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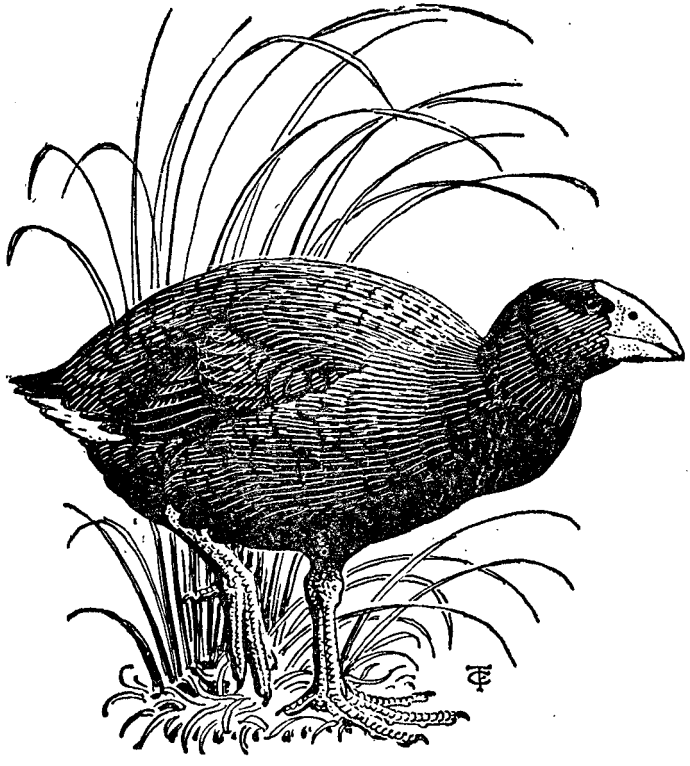

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Volume Fourteen, Number Two, June, 1967

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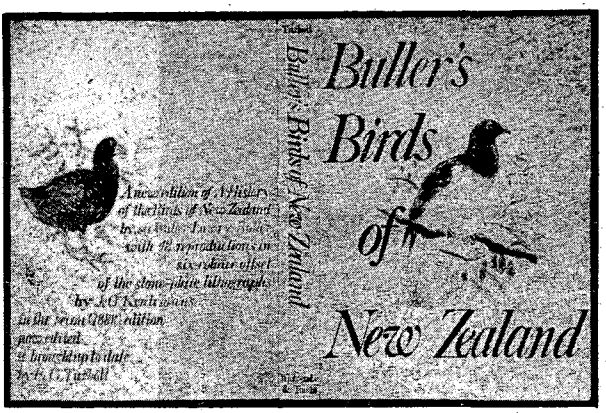

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In continuation of New Zealand Bird Notes

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THE WANDERING ALBATROSS (Diomedea exulans): RESULTS OF BANDING AND OBSERVATIONS IN NEW SOUTH WALES COASTAL WATERS AND THE TASMAN SEA

By J. D. GIBSON

Presented at the Eleventh Pacific Science Congress of the Pacific Science Association, held at the University of Tokyo, Japan, August-September, 1966, and organized by the Science Council of Japan

SUMMARY

The albatrosses occurring in Australian seas are briefly enumerated noting the predominance of different species in different regions.

The development of an effective method of catching Wandering Albatrosses at sea is mentioned, by means of which over 1700 have been banded (up to 1966). Data on weights and measurements are given.

Most of the 61 recoveries of *exulans* have come from South Georgia, a distance of over 7000 miles, where British and American biologists have been active for several seasons. Reciprocal recoveries have also been recorded of birds banded at South Georgia. Other returns have proved that individuals from Kerguelen, Marion and Auckland Islands are present off New South Wales in winter.

The high rate of retraps at the place of banding indicates a facility for precise navigation and suggests an ordered migration pattern to remembered feeding areas between breeding seasons.

Tasman transects are examined and related to hydrological factors. A field method for recording plumage patterns is described and the sequence of plumage change, based on individual retraps, is discussed.

INTRODUCTION

Through its magnificent size and absolute mastery of the elements the Wandering Albatross never fails to excite the beholder. Fact and legend have combined to make it the best known seabird although its circumpolar range is restricted to the southern latitudes, generally between 30° and 60°.

They nest on sub-antarctic islands around the world which are mostly remote, inhospitable and suffer little interference from man, so much so that it is only comparatively recently that details of their unusual two-yearly breeding cycle have been properly recorded. The courtship dance of the Wanderer, like that of the other giant albatross (the Royal) is fittingly impressive. The two species resemble each other in appearance and general behaviour but the Royal breeds only in the New Zealand region and apart from the coast of Argentina is rarely found outside the southern Pacific.

With the exception of one or two historical records, it is only in the last few years, through the banding of large numbers, that factual evidence on their global movements has started to accumulate.

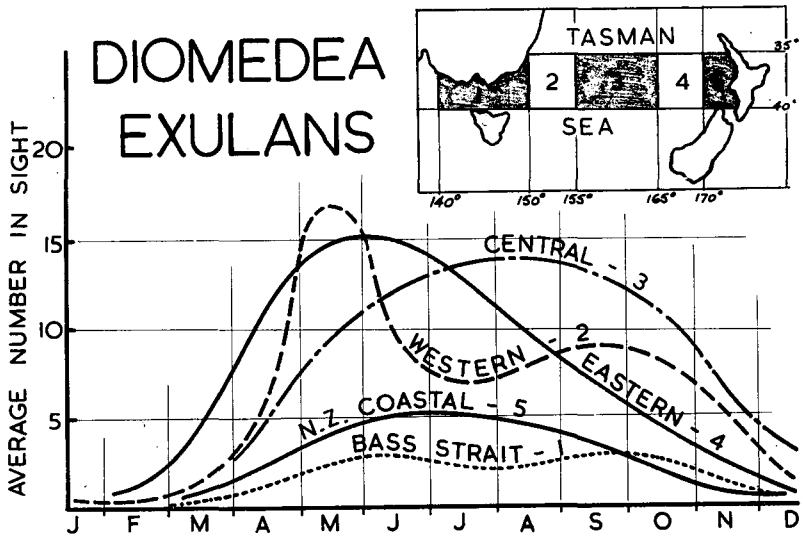


Fig. 1 — Monthly abundance of **D. exulans** in the Tasman Sea.

DISTRIBUTION OF ALBATROSSES AROUND THE AUSTRALIAN COAST

Although only the Shy Albatross (*Diomedea cauta*) breeds in Australian waters, all southern hemisphere representatives of the group have been recorded there. The numbers are low during the southern summer when most have resorted to breeding islands or are ranging in higher latitudes. In the cooler months several species are regularly to be seen in coastal waters showing varying preference for different regions. Some are only casual visitors and none frequents the northern coasts.

Considering the seas surrounding the southern half of Australia and taking the species in probable order of abundance, their winter distribution is as follows:—

Diomedea melanophris. The Black-browed Albatross is probably the most numerous and is present in all areas. It is the species most likely to be seen in the Great Australian Bight and, with *D. exulans,* in the off-shore waters of New South Wales.

Diomedea exulans. The Wandering Albatross is present in all areas but heaviest concentrations occur in the western Tasman, particularly near the coast.

Diomedea chlororhynchus. The Yellow-nosed Albatross is by far the commonest species on the Indian Ocean side but it extends in diminishing numbers to the Tasman Sea and has been taken, rarely, in New Zealand.

Diomedea cauta. The Shy (White-capped) Albatross breeds on islands off Tasmania and hence is the common albatross of Bass Strait and

coastal Victoria. It is sometimes numerous in the eastern part of the Bight and off the southern coast of New South Wales and occurs occasionally off the west coast. Sub-species from the outlying islands of New Zealand, particularly *D. c. salvini,* probably occur sparingly in Australia waters.

Diomedea chrysostoma. The Grey-headed Albatross is seen regularly in the west and south and there are two specimens from N.S.W. beaches.

The two Sooty Albatrosses, *Phoebetria fusca* and *P. palpebrata,* are represented by occasional storm derelicts while the Royal Albatross (*D. epomophora*) and Buller's Albatross (*D. bulleri*), both New Zealand birds, normally disperse into the southern Pacific and have been recorded twice and once respectively.

BANDING OPERATIONS AND TECHNIQUES

The comparatively dense concentrations of *exulans* and *melanophris* which occur off New South Wales, mainly within sight of the coast, seem to be unique for such temperate latitudes. The food attraction for both species is the large cuttlefish *Amplisepia verreauxi* supplemented near Sydney by meat processing wastes etc. from a particular sewage outfall. Schools of dolphins (*Delphinus delphis*) materially assist in making many cuttlefish available to the albatrosses by virtue of their habit of killing more than they require for food.

The physical structure of the great albatrosses is such that it is seldom easy for them to take off from the surface of the water and is often impossible in calm conditions after they have recently fed. This fact, plus its numerical availability from mid June to mid September, determined the Wandering Albatross as the subject for a special banding study and led to the development of a netting technique and the formation of the New South Wales Albatross Study Group which commenced operations in 1956 and has been active every winter since 1958 (Gibson and Sefton 1959, 1960; Gibson 1963).

Throughout the project banding material has been supplied through the Bird-banding Scheme of the C.S.I.R.O. (Commonwealth Scientific and Industrial Research Organization) which records and co-ordinates all such work in Australia. Up to 1963 size 14 butt-end aluminium bands (16 mm. x 19 mm. I.D.) were used but evidence was obtained that some of these were being lost and that the rate of wear was excessive for the useful life required of them, 5% by weight being lost every two years and most of the wording becoming illegible after 10 years. This problem seems to have been overcome by changing to similar bands made from monel metal.

Banding has been done at two centres, Malabar (near Sydney) and Bellambi (35 miles south) where additional data on plumage, measurements and weights have been collected.

Up to 1966 over 1700 Wandering Albatrosses have been banded at these centres plus an incidental number of Giant Petrels (*Macronectes giganteus*), and mollymawks.

[V. Woods

Plate I — Wandering Albatross caught for banding, N.S.W. coast.

RESULTS

Weights and Measurements

Early opportunity was taken to weigh and measure the wingspan and culmen of reasonable samples. The results, of necessity, are unrelated to sex, age or origin.

Weight (108 in sample): maximum 25 lbs. (11.3 kgs.); minimum 13 lbs. (5.9 kgs.); average 18 lbs. (8.3 kgs.). On another occasion a bird known to have come from South Georgia was weighed at 27 lbs. (12.2 kgs.).

Wingspan (119 in sample): maximum 10′ 7¼″ (323 cm.); minimum 8′ 11″ (272 cm.), over 50% falling between 9′ 9″ and 10′ 2″.

Length of exposed cumen (243 in sample): maximum 176 mm.; minimum 138 mm.

Excluded from the above is a single specimen significantly smaller than any measured here or recorded in literature elsewhere (weight 12 lbs. (5.4 kgs.), wingspan 8′ 4¾″ (256 cm.), culmen 131 mm.). This was considered to be freakishly undersized though the possible existence of a smaller undescribed race (Gibson and Sefton, 1960) or even species (Bailey and Sorensen, 1962) has been recognized.

Retraps

An unexpectedly high rate of retraps has been maintained. At one centre (Bellambi) in 1966, 30% of the albatrosses caught had previously been banded in the same small area of ocean while approximately 25% of the birds banded in any one year are retrapped at least once within seven years.

The two N.S.W. banding centres are only 35 miles apart yet analysis of retrap data indicates a definite tendency of particular individuals to patronize one place. The suggestion has been put forward (Tickell and Gibson, awaiting publication) that young birds in their roving years encounter favourable feeding areas which are remembered and become routine stages in later migrations.

Traffic of D. exulans between Australia and South Georgia

The first long distance return of a Wanderer banded in N.S.W. was from South Georgia, probably the largest breeding ground of the species and involving a journey in the albatross latitdues of over 7000 miles. This resulted from a visit to that island by the South Georgia Biological Expedition 1958-59 (Tickell and Cordall, 1960) whose work, which included a study of *exulans,* was continued in a series of expeditions through the U.S.A.R.P.* Bird Banding Program (Tickell 1962, Tickell *et al,* 1965). To 1965, 50 N.S.W. birds have been recorded 90 times at South Georgia and 12 have made the passage both ways. One bird (140-02800) "was first seen off New South Wales in July 1959 and by 1961-62 it was present at Bird Island, South Georgia. The following July it was back in Australia and, although we have no record of it anywhere in 1962-63, it was again in Australia in July 1963 but had returned to South Georgia by the following summer, 1963-64." (Tickell and Gibson). The many returns from South Georgia are the result of intense field work there and are not necessarily indicative of a preference for N.S.W. winter feeding areas by South Georgian birds.

* United States Antarctic Research Program

The South Georgian expeditions have banded over 6000 Wanderers and since 1959 thirteen of these have been caught off New South Wales.

Other Recoveries

Apart from the South Georgia recoveries, six have been reported from the southern coasts of Australia or adjacent seas, one from the southern extremity of New Zealand, five from breeding islands in the Indian Ocean (Kerguelen 2, Crozet 1, Marion 2) and one from the Auckland Islands. These recoveries and the range of dimensions given above are probably sufficiently distributed to show that the winter population of coastal N.S.W. and the western Tasman Sea has representatives from all the nesting islands.

ABUNDANCE OF *D. EXULANS* IN THE TASMAN SEA

Observations on the varying abundance of Wandering Albatrosses in the waters between Australia and New Zealand have been made by J. A. F. Jenkins (unpublished) which indicate a high density during the southern winter and spring. Between 1960 and 1964 Jenkins made 28 Tasman crossings and many coastal voyages off south-eastern Australia and New Zealand on all of which he systematically recorded, at four-hourly intervals, the weather conditions, number of Wanderers in sight and their plumage patterns using a version of the plumage key (Fig. 2) modified for shipboard observations. Crossings were made in all months except January and February and the result is a very useful record of the seasonal relative abundance between 35°S and 40°S latitude (Fig. 1). For analysis this broad transect is arbitrarily divided into five sections — Bass Strait, Western Tasman, Central Tasman, Eastern Tasman and New Zealand Coastal.

From December to March minimal numbers are present in all areas, more inhabiting the Eastern Tasman than elsewhere. The numbers in Bass Strait and Victorian coastal waters remain fairly constant, at a slightly higher level, for the remainder of the year with no evidence of 'funneling' through the Strait at any season.

The distribution of seabird species being generally determined by the availability of their preferred food and this being inevitably linked with hydrological factors, some correlation might be expected between the observed annual distribution pattern and the circulation of surface water masses. Interpreting the distribution graph in the light of such data (Wyrtki 1960, Rochefort 1954, Hamon 1961), movements in this area appear to be as follows:

(1) Northward penetration commences in the Eastern Tasman during March probably directed towards suitable areas west of the North Island of N.Z. Maximum density occurs in May/June coincident in this area with a period of divergent activity in the surface flow of water masses which are of sub-antarctic origin. This divergence probably causes some upwelling.

