

7.—NOTES ON THE ZOOLOGY OF HOUTMAN'S  
ABROLHOS.

By A. J. CAMPBELL, F.L.S.

My visit to these most interesting islands was from 7th to 23rd December, 1889. To Messrs. Broadhurst and McNeil I am indebted for passages to and from different islands, as well as for much open-handed hospitality, while Mr. F. C. Broadhurst, Mr. G. K. Beddoes, C.E. (manager), and other employes of the firm, have furnished me with many valuable notes gathered of late years upon the groups, and which were impossible for me to personally make during my limited sojourn.

Houtman's Abrolhos are certainly the greatest "rookery" for sea birds in Australia, and by reason of their geographical position in the sub-tropics, perhaps afford suitable breeding grounds for a greater number of species than any other distinct or limited spot in the world. That the groups have been resorted to for untold ages by the birds is evinced by the rich deposits of guano—notably upon Rat and Pelsart Islands. Rat Island may be said to be fairly alive with feathers. There were birds breeding upon the bushes, birds breeding under the bushes, and birds breeding in the ground underneath. Rat Island approximately contains 350 acres. Deducting, say 50 acres, for the guano station and cleared ground, and taking one bird for every square yard (there could not be less, probably more, when young and eggs are taken into consideration) the 300 acres would give 1,452,000 birds upon one island alone. With fair success I took instantaneous photographs of some of the flights, but could not take the birds when thickest, namely, at early morn and late evening, the sun being unfavourable or the camera. Of the wonderful flights of noddy and sooty terns I need not speak, but can fully substantiate Gilbert's accurate descriptions as given in Gould.

MAMMALIA.

*Halmaturus derbianus*, Grey (Derby's wallaby). Found on the East and West Wallaby Islands (northern group) only.

*Euotaria* —? (seal). Principally found on Easter and Pelsart groups, but now getting scarce.

*Mus* — (rat). I was unable to procure a specimen for identification, which may probably prove to be the common European rat introduced by some shipwreck.

AVES.

*Haliaeetus leucogaster*, Gm. (White-bellied sea-eagle). Not common. Eyries are established on Wallaby (Pigeon Island)

and Pelsart groups. The noddy tern constitutes a portion of this eagle's prey. Breeds beginning September. Young do not assume adult plumage until second or third year.

*Pandion leucocephalus*, Gould (White-headed osprey). More common than the preceding species. One day, as the barque *Capella* was riding at anchor in Good Friday Bay each of the mast heads was occupied by one of these noble birds. In addition to fish, the osprey is very partial to the little white-faced storm petrel and a rough-tailed lizard (*Egernia stokesi*) common upon Rat Island. Lay in September.

*Hirundo neoxena*, Gould (Welcome swallow). Noticed flying over Pelsart Island.

*Sericornis maculatus*, Gould (Spotted scrub-tit). Found only on Wallaby group.

*Zosterops gouldii*, Bp. (Green-backed white-eye). Found in pairs throughout the groups.

*Phaps chalcoptera*, Lath. (Bronzewing pigeon). Wallaby group.  
*Turnix scintillans*, Gould (Speckled turnix-quail). Wallaby group.

*Haematopus longirostris*, Vieill. (White-breasted oyster-catcher). Few pairs throughout groups.

*Haematopus unicolor*, Wagl. (Sooty oyster-catcher). Seen occasionally.

*Aegialitis ruficapilla*, Temm. (Red-capped dottrel). A few always upon the islands where they breed.

*Tringa albescens*, Temm. (Little sandpiper). In small flocks about the beaches. Retire inland to roost at evening, when they often co-mingle with the former species.

*Tringa subarquata*, Gmel. (Curlew sandpiper). Singly or in twos or threes about the shores. But none observed in full plumage.

*Streptilas interpres*, Linn. (Turnstone). This cosmopolitan was observed in flocks of six or seven about the reefs at low water, but scarcely in adult plumage.

*Numenius cyanopus*, Vieill. (Australian curlew). Noted at Wallaby group.

