IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Ecology And Morphology Of *Calotes Versicolor* (Daudin, 1802) From Buldana District.

THAKUR A.C

SHRI SHIVAJI ARTS COMMERCE AND SCIENCE COLLEGE MOTALA, DISTRICT- BULDANA

ABSTRACT

The present study provides the detail status about the diversity of *Calotes versicolor* in Buldana district of Maharashtra. Buldana is the westernmost district of Vidarbha region in Maharashtra, situated in the Tapi and Godavari basins Indian reptiles does not provide a basis for direct verification of the information presented. The present study has been carried out during 2019-2021 in the study area like Grass land, Rocky area, Forest area , Village and Town area. The presence of the *Calotes versicolor* varies in different months indicating the Buldana has positive environmental setup for the *Calotes versicolor.*

KEYWORDS- Buldana, Maharashtra, *Calotes versicolor*, diversity.

INTRODUCTION

Lizards have gained recent attention as potential model organisms for studying evolutionary and ecological questions because of their unique body form and their ectothermic nature. They play a significant role in any ecosystem because they form a vital part of the food chain as a prey as well as a predator. Buldana district is situated in Amravati division of Maharashtra state in Western India. The name of district is derived from the district headquarter. Buldana is probably a corrupt form of *Bhil Thana,* (Central Provinces District Gazetteers. 1910) that means 'The place of Bhils' (Buldana Gazetteers 2014). Buldana district is situated at the westernmost border of Vidarbha region of Maharashtra and is 500 km from the state capital, Mumbai.

Buldana district lies between 19°51' and 21°17' N. latitude and 75°57' and 76°59' E. longitude. The district has a total area of 9745 square kilometers.

REVIEW OF LITERATURE

The aim of the present review of the herpetology related literature is for providing a general background regarding the important development in the field of lizard diversity related studies. Understanding lizard diversity is essential for assessing their role and influence in ecological systems. Rigorously collected demographic data can reveal important aspects of a species' ecology. The handbook of Indian Reptiles by Daniel (1983) As well many researchers had also given their valuable contribution in enrichment of knowledge about lizards in Indian environment like Murthy (1985) had given the classification and distribution of the Reptiles in India as well as he studied the rare snakes of India. Tikedar and Sharma (1992) are proving to be valuable contribution to the reptile's study; Das (1997) published checklist of the Reptiles of India with English Common name. Wadatkar (2003) documented the herpetofauna of Amravati university campus. Sharma (2007) studied the fauna of India and the adjacent countries. Giri and Bauer (2008) observed a new ground-dwelling *Hemidactylus* (Squamata: Gekkonidae) from Maharashtra. Joshi (2014) studied the basking activity of monitor lizard during 18 to 24 October of 2014 from an agriculture field of Jalgaon (Jamod), District Buldhana of Maharashtra (India). Kakde and Thakur (2015) studied the diversity of wall lizards from Buldhana.

METHODOLOGY

The present study was carried out during 2019-21 in Buldana district. This study aims to analyze the **R**emote **S**ensing (RS) and **G**eographical **I**nformation **S**ystem (GIS) based distribution of the *Calotes versicolor* in Buldana Region. With the advent of GIS-based spatial statistical software tools, data intensive techniques like trend-surface analysis or fractal analysis, etc. was employed in studies (Julián 2008). The obtained details of GIS were analyzed quantitatively to determine the bio-geographic regions of *Calotes versicolor* diversity. The Buldana district has diverse habitat. During study, Pilot survey was made by 'Visual encounter method' as well by employing randomized walking (Joshi, 2014) and interviewing the native people (Gayathri *et al.*, 2016). Selected area was randomly explored on the basis of possibility of availability of the species. The different important details like natural history and behavior was recorded carefully which includes the habitat, habit, food, mode of activeness that is Nocturnal or Diurnal; reproduction tactics like mating season, mating behavior, mating, period and mode of breeding, size of egg cluster and number of young born, etc. were also recorded in nature. After detection, specimen was identified with the help of visible structural features. For identification and comparative studies of observed specimens, keys and methods suggested by Daniel (2002), Das (2003) and Ahmed *et al.*, (2007) were adopted. IUCN status of each encountered species were categorized on basis of Molur *et al*. (1998), Kumbhar *et al.* (2013); Alexander and Jayakumar (2014). As local (vernacular) names are according to native people of study area, so they may be varies from area to area.

