

Ornithological Society. He subsequently took a great interest in its activities. For several years he served as the Society's organizer for Hawke's Bay. He was also one of the organizers and foundation members of the Ornithological Section, Hawke's Bay Branch, of the Royal Society of New Zealand. His chief ornithological interests were in the Cape Kidnappers gannetry and in the ornithology of Hawke's Bay. At Kidnappers he was engaged in a long-term study of behaviour, life history and population trends in the gannet. This study was not completed at the time of his death, but had already provided the first evidence of the dispersal of young gannets to Australia, of the age when young gannets return for breeding, and many other data. Fred Robertson took part in the 1947 and 1949 D.S.I.R. expeditions to White Island, which provided valuable data for the 1946-47 gannet census of New Zealand and for the knowledge of the fauna of that island. He also devoted much attention to the early ornithological exploration of Hawke's Bay by McLean and Guthrie-Smith using unpublished material. This study was combined with field work at the haunts of these early ornithologists. Unfortunately he had not reached the stage where his leisure was sufficient to commit more of his bird studies to publication.

To Fred Robertson's many friends throughout New Zealand the news of his untimely death came as a great shock. They will long remember his very friendly personality and innate sense of humour which endeared him to all who had the privilege of working with him in the field. He is survived by his wife Veronica and two sons, Christopher and Timothy, to whom we extend our deep sympathy.

K.W.

WADERS ON AHURIRI LAGOON, NAPIER

By D. H. BRATHWAITE

In the course of some five years' more or less regular, if not exactly systematic observation on Ahuriri Lagoon, many interesting species have been seen, especially among the waders. During 1953 and 1954, several such records were made, but for various reasons they have not been published. It is my intention to combine these records into one paper, and at the same time to list all the other species in this group which have ever been recorded here, with brief notes. The noteworthy records to be given hereunder are as follows:

Black-fronted Dotterel (*Charadrius melanops*) — first New Zealand occurrence.
Tattler (*Heteroscelus incanus* subsp.) — second occurrence in Hawke's Bay.
Red-necked Stint (*Calidris ruficollis ruficollis*) — first occurrence in Hawke's Bay.

Least Sandpiper (*Calidris minutilla* subsp.) — second occurrence in New Zealand.

Japanese Snipe (*Gallinago hardwicki*) — fourth (?) occurrence in New Zealand.

The Ahuriri Lagoon Reserve was originally a large expanse of water, with wide areas of tidal mud-flats and shell-banks. Although Hamilton (1886) mentioned certain species of waders as occurring on this lagoon, no systematic observations were ever carried out, and we shall never know in full the changes in bird life which have resulted in the transition of this body of water into farmland. In comparison with the old lagoon, there is only a limited area of tidal flats, salt-marshes and drains today; these are scattered, and it was a long time before I was able to locate the favourite haunts of the different species. For the lone observer there are still difficulties which even motor transport cannot altogether overcome. If time should be limited, it is not wise to infer from the numbers or absence of a particular species in one area the numbers present on the whole lagoon. To move from one spot to another in a search for, say, Sharp-tailed Sandpipers, can entail a walk of half an hour or a trip of several miles by car with a walk at the end of it.

Not until a team working on an organized basis can be set up will it be possible to do systematic census work, and for this reason no attempt has been made in this paper to give more than a rough idea as to numbers or movements. It is interesting to speculate how many more interesting records would have been made had such a team been operating every week-end.

Oystercatchers (*Haematopus* spp.) – Hamilton (1886) reported both pied and black oystercatchers as common on the shoals near the Ahuriri Bridge. Conditions subsequent to the earthquake must be unsuitable for these birds as I have seen none during the past five years, although a pair of black oystercatchers is usually resident on Ocean Beach, a few miles south of Cape Kidnappers, and the South Island pied oystercatcher winters at Porangahau. There is a fairly large tidal flat on the Napier side of the embankment road which I should have thought to be suitable for the latter species, and it would be interesting to know whether it winters in any numbers between Napier and East Cape, and what route is followed by birds wintering in the Bay of Plenty. Pied birds of the other species appear to be rare on the east coast of the North Island.

