

are needed. Reports of regurgitation of food will make worthy contributions to the growing body of knowledge concerning the role of water birds in the dispersal of aquatic organisms.—CHARLES R. MALONE, *Department of Biology, Texas Technological College, Lubbock, Texas, 14 June 1965.*

Record of Mourning Dove kill by American Kestrel.—The following note concerns an additional prey species to the list of foods of the Sparrow Hawk, or American Kestrel (*Falco sparverius*) published by D. S. Heintzelman (1964. *Wilson Bull.* 76:323-330).

On 31 March 1964, I observed a male Kestrel attack and kill a Mourning Dove (*Zenaidura macroura*) at the University of Delaware farm, Newark, Delaware. From my automobile and with the aid of binoculars, I first observed the Kestrel perched in a large oak tree located on the border of a cornfield. As the hawk glided from the tree toward the middle of the cornfield, I could see its talons were outstretched and it appeared to strike something on the ground. Immediately, a Mourning Dove flew away, but the hawk remained on the ground. As I approached the area on foot, the hawk took flight, returned to the same oak tree, and perched. A Mourning Dove lay quivering on the ground with the entire top of its skull torn off. Apparently the injured bird was aware of my approach as it attempted to fly. Assuming that the bird was mortally wounded, I obtained a wire cage $2 \times 2 \times 4$ feet with $\frac{1}{4}$ -inch plywood ends and a 4×4 -inch door and placed the dove inside. The 4×4 -inch door was left open. I returned to my car and waited. After 10 minutes the hawk returned, alighted atop the cage, and, after much scrutiny, entered. The cage was oriented in such a way that the plywood end hid my

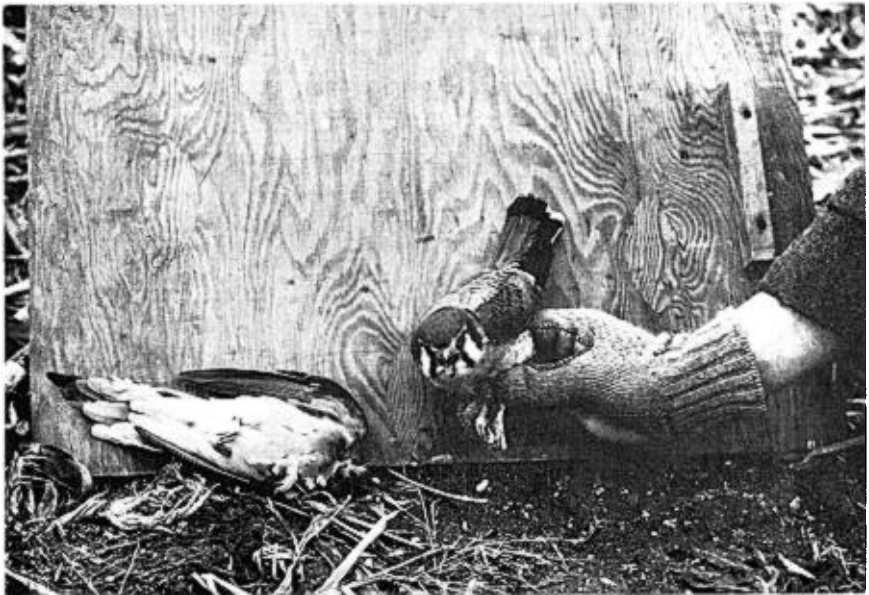


FIG. 1. American Kestrel with Mourning Dove it had just killed and decapitated.

approach from the hawk. I cautiously walked 50 yards to the cage and succeeded in closing the door. I had Mr. John T. Linehan witness my findings. With his aid, I took several pictures of the hawk and the dove (Fig. 1). I then banded and released the hawk.—CHARLES A. LESSER, *Department of Entomology, University of Delaware, Newark, Delaware, 17 May 1965.* (Published as Miscellaneous Paper No. 496 with the approval of the Delaware Agricultural Experiment Station Publication No. 359 of the Department of Entomology.)

Soft-shelled eggs in a Bobwhite nest.—On 17 May 1963, an unattended Bobwhite (*Colinus virginianus*) nest was found adjacent to a fence along a roadside near Bogota, Jasper County, Illinois. The nest contained seven eggs that appeared to be normal by visual examination, although the eggs were not handled. The nest was revisited on 20 May, at which time only four eggs, all soft-shelled, remained in the nest bowl. Three of these eggs were intact and one had been pecked, probably by an avian predator; very likely, avian predators had consumed the three eggs that were missing. The intact soft-shelled eggs were of normal dimensions, and were fertile (by germinal disc) but unincubated. Except for lack of a well-defined canopy, construction of the nest was characteristic of other Bobwhite nests. The nest bowl, consisting of dead leaves of redtop (*Agrostis alba*) and cheat (*Bromus secalinus*), was situated in a diffusion of blackberries (*Rubus* spp.). To our knowledge, this is the first account of soft-shelled eggs deposited in a nest by a wild Bobwhite.

Soft-shelled eggs are quite frequently produced by domestic fowl (*Gallus gallus*), especially during periods of heavy egg production (A. Romanoff and A. Romanoff, 1949. "The Avian Egg." John Wiley & Sons, Inc., New York), and also have been reported among pigeons (W. M. Levi, 1941. "The Pigeon." R. L. Bryan Co., Columbia, South Carolina). Eight soft-shelled eggs laid by wild Pheasants (*Phasianus colchicus*) occurred among 873 eggs not deposited in nests, but only one such egg was found among 10,724 eggs contained in 1,344 pheasant nests studied in Illinois during the five years 1957-61 (R. F. Labisky, unpublished data).

The immediate cause of soft-shelled eggs is either a failure of the secretive glands of the uterus to deposit the calcareous shell or violent peristalsis which prematurely speeds the egg through the uterus (Hewitt, 1939. *J. Amer. Vet. Med. Assoc.*, 95:201-210). Soft-shelled eggs may be produced by birds under conditions of unusually great disturbance, excessive feeding, or inadequate ingestion of minerals (i.e., calcium, phosphorus, and manganese) required in shell formation (Hewitt, *op. cit.*). Diseases, particularly Newcastle and bronchitis, caused domestic hens to lay thin-shelled eggs (P. D. Sturkie, 1954. *Avian physiology.* Comstock Publ. Assoc., Ithaca, New York). Among domestic fowl, induced hypothermia reduced calcium deposition and caused the premature expulsion of thin-shelled eggs (Sturkie, 1946. *Poultry Sci.*, 25:369-372). The persistent laying of soft-shelled eggs (at least four eggs) by the Bobwhite hen in a single clutch was likely indicative of a prolonged, and perhaps permanent, physiological malfunction.—JACK A. ELLIS AND RONALD F. LABISKY, *Section of Wildlife Research, Illinois Natural History Survey, Urbana, Illinois, 9 April 1965.*

Notes on the distraction display of the Virginia Rail.—During the summers of 1963 and 1964 I twice had the opportunity to observe in some detail the distraction or "di-