also affected production during this period including water drawdowns, nest predation, local hunting pressure, and vandalism. We believe that duck production would have decreased during the 10-year study period had we not removed Starling nests since Starling competition for boxes has been increasing since the early 1950s (Grice and Rogers, The Wood Duck in Massachusetts, Mass. Div. Fish. and Wildl., 1965).

Nest removal appears to be an effective but time-consuming method of controlling Starling populations in Wood Duck boxes. The use of Starling-deterrent nesting cylinders described by McGilvrey and Uhler (J. Wildl. Manage. 35(4):793–797, 1971) was evaluated by Heusmann et al. (Wildl. Soc. Bull. 5:14–18, 1977) previously. Grabill's (Wildl. Soc. Bull. 5:69–70, 1977) use of Starling boxes attached to Wood Duck boxes offers a third possibility for reducing competition for nesting sites between these species.

This study was a contribution of Massachusetts Federal Aid in Wildlife Restoration Project W-42-R.—H W HEUSMANN AND ROBERT BELLVILLE, *Massachusetts Division of Fisheries and Wildlife, Westboro 01581.* *Accepted 31 Oct. 1977.*

Wilson Bull., 90(2), 1978, pp. 290–291

Unusual incubation behavior in Bobwhite.—A Bobwhite (*Colinus virginianus*) nest with an incubating hen was found on 26 September 1975, 8 km west of Starkville, Mississippi. The Bobwhite begins nesting in May in this area and this nesting effort was perhaps the pair's 4th attempt. The nest and incubating hen were visited daily. On 3 October, when I attempted to photograph the hen on the nest, she left the nest giving the broken-wing ruse. The hen ran about 35 m from the nest and was joined by a male Bobwhite. The pair then flew off.

The nest contained 10 eggs, 1 of which proved to be infertile. One egg had successfully

FIG. 1. Partially hatched Bobwhite eggs with dead chicks.

hatched, but the chick was not found. The remaining 8 eggs contained fully developed but dead chicks. The chicks had pipped and partially ringed their egg shells and then became "entombed" (Fig. 1). Bobwhite chicks sometimes pip their egg shells but do not hatch due to weakness and/or desiccation (Stoddard, The Bobwhite Quail, C. Scribner's Sons, NY, 1931; Rosene, The Bobwhite Quail, Rutgers Univ. Press, New Brunswick, NJ, 1969; Stanford, Whirring Wings, Missouri Conservation Comm., Jefferson City, MO, 1952).

Stoddard (op. cit.) also said that Bobwhite have a strong nesting instinct and that an incubating hen may remain for a long period of time on eggs that do not hatch. The nesting behavior reported herein is interesting because the hen remained on partially hatched, dead chicks. Perhaps the stimulus of partially opened eggs kept the hen incubating. Also, it has been thought that if only one egg hatches, the nesting instinct would be satisfied (Murray and Frye, The Bobwhite Quail and its Management in Florida, Game Publ. No. 2, Florida Game and Fish Comm., Tallahassee, 1964). The 8 dead chicks had not started to decompose, but rather appeared to be desiccating. The length of time the hen remained on the partially hatched eggs is unknown, but the hatching effort probably occurred several days prior to 3 October.—GEORGE A. HURST, *Dept. of Wildlife & Fisheries, Mississippi State Univ., Mississippi State 39762.* *Accepted 29 Dec. 1977.*

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A Cattle Egret-deer mutualism.—Cattle Egret (*Bubulcus ibis*)-ungulate relationships have been considered commensal (Heatwole, Anim. Behav. 13:79–83, 1965; Jenni, Ecol. Monogr. 39:245–270, 1969). Cattle Egrets feed more efficiently when taking insects flushed by grazing cattle than when hunting apart from cows (Dinsmore, Am. Midl. Nat. 89:242–246, 1973). We observed Cattle Egrets feeding on 3 species of horse flies (Diptera: Tabanidae) on the skin of the Virginia white-tailed deer (*Odocoileus virginianus*) in the Okefenokee Swamp, Stephen Foster State Park, 30 km NE of Fargo, Georgia from 28 May to 2 June 1977. This is the first reported association between Cattle Egrets and any North American nondomestic ungulate.

Observations (ca. 2.5 h) of several egrets and deer were made between 08:30 and 16:30 during the week. Commonly, 1 egret rode on the head or back of a deer and captured the large horse flies feeding on open wounds about the shoulder, head and face of the deer. The deer appeared undisturbed by the presence or feeding activities of the egrets. The species of horse flies observed (*Tabanus petiolatus, Tabanus americanus, Diachlorus ferrugatus*) inflict blood-letting wounds and may vector a variety of ungulate microbial diseases occurring in the southeastern United States (James and Harwood, Medical Entomology, Macmillan Publ. Co., New York, 1969). Thus because both egret and deer received benefits, the relationship was mutualistic. Whether the benefits are significant to the success of the individuals is unknown.

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A test of significance for Mayfield's method of calculating nest success.—Mayfield (Wilson Bull. 87:456–466, 1975) presented further suggestions to simplify his