

BLACKBIRD BEHAVIOUR.

By Rae Shanks, Cambridge.

Early in May, 1952, I first noticed two male blackbirds fighting in the fowlrun. One (No. 1) had a billful of short lengths of nectarine leaves which he used as a shield; on some days, however, he hopped round after the other bird (No. 2) without the leaves. The latter bird, of a long, thin build, contrasted sharply with No. 1, the stocky, self-possessed warrior, as they proceeded with their war. One day they became locked in battle after fluttering in the air together, and each one tried (often succeeding) to grab the other's bill with his. For the rest of May, the fighting was much the same: No. 1 hopping after No. 2, then No. 2 after No. 1, the fighting always in the fowl run, and for variation No. 1 sometimes included grassroots in his shield.

On June 1 they fought for 10 to 15 minutes, then No. 1 picked up a long nectarine leaf, not snipping it in half as usual, but folding it along the central vein and grasping it by the middle. He fluttered up and down with No. 2, still hoding his leaf, which became torn and ragged, but he did not change it as he usually did. The fights always consisted of No. 1 chasing No. 2, both birds turning their backs to each other, and then No. 2 chasing No. 1, in and out under the hedge.

July came, with a change of ground. No. 1, pecking around as if getting worms on the rose garden, picked up some bedraggled leaves and chased No. 2 to the compost heap, below the old fighting place. No. 1 returned to the rosebed and a female entered the picture for the first time. She and No. 1 hopped round together (the same method as No. 1 and No. 2 used). He twice picked up a crisp beech leaf and dropped it after carrying it a few hops, but she moved off. He hunted worms and hopped close in round the trunk of the beech, with its low branches close over his head—this became a favourite haunt. No. 2 was advancing from down the lawn; No. 1 hopped towards him, but No. 2 pretended to hunt worms in the side bed. No. 1 went on hunting in his rose garden, but a quarter of an hour later he picked up leaves—No. 2 had appeared, eating a worm on the rosebed. As soon as he hopped to the compost, No. 1 dropped the leaves; five minutes later No. 2 encroached again, but hopped off later, and No. 1 was seen with the female.

It was August, with No. 1 and the female zig-zagging on the lawn. After sunset, two male blackbirds were flying up together several times on the edge of the lawn. Another male joined them, and they all hopped round. Nearby, apparently uninterested, was the female. A cat stalked them, and there was a great "dinking." The next day, two or three blackbirds were hunting on the lawn. That did not appear to worry No. 1, by his beech tree. But as soon as No. 2 advanced on the rosebed, No. 1 picked up a beech leaf, scooped several more up, and with head lowered, charged No. 2. At the end of each little run of hops, No. 1 paused, raising his head (the leaves hampered his view) to see No. 2's reactions. This action was a customary one.

A week later, on the side lawn, No. 2 had a long length of straw (for nest?), and No. 1 chased him with his chestnut-leaf shield. No. 2 dropped the straw and was chased by No. 1 with a new billful of leaves. He flew to the other end of the lawn with his leaves, something he had never attempted before. He hopped back and chased No. 2 in circles, No. 2 clinking violently. A third male flew out of the chestnut tree and chased both of them. They parted, with the female watching. The third male hopped off (he hopped sideways!). The next week, No. 1 and No. 2 were together, No. 2 a very ruffled bird with his chest feathers half pulled out. No. 1 picked up leaves and they flew 6ft. together, No. 1 losing one or two of his leaves, but when he landed he still had some stiff beech. No. 2 flew 10ft. on to the side lawn, with No. 1 in pursuit, still with his leaves. No. 2 flew into a tree and No. 1 looked this way and that. He held his leaves as far down his bill as he could, and did not unclamp his bill. He rapidly flew right round to the back of the house, via the fowl run, where another blackbird on seeing him, "te-he-hed" and flew to the top of a fruit tree.

The following day the three male blackbirds were by the beech. Later No. 1 chased No. 2, No. 1 with the usual leaves. Then came a change in tactics. No. 2 picked up a leaf (he did not know the art—it dangled out of his mouth at one end, like a pipe) and hopped after No. 1. Several times he changed his leaf, eventually holding a crisp one like No. 1, who did not swap leaves, except for dropping one at a time and adding. No. 1 and also No. 2, flew up into a tree with their leaves. It was merely a stately game. Next week, the female was seen hopping round after one of the male birds.

The four-month "war" stopped—No. 2 had played the game. Probably nesting had begun, as a week before I had seen a male blackbird flying with a worm. I do not know which of the three males the female won, but all appeared satisfied.

REVIEWS.

Secondary Song: A Tentative Classification. M. D. Lister, 1953, *Brit. Birds* 46.4 : 139-143.

All those of us who speak glibly of "whisper song" and "sub-song" should read this. The author prefers to describe a bird's normal loud specific song, which is most in evidence in spring but is given by some species at other seasons as well, as "primary song." "Secondary song" can include "whispering song" ("the very quiet, inward rendering of the primary song," audible not more than about 20 yards); "sub-song" ("the very quiet inward rendering of song which is intrinsically different from the primary song . . . It is not always easy to distinguish between the whispering songs and sub-songs of those birds such as blackbirds. . ."); "rehearsed song" (imperfect versions of the primary song); and "female song."

In New Zealand the "rehearsed song" is usually known as "part song," and the tui has a true "whisper song." It is not generally realised that such birds as the chaffinch and greenfinch have extremely quiet and sweet warbling songs which certainly are "sub-songs," and the song of the silver-eye, described by Miss N. Macdonald (*Notornis* 4.4 : 127) also falls into this category.—J.M.C.

On the Hour of Laying and Hatching of Birds Eggs. A. F. Skutch, *Ibis* 94 (1) : 49-61.

This interesting paper analyses many records of the time of laying and hatching of eggs of Costa Rican birds. Many birds lay soon after dawn and each species has its own time of laying. These show less variation in the hour of laying than those laying later in the day. Some birds lay successive eggs at 24-hourly intervals and others at 25 or 26-hourly intervals. Hatching in some species takes place a fixed time after incubation commences but in many others there is a far higher percentage that hatch in the morning whatever the time of laying (and if hatching is delayed, the eggs may fail to hatch until the following morning, a day late). It is suggested that there is a diurnal rhythm in the birdlings' efforts to break through and escape from the shell, probably due to constant warming during the night when a parent is on the nest without a break for many hours.—J.M.C.

The Antarctic Today. Edited by Frank A. Simpson, M.A., *Dip. Jour.* Publishers: A. H. & A. W. Reed, in conjunction with N.Z. Antarctic Society. Price, 47/6

New Zealand's interest in the Antarctic is important, especially in the Ross Dependency. Explorers, since the time of Sir James Clark Ross, over 100 years ago, have proved that the Ross Sea, almost ice-free in the summer months, and leading well into the heart of the land mass, is the best one for outside approach. Because the hinterland is a New Zealand dependency and the Dominion the closest base to serve it, the view has been expressed frequently that the Ross Sea-New Zealand summer air and sea routes are