

- POTTER, E. F., AND D. C. HAUSER. 1974. Relationship of anting and sunbathing to molting in wild birds. *Auk*, **91**: 537-563.
- SKUTCH, A. F. 1977. *A Birdwatcher's Adventures in Tropical America*. Austin, Univ. Texas Press.
- WEBER, N. A. 1935. The biology of the thatching ant, *Formica rufa obscuripes* Forel, in North Dakota. *Ecol. Monogr.*, **5**: 165-206.
- WHITAKER, L. M. 1957. A résumé of anting, with particular reference to a captive Orchard Oriole. *Wilson Bull.*, **69**: 195-262.
- PAUL HENDRICKS, 305 East Maplewood Ave., Littleton, CO 80121. Received 11 June 1979, accepted 7 October 1979.

An Analysis of the Stomach Contents of Some Sharp-shinned Hawks (*Accipiter striatus*).—Of the three North American accipiters occurring north of Mexico, it is generally assumed that the Sharp-shinned Hawk and Cooper's Hawk (*A. cooperii*) feed primarily on birds, whereas the Goshawk (*A. gentilis*) takes considerable numbers of mammals as well. An examination of the stomachs of 159 Sharp-shinned Hawks killed during the 1880's and 1890's revealed that, of 107 stomachs containing food, 103 (96%) had bird remains (Fisher, U.S. Dept. Agric. Div. Ornithol. and Mam. Bull., **3**: 35-37, 1893). Storer (*Auk*, **83**: 432, 1966) reported the food of Sharp-shinned Hawks as 97% birds and 3% mammals.

In the present study the stomachs of 110 Sharp-shinned Hawks taken between 1917 and 1941 were obtained from the U.S. Fish and Wildlife Service. All major geographical regions of the continental United States, including Alaska, were represented as well as some Canadian provinces (British Columbia, Alberta, Saskatchewan, Manitoba, and Ontario). Although some of the hawks were obtained in each season of the year, most were collected in September and October, probably while they were migrating.

Eighty-six stomachs (78%) contained prey fragments and 24 (22%) were empty. Seventy-three (85%) of the 86 stomachs with food in them contained parts of birds. Passerines made up the bulk of the avian fragments, and fringillids, ploceids, and parulids were encountered most frequently. Among those that could be identified positively, the three prey species that occurred most often were Dark-eyed Junco (*Junco hyemalis*) from 10 stomachs, House Sparrow (*Passer domesticus*) from 8, and Song Sparrow (*Melospiza melodia*) also from 8. Among the parulid fragments several were probably parts of Blackpoll Warblers (*Dendroica striata*), but they could not be identified with certainty. These data on most frequent prey species agree fairly well with Storer's list (op. cit., p. 429), although the order of frequency differs from his.

Nonpasserines that could be identified included three young chickens (*Gallus gallus*), two Bobwhite (*Colinus virginianus*), one Spotted Sandpiper (*Actitis macularia*), one Mourning Dove (*Zenaidura macroura*), one Common Flicker (*Colaptes auratus*), and three Downy Woodpeckers (*Picoides pubescens*).

Mammalian fragments were found in only five stomachs (6%), and consisted of remains of three mice (two *Peromyscus*, one *Microtus*) and two chipmunks (*Tamias*). Reptilian fragments from two stomachs (2%) were parts of one fence lizard (*Sceloporus*) and one garter snake (*Thamnophis*). No amphibian fragments were found.

An unexpectedly large number of stomachs contained insect fragments. Although Fisher (op. cit.) reported insects in only five (5%) of 103 stomachs, in the present study insect fragments were found in 14 stomachs (16%). Most were parts of grasshoppers (Orthoptera), but a few exoskeletal pieces of beetles (Coleoptera) and butterflies (Lepidoptera) were also found. Because some of the insect parts were found in stomachs that also contained bird remains, it is impossible to know which insects were actually captured by the hawks and not by their avian prey.—STEWART DUNCAN, *Biology Department, Boston University, Boston, MA 02215*. Received 5 August 1979, accepted 16 November 1979.

Starling Nest Sites and Cleared Land.—Starlings (*Sturnus vulgaris*) breed throughout Ontario, as far north as the village of Winisk near the Hudson Bay coast, where the first birds were reported in 1965 and the first nest was found in 1967. In forested northern

TABLE 1.

