

A VISIT TO LITTLE BARRIER ISLAND.

By R. B. Sibson, Auckland.

Through the courtesy of the Government Tourist Department, seven members of the King's College Bird Club spent a week on Little Barrier Island just before Christmas, 1946. The party consisted of J. P. Davey, M. R. Houghton, W. F. I. Hunt, W. N. Tucker, D. A. Urquhart, R. B. Sibson; and we were very pleased to have with us Mr H. R. McKenzie, who often in the past has been associated with our less ambitious trips. The weather throughout was kind. We arrived on December 16, and were able to get away to plan on December 23. During our week's stay the rainfall was only .06 of an inch; so that as the bush was dry bird watching was easy and comfortable.

The S.-W. sector, to which our activities were confined, differs in three important respects from the rest of the island: (a) in the possession of the only extensive area of open flat country on the island; (b) in the possession of the warden's house and garden, where the honey-eaters, kakas and even kiwis can and do find artificial feeding; (c) in the fact that much of it was once cleared and is now covered with second growth. During our stay the pohutukawas were in bloom and the sugar trough was not in use. As an experiment it was filled one day, but the interest shown in it by the birds was negligible. The garden, nevertheless, was alive with bellbirds, attracted by such introduced plants as arbutillon, sweet-pea, fuchsia, trumpet-flower, etc.

Two visits were made to the Thumb and Summit; and three of the party spent Midsummer Eve near the Summit. The flat (Marae-roa) and the adjacent bush, particularly the gullies, were explored with some thoroughness, the stream beds being used for access. On the flat and along the coast we looked in vain for pipits (*Anthus novaeseelandiae*); nor could we find goldfinch (*Carduelis carduelis*), greenfinch (*Chloris chloris*) or yellowhammer (*Emberiza citrinella*) which evidently are only visitors or irregular breeders. According to Mr. and Mrs. Parkin, brown quail (*Synoicus ypsilophorus*) had again appeared on the flat in November, 1946, when they were seen and heard several times, but they did not stay. In the spring Mr. Parkin had found the emaciated body of a white-backed magpie. It seems that when it reached the island it was so exhausted that it quickly succumbed. The latest addition (February, 1947) to the island's list of birds is a pied stilt (*Himantopus himantopus*) which was seen sitting with gulls on Te Titoki Point by Mr. Parkin.

Whilst we were on Little Barrier, thousands of petrels and shearwaters of at least four species were visible every day off the south and west coasts; Te Titoki Point being an excellent observation post. No such concentration was noted by the Museum party when they visited the island during October, 1945.

From Mr. and Mrs. Parkin we received every kindness. Not only did they make us warmly welcome, but their knowledge of the island and the birds was unreservedly put at our disposal; and such success as attended our searches is largely theirs.

In writing this paper the notes made by Mr. McKenzie have been invaluable, and I am especially indebted to him for his helpful criticism.

LIST OF SPECIES.

Kiwi (*Apteryx australis*).—These were heard calling at night near the flat and the east paddock, and on the night of December 20, one was heard not far below the Summit. On two evenings an immature bird with bill about 4 inches long and plumage typical of the North Island race was caught. Tunnels bored into thick grass and pohuehue (*Muehlenbeckia complexa*) may be the work of kiwis. On one occasion the bird caught was hiding in one of these holes.

Little blue penguin (*Eudyptula minor*).—A few were seen on the crossing. All round the flat the melancholy—to human ears—noise of their coming ashore was a daily occurrence at dusk. Nests were found in a variety of situations, both natural and artificial. One was about 10 feet above a creek bed in a hollow pohutukawa that grew out at an angle from the bank; others were under the old pig-sty, the cowshed, the woodstore and the homestead kitchen. Some nests were hundreds of yards inland and a considerable height above sea level, the birds commonly using the creek-beds as thoroughfares. The nests mostly contained downy young, just feathering. There were many addled eggs.

White-faced storm petrel (*Pelagodroma marina*).—On December 16, a day of light northerly airs, c. 100 were seen during the crossing, most of them being within the last three miles. From the island itself none was noted on subsequent days.

