

OWLS OF THE WORLD: THE STATE OF KNOWLEDGE ON THE THRESHOLD OF THE 21ST CENTURY

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Abstract. An attempt is made to quantify the present knowledge on all owl species in the world. This quantification is based on the bibliometric analysis of literature for the years 1971–2000. The Wildlife & Ecology Studies Worldwide (WESW) has been used for this analysis. By far, the best known owl species are the Tawny Owl and the Barn Owl. A group of frequently studied species of owls (100–600 papers) include the Long-eared Owl, Tengmalm's Owl, European Eagle Owl, Spotted Owl, Short-eared Owl, Great Horned Owl, Great Grey Owl, Little Owl, Eastern Common Screech Owl, Snowy Owl, Barred Owl, Northern Saw-whet Owl, Eurasian Pygmy Owl, Hawk Owl and Ural Owl. All these species occur in the Holarctic region. In tropical regions of the world, there are only seven owl species, which are fairly well-studied (20–30 publications); all others are little known (each species with less than 20 publications). Regional monographs on owls and monographs on particular owl species are listed.

Key words: owls, Strigiformes, bibliography, bibliometrics.

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Совы мира: состояние знаний на пороге XXI века. - Г. Копий. - Беркут. 18 (1-2). 2009. - Предпринята попытка количественно представить современное знание о всех видах сов мира. Эта оценка базируется на библиометрическом анализе литературы за 1971–2000 гг. Для этого использована база данных The Wildlife & Ecology Studies Worldwide (WESW). Лучше всего изучены серая неясыть и сипуха. Группа часто изучаемых сов (100–600 статей) включает 15 видов: ушастая сова, мохноногий сыч, филин, болотная сова и др. (таблица). Все эти виды встречаются в Голарктическом регионе. В тропических регионах мира есть всего 7 видов сов, которые более-менее изучены (20–30 публикаций). Все остальные изучены слабо (менее 20 публикаций). В списке литературы приведен перечень монографий по регионам и отдельным видам сов.

INTRODUCTION

Owls comprise a distinctive avian order of 150 species divided into two families: barn owls (Tytonidae) and typical owls (Strigidae) (Hume, Boyer, 1991). Barn owls comprise two subfamilies: bay owls (Phodilinae) with a single genus *Phodilus* consisting two species, and typical barn owls (Tytoninae), with 11 *Tyto* species. Typical owls are divided also into two subfamilies Buboninae and Striginae. The Buboninae include about 20 genera (e.g. *Otus*, *Bubo*, *Ketupa*, *Scotopelia*, *Pulsatrix*, *Glaucidium*, *Athene*), while the Striginae – six genera (*Ciccaba*, *Strix*, *Asio*, *Aegolius*, *Neasio*, *Pseudoscops*) (Hume, Boyer, 1991). Owls are among most mysterious and fascinating birds. Due to the fact that they are strongly territorial and have distinctive advertising calls, it should be quite easy to locate and to study them. A few of them are, indeed, among the most-intensively studied birds in the world. However, most others are little known. For

many tropical species, even the basic data on their biology are unknown, or are very fragmentary at best.

In this paper, an attempt is made to quantify the present knowledge on all owl species in the world. This quantification is based on the bibliometric analysis of literature for the years 1971–2000. One of the best index, the Wildlife & Ecology Studies Worldwide (WESW) has been used for this analysis.

DATABASE

The WESW is the world's largest index to literature on wild mammals, birds, reptiles, and amphibians. By the end of 2005, it contained nearly 670,380 bibliographic records and in each year about 18 000 records are added. Extensive keyword indexing permits flexible subject searching, and taxonomic and geographic identifiers are especially helpful. The geographic identifiers include global and broad regional levels as well as specific localities.



The WESW is an anthology of eight files, with the Wildlife Review Abstracts (WRA) as the most important one. It is produced by the National Information Services Corporation NISC USA. Over 464,085 citations and abstracts in it provide excellent coverage on all aspects of wildlife. Major topic areas include studies of individual species, ecology, behaviour, hunting and management, anatomy, physiology, parasites, etc.

In the presented analysis, searches by Latin name of species were performed. Owl nomenclature follows that Burton (1992) (Table).

RESULTS AND DISCUSSION

By far, the best known owl species are the Palaearctic Tawny Owl and the cosmopolitan Barn Owl. This was rather expected, as both species are the most common and widespread among owls in most developed countries in the world. In addition, they also often inhabit human settlements such as villages, towns and cities.

The Barn Owl is one of four cosmopolitan bird species (*Falco peregrinus*, *Charadrius alexandrinus*, *Pandion haliaetus*). Pellets produced by the Barn Owl are often collected by ornithologists, as well as by mammalogists and even by herpetologists. The analysis of pellet contents may provide valuable information not only on the diet composition and feeding habits of the owl, but also on the anatomy, habitat preference, activity, abundance or distribution of small mammals (e.g. *Neomys anomalus*, *Sorex alpinus*, *Crocidura leucodon*, *Microtus oeconomus*, *Micromys minutus* etc.), and some elusive nocturnal amphibian species (e.g. *Pelobates fuscus*, *Alytes obstetricans*, *Bufo viridis*, *B. calamita*). Out of 1377 papers on the Barn Owl published during the years 1971–2000, at least 477 (34.6%) are based on the pellet analysis. The Barn Owl was recently a subject of a few monographs (Schneider, 1964; Bunn et al., 1982; Epple, 1993; Brandt, Seebass, 1994; Taylor, 1994; Schneider, Eck, 1995; Shawyer, 1998).

