

BREEDING HABITS OF STARLINGS.

By HORNBY SCHOOL, CANTERBURY.

Breeding Starlings (*Sturnus vulgaris*) have been under observation by the pupils of Hornby School, Canterbury. Observation was assisted by means of a periscope. During September and October the birds were seen constantly visiting the nest site, though little quarrelling took place. On October 18, 1944, a starling was sitting on four eggs.

Next morning, at 8 o'clock, the box enclosing the nest was turned round once to bring the nest into full view of the periscope. The north-west corner now became the south-west corner. The bird had been away for a morning stretch at this time. Its return was watched from a distance, out of sight. The bird landed on the step outside the entrance hole, from which it could command a view of the inside nest. As far as a bird can express a feeling by outer actions it showed a kind of frozen awe. Sitting perfectly still where it had landed, it turned its head smartly to look in, then out—in, out—in, out—in, out, in perfect petrified astonishment. It sat there for four minutes by the watch uttering a single cry at intervals of "Jit! Jit!", as though the puzzle could not be solved. Then it flew to the opposite building to look at the entrance from a distance. It then returned to the step, entered, but turned round immediately, as its yellow beak could be seen just inside the entrance. In a short time it came half out with its tail and body inside. After much hesitation it settled down on the nest, but was doubly sensitive from then on, coming off at the slightest sound of a footfall on the asphalt outside. So the bird sat under "jumpy" conditions as the children were constantly passing except in the actual school hours.

This nest was unsuccessful, a weak chick, which hatched on November 1, died and was found on the asphalt the next day, while the remaining eggs disappeared two days later. Then commenced a contest among three pairs of starlings as to which should own the nest. The cock bird of the first pair was kept very busily employed keeping out all newcomers. The opposing hen birds seemed to give him most trouble, as they would try persistently to take possession of the nest.

November 5.—Through the periscope two cock birds were seen to be fighting so fiercely that they were easily caught in one handful. Even then they fought each other if allowed. They were marked. When liberated, one flew right away but the other settled on the school. After that all competition ceased and two birds seemed to take up residence. One was seen to sit deep in the nest and vigorously kick out its legs backwards as a duck does when swimming. This deepened the nest and rounded it. Laying commenced as follows:—November 10, 1 egg; Nov. 11, 3 eggs; Nov. 12, 5 eggs; Nov. 13, 6 eggs. (One bird began to sit about this time, but another was about outside.) Nov. 14, 7 eggs; Nov. 15, 8 eggs. By this time it was quite obvious that two hen birds were laying in the same nest while no cock birds were seen singing on the roof outside. Since the capture and marking of the cock birds, they seemed to have left the vicinity. Judging by their activities on the days preceding their capture their duty must have been to keep guard

over the nest to prevent others than their own mates from entering. The two hens remaining must have taken dual possession, with no apparent quarrelling between them, though one seemed to be the ruler. As one was seen to be sitting almost continuously since November 13, the other must have slipped in during the former's absence to go on laying after the first had finished. The sitting bird had some difficulty in covering all the eggs and frequently she would take up a better position, working herself down among them. She still remained very sensitive, flying off at the slightest noise outside.

On November 21 another egg was laid, making a total of 9. On November 25 two chicks hatched (13 days), and on November 26, two more. Feeding began that day. She would feed two and then nestle down on all for five minutes, when she would be off for more food. On November 27 at least five chicks were seen. Feeding now went on regularly while the children from all classes watched the process. On November 28 the children reported that two birds were sharing in the feeding. This was later verified. As no marked male birds had been seen since November 5, the two must be hens, which together laid the final count of nine eggs. Whether the warmth of the chicks would be sufficient to hatch the remaining eggs (laid over a period of nine days) had yet to be seen. That both birds were females seemed certain owing to their cries, attitude and lack of any song. They both seemed to bring food about the same time, one waiting for the other to come out, not, as would be expected, at alternate intervals. On November 29, two Form II. children watched the feeding process for 45 minutes through the periscope. In that period the young were fed 16 times, an average of one feeding every three minutes. On November 30 the unhatched eggs had disappeared.