(2) In the Central Tasman maximum numbers are not present until July-September, at which time the subtropical convergence has moved to its most northern position placing most of the area under sub-antarctic influence. The increasing numbers here coincide with a decline in the Eastern Tasman probably indicating a westward shift of population preceding a general southerly withdrawal.

(3) Furthest northward penetration is achieved by the element entering the Western Tasman whose northern and southern movements probably produce the bimodal curve in Fig. 1. The majority of this group is apparently heading for preferred areas off the N.S.W. coast e.g. the Sydney region where maximum numbers are observed from mid June to mid September. The East Australian Current brings tropical water down the western Tasman but during maximum albatross density its southern extent is weakest and a strong divergent flow pattern develops off N.S.W. This occurs when the current deflects away from the coast and is sometimes accompanied by upwelling. Coastal sea water temperatures at this time vary from 58°F to 62°F (14½°C to 16½°C).

Further northward movement involving progressively smaller numbers presumably occurs, some birds reaching the tropics as indicated by records at Whitsunday Passage (Queensland, 20°S) in September, New Caledonia (22°S) in August and 400 miles south of Fiji (24° 05'S) also in August. In the mid South Pacific it has been observed 300 miles south of Pitcairn Is. (29° 20'S) in October. With few exceptions the northern limit approximates the 70°F (21°C) sea surface isotherm.

The lower Tasman Sea probably supports a denser Wandering Albatross population than other oceans from which comparable data are available. Whereas Dixon (1933) during twenty-five years of voyaging in southern oceans only saw 10 or more together on 25 occasions, Jenkins' log shows that on Tasman crossings the *average* number in sight exceeds 10 at any time from May to August and up to 50 have been observed together.

PLUMAGE DEVELOPMENT

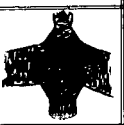
Method of Recording. The handling of large samples of *exulans* provided the opportunity of collecting data on plumage patterns for which a convenient method of recording was desirable. A system has been adopted which considers four aspects of the dorsal surface in comparison with a standard plumage chart (Fig. 2) each area being given an appropriate number. The areas considered are back, head, inner wing and tail. This reduces the general appearance of the bird to a four figure reference which is easily recorded and comparable with the appearance on subsequent retrappings. Subjective variation in ascribing an observed condition to a particular number has been minimized by one person being responsible for all recording.

Results. More than 600 Wanderers have now been examined with special reference to plumage and over 100 of these have been examined more than once at intervals of up to six years. Something may now be said about the observed changes though it is realised that the limits imposed by working with birds of unknown age, sex or origin randomly taken at sea leave most problems still to be solved by long term studies at breeding grounds, e.g. plumage/age relationships, racial differences, sexual dimorphism, moult, etc. From published data it would appear that some breeding populations do not attain the whiteness of others (notably Campbell Island) but the numbers examined are very small and may represent relatively young birds. It has also been recorded that females do not become

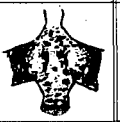
PLUMAGE KEY *Diomedea exulans* D.G. 6/5/60

BACK

1. All brown

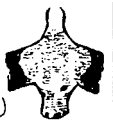


2. Mottled brown & white with some pencilling throughout



3. Mostly white & pencilled with some dark feathers on lower back.

4. Pencilled all over
(4H = heavy & distinct pencilling)

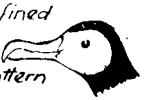


5. Faint pencilling, or traces thereof.

6. White

HEAD

1. Sharply defined brown juvenile pattern



2. Juvenile pattern Still easily discernable

3. Some dark feathers in crown & nape

4. Separated dark crown

5. Traces of dark feathers in crown
(5P = traces of pencilling)

6. Pure white crown

INNER WING

1. All dark

2. A few white feathers

3. Distinct white patch at elbow

4. White patch merging with white of back

5. Mostly white

TAIL

1. All dark

2. White & dark

3. Few dark tips

4. Pure white

N.B.—Intermediate stages recorded thus: 3, 3+, 34, -4-, 4 4+ 45

Fig. 2 — Key used for recording plumage of **D. exulans** while banding.

as white as males. Males, as a rule, mate with less-white females but the possibility that this could be an inherent pairing preference giving the impression of sexual dimorphism while a similar plumage progression is taking place, should be well considered.

The order of change is shown in Fig. 3, which also indicates typical plumage states and their percentage distribution. Characteristic are the appearance of white mottling first on the back, the development of a distinct white patch at the humeral flexure of the wing which later coalesces with the white back, and the presence of a vermiculate pattern on some dorsal feathers on all except very white (presumably old) birds and dark plumaged immatures. This pattern, particularly on the mantle, sometimes regresses temporarily to an earlier, darker condition but the general development of all areas is towards increasing whiteness. The bracketed references relate to Fig. 2.

Back. The solid dark brown back of the fledgling bird (1) becomes interspersed with some white or barred feathers increasing until, at a distance, the mantle appears more or less uniformly mottled (2). The dark feathers become confined to the lower back and rump (3) and ultimately disappear leaving the whole area heavily vermiculated (4H). This pattern is retained but the barrings become finer and paler (4), subsequent moults however may restore the former pattern (4H). Eventually the barrings become discontinuous and are only seen when closely examined (5) while a few individuals achieve immaculate whiteness (6).

Head. The development of the head and neck pattern, though generally towards whiteness, at times shows a temporary regression to an earlier, darker condition. Typically the solid juvenile pattern (1) becomes mottled and less distinct (2 to 3). In about 30% of birds a conspicuous dark crown develops but in all documented instances this has deteriorated usually to a few barred feathers 5 or 5P) and sometimes entirely disappeared. This is evidently not a permanent characteristic and there is little to suggest that it is exclusively a female one. Individuals with traces only of dark feathers in the crown comprise about 40% of the population at any time while only about 10% are perfectly white when closely examined.

Wing. The appearance of white feathers on the upper wing follows their appearance on the mantle. The beginning of a white patch opposite the humeral flexure soon becomes apparent and enlarges to a distinctive feature (3) exhibited by over 25% of all birds. Further whitening may then occur connecting this patch with the back and increasing until dark areas are confined to the wing tips beyond the carpal flexure and the trailing edge decreasing proximally. Some spotting persists on the outer secondary coverts and on a row of major coverts in the humeral segment. Some birds with maximum white development in the wing have this area, as well as the entire dorsal surface, covered with fine barring.

Tail. The originally dark rectrices are gradually replaced with white or dark-tipped feathers, the latter persisting longest in the outermost positions and ultimately disappearing to give the pure white tail exhibited by 6% of the population examined.

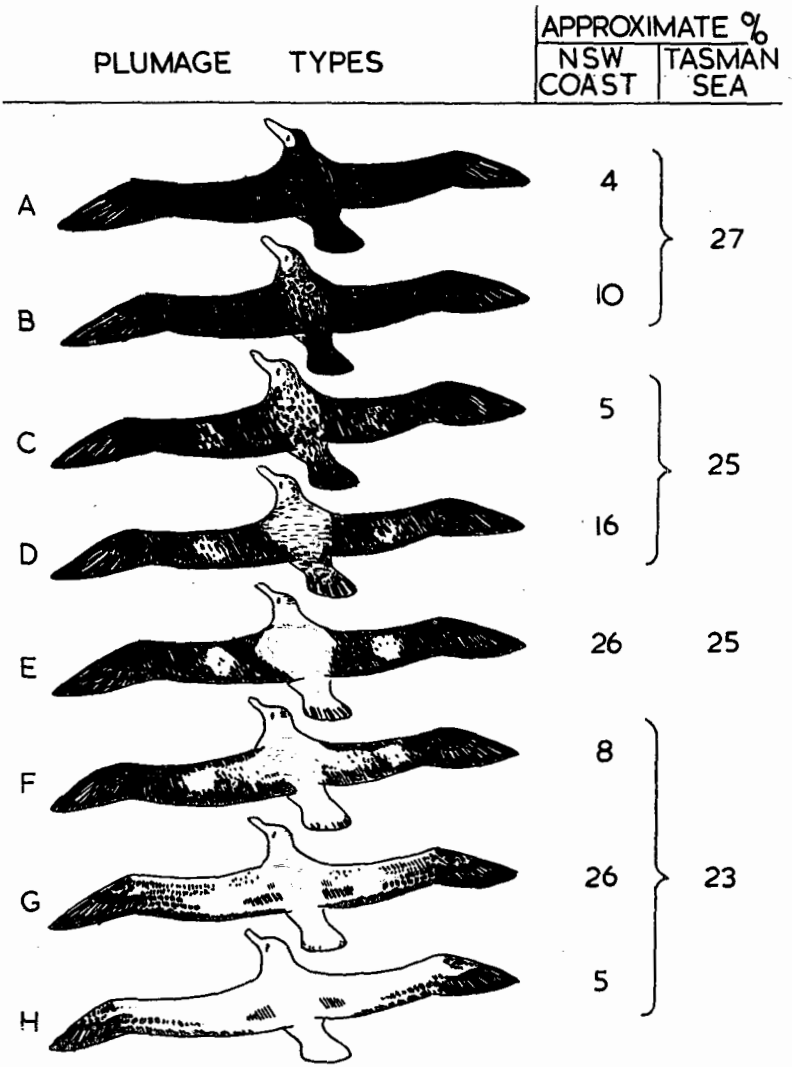


Fig. 3 — Plumage types of **D. exulans** and their relative abundance.

The dusky ventral surface of the body soon turns white on the belly followed by the neck and under tail coverts. The breast plumage, particularly at the sides, is last to change. The underwing remains constant throughout life — white lining with dark tips and narrow trailing edge.

Despite the numerous short term changes it has been possible to record, the overall problem of plumage development is still a perplexing one. Figure 3 is a complete picture derived from the collected data which indicate broadly that one state progresses to the next. Some, however, have shown little or no change over five years, suggesting that further development is sometimes temporarily or permanently arrested.

Age Groups. There is an interesting comparison to be made between the plumage patterns of birds encountered in the Tasman proper and those at coastal feeding stations off New South Wales. In the open sea there are approximately twice as many predominantly dark ("young") birds and approximately half as many very white ("aged") birds as occur on the coast. This situation appears to reinforce the theory, mentioned earlier, of birds accumulating experience of good feeding grounds during random wanderings in early life to be later consolidated into routine migratory behaviour.

Almost the first question asked and the last that can be answered is "how long do Wandering Albatrosses live?" The rate of plumage development is extremely slow, making it quite conceivable that breeding could take place in the darker phases. About 5% achieve the extreme whiteness indicated by plumage H in Fig. 3. Is this the ultimate state reached by all individuals if they survive long enough? In any case it should not be surprising if they approached the longevity of man.

Mystery remains in this, as in many other aspects of the life of this fabled bird. Some secrets have been revealed but many more remain to intrigue and challenge our curiosity.

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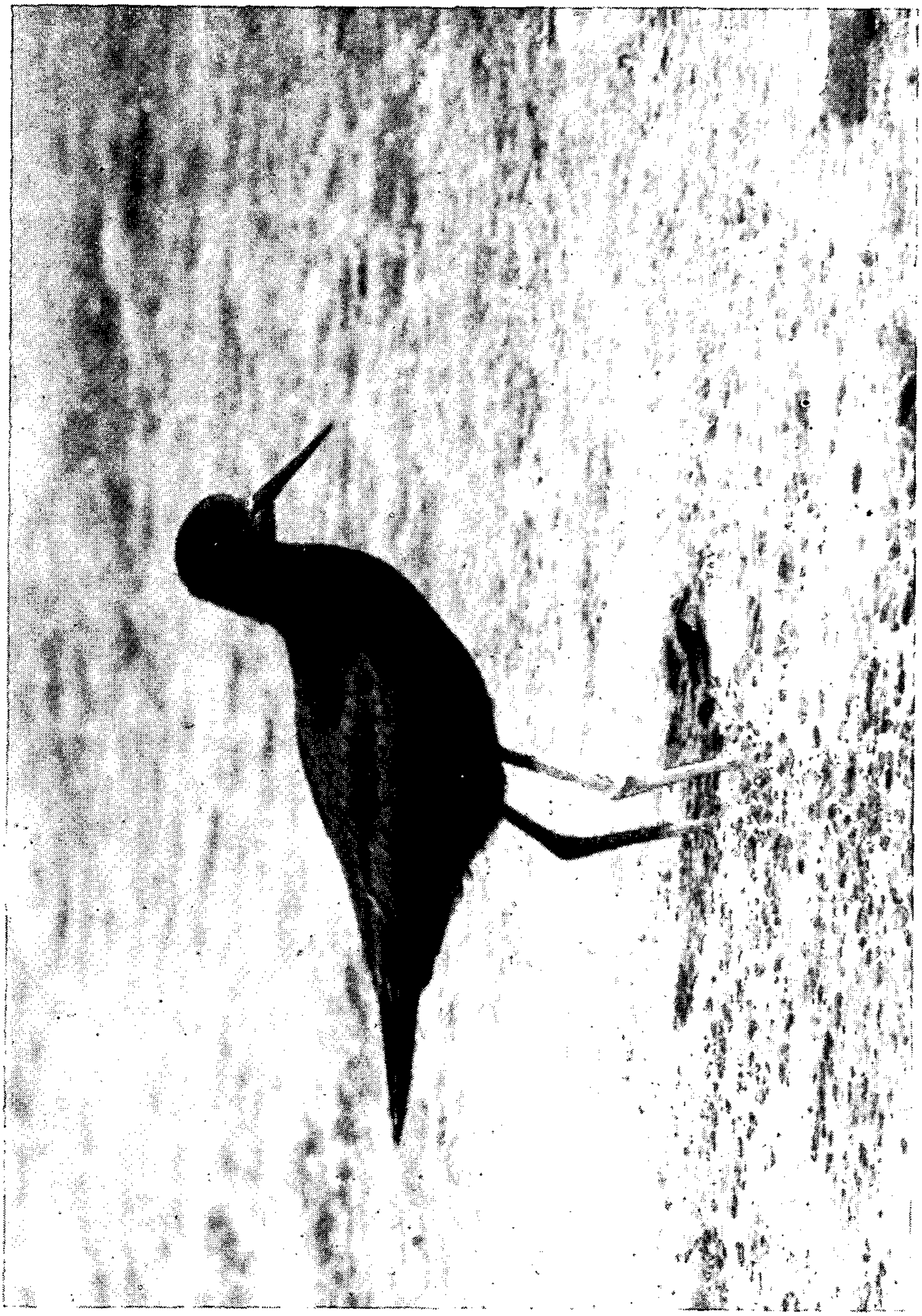

[M. F. Soper

Plate II — These fine photographs supplement Dr. Soper's observations on Black Stilts which appeared in Notornis 14: 8 - 10.

Black Stilt at home in the swift cold waters of a South Island river.

