Sparrow Hawk preys upon American Robin.—On July 16, 1955, while driving north on Dale Drive near Silver Spring, Montgomery County, Maryland, I saw a male Sparrow Hawk (*Falco sparverius*) fly low across the road in front of me carrying in its talons, gripped by the anterior part of the breast, an adult American Robin (*Turdus migratorius*).

The screaming hawk was pursued closely by two adult robins which called excitedly and, at one time, pulled up parallel with it, without venturing to attack the small raptor. The hawk and its pursuers went out of sight behind an evergreen tree.

I had parked my car and was walking back to investigate when the hawk, which had doubled back on its path, crossed the road again still carrying its prey with the two protesting robins close behind. The hawk was not more than 10 feet above the ground, and its flight was labored from the weight of its prey. This group of three birds swerved behind another evergreen, and I could not locate them again.

The literature shows that robins are among the heaviest birds taken by Sparrow Hawks. John B. May (1935. "The Hawks of North America") recorded meadowlarks (*Sturnella neglecta*) and Brewer's Blackbirds (*Euphagus cyanocephalus*) as the largest birds taken by Sparrow Hawks in the western United States. A. K. Fisher (1893. *Bull. No. 3, U. S. Dept. Agric., Div. Ornith. and Mammal.*) listed the Bobwhite Quail (*Colinus virginianus*), Starling (*Sturnus vulgaris*), and Red-winged Blackbird (*Agelaius phoeniceus*) among the small birds identified in stomach content examinations of these hawks.

However, the identification of the prey is often based upon stomach content remains or else the observation does not indicate that the hawk was seen in flight carrying its prey. More rarely, records of the hawk apparently carrying its prey are published. May (*op. cit.*) stated that "John Steidl (1928) saw a Sparrow Hawk several times with two-weeks-old chickens in its talons."

Use of some of the data from the bird weight files of the U. S. Fish and Wildlife Service makes it possible to compare approximate weight relationships of the Sparrow Hawk and its avian prey: Sparrow Hawk, 83 to 140 grams; Bob-white, 195 to 198 grams; Eastern Meadowlark (*Sturnella magna*), 145 grams; Robin, 74 to 85 grams; Starling, 84 grams; and Red-winged Blackbird, 70 to 73 grams. I was informed at the Poultry Department of the University of Maryland that for rapidly-growing breeds of chickens, a two-weeks-old bird would probably weigh between 140 and 160 grams, as compared to 130 to 140 grams for a two-weeks-old bird of a breed that grows slowly. Sparrow Hawks have not been seen carrying prey species appreciably heavier than themselves, even though they are known to feed on larger birds.—DONALD LAMORE, *2C Garden Way, Greenbelt, Maryland, August 16, 1955.*

Preening and other behavior of a captive Horned Grebe.—On March 20, 1955, I captured a molting Horned Grebe (*Colymbus auritus cornutus*) at Island Beach State Park, Ocean County, New Jersey. The breast feathers were soaked with oil which I removed with a detergent and mineral oil. The bird lived for eight days; the following observations were made in this period.

Preening.—After the oil was removed, the grebe was placed on the floor where it immediately began to preen. The tameness of the bird allowed close observation. The grebe preened for 40 minutes without interruption, slept for 10 minutes, and then preened for 20 minutes more before it went to sleep for a more extended period. Preening began with the feathers of the back and wings. First the grebe removed the water from these feathers. This was done by manipulating the bill along small bunches

of feathers, from base to tip. After the bird did this several times it shook its head vigorously, spraying water around the room. The bill made a snapping sound when this was done. After removing water for 20 minutes, the bird began to use the oil gland. The upper tail coverts were erected and the nipple of the gland seemed to be protruded several millimeters. The bird manipulated its bill over the nipple from the base to the tuft of feathers at the tip. I saw oil exude from the pore on to the tuft from which it was picked up on, and probably in, the bill. The oil was worked into the feathers with a method similar to that used in cleaning and drying. The primaries were preened only once.

The feathers of the flanks and neck were next to be preened. The procedure was the same: cleaning and drying first, and then oiling. Sheaths and bits of feathers accumulated at the corners of the bird's mouth, and sometimes entire feathers (mostly worn, gray winter feathers) were dislodged. These were quickly discarded. The head was often rubbed over the oil gland, but only following "milking" of the nipple by the bill. After doing this the bird usually rubbed its head over the scapular feathers. This may have been done to adjust the feathers of the head, many of which were disarranged. The bird did not preen its white breast and belly feathers until the following day, after bathing. The grebe pushed itself over on one side, grasped a transverse row of feathers in its bill, extracted the dirt and water as described above, and then applied oil. The entire breast was preened in this way.

