International Journal of
Life Sciences
International Peer Reviewed Open Access Refereed Journal

Int. J. of Life Sciences, 2024; 12 (4): 465-470
ISSN:2320-7817(p) | 2320-964X(o)

Research Article Open Access

Diversity and Distribution of Ophidian species from Gadchiroli Tahsil, Maharashtra, India

Rajendra V. Tijare* and Saurabh N. Satpute

Department of Zoology, Govt. Science College, Chamorshi Road, Gadchiroli, MS, India
*Corresponding Author: rvtijare@gmail.com

Manuscript details:

Received: 28.11.2024
Accepted: 25.12.2024
Published: 31.12.2024

Cite this article as:
Rajendra V. Tijare and Saurabh N. Satpute (2024) Diversity and Distribution of Ophidian species from Gadchiroli Tahsil, Maharashtra, India., *Int. J. of Life Sciences*, 12 (4): 465-470.

Available online on http://www.ijlsci.in
ISSN: 2320-964X (Online)
ISSN: 2320-7817 (Print)

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third-party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

ABSTRACT

Gadchiroli tahsil consists of 106 villages having total population 145972 and located at 20° 11' 5.5392'' N and 79° 59' 41.2692'' E. In India many researchers worked on diversity and distribution of snakes. Some researchers also work on diversity and distribution of snakes present in various regions of Maharashtra. Present study of diversity and distribution of snakes was carried out in Gadchiroli taluka only. During the investigation period total 278 snakes of 26 species from 06 families were recorded including venomous, semi venomous and nonvenomous species. Among them 06 species of venomous (V) snake were observed while 04 & 16 species were of semi venomous (SV) and nonvenomous (NV). Snakes were rescued from different places of Gadchiroli taluka and safely released to their natural habitat. Most of the snake species were spotted during travelling for rescuing operations. *Naja naja* (Cobra), *Xenochrophis piscator* (Diwad), *Daboia russelii* (Viper), *Ptyas mucosa* (Dhaman) and *Amphiesma stolatum* (Naneti) are frequently observed while *Boiga forsteni* (Manjarya), *Python molurus* (Ajgar) spotted rarely. The snakes may migrate towards human societies in search of food due to destruction of their natural habitat.

Keywords: *Diversity, distribution, ophidian and Gadchiroli*

INTRODUCTION

Snakes play very important role in the food chain. In India around 330 species of snakes are noted. Amongst these there is a lot of diversity in terms of shape, length, colour and other features. The smallest snake the Worm Snake is only of 15 cm. long. At the other extreme is the Reticulated Python that can grow up to 11 meter long. Very few of these are venomous. Snakes are found in diverse geographical conditions; they can be seen in the Himalayas, our river-systems, gorges, grasslands as well as in dense forests.

Snakes are very important creatures in the nature because as predators they feed on many harmful bugs and insects.

They are important to farmers because they eat mice, rats, and all other small mammals those may destroy crops and also control the rodent population. Snake venom is very important in synthesizing various medically important drugs. Keeping view of their importance, absence or removal of snakes may directly affect on the balance of the ecosystem (Bansode, et.al., 2016).

Based on the capacity to produce venom, snakes can be classified into three types - non-venomous, semi-venomous and venomous (Khaire, 2018). The semi-venomous snakes are also dangerous but compared to the venomous ones, their bites are less likely to be fatal. However, for their prey, the bites are lethal indeed.

In the world there are more than 3000 species of snakes, out of which only 600 species are poisonous, others are non-poisonous. In India more than 330 species of snakes are found and only 69 are poisonous including 29 species of sea-snakes and 40 species of land snakes. The vipers, cobras, kraits and coral-snakes are poisonous snakes in India. Today Many species of snakes are going towards the extinction due to the misconceptions.

