

will be fully discussed in the General Survey of Takahe Research 1948-56 which is soon to be begun.

(v) *Pair formation*: More instances of both change of mate between breeding seasons and maintenance of a pair-bond already formed have come to light. Banding has also helped us provisionally to sex 27 out of the 29 birds that bear numbered rings. So far, the method devised by one of us (G.R.W.) for sexing has not given any contradictory results — all identified pairs were male and female when referred to the scheme. With so many birds provisionally sexed, next season's observations should test the method more fully.

Recently, we have sexed by dissection a number of pukekos and then used the same scheme as that being used on the takahe (a combination of culmen length and body weight) to separate the sexes again. Although there were a number of young birds in the sample — a fact which would tend to lessen the accuracy of the method — only two birds out of 38 were sexed incorrectly. All the other usual external body measurements (or combinations of them) did not give satisfactory separations. We are continuing this work on pukekos and hope to report our findings in detail fairly soon.

THE TRAPPING OF LIKELY PREDATORS

A dozen box traps suitable for catching stoats have been taken into the Point Burn and Takahe Valleys and set. The design is such that they may be left set without subjecting ground birds to any risk whatsoever of being caught in them. At the time of a deer study visit by K.H.M. in April of this year the traps had been continuously set for about six months using bait that has been very successful in attracting stoats in the Eglinton Valley. Only three stoats have been caught and this indicates that the population of these animals is not high — an indication borne out to some extent by general observation.

WINTER VISIT

No winter visit has been made to the colony for over six years now. By the time this account appears in print another will have taken place. With our more detailed knowledge of the species such a visit seems advisable. It is planned to make a reconnaissance in the area lasting about two weeks at a time when conditions of life for the takahe should be at their most severe.

KAPITI ISLAND AS A POSSIBLE SANCTUARY FOR TAKAHE

The suggestion has been made by Dr C. A. Fleming that the extensive Taepiro Basin on Kapiti Island, being heavily grassed, might be a suitable place for the eventual liberation of a few birds — especially as the island is free of mustelids and cats. An inspection by one of us (G.R.W.) of the area revealed that the grasses are mainly introduced species — for example, cocksfoot, sweet vernal, browntop, rye grass and Yorkshire fog. This, however, need not necessarily be a disadvantage as one of us (K.H.M.) has observed that the takahe have occasionally cropped, during the winter, the small stand of cocksfoot that has become established near the hut in Takahe Valley. But more serious drawbacks to the possible use of Taepiro Basin are the absence of water over much of the area and the great thickness of the sward, which would probably cause the takahe great difficulty — initially at any rate — in making their way through it.

SOME BIRDS OF THE QUEENSTOWN DISTRICT

WITH NOTES ON THE 1955-56 NESTING SEASON

By M. F. SOPER and D. G. JARDINE

The Queenstown district has been taken to include the cultivated area between Queenstown and Arrowtown plus the immediate vicinity of the lake edge, for 12 miles in either direction from the town.

CRESTED GLEBE. One pair seen on Lake Hayes four years ago.

DABCHICK. Rare. Perhaps seen on Lake Dispute two years ago.

SHAGS. The Black Shag is the only one seen. Seven small rookeries are known in the district (up to 20 birds). The largest rookeries — 70-80 birds — occur in the Nevis and at the head of the lake.

PIED OYSTERCATCHER. Single pairs only (the Black Oystercatcher does not occur). Not present during autumn and winter; leave January-February and return August. Nest on river beds (September) and ploughed fields (October). The river bed chicks are hatching about the time the birds that nest in the ploughed fields begin to lay. No nest made, the birds using a depression in the sand or turn of the plough. Clutch three. Incubation 25 days. A hatching cracked egg seen at 10 a.m. was almost through at 5.30 p.m. Number of nests found this season: five.

BANDED DOTTEREL. Common. Nest on river beds and dry barren scabweed paddocks. October. Clutch three. Incubation 28 days. Chicks leave nest within 12 hours of hatching. Migrate February and return August-September.

PIED STILT. Isolated pairs fairly common (50 pairs in district). The black form does not occur. The nest is always in shallow swampy ground, surrounded by at least a token quantity of water. Clutch four. Incubation 25 days. Ten nests. Colonies do not occur. Chicks leave nest within 12 hours of hatching. Migrate February-March; return end of August.

BLACK-BACKED GULL. Not common. Nests at altitude of 5500-6000 ft on the Remarkables — a few birds. Main nesting colony near here is at the head of the Shotover River — where there are large numbers. A few birds here all the year round.

RED-BILLED GULL. Winters but does not nest here.

BLACK-BILLED GULL. Common, and present all year round. Large nesting colony of some 400 birds on Shotover River bed. (There is a larger one of at least 600 on the Rees River bed at Glenorchy.) The Shotover colony site is changed each year, largely, we suspect, as a result of vandalism, though the distance they move is not great — up to a mile. This season there was a main colony of 242 nests with an outlying colony of 69. There appear to be distinct minor colonies within the main group — nests being aggregated into clusters of 7-12. Average number of eggs, two; 15 per cent, three, and an occasional four. Marked variations in size and shape and colour of eggs, even in the same nest. Incubation 24 days. October-mid November chicks fed by regurgitation on to the ground.