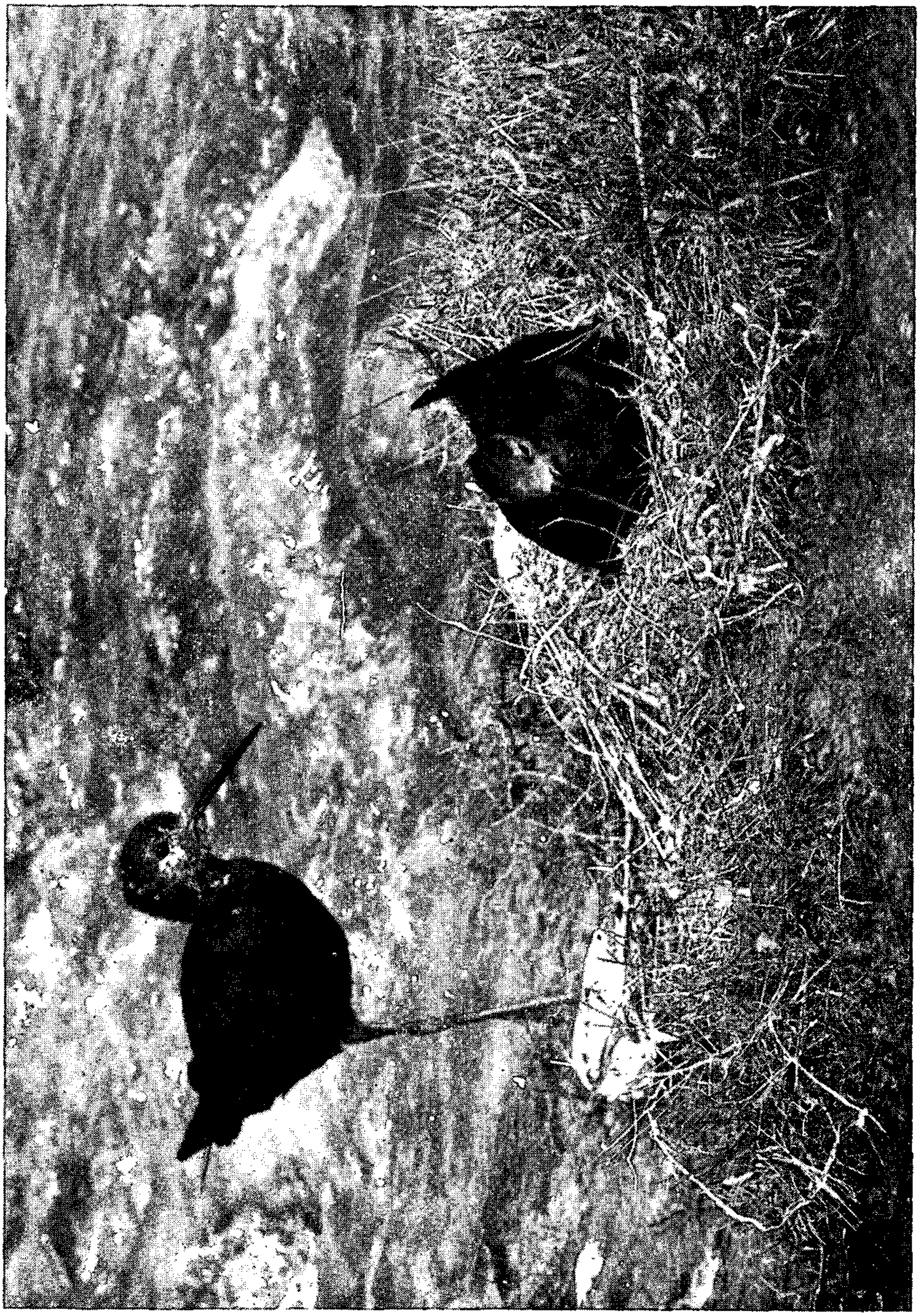

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Plate III — Pair at nest on a precarious site. Note the whitish feathering on the face of the bird on the left.

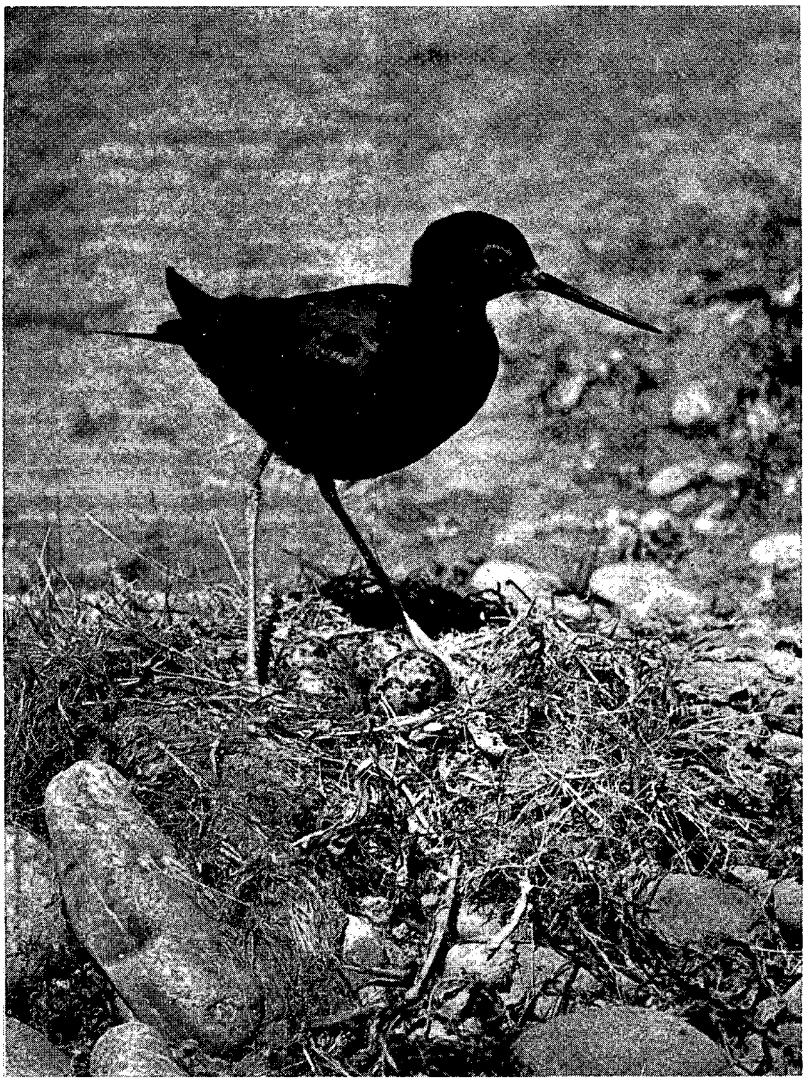

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Plate IV — Black Stilt at nest on a typical site.

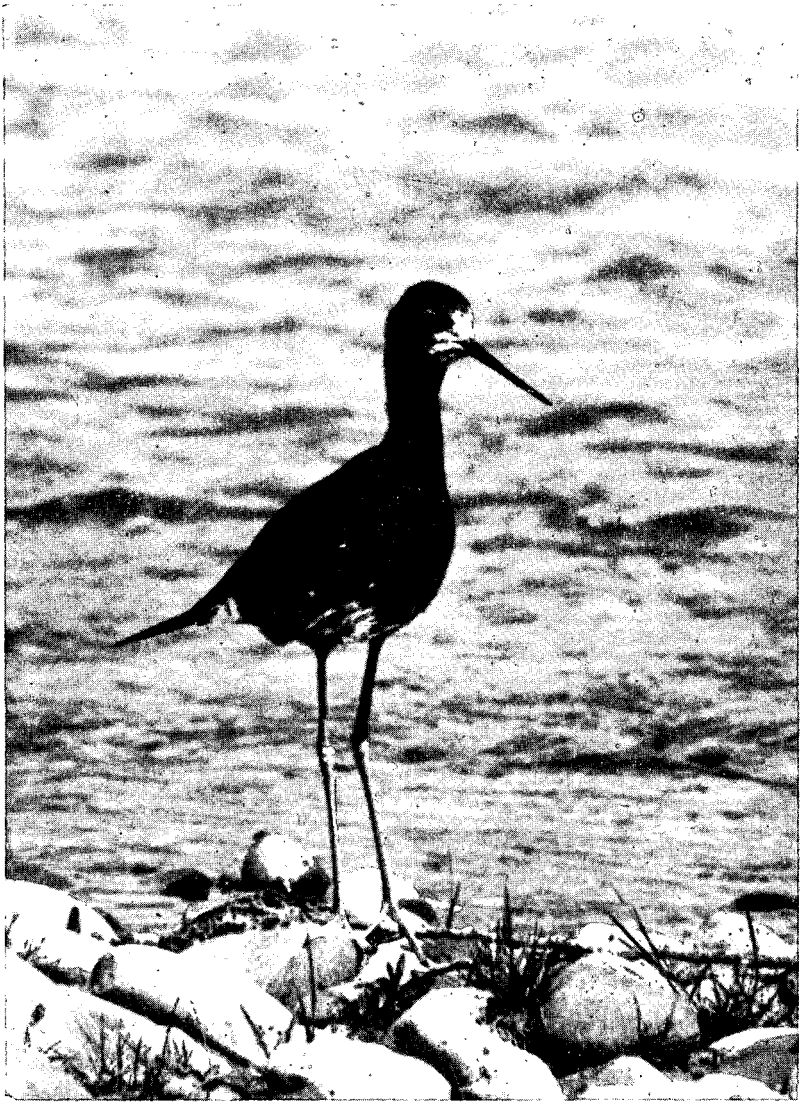

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Plate V — A so-called hybrid. Birds like the above appear in northern New Zealand almost every winter, but 'pure blacks' are seldom reported.

NESTING OF THE CODFISH ISLAND FERNBIRD

By A. BLACKBURN

SUMMARY

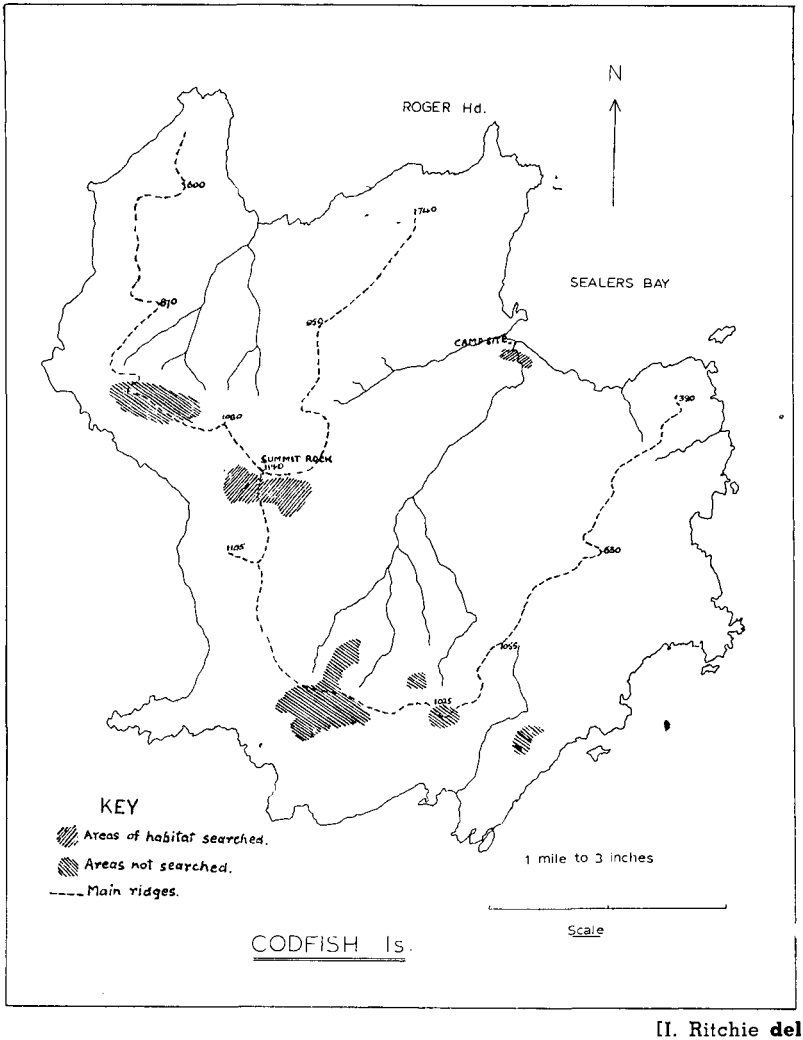
The habitat of the Codfish Island Fernbird (**Bowdleria punctata wilsoni**) is described as to type and extent, and several nests with eggs are recorded. Some notes on voice are given.

INTRODUCTION

Codfish is a large island (3660 acres) off the north-west coast of Stewart Island, and separated from it by a deep channel two miles wide at the nearest points. E. F. Stead (1) spent three weeks on the island in the summer of 1935/6, and first described the Codfish Island Fernbird as a new subspecies, naming it in honour of his constant companion, Major Robert Wilson. Stead says "in the scrub and fern along the beach, as well as in the scrub in the higher portions of the island we met them, usually getting a mere glimpse as they fluttered from one bit of cover to another." He goes on to describe the finding of an empty nest "in the top of a thick scrub bush heavily hung with convolvulus." Strangely enough, Wilson (2) writing of the same expedition, says "There was not a big expanse of fern available, only round the beach of Sealers' Bay, and fernbirds were not plentiful even there, so probably there are not a great number existing." The deserted nest found by Stead is the only one ever recorded, so that we landed on Codfish on 6/12/66 with hopes of making a further study of the bird, perhaps finding nests, and assessing the extent of its habitat and numbers. In March, 1965, we had observed (Blackburn (3)) the birds in some numbers in the low scrub west of the Summit Rock.

DESCRIPTION OF HABITAT

The habitat along the sand dunes of Sealers' Bay is extremely restricted, and Fernbirds were only seen and heard towards the western end, where there is mostly a tangled mass of bracken fern (*Pteridium aquilinum*) and flax (*Phormium* sp.), making observation difficult. Dell (4) recorded in 1948 that Fernbirds were "comparatively abundant on the fixed dunes at Sealers' Bay . . . though the area suitable for the species is not extensive." In this limited area, the total population would probably not exceed three or four pairs. Kean (5) who accompanied Dell and others in 1948, in his report to Wildlife Division, suggested that judicious burning off of the sand-dune area would increase the Fernbird habitat, on which Fineran (6) comments "Such a proposal is irreconcilable with vegetation conservation and fortunately has not been adopted." It was apparently not realised that the main habitat of the bird is the "pakihi," which covers considerable areas of the high easy slopes, these being shown on the map in Figure 1. The pakihi consists of vegetation 3 to 7 feet high, mainly stunted rata (*Meterosideros umbellata*) and manuka (*Leptospermum scoparium*), *Dracophyllum longifolium,* flax (*Phormium colensoi*), *Olearia colensoi, O. oparaina, Gahnia procera,* Fivefinger (*Pseudopanax colensoi*), and *Cyathodes acerosa.* A full description of this type of vegetation is given by Fineran (7). The ground is water-logged in some areas, dry in others, and is covered with lichens, mosses, and comb sedge (*Oreobolus* spp.). About 5 percent of the whole is bare ground, and there is evidence that it has been fired in patches at some stage.



