FAUNAL COMPOSITION OF KAIMUR WILDLIFE SANCTUARY

(BIHAR)

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ZOOLOGICAL SURVEY OF INDIA
Faunal Composition of Kaimur Wild Life Sanctuary (Bihar)

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INTRODUCTION

Kaimur wildlife sanctuary is located in the Rohtas and Bhabua districts of Bihar. It is bounded in the north by the districts of Bhojpur, Buxar and part of Ghazipur of U. P.; in the south by the districts of Palamau and Garhwa; in the west by the districts of Sonabhadra and Varanasi of U. P. and in the east by the districts of Aurangabad and part of Jehanabad. The total area of the Sanctuary comprises of an area of 1342.22 sq. km. The entire area of the sanctuary has a good natural sal forests associated with Northern Tropical Mixed Dry Deciduous Forests, Boswellia Forests and Dry Bamboo drakes. Being associated with other ecological zones, the sanctuary has given rise to a rich and diversified fauna. The area was declared as wildlife sanctuary on 20 July 1979. Detailed information on the faunal composition of this sanctuary is not available except a few scattered reports (Shahi, 1977; Sinha 1986). As a part of the fauna of conservation areas programme, Zoological Survey of India has conducted one faunistic survey in this sanctuary. During this survey attempts were made to identify the existing faunal composition along with ecological data, population trend and factors affecting them. For this purpose, in addition to systematic field observations and permitted collection of specimens, necessary discussions with local people as well as management people were made. In the present paper an account of the faunal composition with special reference to birds and mammals of the Kaimur Sanctuary along with ecological conditions have been given.

CAMPS

Rohtas: It is very near to Rohtas township and is 55 km south of Sasaram. Rohtasgarh is located at a distance of 5 km west of Rohtas township. A Kilometer north of Rohtas fort, the Bawan talab was located. As the name indicates the talab was said to have been surrounded by 52 tanks in olden days, but there is no trace of them now. Camp days-08.11.1997 to 11.11.1997.

Adhaura: It is situated at a height of about 400 m form the sea level on the plateau of Kaimur hills and at a distance of about 58 km south of Bhabua. The area is composed of dry rock and a number of villages with agricultural fields. Camp days-12.11 1997 to 20.11.1997.

Mundeswari: It is situated at a distance of 12 km south-west of Bhabua. The ancient historical monument of famous Mundeswari temple was built on the summit of a hill at a height of about 182.8 m Hindu inscriptions of about 635 A.D. are found on it. Camp days-21.11.1997 to 24.11.1997.
PHYSICAL FEATURES

Kaimur Sanctuary is the best forested land of Deccan Peninsula with two provinces: (a) Central highlands in the west which include both the Satpura and Vindhya hill ranges namely Satpura-Maikal hills and Vindhya-Bagelkhand hills. (b) Chota Nagpur Plateau in the east and south.

The Sanctuary has two parts, viz. plains and plateau regions. Up to the foot hills of Kaimur hill the area consists of the alluvial soil and is naturally fertile. As the plain approaches the foot hills, the soil becomes stony and is poor in fertility. The Kaimur plateau is an undulating table land having thin scrubby jungles and the land is not at all fertile. There are also some patches bereft of any vegetation at the top hill part. Soil erosion in these forests is very common.

Of the numerous stratigraphical sub-divisions constituting the great Vindhyan system, only two are conspicuous in the sanctuary area. They are the Kaimur sandstone and the Rohtas limestone. The Kaimur sandstone covers the greater portion of the table-land and along its southern and south-western borders forms the precipitous escarpments. The Kaimur sandstone is known to be an excellent building material. The Rohtas limestone, is a very fine grained evenly-bedded rock; largely burnt for lime; and some of the beds are used as lithographic stone. Certain minerals such as sulphur and pyrites are also found near the sanctuary area. This physical feature has resulted in a number of industries near the sanctuary area of which Banjari cement, Rohtas cement, Sahu cement and Portland cement factories are worth mentioning. Rohtas vegetable oil and sugar industries are also operating there.

Water supply in the sanctuary during rain and winter remains adequate. There are six rivers namely Karamnasa, Durgawati, Tilhar, Suvra, Kudra and Varuna which provide some water throughout the year.

Three well-developed seasons viz. Summer (mid March to mid May), Monsoon (mid May to mid October) and winter (mid October to mid March) could be recognised. Forested tract of the sanctuary gets more precipitation varying from 24 cm to 35 cm during monsoon period.

FLORA

In the area under cultivation Sugar-cane, Poppy, Rice and a variety of other food crops are grown. This area is bare or dotted over with clumps of bamboos and mango orchards. The villages inside the sanctuary are frequently surrounded by groves of Palmrya (Borassus flabelliformis) and Date-Palm (Phoenix sylvestris). Numerous more isolated examples of Tamarindus sp., Odina sp., Sapindus sp. and Moringa sp. also occur associated with which are frequently found Glycosmis sp., Clerodendron sp., Solanum sp., Jatropha sp., Trema sp.,
Streblus sp., etc. Different species of the genera Ammannia, Utricularia, Hygrophila, Sesbania are the weeds near the rice fields which cover the low lying lands. Further from the river some dry scrub jungles are met with, of which the principal species belong to the genera Butea, Ficus, Schleichera, Wendlandia, Gmelina, etc. The grasses clothing the drier parts are generally of coarse character viz. Andropogon contortus, A. aciculatus, A. annulatus, A. foveolatus, A. pertusus, Aristida adscencoinis, Tragus racemosus, Iseilema laxum; various Anthistriae and Sabai Grass (*Inchaemum angustifolium*). Throughout the alluvial part which stretches to the foot of the hills the pipal (*Ficus religiosa*) and Banyan (*Ficus indica*) are common. The other principal trees growing in this area are the Bel (*Aegle marmoles*), Neem (*Melia azadirachta*), Siris (*Mimosa sirissa*) and Jack Fruit (*Artocarpus integrifolia*).

In the Kaimur hill, a different class of vegetation exists. On the plateau there is long grass, chiefly spear-grass, Kus (*Poa cynosuroides*), khas-khas (*Andropogon muricatus*), trees of *Diospyros* sp. and *Terminalia* sp., and here and there *Boswellia* sp., in places the curious White-barked *Sterculia foetida* spreads over the precipitous cliffs, and vast stretches of bamboo cover the debris at its base. Among the important trees found are Amaltas (*Cassia fistula*), Red cotton Tree (*Bombax malabaricum*), the Hara (*Terminalia chebula*) and Tend (*Diospyros manoxylon*). The Plateau is also rich in various jungle products from many of which the inhabitants obtain a livelihood. They are the Khair (*Acacia catechu*), Palas (*Butea frondosa*), Tasar (silkworm feeds on the Asan Tree, *Terminalia tomentosa*), the kus grass and the long coarse Sabai grass. Perhaps, the most useful of all the trees which clothe the hills and the undulating slope at their base is the Mahua (*Bassia latifolia*).

**FAUNAL COMPOSITION**

Differences in the elevations, soil composition, floral composition along with a number of rivers, swamps, have provided great range of variations in respect of micro and macro ecosystem within the Kaimur sanctuary. This varied ecosystem in turn has resulted a rich, both qualitative and quantitative, fauna in the sanctuary. Based on sightings, actual collection during survey and collected local report, an account of the fauna of the sanctuary is given below. During the survey works no actual estimates of the population of different species were done but attempts have been made to quantify some major species of mammals. For systematic account of mammals Ellerman & Morisson-Scott (1966) has been followed.

Following abbreviations have been used in the text: E : length of ear; Fa : length of forearm; F & cl : length of foot and claw; HB : head and body length; Hf : length of hind foot; Tb : length of tibia; Ti : length of tail; Tr : length of tragus.

Vertebrate species included in Schedule I and Schedule II of the Indian wildlife (Protection) Act, 1972 have been marked with * and ** respectively.
SYSTEMATIC ACCOUNT

Class MAMMALIA
Order INSECTIVORA
Family SORICIDAE

1. Suncus murinus caerulescens (Shaw)


Common names : House shrew (Eng.) Chuchundar (Hin.).


Measurements : External : 2♂, HB 136, 117; Tl 83, 70; Hf 20, 20; E 15, 15. 3♀, HB 101-115 (108); Tl 66-69 (68); Hf 17-20 (18); E 11-15 (13).

Distribution : Throughout India particularly in residential areas.

Remarks : Most common specially in and around houses, stores and fringe areas of the forest. Nests were found by the side of bushes, garbage, drains and under stone.

Much variations in size, colour, nature of fur and shape of tail have been observed in the present specimens.

Order CHIROPTERA
Family PTEROPODIDAE

2. Pteropus giganteus (Brünnich)

1782. Vespertilio gigantea Brünnich. Dyrenes Histories, 1 : 45 (Bengal, India).

Common names : Indian Flying Fox (Eng.), Gadal, Barbagal, Badur (Hin.).

Distribution : Widely distributed in India including Andaman Islands.

Elsewhere : Bangladesh, Myanmar, Nepal, Pakistan and Sri Lanka.

Remarks : Fairly common in the sanctuary excepting the dense part of the forest. In the evening animals were found foraging in the villages and forest for wild fruits. People were found often killing them for flesh.

3. Cynopterus sphinx sphinx (Vahl)

Common names: Short-nosed Fruit Bat (Eng.), Chota Badur (Hin.)


