

HERPETOFAUNA OF BNHS NATURE RESERVE, MUMBAI, MAHARASHTRA

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KEY WORDS

Herpetofauna, reptiles, amphibians, *Lycodon travancoricus*, BNHS Nature Reserve, Mumbai, Maharashtra.

ABSTRACT

We hereby present a checklist of the herpetofauna of the BNHS Nature Reserve, Mumbai, Maharashtra, which was documented over a period of six years (2016–2022). We report the occurrence of 36 species of reptiles (Order Squamata) and six species of amphibians (Order Anura) belonging to 16 families. The occurrence of an endemic snake, possibly *Lycodon travancoricus* (Beddome, 1870) is also reported with photographs.

STUDY AREA

BNHS Nature Reserve is a dense piece of contiguous forest spread across 33 acres and 35 guntha, located in Goregaon East in Mumbai, Maharashtra. The forest land is nestled between the Dadasaheb Phalke Chitra Nagari aka Film City and Sanjay Gandhi National Park (SGNP), Mumbai. The Aarey Milk Colony Forest is contiguous with these forests.

The land was given to Bombay Natural History Society (BNHS) by the State Government of Maharashtra in 1983. A Conservation Education Centre (CEC) was

established here by the BNHS in 1997. BNHS conducts research and various environmental activities here. The primary objective of this research paper is to prepare a checklist of herpetofauna in this BNHS Nature Reserve. BNHS operates the Conservation Education Centre (CEC) which is situated in the BNHS Nature Reserve located in Goregaon East in Mumbai, Maharashtra.

The habitat here is mostly of the Tropical Dry Deciduous and Tropical Dry Evergreen Forest type. Much of the forest here is dominated by the *Tectona-Albizzia-Terminalia-Holarrhena-Firmiana-Dalbergia-Garuga-Grewia-Adina-Ficus-Madhuca-Caraya-Butea* and bamboo composition.

SGNP is home to various species of flora and fauna, including 25 species of mammals (including leopards), 275 species of birds and 172 species of butterflies (Kasambe, 2012). Many of the species seen in SGNP can be expected and seen in the BNHS Nature Reserve as well as the forest is contiguous and there are no physical barriers for the wildlife to move. In BNHS Nature Reserve 120 species of butterflies have been documented (Kasambe *et al.*, 2018) besides 15 species

of wild mammals which were documented using camera traps (Kasambe 2020).

MATERIALS & METHODS

This paper includes a checklist of reptiles and amphibians with annotations about some observations. Most observations were opportunistic sightings and photographic records during nature trails and occasional night searches in the BNHS Nature Reserve, and inside the Conservation Education Centre (CEC). Often, these herps enter the Centre building and we have to release them outside. All the species were identified from photographs. Handling of these was avoided and snake catcher stick was used to release the animals outside the CEC building. Data about the sightings and rescues was compiled for the duration of six years, from October 2016 till October 2022. A checklist was later compiled from photographs.

Snakes were identified using the field guide by Ashok Captain & Romulus Whitaker (2016). Amphibians, lizards, geckos and skinks were identified using various websites and with the help of researchers mentioned in acknowledgements. Rapid changes are taking place in the taxonomy of amphibians and reptiles, hence latest taxonomic updates were referred to make the records as per recent classifications. The websites <https://reptile-database.reptarium.cz/> and <https://www.indianreptiles.org> (2022) were referred besides research papers, for *Cyrtodactylus varadgirii* (Agarwal *et al.*, 2016), & *Hydrophylax bahuvistara* (Padhye *et al.*, 2015).

RESULTS AND DISCUSSION

The data was compiled over a period of six years, from October 2016 to October 2022, and a checklist was prepared (Table -1). We have documented 36 species of

reptiles (Order Squamata) and six species of amphibians (Order Anura) belonging to 16 families. Family wise diversity of the herpetofauna was found to be Colubridae (11 species); Gekkonidae (5 species); Viperidae, Scincidae & Natricidae (3 species each); Agamidae, Typhlopidae, Elapidae, Dicroglossidae & Rhacophoridae (2 species each); and one species each belonging to families Varanidae, Chamaeleonidae, Pythonidae, Erycidae, Bufonidae & Ranidae.