In India many researchers worked on diversity and distribution of snakes. Lalremsanga et.al. (2018) studied the role of environmental factors on distribution and diversity of snakes of Mizoram state while Pradhan et.al (2014) studied diversity and distribution of snakes found in hilly areas of Western Orrisa region. Sirsath et.al. (2016), Jadhao et.al. (2018), Kale et.al. (2019), Pawar et.al (2020), Makne (2021) were focused on diversity and distribution of snakes observed in various region of Maharashtra. Bawankule et.al (2023) reported first occurrence of rare leucistic spectacled cobra from Bhandara district of Maharashtra. Diversity of Snakes in and Around Mangoan, Western Ghats of Maharashtra was studied by Tingare (2024). Deshpande (2024) studied Scenario of Snake Diversity in and around Ramkrishna Nagar Parbhani, Maharashtra State India

The survey was carried out during June 2023 to May 2024 in Gadchiroli Taluka of Gadchiroli district of Maharashtra State of India. Primary data was collected by personal visit on call to collect the information regarding rescuing of snakes. Secondary data include scientific literature, project reports. In addition to this some other related information were collected from villagers where the rescue operation took place.

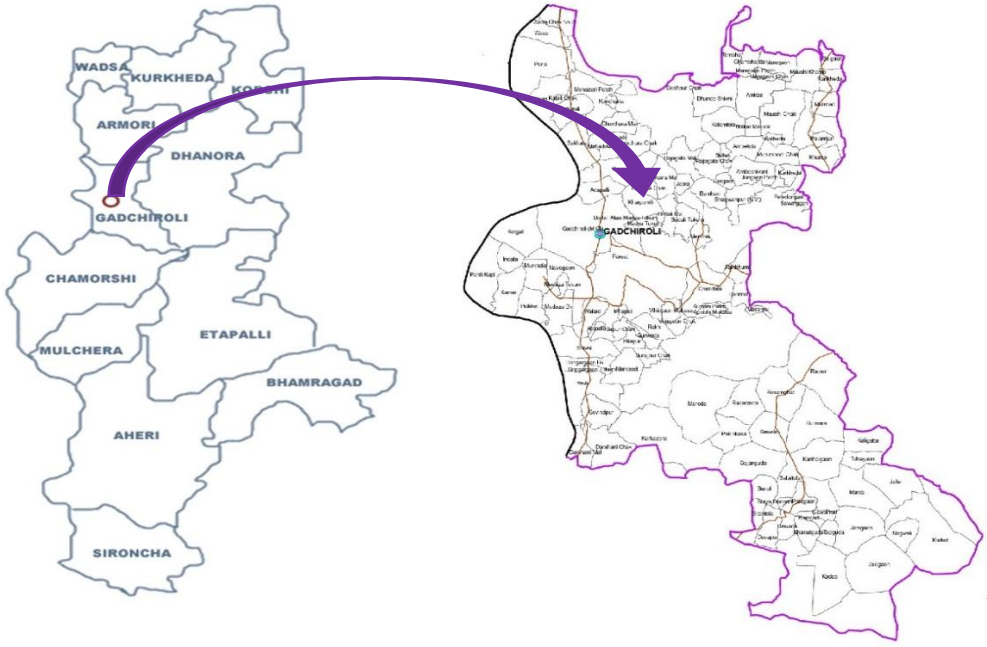

Fig 1: (a) Gadchiroli District Map **Fig1:(b) Gadchiroli Taluka Map**

MATERIAL & METHODS

The snakes caught during rescue operation and observed while travelling to villages for rescue operations were studied and identified up to species level on basis of morphological characters with the help of available scientific keys. (Whitaker; 2004). After identification snakes were snapped by using DSLR camera and then releases to their natural habitat. During conducting snake catching and rescue operations, following methods are adopted for the safety of snake and rescuer.

- Use of thick gloves and boots which protect hands and feet from snake bites and scratches.
- Use of Snake tongs or grabbers to safely grasp and handle snakes from a distance without any injury to snakes.
- Snake bags or containers used to safely transport captured snakes with proper ventilation and is escape-proof.
- After contacting the relevant authorities captured snakes were released to suitable location i.e. their natural habitat in nearby forest.
- Collected data and information of snake species from local peoples and keep records of the location, species, size, and condition of captured snakes for research and documentation purposes.