Measurements: External: 1♂: HB 106.5; F & cl 18.0; E 21.9; Fa 73.8; Tb 33.0 1♀: HB 101.4; F & cl 16.5; E 20.0; Fa 71.7; Tb 28.9.

Distribution: Throughout the mainland of India.

Elsewhere: Bangladesh, Myanmar, Nepal, Pakistan and Sri Lanka.

Remarks: Most common throughout the sanctuary. Large number of them were found to visit all the orchards during evening hours causing serious damage to crops. Even then they play an important role in the natural pollination and dispersal of seed in the forest ecosystem.

4. Cynopterus brachyotis (Müller)


Common names: Borneo short-nosed Fruit Bat (Eng.), Chota Badur (Hin.).


Measurements: External: 1♀: F & Cl 17.3; E 17.8; Fa 70.0; Tb 27.0.

Distribution: India: Andaman and Nicobar Islands, Assam, Bihar, Kerala, Meghalaya, Mizoram, Tamil Nadu, West Bengal.

Elsewhere: Borneo, Cambodia, Celebes, Java, Malaysia, Myanmar, Nepal, Pakistan, Phillipine Islands, Southern China, Sumatra, Thailand and Vietnam.

Remarks: Moderately common in the collecting locality. Sinha (1986) also reported this species from Rohtas district.

Family RHINOPOMATIDAE

5. Rhinopoma hardwickei hardwickei Gray


Common name: Lesser Rat-tailed Bat (Eng.).

Distribution: Almost throughout the country except north eastern states.

Elsewhere: Afghanistan, Myanmar, Pakistan and Thailand.

Remarks: Not very common. A troop of 12 animals were found in rock fissure near Mundeswari Temple, Sinha (1986) also recorded this species from Rohtas district.
6. *Taphozous nudiventris kachhensis* Dobson


*Common names*: Naked-bellied Tomb Bat (Eng.), Chota Badur (Hin.).

*Distribution*: Bihar, Delhi, Gujarat, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Sikkim, Uttar Pradesh and West Bengal.

*Elsewhere*: Afghanistan and Pakistan.

*Remarks*: Common throughout the sanctuary. Roosts in caves, rock fissures and also in various less disturbed man made structures. A roost of about fifteen animals were found in the rock fissure at Mundeswari. Sinha (1986) also reported this species from Rohtas district.

7. *Megaderma lyra lyra* Geoffroy


*Common name*: Indian False Vampire (Eng.).


*Measurements*: External: 3♀ : Fa 65.5, 67.3, 68.5; E 36.0, 39.2, 40.0; Tb 35.0, 34.3, 35.6; F & cl 17.7, 17.2, 18.9.

*Distribution*: Almost throughout the mainland of India.

*Elsewhere*: Afghanistan, Bangladesh, Nepal, Pakistan and Sri Lanka.

*Remarks*: Fairly common in the localities. Roosts of 4 to more than 15 animals were noticed in the local cowsheds and various other man made, less used structures. Feeds on lizards, frogs, mouse, beetles, etc.

8. *Rhinolophus lepidus lepidus* Blyth


*Common names*: Little Indian Horse-shoe Bat (Eng.).

*Distribution*: Widely distributed in the mainland of India, in the north upto Delhi and Mizoram in the east.
Remarks: Common. A troop of eight animals of this species was found in a cave of the hill top near Mundeswari temple.

9. *Hipposideros* sp.

Remarks: Not common in the sanctuary. Two specimens were observed flying irregularly through the varandha of Adhaura Rest House for about half-an-hour during the camp days there. Specific identification was not possible.

Family VESPERTILIONIDAE

10. *Pipistrellus coromandra coromandra* (Gray)


Common name: Indian Pipistrelle (Eng.).

Distribution: Widely distributed in southern India, north to Jammu & Kashmir, east to north eastern states including Tripura.


Remarks: Very common and could be seen in the dusk while they are flying over canal, swamps and other open areas. Small roost of 4-6 individuals were found in holes and crevices of rocks, trees, walls, ceilings, logs and many other places even within the busy human habitations.

10. *Pipistrellus minus* Wroughton


Common name: Indian Pigmy Pipistrelle (Eng.).


Remarks: Very common, particularly in the residential areas. Roosts in any dark place in close association with human beings. Sinha (1986) reported this species from Rohtas district.

11. *Pipistrellus dormeri* (Dobson)


Common name: Dormer's Bat (Eng.).

Measurements: External: $5\delta$: Fa 33.4-36.2 (35.1); TI 34.7-39.6 (37.7); E 10.7-13.5 (12.2); Tr 4.7-5.8 (5.3); Tb 13.1-14.0 (13.6); F & cl 6.2-7.4 (6.8). $4\varphi$: Fa 34.6-36.9 (35.9); TI 38.2-40.7 (39.0); E 12.9-14.2 (13.8); Tr 5.5-5.9 (5.7); Tb 13.0-14.0 (13.7); F & cl 6.4-7.4 (6.9).

Distribution: Widely distributed from Jammu & Kashmir in the north to Karnataka in the south; Gujarat in the west to West Bengal in the east. Pakistan, possibly Taiwan.

Remarks: Most common. Roosts were found in various man made structures in the village, as well as deep in the forest in rock crevices, tree holes, etc. Examination of stomach contents revealed hard parts of coleopteran insects and dipteran fly.

12. Scotophilus heathi heathi (Horsfield)


Common name: Greater yellow Bat (Eng.).

Material examined: $2\delta$, 19, Rohtas, 10, 11.xi.1997.

Measurements: External: $2\delta$: Fa 60.4, 61.8; TI 61.4, 63.8; E 17.4, 18.4; Tr 7.5, 8.6; Tb 26.2, 26.7; F & cl 11.1, 11.9 $1\varphi$: Fa 63.1; TI 63.0; E 18.2; Tr 9.0; Tb 27.8; F & cl 13.4.

Distribution: Widely distributed throughout the mainland of India.


Remarks: Most common. Large number of them roost in small groups in different places of less used man made structures and also in caves and crevices of rocks. A group of ten individuals were found roosting in rock crevices near Mundeswari Temple.

Order PRIMATES
Family CERCOPITHECIDAE

** 13. Macaca mulatta mulatta (Zimmermann)


Common names: Rhesus Macaque (Eng.), Bandar (Hin.).

Distribution: From Jammu and Kashmir in the north to Andhra Pradesh in the south, and Gujarat in the west to Arunachal Pradesh in the east. Bangladesh, Bhutan, China, Myanmar and Thailand.

Remarks: Fairly common in the forested areas. Occasionally raids the orchards and vegetable gardens. Altogether 10 troops were observed. Troop size varied from 15 to 22 animals.
14. *Presbytis entellus entellus* (Dufresne)


*Common names*: Hanuman Langur (Eng.), Hanuman, Langur (Hin.).


*Remarks*: Fairly common in the fringe areas of the forest, regularly invading the agricultural crops and orchards. Large troops of 15-30 animals were observed at different places of Rohtas and Bhabua districts.

**Order** CARNIVORA  
**Family** CANIDAE

15. *Canis lupus pallipes* Sykes


*Common names*: Wolf (Eng.), Bheriya (Hin.).

*Distribution*: Gujarat, Rajasthan, Uttar Pradesh, Bihar, West Bengal, Assam, Orissa, Madhya Pradesh, Andhra Pradesh, Karnataka, Maharashtra. Arabian peninsula, Iran and Pakistan.

*Remarks*: Local people reported wolf to be common in recent past and cited several examples of lifting of domestic stocks. However, during our visit we could observe a pair of wolf only once on the kaimur plateau near to Rohtas Fort. We could not find any recent record of lifting of domestic stock. It appears that its population has dwindled tremendously and now it has become rare in the sanctuary.

16. *Canis aureus indicus* Hodgson


*Common names*: Asiatic Jackal (Eng.), Gidar, Shial (Hin.).


*Remarks*: Frequently observed singly or in pairs in the fringe areas of the forest, but more near villages and cultivated fields.

It was reported to be most common in the villages causing considerable damage of the poultry and other domestic stocks. But its population has dwindled severely due to random use of pesticides for protection of crops and killing for fur.
** 17. *Vulpes bengalensis* (Shaw)


*Common names*: Bengal Fox (Eng.), Lomri (Hin.).

*Distribution*: Practically throughout India from the Himalayan foot hills to Kannya Kumari in the south.

*Elsewhere*: Bangladesh, Nepal and Pakistan.

*Remarks*: Common in the reeds and grass jungles along the bank of rivers and canals, in the cultivated fields, but not in the deep forest. It comes out of the burrows at dusk and moves almost throughout the night in and around villages in search of food.

Local people reported that some professional hunters regularly visit the area for collection of this animal by indigenous method. Random use of pesticide has also affected the population of this animal and now a days they are wiped out from some of the villages within the sanctuary.

* 18. *Melursus ursinus ursinus* (Shaw)


*Common names*: Sloth Bear (Eng.), Richh, Bhalu (Hin.).

*Distribution*: Peninsular India to Uttar Pradesh and in the east upto Arunachal Pradesh.

*Elsewhere*: Bangladesh.

*Remarks*: Moderately common, solitary individuals were met within the forest particularly on the kaimur plateau of Adhaura range. This animal possesses some threat to the villagers. Incidence of human moulding by this animal were also reported by the villagers.

