

RESEARCH ARTICLE

Herpetofauna Diversity from Khamgaon, district Buldhana (M.S.) Central India

Bawaskar Prakas S¹ and Bawaskar Kiran S²

¹P.G. Department of Zoology G.S. College, Khamgaon-444303, Dist-Buldhana (M.S.) India.

²Department of Chemistry Narasamma Hirayya College, Kiran nagar , Amravati 444601.

*Corresponding author Email: ksbbiochem@gmail.com | psbmicro@gmail.com

Manuscript details:

Received: 21.09.2016
Accepted: 05.10.2016
Published : 03.11.2016

Editor: Dr. Arvind Chavhan

Cite this article as:

Bawaskar Prakas S and Bawaskar Kiran S (2016) Herpetofauna Diversity from Khamgaon, district Buldhana (M.S.) Central India, *International J. of Life Sciences*, 4 (3): 412-418.

Acknowledgements:

Authors are especially thankful to Snake friends and Wildlifers community including Mr. Mohmad Saikh, Mr. Amol Nawale, Mr. Sagar Bokshe, Mr. Sonu Pithore, Mr. Mangesh Bahurupi, Mr. Abhijit Asode, Mr. Sanju Khanderao, Mr. Hari Gayakwad, Mr. Rameshwar Haramkar, Mr. Atish Gawai, Mr. Sanjay Bharambe, Mr. Avinash Bayaskar, Mr. Shailesh Tastode, and local people from villages for their guideline and valuable support to us.

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ABSTRACT

Preliminary checklist of Herpetofauna diversity from Khamgaon taluk, district Buldhana (M.S.) Central India at co-ordinate Latitude 20.6833, Longitude 76.5666. In present there is no report on Herpetofauna diversity from Khamgaon taluk, so the present study has been carried out during 2010-2015 in an alternatively days and nights herping. The study area covers such as Marshes, grass lands, rocky area, farm lands, scrub lands, forest, hilly area, villages and town. It was observed that 13 species found to be an abundant, 14 species were common, 12 species were uncommon, 9 species were occasional and 10 species were found to a rare. A general trend increased Herpetofauna population was observed in monsoon while comparatively less population of Herpetofauna observed during a winter to early monsoon.

Key words: *Diversity, Herping, Herpetofauna, Khamgaon.*

INTRODUCTION

Herpetofauna that comprises amphibians and reptiles are the most important component of the ecosystem. They are threatened worldwide and are declining rapidly, mostly due to anthropogenic pressures. While conservation of these faunal groups has become priority, the study concerning them is scanty. Herpetofauna comprises both amphibians and reptiles. Amphibians are represented by frogs, toads, caecilians and salamanders, whereas reptiles include crocodiles, turtles, tortoises, snakes and lizards. They are the first vertebrates who conquered the terrestrial ecosystem successfully. These fascinating creatures have invaded varieties of habitats ranging from the hot lowland to the cold mountain summit and from scorching desert to cool forest. Though they are highly diverse and play a significant role in the ecosystem, the studies concerning this fauna are very scanty. Their cryptic nature, low conspicuousness and high seasonal activity have resulted in limited study. Most of the Herpetofauna are threatened and are declining more rapidly compared to birds and mammals (Stuart *et al.*, 2004).

