

STATUS AND HABITATS OF RAPTORS IN PERIYAR

K.K. SRIVASTAVA *, A.K. BHARDWAJ **, C.J. ABRAHAM*, V.J. ZACHARIAS**

Periyar Tiger Reserve, Thekkady (Kerala)

Introduction

Raptors are the Birds of prey. They belong to the order Falconiformes and comprise Vultures, Hawks and Falcons. As a group they are indicators of environmental quality and changes in the ecosystem. They have an important role in the biological control and in the food chain. Some Raptors like the Bazas, Large Falcons and Osprey are included in part III of Schedule I of the Wildlife Protection Act 1991. According to early investigators like Hume (1876) and Ferguson and Boudillon (1904), Raptors enjoyed a wide distribution in the Western Ghats and their foothills. But Salim Ali (1935-37) saw them declining in numbers. He even failed to come across some species recorded by earlier investigators. This decline in number may be due to habitat degradation and agricultural practices, in the surrounding areas. Conversion of grasslands and forests for plantations and use of pesticides in agriculture may have affected them here and as elsewhere in the world.

There is no recent assessment of the status of Raptors in South India particularly Kerala, which has undergone drastic changes in its forest wealth over the last 50 years. The present study is aimed at preparing a list of Raptors and their status in the Reserve. A survey was hence started from 1-4-92 on the Raptors in and around

the Periyar Tiger Reserve.

Formerly Falconiformes and Strigiformes (Owls) were included under Raptors. But now Falconiformes alone are included in the group. However, the Owls which were met with during this study are also listed here. Srivastava *et al.* (1993) have included some of the Raptors of Periyar in the preliminary list of the Birds of this Reserve. This paper gives a detailed list of Raptors in this reserve with their habitats, abundance and migratory status.

Study Area

Periyar Tiger Reserve situated on the Western Ghats in the Idukki District of Kerala lies between Lat. 9° 18' to 9° 40' N and Long. 76° 55' to 77° 25' E. It is bordered by the Madurai and Tirunelveli Districts of Tamil Nadu on the North and East where there is a marked drier climate and vegetation. The Reserve has steep ridges on the North-East and Eastern border, but it gradually slopes to the West. Details of study area have been given by Srivastava *et al.* (1993).

Climate

The climate in Periyar could be described as cool and humid with high rainfall. Temperature varies between 15.5°C in Dec/Jan and 31°C in April/May. Average

* Field Director, Project Tiger, ** Wildlife Preservation Officer, * Data Collector, ** Research Officer.

