

A SYNOPSIS OF THE RACES OF THE LONG-TAILED GOAT-SUCKER, *CAPRIMULGUS MACRURUS* HORSFIELD.

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This brief synopsis was originally intended as an account of the specimens of *Caprimulgus macrurus* in the United States National Museum, collected chiefly by Dr. W. L. Abbott. Considerations of convenience and completeness have, however, induced the inclusion of all the forms of the species, even though there are three of these of which it has been impossible to obtain specimens for examination, namely, *Caprimulgus macrurus nipalensis*, *Caprimulgus macrurus atripennis*, and *Caprimulgus macrurus yorki*.

The material upon which this paper is based, and for the use of which the writer is much indebted, is contained in the United States National Museum; the Academy of Natural Sciences of Philadelphia; the Museum of Comparative Zoölogy in Cambridge; and the private collection of Mr. J. H. Fleming, of Toronto, Ontario.

The names of colors here used are based on Mr. Ridgway's new Color Standards and Nomenclature.¹ All measurements are given in millimeters. Practically all the specimens examined are listed in the tables of detailed measurements; and those that are included in the diagnostic averages are indicated in the tables. The measurements here given have been taken as explained in the writer's recent paper on *Butorides virescens*.²

Several of the forms of *Caprimulgus macrurus* are well-known birds, and of frequent mention in literature, particularly in local lists. The two best accounts of the species from a technical standpoint are both by Dr. Ernst Hartert. One is in the Catalogue of Birds in the British Museum³; the other in *Das Tierreich*.⁴

Including *Caprimulgus atripennis*, which some authors regard as a distinct species, but which is probably only a subspecies, the forms

¹ Ridgway, Color Standards and Color Nomenclature, 1912 (Jan. 16, 1913).

² Proc. U. S. Nat. Mus., vol. 42, 1912, p. 533.

³ Vol. 16, 1892, pp. 537-543.

⁴ Lief. 1, 1897, pp. 53-55.

of *Caprimulgus macrurus* now number nine; not a large number, considering the great range of the species. These, taken together, cover the following geographical area: North to New Guinea, the Philippine Islands, southern China, Assam, and Nepal; west to the western Himalaya Mountains and southwestern India; south to Ceylon, Sumatra, Java, Lombok, Sumbawa, Timor, the Aru Islands, and northern Australia; and east to northern Queensland and the island of New Britain.

The close resemblance of some widely separated races is not wanting in this species. For instance, *Caprimulgus macrurus yorki*, from northern Australia, is very close in all characters to *Caprimulgus macrurus macrurus*, from Borneo and Java, though readily separable from the intervening *Caprimulgus macrurus mesophanis*.¹ Also *Caprimulgus macrurus keatsi*, from northern Australia, more nearly resembles *Caprimulgus macrurus anamesus*,² from Sumatra, than it does either of the two interposed races, *Caprimulgus macrurus macrurus* and *Caprimulgus macrurus mesophanis*.¹

Throughout most, if not all, of its range it is permanently resident, and inhabits chiefly low altitudes. It is a bird of the woodlands, and not often found away from trees. It is crepuscular and nocturnal, and in general habits is similar to other members of the genus *Caprimulgus*. Its note has been described as resembling the sound made by striking a plank with a hammer, and is often heard on moonlight nights, particularly about the margins of the forest. Its eggs are two, in color pale grayish or buffy, with brown and lavender markings.

The sexes in this species are readily distinguishable. The female differs from the male chiefly in having the broad light tips of the outer pairs of tail-feathers much smaller, and buff or light brownish instead of white; the light wing-patch much smaller, and ochraceous in place of white; also the rectrices, wing-quills, and greater wing-coverts much more strongly and distinctly barred with buff, ochraceous or tawny.

The juvenal plumage is in color similar to that of the adult, but on the upper surface is more blended, the markings there duller and less definite, those on pileum, scapulars, and tertials being finer; wing edgings more ochraceous; lower parts lighter, anteriorly more finely marked, and with throat-patch cream buff instead of white.

Seasonal change in adults consists chiefly in some paling of the plumage by wear, this sometimes resulting in the disappearance of the edges of the feathers, which latter, however, does not greatly change the general aspect of the plumage.

The molt is not well illustrated by the specimens at hand. An example of *Caprimulgus macrurus anamesus*² from Singapore (No. 175144, U.S.N.M.), collected on November 10, 1899, is molting both

¹ See p. 590.