Lives in natural caves among the rocks deep inside the forests as well as near human habitation. Occasionally raid the mature crop field neighbouring the forest. Foot marks or markings of this animal was noticed throughout the forest.

Family  VIVERRIDAE

** 19. *Viverricula indica indica* (Desmarest)


*Common names*: Small Indian Civet (Eng.), Mashk billa, Khattus (Hin.).

*Distribution*: Almost throughout the mainland of India.

*Elsewhere*: Bangladesh, Bhutan, Pakistan and Sri Lanka.
Remarks: Very common in the sanctuary, particularly in and around human habitations and grassy or bushy areas along the rivers, canals and other water bodies. Takes shelter in various places like self made holes in the bushes, natural holes of the trees, under the rocks, as well as in the roof or false ceiling of relatively less used houses. Quite a good number of them were observed moving around villages of Adhaura and Mundeswari.

** 20. *Paradoxurus hermaphroditus* (Pallas)


*Common names*: Common Palm Civet, Toddy cat (Eng.), Lakati, chingar, khattus (Hin.).

*Distribution*: Throughout India.

*Elsewhere*: Afghanistan, China, Indonesia, Malaysia, Myanmar, Pakistan and Phillipines.

*Remarks*: Lives in tree holes, top of palm trees and also in thatched roof of houses. Comes out of the hiding place immediately after evening and follows a particular route to the foraging ground. Causes much damage to poultry and vegetable gardens. A single animal was observed in the night moving around village at Adhaura. Its population in the sanctuary appears to be much low.

Family HERPESTIDAE

21. *Herpestes auropunctatus auropunctatus* (Hodgson)


*Common names*: Small Indian Mongoose (Eng.), Neula (Hin.).

*Distribution*: Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Bihar, West Bengal, North-eastern States.

*Elsewhere*: Bhutan and Nepal.

*Remarks*: Most common. Found in and around villages but not in the actual forests. Lives in colony making burrows in the bushes particularly along the canals drains, tanks, bunds, etc. Troops were observed in all the village areas. Preys mainly upon small birds, lizards, amphibians and insects. Occasionally causes damage to poultry.

This species receives protection from the villagers for its so called snake killing habit. Some of the villagers were found to keep this animal as a pet.

22. *Herpestes edwardsi nyula* (Hodgson)

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*Common names*: Indian Grey Mongoose (Eng.), Neula (Hin.).

*Distribution*: Ranges from Gujarat to Assam including Orissa and Sikkim. Bangladesh and Nepal.

*Remarks*: Fairly common in the villages and in the open areas of the forests. Lives in holes or under any suitable covers. A number of animals were seen in the forested part of Adhaura and Mundeswari.

**Family** HYAENIDAE

23. *Hyaena hyaena hyaena* (Linnaeus)


*Common names*: Striped Hyaena (Eng.), Lakar Baggha (Hin.).

*Distribution*: Almost throughout India in suitable habitats; the eastern limit being West Bengal.


*Remarks*: Moderately common. Lives in the ravine grass jungle and rocky areas, but solitary animal could even be seen in the cultivated field and also in the open areas of the forest even in the day time. A single animal was seen in the forest outskirt at Adhaura during day time.

**Family** FELIDAE

24. *Felis cauza affinis* Gray


*Common names*: Jungle cat (Eng.), Junglee billi (Hin.).

*Distribution*: Himalayas from Jammu and Kashmir to North-eastern states.

*Elsewhere*: China and Nepal.

*Remarks*: Moderately common. Lives in scrub jungle, reedy and grassy banks of rivers and canals, also takes shelter in other suitable places such as deserted houses and godowns, etc. within the village. Causes much damage to poultry but there is no hunting pressure. Animals were seen on a number of occasions in several places of the sanctuary.


* 25. *Panthera pardus fusca* (Meyer)


*Common names*: Indian Leopard, Panther (Eng.), Tenduwa (Hin.).

*Distribution*: Throughout India in suitable habitats.

*Elsewhere*: Bangladesh, China, Myanmar and Sri Lanka.

*Remarks*: Moderately common in deeper parts of the forests. Frequently visits the open areas and even villages in search of prey species. Lifting of domestic cattles has also been reported by the villagers. Pug marks and scats were seen in a number of places. However, a single animal was seen at Adhaura while it was trying to capture an young cow but failed due to sudden presence of the survey team at the spot.

According to the census carried out by the local Forest Department during 1997 the estimated number of Leopard in the sanctuary was 38 while the same was 25 during 1993 census.

* 26. *Panthera tigris tigris* (Linnaeus)


*Common names*: Tiger (Eng.), Bagh (Hin.).

*Distribution*: Throughout India in the forested tracts.

*Elsewhere*: Bangladesh, Myanmar and Nepal.

*Remarks*: Various forests, interspersed with cane brakes, swamps and open grass lands provide an ideal habitat for the tigers.

According to census carried out by the local forest department during 1997 the estimated number of tiger in the sanctuary was 5 and the same number of tiger was found in 1993 census also. During our survey work we could not see a single tiger but could found the pug mark of 1 adult male and 1 adult female. It has been felt that tigers are gradually loosing their ground in this sanctuary.

Order ARTIODACTYLA
Family SUIDAE

27. *Sus scrofa cristatus* Wagner


*Common names*: Indian Wild Boar (Eng.), Suor (Hin.).

*Distribution*: Throughout India, in forested tracts.
Elsewhere: Bangladesh, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka and Vietnam.

Remarks: Fairly common. Animals, in herds of 10 to 20, were seen in a number of places on several occasions. There is certain amount of hunting pressure during harvesting period due to its crop raiding habit.

Family CERVIDAE

28. Muntiacus muntjak vaginalis (Boddaert)


Common names: Indian Muntjac, Barking Deer (Eng.), Kakar (Hin.).

Distribution: Bihar, Uttar Pradesh, West Bengal, Assam, Arunachal Pradesh, Sikkim, Tripura, Meghalaya, Mizoram.

Elsewhere: Bangladesh, Bhutan, Myanmar, Vietnam and Yunnan.

Remarks: Rare and confined only to the forested part of the sanctuary. Its peculiar bark was heard only once at Kaimur plateau during our survey period.

29. Axis axis axis (Erxleben)


Common names: Spotted Deer (Eng.), Chital (Hin.).

Distribution: In the forested tracts from Peninsular India to Kumaon in Uttar Pradesh and Sikkim in the north, and to Meghalaya in the east.

Elsewhere: Bangladesh, Nepal and Sri Lanka.

Remarks: Common, lives in herds. Herds of 10 to 22 animals were observed in a number of occasion at different places. During harvesting period these animals often raid the cultivated fields. In the process of guarding the fields by the villagers, many of the deer are killed or injured. There is considerable amount of hunting pressure on them for their skins and antlers.

30. Cervus unicolor niger Blainville


Common names: Sambar (Eng., Hin.).

Distribution: Peninsular India including Goa to Himachal Pradesh in the north, West Bengal in the east.
Elsewhere: Bangladesh and Nepal.

Remarks: Moderately common in the forested part of the Sanctuary. They frequently visit the neighbouring crop fields causing considerable damage to crops. There is considerable hunting pressure for its flesh. Villagers were found moving freely inside the sanctuary with Firearms in search of different deers and other animals.

Family  **BOVIDAE**

*31. *Tetracerus quadricornis* (Blainville)


**Common names**: Four-Horned Antelope, Chousingha (Eng.), Chowsingha, Chowka, Doda (Hin.).

**Distribution**: Peninsular India except Malabar coast, north to Rajasthan and northeast to Bihar and Orissa.

**Remarks**: Rare. Prefers woods and hilly country near water. usually seen alone or in pairs. Feeds mainly in the day on grass, leaves and wild fruits. Decline in the population is mainly due to hunting and habitat shrinkage.

32. *Boselaphus tragocamelus* (Pallas)


**Common names**: Nilgai, Blue Bull (Eng.), Nil, Nilgai, Rojh, Rojra (Hin.).

**Distribution**: Peninsular India from base of Himalayas to Karnataka and certain areas of Maharashtra.

**Remarks**: Rare. Areas sparsely dotted with trees are the usual haunts and avoids dense forests. Feeds on leaves and fruits from early evening till late in the morning. Due to cow like appearance they are regarded as a sacred animal and there is no haunting pressure. Sometimes causes damage to the cultivated crops and farmers sentiment is involved for this creature.

33. *Gazella bennetti* (Sykes)


**Common names**: Indian Gazelle, Chinkara (Eng.), Chinkara, Kal Punch (Hin.).

**Distribution**: From Gujarat, Rajasthan to a little south of Krishna River.

**Elsewhere**: Pakistan.
Remarks: Shahi (1977) reported 'The (Kaimur) plateau is a sanctuary created especially to save this animal but there is considerable political pressure to get at least part of this sanctuary released. The species will vanish if this move succeeds—the plateau is this beautiful animal's last hold on life.' Gazelles were though common in the area but were subject to several threats. During 1993 and 1997 census carried out by the state Forest Department not a single animal could be sighted. As a result, for want of proper conservation steps, they have probably been exterminated from the entire area at present.

Order LAGOMORPHA
Family LEPORIDAE

34. Lepus nigricollis ruficaudatus Geoffroy


Common names: Indian Hare, Rufous-tailed Hare (Eng.), Khargosh (Hin.).

