

Unusual Behaviour of Eurasian Marsh Harrier *Circus aeruginosus* in Rajaji National Park, North India

Ritesh Joshi

Conservation and Survey Division, Ministry of Environment and Forests,
Govt. of India, Paryavaran Bhawan, CGO Complex, New Delhi-110 003, India

Abstract: An unusual behavioural response of Eurasian Marsh Harrier *Circus aeruginosus* was observed in the Rajaji National Park, north India and illustrated. A serious scuffle between female Eurasian marsh harrier and Peafowl *Pavo cristatus* was observed in Khara forest, which revealed increasing conflict between both the species. Harriers are known to roost in large grasslands and wetlands whereas peafowls are known to roost in shrubs dominant forests and trees, therefore intensive conservation efforts are required to meet out their ecological requirements and to ensure the long-term arrival of winter migratory ground roosting hawks.

Key words: Eurasian Marsh Harrier • Behaviour • Rajaji National Park • Conservation • North India

INTRODUCTION

The harriers are the only diurnal raptor group of 'Birds of Prey' nesting and roosting on the ground [1]. Of the 16 species of harriers in the world, 6 migrate to India every year in winter. India is the largest wintering ground for harriers in the world, generally arriving by July end they remain in the country till April [1]. Eurasian marsh harrier has been reported from most of the parts of Uttarakhand state; in a long-term study carried out in lower Garhwal Himalayan region, Eurasian marsh harrier was fairly reported from Asan Barrage, situated along the boundary of Uttarakhand and Himachal Pradesh states [2].

In Corbett National Park, harriers are migratory (mainly passage migrants), seen sporadically, either individually or in twos and threes, in open grasslands during winter and the individuals of Eurasian marsh harrier can be observed quartering the chauras (open grasslands) along the banks of the Ramganga river and near the reservoir [3]. In a study carried out in between 1986 to 1992, a total of 312 avian species were reported from the Rajaji National Park including Eurasian marsh harrier, which included several local and altitudinal migratory species [4]. Recently, this species has been also reported from the Mundal forest of the Rajaji National Park [5]. Keoladeo National Park was identified as the biggest roost of

Eurasian marsh harriers so far known in India; more than 150 birds probably roost in the park when conditions are favourable [6].

Study Area: The Rajaji National Park (RNP; Figure 1) is located in north-west India at 29°15'-30°31' N 77°52'-78°22' E, elevation 250-1100 m, falls under lesser Himalayan zone and the upper Gangetic plains. The total geographical area of the park is 820 km². Rajaji National Park, which is a part of Shivalik Elephant Reserve was established in 1983 with the aim of maintaining a viable Asian elephant *Elephas maximus* population and is designated a reserved area for 'Project Elephant' by the Ministry of Environment and Forests, Government of India.

The dominant vegetation of the area comprises Sal *Shorea robusta*, Rohini *Mallotus philippinensis*, Khair *Acacia catechu*, Haldu *Adina cordifolia*, Bahera *Terminalia bellirica*, Bar *Ficus bengalensis* and Shisham *Dalbergia sissoo*. Prime fauna of the park consists of tiger *Panthera tigris*, leopard *Panthera pardus*, sloth bear *Melursus ursinus*, Hyaena *Hyaena hyaena*, barking deer *Muntiacus muntjak*, goral *Nemorhaedus goral*, spotted deer *Axis axis*, sambar *Cervous unicolor*, wild boar *Sus scrofa* and among reptilian fauna the king cobra *Ophiophagus hannah*. The present note is a part of my long term study on the elephants of the Rajaji National Park.

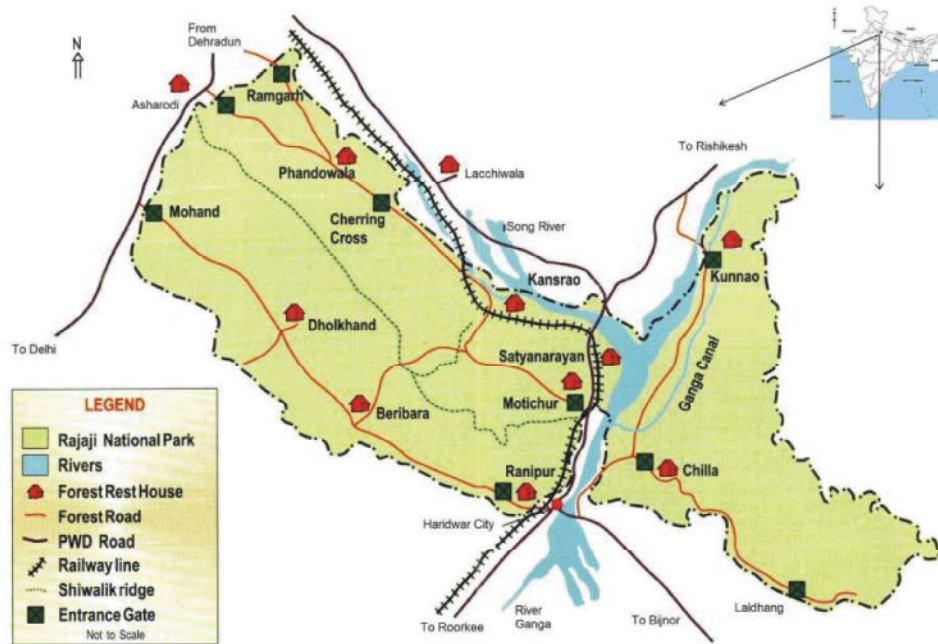


Fig. 1: Location map of the study area - Rajaji National Park, (29°15'-30°31' N 77° 52'-78° 22' E).

