

THE FLOCKING OF THE RED-BREASTED DOTTEREL

By R. B. SIBSON

Because of its curiously limited distribution, the Red-breasted Dotterel (*Charadrius obscurus*) is a bird of especial interest in those parts of New Zealand where it is known to breed. On and near the Auckland isthmus, despite the spread of suburbs, the subdivision of hitherto quiet bays and predation during the breeding season by gulls, particularly *Larus dominicanus*, the species persists in sufficient numbers to form flocks as other plovers and dotterels do, at the end of the breeding season.

Four places where post-nuptial flocks have been under observation for some years are (a) Tapora in mid-Kaipara, (b) Jordan's Farm, situated on a peninsula north of Oyster Point and Ngapuke Creek in the south arm of Kaipara Harbour, (c) Kidd's Bay along the south shore of Manukau Harbour and (d) the stretch of shell and saltings north of Miranda in the Firth of Thames.

Red-breasted Dotterels readily adopt new breeding sites, such as shellbanks and shelly beaches, as they are formed or enlarged slowly and naturally by tides and gales e.g. Kidd's Bay and the vicinity of White Bridge, Miranda; or created artificially and swiftly by man, e.g. the rough fringes of Mangere airport.

Colour-ringing has proved that there is some local movement, especially of juveniles; but the flocks in the main are formed from the local breeding pairs and their progeny. So far there is no evidence of immigration from a long distance. H. R. McKenzie's observation of a flock of c.218 at Old Neck, Stewart Island, on 23/5/55, the biggest flock so far recorded, seems to indicate that the Stewart Island-Foveaux Strait population is also fairly sedentary.

In late summer and autumn, some flocks show a liking for the short turf of seaside pastures, which have been reclaimed from saltings and are now closely grazed by sheep and cattle. Here they join other gregarious plovers such as Banded Dotterels (*C. bicinctus*) and Wrybills (*A. frontalis*) not only over the period of the full tide but often for some hours either side. Two such habitats are on the farms of Mr. E. Kidd at Karaka and Mr. G. Jordan in Kaipara.

The following notes have been made at the four localities mentioned above:—

(a) Tapora

Though few pairs are known to nest at Tapora itself, this flocking area is handy to the great sandhills of Muriwai and Pouto; and a few pairs breed around the big dune — Sandy Island — which becomes an island briefly at the times of the biggest tides. Some flock-counts made in recent years are:—

1958	20+	on 9th March
1960	25	on 1st May
1961	40	together and 10 scattered on 16th April
1962	15	on 24th April
1963	20+	on 13th April
1964	6 and 15	in two distinct groups on 4th January

- 1965 40+ on 19th April
1966 Few on 13th March, squatting among the tidewrack with Banded Dotterels and Welcome Swallows (*H. neoxena*) !
1967 13 on 12th February. A well-coloured specimen of the Large Sand Dotterel (*C. leschenaulti*) had joined them. All 14 flew and ran together in a tightly knit flock.

(b) *Jordan's Farm*

This is now known to be one of the major high-tide roosting areas for waders in Kaipara Harbour. When its birds were first studied critically in May 1963 (Notornis 10: 250), at least a dozen Red-breasted Dotterels were present. The following spring none could be found nesting on October 5th, although three pairs of Banded Dotterels had nests along narrow strips of beach where they ran the risk of being flooded out by spring tides.

Ngapuke Creek and the adjacent farmlands are a regular wintering area for Wrybills and Banded Dotterels; and they are now joined by Red-breasted Dotterels, for which autumn counts are:—

- 1966 28 on 27th March, accompanied by two Large Sand Dotterels.
1967 21 on 26th February and 28+ on 29th April.

(c) *Kidd's Bay*

Observations along this unspoilt and rewarding coast began in the middle 1940's. Here the increase of Red-breasted Dotterels has been most heartening, though it is likely that but for the presence of non-breeding Black-backed Gulls it would have been greater. A single bird was present in March and April, 1948; and next October a pair laid eggs which disappeared. Five were seen on 7/8/49; but there was little progress in the 1950's. Hopes were raised when eight were located on 6/7/58 in a wet and lushly grassed paddock at Seagrove. It was no place for nesting, but three had well-reddened breasts. Meanwhile, through the action of the tides and the accretion of dead shells the extent and height of the two main banks were increasing; some thin vegetation was becoming established and the potentially "safe" area for breeding was growing.

Since 1961 two pairs, and more recently three pairs, have nested and a few young have been reared. More have reached the running stage only to fall victims to the ever vigilant Black-backed Gulls. What breeding success the Red-breasted Dotterels have had may be in part attributable to the colonisation of the main shellbank by White-fronted Terns (*S. striata*). In the summer of 1960-1961, about 50 pairs laid eggs, though the colony failed. Since then these terns have usually been present in numbers between November and February; and have provided an "umbrella" under which the Dotterels may find some protection against marauding gulls. At South Kaipara Heads and Waipu I have found Red-breasted Dotterels nesting very close to White-fronted Terns, if not actually among them; and Moon has reported a similar situation on a small islet near Kawau (Focus on N.Z. Birds, 106).