Table 1

Raptors (Falconiformes) in Periyar

Common Name	Scientific Name	Abundance	Migratory	Habitat
<i>Family : Accipitridae</i>				
Blackcrested Baza	<i>Aviceda leuphotes</i>	2	RE	F
Common Buzzard	<i>Buteo buteo</i>	3	WV	F
Honey Buzzard	<i>Pernis ptylorhyncus</i>	1	RE	F
Black Eagle	<i>Ictinaetus malayensis</i>	2	RE	F
Bonnelis Eagle	<i>Hieraeetus fasciatus</i>	1	RE	F
Booted Eagle	<i>H. pennatus</i>	2	RE	F
Crested Hawk Eagle	<i>Spizateus cirrhatus</i>	1	RE	F
Crested Serpent Eagle	<i>Spilornis cheela</i>	2	RE	F
Greater Spotted Eagle	<i>Aquila clanga</i>	3	LM	F/W
Greyheaded Fishing Eagle	<i>Ichthyophaga ichthyaetus</i>	1	RE	W
Hodgsons Hawk Eagle	<i>Spizaetus nipalensis</i>	3	WV?	F
Rufousbellied Hawk Eagle	<i>Lophotriorchis kienerii</i>	2	RE	F
Shorttoed Eagle	<i>Circaetus gallicus</i>	2	RE?	G/F
Whitebellied Sea Eagle	<i>Haliaeetus leucogaster</i>	2	RE	W
Whitetailed Sea Eagle	<i>H. albicilla</i>	3	WV	W
Besra Sparrow Hawk	<i>Accipiter virgatus</i>	3	RE	F
Ceylon Shikra	<i>A. badius</i>	1	RE	F
Crested Goshawk	<i>A. trivirgatus</i>	2	RE	F
Sparrow Hawk	<i>A. nisus</i>	3	WV	F
Marsh Harrier	<i>Circus aeruginosus</i>	2	WV	-
Montagus Harrier	<i>C. pygarrus</i>	3	WV	G
Pale Harrier	<i>C. macrourus</i>	2	WV	G
Pied Harrier	<i>C. melanoleucos</i>	2	WV	G
Black Kite	<i>Milvus migrans</i>	2	LM	F
Black Winged Kite	<i>Elanus caeruleus</i>	1	RE	G
Brahminy Kite	<i>Haliastur indus</i>	1	RE	W
King Vulture	<i>Sarcogyps clavus</i>	2	RE	F
Longbilled Vulture	<i>Gyps indicus</i>	-	-	-
Whitebacked Vulture	<i>G. bengalensis</i>	2	LM	F
Osprey	<i>Pandion haliaetus</i>	1	WV	W
<i>Family : Falconidae</i>				
Laggar Falcon	<i>Falco biarmicus</i>	3	LM?	G
Peregrin Falcon	<i>F. peregrinus</i>	2	RE?	G/F
Oriental Hobby	<i>F. severus</i>	2	WV	G
European Kestrel	<i>F. t. tinnunculus</i>	2	WV	G
Indian Kestrel	<i>F. t. objurgatus</i>	1	RE	G

Status : 1 - Observed more than 10 days every month. 2 - Observed 5-10 days every month. 3 - Observed less than 5 days every month. Migratory : RE - Resident, WV - Winter Visitor, LM - Locally Moving. Habitat : F - Forest, G - Grassland, W - Associated with Water.

annual rainfall is 2500 mm. The area receives both South-West and North-East monsoon. Rainfall is maximum in July and minimum in January.

Vegetation

Major vegetation types in the Reserve are West Coast Tropical Evergreen (305 km²), Semi-evergreen (275 km²), Moist Deciduous Forests (90 km²), Savannahs and Grasslands (12 km²), Reed brakes (10 km²) and *Eucalyptus* plantations (55 km²).

Methods

Monthly monitoring was carried out on 12 fixed transects laid in four localities in the Reserve. The localities were selected in such a way as to cover maximum area, and representation of different habitat types. Each transect had an average length of 8 km. Birds were monitored through line transects. Sighting of Raptors were recorded with their number, behaviour and microhabitats. The following terminology was used to describe their relative abundance (1) observed on average more than 10 days every month, (2) observed 5-10 days every month, and rare (3) observed less than 5 days every month.

Results

Altogether 35 species of Raptors (Falconiformes) were recorded in Periyar (Table 1). This includes 10 Winter visitors and 4 Local migrants. Ten species of Owls are also recorded during the present studies (Table 2).

New Records

The Whitetailed Sea Eagle and the Greater Spotted Eagle are new records for

Table 2

Habitat use by Raptors in Periyar

Habitat Types	No. of Species
Forest	19
Grassland	10
Lake/River	6

Kerala. The former is a new record for South India and a Winter visitor (Srivastava *et al.*, 1993) while the latter seem to be a local migrant from the Tamil Nadu plains.

Residents

Eighteen species of Raptors are believed to be permanent residents of the Reserve of which 11 are seen almost throughout the year. However only 6 species viz., Brahminy Kite, Blackwinged Kite, Crested Honey Buzzard, Crested Hawk Eagle, Kestrel and Crested Serpent Eagle showed evidences of nesting. These 6 species along with the Black Eagle and Greyheaded Fishing Eagle are represented in fairly good numbers. The Brahminy Kite and the Crested Hawk Eagle nested in the reserve area.

Migrants

Eleven species are Winter visitors to the area, while four species are local migrants from the Tamil Nadu plains (Table 1) Osprey, a winter visitor to Indian Subcontinent, over winters here and was seen almost throughout the year. Since we had not marked birds, it was not known whether it was the same bird or different.