Giant petrel (*Macronectes giganteus*).—Two appeared during the crossing.

Flesh-footed shearwater (*Puffinus carneipes*).—These were visible every day off the south coast. The numbers often ran into hundreds, but they were not as plentiful as *P. bulleri* and *P. gavia*.

Buller's shearwater (*Puffinus bulleri*).—These could be seen every day off the south coast, and it was noted that they came close inshore more often than the other petrels. Long lines of them were often sitting on the water.

Fluttering shearwater (*Puffinus gavia*).—Their numbers must have run into some thousands. They generally kept rather further out than *P. carneipes* and *P. bulleri*. We found no evidence that they breed on Little Barrier, although Reischek (1886) and Falla (1934) state that they do. A single desiccated body was found on the boulder bank.

Black petrel (*Procellaria parkinsoni*).—None could be identified at sea. With its light-coloured bill this species would be hard to distinguish from *P. carneipes* at a distance. On Midsummer Eve it was observed on the Summit by Hunt, Sibson and Urquhart. The sun set behind a wall of black cloud, above which the sky glowed pale yellow and green. Later the stars shone brightly from a cloudless sky. There was no moon. The first black petrel was seen at 8.26 p.m. and in the next half-hour more than fifty circled the Summit like great black bats. Most of them seemed to come in from the north and to use the Summit to get their bearings. Some flew round it two or three times, and we could see that they were capable of slow, almost hovering, flight. When the first bird appeared, it was still sufficiently light for us to see it lower its feet before dropping silently down into the bush. The most remarkable thing about the incoming birds was their silence. There was not a single

note or call which we could certainly ascribe to them, although we watched many flying within a few yards of us. In this connection it is interesting to note that Falla, writing of a new form of the black petrel recently discovered in Westland (Rec. Cant. Mus., Vol. 5, No. 2) says "Their calls in the air were subdued and included a metallic rattling sequence."

We next spent about an hour along the ridge track below the Summit, but heard neither the thud of birds landing nor the scurry of birds making for their burrows. From several directions, however, there came a staccato, rapidly-reiterated, angry-sounding "Clack, clack, clack, clack, clack," and twice we traced it to its origin, a black petrel sitting at the entrance of its burrow. We gained the impression that the birds which were making these insistent calls were impatiently waiting for their mates to come and take their turn of duty. Murphy (Oceanic Birds of South America, p. 642) discussing a closely related species, the white-chinned petrel (*P. aequinoctialis*), mentions its "shrill chattering" and adds, "During the active courtship season, in November, the peculiarly penetrating cries of the shoemaker (white-chinned petrel) make the night air ring, and sound at a distance like a chorus of frogs." How far the night air was ringing with the cries of black petrels we could not tell, owing to the babel of noises uttered by the multitudinous Cook's petrels, which share their nesting ground and far outnumber them.

At 10.30 p.m. we returned to the Summit, when it was still possible to see the dim shapes of black petrels in the air. We were particularly anxious to ascertain the origin of a call which we had repeatedly heard high over the homestead and which could now be heard over the Summit. It sounds like a burst of distant heavy machine-gun fire, a "borrrr," with quite well-rolled "r's", and on the flat it usually came some time after the first typical cries of Cook's petrel were heard. Oliver says that the black petrel's cry is a "whistling note which has been likened to a combination of a soft whistle and a deep whirr." If this whirring "borrrr" was the cry mentioned by Oliver, the implication was that many black petrels flew in to the heights of the island from the south. As it turned out, we were unable to prove anything. We could never definitely connect this call with the black petrel; for whenever we heard it at all near, all we could see in the air above us were Cook's petrels, their under surface gleaming white in the light of our torches. Yet Major Buddle and Messrs. Turbott and Bull, who visited Little Barrier in October, 1945, cannot remember hearing any such call uttered by Cook's petrels. Its origin, therefore, remains a problem for future solution.

