

Updated Snakes Check List and Extended Distribution of Five Species in the State of Telangana

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ABSTRACT: Present paper dealing with updated checklist of snakes of Telangana State, based on field observations, rescued snakes, road kills, opportunistic sightings and review of literature revealed that the Telangana State is home for 39 species of snakes belonging to 30 genera and seven families. Among the 39 species, 25 (64%) were non venomous, seven (18%) were venomous and seven (18%) were mildly venomous. Among the total occurrence of species, the species namely *Uropeltis ellioti*, *Lycodon flavicollis*, *Psammophis longifrons*, *Sibynophis subpunctatus*, and *Calliophis melanurus* are found in new locations. This study will enlighten the information regarding the snake diversity and forms a baseline data for future studies for the conservation.

Key words: Snakes, Checklist, Road kills, Telangana State.

INTRODUCTION

Snakes are an important part of the natural environment and the food chain. These are the ambush predators as well as successful hunters (Bhandarkar & Paliwal 2021). India is home for about 10% of the total number of snake species found worldwide (Aengals *et al.*, 2012). India is representing with 278 snake species (Whitaker & Captain 2008). In the state of Telangana so far, a total 35 species of snakes were recorded (Chandra *et al.*, 2021). Snakes are majorly feed on insects, amphibians, reptiles, small birds and mammals, especially rodents. It indicates the diversity and distinction in food selection of snakes. The snakes are one of the efficacious vertebrates on the earth since ancient time. Most of the snake species are found in the arid zone of the world (Whitaker & Captain 2008). Snakes are also called as friends of farmers because they are natural predators of rodent pests found in agriculture fields. But, in India, due to a lack of knowledge and proper awareness among the people and farmers kill the snakes without realising their significant importance. Habitat destruction, scarcity of prey animals, extensive use of pesticides, pollution, road kills and poaching are the major threats for the survival of snakes. Illegal collection of venom, illegal exporting and snake shows by charmers are some difficult tasks to protect and conservation of snakes. Across the country, documentation on snake populations is sparse and in depth studies are very few.

Similarly, in the state of Telangana except few studies no authentic estimates are available so far. Hence, the current paper will act as a revised check list for Telangana state based on intensive field studies and secondary sources. There is a pressing need to compile and collate existing data, as well as to begin systematic cataloging and documentation of the states herpetofauna abundance, distribution, habitat preferences, and natural history, in order to produce an authentic, annotated, and illustrated checklist of snakes found within Telangana State, which can serve as a reliable baseline data for monitoring biodiversity and environmental change.

A. Study area

The Telangana state lies on the Deccan plateau to the west of the Eastern Ghats range between 15° 48' 32" to 19° 55' 46" N latitude and 77° 09' 02" E to 81° 18' 51" longitude and was came into existence on 2nd June 2014. It is the 12th largest state of India and it is bounded by the Andhra Pradesh in the south, Maharashtra in the north, Karnataka in the west and Chhattisgarh in east. Administratively, Telangana has been divided in to 33 districts. The terrain is mostly of plains, gentle slopes and undulating hills. Isolated peaks and rocky clusters are found all over the state with elevation ranges between 300m to 900m MSL. The highest peaks are situated in Nallamalais of Nagarkurnool district with elevation of 800 to 900m MSL (Fig. 1).

