

Diversity and Ecological Status of Serpent Fauna of degraded forest habitats of in and around Lonar lake Reservoir (Lonar Crater Rim), Buldhana District, Maharashtra

¹Dr.KshamaKhobragade , ²Mr.Vijaykumar B. Pawar

¹Reader and Head, Department of Environmental Science,

²S.B.E.S. College of Science, Aurangabad

** Research Scholar

ABSTRACT: An annotated checklist of snakes is rescued and seen in and around Lonar Crater rim from June-2012 to March-2014 is presented whereas on the basis of habitat structure and possibility of availability of the species. 16 species belonging five families were recorded. This includes. 16 species of snakes about them 4 Poisonous from Elapidae and Viperidae Family whereas 11 snakes Non-poisonous belongs from family of Typhlopidae, Colubridae and Pythonidae and remaining 1 species of snakes from Colubridae family, all these snakes are rescued and released in their local habitats. This information will help to provide information, awareness and conservation of the fauna in Buldhana district of Maharashtra state about snakes of Buldhana district, Maharashtra.

I. INTRODUCTION

The state of Maharashtra is located in the Deccan region of India. The Arabian Sea surrounds the entire western coast of the Maharashtra state; The 1.8 km diameter Lonar Crater in the state of Maharashtra, India (Fig. 1) includes morphological features of impacts and impacted deposits, including formation and excavation of habitable environments. (S.B. Borul, 2012) Lonar Crater, India is one of the youngest and best preserved impact structures on Earth. The 1.88-km-diameter simple crater formed entirely within the Deccan traps, making it a useful analogue for small craters on the basaltic surfaces of the other terrestrial planets and the Moon.



Figure No 1: - Topography of Lonar lake Reservoir

Study Area: The Lonar crater has the attention of world geologists for investigation of its origin and the source of salinity of lake water. It is Asian only magnificent crater formed by hypervelocity meteorite impact. Unique feature of this lake is its high salinity and alkalinity and its specialized biodiversity. It is situated about a kilo meter to south west of Lonar town (North Latitude 19° 55'; East longitude 75° 34') in Buldhana district of Maharashtra state. It is an almost circular depression with its longest and shortest diameters being 1875m and 1787m, respectively, with a raised rim about 30m and a depth of 135m.

The Lonar crater is the world's only salt water lake in basaltic rock, believed to have been caused by a meteorite hitting Earth around 52,000 years ago. It is surrounded by forests with a large variety of birds, particularly peacocks, owls, red-wattle Lapwings and ducks. In the Lonar reservoir there are number of medicinal and aromatic plants observed. pH of water is 11. Kamaljamatamandir is situated in the reservoir which is 3 km away from the Rest house.

II. MATERIAL AND METHODS

A Survey was made from March 2012 to March 2014 with occasional visit the different degraded forest patches and other probable reptile habitats of in and around Lonar Lake of Buldhana District of Maharashtra. Sampling was done during both morning and Evening hours. Individual species of snakes were located and caught by hand, sticks and through pitfall traps in association with drift fences, Identified and released back to the same site after taking photographs Identification were done following species of poisonous snakes are Spectacled cobra (*Najana*), Common krait (*Bunguruscaeruleus*), Slender coral snake (*Calliophismelanurus*) from the Family of *Elapidae*, Russel's viper (*Daboiarusseli*) from the Family *Viperidae*. Whereas Non-poisonous snakes are Indian rat snake (*Ptyas mucosa*), Common trinket snake (*Coelognathus Helena Helena*), Banded racer (*Argyroenafasciolata*), Bronze back tree snake (*Dendrelaphistristis*), Common wolf snake (*Lycodonaulicus*), Banded kukri snake (*Oligodonarnesis*), Checkeredkeelback water snake (*Xenochrophispiscator*), Striped keel back (*Amphiesmastolatium*), Green keel back (*Macropisthodonplumbicolor*) from the family of Colubridae and Indian rock python (*Python molurusmolurus*) from family of Pythonidae, Sand boa (*Gongylophisconicus*) from the family of Boidae, Worm snakes (*Ramphotyphlopsbraminus*) from family of Typhlopidae and semipoisoneous snake from family of Colubridae is Common cat snake (*Boigatrigonata*)(JoshiPrasanna, 2011) Beside direct observations I had also taken the help of secondary information from reliable observer and previous snake rescue records from a conservationist, NGO of Buldhana District.