No burrows of black petrels were opened by us. Most of them run back from cavernous holes which have been made by the tunnelling of generations of petrels. The excavated soil has slipped away and the roof is held together by a tangle of partly exposed roots. By day no sound was heard coming from the burrows.

On The Thumb, the old remains of two black petrels were found. One had certainly been eaten if not killed by a cat.

Grey-faced petrel (*Pterodroma macroptera*).—This species seems to suffer badly from the cats. Skeletonic remains were found at the inland

cliffs along the flat, and on December 22 Houghton discovered at Parihakoakoa Pa a young bird, partially eaten by a cat, which had evidently been disturbed at its meal. The head was perfectly feathered, but a little down still remained on the stomach. The cat must have caught it as it was preparing to take to the sea. Falla (B.A.N.Z.A.R.E. Reports, Vol. 11, p. 180) has a picture of a young grey-faced petrel that flew on board the Discovery 30 miles from Kerguelen, and had much more down adhering to it than this bird.

At dusk on December 17, a silent, large, dark petrel, flying high and direct, passed inland over the homestead. It was either of this species or else a black petrel. No grey-faced petrels were seen at sea.

Cook's petrel (*Pterodroma cookii*).—On the latter part of the crossing many were seen. The sea was calm and some were sitting on the water, riding high and looking, for petrels, rather long in the neck. Every day these gadfly petrels were visible off the south coast of the island, sometimes close inshore with white-fronted terns and shearwaters, particularly *P. bulleri*, at Te Titoki Point.

Towards dusk many could be seen gathering off the coast, and about 8.10 p.m. the first calls of birds flying inland were heard on the flat. These were timed on six evenings:—December 17, 8.9 p.m.; 18, 8.13 p.m.; 19, 8.13 p.m.; 20, 8.15 p.m. (8.6 at Summit); 21, 8.11 p.m.; 22, 8.10 p.m. Individual birds could be watched gaining height before leaving the sea. Very often pairs of birds indulging in what looked like courtship, chasing and calling noisily, would dart along the coast, zig-zagging even between the tops of the pohutukawas. Similar behaviour by Pycroft's petrel has been described by Fleming (Emu, Vol. XLI, p. 78). At the Summit, Hunt, Sibson and Urquhart had excellent views of Cook's petrels flying over their breeding ground. While it was still light, a single bird coming in from the north swept over the Summit with what seemed the speed of an alpine swift and plunged straight into the bush hundreds of feet below. Two birds, the one close on the tail of the other, gave an exhibition of flying that was pretty to watch. The leading bird darted upwards and then down in a sweeping circle, with the other never more than a few feet behind. This kind of flying was very different from the leisurely, butterfly-like drifting that we had witnessed in the light airs at sea on the day of the crossing.

Both along the coast and at the Summit, it was noted that two distinct cries came from pairs of birds flying together; one an excited "whik-kek-kek-kek," the other resembling the bleating of a lamb or goat. To judge by the pandemonium which was let loose around the Summit, many thousands of Cook's petrels must nest on the heights of Little Barrier. As the clamour increased with the arrival of more and more birds from the sea, so did the purring undertone which issued from the burrows on every side. On the night of December 20-21, the calls began at 8.6 p.m.; hundreds of birds were still calling at 3.30 a.m.; then they faded quite suddenly and the last was heard about 3.48 a.m. After 7½ hours' din, the silence which settled upon the Summit seemed unnatural. It was first broken by the screech of a long-tailed cuckoo.

Burrows were plentiful along the Thumb and Summit tracks. Some were new and quite clearly were still being enlarged at night. It was

suggested that these might be "cock-nests," or else the work of non-breeding juveniles. No burrows were deliberately opened, so that nothing was learnt about the state of incubation. When the roof of one burrow on the track collapsed, an adult with neither egg nor chick was found inside. It uttered a purring note and pecked strongly. Reischek says that males sometimes spend the day in a burrow near the sitting female.