Vidarbha occupies 31.6% of total area and holds 21.3% of total population of Maharashtra. The Vidarbha holds about three quarters of its forest. Vidarbha is one of the most diversified Regions in Maharashtra State of India, with respect to biodiversity. Its healthy climate, mountainous terrain, rugged configuration and sudden fall in elevation are phenomenal and have received notable interest that provides favorable environment for ophidian fauna (Joshi and Tantarapale, 2014). It has 11 districts out of which Buldana is one of them. Khamgaon is a city in Buldana district (M.S.) India. Coordinate at Latitude 20.6833, Longitude 76.5666. The detailed and scattered information on Herpetofauna diversity is available in some of the mentioned studied in Vidarbha. Joshi *et al.* (2014) Review and studied 35 species of Ophidians in Vidarbha region (M.S.) India. Dange (2014) Surveyed a total 68 species of the reptiles fauna of Vidarbha region, Maharashtra, Central India. Kumbhar *et al.* (2013) observed 30 species of reptile fauna of Tadoba-Andhari Tiger Reserve, Maharashtra, India. Nande and Deshmukh (2007) recorded 32 species of snakes from Amravati district including Melghat. Wadkar (2003) recorded 12 species of Ophidians from Amravati University Campus. Charjan (2015) studied 25 snakes species diversity in Akola district of Maharashtra, India. Ingale *et al.* (2014) surveyed 21 species of snake diversity from Malegaon Tehsil of Washim district. Harney (2011) studies 17 species of snakes from Bhadrawati, district Chandrapur M.S. India. Joshi (2009) studied diversity and population dynamics of snakes in Yavatmal district. Captain *et al.* (2005) gave first record of *Elachistodon westermanni* from Wardha district of Maharashtra. Uke *et al.* (2013) Eco diversity distribution and conservation strategy of *Amphiesma stolatum* in Nagpur city, Gore and Joshi (2013) studied the Dicephalic *Naja naja* from Washim district.

Joshi *et al.* (2014) studied population and dynamics of 33 Ophidian species in Buldhana district of Vidarbha region M.S. India, in his Thesis. Joshi (2011) preliminary surveyed occurrence of 22 Ophidian species in Buldhana district, V. Tiwari IFS, Conservator of Forest (2009) surveyed and studied 3 species of Amphibians and 30 species of Reptiles in Buldhana district, Joshi and Tantarapade (2016) studied diversity of 14 Saurian fauna in the Buldhana district, Maharashtra, India. Kakade and Thakur (2015) observed 7 wall lizard species diversity in Buldhana town. Joshi and Pandharikar (2015) recorded Indian

Flap Shell Turtle *Lissemys punctata* (LACEPEDE, 1788) from Purna River, Budhana district, M.S. India. Joshi *et al.* (2013) studied the ecology and behavior of *Coelognathus helena montecolaris* from Buldhana district M.S. Indian. Joshi *et al.* (2013) studied sexual dimorphism in *Xenochrophis piscator* in Buldhana district, Narayanan (2012) recorded Indian Egg Eater Snake *Elachistodon westermanni* in the localities of Shegaon, district Buldhana, Maharashtra, India. In present, there is no report on Herpetofauna diversity from Khamgaon taluk till a date, hence the present study has been conducted over a period of from 2010-2015. To prepare a preliminary checklist of Herpetofauna diversity From Khamgaon taluk district, Buldana (M.S.) Central India.

MATERIAL AND METHODS

Study Area and Methodology

Khamgaon taluk known for being biggest emerged city in Buldana district (M.S.) Central India. Co-ordinates at Latitude 20.6833, Longitude 76.5666. It has 132 villages. A Gyanganga sanctuary is situated at 25 km from Khamgaon city. Khamgaon have hottest summer city in Vidarbha after Nagpur. It has extreme climate. The winters are very cold, where area summer has very hot, summer temperature can go as 49°C. An average rain fall is 694.69 mm. There are no detailed reports on Herpetofauna from this region of Khamgaon taluk, hence the present study has been carried out during 2010-2015 in an alternatively days and nights herping. The study sites were selected as Marshes, Dams, grass lands, Stony and rocky area, farm lands, scrub lands, forest area, hilly area, villages and town. Each of the sites was herping randomly in different seasons depending on whether condition and time including day and nights. The conducted survey was done with the help of visual encounter method (Chambell and Christman 1982, Doan T.M. 2003, Dahanukar and Padhye 2005) as well as by employing randomized walking (Whitaker 2006). Known habitats of Reptilian and Amphibian were thoroughly searched i.e. all micro- habitats (rocks and boulders, dead and fallen logs, dense bushes and grass patches, stone and tree crevices, leaf litters and water bodies) were thoroughly checked using snake hooks and tongs, snake bags, measuring tape, net, torch, etc. The correct identification of reptiles and amphibians was done by referring various books and literatures (Gunther and Albert, 1864; Boulenger, 1890; Smith

