

## Little Grebe at Doncaster, Victoria

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Although threatened by the advance of sub-division and the resultant filling in of the dams on which they live, the Little Grebe (*Podiceps ruficollis*) is still common in the Doncaster district. As this is a long established fruit-growing area, there are many small dams which are needed to irrigate the orchards. Grebes favour those dams which possess a substantial weed-growth and consequently a plentiful food supply.

The majority of the Grebe population moves out of the district in autumn and winter and this movement is hastened by the emptying of the dams. The birds return during September and October, the male bird preceding the female by a couple of weeks.

In no case have I known more than one pair of birds to breed simultaneously on the one dam, although occasionally more than two adult birds may be present at the same time.

On a dam, with an area of one-third of an acre, in our orchard a pair of Grebes have nested for the past four years. In the second year (1956-7) the birds were double-brooded and the nests were placed approximately in the centre of the dam in water about four feet deep.

In the other three years the birds have been single-brooded and the nests have been placed about ten yards from the bank in two feet of water. The positions of the nest in each of these three years has been within a yard or two of each other.

Nest building appears to be a lengthy and discontinuous process, intimately connected with the courtship of the birds. The construction of the nest commences a week or so after the arrival of the second bird and may take as long as three to four weeks. Often two or three nests may be started before one nest is completed. The incomplete and therefore less substantial structures are later used as resting places for the young Grebes. Both birds assist in the building of the nest which, when complete, is rather like an iceberg — 1/10th above and 9/10ths or more below the water.

This last season (1958-9) a hide was moved out to the nest at the rate of five to six feet a day, primarily for the purpose of photography. However, during the long periods of waiting there was ample opportunity to gain an insight into the domestic life of the Grebes, and as the hide was finally placed within two feet of the nest it was possible to make an intimate study of the nesting of these birds.

Unfortunately I was not present when the eggs were laid, but from observations made at other nests it would appear that incubation commences with the laying of the first egg, although the bird does not sit very closely until after the laying of the second egg.

The eggs are laid at daily intervals and the clutch varies in numbers from four to six eggs — in this particular case six. The female Grebe appeared to do all the sitting although the male came and covered the eggs on occasions when she had left them uncovered. Surprisingly the bird seemed to sit more closely in the earlier stages of incubation, although she was always quick to vacate the eggs on every occasion that there was human activity nearby. During overcast weather the bird would brood the eggs, but on sunny days it would not sit on them for as long as four hours, but during this period it would make an odd sortie to the nest, to stir up and replace the covering of weed over the eggs.

During the period of incubation the nest was being constantly built up, the work being carried out mostly by the male bird. On one boisterous day, when the wind was whipping up small wavelets all over the dam, the nest was raised by as much as one inch. The procedure was for the male bird to carry weed in his bill to the nest from further out in the dam, and he would place it on the nest whilst the female remained on the eggs. He would then dive repeatedly underneath the nest, coming up with fresh material taken from the bottom of the nest. After he had deposited the weed, the female would take the material from the edge of the nesting platform and tuck it about her and the eggs. Sometimes she would join the male in these activities, both birds diving and popping up at any point about the nest. This activity continued until the last egg hatched. Tiring of the nest repair work the birds would sometimes swim away leaving the eggs uncovered. The birds would either feed or indulge in playful behaviour; the male swiftly pursuing the female with both birds uttering their shrill, chattering call-notes. If, after some minutes, the female showed no inclination to return to the nest the male would return and cover the eggs.

The first egg was hatched on the morning of December 17, and the remaining eggs then hatched at regular intervals until the last young bird emerged during the night of December 22/23 (one egg was addled). As one egg hatched a chick could be heard cheeping in the egg which would hatch next, although it would possibly be 30 hours before the chick succeeded in emerging from the shell.

The shells of Grebe's eggs are very hard and the chicks had considerable difficulty in breaking their way out. On one occasion I watched a chick hatching. After a long struggle it had only managed to chip away a section of the shell, and the mother, perhaps filled with compassion for her feeble off-spring, bent down and broke the shell with her beak. With the chick finally freed she picked up the egg shell, slipped off the nest and swam for a distance of about ten feet, before dropping it into the water. The chick was fed within 30 minutes of hatching. Whilst the young birds were breaking their way out of the shells the female constantly called with a soft purring cluck rather like a bantam hen. At other times she also made this call to her young.



Little Grebe on nest.

