

# Feeding specialization of urban Long-eared Owls, *Asio otus* (Linnaeus, 1758), in Jerusalem, Israel

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**Abstract.** The diet of Long-eared Owls (*Asio otus*) that breed and hunt within the grounds of a bird-ringing station located in a large city park in Jerusalem, Israel, was investigated. 13 species of bird were the most common prey group (91% by number) with a frequency of occurrence of 99% in pellets, with House Sparrows, *Passer domesticus*, and Blackcaps, *Sylvia atricapilla*, as the most frequent prey species (22% and 17% by number). 29% of the bird specimens found in pellets had been ringed at the ringing station. The frequency of residential and migratory passerines caught by Long-eared Owls and ringed at the ringing station was similar, whereas more migrants were captured and ringed during the spring than summer. A comparison of bird species that were hunted relative to their frequency in the habitat revealed that the owls caught more *Sylvia* warblers than expected. Long-eared Owls in this study most probably specialised on birds because of the abundance of passerines and the lack of small mammals.

**Key words.** Long-eared Owl, *Asio otus*, Israel, prey selection, diet.

## Introduction

In Europe and northern America, where the diet of Long-eared Owls (*Asio otus*) has been well studied, small mammals, mainly rodents, typically form between 83 and 96% of the diet (CRAMP & SIMMONS 1983, MIKKOLA 1983), with a concentration on a relatively few species regardless of habitat type or location (MARTI 1976). Even though data on the diet of Long-eared Owls in the Mediterranean (SEÇKIN & COŞKUN 2006), including Israel (YOSEF 1997, LEADER 2005), are scarce, rodents comprised 96%, 99%, 70% respectively of the diet, similar to the situation in Europe and the USA. Most studies on the diet of Long-eared Owls have concentrated on rural sites rather than on urban areas. In suburban and urban areas, the diet of Long-eared Owls may comprise more birds (WIJNANDTS 1984).

Due to a researcher's ability to trap small mammals, some studies have monitored both diet and rodent population simultaneously in order to determine whether a certain prey is preferred (VILLAGE 1981, KORPIMÄKI 1992). Information on the composition of birds in the diet of the Long-eared Owl is limited mainly to identification to species level. Information is lacking on the prey selection of Long-eared Owls preying on birds as to whether they hunt selectively or opportunistically. In Israel, Long-eared Owl numbers have increased dramatically since 2002, with breeding expanding into many suburban and urban habitats (DOVRAT & MEROSE 2002).

In this study we investigated the diet of Long-eared Owls that breed and hunt within the grounds of a bird-ringing station located in a large city park in Jerusalem, to determine if the species of caught birds differ during spring and summer and also if Long-eared Owls prefer specific prey.