

BIRDS OF CODFISH ISLAND.

By R. K. Dell, Dominion Museum, Wellington.

Codfish Island lies off the north-western end of Stewart Island, separated from the West Ruggedy Mountains by a strait, some two miles wide. Somewhat oval in shape, the island runs from N.E. to S.W. with its major axis about $3\frac{1}{2}$ miles long. The backbone of the island consists of a main ridge from which numerous subsidiary ridges branch off. Comparatively small streams have carved out steep sided valleys in a more or less radial pattern. The only stream system of any consequence is that flowing into Sealer's Bay. Near the mouth this stream flows sluggishly through a comparatively wide-floored valley.

Most of the island is encircled with steep cliffs rising to some 650 feet in places. Along the shore, boulder beaches are not infrequent. The half-mile sweep of Sealer's Bay is the only true beach. Behind this beach extends an area of consolidated sand dunes which rise landward to merge almost imperceptibly with the coastal ridge.

During the period of 1820-30 a settlement of sealers with Maori wives was established on Codfish giving a name to the main bay. The only sign of their sojourn is the mint and fennel growing in places on the dunes.

Most of the island is covered with a rimu-kamahi-rata association similar to that found on Stewart Island. This bush, especially on the ridges is surprisingly dry, being fairly open and wind swept. The higher ridges carry a *Dracophyllum-manuka* scrub. The coastal cliffs are covered with mutton bird scrub. The dunes of Sealer's Bay bear a scattered plant cover of dwarfed manuka, *Coprosma*, *Pittosporum*, flax, bracken, etc.

No sign was seen of introduced predaceous mammals. No deer were in evidence and the wild cattle recorded by Poppelwell have gone. Rats were not plentiful but opossums were in evidence all over the island and are affecting the plant cover considerably. It will be seen from the above that Codfish provides a considerable range of possible bird habitats with a minimum of introduced predators.

Few naturalists have visited Codfish and fewer still have recorded their observations. Poppelwell described the plant cover in 1911 (Trans. N.Z. Inst., Vol. 44, p. 76), Major R. A. Wilson and the late Mr. E. F. Stead spent 17 days on the island towards the end of 1934, and Stead published two short notes, on the fern bird and Cook's petrel respectively besides two semi-popular newspaper articles on his trip. In 1948 Dr. R. A. Falla spent a few hours ashore.

By courtesy of the Department of Internal Affairs, the writer was enabled to spend eight days during November, 1948, on Codfish Island. The party consisted of the following: Messrs. J. D. Corboy, R. I. Kean, C. M. Schofield, R. H. Traill, G. M. Turner and the writer. The following notes on the birds of the island are based on the combined observations of members of the party but wherever possible identifications were checked by the writer who takes all responsibility for the following notes. Dr. R. A. Falla has kindly identified petrel remains which were brought back.

Major R. A. Wilson generously made available notes made on the Stead-Wilson expedition, and also lent the writer newspaper clippings of Stead's articles on Codfish. This information has proved very valuable for comparison.

SPECIES OBSERVED.

***Eudyptes pachyrhynchus*.**—One small breeding colony of this crested penguin was located on the northern coast. The young birds which were

the most evident were fully feathered, lacking only the crest, and were fully grown. Several adult birds were observed. Old nesting sites were located under huge boulders some little distance above high tide mark.

Megadyptes antipodes.—The yellow-eyed penguin was a common nesting bird. Concentration was fairly heavy, especially in the vicinity of beaches or streams. From these suitable landing spots trails radiated inland, usually along the ridges, forking constantly to cover a fairly wide area. Nests were common in low fern, among rocks, in the scrub or on the forest floor, and some were a considerable distance inland. All nests examined contained two eggs and all showed signs of considerable incubation.

Eudyptula minor.—The little blue penguin was very plentiful on Codfish, being encountered in numbers at night along the coast, coming well up the stream in Sealer's Bay and generally penetrating some distance inland. Numbers of birds were observed during rough weather, close inshore and some of these landed in mid-afternoon. A few birds were encountered at the nests by day.

Pelecanoides urinatrix.—Diving petrels were found in burrows at Sealer's Bay. The burrows were situated a few feet above high water mark in consolidated sand dunes and less commonly higher up on the dunes. The burrows were comparatively deep and the whole habit seems unusual. A single egg was present in the burrows investigated. Judging from the remains around the local skua's nesting sites, the diving petrel together with the prions forms a major part of the skua's diet, at least at this season of the year.

Puffinus griseus.—No mutton birds were seen ashore, but there were signs of considerable nocturnal activity around extensive burrows on suitable areas of the western coast. In addition, in late afternoon, huge flights were seen passing to the east from the northern coasts of the island. Stead records this species nesting in December—January.

Pterodroma inexpectata.—A single corpse of the mottled petrel was picked up in the bush on the western slopes. Stead records this species nesting in numbers in December.

Pterodroma cookii.—A single dead Cook's petrel picked up from fairly dense bush some distance in from Sealer's Bay is the basis for this record. The late Mr. Stead first recorded this species as nesting on Codfish Island in 1936 (Trans. Roy. Soc. N.Z., Vol. 66, p. 315) and estimated there were over twenty thousand burrows. Our visit was a little early in the season to have encountered numbers of this species. Wing 238mm., tarsus 31.5mm., toe 40mm.

