

## MAMMALIAN PREY DIGESTIBILITY BY BOBCATS

MARK K. JOHNSON, School of Forestry and Wildlife Management, Louisiana State University, Baton Rouge, LA 70803; and DON R. ALDRED, Wildlife Consulting Services, Inc., 1385 Belmont Lane, Helena, AL 35080.

Prey of different body sizes are not equally digested by a predator (Meriwether and Johnson, J. Mammal. 61:774-775, 1980). This accounts for the fact that bones of small prey cannot always be detected in coyote (*Canis latrans*) scats (Murie, J. Wildl. Manage. 10:275-276, 1946; Weaver and Hoffman, J. Wildl. Manage. 43:783-786, 1979). Although assimilation efficiencies have been reported for some carnivores, we know of only 1 publication describing proportions of hair and bone that are dissolved during digestion (Meriwether and Johnson 1980). Since these body parts are normally considered indigestible and are used to estimate food habits, it is important to compare dissolution of these parts among predators as well as prey. Here we report results of feeding trials with bobcats (*Felis rufus*) conducted for a comparison with previous results by Meriwether and Johnson (1980) on coyotes.

Ten specimens each of gray squirrels (*Sciurus carolinensis*) and eastern cottontails (*Sylvilagus floridanus*) were dissected to determine average proportions

composed of skeletal parts (bones, teeth, and claws) and hair (Johnson and Hansen, Am. Midl. Nat. 102:363-367, 1979). After weighing, 10 specimens of each prey were fed to 3 different bobcats in separate trials so that 30 of each prey were used.

All droppings produced from a specific feeding trial were placed together in a nylon bag and washed in an automatic clothes washer. Washings were continued until rinse water was relatively clear. Bags containing undigested bone and hair were tumbled dry in an automatic clothes dryer. Hair and skeletal remains were hand separated and weighed.

Regardless of the prey, bobcats dissolved  $99 \pm 1\%$  ( $\bar{x} \pm SE$ ) of the skeletal materials ingested (Table 1). For gray squirrels and eastern cottontails,  $93 \pm 1\%$  and  $88 \pm 5\%$  of the hair was dissolved, respectively. These data are significantly higher than values for coyotes determined by identical methods (Meriwether and Johnson 1980).

When larger prey are ingested, the larger food bolus probably protects body parts from dissolution by digestive acids longer than for smaller prey. Remains from smaller prey might fail to occur in coyote droppings more often than from larger prey. This problem is even greater for bobcat droppings.

We suggest that caution be used when estimating proportions of different foods in bobcat diets from scat analyses as the importance of some food items is likely to be overestimated.

Table 1. Proportions (%) of bone and hair dissolved by bobcats and coyotes. Data for coyotes are from Meriwether and Johnson (1980).

Prey	Bone				Hair			
	Bobcat		Coyote		Bobcat		Coyote	
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE
Gray squirrel	99	1	91	4	93	1	80	9
Eastern cottontail	99	1	93	2	88	5	43	12

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