

Winter food of the Little Owl (*Athene noctua*) at Jablonná, Central Bohemia

Zimní potrava sýčka obecného (*Athene noctua*) v Jablonné

J. MLÍKOVSKÝ

Dipl.-Biol. Jiří Mlíkovský, CSc., Vršovická 11, 101 00 Praha 10, Czech Republic

ABSTRACT. Winter food of the Little Owl at Jablonná in Central Bohemia was studied. The owl fed exclusively on small rodents, mainly voles *Microtus arvalis*. The breakage of prey bones, and bone losses in pellets are discussed.

The food of Little Owls in the territory of the Czech Republic has not yet been adequately described, the few data being limited to the breeding season (VLČEK 1971, FOLK in HUDEC 1983). Here, I present data on the winter food of Little Owls. The pellets were collected on 10 March 1989 in an isolated group of shrubs in the outskirts of Jablonná village, Benešov District, Central Bohemia. The shrubs were surrounded by extensive, ploughed fields, still covered in part by snow. The pellets were lying on the ground, and their position and state of preservation indicated, that they were produced after the shrubs had lost their leaves, i.e. during the winter. It is quite possible that all the pellets were produced by a single individual.

Skeletal remains of the mammalian prey were identified using the keys by ANDĚRA & HORÁČEK (1982) and GÖRNER & HACKETHAL (1987). No remains of non-mammalian prey were found. Minimum numbers of individuals (MNI) were calculated according to GRAYSON (1984). The prey composition (based on the study of teeth) was limited to three rodent species: *Apodemus sp.* (MNI=1), *Microtus arvalis* (MNI=34), and *Microtus cf. agrestis* (MNI=2). Closer study of complete *Microtus* femora showed, that only 14% (MNI=5) belonged to adult voles, while the remaining 86% (MNI=31) had distal parts not yet fully ossified. The latter thus belonged to young animals, apparently from the last autumn generation.

Little Owls are generally known to feed mainly on insects and small mammals (SCHÖNN et al. 1991). It is possible, however, that the role of vertebrates is smaller than is generally believed, because remains of insects and other invertebrates (especially earthworms) used to be overlooked during standard pellet analyses (HAENSEL & WALTHER 1966, KRIŠTÍN 1992). Nevertheless, Little Owls may feed exclusively on small vertebrates in winter (GUSEV 1956, HELL 1964), as is confirmed by the present data. Both GUSEV (1956) and HELL (1964) found an increased proportion of birds in the winter diet of Little Owls, but none was found in the present study.

Study of the preservation and fragmentation of skeletal remains is informative in many respects, particularly as regards the handling of prey during its dismemberment and swallowing (ANDREWS 1990). The results are given in Table 1. Analysis of the table shows (1) that most of the bones, particularly the jaws and pelvises, are broken, and (2) that stylopodial bones outnumber zeugopodial bones and skull remains. This is in good agreement with the results obtained by ANDREWS (1990) on a sample from England. The data indicate that voles are too large for Little Owls to be swallowed at once, and must be first broken up.

Table 1 - The state of preservation (breakage) and proportion of preserved (% of expected) bones of small mammals in the pellets of the Little Owl at Jablonná (this paper), and at Womack Water, Norfolk (ANDREWS 1990).

Tab. 1 - Podíl zlomených (z celkového počtu zachovalých) a podíl zachovalých (z teoreticky možného počtu) kostí ve vývržcích sýčka obecného u Jablonné (tato práce) a u Womack Wateru v anglickém Norfolku (ANDREWS 1990).

Bone Kost	Jablonná, (MNI = 49)			Womack Water, (MNI = 8)		
	n (left/right) n (levá/pravá)	% broken % z lomených	% preserved % zachovaných	n	% brok. % zlom.	% preser. % zach.
Upper jaw	42 (18/24)	100.0	42.9	3	-	18.7
Lower jaw	67 (35/32)	100.0	68.4	11	-	68.7
Humerus	98 (49/49)	13.3	100.0	11	67	68.7
Ulna	70 (35/35)	22.9	71.4	7	-	43.7
Pelvis	52 (28/24)	100.0	53.1	3	-	18.7
Femur	89 (46/43)	25.8	90.8	12	88	75.0
Tibia	73 (29/44)	60.2	84.7	14	67	87.5

During this activity, Little Owls destroy most of the skull remains and tend to abandon the distal parts of legs, while the corpus and proximal parts of legs are swallowed. Also, some of the bones can be digested (see MLÍKOVSKÝ 1980, ANDREWS 1990).

SOUHRN

Analýza vývržků sýčka obecného, pocházejících ze zimy 1988/1989 od Jablonné (okr. Benešov), ukázala, že sýček se živil výhradně drobnými hlodavci, především hrabošem polním (*Microtus arvalis*). Zastoupení kostí ve vývržcích naznačuje, že sýček hraboše nepolyká celé, ale před pozřením je porcuje, přičemž tlapky buďto většinou nežere, nebo je z větší části stráví.

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