The management plan of Sanjay Gandhi National Park for 2000-2010 (1999) had listed 48 species of reptiles and 12 species of amphibians in SGNP, Mumbai. Later Mirza and Pal (2008) listed 62 species of reptiles and 14 species of amphibians. Mirza and Sanap (2010) reported 46 species of reptiles and 13 species of amphibians from the Aarey area, Mumbai.

However, the Travancore Wolf Snake *Lycodon travancoricus* (Beddome, 1870) was hitherto unreported from Mumbai area in the published literature. The nearest photographic records of the species are by Sagar Sarang from Matheran in Raigad district. An individual was rescued from the CEC building on 15 August 2022, photographed and released outside. The snake was later identified as possible *Lycodon travancoricus* from photographs (see images). The website <https://reptile-database.reptarium.cz> mention the distribution of *L. travancoricus* as Pakistan, India (Western Ghats, Kerala, Andhra Pradesh, Tamil Nadu, Madhya Pradesh, Orissa, Gujarat?). However, Ganesh *et al.* (2020) suggested further studies to confirm the records from Sindh (now in Pakistan) and Patel & Vyas (2019) have questioned the record from Gujarat. The author also suggest that a voucher specimen should be collected from Mumbai to confirm this record.

Table-1: Checklist of herpetofauna of BNHS Nature Reserve, Mumbai

Sr.	Family / Common Name	Scientific Name
	Family Gekkonidae	
1.	Brook's House Gecko	<i>Hemidactylus brookii</i> Gray, 1845
2.	Spotted Rock Gecko	<i>Hemidactylus maculatus</i> Duméril & Bibron, 1836
3.	Bark Gecko	<i>Hemidactylus leschenaultii</i> Duméril & Bibron, 1836
4.	Deccan Ground Gecko	<i>Cyrtodactylus deccanensis</i> (Günther, 1864)
5.	Giri's Geckoella	<i>Cyrtodactylus varadgirii</i> Agarwal, Mirza, Pal, Maddock, Mishra & Bauer, 2016
	Family Agamidae	
6.	Indian Garden Lizard	<i>Calotes versicolor</i> (Daudin, 1802)
7.	Roux's Forest Lizard	<i>Monilesaurus rouxii</i> (A.M.C. Duméril & Bibron, 1837)
	Family Scincidae	
8.	Common Keeled Skink	<i>Eutropis carinata</i> (Schneider, 1801)
9.	Bronze Grass Skink	<i>Eutropis macularia</i> (Blyth, 1853)
10.	Günther's Supple Skink	<i>Lygosoma guentheri</i> (Peters, 1879) (Syn. <i>Riopa guentheri</i>)
11.	Spotted Supple Skink	<i>Lygosoma punctata</i> (Gmelin, 1799) (Syn. <i>Riopa punctata</i>)
	Family Varanidae	
12.	Bengal Monitor Lizard	<i>Varanus bengalensis</i> (Daudin, 1802)
	Family Chamaeleonidae	

13.	Indian Chameleon	<i>Chamaeleo zeylanicus</i> Laurenti, 1768
	Family Typhlopidae	
14.	Brahminy Worm Snake	<i>Indotyphlops braminus</i> (Daudin, 1803)
15.	Beaked Worm Snake	<i>Grypotyphlops acutus</i> (Duméril & Bibron, 1844)
	Family Pythonidae	
16.	Indian Rock Python	<i>Python molurus</i> (Linnaeus, 1758)
	Family Erycidae	
17.	Common Sand Boa	<i>Eryx conicus</i> (Schneider, 1801)
	Family: Colubridae	
18.	Oriental Rat Snake	<i>Ptyas mucosa</i> (Linnaeus, 1758)
19.	Common Wolf Snake	<i>Lycodon aulicus</i> (Linnaeus, 1758)
20.	Travancore Wolf Snake	<i>Lycodon travancoricus</i> (Beddome, 1870)
21.	Banded Kukri Snake	<i>Oligodon arnensis</i> (Shaw, 1802)
22.	Variegated Kukri Snake	<i>Oligodon taeniolatus</i> (Jerdon, 1853)
23.	Forsten's Cat Snake	<i>Boiga forsteni</i> (Duméril, Bibron & Duméril, 1854)
24.	Montane Trinket Snake	<i>Coelognathus helena monticollaris</i> (Schulz, 1992)
25.	Common Bronzeback Tree Snake	<i>Dendrelaphis tristis</i> (Daudin, 1803)
26.	Duméril's Black-headed Snake	<i>Sibynophis subpunctatus</i> (Duméril, Bibron & Duméril, 1854)
27.	Green Vine Snake	<i>Ahaetulla oxyrhyncha</i> (Bell, 1825)
28.	Gunther's Racer	<i>Platyceps gracilis</i> (Günther, 1862)
	Family: Natricidae	
29.	Green Keelback	<i>Macropisthodon plumbicolor</i> (Cantor,

