Vertebrate Faunal Diversity in Hosur Forest Division and its Contiguous Habitats in Dharmapuri Forest Division of Tamil Nadu, India

A Draft Summary Report to the Tamil Nadu Forest Department



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Note:

This draft summary report is for the information of the Tamil Nadu Forest Department.

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Over the past two decades, a large number of studies have looked at distribution and biogeography of different vertebrate taxa, with special emphasis on lower taxonomical orders. However, such surveys in India have largely been biased towards Protected Area (PA) networks, which constitute a very low proportion of the total forest cover. The PA network may or may not support wide-ranging landscape species or have all the micro/major habitats of a landscape /region within it that is required to support the large assemblage of species diversity that may be found in the region. The much larger forest areas encompassed by Territorial Forest Divisions are subjected to a wide range of anthropogenic pressures including threats from large-scale developmental projects. Therefore, knowledge about the diversity of wild species and their distributional range, including population status, within territorial forest divisions is vital to planning the conservation of the region's biodiversity and for protecting its potential to support sustainable development of the region.

The Hosur Territorial Forest Division and its contiguous habitats in the Dharmapuri FD are no exceptions to conservation and development considerations discussed above. They are situated close to Bangalore, the electronic hub of India, where the developments flowing from growing population pressures and economic activities in the region (settlements, commercial constructions, roads, rail lines etc) could potentially impact forests and their biodiversity. Since conservation importance of any area is typically determined by assessing its biodiversity, it is essential to document the biodiversity of the remaining forest areas. Based on a clear understanding of the biodiversity values of the region, and the anthropogenic pressure they are subject to, it would be possible for the Forest Department and other related local authorities to potentially plan for sustainable conservation and development of the region.

In accordance with this perspective, the Asian Nature Conservation Foundation (ANCF) in partnership with the Kenneth Anderson Nature Society (KANS) carried out a study between June 2009 and April 2010 to assess the biodiversity values (with particular reference to the vertebrate fauna) of Hosur Forest Division and its adjoining contiguous habitats in Dharmapuri Forest Division in Tamil Nadu. A detailed report of the study is currently under preparation. This volume provides a brief description of the study scope and methodology as well as a pictorial summary of the biodiversity of this region. Recommendations on conserving biodiversity under the prevailing conditions are presented in the detailed report.

Aim: To document the diversity of mammalian fauna across Hosur and Dharmapuri Forest Divisions and estimate the population density of large mammal species for which a reasonable sample size could be obtained using line transect methods.

Methods: Assessment of the mammalian species inventory was carried out using (1) Rapid ground survey in different ranges of Hosur FD, (2) Line transect sampling in 31 transects across Hosur and its contiguous habitats in Dharmapuri FDs, and selected 11 transects in Hosur FD with more temporal replicates (3) Camera trap and (4) *Ad-hoc* sampling while on other field surveys for assessment of vegetation, avifauna and herpetofauna. In addition, the study has also incorporated a listing of the (5) mammalian species rescued or confiscated by Forest Department personnel.

Study period: Data for the species inventory of mammalian fauna was collected between July 2009 and April 2010. However, of the methods used, camera trapping was restricted to the last two months due to non-availability of cameras in the initial period. Hence, the area coverage by the camera traps was not as wide as compared to the other methods. Therefore, the list of mammalian species especially the lesser known small carnivores and non-volant small mammals compiled in this study could be considered as a minimum.

Results: The class Mammalia is represented by a minimum of 35 species belonging to 10 orders (Table 1) including two endangered species—the Wild dog and Asian elephant—in the Hosur Forest Division and its adjoining contiguous habitats in the Dharmapuri Forest Division. The area supports five vulnerable (four-horned antelope, Indian gaur, Sambar, Smooth coated otter and Sloth bear) and near threatened (Leopard and Grizzled giant squirrel) species each. The species such as Asian elephant (*Elephas maximus*), wild boar (*Sus scrofa*), spotted deer (*Axis axis*), bonnet macaque (*Macaca radiata*) and blacknaped hare (*Lepus nigricollis*) were widely distributed in all the Forest Ranges of the study area. In contrast, species like the four-horned antelope (*Tetracerus quadricornis*), grizzled giant squirrel (*Ratufa macroura*), barking deer (*Muntiacus muntjak*), mouse deer (*Moschiola meminna*) and smooth-coated otter (*Lutrogale perspicillata*) were restricted in their distribution due to the habitat specific nature. Distribution of the remaining species of mammals has not been recorded in all the ranges, which could be due to their low-density coupled with insufficient effort because of the short duration of the study.

Although number of mammalian species recorded (n = 35) in the study area is quite significant, the abundance of each species was very low so that the study was unable to have sufficient sample size to estimate the population density of large mammals like elephants, gaur, chital and common langur using line transect direct sighting method. The reason for the low abundance could be poor habitat quality.

Grizzled giant squirrel sighting records: The documentation of the grizzled giant squirrel by the present study is the first scientific information on the existence of this population in the study area. Joshua (1992), who did a detailed ecological study on the species in another population further south in Tamil Nadu, mentioned that the collection of skins of *R. macroura* by Bombay Natural History Society during 1920–30 indicates

that in the past the species occurred in places such as Dharmapuri and Salem Attur in the Eastern Ghats. Nevertheless, no published data is yet available on the existence of the species in this Forest Division. Kumara and Singh (2006), who documented the species in habitats further south of the present study area in Karnataka, mentions the distribution of this species from Shivanasamudra Falls to Mekedatu on the Cauvery River of Karnataka side. Kumara and Singh (2006) also states, it is the only population of grizzled giant squirrel for Karnataka state and probably the northern most population of the species in its entire distribution range, which further indicates that the species existence on the Tamil Nadu side has not been known.