Pacific Golden Plover (*Charadrius dominicus fulvus*) – This is a regular summer visitor, though not in large numbers. Up to a dozen may usually be found around the margins of the pond in Westshore Domain; I doubt whether many more would be found on the extensive pastures of the lagoon, as even during the northward passage the largest flock I have seen was 27 birds (5/4/53). The earliest date so far recorded was 27 September 1953 and the latest 12 April 1953.

Black-fronted Dotterel (*Charadrius melanops*) – On 29/8/54, with Mrs R. Sorrel, I was investigating a spot where a number of stilts appeared to be preparing to nest when I heard the call of a dotterel and was just able to focus my glasses on the bird before it flew. A glimpse of a red bill and orange legs made me think it might be a shore plover (*Thinornis novaeseelandiae*), so after watching to see where the bird settled, I hurried back to the car for my telescope. With this set at 30x, a telegraph pole as a rest, bright sunlight from behind, and the bird not more than thirty yards away, conditions for observing could hardly have been better. The bird was most obliging, moving only within a radius of a few yards and permitting views from all angles, and it was only a matter of seconds before I was able to identify it as a Black-fronted Dotterel (*Charadrius melanops*). Altogether, the two of us were able to spend some half an hour observing the bird through telescope and binoculars, during which time we noted all such details as were visible in the non-flying bird. Notes recorded on the spot and checked by both of us are as follows:

Apparently about the size of a Banded Dotterel, but appearing more slender (i.e. apparently smaller body but relatively longer wings and tail); upper parts sandy brown and slightly mottled owing to dark shaft streaks and light edging to some feathers; *an elongated dark chestnut patch along the scapulars* (looking blackish in some lights but definitely chestnut with the sun on it); legs orange-yellow; bill orange-vermilion with black tip; a narrow red ring (eyelids) around the eye; a broad black line from the bill through the eye and round the nape, *with a triangular black patch on the forehead*; crown the same as the back, separated from the black band by a white line; a black band joining the head-band on the sides of the neck and *crossing the breast in the form of a V* (so long and pointed as almost to suggest a Y). This band was not conspicuous from the side, but viewed from the front was sharply defined and, with the head-band, enclosed an immaculate white throat and upper breast.

On the following Saturday, 4 September, I again visited the spot, this time with Mr Reg Williams, and was fortunate enough to see the bird once more. On this occasion I was equipped with a coloured sketch of the species, prepared during the week, and with a copy of the *Emu* containing an excellent

photograph. Conditions once more were perfect for observing and we were both able to check it almost 'feather by feather' with both sketch and photograph, and we both agreed that there was absolutely no doubt as to the identification. The bird was seen only once more, this time by Mr G. C. Crawford on the following day; as I had previously 'briefed' him in the identification with both sketch and photograph he had no difficulty in recognising it.

It has been suspected in some quarters that a bird seen at Taieri River on 23/9/51 was of this species. I have seen the original notes on this observation, and for reasons which I hope to discuss fully in a future paper I agree with others who believe it more likely to have been a young Shore Plover.

Banded Dotterel (*Charadrius bicinctus*) – Recorded in every month of the year and known to breed (one nest recorded and others suspected). No systematic census has yet been attempted and I am unable at present to suggest any ideas regarding the seasonal movements.

New Zealand Dotterel (*Charadrius obscurus*) – Formerly (? still) present on Portland Island, and recorded by Hamilton (1886) as present in the area between the Tutaekuri and Mohaka Rivers (no precise locality or other details), so the species may formerly have been present on the lagoon. I know of no recent occurrences anywhere along this coast.

Wrybill (*Anarhynchus frontalis*) – Single birds have been recorded on 12 and 19 October 1952 and 11 October and 23 November 1953.