Distribution: Assam, Bihar, Madhya Pradesh, Meghalaya, Nagaland, Orissa, Rajasthan, Sikkim, Tripura, Uttar Pradesh, West Bengal.

Elsewhere: Bangladesh and Nepal.

Remarks: Fairly common. Inspite of tremendous hunting pressure, hazards of insecticides, habitat destruction, etc. this species is still surviving due to its small size, great tenacity under trying conditions and amazing power of concealment. A good number of hares were observed at night in several places of the sanctuary.

Order RODENTIA
Family SCIURIDAE

** 35. Petaurista petaurista philippensis (Elliot)


Common names: Common Giant Flying Squirrel (Eng.), Ural Gilheri (Hin.).

Distribution: Northern, Western, Southern India, Bihar and West Bengal in Eastern India.

Elsewhere: Nepal.

Remarks: Fairly common. Strictly arboreal in habit and found in the deep as well as fringe areas of the forest. Lives in hollows of old trees, often within the villages. At night while moving along the forest road, this animal could easily be seen while gliding from one tree to other. Two such animals were seen in the forest of Adhaura.
36. *Funambulus pennanti* Wroughton


*Common names*: Northern Palm Squirrel, Five-striped Squirrel (Eng.), Gilheri (Hin.).


*Measurements*: External: 1♀: HB 143.0; Tl 152.0; Hf 36.5; E 16.5.

*Distribution*: From Maharashtra and Madhya Pradesh to Jammu and Kashmir in the north, Meghalaya in the east, Andaman Islands.

*Elsewhere*: Bangladesh, Iran, Nepal and Pakistan.

*Remarks*: It is not a forest form but lives near villages and roadsides. Takes shelter in houses, gardens, groves and hedges and on road side trees. Causes much damage of the orchards.

Family **HYSTRICIDAE**

37. *Hystrix indica indica* Kerr


*Common names*: Indian crested Porcupine (Eng.), Sahi (Hin.).

*Distribution*: Throughout India, except Northeaster States.

*Elsewhere*: China, Iran, Iraq, Pakistan, Russian Turkestan, Saudi Arabia, Syria and Sri Lanka.

*Remarks*: Reported to be common by the villagers. Causes considerable damage to the tuberous crops. It has the habit of gnawing bones found in the jungles. We could find a number of burrows on the hill slopes of Kaimur. Quills were seen in the house of villagers and it appears that there is certain hunting pressure.

Family **MURIDAE**

38. *Vandeleuria Oleracea dumentica* (Hodgson)


*Common name*: Indian Long-tailed Tree Mouse (Eng.).

*Distribution*: Bihar, Uttar Pradesh, Orissa, West Bengal, Sikkim, North Eastern States.

*Elsewhere*: Myanmar and Nepal.

*Remarks*: Common in the villages and fringe areas of the forest but avoid the houses. Arboreal in habit and nests are made with leaves in the tree holes, termite mounds and similar many other places.
39. *Millardia meltada meltada* (Gray)


*Common names*: Soft-furred Field Rat, Metad (Eng.); Chuha (Hin.).

*Distribution*: Madhya Pradesh to Bihar in the east, and Tamil Nadu in the south.

*Elsewhere*: Sri Lanka.

*Remarks*: Moderately common. Burrows were found at several places in and around cultivated fields mainly along the bunds.

40. *Rattus rattus rufescens* (Gray)


*Common names*: House Rat (Eng.); Kala chuha (Hin.).

*Material examined*: 1♀, 1♂, Adhaura, 16, 17.xi.1997.


*Distribution*: Almost throughout India in major cities as well as in villages.

*Elsewhere*: Malaysia, Pakistan and Thailand.

*Remarks*: Most common in residential areas mainly in the shops and godowns. Not found in the forests. Considered as a serious pest.

41. *Rattus rattus arboreus* (Horsfield)


*Common names*: House Rat (Eng.); Gora chuha (Hin.).


*Measurements*: External: 2♂: HB 140, 155; TL 167, 165; Hf 31, 31; E 20, 22. 2♀: HB 165, 167; TL 207, 210; Hf 34, 31; E 22, 23.

*Distribution*: Uttar Pradesh, Bihar, Orissa, West Bengal.

*Elsewhere*: Nepal.

*Remarks*: Most common in residential areas and also moderately found in the forests. Nests were found in different places of houses and also in the trees like Mango, Ficus, Pipul, etc. Considered as a most serious pest of stored grains and poultry.
42. *Mus musculus castaneus* Waterhouse


**Common names**: House Mouse (Eng.); Musi, Chuhi (Hin.).

**Material examined**: 2♂, Adhaura, 15, 16.xi.1997.

**Measurements**: External: 2♂ : HB 75, 72; TL 87, 99; Hf 16, 17; E 11,14.

**Distribution**: Almost throughout India.

**Elsewhere**: China, Malaysia, Myanmar, New Guinea, Phillipines, Sri Lanka and Thailand.

**Remarks**: Most common. Found in the houses, shops, godowns but not in the forest. Considered as a serious pests of household goods and articles of merchandise.

Distribution of this mouse is modified by human agencies.

43. *Mus booduga booduga* (Gray)


**Common names**: Little Indian Field Mouse (Eng.); Chuhi (Hin.).

**Material examined**: 1♀, Adhaura, 15.xi.1997.

**Measurements**: External: 1♀ : HB 79; TL 86; Hf 17; E 11.

**Distribution**: Almost throughout India.

**Elsewhere**: Bangladesh.

**Remarks**: Most common. Found in the cultivated fields, grannaries and grassy banks of rivers. Large number of burrows were observed in the cultivated fields. Local migration from field to the neighbouring grannaries during monsoon period and back during dry period has been reported.

Certain amount of stored grains were found in some of the burrows, still then it is not considered as a pest by the farmers.

44. *Golunda elliotti elliotti* Gray


**Common name**: Indian Bush Rat (Eng.).

**Distribution**: Punjab, Himachal Pradesh, Uttar Pradesh, Peninsular India, Madhya Pradesh, Bihar, West Bengal, Assam.

**Elsewhere**: Afghanistan, Nepal, Pakistan and Sri Lanka.
Remarks: A diurnal species of rat. Found in the bushes and grassland of forests as well as villages. Feeds mainly on wild seeds and fruits. Nests are made in the bushes a little above the ground.

45. Bandicota bengalensis bengalensis (Gray)


Common names: Lesser Bandicoot Rat (Eng.); Chota Ghous (Hin.).

Distribution: Almost throughout India.

Elsewhere: Bangladesh, Bhutan, Myanmar, Nepal, Pakistan and Sri Lanka.

Remarks: Most common. Found in and around cultivated fields and also in godowns, shops and granaries. A number of burrows were found in the bunds and cultivated fields where huge amount of grains were found stored. Seasonal migration from field to nearby granaries and back has been reported. Causes huge damage to field crops and stored articles.

46. Bandicota indica nemorivaga (Hodgson)


Common names: Large Bandicoot Rat (Eng.); Ghous (Hin.).

Distribution: Bihar, West Bengal, Assam, Manipur, Meghalaya, Sikkim.

Elsewhere: Bangladesh, Formosa, Nepal and Thailand.

Remarks: Common. Mainly found in the banks of canals, ponds and any other marshy areas of villages and forests. It often visits the houses and granaries. Omnivorous in food habit. Readily goes to the water in search of fish, molluscs, crabs, etc.

47. Nesokia indica indica (Gray)


Common name: Short-tailed 'Mole Rat' (Eng.).

Distribution: Punjab, Haryana, Himachal Pradesh, Rajasthan, Uttar Pradesh, Bihar, West Bengal.

Elsewhere: Afghanistan, Bangladesh, Iran and Pakistan.

Remarks: Fossorial in habit. Makes extensive tunnels and spends most of the time under the ground by covering the opening of the burrow with piles of earth. Prefers to live in the forested tracts nearer to the cultivated fields. During the survey, not a single specimen could be seen or trapped, but a burrow system at the base of a Mango tree near a nullah at Adhaura was noticed. Appears not to be common in the area.
48. *Tatera indica indica* (Hardwicke)


*Common names*: Indian Antelope-Rat (Eng.); Harna Musa, Gora Chuha, Safed Chuha (Hin.).


*Measurements*: External: 1♂ HB 160; TI 170; Hf 39; E 22.

*Distribution*: Jammu and Kashmir in the north to Karnataka in the south and West Bengal in the east.

*Elsewhere*: Afghanistan, Iran, Nepal and Pakistan.

*Remarks*: Very common. Found in and around the bushes of relatively dry agricultural fields nearer to forest but not in the deep forest. Occasionally visits the poultries and granaries.

- **Class**: AVES
- **Order**: PELECANIFORMES
- **Family**: PHALACROCORACIDAE

1. *Phalacrocorax niger* (Vieillot)


*Common names*: Little coromorant (Eng.); Pan Kovwa, Jograbi (Hin.).

*Remarks*: Common. Found throughout the sanctuary near water sources.

2. *Ardeola grayii grayii* (Sykes)


*Common names*: Indian Pond Heron, Paddy bird (Eng.); Bagla (Hin.).

*Remarks*: Common. Found throughout the sanctuary near water bodies.