		1839)
30.	Striped Keelback	<i>Amphiesma stolatum</i> (Linnaeus, 1758)
31.	Checkered Keelback	<i>Xenochrophis piscator</i> (Schneider, 1799)
	Family Elapidae	
32.	Spectacled Cobra	<i>Naja naja</i> (Linnaeus, 1758)
33.	Common Indian Krait	<i>Bungarus caeruleus</i> (Schneider, 1801)
	Family Viperidae	
34.	Bamboo Pit Viper	<i>Craspedocephalus gramineus</i> (Shaw, 1802)
35.	Indian Saw-scaled Viper	<i>Echis carinatus</i> (Schneider, 1801)
36.	Russell's Viper	<i>Daboia russelii</i> (Shaw & Nodder, 1797)
	Family: Bufonidae	
37.	Common Indian Toad	<i>Duttaphrynus melanostictus</i> (Schneider, 1799)
	Family: Dicroglossidae	
38.	Indian Bull Frog	<i>Hoplobatrachus tigerinus</i> (Daudin, 1803)
39.	Indian Burrowing Frog	<i>Sphaerotheca breviceps</i> (Schneider, 1799)
	Family: Ranidae	
40.	Wide-spread Fungoid Frog	<i>Hydrophylax bahuvistara</i> Padhye, Jadhav, Modak, Nameer & Dahanukar, 2015
	Family: Rhacophoridae	
41.	Common Indian Tree Frog	<i>Polypedates maculatus</i> (J.E. Gray, 1830)
42.	Unidentified Cricket Frog	<i>Minervarya</i> sp.

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- <https://www.indianreptiles.org> (as accessed in October 2022).



1. *Hemidactylus cf. brookii*



2. *Hemidactylus maculatus*



3. *Hemidactylus leschenaultii*



4. *Cyrtodactylus deccanensis*



5. *Cyrtodactylus varadgirii*



6. *Calotes versicolor*



7. *Monilesaurus rouxii*



8. *Eutropis carinata*



9. *Eutropis macularia*



10. *Lygosoma guentheri*



11. *Lygosoma punctata*



12. *Varanus bengalensis*



13. *Chamaeleo zeylanicus*



14. *Indotyphlops braminus*



15. *Grypotyphlops acutus*
by Pranav Joshi



16. *Python molurus*



17. *Eryx conicus*



18. *Ptyas mucosa*



19. *Lycodon aulicus*



20. *Lycodon travancoricus*



21. *Oligodon arnensis*



22. *Oligodon taeniolatus*



23. *Boiga forsteni*



24. *Coelognathus helena monticollaris*



25. *Dendrelaphis tristis*



26. *Sibynophis subpunctatus*



27. *Ahaetulla oxyrhyncha*



28. *Platyceps gracilis*



29. *Macropisthodon plumbicolor*



30. *Amphiesma stolatum*



31. *Xenochrophis piscator*



32. *Naja naja*



33. *Bungarus caeruleus*



34. *Craspedocephalus gramineus*



35. *Echis carinatus*



36. *Daboia russelii*



37. *Duttaphrynus melanostictus*



38. *Hoplobatrachus tigerinus*



39. *Sphaerotheca breviceps*



40. *Hydrophylax bahuvistara*



41. *Polypedates maculatus*



42. *Minervarya* sp.