PETRELS, SHEARWATERS AND ALBATROSSES

Order PROCELLARIIFORMES

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This order can at once be distinguished from all existing birds by the character of the nostrils, which terminate in tubes, parallel to the line of the beak, sometimes united, but generally double when viewed from in front. The tarsi are usually relatively short, the toes webbed, the hind toe always small and often absent. The tail is rather short, square, wedge-shaped or cuneate; wings in nearly all the forms, long and narrow.

The size is varied; the smallest forms are about the size of a starling, while the largest albatross, though not very bulky in body, has a spread of wing exceeding that of any other bird. The order is purely pelagic in habits and extends over the whole globe.

It reaches, however, its maximum development in the south temperate and sub-Antarctic zones, and its members are relatively scarce in the equatorial tropics.

One egg is laid—or at most two—generally in burrows, on islands, or sometimes on the summits of mountains near the sea, and the young are helpless until nearly full-grown. The colours are always white, black, grey or brown, or some combination of these colours.

About one hundred and fifty forms are known throughout the globe, but only one has been identified with certainty from Malayan seas. This is a small, almost uniformly sooty brown species, *Oceanodroma monorhis* (Swinh.), a bird of very wide distribution, ranging from Malaya to the coasts of China and Japan, and thence to the west coast of Mexico, Its habits are largely nocturnal, which accounts for its scarcity. Another small black species with a white rump has been observed in the Straits of Malacca on many occasions, but never obtained. This is probably *Oceanites oceanicus*, Wilson's stormy petrel, common in many parts of the Atlantic and Indian oceans.

Both these birds are described in detail below.

KEY TO THE SPECIES HERE DESCRIBED

Tarsi covered in front with hexagonal scales;

claws sharp; rump not white . . . Oceanodroma leucorhoa monorhis, p. 86

Tarsi covered in front with transverse scutes;

claws flat; rump white . . . Oceanites o. oceanicus, p. 87

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Oceanodroma leucorhoa monorhis

Swinhoe's Petrel

PLATE II

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Thalassidroma monorhis, Swinhoe, Ibis, 1867, p. 386 (Amoy, China).

Oceanodroma monorhis, Salvin, Cat. Birds, Brit. Mus., xxv., 1896, p. 356;
Robinson and Kloss, Journ. Nat. Hist. Soc. Siam, v., 1921, p. 87; Chasen, Journ.

Malay Br. Roy. Asiat. Soc., i., 1923, p. 255; op. cit., ii., 1924, p. 70.

Malay Name.—Unrecorded.

Description.—Nostrils in tubes, parallel to the line of the beak; tarsi, short; toes, webbed; hind toe, minute. Tail, forked; wings, long and narrow. General colour, blackish brown washed, in a varying degree, with plumbeous on the head, neck, throat and upper surface. Median and greater wing coverts, brownish or greyish ashy, sometimes almost whitish on the outer webs, the long secondaries tinged with the same colour on the outer webs, Wing quills and primary coverts, almost black. Rump, uniform with the back. Under surface rather variable, some birds being much browner and less blackened than others

Soft Parts.—Iris, dark brown; edges of lids, bill and feet, black.

Dimensions.—Total length, 7.75 in.; wing, 6.3 in.; tail, 3.1 in.; tarsus, o.9 in.; bill from gape, o.9 in.

Range in the Malay Peninsula.—The Straits of Malacca north to the One Fathom Bank Lighthouse, off the coast of Selangor; the Straits of Singapore; the Horsburgh Lighthouse, thirty-three miles east of Singapore Island.

Extralimital Range.—Vladivostok, Japan, and the China coast; the north coast of Java: Cevlon.

Nidification.—We can trace no detailed records of the nesting habits of this race, except that it has been said to breed on the small islands north-east of Formosa.

Habits.—The first local occurrence of which we have any trace is a bird captured on a ship in Singapore Harbour in May 1913. The species next turned up at a lighthouse in the Straits of Malacca in November 1918. It appears to be not uncommon at sea a few miles from Singapore, and we now have a number of specimens taken at the Horsburgh Lighthouse, where it is well known to the Malay lighthouse keepers, in April, May, September, October and November. Mr C. Boden Kloss has seen a small flock close inshore at Singapore in November. Mr P. M. de Fontaine, who was at the Horsburgh Lighthouse in October 1921, said that he saw a flock of these petrels, at least twelve in number, when the sea was very rough. The birds, well closed up, were almost skimming the water, following the undulations of the waves. On one occasion a lighthouse keeper brought some live examples to the Museum in Singapore, but they did not live long. One of these, a female, is the bird figured (about four-fifths natural size). It was presented to the Raffles Museum by Mr E. Galiston and collected on 10th May 1923.

Oceanites oceanicus oceanicus

Wilson's Stormy Petrel

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Procellaria oceanica, Kuhl, Beitr. Zool. und vergl. Anat., ii., 1820, p. 136 (South Atlantic Ocean).

Oceanites oceanicus, Salvin, Cat. Birds, Brit. Mus., xxv., 1896, p. 358; Blanford, Faun. Brit. Ind., Birds, iv., 1898, p. 354; Oates, Cat. Birds' Eggs, Brit. Mus., i., 1901, p. 150; Robinson and Kloss, Journ. Nat. Hist. Soc. Siam, v., 1921, p. 87.

Oceanites oceanicus oceanicus, Stuart Baker, Faun. Brit. Ind., Birds (2nd ed.), vi., 1929, p. 300.

Malay Name.—Not recorded.

Description.—Sooty black, very slightly darker on upper surface; greater wing coverts, greyish, perhaps fringed with white; upper tail coverts, white; under wing coverts, sooty; tail, black; shafts of the lateral feathers towards the base and the portion of the inner web adjoining, white.

Soft Parts.—Bill, black; legs, black, inner portion of the webs between the toes, yellow.

Dimensions.—Total length, about 6.8 in.; wing, 6.1 in.; tail, 2.7 in.; culmen, 0.7 in.

Range in the Malay Peninsula.—We have never actually collected a specimen of this petrel in Malayan waters, and none is on record; we have, however, on several occasions in stormy weather seen small black petrels with white rumps in various parts of the Straits of Malacca, and this species therefore almost certainly occurs in our area. Davison records seeing it off the Moscows, a group of islets north of Tavoy.

Extralimital Range.—Breeds in the Antarctic. Ranges north through the Atlantic Ocean and the Indian Ocean as far as the Persian Gulf; Australian and New Zealand Seas. Recorded from Ceylon and off the Mekran coast.

Nidification.—Breeds commonly in the South Orkneys and other Antarctic islands. The single white egg is laid in a hollow in the earth, or in narrow crevices in the face of a cliff, under boulders, etc. Sometimes there is no attempt at nest-making, but at other times a rough nest is made.

Habits.—"Like other petrels this bird is very local in its breeding haunts, a great wanderer when the breeding season is over. They are to be seen but seldom by day anywhere near land, even when breeding. In addition to their whistling notes these petrels have a harsh, screaming chuckle. They feed on surface mollusca, animalcules and other surface matter. In appearance they are extremely fragile, but with their wonderful powers of flight they seem at home in the wildest storms, whether on the wing or swimming lightly poised on the crest of some huge wave" (*Stuart Baker*).