

Avifauna of Kambalakonda Wildlife Sanctuary, Visakhapatnam, Andhra Pradesh, India

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Introduction

In this note we present preliminary baseline data of the avifauna of Kambalakonda Wildlife Sanctuary (KWS), Visakhapatnam district, Andhra Pradesh. No earlier study on the wildlife of the region has been done; except for a field report (Shekhar 2004) submitted to the Andhra Pradesh forest department on the carrying capacity of the park for leopard *Panthera pardus*. That report also described the phyto-geographical aspects of the sanctuary.

The present survey has been carried out in KWS in two seasons between November 2007 and June 2008 to assess the avifauna of the park. The study is also aimed to evaluate the anthropogenic threats associated with the ecological degradation of the sanctuary, and suggest conservation strategies for preservation of avifauna and other wildlife in one of the last remaining protected urban wilderness areas of the region.



Fig. 1. A view of the Kambalakonda Wildlife Sanctuary with dense deciduous and semi-evergreen forest.



Fig. 2. Degala Gedda is a natural freshwater reservoir located at the foothills and is an important source of water for all wildlife of the sanctuary.

Study area

KWS (17°47'–17°50'N 83°04'–83°20'E) is c. 20 km (by road) north-east of Visakhapatnam city, along NH 5. It is a cluster of west-east running Eastern Ghats hills covering an area of 75 km² along with an unprotected wilderness buffer zone of 80 km² on its western side. Its topography is a steep and undulating terrain of rolling hills, thickly vegetated gorges and valleys with an average altitude of 200–300 m (Fig. 1).

KWS supports three broad categories of vegetation—tropical semi-evergreen, tropical moist-deciduous and tropical dry-deciduous. The dominant species being *Acacia auriculiformis*, *A. nilotica*, *Albizia procera*, *Tectona grandis*, *Tamarindus indicus*, *Terminalia catappa*, *T. tomentosa*, *Syzygium cumini*, *Borassus flabellifer*, *Azadirachta indica*, *Mangifera indica*, *Anacardium occidentale*, *Bauhinia vahlii*, *Dendrocalamus strictus*, *Phoenix sylvestris*, *Ziziphus oenopli*.

The sanctuary is located in a belt of tropical monsoon climate with two distinct rainy seasons that start in late June and end in mid-October. The area is humid with an average rainfall of 900–1600 mm. Temperatures oscillate between 12°C–40°C. About 20 villages are located less than 500 m from the sanctuary.

A number of seasonal streams and small nullahs within the sanctuary eventually merge into the Degala Gedda reservoir, which attracts wading and predatory birds, and is also the major source for water for all other wildlife (Fig. 2).

Materials & methods

Observations on the avifauna were made during November–February 2007 and March–June 2008. All accessible zones of the sanctuary including the surrounding areas were thoroughly surveyed. Most observations were carried out twice a week between 0600 hrs and 0900 hrs and between 1600 hrs and 1800 hrs.

Standard field guides (Ali & Ripley 1983; Ali 1996; Grimmett *et al.* 1999) were used for identification. The nomenclature follows Manakadan & Pittie (2001).

Students of Andhra University and local youth of kambalakonda village assisted in the fieldwork.

Results & discussion

We recorded a total of 112 species. Among these, 81 are residents, 29 are local migrants and two migrants

KWS is a dynamic habitat supporting a good prey base of small mammals and reptiles for raptors. Natural blanks [empty

spaces] with open grassy patches are ideal for many herbivore mammal species. Even though it is a protected sanctuary, anthropogenic pressure on it is very high due to the surrounding villages and the busy NH 5.

Although, there have been no threats to the bird life at present, the construction activities for eco-tourism development and utilization of forest resources of the sanctuary (collection of minor forest produce) by the surrounding villagers may prove detrimental to the resident bird fauna as they have serious repercussions on the ecological resources of the sanctuary over a period of time.

Suggested conservation measures

Metallic roads are being laid inside KWS for eco-tourism development. Instead of this it would be better to utilise the existing trekking footpaths for nature trails.

Aforestation is recommended on degraded patches on hilly slopes, with appropriate native flora, so as to attract the insectivorous and frugivorous bird fauna.

Illegal felling of trees for firewood, in the buffer zones, and collection of minor forest produce from the core areas of KWS by the surrounding villagers should be checked.

The park is becoming a major tourist attraction with increasing influx of tourists. Development of some areas of

the KWS for tourism should be taken up only after environmental impact studies.

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Osprey *Pandion haliaetus*

Dhritiman Mukherjee

Table 1. Preliminary checklist of the birds of Kambalakonda Wildlife Sanctuary, 2007–2008