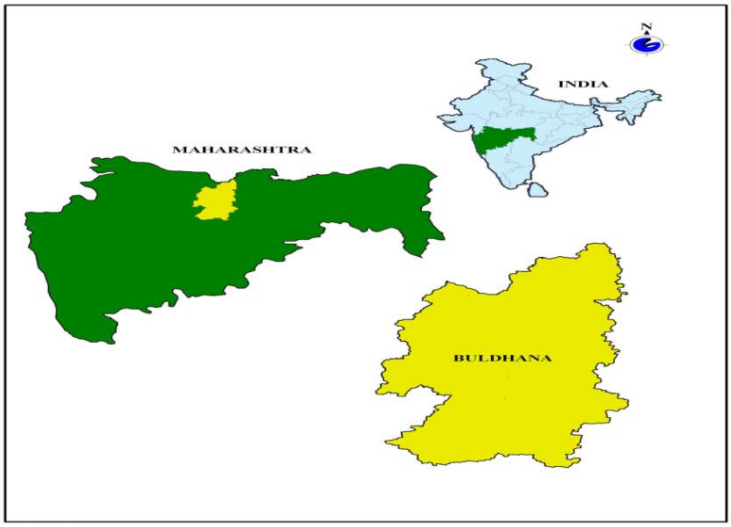


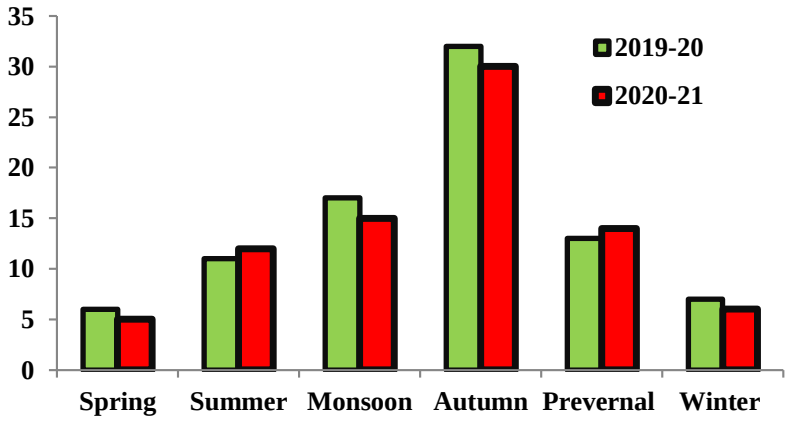
Figure: Location of Buldana District, Maharashtra, India

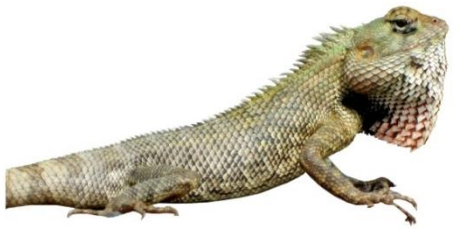
OBSERVATION

Species showed its abundant status. Length snout-to-vent 11 cm total length 38 cm male broader than female. Two small groups of spines perfectly separated from each other, above each tympanum. Dorsal crest moderately elevated on the neck and anterior part of the trunk, extending on to the root of the tail in large individuals, and gradually disappearing on the middle of the trunk in younger ones. The scales behind the lower jaw are much smaller than the others. The hind foot not much longer than the head in the adult, whilst it considerably longer in the young. The upper coloration uniform brownish to yellowish; ground-colour generally a light brownish olive, but the lizard can change it to bright red, to black, and to a mixture of both.