OBSERVATION

S. No.	Family	Scientific Name	Common Name	Local Name	Status
1	Elapidae	*Naja naja*	Indian Spectacled Cobra	Nag	**V**
2	Elapidae	*Bungarus fasciatus*	Banded Krait	Kala Manyar	**V**
3	Elapidae	*Bungarus caeruleus*	Common Krait	Manyar	**V**
4	Viperidae	*Daboia russelii*	Russell's Viper	Ghonas	**V**
5	Viperidae	*Echis carinatus*	Saw Scaled Viper	Phoorse	**V**
6	Elapidae	*Calliophis melanurus*	Slender Coral Snake	Povala	**V**
7	Colubridae	*Ahaetulla nasuta*	Green Vine Snake	Harantol	**SV**
8	Colubridae	*Ahaetulla pulverulenta*	Brown Wine Snake	Tapkiri Harantol	**SV**
9	Colubridae	*Boiga trigonata*	Common Cat Snake	Manjarya	**SV**
10	Colubridae	*Boiga forsteni*	Forsten's Cat Snake	Manjarya	**SV**
11	Typhlopidae	*Ramphotyphlops braminus*	Brahminy Worm snake	Kanada	**NV**
12	Pythonidae	*Python molurus*	Indian Rock Python	Ajgar	**NV**
13	Boidae	*Eryx johnii*	Red Sand Boa	Matikhaya/ Dutondya	**NV**
14	Boidae	*Gongylophis conicus*	Common Sand Boa	Mandul / Dutondya	**NV**
15	Colubridae	*Coelognathus helena*	Common Trinket Snake	Taskar	**NV**
16	Colubridae	*Ptyas mucosa*	Indian Rat Snake	Dhaman	**NV**
17	Colubridae	*Oligodon arnensis*	Banded Kukri	Kukari	**NV**
18	Colubridae	*Oligodon taeniolatus*	Russell's Kukri Snake	Vividha-rangi Kukari	**NV**
19	Colubridae	*Lycodon aulicus*	Common Wolf Snake	Kawadya	**NV**
20	Colubridae	*Lycodon striatus*	Barred Wolf snake	Patteri Kawadya	**NV**
21	Colubridae	*Sibynophis subpunctatus*	Dumeril's Black Headed Snake	Kaltondya	**NV**
22	Colubridae	*Xenochrophis piscator*	Checkered Keel Back Snake	Dhondya / Pan Divad	**NV**
23	Colubridae	*Amphiesma stolatum*	Buff Striped Keel Back Snake	Naneti	**NV**
24	Colubridae	*Atretium schistosum*	Olive Keelback snake	Shewali Naneti	**NV**
25	Colubridae	*Argyrogena fasciolata*	Banded Racer Snake	Dhurnagin	**NV**
26	Colubridae	*Dendrelaphis tristis*	Bronze back Tree Snake	Zadsap	**NV**