The second well-studied group of owls (300–600 papers) include two Holarctic

(Long-eared Owl, Tengmalm's Owl), one Palaearctic (European Eagle Owl) and one Nearctic (Spotted Owl) species. Due to very interesting behaviour and ecology these species are attractive objects to study feeding ecology, raptor-prey relationships, territoriality, vocalization, reproductive success and mortality.

The third group of relatively frequently studied owl species (100–300 publications) include the Short-eared Owl, Great Horned Owl, Great Grey Owl, Little Owl, Eastern Common Screech Owl, Snowy Owl, Barred Owl, Northern Saw-whet Owl, Eurasian Pygmy Owl, Hawk Owl and Ural Owl. Like all the other above-mentioned owl species, they occur in the Holarctic region. Hume's Wood Owl, Western Common Screech Owl, Striated Scops Owl and Elf Owl appear to be the least studied owl species in this region.

On the other hand, in tropical regions of the world, there are only seven owl species, which are fairly well-studied (20–30 publications), viz. two Australian (Boobook and Powerful Owls), two Afrotropical (Spotted and Milky Eagle Owls), two Neotropical (Black-and-white Owl and Mottled Owl) and one Oriental species (Blakiston's Fish Owl). Thirteen other species can be regarded as not regularly studied and still little known (10–19 publications), and all other species are very poorly known and are only studied occasionally (less than 10 publications). For example, for all *Ketupa*, *Scotopelia* and *Pulsatrix* species only 26, 16 and 11 papers respectively have been published between 1971 and 2000.

Except for the Barn Owl, other owl species which have been monographed are: Eastern Screech Owl (Gehlbach, 1994), Eurasian Eagle Owl (März, Piechocki, 1976; Piechocki 2004), Eurasian Pygmy Owl (Schönn, 1978), Great Grey Owl (Mikkola, 1981; Nero, 1987), Great Horned Owl (Smith, 2002), Hawk Owl (Mikkola, 1983b), Little Owl (Schönn, 1982; Juillard, 1985; Schönn et al., 1991; Leigh et al., 2004), Long-eared Owl (Scott, 1996), Short-eared Owl (Gerber, 1960), Snowy Owl (Portenko, 1972), Tawny Owl (Melde, 1989) and Tengmalm's Owl (März, 1968). The mo-



Owl species with the highest number (10 and more) of articles published in 1971–2000

Виды сов с наибольшим количеством статей (10 и более), опубликованных в 1971–2000 гг.

English name	Latin name	Distribution	N
Tawny Owl	<i>Strix aluco</i>	Palaearctica	1430
Barn Owl	<i>Tyto alba</i>	Cosmopolitan	1377
Long-eared Owl	<i>Asio otus</i>	Holarctica	552
Tengmalm's Owl	<i>Aegolius funereus</i>	Holarctica	475
Eurasian Eagle Owl	<i>Bubo bubo</i>	Palaearctica (Orient)	390
Spotted Owl	<i>Strix occidentalis</i>	Nearctica	330
Short-eared Owl	<i>Asio flammeus</i>	Holarctica, Neotropic	286
Little Owl	<i>Athene noctua</i>	Palaearctica	263
Eastern Common Screech Owl	<i>Otus asio</i>	Nearctica	249
Great Horned Owl	<i>Bubo virginianus</i>	New World	210
Great Grey Owl	<i>Strix nebulosa</i>	Holarctic	205
Snowy Owl	<i>Nyctea scandiaca</i>	Holarctica	200
Barred Owl	<i>Strix varia</i>	Nearctica (Neotropic)	200
Eurasian Pygmy Owl	<i>Glaucidium passerinum</i>	Palaearctica	134
Northern Saw-whet Owl	<i>Aegolius acadicus</i>	Nearctic	120
Hawk Owl	<i>Surnia ulula</i>	Holarctica	106
Ural Owl	<i>Strix uralensis</i>	Palaearctica	100
Flammulated Scops Owl	<i>Otus flammeolus</i>	Nearctica	91
European Common Scops Owl	<i>Otus scops</i>	Palaearctica	68
Ferruginous Pygmy Owl	<i>Glaucidium brasilianum</i>	Neotropic	48
Boobook Owl	<i>Ninox novaeseelandiae</i>	Orient, Australasia	38
Powerful Owl	<i>Ninox sternua</i>	Australasia	31
Western Common Screech Owl	<i>Otus kennicotti</i>	Nearctica	27
Elf Owl	<i>Micrathene whitneyi</i>	Nearctica	27
Milky Eagle Owl	<i>Bubo lacteus</i>	Afrotropic	22
Black-and-white Owl	<i>Ciccaba nigrolineata</i>	Neotropic	21
Mottled Owl	<i>Ciccaba virgata</i>	Neotropic	21
Spotted Eagle Owl	<i>Bubo africanus</i>	Afrotropic	20
Blakiston's Fish Owl	<i>Ketupa blakistoni</i>	Orient	20
Barking Owl	<i>Ninox connivens</i>	Australasia	18
Vermiculated Screech Owl	<i>Otus guatemalae</i>	Neotropic	14
Sooty Owl	<i>Tyto tenebricosa</i>	Australasia	15
African Grass Owl	<i>Tyto capensis</i>	Afrotropical	16
Striped Owl	<i>Asio clamator</i>	Neotropic	13
Stygian Owl	<i>Asio stygius</i>	Neotropic	12
Least Pygmy Owl	<i>Glaucidium minutissimum</i>	Neotropic	12
Hume's Wood Owl	<i>Strix butleri</i>	Palaearctica	11
Cape Eagle Owl	<i>Bubo capensis</i>	Afrotropical	10
North American Pygmy Owl	<i>Glaucidium gnoma</i>	Neotropic	10
Pearl-spotted Owlet	<i>Glaucidium perlatum</i>	Afrotropic	10
Black-capped Screech Owl	<i>Otus atricapillus</i>	Neotropic	10
Choliba Screech Owl	<i>Otus choliba</i>	Neotropic	10