On December 5 at 7 a.m., a great upset was noticed among the birds in the vicinity of the nest. The morning was grey and overcast. Investigation showed a little Owl (*Athene noctua*) perched a few yards from the entrance of the nest. It allowed itself to be closely approached before flying away, closely mobbed by all the starlings in the vicinity. After that the parent birds refused to enter the nest, though they were carrying food. They constantly came near, peered in at the entrance, but flew away again, calling out loudly in distress or in warning. An investigation of the nest disclosed that there were only three young ones remaining. These seemed scared, not calling aloud for food at the slightest noise as was usual. The parents refused to enter again for some time. At this stage it was only a matter of conjecture whether the owl had robbed the nest or not, but circumstantial evidence seemed against it.

At 4 p.m. on the same day the owl was again sitting on the fence close to the nest. Again all the surrounding birds were in an uproar. After being chased away, the owl returned repeatedly till dusk, when rain was falling heavily. Each time the parent starlings made a great din, sitting often a foot or two on either side of the owl. When it flew away, they were scared to enter the nest. They would peer in at all angles before again commencing feeding. That night a trap was set. At 5 o'clock next morning the owl's presence was indicated by much

commotion, as before. The owl had visited the nest but the trap had failed. Near the entrance blood was seen, while one more fat nestling was gone. On the next night, when the trap was again set, the owl again entered. The two remaining chicks were pulled to the outer edge of the nest, being killed, one with two claw holes in the upper part of the head, while the other one's head had been crushed as though by the owl's beak. The trap again failed. After this, the starlings left the surroundings. No birds had approached the nest site this summer (up to the end of January, 1945).

REACTION OF SMALL BIRDS TO LITTLE OWL.—Small birds, especially blackbirds (*Turdus merula*) are excessively annoyed by the presence of the Little Owl (*Athene noctua*). The blackbirds approach to within a few feet or hop round on the ground, uttering piercing cries. On several occasions a blackbird has been seen to swoop at an owl, dislodging it from its perch. No young birds have been seen in the 1944 season where usually there are plenty. The owls have a nest high up in a shingle pit across the road. They have been seen flying along the trees from pole to pole, listening for the squeaking of young birds in their nests. Two nests of hedge sparrows (*Prunella modularis*) in a macrocarpa hedge close to a house were robbed in one afternoon. The adult hedge-sparrows were heard uttering plaintive notes.—Hornby School, Canterbury.

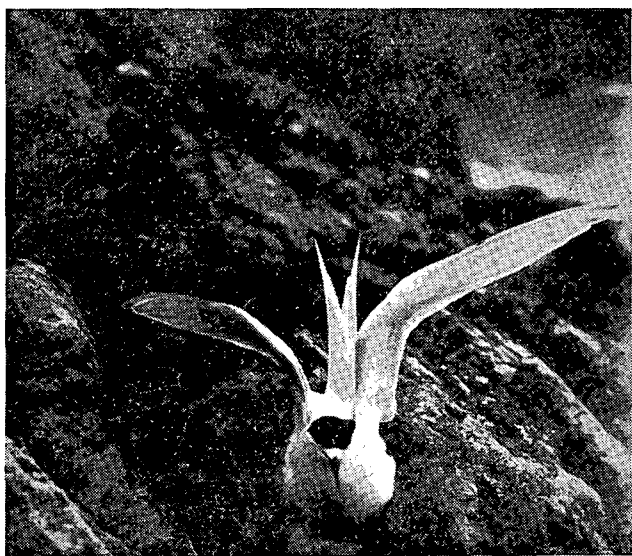


Photo: A. S. Wilkinson.

WHITE-FRONTED TERN (*Sterna striata*) settling on nest,
Kapiti Island.