FOOD OF BARN OWL *(7YTO ALBA)* IN LOWER SINDH

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A total of 3X7 pellets of the Barn owl *(Tyto alba)* was analysed from lower Sindh to know its food habits in a study period lasting for 5 months, from August through December,]992. The frequency of occurrence recorded for the major remnent animals in pellet analysis was 84.0 and 60.0% for the mammalian bones and hairs and 25.3 and 5.7% for the bones and feathers of birds.

INTRODUCTION

Owls are predatory birds that consume small mammals, birds and insects. Among the small mammals, rats and mice arc the chief staples of most of them. As such, they play a positive role in inhibiting the rats and mice populations in the cultivated areas. Owls have economized their digestive ability in that they void tlie indigestible food items orally in the form of pellets, The pellets consist of various rcrnncnls of preys such as small mammals in abundance, hirds, insects and other small animals (Wallace and Mahan,1976).

The pellet analysis had proved fairly useful in knowing the food habits of the owls as well as the occurrence of different small animals inhabiting both the hemispheres and is adapted well to the subtropical and temperate areas of the world. In Pakistan, the owl is confined to the Indus plains. Here, suitable man-made buildings offer a daytime shelter. The owl also occur in good numbers in the outskirts of Karachi, particularly in the orchard and vegetable farms near Malir and Landhi. According to Roberts (1991), the population of this owl is scanty in Northern Punjab and has not been recorded in the Salt Range of Rawalpindi. In Central Punjab, the owl is rare. Ali and Ripley (]969) documented the information that small mammals, with *Rauus rattus* being the most preferred prey item, followed by *Mus musculus* and *SI/IICI/S* 11111 *rill I/S* • Occasionally, the owl also fed on the Bush rat *(Golunda ellioti)*. The present study was aimed at knowing the major food items of the Barn owl *(Tyto alba)* inhabiting the croplands of Lower Sindh and the information sought would assist in assessing the feeding niche of the owl and the possibility of integrating its predatory activities in controlling the rats and mice populations in the croplands of Central Punjab.

MATERIALS AND METHODS

During the present study on food of the barn owl *(Tyto alba)* was aimed at knowing the food habits in Lower Sindh. For this, the pellets of the owl were collected in cooperation with the officials of the Vertebrate Pest Control Laboratories, Karachi. Two localities in Lower Sindh, namely: Malir and Thatta were sampled for the collection of the pellets. Collection was made over a period of 5 months from August through December, 1992. A total of 387 pellets was collected from both the sites. Of these, 79 were obtained from Malir and the remaining 308 from Thatta. Pellets bearing the name and date of collection were brought to the laboratory at Faisalabad and stored in

before Dying examined. Pellets were measured through the maximum length and the width. Each of the pellet was broken and its fragments were segregated with the help of the forceps and needles. Skull, teeth and other bones of the small mammals were examined and compared with the reference materials available foridenlilication. A record for the hairs, feathers, beaks and talons of birds was also maintained.

Table I. Occurrence of remnents of prey animals in the pellets of the Barn owl *(Tyto alba)* collected from lower Sindh (Malir and Thatta)

Prey (emnents)	Months					
	August n = 50	September n = 26	October n = 59	November n = 110	December n = 143	Total n = 387
1. Mammals						
a. Bones	46.0 (23)	77.0 (20)	R4.7 (50)	91,R (101)	97.0 (131)	84.0 (325)
b. Hairs	50.0 (25)	15.3 (4)	52,5 (31)	R4.5 (93)	55.25 (79)	60.0 (232)
2. Birds						
a. Bones	18.0 (9)	34.6 (9)	47,4 (28)	35,4 (39)	1).0 (13)	253 (98)
b. Feathers	2.0 (1)	3.8 (1)	6.8 (4)	7.2 (8)	5.6 (8)	5.7 (22)
3. Insects	2.0 (1)	7.7 (2)	1,7 (1)	0.9 (1)	-	1,5 (6)
4. 'Invertebrates	4.0 (2)	7.7 (2)	1,7 (1)	0.9 (1)	-	1,5 (6)
5. Amphibia	-	-	-	-	1,4	0,5
6. Plant material	2.0 (1)	-	-	-	-	0.2 (1)

RESULTS AND DISCUSSION

Combined samples: The Malir and Thatta samples were lumped monthwise to obtain a clearer picture of the food of the Barn owl in lower Sindh. Table 1 depicts the occurrence of the remnents of food items consumed by the Barn owl in both localities (Malir and Thatta).

