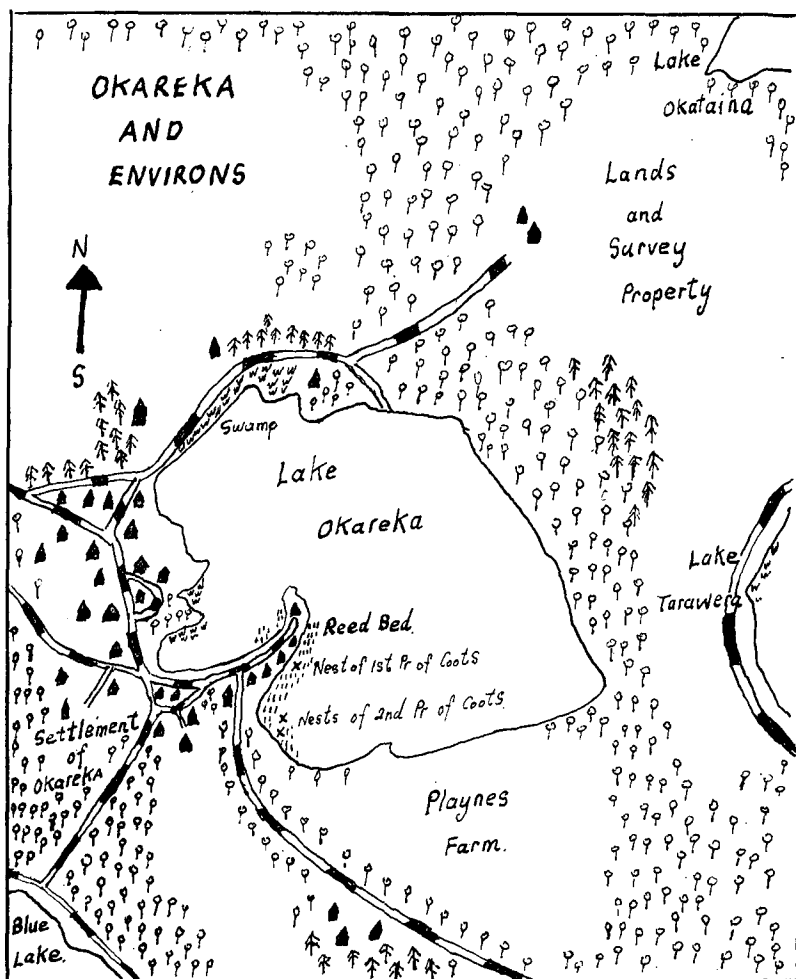


# AN ACCOUNT OF THE ESTABLISHMENT OF THE AUSTRALIAN COOT IN THE ROTORUA DISTRICT WITH SOME NOTES ON ITS NESTING HABITS

By R. JACKSON and H. LYALL

The Australian Coot (*Fulica atra australis*) made its first appearance in the Rotorua District on Lake Okareka, in the early spring of 1962, with the arrival of one bird on the southern side of the main peninsula. This bird remained by itself for about 4 weeks, keeping company with the Scaup (*Aythya novaeseelandiae*) and the Pukekos



(*Porphyrio p. melanotus*). It was then joined by another bird, presumably female (but in external appearance both sexes look alike). The pair soon adapted themselves to living in a bed of rushes (*Eleocharis sphacelata*) of about 4 or 5 acres in extent, and by the end of that year brought out a brood of seven young (not 2 broods as originally supposed). Soon after hatching one was lost, but the other six survived to reach maturity and stayed with the parent birds until the beginning of September, 1963, when they were driven off. Four of them stayed in the vicinity out of reach of the old birds, while two of them crossed to the other side of the peninsula, but failed to establish themselves there.

Towards the end of September 1963, this pair nested again, for in the third week of October they were seen with another brood of seven; again one went missing, but up to the present (January 1964) the rest have survived. During December 1963, they must have set to work once more for, unexpectedly on the morning of the 6th January 1964, two newly hatched young were noticed. Finally, on the 8th they came out on to the open water with a complete brood of seven. The young of the previous brood had moved away to the eastern end of the peninsula and joined up with two others belonging to the brood of the year before.