V - Venomous, **SV** - Semi-Venomous & **NV** - Non-Venomous

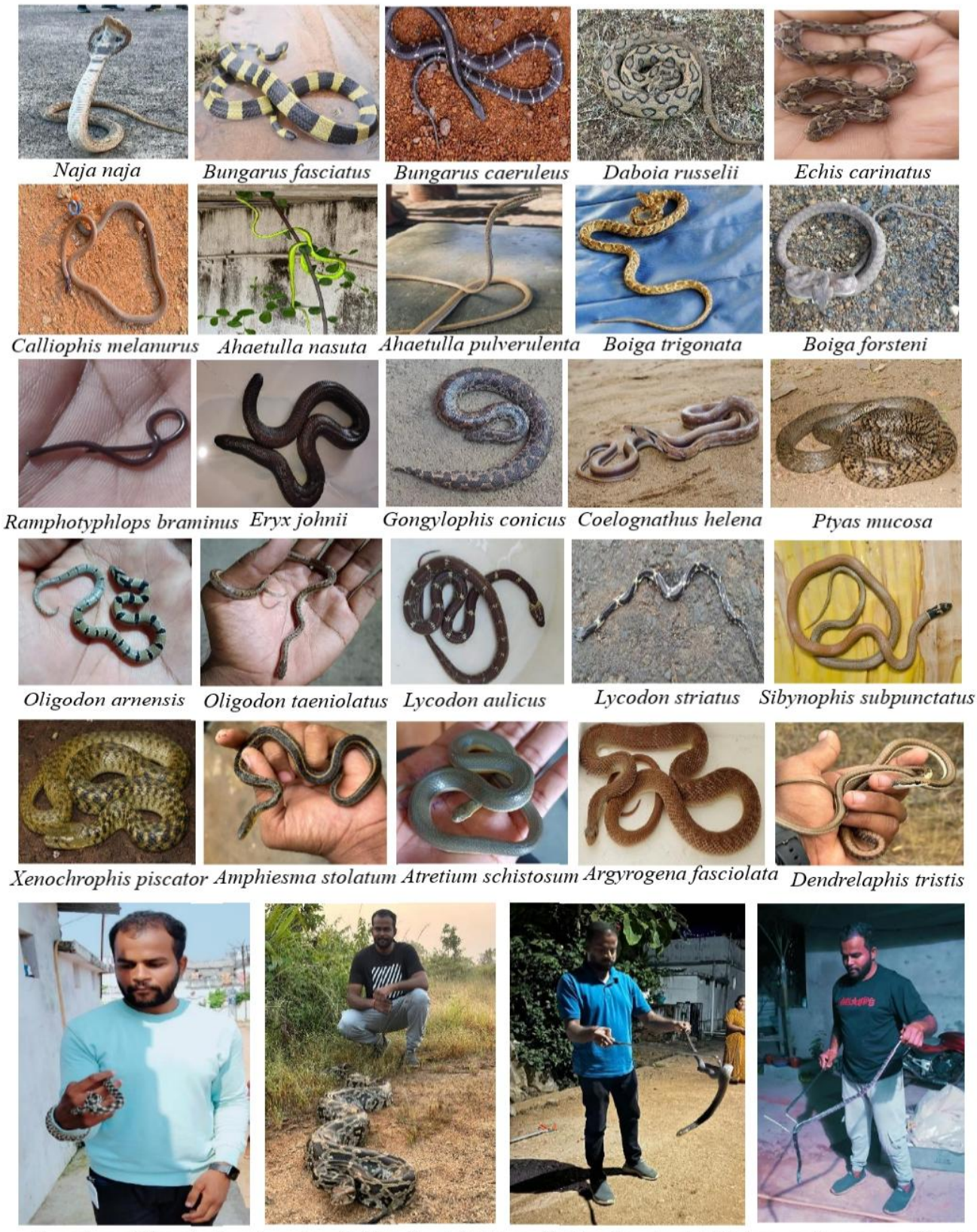

Fig. 1: Photographs of spotted and rescued snakes.

