

OWLS, AS REGARDED BY THE SCIENTISTS AND AGRICULTURISTS THROUGHOUT THE WORLD AND IN PAKISTAN

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ABSTRACT

Pakistan is an agricultural country where majority of rural population comprise small land holders. A considerable part of their agricultural produce is lost annually to vertebrate pests. Natural control agents viz., the owls have never been used intentionally in the country to minimize the losses inflicted by pest rats and mice. The major impediment in using these birds effectively against vertebrate pests are the old beliefs which associate owls with death and desolation resulting in an over all hatred response of a layman towards owls. The present paper aims to describe the role that owls can play in boosting the economy of the country and to create some respect towards these birds by highlighting their farmer friendly attitude.

Key words: Agricultural economy; Barn owl; Beliefs; Toes and talons; Vermin

INTRODUCTION

Owls are unique and interesting creatures of nature. People, throughout history and across many cultures, have different and contradictory beliefs about them. They mull over them both with enthrallment and trepidation. Owls have been feared and acclaimed, loathed and admired, considered astute and foolish, and associated with witchcraft, medicine, weather, birth and death (<http://www.owlpages.com>). To date, 26 owl genera encompassing more than 225 species have been recognized throughout the world. Some of these 26 genera contain but one species, while others contain all the way from two to 45, the latter number being found in the genus *Otus* (<http://www.globalowlproject.com>). Besides these existing species of owls, science recognizes quite a number of extinct forms, which are known to us only through their fossil remains.

Owl species of Pakistan: The owls of the Pakistan fall into nine different genera, and at least nineteen species of owl exist in the country. These include the barn owl (*Tyto alba*), the Indian scops owl (*O. bakkamoena*), the Asian scops owls (*O. sunia*) the pallid scops owl (*O. brucei*), the Eurasian scops owl (*Otus scops*), the mountain scops owl (*O. spilocephalus*), the northern eagle owl (*Bubo bubo*), the dusky horned owl (*B. coromandus*), the brown fish owl (*B. zylonensis*), the snowy owl (*Nyctea scandiaca*), the collard pygmy owlet (*Glaucidium brodiei*), Asian barred owlet (*G. cuculoides*), the spotted owlet (*Athene brama*), the little owl (*A. noctua*), the tawny owl (*Strix aluco*), the Humes wood owl (*S. butleri*), the mottled wood owl (*S. ocellata*), the long-eared owl (*Asio otus*), the short-eared owl (*A. flammeus*) and the boreal owl (*Aegolius funereus*). Of these, the barn

owl (*T. alba*), the spotted owlet (*A. brama*), the tawny owl (*S. aluco*), the horned owl (*B. coromandus*) inhabit the cultivations of Indus plain while the short-eared owl (*A. flammeus*) visits the area during winter (Ali and Ripley, 1969; Roberts, 1991).

Attitude of people towards owls: I became interested in owls in the last couple of years of the previous century when I conducted my field studies on owls to know their potentials as an agent to control rats and mice from cultivations. Without referring to any special statistics or censuses with respect to these birds in nature, I am of the opinion that with the exception of certain places, owls are struggling hard to survive successfully in the agro-ecosystems of our country and are, to some extent, successful in their effort. Although man does not use them for food; other animals seldom prey upon them, and the majority of the species are entirely nocturnal in habit yet they are almost invariably slayed around cities, towns and village suburbs when a man or a boy comes across them in the open with the means of shooting the bird or otherwise killing it. There are but few exceptions to this rule anywhere in the course of a year and through such practices altogether too many of these useful birds are, in sheer wantonness, annually destroyed.

Scientific and economic value of owls

The owls have been studied very keenly throughout the world as they are of great value to science. Today almost all the countries of the world possess either skins or mounted specimens of owl species in their primary or secondary level school museums. There are also many skeletons of owls in hands of ornithologists, natural history museums and other educational institutions, as the study of these birds has thrown much light on the general history of these birds. Indeed, several

of the structures in the anatomy and physiology of these birds are of wonderful interest. The owls are equipped with unique anatomical features which enable them to search their prey from perches, and in flight (Anonymous, 1970; 1980; 1994). Once located, the prey is captured and subdued before being eaten. Their techniques of hunting depend primarily on their extraordinary sense of hearing, which enable them to locate prey in total darkness (Payne, 1971; Knudsen and Konishi, 1979; Knudsen, 1981). Their flight is silent at frequencies audible to human ear and at ultrasonic level (Thorpe and Griffin, 1962). In addition, their exceptionally long toes and talons help them to hunt over open areas.