- **Order**: CICONIFORMES
- **Family**: ARDEIDAE

3. *Bubulcus ibis coromandus* (Boddaert)

1783. *Cancrema coromanda* Boddaert, *Table Plenium.*, : 54 (Coromandel).

*Common names*: Cattle Egret (Eng.); Gai bagla (Hin.).
Remarks: Fairly common. Found throughout the sanctuary and usually found moving with grazing village cattle in paddy fields.

4. *Ardea alba modesta* J. E. Gray


*Common names*: Eastern Large Egret (Eng.); Tar Bagla, Bada Bagla (Hin.).

*Remarks*: Common. Found in the paddy fields and water bodies throughout the sanctuary.

5. *Ixobrychus cinnamomeus* (Gmelin)


*Common names*: Chestnut Bittern (Eng.); Lal bagla (Hin.).

*Remarks*: Not common. Seen only once near irrigation canal at Adhaura.

Family CICONIIDAE

6. *Anastomus oscitans* (Boddaert)


*Common names*: Openbill Stork (Eng.); Gungla, Ghungil, Ghonghila (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary in cultivated fields. Apart from local shifts, performs regular migratory movement being directly influenced by water conditions.

Order FALCONIFORMES

Family ACCIPITRIDAE

7. *Milvus migrans govinda* Sykes


*Common names*: Periah kite (Eng.); Cheel (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary near villages and human habitations.

8. *Gyps indicus indicus* (Scopoli)


*Common names*: Indian Long-billed Vulture (Eng.); Gidh (Hin.).
Remarks: Moderately common. Found throughout the sanctuary on outskirts of villages.

9. *Gyps bengalensis* (Gmelin)


*Common names*: Indian White-backed Vulture (Eng.); Gidh (Hin.).

Remarks: Moderately common. Five individuals were found roosting on a tree near villages at Mundeswari.

10. *Circaetus gallicus gallicus* (Gmelin)


*Common names*: Short-toed Eagle (Eng.); Saapmaar (Hin.).

Remarks: Not common. A single specimen was seen deep inside the forest at Kaimur Plateau.

Family FALCONIDAE

* 11. *Falco biarmicus jugger* J. E. Gray


*Common names*: Laggar Falcon (Eng.); Laggar, Jaggar (Hin.).

Remarks: Not common. Only a single specimen was seen resting on a tree branch inside forest at Adhaura.

Order GALLIFORMES

Family PHASIANIDAE

12. *Francolinus pondicerianus interpositus* Hartart


*Common names*: North Indian Grey Partridge (Eng.); Teetar, Ran teetar, Safeed teetar, Gora teetar (Hin.).

Remarks: Fairly common. A number of specimens were seen inside forests at Adhaura and also on way to Bhagwanpur from Adhaura.

13. *Coturnix coturnix coturnix* (Linnaeus)

**Common names** Grey Quail (Eng.); Bater, Bada bater, Ghagus bater (Hin.).

*Remarks*: Fairly common. A number of specimens were seen inside forest at Adhaura and on the hill slopes of Mundeswari temple.

14. *Gallus gallus murghi* Robinson & Kloss


**Common names** Indian Red Junglefowl (Eng.); Jangli Murgha, Ban Murgha, Lal Murgha ♂, Jungli Murghi, Ban Murghi ♀ (Hin.).

*Remarks*: Moderately common throughout the forests of the Sanctuary.

* 15. *Pavo cristatus* Linnaeus


**Common names** Indian Peafowl (Eng.); Mor, Manjur, Mayura (Hin.).

*Remarks*: Not common. Neither a single specimen could be seen nor even its call could be heard throughout the survey period.

Order GRUIFORMES
Family TURNICIDAE

16. *Turnix sylvatica dussumier* (Temminck)

1828. *Hemipodus dussumier* Temminck, *Pl. col. livr.*, 76 : pl 454, f. 2 (Bengal).

**Common names** : Little Bustard-Quail (Eng.); Ginwa lowwa, Chhota lowwa, Dabki (Hin.).

*Remarks*: Rare. A pair was seen in a scrub jungle bordering cultivation at Rohtas.

Family RALLIDAE

17. *Gallinula chloropus indica* Blyth


**Common names** : Indian Moorhen (Eng.); Jal Murghi, Pani Murghi (Hin.).

*Remarks*: Moderately common. Shifts locally with water conditions. Specimens were seen in water bodies at Rohtas and Adhaura.
18. *Porphyrio porphyrio poliocephalus* (Latham)


*Common names*: Indian Purple Moorhen (Eng.); Kaim, Kalim, Kharim, Khima (Hin.).

*Remarks*: Less common. Two specimens were seen in the water bodies at Rohtas and one specimen at Adhaura.

19. *Fulica atra atra* Linnaeus


*Common names*: Coot (Eng.); Dasari, Dasarni, Aari, Thekari, Khuskul (Hin.).

*Remarks*: Rare. Only a single specimen was seen near a water body at Rohtas.

Order CHARADRIIFORMES
Family JACANIDAE

20. *Melopitlius indicus* (Latham)


*Common names*: Bronzewinged Jacana (Eng.); Pipi, Kundai (Hin.).

*Remarks*: Moderately common. Found throughout the Sanctuary near water bodies.

Family CHARADRIIDAE

21. *Vanellus indicus indicus* (Boddaert)

1783. *Tringa indica* Boddaert, *Table Pl. enlum.,* : 150 (Goa).

*Common names*: Red-wattled Lapwing (Eng.); Titeeri, Titai, Titi, Titori (Hin.).

*Remarks*: Fairly common. Found throughout the Sanctuary in open fields and cultivated lands.

Family CHARADRIIDAE

22. *Vanellus malabaricus* (Boddaert)

1783. *Charadrius malabaricus* Boddaert, *Table Pl. enlum.,* : 53 (Malabar Coast).

*Common names*: Yellow-wattled Lapwing (Eng.); Zirdi (Hin.).

*Remarks*: Rare. A single specimen was seen in a cultivated field at Adhaura.
23. *Tringa glareola* Linnaeus


**Common names**: Spotted Sandpiper (Eng.); Chupka, Chobaha, Titvari (Hin.).

**Remarks**: Rare. Winter visitor. A pair was seen near water bodies at Adhaura.

**Order** COLUMBIFORMES  
**Family** COLUMBIDAE

24. *Treron phoenicoptera phoenicoptera* (Latham)


**Common names**: Bengal Green Pigeon (Eng.); Harial (Hin.).

**Remarks**: Moderately common. Found throughout the Sanctuary.

25. *Streptopelia tranquebarica tranquebarica* (Hermann)


**Common names**: Indian Red Turtle-Dove (Eng.); Seroti fakhta, Girwi fakhta, Biki, Itooa (Hin.).

**Remarks**: Fairly common. Found throughout the Sanctuary in forest patches and near villages.

26. *Streptopelia decaocto decaocto* (Frivaldszky)


**Common names**: Indian Ring Dove (Eng.); Dhor fakhta, Parki, Gugi, Panduk (Hin.).

**Remarks**: Very common. Found throughout the Sanctuary in forests and villages.

27. *Streptopelia chinensis suratensis* (Gmelin)


**Common names**: Indian Spotted Dove (Eng.); Chitroka fakhta, chitta fakhata, Parki, Chitta, Panduk (Hin.).

**Remarks**: Very common. Found throughout the Sanctuary in forests and nearby villages.
Order  PSITTACIFORMES  
Family  PSITTACIDAE  

28. *Psittacula eupatria* (Linnaeus)


*Common names* : Large Indian Parakeet, Alexandrine Parakeet (Eng.); Rai tota, Hiraman tota (Hin.).

*Remarks* : Moderately common. Found throughout the Sanctuary in different habitats.

29. *Psittacula krameri manillensis* (P. L. S. Müller)


*Common names* : Roseringed Parakeet (Eng.); Tota, Lybar tota (Hin.).

*Remarks* : Very common. Found throughout the Sanctuary in forest patches and nearby villages.

30. *Psittacula cyanocephala* (Linnaeus)


*Common names* : Blossomheaded Parakeet (Eng.); Tuiya tota (Hin.).

*Remarks* : Less common. Found throughout the Sanctuary.

Order  CUCULIFORMES  
Family  CUCULIDAE  

31. *Clamator jacobinus serratus* (Sparrman)


*Common names* : Pied crested cuckoo (Eng.); Papiya, Kala Papiya, Chatak (Hin.).

*Remarks* : Rare. A single specimen was seen throughout the survey period deep inside forest at Adhaura.

32. *Cuculus varius varius* Vahl


*Common names* : Common Hawk-Cuckoo, Brainfever Bird (Eng.); Kapak, Upak, Papiya (Hin.).
Remarks: Less common. Found throughout the Sanctuary.

33. *Cuculus micropterus micropterus* Gould


Common names: Indian Cuckoo (Eng.); Kyphal pakka (Hin.).

Remarks: Less common. Four specimens could be seen at Adhaura. Easily located by its loud call.

34. *Eudynamys scolopacea* (Linnaeus)


Common names: Indian Koel (Eng.); Koel (Hin.).

Remarks: Common. Found throughout the Sanctuary.

35. *Rhopodytes viridirostris* (Jerdon)


Common names: Small Greenbilled Malkoha (Eng.); Kappra, Popiya (Hin.).

Remarks: Less common. Found only in deep forest.