Some scores of dead Cook's petrels, with the lower part of the breast-bone chewed away and the back of the skull bitten off, bore witness to the presence of hungry cats. In a petrel colony of such a size as this on Little Barrier, there would be many casualties from natural causes, more especially at the end of the breeding season when young birds would be leaving the burrows and essaying the flight to the sea. Many of the skeletons undoubtedly dated from the previous nesting season. But some were freshly killed. At the beginning of a nesting season, when many birds are searching for soft ground suitable for burrowing, or while they are doing the actual excavation, they would fall easy victims. Among the many dead Cook's petrels we examined were three which, when they died, each contained an egg ready, or almost ready, for laying. In two, large pieces of egg-shell remained, while from the third we removed a cracked, but entire, eggshell. Wing measurements of these three females were 235, 240 and 244mm. Measurements of Cook's petrels given by Fleming (*Emu*, Vol. XLI, p. 76) seem to show that females are on the average larger than males.

Before we crossed to Little Barrier, two nights were spent on the mainland opposite at Leigh. Here, too, Cook's petrels were heard flying inland after dusk. There may be a colony on Tamahuhu (v. Fleming, *Bull. O.S.N.Z.*, Vol. 1, No. 6).

Pied shag (*Phalacrocorax varius*).—21 unoccupied nests were counted at the south-western colony. All young had reached the flying stage, although a few were still being fed by their parents. The nesting trees were being used mainly for roosting. By day shags often took a short cut from the colony high over the flat to fish off the west coast.

Gannet (*Morus serrator*).—Every day odd birds could be seen along the south coast.

White-fronted tern (*Sterna striata*).—Varying numbers were seen every day, feeding offshore with petrels and shearwaters. A few sometimes rested on Te Titoki Point.

Black-backed gull (*Larus dominicanus*).—Only three or four pairs and odd juveniles were present between Awaroa Point and the Pinnacles, where a nest was seen.

Red-billed gull (*Larus novaehollandiae*).—The size of the flocks fishing offshore varied from day to day. Sometimes there were many hundreds.

Arctic skua (*Stercorarius parasiticus*).—About two miles out from Leigh one was harrying a big flock of white-fronted terns.

Banded rail (*Hypotaenidia philippensis*).—On December 12, Mr. Parkin watched one at a distance of six feet. On December 17 one was heard by Mr. McKenzie at 3.10 a.m. among cutty-grass at the dry mouth of Waikohare.

Pigeon (*Hemiphaga novaeseelandiae*).—The status of this bird was hard to assess. It did not appear to be abundant. There were always some about the flat, once 11 together. Very few were noted in the gullies and none on the high ridges. Mr. McKenzie, judging from his experience in mainland bush, thinks that some would be in the big valleys, feeding on tawa and breeding.

Harrier (*Circus approximans*).—Single birds were seen several times and once two together at Awaroa.

Morepork (*Ninox novaeseelandiae*).—To judge by the number of calls heard, this species is no commoner than on the mainland. One disturbed by day from a high creek-bank was set upon by a dozen bellbirds and a tui, which chased it back under the bank. At the foot of the old sea cliffs, when a young morepork fluttered out of a rotten tree, a cock bellbird scolded most persistently. Remains found in the nest were: Two black (Maori) rats; 1 whitehead, freshly killed; 1 bellbird; 1 slightly larger bird, unidentified; and 1 large weta (*Deinacrida heteracantha*).

Kaka (*Nestor meridionalis*).—These were surprisingly abundant and well distributed. Three or four were usually present in pohutukawas near the homestead; and others were noted at intervals on the high ridges and about the Summit. A feature of the evenings was the noisy flocking of 8-12 kakas, which would fly from the flat high over the ridges and sometimes out to sea and back. The flights would begin with three or four birds and others would quickly join them, while some stayed behind, raucously calling in the bush.

Old puriris, believed to contain nests if the persistent execrations of a bird in the branches overhead meant anything, were found near the shag track and at Awaroa. A pair obviously had a nest somewhere in Waikohare Gully. Mr. McKenzie twice observed two closely associated, drab-looking young birds, probably of the previous season, and writes, "I once saw these two nibbling each other's faces, evidently in a demonstration of affection. They seemed to feed on kanuka bark, nibbling at the branchlets some inches back from the tips."