Rones: According to Table 1, the overall frequency of occurrence of bones for mammals and birds was 84.0 and 25.3%, respectively.

Hairs and feathers: Frequency of occurrence recorded from both localities for the Barn owl was 60.0 and 5.70%.

Frequency values recorded for insects and invertebrates were 1,5% each, and for amphibia and plants were 0,5 and 0.2%, respectively. As the results of the present

study showed that in both sites, the Barn owls primarily depended on the vertebrates for their food. Other mammals of food such as the insects and invertebrates contributed very little to the diet of the owl. Among the vertebrates, the small mammals accounted for the major portion in the owl's diet. It was further observed that birds made a significant contribution to the food of the Barn owl.

Barn owl, as earlier documented is a cosmopolitan species and as such can exploit a variety of the habitats. In view of the wide ecological niche, the owl can prey upon several small mammals and birds. Depending upon the availability of food, the owl exhibited the opportunism in selecting the preys. Schmidt (1961), 1973) reported that in Hungary, the Barn owl mainly fed on the soricid shrews and house mouse *(Mus musculusi,* Glue (1975) stated that in British Islands, harvest mice was the preferred food item of the owl. According to Mortcn and Martin (1979) in arid Southern Australia, rodents were consumed by the Barn owl, In the Bermudas, 15 to 20 pairs of the Barn owl preyed upon more than 15000 rats, with XO% of the diet constituted house rat *(Rattus rattlS)* and Norway rat *(Rattus norvegicusy* (Medeiros, 1990).

In the croplands of Central Punjab, rats and mice are known to he pretty common throughout the year. Besides, a variety of birds, reptiles as well as amphibians also occur on good numbers and the food is, therefore, not a problem. One of the scanty population of this owl species in Central Punjab is the non-availability of the old and unoccupied buildings, regarded as nesting sites of the owl. Another point of interest is that the vcgctational cover provides a fairly good protection to small rodents against the owl. Provision of tlie suitable perching sites to the owl can probably improve on the preying ability of the owl with the aerial maneouvring. Munoz and Muroa (1990) experiment supports this viewpoint.

REFERENCES

Ali, s. and S.D. Ripley. 1969. Handbook of the Birds of India and Pakistan. Vol. 1, Oxford Univ. Press, Oxford.

Glue, D.E. 1975. Harvest mice as Barn owl in the British Islands. Mammal. Rev. 1: 9-12.

Marten, S.R. and A.A Martin. 1979. Feeding ecology of the barn owl *(Tytoa!ba)* in Southern Australia. Aust. Wildlife Res., 6: 191-204.

Mcdciros, J.L. 1990. The Barn owl: Berm uda's unsung rat control expert. Monthly Bull. Dept. Agri. Fisheries & Parks, Bermuda, *(il* (X): *57-W.*

Munoz, A. and R. Muroa. IWO. Control of small mammals in a pine plantation (Central Chile) by modification of the hahitat of predators *(Tylo alba,* SIrigiforrncx and *Pscudulopex* sp., Canidae). Acta Occologia, 11 (2): 251-261.

Roberts, T.J. 1991. The Birds of Pakistan. Vol. 1, Oxford Univ. Press, Oxford.

Schrnidt, E. 1969. Data concerning the distribution of some species of small mammals in Hungaryon on the basis of examination of owl pellet. Verteb. Hung. 11: 137-153.

Schrnidt, E. 1973. Quantitative data on the House sparrow *(Passer domesticusy* from Hungarian Barn owl pellets. Zool. Abh. (Ores), 32: 171-174.

WaHace, G.J. and D. Mahan. 1976. An Introduction to Ornithology. 3rd Ed., Collier McMillan Pub., New York.

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