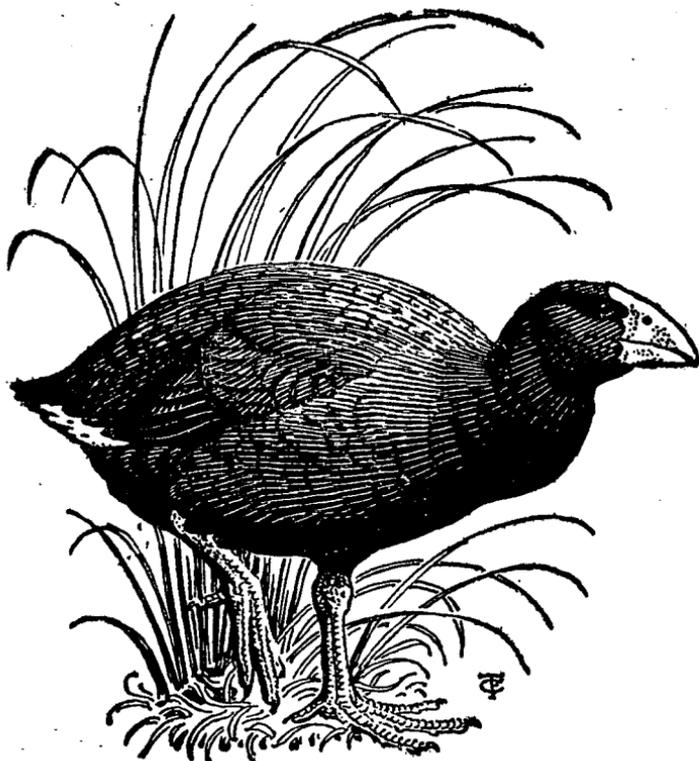


NOTORNIS



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of the

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Volume Nine, Number Three, December, 1960

NOTORNIS

In continuation of New Zealand Bird Notes

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NOTORNIS

VOLUME NINE, NUMBER THREE

DECEMBER, NINETEEN SIXTY

NEW EVIDENCE OF THE FORMER OCCURRENCE OF THE KAKAPO (*Strigops habroptilus*) IN THE CHATHAM ISLANDS

By ELLIOT W. DAWSON

Some years ago I found a leg bone of a large parrot, considered to be the Kakapo (*Strigops habroptilus*), among subfossil bones in the collections of the Dominion Museum, Wellington (2). The information accompanying the bone was that it was from the Chatham Islands, W. T. L. Travers Collection, Oct. 30, 1899.

Since there appeared to be no other material records of the Kakapo from the Chathams, doubt was cast on the authenticity of this bone (13, 14), although, from various allusions in the literature of the natural history of the Chatham Islands (5), the possibility of the former occurrence of the Kakapo there could not be absolutely dismissed.

An account of the rediscovery of H. O. Forbes's collections of subfossil birds from New Zealand and the Chatham Islands, which included many type specimens, has already been given (3), but, amongst all this material, no further bones of the Kakapo were found, thereby verifying Forbes's own conclusions (8).

Recently, however, another very large collection of subfossil bird bones, mainly from the Chatham Islands, forming part of the collection of Lord Rothschild which was stored in his museum at Tring until 1934, has been examined. A number of references have been made to the large size of this collection (1, 12) but it could no longer be found at Tring or elsewhere following Rothschild's death when much of his museum was moved to South Kensington in addition to that which had already been bought by the American Museum of Natural History. Despite nearly five years of personal search and correspondence no trace could be found of this "immense" collection until June, 1960, when it was discovered in large numbers of boxes of unsorted bones at South Kensington, where it had been stored following the death of Miss D. M. A. Bate, who was preparing to examine it.

I have recently examined and identified this entire collection of some 10,000 bones on behalf of the British Museum (Natural History) in which it is now housed and registered. Among the bones are a number of new records of some interest, particularly regarding material from Te Aute swamp and Te Rauparaha's pa at Paremata, and including the discovery of further type material of the large extinct harrier described by Forbes as *Circus hamiltoni* (7, 3), as well as new records of *Falco*, *Sceloglaux*, and *Strigops* from the Chatham Islands.

In this large collection I have found two bones of the Kakapo. They consist of a tibiotarsus and a premaxilla. They undoubtedly belong to a species of *Strigops* and, since they were amongst a large number of unsorted and unidentified bones collected by H. O. Forbes

in the Chatham Islands in January and February of 1892, there is little reason, in this case, to doubt their authenticity.

The former presence of the Kakapo in the Chathams would not necessarily be so surprising as some accounts might imply (13), and the distribution of flightless and near-flightless rails and coots (e.g., *Diaphorapteryx* and *Palaeolimnas*) on the Chatham Islands and on the New Zealand mainland indicates a close association between the avifauna of these two regions. A consideration of the former ecological requirements of fossil birds as shown by the distribution of their remains, particularly as applied to these New Zealand and Chatham Island birds (4), shows that a number of widespread and important changes have taken place in geologically recent times. The fact that certain of these birds (e.g., *Strigops*, *Notornis*, *Mergus*, *Eudypetes*, *Coenocorypha*) now have a rather narrowly restricted range of habitat or distribution should not be an obstacle to postulating either a wider ecological tolerance in the past or a wider range of the particular vegetational associations with which these birds are now found.

Hence, there need be no great surprise at the former occurrence of a large ground-living parrot (i.e., *Strigops*) in the Chatham Islands, despite Lowe's argument that "it would relegate the flightless condition of this primitive parrot to an immense antiquity, for obvious reasons which we need not stop to discuss" (9). There is ample scope for discussion of how and when the Kakapo reached the present site of the Chatham Islands with regard to Lowe's later statement that all the "flightless" birds were on the way to obtaining the power of flight and not losing it as generally supposed (10), and to Oliver's opinions on this question (11).

If the existence of such a small number of bones still demands caution, it might indicate that small numbers of the Kakapo had been introduced by Man into the Chathams. One must, however, consider that while there is apparently no native tradition of the presence of the Kaka or Kea on the Chathams, bones of a species of *Nestor* are sufficiently common to show that it once existed in appreciable numbers (5). On the other hand the numerous allusions to the former presence of the Kakapo are supported by only three bones, the two most authentic of which were sorted out of a collection of some 10,000 bones of subfossil birds from the Chatham Islands now in the British Museum (Nat. Hist.); and, in the several thousand bones in other collections from the Chathams which I have examined in the course of this work (6), there has been no further indication of the Kakapo.

It should be added here that the statement of Williams (14), that the "rather fragmentary subfossil material" of the Kakapo "seems to be lodged in New Zealand museums only" requires modification owing to the presence of *Strigops* bones in the Owen, Rothschild and Forbes collections in the British Museum (Natural History), the bones from Te Rauparaha's pa at Paremata being of special interest.

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FIELD STUDY WEEK-END, BAY OF PLENTY 1960

A pleasant Field Study Week-end began on Friday, October 21, when twenty-six members from Whangarei, Auckland, Clevedon, Cambridge, Gisborne, Minginui, Tauranga, assembled at Whakatane at the Philatelic Hall. Mr. W. T. Parham had arranged a display of photographs, gannet rings, reports of the gannet-ringing scheme, cartoons by R. H. Haeusler, and as a side-line, photographs of bats. Mr. H. R. McKenzie welcomed those present and outlined the excursions planned and the bird-life which could be expected. Mr. and Mrs. Parham had given a great amount of time and thought to planning and arranging excursions and meetings. Interesting local films were shown by Mr. Parham and supper concluded the evening.

Next morning a visit was made to Mr. Farnworth's aviary, where birds admired and photographed included Golden and Lady Amherst pheasants, King Parrots, Rainbow Lorikeets, Indian Ring-necks, and African Crimson Finches. Studies of hybridisation were explained by Mr. Farnworth, e.g. crossing of Greenfinch and Goldfinch with Canary. N.Z. Red-fronted Parakeet were compared with Yellow-crowned Parakeet, a valuable study.

At a small lake at the foot of Mt. Edgecumbe, some new members had their first sight of the Dabchick. Beyond Kawerau, the party climbed a hill to view from above a small lake known to ornithologists as "Prickett Lake," where the highlight was five Bittern in the air together. Also seen were six Dabchick, four Scaup, and inevitably the odd shag.

At the edge of the Rotoma Hill bush the party had lunch with noises off:— the calls of Long-tailed and Shining Cuckoo, Kingfisher, Grey Warbler, Fantail and Pied Tit. Whiteheads were heard but only the McKenzies were privileged to see a party of four. R. St. Paul's party counted forty Bellbirds, twenty Tui, two Pied Tits, and eight Fantails. Dr. Elsie Gibbons saw a native Pigeon, and W. H. Way a Pied Tit feeding its mate. All saw a Long-tailed Cuckoo flying.

The next stop was at the Rangitaiki River mouth for a tantalising view of Whale Island and Rurimu Rocks, which unfortunately could not be visited. W. T. Parham gave some information about them and showed films at one of the evening meetings. Offshore a Giant Petrel was sighted. Along the beach was a pair of Banded Dotterel. On the river were some gulls and two Little Black Shags.

On Saturday evening, members were guests of the Whakatane

Branch of the Forest and Bird Society, being cordially welcomed by Miss V. Rucroft, President. A very fine display of mounted N.Z. birds of forest, swamp and shore had been arranged in a natural setting by Messrs. Grubner, Huygens and others. Colour films of native and Australian birds and of Australian marine life were shown by Mr. J. Prickett. A vote of thanks and supper brought a very enjoyable evening to a close.

Next day, the party assembled early at Ohiwa Harbour Wharf and embarked in five dinghies to explore the west end of the harbour. Landings were first made on a shell bank, then on a small island about which five Reef Herons were flying. Two nests of these were inspected, one having an egg. Miss M. McIntyre had judged that a third nest was likely to be under a lip of rock. The boats were all manoeuvred neatly into a tiny cove, and some of the party had a precarious scramble to view with a mirror a nest with three eggs. It was hoped to see a colony of shags, but as a stiff head wind had sprung up, it was thought advisable to return, after some Maori fortifications had been explored. Birds seen or heard had been Gannet, Black-backed gull, Tui, and Shining Cuckoo. The oarsmen on the way back certainly earned their lunch, which was eaten on the lawn of Mrs. Dawson's home at Ohope Beach.

That afternoon, Matata Lagoon was visited. Here the list of birds seen included Black Swan, Mallard, Black Teal, Shoveller, Grey Duck, Little Black and Little Pied Shag, Godwit, Pied Stilt, Banded Dotterel and Pukeko. It was a pleasant surprise to be invited to a delicious afternoon tea by Mr. and Mrs. F. Burt, who have a duck sanctuary. On the way home a brief visit to Tarawera river-mouth resulted in sightings of four species of shag, and some Black-billed gulls. Red-breasted Dotterel were expected, but not seen; but at least a dozen Banded Dotterel were in occupation.

At the evening meeting, W. T. Parham showed coloured films of White Island and other awe-inspiring scenes of volcanic activity, such as Tarawera, and described the expedition on the naval vessel to White Island. The gannetries were a feature of the showing.

On the final day, another excursion was made to Ohiwa Harbour to explore the east end. The five dinghies were roped together in two groups with an outboard motor for each. A landing was made on a low island where 2000+ Godwits were observed and among them Caspian and White-fronted Terns. As the Godwits were rather jittery, some of the party, in order to get photographs, advanced towards them on their knees. According to H.R. McKenzie, Godwits cannot abide the sight of human legs. A possible sighting of a Tattler among the Godwit was reported by Miss M. McIntyre. At the rear of the party, the chattering of a pair of Black Oyster-catchers being heard, Mr. McKenzie sent D. Bettesworth forward to demonstrate the method of locating the nests of waders. He found a circular scrape in the sand with foot-marks around and a driftwood marker on the rim, but no eggs. In the same locality a pair of Black-backed Gulls had a nest.

Because of the outflowing tide and contrary wind, the convoy was unable to make port, so most of the party hitch-hiked to the wharf, and after some hand-towing, D. Merton got one motor to pull the string of boats home. This delay prevented a trip to the nesting

burrows of the Grey-faced Petrel, the Bay of Plenty muttonbird, at Otarawairere Bay.

After a late lunch at the seaside home of Mr. and Mrs. R. Weston, a suggestion was made to hold the next Field Study Week-end (Labour Day, 1961) at Clevedon. All who attended learned a lot from a delightful week-end. Those who did not bring cars were most grateful for transport provided by those who did. Thanks, too, are due to those who so kindly billeted some of the visitors.

— R.V.McL.



CLASSIFIED SUMMARISED NOTES

- | | |
|---------------------------------|--------------------------------|
| I. G. Andrew, Wellington | Mrs. E. H. Matwig, Te Kopuru |
| J. W. Bain, Gisborne | Mrs. H. M. McKenzie, Clevedon |
| T. R. Beatson, Dunedin | H. R. McKenzie, Clevedon |
| B. D. Bell, Blenheim | Mrs. R. V. McLintock, Tauranga |
| A. Blackburn, Gisborne | D. Medway, Wellington |
| R. H. Blanshard, Little Barrier | D. Merton, Gisborne |
| Mrs. M. J. Blundell, Clevedon | W. L. Moisley, Clevedon |
| K. R. Bond, Kaitaia | G. J. Moon, Warkworth |
| Miss O. Cartwright, Dunedin | A. A. Morgan, Greymouth |
| C. N. Challies, Lower Hutt | Mrs. G. Orum, Clevedon |
| P. Child, Geraldine | W. T. Parham, Whakatane |
| V. I. Clark, Rotorua | W. T. Poppelwell, Dunedin |
| J. E. Coulthard, Manukau Heads | Mrs. A. C. Prentice, Dunedin |
| R. A. Cresswell, Gisborne | Mrs. A. Prickett, Birkenhead |
| Mrs. O. Cullen, Whangarei | J. Prickett, Birkenhead |
| E. Dear, Kopane | A. T. Pyrcoft, Auckland |
| A. T. Edgar, Titirangi | W. W. Renouf, Clevedon |
| Dunedin Naturalists Field Club | R. A. Ringer, Auckland |
| Rev. R. J. Fenton, Northcote | J. W. St. Paul, Clevedon |
| D. G. Fenwick, Auckland | R. St. Paul, Minginui |
| Miss B. L. Goertz, Ardmore | Mrs. M. A. Scott, Tauranga |
| P. Grant, Greymouth | A. L. Secker, Upper Hutt |
| A. R. Harris, Dunedin | R. B. Sibson, Auckland |
| B. D. Heather, Winton | P. D. G. Skegg, Auckland |
| M. Hodgkins, Tauranga | W. S. Sutherland, Kawhia |
| M. J. Hogg, Auckland | A. Todd, Miranda |
| F. B. Hudson, Kaipara Flats | D. A. Urquhart, Karaka |
| M. J. Imber, Hawera | J. G. Walker, Dunedin |
| King's College Bird Club | Mrs. L. E. Walker, Dunedin |
| N. J. Ledgard, Titirangi | R. R. Wiblin, Pukerua Bay |

N.I. KIWI (*Apteryx australis mantelli*) — Kawhia, calls reported from Mahoe stream (W.S.S.). L. Waikaremoana, heard at Te Puna and Hopuruahine, 27/2/ - 6/3/59 (F.P.H.). Gisborne, 12/4/60, 1 killed by dog six miles from city (A.B.). Mahoenui district, May '60, heard calling at Waikawau; 1 killed by dogs near Maungarongo (W.L.M.).

- YELLOW-EYED PENGUIN** (*Megadyptes antipodes*) — Otago Peninsula 'rookeries' — Forbury Head 14 on 3/7/59; 15 on 28/5/60; Penguin Beach, 7 on 9/9/59; Little Papanui, 1 ad. 2 chicks on 17/12/59; Wickliffe Bay, 6 moulting on 21/3/60 (W.T.P.).
- BLUE PENGUIN** (*Eudyptula minor*) — Bay of Islands, 16/5/60, 20+ mostly in pairs in clear oceanic water beyond fringe of brown silt-stained water after heavy rains (R.B.S.). Rurimu Rocks, B.O.P., 12/12/59, 3 birds incubating; 2 eggs chipping in one nest (W.T.P.). Pencarrow Head, several burrows along coast in occupation 14/5/60 and 6/8/60 (I.G.A.).
- DABCHICK** (*Podiceps rufopectus*) — The population on the Muriwai Heads is being well maintained (R.B.S.). Repongaere, Gisborne, 15/11/59, pair with young (A.B.). Waitotara Lagoon, 1 on 14/5/60; perhaps an autumn wanderer from coastal lagoons south of Wanganui (M.J.I.). L. Rotokuru, Rangataua Forest, one pair on 11/10/59 (C.N.C.). Masterton Park, 2 on 22/5/60 (E.D.).
- WANDERING ALBATROSS** (*Diomedea exulans*) — 19/9/60, ten between Wellington Heads and Tory Channel (H.L.S.).
- ROYAL ALBATROSS** (*Diomedea epomophora*) — Not recorded on 19/9/60 between Wellington Heads and Tory Channel; but 2 some days later (H.L.S.). Tairoa Head, 2 pairs courting on 22/10/59; 5 at nests on 17/1/60; 3 on 28/2/60 (W.T.P.).
- BLACK-BROWED MOLLYMAWK** (*Diomedea melanophris*) — 1 off Leigh on 5/4/60 (A.J.G.). Noted offshore in Cook St. on 18/7/59, 8/8/59, 29/5/60 (I.G.A.), but not seen in 19/9/60 between Wellington and Tory Channel (H.L.S.).
- BULLER'S MOLLYMAWK** (*Diomedea bulleri*) — 19/9/60, not recorded on this date or several days later between Wellington and Tory Channel (H.L.S.). Aramoana, 28/2/60, 3 robbing shags of fish (W.T.P.).
- WHITE-CAPPED MOLLYMAWK** (*Diomedea cauta*) — 19/9/60, 2 between Wellington and Tory Channel; one some days later; also one *salvini* (H.L.S.). Common off Otago coast, e.g. 10 on 17/12/59 near C. Saunders; up to 50 near Stewart I. mid-Jan. '60 (W.T.P.).
- GIANT PETREL** (*Macronectes giganteus*) — Waitemata, 14 near bridge on 12/9/60 (J. & A.P.). Ngauranga, 1 white phase on 3/9/60 (H.L.S.). 19/9/60, c. 200 in Cook St. (H.L.S.). Greymouth, 2 offshore on 28/7/59 (P.G.). Regularly seen off St. Clair; 1 white phase off Lawyer's Head on 20/9/60; 12 in Foveaux St. on 1/1/60 (W.T.P.).
- CAPE PIGEON** (*Daption capensis*) — Little Barrier to Tiri, 1 on 21/8/60 (Mrs. R.H.B.). 19/9/60, c. 50 between Wellington Heads and Tory Channel; fewer some days later (H.L.S.). Lawyer's Head, 61 on 14/10/59; 57 on 11/11/59; 40 on 15/12/59; St. Clair, 21 on 17/11/59; several at Cape Saunders on 17/12/59; Foveaux St., 4 on 15/1/60 (W.T.P.).
- FLESH-FOOTED SHEARWATER** (*Puffinus carneipes*) — Auckland - Whangaroa 30/9/ - 5/10/59, none; north of Whangarei, 14/12/59, few (A.J.G.); Cook St., one on 19/9/60 (H.L.S.).