Red-fronted parakeet (*Cyanoramphus novaeseelandiae*).—These were very numerous on the flat and up the gullies, where old puriris and pohutukawas offered a wide choice of nesting holes. Though rather scarce on the high ridges, they were noted near the Summit. They evidently have an extended nesting season, for while some young were flying, in some nests eggs were still being laid, e.g., a nest in a puriri on the flat contained two eggs on 18th December and four on the 20th; and a nest in Tirikakawa Gully had two eggs on December 19 and three on 21st. Mr. McKenzie watched a young bird being fed by its parent, which regurgitated six times. Davy surprised what was evidently a family party of six bathing in a pool in the bed of Waikohare. Along the coast they were observed feeding on pohuehue. (Twice parakeets were seen which may have been yellow-fronted (*C. auriceps*) but none was identified for certain.)

Shining cuckoo (*Chalcites lucidus*).—Heard only in three places: (a) Persistently near the homestead, (b) once at Waipawa Creek, (c) once near Shag Track. None was noted on two visits to the Thumb

and Summit; nor did we see any 'koreros' such as take place in the evenings at this season in the bush, e.g., around Clevedon, where shining cuckoos are very plentiful. This scarcity of shining cuckoos is certainly to be correlated with the pronouncedly meagre population of grey warblers.

Long-tailed cuckoo (*Eudynamis taitensis*).—Numerous. One was seen flying along the coast. There were many in the bush, especially up the Thumb Track. Near the Summit one was being chased by a tui. Mr. McKenzie believes that deserted nests of thrush and fantail with one broken egg in each clutch had been visited by long-tailed cuckoos. No young were seen.

Kingfisher (*Halcyon sanctus*).—Probably three or four pairs between Parihakoakoa and Awaroa Point. A pair had a nest at about 1000 feet in a rotten tree among the kauris on the Thumb Track.

Rifleman (*Acanthisitta chloris*).—On December 18, Urquhart found a party of six or seven in Waikohare Gully, where they were subsequently seen on several occasions by various observers, but never so many together. None was seen along the track on two visits to the Summit.

Grey warbler (*Pseudogerygone igata*).—These were thinly distributed in the lower country and only one was seen above 1000 feet. Competition with a dense population of native passerines may be the reason for their scarcity compared with their abundance in mainland bush, e.g., Clevedon or Waitakeres, where such competition is lacking. Their singing was feeble and sporadic. Mr. McKenzie watched a pair feeding a youngster. Two old nests were found, one at 7 feet on a mingi-mingi (*Leucopogon fasciculatus*), the other at 28 feet in a kanuka on the flat.

White-breasted tit (*Petroica macrocephala toitoi*).—It was easy to find these in all the gullies; they were noted at intervals on the Thumb and Summit tracks and were present just below the Thumb. Curiosity generally made the male conspicuous, but few females were seen. No nests were found. Mr. McKenzie heard the calls of young in Waipawa Gully. He also watched a male standing in a pool, drinking and bathing vigorously.

Robin (*Miro australis*).—We had been led to believe that the robin was scarce and elusive, but at the end of our stay we were able to record them as present in all the gullies that we explored with any thoroughness. Usually only one bird was seen at a time, which suggests that the rearing of most first broods was finished, and the juveniles had been left to fend for themselves. The juveniles were quite silent, but on two days in Waipawa Gully Mr. McKenzie and others listened to a female singing at a distance of a few feet. The song had something of the canary and song thrush about it. We found them distributed as follows: Waipawa, 1 male and 2 females; Grafton, 1; Waikohare, 2 juv.; Tirikakawa, 1 male and 1 juv.; Awaroa, 1 male and 1 juv. or female. In the high country a single bird was seen just below the Thumb ridge.

Fantail (*Rhipidura fuliginosa*).—These were evenly distributed, but scarcely abundant, though they seem at home in all types of country, and were present on the Summit. By the dairy two were seen having a violent quarrel with a bellbird.

