Wisconsin prairie chickens (*Tympanuchus cupido pinnatus*). Proc. Int. Ornithol. Congr. 11:459–466.

HARTZLER, J. E. 1974. Predation and the daily timing of Sage Grouse leks. Auk 91:532–536.

HOHN, E. O. 1953. Display and mating behaviour of the black grouse *Lyrurus tetrix* (L.). Brit. J. Anim. Behav. 1:48-58.

Koivisto, I. 1965. Behavior of the black grouse, *Lyrurus tetrix* (L.), during the spring display. Finn. Game Res. 26:1-60.

Wiley, R. H. 1973. Territoriality and non-random mating in sage grouse, *Centrocercus urophasianus*. Anim. Behav. Monogr. 6:85-169.

LEONARD J. S. TSUJI, Dept. of Biology, York Univ., North York, Ontario M3J 1P3, Canada. Received 20 May 1991, accepted 15 Aug. 1991.

Wilson Bull., 104(1), 1992, pp. 189-190

Colonial nesting of the Orange Oriole.—The Orange Oriole (Icterus auratus) is endemic to the Yucatán Peninsula, México, but, despite being fairly common, little is known of its breeding biology. Only one set of eggs is reported in North American collections (Kiff and Hough, 1985. Inventory of Bird Egg Collections in North America, 1985. A.O.U. and Oklahoma Biol. Survey, Norman, Oklahoma) and the nest has not previously been described. Since 1974, de Montes has found numerous Orange Oriole nests in the states of Yucatán and Quintana Roo. Field observations indicate that the nest is a neat pouch constructed of plant fibers, varying in color from blackish to straw, depending on the predominant materials used. In general appearance it resembles the nest of Hooded Oriole (I. cucullatus) but tends to be slightly deeper. While visiting the Western Foundation of Vertebrate Zoology (WFVZ) recently, Webb found an uncatalogued, but labeled, Orange Oriole nest from "Yucatan," which allows a fuller description to be provided. The WFVZ nest is approximately 12.5 cm deep by 7.5 cm in diameter. It is woven of fine blackish plant fibers and in places is so thin that light passes readily through the walls. Typically I. auratus nests are slung between slender branches, often near the top of a tree or bush, at heights of 1-10 m above the ground. They thus tend to be conspicuous, in contrast to I. cucullatus nests which, in the Yucatán Peninsula, are slung under large leaves such as those of palms. Most Orange Oriole nests have been near or over water, e.g., around cenotes (natural limestone sinkholes) or in low flooded areas. Prior to 1988, de Montes had occasionally found two to three nests in close association.

On 4 July 1988, we located two Orange Oriole colonies in Si'an Kaan Biosphere Reserve, Quintana Roo. At the Caseta Chumpón entrance, we found 30–35 nests in an area of 80 × 30 m, with up to five nests in a single small tree. Nests were placed 2.5–9 m up in bushes and low trees in flooded scrubby woodland. Breeding was not synchronous, as some adults were still building nests, some were sitting in completed nests, others were feeding nest-bound young, and at least one stub-tailed juvenile was out of the nest, begging for food. Associated with the colony were two pairs of Hooded Orioles, a pair of nest-building Black-cowled Orioles (*I. dominicensis*), and at least three pairs of Black Catbirds (*Melanoptila glabrirostris*) that were feeding nestlings.

At Km 16.0 along the Chumpón access road, we located a colony of 26-30 pairs of Orange Orioles in an area of  $60 \times 25$  m. Nests were placed 1-3 m up in flooded low scrub. All of the nests appeared to be completed and most, if not all, contained sitting adults. No other nesting species appeared to be associated with this second colony.

Although several species of Icterines are colonial nesters (Orians, "Blackbirds of the Americas," Univ. Wash. Press, Seattle, Washington, 1985), the phenomenon appears to be rare among the New World orioles, *Icterus*). Orchard Orioles (*I. spurius*) have been reported nesting in a colony (Dennis, in Bent, A. C., "Life Histories of North American Blackbirds, Orioles, Tanagers, and Allies," Dover Publications Inc., New York, New York 1958), but we have found no reference to other species of *Icterus* nesting colonially.

Acknowledgments.—We thank L. Kiff and the WFVZ for help in researching this paper, and two anonymous reviewers for their comments. This is publication number 510 of the Point Reyes Bird Observatory.

STEVE N. G. HOWELL, SOPHIE WEBB, Point Reyes Bird Observatory, 4990 Shoreline Highway, Stinson Beach, California 94970; and Barbara M. de Montes, Apdo. Postal 8, Cancún, Quintana Roo, México. Received 3 May 1991, accepted 4 Sept. 1991.

Wilson Bull., 104(1), 1992, pp. 190-192

First observations of chick carrying behavior by the Buff-crested Bustard. — Parental transportation of young is known to occur in several taxa. Some waterfowl passively carry offspring by allowing chicks to ride on their backs (Johnsgard and Kear 1968). More exceptional are those species that deliberately pick up their young and carry them by means of grasping the chick with the claws, the bill, or the wing (Cobcroft 1934, Johnsgard and Kear 1968). Clapper (Rallus longirostris) and Virginia rails (R. limicola), gallinules (Gallinula spp.), sandpipers (Actitus spp.), both genera of woodcock (Scolopax spp. and Philohela spp.) and cuckoos (Centropus spp.) all carry chicks in this manner (Pettingill 1938, Welty 1982). The African Jacana (Actophilornis africana) and the Lotus-bird (Irediparra gallinacea) hold offspring under their wings while conveying them across lily pads (Hopcraft 1968, Cobcroft 1934). They accomplish this by gripping one or two chicks between the wing and the torso with the chicks' feet and legs dangling below the wing. Chick carrying has not been reported previously for the Buff-crested Bustard (Eupodotis ruficrista) although it is known in a few members of Otididae. The East Africa Natural History Society Nest Record Scheme contains a record made by J. F. Reynolds of a Hartlaub's Bustard (E. hartlaubi) carrying a threeday-old chick in Nairobi National Park. The Houbara Bustard (Chlamydotis undulata) (P. Gaucher, pers. comm.) and the Great Indian Bustard (Choriotis nigriceps) (Hasan 1982) are reputed to transport chicks clasped under the wing. This paper describes what are believed to be the first observations of this behavior in the Buff-crested Bustard.

A female Buff-crested Bustard at the Dallas Zoo has been observed carrying chicks (Fig. 1) during three consecutive breeding seasons. The first observation of this behavior occurred in July 1989. For the first few days after hatching, the single chick exhibited a lack of coordination due to poorly developed motor and visual faculties, characteristic of the species previously noted in hand-reared offspring. During this period, the female carried the chick under her wing on four observed occasions. Bouts were initiated when the hen was alarmed by human intrusion while brooding the chick under the wing. The hen stood while continuing to hold the chick gripped between the wing and the torso. The only visual indication of the chick's presence was its feet hanging below the hen's wing. After the hen moved away, the chick was dropped straight down, usually into the concealment of grass. During one observation of this behavior, the female remained standing motionless for approximately 30 sec, then relaxed and dropped the chick in its original location. At other times, she moved distances varying up to twelve feet (the distance limit of the enclosure) before dropping the chick in a new site. Two more observations of this behavior were made in July of 1990