- BULLER'S SHEARWATER** (*Puffinus bulleri*) — Bay of Islands, 5/10/59 many hundreds, including three groups of 200+; One, probably more, 16/5/60 (R.B.S.). North of Kawau, 300+ on 21/1/60.
- SOOTY SHEARWATER** (*Puffinus griseus*) — St. Clair, thousands going south on 14/10/59; thousands passing at more than fifty a minute on 10/12/59; c. 150 on 11/4/60. Aramoana, thousands on 22/10/59. Foveaux St., 15/1/60, "like dust on the horizon" (W.T.P.).
- FLUTTERING SHEARWATER** (*Puffinus gavia*) — Bay of Islands, 50+ close under Tapeka Pt. on 16/5/60 (R.B.S.). Wellington Harbour, c. 50 on 9/8/59 (I.G.A.).
- GREY-FACED PETREL** (*Pterodroma macroptera*) — Auckland west coast, at least one mainland colony still going strong (P.D.G.S.). Bay of Plenty, 22/8/59, three mainland breeding sites still in use between Whakatane and Ohiwa (W.T.P.). Mt. Maunganui, burrows with eggs and chicks in early Sept. '60 (P.D.G.S.).
- WHITE FACED STORM PETREL** (*Pelagodroma marina*) — Little Barrier to Tiri, 21/8/60, 3 singles and 3 groups of 3 each (Mrs. R.H.B.).
- GANNET** (*Sula bassana serrator*) — Bay of Islands, 16/5/60, 1 brown juv. among many adults (R.B.S.). Little Barrier, 24/6/60, c. 200 with c. 60 Pied Shags and hundreds of petrels feeding on shoal of fish close inshore (R.H.B.). White Island, 22/11/59, colonies seem to be increasing (W.T.P.). Gannet I. off Kawhia, c. 250 present throughout winter 1960 (W.S.S.). Greymouth, 1 juv. on 1/5/60 among adults (P.G.). Odd birds frequently seen off St. Clair; 1 ad. and 3 juv. on 2/4/60; Wickcliffe Bay, 1 sick juv. on 26/3/60 (W.T.P.).
- BROWN BOOBY** (*Sula leucogaster plotus*) — South of Motiti I., Bay of Plenty, 7/2/60, one following launch with gulls and petrels which were feeding on fish cleanings. Dark brown head and back, with upper wing surface as dark as in Flesh-footed Shearwaters; under surface white except for a few scattered brown feathers on the breast. Thought to be sub-adult (V.I.C.).
- BLACK SHAG** (*Phalacrocorax carbo novaehollandiae*) — Gollan's Valley, 14/5/60, several nests with eggs and chicks (I.G.A.). Rabbit I., Nelson, 36 on 12/1/60 (L.E.W.).
- PIED SHAG** (*Phalacrocorax varius*). — Bay of Islands, Tangitu Pa, 16/5/60, a typical cliff colony in pohutukawas; 15 nests apparently with eggs and birds brooding; no young visible in nests nor any smudgy juv. in trees; only clear pied adults (R.B.S.). Whangamumu Hr., 4/10/59, 15 nests on abandoned wharf, 11 occupied (A.J.G.). Little Barrier, 26/8/59, several sitting, chicks in three nests; 30/11/59, most of young flying but 3 birds still sitting (R.H.B.). Ohiwa Hr., c. 50 with Black Shags on 30/8/59 (W.T.P.). L. Pupuke, c. 80 occupied nests on 19/5/60 (R.B.S.). Dunedin coast, a scattering always about (W.T.P.).
- LITTLE BLACK SHAG** (*Phalacrocorax sulcirostris*) — Flocks of some size reported from Auckland isthmus, viz., c. 150 feeding in St. Heliers Bay (A.T.P.), 100-200 seen several evenings flying in open V formations past Birkenhead and over the harbour bridge (A.P.), Tamaki river, Otahuhu, c. 20 on 17/4/60; L. Pupuke, 100+ roosting on 19/5/60 (R.B.S.), Matata lagoon, 52+ on 8/3/60, c. 30 feeding communally (H.R.McK.).

- LITTLE SHAG (*Phalacrocorax melanoleucos*) — Ohiwa Harb., Dec. '59, small new colony established; 4+ chicks reared (W.T.P.).
- KING SHAG (*Phalacrocorax c. carunculatus*) — Duffer's Reef, c. 120 all flying birds, mid-April, 1960 (N.Z. Deerstalkers' Assn., Marlborough Branch).
- STEWART ISLAND SHAG (*Phalacrocorax carunculatus chalconotus*) — Otago Heads, 22/10/59, plentiful especially the bronze form; Whero I., 13/1/60, many roosting on island (W.T.P.).
- SPOTTED SHAG (*Stictocarbo punctatus*) — Clevedon, c. 25 visiting Waiti Bay (H.R.McK.). Otago Heads, usually hundreds; some enter the harbour to fish; Cape Saunders, 17/12/59, nesting almost over (W.T.P.). Greymouth, up to c. 250 (P.G.). Waitaki rivermouth, c. 350 on 16/1/60 (D.N.F.C.).
- WHITE HERON (*Egretta alba*) — Rangaunu Bay, up to 17 during winter, 1960 (R.H.M.). Mahurangi, 1 still present in Nov. '60 (G.J.M.). Stanley Bay, Takapuna, 1 mid-Oct. '60; Whau estuary, 3 repeatedly seen between 14/4/60 and mid-Oct. (J.P., R.B.S., et. al.). Tauranga Hr., 1 at Waimapu Inlet on 22/6/60 (M.H.). 1 at Mata-pihi on 7/8/60 and till early Sept.; 2 reported (R.B.S., P.D.G.S.). Tokaanu, 1 on 9/7/59 (A. & J.P.). L. Whakaki, 5-7/5/60, 1 (R.St.P.). Foxton, 1 on 6/9/60 (E.D.). L. Horowhenua, 1 on 14/5/60; 2 on 7/9/60; 6 reported previous week (H.R.McK., D.M., et. al.). L. Forsyth, 1 on 5/5/60; Merton, 1 on 2/8/59 and 25/4/60 (J.G.W. & L.E.W.); Toko rivermouth, Milton, 1 on 18/9/59 (A.R.H.).
- LITTLE EGRET (*Egretta garzetta*) — Merton, 25/4/60, 1 in full nuptial plumage (cf. Notornis VIII, 179) (L.E. & J.G.W.). Others in Manukau are reported elsewhere; v. p. 99.
- BLUE REEF HERON (*Egretta sacra*) — Mill Bay, Manukau, 11 coming to roost on 6/6/60 (R.B.S.). Ohiwa Hr., numerous; 8/11/59, 2 out of 3 chicks reared in old nest (W.T.P.). Muriwai lagoon, Gisborne, 1 on 3/4/60; Tatapouri, 1 on 4/4/60 (J.W.B.). Waitotara estuary, 1 on 16/2/60; not seen on other visits (M.J.I.). Pukerua Bay, one nest, 3 young successfully reared. Castle Point, 26/12/59, 3 nests with young (C.N.C.).
- WHITE-FACED HERON (*Ardea novaehollandiae*) — Tabora, Kaipara, 70-75 together at full tide on 1/5/60 (J.P., R.B.S., D.A.U.). Whau estuary, 8 on 5/6/60 (R.B.S.). Now present at all seasons in most creeks of Auckland isthmus. Glenfield, nest with one young, 8/11/60 (R.J.F.). Clevedon estuary, 30+ along mudflat on 26/3/60 (H.R.McK.). Manukau Heads 1957, 2 pairs reared 5 young. 1959, a pair seen building but molested by magpies (J.E.C.). Cabbage Bay, Coromandel, 2 on 30/8/60 (R.B.S.). Tauranga Hr., where it still seems to be rare, 1 on 31/8/60 (P.D.G.S.). Muriwai lagoon, Gisborne, 3/4/60, 7 (J.W.B.). Mahoenui, 1 on 6/5/60 (W.L.M.). Waitotara, up to 3 in late summer '60 (M.J.I.). Numerous, up to 19 together at Porirua and Pauatahanui (R.R.W., P.D.G.S.). Rabbit I., 6, Richmond, Nelson, 17 on 12/1/60; McKenzie Bird Sanctuary, 12 on 9/1/60; L. Lyndon, 1, and L. Pearson, 1 on 21/1/60; Waikouaiti Lagoon, 2 on 9/8/59, both with orange-red legs; Merton, 23, Evansdale, 11 on 25/4/60 (J.G. & L.E.W.). Harwood Flats, Otago Harbour, 16 on 26/6/60 (T.R.B.). L. Waipori, 16 on 15/3/59; Waitati, 7 on

13/9/59; Papanui Inlet, 6 on 26/3/60 (W.T.P.). Portobello, pronounced winter influx; biggest counts, 1959; July, 28; Aug., 22; Sept., 18; Oct., 12; odd birds present over summer; 1960, March, 14; April, 19; May, 23; June 32 (A.R.H.). Geraldine, several during March, 1960 (P.C.).

BITTERN (*Botaurus poiciloptilus*) — Muriwai lakes, plentiful (R.B.S.). Tauranga Hr. and Bay of Plenty, present in most swamps (R.V.McL. et. al). Mahoenui on Mokau river, 1 on 27/5/60 (W.L.M.). Pautahanui Inlet, 1 on 14/5/60 (H.R.McK.). Geraldine, 1 juv. caught on 16/2/60; 1 beside Lindis R., Central Otago, on 29/4/60 (P.C.). L. Waipori, 4 on 15/3/59 (W.T.P.).

AUSTRALIAN WHITE IBIS (*Threskiornis aethiopia strictipennis*) — An additional record for the 1957 irruption is of one at L. Owhareiti, Pakaraka, Northland, seen by Mr. P. H. W. Ludbrook (R.B.S.).

CANADA GOOSE (*Branta canadensis*) — L. Whakaki, 3 on 6/5/60; 9 reported on Wairoa lakes (R.St.P.). Waitotara, 1 on 4/11/59 (M.J.I.). Birdling Flat, Oct. 59, 4 nests with 6.5.1.0. eggs (D.M.), L. Rotorua, Kaikoura, 6 on 11/1/59 (B.D.B., R.B.S.).

MUTE SWAN (*Cygnus olor*) — Tomahawk, 16 on 2/4/60 (W.T.P.).

BLACK SWAN (*Cygnus atratus*) — L. Whakaki, 5-7/5/60, c. 1100 (R.St.P.). Waitotara lagoon, 7 on 4/11/59; 18 on 17/1/60; none on 14/5/60 (M.J.I.). Green Island lagoon, 40 on 15/8/59; Taieri lakes, c. 200 on 21/4/60; Forbury Head, 19 passing over sea on 15/5/60 (W.T.P.).

PARADISE DUCK (*Tadorna variegata*) — Minginui, 1 pair resident; others come and go (R.St.P.). Mahoenui, May '60, plentiful (W.L.M.). Waimangu, L. Rotomahana, c. 30 on 17/4/60 (M.J.I.). Karori State Forest, newly hatched clutches of 7 on 7/10/59 and 7 on 15/11/59 (C.N.C.). L. Lyndon, 1 pr. on 21/1/60; Waikouaiti Lagoon, Otago, mate pursuing female on 2/8/59 (J.G. & L.E.W.). Benmore, Waitaki R., 16 on 13/1/60 (D.N.F.C.). Green Island lagoon, 7 on 19/4/60 (W.T.P.).

GREY TEAL (*Anas gibberifrons gracilis*) — Waimangu, L. Rotomahana, c. 200 at the mouth of the stream on 17/4/60 (M.J.I.). Upper Portobello Bay, near Biology Station, 23 on 29/5/60 (A.R.H.). L. Rotorua, Kaikoura, 6+ on 11/1/59 (B.D.B., R.B.S.).

BROWN TEAL (*Anas chlorotis*) — Helena Bay, c. 17 on 6/4/60 (D.M.).

SHOVELLER (*Anas thynchos*) — Mid-Kaipara, c. 12 on 1/5/60 (R.B.S.). L. Repongaere, Gisborne, 15/11/59, 2 nests each with 9 eggs (A.B.). 50+ at Waimanga on 17/4/60. Waitotara lagoon, a few pairs during summer (M.J.I., I.G.A.).

BLUE DUCK (*Hymenolaimus malacorhynchus*) — 31/8/59, reliable observer reports that 5 have been seen at headwaters of the Tauranga Wairoa, B.O.P. (M.H.). Kaimanawhas, 3, 1-8/3/60 (F.P.H.). Bealey R., Arthur's Pass, 1 juv. on 21/1/60; Whitcombe R., Westland, 2 pairs and a single bird, Easter 1960 (P.C.). Adams R., South Westland, 2 at c. 2500ft. on 6/1/59 (D.M.).

N.Z. SCAUP (*Aythya novaeseelandiae*) — Colonising L. Whakamaru; 2 near power-station on 30/1/60; 7 on 11/5/60 (P.D.G.S.). L. Rotorua, Ohau Channel 20/3/60, 1 with 5 half-grown ducklings (R.V.McL.).

- Waimangu, L. Rotomahana, 150+ on 17/4/60 (M.J.I.). L. Rotorua, Kaikoura, 9 and 1 duck with 5 ducklings on 11/1/59 (B.D.B., R.B.S.). McKenzie Bird Sanctuary, Cheviot, 9/1/60, 2 with 5 ducklings and 1 with 6 (L.E.W.).
- HARRIER** (*Circus approximans*) — Remuera, pair calling and playing in courtship high over suburban Auckland 22/9/59 and a year later on 27/9/60 (J.W.S.). L. Whakaki 5-8/5/60, biggest daily count 20 (R.St.P.). Taieri lakes, 10 on 21/4/60 (W.T.P.).
- BUSH HAWK** (*Falco novaeseelandiae*) — Minginui, odd ones all year, not always in bush (R.St.P.). Gisborne, 6/5/60, 1 flying repeatedly into nikau palm in suburban garden (A.B.). Waikaremoana, 1 at Pañekiri Bluff; Kaimanawas 1-8/3/60, frequently seen, sometimes 3 together (F.P.H.). Mahoenui, May '60, common; seen to kill native pigeons and said to raid fowl-runs (W.L.M.). Tongariro National Park, 1 at Chateau turn-off on 19/5/60 (P.D.G.S.). Akatore, Otago, 1 on 10/10/59 (K.K., L.E.W.).
- BROWN QUAIL** (*Synoicus ypsilophorus*) — Several family parties in open country near Puketū forest, mid-May '60 (R.B.S.). Tauranga, Otumotai, 10 on 15/4/60 (M.H.). Waitotara estuary, 3 on 14/5/60 (M.J.I.).
- VIRGINIAN QUAIL** (*Colinus virginianus*) — Whangara, Gisborne, 1 on 4/10/59 (J.W.B.).
- BANDED RAIL** (*Rallus philippensis*). Huia stream, Manukau, 3 in the open on a rainy day, 6/6/60 (B.D.B., R.B.S.). Clevedon, 2/4/60, 1 with four well-grown chicks; 16/4/60 2 prs., one with full sized young. Mahoenui, May-June '60, several about raupo swamps (W.L.M.). Tauranga Hr., widespread (M.H., R.V.McL., et. al.),
- WEKA** (*Gallirallus australis*) — Stewart I., not uncommon around Half-moon Bay, Jan. '60 (W.T.P.).
- MARSH CRAKE** (*Porzana pusilla affinis*) — One caught in a garage near a lagoon at Greymouth (A.A.M.).
- PUKEKO** (*Porphyrio melanotus*) — Little Barrier, one arrived about 16/12/59 and stayed near the house till 24/12/59 (R.H.B.). Taieri lakes, c. 100 on 21/4/60 (W.T.P.).
- COOT** (*Fulica atra australis*) — McKenzie Bird Sanctuary, Cheviot, 3 on 19/1/60 (L.E.W.).
- S.I. PIED OYSTERCATCHER** (*Haematopus ostralegus finschi*) — Mid-Kaipara, c. 500 on 1/2/60; 600+ on 1/5/60 (J.P., R.B.S., D.A.U., D.G.F.). Clevedon, 10 on 27/9/59; 8-11 from 19/3/60 to 13/6/60; 3 on 4/9/60 (H.R.McK.). Bowentown, B.O.P., 18 on 6/8/60 (R.B.S.). Waitotara estuary, occasional visitor on passage; 2 on 1/2/59; 1 on 17/1/60 (M.J.I., I.G.A.). L. Howard, Rangitata R., 2 on 26/12/58 (D.M.). Heathcote-Avon estuary, c. 2000 on 18/8/60 (M.J.I.). L. Lyndon, 14 on 21/1/60 (J.G. & L.E.W.). Aramoana, c. 100 on 22/10/59; c. 400 on 28/2/60. Hooper's Inlet, c. 200 on 17/12/59; Wickcliffe Bay, 12 on 26/3/60; Green I. lagoon, 10 in 5/3/60 (W.T.P.).
- N.I. (VARIABLE) OYSTERCATCHER** (*Haematopus unicolor reischeki*) — Ngunguru, 16 on 12/5/60, showing much variation, five being 'all blacks.' Waipu estuary, 1 pr. on 3/7/60 (R.B.S.). Ruakaka, 6 on 17/9/60 (A. & J.P.). Muriwai, north end of beach, 4 on 17/7/60

(D.A.U., R.B.S.). Waikato estuary, 3 on 24/8/60 Mercury Bay, 1 pr. (black) on Buffalo Beach 31/8/60; Tairua, 4 prs. (black) and 3 together, only one of which was pied smudgily, on 1/9/60; Whangamata, 1 pr. (black) on 2/9/60. Bowentown, 4 on 6/8/60, all typical big *reischeki* (R.B.S.). Mixed pairs are seen at Otumoetai, Tauranga and on Mt. Maunganui coast (M.H., R.V.McL.). Tarawera estuary, 3 on 5/9/60 (P.D.G.S.). Rurimu Rocks, 3 (all black) on beach (W.T.P.). Waitotara, 1 pr. regularly seen, dark phase (M.J.I., I.G.A.). Waikanae, 16 on 25/1/60 (only one showing some white) (P.D.G.S.).

BLACK OYSTERCATCHER (*Haematopus u. unicolor*) — Katiki Beach, Otago, 2 on 20/2/60 (L.E.W.). Brighton, 15/6/60, 16 flying and bathing in creek. Paterson's Inlet, 12 on 28/12/59; 1 pr. and 2 chicks on 7/1/60 (W.T.P.).

PACIFIC GOLDEN PLOVER (*Charadrius dominicus fulvus*) — Mid-Kaipara, 10 on 1/2/60 (R.B.S.). Muriwai Lagoon, Gisborne, 11 on 13/3/60, 3 being well-blackened (J.W.B.). Waitotara, 6 on 17/1/60 and 16/2/60 (I.G.A., M.J.I.).

BANDED DOTTEREL (*Charadrius bicinctus*) — Ruakaka, 1 pr on 3/7/60; Mid-Kaipara, c. 10 on 1/2/60; c. 60 on 1/5/60; Whatipu, Manukau Heads, c. 40 on 6/6/60 (R.B.S.). Muriwai, 4 over 15 miles on 23/8/60; Bethells, 5 on 22/12/59; 2 on 20/8/60 (P.D.G.S., M.J.H., N.J.L.). Tairua, Coromandel, 3 on 1/9/60 (R.B.S.). Mt. Maunganui wharf area, 3 on cleared sandy wastes as if nesting, 27/12/59 (M.H.). Ocean Beach, 9 prs. over 7 miles on 1/9/60 (P.D.G.S.). Peketahi Bridge, c. 12 on 6/9/59; Kawerau, 30/12/59, 1 perched on a geothermal pipe (W.T.P.). Gisborne aerodrome, 21/3/60, 20 amongst aircraft on apron by hangar (J.W.B.). Waitotara, 6 juv. on 4/11/59; 40+ on 17/1/60 and 16/2/60; 13+ on 14/5/60 (I.G.A., M.J.I.). Harwood Flats, Otago Hr., 51 on 26/6/60 (T.R.B.). Upper Waimakariri, Dec. '57, several; Clyde R., several between Erewhon and Frances R., 26-27/12/58 (D.M.).

