

A Study on Snakes from Yavatmal district, Maharashtra, India

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Abstract

Snakes are the important part of the ecosystem. They are well adapted to their habitat's. There are variety of snakes varing on the basis of their colour, shape and size due to the mode of life. Snakes occupy various habitats in an ecosystem such as fields, forests, rivers, ponds, streams, lakes, farms many a times residential areas also. Yavatmal district of Maharashtra is a home for various species of snakes as the city has a tropical climate, the average annual temperature is 26.8 °C, the rainfall here averages 946mm, a list of snakes is prepared on the basis of survey during July 2019 to March 2020. The survey represents the study of 07 families of snakes from which 06 species are Venomous, 03 species are semi-venomous and 18 species are non-venomous.

Keywords: Biodiversity, Venomous, Semi- Venomous, Lamprophiidae, Pythonidae, Typhlopidae.

Introduction

Term "biodiversity" refers to the variety of plant and animal species in the particular habitat, a high level of which is considered to be important and desirable to flourish good environment and healthy life. The distribution of species in an ecosystem gives a conception of belief that how species are interconnected.

The loss of diversity is a serious issue of today's time, the biological wealth of our planet is getting irrevocably destroyed and none other than humans and their activities are solely responsible for this. Even daily activities of humans are so atrocious that nature can hardly sustain them. Seeing towards the accelerated rates of extinction nowadays, it is

very important to be alert before time and protect the endangered species before they say a final goodbye to the earth. But in order to take care or protect them, firstly it's very important to understand the species diversity of plants and animals that are found in entire country, as it is impossible for anybody to blindly undertake preventive measures without knowing the actual species diversity and area or a region holds.

The applicability of the sustainable aquaculture can provide a job for many people with significance increase in the income of the local people. The maintenance of the adequate local data regarding the physicochemical water quality and the related data of the bivalve life cycle, the climatic condition, the environmental conditions and its impact in any uncertain condition the alternative information in such drastic condition would be beneficial for the coastal communities. The trading regarding aquaculture and related various development with proper governance in this sector will bring very fruitful economical growth and will raise the commercial value of the product. The expansion of aquaculture would be possible by providing the food security, health and all the information related to infections of bivalve. The proper knowledge of the all aspects of marketing will be beneficial for increasing the business point of view from local to global market.

It does not take any special efforts to be kind or generous to them who started the journey with us million years ago, but are in real danger today because of us and our activities, thus in order to protect them some actions in positive ways are very necessary. It's very unrealistic that we as humans have completely forgotten that they too have equal rights to survive with us on this planet, but before taking any action to save them from extinction, it is mandatory to understand which species are actually disturbed and affected by humans and which aren't, and this distribution is enough and essential to clear one's dilemma and get to know the list of names and numbers of species being actually affected so that one can accordingly take actions to protect them. [1,2]

Importance of Snakes

"Snakes" the name which creates a feeling of fear and makes most of us anxious. Many of the writers have even successfully portrayed snakes as the messengers or the God of Death.

Snakes are the important part of the ecosystem, well adapted to their habitats. Depending on the habitat they prefer to live-in, they can be classified as aquatic snakes, arboreal snakes, burrowing snakes, and terrestrial snakes. There are variety of snakes varying on the basis of their colour, shape and size due to the mode of life. Snakes occupy various habitats in an ecosystem such as fields, forests, rivers, ponds, streams, lakes, farms, many a times residential areas also [3].

Snakes are the true carnivores and thus are very important animals in control of the population of various harmful pests, insects, frogs and rodent's species which can be harmful to humans. Snakes are the true friends of the farmers which controls the population of rodent species in the farmland by constantly feeding on them [4].

Many snakes are medically important, the venom of poisonous snakes is largely extracted and used in the production of variety of drugs for human welfare [5]. Forests are the home for innumerable species along with snakes are being continuously destroyed for various purposes like building bridges, road tracks, houses, restaurants, hotels, farm-houses etc. should be first primarily be protected [1]. If nothing is done our future generations will see snakes only in the research papers, reference books or on the internet. So, let's study them to clear our misconceptions and become a true soldier in protecting our mother earth.

The present study made an attempt to evaluate the information, Species richness, behavioral characteristics, identification marks and conservation of snake fauna in this region. So this study will prove essential as a reference in the study of biodiversity of snakes in Yavatmal region

About Study Area

Yavatmal district of Vidarbha region in Maharashtra lies between 19.26' and 20.42' north latitudes and 77.18' and 79.9' east longitudes. with an area of 13582 sq. km (4.41 percent of the state) and a population of 2077144 (2.63 percent of the State). The district consists of masses of hilly region broken by broad valley and partially surrounded by plains. The central portion is a plateau with very steep sides and having 300 to 600 meters above the mean sea level. The city have tropical climate, with the average annual temperature 26.8^o C and the rainfall here averages 946 mm [15].