Proportions of nest boxes used by Starlings at different distances from cleared land.

| | Box distance (in m) from mowed or agricultural land | | | | | | | |
|----------------|---|---------------|---------------|---------------|---------------|---------------|---------------|-----------------|
| | 0 to 100 | 100 to 200 | 200 to 300 | 300 to 400 | 400 to 500 | 500 to 600 | 600 to 700 | 700 to 2,000 |
| Boxes used | 11 | 11 | 9 | 8 | 7 | 1 | 0 | 0 |
| Boxes not used | 2 | 1 | 4 | 7 | 6 | 9 | 6 | 21 |

$$\chi^2 = 49.62, df = 7, P < 0.001.$$

Ontario, Starlings are locally distributed at settlements, clearings, and agricultural land. Because they are largely ground foragers in open areas with low vegetation, an examination of nest site selection in relation to cleared land was undertaken. In the Timiskaming District of Ontario they nest in boxes erected for Common Goldeneyes (*Bucephala clangula*). These were placed along 30.6 km of the Englehart River on Robillard, Kinogami and Kushog Lakes, known collectively as Long Lake. The village of Charlton (47°48'N, 79°50'W) lies at the southeast end of this lake chain. Box arrangement and form are described by Lumsden (*Wilson Bull.*, **88**: 665-666, 1976). The relatively steep hills surrounding Long Lake are largely forested to the water's edge. A large part of the forest was burned in 1922 and now supports a relatively dense mixed stand of trembling aspen (*Populus tremuloides*), white birch (*Betula papyrifera*), black ash (*Fraxinus nigra*), balsam fir (*Abies balsamea*), white cedar (*Thuja occidentalis*), and white spruce (*Picea glauca*). Areas of agricultural land, a few cleared and mowed tourist establishments, and summer cottage lots are clustered at intervals along the shores.

A highly significant ($P < 0.001$) decline was noted in the proportion of boxes used by Starlings with increasing distance from foraging areas (Table 1). The farthest that Starlings nested from cleared land was 503 m. Not all boxes close to foraging areas were used; 18% within 300 m were never used. It was impossible to follow the nests through the summer to compare success rates with distances from foraging areas. Likely, a maximum distance occurs beyond which Starlings are unable to carry enough food to nourish a brood, and probably this distance is about 500 m under the soil, climate, flora, and insect faunal conditions of northern Ontario.—HARRY G. LUMSDEN, *Ontario Ministry of Natural Resources, Box 50, Maple, Ontario L0J 1E0*. Ministry of Natural Resources, Wildlife Research Section Contribution No. 79-18. Received 25 September 1979, accepted 10 December 1979.

A Technique for Live-trapping Nesting Horned Grebes.—The use of gill nets for live-trapping water birds has received little attention. Lensink (*J. Wildl. Manage.*, **21**: 103-104, 1957) used a submerged net to capture waterfowl in Alaska, and Johnson (*J. Wildl. Manage.*, **36**: 1277-1279, 1972) used a similar technique for capturing flightless young goldeneyes (*Bucephala clangula*) in Minnesota. This note describes a method for capturing nesting Horned Grebes (*Podiceps auritus*) with the aid of a gill net. The technique was devised in June 1974 while I was studying grebes at Minnedosa, Manitoba.

The materials consisted of a 5-cm mesh nylon gill net, two 1.5-m lengths of wooden dowelling (2-3 cm in diameter) and a spool of monofilament fishing line. For work on small prairie marshes, I found that a net measuring 10 m × 2 m was ideal and that it could easily be set by one person. Dimensions of the net and length of the dowelling may be adjusted to suit individual requirements. On shallow marshes at Minnedosa, 94% of all Horned Grebe nests ($n = 119$) were located in water <60 cm deep (Ferguson, M.S. Thesis, Univ. Manitoba, Winnipeg, 1977). Construction of the apparatus is simple. Each end of the net is fastened to a dowel so that the top of the net (the float line) is roughly 5 cm from one end of the dowel and the bottom of the net (the lead line) is about 30 cm from the other end. Monofilament fishing line is used to secure the net to the supports and to repair any holes in the net.