Family MICROPODIDÆ

Vol. I., p. 122.

Throughout the hills of the Malay Peninsula this family is very common, and probably all the species that are known from the area will at one time or another be found within the limits of the present volume, except the Malay house-swift and one or two of the edible-nest swiftlets, which are very difficult to distinguish, and some of which appear to be purely coastal.

KEY TO THE SPECIES HERE DESCRIBED

		· ·
ĺ	Tail much stiffened, with naked,	
ΙÍ	needle-like bristly points	2
1	Tail not so stiffened	5
2 {	Wing exceeding 6.5 in.; rump dark .	3
	Wing less than 5.5 in.; rump grey .	Rhaphidura leucopygialis, p. 63
	Smaller, wing less than 7.5 in.; chin	
3		Hirundapus cochinchinensis, p. 63
	Larger, wing nearly 8 in.; chin and	
	throat darker brown	A
		Hirundapus gigantea indica, p. 62
4		Hirundapus gigantea gig ant ea,
	Feathers before the eye, black .	p. 62
5	To a all dimental formulands	
	Toes all directed forwards	Micropus pacificus cooki, p. 64
	Toes not all directed forwards .	
	Tail much forked	Tachornis batassiensis infumatus,
6 -		p. 65
	Tail not or only slightly forked .	7
	Much smaller, wing less than 4.5 in.;	
7	feathers below broadly margined	
	with white	Collocalia linchi cyanoptila, p. 66
	Much larger, wing more than 5'1 in.;	
	feathers below, uniform	8
8 ~	More glossy black; wing exceeding	
	6 in	Collocalia gigas, p. 65
	Browner, less glossy; wing not more	
	than 5.5 in.	Collocalia innominata, p. 65
	61	
	~ -	

Hirundapus gigantea gigantea

The Large Spinetail Swift

Vol. I., p. 123.

This magnificent swift, one of the fastest fliers of all known birds, is very common at certain times, flying round mountain-tops, especially in the early morning and in the afternoon during and after rain. In the various passes, such as the Semangko Pass, Ginting Bidei and Ginting Simpah, it is also very numerous. Though flight is extraordinarily rapid, certainly up to eighty miles an hour, it is very direct, and when once the pace has been correctly estimated a good shot has no great difficulty in obtaining a series.

This form is the resident Malay race. It is also found in Borneo, Java, Sumatra and Palawan, and as far north as the extreme south of Tenasserim.

Hirundapus gigantea indica

The Large Indian Spinetail Swift

Chætura indica, Hume, Stray Feath., i., 1873, p. 471 (Andamans); Hartert, Cat. Birds, Brit. Mus., xvi., 1892, p. 475; Blanford, Faun. Brit. Ind., Birds, iii., 1895, p. 175; Robinson, Journ. Fed. Malay States Mus., ii., 1909, p. 174.

Hirundapus giganteus indicus, Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.) iv., 1927, p. 343.

Malay Name.—Layang layang besar.

Description.—Exactly like H. g. gigantea except that in typical specimens the lores are pure white.

Soft Parts.—"Iris, dark brown; bill, black; feet, from pale livid flesh-colour to dark purplish brown" (*Stuart Baker*).

Dimensions.—The same as in H. g. gigantea. Total length, 9 to 9.5 in.; wing about 8 in.

Range in the Malay Peninsula.—A small proportion of the birds obtained in the Malay Peninsula as far south as Selangor are either this form, or birds intermediate between it and H. g. gigantea, with the lores pale or whitish.

Extralimital Range.—Replaces *C. g. gigantea* in Southern India and Ceylon; Assam, Manipur and Burma to the extreme south of Tenasserim; the Andaman Islands, Northern Siam.

Nidification.—Not likely to be found breeding in the Malay Peninsula. In Southern India the bird breeds in hollow trees, laying three to five eggs, broad ovals in shape, white in colour, of a very coarse texture, and averaging 1.21 by 0.87 in. in dimensions.

Habits.—Precisely those of the other larger members of the genus.

Hirundapus cochinchinensis

The Cochin-China Spinetail Swift

Chætura cochinchinensis, Oustalet, Bull. Soc. Philomath., 1878, p. 52 (Saigon, Cochin-China); Hartert, Cat. Birds, Brit. Mus., xvi., 1892, p. 491; id. Ibis, 1896, p. 376; Robinson, Journ. Fed. Malay States Mus., ii., 1909, p. 175.

Hirundinapus klaesii, Buttikofer, Notes Leyd. Mus., ix., 1887, p. 40 (West Sumatra).

Hirundapus caudacutus cochinchinensis, Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1827, p. 342.

Malay Name.—Layang layang.