1931, 1935a, 1935b, 1943, Daniels, 2002, Whitaker and Dutta 2009, Whitaker 2009).
and Captain 2008, Neelimkumar, 2008, Ahmed, Das

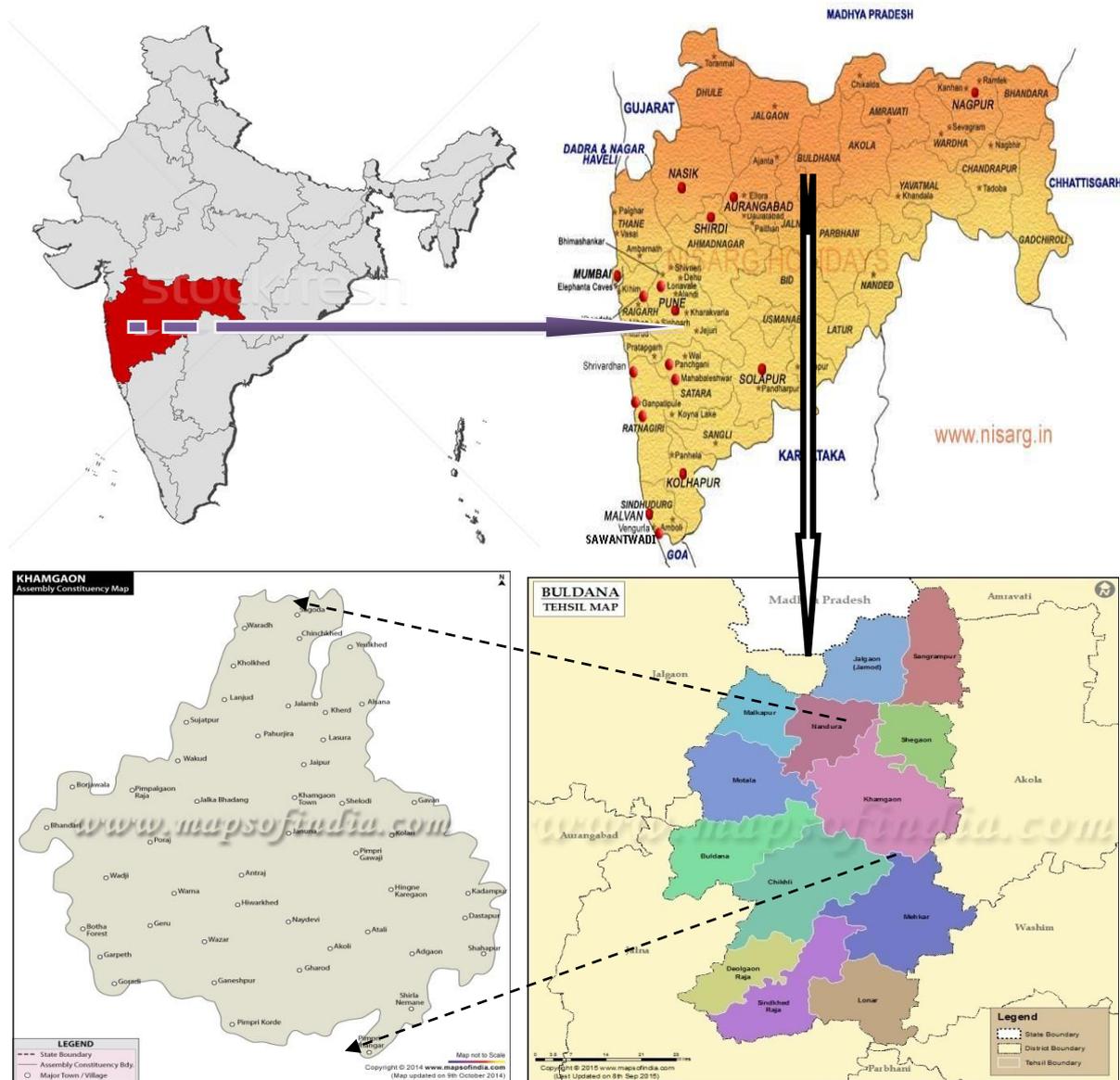


Fig. Map of Study site

