day of observations, I counted fifteen flying young, eleven not fully grown. This presented a problem. The minimum hatching to flying time so far recorded is 29 days (Stokes, 3, 108), with 32 days quite usual. The two lots of two older ones, if in the fifteen, were flying at over 28 days, perhaps 30 and the two seen at No. 1 Pool on 14th Sept. from Nest No. 8 (?), at 28 days. The other nine could have come from another colony further inland and be on their way to the coast as is the habit of the species. If Nest No. 17 succeeded its chicks would have been 25 days hatching to flying and Nest No. 4 21 days, both very unlikely, even though there have been odd times recorded for this breeding season, e.g., A. Blackburn (13, 196) with Fantails (*Rhipidura placabilis*) has had a variation from minimum to maximum of nearly four days, or approx. 25%. H. R. McKenzie (pers. comm.) with Red-breasted Dotterel (*Charadrius obscurus*) had a minimum of 39 days hatching to flying, with 40 quite usual and sometimes 44 or more. This season he observed a brood which had flown in some days less than 38. In the case of the Stilts a similar variation would bring in only the doubtful Nest No. 17.

I had to cease operations on Oct. 7. For reasons already given I was unable to estimate the number of remaining non-flying chicks at that date. Four pairs of adults were still near the colony and all would have young, as would others in No. 2 paddock. Any attempt at an estimate would be only a guess. About 51 of those hatched should still have been in the non-flying group. If 15 of these survived to fly the total to fly would be 21, which would be 27.3% of eggs laid or 34.4% of eggs hatched. This is still leaving out Nest No. 17.

This study has given a record of hatching success but it has also revealed the difficulty of observing such a colony. To approach unobserved a covered way to the observation point is necessary, then a twenty-four hour watch, using an infra-red light at night. This over a period of say ten weeks would surely try the enthusiasm of any birdwatcher.

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LONG-TAILED SKUA ASHORE AT MURIWAI

By R. B. SIBSON

On 10/1/64 the Misses Perrin asked me to identify a strange sea-bird which they had found as it was washed ashore dead at Muriwai. They believed it was a skua. As soon as I saw it, I was surprised both by its apparent smallness and also by the general tone — dark ash gray, not brown — of its upper surface. The bill was small and black; and the tarsus pale flesh. The feathers of the back were irregularly, but rather prettily, edged or flecked with white, showing a state of moult. The wings also were obviously moulting, the two longest primaries in each wing being frayed and broken at the tips, while the other primaries were new and only partly grown. Such gaps in its wings must have gravely impaired its powers of flight. The preceding weeks had been cool and blustery; and this skua had evidently succumbed to one of a succession of strong westerly blows which had marked the mid-summer season of 1963-64.

I suspected at once that the bird was a Long-tailed Skua (*Stercorarius longicaudus*), although this holarctic species had never before been positively identified from the Southwest Pacific. In view of its possible importance, I asked the finders to have it placed in the deep freeze at the Auckland War Memorial Museum. A few days later I was able to study it more carefully and compare it with a series of Arctic Skuas (*S. parasiticus*), which were especially useful because among them several plumage phases were represented, dark-breasted and light-breasted, adult and immature. The new skua from Muriwai differed from them all; and though it lacked the very long characteristic tail of an adult, I was now convinced that it was *longicaudus*. Mr. T. J. Bayliss arranged for it to be made into a study-skin without delay. It has now been examined by many local and visiting ornithologists.

Description. Crown, mottled grey-brown. Nape, streaked grey-brown and white with a hint of yellow. Upperparts, dark grey-brown; back irregularly flecked with white; some worn browner feathers edged with white. Primaries, two longest in each wing (old) with white shafts; others (new) partly grown with brown shafts. Tertiaries showing narrow white tips. Central tail feathers, blackish gray, pliant, finely pointed. Throat streaked, ending with an upper pectoral band of a darker, almost uniform grey-brown. Breast and underparts clear white, with some bold barring on flanks and lower belly. Underwing and axillaries fairly uniform dark grey-brown. Measurements in m.m.: Wing c.310 (est.); Culmen 25; width 11; Tarsus 44; Middle toe 40.