[I. Ritchie **del**

Fig. 1 — Map showing areas of Fernbird habitat.

NESTS AND EGGS

The area of pakihi most easily accessible overland from the camp site at Sealers' Bay is that lying east, south, and west of Summit Rock. Recurring storms prevented us from using our dinghy and outboard motor to land at points of the coastline from which other and larger areas would have been more easily reached. Our first visit to the summit was on 11/12/66, under unfavourable conditions. A high S.W. gale prevented much movement or observation, but overnight some shallow caves on the east side of the summit rocks provided reasonable

[B. D. Bell

Plate VI — Typical 'pakihi' scrub adjacent to the Summit on Codfish Island. Clumps of gahnia in foreground.

shelter from the violent wind and occasional rain squalls. We were relieved to find that good water is readily available by digging a shallow hole in the water-logged pakihi nearby. Conditions next morning rendered a search for the Fernbird in the pakihi impossible, but a quick look on the sheltered side just east of the summit produced a bird, and then a nest. This was placed two feet above ground

level, in a clump of gahnia grass, which sheltered it perfectly from the wind and driving rain, for the wide blades of the plant, when bent over by the wind, provided ideal overhead cover. The nest was constructed wholly of strips of dry gahnia, and was lined with feathers of the Mottled Petrel. Eggs were three, broadly elliptical, pinkish with light mauve-brown spots all over, but more heavily spotted towards the larger end. They appeared to be freshly laid. We considered that gahnia probably provides the usual nest site in the pakihi, for no other vegetation appeared suitable.

The next visit to the summit was on 14/12/66, when conditions were fair, with a moderate S.W. wind. Search was at first concentrated on the area east of the summit, and a second nest was soon found, again containing three freshly laid eggs. This was situated 40 yards S.W. of the nest found on 12/12/66, and the site was identical, i.e. at 2 feet in a clump of gahnia. Construction and materials were also identical with those of the first nest. A little later a third nest was discovered, about 80 yards S.E. of the first, again in a precisely similar situation. This nest contained two damaged eggs and one unbroken, the damage having been caused a day or two previously, and apparently by the bird itself, as no other cause seemed likely. The eggs were very slightly incubated. In addition to the usual lining of whitish feathers of Mottled Petrel, two Parakeet and one Weka feathers were noted.

[B. D. Bell

Plate VII — Nest of Codfish Island Fernbird, constructed of dry gahnia and lined with feathers of Mottled Petrel.

Measurements taken of the three clutches were as follows:

No. 1	21.0 x 16.4	20.4 x 16.2	20.6 x 16.6
No. 2	22.5 x 16.9	22.2 x 16.7	22.2 x 16.5
No. 3	21.5 x 16.5	21.2 x 16.5	20.5 x 16.5

The consistently larger size of the eggs in the second clutch was probably due to the female being an older bird. This particular female returned and twice settled on the nest while two observers measuring the eggs were standing almost over the nest. In breadth the measurements are consistently greater than those recorded by Oliver (8) for the Stewart Island Fernbird, but conform exactly with those of the Snares Island Fernbird.

Further search east of the summit revealed some old nests and some that had been half completed and abandoned. An hour was then spent in the area S.W. of Summit Rock, but only several disused nests were found, again all in gahnia.

VOICE

The call of both parent birds when disturbed by approach to the nest was noted as a quick "tchic" or "tchip." A male in the sand-dune habitat allowed several periods of close observation, quite usually at 3 or 4 feet, as he was quite fearless. His song in the open consisted of an upward cadence of two very musical notes, with a timbre akin to that of the Bellbird. Under cover, he called "cheong" in a downward cadence. When moving on open ground, he appeared "hunched up" and much like a small quail.

DISCUSSION

Although no immature birds were seen, which is not surprising in view of the nature of the habitat, it is most probable that the fresh clutches of eggs in December were part of a second nesting of the species. The climate of Codfish Island is considerably milder than that of the Muttonbird Islands to the south, and independent or fledged young of several species of bush birds were observed during our visit. The disused nests in the pakihi were probably of the first nesting, for under the harsh winter conditions nests would quickly disintegrate. From the close proximity to each other of the several nests in use, we formed an opinion that the species is numerous and flourishing; but it may be that the area east of the summit was favoured on account of it being somewhat sheltered from the prevailing N.W. and S.W. gales. Conditions at the time of our visit were, however, unusually severe. Mr. Jimmy Waitiri, the competent and co-operative owner of the 60ft. crayfish boat "Buccaneer," who conveyed us to the island, stated that it was by far the worst December for many years. There are many sheltered slopes in other areas of pakihi, if such shelter is significant; but to reach these overland entails an arduous trip of many hours. It was most unfortunate, therefore, that weather conditions prevented much use of our dinghy.

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FEEDING STATIONS AND FOOD OF THE NORTH ISLAND SADDLEBACK IN NOVEMBER

By A. BLACKBURN

INTRODUCTION

The party which visited Hen Island from 9/11/65 to 19/11/65 to study the breeding behaviour of the North Island Saddleback (*Philesturnus carunculatus rufusater*) as recorded by Blackburn (1) had a second main objective in the recording of feeding stations and food of the species in the month of November. Similar observations have already been published by Merton (2) for the month of January, and by Atkinson (3) & (4) for the months of May and August. Thus the records for November complete a year's cycle. All members of the party contributed substantially to the records, so that the total time of recorded feeding is some 28 hrs. 31 mins., compared with totals of under 7 hours for each of the other three months.

FOODS

As in all earlier records, insects were observed to be the main food of the species. November is not a good month for berries and fruits, so that the records of these being taken by the birds are extremely sparse, and there were no records of nectar as a food; even the earlier records relating to nectar are open to question. But there is no reason to doubt the statement of Reischek (5) that he found the birds feeding mainly on the nectar of flax (*Phormium tenax*) in December, 1883. There are areas of flax on Hen Island, but no observations have since been made in December, when it is in bloom.

Table 1: Foods of Saddleback, November 1965

Food	No. of Observations
Caterpillars	14
Spiders	1
Weta	1
Leaf Scale	3
Berries of Supplejack	2
Berries of Lawyer (green)	1
Total	22

Caterpillars are, of course, more easily recognizable as the type of food than are other insects, but there is no doubt that they form a substantial part of the birds' diet. A large number of observations were made of birds closely searching the rolled-up leaves of mahoe (*Melicytus ramiflorus*) still adhering to the trees. These were either examined *in situ*, or taken to a nearby branch, and held by one foot, and almost invariably food was extracted. A scale on the green mahoe leaves was seen to be taken either with the point of the bill, or more frequently by using the bill sideways.

FEEDING STATIONS

Although the various types of forest in which feeding observations were made were not classified sufficiently to enable data to be given on the lines set out by Atkinson, the kanuka forest provided the greatest percentage of observations, and the puriri-kanuka and pohutukawa-puriri forests were found to have greater significance than as recorded by Atkinson for the month of May. No birds were observed in the taraire forest.

Table 2: Feeding Stations, November 1965

Feeding Stations	No. of Observations	% of Total
Aerial feeding	0	0
Canopy foliage (excl. tufted crowns)	47	16
Foliage of cabbage trees, nikau, astelias, etc.	10	4
Understorey foliage	47	16
Dead foliage	21	8
Fruit	3	1
Bark of branches and twigs	26	9
Dead branches	12	4
Holes	21	8
Boles	35	12
Ground	64	22
Total	286	100

Nearly all observations were timed, and the extensive nature of these should give a fairly accurate assessment of the time spent by the birds in the various situations. A comparison is made in Table 3 with the January, May, and August records, from which it will be seen that the canopy and understorey assume much greater importance, due probably to the presence of more larval forms of insect life at this time.

Table 3: Times spent on Feeding Stations

Feeding Stations	No. of birds observed	Total time of observations (mins)	Percentage of total November	Percentage in January	Percentage in May	Percentage in August
Foliage of canopy and understorey	96	938	55	17	34	24
Bark of branches and boles, dead twigs	38	236	14	36	34*	43
On ground	67	537	31	47	32	33
Totals	201	1711	100	100	100	100

* Includes lower foliage

From the above table it will be seen how important the ground litter is as a source of food for the North Island race of the species, for the bird spends approximately one third of its feeding time on the ground. This is probably a factor contributing to the complete success of transfers of Saddleback to Middle Chicken and Red Mercury Islands, both of which have areas of abundant litter.

The number of timed observations in the records for January, May, and August varied between 35 and 54, compared with 201 for November, so that a completely accurate picture may not be given by the above table.

BEHAVIOUR

In November, some pairs had dependent fledged young, and with others the young had become, or were becoming independent. There were thus frequent observations of males driving immature birds from their territories. Some birds were building a second nest, or had already done so. The strongly territorial behaviour which has been a feature of nearly all Saddleback records, appeared to have weakened in some pairs, for on two occasions pairs which had intruded into territories were tolerated by the resident pair, and four birds fed amicably in a group for considerable periods. On the other hand, there were several observations in which threat display and calling by the male drove off the intruders. In one instance, two pairs were in contact for 20 minutes, during which time the two males fought three or four times, coming into physical contact on each occasion. The resident birds, with a dependent fledgling, were left in possession. There were other instances, when display and calling having failed to drive away the intruders, the male flew at the intruding male, without making actual contact. Courtship feeding and feeding of dependent young were much in evidence, as was the usual Fantail association, this being recorded in 16 observations, the longest period of continuous association being 41 minutes. Seven instances of challenges or attacks by Bellbirds on feeding Saddlebacks were recorded, the Saddleback giving way on three occasions, but in the others, threat display or pursuit resulted in the retreat of the Bellbird. Following such display, the male gave a flute-like cadence of two notes.

DISCUSSION

The difficulty of identifying the insect food taken cannot easily be overcome. It could be safely assumed that from the dead mahoe leaves the prey was always a caterpillar, and this assumption would give some 100 or more observations under this heading in Table 1. Although members of the party did, in general, concentrate on trying to identify the food taken, the results are negligible. There were several records such as "white grubs from a rotting log," but it would have been somewhat out of character for the observer to have driven off the bird, and collected the grubs for later identification. Sampling of the various feeding stations as suggested by Atkinson would provide valuable information.

A comparison of feeding stations recorded in the four series of observations is given in Table 4, in order to complete the comparative table given by Atkinson in 1966.

Table 4: Comparison of Feeding Stations

Feeding Stations	Percentage of Observations			
	Jan. 1964	May 1965	Aug. 1963	Nov. 1965
Canopy foliage	30	13	17	20
Understorey foliage	5	3	6	16
Dead foliage	5	4	8	8
Fruit	14	8	1	1
Branches, limbs, twigs	18	34	29	9
Branch axils, holes, dead branches	5	14	4	12
Trunks	5	4	11	12
Ground	18	15	21	22
Other stations	0	5	3	0
	100	100	100	100
	88 obs.	242 obs.	205 obs.	286 obs.
	28 days	10 days	10 days	10 days

While the percentage of ground feeding observations remains fairly constant, a trend towards feeding in the canopy and understorey during the warmer months, when larval and flying insect life would be more abundant there, is apparent. Generally this trend appears to be away from searching the branches, limbs, and twigs for pupae, etc., which would appear to provide a major proportion of food in the colder months.

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LETTER

Sir — In your review of *Dusky Bay* in the March issue, you postulate that the Black Rat may have caused the Tui to become so scarce in Fiordland; but I think the reason must be sought elsewhere, perhaps in the later invasion of Fiordland by mustelids. That the Tui is capable of defending itself and its nest against the Black Rat is amply demonstrated at Big South Cape Island. When I visited the island in February, 1965, two years after the tragic invasion of Black Rats, many native species had already been exterminated, and others, except for the Tui and Weka, reduced almost to the point of extinction. Of the Tui I then said (Notornis XII, 199) "both adults and birds of the year were extremely abundant. The Tui, being an aggressive bird, is probably a match for the rat during the crucial nesting season." To describe them as extremely abundant gives little idea of the picture, for they were literally in hordes in all suitable habitat, with birds of the year seemingly in greater numbers than adults.

—A. BLACKBURN

FLEDGING OF YOUNG SHINING CUCKOO

By HARRY WAKELIN

At Glenbrook Beach near Waiuku on 19/11/66 I noticed a pair of Grey Warblers (*Gerygone igata*) working on an almost completed nest about seven feet above the ground. When I next visited the site on December 10th the nest contained very small young, but I could not be sure if all were yet hatched. The day was very stormy and the hen brooded frequently. The cock bird would return with food and seemed nonplussed to find the nest occupied.

On December 17th I found a small cuckoo (*Chalcites lucidus*) in the nest. I could only tell by feeling with my fingers, but I could feel its head larger than a Grey Wrabler's would be. It was still in the bottom of the nest. On December 24th the cuckoo was virtually fully fledged with its head at the nest opening all the time. I noted that it held itself in that position by clinging to the rim of the entrance, thus effectively blocking access to any other young that might be in the nest.

About 11 a.m. it climbed half-way out of the nest. I set up the cameras and waited the rest of the day, expecting it to emerge at any time. Feeding continued till quite late. When it was almost dark, the cuckoo settled back into the nest with its head to one side of the opening to make room for a foster-parent to brood. I had the impression that the adult Grey Warbler would sit on its shoulder. I watched until my eyes played tricks from peering through the dark, but I did not see the adult return to brood.

December 25th — still no change. I caused something of a panic by attaching a microphone to a tree near the nest. The first Grey Warbler to return fluttered around a bit before landing on the nest; but after that, both parents approached by another way and landed on the opposite side of the nest entrance, away from the microphone. Photography was now very awkward.

Between feeding the cuckoo seemed to keep silent. I noticed that whenever the foster-parents brought food, they hesitated before flying away. About two out of every three visits, the cuckoo would violently peck at the foster-parent to make it fly away, but on the third visit, while the adult waited, it would do a contortion act and turn completely over in the nest, presenting its rear. The Grey Warbler would then remove the faecal sac.

There was little opportunity for observation on December 25th. Also I had picked up too much wind-noise on the sound tape, so I set it up again on the 26th. When I began watching early, everything seemed as before; and it was still too gloomy to set up a movie camera. At 9.30 a.m. the cuckoo stretched out of the nest twice as it had often done before. Then all of a sudden it scrambled out completely and up into the growth above.

Soon Fantails and White-eyes came and peered down as if in curiosity that such a monstrosity should emerge from a Grey Warbler's nest. Then pandemonium was let loose as the Warblers went beserk and vigorously drove them all away. The cock bird, in great agitation, called almost continuously and fussed about the young cuckoo, which within a very few minutes was flying from branch to branch as it followed its foster parent's call. Within half an hour it was well up in a tree about a chain from the nest. Barefoot among the blackberries, I had a painful time following it. Next day it was accompanying its foster parents in the tops of the manuka very near the spot where I had last seen it on the previous day. If the young cuckoo was hatched about December 10th, the period for fledging was about sixteen days.