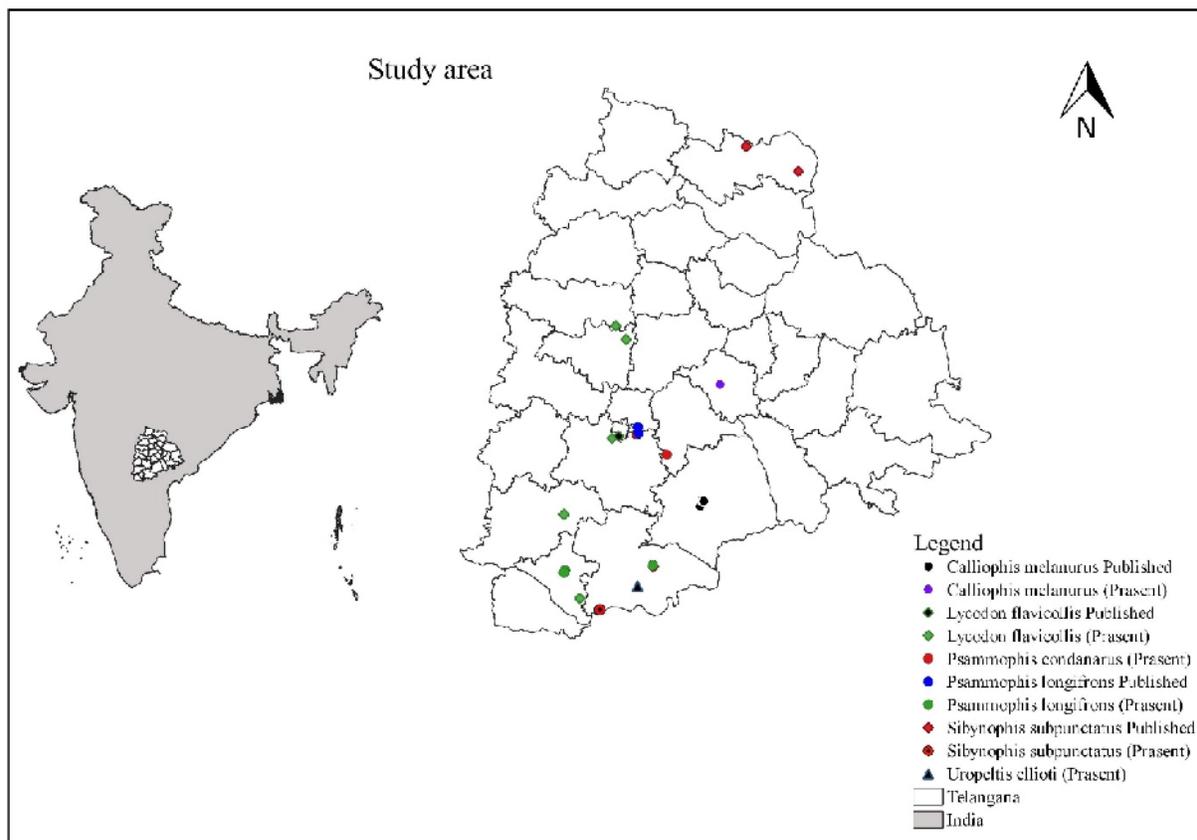


Fig. 1. Map showing the present and published localities of five species across the Telangana State.

MATERIAL AND METHODS

Field exploration, rescued snakes, road kills, opportunistic sightings and review of literature were gathered to till date from the different parts of Telangana state. Rescue work has been done from the year 2015 to till date in different parts of Telangana state and in each operation the snakes were photographed, necessary measurements were taken and released into suitable location. Standard available

literature and recent publications were also collected and considered for the present paper.

RESULT AND DISCUSSION

A total of 39 species of snakes, belonging to 30 genera and eight families were reported from Telangana state (Table 1; Plate 1, 2 & 3). Among the 39 species, 25 (64 %) species were non-venomous, seven (18 %) species were venomous and seven (18%) species were mildly venomous (Fig. 2).

