

In view of the size difference, the grouse weighing between 600 and 750 grams and the shrike about 62 to 68 grams, it seems unlikely that the shrike was actually attacking so large a bird as a prey item. Cade (1962. *Wilson Bull.*, 74:394) gives 80 to 100 grams as near the maximum-size prey a shrike can handle. Thus, this behavior approaches in character and nature what Moynihan (1955. *Auk*, 72:242) terms "redirection" (a reaction directed toward an object or animal other than the one releasing or directing the reaction). Although Ficken and Dilger (1960. *Animal Behaviour*, 8:240-259) would reserve the term redirection for a reaction to a "subnormal" stimulus initiated by a "normal" stimulus, the actions of the shrike fit the general pattern of the Prairie Falcon (*Falco mexicanus*) cited by Moynihan (loc. cit.).

It is believed that when the shrike was disturbed by my presence, and possibly startled by the unexpected noisy flight of the grouse, it became frustrated and unable to accomplish the usual "innate" sequence of killing, impaling and eating its prey as is, according to Cade (personal communication), characteristic. The shrike seems to have found an outlet for its thwarted feeding behavior by attacking the grouse.

Although this behavior may be somewhat obscure, in precise interpretation, and not categorically fit any existing, applied definition, it seems noteworthy that the shrike, under the observed circumstances, should attack a bird outweighing it by nearly tenfold. Such attacks by shrikes appear to be heretofore unrecorded in the literature.

I wish to thank Dr. Tom Cade for several pertinent comments concerning this note.—CLAYTON M. WHITE, *Biological Sciences Department, University of Alaska, College, Alaska, 26 July 1963.*

Migrant Cape May Warbler apparently carrying nest material.—The gathering and carrying of twigs by a female Cape May Warbler (*Dendroica tigrina*) at Bloomington, Indiana, on 16 May 1961, is of interest because the bird may safely be assumed to have been a migrant. Bloomington is about 400 miles south of the southern edge of the known breeding range of the species (A.O.U., 1957. "Check-list of North American birds"). Although there are numerous records of the performance of acts that are components of nest building by birds unprepared to complete a nest in which eggs will be laid (Armstrong, 1947. "Bird display and behaviour"), such behavior has apparently rarely if ever been recorded of individuals not yet arrived on the nesting ground. Nothing suggested that the acts were in the nature of display or of displacement activity.

The episode occurred at 8:45 AM on a clear day; the temperature was 60 F. Two female Cape May Warblers were moving through two ornamental Norway spruces (*Picea abies*) about 35 feet high. These spruces stood with interlaced branches beside a house located in a sunny clearing at the edge of a mature deciduous woods. Suddenly, one bird, 15 feet above the ground, seized with her bill a loose twig about 6 inches long. She manipulated this twig so that she held it near the middle and then began hopping upward around the periphery of the tree, dropping the object after 20 seconds and at a height of 20 feet. Four minutes later the performance was repeated at a height of 22 feet, apparently by the same bird. She then disappeared from view, and no more Cape May Warblers were seen at the spot.

It is interesting that this species has "rather strict requirements for nesting habitat . . . fairly open coniferous forest with a good percentage of mature spruces or . . . dense spruce forest with a scattering of taller spires above the canopy level" (W. W. H. Gunn, in Griscom and Sprunt, 1957. "The Warblers of America," p. 117). Twigs are among the usual nesting materials, but Bent (1953. *U.S. Natl. Mus. Bull.*, 203:215-216) suggests that they are sparingly used. The return to the breeding grounds is in late May or

early June. The earliest nest-building date I have found is 2 June, reported by Bond (1937. *Auk*, 54:306-308), from Maine.

For at least two other migrant species of wood warblers there is evidence that some females reach the breeding range ready to perform behavior patterns involved in nest building. The female Prothonotary Warbler (*Protonotaria citrea*) returns to Michigan from the south often to find a nest site selected by the male and a nest already under construction. This structure the female "shortly" completes (Walkinshaw, 1953. *Wilson Bull.*, 65:154). I regularly see female Prairie Warblers (*Dendroica discolor*) picking up and dropping nest material soon after their arrival on the males' territories in spring. Occasionally this has occurred on the day of a bird's appearance on the territory, which may also have been the day on which her migration had been completed.—VAL NOLAN, Jr., *Indiana University, Bloomington, Indiana, 10 July 1963.*

Prey of a Sparrow Hawk family when raising young.—This is a summary of food habits observations on a family of Sparrow Hawks (*Falco sparverius*), showing that another lizard, the Six-lined Racerunner (*Cnemidophorus sexlineatus*), and another bird, the Horned Lark (*Eremophila alpestris*), should be added to the list of known prey of this hawk.

Between 14 June and 1 July 1959, I observed a family of Sparrow Hawks several times. During this time, the family included the two parents and four male fledglings. Until old enough to leave the area, the young hawks lived mainly in the top of an old American elm (*Ulmus americana*) in the residential area of Nevada, Missouri.

Prey remains found under the tree during daily inspections as well as observations on the hawks with prey are my sources of information.

Insect remains under the tree indicate that the hawks ate many grasshoppers.

A parent bird arrived with a lizard on two separate occasions, on 21 and 23 June. Also, on 21 and 22 June, a young hawk had a lizard in its possession. On 21 June, in another instance, a young hawk flew from the top of a telephone pole directly across the street and captured a wounded Six-lined Racerunner I had found under the tree and had placed on the lawn within view of this hawk. It struck the lizard twice with its beak and then flew up with the prey to the elm. Reptilian remains collected on 14 June include one complete specimen and two separate tails of the Six-lined Racerunner.

A young hawk was eating a greyish-brown bird on a jutting limb at 1 PM, 16 June. The young had received food on two separate earlier occasions that day. Bird remains are as follows: House Sparrow (*Passer domesticus*), representing three individuals at least, collected 14 June; Horned Lark, one headless mutilated body, 16 June; Robin (*Turdus migratorius*), one headless partially eaten body, 16 June.

Although I never saw these hawks capture a bird, they clashed frequently in the area with potential prey species such as the Purple Martin (*Progne subis*), Eastern Kingbird (*Tyrannus tyrannus*), Starling (*Sturnus vulgaris*), and Robin.

Although the large role of the insect in the diet of this hawk is rather well known, I have found only one suspected use of the Six-lined Racerunner by the Sparrow Hawk. Fitch (1958. *Univ. of Kansas Publ. Mus. of Nat. Hist.*, Vol. 11, No. 2) found no evidence that the Sparrow Hawk preys on the Six-lined Racerunner, but he suspected that since Sparrow Hawks prey commonly on lizards that live in open situations, they might also use the Six-lined Racerunner.

I want to thank Mr. H. G. Deignan, Division of Birds, U.S. National Museum, for identifying the bird prey, and Mr. Loren D. Moehn, Biology Department, Cottey College, for identifying the lizards and for suggesting a pertinent reference on the Six-lined Racerunner.—DONALD H. LAMORE, *Cottey College, Nevada, Missouri, 7 January 1963.*