Plate VIII — Young Shining Cuckoo

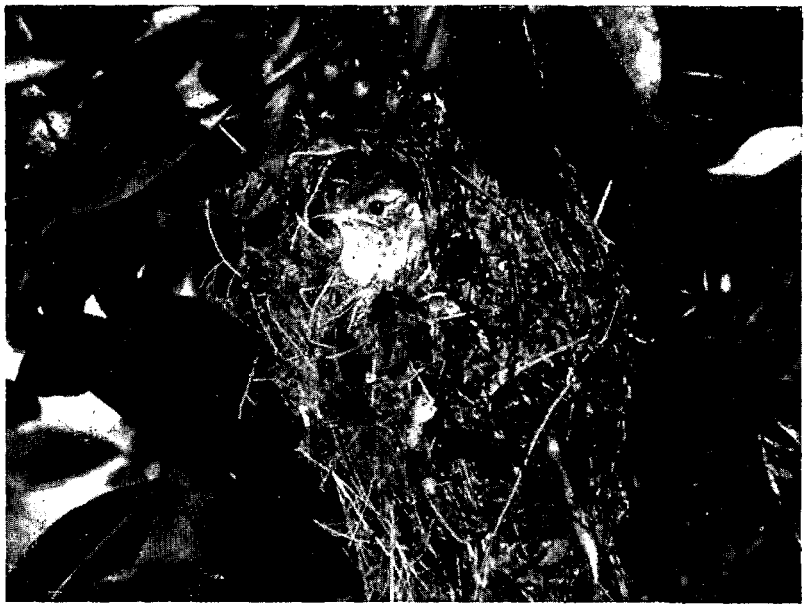


Plate IX — Young Shining Cuckoo

Plate X — Young Shining Cuckoo

Plate XI — Young Shining Cuckoo

Plate XII — Young Shining Cuckoo

Plate XIII — Young Shining Cuckoo

Plate XIV — Young Shining Cuckoo

NESTING SUCCESS OF A PIED STILT COLONY

By REG. C. PULLEN

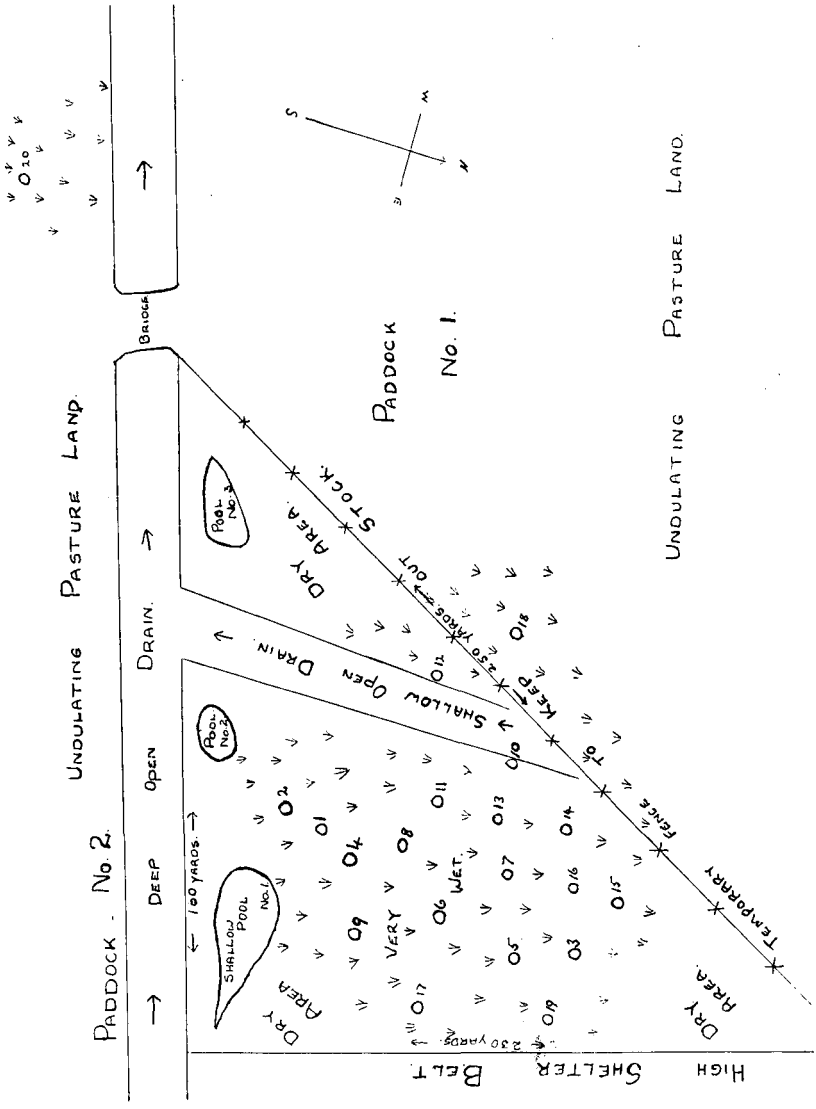
The locality of this colony of Pied Stilts (*Himantopus leucocephalus*) has been bountifully provided by civilisation. The open boggy area shown on the map would not have been available to these birds when New Zealand was in its natural state. The site is on the farm of the Kingseat Hospital at the tip of a tidal arm of the south-east part of the Manukau Harbour. All birds are protected on this farm. Insecticides are not used on the pasture. Trampling of the nests was avoided by the erection of an electric fence. Predators are often a serious factor and will at times wipe out all the eggs and young of a colony. In this colony there was no evidence of predation of eggs though there could have been a little. The distance from cover precluded the hedgehog, while the compact party of belligerent parents kept away two neighbouring pairs of Pukeko and other predatory birds. The greatest danger was to the chicks. It is the habit of the parents to move the small chicks out of the colony and here they were mostly taken to No. 2 paddock (see map). After seeing parent birds walking up and down on the far side of the big drain, ten feet wide and eight feet deep, I realised that chicks must be going along the smaller drain from the nesting area and falling about three feet into the main drain which has deep flowing water and is infested with large eels. If they breed there again I intend to fence the big drain with fine wire netting so that only the bridge can be used. Once out of the colony the greatest danger could have been from the many cats of the establishment though they were not observed in the area. Harriers and gulls were not seen to hunt them.

In the colony the relations to other birds were interesting. During incubation, when either one parent or the other was always on the nest, no notice was taken of Red-billed Gulls (*L. scopulinus*). Blackbirds (*T. merula*) and Thrushes (*T. ericetorum*), but Mynas (*A. tristis*) and Pukeko (*P. melanotus*) were not tolerated. After hatching no birds were tolerated.

HATCHING SUCCESS (See Chart)

Completely successful: Nos. 6, 8, 10, 19, 20.

Estimated to be completely successful: Nos. 1, 2, 3, 9, 13, 16. The last eggs of these nests were not seen to hatch but in the twenty-four or so hours between my visits they had ample time to do so, the chicks become dry and leave the nest. Stokes (N.Z.B.N. 2, 26) describes how one bird, presumably the male, takes away and guards each chick soon after it hatches, the other bird continuing to incubate until the last egg is hatched. He writes, "Early one morning the first chick hatched. It left the nest about four hours later and was taken in charge by what I took to be the male bird. On the second and third mornings the same procedure occurred. The sitting bird stayed on the fourth egg for three more days before giving up. The egg was addled." It is unlikely that these last eggs were taken by predators which would not in any case wait for the last one or two eggs in each of six nests, especially when a parent would still be sitting.



Partially Successful: Nos. 4, 5, 7, 15, 18.

Doubtful: Nos. 12, 14, 17. On Sept. 14 there were two chicks at No. 1 Pool (see map), two on the right of and close to Nest No. 20 and two more just through a fence by a pool. All of these were a week or more old, too old to belong to Nest N. 8. They were probably produced from Nest No. 12, a used empty nest when found, or possibly two of them were from Nest No. 14 which contained one bad egg

when found. I have therefore included estimates of these two nests in the egg total. Nest No. 17 could have been predated or four chicks could have hatched and left on 13th.

Unsuccessful: No. 11, but could have hatched one live chick on 11th.			
Total Eggs: estimating 4 for No. 12 and 3 for No. 14	= 77		
Total Hatched: including Nos. 12 and 14 but omitting No. 17 as doubtful	= 61	= 79.22%	
Infertile or dead chick inside	= 9		
Dead chick in nest	= 2	= 20.78%	
Egg broken in nest	= 1		
Doubtful No. 17	= 4		
	77		

This, I believe, was good hatching success which I think would be largely because the colony was compact and other factors prevented predation.

Unfortunately I was not able to follow up the rearing of the chicks. Before I could get to a vantage point overlooking the colony the alarm would be given and the chicks hidden. The birds became more used to intrusion latterly but still warned the chicks to lie low. The family parties out in No. 2 paddock would be hidden too and the folded nature of the ground made good observation there impossible. Only a few chicks were seen on odd days, not more than the six on 14th Sept. Strangely enough the two first seen on Sept. 11th at No. 1 Pool stayed there until they flew. On Oct. 7, the twenty-eighth

Nests		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Date	Time	Eggs																				Weather
Sept.																						
10	1230	4	3	4	4	4	4	1	+++	4	4	4	0?	4	1	4	4	4				Fine
11	1830	4	3	4	4	4	4	2	0	4	4	3		4	1	4	4	4				Fine
12	1730	4	3	4	4	4	4	3		4	4	2D		4	1	4	4	4	4	2		Fine
13	1700	4	3	4	4	4	4	3		4	4	2		4	*	4	4	0	4	3		Light rain
14	1730	4	3	4	4	4	4	4		4	4	**		4		4	4		4	3	3	Fine
15	1730	4	3	4	4	4	4	4		4	4			3+		3+	4		4	4	3	Fine
16	1330	4	3	4	4	4	4	4		4	4			2+		1++	4		4	4	3	Fine
17	1330	4	3	4	1+++	4	4	4		4	4			++		1	4		4	4	3	Warm, showers
18	1150	4	3	4	1+++	4	4	4		4	4			0		1	4		4	4	3	Heavy rain
19	1730	4	3	4	1	4	4	4		4	4					•	4		4	4	3	Dull, cold
20	1730	4	3	4	*	4	4	4		4	4						4		4	4	3	Heavy rain
21	1700	4	3	4		4	4	4		4	4						4		4	4	3	Fine
22	1730	4	3	4		4	4	4		4	4						4		4	4	3	Fine
23	1800	4	3	4		4	3-	4		4	4						4		4	4	3	Fine
24	1800	4	3	2++		4	3	4		4	4						4		3+	4	3	Fine
25	1800	4	3	1+++		4	3	4		4	4						4		3	4	3	Fine
26	1730	3+	3	0		1+++	3	4		4	3+						2++		2	4	3	Fine
27	1730	1+++	1++			D	3	4		4	++++						0		2	4	+++	Dull, cool
28	1730	0	0			0	3	4		4	0								**	4	0	Fine
29	1745						3	4		1+++										4		Fine
30	1800						3	4		0										4		Fine
Oct.																						
1	1830						+++	4												4		Dull, cool
2	1800						+++	4												4		Fine
3	1830						0	4												4		Fine
4	1230							4												4		Cold, windy
5	1830							2++												4		Heavy storms
6	1830							2•												4		Fine
7	1730							**												2++		Fine
8	1330																			++++		Heavy rain
9	1730																			0		Fine

Legend: + = chicks hatched; • = eggs infertile or dead chick inside; D = dead chick in nest; - = egg broken in nest; 0 = no eggs or chicks left in nest.

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.

During the following two nights we were absent from this camp so observations ceased. However, on the night of 2nd November, both banded Sooty Shearwaters were again present in this burrow, but they did not remain during the following day. Unfortunately no follow-up observations could be arranged, so that the outcome is not known. It would seem that the summer breeding shearwaters intended using this burrow although it had not yet been vacated by winter breeding petrels.

It appears inevitable that if such sharing of burrows by these or related species does take place regularly at this time of year some considerable overlap of tenancy must occur. Most young Grey-faced Petrels leave their breeding grounds in December or early January, while Sooty Shearwaters lay in late November or early December.

— D. V. MERTON

[The burrow in which these Sooty Shearwaters were found in 1965 appears to be the same as held a breeding pair in December, 1958, where they were banded. It is likely that the rather soft bands in use at that time would have worn thin and fallen off, though a Pycroft's Petrel banded on Hen Island in 1954 was still carrying its ring, albeit worn paper thin, exactly seven years later.—Ed.]

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BROAD-BILLED ROLLER IN SOUTHLAND

On 29/3/67 Mr. and Mrs. S. L. Lobb, of the Gorge Road Aviaries, had a report of a strange bird from the Ruddenklau family, who farm near Fortrose, about 25 miles east of Invercargill. Mr. and Mrs. Lobb went out that evening and found the bird in the same locality . They took detailed notes, and on their return home provisionally identified the bird as a Broad-billed Roller (*Eurystomus pacificus*).

On the following day Mrs. Lobb, Messrs. R. R. Sutton, R. M. Royds and the writer had prolonged views of the bird in varying light. It was stocky, about the size of a Little Owl (*Ahene noctua*), its large head flattened at the crown. The flight also was owl-like, with silent, steady wing-beats as the bird flew to catch insects on the wing. It appeared to work a regular beat, returning after each sortie to its perch. At different times it used posts, a wire fence, telegraph wires, a tin fence about 20 yards from the house, and dry branches of a fallen tree as its vantage point. The iridescent silvery-green patch extending back from the leading edge of the wing, from which the common name "Dollar-bird" originates, was very apparent in flight, and could also be seen on the primaries of the folded wing. The shining sea-green underparts, the bright blue uneven horizontal line at the throat, the silver "dollars," and the large bright yellow gape as the bird snapped at insects were brilliant in the sunshine.

The dark bill and pinkish-brown legs indicated that this was a juvenile, as did the blotchy brownish patches on breast, hind-neck and back.

This bird looked altogether improbable on the New Zealand scene, and one can well understand why the Ruddenklaus' first thought was that it had escaped from an aviary.

The Broad-billed Roller was last recorded in New Zealand in 1956, and the previous most southerly record was from Ross on the West Coast.

As this species migrates north from Australia to Indonesia in April, it seems logical to suppose that the Southland bird had gone astray in the course of migration.

— MAIDA BARLOW

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SANDERLINGS AT LAKE WAITUNA (SOUTHLAND)

Lake Waituna, 15 miles S.E. of Invercargill is a shallow lagoon seven miles long, fed by small peaty streams and separated from the open sea by a narrow shingle-bank. Most of the time there is a single outlet through this shingle; but sometimes as the result of freak tides and weather, the outlet blocks, and the lagoon has been in this closed state from September 1966 to the time of writing.

The west end of the lake, known as Walkers Bay, has extensive areas of suitable habitat for waders. North of this is Swan Bay, which accommodates large numbers of waterfowl. There is usually an interesting assortment of shore-birds at Walkers Bay in the summer months. It has in the past produced Black-tailed Godwit, Royal Spoonbill, Whimbrel, Pectoral, Sharp-tailed and Curlew Sandpipers, numerous Red-necked Stints (largest count 40 plus). Long-billed Curlew are also usually found here.