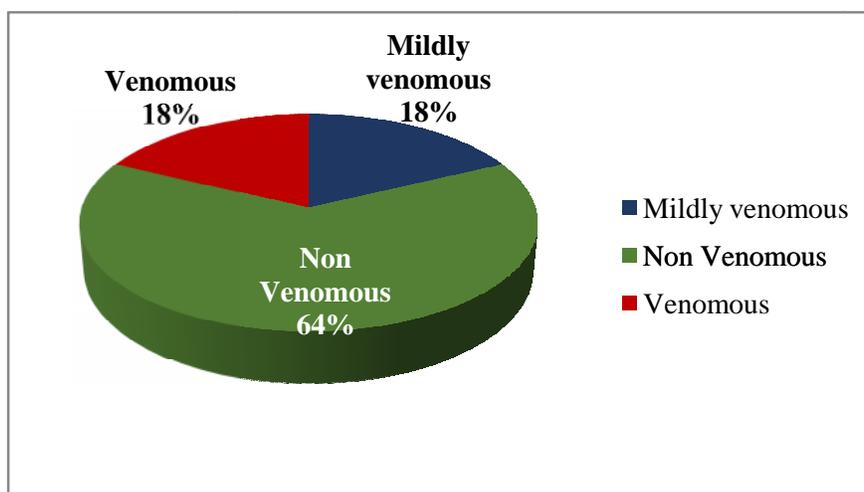


Fig. 2. Percent occurrence of venomous, mildly venomous and non-venomous snakes.

Table 1: Check list of snakes of Telangana State.

Sr. No.	Family / Common Name	Scientific Name	Status	IUCN status
	Family: Typhlopidae			
1.	Beaked worm snake	<i>Grypotyphlops acutus</i> (Duméril & Bibron, 1844)	NV	LC
2.	Brahminy blind snake	<i>Indotyphlops braminus</i> (Daudin, 1803)	NV	NA
	Family: Boidae			
3.	Russell's boa	<i>Eryx conicus</i> (Schneider, 1801)	NV	NA
4.	Red sand boa	<i>Eryx johnii</i> (Russell, 1801)	NV	NA
	Family: Uropeltidae			
5.	Elliot's earth snake	<i>Uropeltis ellioti</i> (Gray, 1858)	NV	LC
	Family: Pythonidae			
6.	Python	<i>Python molurus</i> (Linnaeus, 1758)	NV	VU
	Family: Viperidae			
7.	Russell's viper	<i>Daboia russelii</i> (Shaw & Nodder, 1797)	V	LC
8.	Saw-scaled viper	<i>Echis carinatus</i> (Schneider, 1801)	V	NA
9.	Bamboo pit viper	<i>Trimeresurus gramineus</i> (Shaw, 1802)	V	LC
	Family: Elapidae			
10.	Common krait	<i>Bungarus caeruleus</i> (Schneider, 1801)	V	NA
11.	Banded krait	<i>Bungarus fasciatus</i> (Schneider, 1801)	V	LC
12.	Slender coral snake	<i>Calliophis melanurus</i> (Shaw, 1802)	V	NA
13.	Spectacled cobra	<i>Naja naja</i> (Linnaeus, 1758)	V	LC
	Family: Colubridae			
14.	Long nosed vine snake	<i>Ahetulla oxyrhyncha</i> (Bell, 1825)	MV	NA
15.	Banded racer	<i>Argyrogena fasciolata</i> (Shaw, 1802)	NV	NA
16.	Forsten's cat snake	<i>Boiga forsteni</i> (Duméril, Bibron & Duméril, 1854)	MV	LC
17.	Indian cat snake	<i>Boiga trigonata</i> (Schneider, 1802)	MV	LC
18.	Ornate flying snake	<i>Chrysopelea ornata</i> (Shaw, 1802)	MV	NA
19.	Common trinket snake	<i>Coelognathus helena</i> (Daudin, 1803)	NV	NA
20.	Bronzeback tree snake	<i>Dendrelaphis tristis</i> (Daudin, 1803)	NV	NA
21.	Bridal snake	<i>Dryocalamus nympha</i> (Daudin, 1803)	NV	NA
22.	Indian egg-eating snake	<i>Elachistodon westermanni</i> (Reinhardt 1863)	NV	LC
23.	Rainbow water snake	<i>Enhydryis enhydryis</i> (Schneider, 1799)	MV	LC
24.	Anamalai wolf snake	<i>Lycodon anamallensis</i> (Günther, 1864)	NV	NA
25.	Common wolf snake	<i>Lycodon aulicus</i> (Linnaeus, 1758)	NV	NA
26.	Yellow-collared wolf snake	<i>Lycodon flavicollis</i> (Mukherjee & Bhupathy, 2007)	NV	NA
27.	Yellow-spotted wolf snake	<i>Lycodon flavomaculatus</i> (Wall, 1907)	NV	LC
28.	Barred wolf snake	<i>Lycodon striatus</i> (Shaw, 1802)	NV	NA
29.	Green keelback	<i>Rhabdophis plumbicolor</i> (Cantor, 1839)	NV	NA
30.	Banded kukri	<i>Oligodon arnensis</i> (Shaw, 1802)	NV	NA
31.	Russell's kukri	<i>Oligodon taeniolatus</i> (Jerdon, 1853)	NV	LC
32.	Nagarjunasagar racer	<i>Platycephalus bholanathi</i> (Sharma, 1976)	NV	NA
33.	Condanarus sand snake	<i>Psammophis condanarus</i> (Merrem, 1820)	MV	NA
34.	Stout sand snake	<i>Psammophis longifrons</i> (Boulenger, 1890)	MV	LC
35.	Rat snake	<i>Ptyas mucosa</i> (Linnaeus, 1758)	NV	LC
36.	Duméril's black-headed snake	<i>Sibynophis subpunctatus</i> (Duméril, Bibron & Duméril, 1854)	NV	NA
37.	Buff striped keelback	<i>Amphiesma stolatum</i> (Linnaeus, 1758)	NV	NA
38.	Olive keelback	<i>Atretium schistosum</i> (Daudin, 1803)	NV	LC
39.	Checkered keelback	<i>Fowlea piscator</i> (Schneider 1799)	NV	NA