Prey Species

On a few occasions, hunting by Black Eagle, Rufousbellied Hawk Eagle and Kestrel were observed and prey species

Table 3
Owls observed in Periyar Tiger Reserve

Common Name	Scientific Name	Abundance	Habitat
Indian Scops Owl	<i>Otus bakkamoena</i>	1	SE
Oriental Scops Owl	<i>O. sunia</i>	2	SE/MD
Indian Great Horned Owl	<i>Bubo bubo</i>	3	MD
Forest Eagle Owl	<i>B. nipalensis</i>	2	E/SE
Brown Fish Owl	<i>B. zeylonensis</i>	1	SE/MD
Malabar Jungle Owlet	<i>Glacuidium radiatum</i>	1	SE/MD
South Indian Hawk Owl	<i>Ninox scutulata</i>	2	MD
Southern Spotted Owlet	<i>Athene brama</i>	2	MD
Brown Wood Owl	<i>Strix leptogrammica</i>	2	MD
Mottled Wood Owl	<i>S. ocellata</i>	2	MD
Shorteared Owl	<i>Asio flammeus</i>	3	SE

SE - Semi-Evergreen, E -Evergreen, MD - Miost Deciduous.

identified. The Black Eagle caught once a Giant Squirrel and attempted to catch a Nilgiri Langur on another occasion. We have observed a Rufousbellied Hawk Eagle catching Blue winged Parakeets and Kestrel catching a Painted Bush Quail on two occasions.

Habitats

Ten species of Raptors showed preference for grasslands which include the Common Buzzard, the Booted Eagle and three species of Harriers : the Pale Harrier, the Pied Harrier and the Montagu's Harrier and the Kestrel. It is interesting to note that winter visitors constitute 50% of the grassland users among Raptors in Periyar. The Peregrine Falcon and Oriental Hobby spent an equal amount of time in grasslands and forest, for hunting. Five species were observed near rivers, lakes or marshes. Of these the Greyheaded Fishing Eagle showed a preference for rivers at higher elevations while the Osprey preferred the lake for hunting.

Owls

Ten species of Owls were recorded from the Reserve. They could not be monitored regularly because of their nocturnal habits. However the occurrence of Forest Eagle Owl and the Indian Scops Owl in fairly good numbers is worth mentioning (Table 3). These two also are Indo-Malayan Species having a discontinuous distribution in South India and Eastern Himalayas.

Conclusion

Periyar Tiger Reserve harbours 35 species of Raptors which include 11 winter visitors, 3 local migrants and 2 disjunct species. Ten species showed preference for grassland, 5 species preferred lake/river and others forests. Only 12 species were observed in fairly good number in the Reserve. The Longbilled Vulture, which has been observed by Salim Ali in 1930s was not seen during the study. The occurrence of disjunct species like Black crested Baza and Rufous-bellied Hawk Eagle are worth mentioning.

The Raptors in Periyar are threatened with fire, increasing Crow population and agricultural practices in the surrounding areas and modification of habitat, especially grasslands.

Ten species of Owls are recorded in Periyar. The Forest Eagle Owl and the

Indian Scops Owl are the disjunct species occurring here.

A detailed study of the habitat requirements of the Birds of prey with special preference to their food and feeding habits is essential for formulating management strategies for these Birds.

SUMMARY

The detailed list of Raptors with their habitats, abundance, migratory status and management strategies in Periyar Tiger Reserve are discussed in this paper.

पेरियार में प्रसह्य पक्षियों की स्थिति और प्राकृतावास
के०के० श्रीवास्तव, ए०के० भारद्वाज, सी०जे० अब्राहम व वी०जे० जकरियास
सारांश

इस अभिपत्र में पेरियार बाघ संरक्षित क्षेत्र के प्रसह्य पक्षियों की विस्तृत सूची उनके प्राकृतावास, प्रचुरता, प्रजनन स्थिति और प्रबन्ध रणनीतियों सहित दी गई है।

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