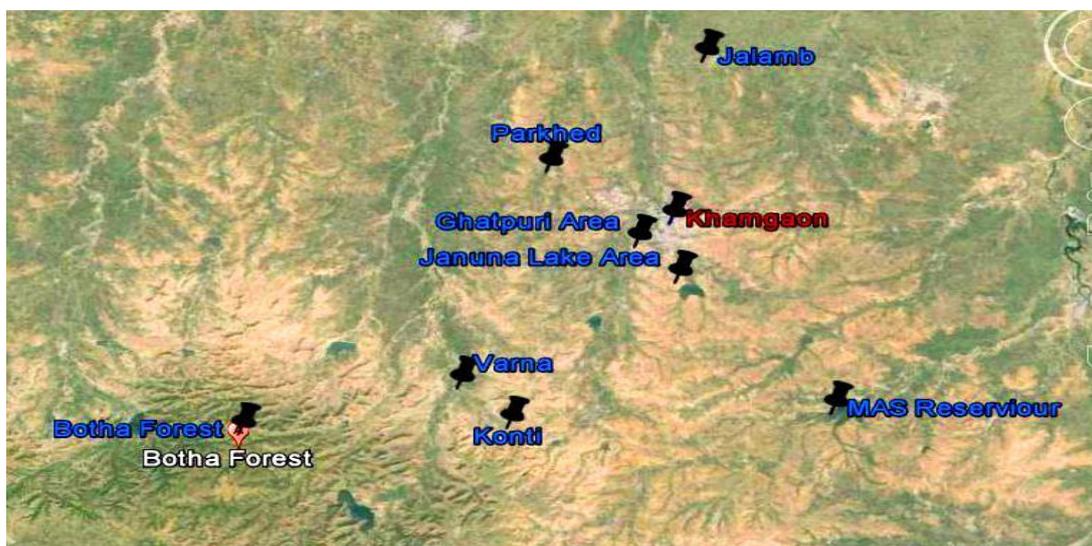
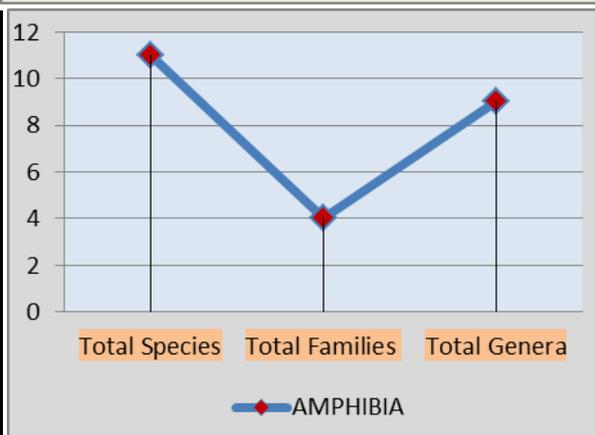
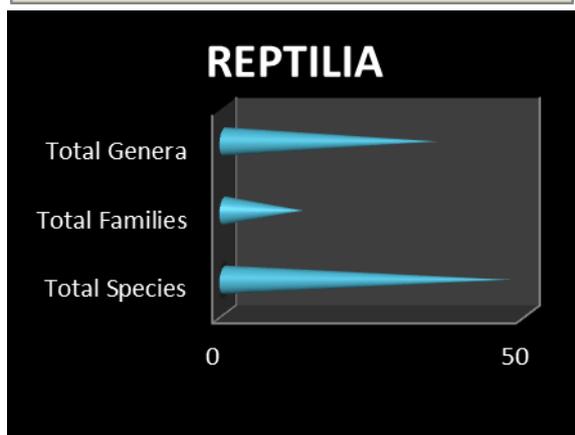
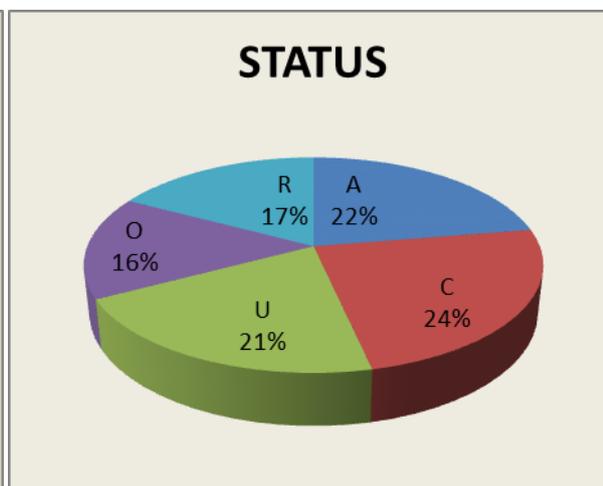
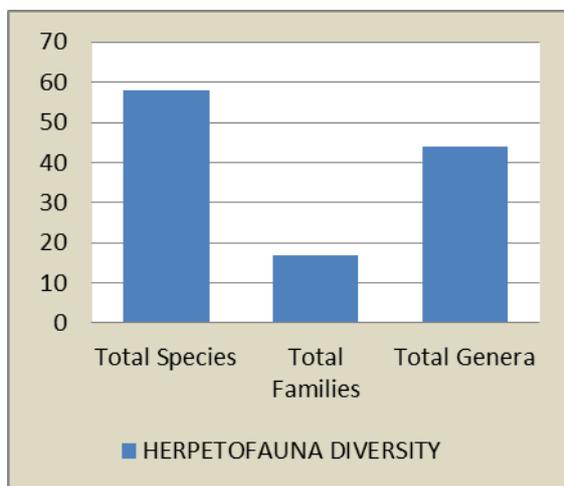
RESULT AND DISCUSSION