The grizzled giant is squirrel distributed in isolated populations with less than 500 mature individuals in India, unlike the large contiguous population in Sri Lanka. Its numbers are declining significantly due to habitat loss and hunting throughout much of its range (Joshua and Johnsingh 1992, Molur et al. 2005). The species is listed as near threatened in IUCN (2010), placed in Appendix II of CITES to regulate the international trade in this species, and under the schedule I (part I) of the Indian Wildlife Act (1972 & 1991). In India the grizzled giant squirrel population is found in the Anamalai landscape (c.150) individuals at Chinnar Wildlife Sanctuary, Kerala (Ramachandran 1993) and its adjoining habitats in Indira Gandhi Tiger Reserve, Tamil Nadu, (Kumar et al. 2007) (for which no population figure is available) numbering about 300 individuals (IUCN 2010). Further south, in the Perivar-Agasthyamalai landscape, a large population of around 200 individuals (in 1992 - Palraj et al. 1992 and Palraj and Kasinathan 1993) that increased from 115 individuals in 1988 (Joshua 1992), exists at Srivilliputhur Grizzled Giant Squirrel Sanctuary. In addition, a small population has been reported from Kankapura, Kollegal taluk in southern Karnataka (Kumara and Singh 2006), which is the northern most population. Their number in India has declined probably around 30% in the last 25 years (Molur et al. 2005).

Conservation action: The locations where the grizzled giant squirrels are found along the Cauvery River bank in Hosur FD do not have canopy contiguity. Appropriate management steps should be taken to establish canopy contiguity, control human disturbance and promote riverine species diversity. The grizzled giant squirrel population exists on the northern side of Cauvery River bank, in the Hosur Division, Tamil Nadu, but there is no habitat contiguity with the southern riverbank. Establishing some kind of artificial bridging between the canopies from either side of riverbank would not only enhance the availability of optimal habitat but also establish the movements of individuals between the small populations found on either side of the riverbank.

Distribution of Madras Tree shrew sightings records: The species is also known as southern Indian tree shrew, an endemic species to India. It was earlier placed under *Insectivora*, but based on a recent molecular study (Schmitz *et al.* 2000) classified under a new order *Scandentia*. The species was sighted on three occasions during the last one year and records of this species represent the first report of the sighting of this species in Hosur Forest Division. The species earlier known to exist in Wynad, Kerala (George 1989), Garhwa Forest, Bihar (Gupta 1996), Wardha River Basin, Maharashtira (Pradhan 1997), Bori Wildlife Sanctuary, Madhya Pradesh (Shrivastava 1995), Yercaud Hills, Tamil Nadu (1999, 2001) and very recently at BRT Wildlife Sanctuary, Karnataka (Srinivasan *et al.* 2009).

Table 1: List of mammalian fauna recorded in Hosur and Dharmapuri Forest Divisions, Tamil

Nadu between June 2009 and April 2010

S.	between June 2009 and Apri			IUCN	Range/s
No.	Common Name	Scientific Name	Order	status	found
1	Four-horned antelope•	Tetracerus quadricornis	Artiodactyla	VU	A & U
2	Indian gaur [•]	Bos gaurus	Artiodactyla	VU	A, D, J & U
3	Sambar	Cervus unicolor	Artiodactyla	VU	D & U
4	Spotted deer	Axis axis	Artiodactyla	LC	A, D, J, R & U
5	Wild boar	Sus scrofa	Artiodactyla	LC	A, D, J & U
6	Mouse deer	Moschiola meminna	Artiodactyla	LC	D
7	Barking deer	Muntiacus muntjak	Artiodactyla	LC	D
8	Jackal	Canis aureus	Carnivora	LC	A, D, J & U
9	Jungle cat	Felis chaus	Carnivora	LC	D
10	Leopard*	Panthera pardus	Carnivora	NT	A, D, R & U
11	Ruddy mongoose	Herpestes smithii	Carnivora	LC	U
12	Small Indian mongoose	Herpestes javanicus	Carnivora	LC	A
13	Stripe necked mongoose	Herpestes vitticollis	Carnivora	LC	A
14	Smooth-coated otter	Lutrogale perspicillata	Carnivora	VU	D&U
15	Sloth bear•	Melursus ursinus	Carnivora	VU	A, D & U
16	Common palm civet	Paradoxurus hermaphroditus	Carnivora	LC	D
17	Small Indian civet	Viverra civettina	Carnivora	LC	A, D & U
18	Wild dog	Cuon alpinus	Carnivora	EN	D
19	Indian flying fox	Pteropus giganteus	Chiroptera	LC	D
20	Indian pipistrelles	Pipistrellus coromandra	Chiroptera	LC	U
21	Black-naped hare	Lepus nigricollis	Logomorpha	LC	A, D, J, R & U
22	Indian pangolin•	Manis crassicaudata	Pholidota	LC	D
23	Bonnet macaque	Macaca radiata	Primates	LC	A, D, J, R & U
24	Common langur	Semnopithecus entellus	Primates	LC	A & U
25	Slender loris	Loris lyddekeriannus	Primates	LC	D & U
26	Asian elephant [•]	Elephas maximus	Proboscidea	EN	A, D, J, R & U
27	Indian porcupine	Hystrix indica	Rodentia	LC	D & U
28	House rat	Rattus rattus	Rodentia	LC	D
29	India gerbil	Tatera indica	Rodentia	LC	D
30	Lesser bandicoot	Bandicota bengalensis	Rodentia	LC	A, D, J & U
31	Little Indian field mouse	Mus booduga	Rodentia	LC	D
32	House shrews	Suncus murinus	Insectivora	LC	A, D, J & U
33	Madras tree shrew	Anathana elliotti	Scandentia	LC	D & U
34	Grizzled giant squirrels•	Ratufa macroura	Rodentia	NT	D & U
35	Three striped palm squirrel	Funambulus palmarum	Rodentia	LC	A, D, J & U

IUCN status: EN: Endangered, LC: Least Concerned, NT: Near Threatened, VU: Vulnerable. Forest Range/s found: A: Anchetty, D: Denkanikotta, J: Jawalagiri, R: Royakotta, U: Urigam. •: Schedule I Part I species of Indian Wildlife Act (1972)

Plate 1. Mammals of Hosur Forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(1) Asian elephant, (2) Four-horned antelope, (3) Spotted deer, (4) Grizzled giant squirrel (5) House rat, and (6) Indian gerbil.