Until the last egg hatched the family remained on the nest where the chicks would usually rest under the wings of the brooding hen. In common with other birds the Grebes were most industrious in feeding their young, with the male bird doing the lion's share of the work. The usual procedure was for the male to arrive at the nest with food, and he would then softly call the young to the edge of the nest and present the first to arrive with its prize — generally a big mud-eye, nearly the size of the chick itself. The male would force this food down the throat of the chick and would sometimes cause him to topple over, with a portion of his dinner still protruding from his beak. Then would follow a period of feverish activity during which each chick would be fed in quick succession, with perhaps each one receiving two or three helpings. The feeding would last for about five to ten minutes and then would follow an interval of 30 to 40 minutes before the whole business started again.

When the female left the nest she would take the family with her. The Little Grebe is well designed to act as a floating nursery. Not only is its back fairly flat but its rump forms a natural landing platform up which the young birds can scramble easily from the water. The male Grebe would feed the chicks while they were on the back of the female. As they grew older and stronger they became adept at scrambling under the old bird's wings and it was not uncommon to see a tiny head protruding from the centre of her back, looking rather like a coachman or a jockey. This form of transport of the young was not confined to the female and often the chicks would swim from one parent to another.

If the female was disturbed on the nest she would rapidly cover whatever eggs remained and swim quickly away leaving the chicks to scatter in all directions. When the danger had passed, the parents would swim about collecting the family. This was not very difficult, even if the young had covered a long distance, because young Grebes have strong voices which they know to use when they get lost.

After the last egg had hatched the Grebes abandoned their nest and reclaimed one of the nests that they had built earlier in the season. Until they were a couple of weeks old the chicks would spend a considerable part of the day resting on this nest. It was also used as a roosting place during the night by the parents and the young birds.

The period of the incubation of the eggs of the Little Grebe is 21 or 22 days, although, as previously stated, the female might be on the nest for the best part of a month. On one occasion, when the eggs were infertile, the Grebes tended a nest for about two months before realising that their efforts were futile.

Although it is common knowledge that the Little Grebe carries its young on its back or under its wings as it swims over the surface of the water, it may not be known that the parents dive and swim under the water with the chicks still clinging to them. However,

from my own experience this behaviour is not at all common. On one occasion this habit caused the death of a Grebe chick. My presence in the vicinity of the pond alarmed a parent bird, who had a young bird under its wing, and it dived under the water. When it surfaced it kept its body submerged and only allowed its head to show above the water, which is the usual behaviour when danger is nearby. The bird remained in this position for some minutes and the chick, trapped under its parent's wing, was drowned.

Another record also shows that Grebes carry their young on their backs when they fly from dam to dam. Some years ago a Grebe was heard calling during one night, as it flew for some hours about our house. Next morning the reason for this excitement became apparent. Lying helpless on the path was a young Grebe, about half-grown but which was unable to fly. This bird was found about a hundred yards from a dam on which the previous day there had been three young Grebes. When we inspected the dam only two young birds were to be seen, so we returned the young one to the water and the whole family disappeared during the next two days.

No one would claim that the Little Grebe is the most intelligent of birds, but its behaviour on one occasion would seem to suggest that it is one of the dullest, although it may be wrong to condemn a species because of one incident. Some vandals, on finding a Grebe's nest which I had under observation, took the four eggs, upset the nest, and threw a number of small green apples, roughly the size of Grebes' eggs at the nest. Imagine my amazement when, on walking past the next day, I saw a Grebe hastily covering four green apples in the nest which had been repaired. Whether the apples were placed in the nest by the birds or by human hands I do not know, but the Grebes, quite undaunted, sat on the apples until the dam was later pumped dry.

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**Nesting of the Albert Lyrebird.** Recently, with another birdman, I was able to visit my favourite jungle area in search of nests of the Albert Lyrebird (*Menura alberti*). This area lies on the Great Dividing Range 30 miles east of Allora, southern Queensland. It is rich in bird-life but is somewhat difficult to get into at times, especially after rain.

The first visit to the area in search of the birds was made on May 21. We were walking along a washed-out timber-track when we heard a Lyrebird calling on the side of a ridge. As we descended we saw two of the birds fly down the hillside. A search was made for a nest and after about three-quarters of an hour one was found; but it was not completed. It was built at the base of a palm-tree on a ledge about 3 feet high. This particular area contained many tree-ferns and palm-trees. Snail-shells were common on the floor; most of them were broken.