A total of 58 species, 44 genera and 17 families of Herpetofauna were encountered in the present study, of which, 47 species of reptiles, belonging to 35 genera and 13 families. Amphibians observed included 11 species belonging to 9 genera and 4 families. Out of which 13 species were found to be an abundant, 14 species were common, 12 species were uncommon, 9 species were occasional and 10 species were found to

a rare. During herping abundantly encounter species were found to be Calotes versicolor, Hemidactylus brooki, Hemidactylus flaviviridis, Eutrophis carinata, Coelognathus helena helena, Lycodon aulicus, Ptyas mucosa, Xenochrophis piscator, Naja naja, Duttaphrynus melanostictus, Euphlyctis cyanophlyctis and Hoplobatrachus tigerinus. Some rare and important sighting were found to be in different location such as Lissemys punctata at Mas Reservoir only once, Geckoella collegalensis at Jalamb village in

farming area, *Eutrophis trivittata* were found at Ghatpuri village area only once, *Ahaetulla nasuta* observed in Konti and Varna villages only 3 times, A dead specimen of *Coronella brachyura* observed on road in Gyanganga (Botha) forest, *Elachistodon westermanni* encounter at Parkhed village only once,

Bangarus sindanus walli, *Calliophis melanurus* & *Trimeresurus gramineus* sighted at Khamgaon town in Chandmari, Saoji lay out & Hansraj Nagar respectively only once and *Uperodon systema* were seen at Januna lake 4 times.