RED-BREADED DOTTEREL (*Charadrius obscurus*) — Bay of Islands, 5 at full tide on beach of Motu-arohia on 16/5/60 (R.B.S.). Marsden Bay, c. 20 on 24/11/59 (O.C.). Ruakaka, 9 on 17/9/60; Te Arai, 3; Pakiri, 9 on 25/9/60 (A. & J.P.). Mid-Kaipara, 8 on 1/2/60; 25 on 1/5/60; Whatipu, 11 on 6/6/60; Waikato estuary, 15 on 24/8/60 (R.B.S.). Muriwai, north end of beach, 13 on 17/1/60 (R.B.S., D.A.U.); 2 prs. on 23/8/60; Bethells, 2 prs. on 20/8/60 (P.D.G.S., D.G.F., M.J.H., N.J.L.). Clevedon, 3 on 19/3/60; 5 on 29/3/60; c. 12 on 7/5/60, c. 4 coloured; 5 on 23/8/60, 2 red (H.R.McK.). Cabbage Bay, Coromandel, 6 on 30/8/60; Kuaotunu, 1 pr. with several scrapes, on 31/8/60; Tairua, 1 on 1/9/60 (R.B.S.). Tauranga, Otumoetai Beach, 3 on 31/8/59; up to 5 13/11/59-27/5/60 (M.H.). Ohaki, near Broadlands, 5/3/60, 1 at lake (H.M.McK.).

WRYBILL (*Anarhynchus frontalis*) — Mid-Kaipara, c. 80 on 1/2/60; c. 215 on 1/5/60; Muriwai, only 6 along whole beach, 35 miles, on 17/7/60 (R.B.S., D.A.U.). Whatipu, 3 on 6/6/60 (A.T.E., B.D.B., R.B.S.). Waitotara, usually a few after mid-summer, 4 on 17/1/60; 1 on 16/2/60. Hokio Beach, 1 on 19/1/58; 2 on 14/5/60 (M.J.I., I.G.A., H.R.McK.).

BAR-TAILED GODWIT (*Limosa lapponica baueri*) — Mid-Kaipara, c. 3000 on 1/2/60; c. 100 on 1/5/60 (R.B.S., J.P.). Muriwai, only 3

- along whole length of beach on 17/7/60 (D.A.U., R.B.S.). Clevedon, c. 135 on 27/9/59; c. 1200 on 19/3/60, 40% very red; c. 550 on 21/3/60; 200+ on 30/3/60, 66% red; 30+ on 7/5/60, 4 quite red; 13/6/60 (H.R.McK.). Tamaki, c. 2500 on 29/11/59, (P.D.G.S.). Bowentown, 25 on 6/8/60 (R.B.S.). Tauranga, Sulphur Pt., July-Aug. '59, c. 200; Sept. c. 250; c. 800 on 4/10/59; apparently fewer over summer; 600+ on 15/2/60. Waikaraeo, 600+ on 14/3/60; during winter only 40-50 (M.H.). Rat I., and Waimapu Inlet, max. c. 80 in March; 24 on 4/6/60 (R.V.McL.). Maketu, 3 on 8/3/60; Little Waihi, c. 50 (H.R.McK.). Gisborne, Muriwai Lagoon, 70 on 14/11/59 (A.B.). 23 on 26/12/59; 1 on 3/4/60 (J.W.B.). Kawhia, c. 300 throughout winter (W.S.S.). Waitotara, 27 on 4/11/59 (M.J.I.). Petone beach, 3 on 13/11/59 (I.G.A.). Heathcote-Avon estuary, 230+ on 18/8/60 (M.J.I.). Aramoana, c. 100 on 22/10/59; c. 450 on 28/2/60; Hooper's Inlet, 200+ on 17/12/59 (W.T.P.). Harwood Flats, 2 on 26/6/60 (T.R.B.).
- TEREK SANDPIPER** (*Xenus cinereus*) — Mid-Kaipara, 1 on 1/5/60, evidently wintering (R.B.S., D.A.U., J.P.). (c.f. *Notornis VIII*, 265-266)
- TATTLER** (*Heteroscelus incanus subsp.?*) — 1 on a rocky outcrop on Kuaotunu beach, Coromandel, bobbing and feeding at the edge of the waves at the end of February '60 (G.J.M.). Muriwai Lagoon, Gisborne, 1 on 13/3/60 (J.W.B., A.B.).
- TURNSTONE** (*Arenaria interpres*) — Mid-Kaipara, 23 on 1/2/60; 21 on 1/5/60 (J.P., R.B.S., D.G.F., D.A.U.), Muriwai Lagoon, Gisborne, 3 on 12/3/60 (J.W.B.).
- KNOT** (*Calidris canutus*) — Mid-Kaipara, 500+ on 1/2/60 (R.B.S., D.G.F.). Muriwai Lagoon, Gisborne, 1 on 26/12/59 and 13/3/60 (J.W.B.).
- SHARP-TAILED SANDPIPER** (*Calidris acuminata*) — Gisborne, Muriwai Lagoon, 1 on 13/3/60 (J.W.B., A.B.). Waitotara, 1 on 4/11/59 (M.J.I.).
- RED-NECKED STINT** (*Calidris ruficollis*) — Mid-Kaipara, 4 on 1/2/60 (R.B.S., D.G.F.).
- PIED STILT** (*Himantopus leucocephalus*) — Oturu, Kaitaia, 2 nests each with 3 eggs, hatched successfully, Oct. '60 (K.R.B.). Waitangi, 2 on 18/5/60, the only two seen in the Bay of Islands in mid-May. Taporā, mid-Kaipara, 1 pr. reported to have bred (R.B.S.). Little Barrier, 1 on 28/10/59; 3/11/59 and again on 7/1/60 (R.H.B.). East Tamaki, 2 nests each with four eggs, early Sept. '60 (K.C.B.C.). Cabbage Bay, Coromandel, 3 or 4 prs. on 30/8/60, apparently preparing to nest. Tairua, 1 pr. in 1/9/60 (R.B.S.). Ngatea, c. 10 prs. with eggs 31/8/60-9/9/60 (P.D.G.S.). Tauranga Hr., up to 70 at Rat I. at full tide (R.V.McL.); 5 prs. nesting near Matapihi on 9/9/60 (P.D.G.S.). Rangitaiki Plains, spring '59, some nesting sites abandoned because of drought (W.T.P.). Waimangu, 50+ on 17/4/60 (M.J.I.). Minginui, 15/10/59, one pair on riverbed; Dec., heard flying high at night. L. Whakaki, 5-7/5/60, max. 30, lake too full (R.St.P.). Waitotara, up to 70, Jan.-May '60 (M.J.I.). Merton, numerous on 2/8/59 (J.G. & L.E.W.). Aramoana, 45 on

28/2/60; Dunedin reclamation, 128+ on 23/2/60; 35+ on 30/6/60; Papanui Inlet, c. 60 on 26/3/60; Hooper's Inlet, 30+ on 21/3/60; Green I. Lagoon, 40 on 15/8/59; 189+ on 19/4/60 (W.T.P.).

BLACK STILT (*Himantopus novaeseelandiae*) — A perfect example frequented the Whau estuary for some months during the winter of 1958. It appeared to be a bird of different proportions, especially in flight, from the Pied Stilts with which it was usually associating (R.B.S., J.P.).

POMARINE SKUA (*Stercorarius pomarinus*) — One well seen from the cliffs at Muriwai on 17/1/60; strikingly big, light phase, with a conspicuous white area at the base of the primaries and a pale buff and whitish rump (R.B.S., D.A.U.).

ARCTIC SKUA (*Stercorarius parasiticus*) — Greymouth, seen between 12/11/59 and 10/4/60, when two appeared to be displaying (P.G.).

SOUTHERN BLACK-BACKED GULL (*Larus dominicanus*) — Rangitoto, most nests had three eggs by 26/10/59 (P.D.G.S., M.J.H.). Otago Peninsula and Dunedin Harbour, flocks up to 500 after breeding season (W.T.P.).

RED-BILLED GULL (*Larus novaehollandiae scopulinus*) — Muriwai, a breeding colony now established on a pinnacle off the cliffs at the southern end of the beach; c. 30 on nests on 26/10/59; c. 20 more nests under dwarf pohutukawas on 19/12/59 (P.D.G.S., M.J.H.). 17/1/60, 2 still occupying nests and 3 large speckled young roaming (R.B.S., D.A.U.). Tauranga, birds reappeared in streets in third week of Jan. (R.V.McL.) Lizard I., Rurimu Rocks, small colony on cliff-face 12/12/59 (W.T.P.). Pararaki, New Plymouth, 1000+ preparing to nest on 8/9/60 (D.M.). Waitotara, a few occasionally (M.J.I.). Otago Peninsula and Dunedin Harbour, flocks of hundreds in autumn and winter (W.T.P.).

BLACK-BILLED GULL (*Larus bulleri*) — Waitotara, 2 on 15/2/59; 1 on 17/1/60; possibly the normal northern terminus on the west coast of the North Island (M.J.I.). Brighton, 16 on 15/6/60 (W.T.P.).

BLACK-FRONTED TERN (*Chlidonias albostratus*) — Tarawera estuary 4 on 8/3/60, 1 being juv. (H.R.McK., H.M.McK.). Rurimu Rocks, 12 on 12/12/59 (W.T.P.). Erewhon, Rangitata R., c. 12 on 26/12/58 (D.M.).

WHITE-WINGED BLACK TERN (*Chlidonias leucopterus*) — Upper Tamaki, 1 on 17/11/59, probably the same as was often seen in upper Manukau (P.D.G.S.) (cf. p. 95).

CASPIAN TERN (*Hydroprogne caspia*) — Paihia, 12 on 15/5/60; Muriwai, north end near Wainui Inlet, 30+ nestlings nearly flying; but some downy young still in nests on 17/1/60; many eggs washed out by big tides about Jan. 1st (R.B.S., D.A.U.). Cabbage Bay, Coromandel, 30+ on 30/8/60 (R.B.S.). Tauranga Hr., 20+ at Wairoa rivermouth on 20/11/59 (R.V.McL.). Whatipu, 28/8/60, at least 2 prs. very hostile (P.D.G.S.). Waitotara, usually a few (M.J.I.). Palmerston North, some fly up the Manawatu, e.g. 2 on 22/5/60 (I.G.A.). Palliser Spit, 6/1/60, 1 nest with 2 eggs (C.N.C.). Rabbit I., Nelson, 4 on 12/1/60 (L.E.W.).

WHITE-FRONTED TERN (*Sterna striata*) — Paihia, c. 100 on 19/5/60. Muriwai, north end of beach, a few still feeding young on 17/1/60 (R.B.S., D.A.U.); cliffs and pinnacles at south end, 600 prs., fresh eggs on 26/10/59 (P.D.G.S., M.J.H.). Lizard I., Rurimu Rocks, 12/12/59, 200-300 on reef. Club Rocks, White Island, 22/11/59, c. 70 nests (W.T.P.). Waitotara, up to 20 (M.J.I.). Aramoana, 200 on 22/10/59; c. 800 on 28/2/60. St Clair, some throughout summer (W.T.P.).

TERN (*Sterna albifrons/neréis*) — Small dark-billed terns were again reported from widely scattered localities. Whangaruru, 23/4/60, one in flock of 60 White-fronted Terns on old wharf (R.H.B.). Mataitai, Clevedon, 21/3/60, 1 (W.L.M.). Mid-Kaipara, 3 on 1/2/60 (R.B.S., D.G.F.). Greymouth, 1 on 1/10/59 and 12/12/59 (P.G.) (cf. *Notornis* VIII, 163).

FAIRY TERN (*Sterna neréis*) — 5 at Te Arai on 27/12/60 (J. & A.P.). N.Z. PIGEON (*Hemiphaga novaeseelandiae*) — Moumoukai, Clevedon, some increase; flights of 12 and 7, July '60 (J.W.St.P.). Otumoetai, Tauranga, 28/8/59, feeding on berries of *Idesia polycarpa* (M.H.). Minginui '59-'60, Aug.-Jan., up to 4 seen daily; Feb.-July, up to 35, 50, 50, 24, 15, 4. Food: Aug.-Sept., seen on putaputaweta, miro; Oct., lacebark leaves, miro; Nov.-Dec., leaves only; Jan., konini; Feb., konini, then tawa and matai; March-May, tawa, matai, miro; June, miro; July, miro, then putaputaweta and lacebark leaves (R.St.P.). Mt. Holdsworth, 1 at 3500ft. on 4/7/59 (I.G.A.). Okuti Valley, 2 on 12/5/60 (J.G. & L.E.W.). Adams-Wanganui rivers, South Westland, Jan. '59, plentiful (D.M.). Trotter's Gorge, 20/2/60, 3 (O.C.). Ross Creek, 4 on 4/11/59; Stewart I., Dec.-Jan., plentiful (W.T.P.).

ROCK PIGEON (*Columba livia*) — St. Clair, 200+ roosting all year round in cliffs (W.T.P.).

MALAY SPOTTED DOVE (*Streptopelia chinensis tigrina*) — As it slowly spreads south, now established at Puhinui, summer '59-'60 (K.C.B.C.).

KAKA (*Nestor meridionalis*) — Little Barrier, Oct. '59, 12 coming to be fed at house; May '60, 2 flying on to wrist to take syrup and apple (R.H.B.). Moumoukai, now scarce; one seen occasionally (J.W.St.P.). Clevedon, 30/4/60, one reported on one day only tearing bark from a mature pine (W.W.R.). Minginui, 4-12 seen most days. Food seen taken: May-Aug., grubs; Jan.-May, matai; Apr.-June, miro (R.St.P.). Waikareiti track, 3 on 2/1/60 (A.B.). Tauhara, 2 near summit on 20/5/60 (P.D.G.S.). Moerangi, West Taupo, several in mid-May '59 (F.P.H.). Tauherenikau Valley, Tararua, 5/6/60, several (I.G.A.). Stewart I., Dec.-Jan., up to 12 seen per day (W.T.P.).

KEA (*Nestor notabilis*) — L. Lyndon, 1 on road 21/1/60 (L.E.W.). Mt. Harper, up to 4500ft. Dec. '57; Frances River, Upper Rangitata, Dec. '58, plentiful at 3500 ft.; Adams River, South Westland, Jan. '59, plentiful on flats at 2500ft. (D.M.).

WHITE COCKATOO (*Kakatoe galerita*) — Clevedon, 1 very noisy, 12-13/10/60 (G.O.). Regularly appearing at Puni, north of lower Waikato, in small parties (K.C.B.C.).

EASTERN ROSELLA (*Platycercus eximius*) — Still spreading northwards. Punaruku, near Whangaruru, up to 18 seen 21-25/4/60 (R.H.B.). Parore, Northland, 5, Feb. '60 (E.H.M.). Whiteman's Valley, Upper Hutt, Aug. '60, 3 flushed from banks of Mangaroa R. (H.L.S.).

RED-FRONTED PARAKEET (*Cyanoramphus novaezelandiae*) — Punaruku, Whangaruru, one feeding on inkweed and cocksfoot; not associating with nearby Rosellas (R.H.B.). Mahoenui, 1960, reported present in high ranges, but may be *auriceps* (W.L.M.).

YELLOW-CROWNED PARAKEET (*Cyanoramphus auriceps*) — Minginui, up to 7, but usually one pair, which, Jan.-Feb., had a nest 40ft. up in a dry kahikatea; no young known to have been reared (R.St.P.). Waikareiti track and around Waikaremoana, 27/2-6/3/59, heard every day (F.P.H.). 2/1/60, 4 settled close when called (A.B.).

SHINING CUCKOO (*Chalcites lucidus*) — First song: Whangarei, 18/10/59 (O.C.). Little Barrier, 7/10/59 (R.H.B.). Remuera, 8/10/58; 12/10/59; 14/10/60 (R.B.S. *et al.*). Clevedon, 22/9/59 (A.J.G.). Moumoukai, 18/9/59 (J.W.St.P.). Minginui, 5/10/59 (R.St.P.). Miranda, 16/10/59 (A.T.). Bulls, 21/9/59 (D.M.). Kelburn, 31/10/59 (I.G.A.). Karioi State Forest, 26/9/59 (C.N.C.). Akatore, 10/10/59 (L.E.W.). Reports from Duder's Beach to Clevedon, 6 miles of good habitat; 23/9/59, first song (Mrs. Zister). 29/9/59, seen and full urgent song; 30th and Oct. 4, 5, not full. Strong but no downward notes. Next one heard Oct. 20th (Mrs. M. J. Blundell). 24, 26/9/59, 2/10/59, not full, 12th, full, prolonged; 14th, not full, 16th and after, full song (Mrs. A. R. Browne). 26, 29/9/59, 3, 6, 8, 9, 11, 12, 14/10/59, not full. 15/10/59, first full song (Miss M. Waters). 24/9/59, first song (Misses K. & D. Browne). 25/9/59, first song, not strong but one downward note added. 30/9/59, at Clevedon, first full song with downward notes (H.R.McK.).

Last seen or heard:— Whangarei, 18/4/59 (O.C.). Clevedon, 23/3/60 (W.L.M.). Miranda, 30/1/60 (A.T.). Moumoukai, 13/1/60 (J.W.St.P.). Minginui, 4/2/60 (R.St.P.).

Minginui, 15/1/60, several in 'parliament' (R.St.P.). Geraldine, 12/2/60, a male flew into a window and knocked itself out (P.C.). Stewart I., 28/12/59, juv. flying (W.T.P.). Whakatiri, Clevedon, 2 seen on 26 and 28/7/59 in a kowhai beside house; not seen again; no song or call; reported by Miss Beverly Lake to H.R.McK.

LONG-TAILED CUCKOO (*Eudynamis taitensis*) — Little Barrier, first seen and heard 21/10/59 (R.H.B.). Clevedon, 30/12/59, 1 calling at 3 a.m.; 19, 20 and 21/2/60, 1 called both during day and night; 25/2/60, 1 flying north calling at 0945 hrs.; 28/2/60, 1 flying north calling at 0700 hrs. (H.R.McK.). Oropi Bush, Tauranga, 28/11/59, many calls (R.V.McL.). Minginui, first seen and heard 31/10/59; last seen 20/2/60; move up to beech country in Jan. (R.St.P.). North Mt. Egmont, 12/1/58, 1 at 3500ft.; Orongoronga R., still plentiful 12/2/60; Anti-Crow Hut (2300ft.) Waimakariri R., 1 on 31/12/57 (D.M.). Karioi State Forest, first call 10/10/59; frequent calls by 28/10/59 (C.N.C.). Halfmoon Bay, Stewart I., 2 on 15/1/59 (W.T.P.).

MOREPORK (*Ninox novaeseelandiae*) — Middlemore, nest with 2 eggs in nesting-box 23/10/60 (K.C.B.C.). North Mt. Egmont, 14/3/58, 1 calling at 3200ft.; uncommon on Egmont itself (D.M.).