36. *Taccoca lceschaulultii sirkee* (J. E. Gray)


Common names: Sirkeer Cuckoo (Eng.); Fangli tota (Hin.).

Remarks: Less common. Only two specimens were seen inside forest at Adhaura.

37. *Centropus sinensis* (Stephens)


Common names: Crow-pheasant, Coucal (Eng.); Mahoka (Hin.).

Remarks: Fairly common. Found throughout the Sanctuary in different habitats.

Order: STRIGIFORMES
Family: STRIGIDAE

38. *Otus bakkamoena* Pennant

Cammon names: Collared Scops Owl (Eng.); Tharkavi Choghad (Hin.).
Remarks: Moderately common. Found throughout the Sanctuary.

3 Otus scops sunia (Hodgson)


Cammon name: Scops Owl (Eng.).
Remarks: Uncommon. A single specimen was seen inside forest patches at Adhaura.

40. Glaucidium radiatum (Tickell)


Cammon names: Barred Jungle Owlet (Eng.); Jungli choghad (Hin.).
Remarks: Moderately common. Found throughout the Sanctuary.

Order CAPRIMULGIFORMES
Family CAPRIMULGIDAE

41. Caprimulgus indicus Latham


Cammon names: Indian Jungle Nightjar (Eng.); Chhippak, Chhappa, Dabchiri, Dabnak (Hin.).
Remarks: Moderately common. Found throughout the Sanctuary.

Order APODIFORMES
Family APODIDAE

42. Apus affinis affinis (J. E. Gray)

1830. Cypselus affinis J. E. Gray. in *Gray and Hardwicke's Ill. Ind. Zool.* 1(2), pl. 35. f. 2 (Ganges).

Cammon names: Indian House Swift (Eng.); Ababell, Babeela (Hin.).
Remarks: Moderately common. Found throughout the Sanctuary near villages.

43. Cypsiurus parvus batasiensis (J. E. Gray)

Common names: Indian Palm Swift (Eng.); Tadi abadeel, Talchatta, Patta deuli (Hin.).

Remarks: Less common. Found throughout the Sanctuary.

Order CORACIIFORMES
Family ALCEDINIDAE

44. *Ceryle rudis leucomelanura* Reichenbach


Common names: Indian Pied Kingfisher (Eng.); Machhi Baag, Koryala, Kilkila (Hin.).

Remarks: Rare. A single specimen was seen near a village pond at Bhagwanpur.

45. *Halcyon smyrneus* (Linnaeus)


Common names: White breasted Kingfisher (Eng.); Kilkila, Kourilla (Hin.).

Remarks: Fairly common. Found throughout the Sanctuary near water bodies and village ponds.

46. *Alcedo atthis pallasii* Reichenbach


Common names: Small Blue Kingfisher (Eng.); Chhota kilkila, Nita or Naka machhralaa (Hin.).

Remarks: Not common. Partly resident and partly migratory. A single specimen was seen near a village pond at Rohtas.

Family MEROPIDAE

47. *Merops philippinus* Linnaeus


Common names: Bluetailed Bee-eater (Eng.); Bada Patringa (Hin.).

Remarks: Fairly common. Found throughout the sanctuary.

48. *Merops orientalis* Latham

Common names: Small Green Bee-eater (Eng.); Patringa, Harrial (Hin.).

Remarks: Less common. Found throughout the Sanctuary.

Family CORACIIDAE

49. *Coracius benghalensis benghalensis* (Linnaeus)


Common names: Indian Roller, Blue Jay (Eng.); Nilkant, Sabzak (Hin.).

Remarks: Common. Found throughout the Sanctuary.

Family UPUPIDAE

50. *Upupa epops* Linnaeus


Common names: Hoopoe (Eng.); Hudhud (Hin.).

Remarks: Not common. Found throughout the Sanctuary in deciduous forest biotope, nearby cultivated fields and villages.

Family BUCEROTIDAE

51. *Anthracoceros coronatus* (Boddaert)


Common names: Malabar Pied Hornbill (Eng.); Dhan Chiri (Hin.).

Remarks: Less common. Found throughout the Sanctuary in forests and around villages.

Order PICIFORMES

Family CAPITONIDAE

52. *Megalaima zeylanica caniceps* (Franklin)


Common names: Large Green Barbet (Eng.); Bada basanta (Hin.).

Remarks: Common. Found throughout the sanctuary.
53. *Megalaima viridis* (Boddaert)


_Cammon names_ : Small Green Barbet (Eng.); Chhota Basantha (Hin.).

Remarks : Less common. Found throughout the sanctuary.

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54. *Megalaima haemacephala indica* (Latham)


_Cammon names_ : Crimson-breasted Barbet, Coppersmith (Eng.); Katphora, Basanth Lisora, Tambayat (Hin.).

Remarks : Moderately common. Found throughout the sanctuary.

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Family **PICIDAE**

55. *Dinopium benghalense* (Linnaeus)


_Cammon names_ : Goldenbacked Woodpecker (Eng.); Katphora (Hin.).

Remarks : Fairly common. Found throughout the sanctuary in forests as well as in nearby villages.

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56. *Picoides mahrattensis* (Latham)


_Cammon names_ : Yellow fronted Pied Woodpecker, Mahratta Woodpecker (Eng.); Katphora (Hin.).

Remarks : Less common. Found throughout the sanctuary in forests as well as in nearby villages.

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Order **PASSERIFORMES**

Family **PITIDAE**

57. *Pitta brachyura* (Linnaeus)


_Cammon names_ : Indian Pitta (Eng.); Naorang (Hin.).

Remarks : Less common. Found throughout the sanctuary in forests.
Family ALAUDIDAE

58. *Mirafra javanica cantillans* Blyth


*Common names*: Singing Bush Lark (Eng.); Agan, Agin (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary, singly or in pairs, running on the ground, picking seeds and insects.

59. *Mirafra assamica assamica* Horsfield


*Common names*: Bengal Bush Lark (Eng.); Aggia, Aggin (Hin.).

*Remarks*: Not common. A pair was only seen feeding on ground near cultivated field at Adhaura.

60. *Mirafra erythroptera erythroptera* Blyth


*Common names*: Redwinged Bush Lark (Eng.); Aggia, (Hin.).

*Remarks*: Less common. Found throughout the reserve in bushes and open grounds.

61. *Eremopterix grisea* (Scopoli)


*Common names*: Ashycrowned Finch-Lark (Eng.); Diyora, Duri, Deoli, Dabak chiri, Fothauli (Hin.).

*Remarks*: Common. Found throughout the sanctuary squatting and feeding on dusty cart-tracks.

62. *Ammomanes phoenicurus* (Franklin)


*Common names*: Indian Rufoustailed Finch-Lark (Eng.); Aggia, Retal (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary near cultivated fields and open lands.
63. *Alauda gulgula inconspicua* Severtzov


*Common names*: Small Sky Lark (Eng.); Bharat, Chandul (Hin.).

*Remarks*: Rare. A single specimen was seen near cultivated land bordering forest at Adhaura.

Family **HIRUDINIDAE**

64. *Hirundo concor* Sykes


*Common names*: Dusky Crag Martin (Eng.); Chatan ababil (Hin.).

*Remarks*: Less common. Found throughout the sanctuary near human habitations.

Family **LANIDAE**

65. *Lanius vittatus* Valenciennes


*Common names*: Indian Baybacked Shrike (Eng.); Pachanak (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary.

66. *Lanius schach erythronotus* (Vigors)


*Common names*: Rufousbacked Shrike (Eng.); Mattiya latora, Kajala latora (Hin.).

*Remarks*: Fairly common. Found throughout the sanctuary.

67. *Lanius cristatus* Linnaeus


*Common names*: Brown Shrike (Eng.); Kerkheta (Hin.).

*Remarks*: Less common. Found throughout the sanctuary.
Family ORIOLIDAE

68. *Oriolus oriolus Kundoo* Sykes


*Common names:* Indian Golden Oriole (Eng.); Peelak (Hin.).

*Remarks:* Moderately common. Found throughout the sanctuary.

69. *Oriolus xanthornus* (Linnaeus)


*Common names:* Indian Blackheaded Oriole (Eng.); Peelak, Zardak (Hin.).

*Remarks:* Fairly common. Found throughout the sanctuary.

Family DICRURIDAE

70. *Dicrurus hottentottus* (Linnaeus)


*Common names:* Haircrested Drongo (Eng.); Bhujanga, Buchanga, Kotwal, Kalkalachi (Hin.).

*Remarks:* Moderately common. Found throughout the sanctuary.

71. *Dicrurus caerulescens* (Linnaeus)


*Common names:* Whitebellied Drongo (Eng.); Pahari Buchanga, Dhapri (Hin.).

*Remarks:* Common. Found throughout the sanctuary.

72. *Dicrurus paradiseus* (Linnaeus)


*Common names:* Greater Racket-tailed Drongo (Eng.); Bhimraj, Bhringraj (Hin.).

*Remarks:* Not common. Found throughout the sanctuary in forest patches.

