocellata*, but the upper parts are of course very different.

The name *Strix sinensis* Latham,² used by some authors for *Strix orientalis* Shaw, is preoccupied by a previous *Strix sinensis* of the same author;³ but *Strix orientalis* Shaw,⁴ a new name for *Strix sinensis* Latham, is not invalidated by *Strix orientalis* Linnaeus⁵ from Hasselquist, since, according to the International Code of Nomenclature, the scientific names in Hasselquist's *Reise nach Palästina* (1762) have no standing, because they occur in a mere translation of a pre-Linnaean work. The proper designation for the whole species is therefore *Strix orientalis* Shaw.

Representatives of *Strix orientalis* from Java differ considerably from those inhabiting the Malay Peninsula (*Strix orientalis orientalis*), in their narrower dark barring below, particularly on the breast, and their much larger white markings on the upper parts. The name for the Javan race is *Strix orientalis seloputo* Horsfield.⁶

Family PYCNONOTIDAE.

PYCNONOTUS PLUMOSUS PLUMOSUS Blyth.

Pycnonotus plumosus BLYTH, Journ. Asiatic Soc. Bengal, vol. 14, pt. 2, December, 1845, p. 567. (Singapore, Singapore Island).

Three specimens are in the collection, as follows:

Adult male, No. 181542, U.S.N.M.; November 19, 1907. Length (in flesh), 200 mm.

Adult female, No. 181540, U.S.N.M.; November 24, 1907.

Juvenal female, No. 181541, U.S.N.M.; November 19, 1907.

These are identical, so far as I can discover, with typical birds from the Malay Peninsula. One of the adults (No. 181542, U.S.N.M.) and the juvenile (No. 181541, U.S.N.M.) are in process of molt, though wings and tail are perfect. The juvenile plumage differs from that of the adult in being throughout, particularly on the rump, more brownish, the upper surface paler, and the lower parts more tinged with yellowish.

¹ Measured by the collector.

² Suppl. Indicis Ornith., 1801, p. xvi (China).

³ Latham, Index Ornith., vol. 1, 1790, p. 53.

⁴ Gen. Zool., vol. 7, pt. 1, 1809, p. 257 (China).

⁵ In Hasselquist, *Reise Paläst.*, 1762, p. 290 (Egypt and Syria).

⁶ *Strix Seloputo* Horsfield, Trans. Linn. Soc. Lond., vol. 13, pt. 1, May, 1821, p. 140 (Java).

MICROTARSUS CHALCOCEPHALUS BAWEANUS (Finsch).

Brachypodius baweanus FINSCH, Notes Leyden Mus., vol. 22, March, 1901, p. 209 (Bawean Island).

Eight specimens—three females and five males—of this interesting bird were collected by Doctor Abbott.

In pattern of coloration this species is practically identical with *Microtarsus atriceps*, but the olive and yellow colors of the latter are everywhere replaced by gray and white. In the females, as compared with the males, the upper surface is of a darker, duller gray; the gray of the inferior parts is somewhat darker, and the abdomen and crissum more washed with gray. One of the males (No. 181558, U.S.N.M.) has a streak of olive yellow on the outer web of one of the secondaries, one of the tertials, and one of the rectrices, which may be lingering indications of immaturity. Several of the secondaries of one of the females (No. 181551, U.S.N.M.) show the same thing. The labels state that in both males and females the iris is blue, the bill and feet black. Nearly all of our specimens exhibit evidences of molt among the contour feathers, particularly about the head and neck; but only one (No. 181557, U.S.N.M.) is changing either remiges or rectrices, and this one is molting both.

Our series proves that *Microtarsus baweanus* is a subspecies of *Microtarsus chalconcephalus* of Java; for while the characters given by Finsch¹ to separate it from the latter will serve to diagnose it, individual variation practically bridges the difference between the two. Both the upper and lower parts, while normally much paler in *Microtarsus baweanus*, are in some of our specimens almost as dark as in *Microtarsus chalconcephalus*; the base of the tail, while almost white in some examples, is in others nearly as dark as in *Microtarsus chalconcephalus*; the subterminal black band on the rectrices, though sometimes broken or even reduced to spots, is in other specimens as wide as in the Javan bird; and the terminal white bar on the tail shows also much variation in width. Measurements are as follows:

¹ Notes Leyden Museum, vol. 22, 1901, p. 209.

Measurements of specimens of *Microtarsus chalcocephalus baweanus*.

[Collected by Dr. W. L. Abbott.]