² See p. 593.

wing-quills and contour feathers; and another bird from the same locality (No. 170441, U.S.N.M.), taken, May 19, 1899, is in the same condition. From these it may be inferred that the species, at least in adult stage, has two molts per year. Another Singapore bird (No. 170442, U.S.N.M.), taken, May 26, 1899, is just molting into the juvenal plumage.

As is the case with many goatsuckers there are two color phases in *Caprimulgus macrurus*. In one of these, which appears to be rather unusual, if not rare, the entire plumage is strongly rufescent, the abdomen particularly being more deeply ochraceous. In the other, which seems to be the normal phase, the tone of the plumage is very grayish throughout. While to a certain extent this rufescent or ochraceous tinge of the plumage is, in some cases, a subspecific character, in other cases it varies so markedly in examples of the same race that it forms a definite color phase. Other individual variations are found in the size of the white or buff tips of the outer tail-feathers, which light tips are either with or without dusky mottling on the outer webs; the coarseness of the bars and vermiculations on the anterior lower parts; and also, of course, in the size and shape of the light and dark mottlings on upper parts, wings, and tail.

The characters of value in subspecific distinctions lie chiefly in size (principally length of wing); the depth of general color tone of upper parts; the width and arrangement of the dark streaks on the pileum; the conspicuousness of the dark markings on the upper surface; and the size of the white spot on the primaries.

CAPRIMULGUS MACRURUS MACRURUS Horsfield.

Caprimulgus macrurus HORSFIELD, Trans. Linn. Soc. Lond., vol. 13, 1821, p. 142 (Java).

Caprimulgus macrourus GOULD, Birds Australia, vol. 2, 1848, pl. 9 (nom. emend. pro *Caprimulgus macrurus* Horsfield).

Caprimulgus salvadorii SHARPE, Proc. Zool. Soc. Lond., 1875, p. 99, pl. 22, fig. 1 (Labuan Island, northern Borneo).

Chars. subsp.—Size small and colors dark.

Measurements.—Male:¹ Wing, 170–188 (average, 179.2) mm.; tail, 131.5–147 (137.9); exposed culmen, 8.7–11 (9.7); tarsus, 16–17.5 (16.6).

Female:² Wing, 178–179 (average, 178.5) mm.; tail, 130–130.5 (130.3); exposed culmen, 9–10.2 (9.6); tarsus, 16–16.5 (16.3).

Type-locality.—Java.

Geographical distribution.—Java; Borneo; Labuan Island; Palawan and Calamianes islands in the Philippines; also probably the islands of Celebes,³ Saleyer,³ Djampea,³ Lombok,³ Sumbawa,³ and Timor.³

¹ Nine specimens, from Java, Borneo, and the Philippine Islands.

² Two specimens, from Java and Borneo.

³ No specimens examined from this locality.

Remarks.—This, the smallest of the dark forms of the species, was first described by Horsfield from Javan specimens.¹ There seems to be no constant appreciable difference in either size or color between the birds from Java and those from Borneo or the Philippine Islands. The *Caprimulgus salvadorii* of Sharpe,² from Labuan Island, North Borneo, is, therefore, a synonym of *Caprimulgus macrurus macrurus*. The colors of the unfeathered portions in this race are, in life, as follows: Iris dark brown; bill grayish brown, the tip black; feet grayish brown.

There are in *Caprimulgus macrurus macrurus* two color phases: one in which the entire plumage is of a grayish general tone and very dark; another which has a decidedly rufescent tone throughout, and is always somewhat, sometimes much, paler.

Measurements of specimens of Caprimulgus macrurus macrurus.