*Numenius uropygialis*, Gould (Wimbrel). Small flock seen at the mangrove swamp, Pelsart Island, 23rd December.

*Demiagretta sacra*, Gmel. (Reef-heron). Both the blue variety and the white found throughout the groups. Breed November.

*Hypotaenidia philipensis*, Linn. (Pectoral rail). Seen upon Rat and Pelsart Islands. Known to breed upon latter.

*Porzana tabuensis*, Gmel. (Tabuan crake). Pelsart Island, about the mangrove swamp.

*Anas castanea*, Eyton (Australian teal). Wallaby group.

*Larus pacificus*, Lath. (Pacific gull). Odd couples breed throughout all groups. Laying commences early September.

*Larus longirostris*, Masters (Long-billed gull). Common. Breeds in September. Have been witnessed plundering the noddies of their eggs, especially if nearly incubated. The gulls also rob these peaceful birds of the contents of their stomachs when spread out for their mates or young.

*Sterna caspia*, Pall. (Caspian tern). Seen in small companies about the reefs or singly diving for fish about the harbours. Fledglings seen 15th December, also fresh egg taken same date. Young in down white underneath, mottled with black and brown above.

*Sterna bergii*, Licht. (Common tern). A few breed upon Pelsart Island. Young in down similar to Caspian tern.

*Sterna dougalli*, Mont. (Graceful tern). Nesting in scores upon the dead coral ridges in the narrowest part of Pelsart Island. December appears to be the laying month. Young in down under surface white, wings white, and rest of upper surface mottled black and white, with slight brownish tinge. Feet and bill light pink.

*Sterna anæsthesia*, Scop. (Panayan tern). In small companies of ten or twelve, or in pairs, breeding under shelving limestones, sometimes under bushes, chiefly on isolated rocks.

*Sterna fuliginosa*, Gm. (Sooty tern). The "wide-awakes" first appear in the beginning of September upon Rat and Pelsart Islands, when they come in vast numbers for about a fortnight. When the young are reared, all depart about April. Their call-note sounds like "wide-awake," hence their vernacular name. A long guttural scream appears to be the alarm note, while "squak" like notes are uttered in anger. Young in down, underneath parts (except throat) whitish, all the rest of the surface mottled with black, brown and white. Feet and bill dark-coloured.

*Sternula nereis*, Gould. (Little tern). A few couples found breeding upon dead coral on Pelsart Island, in close proximity to the graceful terns. Young in down dull or yellowish white. Bill and feet light yellow.

*Sternula inconspicua*, Masters. A pair noticed in company with little and Caspian terns near Rat Island. A skin was obtained, which appears to correspond with Masters' description, although some authorities believe it to be a different stage of plumage of the little tern. But this can hardly be, seeing the young of the little tern from the time they are hatched possess yellowish-white bill and feet, whereas Masters' tern has dark-coloured bill and feet.

*Anous stolidus*, Linn. (Noddy tern). Records kept upon Rat Island show that these birds first appeared for the breeding season 14th August, 1888, and 16th August, 1889, respectively. They are usually first heard at night, and then appear gradually for a few days before they arrive in great crowds. The earliest

eggs are deposited about the beginning of October, but laying continues for the two or three following months. About the break-up of the weather in April all the noddies with their young depart. Not a solitary bird remains. A week or two prior to the final exodus the birds leave the island daily, but return at night. This may be a method of exercising the young before the last great flight. There is a curious incident of all these birds having suddenly left Rat Island for about a fortnight during the month of October when a cold rain set in, leaving eggs and young to perish. Upon slight showers of rain falling, the birds clear out to the shoals upon the reefs, and skim over the water in a remarkable manner, as if fishing. The call-note of the noddy is a coarse, gull-like bark. Young in down vary in colour from light to dark sooty brown, with the upper portion of the head mouldy white. Bill and feet black.