MV-Mildly venomous; NV-Non-venomous; V- Venomous; LC- Least concern; NA-Not assessed; VU-Vulnerable

Plate:1



A. *Naja naja*. B. *Bungarus caeruleus*, C. *Echis carinatus*, D. *Daboia russelli* E. *Calliophis melanurus*

Photo credits: A,D- Bharath simha, B-Kummari Swamy C- BSS,E- Manasa



**A. *Ahaetulla oxyrhyncha*, B. *Boiga trigonata*, C. *Boiga forsteni*, D. *Psammophis longifrons* (Road kill)
E. *Psammophis condanarus* (Road kill)**

Photo credits: A,B,D- Bharath simha, C- Munna, E- Naresh Baja

Plate:3



A. *Eryx conicus*, B. *Eryx johnii* C. *Python molurus* D. *Oligodon arnensis* E. *Amphiesma stolatum*
F. *Fowlea piscator* G. *Ptyas mucosa*
Photo credits: *Bharath simha*

Out of seven families, Colubridae is representing with highest number of 19 genera and 26 species, followed by Elapidae with three genera and four species, Viperidae with three genera and three species, Typhlopidae with two genera and two species, Boidae with one genus and two species and Uropeltidae, Pythonidae both families are representing with single species (Fig. 3). The genus *Lycodon* is dominating with five species followed by *Eryx*, *Bungarus*, *Boiga*,

Oligodon and *Psammophis* each with two species and remaining genera representing with only one species. The present study also revealed that the only seven species of snakes are venomous, with less diversity compared to non-venomous snakes in the state of Telangana. Of all the 39 species, Indian Rock Python (*Python molurus*) is listed under vulnerable category of IUCN.

