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The Little Owl *Athene noctua* diet in Italy

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ABSTRACT: The Little Owl diet in Italy shows a wide range, related to a high variability of food. Invertebrates cover the highest percentage but the hypothesis of a positive North-South gradient in their occurrence is not corroborated for low values have been recorded in Sicily. Some aspects to be dealt with in further investigations are pointed out.

Key words: Little Owl, diet, Italy.

INTRODUCTION: The Little Owl *Athene noctua* diet in Italy has been poorly investigated to date (Benussi, 1997) due to the high percentage of not easily identifiable invertebrates. The aim of our study is to point out the diversity of food items taken by this bird of prey in Italy and to compare it with analyses carried out in other countries.

MATERIALS AND METHODS: All the papers, unpublished observations and degree theses dealing with Little Owl diet in Italy have been considered.

RESULTS AND DISCUSSION: In almost all cases, the invertebrates turned out to be the main component: 97.5% in the Siena district (Tuscany) (Lovari, 1974) and 96.1% in Parco Gussone, Portici (Naples district, Campania) (Moschetti & Mancini, 1993), whereas lower values have been given by the Novara and Vercelli districts (Piedmont) (55.4%) (Gotta & Pigozzi, 1997) and by the Carso area of Trieste in Friuli Venezia Giulia (12.0%) (Gerdol *et al.*, 1982). The data recorded in Sicily - 52.9% (Massa, 1981) and 78.4% (Lo Verde & Massa, 1988) - do not corroborate the N-S gradient (Mikkola, 1983) along which the occurrence of invertebrates would increase. Anellids have been found in a pellet in Naples (Nappi,

unpubl. data). In Belgium, they cover a low percentage (0.1%, Libois, 1977), whereas they are taken in much higher numbers (58.9%) than insects (9.0%) in Switzerland (Juillard, 1984). The amount of molluscs show variability: 19.96% in Corace-Germaneto (Catanzaro district, Calabria) (Contoli *et al.*, 1988), 2.5% in Parco Gussone (Moschetti & Mancini, 1993) and 0.1% in Siena district (Lovari, 1974). The ones sampled in Parco Gussone are Limacidae, also found in Roccarainola (Naples district, Campania), in S. Giorgio del Sannio (Benevento district, Campania), Campomarino (Campobasso district, Molise) and in Formigliana (Vercelli district, Piedmont) but their percentage has not been given due to the extremely low number of pellets collected (Nappi, unpubl. data). Furthermore, the very small internal shells can be easily overlooked, when dissecting a pellet. This must be considered. Among arthropods, arachnids make up 16.4% of the diet in Parco Gussone (Moschetti & Mancini, 1993), myriapods form 3.2% in Sicily (Lo Verde & Massa, 1988). Insects are a major prey item, especially during the spring season but in the Venice lagoon a decrease has been pointed out in summer (Bon *et al.*, 2001) and passerines (27.1%) and *Microtus arvalis* (24.99%) becoming more important. As to coleopterans, the following values have been found: 68.0% in Central Italy (Fattorini *et al.*, 2000), 35.8% in Sicily (Lo Verde & Massa, 1988) and 22.1% in Siena district (Lovari, 1974). Dermapterans - from 49.5% in Siena district (Lovari, 1974) to 7.4% in Parco Gussone (Moschetti & Mancini, 1993) - and hymenopterans - 19.8% in Siena district (Lovari, 1974), 3.2% in Sicily (Lo Verde & Massa, 1988) and 0.4% in Parco Gussone (Moschetti & Mancini, 1993) - also show a wide range. Low percentages of lepidopterans have been reported, 1.0% in Siena district (Lovari, 1974) and 0.3% in Sicily (Lo Verde & Massa, 1988). The Little Owl can even help sampling rare and not easily found insects (Fattorini *et al.*, 1999).

In many cases, the vertebrates play an important role in the Little Owl diet due to their high biomass. The following predations have been recorded in Italy: amphibians (*Hyla arborea*), reptiles (*Tarentola mauritanica, Natrix natrix, Chalcides chalcides, Podarcis muralis, P. sicula*), birds (*A. noctua*, Apodiformes, Passeriformes), mammals (Soricidae, Talpidae, Chiroptera, Gliridae, Arvicolidae,

Muridae). The Little Owl hunts more reptiles than do other Strigiformes (Mastrorilli *et al.*, 2001), even if the values are likely to be underestimated, as suggested by analyses carried out in Jordan (Al Mehim *et al.*, 1997), in areas very similar to many Mediterranean portions of Italy. Among vertebrates, the occurrence of birds is variable: 2.0% in Parco Gussone (Moschetti & Mancini, 1993), 0.5% in Corace-Germaneto (Contoli *et al.*, 1988) and 2.3% in the Palermo district (Massa, 1981). The owlet preyed on in Parco Gussone is the first ever case of cannibalism in Italy (Moschetti & Mancini, 1993). As regards small mammals, the rodents form the main component, in particular *Apodemus* and *Microtus* (*Terricola*). *Microtus* (*Terricola)* does not occur in Cunicchio (Contoli *et al.*, 1988) and in Parco Gussone (Moschetti & Mancini, 1993), where by contrast it is one of the favourite prey items of Barn Owl *Tyto alba* (Viglietti, 1998).
In Italy, the Little Owl shows a very variable diet, as shown by a specialization in invertebrates and a constant predation on vertebrates. The following aspects should be dealt with in further investigations: paucity or absence of some prey items, lack of research in some areas and in non-breeding seasons.

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