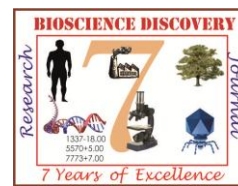


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**Research Article**



## Analysis of Data on Snakes Diversity and Ecological Status from Aurangabad District, (MS) India

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### Abstract

Ecologically snakes are the very important organisms. However, now a day this animal of suborder Ophidia is on the verge of threat. Whatever may be the snakes exposed, observed or reported by the local people in resident area or all around the human habitations, are caught by an expert, authorized snake catchers and as per the guidelines of wildlife and forest department rescued and released into the proper habitat for the survival of the individual species. This work is most important for the enrichment of the individual species survival and will helps to provide information, awareness and conservation of fauna in Aurangabad district of Maharashtra state about snakes of Aurangabad district, Maharashtra. This data collected for three years from June 2012 to May 2015. Analysis of data showed that, there are 16 species of snakes in Aurangabad district, belonging to five families out of which only 04 were poisonous, 02 were semi- poisonous and remaining 10 were non-poisonous.

### INTRODUCTION

Snakes are abundant all over the world except in the Artics, New Zealand and Ireland. It is postulated that there are about 3000 species of terrestrial snakes in the world and they are predominant in the warm climates and lush-green regions of the tropics. About 278 species are found in India out of which 58 species are poisonous (Raut *et al.*, 2014). The snakes are objects of fascination for studies since time immemorial. The body of snake is often modified to suit its ecological conditions. The snakes are objects of fascination for studies since time immemorial. The body of snake is often modified to suit its ecological conditions. However, this animal as per the local people became annotated and requires rescue operation. Recently this region is rapidly undergoing industrialization,

infrastructural development including townships etc. and as such these areas are prone to habitat loss due to which different types of snake including poisonous, semi-poisonous, non-poisonous are being noticed in the residential areas during monsoons and winter seasons. The present studies are an attempt to evaluate the information, occurrence, abundance & species richness and further assist in the knowledge, awareness and conservation of snake fauna in this region since there is acute paucity of established work and data on this subject till date.

Snake bite is a acute life threatening time limiting medical emergency a occupational hazard often faced by farm laborers and farmers. It is in endemic form all over tropical countries like India. In India there are 2.5 lakhs snake bites out of which 35,000 to 50,000 deaths per year due to snake bite.

Whereas Maharashtra shows high mortality, upto 2000 deaths per year, particularly in rural population showed High mortality. 3000 species of snakes are distributed worldwide. 500 are venomous species 52 venomous species are found in Indian subcontinent (Punde, 2008). To avoid such type of complications the present study definitely fruitful to reduce the problem of the society and hand towards snake saving activity.

## MATERIALS AND METHODS

This work requires well-trained snake-catchers or charmers or snake rescuers on his own risk, it needs courage, self daring, confidence, and experience and most important is the study of behavior and nature of the snake to be caught. Snake rescue records of survey was made from June 2012 to May 2015, Sampling was done as per the demand, request of the local people or stress calls made by

residents, without any time limit. Individual species of snakes were located and caught by hand, sticks and through pitfall traps in association with drift fences. After catching the snakes, their characteristics, predominant features were noted, photographed and identified up to species level using keys and other publications as per Deoras (1965), Khaire (2010); Daniels 2002; Whitaker & Captain 2008; Aengals *et al.*, 2012). Subsequently the captured snakes were released in the forest area as per the guidelines of wildlife and forest department rescued and released into the proper habitat.

## RESULTS AND DISCUSSION

Total of 16 Species of snakes belong to five families were recorded in and around the human habitations of resident people of Aurangabad district this includes as follows.

**Table: Diversity and Ecological Status from Aurangabad District, (MS) India**

NATURE	FAMILY	COMMON NAME	SCIENTIFIC NAME	STATUS
Poisonous	Elapidae	Spectacled cobra	<i>Naja naja</i>	C
Poisonous	Elapidae	Common krait	<i>Bungarus caeruleus</i>	C
Poisonous	Viperidae	Russel's viper	<i>Daboia russelii</i>	C
Poisonous	Viperidae	Indian saw-scaled viper	<i>Echis carinatus</i>	C
Semi- Poisonous	Colubridae	Common cat snake	<i>Boiga trigonata</i>	C
Semi- Poisonous	Colubridae	Common vine snake	<i>Ahaetulla nasuta</i>	C
Non- Poisonous	Colubridae	Indian rat snake	<i>Ptyas mucosa</i>	C
Non- Poisonous	Colubridae	Common trinket snake	<i>Coelognathus helena</i>	C
Non- Poisonous	Colubridae	Grass snake	<i>Macropisthodon plumbicolor</i>	U
Non- Poisonous	Colubridae	Striped keelback	<i>Amphiesma stolatum</i>	R
Non- Poisonous	Colubridae	Common wolf snake	<i>Lycodon aulicus</i>	C
Non- Poisonous	Colubridae	Checked keelback water snake	<i>Xenochrophis piscator</i>	C
Non- Poisonous	Boidae	Earth boa/Red sand boa	<i>Eryx johnii</i>	C
Non- Poisonous	Boidae	Common Sand boa	<i>Gongylophis conicus</i>	C
Non- Poisonous	Boidae	Indian rock python	<i>Python morulus</i>	R
Non- Poisonous	Typhlopidae	Brahminy worm snake	<i>Ramphotyphlops braminus</i>	U