Meanwhile on the 17th November 1963, at the southern end of the same bed of rushes a nest with only three eggs was found, belonging to two members of the first original brood. These eggs had hatched by the 1st December, when the parents were seen with two young, which they lost a few days later. No further attempt was made at nesting by the same pair until the 23rd December, when a nest of six eggs was reported not far from where their first nest had been discovered. For a fortnight the number of eggs in the nest remained at six, but when visited on the 9th January 1964, only five could be found. By the 12th January the number had fallen to three, but a young bird was in the water close by. Another young bird was seen in the nest on the 14th January, as well as one egg. However, on the 16th January, the nest was deserted altogether, and one of the adult birds was seen moving through the rushes followed by two young.

So, during the period of approximately 14 months that the Coots have been breeding at Okareka, 25 young have been hatched and four lost, a loss of roughly 16%. This loss may be caused by the fact that when the young first take to the water, the parents have considerable trouble keeping them together, and odd ones become cut off from the main brood and are lost among the rushes, thereby falling easy prey to such predators as the Harrier Hawk (*Circus approximans gouldi*) and the Black-backed Gull (*Larus dominicanus*). In the last nest under observation the unaccountable disappearance of the eggs could be attributed to Pukekos, as on two occasions they have been noticed in the nests of the Black Swan (*Cygnus atratus*) feeding on eggs which have failed to hatch.

At present these Coots have not moved to any of the other lakes in the Rotorua district, with the exception of one pair which was reported on the northern side of the peninsula and has since vanished without trace. From what we have so far observed, their spread may be limited by two factors.

Firstly, they may be restricted by a preference for beds of rushes



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Fig. — Australian Coot (*Fulica atra australis*) settling on nest. Lake Okareka, 5/1/64.

(*Eleocharis sphacelata*) in this district. They are very aquatic in habits and obtain most of their food from the lake bed. They seem rather ungainly on dry land and seldom come ashore; when pressed too closely they prefer to swim for shelter amongst the dense rushes rather than take to flight. Therefore, this extensive bed of rushes at Okareka provides an ideal habitat. These rushes seem to grow best in sheltered backwaters which have a muddy or stony bottom and are deep enough not to dry out during the summer months. The maximum depth at which they will grow ranges from 8 to 10 feet. In places where there are large expanses of silt and sand, or where streams and swamps flow out into lakes, either they do not exist or their place is taken by raupo (*Typha angustifolia*), of which there are considerable areas on most lakes. Therefore, if the Coots confine themselves to these beds of rushes, their range in this area may be restricted through lack of preferred habitat. But, on the other hand, if the younger birds wish to breed many will have to leave Okareka for, when nesting, Coots take up well defined territories from which other members of their species are strictly excluded. Whether or not they will become as adept as the Pukeko in clambering about amongst the dense growth of raupo remains to be seen.

Secondly, their feeding habits are very similar to those of the N.Z. Scaup, which is present in large numbers on all the lakes about Rotorua. Both birds obtain their food from the bed of the lake by

diving, at which the Coot seems to be the more proficient, as it stays submerged for a longer period and can get its food in deeper water. The Coot seems to spend a good portion of the daylight hours feeding, whereas the Scaup feeds mainly in the evening and spends most of the day resting on the surface of the water. Certainly the Coots behave aggressively towards the Scaup and frequently attack isolated individuals. But during the winter months when the Scaup gather in large flocks, the rise of the lake level is bound to cause a shortage of food for both species. Then, whether the Coot will be able to hold its own against the Scaup, or will succumb to weight of numbers, is something which must yet be found out. At Okareka it has been noticed that if there are too many Scaup on the water, the Coots prefer to move back into the rushes and leave them to it, though at most other places they seem indifferent to their presence. The ecology of the Dabchick (*Podiceps rufopectus*) also is similar, but the Dabchick is not present in large enough numbers for it to be a serious rival of the Coot.

