Family MICROPODIDÆ

The swifts (*Micropodidæ*) are well represented in the Peninsula and can easily be recognized by their great powers of flight, the wings being long, projecting far beyond the end of the tail, which is varied in form, being sometimes forked, with the outer tail feathers much the longest, square, or stiffened and provided with bare points (*Chæturinæ*). The bill is flattened with a large gape and slightly hooked at the tip. The feet are feeble, the toes either all directed forwards, or two backwards and two forwards, or one backwards and three forwards.

The plumage is dull blackish or brownish, sometimes with white bands on the flanks and rump. The tree-swifts (*Macropterygidæ*), which are brighter coloured birds, with ornamental plumes on the head, are now usually regarded as a separate family.

From the swallows, to which they have some superficial resemblance, the swifts are distinguished by many anatomical characters, and externally by the feet, which in the swallows are those of a typical passerine bird.

Being purely insectivorous, the swifts are restricted to the warmer portions of the globe, but many species migrate to the temperate zones in summer and breed there.

The nests are varied in form, but the eggs are always white, without gloss. The young are hatched naked.

About fifteen species of swifts are known from the Malay Peninsula. Several are species of *Collocalia*, producing edible nests, and are difficult to discriminate.

KEY TO SPECIES HERE DESCRIBED

	Tail much stiffened, with naked,	
I	Tail much stiffened, with naked, needle-like bristly points.	2 .
	Tail not so stiffened	4
2	Wing exceeding 6.5 in.; rump dark	3
2	Wing exceeding 6.5 in.; rump dark Wing less than 5.5 in.; rump grey.	Rhaphidura leucopygialis, p. 124
	Lores (feathers before the eye), dark	
3	brown or black	Hirundapus gigantea gigantea, p. 123
	Lores white	Hirundapus gigantea indica, p. 124
4	Toes all directed forwards	5
	Toes not all directed forwards .	6

_	Larger, plumage below more or less tipped with white . Smaller, plumage below not so	Micropus pacificus pacificus, p. 124
		Micropus affinis subfurcatus, p. 125
6 -		Tachornis batassiensis infumatus, p. 126
	Tail nearly square	Collocalia innominata, p. 127

Hirundapus gigantea gigantea

The Large Spinetail Swift

Cypselus giganteus, Temm., Pl. Col., 364, 1825 (Java). Chætura gigantea, Hartert, Cat. Birds, Brit. Mus., xvi., 1892, p. 475. **Malay Name.**—Layang layang.

Description.—Adult.—Forehead, crown, hind neck, sides of the head, outer aspects of wings and tail, glossy black, with a steel-blue tinge. Mantle, back and rump, smoky brown, palest in middle of back; upper tail coverts, black; lores, very dark brown. Under surface, smoky brown, palest on throat; stripe on flanks and under tail coverts, white, the outer sometimes with very fine shaft stripes. Inner aspect of wing axillaries and under wing coverts very dark brown, black at edges of wing. Tail feathers narrowing gradually to the tips; spines very long.

Soft Parts.—Irides, dark brown; legs and feet, dark purple (Kelsall).

Dimensions.—Total length, 9 to 9'5 in.; wing, 7'9 to 8'2 in.; tail, 2'7 to 3 in.; the spines, 0'6 to 0'7 in.; tarsus, 0'6 to 0'7 in.

Range in the Malay Peninsula.—Throughout its length; Penang, Singapore—or at any rate the islands in the immediate vicinity.

Extralimital Range.—Just reaching Southern Tenasserim; Borneo, Sumatra, Java and Palawan. Not recorded from Siam or other Indo-Chinese countries.

Nidification.—The nesting habits of this form are not known. Mr Baker found the nests of the closely allied H. g. cochinchinensis in the North Cachar Hills, at the end of April. They were large shallow oval cups attached to the walls of limestone caves and composed of moss and mud. They measured 6 by $3\frac{1}{2}$ in. outside, $4\frac{1}{2}$ by 3 in. inside, and were nearly an inch deep. Only fragments of eggs, which were white and devoid of gloss, were found, but in one nest were three young birds.

Habits.—This swift is very widely spread throughout Malaya, but is of very uncertain distribution, and may be present in a locality in considerable numbers one day and then disappear altogether for months. It is resident in the country throughout the year. It likes hawking over the summits of hills and mountains, and is a bird of extremely powerful and rapid flight—the rate having been estimated as exceeding eighty miles an hour—the swish of the wings being distinctly heard as the bird approaches and passes the observer. The food is largely hard-shelled beetles.