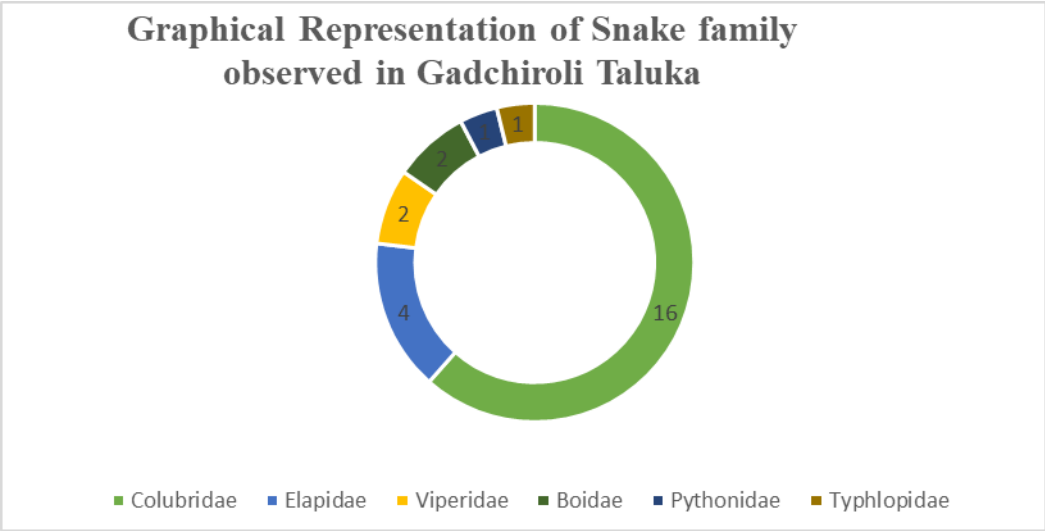

Fig. 2: Graphical Representation of Snake family observed in Gadchiroli Taluka

RESULTS & DISCUSSION

During the investigation period total 278 snakes of 26 species from 06 families were recorded including venomous, semi-venomous and nonvenomous species. Largest number of snakes were detected from family Colubridae i.e. 16 species. From family Elapidae 04 species were observed which are followed by Viperidae 02 species, Boidae 02 species, Pythonidae 01 species and Typhlopidae 01 species. Among all of them 06 species of venomous (V) snake were observed while 04 were of semi venomous (SV) and 16 nonvenomous (NV) species. *Naja naja* (Cobra), *Xenochrophis piscator* (Diwad), *Daboia russelii* (Viper), *Ptyas mucosa* (Dhaman) and *Amphiesma stolatum* (Naneti) are frequently observed in nearby residential places. *Ahaetulla nasuta* (Green Wine Snake) was observed in bushes. Most of the species were observed in bushy and grassland habitat around the villages. The species may migrate in residential areas due to loss of their habitat and arriving in search of food. The frequency of rescuing of snakes was comparatively more in rainy season than winter and summer. Most of the poisonous and non-poisonous species were caught nearby Gadchiroli city due to civilization. *Boiga forsteni* (Manjarya), *Python molurus* (Ajgar) observed in villages during the study period. *Eryx johnii* and *Gongylophis conicus* (Sand Boa) observed rarely. *Bangarus* sp. were rescued from villages and also observed in paddy fields. *Oligodon* sp. and *Lycodon* sp. were commonly observed near human habitat. *Echis carinatus* (Phoorse) was spotted in fields as their habitat is anthills and holes. *Gongylophis conicus* (Common Sand Boa) from family Boidae is globally threatened species spotted very rarely in the region (Karode and Khan, 2022). During rescue operation Viper, Cobra, Banded Krait, Common Krait were rescued from Indala, Navegaon, Bothali and Karamtola villages respectively. The Indian rock python was spotted at Lanzeda while Bronzeback tree snake was caught from Govt. Science College Gadchiroli premises. Snakes from Colubridae family were more spotted probably due to adaptive favourable ecological conditions (Tingare, 2024).

CONCLUSION

As snakes are integral parts of our planet's ecosystems, cultures, and medical research implementation of conservation measures are essential for maintaining biodiversity. By understanding their importance in ecosystems and respecting their cultural significance, we can work towards coexisting harmoniously with these remarkable creatures while preserving the biodiversity of our planet for future generations. Due to lack of knowledge and threat, killing of snakes is routine practice in rural and urban areas also. This practice of human being leads to decline the number of snake species day by day. To prevent such type of practices the knowledge of poisonous, semi-poisonous and non-poisonous snakes is very important. To protect the biodiversity the rescue of snakes should be without any harm and after rescuing releasing them to

their natural habitat is essential. The present study is an attempt to collect the information, occurrence, abundance of species, develop awareness among peoples and conservation of snake fauna in this region which may play pivotal role in conservation of the biodiversity.

Conflict of Interest: The authors declare no conflict of interest in relation to this research.

Acknowledgement:
The authors are thankful to Principal, Govt. Science College, Gadchiroli for their constant support and providing the research facility for this research work.