As elsewhere the post-nuptial flocks tend to become bigger between January and April. Likely points of origin for birds which winter in Kidd's Bay are Manukau Heads, the Waikato estuary and the Wairoa

estuary across the isthmus at Clevedon. Across the harbour from Kidd's Bay and in sight of it is Mangere airport. When this was being built and the huge runway was pushed out across the tidal flats, some Red-breasted Dotterels moved in and were quick to seize their opportunities, using the rough earthworks both as a breeding ground and as a winter-roost. Some may have been temporarily lured away from Kidd's Bay.

The following flock-counts have been made:—

1962 8 on 28th March.

1963 9-12 between mid-January and June.

1964 7 on 14th April.

1965 (16 on 4th May on the Mangere airport runway).

1966 10 on 20th February; 20 on 25th April.

1967 12+ on 30th January; 14 on 3rd March; 16 on 26th March; 25 on 15th April, this being the biggest flock so far recorded in Manukau Harbour.

(d) *Miranda*

Observations along the west coast of the Firth of Thames began in 1941. Here during the last quarter of a century there has been a slow increase, so that in 1966 seven pairs may have attempted to breed where none was nesting in 1941. When H. R. McKenzie and I first studied the birds of the Miranda coast, we usually had to work hard to find a single Red-breasted Dotterel and then it was likely to be an immature non-breeder. Between 1941 and 1950 our best count was four. In the following decade there was a slight improvement, 8 or 9 being present during 1953-1955; but attempts at rearing young usually failed. The colonisers may have been refugees from the Coromandel Peninsula, where beaches were becoming much more accessible to the picnicker and bach-builder.

On 31/3/62 for the first time in our experience numbers reached double figures, when eleven were found feeding just south of Kaiaua on a reclaimed mudflat, poorly grassed. It is now a good paddock. In the following spring three pairs occupied territories. More recently 5-7 pairs have nested and a few young have been reared. Predation by gulls has been and still is severe; and probably accounts for the steady decline of the breeding population of Banded Dotterels from about 25 pairs to a mere one or two along what was and still appears to be, as far as terrain goes, a favourable strip of coastland.

Autumn or early winter counts for the last three years have been:

1965 17 on 4th July in three groups.

1966 18 from at least 6th March to 11th April, by which date two were already reddening. Over a period of some weeks these behaved as a very compact flock, especially if disturbed when resting together at full tide and forced to fly.

1967 19 on 28th May.

As further evidence that local movement in late summer and flocking during autumn and winter are characteristic of Red-breasted Dotterels, some other instances from the southern fringe of the northern population are added:—

Port Waikato — 11 on 7/4/47; 15+ on 24/8/60; 13 on 3/3/63.

Whatipu, Manukau Heads — 10 on 12/12/51; 12+ on 3/9/52.

Turanga Estuary, Whitford — 6 on 22/6/58, among which was perhaps the reddest specimen I have ever seen; the other five were very pale, not showing a trace of pink.

Opoutere, east coast of Coromandel — 12 during June 1967 (per Helen Waters).

Kaituna riverbed, Maketu — 5 on 4/6/66; 8 on 20/5/67 (per R. W. Jackson and H. Lyall).

Red-breasted Dotterels feed mainly along the upper tidal levels of the foreshore where it is sandy or stony, avoiding the soft sticky mud such as commonly occurs near mangroves. After rain and in windy weather they will also feed in short pastures, especially where there are shallow puddles or drainage runnels. Not only moulting adults but also pale juveniles are content to loaf for long hours in dried out seaside paddocks; and may forage for insects there. By mid-winter the flocks are breaking up; and many pairs have taken up territories before the end of July. Later flocks are likely to be composed of immature non-breeders, presumably yearlings; such, for example, as nine, all pale birds, present in Kidd's marsh paddock on 19/8/66; but when fifteen or more were feeding in a bay at Port Waikato on 24/8/60, most were showing some colour. Early breeders are now known to lay their first eggs before the end of August.

The Red-breasted Dotterel is a unique species. Because of its rarity and with a view to its conservation, its numbers should be assessed and its ecology studied without delay. It is probably most plentiful to the north of the area covered in this preliminary survey; but the fine beaches of Northland are fast being "developed." In its favour we know that it is adaptable within limits and persistent; and it appears to be long-lived.



CENSUS RECORDS OF PACIFIC GOLDEN PLOVER FOR FIRTH OF THAMES AND MANUKAU HARBOUR

By H. R. McKENZIE

The Pacific Golden Plover (*Pluvialis dominica fulva*) is the fourth most numerous of the Arctic migratory waders coming to New Zealand for our summer. From eastern Asia and Alaska they become widely spread through Melanesia, Polynesia and Hawaii to New Zealand and to Australia.

The census counts of this plover are not so rewarding as those of the Godwit and Knot. Besides being in much smaller numbers they are irregular in their habits. A flock may be found on beach or mudflat one day and inland on short pasture or ploughed ground the next. Even when feeding on the tideflats they will often not use the high-tide roosts of other waders, but will repair to inland resting places up to a mile or more from the sea. Much of their feeding is done inland so they cannot be relied upon to come to the tideflats for every low tide. The seasonal timing of Census counts is important, because when they first arrive from overseas they tend to scatter and are often found in singles or very small flocks, whereas later they gather into larger localised flocks, as noted by Sibson (N.Z.B.N. 2, 6-7).