III. RESULT: -

Total of 16Species of snakes belong to five families(*Padmanabhan*) were recorded in and around the Lonar Lake reservoir degraded forest habitat of Buldhana district this includes as follows

Table No. 1: - Snakes of in and around Lonar lake reservoir

Sr. No.	Family and Common Name	Scientific Name*	Family	Status
Poisonous snakes				
01	Slender coral snake	<i>Calliophismelanurus</i>	<i>Elapidae</i>	U
02	Spectacled cobra	<i>Najana</i>	<i>Elapidae</i>	
03	Common krait	<i>Bunguruscaeruleus</i>	<i>Elapidae</i>	C
04	Russel's viper	<i>Daboiarusseli</i>	<i>Viperidae</i>	C
Non-poisonous snakes				
05	Indian rat snake	<i>Ptyas mucosa</i>	Colubridae	C
06	Banded kukri snake	<i>Oligodonarnesis</i>	Colubridae	C
07	Banded racer	<i>Argyroenafasciolata</i>	Colubridae	C
08	Bronze back tree snake	<i>Dendrelaphistristis</i>	Colubridae	C
09	Common trinket snake	<i>Coelognathus Helena Helena</i>	Colubridae	C
10	Green keel back	<i>Macropisthodonplumbicolor</i>	Colubridae	U
11	Striped keel back	<i>Amphiesmastolatium</i>	Colubridae	R
12	Worm snakes	<i>Ramphotyphlopsbraminus</i>	Typhlopidae	U
13	Checkeredkeelback water snake	<i>Xenochrophispiscator</i>	Colubridae	C
14	Indian rock python	<i>Python molurusmolurus</i>	Pythonidae	R
15	Common wolf snake	<i>Lycodonaulicus</i>	Colubridae	C
Semi-poisonous snake				
16	Common cat snake	<i>Boigatrigonata</i>	Colubridae	C

[C- Common, U – Uncommon, R – Rare Species, * Whitaker and Captain (2004)]

Annotated checklist (*BubeshGuptha, 2012 &KumbharAmol, 2012*)of snakes of Lonar Reservoir of Buldhana District during this study, some of the major threats to snake and their populations in degraded forest habitats of Lonar reservoir of Buldhana District were identified and these include.

- Habitat Distraction:** - it is one of the major threats faced by the snake population in the degraded forest habitat of Lonar Reservoir of Buldhana District. Increasing human encroachment, clearing of forest areas for agriculture use, large scale fire wood collection and unsustainable exploitation of forest resources seem to be threatening the natural habitat and behavioural pattern of the snake species.

- 2) **Use of Pesticide and Chemical Fertiliser:** - the extensive use of cheap chemical fertiliser and pesticide by the local farmers is also causing a serious threat.
- 3) **Snake Charmers:** - Some nomadic snake charmers are common in these areas, which catch the snake for road side shows and to supply them to various agencies.
- 4) **Human-Snake Conflict:** - a recently reported setback that concerns the conservation action of separate fauna in this area, Due to the unavailability of suitable habitat and prey base, snakes have to move outside from reservoir crater rim which leading to such conflicts that usually result in a death of a snake.

IV. DISCUSSION: -

The present study reveals 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. The anthropogenic activities are affecting the abundance of snake fauna. Considering the number of species observed it is clear that the degraded forest patch has few species of serpent fauna. (Prasanna Joshi, 2011) Rare Species reported here as “*Indian rock python*” and “*Striped keel back*” belongs from *Colubridae* and *Pythonidae* family (RaghvendraNande, 2007) It is therefore essential to conduct a long term monitoring and systematic study of this important group of animals (WanjeSudhir, 2011) Initiation of research, protection measures and public awareness campaigns addressing local community would go a long way in conserving the snakes of Lonar Reservoir of Buldhana District.

V. ACKNOWLEDGEMENT: -

The author is grateful to the Chief Wildlife Warden, Maharashtra Forest Department and his subordinates at Buldhana District for permission and cooperation. And also thankful to snake friends and anonymous referees of Buldhana district, Maharashtra

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