On 18/12/66 the lake produced an addition to this already impressive list when a group of five Sanderlings (*Calidris alba*) was seen by Mrs. M. L. Barlow, Mr. S. L. Lobb and the writer.

While searching the shingle bar from our boat, a small and unusual wader was noted resting on the shingle among a small group of Turnstones (*A. interpres*). We went ashore and examined the bird from fairly close quarters with a 20 x telescope and made the following notes. Bill and legs: black. Crown, hind neck and back: grey. Upper wing coverts grey with pale edge. Throat, breast and underparts: white. Eye: dark and bold. Pale stripe above eye extending back from white front. Grey hind neck feathers extending forward to form the beginning of a bar. Grey crown extending forward to form a point above bill. Forward angle of wing leading edge very dark. Definite wing bar when in flight. In flight tail had a dark centre with white on outer edges.

When put to flight our bird was lost from sight, but was located again about an hour later with four more of its kind feeding along the edges of shallow pools on an adjacent mud flat. There were Curlew Sandpiper (*C. ferruginea*) and Banded Dotterel (*C. bicinctus*) feeding nearby: the Sanderlings were plump and stockier than the Curlew Sandpiper, and shorter in the leg.

The things which impressed us most were the extreme whiteness of the underparts, the prominent dark eye and the constant running along the water's edge when feeding, although this running was probably due to the fact that there was a lack of ebb and flow of tide.

This is the second sighting of Sanderlings in Southland, the previous one being of a single bird seen by B. D. Heather on the Invercargill estuary.

— R. R. SUTTON

[The Sanderling is usually found in New Zealand as a lonely straggler. The only other record of a 'flock' is of five in Parengarenga Harbour during February, 1950. Notornis IV, 127.—Ed.]

A "DIFFICULT" STINT NEAR NAPIER

We believe that a 'stint' or 'peep' which we saw at Westshore Lagoon, Napier, on 14/1/66 was a Semi-palmated Sandpiper (*Calidris pusilla*), an American species not hitherto recorded in New Zealand. We had met at noon; and after examining six Sharp-tailed Sandpipers (*C. acuminata*) on the northern side of the causeway we turned our attention to the extensive shallows on the southern side. Four Wrybills (*A. frontalis*) were quickly identified; and we were approaching three Red-necked Stints (*C. ruficollis*) in a quiet bay, when a fourth 'stint,' which looked just a little bigger, flew in and settled about five yards beyond them. At first it kept alert and did not feed. Viewed from head on it showed an unusually stout bill; and broad whitish super-ciliary stripes, which gave the crown a streaked look. One of us (R.B.S.) was at once reminded of a Broad-billed Sandpiper (*Limicola falcinellus*); but when we had moved some yards closer and were in a position to view the newcomer from the side, it was clear that the bill was only as long as that of a Red-necked Stint; but was much heavier and thicker. The shortness and shape of the bill ruled out *falcinellus* at once; and also, so it seemed, Western Sandpiper (*C. mauri*).

We realised that we had before us, a difficult stint and a problem of identification. We were both impressed by the difference in the size of the bill; and we are certain that we were not misled by the heat haze or the shimmer over the water, as we were now within twenty yards of the four birds and the stranger had joined the three Red-necked Stints which had the typically fine bills of their species. Other features which we noted were that chest and underparts were very white; and the white on the flanks reached towards the shoulder and round the bend in the wing. Its legs were black or very dark. We did not hear it call.

Subsequently when we were able to consult books, especially 'The Popular Handbook of Rarer British Birds' and 'Audubon Water Bird Guide' we both independently reached the same conclusion that if the 'difficult stint with a difference' was not a Semipalmated Sand-piper, we did not know what it was.

On 25/1/66 R.B.S. was able to study at close range a flocklet of fourteen Red-necked Stints in Manukau Harbour, paying particular attention to bill-size and head-pattern. None of them resembled the puzzling stint which was seen at Westshore Lagoon.

We are aware of the need for extreme care in identifying all stray waders, whether large or small. Apart from the heat, we were able to watch this stint under very favourable conditions, with the bright sun behind us. The Semi-palmated Sandpiper breeds on the arctic coast of North America (possibly also in N.E. Siberia), evidently in immense numbers for it has been described as the most abundant of the shore-birds over much of North America. Since Red-necked Stints are regular annual migrants between Siberia and New Zealand, it is well within the bounds of possibility that both the Western (*mauri*) and the Semipalmated (*pusilla*) Sandpiper should occasionally reach New Zealand; for their breeding grounds are contiguous with those of *ruficollis* and may indeed overlap; and far travel is part of their nature and way of life.

— R. B. SIBSON
— N. B. MACKENZIE

REVIEW

A Biology of Birds with particular reference to New Zealand Birds, by Barrie Heather. An Ornithological Society of New Zealand Publication.

Most of us come to bird work when our formal education is finished, and have to pick up our basic theory and information on birds generally in bits and pieces as time permits. Since time is a limiting factor for so many of us, this scrappy method of learning often leaves us totally unaware of the depths of our own ignorance. Barrie Heather's book will help a great deal in this respect, as it briefly but carefully covers a great deal of ground, is also very readable and, considering the lack of index, easy to search via the contents table for that one small fact that you may want.

The whole book is slanted towards the practical study of birds in New Zealand. The author is constantly trying to see our birds against a larger perspective. What are their taxonomic relationships to the whole world of bird species? How do their characteristics fit into the various theories of evolution, dispersal, population dynamics and so on. Up until now we have had no books that specifically place our birds against the background of ornithological theory. It has been a matter of searching scientific journals, often not readily available to the layman. This book admittedly is only a beginning since our knowledge is so fragmentary, and thus it should be read carefully and critically. Be prepared to argue with the author and ask, by letter if necessary, what are supporting facts for a particular statement. Gaps in our factual knowledge are only too evident, but look also for gaps in the logic of the deductions and interpretations. There has been a regrettable lack of theorizing in New Zealand ornithology and I feel sure that this lack of a framework in which to place their facts has hampered many amateurs once they have acquired a sound factual and local knowledge of their birds. I hope that this book will stimulate argument and force people to define what needs to be tackled most urgently in New Zealand ornithology. What are our special problems and what are our particular advantages compared with other countries? I feel that we could profitably compare the generally wide ecological tolerance of our successful bush birds with the high degree of adaptation shown by birds of analagous archipelagos such as the Galapagos. The author discusses the direct historical approach to this situation, but might it not be possible to find other approaches? I. A. E. Atkinson's technique of defining food stations with precision looks interesting in this respect.

I will not give you a resume of the contents of this book as these were listed in the brochure distributed with Notornis last year. The most interesting section, as it is the one containing the most problems is "Features of the New Zealand Avifauna" with the section on "Birds and Man in New Zealand" coming close behind.

For the beginner in bird watching I can recommend this book as a companion to the Field Guide; and to those with more experience here is where you can find some initial frameworks in which to place your factual knowledge, and also a means of entry into the main body of ornithological literature.

— JILL HAMEL

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ANNUAL GENERAL MEETING
Dunedin, 20th May, 1967

Over 60 members and friends attended.

Organisation of A.G.M. week-end activities was in the hands of Dunedin Regional Organiser, Mrs. J. B. Hamel, and her helpers. Arrangements for accommodation and outings were excellent, and the highlight of the week-end was a buffet dinner in the gracious surroundings of Glenfalloch.

Mr. Blackburn's Presidential Address summarised the progress of the Society from 1960 to 1967, a period in which there has been a steady growth in membership, a marked extension of the Society's organisation and activities, and an improvement in its financial position which has enabled Council to plan with confidence additional measures designed to further the Society's main object, to encourage the study of birds in New Zealand.

Mr. Blackburn presented the Treasurer's report, O.S.N.Z. and Kermadec Committee accounts, which were adopted. Annual Reports were summarised and will appear in full in *Notornis*. He also announced that the Field Guide was selling well, and that Mr. Sibson was working on revision against the probability of a second edition; that Biology of Birds is selling steadily but many members have not yet bought a copy; and that good progress has been made with preparation of the Checklist.

The Bailey Prize for the best contribution by a Junior Member to the Nest Record Scheme was awarded to Paul Sagar, Canterbury; the Kings College Bird Club award went to C. H. Barlow, Auckland, who has taken over from David Fenwick the task of preparing *Notornis* index.

Only three nominations (Mrs. J. B. Hamel, Dr. R. A. Falla and Mr. N. B. Mackenzie) were received to fill four routine vacancies on Council. These officers were declared elected. This left one vacant sat on Council, plus three vacated by the resignations as President, Treasurer and Secretary of Messrs. Blackburn, McKenzie and Edgar. Under the Constitution, Council is empowered to appoint officers to fill vacancies, however caused, and officers so appointed hold office until the expiry of the term of the officers they replaced.

The Vice-President, Dr. G. R. Williams, was appointed President, and Mr. A. Blackburn accepted appointment to fill the resulting vacancy as Vice-President. These officers retire in 1968. Messrs. J. P. C. Watt and B. A. Ellis accepted appointment as Treasurer and Secretary, and retire in 1969. Dr. P. C. Bull, a Past-President, accepted nomination as a Council Member and retires in 1970.

Messrs. Thompson and Lang, Dunedin, were appointed auditors for 1967, and a vote of thanks to Messrs. Bain and Sheppard, 1966 auditors, was unanimously carried.

A motion by Mr. J. M. Cunningham, that para 14 of the Constitution be amended by adding the following clause " (e) at least one member of Council shall reside in each of the North and South Islands " was carried.

A motion to abolish junior membership, by Dr. Williams, was not carried. A motion by Mr. J. M. Cunningham, that Reserve Funds be established for Life Subscriptions and for the Lenz Bequest, these to be left intact unless their use is specifically authorised by A.G.M. resolution, was put to the meeting, with an explanatory note by Mr. Cunningham. During discussion it was pointed out that Council had already in November, 1966, created a Life Subscription Reserve, and comments on the proposal by Auditors were read; the motion was put to the vote and not carried.

Mrs. Hamel's proposal that Council should consider a general revision of the constitution was carried. Mr. D. H. Brathwaite said that the quality of *Notornis* index had improved greatly in recent years but expressed his preference for listing birds under scientific rather than under popular names. This matter was referred to Council.

Mr. Blackburn expressed Council's gratitude to Dr. Westerskov for valuable information on the working of a Rare Birds Committee in Denmark, and announced that Council had decided that the existing Checklist Committee should be the basis of an O.S.N.Z. Rare Birds Committee.

A letter from Dr. R. A. Falla was read, conveying a message of congratulation from the Nature Conservation Council to Dunedin Branch of O.S.N.Z. for sound research and constructive approach to the problem of Lake Tuakitoto.

Mr. R. B. Sibson reminded the meeting that in March 1770 Captain Cook first sighted Dusky Bay, and suggested that the Society might celebrate the 200th anniversary of this event by organising an expedition to the area.

The meeting unanimously voted to send congratulations to Dr. C. A. Fleming on his Fellowship of the Royal Society, and to Mr. E. K. Saul on his award of the Royal Aeronautical Society medal for his work on birds at Auckland airport; and to convey to Professor B. J. Marples best wishes for his retirement, deep appreciation of his outstanding services to the Society as Founder Member, Editor, Secretary-Treasurer, Vice-President and President, and gratitude for his continued support during the whole period of the Society's existence. Dr. G. R. Williams proposed a vote of thanks to outgoing members of Council, and the meeting closed with a vote of thanks to Mrs. Hamel and her helpers.

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CARD COMMITTEE REPORT

This year was a notable one for the sale of Xmas cards. A total of 1312 dozen (approx. 15,700) were sold, which necessitated three printings (a result of insufficient optimism by the Convener and considerable patience and co-operation by the printer). Approximately 800 cards remain unsold but there should be no difficulty in selling them eventually.

The success of 1966 scheme stems, in large part, from the introduction of the first card of what we hope will be a series of historical prints. The 1966 card — Heaphy's Kakariki — was made available for the Society's use by the kind co-operation of the Alexander Turnbull Library in Wellington. By an oversight which, fortunately for the Society was noticed by Alexander Turnbull Library too late, the Society had the distinction of publishing the Heaphy painting for the first time. This would not have been allowed by the Library as it quite understandably feels that it should be the first publisher — if any — of important N.Z. historical material.

The Library kindly supplied historical notes for the painting which unfortunately arrived too late to be included on the card. The plan is to make sure that a brief historical statement is published with such cards in future.

I recommend that as a result of the enthusiastic response the 1966 card received that the Society continue a policy of printing Xmas cards of historical interest in future and that the 1967 card be a reproduction of the painting of the White-fronted Tern which appears in the volume by J. Richardson and G. Gray of bird and mammal paintings in the series *The Voyage of the Erebus and Terror* published in 1845.

Dr. C. A. Fleming kindly offered the Society the use — if required — of the painting of the Shore Plover which appeared in his paper on the Birds of the Chatham Islands. This may be used on a future occasion.

I should like to thank on the Society's behalf Mr. Bruce Chambers for advice, the Alexander Turnbull Library, Bryce Francis Ltd. (the printers), the Royal Forest and Bird Protection Society, and those who helped with the large task of packing and sending the cards, especially my wife.

— G. R. WILLIAMS, Convener

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TREASURER'S REPORT

I am sure that all members will note with satisfaction the buoyant state of the Society's finances, the excess of income showing an increase of £600 over the previous year. Income under all headings shows substantial increases, whilst total expenditure, despite a rise in printing costs, is lower by £23. Membership shows a normal increase, and at 31/12/66 stood as follows: Honorary life members 2, Life members 76, endowment members 27, ordinary 755, and junior 67, making a total membership of 927. This is after writing off 34 unfinancial members at balance date, several of whom have since paid. Last year's Christmas card of an historical painting proved extremely popular, and for the £360 added to our revenue we are indebted to Dr. G. R. Williams and Mrs. Williams, who between them received all orders and attended to dispatch, quite a major task. The sales of back numbers included a number of complete sets of 'Notornis,' and it is pleasing to note that this demand has extended into 1967.

On the expenditure side, no amount is shown under "Field Study Courses," a donation of £10 from car owners at the Nelson LDW being included under "Donations." No contribution to the banding scheme was called for during the year, and with the amalgamation of the whole scheme under Wildlife Division, we do not anticipate having to subsidise it.