U.S.N.M. number.	Sex.	Locality.	Date.	Total length. ¹	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
181552	Male....	Bawean Island....	Nov. 22, 1907	mm. 175	mm. 78.5	mm. 67	mm. 12.3	mm. 14.8	mm. 11.5
181554	.....do.....	.....do.....	.....do.....	181	78	67.5	14	15.5	11.5
181556	.....do.....	.....do.....	.....do.....	.....do.....	80	67.5	12	15	11
181557	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	12	14.5	11.3
181558	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	.....do.....	13	14.5	11.8
Average of 5 males.....				175.5	78.1	67.3	12.7	14.9	14.4
181551	Female .	Bawean Island....	Nov. 19, 1907	185	80	73	12.5	15.5	11
181553	.....do.....	.....do.....	Nov. 22, 1907	173	77.5	69	13	15.3	11.8
181555	.....do.....	.....do.....	.....do.....	172	74.5	66	12	14.8	11.5
Average of 3 females.....				176.7	77.3	69.3	12.5	15.2	11.4

MICROTARSUS ATRICEPS ABBOTTI,³ new subspecies.

Subspecific characters.—Resembling *Microtarsus atriceps atriceps*⁴ from the type region (Sumatra), but upper parts duller olive green, much less golden; lower surface paler, more greenish in tone.

Description.—Type, adult male, No. 181549, U.S.N.M.; Bawean Island, Java Sea, November 22, 1907; Dr. W. L. Abbott. Top and sides of head, also chin and throat, brownish black, with a metallic green or purplish sheen; cervix, back, scapulars, and rump, yellowish olive green, becoming still more yellowish on the last, where also the feathers have partly concealed broad brownish black subterminal bars; upper tail-coverts pyrite yellow; tail light yellowish olive, the outer pair of rectrices dull grayish subterminally, all the rest broadly barred subterminally with brownish black, and all of them tipped broadly, the middle pair less so, with strontian yellow; wings fuscous, the lesser coverts, median coverts, outer webs of greater coverts, and outer webs of tertials, yellowish olive green, the greater coverts, tertials, and secondaries margined externally with pyrite yellow, and all the wing-quills more or less edged basally with brownish or yellowish white; breast yellowish warbler green; passing gradually into the lemon chrome of abdomen and crissum; sides and flanks like the last, but slightly washed with greenish; axillars strontian yellow; under wing-coverts pale primrose yellow; “iris blue; bill and feet black.”

¹ Measured in the flesh by the collector.² Molting.³ Named for Dr. W. L. Abbott.⁴ The specific term of *Microtarsus melanocephalus*, which is the *Lanius melanocephalus* of Gmelin, Syst. Nat., vol. 1, pt. 1, 1788, p. 309, is preoccupied by *Lanius melanocephalus* Gmelin, Syst. Nat., vol. 1, pt. 1, 1788, p. 301, a synonym of *Pomatorhynchus senegalus* Linnaeus. The next available name for the species is *Turdus atriceps* Temminck, Planches Coloriées d'Oiseaux, vol 2, livr. 25, August, 1822, pl. 147 and text (Sumatra and Java).

This very distinct subspecies is the most greenish of all the forms of *Microtarsus atriceps*. It differs from *Microtarsus atriceps chryso-phorus*,¹ of South Pagi Island, western Sumatra, as it does from *Microtarsus atriceps atriceps*, though even more markedly; and from *Microtarsus atriceps hyperemnus*¹ of Simalur Island, western Sumatra, in much the same way as well as additionally in much slenderer bill.

Doctor Abbott obtained two adult specimens, male and female, in perfect plumage. The female is practically identical with the male. The measurements of both are given below:

Measurements of specimens of Microtarsus atriceps abbotti.

[Collected by Dr. W. L. Abbott.]

U. S. N. M. number.	Sex.	Locality.	Date.	Total length. ²	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
181549	Male....	Bawean Island ³ ...	Nov. 22, 1907	mm. 170	mm. 75	mm. 65	mm. 12	mm. 15.3	mm. 11.5
181550	Female..	.....do.....	.....do.....	180	80	68	12	14	11

Family TIMALIIDAE.

MALACOCINCLA ABBOTTI BAWEANA, new subspecies.

Subspecific characters.—Similar to *Malacocincla abbotti büttikoferi*,⁴ from Borneo, but upper parts paler, and, particularly, on tail and upper tail-coverts, even less rufescent; entire lower surface, especially the sides of breast and body, the flanks, and crissum, also lighter.