Pachyptila vittata.—Remains of the broad-billed prion were found around the skua's nests and Stead records them as breeding on off-shore islets.

Phalacrocorax varius.—The pied shag was not plentiful on Codfish. Three nests were observed near Sealer's Bay, built in the branches of the common coastal shrub, *Senecio rotundifolia*. Although six adult birds were usually to be seen in the vicinity and three nests were present only one nest was occupied. This contained two newly-hatched young and a single egg. All three nests were constructed of small branchlets of *Dracophyllum longifolium*. Observations on the occupied nest were commenced one morning about 8.50 o'clock. For about half an hour the adult bird sat tight and then commenced preparations for feeding. The beak was opened and shut rapidly several times. Then, while the beak remained half open, a series of convulsive contractions of the muscles commenced. This culminated in a retching process during which food material appeared to be forced up to the top of the throat. The whole procedure was repeated several times taking in all about a quarter of an hour to complete. The parent bird then moved towards one side of the

nest, allowing the two young to emerge from beneath her. Now at the end of the regurgitation process the retching was somewhat prolonged, the head and neck were bent down with the beak wide open and the young bird with outstretched neck almost disappeared down the throat of the parent. At the conclusion of each feeding phase the parent shag raised her head and literally shook the young bird out. She then recommenced the regurgitation process and proceeded to feed the other chick. Each young bird was fed three or four times before the parent again settled down on the nest. It appeared that the material fed to the young must have been pre-digested for a considerable time.

Leucocarbo chalconotus.—Both the Stewart Island shag and the bronze shag were observed through glasses to be nesting on a small islet off the southern end of Sealer's Bay. Birds were constantly on the wing departing from and arriving at the island and against the skyline along one ridge the typical nests could be seen silhouetted. No accurate estimate of numbers could be obtained but it appeared that the nesting population was considerable. In the literature two breeding areas have previously been recorded, Otago Peninsula (Seymour) and Kane-te-toa, an islet off Stewart Island (Guthrie Smith, etc.). Mr. Stead was successful in landing on this islet off Codfish and photographed this breeding colony of the Stewart Island shag. Stead's estimate was in the vicinity of 60 nests.

Phalacrocorax melanoleucus.—The white-throated shag was observed on several occasions around the coast but there is no evidence to show that this is a breeding species on Codfish.

Stictocarbo punctatus steadyi.—Odd birds of this species were seen from time to time. As small breeding colonies of the blue shag were observed in the Ruggedy Passage, the presence of these birds on Codfish is not unusual.

Anas aucklandica chlorotis.—A fairly careful search for the brown teal revealed a single specimen well up the stream at Sealer's Bay.

Circus approximans.—A single harrier was seen by Mr. R. H. Traill.

Falco novaeseelandiae.—Mr. R. H. Traill heard the call of the bush hawk on one occasion but no birds were seen by our party. Stead recorded two nesting pairs.

Haematopus unicolor.—Pairs of black oystercatchers were encountered on most beaches of any size. Though the birds kept close company no signs of nesting were seen.

Larus dominicanus.—Pairs of black-backed gulls were seen scattered along the coastline but no nests were found.

Larus novaehollandiae.—Occasional red-billed gulls were observed in Sealer's Bay. On a small stack in the north-west corner of the island a small colony appeared to be preparing nesting sites. At any rate they exhibited strong territorial behaviour. This stack was right alongside a seal rookery.

Sterna striata.—On the same stack a small colony of white-fronted tern was nesting. It was not possible to gain access to the stack but c. 40 birds were in evidence and several single eggs were seen.

Catharacta skua lonnbergi.—A pair of southern skuas was nesting on a headland near Sealer's Bay. A used nest was located and the two adults attacked intruders in the usual fashion but the chick managed to elude detection. A younger bird (the chick of the previous year?) kept company with the two adults.

Gallirallus australis.—The Stewart Island weka was established as a separate species by Grant in 1905 under the name *G. scotti*. This name

is now usually used in a subspecific sense. This bird was plentiful everywhere on Codfish. Young birds in down were encountered in company with adults. All available ecological niches seemed to be occupied by this forager, the leaf mould of the forest floor being everywhere disturbed by their probing beaks. During low tidal periods numerous birds were encountered foraging among intertidal rocks. No melanistic phases were seen though all members of the party observed all wekas encountered, paying special attention to this feature.

Hemiphaga novaeseelandiae.—The pigeon population of Codfish, though in a healthy condition was not very high.

Nestor meridionalis.—Kakas seemed to be abundant and signs of their attack on rotting wood were met everywhere.

Ninox novaeseelandiae.—Mr. G. M. Turner located a morepork nesting in a hollow tree. The call was heard occasionally at night.

Cyanoramphus novaeseelandiae and **C. auriceps.**—Parrakeets were, as usual, heard rather than seen. Sight records were, however, obtained for both the red-fronted and yellow-fronted species.