Whitehead (*Mohoua ochrocephala albicilla*).—Perhaps the commonest passerine on the island. They were present in all types of country from the kanukas on the flat and the spray-washed pisonias near Awaroa to the Summit scrub, and were seldom out of sight or hearing along the ridge tracks. Many were in family parties, and in the garden we were able to watch the feeding of young which had just left the nest. At Tirikakawa a nest with two eggs was found. It was 12 feet up in a clean young mapou (*Suttonia australis*). Other nests believed to be of this species were seen in the kanuka tops from 30 to 60 feet high. Whiteheads are notorious for the variety of their songs and call-notes. Turbott mentions a "common song very like that of a chaffinch, but without the final rattle." This was heard frequently; and we also noted a song not unlike the opening phrase of a lark's singing. Among their many call-notes is a hard single zit, which could be mistaken for the typical note of the stitchbird. Not once did we see whiteheads having anything to do with long-tailed cuckoos or vice versa.

Silvereye (*Zosterops lateralis*).—These were remarkably scarce. An elusive four or five frequented the garden; and Houghton once saw about a dozen together on the flat. They were not heard singing.

Tui (*Prothemadera novaeseelandiae*).—Large numbers were concentrated below the 200ft. line, where the pohutukawas were in bloom. In the high country and the Summit Ridge they were thinly distributed. Tuis could be seen flying between the higher forests and the pohutukawa zone, as they came to get the nectar and returned. Some young birds of the season were on the wing. At least six nests were found, of which some details are given: (a) With three eggs. The nest was placed among reversionary growth and *Polypodium diversifolium* on the trunk of a pohutukawa deep in the bush and much frequented by all three honeyeaters. While climbing to the top of the tree in an attempt to photograph stitchbirds, Urquhart actually touched the sitting tui. (b) With one egg; 30ft. up in a mahoe at the foot of the old sea-cliffs. (?) Easily accessible to vermin; 10ft. up in a mahoe, not far from (b). The remains of a tui were underneath and the nest contained broken eggshells. (d) Unfinished? 10ft. up in a young *Mida salicifolia*. (e) 50ft. up in a kanuka; (f) 30ft. up in a kanuka. A tui was seen to join some bellbirds mobbing a morepork. Another near the Summit pursued a long-tailed cuckoo for some hundreds of yards.

Bellbird (*Anthornis melanura*).—This vies with the whitehead for the title of being the commonest bird on the island. On the high ridges it was noted that as a result of feeding on the yellow flax (*Phormium colensoi*) the bellbirds had orange foreheads. Young birds were plentiful, and many of them were learning to sing in the vicinity of the homestead, where we had excellent opportunities for observing them. Their singing was very like a blackbird's tuning-up at the beginning of the season, though with rather less volume, but more sweetness. With regard to the typical dawn chorus, Mr. McKenzie remarks, "This was missing completely. I was up before dawn on several mornings to listen for it. I have heard it in the Rotorua, Bay of Plenty and National Park areas up to November 14, and on and after January 21, but have not been there between those dates to see whether there is a cessation for a few weeks. I expect that the Little Barrier birds will begin it again in January." No occupied nests were found.

Stitchbird (*Notiomystis cincta*).—It is satisfactory to be able to report that this is a flourishing species, well able to look after itself on Little Barrier. The number we saw and the ease with which we located them probably indicate a considerable increase since the Maori occupation of the island ceased, for the stitchbird was evidently rare there before Reischek's visits. In 1880, according to Buller, "the indefatigable collector remained on Little Barrier three weeks without any sign of it." In 1882, "after five weeks' continuous search, traversing every part of this rugged island and climbing over ranges some 2000 feet above the level of the sea, he was at length rewarded by the sight of a *Pogonornis*." Again, in 1884, twelve days elapsed before Reischek found one. If they were scarce before Reischek's visits, they were certainly scarcer after, for Buller tells how whole families "fell an easy prey to this insatiable collector."

Guthrie-Smith, who spent ten weeks on the island in 1919, saw stitchbirds on his first day, and eventually found five nests. (*Bird Life on Island and Shore*, pp. 35-62.)