Plate 1. (Continued) Mammals of Hosur Forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(7) Leopard, (8) Jungle cat, (9) Small Indian civet, (10) Jackal, (11) Smooth-coated otter, and (12) Wild boar.

Plate 1. (Continued) Mammals of Hosur Forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(7) Leopard indirect evidences (Pugmark and scat), (13) Sloth bear indirect evidences (footprint and scat), (11) Smooth-coated otter spraints and (14) Wild dog scat

Aim: The study was aimed at preparing a checklist of avifauna found in Hosur and Dharmapuri Forest Divisions to understand the avian diversity that the forest areas support.

Methods: Species inventory documentation of the avifauna was carried out using five different methods. (1) Rapid ground survey in different Forest Ranges of Hosur, (2) Systematic road and trail surveys in different forest types, (3) water body surveys of Hosur and Dharmapuri FDs, (4) Systematic Line transect sampling in 11 transects across Hosur FD, and (5) *Ad-hoc* sampling while on other field surveys for assessment of vegetation, mammal, herpetofauna and human–elephant conflict.

Period of study: The data for this part of the study was collected from July 2009 to April 2010, with a higher effort between November 2009 and February 2010.

Results: Overall, the vertebrate diversity is dominated by avifauna representing a total 182 species, including an endangered species (Egyptian vulture) and two near threatened species (Painted stork and Grey headed fishing eagle) belonging to 14 orders. These were recorded in and around the two forest divisions between July 2009 and April 2010 (Table 2 & 3). Of the 182 species, forest birds were the highest (n = 145 spp. or 81% of the total number of species) (Table 2), followed by wetland birds (n = 27 spp. or 15% of the total number of species) and five species each representing habitats of riverine and human settlement/cultivations (Table 3). Among the 14 orders of bird species recorded, Passeriformes accounted for nearly half the number of species (47%).

More importantly, from the viewpoint of avian conservation, the Hosur Forest Division has been a breeding site for a pair of Egyptian vultures (*Neophron percnopterus*), an endangered species whose global population (of 30,000–40,000 mature individuals) is declining (IUCN 2010) due to loss of wild ungulates, overgrazing by livestock (Mundy *et al.* 1992) and poisoning (Donazar *et al.* 2002). The species in India was driven to rapid decline by Diclofenac (Cuthbert *et al.* 2006), a veterinary drug now banned but still being illegally used as an anti-inflammatory agent in cattle, whose carcasses the species feed upon. Protecting the nesting sites such as low cliffs and rocky outcrops has been insisted upon as one of the necessary conservation actions by scientific and conservation agencies (IUCN 2010).

Table 2. Checklist of forest birds recorded in Hosur and Dharmapuri Forest Divisions

S. No.	Common Name	Scientific Name	Order	IUCN status	Range/s found
1	Crested Tree Swift	Hemiprocne longipennis	Apodiformes	LC	A, J & U
2	House Swift	Apus affinis	Apodiformes	LC	D & J
3	Palm Swift	Cypsiurus parvus	Apodiformes	LC	A, D, H, J & U
4	Common Grey Hornbill	Tockus birostris	Bucerotiforms	NR	A & U
5	Emerald Dove	Chalcophaps indica	Columbiformes	LC	A, D & U
6	Green Imperial Pigeon	Ducula aenea	Columbiformes	LC	D & U
7	Grey fronted Green Pigeon	Treron pompaddora	Columbiformes	NR	D
8	Little Brown Dove	Streptopelia senegalensis	Columbiformes	LC	Н
9	Ring Dove	Streptopelia decaocto	Columbiformes	LC	J
10	Rufous Turtle Dove	Streptopelia orientalis	Columbiformes	LC	A, D & J
11	Spotted Dove	Streptopelia chinensis	Columbiformes	LC	A, D, H, J & U
12	Blue Breasted Bee-Eater	Nyctyornis athertoni	Coraciformes	LC	D
13	Blue Jay	Coracias benghalensis	Coraciformes	LC	A, D, H, J & U
14	Chestnut headed Bee Eater	Merops leschenaulti	Coraciformes	LC	A, D & U
15	European Bee Eater	Merops apister	Coraciformes	NR	U
16	Small Green Bee Eater	Merops orientalis	Coraciformes	LC	A, D, H & J
17	Common Hawk Cuckoo	Cuculus varius	Cuculiformes	LC	A, D & U
18	Crow Pheasant	Centropus sinensis	Cuculiformes	LC	A, D, H, J & U
19	Cuckoo	Cuculus canorus	Cuculiformes	LC	A & D
20	Indian Drongo Cuckoo	Surniculus lugubris	Cuculiformes	LC	A, D & J
21	Koel	Eudynamys scolopacea	Cuculiformes	LC	D, H, J & U
22	Lesser Coucal	Centropus toulou	Cuculiformes	LC	D & J
23	Pied Crested Cuckoo	Clamator jacobinus	Cuculiformes	LC	D & J
24	Red winged Crested Cuckoo	Clamator coromandus	Cuculiformes	LC	A & D
25	Sirkeer Cuckoo	Taccocua leschenaultii	Cuculiformes	NR	A, D, H & U
26	Small Green-billed Malkoha	Rhopodytes tristis	Cuculiformes	NR	D & J
27	Basra Sparrow Hawk	Accipiter virgatus	Falconiformes	LC	D, J & U
28	Black Eagle	Ictinaetus malayensis	Falconiformes	LC	D & U
29	Black Kite	Milvus migrans	Falconiformes	LC	A, D, H, J & U
30	Black Winged Kite	Elanus caeruleus	Falconiformes	LC	A, D, J & U
31	Brahminy Kite	Haliastur indicus	Falconiformes	LC	A, D, H, J & U
32	Crested Hawk Eagle	Spizaetus cirrhatus	Falconiformes	NR	A, D & J
33	Crested Serpent Eagle	Spilornis cheela	Falconiformes	NR	A, D & U
34	Feather Toed Hawk Eagle	Spizaetus nipalensis	Falconiformes	LC	A, D & J
35	Kestrel	Falco tinnunculus	Falconiformes	LC	D & J

IUCN status: EN: Endangered, LC: Least Concerned, NT: Near Threatened, VU: Vulnerable,

NR: Not Recognized.

