

## CONTRIBUTION TO THE KNOWLEDGE OF THE BOLOGNA LOWLANDS MICROTERIOFAUNAL COENOSIS, USING LONG-EARED OWL'S PELLETS.

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**ABSTRACT** - About 700 long-eared owl's pellets, containing 4 species of insectivores and 5 species of rodents, were collected and the microteriofaunal coenosis was studied. The result of this research is comparable to other studies carried out in Padane Plain, as consequence of the sameness of the landscape due to the human activities' influence.

**Key words:** *Asio otus* pellets, Microteriofaunal coenosis. Lowlands.

During winter 1994, more than 700 long-eared owl's pellets were collected in two sites of Bologna lowlands: an old, abandoned, sugar refinery in Crevalcore (BO) and a private garden in Palata Pepoli (BO).

Both sites are characterized by little groves, of willows and poplars in Crevalcore and conifers (*Pinus nigra var. austriaca*) in Palata Pepoli. These groves have been used as roosting places, for many years, by about twenty long-eared owls (*Asio otus*).

The micromammals present in pellets were studied. The hunting territory of this bird of prey was assumed to have a diameter of 2

km., an accordance with previous literature (Contoli et al., 1991).

The area study is to be found in the typically intensively cultivated lowlands of the Padane Plain, brightened up by some isolated hedgerow, especially along canals and river banks.

The climate is continental, with very cold winters and very hot and wet summers (annual rainfall = 590 mm) (Maestrello, 1993). 9 species of micromammals were collected in the pellets. From the tables the overwhelming prevalence of rodents can be clearly seen with a particular preference for *Micro-*

Table I - Species collected and percentage distribution

SPECIES	PALATA PEPOLI		CREVALCORE	
	n	%	n	%
<i>Sorex araneus</i>	2	0,35	2	0.02
<i>Crocidura suaveolens</i>	5	0,88	12	1,41
<i>Crocidura leucodon</i>	9	1,59	3	0,35
<i>Suncus etruscus</i>	2	0,35	1	0.12
Tot. Insectivora	18		18	
<i>Microtus arvalis</i>	269	47,53	87	10,19
<i>M. (Terricola) savii</i>	108	18,55	414	48,48
<i>Apodemus sylvaticus</i>	173	30,57	330	38,64
<i>Rattus rattus</i>			2	0.23
<i>Micromys minutus</i>	1	0.18	3	0,35
Tot. Rodentia	548		836	
Tot. specimens	566		854	

Table 2 - Comparison between different areas. n.pell.= number OI pellets, n.sp.= number of specimens, sp/p = specimens per pellet, n.sp. = number of species, H = Shannon diversity, J = Shannon equitability

SITES	N.PELL.	N.SP.	SP/P	N.SP.	H	J
Palata Pepoli	260	566	2,20	8	1,19	0,57
Crevalcore	440	854	1,90	9	1,09	0,49
S.G. in Dosso	300	612	2,19	4	0,87	0,63
Comacchio *	387	1082	2.07	10	1,10	0,48

\* Casini e Magnani, 1988

*tidue* and *Apodemus sylvaticus* (Table 1). It's interesting to note that the number of *Apodemus sylvaticus* specimens is almost the same in both sites, whereas *Microtus arvalis* is much more abundant (about 2,5 times more) than *Microtus (Terricola) savii* in Palata Pepoli. However, in Crevalcore it is one fifth of the *Microtus (Terricola) savii*'s specimen number.

This reversal of frequencies of these two species is probably due to local different specific densities and or to interspecific competition.

4 species of insectivores were present but only in very small numbers. The reason for this is, without doubt, due to the well-known stenophagy of the long-eared owl and to modern agricultural techniques, which have destroyed almost all the hedgerows which are the insectivores' favourite habitat. We compared our data with that of other lowland sites, as the Coinacchio marshes (Casini and Magnani, 1988) and the Mantua lowlands (Malavasi, 1993). As far as ecological diversity is concerned, calculated by the Shannon Index and equitability, the microtenofaunal coenosis of Bologna lowlands is very similar to Comacchio marshes, which

le Mantua's data is different, more similar to other works, reported in literature (Contoli, 1991) (Table 2).

Sorensen Index modified Bray-Curtis (Southwood, 1978) (Table 3) confirms a strong affinity between the Crevalcore and Coinacchio data.

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Table-3 - Sorensen Index modified Bray-Curtis

SITES	PALATA PEPOLI	CREVALCORE	V.COMACCHIO
Crevalcore	0,53	—	
Comacchio	0,35	0,78	—
S.G. in Dosso	0,59	0,68	0,48