- LITTLE OWL (*Athene noctua*) — Ngahere, 15/6/59 (P.G.). Dunedin, not so common as formerly (W.T.P.).
- KINGFISHER (*Halcyon sancta vagans*) — Little Barrier; twice observed attacking young Song thrushes with vicious determination (R.H.B.). Minginui, usual influx for breeding began about 15/9/59; very regular mid-Sept. every year (R.St.P.). The status of this bird in Otago and Southland needs investigating. Merton, 5 on 2/8/59 (J.G. & L.E.W.). Aramoana, 2 on 28/2/60; Black Head, 1 on 28/7/59 (W.T.P.). Signal Hill, 1 on 9/7/60 (D.N.F.C.).
- N.I. RIFLEMAN (*Acanthisitta chloris granti*) — Little Barrier, 2/11/59, seen at Hingaia; Nov. '59, pair living near house; Dec. '59, 2 nests located in old puriri trees (R.H.B.). Waikareiti track, 2/1/60, again plentiful (A.B.). Kaimanawas, the commonest bird of the beech forest (F.P.H.). Mt. Holdsworth, 6/7/59, common up to 3500ft. (I.G.A.).
- S.I. RIFLEMAN (*Acanthisitta c. chloris*) — Upper Waimakariri R., Dec. '57, plentiful; Adams R., Jan. '59, plentiful (D.M.). Gunn's Bush, Waimate, 12/1/60, 2 with fledgling (A.C.P.). Otakou, 2 on 9/9/59 (W.T.P.).
- ROCK WREN (*Xenicus gilviventris*) — Harman Pass (4310ft.), Upper Waimakariri R., 1 on 24 and 25/12/57; headwaters Adams R., 5/1/59, one on scree at 5000ft. at junction of Beelzebub and Adams Glaciers (D.M.). Bowen R., Milford, 13/3/60, several (D.M.). Mt. Bevan, 1 at 5500 ft. (P.C.).
- FANTAIL (*Rhipidura fuliginosa*) — Kaipara Flats, '60, fine nests of different ages in rata vines under overhanging rock 15ft. from ground and about 2ft. apart, roughly in a row (F.P.H.). Whakatane, 19/6/60, one with all-white tail (W.T.P.). Upper Waimakariri R., 1 at Carlington Hut (2500ft.) on 25/12/57 (D.M.).
- PIED TIT (*Petroica macrocephala toitoi*) — Moumoukai, now scarce; a puzzling decrease (J.W.St.P.). Minginui, often in scrub; song heard only Jan.-May (R.St.P.). Waikareiti track, 2/1/60, numerous (A.B.). Kaimanawas, 1-8/3/60, many (F.P.H.). Mahoenui, a few in patches of bush (W.L.M.). Moerangi, west Taupo, 14/5/59, plentiful (F.P.H.). Goat Hill, Akatarawas, Dec. '58-'59, persistent trilling recorded; but in lowland bush, Eastbourne, 15 miles south-east, trilling seems to cease about six weeks earlier (H.L.S.).
- YELLOW-BREASTED TIT (*Petroica m. macrocephala*) — Leith Saddle, 1 on 19/9/59; Wairongoa, 1 on 23/4/60 (W.T.P.). Trotter's Gorge, 20/2/60, 3 males and 1 female (O.C.).
- N.I. ROBIN (*Petroica australis longipes*) — Tauranga, Oropi Bush, 14/11/60 (M.A.S.). Minginui, song begun about Aug. 7, and continued till June (R.St.P.). Karioi State Forest, 18/9/59 and 14/10/59, observed only in compartments of Douglas Fir (C.N.C.). Waikaremoana, 27/2/ - 6/3/59, only 2 seen (F.P.H.).
- S.I. ROBIN (*Petroica a. australis*) — Atarau, appeared plentiful (P.G.).
- FERNBIRD (*Bowdleria punctata*) — Pakiri, flourishing colony; 18/9/60, one carrying white feather (A.P., G.J.M.). Mahoenui, many in raupo swamps (W.L.M.). Tongariro National Park, 17/4/60, present in fair numbers in scrub-bog (*Dracophyllum* association) at 400ft. between

- Whakapapaiti Valley and Mt. Hauhungatahi (I.G.A.). L. Tutira, 16/5/60, 1 seen and 3 heard at north end (A.B.).
- BROWN CREEPER** (*Finschia novaeseelandiae*) — Signal Hill Rd., Dunedin, 12 on 9/7/60 (A.C.P.). Ross Creek, 3 on 22/8/59; Mihiwaka, 1 on 7/5/60 (W.T.P.). Gunn's Bush, Hunter Hills, Waimate, 12/1/60, small flocks feeding and in song (D.N.F.C.).
- WHITEHEAD** (*Mohoua albicilla*) — Little Barrier, Aug. '59, flocks up to 50 working through kanuka (R.H.B.). Minginui, monthly counts vary from 20 to 50; first flying seen in Jan.; amount of song and calling varies oddly throughout year (R.St.P.). Not observed in Karioi exotic forest, but small numbers present in adjacent indigenous forest (C.N.C.). Waikareiti track, 2/1/60, small numbers (A.B.).
- YELLOWHEAD** (*Mohoua o. ochrocephala*) — Trotter's Gorge, 2 on 20/2/60 (O.C.).
- GREY WARBLER** (*Gerygone igata*) — Clevedon, 4/10/59, one taking fibre from a tree-trunk readily accepted human hair when it was hung in the tree (M.J.B.). 22/10/59, one eating cooked rice put out on lawn; 3/1/60, one of three young starting to sing; 4/1/60, all three trying and improving (H.M.McK.). Gisborne, a very early nest with eggs on 25/7/60 (D.M.). Minginui, song nearly all year, but less in early winter and none from late June to late July (R.St.P.).
- SONG THRUSH** (*Turdus ericetorum*) — Ardmore, winter nesting; nest being built on 15/6/59; 3 eggs on June 24; chicks hatched on night of July 6 (B.L.G.). Gisborne, nest with week-old chicks on 18/7/60 (A.B.). Tauranga, powerful song on 21 and 24/3/60, but not regular daily for some weeks (R.V.McL.). Minginui, song ended 7/2/60; begun again 15/4/60, faded somewhat in June and began with renewed vigour about 20/7/60 (R.St.P.).
- BLACKBIRD** (*Turdus merula*) — Minginui, singing heard from 21/9/59 to 7/2/60 (R.St.P.); seen feeding on matai Apr.-May; putaputaweta, June-July (R.St.P.). Kaimanawas, one seen at 5000ft. (F.P.H.). Kelburn, first song 26/7/59 (I.G.A.).
- HEDGE-SPARROW** (*Prunella modularis*) — Clevedon, 5/1/60, 1 juv. on wires with adult, starting to sing (H.M.McK.). Tauranga, first song heard 20/4/60 (R.V.McL.). Minginui, singing from 24/9/59 to early Feb. (R.St.P.).
- PIPIT** (*Anthus novaeseelandiae*) — Whatipu, Manukau Heads, 25+ on 6/6/60, feeding scattered over wet sand among Banded Dotterels (R.B.S., B.D.B.). North Mt. Egmont, 1 at 6500ft. on 2/3/58; Upper Waimakariri, several at Barker Bivouac at 6000ft. on 28/12/57 (D.M.). Plentiful all round Dunedin (W.T.P.).
- BELLBIRD** (*Anthornis melanura*) — Moumoukai, Clevedon, one heard occasionally near Mt. Kohukohunui. Bellbirds came to the Moumoukai bush in 1942, increased up to 1952 and spread as far as Clevedon by 1948. Now only a remnant survives (J.W.St.P.). Ohiwa Hr., present in small numbers (W.T.P.). Minginui, 1959-60, Aug., up to 40 seen daily, then 35 to 90 up to March; April, 450; May, 500; June, 30, then 3; July, 10. Food: Winter and spring, putaputaweta fruit; spring and summer, fuchsia flower and fruit, cicada and other insects, wineberry; autumn, fruit of *coprosma lucida*, matai and puta-

- putaweta. The last was a great stand-by to several species after a storm destroyed the fruits of the higher trees (R.St.P.). Motikio, Gisborne, 15/7/60, first one seen for many years (R.A.C.). Palmerston North, Aug. '59, several (I.G.A.). Kaimanawas, 1-8/3/60, 'belling' about the 'desert' and lower bush, but not in the higher bush (F.P.H.). About Dunedin and on Stewart I., many (W.T.P.). Adams-Wanganui rivers, South Westland, Jan. '59, plentiful (D.M.).
- TUI** (*Prothemadera novaeseelandiae*) — Kaipara Flats, Dec. '59, seen daily eating 'Irish Peach' apples; April, eating 'Delicious' apples (F.P.H.). Ness Valley, Clevedon, 22/3/60, 13 eating kahikatea fruit (W.L.M.). Minginui, 1959-60, Aug.-Nov., most seen daily each month, up to 40, 50, 100, 100; Dec.-March, 50 to 80; Apr., 450; May, 500; June, 20, then down to 1. A storm destroyed most of fruits; July, 1, then 4. Foods: In their seasons, putaputaweta fruit, kowhai and fuchsia flower, cicada and other insects, fuchsia fruit (konini) and matai. Song throughout year, but less in early winter (R.St.P.). Adams-Wanganui R., South Westland, Jan. '59, plentiful (D.M.). Akatore, 2 on 10/10/59 (K.K., L.E.W.). Stewart I., very common; one seen to catch, chew and reject a Magpie Moth (W.T.P.).
- STITCHBIRD** (*Notiomystis cincta*) — Little Barrier, 12/7/59, 6 seen on Thumb Track; 29/8/59, 9 on Summit Track (R.H.B.).
- SILVEREYE** (*Zosterops lateralis*) — Clevedon, 5/1/60, 1 young starting to sing (H.M.McK.). Minginui, '59-'60, Aug.-Dec., scarce, often none seen; Jan.-Feb., up to 30; Mar.-May, c. 150; June, 60; July, 40. Food noted: Feb., blackberry and wineberry; June, putaputaweta and patete fruit (R.St.P.). Moerangi, top of Hauhungaroa Range, mid-May '59, great numbers; Kaimanawas, 1-8/3/60, at 3450ft., two broods were flushed from their nests (F.P.H.). Dunedin, common 9/7/59; Stewart I., Dec. Jan., common and well spread (W.T.P.).
- GREENFINCH** (*Chloris chloris*) — Minginui, '59-'60, very scarce; but up to 40 May-June (R.St.P.). Dunedin, form the largest part of flocks of mixed finches; up to 600 on grass-seeds during July '59 (W.T.P.).
- GOLDFINCH** (*Carduelis carduelis*) — Moumoukai, Clevedon, flock of c. 30 living about hilltop all winter (J.W.St.P.). Auckland Domain, 9/5/60, eating dry seeds of pohutukawa (R.B.S.). Minginui, Aug.-April, odd birds sometimes; May, c. 600, 500 being in one flock; June, c. 500, then down to c. 100; July, 40. Food noted: seeds of dandelion, thistle, ragwort, giant groundsel (R.St.P.). Kaimanawas, 1-8/3/60, a large flock passed over at 4800ft. (F.P.H.). Dunedin, small parties common in autumn and winter (W.T.P.).
- LESSER REDPOLL** (*Carduelis flammea*) — Muriwai lakes, usually a few; evidently breeds (R.B.S.). Clevedon, 1 on 1/9/59 (A.J.G.). Mangatangi, 1 on 25/10/60 (R.B.S.). Minginui, erratic as usual; odd birds and small lots; but flocks Oct., up to 30; c. 300 in April; 30-40 in May (R.St.P.). Field's Track, Tararua, 3/7/60, group of five seen at 4200ft., above snowline. (I.G.A.). Mt. Stewart, Upper Waimakariri, 31/12/57, abundant to 4500ft. Adams R., South Westland, Jan. '59, numerous (D.M.). Dunedin, winter flocks up to 300 (W.T.P.).
- CHAFFINCH** (*Fringilla coelebs*) — Moerangi, West Taupo, mid-May '59, in cut-over bush a continuous loose flock for miles (F.P.H.).

Dunedin, second in number only to Greenfinch in winter flocks of mixed finches (W.T.P.).

YELLOW HAMMER (*Emberiza citrinella*) — Little Barrier, Sept. '59, several about bush fringe and flat (R.H.B.). Middlemore, 19/8/60, one starting to sing (R.B.S.). Tauranga, still singing freely, 23/2/60; Moerangi, in cut-over bush, mid-May '59, a continuous loose flock for miles (F.P.H.). Minginui, odd ones only, but flock of 50 in March; none Nov.-Dec., so apparently does not breed locally (R.St.P.). Dunedin, about 10% of mixed flocks of finches on seeds in winter (W.T.P.).

STARLING (*Sturnus vulgaris*) — Minginui, up to 100; but very few in Feb. No large flocks this year (R.St.P.). Tauranga, in summer up to 2000 roost at Waimapu Inlet (M.H.). Wellington Peninsula, 1938-1956, first young invariably fledged third week of November. Fledging up to 14 days earlier at Upper Hutt, 20 miles away, 1956-1960 (H.L.S.).

MYNA (*Acridotheres tristis*) — The invasion of the Coromandel Peninsula appears to be complete; 200+ on Thames rubbish tip on 30/8/60; 40 round a chicken run at Whitianga on 31/8/60; present at all settlements (R.B.S.). Minginui, increasing; up to 14 in one flock (R.St.P.). Levin, 1 on 5/4/60 (R.H.B.). Naenae, Lower Hutt, 4 reported seen on 29/5/60 (I.G.A.). Bay of Plenty, still increasing; flocks of up to 100 seen; often feeds on beaches. (R.V.McL., W.T.P., M.H.).

BLACK-BACKED MAGPIE (*Gymnorhina tibicen*) — Otane, 1 on 25/3/60; Levin, 1 on 7/9/60 (D.M.).

WHITE-BACKED MAGPIE (*Gymnorhina hypoleuca*) — Maungaturoto, 4 in township; Brynderwyn, 10 on farm, 5/3/60; Tauranga, so far not known here (R.V.McL.). Whakatiri, Clevedon, 11/7/59, party of 8 reported by Mr. F. Luke (H.R.McK.). Kaimanawas, head of Waiotaka R., 3 in tussock country at 4000ft. on 3/3/60 (F.P.H.). Orongorongo Valley, 3 at Bain's Hut, 6/2/60, Greenlaw Hut, 2500ft., up Waimakariri R., 1 on 23/12/57 (D.M.).

KOKAKO (*Callaeas cinerea wilsoni*) — Moumoukai, Clevedon, '59-'60, numbers maintained but song has decreased in last few years (J.W.St.P.). Tauranga, Oropi Bush, reliably reported present (R.V.McL.). Motu R., Gisborne, Feb. '60, party of 12 reported on three occasions by J. H. McKay (A.B.).



ANNUAL LOCALITY REPORTS

FIRTH OF THAMES

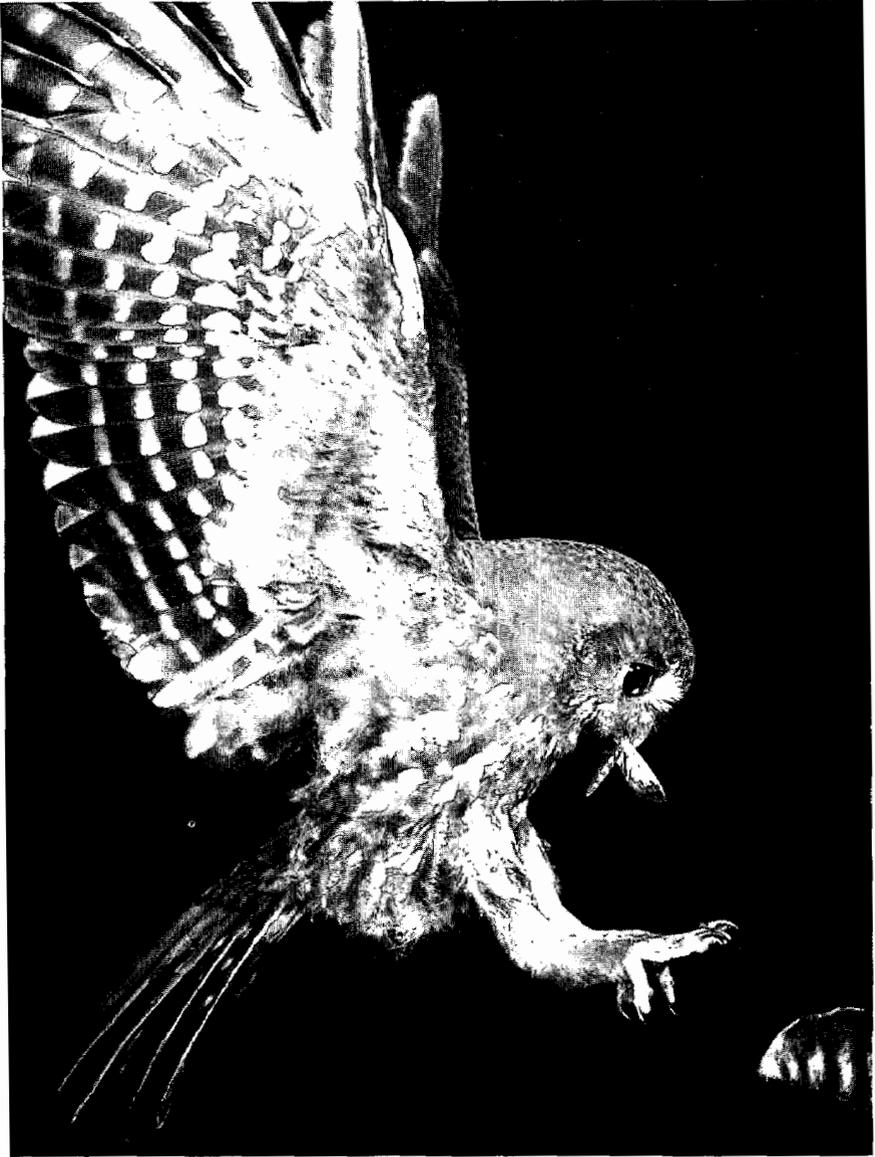
LITTLE BLACK SHAG — 10 on old wharf at Thames on 13/8/59.

SPOTTED SHAG — These continue to visit the Wharekawa coast. 48 at Tarata Pt. on 12/9/59 (A.J.G.); 3 on 15/7/60.

WHITE-FACED HERON — Frequently seen among the mangroves at Kaiaua and Miranda. Evidently nesting inland.

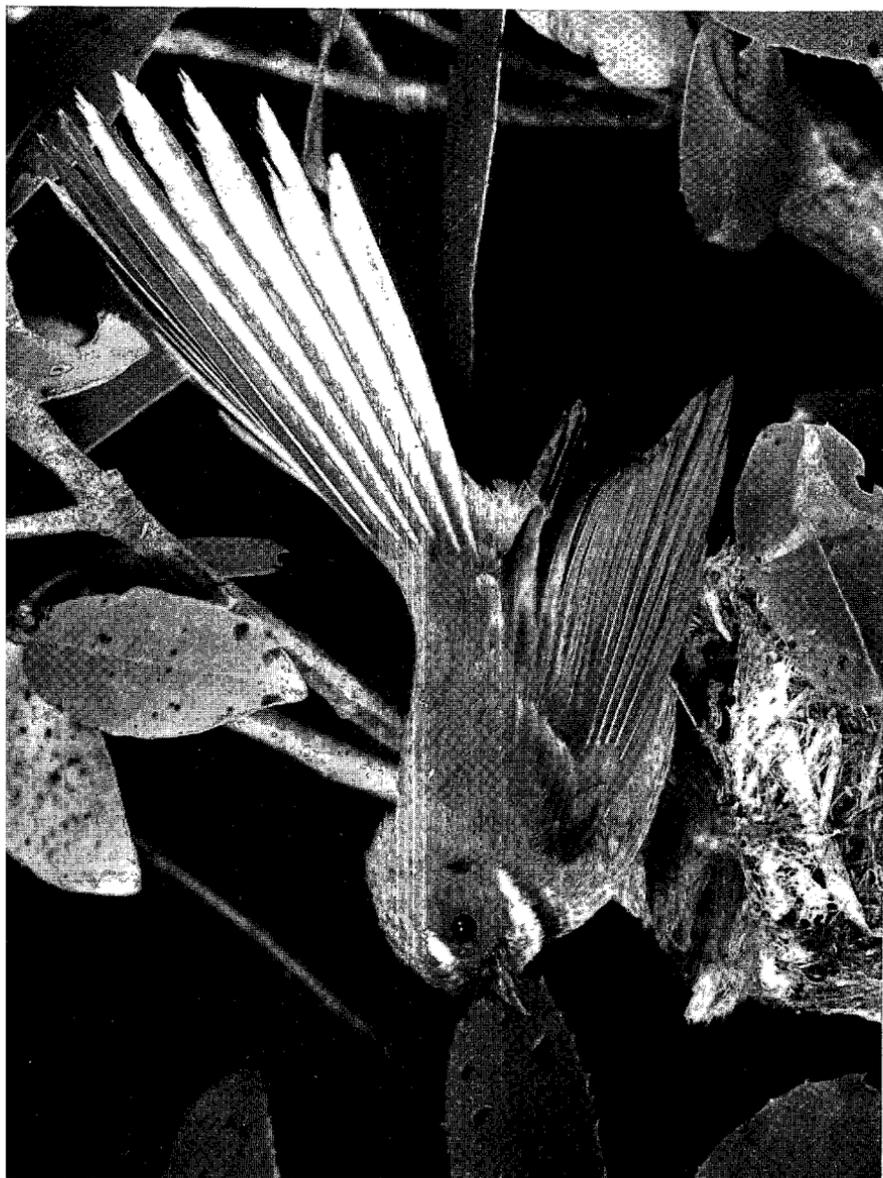
BLUE HERON — A rare bird on the west side of the Firth. 1 at Kaiaua on 16/4/60 and 12/6/60.