Eudynamis taitensis.—The characteristic call of the long-tailed cuckoo was heard constantly though no sight records were obtained.

Acanthisitta chloris.—Riflemen were encountered in thick forest on the higher levels.

Bowdleria punctata wilsoni.—In 1936 the late Mr. Stead established a new subspecies of fernbird for the Codfish Island population (Trans. Roy. Soc. N.Z., Vol. 66, p. 312). Fernbirds were comparatively abundant on the fixed dunes at Sealer's Bay among **Phormium** and **Coprosma** scrub, though the area suitable for this species is not extensive.

Pseudogerygone igata.—Grey warblers were not abundant on Codfish. Only two birds were seen and the song was only occasionally heard.

Petroica macrocephala macrocephala.—The yellow-breasted tit was common, especially in coastal vegetation. The normal sexual plumage differences were observed.

Rhipidura fuliginosa.—The pied fantail also was predominantly a bird of the coastal fringe. Moderately common. No black forms were seen.

Finschia novaeseelandiae.—The brown creeper was perhaps the commonest bird of the forested areas. The birds were still in small flocks so it is presumed that breeding had not commenced.

Prosthemadera novaeseelandiae.—Tuis were quite plentiful but by no means as evident as they were at Halfmoon Bay, Stewart Island. In this latter locality birds from a wide range had apparently assembled in a comparatively small area and were busily engaged feeding on fuchsia flowers. On Codfish there was no concentration of this nature, most of the fuchsias, if not already dead, being severely damaged by the opossum.

Anthornis melanura.—The bellbird was another common bird ranging over the whole island but commonest along the coastal strip, even in the wind-swept scrub of the western coast.

INTRODUCED BIRDS.

Fringilla coelebs.—Numbers of chaffinches were observed from time to time on the dune area at Sealer's Bay.

Passer domesticus.—A surprising record is that of the common sparrow, at least several pairs being present on the dune area at Sealer's Bay.

Emberiza citrinella.—Occasional yellowhammers were seen on the dunes.

Prunella modularis.—The song of the hedge-sparrow was heard in one area of fairly heavy bush.

Turdus ericetorum.—A bleached skeleton with a few attached feathers found on the dunes at Sealer's Bay provided the sole record of the song thrush. This specimen was almost certainly a straggler.

Stead recorded blackbirds, redpolls (neither common) and two or three pairs of white-eyes. None of these species was recorded by our party. Other species which might have been expected to be present but were not seen were the robin, kiwi and yellowhead.

GREY DUCK'S NEST SITE.—Walking along the main street of Whakatane with a friend my attention was attracted by a grey duck (*Anas poicilorhyncha*) flying low along the main thoroughfare. Watching, I saw her alight on the cliff face just behind the street. Within a few seconds she had taken wing again. This manoeuvre was carried out several times but on each occasion she settled lower down the face. Finally she reached a level very little higher than that of the road and as she seemed to return to this point each time I decided to investigate. Here we discerned the plaintive piping of ducklings and found in the gutter of the main street a downy bundle. It was apparent that the anxious adult bird had got them safely down from that lofty nest but on account of traffic and pedestrians was unable to get them across the street to the river. Gathering up the nine youngsters we deposited them safely on the other side. For several minutes they remained huddled together, frightened and bewildered until the adult bird swept overhead in wide circles. At last, in response to their pipings, she alighted, and the last we saw of them in the gathering dusk was the bird marching towards the river with her family crowding just behind her.—S. D. Potter, Auckland.

NOTE ON THE BREEDING LOCALITIES FOR THE BLUE SHAG (*Stictocorba punctatus steadi*).—This southern representative of the spotted shag was first described by Oliver in 1930. Nothing seems to have been recorded of its breeding habits until the late Mr. E. F. Stead (N.Z. Bird Notes, Vol. 3, p. 79, 1948) recorded the species as nesting on sea cliffs around the entrances to Port Pegasus, Stewart Island, and gave some account of its nesting habits. In November, 1948, the writer, en route to Codfish Island (1/11/48) and on the return trip (8/11/48) passed through both the Inner and Outer Ruggedy Passages. On the sea cliffs of both passages blue shags were observed nesting. Observations were limited as the fishing boat on which we were travelling could not be easily manoeuvred but approximately a dozen birds and about 20 nests were observed. There are numerous suitable breeding localities in this area and with time no doubt other nests could be located. The nests were much as described by Stead but were not so high above sea level. They were all perched on ledges all of which would have been inaccessible to humans. The nests were on the whole rather well spaced. It seems very likely that many more colonies exist around the rocky Stewart Island coast. In this respect, it is of interest that old residents of Halfmoon Bay claim that this species formerly nested in numbers on cliffs and in sea caves in Paterson Inlet itself. The birds certainly still roost in this area.—R. K. Dell, Wellington.

SOCIETY'S LIBRARY.—Amongst the books presented to the Society from the duplicate stocks of the Auckland Institute and Museum Library are Guthrie Smith's "Bird Life on Island and Shore," and Marriner's "The Kea." An anonymous donor has given A. C. Bent's "Life Histories of North American Wild Fowl, order Anseres (part)."