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FROM FIELD AND STUDY

Shrike Captures Bat.—On July 27, 1939, at Daylight Pass, Death Valley National Monution ment, California, a small bat, probably the little pallid bat (Myotis californicus pallidus), was seen flying in an easterly direction at a height of from six to ten feet. The hour was approximately 6:45 a.m. The sun had barely emerged from behind the low ranges in adjacent Nevada, but already on the open desert the light was bright enough for photographic snap shots. The writer had just time for a mental note that the hour was phenomenally late for a bat before the latter paid the penalty for this departure from the normal behavior pattern of its species. Suddenly a Loggerhead Shrike (*Lanius ludovicianus nevadensis*) darted from the sagebrush, quickly overtook the wavering night flier and nabbed it as a flycatcher nabs a moth. The two slanted earthward, locked in a violent struggle, but hardly had they touched the ground before the shrike rose again and with the bat now fluttering only feebly as it hung from his bill, sped away in triumph. The average weight of nineteen specimens of the related and but slightly larger Myotis lucifugus carissima collected by the writer in previous years is 6.2 grams; seven shrikes of the *ludovicianus* group averaged 46.5 grams.—E. LOWELL SUMNER, JR., National Park Service, San Francisco, California, November 21, 1939.

Notes on the Birds of Crater Lake National Park, Oregon.—While at Crater Lake National Park, Oregon, from June 1 to September 4, 1939, some changes in the avifauna were noted in comparison with that of the preceding summer season. Although few new species were found, the numbers of some were either notably increased or decreased. A factor which might have affected many birds was the advanced condition of the season. It was estimated, according to the amount of snow on the ground, that the season was about one month in advance of normal. Nesting, however, seemed to be advanced only about two or three weeks, as judged from dates of nests of the following species: Rufous Hummingbird, Red-shafted Flicker, Hairy Woodpecker, Red-breasted Nuthatch, Mountain Bluebird, Rosy Finch, and Chipping Sparrow.

One prominent difference was the increased abundance of certain waterfowl occurring on the lake. Crater Lake, which is geologically relatively young, does not afford a variety of habitats for water birds. In this respect it is quite different from Upper Klamath Lake, about fifty miles distant, which supports a dense waterfowl population. Because Crater Lake water is relatively pure, with only about eighty parts per million of dissolved salts, it does not sustain luxuriant aquatic vegetation. There are few shoals with muddy bottom which can support such plants as tules or sedges. Most of the shore is steep and boulder covered, and the cliffs continue nearly vertically below the surface so that at a distance of fifty yards off-shore the water may be as deep as 500 feet. The lake does, however, support a good population of rainbow trout and silverside salmon that is maintained by annual plantings. The fish reproduce very little if at all, probably because of lack of spawning beds (Hasler, Jour. Wildlife Management, vol. 2, 1938, pp. 94-103). Their diet is largely made up of various invertebrates such as insects, snails, worms, and certain crustaceans such as Daphnia, which at certain times of the year constitutes nearly half of the fishes' diet. These invertebrates may also be utilized by some of the waterfowl. It is believed, however, that the most common water birds, such as the Double-crested Cormorant (Phalacrocorax auritus), American Mergansers (Mergus merganser americanus), and gulls feed largely on fish. By comparison of recorded numbers with records of last year it is evident that birds of these species were nearly twice as abundant this year as previously.

This increase in fish-eating waterfowl may be due directly to a disease which affected some of the fish or to an increase in the fish of a certain age group, or both. The problem of the disease is not solved as yet but it is certain that it is a species of water mould (*Saprolegnia*). The infection apparently is specific in its attack and only the silverside salmon that are about five inches long and between two and three years of age are bothered; none of the rainbow trout was so affected. *Saprolegnia* causes a light-colored, ragged sore on the dorsal surface of the fish between the dorsal fin and the head, and sometimes slightly behind this fin. Ordinarily the dark color of the dorsal surfaces of the fish renders them practically invisible against the extremely deep blue of the water, but with the *Saprolegnia* on them their protective coloration is gone. This makes them very easily seen, even from the cliffs 1000 feet above. Cormorants, while flying over, were several times seen to swerve suddenly in their course and alight amidst a school of diseased fish. This sudden change in course while flying was never observed the year before. From the rim above the lake surface it was interesting to watch with binoculars the cormorants diving into a school of fish, and at times, see them chasing one fish until it was caught. No use of the wings under water was noted.

Not only were the fish of this age group that was parasitized more sluggish and thus more easily caught, but they seemed more abundant. Many times large schools of such fish were seen close to the surface where they made the water seemingly boil with their movements. The roosting and probable