During our stay we found these birds both on the ridges and also in several gullies, sometimes only a few feet above sea-level.

Distribution:—

Ridges.—(a) December 17: Jumble of loose boulders below Thumb. A fine male and 3 juveniles. (See below for reason for believing not a female and 2 juv.). (b) December 20: Lower Thumb Track, c. 300ft. A male which sang well. Possibly one of the Waikohare birds. (c) December 20: Below Thumb. A male in worn plumage. (d) December 21: Below Summit. c. 1800ft. 1 juv. showing yellow at the gape and persistently calling.

Gullies.—(e) Waipawa: Certainly a scattered family here. Three of the party saw a male, and juveniles were noted on several occasions. On the steep slope of the pa, a bird believed to be a juv. male—it showed yellow at the gape—and not a female, was heard to warble softly. (f) Tirikakawa: Two distinct males were seen, one on December 19, in worn plumage, the other on December 22 in bright plumage. At the mouth of this creek the attraction was a profusely flowering pohutukawa, but the first bird also seemed to be feeding on kawa-kawa (*Macropiper*). What may have been two old nests of stitchbirds were found in holes, both facing south, in two old puriris. One nest was at a height of about 35 feet, the other at about 20 feet. Both nests were deep, one being at least eight inches. It had the appearance of having been added to year by year, the different platforms consisting mainly of tree fern scales, as described by Guthrie-Smith. (g) Awaroa: This gully was only visited once. No stitchbirds were seen; but a nest similar to the two in Tirikakawa Gully, was visible, c. 40ft. up in a puriri. (h) Waikohare: In this gully stitchbirds were found on December 18 and on subsequent days were continually under observation by one or other members of the party. The first birds located were clearly a family party, consisting of both parents and at least three juveniles, all visiting a group of flowering pohutukawas, which were much frequented also by bellbirds, tuis and kakas. The young seemed to be feeding independently, but on another day a female was seen to feed a youngster which showed yellow at the gape; and another female, a smaller and very neat bird, whose

"tzit" constantly came from a new direction, was suspected of having a nest. Subsequently, when Houghton was climbing an old puriri, a female became very agitated and aggressive. The homestead is situated at the seaward end of this gully. Mrs. Parkin saw a male stitchbird in the garden on December 19, and a different one on the 21st. The latter bird sang.

The stitchbird has at least two distinct songs, as well as a variety of notes and calls. Close attention was paid to these, and, whenever possible, syllabification was determined by a consensus of opinion.

Songs.—Buller states that the male bird "utters at short intervals and with startling energy a melodious whistling call of three notes." Only once, or possibly twice, did we hear what was evidently this vigorous song. It began with the typical tzit, and went to tsiu, tsiu, tsiu. It ended quite abruptly and was not repeated.

In October Guthrie-Smith heard a low continuous warble which he believed was a courtship song, but other warblings that he heard seemed to be soliloquies. On December 19 I heard a soft melodious warbling from a solitary male in worn plumage at Tirikakawa. It seemed to me to be a typical sub-song, of the soliloquy type, such as blackbirds, thrushes and silvereyes sing at the end of the nesting season, and sometimes as a prelude to the renewal of full song, after the autumn or rather late summer moult. A similar warbling was also heard coming from a female or more probably a juvenile male in Waipawa Gully.

Call-notes.—According to Buller, the male and the female produce a sharp clicking which has a "fanciful resemblance to the word 'stitch.'" This is Guthrie-Smith's "resonant ypstt." To us it sounded like an explosive "tzit." We heard it both from males and females, but not from juveniles. A male in worn plumage uttered a single much softer "tseet"; and Mr. McKenzie and party watched another male listening through the trees and giving a two-note call like part of the exuberant bubble-song of the bellbird. On another occasion he was watching a rather secretive and agitated female and he believes that besides the typical tzit she also made another call like the alarm call of a bellbird—pek, pek, pek, pek. This must be the "different note sounding like toc, toc, toc, repeated several times" which Reischek says the female has.