Description.—Head and nape, external aspect of wings, greater upper wing coverts and tail, glossy black, with a strong steely green lustre, more bluish on the tail coverts and tail; mantle and rump, smoky brown, much paler on the middle of the back; inner secondaries, brownish on their inner webs. Wing lining, slaty black, the greater wing coverts and axillaries, dark smoky brown, the lesser coverts steely green, as the outer coverts; lores, velvety brown. Beneath, smoky brown, paler on the chin and throat, darker on the belly; under tail coverts and a narrow stripe running up the flanks, pure white.

Soft Parts.—Iris, dark brown; bill, black; feet, purplish, varying in tint to pale lavender; claws, black or dark horn.

Dimensions.—Total length, about 9 5 in.; wing, 7 1 to 7 3 in.; tail, 1 9 to 2 1 in.; tarsus, 0 6 in.; bill from gape, 0 6 in.; culmen, 0 35 in.

Range in the Malay Peninsula.—Probably widely distributed along the central range, but known as yet only from the Larut Hills and from Fraser's Hill and the Semangko Pass on the Selangor-Pahang boundary.

Extralimital Range.—The Assam Hills, Cachar, Manipur and North Tenasserim, and probably the greater part of the Indo-Chinese countries in suitable localities; Cochin-China and West Sumatra.

Nidification.—Probably not a breeding bird in the Malay Peninsula. Stuart Baker found nests and young in North Cachar at the end of April in deserted limestone quarries and caves. The nests were large shallow oval cups made of scraps of moss and moss roots, interwoven with bear's hair and compacted with the bird's saliva. An oviduct egg measured I'II by o'83 in.

Habits.—This spinetail is probably only a winter visitor to the Malay Peninsula, but has been met with in numbers in November and February, flying with the larger species, and distinguishable when on the wing only by its somewhat smaller size and less-rapid flight. Unlike the other species it is not known to occur away from the hills.

Rhaphidura leucopygialis

The Grev-rumped Spinetail Swift

Vol. I., p. 124.

This species, which is very much smaller than the other spinetails, is distinguished by its glossy black plumage, with grey rump, and rather different

habits. It is probably widely distributed through the hills of the Peninsula, but has been obtained on only two or three occasions. It frequents the edges of clearings and the banks of streams running through thick jungle, often flying low, with a more zigzag action than its larger relatives. Nothing is known of its nidification, but the nests will probably be found on cliffs and plastered against overhanging rocks.

Micropus pacificus cooki

The Burmese White-rumped Swift

Cypselus pacificus cooki, Harington, Bull. Brit. Orn. Club, xxxi., 1913, p. 57 (Goteik, North Shan States), Robinson, Journ. Fed. Mal. States Mus., vii., 1917, p. 155.

Micropus pacificus cooki, Chasen and Kloss, Journ. Malay Branch, Roy. Asiat. Soc., iii., 1925, p. 102; Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 124.

Malay Name.—Layang layang.

Description.—Above, including the external aspect of the wings, dark brownish black, the mantle and tail more glossy, with a greenish cast, the head browner; a narrow band of sullied white on the rump, the feathers with brownish black shaft stripes, broadening towards the tips; under wing coverts, blackish tipped with white. Beneath chin and throat, whitish, with black shaft stripes; breast and belly, blackish, the feathers narrowly fringed with white, producing a scaly effect. Under tail coverts, almost uniform glossy black, with duller edges.

Soft Parts.—Iris, dark; bill, black; feet, pinkish black.

Dimensions.—Total length, about 8 in.; wing, 6.7 to 6.9 in.; tail, 3 to 3.2 in.; tarsus, 0.45 to 0.5 in.; bill from gape, 0.45 in.; culmen, 0.3.

Range in the Malay Peninsula.—Recorded from the summit of Kedah Peak, the Semangko Pass and Fraser's Hill; Bukit Tangga, Negri Sembilan.

Extralimital Range.—Not well defined at present; abundant in the Northern and Southern Shan States, and recorded from Upper Assam and North Tenasserim.

Nidification.—Probably not a breeding bird in the Malay Peninsula. (Cf. Bomb. Nat. Hist. Soc., xxiii., 1914, p. 155.)

Habits.—It is probable that this swift comes south from its breeding-grounds in the Shan States during the winter months. Early in December we noted it in large numbers flying over the summit of Kedah Peak, and we have seen it, but not obtained it, on Gunong Ijau, in the Taiping Hills. In the low country the large and browner typical race, which breeds in Eastern Asia and Japan and winters as far south as Australia, is not uncommon in the winter months.

Tachornis batassiensis infumatus

The Eastern Palm-Swift

Vol. I., p. 126, pl. 10 (left-hand figure).

Fairly common in the hills up to an altitude of 4000 ft. or higher, but apparently dependent on the occurrence of the large-leaved palms, *Livistona* and *Borassus*, on which it breeds. Half-way up Gunong Tahan, on steep rocky slopes, where a peculiar species of *Livistona* (*L. tahanensis*, Becc.) was very abundant, this swift was at times very numerous. In life and on the wing it can readily be distinguished from the edible-nest swiftlets by its twisting flight and longer, deeply forked tail.

