

hawk include juvenile domestic fowl, Ruffed Grouse (*Bonasa umbellus*), eastern cottontail (*Sylvilagus floridanus*), and snowshoe hare (*Lepus americanus*) (Rusch and Doerr, *Auk*, **89**: 139-145, 1972; Fitch, *Condor*, **76**: 331-333, 1974). Rusch and Doerr (*ibid.*, p. 142) studied the food habits of four nestling Broad-winged Hawks in Alberta, Canada and noted that juvenile Ruffed Grouse, averaging 300 g, constituted the greatest part of their diet. The second largest component in the diet of these hawks was juvenile snowshoe hares, which range from 150-250 g (O'Farrell, *J. Mammal.*, **46**: 406-418, 1965). The weights of three adult Green Herons cited by Palmer ("Handbook of North American Birds," Vol. 1., New Haven, Yale Univ. Press, 1962: 416) were 158.0, 181.5 and 191.6 g, well within the weight range of prey species reported by Rusch and Doerr.

The literature contains no reference to the Broad-winged Hawk preying on the Green Heron, but the information reported here suggests that this heron should be considered a potential prey item of this hawk.—CARL N. BECKER and STEVE M. BYERS, *NALCO Environmental Sciences, 1500 Frontage Rd., Northbrook, Ill. 60062*. (SMB, present address: *Max McGraw Wildlife Foundation, P.O. Box 194, Dundee, Ill. 60118*). Received 3 July 1976, accepted 7 September 1976.

A Direct Line Recovery of a Red-eyed Vireo.—Direct short-term banding recoveries of small passerines are unusual, documentation of single night flights even rarer, and instances of a bird being weighed before and after such a flight are almost unknown. A few banded birds have been reported from TV tower kills previously (Stoddard and Norris, *Bull. Tall Timbers Research Sta.*, No. 8, 1967; Taylor and Anderson, *Wilson Bull.*, **85**: 42-51, 1973; Crawford, *Bull. Tall Timbers Research Sta.*, No. 18, 1974), but none were direct line recoveries and none provided significant weight change information. In the fall of 1974 a Red-eyed Vireo (*Vireo olivaceus*) was recovered at a North Carolina TV tower less than 48 hours after it had been banded in Pennsylvania. The evidence suggests a one-night flight of approximately 483 km after an exceptionally rapid weight gain.

This vireo, an immature, was banded (820-49947) by Leberman at Powdermill Nature Reserve, Carnegie Museum of Natural History's field station, 4.8 km S of Rector, Westmoreland Co., Pennsylvania (40°10' N, 79° 16' W) at 1120 on 7 September 1974. At the time of banding the bird weighed 16.5 g, and was recorded as having no visible fat. On the morning of 9 September 1974 Browne found the bird dead as part of a kill at the 362 m WRAL-TV tower, 14.4 km S of Raleigh, Wake Co., North Carolina (35°40' N, 78° 32' W). Birds killed that night included 27 passerines, 7 of which were Red-eyed Vireos. The banded bird was immediately weighed and later prepared as a specimen (NCS MNH 5150). It was an immature (skull not pneumatized) male with moderate fat (2 on a scale of 0-3) and a weight of 19.0 g.

A pooled September sample of 401 unsexed immature Red-eyed Vireos banded at Powdermill Nature Reserve had a range of weights between 12.2-25.7 g, with a mean of 17.3 g. A sample of 146 unsexed immatures of the same species collected by Browne and William Post at TV tower kills in Raleigh in September and October had weights of 14.3-28.0 g, mean 21.7 g. The banded and recovered vireo's weights of 16.5 and 19.0 g at the two localities were thus slightly less than the means from both areas.

The available evidence strongly suggests that the vireo made the entire flight during the night of 8 September. When recovered on the morning of the 9th the bird weighed 2.5 g more and had much more fat than it did at the time of banding. It seems unlikely that the bird could have gained sufficient weight in the course of the one afternoon of the 7th to migrate on two successive nights. More likely it remained in the Powdermill area, feeding on the afternoon of the 7th and all day on the 8th. Certainly, to have gained enough weight to have a heavy concentration of fat still remaining after the almost 500 km flight, the vireo must have spent most of the intervening daylight hours feeding. Unfortunately Leberman has seldom recaptured migrating Red-eyed Vireos within a few days of banding, and none have shown a similar heavy and rapid weight gain. That small passerines are capable of single flights of 500 km or more has been demonstrated in many instances: e.g., a Powdermill-banded Lincoln's Sparrow (*Melospiza lincolni*) that traveled 560 km, almost certainly during one night (Clench, *EBBA News*, **31**: 243-245, 1968).

This theoretical reconstruction of the vireo's activities is supported by weather data from the Greater Pittsburgh Airport, 90 km NW of Powdermill. On the evening of 7 September the winds were southeasterly, and less favorable for southward migration than on the evening of the 8th, when they were out of the northwest at 0-11 kmph. Light rain and 8-16 kmph winds out of the northeast prevailed at Raleigh on the 8th, where on the 9th the winds were north-northeasterly at 0-16 kmph, with a very low ceiling (30m). It therefore seems probable that this Red-eyed Vireo left SW Pennsylvania on the evening of 8 September, and collided with the cloud-shrouded television tower early the next morning while migrating through central North Carolina.

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