nographs on the Snowy Owl, Short-eared Owl and Tengmalm's Owl are now, however, largely outdated.

There are several monographs on all owl species of the world (Everett, 1977; Voos, Cameron, 1988; Burton, 1992; König et al., 1999; Duncan, 2003). However, each of these monographs have the same defect, which is rather poor references to literature. A bibliography on owls is also available (Clark et al., 1978), but it is now greatly outdated.

Owls as a group have been also monographed in some regions of the world. In Europe an excellent monograph has been published by Mikkola (1983a), also by Eck and Busse (1973), and most recently by Mebs and Scherzinger (2000). In North America, owls has been monographed by Eckert (1974), Walker (1974), Johnsgard (1988) and Lawrence (1997), in former USSR – by Pukinsky (1977). A monograph on owls, which is also a sort of art piece, is also available for a subtropical region, defined in zoological literature as southern Africa (Kamp, Culburn, 1987).

In conclusion, it should be stressed that owls are, in general, still poorly known group. Only Palaearctic and Nearctic species have been regularly studied and our knowledge on most of them is comparable with that on other bird species occurring in these regions (Kopij 2004a, 2004b). However, most owl species which occur in the tropical regions of the world, and still very little known. Apparently nothing is known about many of them.

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Замітки	Беркут	18	Вип. 1-2	2009	76
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О ВСТРЕЧАХ ОГАРЯ В СУМСКОЙ ОБЛАСТИ

About records of the Ruddy Shelduck in Sumy region. - N.P. Knysh. - *Berkut*. 18 (1-2). 2009. - Single birds and small groups were observed several times on ponds in spring and autumn in 1977–2009. Origin of these birds is discussed. [Russian].

Залеты огаря (*Tadorna ferruginea*) в Сумскую обл. время от времени отмечаются с 1970-х гг. (Кныш, 2001). В том числе 27.03.1977 г. возле г. Сумы на пруду рыбхоза 3 особи на льдине, а позже (25.04) пара огарей держалась здесь у старой скирды слежавшейся соломы (попытка гнездования) – эти птицы, видимо, сбежали из городского парка. Мигрантов наблюдали 1.04.1984 г. возле с. Чупахивка Ахтырского р-на: 4 птицы держались на польныне большого пруда. На осеннем пролете огарь отмечен однажды: 19.08.2001 г. взрослый самец застрелен браконьером на пруду в с. Вел. Вильмы Сумского р-на (Кныш та ін., 2006). Очередная встреча огаря произошла в 2009 г. в черте г. Конотоп: 10.04 одиночный самец держался в центральном секторе большого пруда рыбхоза, кормился, переворачиваясь по утиному, на мелководье рядом с трескунками (*Anas querquedula*), был заметно осторожнее, чем прочие утки.

Пока можно лишь предполагать о географическом происхождении залетающих на Сумщину огарей. Это могут быть птицы растущей в числе и расселяющейся южноукраинской популяции, ближайшие главные очаги которой находятся в Херсонской (биосферный заповедник «Аскания-Нова») и Луганской обл. (Зубко, Семенов, 1998; Су-

лик, Денщик, 2000 и др.). В 1990-х гг. огаря появляются на гнездовании в Харьковской обл. (Гудина, 2007), в 2007 г. летом и осенью их пару раз видели в смежной с Сумщиной Курской обл. России (Власов и др., 2008). В то же время не исключается, что замеченные нами мигранты – северного происхождения; возможно, они принадлежат к полудикой московской популяции, формирование которой на водоемах Москвы происходило с конца 1940-х гг. (Виноградов, Остапенко, 1986; Вишневецкий, 2009).

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