(Note: C- common, U-uncommon, R-rare.)

The unavailability of suitable habitat and prey base, snakes have to move outside which leading to such conflicts that some times leads to death of a snake. However, some citizen ecofriendly or some stressfully call to expert snake catcher for the escape and survival of the species. During the

present study such maximum calls attended in the early rainy season and mid summer of the year. Out of such rescued species four species were poisonous, two were semi-poisonous and remaining ten was non-poisonous.

Among the non-poisonous snakes the rare species reported here as Indian rock python, *Python morulus* and Striped keel back, *Amphiesma stolatum* belongs from Boidae and Colubridae family respectively.

The anthropogenic activities, physical development, civilization and mainly the changing environmental conditions, like global warming are affecting the habitat of the animals. Therefore this important part of the ecology conflict against man. In the present investigation abundance of snake fauna rescued opined that snake produced unimaginable fear and anxiety. Right from the cases where earliest man lived, snakes would have caused first kind of poisoning (Lingayat and Wankhade, 2008). Present study also observed the tress calls and down to root level at any time calls of the people from June 2012 to may 2015. Total number of species was 16 belonging to five families but the individual number of snakes rescued was more than 2000 and all these were residing in the reserved forest habitat as per the guidelines of wild life and forest department. However it is natural that their curious mode of propulsion, venom and constricting mechanism have made them important group of predators and the interactions maintains a natural balance in the forest and deserts, the plains and hills of India Harney (2011), Walmiki et al., (2012a).

Our study actually noted that the snakes are extremely well-adapted to their habitats and plays important role in food chain and food web, but because of degradation of habitat, scarcity of food prey and water, increasing temperature impels snake to enter in human inhabitation for safety which leads to conflicts. The advent of man appears to have increased the hunting abilities as tea plantations, paddy fields, village huts and city warehouses provided new opportunities for worms and insects, frogs, birds, rats, mice, etc. many of which increased in the areas due to these habitat and safe houses and subsequently are an easy prey for snakes. Such expansion and also changes in their food supply apparently caused shifts in the kinds and density of snake population as well Walmiki et al., (2012b).

During study period we noted total of 16 Species of snakes belong to five families were recorded in and around the human habitations of resident people of Aurangabad district. Out of which four species were poisonous, two were semi-poisonous and remaining ten was non-poisonous. During the study period, a total of 2418 snake species were recorded in and around Amravati city,

out of these 1660 species of snake rescued and 758 species were found as road killed. A total of 29 species of 27 genera belonging to six families were documented in Amravati city and territory. Based on the above data, Recorded families and their species clearly indicate high richness of harpatofauna in the study area. Among these, family colubridae were recorded maximum 1,748 species, among this 1195 species were found road killed and 553 species documented as rescued. The maximum 121 species were found as road killed in the month of June and rescued 285 in the month of July and minimum in the month of December. Among all the six family, only one species of python was recorded in the month of August (Thakur and Warghat, 2015). Whereas, the rocky fort area sustaining healthy vegetation, adjacent creek and marshy area supports a great reptilian diversity. Total number of 42 species was recorded in this area for the study period of 2 years. The reptilian diversity comprises 23 snake species, 3 skinks species, 5 gecko species and 3 lizard species and 1 terrapin and 1 turtle species. Amphibian includes 5 frog and 1 toad species (Walmiki et al., 2012a)

Present study strongly appeal that the existence of species of snakes in their habitat is going to endangered and some of them are rare, it means that it is the indication of diverse habitats are rapidly changing and it is harmful to their biodiversity and their habitat. Considering the number of species observed it is clear that the degraded forest niche has few species of serpent fauna. Among the non-poisonous snakes the rare species reported here as Indian rock python, *Python morulus* and Striped keel back, *Amphiesma stolatum* belongs from Boidae and Colubridae family respectively (Khobragade and pawar, 2015). The present study therefore reveals to conduct a long term monitoring and systematic study of this important group of animal's initiation of research, protection measures and public awareness campaigns addressing local community would go a long way in conserving the snakes.

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