

a scaffolding in a near-by oak and the following morning hung a grass-mat blind on a level with the nest hole so that we could make observations and photographs without being seen.

At 6:20 the following morning, the male trogon flew to the nest hole and clung to the outside like a woodpecker, looking in for about five minutes before entering, and then remained inside for twenty minutes. He then departed, perhaps in search of the female. At 8:30 he returned and perched on a branch ten feet from the nest for an hour before the female arrived. She clung to the entrance for several minutes but did not enter, and when she departed the male took the same position for five minutes before entering the nest where he remained for another 20 minutes. Then the female returned, looked in the hole, and remained a few minutes, and when she flew away, the male followed her. The female soon returned alone, however, slowly entered the hole and remained for 20 minutes before departing, as had the male.

This behavior indicated to me that she probably had laid an egg and that incubation had not yet started, so I left the blind and proceeded to an Arizona Jay's nest. In all their behavior the trogons were exceedingly deliberate except when actually alarmed.

The following day, we had to leave for points north and west, so I decided to examine the nest and risk disturbing the birds in order to get some exact measurements. With the aid of a flashlight and a mirror I was able to view the bottom of the nest cavity quite clearly from a somewhat uncomfortable position, and there, without any pretense of a nest, lay two pure white, broadly oval eggs similar in appearance to those of a Kingfisher but somewhat smaller. The smooth, hard-packed bottom of the cavity showed one tiny dead live-oak leaf that had probably blown in but nothing else that could be construed as nesting material. This is in agreement with the nests of Mexican Trogons (*Trogon mexicanus*) in Guatemala described in 'The Auk' for July, 1942, by Alexander F. Skutch, rather than that of the Coppery-tailed Trogon given by Bent who apparently quotes Armstrong's collectors: "The nests were made of various materials, such as hay, straw, trash, moss, wool, down, feathers, vines, and thistle down."

The nest hole was apparently dug by a Flicker or Mearns's Woodpecker but was somewhat worn or uneven at the top so that it measured four inches in height but only two inches in width. The tree itself was alive but there was a dead stub just above the nest cavity and apparently decay was continuing down the main trunk. From the bark to the back of the cavity was five and one-half inches and the cavity itself was 14 inches deep.

The nest was conveniently situated about 25 feet from the road and was visited by a number of ornithologists after we left, including Prof. Charles Vorhies and P. A. Taverner, and I understand that the birds successfully hatched and reared their young.—A. A. ALLEN, *Laboratory of Ornithology, Cornell University.*

**Food of White-rumped Shrikes.**—An examination of the stomach contents of 65 White-rumped Shrikes (*Lanius ludovicianus excubitorides*) collected in Utah since 1934, revealed the following recognizable material to be present: 183 Orthoptera—139 adult and nine nymphal grasshoppers, twelve field crickets, one sand cricket and one mantid; one Neuropteran—an adult ant lion; three dragonflies; twenty-four Hemiptera—ten being pentatomid bugs (including three *Chlorochroa sayi*); eight Homoptera—including two cicadas; 143 beetles, among them twenty-eight scarabaeids including injurious species, twelve long-horned beetles (two *Prionus cali-*

*formicus*), three click beetles (one a *Ludius inflatus*), one blister beetle (*Lytta cooperi*), thirteen ground beetles, five silphids, three darkling beetles, and nine weevils; ten Lepidoptera, including three cutworm larvae; thirteen Diptera including one horsefly, one deerfly, three crane flies, and three maggots (probably parasites digested out of grasshopper bodies); fifty-four Hymenoptera included andrenid and megachilid bees, psammocharid, sphecid and vespid wasps besides thirteen winged and three apparently wingless ants. Also included were parts or all of eight lizards, five *Uta stansburiana stansburiana*, two *Sceloporus graciosus graciosus*, and one gridiron-tailed lizard, *Callisaurus draconoides ventralis*; four spiders; one scorpion; part of one immature bird; and two shrikes had fed on skin and flesh of rodents, probably ground squirrels. G. F. KNOWLTON AND F. C. HARMSTON, *Utah Agricultural Experiment Station, Logan, Utah.*

**A Nutcracker's search for buried food.**—It is by no means unusual for the Clark's Nutcracker (*Nucifraga columbiana*) to forage for food on the ground in winter. The bird frequently seeks out the carcasses of dead animals that may be more or less covered with snow. In these cases, sight may play a large part in finding food. The following incident seems to indicate that the nutcracker can find small food objects, completely hidden, by other means.

On January 19, 1943, I snowshoed from the loop highway down Blacktail Deer Creek to the junction of that stream with the Yellowstone River, near the north boundary of Yellowstone National Park, Wyoming. The exposed plateau seemed almost devoid of birdlife for snow was falling and swirling in the strong wind. The temperature was about 20 degrees above zero.

On the north side of a ridge about a mile south of the Yellowstone River, a Clark's Nutcracker was flushed from the ground under a large Douglas fir. The bird flew off and I investigated the spot. As it was partially protected by the fir foliage, the snow was only about eight inches deep.

The nutcracker had dug a hole three or four inches in diameter at the top, at an angle of perhaps 30 degrees, through the hard-packed snow to the sloping ground. At the bottom of the excavation, frozen to the ground litter, was a Douglas fir cone. I was unable to determine whether the bird had just started to extract the seeds or whether it had been trying to pry the entire cone loose in order to carry it to a safe perch.

The remarkable feature of this performance was the accuracy with which the hole had been dug. Evidences on the snow showed that, without any exploratory digging, the nutcracker had driven its tunnel unerringly to the isolated food. The snow was sufficiently deep so that the presence of the cone could not have been apparent on the surface. The fox squirrel is known to dig for food as accurately, on occasion. The chief sense employed by that mammal seems to be smell, with memory as a possible accessory aid. By what method did the nutcracker locate its hidden food?—VICTOR H. CAHALANE, *National Park Service, Chicago, Illinois.*

**Leopard frogs devouring small birds.**—Some interesting instances of leopard frogs devouring live birds have come to my attention during the last twelve years or so. These may be worth recording since it is fairly certain that but few of such occurrences have been witnessed by humans although they may be fairly common in nature. Those of us who have kept captive frogs have observed that they can capture and swallow objects that are a very substantial fraction of the size of the frogs, themselves, and also that movement incites a frog to attack almost anything that is not too large to swallow.