Google map: - Study location of Khamgaon taluk

Table: - Preliminary checklist of Herpetofauna from Khamgaon taluk

Scientific name	Common name	Habitat	Status
REPTILIA			
Trionychidae			
<i>Lissemys punctata</i> (Lecepede,1788)	Indian Flap shell Turtle	Tr,Sr	R
Agamidae			
<i>Calotes versicolour</i> (Daudin,1802)	Common Garden Lizard	ArTr	A
<i>Sitana ponticeriana</i> (Cuvier,1844)	Indian Fan-Throated Lizard	Tr,Sr	C
Chamaeleonidae			
<i>Chamaeleo zeylanicus</i> (Laurenti,1768)	Common Chameleon	Ar	O
Gekkonidae			
<i>Geckoella collegalensis</i> (Beddome,1870)	Kollegal ground gecko	Tr	R
<i>Hemidactylus brookii</i> (Gray,1845)	Brook's Gecko	Ar,Tr,Sr	A
<i>Hemidactylus flaviviridis</i> (Rupell,1835)	yellow-bellied house gecko	Ar	A
<i>Hemidactylus gracilis</i> (Blanford,1870)	Square Spotted Gecko	Tr	C
<i>Hemidactylus leschenaultia</i> (Dumeril & Bibron,1836)	Bark Gecko	Ar,	U
<i>Hemidactylus triedrus</i> (Daudin,1802)	Termite Hill Gecko	Tr,Sr	C
Lacertidae			
<i>Ophisops jerdonii</i> (Blyth,1853)	Jerdon's Snake Eye lizard	Tr,Sr	U
Scincidae			
<i>Eutropis carinatus</i> (Schneider,1801)	Golden Skink	Tr,Sr	A
<i>Eutropis macularia</i> (Blyth,1853)	Common Skink	Tr,Sr	C
<i>Eutropis trivittata</i> (Hardwicke & Gray,1827)	Indian Three banded skink	Tr,Sr	R
<i>Lygosoma lineata</i> (Gray,1839)	Lined Supple Skink	Tr,Sr	U
<i>Lygosoma punctata</i> (Gmelin,1799)	Punctate Supple Skink	Tr,Sr	U
Varanidae			
<i>Varanus bengalensis</i> (Daudin,1802)	Bengal Monitor	Ar,Tr,Sr,Aq	U
Typhlopidae			
<i>Indotyphlops braminus</i> (Daudin,1803)	Brahminy Worm Snake	Tr,Sr	C
<i>Grypotyphlops acutus</i> (Dumeril & Bibron,1844)	Beaked worm Snake	Tr	U
Pythonidae			
<i>Python molurus molurus</i> (Linnaeus,1758)	Indian Python	Ar,Tr,Sr,Aq	O
Boidae			
<i>Eryx conicus</i> (Schneider,1801)	Common Sand Boa	Tr,Sr	C
<i>Eryx johnii</i> (Russell,1801)	Red Sand Boa	Tr,Sr	O
Colubridae			
<i>Ahaetulla nasuta</i> (Lacepede,1789)	Common Vine Snake	Ar	R
<i>Amphiesma stolatum</i> (Linnaeus,1758)	Striped Keelback	Tr	O
<i>Argyrogena fasciolata</i> (Shaw,1802)	Banded Racer	Tr,Sr	C
<i>Boiga trigonata</i> (Bechstein,1802)	Common Cat Snake	Ar	U