Referring to the Balance Sheet, your Council has now discussed the question of providing specific Reserve Funds, invested in trustee securities, to cover the various reserves totalling £1410 which have been created. The addition of £865 to accumulated funds is the final balance from the Christmas card account conducted in Auckland by Mr. Bruce Chambers. Over the years, £1415 has been contributed to the Society's funds from this source, and we are deeply grateful to Mr. Chambers and his helpers for their splendid work. The credit balance of £1793 at the bank has been substantially altered since balance date, firstly by a payment of £1056 for the printing of Mr. B. D. Heather's 'Biology of Birds,' and secondly by the receipt of £862 by way of royalties on approximately half the first edition of our Field Guide. An audited statement of Mr. Heather's account will be produced at the end of the current year; and we must express our deep appreciation to the co-authors of the Field Guide, Dr. R. A. Falla, Messrs. E. G. Turbott and R. B. Sibson, for their generosity in assigning their rights to the Society. I feel that our investment in shares calls for some comment. This is a long term, as opposed to a speculative, investment, so that I do not consider we should be unduly concerned with the present depressed state of the share market. The shares are all solid industrials, and the main point is that our income from this source remains steady, despite temporary capital depreciation. Values may

even fall lower during the present economic squeeze, and will not rise until Britain releases the ban on overseas investment, possibly at the end of 1967.

I make no forecast for the future, other than I think we can look forward to it with confidence. I should like to express my gratitude to Mr. J. P. Watt for the great help he has already given as Assistant Treasurer, and hope that he will continue to find enjoyment and reward now that he is taking over the responsibilities of Treasurer.

— A. BLACKBURN, Acting Treasurer

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MEMORANDUM ON O.S.N.Z. ACCOUNTS, 1966

The enclosed statement of accounts for the year ended 31/12/66 was drawn up by the acting Treasurer, Mr. A. Blackburn, early in the New Year, and presented for audit. Earlier he had suggested to members of Council that all reserves shown on the Balance Sheet should be represented by specially designated Reserve Funds, and that as a first step towards this end, the investment of £700 in Auckland Power Board debentures be designated "Life Subs Reserve Fund." He further requested that members of Council consider whether the Lenz bequest of £3500 should be set aside as a capital reserve. If Council approved, then the Dunedin City Council debentures of £1000 plus the shares investment £2500, should be designated "Lenz Bequest Reserve Fund." These proposals were in due course considered by mmbers of Council and approval given by a majority.

In the meantime, audit of the accounts had been completed, and when the Auditors' consent to making the necessary alterations in the Balance Sheet was sought, they had the following comments to make:

1. That the Council should not be restricted in the use of Lenz bequest monies, and the mere fact of creating a capital reserve would not in any case so restrict it.
2. That as the bequest was made for no specific purpose it would be preferable to leave the sum in Accumulated Funds.
3. That a motion in general meeting to restrict Council in the use of the Lenz bequest would amount virtually to a vote of no confidence in the present and future Councils.
4. That they would prefer that Council should discuss the matter further "round the table."
5. That they doubted in any case whether the investment in shares provided a suitable investment for a capital reserve fund, owing to fluctuations in value, and reserve funds should be invested in trustee securities.
6. That sufficient investments be set aside as Reserve Funds to cover the specific reserves already made, totalling £1410, and that a Savings account be opened to receive additions to such reserves, such as life membership subscriptions; and as the funds in the savings account accumulate, they be withdrawn and invested in a more remunerative security.

We are indebted to Messrs. Bain & Sheppard for their constructive suggestions, which will be fully discussed at the meeting of Council to be held on 19th May, 1967.

BALANCE SHEET AS AT 31st DECEMBER, 1966

1965					1966		
	Current Liabilities						
216	Sundry Creditors				229	13	9
75	Subscriptions in Advance				99	6	10
	Reserves						
	Life Subs., Special Appeal and Christmas Card Scheme	700	0	0			
	Add Life Subs. 1966	60	0	0			
700					760	0	0
500	*Special Publications Reserve*				500	0	0
150	Minor Expeditions Reserve				150	0	0
	Accumulated Funds						
	Balance 1/1/66	4306	6	10			
	Add Balance from Christmas Card A/c.	865	6	4			
		5171	13	2			
	Add Excess Income over Expenditure	638	17	1			
4306					5810	10	3
5947					£7549	10	10

1965					1966		
	Current Assets						
	Bank of New Zealand	1793	5	4			
	Sundry Debtors	35	15	6			
227					1829	0	10
	Stocks on Hand						
300	"Notornis," etc.				300	0	0
720	**Loan to Kermadecs Fund**				720	0	0
	Investments						
	Auckland Power Board	700	0	0			
	Dunedin City Council	1000	0	0			
	Shares in Public Companies	2500	10	0			
4200					4200	10	0
500	**Library** at valuation				500	0	0
5947					£7549	10	10

Income and Expenditure Account for the Year Ended 31st December, 1966

1965				1966
	Printing "Notornis"	704 17 4		
	Distribution	48 0 6		
676			752 17 10	
22	Postages		47 5 4	
61	Printing and Stationery		57 10 7	
94	General Expenses		31 1 9	
–	Travelling Expenses		45 0 0	
35	Income Tax		27 0 0	
16	Field Study Courses		– – –	
80	Contribution to Banding Scheme		– – –	
38	Excess of Income over Expenditure		638 17 1	
1022			£1599 12 7	

1965				1966
	Current Subscriptions excluding Life	848 3 7		
	Add Arrears paid	20 7 8		
805			868 11 3	
16	Donations		27 6 8	
	Christmas Cards Sales	660 0 0		
	Less Brochures, Printing and Postage	299 19 9		
			360 0 3	
66	Sales Back Numbers "Notornis," etc.		133 11 7	
90	Interest Received		119 4 8	
45	Dividends		90 18 2	
1022			£1599 12 7	

Auditors' Report

We report that we have examined the Books, Accounts and Vouchers of the Society and of the Kermadecs Expedition Account for the year ended 31st December, 1966. In our opinion, and according to the best of our information and explanations given to us and as shown by the said Books, the Balance Sheets and Income and Expenditure Accounts are properly drawn up so as to give respectively a true and fair view of the state of the Society's affairs as at 31st December, 1966, and the income and expenditure for the year.

We have not audited the records covering the publication "A Biology of Birds," the receipts and payments for which are handled through an account with Bank of New Zealand, Upper Hutt, styled "Ornithological Society of New Zealand (Inc.) Publication Account."

GISBORNE
27th February, 1967

BAIN & SHEPPARD, Public Accountants
Hon. Auditors

KERMADEC EXPEDITION

INCOME AND EXPENDITURE ACCOUNT FOR PERIOD 22nd JUNE, 1964, to 31st DECEMBER, 1965

	£	s.	d.
INCOME:			
Sponsors' Contributions and Sundry Donations	677	12	5
Interest	23	11	8
Photographs	44	14	3
	£745	18	4
EXPENDITURE:			
Stores and Equipment	212	3	9
Insurance	16	2	6
General Expenses	67	7	11
Travelling Expenses	86	2	0
Kermadec Reprints	36	5	9
Excess of Income over Expenditure	327	16	5
	£745	18	4

BALANCE SHEET AS AT 31st DECEMBER, 1965

	£	s.	d.
LIABILITIES:			
Sundry Creditors	39	1	3
Loan from Ornithological Society general funds	720	0	0
Accumulated Funds	327	16	5
	£1086	17	8
ASSETS:			
Cash at Bank	949	18	6
Stocks on Hand at Valuation:			
Tentage £50; Stores £25; £75 0 0			
Kermadec Reprints 40 0 0			
	115	0	0
Sundry Debtors	21	19	2
	£1086	17	8

Auditors' Report

We report that we have examined the books and vouchers of the Kermadec Expedition Fund for the period ending 31st December, 1965. In our opinion the Income and Expenditure Account for this period is properly drawn up and the Balance Sheet as at the 31st December, 1965, shows a true and fair view of the Expedition Fund at that date.

CHAMBERS, WORTH & CHAMBERS, Auditors

Auckland: 29th July, 1966

KERMADECS EXPEDITION ACCOUNT

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1966

	£	s.	d.
INCOME:			
Sponsors' Contributions and Donations	112	4	0
Interest	17	0	4
Recordings N.Z.B.C.	6	9	6
Excess Expenditure over Income	415	15	10
	£551	9	8
EXPENDITURE:			
Stores	335	4	7
Equipment	47	14	5
Photographic Film	72	0	0
General Expenses	15	18	5
Insurance Premium	54	4	0
Reprints written off	26	8	3
	£551	9	8

BALANCE SHEET AS AT 31st DECEMBER, 1966

		£	s.	d.
LIABILITIES:				
Ornithological Society Loan		£720	0	0
ASSETS:				
Cash at Bank		557	0	7
Tentage at depreciated value		50	0	0
Sundry Debtor		25	0	0
Deficiency Account:				
Excess Expenditure to 31/12/66	£415 15 10			
Less Accumulated Funds 31/12/65	327 16 5			
		87	19	5
		£720	0	0

Auditors' Report

We report that we have examined the Books, Accounts and Vouchers of the Kermadecs Expedition Account for the year ended 31st December, 1966. In our opinion, and according to the best of our information and explanations given to us and as shown by the said Books, the Balance Sheet and Income and Expenditure Account are properly drawn up so as to give respectively a true and fair view of the state of the Kermadecs Expedition Account as at 31st December, 1966, and the income and expediture for the year.

Gisborne, 27th February, 1967

BAIN & SHEPPARD, Public Accountants
Hon. Auditors

REPORT OF THE NEST RECORD SCHEME
For the Year Ending 16th May, 1967

During the year, 745 nest record cards have been completed. Cards were received from 41 contributors. The prize for the best contribution by a junior member went to Paul Sagar of Timaru (121 cards). Bob Cowan of Broadwood a close second (108 cards).

Nineteen cards were received from members of the Kermadec Expedition party. These have provided us with our first records for the Spotless Crake, the White Tern and the Red-tailed Tropic Bird.

Mr. D. G. Dawson has now finished his thesis on the nesting success of the House Sparrow and has been granted his degree of Bachelor of Science with Honours.

Readers of "Notornis" will have seen Dr. Flux's analysis of the nesting success of Song Thrushes at St. Arnaud, Nelson.

Recently we have received requests for data on the breeding of the Weka and the two species of Magpie, but unfortunately we have very little data available. Interested members are urged to help with information on the nesting of these birds.

Our coverage of introduced species, especially the Blackbird, Song Thrush, House Sparrow, Hedge Sparrow and Goldfinch has increased greatly in the last few years, but it would be interesting to see more records of our native forest-inhabiting birds.

The organiser wishes to thank all those who during the past year, have contributed with such hard work and enthusiasm to the success of this scheme.

— MARGARET M. NEILL

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LIST OF CONTRIBUTORS

J. F. Anton, A. F. Barwell (26), R. Bond, Dr. P. C. Bull, David Burt, D. E. Calvert, J. C. R. Claridge, Nigel F. Coates, Bob Cowan (107), J. Cowie, Miss A. M. C. Davis, D. G. Dawson (68), A. T. Edgar, Dr. J. E. C. Flux (35), Robin Gallienne, D. Haddon, J. E. Hilton, J. R. Jackson (40), Peter Jackson (21), E. B. Jones, B. R. Keeley, H. R. McKenzie, D. V. Merton, G. H. Moon, David Mudge, Miss M. M. Neill, J. A. Pearl, Mrs. H. R. Petterson, R. E. R. Porter, R. Reese (25), L. K. Rowe (33), Paul M. Sagar (121), H. L. Secker, Mrs. F. G. Soper, Mark Soper, Gail Soper, Dr. M. F. Soper, C. R. Veitch, Miss L. Whiteley, and in conjunction with H. R. McKenzie — Misses Susan Fogarty and Anthea Goodwin, Mrs. R. V. McIntosh, Mr. and Mrs. J. A. Brown, John A. Bell, A. Blackburn, Rev. R. J. Fenton, E. G. Turbott and Dr. E. Halkier of Denmark.

SPECIES LIST OF NEST RECORD CARDS

SPECIES	Previous Total	1966-67	Total	SPECIES	Previous Total	1966-67	Total
North Island Kiwi	1	–	1	Banded Dotterel	143	16	159
Stewart Island Kiwi	1	–	1	N.Z. Dotterel	42	10	52
Great Spotted Kiwi	10	1	11	Wrybill	9	–	9
Yellow-eyed Penguin	1	1	2	Pied Stilt	176	8	184
Little Blue Penguin	57	–	57	Black Stilt	6	–	6
White-flippered Penguin	12	–	12	Southern Skua	1	1	2
N.Z. Crested Penguin	2	–	2	Black-backed Gull	207	2	209
Southern Crested Grebe	2	–	2	Red-billed Gull	41	21	62
N.Z. Dabchick	1	–	1	Black-billed Gull	100	–	100
Wandering Albatross	11	–	11	Black-fronted Tern	175	31	206
Light-mantled Sooty Albatross	4	–	4	Caspian Tern	19	–	19
Fairy Prion	16	–	16	Antarctic Tern	3	–	3
Flesh-footed Shearwater	1	–	1	Fairy Tern	8	–	8
Sooty Shearwater (Muttonbird)	4	–	4	White-fronted Tern	16	17	33
Fluttering Shearwater	7	–	7	White Tern	–	1	1
Allied Shearwater	3	–	3	Grey Ternlet	5	–	5
Black Petrel	1	–	1	N.Z. Pigeon	23	1	24
Grey-faced Petrel	14	–	14	Rock Pigeon	59	–	59
Kermadec Petrel	1	–	1	Kaka	9	–	9
Pycroft's Petrel	3	–	3	Kea	51	–	51
White-faced Storm Petrel	5	–	5	N.Z. Parakeet (Red-crowned)	4	3	7
Diving Petrel	51	–	51	Yellow-crowned Parakeet	3	–	3
Gannet	4	–	4	Shining Cuckoo	3	1	4
Black Shag	46	–	46	Morepork	7	1	8
Pied Shage and Bronze	18	1	19	Little Owl	13	–	13
Little Black Shag	1	–	1	Kingfisher	42	9	51
White-throated Shag	11	–	11	South Island Rifleman	44	–	44
King Shag	18	–	18	Rock Wren	11	–	11
Spotted Shag	5	–	5	Skylark	82	7	89
Blue Heron	24	–	24	Welcome Swallow	76	31	106
White-faced Heron	10	1	11	Fantail	102	17	119
Bittern	2	–	2	Pied Tit (White-breasted Tomtit)	12	–	12
Canada Goose	21	–	21	Yellow-breasted Tomtit	21	1	22
Domestic Goose (presumed farm escape)	–	1	1	North Island Robin	7	–	7
Mute Swan	9	–	9	South Island Robin	15	–	15
Black Swan	38	1	39	North Island Fern Bird	2	3	5
Paradise Duck	6	–	6	South Island Fern Bird	9	–	9
Grey Teal	9	–	9	Brown Creeper	2	–	2
Brown Teal	2	–	2	Whitehead	6	–	6
Grey Duck	65	6	71	Yellowhead	13	–	13
Mallard	35	10	45	Grey Warbler	62	4	66
Shoveller	11	–	11	Song Thrush	799	105	904
Black Teal	6	–	6	Blackbird	717	103	820
Harrier	48	–	48	Hedge Sparrow	98	22	120
N.Z. Falcon	5	–	5	N.Z. Pipit	28	1	29
Pheasant	11	5	16	Bellbird	16	–	16
Brown Quail	1	1	2	Tui	21	1	22
Californian Quail	14	2	16	White-Eye	82	11	93
Chukor	1	–	1	Greenfinch	64	8	72
Banded Rail	2	2	4	Goldfinch	216	67	283
Spotless Crake	–	2	2	Lesser Redpoll	42	4	46
North Island Weka	4	–	4	Chaffinch	95	49	144
South Island Weka	6	–	6	Yellowhammer	24	1	25
Pukeko	77	6	83	House Sparrow	298	103	401
Australian Coot	4	–	4	Starling	162	18	180
S.I. Pied Oystercatcher	95	6	101	Myna	13	–	13
N.I. Pied Oystercatcher	19	3	22	White-backed Magpie	12	4	16
Black Oystercatcher	28	3	31	Magpie (Species not indicated)	6	–	6
Spur-winged Plover	26	6	32	North Island Saddleback	7	–	7
					5293	745	6039

RECORDING SCHEME
Report for 1966/67

More contributors than last year, with outstanding contributions from Otago and South Auckland but surprisingly little from several regions where plenty of information is available but unrecorded; from a few regions nothing has been received this year. An impressive amount of material has been filed, but one reason for non-publication of species summaries is the unfortunate absence of records from certain areas.