Remarks.—The bulk of the birds inhabiting Malaya are true H. g. gigantea,

with the lores black, or at any rate dark brown. A not inconsiderable number are, however, intermediate, with the lores much paler or with indications of white at the base of the feathers, while a few, dated October to December, are typical $H.\ g.\ indica$, with the lores almost pure white.

Rhaphidura leucopygialis

The Grey-rumped Spinetail Swift

Acanthylis leucopygialis, Blyth, Journ. Asiat. Soc. Bengal, xviii., 1849, p. 809 (Penang).

Chætura leucopygialis, Hartert, Cat. Birds, Brit. Mus., xvi., 1892, p. 490; Blanford, Faun. Brit. Ind., Birds, iii., 1895, p. 175.

Rhaphidura leucopygialis, Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 346.

Malay Name.—Layang layang.

Description.—Adult.—Glossy black, with a steely blue lustre above, more greenish beneath; rump and upper tail coverts, which are long, extending to the tip of the tail, silvery grey, with black shafts to the feathers.

Soft Parts.—"Irides, dark brown; claws and bill, black; legs and feet, livid purple" (Davison).

Dimensions.—Total length, 4.6 to 4.8 in.; wing, 4.8 to 5.1 in.; tail, 1.5 to 1.75 in.; length of projecting spines of tail, 0.3 to 0.45 in.

Range in the Malay Peninsula.—Through the length of the Malay Peninsula; Penang and Singapore, but rare on the latter island.

Extralimital Range.—A little north, into Southern Tenasserim; Borneo and Sumatra.

Nidification.—Nothing is known.

Habits.—But little is known. Generally frequenting the neighbourhood of water and in forest. Flight not particularly swift as compared with the larger members of the genus. Ranges high up the mountains, as I met with it above the Semangko Pass in May 1902. It will probably be found breeding on the rocky islands on the north-west coast of the Malay Peninsula and in the mountains.

Remarks.—Though normally a forest bird the species is included in this volume as it is common on the coast of Penang Island.

Micropus pacificus pacificus

The Large White-rumped Swift

Hirundo pacifica, Lath., Ind. Orn., Suppl., 1801, p. 58 (Australia).

Micropus pacificus, Hartert, Cat. Birds, Brit. Mus., xvi., 1892, p. 450.

Apus pacificus pacificus, Robinson and Kloss, Journ. Nat. Hist. Soc. Siam, V., 1923, p. 144.

Micropus pacificus pacificus, Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 329.

Malay Name.—Layang layang.

Description.—Adult.—Uniform blackish brown above, with a faint greenish gloss, paler on the head, darker on the upper tail coverts. A white band across the rump, the feathers with narrow brownish black shaft stripes. Chin and throat white, the feathers of the latter with narrow brown shaft stripes, rest of the under surface, blackish brown, the feathers with subterminal black bars and narrow semilunar white tips. Under wing coverts and edge of the wing, paler brown, with very narrow white tips.

Immature.—Have the feathers of the upper parts tipped with white.

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

Dimensions.—Total length, bill to end of tail, about 7 in.; wing, 7 1 to 7 4 in.; outer tail feathers, 3 5 in.; centre, 2 in.; tarsus, 0 45 in.

Range in the Malay Peninsula.—Throughout the Peninsula as a winter visitor, from October onwards. Also in Penang, but not as yet recorded from Singapore.

Extralimital Range.—A breeding bird in Siberia, North China, Japan and Formosa, visiting the Indo-Burmese countries and Australia in the winter months.

Nidification.—Does not breed in this country. Eggs from China and Formosa are recorded as white, somewhat glossy, measuring 1 08 by 0 67 in. average dimensions.

Habits.—As elsewhere, little is known of the habits of the large-white rumped swift in Malaya. In Kuala Lumpur it is common from October to February, only, as a rule, appearing during, or shortly after, very heavy rain, and flying very high.