Description.—Type, adult male, No. 181560, U.S.N.M.; Bawean Island, Java Sea, November 23, 1907; Dr. W. L. Abbott. Upper surface brownish olive, between Saccardo's umber and light brownish olive, becoming somewhat darker on the pileum, where the feathers have pale buffy shaft streaks, and slightly more rufescent on the rump; upper tail-coverts cinnamon brown; rectrices between cinnamon brown and mummy brown; primaries, secondaries, and primary coverts brown, between olive brown and fuscous, their outer webs, together with both webs of tertials, greater, median, and lesser wing-coverts, brown like the back; lores and superciliary stripe between mouse gray and deep mouse gray, mixed more or less with pale mouse gray; remainder of sides of head and neck buffy brown, the auriculars somewhat streaked with the brown of the back, and with narrow and inconspicuous shaft markings of pale buffy; chin and throat grayish

¹ Oberholser, *Smiths. Misc. Coll.*, vol. 60, No. 7, October 26, 1912, p. 10.

² Measured in the flesh by the collector.

³ Type.

⁴ *Malacocincla büttikoferi* Finsch, *Notes Leyden Mus.*, vol. 22, March, 1901, p. 218. This is evidently but a subspecies of *Malacocincla abbotti*.

white, the latter buffy grayish on its sides; upper breast tiller buff; lower breast cream color, deepening on abdomen into pale ochraceous buff; crissum clay color; sides of breast dull buff, between pinkish buff and vinaceous buff, shaded anteriorly with the brown of the back; sides of body and flanks light buffy brown between cinnamon buff and wood brown; thighs between wood brown and drab; lining of wings dull buff like the sides of the body, mixed somewhat with pale brown and whitish; inner margins of outer secondaries and inner primaries dull vinaceous buff.

A second specimen obtained by Doctor Abbott is practically identical with the type. Both birds show indications of molt in wing-quills and contour feathers.

The present species is clearly distinct enough structurally from the typical forms of the genus *Turdinus* to be separated generically.

Measurements of specimens of Malacocincla abbotti baweana.

[Collected by Dr. W. L. Abbott.]

U.S.N.M. number.	Sex.	Locality.	Date.	Total length. ¹	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe
181560	Male....	Bawean Island ²	Nov. 23, 1907	mm. 160	mm. 77	mm. 48.5	mm. 18	mm. 27.8	mm. 17.5
181559	...do....	...do.....	Nov. 24, 1907	165	78.5	50	17.5	25.5	16.3

Family GRACULIDAE.

GRACULA JAVENSIS BAWEANA, new subspecies.

Subspecific characters.—Similar to *Gracula javensis javensis*, from Java, but bare occipital lappets wider and longer; and sides of crown more greenish.

Description.—Type, adult female, No. 181501, U.S.N.M.; Bawean Island, Java Sea, November 23, 1907; Dr. W. L. Abbott. Middle of forehead, middle of crown, with cervix and back, metallic dusky dull violet No. 2; sides of forehead the same, but somewhat tinged with greenish; sides of crown and sides of occiput metallic greenish, between dusky dull green and greenish slate black; rump and upper tail-coverts metallic dusky green; scapulars and tips of inner tertials metallic bluish slate black, in places with a tinge of the violet of the back; tail black, the outer rectrices somewhat brownish; wings black with a slight purplish or bluish sheen, some of the outer primaries a little brownish; a pure white speculum from 10 to 19 mm. in length occupies the entire width of the outer webs of the second to seventh

¹ Measured in the flesh by the collector.

² Type.

quills; another area varying from 4 to 28 mm. in length, on the inner webs of the first to seventh quills, covers the entire width of the vanes except on the seventh, where it is reduced to a small roundish spot close to the shaft; the lesser wing-coverts and broad edgings of the median series, metallic dull blue-green black; very narrow tips and subterminal edgings of greater coverts metallic dull violet like the back, or metallic bluish slate black like the scapulars; sides of head black, with a slight metallic greenish tinge; chin and throat black with a slight gloss of metallic violet, shading posteriorly on the jugulum into a metallic bronzy lincoln green; this in turn passing into metallic dark livid purple on the breast; thighs and sides of body metallic dull blue-green black, in places mixed with dull violet; flanks, abdomen, and crissum, metallic blackish dusky yellowish green; lining of wings black, in some places rather brownish, and mostly with a slight violet sheen.

Doctor Abbott obtained only two examples of this bird on Bawean Island, but these differ sufficiently from Javan birds to render their subspecific separation desirable. Their measurements are as follows:

Measurements of specimens of Gracula javensis baweana.

[Collected by Dr. W. L. Abbott.]