Useful locality reports have been received from Manukau, Firth of Thames, Muriwai Lagoon (Gisborne), Eastern Taranaki, Washdyke Lagoon, Lake Sumner, Matukituki Valley and Makarora river beds.

Species files of Little Black Shag, Paradise Duck and Magpies have been on loan to students.

I have handed over my task as Secretary, O.S.N.Z., but am still Convener of the Recording Scheme and will have more time to devote to Recording work. Please let me have your notes, especially from areas which have contributed little in the past, so that geographical coverage may be more complete, thereby increasing the value of the files to those who wish to use them, and making possible effective work on preparation of species summaries.

List of contributors:—

Stewart Island — Mrs. O. Sansom.

Southland — Mrs. Barlow, L. E. Henderson, O. Linscott, T. M. Smith, R. R. Sutton.

Otago — J. Allan, Mrs. Andreson, J. Aspinall, Mrs. Buchanan, P. Child, B. Cunninghame, Dunedin Naturalists Field Club, G. Grant, R. Gray, Mrs. Hamel, Mrs. Hannah, A. R. Harris, A. J. Hodgkin, H. W. M. Hogg, Mrs. B. Kelly, D. Kelly, I. G. McLaren, B. McPherson, I. L. McVinnie, W. T. Poppelwell, P. Schweigman, E. Sheat, Mrs. Smith, R. F. Smith, M. F. Soper, J. Trigg, K. Westerskov.

Canterbury — Dr. Marie Buchler, D. G. Dawson, G. Harrow, J. R. Jackson, B. R. Keeley.

West Coast — T. Hartley-Smith.

Marlborough — J. A. Cowie.

Nelson — Mrs. Soper, W. V. Ward.

Wellington — J. A. Bartle, B. D. Bell, B. D. Heather, Miss M. M. Neill, H. L. Secker.

Wanganui — R. W. Macdonald.

Manawatu — E. Dear, E. B. Jones.

Taranaki — N. V. A. Banks, D. G. Medway.

Gisborne — A. Blackburn.

Volcanic Plateau — A Cragg, R. W. Jackson, H. Lyall, M. G. Macdonald.

Bay of Plenty — H. D. London, Mrs. McLintock, Miss Rucroft, R. St. Paul, R. M. Weston.

Waikato — M. P. Daniel.

South Auckland — J. F. Bell, Mrs. B. Brown, S. Chambers, J. E. Coulthand, M. Douglas, D. A. Lawrie, D. N. Lilburne, A. McDonald, H. R. McKenzie, Mrs. M. E. McKenzie, D. J. Panchhurst, R. C. Pullen, D. Walter, Mrs. Walton.

Auckland — R. Blanshard, A. G. Gorbey, G. D. Leitch, Mrs. A. Prickett, R. B. Sibson, E. G. Turbott, Mrs. Wagener.

Kaipara — Mrs. Barron, M. A. Waller.

Northland — S. Barrett, D. E. Calvert, T. R. Calvert, R. Cowan, A. T. Edgar, A. McQueen, Mrs. Reynolds, Mrs. Ward.

E. & O. E. — A. T. EDGAR

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LIBRARY REPORT
1st January to 31st December, 1966

The year has proved a satisfactory one with most of the work, of necessity, being done by post. The usual journals, separates and exchanges continue to arrive and go out as requested, and some members are doing special research studies. The records give some twenty-five borrowings.

Our thanks and appreciation of the room at the Museum and of the help of Miss Evans and her staff should again be recorded.

— HETTY McKENZIE, Hon. Librarian

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NOTICE

40th ANZAAS CONGRESS

The Australian and New Zealand Association for the Advancement of Science holds Congresses at intervals of about 18 months and Christchurch, New Zealand, is the venue of the next Congress which will be held from January 24th till January 31st, 1968. The seventeen sections involved, covering all the physical, biological and social sciences, arrange a week's programme of symposia and papers, some designed for a particular section and some of more general interest to include a number of allied sections. The programme of the Zoology Section will include papers on themes of particular interest to Australian and New Zealand zoologists.

In conjunction with the Congress several excursions have been arranged, two of which should be of special interest to ornithologists. One, from February 1st to 8th, includes visits to the Westland glaciers, Queenstown, Milford Sound and the Dunedin albatross and penguin nesting sites, and the other, from February 1st to 6th, to Stewart Island, including a visit to one of the islands where mutton birds and other petrels breed.

Further details of section programmes and excursions will be found in the First Circular for the Congress, copies of which are available at all Branches of the Ornithological Society or from Mr. C. M. Harris, C/o Chemistry Department, University of Canterbury.

THE BIRD BANDING SCHEME

The 17th Banding Year of the Scheme administered by the Dominion Museum was difficult because of administrative changes and a considerable increase in banding activity.

During the year ending 31st March, some 35,000 birds were banded. Significant contributions to the overall total were the 5,700 birds banded by the Campbell Island Meteorological Party, working mainly on Albatrosses; the O.S.N.Z. Raoul Island Expedition, which banded 5,300; and the Animal Ecology Division, D.S.I.R., which banded 3,700 in the course of their studies into the life histories of various species and work on aspects of crop damage by birds.

A significant trend towards organised research projects has evolved and an increasing number of students are making use of the scheme for thesis and post-graduate studies. Work recently undertaken or in progress by students includes the Black-backed Gull, Indian Mynah, Rook, House Sparrow, Antarctic Skua, South Island Fernbird and Pied Oystercatcher.

The merging of the Dominion Museum Banding Scheme with the Wildlife Service Scheme on gamebirds and some native birds, will bring together all bird-banding in New Zealand under one administration. This should ensure a cohesive national policy, and when future trends are shortly finalised will enable the increased growth of research.

The many teething troubles associated with the development of a mechanical recording system have caused some frustrating and time-consuming delays. Most of the problems have now been eliminated and progress in future will be more rapid. However, the job of converting established data in both schemes will take some time. The recent appointment of Mr. L. R. Moran as full-time assistant to the Banding Officer will enable the increased flow of day to day work and the conversion of back data, to be dealt with more satisfactorily.

The proposed training and information services for banding operators should increase their efficiency in field work and research and it is hoped that the ties with O.S.N.Z. will continue to be helpful in this way.

Overall, this has been a year of great significance for bird-banding in New Zealand. We now have two full-time officers to administer the scheme and as time progresses the already strong ties with O.S.N.Z. should give support and strength to this important and expanding field of ornithological research.

— C. J. R. ROBERTSON, Banding Officer

THE DUNEDIN EXCURSIONS

For the bird-watcher, Dunedin is no mean city. In its environs there are so many types of habitat that within a few miles one may see birds of bush, swamp, lagoon, shore, sea-cliff and ocean. On Saturday, May 20th, the aim of the excursion was to show to visitors the attractions of the coast north of Dunedin; and, of course, the newly-built observation hut of which our local members are justly proud. It stands on its own little promontory, strategically overlooking Waikouaiti lagoon. The weather was warm and almost windless; and with the sun behind us we were able to take our time studying flocks of Grey Teal and Shovelers; and, in particular, to note the very white breasts of some of the drake Shovelers. While we were watching the ducks — five white-headed Paradise and many Mallard were also present — there appeared a flight of big white birds and hopes were raised. White Herons? Royal Spoonbills? No! Feral farmyard geese with one pseudo-greylag among them. On the salicornia beds flocks of Redpolls were feeding. When the water level rises in the lagoon, the hut should enable local observers to make original studies of waterfowl and to take photographs of loafing flocks such as have not been taken before in New Zealand.

After lunch we followed coastal roads, noting *en passant* a statuesque White Heron, one of three or four which may be intending to winter around Dunedin. Some of us then went by devious winding ways over Mt. Cargill and to Long Beach, where four Royal Albatrosses were resting not far offshore on the calm sea when a fifth flew in to join them.

On Sunday morning we gathered at the Museum to enjoy a selection of Dr. Soper's colour slides, taken on the recent O.S.N.Z. expedition to the Kermadecs. Have the breeding birds of a small group of sub-tropical islands ever before been so skilfully and sympathetically photographed? At the end of Dr. Soper's lecture, the applause was loud and long. Yet another feast for the eye was a display of bird paintings by Ian McVinnie, one of our members from Oamaru.

In the afternoon some of us were whisked over the hills and far away to a quiet beach where, after an easy walk, we could sit among the marram and watch Yellow-eyed Penguins coming ashore in the gentle surf and even hear them braying. Night was falling when we left. For a mere northerner, antipodean counterpart perhaps of a Sassenach, this was a treat indeed.

— R.B.S.

LIST OF REGIONAL REPRESENTATIVES, 1967/68

FAR NORTH: A. T. Edgar, Inlet Road, Kerikeri (Acting)
NORTHLAND: A. T. Edgar, Inlet Road, Kerikeri (Acting)
AUCKLAND: M. J. Hogg, 27 Woodside Crescent, St. Heliers, Auckland E.1
SOUTH AUCKLAND: H. R. McKenzie, P.O. Box 45, Clevedon
WAIKATO: Mrs. M. L. Templer, 22 Mardon Rd., Fairfield, Hamilton
BAY OF PLENTY: R. M. Weston, 250 River Road, Kawerau
VOLCANIC PLATEAU: R. W. Jackson, 9 Kenrick Road, Rotorua
GISBORNE/WAIROA: A. Blackburn, 10 Score Road, Gisborne
TARANAKI: D. G. Medway, P.O. Box 476, New Plymouth
WANGANUI: R. W. Macdonald, 127 Ikitara Road, Wanganui East
MANAWATU: E. Dear, Kopane, R.D. 6, Palmerston North
HAWKES BAY: N. B. Mackenzie, Pakowhai, Napier R.D. 3
WAIRARAPA: K. Cairns, 177 Colombo Road, Masterton
WELLINGTON: P. C. Harper, 4 Barber Grove, Moera, Lower Hutt
NELSON: B. Ashby, 27 Tennyson Crescent, Stoke, Nelson
MARLBOROUGH: S. R. Kennington, Box 40, Seddon
CANTERBURY: G. Harrow, 27 Athol Terrace, Riccarton, Christchurch 4
WESTLAND: P. Grant, 10 Hinton Road, Karoro, Greymouth
OTAGO: Mrs. J. B. Hamel, 42 Ann Street, Roslyn, Dunedin
SOUTHLAND: R. R. Sutton, P.O. Lorneville, Invercargill
STEWART ISLAND: R. H. Traill, Halfmoon Bay, Stewart Island

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LITERATURE AVAILABLE

The following are available on order from Mrs. H. R. McKenzie, Box 45, Clevedon:

Back Numbers of Notornis at 50c each. Large orders for full or part sets at special prices.

O.S.N.Z. Library Catalogue, 70 pp., 50c.

Banding Reports, Nos. 8 to 14, 50c each. Nos. 1 to 7 are incorporated in early issues of 'Notornis.'

Kermadecs Expedition, 1964, by A. T. Edgar. Reprints at 45c.

From all bookshops:

A Field Guide to the Birds of New Zealand, by R. A. Falla, R. B. Sibson and E. G. Turbott. $4.50.

From O.S.N.Z., Box 40-272, Upper Hutt:

A Biology of Birds, by B. D. Heather. $1.33 post free.

NOTICE TO CONTRIBUTORS

Contributions should be type-written, double- or treble-spaced, with a wide margin, on one side of the paper only. They should be addressed to the Editor, and are accepted on condition that sole publication is being offered in the first instance to "Notornis." They should be concise, avoid repetition of facts already published, and should take full account of previous literature on the subject matter. The use of an appendix is recommended in certain cases where details and tables are preferably transferred out of the text. Long contributions should be provided with a brief summary at the start.

Reprints: Twenty-five off-prints will be supplied free to authors, other than of Short Notes. When additional copies are required, these will be produced as reprints, and the whole number will be charged to the author by the printers. Arrangements for such reprints must be made directly between the author and the printers, Te Rau Press Ltd., P.O. Box 195, Gisborne, prior to publication.

Tables: Lengthy and/or intricate tables will usually be reproduced photographically, so that every care should be taken that copy is correct in the first instance. The necessity to produce a second photographic plate could delay publication, and the author may be called upon to meet the additional cost.

Illustrations: Diagrams, etc., should be in Indian ink, preferably on tracing cloth, and the lines and lettering must be sufficiently bold to allow of reduction. Photographs must be suitable in shape to allow of reduction to 7" x 4", or 4" x 3½".

Proofs: First proofs of papers will be sent to authors at the discretion of the Editor, or upon request. They should be returned without delay.

Nomenclature: Contributors should follow the Checklist of N.Z. Birds for both the scientific and vernacular names. Scientific names of species and genera are printed in italics, and in the script should be underlined; and the specific or subspecific name should be enclosed in brackets if following the vernacular name, thus: Stewart Island Kiwi (Apteryx australis lawryi). It is necessary to give the scientific name as well as the vernacular the first time the latter is mentioned, but thereafter only one of the names. Capital letters should be used for vernacular names.

References: If listed, these should be in the form of the following examples:

1. Atkinson, I. A. E., 1964: Feeding stations and food of the North Island Saddleback in August. Notornis 11, 2, 93-97.

2. Buller, W. L., 1888: A History of the Birds of New Zealand (2nd ed.) 2 vols., the author, London.

The references should be serially numbered, and in the text, should be shown thus: Atkinson 1964 (1), and Buller 1888 (2). If references are cited in the text, the following shortened form may be used: Atkinson 1964, Notornis 11, 2: 93-97.

Publication: Contributions will normally be published approximately in the order in which they are received by the Editor, but at his discretion. He may seek the opinion of the Editorial Committee, appointed by the Council of the Society, on any matter including the general suitability of the contribution for publication.

Authors are requested to take care that the submitted text is correct. Only too often the Editor is asked to make a number of alterations or additions, which are not always clearly expressed or tidily presented.