Family STURNIDAE

73. *Sturnus malabaricus* (Gmelin)

**Common names**: Greyheaded Myna (Eng.); Pawei (Hin.).

**Remarks**: Moderately common. Found throughout the sanctuary.

74. *Sturnus Pagodarum* (Gmelin)


**Common names**: Blackheaded or Brahminy Myna (Eng.); Popoya Myna, Kalasir Myna, Puhaia (Hin.).

**Remarks**: Moderately common. Found throughout the sanctuary.

75. *Sturnus Contra* Linnaeus


**Common names**: Indian Pied Myna (Eng.); Ablak or Ablaki Myna (Hin.).

**Remarks**: Very common. Found throughout the sanctuary.

76. *Acridotheres tristis* (Linnaeus)


**Common names**: Indian Myna (Eng.); Dési Myna (Hin.).

**Remarks**: Very common. Found throughout the sanctuary.

77. *Acridotheres fuscus* (Wagler)


**Common names**: Jungle Myna (Eng.); Pahari Myna, Jungli Myna (Hin.).

**Remarks**: Moderately common. Found throughout the sanctuary.

Family CORVIDAE

78. *Dendrocitta vagabunda* (Latham)


**Common names**: Indian Tree Pie (Eng.); Mahalat (Hin.).

**Remarks**: Fairly common. Found throughout the sanctuary.
79. *Corvus splendens* Vieillot


*Common names*: Indian House Crow (Eng.); Kowwa, Desi Kowwa (Hin.).

*Remarks*: Very common. Found throughout the sanctuary near human habitation.

80. *Corvus macrorhynchos culminatus* (Sykes)


*Common names*: Indian Jungle Crow (Eng.); Kala Kowwa, Jangli Kowwa (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary.

Family CAMPEPHAGIDAE

81. *Coracina melanoptera sykesi* (Strickland)


*Common names*: Blackheaded Cuckoo-Shrike (Eng.); Jungli Kesya (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary.

82. *Pericrocotus cinnamomeus peregrinus* (Linnaeus)


*Common names*: Northern Small Minivet (Eng.); Bulalchashm, Rajalal, Rajelal (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary.

Family IRENIDAE

83. *Aegithina tiphia* (Linnaeus)


*Common names*: Common Iora (Eng.); Shaubeega, Shaubeegi (Hin.).

*Remarks*: Fairly common. Found throughout the sanctuary.

84. *Choropsis aurifrons* (Temminck)

Common names: Gold fronted Chloropsis (Eng.); Harewa, Sabz Harewa (Hin.).

Remarks: Fairly common. Found throughout the sanctuary.

Family Pycnonotidae

85. Pycnonotus melanicterus flaviventris (Tickell)


Common names: Blackcrested yellow Bulbul (Eng.); Zard Bulbul (Hin.).

Remarks: Moderately common. Found throughout the sanctuary in forest biotope.

86. Pycnonotus jocosus pyrrhotis (Bonaparte)


Common names: Red whiskered Bulbul (Eng.); Kamera Bulbul, Pahari Bulbul (Hin.).

Remarks: Very common. Found throughout the sanctuary.

87. Pycnonotus cafer bengalensis Blyth


Common names: Redvented Bulbul (Eng.); Kala Bulbul, Bulbuli (Hin.).

Remarks: Very common. Found throughout the sanctuary.

Family Muscicapidae

88. Pellornum ruficeps Swainson


Common name: Spotted Babbler (Eng.).

Remarks: Moderately common. Found throughout the sanctuary.

89. Chrysomma sinense (Gmelin)


Common names: Yellow-eyed Babbler (Eng.); Gulab Chashm, Bulal Chashm (Hin.).

Remarks: Less common. Found throughout the sanctuary.
90. *Dumetia hyperythra* (Franklin)


*Common name*: Rufousbellied Babbler (Eng.).

*Remarks*: Uncommon. Two specimens were seen inside forest at Adhaura.

91. *Turdoides caudatus* (Dumont)


*Common names*: Common Babbler (Eng.); Chilchil, Ddumri (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary.

92. *Turdoides striatus* (Dumont)


*Common names*: Jungle Babbler (Eng.); Satbhai, Pengya Myna (Hin.).

*Remarks*: Common. Found throughout the sanctuary.

93. *Alcippe poioicephala* (Jerdon)


*Common name*: Quaker Babbler (Eng.).

*Remarks*: Uncommon. Only two specimens were seen inside forest at Kaimur plateau.

94. *Muscicapa thalassina* Swainson


*Common names*: Verditer Flycatcher (Eng.); Turra (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary in forest biotope only.

95. *Rhipidura aureola* Lesson


*Common names*: Whitebrowed Fantail Flycatcher (Eng.); Machharya, Nachan, Chakdil (Hin.).

*Remarks*: Uncommon. Throughout the survey period only four specimens could be observed in forest bushes.
96. *Cistiola junciis* *cursitans* (Franklin)


*Cammon names*: Streaked Fantail Flycatcher (Eng.); Ghaksi-phutki, Ghaksi-pitpsi (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary in forest patches.

97. *Prinia hodgsonii* Blyth


*Cammon names*: Franklin's Wren-Warbler (Eng.); Putki (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary in forest patches.

98. *Prinia sylvatica* Jerdon


*Cammon names*: Jungle Wren-Warbler (Eng.); Tot-rungi (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary in forest bushes.

99. *Orthotomus sutorius patia* Hodgson


*Cammon names*: Tailor Bird (Eng.); Darzee, Piddi (Hin.).

*Remarks*: Fairly common. Found throughout the sanctuary.

100. *Phylloscopus collybita tristis* Blyth


*Cammon name*: Brown Leaf Warbler, Chiffchaff (Eng.).

*Remarks*: Uncommon. Winter visitor. A few specimens could be seen in forest bushes.

101. *Erithacus calliope* (Pallas)


*Cammon names*: Rubythroat (Eng.); Gangula (Hin.).

*Remarks*: Uncommon. Winter visitor. Two specimens were seen in forest bushes at Rohtas.
102. *Copsychus saularis* (Linnaeus)


**Common names**: Magpie-Robin, Dayal Thrush (Eng.); Dhaiyal, Dhaiyar (Hin.).

**Remarks**: Common. Found throughout the sanctuary.

103. *Copsychus malabaricus* (Scopoli)


**Common names**: Indian Shama (Eng.); Shama (Hin.).

**Remarks**: Moderately common. Found throughout the sanctuary in forest patches away from human habitation.

104. *Phoenicurus ochruros rufiventris* (Vieillot)


**Common names**: Black Redstart (Eng.); Thirthira, Thirthir-kampa (Hin.).

**Remarks**: Uncommon. Summer visitor. A single specimen was seen in forest bushes at Adhaura.

105. *Cercomela fusca* (Blyth)


**Common name**: Brown Rock chat (Eng.).

**Remarks**: Uncommon. A pair was seen in forest bushes of Kaimur plateau.

106. *Saxicola caprata bicolor* Sykes


**Common names**: Pied Bush chat (Eng.); Pidda, Kala Pidda (Hin.).

**Remarks**: Moderately common. Found throughout the sanctuary.

107. *Saxicoloides fulicata cambaisensis* (Latham)


**Common names**: Indian Robin (Eng.); Kalchuri (Hin.).
108. *Zoothera citrina* (Latham)


*Common name*: Orangeheaded Ground Thrush (Eng.).

*Remarks*: Uncommon. A single specimen was seen in forest patches at Adhaura.

Family **PARIDAE**

109. *Parus major nipalensis* Hodgson


*Common name*: Grey Tit (Eng.).

*Remarks*: Moderately common. Found throughout the sanctuary in forest patches.

Family **SITTIDAE**

110. *Sitta castanea* Lesson


*Common names*: Chestnut bellied Nuthatch (Eng.); Siri (Hin.).

*Remarks*: Uncommon. A pair was seen deep inside forest at Adhaura.

111. *Salpornis spilonotus* (Franklin)


*Common name*: Spotted Grey creeper (Eng.).

*Remarks*: Uncommon. A Single specimen was seen at Adhaura near forest edges.

Family **MOTACILLIDAE**

112. *Anthus novaeseelandiae rufulus* Vieillot


*Common names*: Indian Paddy field Pipit (Eng.); Rugail, Charchari (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary.
113. *Motacilla citreola* Pallas


*Common names*: Yellowheaded Wagtail (Eng.); Pillya, Pani-ka-Pilka (Hin.).

*Remarks*: Uncommon. Winter visitor. A pair was seen at Adhaura.

114. *Motacilla alba dukhunensis* Sykes


*Common names*: Pied wagtail (Eng.); Dhoban (Hin.).

*Remarks*: Moderately common during winter (visitor). Found throughout the sanctuary.

Family **DICAEIDAE**

115. *Dicaeum erythrorhynchos* (Latham)


*Common names*: Tickell's Flowerpecker (Eng.); Phoolchuki (Hin.).

*Remarks*: Moderately common. Found throughout the sanctuary.

Family **NECTARINIIDAE**

116. *Nectarinia zeylonica flaviventris* (Hermann)


*Common names*: Purplerumped Sunbird (Eng.); Phul Soongni (Hin.).

*Remarks*: Uncommon. Only a pair could be seen at Adhaura during the entire survey period.

117. *Nectarinia asiatica* (Latham)


*Common names*: Purple sunbird (Eng.); Phul Soongni (Hin.).

*Remarks*: Fairly common. Found throughout the sanctuary.

118. *Arachnothera longirostris* (Latham)

**Common name**: Little Spiderhunter (Eng.).

**Remarks**: Uncommon. Only two birds could be seen throughout the survey period—one at Adhaura and the other near Mundeswari temple.

