



**SAPIENZA**  
UNIVERSITÀ DI ROMA

UNIVERSITÀ DI ROMA “LA SAPIENZA”

Facoltà di Scienze Matematiche Fisiche e Naturali

Corso di Laurea Magistrale in Ecobiologia

**Importanza delle preferenze  
individuali nella dieta e nel successo  
riproduttivo del gheppio  
(*Falco tinnunculus*)**

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# Abstract

In this study I analyzed the diet of European kestrel in a Natural Reserve of central Italy for three consecutive breeding seasons, in order to outline different food preferences among neighbouring breeding pairs.

The aim was to evaluate the relative importance of environmental factors, competition and individual feeding behaviours in affecting prey selection and reproductive success of the target species.

The monitored breeding pairs exhibit a clear differentiation in their prey spectrum, showing different proportions of each prey category (mammals, birds, reptiles and insects).

As a first result, the number of breeding pairs within each home range and laying date play no role in determining the diet composition of kestrels.

On the other hand, land cover categories only partly explain the diet composition variability. Since competition and environmental variables don't produce an adequate explanation for the diet composition variability, these results suggest that individual foraging behaviour and hunting skills, can provide a better interpretation of these intra-species differences, in accordance with another recent study (Costantini et al., 2005).

In addition, diet composition seems to have no influence on reproductive success of the breeding pairs, showing that individual food preferences are not maladaptive.

Furthermore, laying date seems to be negatively affected by the number of breeding pairs (competition) while fledgling number results negatively influenced by the extent of forest patches (usually not accounted as kestrel's hunting ground); moreover, reproductive success appears to be positively affected by the extent of the cultivated areas and the edge length. These results can be related to the proximity of the nest-boxes and the differential availability of prey species among different land uses: pairs who laying later in the breeding season face with a different prey type abundance and those pairs probably breed unsuccessfully if their food preferences don't meet prey type availabilities.

In conclusion, this study confirms the importance of integrating individual behaviour in ecological studies. Indeed, although feeding preferences and limited individual plasticity not always result in a maladaptation, they can represent an important problem if the species have to cope with a rapidly changing environment, just like agricultural and anthropized landscapes (Réale et al., 2007; Sih et al., 2004a).