

# NOTES ON A WINTERING FLOCK OF LONG-EARED OWLS

DALE BIRKENHOLZ  
*Southern Illinois University, Carbondale*

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## INTRODUCTION

While the winter range of the long-eared owl, *Asio otus*, includes Southern Illinois (A. O. U., 1958: 287), reports of its occurrence there are few. Forbes and Gross (1923: 440) recorded them, and Ridgway (1881:187) classed the species as a resident in Southern Illinois. Smith and Parmaloe (1955:37) gave no account of the bird in this region. Most recently published records include that of a specimen collected by W. D. Klimstra (SIU A189) on December 21, 1953, Carbondale, Illinois, and an individual found dead (SIU A191) in the same area five days later by Richard Brewer (Nat. Aud. Soc., 1954). A wintering flock of these birds utilized the Southern Illinois University Striplands Research Area, 2 miles west of Pyatt in Perry County, Illinois, as a roosting site. A study of the flock was made from December 29, 1956, to April 8, 1957.

## ROOSTING SITE AND MOVEMENTS

Plantations consisting mostly of shortleaf pine, *Pinus echinata*, are relatively common in those areas of Perry County previously stripped for coal. A 15-acre shortleaf pine plantation was used by a flock of long-eared owls for roosting during the winter of 1956-1957. Trees averaged 15 years of age, 8 to 25 feet in height and 3 to 9 inches in diame-

ter. In some locations trees were only four feet apart. Such dense coniferous cover seems to be preferred by long-eared owls for winter roosting sites (Bent, 1938:153).

The sites of three roosts were small. Averaging six trees in extent, each covered an area not over 250 square feet. As many as seven owls used one tree.

The main group of 10 to 15 birds used three different localities. When first observed (December 29, 1956) they were roosting near the center of the plantation. The number of pellets collected and lack of evidence of roosting elsewhere indicated that the owls had used this site since mid-December. On January 10, a new roosting site was established 150 yards northeast of the first. It was occupied until February 11. Occasional use of the original site was made by two to seven birds. On February 11, the second roost was vacated, the birds moving to an area near the south edge of the plantation. Throughout the late winter and early spring no further change was observed. Roosting in a compact group continued as long as the birds remained in the stripland area (April 8, 1957).

Some birds roosted occasionally in nearby habitats. Four similar localities within a two-mile radius of the roosting site were searched periodically. Long-eared owls were observed in two of these: 4 birds, 1.5 miles

northeast; and 3 birds, 1.5 miles southeast of the roost. Sign indicated that neither group had roosted at these locations more than two days, and no additional evidence of roosting was noted in the vicinity. Random wandering from the main roost may have accounted for these occurrences.

### Food

The restricted area of the roosts facilitated pellet collecting. A total of 1,314 pellets was obtained at intervals of approximately 10 days. Contents of pellets were identified by comparison with specimens in the reference collections of the Cooperative Wildlife Research Laboratory. Only skulls or parts of skulls were used to establish numbers of animal items in food. Most bone remains were readily identifiable, as noted also by Errington (1930:293). The number of pellets collected indicated that approximately one pellet per owl was deposited.

An average of 1.7 food items was identified in each pellet; Wilson (1938:189) reported a similar ratio. Most bird remains were of wintering fringillids (Table 1). Small mammals constituted 98% of the identifiable diet with 4 species furnishing 92.8% (Table 1). Other authors report the following: Errington (1932:179-180) 99.66% mammals of which 83.8% were *Microtus* and 15.0% *Peromyscus*; Scott (1946:447) 97% mammals (*Microtus*, 55.2%, and *Peromyscus*, 19.0%); and Wilson (1938:189) 99% mammals (*Microtus*, 75%, and *Peromyscus*, 10%). The higher percentages of least shrew (20.8%) and house mouse

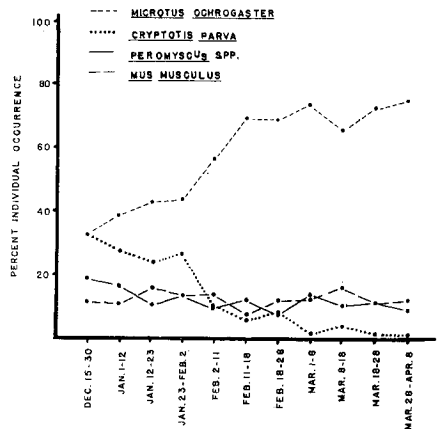


FIG. 1.—Percent individual occurrence of small mammals in diet of long-eared owls, Pyatt Area, Illinois, winter, 1956-1957.

(11.1%) recorded in the present study (Table 1) constitute the main differences from earlier reports.

Trends in the use of mammals were evident. Remains of three juvenile cottontail rabbits were found in pellets collected in March. White-footed mice and house mice remained relatively constant in pellets collected throughout the winter (Fig. 1). Recovery of prairie voles and least shrews was almost equal in December (least shrew, 32.7%, and prairie vole, 31.8% individual occurrence). In the period March 1-8 the occurrence of the least shrew had declined to 1.4%, while that of the prairie vole had increased to 74.3%. When plotted (Fig. 1), these percentages reflect almost a mirror image of each other.

The average number of skulls of shrews in each pellet containing this animal was 1.7 for December, 1.5 for January, 1.2 for February, and 1.0 for March. Many pellets collected in December and January contained

TABLE 1.—Winter Diet of Long-eared Owls, Pyatt Area, Illinois, Winter, 1956-1957.

Food item	Number food items	Percent occurrence
Prairie vole, <i>Microtus ochrogaster</i> .....	1080	47.8
Least shrew, <i>Cryptotis parva</i> .....	470	20.8
White-footed mice, <i>Peromyscus</i> .....	295	13.1
House mouse, <i>Mus musculus</i> .....	261	11.1
Birds*.....	34	1.5
Miscellaneous**.....	35	1.5
Unidentified.....	94	4.2
*Unidentified fringillid birds.....	11	
Unidentified birds.....	7	
Tree sparrow, <i>Spizella arborea</i> .....	5	
Junco, <i>Junco hyemalis</i> .....	5	
Field sparrow, <i>Spizella pusilla</i> .....	2	
Rusty blackbird, <i>Euphagus carolinus</i> .....	2	
English sparrow, <i>Passer domesticus</i> .....	1	
White-throated sparrow, <i>Zonotrichia albicollis</i> .....	1	
**Short-tailed shrew, <i>Blarina brevicauda</i> .....	10	
Bog lemming, <i>Synaptomys cooperi</i> .....	10	
Cottontail rabbit, <i>Sylvilagus floridanus</i> .....	3	
Insects, <i>Carabidae</i> and <i>Dytiscidae</i> .....	2	

two to four skulls of *C. parva* with as many as five present in one pellet.

The above data might indicate that shrews were more numerous and more easily taken, or preferred early in the winter. Also, vole populations evidently held up throughout the winter more than those of shrews. Whatever the reason, a gradual change in food habits of these long-eared owls occurred as winter progressed.

SUMMARY

A wintering flock of long-eared owls was studied on the Southern Illinois University Striplands Research Area, Pyatt, Illinois from December 29, 1956, to April 8, 1957. Roosts were small in size, averaging six trees in extent and covering an area of not more than 250 square

feet. A total of 1,314 pellets was examined. An average of 1.7 food items was identified in each pellet. Small mammals constituted 98% of the diet with 4 species furnishing 92.8% (*M. ochrogaster*, 47.8%; *C. parva*, 20.8%; *Peromyscus*, 13.1%; and *M. musculus*, 11.1%). A gradual change in food habits occurred as winter progressed.

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