U.S.N.M. number.	Sex.	Locality.	Date.	Total length. ¹		Wing.	Tail.	Exposed culmen.		Height of bill at base.	Tarsus.	Middle toe.	Greatest length of lappet.	Greatest width of lappet.
				mm.	mm.			mm.	mm.					
181502	♂	Bawean Island.....	Nov. 23, 1907	323	174.5	85	27	17	38.5	32	25	18		
181501	♂	.....do. ².....	.....do.....	320	170	84	24.5	15.2	36.5	30	26	20	

Family NECTARINIIDAE.

ANTHREPTES MALACENSIS BAWEANUS, new subspecies.

Subspecific characters.—Similar to *Anthreptes malacensis malacensis*, from the Malay Peninsula, but female more greenish (less grayish) above, the lower surface more richly and uniformly yellow, particularly on throat, abdomen, and crissum.

Description.—Type, adult male, No. 181500, U.S.N.M.; Bawean Island, Java Sea, November 19, 1907; Dr. W. L. Abbott. Pileum, cervix, and back, shining metallic amethyst violet, the forehead inclining to dark green; rump and upper tail-coverts shining metallic deep blue-violet; tail fuscous black, the middle pair of rectrices, and the outer webs of all the rest excepting the outermost pair, tinged

¹ Measured in the flesh by the collector.

² Type.

with metallic greenish and margined externally with shining metallic deep blue-violet; wings blackish fuscous (between fuscous and fuscous black), the inner margins basally paler, the wing-quills, greater coverts, and to a slight extent the primary coverts, margined externally with citrine; median coverts and longest scapulars chestnut; lesser coverts shining metallic blue-violet; sides of head between citrine and orange citrine; malar stripe, prolonged down the side of the neck, shining metallic violet ultramarine; sides of neck shining metallic dark green, mixed more or less with the amethyst violet of the back; chin and throat reddish brown, between kaiser brown and hazel; breast, sides, and upper abdomen lemon chrome, slightly inclining toward light cadmium, anteriorly somewhat tinged with brownish olive; lower abdomen and thighs picric yellow; lower tail-coverts pale lemon yellow; flanks, between lemon yellow and pyrite yellow, but much nearer the former, i. e., pale lemon yellow only washed with olivaceous; axillars picric yellow; under wing-coverts baryta yellow, mixed with whitish.

The male of this new form, as is frequently the case in races of *Anthreptes malacensis*, is not with certainty distinguishable, though it seems to be more clearly yellow on the breast than is usual in examples of *Anthreptes malacensis malacensis*. The female, however, shows differences, as above set forth, which apparently indicate subspecific distinction. Comparison has been made with series of specimens of all the forms of the species. Both of the individuals obtained by Doctor Abbott on Bawean Island are adults in perfect plumage, and their measurements are as follows:

Measurements of specimens of Anthreptes malacensis baweanus.

[Collected by Dr. W. L. Abbott.]

U.S.N.M. number.	Sex.	Locality.	Date.	Total length, ¹	Wing.	Tail.	Exposed culmen.	Tarsus.	Middle toe.
181590	Male....	Bawean Island 2.....	Nov. 19, 1907	mm. 142	mm. 68	mm. 48.5	mm. 17.8	mm. 17.8	mm. 10.5
181591	Female .	.....do.....	Nov. 25, 1907	130	63	41	15.2	16.5	10

CINNYRIS ORNATA ORNATA³ Lesson.

Cinnyris ornatus LESSON, Dict. Sci. Nat., vol. 50, 1827, p. 15 [Java].

One adult male, No. 181595, U.S.N.M., taken, November 22, 1907. Length (in flesh), 120 mm.

It is apparently identical with birds from Java. Some of the contour feathers are in process of molt.

¹ Measured in the flesh by the collector.

² Type.

³ For the change of name of this species from *Cinnyris pectoralis* Horsfield to *Cinnyris ornata* Lesson, see Oberholser, Smiths. Misc. Coll., vol. 60, No. 7, October 26, 1912, p. 18.

Family DICAÆIDÆ.

DICAÆUM FLAMMEUM (Sparrman).

Motacilla flammea SPARRMAN, Mus. Carlson., fasc. 4, 1789, pl. 98 (Java).

One specimen, No. 181587, U.S.N.M.; taken, November 22, 1907.

Though marked "female," this bird is evidently a young male, since it is in transition from the juvenal plumage to that of the adult, and shows characteristic feathers of the male on head, back, and scapulars. As nearly as is possible to determine from such an example, it is identical with Javan birds. It can at least not be distinguished from a juvenal male from Java.