We were fortunate enough to be able to study two nests of these Coots, both of which belonged to the same pair. The first nest was built in a rather exposed situation, about 10 yards from the shore in a very open patch of stunted rushes; it was on the verge of disintegration when we found it. The site for the second nest, however, was much better chosen. It was placed about the same distance from the shore but, being about 6 yards in from the edge of a dense stand of rushes, was better protected from rough weather. Both nests were poorly constructed, being small, untidy heaps, built by pulling down the surrounding rushes and bending them round to form a platform, with little trouble taken to build up the structure with loose material. Nevertheless, built in this way, they were securely anchored to the lake bed, and were capable of withstanding a certain amount of wave action in stormy weather, though a rise in the water level would probably be disastrous.

The eggs appear to be identical in size and shape to those of the Pukeko; they are dull white in colour, but on closer examination show a brownish pink tinge. They are also marked all over with black spots.

During the incubation period the Coots seldom move far from the nest. On each of our visits one bird was on the nest while the other stood guard on the open water outside. Whenever we went up close, the bird that was sitting would withdraw and crouch at the side of the nest hissing with wings spread and neck outstretched as though prepared to attack; the other bird would leap up and down on the surface of the water in an effort to attract our attention. Once they got used to our presence they would quieten down, and the bird that was on the nest would settle on the eggs again. As soon as the eggs start hatching they seem to lose interest in the nest, their attention being given to the young that are on the water. The young evidently leave the nest very soon after they are hatched, as it was only on one occasion that a young bird was caught actually in the nest.

In appearance the young bear no resemblance to the adult birds. When first hatched they are almost a brilliant scarlet colour about the sides of the head, the bristles down the back of the neck and around the face are tipped with yellow, and the rest of the body is covered

with black down. After about three or four weeks this bright colouring fades and is replaced by a patch of dull greyish-white down the front of the neck and breast. They are almost full grown before they show black on the neck and the frontal shield begins to appear.

In conclusion, our thanks must be given to many of the local residents who took a keen interest in the proceedings and were able to give us much useful information; above all, our thanks must go to Mr. E. Housby of Lake Okareka, who originally found the two nests and who was always able to provide us with a boat when we wanted one. We are also extremely grateful to Mr. M. J. S. Black, of Rotorua, but for whose encouragement a good deal less might have been done.



## SHORT NOTE

### CATTLE EGRET NEAR GREYMOUTH

On 28th April, 1964, Mr. R. H. Jones of 92 Ward St., Cobden, told me that he had seen a strange small white heron near the roadside in the Coal Creek area. He said that he was familiar with the ordinary White Herons, Royal Spoonbills and White-faced Herons, but did not know this bird. The bird was white in colour; bill yellowy orange but shorter than a White Heron's bill; head and neck appeared thicker in proportion than on a White Heron; the legs were very dark; the wings in flight rounded and blunt. On the ground the bird had a sawn-off appearance, tail short and well off the ground, stance upright. When the bird was disturbed it flew to some grazing cattle, landed by the head of one, skipped sideways with half-raised wings when the cow butted at it, then moved around behind the cow. The bird was still following the cattle some four hours later. There were no other birds to be seen in the area. From the general description and behaviour the bird was clearly a Cattle Egret, *Ardeola ibis*.

I was not successful in seeing the bird on the ground but probably saw it in flight over Greymouth on 30th April, 1964. The relatively short and rounded wing compared with White Herons, *Egretta alba modesta*, and Little Egrets, *Egretta garzetta*, was very apparent. The bill appeared orangey and the legs very dark. The wingbeat was noticeably faster than that of White Herons or Little Egrets. However, I had only a brief glimpse in good light from below the bird while I was driving a vehicle.

On 3rd May, 1964, Mr. T. Hartley-Smith reported that he had followed a White Heron-like bird near Totara Flat. Unfortunately the fog was very thick and a good view was not obtained. The bird had a short, rounded wing, very dark legs, quick wingbeat — about twice as fast as the wingbeat of White-faced Herons, *Notophoxyx novae-hollandiae*, it was with; bill appeared dark. Smaller than the White-faced Herons.

Whether or not the same bird was seen at Greymouth and Totara Flat is problematical, but the Greymouth bird was not reported after 30th April and it could easily have moved some twenty miles up the Grey River by 3rd May. It is very likely that the Totara Flat bird was in fact a Cattle Egret.

— P. GRANT