Museum and No.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed culmen.	Tarsus.
U.S.N.M. 219393 ³	Male....	Depok, Java.....	July 31, 1909	W. Palmer..	170	134	10.5	16.5
U.S.N.M. 219391 ³	do.....	Daroe, Java.....	June 20, 1909	do.....	180.5	147	8.7	16.5
M.C.Z. 60131 ³	do.....	Depok, Java.....	July 16, 1909	do.....	176.5	134	11	16
U.S.N.M. 210982 ³	do.....	Puerto Princesa, Palawan Island, Philippine Islands.	Jan. 3, 1906	A. Celestino and Can- ton.	172	131.5	10	16
J.H. Fleming 15158 ³	[Male]...	Labuan Island, northern Borneo.	Feb. —, 1892	A. H. Ever- ett.	183	139	10	16.5
A.N.S. Phila. 50530 ³	Male.....	do.....	June —, 1893	do.....	182	138	9.5	17.5
A.N.S. Phila. 50495 ³	do.....	do.....	May 13, 1893	do.....	175	131.5	—	17
A.N.S. Phila. 50496 ³	[Male]...	Kudat, northern Borneo.	Jan. —, 1895	J. B. Bell..	186	142	9	17
M.C.Z. 39662 ³	Male.....	Pontianak, Borneo.	Feb. 11, 1895	J. Büttikofer	188	144	9.2	16.5
A.N.S. Phila. 56191 ³	Female..	{Palaboean, Ra- toe, Java.	{Oct. 8, 1898 to Jan. 31, 1899	{J. Z. Kanne- gieter.}	178	130.5	10.2	16.5
A.N.S. Phila. 60859 ³	do.....	Baram, Sarawak, Borneo.	Jan. —, 1896	do.....	179	130	9	16

³ Used in measurement averages on p. 559.

CAPRIMULGUS MACRURUS MESOPHANIS, new subspecies.

Chars. subsp.—Like *Caprimulgus macrurus macrurus*, from Java, but much larger.

Description.—Type, adult male, No. 178092, U.S.N.M.; Amboina Island, Molucca Islands, June 12, 1897; C. Schädler. Upper parts deep clove brown, more or less mottled with tawny, ochraceous, buff, light brownish gray, and blackish clove brown, least so on back, but the pileum largely light brownish gray, medially with heavy streaks of blackish clove brown, forming a broad stripe, and the scapulars with broad subterminal areas of deep rich velvety blackish brown, and narrower terminal markings of buff and ochraceous, these latter wider on outer webs; an indistinct and much broken cervical collar

¹ Trans. Linn. Soc. Lond., vol. 13, 1821, p. 142.

² Proc. Zool. Soc. Lond., 1875, p. 99, pl. 22, fig. 1.

of tawny; wings dull clove brown, all the superior coverts, and the quills except the four outermost primaries, much mottled on both webs with buff, ochraceous or tawny, the greater, median, and longer lesser wing-coverts broadly tipped with buff, ochraceous buff or cream buff, forming three conspicuous, somewhat irregular wing-bars; a large white speculum on the four outer primaries, occupying only the inner web of the outermost feather, but both webs of the rest, and passing into an ochraceous buff smaller spot on the fifth quill; tail deep blackish clove brown, more or less mottled with dull light grayish brown and ochraceous, most so on the middle feathers, and chiefly in the form of irregular and partly obsolescent bars, the two exterior feathers on each side with very broad white ends, but the terminal portion of outer web of these two outer feathers laterally a little shaded with dusky; chin and sides of head tawny, barred and vermiculated with blackish clove brown, the auriculars ochraceous and but little marked with dark brown; lower throat and sides of the neck tawny and tawny ochraceous, heavily barred with blackish clove brown; upper throat triangularly white; breast grayish clove brown, so much barred and vermiculated with pale brownish, grayish, tawny, ochraceous, buff, and whitish that the ground color is largely obscured; abdomen, lining of wings, and lower tail-coverts ochraceous tawny, broadly barred with clove brown, the longest lower tail-coverts paler and but little barred.

Measurements.—Adult male: ¹ Wing, 189 mm.; tail, 140; exposed culmen, 10.5; tarsus, 14.

Type-locality.—Amboina Island, Molucca Islands.

Geographical distribution.—The Molucca Islands.

Remarks.—This race includes the large dark birds from the Molucca Islands and probably also neighboring islands to the south and east, which many authors have apparently considered the typical *Caprimulgus macrurus macrurus*. The latter really is, as already noted, a much smaller bird. The type of *Caprimulgus macrurus mesophanis* is the only specimen that we have actually examined.

CAPRIMULGUS MACRURUS YORKI Mathews.

Caprimulgus macrurus yorki MATHEWS, Novit. Zool., vol. 18, January 31, 1912, p. 291 (Cape York, northern Queensland, Australia).

Chars. subsp.—Similar to *Caprimulgus macrurus mesophanis*, but smaller.

Measurements.—Wing, 179 mm.²

Type-locality.—Cape York, northern Queensland, Australia.

Geographical distribution.—Northern Queensland.

Remarks.—This subspecies I have not seen, and if Mr. Mathews' measurements represent the average size, the race is but possibly

¹ One specimen, the type.

