

# STATUS OF KNOWLEDGE OF BARN OWL AND LITTLE OWL IN ITALY: A BIBLIOMETRIC REVIEW



**Paolo Taranto & Nino Scaravelli**

- 1 - Via Calvart 10, 40129 Bologna  
Italy, email: [raptorbiol@tin.it](mailto:raptorbiol@tin.it)  
2 - STERNA, Museo Ornitologico di Forlì,  
via Pedriali 12, 47100 Forlì email [dinosc@tin.it](mailto:dinosc@tin.it)

## ABSTRACT

The study was undertaken in order to determine what is the knowledge status of the two most common Italian owls, the Barn owl (*Tyto alba*) and the Little owl (*Athene noctua*). The bibliometric method was used for performing a statistical analysis of all the Italian publications regarding these two species by 1900 to 1999. The Barn owl has the major number of studies between all the Italian owls. The data analysis shows a disequilibrium on the available information in the case of the Barn owl, because of the high number of specific publications on the feeding argument (63,4%), in respect to the other arguments (i.e. biology with only 2 papers, 0,9 % of the total). Instead for the Little owl the data are more equilibrated. For both species the results show that only partial and inadequate information are available on phenology, biological aspects and systematics that are of basic importance for a correct planning of conservation programmes.

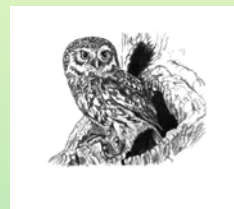
Table 1. Total number of publications for each owl species in Italy.

| N  | Species                      | Number of total publications | %     |
|----|------------------------------|------------------------------|-------|
| 1  | <i>Tyto alba</i>             | 168                          | 24,78 |
| 2  | <i>Otus scops</i>            | 39                           | 5,75  |
| 3  | <i>Bubo bubo</i>             | 94                           | 13,86 |
| 4  | <i>Glaucidium passerinum</i> | 32                           | 4,72  |
| 5  | <i>Athene noctua</i>         | 76                           | 11,21 |
| 6  | <i>Strix aluco</i>           | 108                          | 15,93 |
| 7  | <i>Strix uralensis</i>       | 15                           | 2,21  |
| 8  | <i>Asio otus</i>             | 82                           | 12,09 |
| 9  | <i>Asio flammeus</i>         | 18                           | 2,65  |
| 10 | <i>Aegolius funereus</i>     | 46                           | 6,78  |



Table 2. Number and percentage of publications for each knowledge field.

| N                    | Topics                      | Number of papers | %    |
|----------------------|-----------------------------|------------------|------|
| <i>Tyto alba</i>     |                             |                  |      |
| 1                    | Morphology and biometry     | 6                | 2,7  |
| 2                    | Systematics                 | 2                | 0,9  |
| 3                    | Ethology                    | 11               | 5,0  |
| 4                    | Phenology                   | 5                | 2,2  |
| 5                    | Feeding                     | 139              | 63,4 |
| 6                    | Breeding                    | 8                | 3,6  |
| 7                    | Ecology                     | 7                | 3,1  |
| 8                    | Distribution                | 17               | 7,7  |
| 9                    | Vocalizations               | 2                | 0,9  |
| 10                   | Biology                     | 2                | 0,9  |
| 11                   | Veterinary aspects          | 7                | 3,2  |
| 12                   | Conservation and management | 9                | 4,1  |
| 13                   | miscellaneous               | 4                | 1,82 |
| <i>Athene noctua</i> |                             |                  |      |
| 1                    | Morphology and biometry     | 13               | 9,0  |
| 2                    | Systematics                 | 6                | 4,1  |
| 3                    | Ethology                    | 9                | 6,2  |
| 4                    | Phenology                   | 1                | 0,7  |
| 5                    | Feeding                     | 28               | 19,5 |
| 6                    | Breeding                    | 7                | 4,9  |
| 7                    | Ecology                     | 9                | 6,2  |
| 8                    | Distribution                | 38               | 26,5 |
| 9                    | Vocalizations               | 4                | 2,8  |
| 10                   | Biology                     | 9                | 6,2  |
| 11                   | Veterinary aspects          | 6                | 4,1  |
| 12                   | Conservation and management | 4                | 2,8  |
| 13                   | miscellaneous               | 9                | 6,2  |



## INTRODUCTION

Owls generally are hard to study for their nocturnal habits and the extremely elusive nature. The purpose of this study was to estimate the knowledge status for two widely widespread owl species in Italy. Detailed information on the biology and eco-ethology of a species in a territory are fundamental to undertake management and conservation programs.

## MATERIALS AND METHODS

The data base was obtained analysing the Italian scientific publications by 1900 to 1999 in journals present in the library of National Institute for Wildlife Fauna, in Ozzano Emilia, Bologna and by the consultation of a specific bibliographical databank (Brichetti 1999).

Both the two owl are widely widespread on all the Italian territory (Meschini et al. 1993) and are supposed to be the best studied among the Italian group of species.

13 main categories of arguments were considered: morphology and biometry, systematic, ethology, phenology, feeding, breeding, ecology, distribution, vocalisations, biology, veterinary aspects, conservation and management, other arguments. For each category we counted all the available publications.

## RESULTS

We collect 678 literature records on owls (Table 2). *Tyto alba* is the most studied species and *Athene noctua* represent the fifth among the others.

The Barn owl is the protagonist of 168 papers. The high number show a strong bias due to the large number of publications, 139, concerning the "feeding" category (63,4%) instead other categories as biology, systematic and vocalisations that have only 2 papers for each (0,9 % of the total). The reason is related to the well known rule of Barn owl of collector of micromammals and many of the papers are devoted mainly in the study of micro therioecoenosis in all the country.

As well as Little owl have a different rule in this matter, the still scarce repertoire about this species is more balanced repertoire, until still scarce.

## CONCLUSIONS

The analyses encourage to undertake and to promote more studies on the still little know categories, especially because the two species of this review are still widespread and well conserved, a happy situation for an olistic approach to a owl and his niche. In particular for conservation purposes it should be important to know more on the population genetics and systematic of Italian populations. Modelling survivorship and management need to have a more accurate data set of the different population inhabitant a country to determine status, dynamics and decline causes.

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