BLACK-FRONTED TERN. This is the only tern seen in this district. Moderately common (about 70 birds). Two nesting colonies known. One on the Shotover River bed of 14 widely separated nests (each approximately 100 yards from its neighbour). This colony was completely cleaned out by small boys. One on the 12-mile creek of 21 nests, more compactly placed, 10-20 yards between nests. However, although they nest 'at arm's length' it was noticed that they will join forces to mob an intruder. But when the intruder has passed on, the owners of the nest then had to drive off the 'helping' birds. One got a distinct impression that these terns would rob an unoccupied and unguarded nest of their own kind. No attempt at nesting material. November. Clutch, invariably two. Incubation and chick behaviour not observed owing to vandalism.

PUKEKO. Common. Nest as often in a rush clump as in raupo. Clutch, 6-8. Very cunning, though once on the nest seem to lose all cares. Young leave nest within 12 hours of hatching and leave in presence of parents. Chicks very rarely seen once leave nest, but if found and disturbed make a hissing noise rather like a ferret.

WHITE HERON. One sighting only. December 1951.

WHITE-FACED HERON. One sighting only — of a pair — April 1956.

BITTERN. Feeding grounds of six pairs known, but nesting grounds still elude us.

PARADISE DUCK. Common, especially during shooting season. Only a few pairs nest in the district. Where the majority disappear to is not known.

GREY DUCK. Very common. Fifty or more nests can be found a season. Mostly 12-20 up in willow trees. The young reach the ground by falling, scrambling and (rarely) being carried. The same nest may be used later by a different pair. Clutch 6-10. Incubation 28 days. Nest September-January.

MALLARD. Fairly common. Seem always to nest on ground at water's edge. November.

BLACK TEAL. Common. Six nests. All 100 yards or more from water, not as it usually stated on water's edge. All under heaps of discarded tree topplings or similar piles of sticks. Clutch 5. Eggs relatively enormous — far bigger than those of Grey, Mallard or Spoonbill ducks. Very quiet on nest and can be lifted and handled. Usually off nest 11 a.m. to 2 p.m.

SPOONBILL DUCK. Approximately 50 birds. Only two nests seen. Both away from water under a tussock. Nest has a different smell from a Grey's and eggs more pointed.

BLUE DUCK. A few pairs in the tributaries of the Dart River at the head of the lake.

HARRIER. Common. Many nests found, but owing to their extreme touchiness we were unable to 'hide' any of them. And yet a nest with young, discovered while harvesting a crop, can be lifted holus-bolus to the edge of the field, say, 200 yards away, and the adults will continue to feed the young! Attempt a hide, no matter how subtly, and they desert.

FALCON. Four pairs in the district. Others known, especially towards Skippers. Two nests discovered this season (one only followed). Both at approximately 3000 ft. Birds hunt up to 7000 ft on the Remarkables. In this district is a bird of the open mountains. They are not to be found in the bush areas. Nest well constructed of tussock. Clutch 3-4. Incubation 30 days. Female never leaves nest till chicks well grown, except to drive off intruders and to receive her own food. Female does all the feeding of chick. Male does all the hunting — handing over to her to feed the chick. Only time male is at nest is the short 'standing guard' period while the hen is eating food brought. Hen never feeds at nest, always on a rock some distance from nest. They have a variety of calls — of anger, a distinct call to bring in her mate to drive off intruders, a hunger call, and rather nice 'Thank you' noises reminiscent of the whine of an excited puppy, on receiving food. The attack of the female is not as 'willing' as that of the male. With both birds attacking the tone is markedly more aggressive, and in a high wind definitely frightening. At one nest the hen bird was shot by persons unknown when the chick (the only hatch from four eggs) was two weeks old. The male carried on feeding the chick, doing all the hunting in the vicinity of the nest so as to be always on hand. The chick survived.

CLASSIFIED SUMMARISED NOTES

Avis Acres, Mrs. Taupo
I. G. Andrew, Palmerston North
J. W. Bain, Gisborne
D. A. Bathgate, Dr, Hastings
B. D. Bell, Blenheim
M. S. Black, Rotorua
A. Blackburn, Gisborne
M. J. Blundell, Mrs, Clevedon
M. J. Blundell, Miss, Clevedon
D. H. Brathwaite, Napier
M. J. Breen, Nelson
W. J. Broun, Wellington
C. R. Buckeridge, Te Matu

P. C. Bull, Lower Hutt
R. N. Buttle, Auckland
B. W. Campbell, Dunedin
B. S. Chambers, Auckland
S. Chambers, Auckland
W. C. Clark, Christchurch
J. Cowern, Kawhia
G. Crawford, Napier
M. P. Daniell, Waerenga
E. d'C. Darby, Takapuna
J. C. Davenport, Auckland
E. Dear, Kopane
H. F. Drake, Mrs, Runanga