Remarks.—The series of this bird available for examination is not very large; those from the lowlands (Kuala Lumpur, Koh Pennan, Kandhuli) are larger and browner, with the white rump band fairly broad. Specimens from the mountains (summit of Kedah Peak, Semangko Pass and Bukit Tangga) are darker, with a very much more marked greenish gloss, the rump band narrower and of slightly smaller dimensions. Birds answering to this description have been described as a resident breeding subspecies (Cypselus pacificus cooki), from the Northern Shan States (Goteik Caves), by Major H. H. Harington (Bull. Brit. Orn. Club, xxxi., 1913, p. 57). His specimens, however, require comparison with the little-known Micropus leuconyx (Blyth), from the Himalayas. It is evident that we have here an instance of two local races, an eastern and a western one, meeting in their winter quarters, which is paralleled in the case of several limicoline birds.

Micropus affinis subfurcatus

The Malay House Swift

PLATE 10 (right-hand figure)

Cypselus subfurcatus, Blyth, Journ. Asiat. Soc. Bengal, xviii., 1849, p. 807 (Penang).

Micropus subfurcatus, Hartert, Cat. Birds, Brit. Mus., xvi., 1893, p. 456; Oates and Reid, Cat. Birds' Eggs, Brit. Mus., iii., 1903, p. 82.

Apus affinis subfurcatus, Robinson and Kloss, Journ. Nat. Hist. Soc. Siam, V., 1923, p. 145.

Micropus affinis subfurcatus, Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 335

Malay Name.—Layang layang.

Description.—Adult.—Very dark, sooty black, lighter on the head and wing. Mantle and under surface, strongly glossed. A white band, with dark shaft stripes to the feathers on the rump; chin and throat, brownish white, with very ill-defined hair-lines on the feathers. Tail markedly furcated, glossy black.

Soft Parts.—Iris, black; bill, black; feet, dull flesh.

Dimensions.—Total length, about 6 in.; wing, 5'3 to 5'7 in.; tail, 2'3 in.; tarsus, 0'4 in.; bill from gape, 0'8 in.

Range in the Malay Peninsula.—Through the Malay Peninsula. Common in Penang and Singapore and on the islands of the west coast. Not recorded from the east coast islands.

Extralimital Range.—All the countries to the east of the head of the Bay of Bengal; Borneo, Sumatra and Java.

Nidification.—In the Malay Peninsula this swift is a common inhabitant of the towns, and nests in large numbers under the eaves of the houses, often in the busiest streets. The birds are not often interfered with, being regarded as lucky by the Chinese. The nests are plastered against the walls and are often very large, being sometimes added to and repaired from year to year. They are untidy structures, composed of dried grass, bents, straw and the like, mixed with feathers and leaves, and are compacted sometimes with a little mud, but in general with the birds' saliva. The entrance is usually to the top or sides and the lining is scanty, usually a few loose feathers. The eggs, generally two in number, are dull white, without gloss, rather pointed at one end, and average o'87 by o'58 in. in size. The nesting season is extended, generally from February to June, in the southern third of the Peninsula. I have also seen the species breeding in lofty cliffs on the island of Koh Muk off the west coast of Peninsular Siam.

Habits.—Like those of other swifts of the genus, of very strong flight. The note is a harsh disagreeable scream, but occasionally a twitter on a very high note, near the limit of audibility. The food is gnats, small beetles, and, as with almost all other birds, winged termites, when available, are eagerly caught.

Note.—The bird figured was collected in Malacca by A. R. Wallace.

Tachornis batassiensis infumatus

The Eastern Palm Swift

PLATE 10 (left-hand figure)

Cypselus infumatus, Sclater, P.Z.S., 1865, p. 602 (Banjermassim, Borneo); Oates, in Hume's Nests and Eggs Indian Birds (2nd ed.), iii., 1890, p. 27.

Tachornis infumata, Hartert, Cat. Birds, Brit. Mus., xvi., 1892, p. 467; Blanford, Faun. Brit. Ind., Birds, iii., 1895, p. 171.

Tachornis batassiensis infumatus, Robinson and Kloss, Journ. Nat. Hist. Soc. Siam., v., 1923, p. 145; Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.)., iv., 1927, p. 338.

Malay Name.—Layang layang.

Description.—Adult.—Tail very strongly forked. Upper parts, sooty brown, darker and glossed, with steel-black on the head, mantle and primaries; paler on the mantle and rump. Inner primaries with pale brown edgings to their inner webs. Beneath, sooty brown, rather paler on the throat.

Immature.—Hardly differ from the adults, except that the margins of the inner webs of the flight feathers are paler and more conspicuous.

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

Dimensions.—Total length, 4.5 to 4.75 in.; wing, 4.5 to 4.7 in.; outer tail feathers, 2.4 in.; central tail feathers, 1.3 in.