Forest Range/s found: A: Anchetty, D: Denkanikotta, J: Jawalagiri, R: Royakotta, U: Urigam.

Table 2 continued ...

Table 2. (Continued) Checklist of forest birds recorded in Hosur and Dharmapuri Forest Divisions

S. No.	Common Name	Scientific Name	Order	IUCN status	Range/s found
36	Marsh harrier	Circus aeruginosus	Falconiformes	LC	A, D & U
37	Shikra	Accipiter bandius	Falconiformes	LC	A, D, H, J & U
38	Short toed eagle	Circaetus gallicus	Falconiformes	LC	A, D & J
39	Tawny eagle	Aquila vindhiana	Falconiformes	LC	D
40	Egyptian vulture	Neophron percnopterus	Falconiformes	EN	J
41	Common peafowl	Pavo cristatus	Galliformes	LC	D & U
42	Grey jungle fowl	Gallus sonneratii	Galliformes	LC	A, D, J & U
43	Grey partridge	Francolinus pondicerianus	Galliformes	LC	A, D, J & U
44	Jungle bush quail	Perdicula asiatica	Galliformes	LC	D & J
45	Painted bush quail	Perdicula erythrorhyncha	Galliformes	LC	D & J
46	Painted sand grouse	Pterocles indicus	Galliformes	LC	D & J
47	Red spur fowl	Gallopperdix spadicea	Galliformes	NR	D & J
48	Ashy prinia	Prinia socialis	Passeriformes	LC	A, D, H, J & U
49	Ashy swallow shrike	Artamus fuscus	Passeriformes	LC	A, D & U
50	Asian brown flycatcher	Muscicapa dauurica	Passeriformes	LC	A, D & U
51	Bay backed shrike	Lanius vittatus	Passeriformes	LC	A & U
52	Baya weaver bird	Ploceus philippinus	Passeriformes	LC	A & U
53	Black drongo	Dicrurus adsimilis	Passeriformes	NR	A, D, H, J & U
54	Black headed cuckoo shrike	Coracina melanoptera	Passeriformes	LC	A & J
55	Black headed oriole	Oriolus xanthornus	Passeriformes	LC	A, D, J & U
56	Black napped oriole	Oriolus chinensis	Passeriformes	LC	A & U
57	Booted warbler	Hippolais caligata	Passeriformes	LC	D & H
58	Brahminy myna	Sturnus pagodarum	Passeriformes	LC	D & U
59	Bronze drongo	Dicrurus aeneus	Passeriformes	LC	D
60	Brown flycatcher	Muscicapa latirostris	Passeriformes	LC	D
61	Brown rock chat	Cercomela fusca	Passeriformes	LC	D
62	Brown shrike	Lanius cristatus	Passeriformes	LC	A & J
63	Chestnut bellied nuthatch	Sitta castanea	Passeriformes	LC	D
64	Common babbler	Turdoides caudatus	Passeriformes	LC	A, D, H, J & U
65	Common Iora	Aegithina tiphia	Passeriformes	LC	A, D, H, J & U
66	Common myna	Acridotheres tristis	Passeriformes	LC	A, D, H, J & U
67	Dulgreen leaf warbler	Phylloscopus trodhiloides	Passeriformes	NR	A, D, J & U
68	Fairy bluebird	Irena puella	Passeriformes	LC	D
69	Forest wagtail	Motacilla indica	Passeriformes	LC	A, D, J & U
70	Golden fronted chloropsis	Chloropsis aurifrons	Passeriformes	NR	A, D, J & U

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Forest Range/s found: A: Anchetty, D: Denkanikotta, J: Jawalagiri, R: Royakotta, U: Urigam.

Table 2 continued ...

Table 2. (Continued) Checklist of forest birds recorded in Hosur and Dharmapuri Forest Divisions

S. No.	Common Name	Scientific Name	Order	IUCN status	Range/s found
71	Golden mantled chloropsis	Chloropsis cochinchinensis	Passeriformes	NR	A, D, J & U
72	Golden oriole	Oriolus oriolus	Passeriformes	LC	A, D, J & U
73	Grey heated myna	Sturnus malabaricus	Passeriformes	LC	D
74	Grey tit	Parus major	Passeriformes	LC	D
75	Grey wagtail	Motacilla cinerea	Passeriformes	LC	D
76	Hair crested drongo	Dicrurus hottentottus	Passeriformes	LC	D
77	Indian pitta	Pitta brachyura	Passeriformes	LC	D, J & U
78	Indian robin	Saxicoloides fulicata	Passeriformes	LC	A, D, H, J & U
79	Jungle babbler	Turdoides striatus	Passeriformes	LC	A, D, H, J & U
80	Jungle myna	Acridotheres fuscus	Passeriformes	LC	D & J
81	Jungle prinia	Prinia sylvatica	Passeriformes	LC	D & J
82	Large cuckoo shrike	Coracina novaehollandiae	Passeriformes	LC	D&J
83	Large grey babbler	Turdoides malcolmi	Passeriformes	LC	Н
84	Large pied wagtail	Motacilla maderaspatensis	Passeriformes	LC	D, H, J & U
85	Lesser whitethroat	Sylvia curruca	Passeriformes	LC	D
86	Long tailed minivet	Pericrocotus ethologus	Passeriformes	LC	D
87	Lotens sunbird	Nectarinia lotenia	Passeriformes	LC	D & J
88	Magpie robin	Copsychus saularis	Passeriformes	LC	A, D, H, J & U
89	Marshall's iora	Aegithina nigrolutea	Passeriformes	LC	D
90	Orange headed ground thrush	Zoothera citrina	Passeriformes	LC	D
91	Orphan warbler	Sylvia hortensis	Passeriformes	LC	D
92	Paddy field pipit	Anthus novaeseelandiae	Passeriformes	LC	D & J
93	Paddy field warbler	Acrocephalus agricola	Passeriformes	NR	D & J
94	Paradise flycatcher	Terpsiphone paradisi	Passeriformes	LC	A, D, H, J & U
95	Pied bush chat	Saxicola caprata	Passeriformes	LC	A, D, H, J & U
96	Plain prinia	Prinia inornata	Passeriformes	LC	D, H, J & U
97	Plain wren warbler	Prinia subflava	Passeriformes	LC	D, H, J & U
98	Purple rumped sunbird	Nectarinia zeylonica	Passeriformes	LC	A, D, H, J & U
99	Purple sunbird	Nectarinia asiatica	Passeriformes	LC	A, D, H, J & U
100	Racket tailed drongo	Dicrurus paradiseus	Passeriformes	LC	D & J
101	Red rumped swallow	Hirundo daurica	Passeriformes	NR	A, D, J & U
102	Red vented bulbul	Pycnonotus cafer	Passeriformes	LC	A, D, H, J & U
103	Red whiskered bulbul	Pycnonotus jocosus	Passeriformes	LC	A, D, H, J & U
104	Rosefich	Carpodacus erythrinus	Passeriformes	LC	J
105	Rosy pastor	Sturnus roseus	Passeriformes	LC	D & H
106	Rufous breasted bush robin	Tarsiger hyperythrus	Passeriformes	LC	D
107	Rufous tailed rock thrush	Monticola saxatilis	Passeriformes	LC	D