<i>Coelognathus helena helena</i> (Daudin,1803)	Trinket Snake	Ar,Tr,Sr	A
<i>Coronella brachyura</i> (Gunther,1866)	Indian Smooth Snake	Tr	R
<i>Dendrelaphis tristis</i> (Daudin,1803)	Bronze Back tree Snake	Ar,Tr,Sr	U
<i>Elachistodon westermanni</i> (Reinhardt,1863)	Indian Egg Eater Snake	Tr	R
<i>Lycodon aulicus</i> (Linnaeus,1758)	Common Wolf Snake	Ar,Tr,Sr	A
<i>Lycodon flavomaculatus</i> (Wall,1907)	Yellow Spotted wolf Snake	Tr	O
<i>Lycodon striatus</i> (Shaw,1802)	Bared Wolf Snake	Tr	O
<i>Micropisthodon plumbicolor</i> (Cantor,1839)	Green Keel back Snake	Tr,	C
<i>Oligodon arnensis</i> (Shaw,1802)	Banded Kukri Snake	Tr	C
<i>Oligodon taeniolatus</i> (Jerdon,1853)	Russell's Kukri Snake	Tr,Sr	U
<i>Psammophis longifrons</i> (Boulenger,1897)	Stout Sand Snake	Ar,Tr,Sr	O
<i>Ptyas mucosa</i> (Linnaeus,1758)	Dhaman / Indian Rat Snake	Ar,Tr,Sr,Aq	A
<i>Sibynophis subpunctatus</i> (Dumeril,1854)	Dumeril's Black Headed Snake	Tr	O
<i>Xenochrophis piscator</i> (Schneider,1799)	Checkered Keel Back Water Snake	Tr,Aq	A
Elapidae			
<i>Bangarus caeruleus</i> (Schneider,1801)	Common Krait	Tr	C
<i>Bangarus sindanus walli</i> (Wall,1908)	Wall's Sind Krait	Tr	R
<i>Calliophis melanurus</i> (Shaw,1802)	Slender Coral Snake	Tr	R
<i>Naja naja</i> (Linnaeus,1758)	Spectacled Cobra	Ar,Tr,Sr	A
Viperidae			
<i>Daboia russelli</i> (Shaw & Nodder,1797)	Russell's Viper	Tr,Sr	C
<i>Echis carinatus</i> (Schneider,1801)	Saw Scaled Viper	Tr,Sr	C
<i>Trimeresurus gramineus</i> (Shaw,1802)	Bamboo Pit Viper	Ar,Tr	R
AMPHIBIA			
Bufonidae			
<i>Duttaphrynus melanostictus</i> (Schneider,1799)	Common India Toad	Tr,Sr,Aq	A
<i>Duttaphrynus stomaticus</i> (Lutken,1864)	Marbled Toad	Tr,Aq	U
Microhylidae			
<i>Microhyla ornate</i> (Dumeril & Bibron,1841)	Ornate Narrow Mouthed Frog	Tr,Sr,Aq	C
<i>Kaloula taprobanica</i> (Parker,1934)	Painted Frog	Ar,Tr,Aq,	O
<i>Uperodon systoma</i> (Schneider,1799)	Marbled Balloon Frog	Tr,Aq	R
Dicroglossidae			
<i>Fejervarya limnocharis</i> (Gravenhorst,1829)	Indian Cricket Frog	Tr,Aq	C
<i>Euphlyctis cyanophlyctis</i> (Schneider,1799)	Indian Skipper Frog	Tr,Sr,Aq	A
<i>Hoplobatrachus tigerinus</i> (Daudin,1803)	Indian Bull Frog	Tr,Sr,Aq	A
<i>Sphaerotheca breviceps</i> (Schneider,1799)	Indian Burrowing Frog	Tr,Sr,Aq	A
<i>Sphaerotheca dobsonii</i> (Boulenger,1882)	Dobson's Burrowing frog	Tr,Sr,Aq	U
Rhacophoridae			
<i>Polypedates maculatus</i> (Gray,1830)	Common Tree Frog	Ar,Sr,Aq	U

Abbreviations used in the Table

Status: - A-Abundant, C-Common, U-Uncommon-Occasional and R-Rare.

Habitat: - Ar- Arboreal, Tr- Terrestrial, Sr-Stony & Rocky, and Aq-Aquatic.

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