- ROYAL SPOONBILL — 1 seen several times near Miranda between April and 21/8/60, once even on the pools. Later 3 reported (J.P.).
- SHOVELER — 3 on Miranda pools on 30/1/60, 4 at Miranda on 15/7/60, 3 being drakes in finest plumage.
- S.I. PIED OYSTERCATCHER — 111+ on 13/11/59 at Kaiaua; 123 on 6/12/59. As usual numbers built up during January. 500+ on 1/2/60; c. 600 on 20/2/60; c. 700 on 20/3/60; c. 650 on 16/4/60; c. 500 at Kaiaua, which is their favourite beach, on 12/6/60; 100+ on 21/8/60. 7 at Thames on 29/8/60.
- VARIABLE OYSTERCATCHER — 1 *reischeki* type between 22/8/59 and 6/12/59; one or two black oystercatchers e.g. 2 on 20/1/60; 1 on 21/8/60, were usually to be found. Since observations began along the Kaiaua-Miranda coast twenty years ago, there has been no hint of breeding.
- ASIATIC GOLDEN PLOVER — c. 105 on 6/12/59 at Waitakaruru (68 at Piako may have been part of this flock) and 100+ 31/12/59; 32+ on 30/1/60. The 'difficult' southern shore of the firth is favoured by these plovers. None could be found on 16/4/60.
- BANDED DOTTEREL — Now reduced to the status of scarce breeding bird, perhaps 3 prs., between Kaiaua and Miranda. 1 nest with 3 eggs on 21/9/59; 18 on 6/12/59, summer census, showed post-nuptial influx was starting; but one breeding pair on 30/12/59, probably had small young hidden; 200+ on ploughland at Waitakaruru and Kairito on 1/1/60 and c. 250 (90% adults) on 10/1/60 in a turnip field; one doing a subdued screaming like an animal in pain and a crouching run, a distraction display as if it had young hidden there; 19/1/60, 50+ at old limeworks and 170+ at Kairito; c. 200 on 2/2/60; c. 180 on 20/2/60 including a male in full plumage; none seen Kaiaua-Kairito on 16/4/60 and 12/6/60; c. 8 on Miranda pools on 27/8/60.
- RED-BREASTED DOTTEREL — Occurs casually from Kaiaua-Kairito, three being the biggest number seen together. A pair had 3 eggs at Kaiaua on 13/11/59, but the nest came to grief. Nesting on this coast is rarely successful.
- LARGE SAND DOTTEREL — After a gap of nearly five years one was found in a cultivated paddock at Kairito on 1/1/60 (v. *Notornis VIII*, 232 and 251-252) where it was studied by several observers up to 20/2/60 and photographed by D.A.U. and J.P. It seemed definitely to prefer the company of Wrybills to that of Banded Dotterels.
- WRYBILL — Small numbers of non-breeders throughout the spring near White Bridge viz: 19 on 5/11/59; 13 on 6/12/59; 23 on 27/12/59. After Christmas numbers increased rapidly. c. 430 on 31/12/59; c. 880 on 5/1/60; c. 1500 on 2/2/60; c. 2500 on 2/3/60; an immense flock of c. 3000 in the air over Kairito and up and down Wrybill reach for about two hours around full tide, a brilliant exhibition of sustained and controlled flying *en masse*, on 12/6/60. c. 250 on 15/7/60, 124 on 27/8/60; c. 300 on 25/9/60 at White Bridge, which seems to be attracting more Wrybills each year.
- LONG-BILLED CURLEW — 14 (? 17) on 6/12/59; 14 on 5/1/60; 15 on 24/1/60; 6 on 30/1/60; 4 on 1/2/60.



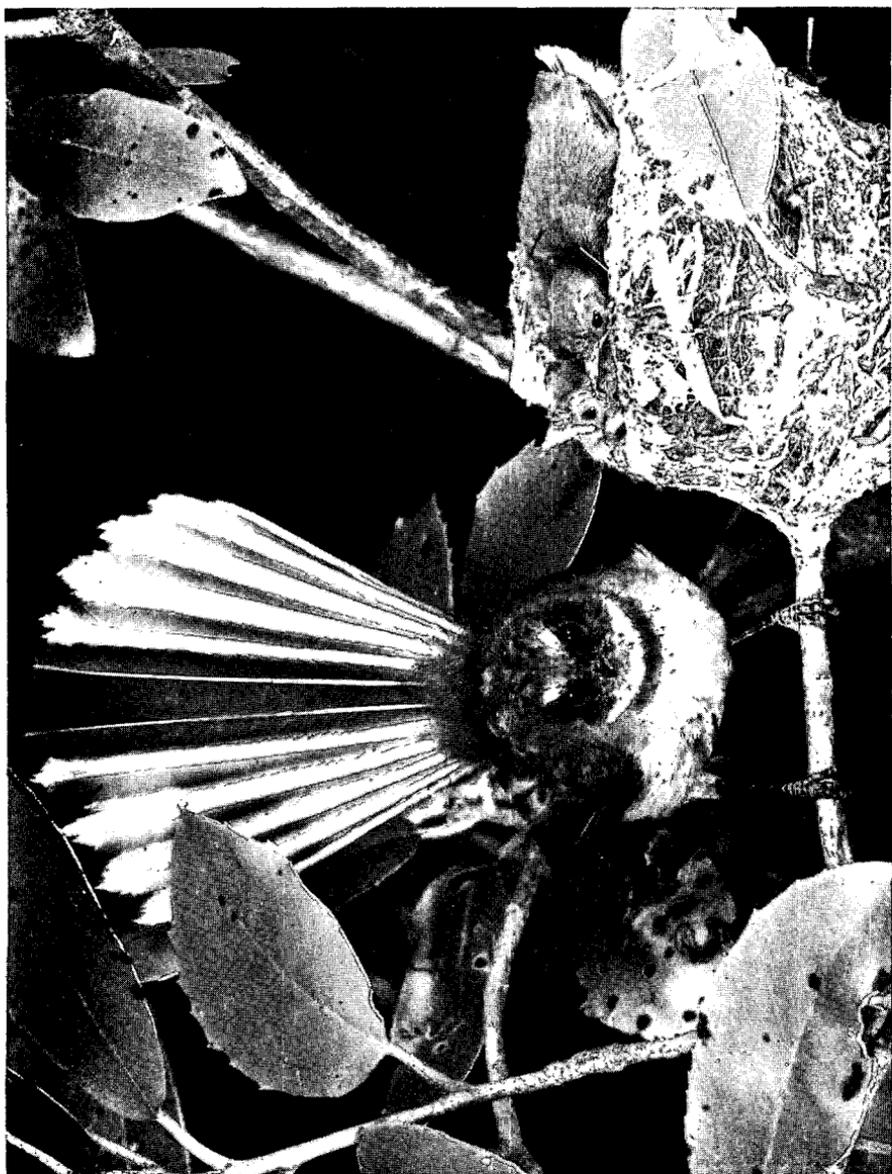
[G. J. H. Moon

XVII — The camera reveals the beauty of a Morepork's underwing, as it returns to its nest with a moth.



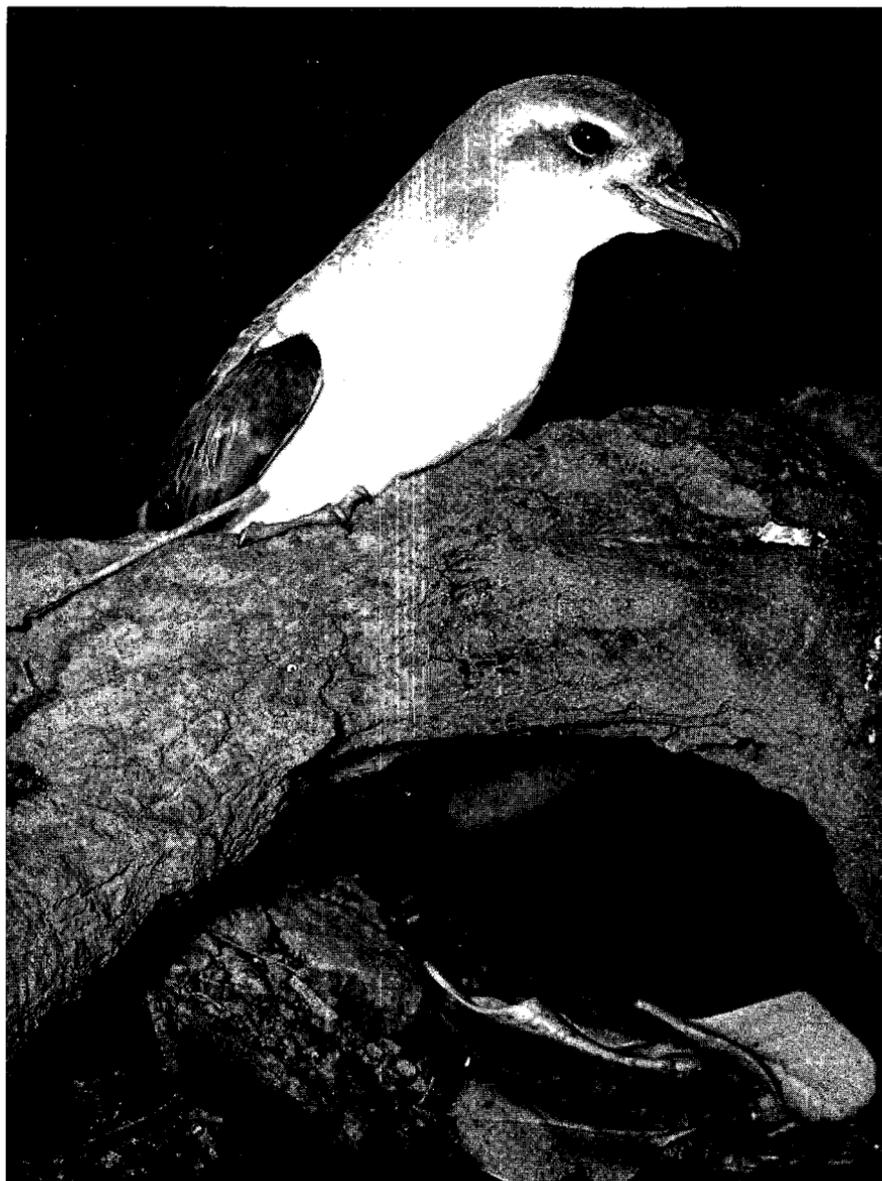
[G. J. H. Moon

XVIII—The common Fantail is not an easy subject for photography. These portraits of the North Island race (**placabilis**) were obtained near Warkworth.



[G. J. H. Moon

XIX—North Island Fantail. Note the frayed tips of the tail-feathers. These photographs may be compared with Fleming's sketches (N.Z.B.N. III, 189).



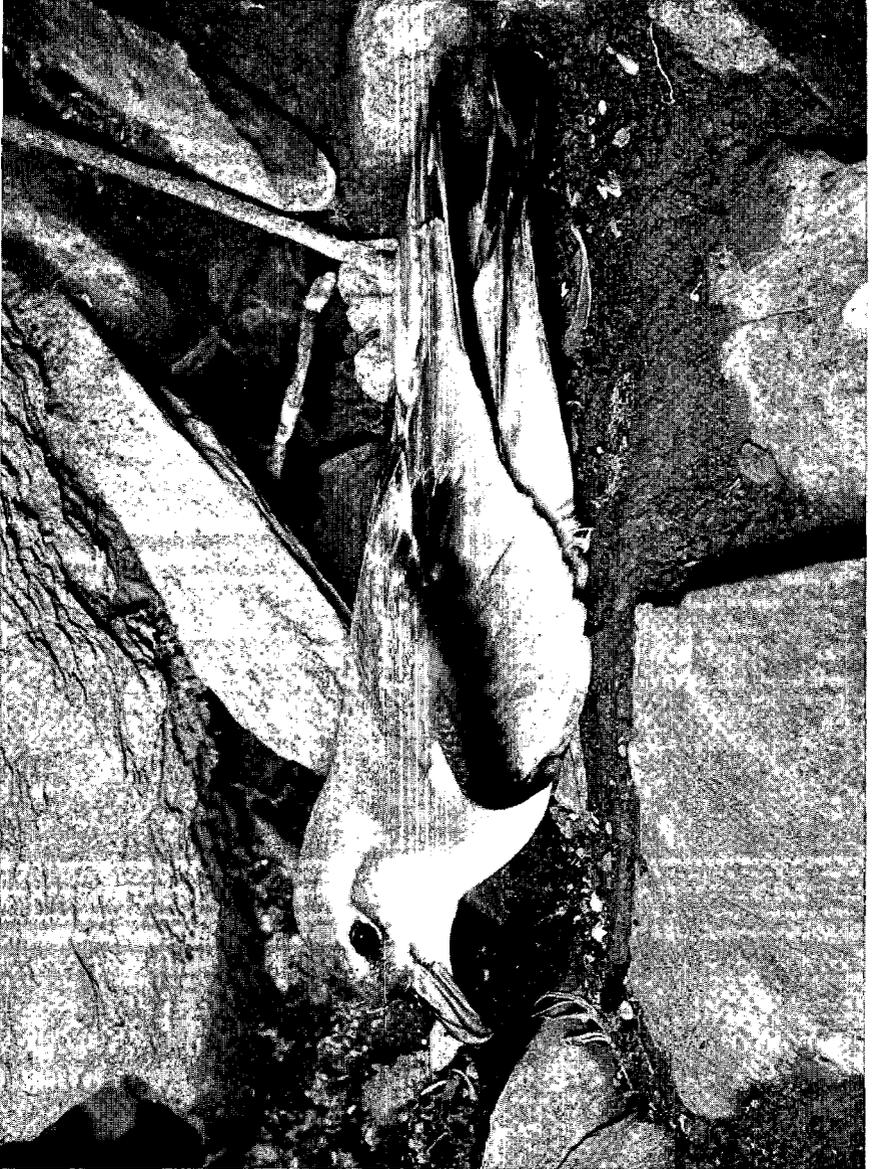
F. C. Kinsky

XX — Fairy Prion returning to its nest on Middle Trio Island, Cook St. When B. D. Bell and F. C. Kinsky visited this islet in October, 1960, many sea-birds were banded and a unique series of nocturnal photographs was obtained.



[Photo by F. C. Kinsky

XXI — Immense numbers of Fairy Prions breed on some of the islets of Cook St., where they may commonly be seen at sea. Storm-wrecked specimens come ashore at all seasons on the long west coast of the North Island.



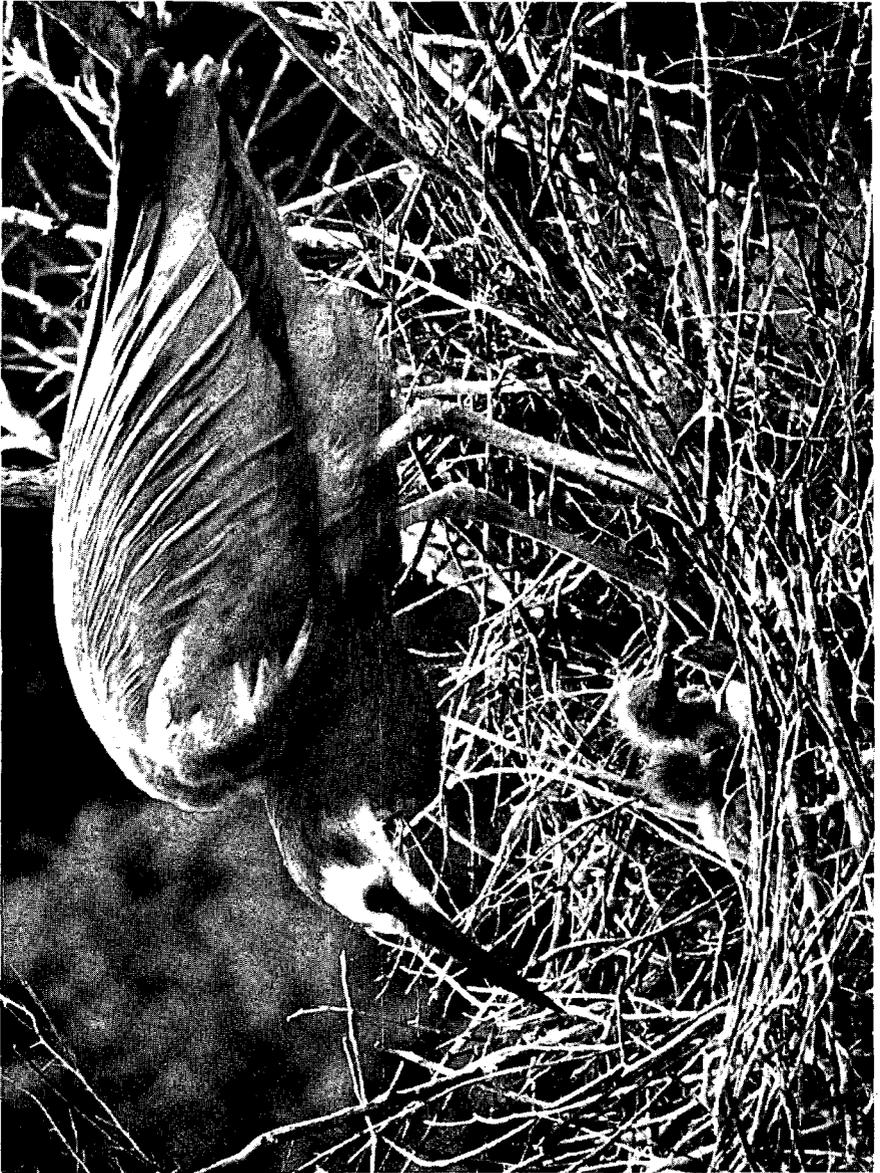
[F. C. Kinsky

XXII — Fairy Prions nest in holes and crevices among the rocks rather than in burrows in soft soil.



[F. C. Kinsky

XXIII — Where shearwaters, petrels and prions nest in great numbers, their nocturnal scurrings almost denude the forest-floor of its lesser vegetation.



[G. J. H. Moon

XXIV — White-faced Heron at its nest in Northland. The spectacular spread of this Australian heron in the last twenty years throughout New Zealand has been well documented in **Notornis**.