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Forest Range/s found: A: Anchetty, D: Denkanikotta, J: Jawalagiri, R: Royakotta, U: Urigam.

Table 2 continued ...

Table 2. (Continued) Checklist of forest birds recorded in Hosur and Dharmapuri Forest Divisions

S. No.	Common Name	Scientific Name	Order	IUCN status	Range/s found
108	Rufous-backed shrike	Lanius schach	Passeriformes	LC	A, D & U
109	Rufous-bellied babbler	Dumetia hyperythra	Passeriformes	LC	D, J & H
110	Rufous-fronted wren warbler	Prinia buchanani	Passeriformes	LC	D, J & H
111	Scarlet minivet	Pericrocotus flammeus	Passeriformes	LC	D
112	Small minivet	Pericrocotus cinnamomeus	Passeriformes	LC	A, D & J
113	Small sunbird	Nectarinia minima	Passeriformes	LC	A, D, H, J & U
114	Spotted babbler	Pellorneum ruficeps	Passeriformes	LC	H & J
115	Spotted munia	Lonchura punctulata	Passeriformes	LC	J
116	Streaked wren warbler	Prinia gracilis	Passeriformes	LC	D & J
117	Tailor bird	Orthotomus sutorius	Passeriformes	LC	A, D, H, J & U
118	Thick billed flowerpecker	Dicaeum agile	Passeriformes	LC	J
119	Tickell's flowerpecker	Dicaeum erythrorhynchos	Passeriformes	LC	J
120	Tree pie	Dendrocitta vagabunda	Passeriformes	LC	A, D, H, J & U
121	Velvet fronted nuthatch	Sitta frontalis	Passeriformes	LC	D
122	Verditer flycatcher	Muscicapa thalassina	Passeriformes	LC	J
123	White bellied drongo	Dicrurus caerulescenns	Passeriformes	NR	A, D, H, J & U
124	White eye	Zosterops palpebrosa	Passeriformes	VU	J
125	White browed bulbul	Pycnonotus luteolus	Passeriformes	LC	A, D, H, J & U
126	White winged black tit	Parus nuchalis	Passeriformes	VU	D
127	Yellow wagtail	Motacilla flava	Passeriformes	LC	D
128	Black backed woodpecker	Chrysocolaptes festivus	Piciformes	LC	D
129	Crimson breasted barbet	Megalaima haemacephala	Piciformes	LC	A, D, H, J & U
130	Golden backed woodpecker	Dinopiumbeng benghalense	Piciformes	NR	A, D, J & U
131	Great black woodpecker	Dryocopus javensis	Piciformes	LC	D
132	Large green barbet	Megalaima zeylanica	Piciformes	LC	D & U
133	Pigmy woodpecker	Picoides nanus	Piciformes	LC	D & U
134	Small green barbet	Megalaima viridis	Piciformes	LC	A, D, H, J & U
135	Blossom headed parakeet	Psittcula cyanocephala	Psittaciformes	NR	D & J
136	Blue winged parakeet	Psittacula columboides	Psittaciformes	LC	A, D & J
137	Lorikeet	Loriculus vernalis	Psittaciformes	LC	D
138	Rose ringed parakeet	Psittacula krameri	Psittaciformes	LC	A, D, H, J & U
139	Shama	Copsychus malabaricus	Psittaciformes	NR	D
140	Brown fish owl	Bubo zeylonensis	Strigiformes	LC	A, D & U
141	Indian great horned owl	Bubo bubo	Strigiformes	LC	D
142	Jungle nightjar	Caprimulgus indicus	Strigiformes	LC	A, D, H, J & U
143	Mottled wood owl	Strix leptogrammica	Strigiformes	LC	D
144	Spotted owlet	Athene brama	Strigiformes	LC	A, D, H, J & U
145	Ноорое	Upupa epops	Upupiformes	NR	A, D, H, J & U

IUCN status: EN: Endangered, LC: Least Concerned, NT: Near Threatened, VU: Vulnerable,

NR: Not Recognized.

