

tralia," conjectures that it may breed on the Mewstone and some other small islands to the south of Tasmania, from the fact that adult birds are commonly seen in the neighbourhood during the spring months; but up to the present time this supposition has not been verified. It will be interesting to ascertain whether the few specimens caught off our shores have come from a breeding-station to the south of New Zealand, or have wandered across from Tasmania.

ART. X.—*The Habits and Home of the Wandering Albatross*
(*Diomedea exulans*).

By A. REISCHEK, F.L.S.

[Read before the Auckland Institute, 2nd July, 1888.]

THIS noble bird may justly be called the king among the sea-birds. Many times during my sea-voyages have I admired its flight and easy sailing over the waves, as it followed our vessel, hundreds of miles from the nearest land. Its power of flight surpasses that of most birds, and is easily accounted for by the unusual development of the muscles of the breast and wings, the latter being equal to, if not stronger than, those of the eagle. It is worthy of remark that the quills of the wing are spread or brought close together according as the bird is rising or falling in its flight. The steering is done not with the tail alone, but also with the broad webbed feet. These, when a straight course is being followed, are stretched out, and nearly concealed under the tail; but when a quick turn is required their position is altered, and the webs are spread in such a manner as to greatly assist the bird in turning. When there is little wind and the ocean is calm, albatrosses have great difficulty in rising from the water; when there is a swell they run along the water and rise with a wave. When alighting, on nearing the surface they bend the head back, curve the wings upwards, beating the air with numerous laboured strokes, then, straightening their feet, they let themselves fall. They are fast swimmers, but cannot dive. Their food, which consists chiefly of some of the lower forms of marine life found floating on the surface of the ocean, they scoop up with their bill in the same manner as the ducks.

I had long been anxious to visit their breeding-haunts, but had no opportunity of doing this until January, 1888, when I was afforded the privilege of accompanying the Government steamer "Stella" on her yearly cruise among the islands to the south of New Zealand. After visiting Stewart Island and the Snares, the steamer's course was directed towards the

Auckland Islands, and on the 25th January we anchored in Carnley Harbour. Having ascertained from Captain Fairchild that the vessel would not leave until the following evening, I at once prepared for an expedition to the hills, on which I was informed that albatrosses were then breeding; and at 4 o'clock in the morning the chief officer put me ashore. The first creatures I met were several sea-lions sleeping in the long grass, over which I almost fell. They gave discontented growls at being disturbed and driven from their lair, sitting up on their haunches and gazing at the intruder with their large eyes, showing their white canine teeth all the time. Moving onwards I had a dreadful scramble through dense low scrub interspersed with holes and swampy places, but at last I gained the hills above. My exertions caused me to suffer greatly, being far from well through overwork on the west coast of the South Island. After climbing over hills for about three miles I came to a slope where a colony of albatrosses had established a breeding-place. The birds were scattered about among the tussock-grass, sitting on their nests, and from their white plumage could be easily distinguished from the vegetation at a great distance. I found that their nests are always placed on sloping ground, and always on the most exposed side of the hill. They are composed of earth and grass cemented together, and are built in the form of a cone. They are usually about 2ft. in diameter and about 18in. high. Outside they are surrounded by a shallow drain, intended to carry off the surface-water. Within is placed a single egg. This is white, with a few brown spots on the broad end, and measures about 5·5in. in length by 3·1in. broad. In most cases I found the female on the nest, the male bird standing close to her, and occasionally feeding her. I noticed that sometimes the male relieved the female, but they never both leave the nest until the young one is able to defend itself against the skua gull (*Lestris parasiticus*). This rapacious bird devours every egg or nestling left unprotected. While taking the measurements of the first nest I came to I laid down the egg beside me, when a skua darted at it and destroyed it. They were so bold that they frequently came close enough for me to hit them with a stick.

On my approaching an albatross's nest the old bird seldom left it, but set up a croaking noise, clapping its mandibles together and biting at the intruder. After turning it off and taking away the egg, it returned and sat on the nest as before. The eggs were quite fresh on the 25th January, and good for eating when fried. There appears to be a difference in the time of laying at the different islands, for at Campbell Island, considerably to the south of the Auckland Islands, their eggs

were nearly all hatched by the end of January, while at Antipodes Island, a little to the north again, they had hardly begun to lay at the beginning of February. In all these three islands albatrosses are most plentiful.

The albatross takes five years to become fully mature, and in each year there is a slight change of plumage. The young, which are hatched in February, are covered with snow-white down, and a beautiful specimen in this stage exists in the Otago Museum. In the following December they lose their down, and the plumage is of a brown colour, with white under the wings and on the throat. In the second year the plumage is the same except that there is more white on the throat and abdomen. In the third year there is still more white, although mixed with blotches of brown, the under parts, however, being nearly all white. The wings and tail remain dark-brown. In the fourth year they very nearly acquire the full plumage. The male is white with a few very fine dark specks, except the wings, which are dark-brown. In the fifth year they reach their full growth, and the mature plumage is displayed—white, with blackish-brown wings. The measurements are as follows: Total length from the tip of the bill to the end of the tail, 3ft. 3in. Bill, 7in. Tail, 7.25in. Whole wing, from 4ft. 10in. to 5ft. 10in.; primaries, 1ft. 8in. Whole leg, 1ft. 10½in.; tarsus, 4.5in.; middle toe, 7in. The female is much smaller, as can be seen at once from the specimens exhibited.

Notwithstanding the ease and grace of the albatross on the ocean, on the land it is a most clumsy and helpless bird. Its walk is slow and waddling, like that of a duck, and it cannot take flight from a level piece of ground. It is for this reason that these birds have been gifted by nature with the instinct of making their nests on the slopes of mountains, for by running down-hill, and labouring hard with their wings, they can at last acquire momentum sufficient to raise themselves in the air. Once there they exhibit their true power, and are seen to the best advantage.

ART. XI.—*On a Specimen of the Brown Gannet (Sula fusca) shot in Napier Harbour, with Notes on other New Zealand Birds.*

By A. HAMILTON.

[Read before the Hawke's Bay Philosophical Institute, 9th July, 1888.]

IT is my good fortune to be able to record the occurrence of a bird which to the best of my belief has not yet been observed in New Zealand, although the remarkable part of the