- WHIMBREL — 2 at Piako on 6/12/59; 1 at Kairito on 12/6/60.
- BAR-TAILED GODWIT — c. 870 on 21/9/59, mostly having wintered, perhaps a few newly-arrived migrants. On 6/10/59, c. 3000 seen to come down out of a heavy overcast sky in mobs of 300-400 into a marshy paddock; just arriving? (A.T.). Summer census, 9215, on 6/12/59. Some thousands throughout autumn, but only c. 300 on 16/4/60, probably more between Waitakaruru and Piako, but none at Kairito. 460+ on 12/6/60, some at each roost, Kaiua to Kairito. Wet paddocks west of Miranda pools were often visited during the winter.
- ASIATIC BLACK-TAILED GODWIT — 3 (?5) on 10/10/59; 6 on Miranda Pools on 24/10/59 (v. *Notornis VIII*, 225), 8/11/59 and 6/12/59 (census). One disappeared. 5 on 30/12/59 and up till 2/3/60, when 2 were reddening. 1 at Kaiua on 19/2/60. 3 on 16/4/60 richly rufous, at Coxhead's Creek. 1 among Pied Stilts at Miranda Pools on 3/9/60, with some rufous on chest. All seen were critically examined. No Hudsonian Godwit could be found.
- TURNSTONE — 16 on 24/10/59; c. 56 at Kairito on 31/12/59, the biggest flock so far recorded on this coast; 41 at Kaiua on 5/1/60; 30 on 30/1/60 at Kairito; 17 on 16/4/60; 12 on 12/6/60.
- KNOT — c. 200 on 21/9/59 had probably wintered in N.Z. c. 6600 on 6/12/59, summer census, but curiously few in late summer, unless they were on the Piako-Waitakaruru stretch. 200+ on 20/2/60, at Kaiua; none at Miranda. 16/4/60, none Kaiua-Kairito; nor on 12/6/60.
- SHARP-TAILED SANDPIPER — 10 on Miranda pools on 10/10/59; c. 20 on 24/10/59 and throughout summer, 23 on 31/12/59; 25 on 24/1/60; 21 on 2/2/60; 16+ on 20/2/60; none on 16/4/60. As a change from Miranda pools, several often resorted to the Kairito turnip-field, which had its damp patches.
- RED-NECKED STINT — Only one throughout the spring; 2 on 31/12/59; 5 on 24/1/60; 4 on 2/3/60; 1 on 30/9/60; 3 on 25/10/60.
- CURLEW SANDPIPER — 2+ on 6/12/59 and 6+ on 31/12/59 at Waitakaruru. Varying numbers frequented the Kairito turnip-field, max. 9, on 24/1/60 and 30/1/60. One on 5/1/60 was curiously red for the season. 3 on 20/2/60.
- BROAD-BILLED SANDPIPER — The first to be recorded in New Zealand was studied by several observers in the vicinity of Kairito Creek between 5/1/60 and 1/3/60. It was photographed by D.A.U. and J.P. (v. *Notornis VIII*, 233-235 and 252-254).
- PIED STILT — Kaiua to Miranda 262+ on 22/8/59, including a non-breeding flock of c. 230. 4 nests examined contained 4, 4, 4, 3 eggs. Summer census, 397 on 6/12/59. Winter count Kaiua to Kairito, 2238 on 12/6/60. 5 on nests at pools on 21/8/60, also c. 210 non-breeders. 6 on nests at Kairito on 3/9/60. An almost black stilt, but with some white on face and speckled underparts, was noted on 20/2/60, 2/3/60 and 16/4/60.
- ARCTIC SKUA — Usually present throughout summer. 3 on 16/4/60; 1 off Kairito shellbank on 12/6/60.

BLACK-BILLED GULL — c. 220 on 22/8/59; c. 50 on 26/9/59; 20+ on 24/10/59; 7+ on 6/12/59 and perhaps 50 at Parawai; 4 on 19/1/60. A few immature non-breeders may be expected now in summer. c. 250 on 16/4/60; 50+ at Kaiaua and c. 500 at old works on 12/6/60; c. 750 on 15/7/60.

CASPIAN TERN — 25 on 22/8/59; 36, census, on 6/12/59; 37+ only, Kaiaua - Kairito on 12/6/60.

WHITE-FRONTED TERN — As usual the colony on the big shellbank near the road-corner had its ups and downs. On 5/11/59, 3500+ terns were present, spread over c. 200 yds. and 10 eggs were found. On 13/11/59 only c. 500 birds were present; there were a few scattered eggs and many had been eaten by gulls. On 6/12/59, numbers had again increased to 1050 and another 1000 were resting on a shellbank. There were c. 1200 eggs, but big tides at the end of the month washed many of these out. On 5/1/60 there were hundreds of chicks; 1 flying from an early laying, and many new eggs. Terns could be seen fishing all over the firth. On 19/1/60 1000+ chicks and a few nests still with eggs. On 24/1/60 450+ fledglings and 91 dead, abandoned. On 1/2/60 only c. 315 adults. The fishing was hard and some were seen heading for the colony carrying fish from ten miles up the coast. 16/4/60, Kaiaua-Kairito, 100+; 12/6/60 c. 50. Some hundreds back and noisy on breeding ground on 29/8/60.

TERN (Sp.?) — Tiny *albifrons*-like terns are now expected as part of the summer scene between Kairito and Waitakaruru. 8 on 6/12/59, at least one appearing to have the markings of a youngster only a few months old. 5 on 19/1/60. Behaviour as described before (v. *Notornis VII*, 174-182).

WHITE-WINGED BLACK TERN — One, first found on the Miranda pools in Feb., 1959, was still visiting them in Sept. '60. A second in quite different plumage, was sitting among White-fronted Terns at Kaiaua on 16/4/60. It was not found again (v. *Notornis IX*, 63-64).

YELLOWHAMMER — This coast is a favourite winter haunt of the introduced European passerines. On 12/6/60, Yellowhammers were in such numbers, probably 1000+; that perhaps they deserve special mention.

— H.R.McK., R.B.S.

MANUKAU — (a) UPPER MANUKAU

Despite industrial pollution and continued reclamation around the fringes, especially near Westfield and Otahuhu, the creeks and tidal reaches above the Onehunga-Mangere bridge remain a fruitful feeding-ground for great numbers of gulls and waders.

S.I. PIED OYSTERCATCHER — 35 on 10/12/59 at Tararata Creek, which now seems to be a regular summering-ground for non-breeders; c. 112 on 19/12/59; 5 on rocks at Waikaraka on 10/7/60.

BAR-TAILED GODWIT — 2000+ throughout spring '59; 3000+ at Harania Ck. on 7/1/60; plentiful throughout autumn; very few during winter; 2000+ in air at full tide in gusty weather on 4/10/60; and many more flying across the isthmus to Hauraki Gulf beaches.

- HUDSONIAN GODWIT — One clearly seen at Pikes Pt. on 8/11/59 and at Harania Ck. on 22/1/60. A black-tailed godwit was seen leaving Harania Ck. with Bar-tails on 26/3/60; but the colour-pattern of the undedwing was not noted, despite intense watching.
- KNOT — c. 80 on 8/10/59; 150+ on 8/11/59; 1000+ on 13/12/59 and 7/1/60; plentiful during autumn, not noted during winter. A few on 4/10/60.
- PIED STILT — Some hundreds of non-breeders throughout spring. c. 1000 on 13/12/60; 2000+ on 31/3/60 at Harania Ck.; 1200+ on 11/5/60 on grass of Waikaraka Park; c. 2200 for the whole area on 10/7/60, when the winter census was taken; but many had by then moved away to breeding grounds.
- RED-BILLED GULL — On 20/4/60, 20,000 estimated in view of Favona causeway, Harania Ck.; and on 27/4/60, 30,000 from Onehunga-Mangere Bridge. All examined, of 1000+ at Harania Ck. on 13/10/60, had the dusky bills and legs of immature (yearling?) birds.
- WHITE-WINGED BLACK TERN — Once again one was present in or near Harania Ck. during the summer, being reported several times between 22/10/59 and 22/1/60. Even on 10/12/59 it was still quite black underneath, like a bird in breeding dress.

— R.B.S.

MANUKAU — (b) PUKETUTU - IHUMATAO

This has been another year of change in that corner of Manukau which is now controlled by the Auckland Metropolitan Drainage Board. Throughout the summer the shallows and dry flats surrounding the four large man-made pools (v. *Notornis VIII*, 221 for map) proved attractive — despite periodic spraying of the edges — to a great variety of waders and wild fowl, both for feeding and resting undisturbed when the rising tide outside the embankments drove them off the flats. Generally speaking, Teal Pool, which was most heavily sprayed, was avoided by ducks and waders, though the winter rains evidently 'purged' it and in July, Pied Stilts, Banded Dotterels and Wrybills were again feeding in such shallows as remained. Ascot and Spoonbill pools seemed to recover quickly from light spraying. L. Oruarangi appears to have been little affected, and the smaller waders were happy there when Spoonbill pool was temporarily 'poisoned.' In February and March, when the water was low, the population of ducks was estimated to be nearly 1000; but most of these left rather abruptly; and curiously few have since been present. However, Black Swans from the huge flock which feeds on the eel-grass (*zostera*) off Ihumatao have moved in. At one time, after spraying, they were the only waterfowl which could be found on Teal Pool, where they fed eagerly on weed pulled up from the bottom of the seepage area as the water deepened.

The most significant change has come from the raising of the water-level and the permanent submerging of old shellbanks, which have long been used by waders, terns and gulls as high-tide roosts. For instance on Spoonbill Pool, Chinky Spit is beneath the waves; and since May there has been nowhere where waders could gather or stilts could forage comfortably. The deeper water will have helped the trapped fish, which continue to attract numerous shags of four species. Elsewhere all remaining shallows were at a premium and seepage areas

in the corner of Ascot Pool (Bull Bay) and along the edge of Oruarangi were eagerly sought by waders and the few dabbling ducks that stayed. It is understood that these shallows, too, are doomed soon to disappear.

The winter's rains were capped by nine inches in September and after the flow of partly purified sewage began on Sept. 24th, it was possible to form some idea of the ultimate shape and size of the four oxidation pools. It will be interesting to see how the displaced birds adjust themselves to the changed conditions. Local ornithologists will be watching the first months of 1961 with some anxiety. There are fortunately still plenty of feeding grounds and roosting places for waders on the Auckland isthmus, but it will be something of a tragedy if the waders are forced to desert an area which has proved so attractive in the past.

It is perhaps worth mentioning that electric power-lines along the original causeway claimed numerous victims during the year; among which were three Wrybills, a Turnstone, a Knot, a S.I. Oystercatcher and several Stilts, Godwits and Black-backed Gulls.

LITTLE BLACK SHAG — Increasing numbers on Spoonbill Pool challenged the dominance here of Little Shags e.g. 11 on 10/7/60 and 24 on 8/9/60.

BLUE HERON — Up to 3 seen. They like the rocks on the seaward side of the massive new embankments.

WHITE-FACED HERON — Elusive during the breeding season, after which either the local breeders become more obvious or else there is an influx. 5 on 14/1/60; 8 on 28/1/60 on Spoonbill Pool; 33 on 10/7/60 at Ihumatao.

BLACK SWAN — Increasing numbers visited the pools as the water-level rose. 60+ on Teal Pool on 17/3/60, remaining when other waterfowl vanished. 100+ over the winter scattered over the four pools.

GREY-TEAL — 2 on Spoonbill Pool on 7/3/60. 2 on 20/3/60 on L. Oruarangi.

SHOVELER — 3 drakes on 26/10/60. Fairly numerous in January and February among Gray, Mallard and Mallard-Gray hybrids, especially on Ascot and Spoonbill Pools. None noted during the winter.

S.I. PIED OYSTERCATCHER — 120+ on 30/10/59 and throughout early summer. Influx noted as usual in January. 200+ on 14/1/60; 700+ on 28/1/60; 1000+ on 28/3/60; c. 1500 on 11/5/60 and at big tides throughout winter; 440+ on 15/8/60, 300+ on 26/8/60; c. 160 on 9/9/60.

VARIABLE OYSTERCATCHER — A single very big, *reischeki*-type oystercatcher was seen on numerous occasions between 23/10/59 and 28/8/60. Wholly black oystercatchers were noted as follows:— 1 on 25/1/60; 4 on 11/4/60, 25/6/60 and 10/7/60; 2 on 28/8/60 and 9/9/60.

PACIFIC GOLDEN PLOVER — 16 on 23/12/59; 18 on 23/3/60.

BANDED DOTTEREL — 4+ on Chinky Spit on 30/10/59, and 23/12/59, apparently not breeding, though the ground was suitable;

c. 20 on 23/12/59 in Bull Bay, attracted by a seepage; c. 150 on 14/1/60 (90% adult); 200+ on 6/4/60; 300+ on 25/6/60; c. 330 on 10/7/60, many again feeding among the shrinking shallows of Teal Pool, which has not been to the liking of waders since it was heavily sprayed.

RED-BREASTED DOTTEREL — 1 in Bull Bay on 14/1/60, a very rare bird at Puketutu.

WRYBILL — 6 still present beside Spoonbill Pool on 30/10/59. 250+ back on 14/1/60; 490+ on 17/3/60; 500+ on 6/4/60; c. 650 on 12/4/60; c. 700 on 25/6/60; c. 600 on 10/7/60; c. 400 on 4/8/60; 14 on 28/8/60; 3 on 8/9/60.

WHIMBREL — 2 on 18/10/59.

BAR-TAILED GODWIT — 3000+ on 30/9/59, many showing fading red. A summer census of the whole of Manukau had tallied the godwits at c. 14,500 on 8/11/59. At full tides throughout the summer the edges of Ascot and Spoonbill Pools and L. Oruarangi were visited by large flocks — viz — 6000+ on Spoonbill Pool on 23/12/59; c. 10,000 in three flocks beside the three pools on 14/1/60. On the evening of 23/3/60 there was an immense mixed flock of waders (20,000?) in the air over the pools and of these 10,000+ were godwits. It was interesting to note that one flock which kept apart consisted entirely of gray birds. On Jan. 25, one male was already red and others were reddening.

These resting grounds are now submerged, perhaps permanently. 3000+ wintering juveniles were counted on Ascot Pool on 25/6/60. On 10/7/60 godwits wintering in the whole of Manukau were tallied at 3550+.

HUDSONIAN GODWIT — Three sightings of single birds, perhaps all of the same bird, always near the edge of flocks of Bar-tailed Godwits viz:— 23/12/59; 14/1/60; 25/6/60; the last another instance of over-wintering.

ASIATIC BLACK-TAILED GODWIT — Excellent views of two on 14/1/60 beside Spoonbill Pool, with a Hudsonian Godwit not many yards away. The two *melanuroides* flew together; *haemastica* did not join them. Single black-tailed godwits imperfectly seen on 23/3/60 and 10/4/60 appeared to be *melanuroides*; one reddening on 6/4/60 definitely was.

TURNSTONE — 11 on 30/10/59; 40+ on 28/1/60 in their traditional haunt among the ostriferous rocks of Bull Bay; 42 on 27/2/60; c. 40 on 23/3/60 with Wrybills; 2 on 6/4/60; 3 on 12/4/60.

KNOT — None with a flock of c. 2500 godwits on 26/10/59 at Spoonbill Pool; a few on 23/12/59; c. 1000 on 14/1/60; c. 8000 on 23/3/60 beside L. Oruarangi, the majority showing red; 500+ on 25/6/60 feeding hard in a soft seepage area in Bull Bay; some being very red; most showing some red. On 10/7/60 a winter census gave a total of 3600+ Knots over the whole of Manukau.

SHARP-TAILED SANDPIPER — 5 on 23/10/59; 7 on 30/10/59; 9 on 31/10/59, all beside Spoonbill Pool, but spraying evidently spoilt the shallows which they favoured. Only odd birds during the summer; but in autumn 4 on 25/2/60; then 9 on 17/3/60, among Wrybills beside L. Oruarangi, getting into fine breeding plumage; 8 on 23/3/60, mostly with flecked underparts and legs much yellower.

CURLEW SANDPIPER — One on Chinky Spit on 26/10/59, was still in bright breeding plumage, quite the reddest Curlew Sandpiper seen at this date in N.Z. 3 on 14/1/60 in Bull Bay; 2 beside L. Oruarangi near Wrybills and 2 in a shallow runnel off Spoonbill Pool, very pale specimens with pure white underparts, on 2/3/60; 4 on 5/3/60. 1 in Bull Bay, bathing and preening in rain pools on 25/6/60. There are few proved instances of over-wintering in N.Z.

RED-NECKED STINT — One on Chinky Spit with other small waders on 26 and 29/10/59; 1 on L. Oruarangi 25/2/60; 2 on 27/2/60 and 9/3/60; 1 on 27/3/60; 1 on 11/6/60.

PIED STILT — Encouraged by the attractive conditions — spraying excepted — which prevailed during the spring, at least 12 pairs nested in the Puketutu bays of Spoonbill Pool. On 30/9/59 five nests with eggs were seen and on 3/10/59 6 nests with c. 4 and 3 with c. 3 were checked. 2 nests still held eggs on Oct. 30. Apparently about 20 youngsters reached the flying stage. Breeding success must have been affected by the spraying of what was called a 'poisonous emulsion' early in November. Much later a few pairs nested successfully on the other side of Puketutu in the shallows of L. Oruarangi (v. p. 106). The rise of the water-level effectively prevented the use of these two areas for breeding in the spring of 1960.

Some hundreds of non-breeders remained on the pools, and Stilts that had bred elsewhere were moving back before midsummer. On 23/12/59, c. 600 were feeding around the edges of Spoonbill Pool alone. The influx continued and on the evening of 6/4/60, c. 4000 were estimated to have gathered in the many acres of shallows which were formed as the water-level of Spoonbill Pool was being raised. By the end of May, the water on this pool had so risen that there were no shallows left suitable for waders. On 25/6/60, c. 1000 were feeding along such shallows as remained on the other three pools; but when a census was taken over Manukau on 10/7/60, only 890 could be found near Puketutu, including Ihumatao. The total for the whole of Manukau on the day of the census was given as c. 4400. It should, however, be borne in mind that by mid-July many stilts have already left for their breeding-grounds elsewhere.

An almost black stilt, but with whitish face and smudgy belly, was noted on Spoonbill Pool on 18/2/60 and 2/3/60. On 23/3/60 an unusually-marked stilt, with a black band one inch wide tipping its tail, was noisily aggressive on L. Oruarangi, where it may have been one of the late nesters.

CASPIAN TERN — As usual, a few non-breeders remained during the spring. — e.g., 8 on 25/11/59. The summer influx followed a normal pattern. 40+ on 10/12/59; 120+ on 14/1/60; 150+ on 25/1/60. Numerous throughout winter. 70+ on 15/8/60; 48+ on 9/9/60, including several in full breeding dress. Former roosts are now submerged.

WHITE-WINGED BLACK TERN — An adult in breeding dress seen repeatedly over Spoonbill Pool, between 27/2/60 and 27/4/60; possibly, but not necessarily, the bird from Harania Ck. (v. supra).

PIPIT — One on earthworks at L. Oruarangi during March.

YELLOWHAMMER — Some hundreds were attracted by the grass seed which was sown over the miles of new embankments and

were present all winter. c. 50 were noted still on 18/10/60 in a loose flock, from which males would temporarily break away to sing, rather imperfectly.

— R.B.S.

MANUKAU — (c) KARAKA - PUHINUI

- BULLER'S SHEARWATER** — 1 just dead on 8/11/59 at Puhinui.
- GANNET** — 21 counted off South Manukau coast on 10/7/60. Up to 30 sometimes past Weymouth in Pahurehure Inlet.
- WHITE-FACED HERON** — Occurs on all shores and visits most ponds, but elusive during the breeding season. One on 9/6/60 had 4½ in. plumes on the back of the head. 18 the greatest number counted.
- GREAT WHITE HERON** — One at Weymouth from 31/7/60 to mid-Sept.
- LITTLE EGRET** — one at Weymouth or Karaka between 23/4/60 and 19/7/60, first noticed by J. G. Moffat, and subsequently by several observers. Bill partly yellow; one or two long slender plumes from back of crown to mantle noted on 25/4/60.
- ROYAL SPOONBILL** — 2 throughout winter up and down Pahurehure Inlet, joined by a third in September. 3 on 2/10/60 between Whangamaire and Shark Island.
- SHOVELER** — 2 at Karaka shellbank on 1/11/59.
- S.I. PIED OYSTERCATCHER** — 350+ on 1/11/59 were evidently immature non-breeders; 220+ on 8/11/59; c. 350 on 3/1/60. Only 315 on winter census out of a Manukau total of 1720+ on 10/7/60; but 1000+ on 31/7/60 at Puhinui alone.
- VARIABLE OYSTERCATCHER** — 1 *reischeki* on 3/1/60 and 2/10/60; 2 black on 1/11/59; 1 on 3/1/60.
- ASIATIC GOLDEN PLOVER** — 1 on 19/9/59; 29 on 3/11/59; 30+ on 8/11/59; 62+ on 3/1/60; c. 40 on 21/1/60; 22 on 17/2/60, 2 showing a little black on the underparts; 32 on 20/3/60, 9 almost in full breeding dress.
- BANDED DOTTEREL** — 1 pr. on 9/10/59; 4 on 1/11/59; c. 50 on 3/1/60; c. 150 on 21/1/60; 200+ on 17/2/60; 250+ on 18/3/60; 321 on 10/7/60, census.
- RED-BREASTED DOTTEREL** — 1 on 3/1/60; 2 on 17/2/60; 9 on 10/7/60, census.
- WRYBILL** — 90+ on 9/10/59; 10 on 1/11/59; 3 on 8/11/59, census; 300+ on 3/1/60; 550+ on 21/1/60; 700+ on 17/2/60; c. 830 on 21/2/60; c. 800 on 18/3/60; 950+ on 20/3/60; 1060, census, on 10/7/60; c. 80 on 2/10/60.
- LONG-BILLED CURLEW** — 1 repeatedly seen between 1/11/59 and 20/3/60.
- ASIATIC WHIMBREL** — 1 in January and up to 20/3/60.
- BAR-TAILED GODWIT** — 600+ all pale, on 19/9/59; 2700+ on 9/10/59, many showing traces of red; c. 16,000 on 1/11/59, checked with especial care; c. 7000 on 3/11/59 and 8/11/59, when summer census of Manukau was taken; 3000+ January to March. It appears that during the summer big numbers were lured away to Puketutu. 1856, winter census on 10/7/60.
- BLACK-TAILED GODWIT** — One seen at Karaka on 19/9/59; but race not determined.

