Its ways of feeding are similar to those of normal grey birds: wading knee-deep in shallow water, it has been observed agitating water with its legs. It may also be pointed out that the Wairau bird is much less shy than birds of the grey phase usually are: it can easily be approached and observed at a distance of 20 to 25 yards. At night it is accustomed to roost on the breakwater at the river mouth or on sticks or logs.

The Wairau Bar is not frequently visited by birds of the normal grey variety, though these birds are common at Port Underwood, some ten miles north from the bar. However, a normal reef heron was present in the Wairau Bar area during the whole month of December, 1944, but the two phases did not associate at any time during their joint presence at the bar. In May, 1945, a Kotuku, or white egret (*Egretta alba*) appeared for the first time in the last few years at the bar, and both birds have been observed feeding together in the same lagoons; it was then that the difference between the two species could be clearly noted.

To conclude, though the observations recorded so far do not allow any definite conclusions to be drawn, the behaviour of the Wairau bird seems to support its suggested overseas origin. It is needless for us to add that any further records of the pure white phase in New Zealand would be greatly appreciated.

REFERENCES.

MAYR, E., and AMADON, D., "Geographical Variations in *Demigretta sacra* (Gmelin)." *Amer. Mus.* Nov. No. 1144, October 13, 1941.

OLIVER, W. R. B., "New Zealand Birds." Wellington, 1930.

WODZICKI, K. A. and EYLES, JAS. R. "White Phase of the Reef Heron (*Demigretta sacra*) in New Zealand." *The Emu,* January, 1945.

THE NESTING ACTIVITIES OF A PAIR OF BLACKBIRDS.

By I. TILY.

Nest 1. On September 21, 1940, the first nest of this pair of blackbirds was found. All morning my husband had been working under an overhanging branch of a macrocarpa hedge, little thinking that on this branch, seven feet six inches from the ground and about two feet above his head a female blackbird was sitting on her nest incubating her eggs. Towards noon he accidentally struck the nest with a piece of timber. The startled bird flew off; two eggs fell from the nest and were broken at his feet. Four eggs remained, and the bird resumed her brooding. Eighteen days later, on October 9, the bird was no longer incubating, and the nest was found to contain an unhatched egg and a dead chick on which no apparent injury could be found.

Nest 2. Three days later, on October 12, the female was again carrying building material, and her nest was discovered well under

construction approximately 20 yards along the hedge from the first nest, and again on an overhanging branch, this time 9 feet from the ground. The site of this nest was conveniently in view from a window where a good deal of my work is done, a fact of which I took full advantage. The female, as has been the case with all blackbirds I have watched, did all the collecting of material and the building, making in a quarter of an hour four or five trips with mud or dry grass. On the morning of October 14, two days after the nest was discovered, it was completed, and that afternoon the first of a clutch of four eggs was laid. During the building of this nest, the female began to lose her long tail feathers and, a few days after the chicks were hatched, on November 3, the last of them had disappeared. No doubt this handicapped the busy bird, but it made identifying her at a glance a simpler matter. This losing of tail feathers during the nesting season is not uncommon. During the 1941-1942 season, I counted six different tailless female blackbirds, four of them being in the locality of our garden.

Both male and female fed the young, and, at first, the female always settled on the nest after the feeding, at times simply moving aside when the male came with food and returning to the nest on his departure. At other times, on his arrival she flew off to collect further food supplies. While sitting on the nest her head was constantly on the move, and she seemed alert to every sound and movement. On November 6, little downy tufts showed on the heads of the chicks, and their bodies were patterned with growing feathers. They now were able to stretch their heads high above the edge of the nest, one bird being decidedly stronger than the other three. A faint cheeping was heard in the morning, and by the afternoon, it was much stronger as, indeed, were all their movements. An observation made by standing quietly on the top of a ladder revealed that the chicks were fed on fat from the bird table, flies, moths, slaters, small unidentified insects, a large, glossy, orange-coloured chrysalis with a brown head, and twice a white butterfly was thrust whole down a gaping throat. It was interesting to note that the parents could both drink and give call notes, and in the case of the male sing, with their bills well filled with food.

On November 9, one chick was missing from the nest, and I connected its disappearance with the stormy weather prevailing at the time. Two of the remaining birds were stronger and more active than the third. During the absence of their parents these two now preened their feathers, scratched themselves, and stood up stretching themselves and fluttering their wings. On the morning of November 10, after an exceedingly windy night, a dead chick was found under the nest, bruised and bleeding from its fall. After two days' absence from Dunedin, I returned home on the morning of November 13, just in time to see the sole survivor of the brood leave the nest.