The breeding-season in the months of May and June, males became highly territorial during and get a bright red throat. They discourage intruding males by brightening their red heads and doing "push-ups". Each tries to attract a female by inflating his throat and drawing attention to his handsomely coloured head. Oviparous female laid about 10 to 20 eggs, buried in moist soil. The eggs are long, spindle-shaped and covered with a leathery skin. They hatch in about 6 to7 weeks; able to breed at about 1 year old.

Figure : Overall occurrence of species





Calotes versicolor

RESULT AND DISCUSSION

The patterns of species distribution across geographical areas can usually be explained through a combination of historical factors such as: speciation, extinction, continental drift, and glaciations. Through observing the geographic distribution of species, we can see associated variations in sea level, river routes, habitat, and river capture. Additionally, this science considers the geographic constraints of landmass areas and isolation, as well as the available ecosystem energy supplies (Trewick, 2016). In the present study, total 168 individuals were reported out of which 86 were reported during February 2019 to January 2020 while 82 were reported during February 2020 to January 2021. The monthly fluctuation in occurrence was also observed. During the study period maximum occurrence was reported in monsoon and autumn while minimum reported during winter

LITERATURE CITED

Alexandar, R.; Jayakumar, J. (2014). Reptiles of Ousteri Riparian Areas, Puducherry, India. Reptile Rap, 16 (3): 6-14

Daniel, J. C. (1983). The Book of Indian Reptiles. Journal of Bombay Natural History Society. Mumbai. pp 1-141

Daniel, J. C. (2002). The Book of Indian Reptiles and Amphibians. Bombay Natural History Society. Oxford University Press. pp. 1-238

Das, A.; Ahmed, M. F.; Lahkar, B. P.; Sharma, P. (2007). A preliminary report of reptilian mortality on road due to vehicular movement near Kaziranga National Park, Assam, India. Zoos' Print Journal 22(7): 2742–2744

Das, I. (1997). Checklist of the Reptiles of India with English Common name Hamadryad. 22 (2): 32-45.

Gayathri, S.; Jayashankar, M.; Avinash, K. (2016). A pilot-survey to assess the diversity and distribution of reptilian fauna in Taralu Village, abutting the Bannerghatta National Park, Karnataka, India. Reptile Rap 18(11): 3-18

Giri, V. B.; Bauer, A. M. (2008). A new ground-dwelling Hemidactylus (Squamata: Gekkonidae) from Maharashtra, with a key to the Hemidactylus of India. Zootaxa 17: 21-34.

Joshi, P. S. (2014). Diversity and population dynamics of ophidian fauna from Buldhana District, Maharashtra (India), Thesis Submitted to S. G. B. A. University, Amravati. pp 1-260.

Julián M. N., 2008. Ecological biogeography: a review with emphasis on conservation and the neutral model. *Gayana* 72 (1): 102-112

Kakde, V. R.; Thakur, A. C. (2015). Diversity of Wall Lizards in Buldhana Town, Maharashtra. Online International Interdisciplinary**.** Research Journal 5: 77-80.

Kumbhar, A.; Yele, B.; Shinde, S; Dashahare, S. (2013). Observation on Reptilian Fauna of Tadoba – Andhari Tiger Reserve, Maharashtra, India, World Journal of Zoology, 8: 397-400

Molur, S.; Nameer, P.O.; Walker, S. (1998). Report of workshop "Conservation Assessment and Management Plan for Mammals of India, Zoo Outreach Organization, Conservation Breeding specialist group, India, Coimbatore, India. pp. 1-175.

Murthy, T. S. N. (1985). Classification and distribution of the Reptiles of India. The Snake 17: 48-71

Sharma, R. C. (2007). The fauna of India and the adjacent countries. Reptilia (Serpentes) -111 Published by the Director, Zool. Surv. India,. 410pp

Tikedar, B. K.; Sharma, R. C. (1992). Handbook of Indian Reptiles. Zoological Survey of India, Kolkota. 250pp+ 42plates.

Trewick, S. (2016). International Encyclopedia of Geography: People, the Earth, Environment and Technology. John Wiley and Sons, Ltd.1236 pp.

Wadatkar, J. S. (2003). Herpetofauna of the Amravati university campus. Mahar-ashtra. Zoos Print J.19(2): 1381-1382