GREENSHANK — During big tides at the end of January, one, which must have been feeding in Pahurehure Inlet, came into paddocks with Pied Stilts near Whangamaire (D.A.U.).

TURNSTONE — c.190 on 8/11/59; up to c. 250 during summer; c. 50 on 20/3/60. Only c. 20 during winter; census 10/7/60.

KNOT — 298 on winter census 21/6/59; only 40-50 Oct.-Nov. and 29 on 8/11/59. c. 800 on 3/1/60; c. 1500 on 17/2/60, a remarkably big mid-winter tally of c. 3590 on 10/7/60.

RED-NECKED STINT — 1 on 9/10/59 was probably the one that over-wintered. Gradually a small flock built up over the summer; 5 on 1/11/59; 8 on 3/1/60; 10 on 21/2/60; 11 on 20/3/60, 2 being richly reddened and some virtually unchanged, almost certainly first year birds. Only 1 on 10/7/60.

PIED STILT — A few pairs breed on a pool beside Oakland's Road, Karaka, e.g., c. 12 adults and at least 4 chicks on 19/9/59; c. 12 adults, 1 on nest on 31/7/60 and c. 8 prs. of adults, 1 juv. almost flying and others half-grown seen on 2/10/60.

Scarce along the Karaka coast in spring till after midsummer, viz. 5 on 1/11/59. 200+ on 17/2/60 at Urquhart's Pt. Winter census, c. 1370 on 10/7/60. 100+ on 31/7/60, Puhinui beach only.

CASPIAN TERN — c. 40 on 1/11/59. Only 12 on census 8/11/59; 18 on 3/1/60; 50+ on 20/3/60; 188, winter census, 10/7/60.

WHITE-FRONTED TERN — Greatest numbers as usual at end of breeding season, when these terns move in presumably from the west coast colonies. 20 on 21/1/60; c. 100 on 17/2/60 at Karaka shellbank or on the old jetty; 2 on 2/10/60 up Pahurehure Inlet.

TERN (Sp.?) — Once again some very small terns were present throughout the summer. It is strongly to be presumed that they are migrant *albifrons* and not *neréis*. 1 on 9/10/59; 2 on 3/1/60; 2 on 17/2/60 at Urquhart's Pt.; dark bill, tan legs, one with dark primaries and a dark shoulder patch, one without; both had white over the top towards the back of the crown; no dark from eye to bill; a third small tern looking 'old and thin' was also seen on the shellbank. 2 again on 21/2/60; 2/3/60 and 19/3/60, when one had bill partly changing colour; white 'jag' or point back to over centre of eye (as opposed to rounded white of *neréis*).

FERNBIRD — At least 6 seen or heard in the saltmarsh scrub in Kidd's Bay on 3/1/60. There seems to be a thriving colony here now; and they are not difficult to find.

— H.R.McK., R.B.S.

MANAWATU — (a) RANGITIKEI ESTUARY

PRION — 2 incomplete corpses on nearby coast on 6/12/59.

BULLER'S SHEARWATER — 1 corpse on nearby coast on 6/12/59.

SOOTY SHEARWATER — 8 corpses along two miles of coast to north on 6/12/59.

GANNET — Sometimes seen fishing around rivermouth and out to sea; 2 on 22/11/59; 6 on 20/5/60.

BLACK SHAG — Several usually present, number variable, up to 46 as on 20/3/60.

- LITTLE SHAG — Usually several present upriver from estuary, sometimes moving into estuary.
- WHITE-FACED HERON — Usually a few are present on the mudflat and by creeks; occasionally present in small flocks: c. 18 on 1/1/60, 11 on 20/5/60.
- GREY DUCK & MALLARD — A large influx of ducks in April-May, all very wary; c. 200 on 5/4/60; on 20/5/60 there were 20 Grey Ducks and 105 Mallards. Usually over 20 Mallards are present in summer.
- SHOVELER — 1 on 22/11/59; 2 on 20/5/60.
- BUSH HAWK — On 20/5/60 at Okanagon settlement, near Rangitikei rivermouth, 1 was chased out of a group of pines by 3 White-backed Magpies and continued flying in a southwesterly direction until lost to sight over the sand dunes.
- PUKEKO — Occasionally seen by creeks on the mudflats: e.g. 1 on 3/1/60.
- S.I. PIED OYSTERCATCHER — A few often present: 1 on 9/1/60 and 26/2/60, 4 on 5/4/60 and 20/5/60.
- N.I. (VARIABLE) OYSTERCATCHER — A few nearly always seen: e.g. 6 on 6/12/59, 8 on 20/5/60.
- PACIFIC GOLDEN PLOVER — 8 present by 22/11/59, 13 from 3/1/60 to 20/3/60, 8 on 5/4/60, none remaining on 20/5/60.
- BANDED DOTTEREL — Few present in the breeding season, numbers higher from January: 80 on 24/1/60, 102 on 20/5/60, c. 35 on 3/9/60.
- WRYBILL — 1 on 6/12/59, up to 12 present from January to March, 1960, c. 24 present in April-May and probably throughout winter, 23 on 3/9/60.
- ASIATIC WHIMBREL — 1 seen by I.G.A., M.J.I. and E. Dear from 22/11/59 to 5/4/60. The pale blaze up the lower back, very distinct in flight, indicated the subspecies. It was very wary. It was several times located, either alone or with godwits, by its distinctive call. This is the first whimbrel recorded from this estuary.
- BAR-TAILED GODWIT — Summer population up to c. 75 (1/1/60); c. 35 on 5/4/60; only 3 remaining on 20/5/60; 11+ on 3/9/60.
- TURNSTONE — 2 on 6/12/59, 2 on 9/1/60, 1 on 26/2/60.
- KNOT — 20 on 22/11/59. As at Manawatu estuary, only a few remained for the rest of the summer: 4 on 1/1/60, 2 on 14/2/60, 1 on 20/3/60, none seen later.
- SHARP-TAILED SANDPIPER — 3 to 4 present from 22/11/59 to 9/1/60, 1 on 14/2/60.
- RED-NECKED STINT — 7 first seen on 6/12/59; maximum of 11 in January, 1960; little change in numbers to 5/4/60, when 10 were present, of which 3 were showing some rufous on their necks; 4 on 20/5/60. One had a very red neck and rich plumage throughout January, fading by late February. Possibly at least one stayed right through the winter, as one in eclipse or juvenile plumage was present on 3/9/60.
- PIED STILT — Population fairly constant at c. 50 from 22/11/59 to 20/5/60. Little change on 3/9/60.

BLACK-BACKED GULL — A small colony breeding 1 to 2 miles north of the estuary. On 26/2/60, 6 fresh corpses (all but one of which were immature) were found on the nearby coast.

RED-BILLED GULL & BLACK-BILLED GULL — Several of each species are usually present; maximum observed were c. 30 on 20/3/60, of which the majority were Black-billed Gulls.

BLACK-FRONTED TERN — 1 juv. on 20/3/60. This appears to be the first recorded occurrence of this species from this estuary, although large numbers have been seen at Manawatu estuary.

CASPIAN TERN — Several usually present, number variable; maximum count of 28 on 5/4/60.

WHITE-FRONTED TERN — Small flocks occasionally enter the estuary.

— I.G.A., M.J.I.

MANAWATU — (b) MANAWATU ESTUARY

BLACK SHAG — Up to 60 present at the estuary in the non-breeding season, but numbers fluctuate due to local movements.

LITTLE SHAG — 1 to 3 often present.

WHITE HERON — Single birds have sometimes been seen in winter, e.g. on 8/7/58, 13/7/58, 6/5/60, 19/5/60. Others are not infrequently seen near Foxton, e.g. 3 on 11/1/58.

WHITE-FACED HERON — Small numbers present at the estuary throughout the year; up to 5 have been seen at once. A small breeding colony exists in a stand of *Pinus* about 4 miles from the estuary.

BITTERN — One seen near the mudflats on 2/4/60 and 4/7/60.

ROYAL SPOONBILL — 3 in Nov., '59; one remained throughout the summer '59-'60, others arriving for the winter during April and May to reach a maximum of 23 in July. By 27/8/60, the number was reduced to 16, some in full breeding plumage; 9 were still present on 1/10/60 and 5 on 21/10/60.

BLACK SWAN — A few occasionally present.

GREY DUCK & MALLARD — Fairly large numbers, mostly Mallards, sometimes congregate in the upper estuary in winter, e.g. c. 200 on 13/7/58, 100+ on 6/5/60.

S.I. PIED OYSTERCATCHER — Summer population c. 10 in late 1959; increasing to 30 during the northward migration from January to March, with a final winter population of c. 25, April to July. By 13/8/60 the number was reduced to 9, and to 6 on 24/9/60.

N.I. (VARIABLE) OYSTERCATCHER — Usually a few present in the estuary, numbers increasing after the breeding season, but counts vary due to movements along the coast. Maximum count this year was 12 on 24/4/60. In previous winters 25 to 30 have been present.

PACIFIC GOLDEN PLOVER — Summer population up to 24 on 14/2/60; a few in breeding plumage by 5/3/60; most still present on 2/4/60, but none remaining on 24/4/60. 3 return migrants on 1/10/60 showing much broken black on their under surfaces.

BANDED DOTTEREL — Greatest numbers up to 200+ in February to May, then dispersing gradually for the breeding season. 19 remaining on 28/8/60.

- WRYBILL** — A high count of 29 on 3/10/60 may have represented late southward migrants. Up to 24 present from January to early April, 1960; fewer after this, with a mid-winter population of c. 13 on 4/7/60; further decrease to 5 on 28/8/60; 14 on 1/10/60.
- WHIMBREL** — One was seen on 10/1/60 by I.G.A. and M.J.I., but remained on a mudflat on the opposite side of the river from the observers, and could not be approached or put to flight. The subspecies could therefore not be determined. Its size, general plumage, behaviour, and attitude at rest were similar to those of the Asiatic Whimbrel seen by us at Rangitikei Estuary from 22/11/59 to 5/4/60. Its call was not heard. This is the first record of a whimbrel at Manawatu Estuary. It has not been seen since, and it is not absolutely certain that it was a different individual from that seen at Rangitikei Estuary since the two localities were not visited on the same date.
- BAR-TAILED GODWIT** — 19 on 31/8/59, c. 70 on 3/10/59, 200+ on 21/11/59; usually 150+ were counted in December '59 to January '60, numbers varying due to local movements along the coast and upriver; 250+ 6/2/60, some reddening, and a maximum for the summer of c. 280 on 5/3/60, when several were very red; c. 120 on 26/3/60; c. 70 on 2/4/60, numbers remaining almost constant to mid-June; 40+ on 4/7/60; c. 18 throughout August and up to 24/9/60; c. 140 on 1/10/60, c. 170 on 21/10/60.
- HUDSONIAN GODWIT** — 1 seen by M.J.I. and I.G.A. on 1/11/59, 14/11/59, and again on 26/3/60 and 4/7/60; not seen, but probably overlooked, on intervening dates; absent (at least from usual wader areas) in August '60; 1 on 21/10/60.
- KNOT** — c. 15 on 3/10/59, 6 on 14/11/59, 4 on 29/11/59, 2 on 12/12/59 and on 10/1/60. None positively identified later, but possibly 1 on 5/3/60. Small numbers arriving again in spring; 4 on 1/10/60, 23 on 21/10/60.
- SHARP-TAILED SANDPIPER** — Seen only in February and March, but may have been present for a longer period: 2 on 6/2/60, 7 on 14/2/60, 5 on 13/3/60, when 3 were in well-developed breeding plumage.
- PIED STILT** — Large numbers often congregate in the estuary in the non-breeding season, but numbers vary as the birds range up and down the lower part of the river throughout the year. Maximum count at the estuary c. 160 on 10/5/60.
- BLACK-BILLED GULL & RED-BILLED GULL** — Number of both species at estuary is variable, probably partly due to local movements along the coast. Usually a few of each species are present in the breeding season, with numbers increasing subsequently. Highest counts so far are: on 10/7/59, 75 Black-billed and 125 Red-billed; and on 4/7/60, c. 60 and 55+ respectively.
- BLACK-FRONTED TERN** — Occasionally seen in autumn months: 3 on 5/3/60 and 26/3/60; 1 on 24/4/60.
- CASPIAN TERN** — Several present during all months of the year, with largest numbers in the non-breeding season. 17 on 23/1/60, 27 on 5/3/60, c. 15 on 19/5/60, 22+ on 28/8/60, c. 12 on 1/10/60.
- WHITE-FRONTED TERN** — Mostly move up and down the coast, often in flocks of many hundreds in late summer and autumn, but some enter the estuary, e.g. c. 60 on 6/2/60.
- KINGFISHER** — Feeding on crabs on mudflats chiefly in winter months; maximum observed c. 12 on 19/5/60. — I.G.A., M.J.I.

SHORT NOTES

MORE NOTES ON THE NESTING OF WELCOME SWALLOWS IN NORTHLAND

On 16/11/59, Roger Simpson and I saw three Welcome Swallows flying over flat open land at Te Iringa about three miles south of Kaikohe. We particularly noticed their forked tails. A week later we saw two pairs and found two nests under a little concrete bridge near the school. The nests were built of mixed mud and straw and were about eighteen inches apart and five to six feet above the water. One nest was slightly larger than the other. There were pink droppings stuck on the concrete round the nests. This time we noticed the wide red band across the chests of the Welcome Swallows.

When I visited Te Iringa again on 1/2/60, two pairs of Welcome Swallows were still about, but only the larger nest remained and it held four chicks which, according to Roger Simpson, had hatched about 16/1/60. The young birds were reported flying on Feb. 5th and I saw the family party of six on Feb. 6th. On my next visit to Te Iringa on 12/2/60, one pair with three young ones (one young bird had evidently died or strayed) kept near the bridge, and a second pair were flying further afield.

On the way to Te Iringa I had called on Mr. Barrett of Old Bay Road, Ohaeawai, who had told me that last year (1959) he had noticed two or three Welcome Swallows near his house, but in February, 1960, he had seen seven. Ohaeawai is seven miles N.E. of Kaikohe, so it is likely that another pair bred there.

On 19/2/60 Roger Simpson reported that he had seen a flock of eleven Welcome Swallows, four adults and seven youngsters. We decided that the second pair, after abandoning their first nest, must have built another in the vicinity, possibly under another concrete bridge which we were unable to visit. On 25/2/60 Roger Simpson told me that one pair had laid another egg in their old nest; on 25/3/60 the pair were still tending their one egg which was obviously addled. I sent it to the Auckland War Memorial Museum.

It is interesting that Welcome Swallows stayed at Te Iringa during the winter. On 13/7/60 I saw four there, and one pair were using the old nest for roosting. So far as we know no one else in the Te Iringa district knew about the nests and they were not disturbed.

— MALCOLM ROSS

The children of Waiomio Maori School, south of Kawakawa, first noticed Welcome Swallows in the district in 1958. Two nests were known, one under each bridge; but no young were seen.

When I came to this school as head-teacher in 1959, I was rather surprised when the children told me about seeing swallows in the spring. However, there were several pairs and they stayed in the district throughout the winter of 1959. Nests had been built on two concrete bridges and also in a shed near one of the bridges. The first nests were broken in spite of the vigilance of the children who lived nearby; but the swallows built again and two broods were hatched under Cherrington's bridge. One nest held five chicks. The other was too high to investigate.

During the recent (1960) winter, Welcome Swallows stayed in the district again; and as there are considerably more than last year, other clutches must have been reared successfully somewhere. On one occasion seventeen were counted sitting on power-lines.

So far this spring four nests have been built on the two concrete bridges. One pair had already reared a clutch of three chicks by October 18; and another pair had five eggs. The Cherrington children, who live near one of the bridges and who watch the nests closely, tell me that the swallows seem to lay one egg every other day and that the chicks appear about three weeks after the laying of the first egg. The nests are built with a mixture of mud and dry grass. To build, the swallows stick a big piece of mud to the wall and leave it to harden. Then they add soft mud and use their feet to press dry grass into it. They continue doing this till they have built the solid part of the nest. The inside is lined with feathers. The local swallows seem to prefer pheasant feathers, if they can find them.

Some of the children reported that the swallows were flying up to a cowshed to feed on skim-milk curds. But what I think they are doing is catching the little insects which are found on the curd and which are disturbed when the curd is scattered.

Through the watchfulness of the children, it seems that there will be every chance that the colony of Welcome Swallows at Waiomio will again increase this year.

— C. E. SHANKS



OLD AND RECENT NESTING RECORDS OF PETRELS IN TARANAKI

An early reference to muttonbirds breeding inland is to be found under the date 5/12/1846 in the diary of Richard Taylor. He was making a cross-country trip from the Patea to the middle Wanganui, and after crossing the Makaau Stream, which appears on modern maps as Makahu ("h" was silent in the Wanganui dialect) he came to a pa Mangaehu in the Matemateonga Range. The portion of the day's diary entry reads: "The pa is close to a beautiful clear stream in which I took a bathe. Opposite the pa is a small island in the river on which stands the remains of a pa. It is connected with the mainland by a pole which is tied to two trees which incline partly over the river. In the evening there was quite a deafening noise from vast numbers of birds flying about; I found on enquiry it was the *titi* which is remarkable as being both a sea-bird and a night-bird as well. The natives take large numbers of them by lighting a fire on top of some lofty precipice. The birds, they say, mistake it for the crest of a wave and alight close to it when they are knocked down with sticks. They are spoken of as being very fat and delicious eating."

Taylor kept a day-to-day diary on his travels, and in spite of the loss of old place-names, the positions of his camps can generally be determined within a few miles by topography, distance travelled, and such names as have survived. Mangaehu is on the fringe of settlement and from here to the headwaters of the Waitotara River there is still a large, nearly virgin, forest which might be a suitable area for searching for inland-breeding muttonbirds.

— A. D. MEAD

(Richard Taylor, M.A. (Cantab.), came to New Zealand in 1839 to serve with the Church Missionary Society. He was a man of many gifts, a competent artist and an energetic traveller with a lively and discerning interest in geology and natural history. The curious root-parasite *Dactylanthus taylori* bears his name.—Ed.)

In February, 1958, a burrow containing a downy young petrel, obviously of one of the larger summer-breeding species, was found near Goat Rock at c. 1500ft. a.s.l. in the Kaitake Ranges, five miles inland and ten miles from New Plymouth. The young petrel was photographed in colour; and when the slide was shown at the Annual General Meeting in the following May, it was identified as a Black Petrel (*Procellaria parkinsoni*).

Subsequent searches have failed to reveal a burrow or burrows; and it may be that owing to faulty information, the precise locality of the burrow in which the young petrel was found has not been rediscovered.

— D. MEDWAY

(This interesting record is not as surprising as at first appears. The breeding range of the Black Petrel was formerly much more extensive than it is to-day. It is now known to breed only at Little Barrier in the north and the Heaphy Range in the south. These are at the ends of a now broken chain, the links of which were suitable inland ridges. It is gratifying to learn that one link in the chain of breeding colonies may still persist in the ranges of Taranaki. Taylor's titi (v. supra) may well have been *P. parkinsoni*.—Ed.)