Nest 3. On November 14 I knew by mud dropped from the roof gutter that the female was again building, and the next day her nest

was located 12 feet from the ground in an aristotelia tree at the end of the macrocarpa hedge. The male continued to feed the young bird, while the female gave her attention to the construction of the new nest. On November 15, I noted a conflict between the urge to feed her young and the urge to build. She collected a bill full of food, and then stood hesitating with it for the space of approximately one to two minutes. Finally she dropped the food, ate it all except one piece, and turned her attention to collecting nesting material. Again a clutch of four eggs was laid, but on November 30 the nest was discovered to be empty and deserted. I suspected the nest to have been robbed by a rat or a stoat, both of which undesirables had been seen in the garden.

Nest 4. From December 1 to 3, the pair of blackbirds seemed restless and undecided, the male changing his song perches to include a wider territory. By December 4 the new nesting site was decided upon, and unfortunately for my observational work, they chose another garden where I did not know the owners. The birds continued to feed, and the female also to collect most of her nesting material from our garden, so I was able to keep some check on their movements. Finally, I visited the neighbour, who promised to make a note of the birds and report to me. On December 9 I was informed that there were three eggs in the nest, which was built in a pear tree, but, as the bird did not start incubation until the next day, I am convinced another egg was laid after the nest had been inspected. On December 16, I knew that again the nesting arrangements of this pair had met with misfortune, for they were back in our garden looking for another nesting site.

Nest 5. By 8 a.m. on December 16, the blackbirds had decided on the jasmine at our back door for their fifth nest. It was a place that had been considered by the male but rejected by the female earlier in the season. Their choice deleighted me, for not only was it convenient for observation, but I now lost my concern as to whether it had been my interest in their nesting activities that had driven them out of our garden. The nest, which was 7½ feet from the ground, was very scantily built; in fact the bird made the wall of the house serve as part of the wall of her nest, just a lining of roots being placed against the bricks. It was interesting to note the gradual deterioration in the construction of each nest as the season advanced. On the second day of nest construction, when the female was carrying mud from the roof gutter of a neighbour's house about 180 yards away, she was making a flight every two minutes, which showed a decided speeding up on her labours on Nest 2. On the last three or four trips she showed signs of tiring, for she paused each time on a tree on the line of flight before flying upwards to the roof.

Again the clutch was four eggs, the first egg being laid on December 19. The female was noted on the nest at 10.20 a.m., was still there at 11.45 a.m., but gone at 12.15 p.m. While she was on the nest, the male, who kept well away from the nesting area, appeared restless,

moving about from perch to perch, and was seen near the sites of former nests, gazing at them. On December 20, the female was on the nest at 9.25 a.m., still there at 11.45 a.m., but gone at 12.15 p.m. The clutch was four eggs, and incubation commenced on December 22, when the last egg was laid. At no time did I see the male feed the brooding female, indeed, on the whole, he seemed to keep at a distance from the nest, his favourite perch being on a tree approximately 100 yards away, but overlooking the site. When the female left the nest for a short time for exercise and food, he was several times seen at the nest mounting guard, and on a few occasions brooding the eggs, but he did not crouch so closely on the nest as the female.

On the evening of January 11, the female was still sitting on her four eggs. Next morning at 9 a.m. one egg was gone, the broken shell being found under the nest, but the bird was still incubating the remaining eggs. However, as the day advanced, she began to stay away from the nest for periods of increasing length. During the day there were several heavy showers, and at the approach of each shower she hastened back to the nest and covered her eggs until the rain ceased. Next day the nest was definitely abandoned. There were some very hot days in December and January, and I am inclined to think that the eggs may have been overheated by their close contact with the brick wall.

To summarise, the nesting activities of this pair of blackbirds over a period of four months five nests were built, 21 (probably 22) eggs were laid, at least 14 of these eggs were not hatched, and only one young bird was reared.

In the 1941-1942 season, aided by an adjustable mirror on a long rod, I was able to follow even more closely the nesting activities of this pair. The female was definitely the same bird, and again lost her tail, but I had not the same positive proof of the male though I felt convinced he was the same bird. This time three and a half nests were built, one nest being abandoned when half built owing to the fierce attacks of another pair whose territory they were invading, six clutches of eggs were laid, 22 eggs in all, seven young were hatched, six left the nest, but only one reached maturity. It is interesting to note that though these nests were inspected daily, the bird used one nest three consecutive times, and when the half finished nest was abandoned, this nest was again repaired and used a fourth time. Though this pair have continued to nest about the garden area, I have not again succeeded in obtaining a full record of their nesting activities. During the past two seasons, 1942-1944, I have come to the conclusion that starlings may be responsible for the broken eggs and dead young found in numbers of deserted nests.

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