Table 3. Checklist of avifauna found in wetlands, riverine environment and in human-settlements

in and around Hosur and Dharmapuri Forest Divisions

S. No.	Common Name	Scientific Name	Order	IUCN status	Range/s found
Wetlan	d birds				
1	Lesser whistling teal	Dendrocygna javanica	Anseriformes	LC	D & J
2	Pintail duck	Anas acuta	Anseriformes	LC	D&J
3	Spotbill duck	Anas crecca	Anseriformes	LC	D & H
4	Marsh sandpiper	Tringa stagnatilis	Charadriiformes	LC	D&J
5	Red wattled lapwing	Vanellus indicus	Charadriiformes	LC	A, D, J & U
6	Black winged stilt	Himantopus himantopus	Charadriiformes	LC	H & J
7	Little ringed plover	Charadrius dubius	Charadriiformes	LC	A & U
8	Black ibis	Pseudibis papillosa	Ciconiformes	LC	D & H
9	Black stock	Ciconia nigra	Ciconiformes	LC	A & U
10	Cattle egret	Bubulcus ibis	Ciconiformes	LC	A, D, H, J & U
11	Darter	Anhinga rufa	Ciconiformes	LC	A & U
12	Grey heron	Ardea cinerea	Ciconiformes	LC	D, H & U
13	Large cormorant	Phalacrocorax carbo	Ciconiformes	LC	A & U
14	Little cormorant	Phalacrocorax niger	Ciconiformes	LC	A, D, J & U
15	Little egret	Egretta garzetta	Ciconiformes	LC	A, D, J & U
16	Median egret	Egretta intermedia	Ciconiformes	LC	A, D, H, J & U
17	Painted stork	Mycteria leucocephala	Ciconiformes	NT	Н
18	Pond heron	Ardeola bacchus	Ciconiformes	LC	D, H, J & U
19	Purple heron	Ardea purpurea	Ciconiformes	LC	D & J
20	White necked stock	Ciconia episcopus	Ciconiformes	LC	A & U
21	Pied kingfisher	Ceryle rudis	Coraciformes	LC	A, D, J & U
22	Small blue kingfisher	Alcedo atthis	Coraciformes	LC	D, H, J & U
23	White breasted kingfisher	Halcyon coromanda	Coraciformes	LC	A, D, H, J & U
24	White breasted waterhen	Amaurornis phoenicurus	Galliformes	LC	A, D, H, J & U
25	Common coot	Anas crecca	Gruiformes	LC	D, H & J
26	Purple moorhen	Porphyrio porphyrio	Gruiformes	LC	D & J
27	White wagtail	Motacilla alba	Passeriformes	NR	A & U
Riverir	<u>ne birds</u>				
28	River tern	Sterna aurantia	Charadriiformes	LC	A & U
29	Brown headed stork-billed kingfisher	Pelargopsis capensis	Coraciformes	LC	A & U
30	Grey headed fish eagle	Ichthyophaga ichthyaetus	Falconiformes	NT	A & U
31	Indian blue robin	luscinia brunnea	Passeriformes	LC	A & U
	White browed fantail				
32	flycatcher	Rhipidura aureola	Passeriformes	LC	A & D
	f human-settlements	T	1	ı	ı
33	Blue rock pigeon	Columba livia	Columbiformes	LC	D & H
34	House crow	Corvus splendens	Passeriformes	LC	A, D, H, J & U
35	House sparrow	Passer domesticus	Passeriformes	LC	A, D, H, J & U
36	Jungle crow	Corvus macrorhynchos	Passeriformes	LC	A, D, H, J & U
37	Scops owl	Otus scops	Strigiformes	NR	D

IUCN status: EN: Endangered, LC: Least Concerned, NT: Near Threatened, VU: Vulnerable,

NR: Not Recognized.

Plate 2. Birds of Hosur Forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(1) Egyptian vulture, (2), Grey-headed fishing eagle, (3) Tawny eagle, (4) Crested serpent eagle, (5) Mottled wood owl, and (6) Indian great-horned owl.

Plate 2. (Continued) Birds of Hosur Forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(7) White eye, (8) Brown shrike, (9) Ashy prinia, (10) Asian brown fly-catcher, (11) Tailor bird, and (12) Tickell's flowerpecker

Plate 2. (Continued) Birds of Hosur Forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(13) Painted stork, (14) Grey heron, (15) Marsh sandpiper, (16) Spotbill duck, (17) Black winged stilt, and (18) Red wattled lapwing.

IV. Class: Reptiles, Amphibians and Fishes

Aim: Survey and document the herpetofauna found in the Hosur and Dharmapuri Forest Divisions.

Methods: To document the reptiles of the study area we used two methods viz. (1) Visual encounter method through systematic rapid surveys at selected sites representing different habitats and (2) *Ad-hoc* encounter method during the course of other vertebrate faunal field surveys across the study area (Hosur and Dharmapuri FDs).

Results:

Reptiles: Overall, 34 species of reptilian fauna belonging to two taxonomic orders (Crocodylia (with one representative Crocodylus palustris) and Sqamata) and 14 families were identified from the area surveyed (Table 4). Family Gekkonidae represented the largest number of species (n = 8) belonging to four genera followed by Agamidae (5spp.) with two genera. It is worth mentioning that two species belonging to family Uropeltidae of primitive burrowing snakes (Green keel back and Elliott's shied-tail) have also been identified from the area. Some cryptic and complex species remain taxonomically unresolved, but are also listed here with their most conforming nomina. Except marsh crocodile (listed as vulnerable), data on the remaining species of reptiles are very scanty and hence not recognized by IUCN (2010). The study has not come across any representatives from the taxonomic order testudines (the terrapins and tortoises), which may be due to poor attention.

Amphibians: The class amphibia was the least represented taxonomic forms in the study area with eight species of frogs belonging to three families–Mycrohylidae (3 genera and 4 spp.), Rhacophoridae (1 sp.) and Dicroglossidea (3 genera and species each)—and two species of toads belonging to family Bufonidae (Table 5). All the species are listed as Least Concerned in IUCN (2010). The study may have overlooked some of the common species of frogs and hence the species listed here could be an underestimation.

Fishes: In total, the class fishes representing 18 species belonging to six families were identified from the perennial river Cauvery and Panjapalli Reservoir. Of these, Deccan Mahseer (*Tor khudree*) is an endangered species and common carp (*Cyprinus carpio*) a vulnerable species as per the IUCN Red List (2010).

