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THE PRILIMINARY SURVEY OF AMPHIBIANS AND REPTILES IN KONCHAVORAM, CHINCHOLLI TALUK, GULBARGA DISTRICT, KARNATAKA

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ABSTRACT

The study involves survey of amphibian and reptile in Konchavaram, Chincholli Taluk, Gulbarga district. Survey was conducted from Jan 2012 to Dec 2012. The survey methods involved careful visual, trace and sound estimation of amphibians and reptilian in all the possible habitats present in the study area. The objective of the study included evaluate of species composition, relative abundance and distribution of amphibian and reptile of the chosen area. During survey a total of 16 species of herpetofauna identified belonging to 12 families, which includes 9 species of snakes, 4 species amphibians, 3 species of lizards.

KEYWORDS: Amphibia, Reptilia, Konchavaram

INTRODUCTION

Reptiles and amphibians occupy a diverse range of habitats and microhabitats, found from deserts to grass-lands, *from* forests to oceans and from hills to our own houses. India is very rich in herpetofaunal diversity (Anukul Nath *et al.*, 2012). There are more than 518 species of reptiles (Aengals *et al.*, 2011) and 314 species of amphibians (Dinesh *et al.*, 2011) found in India. Habitat destruction and the resulting fragmentation of population is the most important factor affecting the amphibian population (Adams, 1999). Population size of amphibians are unknown for almost all species, and, as significance, recent trends in population sizes also remain unknown (Dutta, 1997). Generally, most of the fundamental data on species biology and ecology are lacking (Vasudevan *et al.*, 2001).

Investigations of amphibian species are receiving considerable attention because of the pro-posed role of amphibians as indicators of ecosystem deterioration (Wake, 1991). Amphibians play a very important role in the food chain of both terrestrial and aquatic ecosystems. The general ecological importance of amphibians lies in them being predators acting as primary and secondary carnivores on insects, some of which are crop pests or disease vectors (Behangana 2004). It is expected that the world population growth in the next thirty years will be mostly concentrated in the urban areas (United Nations, 2004) leading to even more rapid degradation of pockets of remnant natural habitats.

Amphibians are widely considered to be useful as indicator species (Welsh and Ollivier 1998, Sheridan and Olson 2003). In India, besides the forest floor and stream communities of amphibians, there are few widely spread species in human modified and agro ecosystems (Daniels, 2005). The human modified ecosystems of the plains as that in rural, cultivated and semi urbanized areas attract number of species of frog and toads.

Hence, the purpose of this study is to provide species composition of amphibian and reptilian community in Konchavaram.

STUDY AREA

The forest area of the district is 267. 20sq. miles, occupying the 4% of the geographical area. The forest is mainly deciduous at North Eastern Zone, with fairly dense tree growth. Konchavaram 80km distance from Gulbarga district.

Chincholi is located at 17°28′N 77°26′E / 17. 47°N 77. 43°E / 17. 47; 77. 43. It has an average elevation of 462 metres (1515 feet). The Konchavaram Reserve Forest (134 sq. km) in Chincholi taluk of Gulbarga district which was set to become a wildlife sanctuary has been encroached upon by the Andhra Pradesh forest department.(http://en.wikipedia.org/wiki/Chincholi accessed 2012)

METHODOLOGY

Random surveys were conducted in almost all parts of the study area, to document the amphibian and reptile species. The streams, rivers and marshy areas were specially surveyed for amphibians. The calls during the night time helped to locate and collect several amphibian species like *Dut-taphrynus melanostictus*

Diurnal forms were collected between dawn and mid day. Night observations were made wherever possible. The survey methods involve extensive survey and careful visual estimation of amphibians in all possible habitats. Path ways were scanned, leaf-litter within the area was turned, bricks were lifted and searched underneath, shrubs and grass were shaken and gleaned, fallen logs turned and searched underneath, tree holes, temporary water pools were searched for the presence of amphibians. The species were identified by using Smith (1943), Daniel (2002) and Daniels (2005).

The survey of amphibian was made at night, between 1800 hrs to 2200 hrs thrice a week during the month of Jan 2012 to Dec 2012 including all other opportunistic sightings, road kills and rescue calls. The species were identified by using Smith (1943) and Das (2002).

OBSERVATIONS & RESULTS

A total of 16 species of herpetofauna identified belonging to 12 families, which includes 9 species of snakes, 4 species amphibians, 3 species of lizards (Table 1) (Table 2). Among amphibians, abundance of *Duttaphrynus melanostictus* was high compare to other species.

The species which were found to breed were *Duttaphrynus melanostictus, Hoplobatrachus tigrinus, and Kaloula taprobanica.* A Street light attracts lots of flying insects particularly after the rain. These lights, in turn, visited by number of frogs and toads that feast on the insects that fall on the ground. *K. taprobanica* and *D. melanostictus* often found to feed on insects under the light.

Among the lizards, *Ca-lotes versicolor* was more frequent. Whereas *Eutropis carinata* were more common.

Snakes were encountered in almost all habitats present in the study area. Among them *Ahaetulla nasuta, Ptyas mucosa* were more frequently encountered than the others. Two species of venomous snakes identified were *Naja naja* and *Daboia russelii.* Several of them were rescued from residential houses, shops and open well; whereas *D. russelii* was rare com-pare to other venomous species found in the study area.