² Mathews, Novit. Zool., vol. 18, January 31, 1912, p. 291.

distinguishable. It comes very close to *Caprimulgus macrurus macrurus*, with which it seems to be practically identical in size, not smaller as Mr. Mathews says in the original description,¹ for he compared it evidently with the large form here separated as *Caprimulgus macrurus mesophanis*, instead of with the typical small bird from Java. I am here recognizing it largely on account of its isolated range as compared with *Caprimulgus macrurus macrurus*, and in the probability that careful comparison will reveal characters to separate it from the latter race.

CAPRIMULGUS MACRURUS KEATSI Mathews.

[*Caprimulgus*] *schlegelii* GRAY, Hand-List Gen. and Spec. Birds, vol. 1, 1869, p. 57 (Aru Islands; Dorey, New Guinea; Waigiou Island, Molucca Islands [type locality, Dorey, New Guinea]) (*nomen nudum*).

Caprimulgus macrurus keatsi MATHEWS, Novit. Zool., vol. 18, January 31, 1912, p. 291 (Point Keats, Northern Territory, Australia).

Chars. subsp.—Similar to *Caprimulgus macrurus mesophanis*, but smaller, and paler, both above and below.

Measurements.—Male:² Wing, 183 mm.; tail, 139; exposed culmen, 10; tarsus, 15.

Female:³ Wing, 174–182 (average, 177) mm.; tail, 132–136 (134.7); exposed culmen, 9.0; tarsus, 16.5.

Type-locality.—Point Keats, Northern Territory, Australia.

Geographical distribution.—Northern Territory of Australia; New Guinea; New Britain Island; Aru Islands; and probably also the Timorlaut Islands.

The single Australian specimen examined indicates that this is a recognizable race. Mr. Mathews in his original description⁴ states that it is *smaller* than *Caprimulgus macrurus macrurus*, but here again he has doubtless made comparison with *Caprimulgus macrurus mesophanis*, instead of the typical race from Java. This Australian bird is apparently of the same size as *Caprimulgus macrurus macrurus*, but is distinguishable by its paler coloration, particularly on the upper parts.

So far as I am able to judge from the limited series at my command, birds from New Guinea, allowing for the usual range of individual variation, do not differ in either size or color from typical *Caprimulgus macrurus keatsi* of the Northern Territory in Australia.

This subspecies was long ago given a tentative name by Mr. G. R. Gray,⁵ in the following fashion:

634. *Schlegelii*, n. sp. ?
macrurus, p., G. R. Gr.

Aru, Dorey, N.
G., Waigiou.

¹ Novit. Zool., vol. 18, January 31, 1912, p. 291.

² One specimen, from New Guinea.

³ Three specimens, from New Guinea and northern Australia.

⁴ Novit. Zool., vol. 18, January 31, 1912, p. 291.

⁵ Hand-List Gen. and Spec. Birds, vol. 1, 1869, p. 57.

Were this name not a *nomen nudum* it would supersede *Caprimulgus macrurus keatsi* Mathews.

Measurements of specimens of Caprimulgus macrurus keatsi.

Museum and No.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed culmen.	Tarsus.
M.C.Z. 54472 ¹	Male....	Port Moresby, New Guinea.	Aug. 17, 1883	S. F. Denton	mm. 183	mm. 139	mm. 10	mm. 15
A.N.S.Phila. 21842 ¹	Female..	Port Essington, Northern Territory, Australia.	.....	.....	175	136	9	16.5
M.C.Z. 54474 ¹.....	.....do.....	Port Moresby, New Guinea.	July 28, 1883	S. F. Denton	182	136	.....	.....
M.C.Z. 54473 ¹.....	.....do.....	.....do.....	.....do.....	.....do.....	174	132	9	16.5

¹ Used in measurement averages on p. 592.

CAPRIMULGUS MACRURUS ANAMESUS, new subspecies.

Chars. subsp.—Similar to *Caprimulgus macrurus macrurus*, but much paler and more grayish; like *Caprimulgus macrurus bimaculatus* in color, but much smaller.

