

birds which had made a nest in an abandoned mine shaft. Just below the top of this shaft, rising and lowering water had hollowed out a bowl-like excavation, on the under section of the top part of which the blackbirds had made a nest in a tunnel under a rock. No animal or human could reach it and no bird could see it from above.

The blackbirds perhaps used this device to adapt their nest to an environment in which it was threatened by more than one kind of hawk which used adjacent pine trees—the only trees for a mile or more in any direction. These birds made themselves safe from predators by changing their tree-nesting habits to one more like that of a Bank Swallow.

They were secure at least until their young were ready to fly. Whether the young will be able to fly upwards when they leave their nest, or how the parents will save their brood from being drowned in the water in the bottom of the shaft or sump, is uncertain.—FISHER C. BAILY, *Reno, Nevada*.

A Summer Tanager, *Piranga rubra*, Annihilates a Wasp Nest.—In November 10, 1948, I saw one female Summer Tanager destroying the nest of large red hornets. The events were as follows: At 9:30 a. m. my attention was attracted toward an active tanager on a tree some ten meters from my work room in the museum.

The nest of hornets was long and uncovered externally. With my binoculars I could plainly see the pupae and larvae of the wasps. The bird was making short flights from a branch some three meters from the hornets. In each flight the bird grasped with its bill a hornet from the nest. The angry insects followed the bird a short distance. Once on its perch or on any twig not far from the wasps, the tanager triturated the insect and swallowed it. An instant later the bird was making other flights and capturing other hornets, and so on and on all morning.

Sometimes the tanager could not capture the wasp in passing near the nest, but as the insects rushed after the bird it would turn suddenly, grasp one of them and dive to escape the insects. It would then return promptly and take another hornet. The bird did not always swallow the insects; many times it merely killed the hornets and dropped them to the ground which soon became covered with many dead hornets.

All this continued, with only occasional resting periods for the bird until about noon when, after an attack from the tanager, the hornets suddenly *en masse* deserted the nest. Promptly the bird alighted on the nest and gorged on the larvae and pupae and caught any hornet that approached the nest. At 1:30 p. m. the bird flew out of sight and I had to go to lunch, but on my return at 4:00 p. m. I was surprised to see that the hornets had returned to the damaged nest. The bird was not within sight and did not return all afternoon.

I concluded that the tanager was through with these hornets, but the following morning it came back punctually at 9:00 a. m. and once more I found myself witnessing the same interesting events. This time, however, the hornets withstood the bird only until 10:45 a. m.; at this hour the remaining insects deserted the nest. The tanager once more alighted on it, swallowing the pupae and larvae left the previous day and tearing to pieces the damaged hornets' nest.

Was the tanager merely eating the adult insects or was its interest focused on trying to force the adult hymenoptera away so that it could feed on the tender young?—MIGUEL ALVAREZ DEL TORO, *Museo de Historia Natural, Tuxtla Gutiérrez, Chiapas, Mexico*.

Winter Courtship Display of Female Cardinal, *Richmondia cardinalis*.—We have outside our window a feeder used by a pair of Cardinals, as well as other birds. On February 16, 1949, my wife called me to the window to look at the