Long-billed Curlew (*Numenius madagascariensis*) – I have the head from a mounted bird of this species, given to me by Mr F. D. Robson, former manager of the Game Farm at Greenmeadows. He told me that he had shot the bird when shooting godwit on the lagoon 'many years ago', but could not recall even the approximate date. Dr A. G. Clarke has also told me that he has seen the species on the lagoon some years ago.

Little Whimbrel (*Numenius minutus*) – I have nothing to add to my earlier notes on the occurrence of this species (*Notornis*, V: 117, 181).

Asiatic Whimbrel (*Numenius phaeopus variegatus*) – A single bird was seen by the writer when watching feeding godwits with Messrs J. M. Cunningham and G. C. Crawford on 4/4/53. This may have been the same bird seen by Stidolph (*Notornis*, V: 226) at Gisborne on 17 November 1952.

Eastern Bar-tailed Godwit (*Limosa lapponica baueri*) – Stidolph (1954) recorded flocks of 135 and 126 in November 1952. On 18 October 1952 I counted 220 in one flock, but as some of these were no doubt birds on passage the validity of his conclusions in that paper cannot be questioned. Although, owing to the scattered nature of suitable feeding grounds in the district, it has not yet been possible to obtain more exact figures, I believe the numbers of birds present in summer to vary between c. 150 and c. 200 and the number of wintering birds to be fairly constant at between 25 and 30. Birds on passage apparently do not stay for long, as I have never seen more than c. 250 at any one time and then only in spring.

Tattler (*Heteroscelus incanus* subsp.) – On 16/11/53 I visited the 'Domain' Lake, behind Westshore Motor Camp on the Ahuriri Lagoon, and found on the edge of the lake a mixed gathering of godwit, stilts, golden plover and sharp-tailed sandpipers. Among them I noticed a bird about the size of a knot, whose active movements called for a closer examination. Fortunately I had a powerful telescope, as I could not approach closer than about 70 yards. With this I could see that the bill was noticeably longer than that of a knot; it appeared to be quite straight. The legs were yellow. The upper parts appeared smooth grey, though in some lights there seemed

to be a faint suggestion of light spots, but of this I could not be sure. The crown was of the same colour as the back and there was a pale line above the eye. The underparts were white or whitish. Subsequent investigation of available literature appeared to confirm my belief that the bird was a tattler (*Heteroscelus incanus*). The bird was seen again at the same place on 21 November, but not subsequently. It was unfortunate that on neither occasion was I able to approach close enough to flush the bird and hear its call-note, so that I can make no suggestion as to its subspecific identification, except that it appears unusual for *incanus* to frequent any but rocky or stony habitats on the coast, whereas according to Turbott (1951) *brevipes* has been seen on mud-flats at Parengarenga. Incidentally, his comparison of the bobbing action with that of the dotterels describes very well the movements of the above bird.

Turnstone (*Arenaria interpres interpres*)—A single bird was seen in November 1950 on the main outfall (above the traffic bridge) with a flock of godwit. It was not until 1952, when I began to concentrate attention on the pond in Westshore Domain, that I discovered the species to be of fairly regular occurrence there, two or three birds being seen every summer in 1952-3 and 1953-4. The summer of 1954-5 was a bad year for some waders, apparently because heavy rains had flooded the flat sandy and muddy margins, and none were seen.

Japanese Snipe (*Gallinago hardwicki*)—This bird was seen by the writer and G. C. Crawford on 13/4/52. It was observed for about ten minutes at a distance of c. 50 yards (8x binoculars), while it rested and preened near a small flock of stilts. While we were watching the bird about twelve godwits landed nearby, permitting further comparison. The following notes were made on the spot:

Smaller than either stilt or godwit (perhaps about size of golden plover). Upper parts fulvous brown, heavily mottled blackish; under parts pale buff, apparently unmarked; crown with broad blackish stripe on either side of pale median stripe; pale line over eye and what appeared to be dark line through eye; bill dark in colour and quite straight, appeared about equal in length to that of stilt. In flight no wing stripe or pale rump discernible.