Bathing.—On March 21, I placed the grebe in a bathtub. A platform was put in the tub and tap water was brought up to this level. When placed in the tub the bird first drank, then bathed. The scapular feathers were elevated, the head immersed and quickly brought over the back. Several applications of water were followed by vigorous shaking. Paddling strongly, but remaining in place, the bird rose high in the water and shook. The wings were often flapped when this was done. The bird soon became waterlogged and climbed on to the platform. The first few attempts at getting out of the water were difficult for the bird, but it soon became adept. It faced the platform, its chest a few inches from it, stroked the water with both feet and jumped to a standing position.

Sleeping.—The bird slept only on the platform. When sleeping the bill was tucked forward into the feathers at the base of the neck, and the feet were sometimes raised and placed on the flank feathers. In the water, this sleeping position would reduce heat loss from the poorly-insulated feet.

Molting.—The grebe was in prenuptial molt when captured. On March 20, the only evidence of breeding plumage was scattered rufous flank feathers and some golden feathers of the "horns." Eight days later, when the grebe died, more of these feathers had appeared and the white feathers of the throat and cheeks were almost entirely replaced by black ones. Rufous feathers had become numerous on the neck where none had been evident, and many new feathers had appeared on the crown. A few feathers of the scapular tract were also replaced. Other Horned Grebes in the area were in a similar stage of molt.

Walking.—On a sunny day I placed the grebe in the yard hoping to observe sun bathing, but this did not occur. Standing upright, the grebe wandered in different directions. It was able to go 15 to 20 feet before flopping down on its breast.

Voice.—The bird called often. The note was a short, one-, or two-syllabled, plaintive "aow." It was high pitched, matching B flat, above middle C on a piano.

Feeding.—The bird was fed strips of squid (*Loligo*) for four days. The first five

pieces had to be pushed down the esophagus with forceps, but thereafter the grebe ate eagerly. It snatched food dangled or placed before it, but never went after food at the bottom of the tub. When I prepared to feed the grebe it became excited and frequently called. Strips of squid wider than 25 millimeters were swallowed only with considerable difficulty. On March 26, my supply of squid was gone so I bought some frozen sand launces (*Ammodytes americanus*), used locally for fishing bait. The first half dozen were taken by the grebe with the usual avidity, but it soon refused to eat them. No other food was obtainable and the bird was found dead on March 28. The stomach contained numerous feathers, none of which I had seen being swallowed.

When the bird defecated while on the platform it always backed up a few steps. The grebe was seen scratching its head twice. It did not place its foot over the wing to do this. The bird was a male (testes 6×3 mm.). It had little fat and weighed 387 grams when it died.

F. I. Dewald and John Verdier of the New Jersey parks commission kindly granted me access to Island Beach.—GLEN E. WOOLFENDEN, *Museum of Natural History, University of Kansas, Lawrence, Kansas, September 1, 1955.*

Connecticut Warbler in Kansas.—Among 230 birds killed by striking a television transmitting tower one mile west of Topeka, Shawnee County, Kansas, on the night of September 22–23, 1955, was an immature male Connecticut Warbler (*Oporornis agilis*). The birds were collected by members of the Topeka Audubon Society and given to the University of Kansas. The Connecticut Warbler (KU 32622) is the first record of the species in Kansas authenticated by a specimen. Wetmore reported this species from the state in 1909 (*Condor*, 11:162), but in 1920 (Condor, 22:158–159) stated that the specimen reported earlier was actually an immature Mourning Warbler (*Oporornis philadelphia*), a species of regular occurrence in Kansas. T. W. Nelson and L. B. Carson (*Topeka Audubon News*, 3(4), July, 1949) reported seeing a male Connecticut Warbler in Topeka on May 1, 1949. I know of no other records of the species in Kansas.

Occurrence of the Connecticut Warbler in Kansas in autumn is of special interest because the species normally migrates east of the Alleghany Mountains in fall, returning north in spring through the Mississippi Valley. The specimen from Kansas weighed 14.9 grams, was moderately fat, and had an incompletely ossified skull. Measurements were: wing (chord), 71 mm.; tail, 48 mm.—HARRISON B. TORDOFF, *Museum of Natural History, University of Kansas, Lawrence, Kansas, September 29, 1955.*

Tree Swallows playing with a feather.—On October 23, 1955, while watching ducks on the Boonton Reservoir, Boonton, New Jersey, I saw a white object drop from the sky and float on the surface of the water. Puzzled as to what it could be, I continued to watch it and then saw a Tree Swallow (*Iridoprocne bicolor*) scoop it up and fly off with it. This bird was pursued by four or five other Tree Swallows and, in his effort to evade them, he twisted and turned violently, finally dropping what I could see was a feather about four inches long.

Another Tree Swallow picked the feather up from the surface and the action was resumed. This same sequence of events occurred three or four times. Finally, one swallow dropped it but as the feather floated and twisted toward the water one and then another swallow tried unsuccessfully to pick it out of the air. Their failure was quite interesting to watch for they had always succeeded in taking it off the surface of the water. It occurred to me that pursuit of a slowly dropping object might have been more difficult and strange than catching insects.