Little Grebe <i>Tachybaptus ruficollis</i>	Collared Scops-Owl <i>Otus bakkamoena</i>
Little Cormorant <i>Phalacrocorax niger</i>	Eurasian Eagle-Owl <i>Bubo bubo</i>
Great Cormorant <i>P. carbo</i>	Spotted Owlet <i>Athene brama</i>
Darter <i>Anhinga melanogaster</i>	Common Indian Nightjar <i>Caprimulgus asiaticus</i>
Little Egret <i>Egretta garzetta</i>	Asian Palm-Swift <i>Cypsiurus balasiensis</i>
Grey Heron <i>Ardea cinerea</i>	House Swift <i>Apus affinis</i>
Large Egret <i>Casmerodius albus</i>	Small Blue Kingfisher <i>Alcedo atthis</i>
Cattle Egret <i>Bubulcus ibis</i>	Stork-billed Kingfisher <i>Halcyon capensis</i>
Indian Pond-Heron <i>Ardeola grayii</i>	White-breasted Kingfisher <i>H. smyrnensis</i>
Black-crowned Night-Heron <i>Nycticorax nycticorax</i>	Lesser Pied Kingfisher <i>Ceryle rudis</i>
Painted Stork <i>Mycteria leucocephala</i>	Small Bee-eater <i>Merops orientalis</i>
Asian Openbill-Stork <i>Anastomus oscitans</i>	Blue-tailed Bee-eater <i>M. philippinus</i>
Common Teal <i>Anas crecca</i>	Indian Roller <i>Coracias benghalensis</i>
Oriental Honey-Buzzard <i>Pernis ptilorhynchus</i>	Common Hoopoe <i>Upupa epops</i>
Black shouldered Kite <i>Elanus caeruleus</i>	Brown-headed Barbet <i>Megalaima zeylanica</i>
Black Kite <i>Milvus migrans</i>	Coppersmith Barbet <i>M. haemacephala</i>
Brahminy Kite <i>Haliastur indus</i>	Lesser Golden-backed Woodpecker <i>Dinopium benghalense</i>
White-bellied Sea-Eagle <i>Haliaeetus leucogaster</i>	Eastern Skylark <i>Alauda gulgula</i>
Egyptian Vulture <i>Neophron percnopterus</i>	Common Swallow <i>Hirundo rustica</i>
Short-toed Snake-Eagle <i>Circaetus gallicus</i>	Red-rumped Swallow <i>H. daurica</i>
Crested Serpent-Eagle <i>Spilornis cheela</i>	White Wagtail <i>Motacilla alba</i>
Pallid Harrier <i>Circus macrourus</i>	Yellow Wagtail <i>M. flava</i>
Shikra <i>Accipiter badius</i>	Large Cuckoo-Shrike <i>Coracina macei</i>
Eurasian Sparrowhawk <i>Accipiter nisus</i>	Small Minivet <i>Pericrocotus cinnamomeus</i>
White-eyed Buzzard <i>Butastur teesa</i>	Common Woodshrike <i>Tephrodornis pondicerianus</i>
Bonelli's Eagle <i>Hieraaetus fasciatus</i>	Red-whiskered Bulbul <i>Pycnonotus jocosus</i>
Osprey <i>Pandion haliaetus</i>	Red-vented Bulbul <i>P. cafer</i>
Common Kestrel <i>Falco tinnunculus</i>	Common Iora <i>Aegithina tiphia</i>
Grey Francolin <i>Francolinus pondicerianus</i>	Rufous-backed Shrike <i>Lanius schach</i>
Jungle Bush-Quail <i>Perdica asiatica</i>	Blue-headed Rock-Thrush <i>Monticola cinclorhynchus</i>
Painted Spurfowl <i>G. lunulata</i>	Orange-headed Thrush <i>Zosterops citrina</i>
Yellow-legged Buttonquail <i>Turnix tanki</i>	Indian Robin <i>Saxicoloides fulicata</i>
White-breasted Waterhen <i>Amaurornis phoenicurus</i>	Oriental Magpie <i>Copsychus saularis</i>
Purple Moorhen <i>Porphyrio porphyrio</i>	Pied Bushchat <i>Saxicola caprata</i>
Common Moorhen <i>Gallinula chloropus</i>	Yellow-eyed Babbler <i>Chrysomma sinense</i>
Common Coot <i>Fulica atra</i>	Common Babbler <i>Turdoides caudatus</i>
Bronze-winged Jacana <i>Metopidius indicus</i>	Jungle Babbler <i>T. striatus</i>
Yellow-wattled Lapwing <i>Vanellus malabaricus</i>	Common Tailorbird <i>Orthotomus sutorius</i>
Red-wattled Lapwing <i>V. indicus</i>	Tickell's Blue-Flycatcher <i>Cyornis tickelliae</i>
Common Snipe <i>Gallinago gallinago</i>	Asian Paradise-Flycatcher <i>Terpsiphone paradisi</i>
Common Sandpiper <i>Actitis hypoleucos</i>	Purple-rumped Sunbird <i>Nectarinia zeylonica</i>
Blue Rock Pigeon <i>Columba livia</i>	Purple Sunbird <i>Nectarinia asiatica</i>
Little Brown Dove <i>Streptopelia senegalensis</i>	White-throated Munia <i>Lonchura malabarica</i>
Spotted Dove <i>S. chinensis</i>	House Sparrow <i>Passer domesticus</i>
Eurasian Collared-Dove <i>S. decaocto</i>	Baya Weaver <i>Ploceus philippinus</i>
Rose-ringed Parakeet <i>Psittacula krameri</i>	Asian Pied Starling <i>Sturnus contra</i>
Pied Crested Cuckoo <i>Clamator jacobinus</i>	Common Myna <i>Acridotheres tristis</i>
Indian Cuckoo <i>Cuculus micropterus</i>	Eurasian Golden Oriole <i>Oriolus oriolus</i>
Banded Bay Cuckoo <i>Cacomantis sonneratii</i>	Black-naped Oriole <i>O. chinensis</i>
Indian Plantive Cuckoo <i>C. passerinus</i>	Black Drongo <i>Dicrurus macrocercus</i>
Asian Koel <i>Eudynamis scolopacea</i>	Ashy Drongo <i>D. leucophaeus</i>
Sirkeer Malkoha <i>Phaenicophaeus leschenaultii</i>	Indian Tree pie <i>Dendrocitta vagabunda</i>
Greater Coucal <i>Centropus sinensis</i>	House Crow <i>Corvus splendens</i>
Barn Owl <i>Tyto alba</i>	Jungle Crow <i>C. macrorhynchos</i>