The call of the juvenile among the trees is a persistent sit, sit, sit. It is probably a feeding call. On our first day we had excellent views of three juveniles, as they uttered it, along the Thumb Track, and from then on we recognised it as a guide to tracking down stitchbirds. Guthrie-Smith heard it on three occasions in October from birds which were sucking the nectar from the flowers of the *Alseuosmia*. He called it "stit, stit, stit," and thought it a travel call. He notes that some of these birds showed a "thin yellow line about the mouth" which we believe a field characteristic typical of the juveniles. He confesses himself puzzled by these birds. The solution to his problem may be that some stitchbirds nest in September or earlier and get their young away by October.

INTRODUCED BIRDS.

Chaffinch (*Fringilla coelebs*).—Probably 10-12 pairs in the vicinity of the flat and a pair was present at the mouth of Tirikakawa. None

was seen on the ridges and the species does not seem to have penetrated into the bush as elsewhere in New Zealand. Males were in full song. A nest was found on the leaf of a nikau.

Sparrow (*Passer domesticus*).—Perhaps 30-40 about the homestead. Some were nesting in the tall kanuka trees.

Thrush (*Turdus ericetorum*).—Found commonly on the flat and a little way into the bush. A nest in the top of a silver tree-fern in Waipawa Gully contained four eggs. Through lack of mud, the nest was lined with a sort of papier-mache of rotten wood mixed with saliva. I have seen a similar nest at c. 700ft. on Rangitoto. Mr. McKenzie found another nest with one broken and two whole eggs, and believes a long-tailed cuckoo was responsible. Away from the flat the only thrush seen was at Tirikakawa. On three occasions thrushes were seen sipping the nectar in pohutukawa flowers just like honey-eaters. No song was heard.

Blackbird (*Turdus merula*).—Fairly frequent about the flat, where some males were still singing; and noted also at Tirikakawa and Awaroa.

Hedge sparrow (*Prunella modularis*).—Perhaps four pairs on the flat; but not noted elsewhere. Males were heard singing near Te Titoki Point, in the garden, and the east paddock; and a bird was carrying food near the inland cliffs.

Starling (*Sturnus vulgaris*).—Flocking had begun, c. 24 being greatest number seen together. Birds were often seen around the sea-cliffs. Does not appear to have spread far inland.

Skylark (*Alauda arvensis*).—On December 16 four were seen flying along the boulder bank, but after that none was seen or heard by day, though a careful watch was kept. Odd birds were twice flushed on the flat after dark.

White-backed magpie (*Gymnorhina hypoleuca*).—Earlier in the spring Mr. Parkin found the remains of one. It had evidently reached the island in a weakened condition and had succumbed to hawk or cat.

[Readers should refer to an article by Mr. E. G. Turbott on the Birds of Little Barrier Island (N.Z. Bird Notes, Vol. 2, p. 93) for list of literature relating to the island. The correct scale of the map of the island published with Mr. Turbott's article is $1\frac{1}{4}$ miles to an inch.]

BIRD LIFE IN DART AND ROUTEBURN VALLEYS.

By Dunedin Naturalists' Field Club.

From January 13 to 22, 1947, a party of about 20 members of the Dunedin Naturalists' Field Club spent nine days at the Routeburn Lodge, near the junction of the Routeburn and the Dart rivers, and from their observations the following report has been prepared. There are more or less open river flats along the course of the Dart, occasional open grassy glades in the Routeburn Valley and beech forest in the area under review.

It is about ten miles from Kinloch, at the head of Lake Wakatipu, to the Routeburn Lodge, and observation of the first seven miles of the Dart River flats was made only from a bus going and coming, so consequently was very limited. For several miles in the vicinity of the Lodge one of the streams of the Dart ran swiftly and deeply against the southern bank, preventing any visit being made to the shingle beds



Tōarui attempting to rise off the ground, Little Barrier, 11/2/1906. (Photo. and caption copied from G. A. Buddle's album.)

BLACK PETREL ON LITTLE BARRIER ISLAND.