*Anous tenuirostris*, Temm. (Lesser noddy.) As its name implies, it is similar in appearance but smaller than the noddy, yet in one or two points of its natural history differs much. Unlike the noddy, which nests upon low bushes or upon the ground, the lesser noddy seeks the mangrove trees, and then only upon one island (Pelsart) out of all the groups, although mangroves exist elsewhere. Then, again, the lesser noddy remains throughout the year, whereas the noddies' visits are periodical. The first eggs may be observed the beginning of September, but the climax of the breeding season is not reached till December. Young in down, sooty black, upper part of head mouldy white. Bill and feet black.

Now that a successful guano depôt has been established upon Pelsart Island, no doubt in time the limited supply of mangrove trees will be used for fuel. What then will become of the extraordinary flights of the lesser noddies as they go to and from their fishing grounds? I trust the photographs I took may not soon be the "light of other days."

*Puffinus nugax* (?). Sol. (Allied petrel.) I am not quite satisfied about the identity of this petrel, although it closely resembles *P. nugax*. Professor McCoy, to whom I submitted a skin, shares my doubt. If it be *P. nugax*, then it has never been reported from the western side of Australia, nor has it been recorded nocturnal, as the Abrolhos bird certainly is. I took my specimen flying about Rat Island the midnight of 9th December. They have also been known, attracted by the light, to fall into the fires of persons camping upon the islands. They breed in underground burrows in July, and appear to rear their young and depart in time to accommodate the following species.

*Puffinus sphenurus*, Gould. (Wedge-tailed petrel.) It has never been hitherto published that this petrel is also nocturnal in its habits. It is somewhat extraordinary that such a peculiar trait in the bird's character should have escaped Gilbert's notice.

About half an hour after sundown they commence moaning and get uneasy in their burrows, and shortly afterwards birds may be seen swiftly cutting the air in many directions. The moaning and infant-like cries of the wedge-tailed petrel are a curious experience. After a ramble, one quiet night, I noted in my pocket-book next morning that "the whole island seemed groaning and travailling in pain with the noise of mutton birds." Sometimes the roofs of the guano station are struck with terrible force by the birds during flight. About half an hour before sunrise they disappear underground, when all is quiet as far as they are concerned. The attitude of this petrel upon the ground resembles a duck upon water, a squatting posture. When walking they are assisted by their wings, which gives the bird a waddling or lame gait. The burrows generally extended two or three feet in an oblique direction, rarely more than five feet. Sometimes they deposit their single egg in holes or fissures of rock, while more than once eggs have been taken from under bushes. The eggs, like those of the noddies and other birds, are excellent eating, not at all fishy in flavour as may be supposed.

*Procellaria fregata*, Linn. (White-faced storm-petrel.) 15th December, found young about ten days old in burrows upon Beacon Rock, near Rat Island. They were clothed in long bluish-grey down, with dark naked head and bill; feet also dark-coloured, with webs yellowish-white. After death an amber-coloured oil exudes freely from the beak.

*Phaëton candidus*, Briss. (White-tailed tropic-bird.) An occasional visitor.

*Phaëton rubricauda*, Bodd. (Red-tailed tropic-bird.) Seen occasionally on Rat Island during calm weather.

*Graculus varius*, Gm. (Pied cormorant.) Frequent the bays and breed in numbers upon isolated rocks.

*Pelecanus conspicillatus*, Temm. (Australian pelican.) Have been known to breed upon Pigeon Island (Wallaby group) during September.

#### REPTILIA.

*Morelia variegata* (?) (Carpet snake.) Found only on Wallaby group. Said to be a darker variety than that found on the mainland, and not so lively in movements. Maximum length about nine feet. Supposed to be non-venomous.

*Egernia kingi*, Gr. During the season these lizards devour many of the eggs and young of the noddy and sooty terns, when their skin assumes a darker hue; but whether this be from the change of food or merely a summer coat remains to be proved.

*Egernia stokesi*, Gr.

*Lygosoma lesueurii*, D. and B. (variety).

*Lygosoma prorepeditum*, Blg.