RESULTS AND DISCUSSION

A Case Study: While studying Asian elephant's ecology in RNP, Once I came across an unusual observation at Khara forest of the Chilla range (29°53'61" N 79°16'41" E, elevation 337.2 m), which I never saw during my earlier long-term field observations. On 19th of May 2011 (06:00 h), a male peacock (*Pavo cristatus*) and female Eurasian marsh harrier (*Circus aeruginosus*) were found engaged in serious fight. Scuffle was ongoing austere and thereby made it very comfortable for me to observe the incident carefully. After a while, peacock observed our presence, as I was in jeep with a field assistant and a diminutive sound was emerging out from our vehicle. Thereafter peacock ran away inside a bush of *Lantana camara* and harrier had taken a long flight and sited on a taller tree and hidden inside the crown of tree. After a while, I also moved away from there as I was not much interested and not made systematic effort to gather data as it was not the objective of my studies. But the incident had enforced me to think about that unusual fight, until I reached the spot where I wished to go to collect field data on elephant's of Rajaji.

In the afternoon (13:00 h), when I was returning back, I left the vehicle some 100 meter before from the spot where I saw the incident in morning. I used to walk silently towards the spot with a view that some new observations could be made; besides didn't made any voice and tried to hide myself behind the trees present

there. Suddenly, I was socked to saw that harrier was feeding over to carcass of peafowl. I captured the incident in video camera and after half a minute, unfortunately the harrier sensed my presence and flung away and sited over a small tree (Figures 2 & 3). I had enough time to capture the photographs of peacock's carcass and the harrier. Whole of the incident revealed that there was some conflict for something between both the species. I documented the observations in my field book after returning from forest.

After one and half year, on 15th of December 2011, when I was coordinating a field visit of a delegation of South-East Asia in the Chilla forest of the Rajaji National Park, I saw that a group of crows was flying over to a scrub forest and screaming continuously. I quickly instructed driver to stop the vehicle and then heard the voice of some peacocks from a *Zizyphus mauritiana* (Ber) shrub forest. First I thought that some carnivore presence may be there, but when I didn't heard any threat or alarming calls from herbivores (deers and monkeys), I understood the situation and quickly requested the other ones not to make noise and observe the moment silently. There I saw the surprising incident once again. A group of three peacocks were engaged in fight with a female Eurasian marsh harrier; the weeping voice of several other peacocks was also noticed. Five large-billed crows (*Corvus macrorhynchos*) were also ascending on the spot and making their favourable efforts to repel the harrier.



Fig. 2: Pieces of carcass of peafowl at Khara forest of the Rajaji National Park



Fig. 3: Eurasian Marsh Harrier sitting over to a tree at Khara forest

All this was happened again in Chilla forest. Harrier being a predator was attacking in a strategic manner; the bird was pitching from air and trying to injure the targeted animal. It was observed that crows were helping the peacock by trying to repel the predator bird. After several minutes, they were disturbed by our presence and suddenly two peacocks slowly arrived nearer to our vehicle and walked away towards the shrub where fighting was ongoing, realizing that they wanted to thank ourselves. Harrier was sitting on a nearby naked tree, I again captured some photographs of the incident. My curiosity had enforced me to reach the spot on foot to document the ground truth behind the incident and there I saw that a nest of peacock was there in the base of

Zizyphus mauritiana comprising of four eggs. Whole of the incident had cleared every thing about the conflict between both the species. Harrier was trying to attack the nest of peafowl and may be the fight was for roosting site.

Harriers spend considerable time in roost habitats, which are therefore crucial for their survival. In a detailed study carried out on the winter roost habitat in Keoladeo National Park, harriers were found to roost in large, open areas of uniform habitat, mainly natural grasslands, with *Desmostachya bipinnata* and *Vetiveria zizanioides*. In Keoladeo National Park, the dusky eagle owl (*Bubo coromandus*) was found to be a potential predator of roosting harriers and on several occasions' antagonistic interactions were observed from there [7].

Being top predators, harriers stand at the apex of food chain and are therefore, indicators of the health of our plains, downs and lowlands [1]. Both Eurasian marsh harrier and peafowl are ground roosting species and roost mostly in shrub dominant forest and grass lands, therefore, conservation of such potential habitats is highly required to maintain ecological balance and to ensure the arrival of winter migrant Eurasian marsh harrier in Rajaji National Park. Eurasian marsh harrier has been observed from maximum forest ranges of the RNP, however its sighting is common in Chilla and Gohri forest ranges of the park, which are the eastern part of Rajaji and river Ganges is flowing in between these forests.

Now this species is somehow categorized under Schedule I of Indian Wildlife (Protection) Act, 1972 and considered as Least Concern in IUCN's Red List of Threatened Birds [8]. Although this observation was a natural phenomenon but documentation of such a typical record is highly essential to strengthen the existence of both the species and to take appropriate conservation actions.

ACKNOWLEDGEMENTS

I am thankful to Mr. Hem Pande, Joint Secretary, Dr. Sujata Arora, Director, Ministry of Environment and Forests, Govt. of India and to Dr. Rambir Singh, Director, Ministry of Science and Technology, Govt. of India for their encouragement and valuable suggestions. Dr. Srikant Chandola, Principal Chief Conservator of Forests, Government of Uttarakhand, Mr. G. S. Pande, Additional Secretary, Horticulture and Medicinal Plants, Govt. of Uttarakhand, Mr. S. P. Subuddhi, Director, Rajaji National Park and Mr. M.S. Negi, Forest Range Officer, RNP are acknowledged for giving permission to carry out the research on elephant's ecology during previous years.

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