Materials and methods

A team of well-trained Snake Catchers have rescued the snakes that have been encountered in the locality. All the snakes were rescued carefully without any physical harm to them, the snakes generally are rescued with the help of special tongs and the snake sticks with every

proper precaution and care. Once the snakes are rescued successfully, they were packed in plastic containers or the cloth bag until their release into the forest. All the rescued snakes were identified according to the available standard references such as "A Guide to Snakes of Maharashtra, Goa and Karnataka" by Neelimkumar Khaire [2,6] and "Snakes of India: the field guide" by Whitaker [7] and were immediately released into the forest on the same day.

Observation and Result

Yavatmal region is a shelter for various Species of Snakes belonging to different families. During the study 27 snake species were rescued and were classified under 07 families, among these 27 snake species, 06 species were found to be Venomous, 03 species were found to be Semi-Venomous and 18 were found to be non-Venomous (refer figure 1).

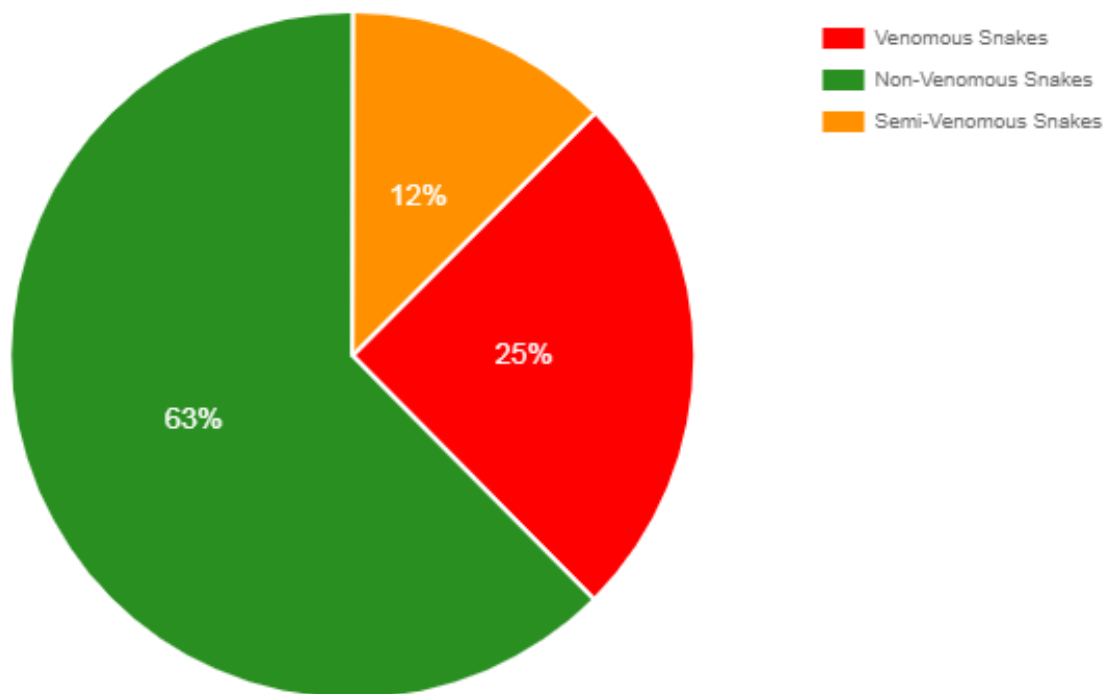


Figure 1: Graphical Categorization of the snakes found in Yavatmal Region

Table 1: List of the snakes according to their Scientific Name, Common Name and Local Name (Vernacular Name)

