

Common Barn-Owl Food Habits in Oktibbeha County, Mississippi

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The Common Barn-Owl (Tyto alba) is a large owl found throughout Mississippi and most of the world. It usually doesn't leave its daytime roost until dark, thus it is rarely seen by most people. Like all owls, the Common Barn-Owl swallows small prey whole and then, when the digestive process is complete, regurgitates the undigested bones, hair or feathers, and other hard items in compact "pellets." Two pellets are often produced in a 24-hour period (Burton 1973). By collecting and analyzing these pellets, we can determine much about the food habits of owls.

On 16 February 1983, I and several other members of Dr. Jerome Jackson's ornithology class collected pellets from the nesting area of a pair of Common Barn-Owls. The nest site was in the top of an old concrete silo about 3 km south of Starkville, Oktibbeha Co., Mississippi. We also randomly collected several "hand-fulls" of loose skeletal material from the accumulation of broken pellets around the nest site. This nest site had been in use for at least 7 years (J. Jackson, pers. comm.). In this paper I describe the results of analyzing the contents of these pellets.

Methods

The techniques used to analyze the contents of the pellets were those described by Sparks and Soper (1970) and Burton (1973). The length and width of pellets were measured at the greatest dimensions using dividers and a ruler. The pellets were then soaked in warm water for a moment, transferred to a sheet of white paper, and teased apart with dissecting needles. The remains of prey were then identified and the number of individuals counted. Mammalian remains were identified using Glass (1977) and Burt and Grossenheider (1976). Identifications were checked by using the mammal collection in the Biological Sciences Department at Mississippi State University. The avian remains were identified by comparison with the reference collection in the Biological Sciences Department at Mississippi State University.

Results

The average dimensions of the 25 pellets dissected were 5.65 (range 3.9-8.0) cm by 2.9 (range 2.4-3.8) cm. Three species of mammals were identified from the pellets; bird remains in the pellets were not identifiable to species (Table 1). More than two-thirds of the prey were hispid cotton rats.

Table 1. Prey identified from 25 pellets of the Common Barn-Owl.

Prey Species	Number of Individuals	% of Total Prey Individuals
Hispid Cotton Rat (<u>Sigmodon hispidus</u>)	34	69.4
Least Shrew (<u>Cryptotis parva</u>)	11	22.4
Pine Vole (<u>Pitymys pinetorum</u>)	2	4.1
Bird (species unknown)	2	4.1

Analysis of the older, loose material, showed a different composition (Table 2). Of 90 skulls in the loose material, only 34.4% were hispid cotton rats, while 44.4 % of the skulls belonged to pine voles.

The differences in the two samples may reflect changes in the small mammal population in the area, since the Barn Owl is not known to be particularly selective in its prey. The reality of such a change and causes for it cannot be discerned from this limited study, but these data suggest an area worthy of further investigation.

This study does support the idea that the hispid cotton rat is a major prey item of the Common Barn-Owl in the

southern United States. Bent (1938), Sprunt and Chamberlain (1949), and Dusi (1957) all reported the cotton rat as a major prey item in the South. Dusi (1957) collected 190 skulls from a roost on the Auburn University campus, Alabama, and found that 71.5% were from hispid cotton rats, 14.7 % were from Least Shrews, 4.4 % were from house mice (Mus musculus), 2.6% were from short-tailed shrews, 2.1% were from old field mice (Peromyscus polionotus), and lesser percentages were from several other species.

Table 2. Prey items identified from analysis of randomly collected material from disintegrated Common Barn-Owl pellets at a nest site.

Prey Species	Number of Individuals	% of Total Prey Individuals
Pine Vole	40	44.4
Hispid Cotton Rat	31	34.4
Short-tailed Shrew (<u>Blarina brevicauda</u>)	8	8.9
E. Harvest Mouse (<u>Reithrodontomys humulis</u>)	2	2.2
Least Shrew	1	1.1
Red-winged Blackbird (<u>Agelaius phoeniceus</u>)	7	7.8
Eastern Meadowlark (<u>Sturnella magna</u>)	1	1.1

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