Description.—Type, adult male, No. 175143, U.S.N.M.; Tanjong Kalong, Singapore Island, November 2, 1899; Dr. W. L. Abbott. Upper parts brownish gray, mottled with brownish black and ochraceous, the middle of the pileum with heavy black streaks forming a stripe, the scapulars with broad subterminal areas of rich velvety, slightly brownish, black, and narrower terminal markings of buff, these latter wider on outer webs; an indistinct collar of ochraceous; wings deep clove brown, all the superior coverts, and the quills except the outermost primaries, much mottled on both webs with ochraceous or buff, the greater, median, and longer lesser wing-coverts broadly tipped with buff, forming three conspicuous wing-bars; a large white speculum on the four outer primaries; tail brownish black, much mottled with light grayish brown and ochraceous, chiefly in the form of irregular bars, the two exterior pairs of feathers with very broad white ends; but the terminal portion of outer web of outermost feather partly dusky; chin and sides of head ochraceous, finely and closely vermiculated with blackish, the auriculars least so; lower throat and sides of neck ochraceous, the feathers with broad terminal or subterminal markings of black; upper throat triangularly white, posteriorly buffy; breast brownish gray, vermiculated with clove brown and pale ochraceous, many of the feathers with blackish shaft markings and buff tips; abdomen, lining of wing, and lower tail-coverts ochraceous buff, broadly barred with dark brown; "bill dark brown; feet brown; eye black."

Measurements.—Male: Total length (in flesh), 279.4 mm.¹

Female: Total length (in flesh), 285.8.²

Male:³ Wing, 183–189 (average, 185.8) mm.; tail, 141–143 (141.8); exposed culmen, 10–11 (10.6); tarsus, 14.5–15.5 (15).

Female:⁴ Wing, 169.5–186 (average, 175.8) mm.; tail, 131–141 (135); exposed culmen, 8–11 (9.7); tarsus, 15–16 (15.5).

Type-locality.—Tanjong Kalong, Singapore Island, Straits Settlements.

Geographical distribution.—Singapore Island and Sumatra.

Remarks.—So completely do the specimens of *Caprimulgus macrurus* from the island of Singapore combine the small size of the dark typical form from Java, with the pale coloration of the large *Caprimulgus macrurus bimaculatus* from the Malay Peninsula, that they seem worthy a name of their own. All the specimens we have examined from Sumatra belong to this race. It does not, however, extend farther northward, for birds from the neighboring mainland of the Malay Peninsula are *Caprimulgus macrurus bimaculatus*. It seems a little remarkable that the birds of this species from the island of Singapore, so near the Malay Peninsula mainland, should differ so much and resemble rather those of the distant island of Sumatra; but this bears out what we have noticed in other groups of birds, and indicates that the island of Singapore is, in some ornithological respects at least, faunally more closely allied to Sumatra and Borneo than to the Malay Peninsula.

Measurements of specimens of Caprimulgus macrurus anamesus.

Museum and No.	Sex.	Locality.	Date.	Collector.	Total length. ⁵	Wing.	Tail.	Exposed culmen.	Tarsus.
U.S.N.M. 175143 ⁶ .	Male....	Tanjong Kalong, Singapore Island. ⁷	Nov. 2, 1899	W. L. Abbott.	mm. 279.4	mm. 183	mm. 141	mm. 11	mm. 14.5
U.S.N.M. 175145 ⁶.	.....do.....	.....do.....	Nov. 26, 1899	.....do.....	279.4	189	143	10	15
U.S.N.M. 170440 ⁶.	.....do.....	Singapore Island.	May 15, 1899	.....do.....	.....	184	141	11	15
A.N.S. Phila. 21844 ⁶	.....do.....	Sumatra....	.....	.....	.....	187	142	10.2	15.5
U.S.N.M. 170441 ⁶ .	Female	Singapore Island.	May 19, 1899	W. L. Abbott.	285.8	186	141	10	15
A.N.S. Phila. 21843 ⁶	[Female].	Sumatra....	.....	.....	.....	169.5	133	8	15.5
A.N.S. Phila. 21846 ⁶	Female	.....do.....	.....	.....	.....	172	131	11	16

¹ Two specimens.

² One specimen.

³ Four specimens, from Singapore Island and Sumatra.

⁴ Three specimens, from Singapore Island and Sumatra.

⁶ Measured in the flesh by the collector.

⁶ Used in measurement averages on p. 594.

⁷ Type.

CAPRIMULGUS MACRURUS BIMACULATUS Peale.

Caprimulgus bimaculatus PEALE, U. S. Expl. Exp., vol. 8, Mamm. and Ornith., 1848, p. 170 ("Singapore": *i. e.*, Malacca, Malay Peninsula).

[*Caprimulgus*], *macrurus ambiguus* HARTERT, Ibis, 1896, p. 373 (Malay Peninsula, Burma, Assam, and the eastern Himalayas).