The most informative account of the winter distribution of the Long-tailed Skua is given by Wynne-Edwards (5). He regards it as by far the most pelagic of the three smaller species of skuas. "By October records north of the tropics have become irregular and sporadic." During the southern summer it appears off both coasts of South America, apparently more abundantly in the Atlantic than in the Pacific, where the rich waters of the Humboldt current seem as likely as any to be a genuine wintering ground.

The specimen now in Auckland is the first and, so far, the only one obtained in the Southwest Pacific. However, it is likely that Long-tailed Skuas do visit New Zealand waters rather more frequently than this one record suggests. In a letter dated 5/1/1959 the late Bernard Sladden informed me that in the Bay of Plenty south of the Alderman Islands he had more than once seen a skua with a long tail which he thought might be *longicaudus*. In appearance it was "quite different from the gull-like skuas in predominantly dark plumage which were common about the feeding areas of White-fronted Terns (*S. striata*) near Mercury Bay."

For many years the only evidence for Australia seems to have been an unconfirmed sighting in Sydney Harbour about 1930 (4); but more recently a long-tailed skua was clearly seen and identified at Port Phillip Bay, Victoria (7), on 4/4/65.

The Long-tailed Skua is a holarctic breeder, of which two subspecies have been separated on rather slender grounds. If we follow the distribution map published by Dementiev and Gladkov (3) the New Zealand specimen is likely to belong to the subspecies *pallescens* which breeds in north-east Siberia and across arctic America.

More critical examination of northern skuas has shown in recent years that *pomarinus* is not nearly as scarce in New Zealand waters as was formerly supposed. But without its long tail *longicaudus* is very difficult to distinguish from *parasiticus,* or in the words of Wynne-Edwards, "Immature birds, lacking the long tail at all times, are very seldom positively identifiable from a ship at sea." However, any small, graceful skua which tends to fly high and soar with a floating and tern-like action, is worth more than a passing glance.

My thanks are due to Mr. E. G. Turbott, director, and to Mrs. Lois Wagener, assistant zoologist, for the help which they have given in making available for study the collection of skuas in the Auckland War Memorial Museum.

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SHORT NOTES

SOOTY SHEARWATER AND GREY-FACED PETREL USE COMMON NESTING BURROW

Where both summer and winter-breeding Procellariidae use the same breeding grounds, it seems feasible that the same nesting burrows may, to some extent, be utilised by both populations. However, there appears to be little evidence either to prove or disprove this theory. While on the Poor Knights Islands from 29th October to 3rd November, 1965, I made the following observation, which although inconclusive, is nevertheless of interest.

On the afternoon of 29/10/65 I found a half-grown, downy Grey-faced Petrel (*Pterodroma macroptera*) chick in a burrow four feet long, under a boulder, at the edge of a small man-made terrace, which was above the Shag Bay landing, on Tawhiti Rahi Is. We had sited our camp on this terrace. Fortunately the burrow was more or less straight, so that by shining a torch into it, I could see all parts of the nest chamber. Although watched for, the parent birds were not seen during our stay. Grey-faced Petrels have seldom been recorded breeding on the Poor Knights Islands (v. Notornis 8, 132-141) nor are many Sooty Shearwaters known to breed there.

At 10 p.m. the burrow was again inspected, when it was found to contain not only a young petrel, but an adult Sooty Shearwater (*Puffinus griseus*), which was duly banded. On the following night two Sooty Shearwaters were present in the burrow, where they remained throughout the following day. One was identified by its band number as the bird present on the previous night. The other bird was caught and banded.

While under observation in the confined space of the nesting chamber, neither species was seen to display hostility towards the other, although they invariably kept to opposite sides and at a maximum distance of about sixteen inches apart.