FROM FIELD AND STUDY

Nesting Density of Virginia and Sora Rails in Michigan.—During the summer of 1950 I made observations on a breeding population of Virginia Rails (*Rallus limicola*) and Sora Rails (*Porzana carolina*) in a roughly oblong half-acre of marsh lying along the north edge of a fifteen-acre wooded swamp near Dixboro, Washtenaw County, Michigan. Throughout this particular marsh the water was about a foot deep (shallower along the north edge), the growth of cattail (*Typha latifolia*) and coarse sedge (*Carex* sp.) was fairly uniform, and there was a scattering of low buttonbushes (*Cephalanthus occidentale*). The marsh was more or less surrounded by higher vegetation—a dense fringe of shrubbery just to the north, and tall buttonbushes and willow trees (*Salix* sp.) in other directions.

I found five Virginia and four Sora nests in an area slightly less than half an acre in extent. So far as I could see, the two species chose exactly the same sort of nest site. Some nests were in small, more or less isolated clumps of sedge, others in larger, less definite mixed clumps of sedge and cattail. All the nests were a very short distance (2 to 5 inches) above water level.

The maximum distance between any two of the nine nests was 267 (measured) feet; the shortest distance between a Virgina and Sora nest, 14 feet, 2 inches; between two Virginia nests, 33 feet; between two Sora nests, 80 feet, 7 inches. The shortest distance between a nest (Virginia) and dry ground was 22 feet; the greatest distance (Sora), 102 feet. All nine nests were active simultaneously and at least eight of them were successful.

The earliest date on which I found a Sora nest was May 12; on that date I found two nests, one with 2, the other with 4 eggs. The earliest date on which I found a Virginia nest was May 16; on that date I found two nests, one with 3, the other with 7 eggs. Virginia eggs began hatching June 4, seven days later than in either 1948 or 1949, when nests were more widely distributed. Sora eggs began hatching June 2, ten days later than in 1948 (no Sora nests were found in the study area in 1949). Growth of vegetation was retarded by low temperatures in the spring of 1950 and the rails did not nest in certain adjacent areas they had occupied the two previous years. The existence of suitable cover within the circumscribed area, and the absense of it elsewhere in early May may therefore have been largely responsible for this concentration of nests there.—ANDREW J. BERGER, *Department of Anatomy, University of Michigan Medical School, Ann Arbor, Michigan, February 15, 1951.*

The Lucifer Hummingbird in the United States.—The Lucifer Hummingbird (*Calothorax lucifer*) was first recorded for the United States in the "American Sportsman" (1875, 5:328). Henshaw (Rept. Sec. War, 2(2), 1875:1070, 1082) listed a single individual (U. S. Nat. Mus. no. 72535) from near Camp Bowie, Arizona, on August 8, 1874. The female specimen in question was at that time reported as another species (*Doricha enicura*) but, when examined again by Lawrence, was correctly determined as *Calothorax lucifer* (Bull. Nutt. Ornith. Club, 2, 1877:108-109). Ridgway, in a monograph on "The Hummingbirds" (Ann. Rept. U. S. Nat. Mus., 1890 (1891):359-362), gave a detailed account of the Lucifer Hummingbird and referred particularly to the Camp Bowie specimen. In addition, he figured a female in plate 42 (opposite page 360), the caption of which stated "Female. (Cat. No. 115294, U. S. N. M. Arizona. Collected by O. T. Baron.)" The latter specimen could not be found in the National Museum collection, but reference to the Museum catalogue indicated that it was entered in the records on January 29, 1889, and that it was purchased for $2.50. In a letter dated November 11, 1888, to Robert Ridgway, Baron apparently made reference to this bird by stating "The ♀ H. bird I shot in Arizona I shall send to you as soon as I get to S.[an] F.[rancisco) etc."

Oberholser (Auk, 19, 1902:300) was the first to list the species for Texas when he stated: "Taken in the Chisos Mountains." His statement was based on an immature male (U. S. Nat. Mus. no. 168401) which he secured in Pine Canyon at 6000 feet on June 6, 1901, and on a male and female collected by L. A. Fuertes at the same place on June 7, 1901. (The Fuertes specimens were recorded previously as May 7, 1901.) Mrs. Florence Merriam Bailey (Handbook of Birds of the Western United States, 1902:243) stated: "In the Chisos Mountains in western Texas, Mr. Bailey found the Lucifer hummer with several other species common [?] in June [1901] about the big agaves, which were then in full flower." Ridgway (U. S. Nat. Mus. Bull. 50, pt. 5, 1911:653) stated, "Chisos Mountains, breeding," and the A. O. U. Check-list (1931:179) listed the Chisos Mountains in the range of the species. Since

Vernon Bailey, Harry C. Oberholser, and Louis Agassiz Fuertes comprised the field party of 1901 under the auspices of the United States Bureau of Biological Survey (now Fish and Wildlife Service), all of the foregoing references for Texas were based on their investigations.