Chars. subsp.—Like *Caprimulgus macrurus anamesus*, but larger.

Measurements.—Male:¹ Total length (in flesh), 279.4–310 (average, 289.6) mm.; wing, 190–204 (193.5); tail, 135–161 (149.8); exposed culmen, 9–11.5 (10.2); tarsus, 15–17 (16.2).

Female:² Total length (in flesh), 279.4–292.1 (average, 285.8) mm.; wing, 192–199 (194.3); tail, 142–150 (145.7); exposed culmen, 9.5–11 (10.3); tarsus, 15.5–16.5 (16).

Type-locality.—Malacca, Malay Peninsula.

Geographical distribution.—Malay Peninsula, north to Tenasserim, Burma, Assam, and Province of Yunnan, southwestern China; and east to Siam, Cambodia, and Cochin China.

Remarks.—This race is very well differentiated from *Caprimulgus macrurus macrurus*, being much larger and of lighter coloration, especially on the upper surface. The colors of the unfeathered parts in life are as follows: Iris dark brown; bill brown, the tip black; feet brown, the claws dark brown or black. Like *Caprimulgus macrurus macrurus*, the present race exhibits two color phases, (1) a grayish and darker, and (2) a rufescent and paler condition, neither of which seems to be at all correlated with sex or age.

A single adult female (No. 62037, Museum of Comparative Zoölogy) from Mongtsh, in the Province of Yunnan, southwestern China, apparently does not materially differ from Malay Peninsula specimens, though it is rather darker, both above and below, than the average of *Caprimulgus macrurus bimaculatus*:

This subspecies has been recently described by Doctor Hartert, under the name *Caprimulgus macrurus ambiguus*,³ to include the birds from the Malay Peninsula, Burma, Assam, and the eastern Himalayas, but without any definite type locality. Peale's earlier name *Caprimulgus bimaculatus*⁴ is, however, undoubtedly applicable to this race, and must therefore unfortunately supplant *Caprimulgus macrurus ambiguus* Hartert. In the original description⁴ Peale says: "The specimen was obtained at *Singapore*;" but on a later page,⁵ in his Catalogue of Specimens obtained by the United States Exploring Expedition, he gives only *Malacca* for *Caprimulgus bimaculatus*. The type specimen, now in the United States National Museum,

¹ Eight specimens, from Tenasserim, Lower Siam, and Malacca, Malay Peninsula.

² Three specimens, from Lower Siam, and Yunnan, China.

³ Ibis, 1896, p. 373.

⁴ U. S. Expl. Exp., vol. 8, Mamm. and Ornith., 1848, p. 170.

⁵ Idem, p. 327.

bears two labels. The older, and probably original one of these is a manuscript label and reads:

Caprimulgus bimaculata
Malacca 14583 Peale
U S Ex — Ex —

The later label, used on the stand when the bird was part of a mounted museum exhibit, is the regular large partly printed label found on all the United States Exploring Expedition specimens, and is as follows:¹

U. S. Expl. Exped. Capt. C. Wilkes, U. S. N.
14583. *Caprimulgus albonotatus*, Tickell.
The White-spotted Goatsucker.

P. 504.

C. 385.

Obt'ed at Singapore.

T. R. Peale.

Furthermore, the specimen itself, which is in a good state of preservation, is clearly an example of the form from the Malay Peninsula, not of *Caprimulgus macrurus anamesus* from Singapore, as the measurements given below indicate. There seems to be no doubt, therefore, that the type-specimen of Peale's *Caprimulgus bimaculatus* really came from Malacca, and that, consequently, the statement that it was obtained at Singapore² is an error, or, more probably, a lapsus of pen or memory.

Measurements of specimens of Caprimulgus macrurus bimaculatus.