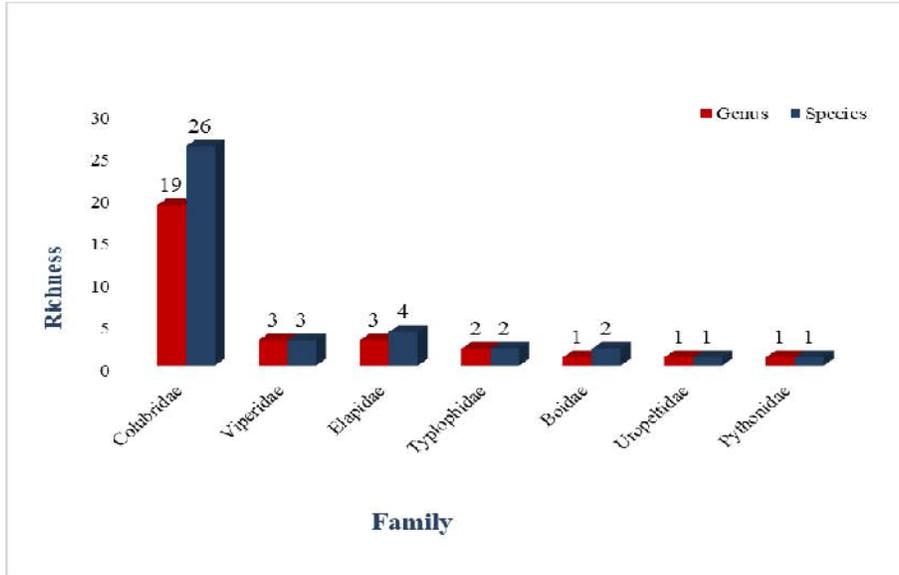


Fig. 3. Genus and species richness with family wise in the Telangana State.

The genus *Lycodon* is representing with five species *L. anamallensis*, *L. aulicus*, *L. flavicollis*, *L. flavomaculatus*, *F. striatus*. While *L. anamallensis* and *L. aulicus* are often confused in the Telangana state. These two species, *L. aulicus* Linnaeus, 1758 and *L. anamallensis* Günther, 1864, primarily vary in head dimensions, collar and band patterns, sex-specific relative tail lengths, hemipenial morphology as well as in genetics (Ganesh & Vogel 2018; Pyron *et al.* 2013) (Plate 4), our personal observation and field studies revealed that the *L. anamallensis* Günther, 1864, a widely distributed from the southern Telangana and central Telangana.

During the study period it was noticed that there are some recent distributional records of five species within the state. In the recent publication Chandra *et al.*, 2021 has reported *Uropeltis ellioti* without mentioning specific location. While in the present field observation it was also known to occur from Nallamala forest. Earlier *Lycodon flavicollis* known to recorded from single location (periphery of the Nehru Zoological Park in the environs of Tadbun Masjid-e-Abubaker Siddiq) (Narayana *et al.*, 2018) currently it was also known to occur from Dongala dharmaram of Medak district,

Baswapur (Kamareddy district), Professor Jayashankar Telangana State Agricultural University (Ranga Reddy district), Sanginenipally (Wanaparthy district) and MVS college (Mahaboobnagar district). The species *Psammophis longifrons* is only known from Boduppall Hyderabad district (Avinash 2017), and also observed couple of road kills from Wanaparthy and Nagarkurnool districts. The species *Sibynophis subpunctatus* was reported from two places from Telangana (Chethan *et al.*, 2017 and Sadasivaiah *et al.*, 2016) and also in the present study observed from Mahavir Harina Vanasthali National Park (Ranga Reddy district) and Somasila (Nagarkurnool district). *Calliophis melanurus* was reported from three locations (Seetharamaraju 2019), now it was also recorded from Nidigonda (Warangal Urban district). The species *Psammophis condanarus* (Merrem, 1820) was the first record (road kill) from Allapur, Yadadri Bhuvanagiri district, Telangana state. The species *Chrysopelea ornate* was rescued from Hyderabad by the Friends of Snake Society near timber depots. It is very clear that this snake may be accidentally transported along with timber or plywood cargo.



**A. *Lycodon aulicus* B. *Lycodon anamallensis* C. *Lycodon striatus*
D. *Lycodon flavicollis***

Photo credits: A. Shanthanu B. Kummari Swamy C. Bharath simha D. BSS

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