Collocalia innominata

Hume's Swiftlet

Vol. I., p. 128.

Distinguished by its almost uniform dark smoky brown tint, with a paler band on the rump, clearly visible in flight. Size, larger than most of the swiftlets, total length and that of wing about 5.5 in. Common on Fraser's Hill down to the Semangko Pass, and also on the summits of Gunong Mengkuang Lebar and Gunong Ulu Kali, Selangor, as well as on the Larut Hills; probably widely distributed over the other mountain ranges, though not actually recorded from them.

Collocalia gigas

The Giant Swiftlet

Collocalia gigas, Hartert and Butler, Bull. Brit. Orn. Club, xi., 1902, p. 65 (Interior of Selangor); Stresemann, Mitteil. Zool. Mus., Berlin, xii., Band I, H, 1925, p. 188; Robinson and Kloss, Journ. Fed. Malay States Mus., xi., 1924, p. 245, pl. viii. (right-hand figure).

Malay Name.—Layang layang.

Description.—Sexes alike. Size, larger than any other of the genus. Tarsus, bare except for the upper fourth in front. General colour, blackish brown, without any pale band on the rump, somewhat glossed with dark greenish on the mantle and wings; lower surface rather less dark.

Soft Parts.—"Iris, black or very dark brown; bill and feet, black" (Jacobson).

Dimensions.—Total length, about 6 in.; wing, 6'2 to 6'4 in.; tail, 2'5 in.; tarsus, 0'6 in.

Range in the Malay Peninsula.—Known only from a single female obtained on the Semangko Pass, Selangor, 2700 ft., by Mr A. L. Butler in 1900.

Extralimital Range.—Java and Sumatra, where two specimens were obtained by Mr E. Jacobson at Balun, in the Padang Highlands, at an elevation of about 1600 ft.

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Nidification.—Unknown.

Habits.—Nothing whatever is known of the habits of this extremely rare swiftlet, of which only four specimens are on record. Its real breeding habitat remains to be discovered.

Collocalia linchi cyanoptila

The Malayan White-bellied Swiftlet

Collocalia linchi cyanoptila, Oberholser, Proc. Acad. Nat. Sci. Philad., 1906, p. 205 (Bunguran, Natuna Islands).

Collocalia linchi, Hartert, Cat. Birds, Brit. Mus., xvi., 1892, p. 174; Butler, Journ. Straits Branch, Roy. Asiat. Soc., No. 32, 1899, p. 27; Robinson, Journ. Fed. Malay States Mus., ii., 1909, p. 174.

Collocalia linchi elachyptera (part), Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 353.

Malay Name.—Layang layang kechil.

Description.—Sexes alike. Tarsus, almost bare. Above, glossy black, with a strong greenish sheen on the mantle, becoming much more bluish on the tail coverts and tail, and a very dark blue on the outer aspect of the wings; under wing coverts, dark steely green. Beneath, chin, throat and breast, dark greyish brown, the latter with extremely narrow white edgings; lower breast and flanks, steely black, with broad white edges; the middle of the belly white, with narrow black shaft stripes. Under tail coverts, steel-green, strongly tinged with blue, the lateral ones with narrow fringes of dirty-white.

Soft Parts.—Iris, dark; bill, black; feet, purplish or brownish black.

Dimensions.—Total length, about 5 in.; wing, 4 to 4'2 in.; tail, 1'5 to 1'65 in.; tarsus, 0'3 to 0'35 in.; bill from gape, 0'23 in.; culmen, 0'18 in.

Range in the Malay Peninsula.—Recorded from the Larut Hills, Fraser's Hill, the Semangko Pass and the summit of Gunong Pulai, Johore. In the low country is also known from Malacca, Johore and Singapore Island.

Extralimital Range.—N.E. Sumatra, Lingga Island, the Natunas and Borneo. Extremely closely allied races inhabit the Andaman and Nicobar Islands, the Mergui Archipelago, and probably the northern third of the Malay Peninsula, Java, and the islands to the eastward, high elevations in Borneo, and certain of the Philippine Islands.

Nidification.—At the Tea Gardens, on the Larut Hills, Butler records this species as attempting to build its nest in houses. In the Andamans the very closely allied race, C. l. affinis, breeds in caves and also under the eaves of buildings from December to May. Osmaston describes the nests as built in thick clusters, "of Casuarina leaves, seaweed and human hair, consolidated and matted together with saliva," and Baker mentions some made almost purely of saliva. One or two eggs are laid, white, somewhat oval in shape, averaging, according to Baker, 0.69 by 0.44 in.