The lack of markings on breast and sides is not in agreement with such descriptions of *G. hardwicki* as I have been able to find, but these give little or no details of plumage changes related to age or season. The only other snipe which seem likely to occur in New Zealand are Swinhoe's (*G. megala*) and Wilson's (*G. gallinago delicata*), but of the three only the Japanese seems to have a wholly dark bill and this is the only species hitherto recorded in New Zealand. This, then, is presumably the fourth record of this species.

Knot (*Calidris canutus rogersi*)—Although the knot is one of the more numerous migrant waders to visit New Zealand, the numbers seen at Napier are remarkably small. Knots are usually seen among flocks of godwit, but generally on the tidal flats and often at distances too great to be counted at ease. Only once have I seen more than six, on 26/11/51, when I recorded among a flock of godwit twelve smaller birds which presumably belonged to this species.

Sharp-tailed Sandpiper (*Calidris acuminata*)—This species seems to be a regular summer visitor. It was first recorded here in April, 1951, and has been seen during every subsequent summer. The largest flock I have seen was 18 (2/1/54), but Mr G. C. Crawford recorded a flock of 30 on 8/11/53.

Pectoral Sandpiper (*Calidris melanotos*)—This bird is apparently also fairly regular, having been recorded in March 1951 (two), March 1952 (two), December 1952 (four) and November 1953 (two).

Red-necked Stint (*Calidris ruficollis ruficollis*)—A small sandpiper, identified as this species, was seen on 1/11/53. It could not be approached closer than about 100 yards, but with the sun behind me and with the aid of

a 30x telescope, it appeared to be smaller than nearby sharp-tailed sandpipers. The plumage was light grey in tone, with a fair amount of white around the face and base of the bill, the legs being black. I saw this species in Australia in 1951 and am confident of the identification, despite the distance.

Least Sandpiper (*Calidris minutilla subsp.*) – In November 1953 I saw a small sandpiper standing alone at the edge of the pond in Westshore Domain. I thought at the time that it seemed rather small and rufous about the face for a sharp-tailed sandpiper, but as no other birds of that species were near enough for comparison I unfortunately dismissed my suspicions and assumed that it was, in fact, a sharp-tailed sandpiper. On 24/1/54, at the same spot, I was showing an assortment of waders to Dr D. A. Bathgate (Hastings) when I saw what must have been the same bird again, this time in winter plumage. In this plumage there was no possibility of confusion, the bird being much greyer in tone than a sharp-tailed sandpiper and generally bearing a close resemblance to a red-necked stint in winter plumage, except for the yellow legs. Reference to a copy of the *Audubon Water Bird Guide* which I had with me left no doubt in either of us as to the identification.

The species *Calidris minutilla* comprises two subspecies, the Least Sandpiper (*C. m. minutilla*) of North America, and the Long-toed Stint (*C. m. subminuta*) of eastern Asia. Although the latter has been recorded at least once in Alaska, the problem of separating the two in the field does not appear to have been given any attention up till now. Hitchcock (in litt.) informs me that according to Robinson & Chasen (1936) and Meyer & Wigglesworth (1898), *subminuta* has the bill paler at the base of the lower mandible and the legs greyish yellow, darker on the joints. Bent (1927) compared the legs of freshly collected specimens of *minutilla* with Ridgway's *Color Standards and Color Nomenclature* (1912). He states that 'In the adult Least Sandpiper the tarsi are distinctly yellow with a faint greenish cast. They correspond best to the Sulphine Yellow of Ridgway, while the toes, which shade off a little darker, are *Citrine*.' Stidolph (1953) specifically mentions that there was no trace of brownish at the base of the bill in the bird he saw at the Wairoa River mouth in November 1952. The bill was also a uniform blackish in the bird I saw and I noticed no trace of darker colour on the joints of the legs. None of the plumage descriptions I can find give many details of winter plumage of either *minutilla* or *subminuta*, but the small painting of the latter in Plate xxvi of Smythies' *Birds of Burma* suggests that it may be less white on forehead and face than *minutilla*. Should further investigation show these distinctions to be valid, it would appear that New Zealand records of the species could be attributed to the American race, but I think that further attempts at subspecific determination are premature at present.