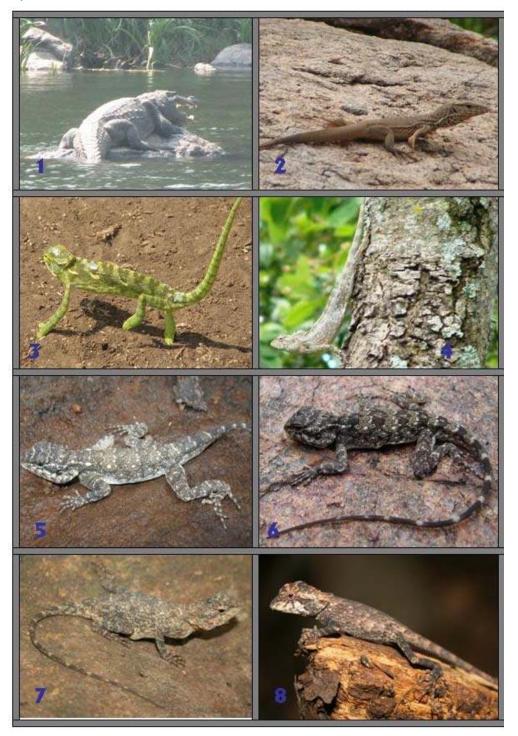
Table 4. List of reptilian fauna recorded from Hosur and in Hosur and Dharmapuri Forest Divisions between July 2009 and April 2010

S. No.	Common Name	Scientific Name	Family	IUCN status	Range/s found
1	Marsh crocodile	Crocodylus palustris	Crocodylidae	VU	A & U
2	House gecko	Hemidactylus frenatus complex	Gekkonidae	NR	A, D & J
3	Mysore day gecko	Cnemaspis cf. mysorensis	Gekkonidae	NR	D & J
4	Brook's gecko	Hemidactylus brookii complex	Gekkonidae	NR	A
5	Termite hill gecko	Hemidactylus triedrus	Gekkonidae	NR	D
6	Spotted rock gecko	Hemidactylus maculatus	Gekkonidae	NR	D & J
7	Western Ghats worm gecko	Hemiphyllodactylus aurantiacus	Gekkonidae	NR	D
8	Kollegal ground gecko	Geckoella collegalensis	Gekkonidae	NR	D
9	Unidentified day gecko	Cnemaspsi sp	Gekkonidae	NR	A & D
10	Peninsular rock agama	Psammophilus dorsalis	Agamidae	NR	A, D & J
11	Indian rock agama	Psammophilus blanfordanus	Agamidae	NR	D & J
12	Unidentified rock agama	Psammophilus sp	Agamidae	NR	D
13	Garden lizard	Calotes versicular	Agamidae	NR	A, D, J & U
14	Leschenault's lacertid lizard	Ophisops leschenaultii	Lacertidae	NR	A & J
15	Monitor lizard	Varanus varanus	Varanidae	NR	A & U
16	Roux's forest lizard	Calotes rouxii	Agamidae	NR	D
17	Chameleon	Chamealeon chamealeon	Chamaeleonidae	NR	D, J & U
18	Bronze grass skink	Eutropis macularia	Scincidae	NR	D
19	Bibron's skink	Eutropis bibroni	Scincidae	NR	A
20	Spotted snake skink	Lygosoma punctata	Scincidae	NR	A & D
21	Undetermined skink	Lygosoma sp	Scincidae	NR	J
22	Spectacled cobra	Naja naja	Elepidae	DD	A, D, J & U
23	Indian python	Python molurus	Pythonidae	NT	D & H
24	Common krait	Bungarus caeruleus	Elepidae	NR	D & H
25	Russell's viper	Dabaia russelli	Viperidae	NR	D & J
26	Yellow rat snake	Obsoleta quadrivittata	Colubridae	NR	A & U
27	Wolf snake	Lycodon capucinus	Colubridae	NR	D & H
28	Common keel back	Xenochrophis flavipunctata	Colubridae	NR	A & U
29	Green keel back	Macropisthodon plumbicolor	Uropeltidae	NR	D&J
30	Common blind snake	Ramphotyphlops braminus	Typhlopidae	NR	D & J
31	Common sand boa	Gongylophis conicus	Boidae	NR	J
32	Elliott's shied-tail snake	Uropeltis ellioti	Uropeltidae	NR	D

IUCN status: EN: Endangered, LC: Least Concerned, NT: Near Threatened, VU: Vulnerable,

NR: Not Recognized.

Plate 3. Reptiles of Hosur Forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(1) Marsh Crocodile, (2) Monitor lizard, (3) Chameleon, (4) Garden lizard, (5) Indian rock agama, (6) Peninsular rock agama, (7) Unidentified rock agama, and (8) Roux's forest lizard.

Plate 3. (Continued) Reptiles of Hosur Forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



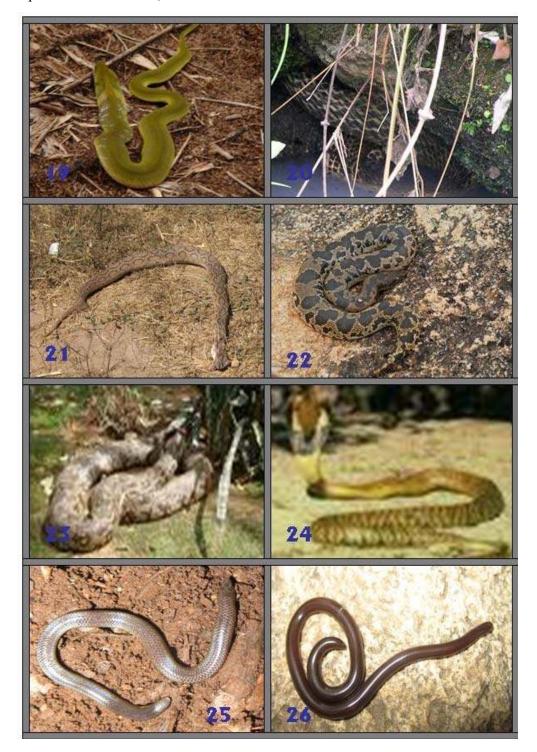
(9) Bibron's skink, (10) Spotted snake skink, (11) Unidentified skink, and (12) *Leschenault's* lacertid lizard.