Sr. No.	Vernacular Name	Common Name	Scientific Name	Family
Venomous Snakes				
1	Naag	Spectacled Cobra	<i>Najana</i>	Elapidae
2	Powala	Slender Coral Snake	<i>Calliophis melanurus</i>	Elapidae
3	Manyaar	Wall sind krait	<i>Bungarus sindanus walli</i>	Elapidae
4	Manyaar	Common Indian Krait	<i>Bungarus caeruleus</i>	Elapidae
5	Ghonas	Russel's Viper	<i>Daboia russelli</i>	Viperidae
6	Fursya	Saw Scaled Viper	<i>Echis carinatus</i>	Viperidae
Semi-Venomous Snakes				
7	Andi-khau Saap	Indian egg-eater	<i>Elachistodon westermanni</i>	Colubridae
8	Manjrya Saap	Common Cat Snake	<i>Boiga trigonata</i>	Colubridae
9	Jad Reti Sarp	Stout Sand Snake	<i>Psammophis longifrons</i>	Lamprophiidae
Non-Venomous Snakes				
10	Ajgar	Indian Rock Python	<i>Python molurus molurus</i>	Pythonidae
11	Kukri Saap	Russell's Kukri Snake	<i>Oligodon taeniolatus</i>	Colubridae
12	Chikna saap	Indian Smooth Snake	<i>Coronella brachyura</i>	Colubridae
13	Dhulnagin	Banded Racer	<i>Argyrogeton fasciolata</i>	Colubridae
14	Taskar	Common Indian Trinket	<i>Coelognathus helena helena</i>	Colubridae
15	Divad	Checkered Keelback Water Snake	<i>Xenochrophis piscator</i>	Colubridae
16	Dhaman	Indian Rat Snake	<i>Ptyas mucosa</i>	Colubridae
17	Gawatya	Green keelback	<i>Macropisthodon plumbicolor</i>	Colubridae
18	Naneti	Striped Keelback	<i>Amphiesma stolatum</i>	Colubridae
19	Kukari saap	Banded Kukari Snake	<i>Oligodon arnensis</i>	Colubridae
20	Ruka sarp	Bronzeback tree snake	<i>Dendrelaphis tristis</i>	Colubridae
21	Kaaltondya	Dumerils Black Headed	<i>Sibynophis punctatus</i>	Colubridae
22	Kavdya	Common Wolf Snake	<i>Lycodon aulicus</i>	Colubridae
23	Patteri-Kavdya	Barred wolf snake	<i>Lycodon striatus</i>	Colubridae
24	Pivla Kavdya	Yellow Spotted Wolf Snake	<i>Lycodon flavomaculatus</i>	Colubridae
25	Dhurkya ghonus	Common Sand Boa	<i>Gongylophis conicus</i>	Boidae
26	Mandool	Red Sand Boa	<i>Eryx johnii</i>	Boidae
27	Wala	Brahminy Worm snake	<i>Ramphotyphlops braminus</i>	Typhlopidae

Discussion

There are about, about 3500 snake species are found all over the world out of which 275 species are Poisonous and about 261 species of snakes are found in India [5].

In India snakes have been associated with mysticism, apart from being objects of fear [8]. In Ayurveda mentioned about snake venom, particularly the cobra venom. [9].

Snakes occupied deserts, forests, marshy, swampy places, lakes, streams and rivers of difficult terrains and several studies are carried out by number of researchers in this field.

The Indian subcontinent, harbors a variety of venomous and non-venomous snakes. The four major venomous species includes cobra or *Naja Naja* (Linne,1758) Russell's viper or *Vipera russelli* (Shaw,1797) ,Krait or *Bungarus caeruleus*, and saw scaled viper or *Echis carinatus* (Schneider 1801).

Lewis *et al.*, [10] studied on the herpetological observations from field surveys to North Karnataka and South-West Maharashtra and found 28 species of snakes.

Harney [11] have also Studied on Snakes of Bhadrawati, District Chandrapur (M.S.). During his study period they recorded 466 snakes and classified them under 6 families namely Elapidae, Viperidae , Colubridae, Diapsididae, Boidae and Pythonidae .These families represents all total 17 different species among which 4 were poisonous snakes species, 12 nonpoisonous snake species and 1 semi poisonous snake species was reported.

Walmiki. *et al.*, [12] also have studied herpetofauna of Bassein fort and surrounding region, Thane, Maharashtra, India. Through which they have reported the reptilian and amphibian diversity in and around the Bassein fort.

Raut., *et al* [13] have studied the biodiversity of snake fauna from Palghar district. They studied the biodiversity of snakes from, Palghar, Manor and Saphale region. They have identified 15 non-venomous, 03 semi venomous and 07 venomous snake's species from the region

Zade and Shinde [14] reported 26 species of snakes in Amravati district. During their study they have reported 05 venomous snake species,18 non-venomous snake species and 03 semi venomous snake species.

In the present work done in 2019, I have studied 27 snake species belonging to 7 Families which were rescued from different regions of the Yavatmal district. Although majority of the snakes rescued were Non venomous yet 6 species were identified to be Venomous and 3 species were identified as Semi-Venomous.

This study includes the bio-diversity of snakes from Yavatmal District. No study has been done in this area on this topic. The study will be important in the conservation and identification of snakes from this region.

Conclusion

The present study shows the richness of snake biodiversity and also the occurrence of some rare snake species in the region. The present work thus provides the useful information regarding identification, conservation and attempts creates the awareness about the snakes found in the Yavatmal region.

Conflicts of interest: The authors stated that no conflicts of interest.

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