Pied Stilt (*Himantopus himantopus leucocephalus*) – Stilts breed on the lagoon (when permitted to do so by youthful vandals) and may be seen in any month of the year. The numbers seen vary greatly, but apparently irregularly, and I have not yet been able to determine whether the movements causing this variation are migratory or nomadic, though I suspect the latter.

Black Stilt (*Himantopus novaezealandiae*) – On 16 May 1954 I was watching stilts and other species on the Domain pond with Mr H. G. Warburton (Auckland), when I saw a black stilt among a number of pied birds on the other side of the pond. There seemed no possibility of this being a trick of the light as the pied plumage of the other birds was quite distinct, whereas no trace of white could be seen on the bird in question. We immediately drove round to the side where the bird had been seen, but there was no sign of it and time did not permit a more lengthy search.

SUMMARY

During five years (1950-55) seventeen species of waders have been recorded on Ahuriri Lagoon, evidence has been obtained for the occurrence of an

eighteenth, probably since the earthquake, and there are literary records of two or three others in the last century. The records include the first New Zealand record of the Black-fronted Dotterel, the second of the Least Sandpiper, and what is presumably the fourth of the Japanese Snipe. It is to be hoped that projected developments on the lagoon do not result in such changes that this interesting and attractive group of birds will cease visiting Napier. I would like to express appreciation of Mr C. G. Crawford, who has accompanied me on many occasions, besides supplying me with notes of his own visits; also to Mrs R. Sorrel and Miss C. Saxby, both of whom have always been ready to provide motor transport, and whose interest and enthusiasm have been a valuable stimulus.

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A BREEDING RECORD OF THE KIWI IN NORTH AUCKLAND

By E. G. TURBOTT, *Auckland Museum*, & G. C. WIGHTMAN, *Okaihau*

The following notes by G.C.W. describe a nest of the North Island kiwi (*Apteryx australis mantelli*) found on 16 January 1955 in the Okaihau district, North Auckland. A dog had unfortunately killed a female kiwi (sent to the Auckland Museum) near the nest, and the same dog about a week later led to the discovery of the nest and sitting male kiwi.

The nest was on a farm which had recently been taken over by G. C. and T. Wightman. It was situated in a patch of bush, surrounded by rough farmland which includes much bracken fern and tea-tree scrub. Evidently fires on the adjacent land have fairly recently come within a short distance of the bush remnant itself. In the neighbouring area there are wide tracts of bracken and scrub. There is still a good deal of heavy bush in the district, the nearest being the Puketū State Forest, which is some six miles away.

The nest contained two eggs, although this was not known until hatching had taken place, as every precaution was being observed to avoid disturbing the incubating bird. Visits to the nest were made at about weekly intervals, from 16 January until 11 February. One chick was seen in the nest on the 11th with the adult, the egg having hatched between this date and the preceding visit on the 6th. The second egg hatched between the 20th and 21st, this chick being found dead in the nest.

As F. D. Robson, in *Kiwis in Captivity* (Bulletin of the Hawke's Bay Art Gallery and Museum, Napier: 1947; third ed. 1950), has recorded so many details of the kiwi's breeding habits, we have attempted to make a fairly detailed comparison with his observations in the following notes. Robson's observations were made on captive kiwis at the Greenmeadows Game Farm, Hawke's Bay.

The nest found at Okaihau was in a tunnel, about 2 feet 6 inches long, beneath a solid mass of debris including part of the old base of a tree-fern, which appeared to be completely weatherproof. The sitting bird always faced in the same direction, i.e. to the north, and sat across the entrance. In his observations over a number of seasons Robson found that the male always sat in the nesting box facing south, and the eggs, when there were