Plate 3. (Continued) Reptiles of Hosur Forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(13) Mysore day gecko, (14) House gecko, (15) Termite hill gecko, (16) Spotted rock gecko, (17) Western Ghats worm gecko, and (18) Kollegal ground gecko

Plate 3. (Continued) Reptiles of Hosur Forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(19) Green keel back, (20) Common keel back, (21) Russell's viper, (22) Common sand boa, (23) Indian python, (24) Spectacled cobra, (25) Elliott's shield-tail snake and (26) Common blind snake

Table 5. List of amphibians recorded from Hosur and in Hosur and Dharmapuri Forest Divisions

between July 2009 and April 2010 (note: all the species belong to the order anura)

S. No.	Common Name	Scientific Name	Family	IUCN status	Range/s found
1	Common toad	Duttaphrynus melanostictus	Bufonidae	LC	A & J
2	Günther's toad	Duttaphrynus hololius	Bufonidae	LC	J
3	Painted frog	Kaloula taprobanica	Microhylidae	LC	J
4	Red small-mouthed frog	Microhyla rubra	Microhylidae	LC	J
5	Ornate small-mouthed frog	Microhyla ornata	Microhylidae	LC	J
6	Marbled small-mouthed frog	Ramanella variegata	Microhylidae	LC	J
7	Common tree frog	Polypedates maculatus	Rhacophoridae	LC	J
8	Cricket frog	Fejervarya limnocharis complex	Dicroglossidae	LC	J
9	Skittering frog	Euphlyctis cyanophlyctis	Dicroglossidae	LC	A & J
10	Indian bull frog	Hoplobatrachus tigerinus	Dicroglossidae	LC	A

IUCN status: EN: Endangered, LC: Least Concerned, NT: Near Threatened, VU: Vulnerable,

NR: Not Recognized.

Forest Range/s found: A: Anchetty, D: Denkanikotta, J: Jawalagiri, R: Royakotta, U: Urigam.

Table 6. List of fishes recorded from Hosur and in Hosur and Dharmapuri Forest Divisions

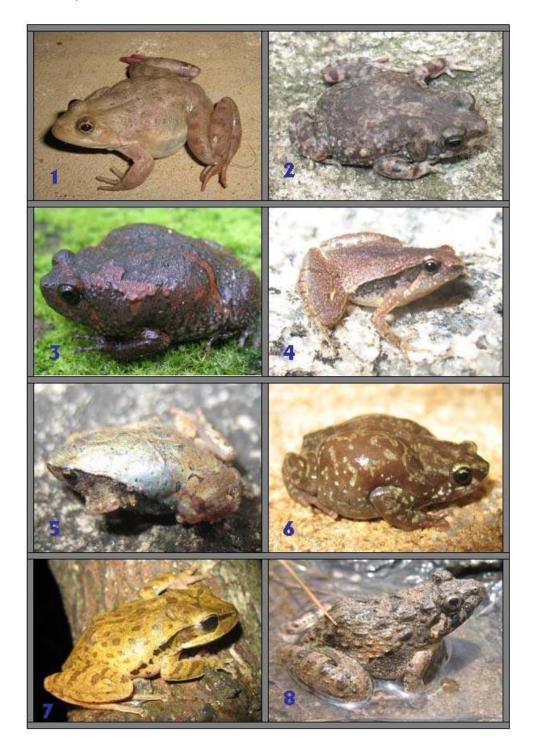
between July 2009 and April 2010

S. No.	Common Name	Scientific Name	Order	IUCN status	Range/s found
1	Marsh eel	Anguilla bengalensis	Anguilliforme	NR	A & U
2	Mirgal	Cirrihirus mrigala	Cypriniformes	NR	A & U
3	Orange-fin labeo	Labeo callbasu	Cypriniformes	NR	A & U
4	Common carp	Cyprinus carpio	Cypriniformes	VU	A & U
5	Clown goby	Sicyopterus griseus	Cypriniformes	NR	A & U
6	Deccan mahseer	Tor khudree	Cypriniformes	EN	A & U
7	Olive barb	Puntius sarana	Cypriniformes	NR	A & U
8	Rosy barb	Puntius conchonius	Cypriniformes	NR	A & U
9	Gross carp	Ctenopharyngodon idella	Cypriniformes	NR	A & U
10	Catla	Cyprinus catla	Cypriniformes	NR	A & U
11	Rohu	Labeo rohita	Cypriniformes	NR	A & U
12	Wild goldfish	Carassius auratus	Cypriniformes	NR	A & U
13	Common knife fish	Notopterus notopterus	Ostteoglossiformes	NR	A & U
14	Snakehead fish	Chinna argus	Persiformes	NR	A & U
15	Thilipya	Oreochromis niloticus	Persiformes	NR	A & U
17	Orange chromide	Etroplus maculatus	Persiformes	NR	A & U
18	Catfish	mystus nigriceps	Siluriformes	NR	A & U

IUCN status: EN: Endangered, LC: Least Concerned, NT: Near Threatened, VU: Vulnerable,

NR: Not Recognized.

Plate 4. Amphibians of Hosur Forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(1) Skittering frog, (2) Gunther's toad, (3) Painted frog, (4) Red small mouthed frog, (5) Ornate small-mouthed frog, (6) Marbled small-mouthed frog, (7) Common tree frog and (8) Cricket frog.

Plate 5. Fishes of Hosur forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(1) Orange-fin labeo, (2) Clown goby, (3) Deccan mahseer, (4) Common knife fish, (5) Wild goldfish, and (6) Common carp

Plate 5. (Continued) Fishes of Hosur forest Division and its adjoining habitat of Dharmapuri Forest Division, Tamil Nadu



(7) Rosy barb, (8) Orange chromide, (9) Mirgal, (10) Olive barb, (11) Rohu and (12) Snakehead fish

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