Range in the Malay Peninsula.—Widely distributed throughout the Peninsula, and on Singapore Island and those of the western coast; doubtful in Penang; not on the Tioman group of islands.

Extralimital Range.—As the last species, over the Indo-Chinese countries, east of the head of the Bay of Bengal, but not extending so far north; Borneo, Java and Sumatra.

Nidification.—Highly peculiar. In the Malay Peninsula the nests are attached to the under surfaces of palm leaves of the loftier species, usually Borassus or Livistona, or Areca. I have not seen them on coconut leaves. Nests obtained by Mr Seimund on 5th July 1924, attached to the under surface of the leaves of a Livistona palm in the public gardens, Taiping, Perak, are comprised of the floss of a thistle-like seed, mingled with dark winged seeds, but with no feathers, compacted with the saliva of the bird. The nests have no lining. The area of attachment of the nest to the leaves is large, measuring $2\frac{1}{2}$ by 2 in., but the nest itself is a bisected oval, about $1\frac{3}{4}$ in. long by $\frac{3}{4}$ in. wide. The external depth is about 1 in. and the hollow for the reception of the eggs about 0.4 in. The nests contain either one or two eggs, which are white, glossless, very pointed ovals. Average dimensions, about 0.7 by 0.45 in.

Similar nests have been found in a like situation in the Kuala Lumpur Gardens. A nest taken on 1st April 1916 contained two nearly fully fledged young birds.

Habits.—As its name implies, this little swift is associated with the larger species of palms, and is especially common in the northern parts of the Peninsula, where the *lantar* palm) *Borassus*) abounds. It ranges high up the hills, and we have specimens from above the Semangko Pass (4000 ft.). The flight is less powerful, more zigzag, and the bird keeps nearer the ground than the larger species. I have not heard it utter any note.

Note.—The specimen figured is a male from Singapore, collected by W. Davison.

Collocalia innominata

Hume's Swiftlet

Collocalia innominata, Hume, Stray Feath., i., 1873, p. 294 (South Andaman); Hartert, Cat. Birds, Brit. Mus., xvi., 1892, p. 503; Blanford, Faun. Brit. Ind. Birds, iii., 1895, p. 143; Robinson and Kloss, Journ. Nat. Hist. Soc. Siam, v., 1923, p. 141; Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), iv., 1927, p. 349.

Malay Names.—Layang layang padi; layang layang goa.

Description.—Adult.—Smoky brown above, darker on head, wings and tail, with a slight greenish gloss; lores with pale bases to the feathers, forming an obscure whitish spot; rump, paler brown, with dark shaft lines forming a band. Lower surface, greyish brown, darker on the throat, the feathers with fine dark hair-lines on the shafts. Under wing coverts, dark sooty brown, almost blackish at edge of the wing. Tarsus feathered except at the base, behind.

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

Dimensions.—Total length, 5 to 5 5 in.; wing, 5 I to 5 4 in.; tail, 2 I in.; tarsus, 0 35 in.

Range in the Malay Peninsula.—Throughout its whole length, on the western side, but not known from the eastern coast with any certainty.

Extralimital Range.—Tenasserim, as far north as Mergui. Tonkin, Andaman Islands, Sumatra.

Nidification.—The only known breeding places of this swiftlet are the caves in Pulau Belitung (Spire Island of the Admiralty Charts), between Langkawi and Terutau, just on the Siamese side of the Kedah-Siam boundary. The caves are farmed out for the collection of the edible nests, which vary much in quality, according to those I was shown, from almost pure white to blackish or greyish, much intermixed with feathers. The birds nest in almost total darkness, high up in the caves, and are reached by somewhat crazy bamboo ladders. I have not seen the eggs, as the farmers, from superstitious motives, are reluctant to allow Europeans to visit the caves for prolonged periods. Very little actual nesting seemed to be going on at the time of my visits, which were in March and December.

Habits.—Flight rapid, but not very straight. Common at most seasons all over the western side of the Peninsula, from the sea-coast and from many miles out to sea to the tops of the highest mountains in Selangor. Abundant at the One Fathom Bank Lighthouse, a screw-pile building, in the middle of the Straits of Malacca, in November and December 1919.

Remarks.—These little swiftlets are difficult to recognize except in their breeding haunts, as they are always on the wing, usually fly very high, and have no very salient characters.

Besides the present form several others are known from the area and will be described in a future volume.