In addition to the two specimens which Fuertes obtained in 1901, Van Tyne and Sutton (Univ. Mich. Mus. Zool., Misc. Pubs., 1937, No. 37:43) recorded two more from the Chisos Mountains: male, Juniper Canyon, 5500 feet, May 17, 1933, John B. Semple; and male, banks of Rio Grande, 3 miles west of Boquillas, May 17, 1935, by George M. Sutton.

The latest record of the species for the United States is an immature male (U. S. Nat. Mus. 417862) taken by Walter P. Taylor on June 27, 1944, at the Basin, Chisos Mountains, 5500 feet, in course of a biological investigation (in company with W. B. Davis and W. B. McDougall) of the Big Bend National Park. The hummer was feeding among the brilliant flowers of a tall agave (*Agave scabra*) apparently inserting its bill down into each bloom.

The Lucifer Hummer is one of the rare species within our borders, and of the eight specimens known from the United States, six have been secured in the Chisos Mountains. Although the two specimens by Semple and Sutton had the gonads "much enlarged," and although Ridgway listed the species as "breeding," no nest has yet been found in Texas or in any other area in the United States. Thus, it cannot be stated with certainty that the Lucifer Hummingbird breeds within our borders.—WALTER P. TAYLOR, *Oklahoma Cooperative Wildlife Research Unit, Stillwater, Oklahoma, and* ALLAN J. DUVALL, *Fish and Wildlife Service, Washington, D.C., February 20, 1951.*

A Summer Record of the Great Gray Owl in Oregon.—While driving north on the highway a few miles south of Chemult, Klamath County, Oregon, in bright sunlight in mid-morning of June 4, 1950, I had a very brief sight of a large owl perched on a limb about ten feet above the ground in a lodgepole pine tree. As we passed the bird, at a speed of about 45 miles per hour, I realized from its general shape that it did not appear to be a Horned Owl, the common large owl in this general region. On return to the place a few moments later, I found the bird perched on the same limb. The bird was collected and proved to be an adult female Great Gray Owl, *Strix nebulosa nebulosa*. Examination of the gonads showed no activity whatever. The bird was very fat and its stomach was empty at the time of collecting.

The only other summer record of this species for Oregon, of which I have knowledge, is an adult male skin in my collection, taken in the yellow pine forest near Hardman, Morrow County, Oregon, on August 14, 1932 (Gabrielson and Jewett, Birds of Oregon, 1940:349).—STANLEY G. JEWETT, *Portland, Oregon, January 8, 1951.*

A Quail from the Oligocene of Colorado.—The most ancient record of any American quail (subfamily Odontophorinae) heretofore reported is of *Miortyx teres* Miller, from the Lower Miocene (Flint Hill local fauna, late Arikareean) of South Dakota (A. H. Miller, Univ. Calif. Publ. Geol. Sci., 27, 1944:93-95). In addition to this fossil genus, two extinct species of quail belonging to surviving genera have been described by Wetmore: *Cyrtonyx cooki*, from the Upper Miocene ("upper Sheep Creek beds") of Nebraska (Condor, 36, 1934:30), and *Colinus hibbardi*, from the Upper Pliocene (Rexford formation, Blancan age) of Kansas (Univ. Kansas Sci. Bull., 30, pt. 1, 1944:96-98). The several Recent species of quail recorded from the Pleistocene complete the known fossil history of the Odontophorinae.

It is a matter of interest in regard to the antiquity of the Odontophorinae, therefore, to report here the remains of a quail from the Middle Oligocene of northeastern Colorado. The specimen, Univ. Kansas Mus. Nat. Hist. no. 9393, consisting of the distal end of a left tarsometatarsus, was obtained in the summer of 1948 by Edwin C. Galbreath, of the University of Kansas Museum of Natural History. The geological age and locality of the specimen are as follows: silts of Orellan age in the Cedar Creek facies of the White River formation, SW. ¼ sec. 12, T. 11 N., R. 54 W., Logan County, Colorado.

The tarsal fragment represented by the fossil is well preserved, with the shaft broken approximately 2.5 mm. proximal to the distal foramen. The middle trochlea is intact and little worn. The inner trochlea is missing, as is most of the lateral flange of the outer trochlea. The fragment is 8.1 mm. long. It is creamy-white in color and is heavily mineralized.

Study of this bone has made it necessary for me to examine modern skeletons of *Cyrtonyx,*