DISCUSSIONS

The present study reveals that study area includes rich diversity of herpetofauna. A total of 16 species of herpetofauna identified belonging to 12 families, which includes 9 species of snakes, 4 species amphibians, 3 species of lizards. High abundance of *D. melanostictus* compared to other species which may lead to the lower stability in this community. *D. melanostictus* is cosmopolitan in distribution (Dutta, 1997) and is known to occur in a variety of habitats, especially in disturbed areas (Inger *et al.*, 1984).

However, the pre-sent study on amphibian community is just a model to show the microhabitat occupancy by the amphibians in the human settlements and competition among them as, spatial resource partitioning may be one of the chief indicators of interspecific interactions.

In our study we found 9 species of snakes in and around human habitation which initiates human-snake conflict quite often. *Naja naja* were more likely to create human-snake conflict in the study area. In most cases, non-venomous snakes were found to be the victims in the human-snake conflict, as most of the people not able to distinguish between venomous and non-venomous snakes. Lack of awareness was the main reason for the killing of snakes (Nath *et al.*, 2011).

Awareness programs are needed to be conducted in order to make people acquainted with herpetofauna and their importance for a balanced eco-system. Snake bite management is another issue which is to be taken up more seriously, although people were seen to reach hospitals immediately after the snake bite.

Therefore it's necessary to aware the people of Konchavaram regarding the importance of the area in herpetofaunal research.

Table 1: List of Amphibians Species Recorded During 2012-13 at Konchavaram, Chincholli Taluk, Gulbarga District

S. No	Order	Family	Scientific Name
1	Anura	Bufonidae	*Duttaphrynus melanostictus*
		Dicroglossidae	*Hoplobatrachus tigerinus*
		Microhylidae	*Kaloula taprobanica*
			Microhyla ornata

Table 2: List of Reptilians Species Recorded During 2012-13 at Konchavaram,Chincholli Taluk, Gulbarga District

S. No	Order	Family	Scientific Name
1	Squamata	Agamidae	*Calotes versicolor*
		Gekkonidae	*Hemidactylus flaviviridis*
		Scincidae	*Eutropis carinata*
		Boidae	*Eryx johnii*
		Pythonidae	*Python molurus*
		Colubridae	*Ahaetulla nasuta*
			Coelognathus helena
			Lycodon striatus
			Oligodon arnensis
			Ptyas mucosa
		Elapidae	*Naja naja*
		Viperidae	*Daboia russelii*

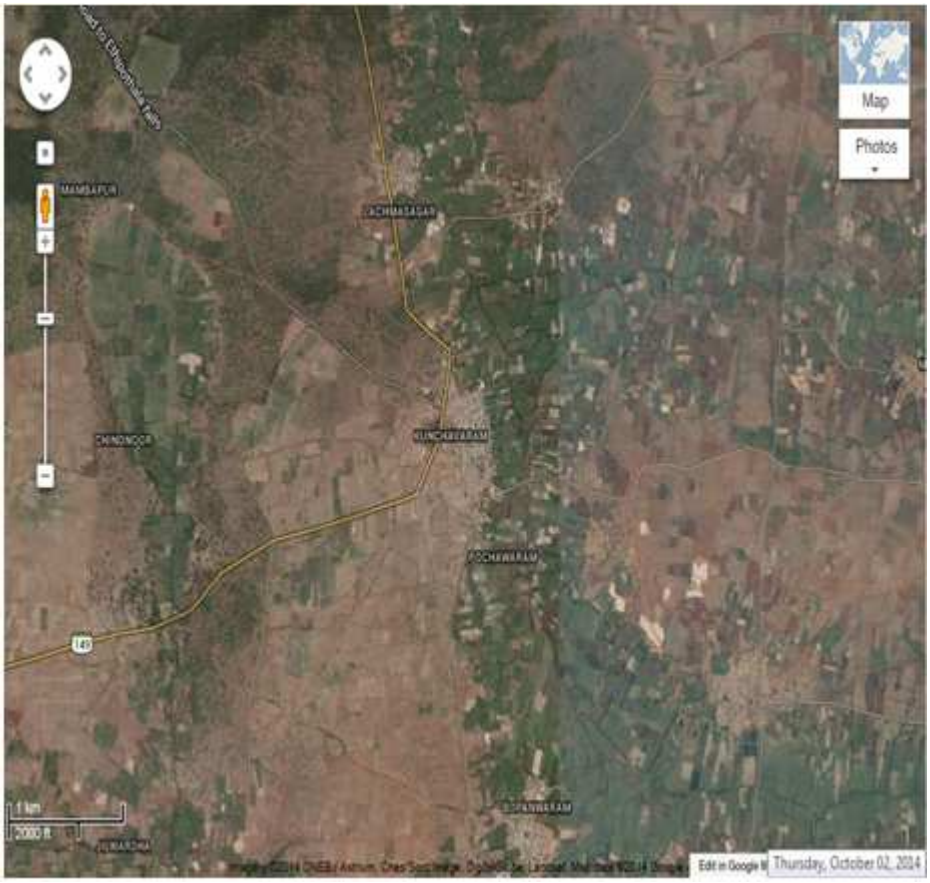

Figure 1: Study Area of Konchavaram, Gulbarga District

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