**Family** ZOSTEROPIDAE

119. *Zosterops palpebrosa* (Temminck)

1824. *Sylvia palpebrosa* Temminck, *Pl. Col. d'ois.*, 49, pl. 293, fig. 3 (Bengal).

**Common names**: White-eye (Eng.); Badoona (Hin.).

**Remarks**: Common. Found throughout the sanctuary.

Family PLOCEIDAE

120. *Passer domesticus indicus* Jardine & Selby


**Common names**: House sparrow (Eng.); Churi, Khas churi (Hin.).

**Remarks**: Very common. Found throughout the sanctuary near human habitation.

121. *Petronia xanthocollis* (Burton)


**Common names**: Yellowthroated sparrow (Eng.); Raji, Jungli-chiria (Hin.).

**Remarks**: Moderately common. Found throughout the sanctuary.

122. *Ploceus philippinus* (Linnaeus)


**Common names**: Baya (Eng.); Baya, Son-chiri (Hin.).

**Remarks**: Common. Found throughout the sanctuary.

123. *Ploceus manyar flaviceps* Lesson

Common names: Streaked Weaver Bird (Eng.); Bamani Baya (Hin.).

Remarks: Moderately common. Found throughout the sanctuary.

1. Estrilda amandava (Linnaeus)


Common names: Red Munia, Avadavat (Eng.); Lal, Lal Munia (Hin.).

Remarks: Moderately common. Found throughout the sanctuary.

125. Lonchura malabarica (Linnaeus)


Common names: White throated Munia (Eng.); Charchara, Charga, Charakka, Pidda (Hin.).

Remarks: Moderately common. Found throughout the sanctuary.

126. Lonchura punctulata (Linnaeus)


Common names: Spotted Munia (Eng.); Telia Munia, Seenabaz, Sinewaz (Hin.).

Remarks: Fairly common. Found throughout the sanctuary.

127. Lonchura malacca (Linnaeus)


Common names: Blackheaded Munia (Eng.); Nakalnor, Telia Munia, Sing-baz, Pora Munia, Nukroul (Hin.).

Remarks: Moderately common. Found throughout the sanctuary.

Class REPTILIA

Various ecosystem of the sanctuary support a very good population of different reptilian species. A list of reptilian species based on collection, observation and earlier reports has been prepared by our departmental scientist Shri S. Sur which in given below:
<table>
<thead>
<tr>
<th>Family CROCODYLIDAE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scientific Name</strong></td>
<td><strong>Common name</strong></td>
</tr>
<tr>
<td>1. <em>Crocodylus palustris</em> Lesson</td>
<td>Muggar Marsh Crocodile</td>
</tr>
</tbody>
</table>

**Family EMYDIDAE**

| 2. *Kachuga kachuga* (Gray) | Sail Terrapin |
| 3. *Kachuga smithi* Gray | |

**Family GEKKONIDAE**

| 4. *Hemidactylus flaviviridis* Ruppel | Yellow-bellied House Gekko |
| 5. *Hemidactylus brooki* Gray | House Gekko |

**Family AGAMIDAE**

| 6. *Calotes versicolor* (Daudin) | Blood Sucker |
| 7. *Psammophilus blanfordanus* (Stoliczka) | Dwarf Rock Lizard |

**Family SCINCIDAE**

| 8. *Mabuya macularia* (Blyth) | Bronze Grass Skink |
| 9. *Mabuya carinata* (Schneider) | Common or Brahminy Skink |
| 11. *Riopa punctata* (Gmelin) | Dotted Garden Skink |
| 12. *Varanus bengalensis* (Daudin) ** | Indian Monitor |
| 13. *Varanus flavescens* (Gray) * | Yellow Monitor |

**Family BOIDAE**


**Family COLUBRIDAE**

| 15. *Amphiesma stolata* (Linnaeus) | Striped Keelback |
| 16. *Xenochrophis piscator* (Schneider) ** | Cheekered keelback |
| 17. *Ptyas mucosus* (Linnaeus) ** | Rat Snake |
| 18. *Ahaetulla Picta* Gmelin | Common Green whip snake |

**Family TYPHLOPIDAE**


**Family ELAPHIDAE**

| 20. *Naja naja* (Linnaeus) ** | Indian Cobra |
| 21. *Ophiophagus hannah* (Cantor) ** | King cobra |

**Family VIPERIDAE**

| 22. *Vipera russelli* (Shaw) ** | Russell's Viper |
DISCUSSION

Kaimur Sanctuary being extended over the satpura and Vindhya hill ranges in the west and Chota Nagpur plateau in the east and south represents a varied physiography. It contains a good number of everflowing rivers, nullahs and canals. Some part of the sanctuary is also subject to seasonal inundation. These diverse ecological factors have resulted a varied micro and macro habitats which in turn gave rise to a wonderful faunal diversity including the tiger, the apex of the Pyramid. Subsequently, to conserve this great national heritage the area was declared as a sanctuary in 1979. All the management programmes for this sanctuary are still lying in papers only. It was really shocking to note that even an inch of the sanctuary is not free from human interference. There are a number of villages with extensive cultivated fields in the sanctuary, who alongwith their 22000 domestic cattle are entirely dependent on the natural resources of the sanctuary. In addition to this 30,000 cattles are brought to the sanctuary regularly from outside for grazing. Cattle were found grazing even in the deepest part of the forests. Huge grazing of domestic cattle not only degrades the habitat but also will lead to serious out break of contagious disease among the wild herbivores.

Accidental forest fire during summer has been reported to be a common feature. Due to lack of antifire measures, a lot of habitat are getting destroyed.

Some miscreants are very active in the sanctuary. They are so well organised with modern arms that they do not hesitate to attack the management people. During our survey, we observed that the management people are afraid of going in the forest for patrolling. The Rehal camp has been abandoned as the choukidar of that camp was driven away by the miscreants after been beaten mercilessly.

A number of factories are operating near the Sanctuary area for which different parts of the sanctuary are being sacrificed. Movement of heavy vehicles are likely to disturb the normal habitat for wildlife.

The sanctuary was found to have a lot of hunting pressure. On a number of occasions the survey party noticed local people moving inside the deepest part of the forest with firearms for hunting.

As a result of the above factors quality of the habitat is being degraded at a fast rate and flora and fauna are the worst victims.

From the above discussion it is obvious that though the forest has been declared as a sanctuary, but in reality it is not enjoying the status of even a Reserve forest. Entire area with its varied ecosystems and faunal diversity is now most vulnerable and may reach in near future to a point of no return.
RECOMMENDATION

To conserve the great national heritage contained in the Kaimur Sanctuary, socio economic condition of the people living in and around must be taken into consideration. Practical aspects as regard to the needs and requirements of the local people cannot be ignored by simple notification and framing rules. Following recommendations may be considered for the conservation of the sanctuary.

1. The forest must be demarked into the core and buffer zones.

2. To meet up the need of forest produce by the local people, the buffer zone may be declared as protected forest, from where they may collect fuel wood and other requirements under the total control of the management authorities. However, attempts should be made to minimize their requirement gradually. Supply of low fuel consuming 'chula', use of solar energy, social forestry, easy loan for construction of pakka buildings, etc. may come under this programme.

3. Cultivation of fodder in the wasteland may be initiated to minimize the grazing pressure. Free inoculation of domestic cattle must be arranged to minimize spreading of contagious diseases.

4. To fight against the miscreants and drive them away from the sanctuary, number of forest guards should be increased sufficiently along with proper modern equipment. Active co-operation from the police department should also be asked for. In this connection, communication system among the different blocks should be improved.

5. Unless the local people are taken into confidence, no conservation programme can achieve any success. Awareness programme must be organised regularly to make the local people understand that sanctuary is not against them, rather it is for them. Assurance must be given to them that they will not be deprived from their rights. In this course, fullest cooperation from them may be received for the conservation of this national heritage which will serve as substantial resource for future generations.

6. Well-equipped research wing should be arranged immediately. This wing will carry out researches on the eco-development of the area, status of different species, population fluctuations, animal behaviour, diseases and others. Carrying capacity of the forest need also to be studied from time to time in respect of different species occurring within the sanctuary.

SUMMARY

Based on survey works, literature and local reports, a detailed account of the faunal composition of the Kaimur Sanctuary has been prepared. A total of 48 species of
mammals, 127 species of birds have been reported and a list of 22 reptilian species is also given. Status of different mammalian species has been discussed. Attempts have been made to identify the different factors responsible for the habitat destruction. Necessary recommendations have been made for the habitat improvement and management of the sanctuary.

ACKNOWLEDGEMENT

Thanks are due to the Director, Zoological Survey of India for providing necessary facilities for the work. We are thankful to the Chief Wild Life Warden, Bihar and other officials of State Forest Department for rendering various help for conducting the survey. We are also thankful to the local people for their meaningful help during the survey.

REFERENCES


Showing habitation and Paddy field within Sanctuary

View of forest with road
A Nilgai Deer enclosure

Pugmark of a Tiger
Palm Squirrel feeding on coconut shoot

Calotes sp

Drango
Rufous backed Shrike

Red Turtle Dove

Alexandrine Parakeet
REFERENCES
1. FOREST BOUNDARY
2. F.R.H
3. SONE R.
4. G.T. ROAD
5. E.I.R
6. RANGE BOUNDARY
7. ROHTAS FORT
8. SHER GARH