Habits.—Those of the genus, but in the Malay Peninsula much less coastal

than the other species, with a much weaker flight. Often met with in large flocks, especially in the afternoon and early evening after heavy rain, hawking for mosquitoes, small flies and beetles.

Family Hemiprocnitidæ

Tree-Swifts

Though belonging to the same order, the tree-swifts fully merit separation from the other swifts (Micropodidæ) as a distinct family, which, for nomenclatural reasons, must now be called Hemiprocnitidæ, though more generally known as Macropterygidæ or Dendrochelidonidæ. Apart from certain anatomical distinctions, they differ from the other swifts in numerous external characters, amongst which may be mentioned the much longer tail and shorter wing and a very short tarsus. The plumage is brighter than that of the other swifts and very soft; the head is crested in some species and adorned with white moustachial plumes in others; the sexes differ slightly in plumage and that of the young bird is very distinct. Flight is less powerful than in the Micropodidæ and the birds perch much on high outstanding branches. The nidification is very peculiar, the nests being very minute for the size of the bird. Only one egg is laid, white or greyish white in colour.

The family consists of one genus only, with five species, ranging through Southern Asia and the Malay Archipelago to the Philippines, New Guinea and the Solomon Islands, but not to Australia. Two species are Malayan.

KEY TO THE SPECIES

Hemiprocne longipennis harterti

The Malayan Crested Tree-Swift

Hemiprocne longipennis harterti, Stresemann, Nov. Zool., xx., 1913, p. 339 (N.E. Sumatra); Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 356.

Macropteryx longipennis (Rafin.), Hartert, Cat. Birds, Brit. Mus., xvi., 1892, p. 514; Sharpe, P.Z.S., 1888, p. 278; Robinson, Journ. Fed. Malay States Mus., ii., 1909, p. 175.

Dendrochilidon klecho (Horsf.), Bernstein, Journ. für Orn., 1859, p. 183, pl. 2 (nest and eggs).

Malay Name.—Layang layang bĕrjambul.

Description.—Adult male.—Head and mantle, bronzy green, with an oily lustre; wing coverts and outer secondaries the same, but darker; primaries

blackish, with a steely blue lustre, brownish on the inner webs; scapulars and innermost secondaries, greyish white at the tips. Under wing coverts and axillaries, dark bronzy green. Tail feathers, black, with a greenish lustre. Middle of back and rump, grey, the longest tail coverts as the tail. Lores, blackish, ear coverts, deep chestnut. Under surface, grey, with an oily green gloss, the middle of the abdomen, pure white. On each flank a patch of close-set downy feathers, with the bases broadly white. Under tail coverts somewhat paler, purer grey than the rest of the under surface.

Adult female.—Like the male, but the ear coverts steely bronze-green, like the crown.

Soft Parts.—"Iris, black or very dark brown; bill, black; feet, purplish grey, claws, black" (*Jacobson*).

Dimensions.—Total length, about 8 in.; wing, 6 i to 6 7 in.; tail, 3 7 to 4 in.; tarsus, 0 3 in.; bill from gape about 0 35 in.; culmen, 0 2 in.

Range in the Malay Peninsula.—Common in most hill jungles, especially near water and on the edges of small clearings, up to a height of about 3000 ft. Butler says he has seen it as high as 5000 ft., but this must be rare.

Extralimital Range.—Southern Tenasserim and Siam; Borneo, Sumatra and adjacent small islands. Replaced in Java by the very closely allied typical race, *H. l. longipennis* (Rafin.).

Nidification.—I have seen neither nest nor eggs from the Malay Peninsula. Baker (loc. cit.) describes a nest and egg, taken by the late Major Moulton, near Kuching, Sarawak, on 28th February: "The nest was in a small tree attached to a branch about 25 ft. from the ground. The egg, when taken, was of a distinct blue-grey, but has now much faded. Measurements, r'03 by 0'68 in."

Habits.—This tree-swift is a bird of fairly open forest country, especially along the rivers, and has a wide range in altitude, being quite common at sealevel. It is met with in small parties of seven or eight individuals and flies with an undulating action very much less rapidly than the true swifts. The note is very much that of the Malay house-swift, but is louder and less shrill. Though flying in small parties each pair seem to have their own particular perch, usually some lofty dead bough overhanging water, to which they repeatedly return, like a flycatcher, after a short wheeling flight in search of food—mosquitoes and small flies, beetles, moths and, sometimes, butterflies.

Hemiprocne comata comata

The Tufted Tree-Swift

This species is similar in habits and distribution to the preceding, but is very rarely found above an altitude of 2500 ft., and therefore will be described in detail in a succeeding volume. It may at once be distinguished by its smaller size (wing seldom exceeding 5 in.), its darker colouring, and by the long and conspicuous white plumes on the sides of the head—one above the eye and one running from the angle of the gape.