Museum and No.	Sex.	Locality.	Date.	Collector.	Total length. ³	Wing.	Tail.	Exposed cul- men.	Tarsus.
					mm.	mm.	mm.	mm.	mm.
U. S. N. M. 180366 ⁴ .	Male....	Telok Besar, Tenasserim, Burma.	Mar. 1, 1904	W. L. Abbott.	310	193	161	11.5	15
U. S. N. M. 180367 ⁴ .	do.....	do.....	do.....	do.....	295	204	160	11	16.5
U. S. N. M. 160169 ⁴ .	do.....	Trong, Lower Siam.	Dec. 19, 1896	do.....	285.8	192	153.5	10.5	16
U. S. N. M. 169757 ⁴ .	do.....	do.....	Jan. 28, 1899	do.....	279.4	191	135	10	16.5
U. S. N. M. 160168 ⁴ .	do.....	do.....	Sept. 6, 1896	do.....	285.8	193	146	9.5	15.5
U. S. N. M. 153695 ⁴ .	do.....	do.....	Mar. 13, 1896	do.....	292.1	193	144	10	17
U. S. N. M. 169756 ⁴ .	do.....	do.....	Jan. 5, 1899	do.....	279.4	190	148	10	16
U. S. N. M. 14583 ⁴ .	[Male].	Malacca, Malay Peninsula. ⁵	.....	T. R. Peale.	.....	192	151	9	17
U. S. N. M. 153696 ⁴ .	Female.	Trong, Lower Siam.	Mar. 24, 1896	W. L. Abbott.	279.4	192	145	11	15.5
U. S. N. M. 153697 ⁴ .	do.....	do.....	Apr. 14, 1896	do.....	292.1	199	150	10.5	16.5
M. C. Z. 62037 ⁴ .	do.....	Mong t sz, Yunnan, China.	Dec. 4, 1910	Kobayashi.	.....	192	142	9.5	16

¹ The portions in *italics* were inserted with a pen.

² U. S. Expl. Exp., vol. 8, Mamm. and Ornith., 1848, p. 170.

³ Measured in the flesh by the collector.

⁴ Used in measurement averages on p. 595.

⁵ Type.

CAPRIMULGUS MACRURUS ALBONOTATUS Tickell.

Caprimulgus albonotatus TICKELL, Journ. Asiat. Soc. Bengal, vol. 2, 1833, p. 580 (Dampara, in Dholbhúm, Bengal, India).

Chars. subsp.—Resembling *Caprimulgus macrurus bimaculatus*, but decidedly larger; ground color of upper parts lighter, more buffy or ochraceous; streaking on the crown less extensive, more confined to the median portion.

Measurements.—Male: ¹ Wing, 208 mm.; tail, 173; exposed culmen, 11.7; tarsus, 16.

Female: ² Wing, 204–214 (average, 209) mm.; tail, 156–162 (159); exposed culmen, 10; tarsus, 18–18.5 (18.3).

Type-locality.—Dampara, in Dholbhúm, Bengal, India.

Geographical distribution.—Northeastern India: North to the North-western Provinces; west to Simla and the central Provinces (Raipur); south to Raipur, Chota Nagpur, and Bengal; and east to Bengal.

Remarks.—There seems to be little doubt that this bird is, as noted by Doctor Hartert,³ a subspecies of *Caprimulgus macrurus*. It is readily distinguishable from all the other forms of the species, excepting *Caprimulgus macrurus nipalensis*, by its very large size. As in other forms of the species, there are two color phases in *Caprimulgus macrurus albonotatus*, though they are not so strongly marked as in *Caprimulgus macrurus macrurus*. One is rather dark with a more brownish or grayish tone both above and below, the other is decidedly lighter and more rufescent throughout.

Measurements of specimens of Caprimulgus macrurus albonotatus.

Museum and No.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed culmen.	Tarsus.
A.N.S. Phila. 21849 ⁴	Male....	India.....			mm. 208	mm. 173	mm. 11.7	mm. 16
A.N.S. Phila. 21850 ⁴	Female....	.....do.....			214	156	10	18
A.N.S. Phila. 21848 ⁴	[Female]	.....do.....			204	162	.....	18.5

⁴ Used in measurement averages on p. 597.

CAPRIMULGUS MACRURUS NIPALENSIS Hartert.

[Caprimulgus]. nipalensis HODGSON, in Gray's Zool. Misc., No. 3, 1844, p. 82 (*nomen nudum*).

[Caprimulgus]. nipalensis HARTERT, Cat. Birds Brit. Mus., vol. 16, 1892, p. 541 (Hodgson MS.) (Nepal).

[Caprimulgus]. macrurus nipalensis HARTERT, Ibis, 1896, p. 373 (Hodgson MS.) (Nepal and the Western Himalayas).

Chars. subsp.—Similar to *Caprimulgus macrurus albonotatus*, but dark markings above bolder and more distinct; head more grayish; lower parts less rufescent, and more strongly barred.

¹ One specimen, from India.
² Two specimens, from India.
³ Ibis, 1896, p. 372.