SUCCESSFUL LATE BREEDING OF PIED STILTS NEAR AUCKLAND

From observations made over several years in the Firth of Thames and near Clevedon, it is known that in northern New Zealand Pied Stilts (*H. leucocephalus*) may have an extended breeding season. Most eggs are laid between August and October; but Stokes, McKenzie and others (*Notornis* VIII, 95-99) have described how in the very wet winter of 1956 many nests contained eggs as early as the middle of June and before the end of July. As a general rule few eggs are laid after the end of October.

On the Auckland isthmus the Pied Stilt has rarely been known to breed, although many thousands find the tidal flats and creeks of the isthmus a rich feeding ground in winter. However, in 1959 a perfect breeding habitat was provided by the artificial lakes which have recently been formed at Puketutu. At the normal nesting season at least twelve pairs bred on the northern bays of Puketutu along the edge of Spoonbill Pool (v. map, *Notornis* VIII, 221) and though there was a certain amount of disturbance from boys, Black-backed Gulls, which were continually on the prowl, and the aerial spraying of insecticide, a satisfactory number of young reached the flying stage by the end of November.

Meanwhile on the cool southern side of Puketutu, another suitable habitat for breeding was coming into existence as the waters of Oruarangi formed a lake with wide shallows behind a new sea-wall.

Here in mid-February, 1960, Mr. B. D. Bell reported that he found two broods of Pied Stilts, one of which was only just feathering. On 23/3/60, when Peter Skegg and I visited this quiet corner, we found what must have been an even later brood of three, two of which could just fly, while the third could not and resorted to swimming. It was carried out into deep water and covered about a quarter of a mile before it was re-united with the rest of the family.

Stokes and McKenzie have shown that with normal spring nests the average incubation period from laying of the last egg is 25 days and the fledging period 31-32 days. Under the favourable conditions of summer 1960, hatching and fledging times are unlikely to have been longer than average. If, therefore, the clock is put back 57 days from March 23, the date for the completion of the clutch is January 26, and the first egg was almost certainly laid after January 20.

The only comparable record of late breeding with Pied Stilts, that I know, is of a pair at Kaiua in the Firth of Thames, which were in attendance on two fresh eggs on a shelly sea-beach on 24/1/48. The birds were evidently forced by the heat to abandon nesting; for on 7/2/48 the deserted eggs were still in the nest, sun-bleached and with their contents fried.

R. B. SIBSON

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HUDSONIAN GODWIT AT THE MANAWATU ESTUARY

The Hudsonian Godwit (*Limosa haemastica*) has been recorded on several occasions at Lake Ellesmere (Oliver, 1955) and it had seemed surprising to me that this species had not been recorded in other suitable localities between this area and the Auckland area, where it is fairly regularly observed. The west coast of the Wellington Province, for instance, with its estuaries frequented in summer by fair numbers of Bar-tailed Godwits (*Limosa lapponica baueri*) would appear to be an ideal place to look for it.

When visiting the Manawatu Estuary on 1/11/59 I flushed a small party of godwits feeding on the ebbing tide and was immediately attracted by the leading godwit, which had a black and white tail, the black part being distal. Unfortunately I did not have binoculars with me, but I confirmed that it was a form of Black-tailed Godwit when I flushed it again. It then flew to the opposite side of the estuary and was not seen again.

The estuary was regularly and frequently visited by myself and I. G. Andrew during the summer, but on no occasion were we able to make a detailed study of all the 280+ godwits present, mainly because the river acted as a barrier. Thus this godwit may have been present throughout the summer, although this cannot be proved.

On 26/3/60 I visited the estuary and was fortunate enough to find the remaining godwits, 120 in all, roosting on the north side at high tide. I approached the flock to about 20-30 yards, and studied them closely through 8 x 30 binoculars. Soon I noticed a trim godwit amongst the Bar-tails. It was about the size of a small male of that species. It had a more even grey-brown upper surface than the Bar-tails, the grey-brown extending right round the neck and on to the upper breast. This godwit was assuming summer plumage, there being mottlings of wine-red on the breast and flanks.

The flock was flushed and I was immediately able to identify the godwit subspecifically as a Hudsonian Godwit. As it flew up the black and white tail was seen, and an irregular, narrow buff-white wing bar. The flock flew round in a half-circle and settled a short distance away. As it did so the black axillaries and underwing of this godwit were outstanding. I referred to the article by Sibson on the subspecies of the Black-tailed Godwit which occur in New Zealand (*Notornis* VIII, 161-2) on the spot and confirmed the identification. In addition to the points mentioned in that article I noted that this godwit had a blackish-brown culmen and a dark brown stripe through the eye from the bill, bordered by a buff-white stripe above and below.

When the estuary was next visited on 2/4/60, I. G. Andrew and I discovered that only about 70 godwits remained, and a thorough search revealed no Hudsonian Godwit. However, as I again saw a Hudsonian Godwit at the estuary on 4/7/60, it is evidently wintering in the vicinity. This appears to be the first record of a Hudsonian Godwit for the province of Wellington.

M. J. IMBER



THE KINGFISHER AS A PREDATOR

A Kingfisher (*Halycon sanctus*) which visits our garden in Levin often perches on a post watching the Blackbirds (*T. merula*) and Songthrushes (*T. ericetorum*) digging up worms on the lawn. When a large worm is caught, the Kingfisher may dart down and steal it. Recently I received a Kingfisher with a damaged wing. When the wing was stronger, the bird was released but could not fly normally. At least six of the local Blackbirds and Thrushes, evidently recognising a Kingfisher as a predator and an enemy, eagerly seized the opportunity to get some of their own back and darted down, scolding angrily and flying in low circles over the weakened Kingfisher as it half-flew, half-ran across the lawn. Perhaps out of respect for its beak, they did not actually assault it. The Blackbirds were the prime movers in the demonstration of hostility.

AVIS ACRES

Whilst working in my garden I noticed some Silvereyes (*Zosterops lateralis*) feeding in the hedge. A few minutes later I heard one give a cry of distress, and thinking the cat had caught it, I went to investigate. As I approached the hedge, a Kingfisher flew out with a Silvereye in its bill. It settled in a peach-tree and started to batter its victim on a bough, as I had previously seen a Kingfisher treat a mouse. The battering apparently had little effect at first for the Silvereye was still fluttering and screaming when the Kingfisher flew off with it.

A. G. FLOREY

(Oliver (1955 p. 530) discusses the fearless ferocity of the Kingfisher and remarks that "every kind of small animal is attacked, killed and eaten." To the varied diet which he lists may be added the ducklings of the New Zealand Scaup (*A. novaeseelandiae*). The taking of these by Kingfishers has been observed near the jetty at L. Okataina, Rotorua. — Ed.)

LESSER FRIGATE-BIRD IN KAIPARA

In the southern part of Kaipara Hr., near Moturemo Is., one mile below the confluence of the Tauhoa and Hoteo rivers, on 20/1/60 an obvious frigate-bird, judged from the markings on either side of the belly to be *Fregata ariel*, was watched at close quarters when I was out fishing. It came over the top of Moturemo Is. and attacked a solitary Gannet (*S. b. serratrix*), approaching it from behind and below. After a tussle of a full minute it collected in two swoops the food thrown out by the Gannet, and then returned to the island. It flew heavily with a fast flap, its long narrow wings almost meeting above and below. It passed about fifty feet away and at the height of ten feet. The general colour was a sooty black but a blue sheen on its head and back was visible at quite a distance. What appeared to be its thigh was a dark brownish grey with three almost vertical white bars about an inch apart. The tail and under wings were black. Its neck was curved down and up and the long bill was held downwards at an angle of about 45 degrees from horizontal. Not once did it cease its fast flapping. It was seen by Mr. Marcus Dill both before and after this date, when it was harrying gulls and terns from a cliff-top on the mainland as well as from Moturemo Is.

— F. P. HUDSON

[The presence of frigate-birds so far south is usually associated with cyclonic disturbances. A Lesser Frigate-bird was reported at Kaipara South Head during March, 1959, when cyclonic winds were sweeping Northland.—Ed.]

YELLOW-NOSED MOLLYMAWK IN NORTHERN
NEW ZEALAND WATERS

The sighting of a Yellow-nosed Mollymawk (*D. chlororhynchus*) off Tutukaka on 22/4/60, immediately reminded me of a similar record I made of one between Hen Island and the Poor Knights on 4/8/58 ("*Notornis*" VIII, 65). These autumn and winter records give food for some thought especially when considered with the previous records from New Zealand. Apart from the storm-wrecked specimen from Muriwai Beach, Auckland, the others were recorded from the vicinity of North Cape and the Three Kings in mid-August, 1932 (*Falla*, "Records of the Auckland Institute and Museum" Vol. 1, p. 180).

It appears that the status of this species within New Zealand waters has yet to be determined. It would seem from the meagre records available that the Yellow-nosed Mollymawk visits northern New Zealand waters during the autumn and winter. The almost total absence of observers from these waters during this period is probably the main reason for the lack of records rather than a paucity of birds.

— BRIAN D. BELL

[The Yellow-nosed Mollymawk habitually ranges in warmer waters than other closely related southern mollymawks. Its nearest breeding grounds are at St. Paul Is. (39°S 77°E) in the southern central Indian Ocean. It is the most plentiful albatross on the west and south coasts of Western Australia and it occurs not infrequently off the coast of New South Wales as far north as Sydney.—Ed.]

GRAY-HEADED MOLLYMAWK SWALLOWING PRION

On 23/8/60 we walked some miles of Muriwai Beach, because we had heard that a great variety of oceanic birds had been cast ashore during the previous week. As we removed the breastbone of a battered Gray-headed Mollymawk (*D. chrysostoma*), one of two which we handled, we were surprised to find in its belly a Broad-billed Prion (*P. vittata*), intact but for one wing, and easily recognisable. Though some of the species of prion had been wrecked in considerable numbers, only two other specimens of *P. vittata* were found. As far as we know, this type of predation has not been recorded in New Zealand before.

★

— P. D. G. SKEGG, M. J. HOGG, N. J. LEDGARD

[Buller (1888, 198) found the bill and feathers of a diving petrel in the stomach of a Black-browed Mollymawk (*D. melanophris*) cast ashore during a gale at the Auckland Islands. Matthews (1929, Discovery Reports I) reports that the food and habits of Gray-headed and Black-browed Mollymawks at South Georgia are so similar that one description answers for both. Murphy (Oceanic Birds of South America I, 517) mentions that both species would come into the Bay of Isles, South Georgia, in stormy weather to feed upon blubber and refuse; and in discussing the varied diet of *melanophris*, he comments: "My experience with Tubinares in the field leads me to believe that many of the larger forms will attack and devour any bird encountered disabled on the water."—Ed.]

★

ANOTHER AUSTRALIAN BARN-OWL IN WESTLAND

At approximately 10 p.m. on 15/8/60, I received a telephone call from Mr. A. Flannagan of Greymouth. He wanted the address of a taxidermist who could prepare a Little Owl (*Athene noctua*) for him. I thought that this was an unusual request to be made in connection with a Little Owl, and asked him for a description of the owl. I was soon on my way to see the bird that Mr. Flannagan had found in an unused house at Runanga on Friday, 12th August. He had formed the opinion that the owl flew inside the house through a broken window but had struck a pane of glass on its attempted way out. Apparently the neck had been broken. Because of its striking colouring, Mr. Flannagan had kept the owl and fortunately put it in his refrigerator. I identified the owl as an Australian Barn Owl (*Tyto alba delicatula*). Next day this well-preserved specimen was sent to the Canterbury Museum with the request that it be displayed if possible at the West Coast Historical Museum, Hokitika.

Mr. E. G. Turbott kindly supplied me with the measurements but the sex will not be known until taxidermy work is carried out in a month or so. Measurements in millimetres:

Bill 20; Wing 285; Tail 115; Tarsus 66; Middle toe 46.

The only other records of this owl in New Zealand have come from the West Coast, South Island, and are as follows:—

1. Adult female shot at Barrytown, Westland, 16/8/47 (Oliver, p. 432).
2. One killed by a car about one mile south of the Haast River mouth and one half-mile from the sea in October or November, 1955 (*Notornis VII*, 208).

— P. GRANT

SOME FOOD OF YOUNG GULLS AND TERNS

During the banding activities among gull and tern colonies during the 1959-60 season it was possible to make some brief observations on what some of these birds were feeding to their young. At Kaikoura Peninsula, the chicks of the Red-billed Gulls (*L. scopulinus*) were being fed almost exclusively on a euphausiid shrimp (*Nyctiphanes australis*). Specimens were taken and identified by J. C. Yaldwin. On the Wairau River, at a colony of Black-backed Gulls (*L. dominicanus*) some 20 miles from the sea, the parents were feeding the young on a predominantly 'army worm' (*Persectania ewingi*) diet, but there was some other material which was not determined.

On the Waihopai River, a major tributary of the Wairau flowing from the south, some Black-fronted Terns (*C. albobriatus*) were observed flying to and fro between a wheat crop and the river-bed. The terns were flying over the crop and were dropping down at intervals to pick something from the top of the wheat. They then flew off to the river-bed with something in their bills. An examination of the crop showed a heavy infestation of 'army worm' which was climbing up the wheat straw. Once they reached a certain height they were apparently vulnerable to the terns. On the river-bed the terns had newly flying chicks. Although they were not actually seen to feed the 'army worm' caterpillars to the chicks, it would be safe to presume that this was being done.

— BRIAN D. BELL



NOTICES

INCREASE IN SUBSCRIPTIONS

In accordance with the Constitution of the Ornithological Society of New Zealand, Inc., and notice given to members, a Special General Meeting was held at Auckland at 7.30 p.m. on 8/11/60 to consider a motion to increase certain classes of subscription. The President, Mr. A. Blackburn, occupied the Chair.

The motion read: "That members' subscriptions be increased: Junior, from 5/- to 10/-; Ordinary, from 10/- to £1; Life (Over 30 years of age), from £10 to £20. To provide that members not requiring "Notornis" shall pay 10/- and that Endowment members' subscriptions shall remain at £1."

The motion was carried unanimously by the meeting of fifteen members, including four members of Council.

A member stated that he would give notice of motion for the 1961 Annual General Meeting to the effect that, from 1/4/61, the classes Ordinary and Endowment, both being at £1, be merged and titled Ordinary, and that members wishing to support the Society further be classed as Endowment members on payment of £1/10/-.

The several reasons for the increase are:

(1) The Treasurer's Report, "Notornis," Vol. 9, p. 23, shows that each member receives benefits in excess of 16/-. It is therefore obvious that those paying 10/- are being subsidised by those paying £1.

(2) The gap from 5/- subscription to 16/- for services for Juniors is too great.

(3) Life subscriptions at the old rate of £5, on the basis of investment at 5%, bring in only 5/- p.a. and £10 produces 10/- p.a. £20 will provide £1 p.a. The subscriptions of present Life-members cannot be raised arbitrarily. Life-members at the rate of £5 and £6/6/- and young Life members at £10 could cancel their Life memberships and pay £1 annually. It is obvious that elderly members at present on the £10 rate would not be expected to do this. Some Life-members have made generous donations. These are recorded on their ledger cards. They may well be considered to be the equivalent of further Life-subscription payments.

(4) The journal "Notornis" must be maintained at its present high standard and at times will need to be enlarged.

(5) The Schemes of the Society, Banding, Nest Recording and Beach Patrol, are being greatly expanded and will now cost much more. They provide interest for every member who wishes to take an active part in bird study.

Council hopes that no further subscription increases will be necessary for many years. The officers who give up so much time and money in doing all the work of the Society are grateful to members for lifting the burden of financial stringency and giving them freedom to carry on without anxiety and worry. It is hoped that all members will join in the study of birds and enjoy it.

BANDING REPORTS FOR SALE

The full and detailed Ninth and Tenth Annual Reports of the Banding Committee for the years ending 31/3/59 (38 pages) and 31/3/60 (42 pages) are now available at 5/- each and may be obtained from Mrs. Hetty McKenzie, Box 45, Clevedon, Auckland.

NEST RECORDS SCHEME

Members are requested to send nest record cards to the Organiser, Mr. H. L. Secker, 14 Clyma Street, Upper Hutt, by 28th February, 1961.

Play your part in the ultimate clarification of precise limits of New Zealand's nesting seasons, peak laying times and clutch-size variations by a contribution.



SPECIAL APPEAL

BACK NUMBER VOL. 9, No. 1

The June, 1960, issue of "Notornis" is in very short supply. Will members who do not keep their back numbers please send this copy to:—

Mrs. Hetty McKenzie,
Journal Despatch Officer,
P.O. Box 45,
Clevedon.

NEW MEMBERS up to 4/11/60

Anderson, Miss J. M., P.O. Box 127, Wellington
Baldwin, Dr. S. Glidden, R.R.1, Catlin, Illinois 15, U.S.A.
Bell, Mrs. V. G., Wangapeka, R.D.2, Wakefield
Bird, W., 1 Dix Street, Hornby, Christchurch
Bright, J., 9 Astrolabe Street, Avondale, Auckland, S.W.3
Cochran, W., Kaihihi Road, Okato R.D., Taranaki
Davis, Miss M. M., 211 Hills Road, Shirley, Christchurch
Day, Martin R., 53 Cavendish Road, Papanui, Christchurch
Dill, Marcus G., Kaipara Flats
Filial Biblioteki Akademi Nauk SSSR, Baltijskaja ul., 14, Moscow
Fooks, E. L., 25 Mainston Road, Remuera, Auckland, S.E.2
Frew, H., 19 Swaffield Road, Papatoetoe
Grimwood, Miss Merle, Devereaux Road, R.D.3, Winton
Hartley-Smith, T., 38 Lydia Street, Greymouth
Hempleman, F. W., 22 Crayford Street, Avondale, Auckland, S.W.3
Hughes, Col. A. R., P.O. Box 1056, Auckland
Jenkins, P. F., 38 Kamahi Street, Stokes Valley, Lower Hutt
Jenner, D. B., R.D.2, Morrinsville
Lendon, Colin, Students' Hostel, Lincoln College, Christchurch
Liversidge, R., Museum, Humewood, Port Elizabeth, South Africa
Love, T., C/o Staff, Kingseat Hospital, Papakura
Lovejoy, Thomas E. 3, 116 East 63rd St., New York 21 N.Y., U.S.A.
McCall, C. A., Papa Aroha, R.D., Coromandel
McDowall, R. M., 32 Worcester Street, Palmerston North
Marsden, W. P., 144 Powderham Street, New Plymouth (rejoined)
Morgan, Barry, C/o Mr. J. Prickett, Birkenhead
Nye, Dr. E. R., 308 Highcliff Road, Dunedin
Orr, Mrs. D. N., Clevedon (rejoined)
Paver, Mrs. J. M., 14 Wood Street, Papakura
Peterson, Chris., 9 Casel Street, Masterton
Rees, B., 12 Hawkestone Crescent, Wellington, N.1
Sefton, A. R., 15 Station Street, Thirroul, N.S.W., Australia
Shand, Miss Lesley, Island Hills, Culverden
Somers, E. J., P.O. Box 663, Christchurch
Thomas, J. F., Kawaha Point, Rotorua
Wilson, R. R., Punga Road, R.D.2, Kumeu
Wyber, Robert, 384 Stuart Street, Roslyn, Dunedin
Yerex, Mjr. G. F., Rahui Road, Taupo (rejoined)

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BACK NUMBERS OF "NOTORNIS"

Members are reminded that back numbers of *Notornis* and the earlier *N.Z. Bird Notes* are obtainable from the Society. Enquiries about costs and the parts still held in stock should be made to:— Mrs. Hetty McKenzie, Box 45, Clevedon, Auckland.

Other publications available are: *The Takahe* (5/-); *Identification of Albatrosses* (1/-); *Reports and Bulletins, 1939-1942*, with Index, (12/-), Index Alone 1/6. These precede Vol. I of *N.Z. Bird Notes* and record the first three years of the Society's work.

As there is a steady demand for back numbers of *Notornis* and especially for the earlier *N.Z. Bird Notes* (1943-1950), members are asked to offer to the Society, for gift or sale, past numbers which they no longer need.