In this age of commercialism, and with an increasing trend of gaining maximum benefit from wildlife heritage throughout the world, the birds too, like all the natural resources, are looked upon in an entirely different angle from what they were viewed almost fifty years ago. No one could think of using birds to boost man's material benefits at that time: while, at present each bird species is studied for its repercussions on the economy of a country. Economic ornithologists are recruited in many advanced countries of the world to estimate the value of every bird species known to be present within their territorial limits, in so far as it affects their forests, farm products, and their market supplies of feathered game. In these extensive investigations, owls have also been tested and scrutinized for the role they can play with respect to their feeding habits (Colvin and Mclean, 1986; Rosenberg, 1986; Campbell *et al.*, 1987; Marti, 1988; deJong, 1998; Mazzotti and Caramori, 1998; Esponda *et al.*, 1998; Capizzi *et al.*, 1998; Rifai *et al.*, 1998; Jorgenson *et al.*, 1998; Van-Vuren *et al.*, 1998; Bon and Bazzani, 2000; Bellocq, 2000; Khalilou *et al.*, 2000; McGhie, 2001; Paolo *et al.*, 2001; Bose and Guidali, 2001; Heywood and Pavey, 2002; de la Peña *et al.*, 2003).

With modern research throughout the world, it has now become evident that owls utilize a wide range of prey items including a variety of small mammals, birds, reptiles, amphibians, fish, and insects and in no way should be considered as "vermin". They should not be believed as symbol of bad omen, bad luck, ruination or desolation. It is indeed quite the reverse of the truth: the owls are by far farmer friendly in their attitude. All owls hunt at night when almost all the farm-yard fowls are at roost or under cover. In contrast, they concentrate mainly on rats and mice that are active at night and are serious pests of agriculture owing to their destructive habits. During my studies on food habits of barn owl, I found them to consume rats and mice at central Punjab (28%), southern Punjab (14%) and southeastern Baluchistan (93%) and the intensity of utilization depended mainly upon the cropping patterns, climatic conditions and demography of the particular area (Mahmood-ul-Hassan

et al., 2000; Mahmood-ul-Hassan, 2004). So owls, though are polyphagous predators, can play a positive role in minimizing rodent populations below an economic threshold level at which their populations achieve a pest proportion. One such species of owls, the barn owl, has successfully been used to control rats in oil palm plantation and rice fields of Malaysia where the damage caused by rats reduced from 6.7% to 2.3% (Mohammad and Goh, 1991). The barn owl has also been successfully used for the control of field rats in cocoa-coconut agroecosystems for rat management (Lee, 1997).

As a matter of fact, owls are of vast importance to agriculturists in every part of our country. They are unnoticeably serving the farmers by guarding their cereal and cash crops while they are asleep at night. They annually destroy millions of pest rats and mice which eat up thousands of tons of grain and other farm produce (Beg *et al.*, 1977, 1978, 1979; Mushtaq-ul-Hassan *et al.*, 1997, 1998); and were these animals not kept down by the owls, they would, in some parts of the country, have completely ruined the farmers and agriculturists compelling them to seek other employment for a livelihood. Indeed, it would be an excellent thing to not only encourage such owls as the barn owl to breed and multiply in the neighborhood of large farms, but also to introduce and protect the bird, in such localities as it does not normally occur.

Owls as a bait: In some parts of my study area, I have seen many people hunting parakeets (*Psittacula krameri*), babblers (*Turdoides caudatus* and *T. striatus*) and common myna (*Acridotheris tristis*) very ingeniously using barn owl to trap them for selling them in the local feather market for earning their livelihood. All the four bird species have a natural tendency to mob the barn owl and attack it on appearing during time. The hunter exploits this behavior and ties the owl with a rope behind an invisible net in which the naïve birds get entangled. On an average, a hunter using this technique can easily collect well over fifty birds at dawn to earn his livelihood for the rest of the day.

Conclusion: As top predators, having generally low fecundity and requiring relatively large geographic areas, the owls are among the most extinction-prone species. Changes in its distribution and abundance can serve as a measure of the human impact on landscape, even in remote areas (Reichholf, 1974; Burnham *et al.*, 1994). The owls of the world are increasingly feeling pressure of worldwide deforestation trends. Some 52 taxa of the known owl species are currently on Red Data list (<http://www.birdlife.net>).

Taking everything into consideration, it is perfectly safe to say that these birds are good friends to our race, and fully deserving of our protection and encouragement. It would be a grievous error to persistently destroy these birds, as in practically all cases

where man has upset the balance of nature; it has generally reacted, in boomerang fashion, by giving him a fearful rap for his pains.

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