Measurements.—Like those of *Caprimulgus macrurus albonotatus*.¹

Type-locality.—Nepal.

Geographical distribution.—Nepal; probably also Sikkim, Darjiling, and Bhutan.

Remarks.—This form shares the large size of *Caprimulgus macrurus albonotatus*, and by this alone is separable from all the other subspecies. We have seen no authentic examples, but it is apparently a recognizable race. It was first characterized from Nepal specimens by Doctor Hartert in his account of *Caprimulgus macrurus albonotatus*, in volume 16 of the Catalogue of Birds in the British Museum, 1892, p. 541, and the manuscript name *Caprimulgus nipalensis* Hodgson applied to it, although it was not here formally recognized. The name, however, must date from this characterization, which is perfectly explicit.

CAPRIMULGUS MACRURUS ATRIPENNIS Jerdon.

[*Caprimulgus*] *atripennis* JERDON, Illust. Ind. Orn., 1847, text to pl. 24 (Eastern Ghauts, southern India).

Caprimulgus spilocircus GRAY, List. Spec. Birds Brit. Mus., pt. 2, sect. 1, Fisirostres, 1848, p. 7 (based on *Caprimulgus macrourus* Jerdon, Ill. Orn., text to pl. 24; and *Caprimulgus mahrattensis* Jerdon, Madras Journ. Lit. and Sci., vol. 11, 1840, p. 234 [Jaulnah, India]; idem, vol. 13, pt. 2, December, 1844, p. 143 [Eastern Ghauts]).

Chars. subsp.—Similar to *Caprimulgus macrurus nipalensis*, but much smaller and darker. Resembling *Caprimulgus macrurus macrurus*, but ground color of crown more finely mottled with dark brown, and the dark brown streaks more confined to the median line; white spot on the outer primaries more restricted, that on second quill not forming a complete band, but interrupted at the shaft.

*Measurements.*²—Total length, 264.2–279.4 mm.; wing, 165.1–190.5; tail, 129.5–152.4; tarsus, 17.8.

Type-locality.—Eastern Ghauts, southern India.

Geographical distribution.—Ceylon, and extreme southern India, north on the western side to Belgaum, and on the eastern side to Godaverī.

Remarks.—This is another race that I have not seen, but it is without much doubt recognizable, and a subspecies, as contended by Doctor Hartert.³

¹ Hartert, Tierreich, Lief. 1, 1897, p. 54.

² Compiled from published measurements given by Blanford (Fauna Brit. India, Birds, vol. 3, 1895, p. 189), Jerdon (Birds of India, vol. 1, 1862, p. 196), Hartert (Cat. Birds Brit. Mus., vol. 16, 1892, p. 543), and Legge (Ibis, 1874, p. 12).

³ Ibis, 1896, p. 372.

KEY TO THE SUBSPECIES OF *CAPRIMULGUS MACRURUS*, BASED ON ADULT MALES.

- a*¹. Larger (wing nearly always more than 200 mm.).
- b*¹. Upper parts with dark markings bolder and more distinct; head more grayish; lower parts less rufescent and more strongly barred.
Caprimulgus macrurus nepalensis (p. 597).
- b*². Upper parts with dark markings less bold and distinct; head less grayish; lower parts more rufescent and less strongly barred.
Caprimulgus macrurus albonotatus (p. 597).
- a*². Smaller (wing nearly always less than 200 mm.).
- b*¹. Upper surface darker.
- c*¹. White spot on primaries smaller, that on second quill (counting from outermost) not forming a complete band; dark brown streaks of crown more confined to median line. *Caprimulgus macrurus atripennis* (p. 598).
- c*². White spot on primaries larger, that on second quill (counting from outermost) forming a complete band; dark brown streaks of crown less confined to median line.
- d*¹. Size larger (wing averaging more than 185 mm.).
Caprimulgus macrurus mesophanis (p. 590).
- d*². Size smaller (wing averaging less than 185 mm.).
Caprimulgus macrurus macrurus (p. 589).
Caprimulgus macrurus yorki (p. 591).
- b*². Upper surface lighter.
- c*¹. Size less (wing usually under 180 mm.). *Caprimulgus macrurus keatsi* (p. 592).
- c*². Size greater (wing usually over 180 mm.).
- d*¹. Larger (wing averaging 193.5 mm.).
Caprimulgus macrurus bimaculatus (p. 595).
- d*². Smaller (wing averaging 185.8 mm.).
Caprimulgus macrurus anamesus (p. 593).