Data Availability Statement: Not applicable.
Correspondence and requests for materials should be addressed to Author

Peer review information
IJLSCI thanks the anonymous reviewers for their contribution to the peer review of this work. A peer review file is available.

Reprints and permissions information is available at https://www.ijlsci.in/reprints

REFERENCES

Bansode; S.A., More; V.R. and Mirza; K.A. (2016): A Study on snakes from Mokhada and Jawhar (Dist. Palghar) Maharashtra, India, International Journal of Fauna and Biological Studies, Vol. 3 (5), ISSN 2347-2677, pp. 103-115.

Bawankule; V, Walthare; A and Bhandarkar; S. (2023): First Occurrence Report of Rare Leucistic Spectacled Cobra, Naja naja (Linnaeus 1758) In Maharashtra India, Journal on New Biological Reports, ISSN 2319 – 1104 (Online), pp. 14-18.

Deshpande RP (2024) Present Scenario of Snake Diversity in and around Ramkrishna Nagar Parbhani, Maharashtra State India, *Int. J. of Life Sciences*, 12 (3): 395-397.

Jadhao; P.L., Chavan; S.P. and Trimukhe, H.S. (2018): Snake species diversity and their distribution in and around Nanded city, Maharashtra, India, Journal of Entomology and Zoology Studies 2018; Vol. 6(4), ISSN: 2349-6800, pp. 1855-1860.

Kale; G.B., Vairale; S. and Ghait; S.N. (2019): Study of Snake Species Diversity in Rural and Semi Urban Areas of Buldhana district of Maharashtra, India, International Journal of Lifesciences, Special Issue A 13, ISSN 2320-7817, pp. 219-225.

Karode; A. and Khan; B. (2022): Diversity of Snakes in Dindori, District Madhya Pradesh, India, International Journal of Creative Research Thoughts, Vol. 10 (9), ISSN 2320-2882, pp. 520-525.

Khaire, Neelimkumar (2018): Snakes, Jotsna Publication, 2nd Ed., ISBN 13978-8179252307, pp.96.

Lalremsanga; H.T., Saipari; S. and Chinliansiama (2018): Diversity of Snakes (Reptilia: Squamata) and Role of Environmental Factors in Their Distribution in Mizoram, Northeast India, Advances in Environmental Chemistry, pp. 265-268.

Makne, H.D. (2021): A Survey on Diversity of Snakes found in and around Dhanlakmi Nagar, Parbhani, M.S. India, Journal of Emerging Technologies and Innovative Research, Vol. 8 (12), ISSN 2349-5162**,** pp. 424-428.

Pawar; P.R., Rokade; A.G., Supnekar; M.P., Meshram; L.N., Pawae; N.B. and Gavhane; N.B. (2020): Diversity and Distribution of Snakes in Adjoining Areas of Panvel, Navi Mumbai, West Coast of India, International Journal of Zoological Investigations, Vol. 6 (2), ISSN: 2454-3055, pp. 289-300.

Pradhan; S., Mishra; D. and Sahu, K.R. (2014): An Inventory and Assessment of Snake Diversity of Gandhamardan Hills Range of Western Orissa, India. International Journal of Pure and Applied Zoology, Vol. 2 (3), ISSN 2320-9577, pp. 241-245.

Sirsath; C.V., Patil; M.U. and Vijay Ujwal (2016): Analysis of Data on Snakes Diversity and Ecological Status from Aurangabad District, (MS) India, Bioscience Discovery, Vol. 7(2), ISSN 2229-3469 pp. 162-165.

Tingare; B.P. (2024): Diversity of Snakes in and Around Mangoan, Western Ghats, (M.S.), India, International Journal of Advanced Research in Science, Communication and Technology, Vol.4 (3), ISSN (Online) 2581-9429, pp.139-140.

Whitaker, R. and Ashok Captain (2004): Indian Snakes: A Field Guide, Draco Publication, Chennai, ISBN-10: 8190193695, pp 504.

© The Author(s) 2024

Publisher's Note
IJLSCI remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.