



ECOLOGY AND BEHAVIOUR OF *Hemidactylus leschenaultia* (Dumeril and Bibron, 1836) FROM BULDANA DISTRICT.

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ABSTRACT

The present study provides the detail status about the diversity of *Hemidactylus leschenaultia* 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 *Hemidactylus leschenaultia* varies in different months indicating the Buldana has positive environmental setup for the *Hemidactylus leschenaultia*.

KEYWORDS- Buldana, Maharashtra, Vidarbha, 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

Validity of the species listed in the earlier checklists of India published in the past two decades has been reviewed. Among the publications pertaining to reptilian taxonomy and species occurrences in India the works of Malcolm Smith (1931, 1935a, 1943), though more than half a century old, still remains the most important contribution (Das 2003). Over the past two decades many checklists of reptiles of India (Murthy 1985; Murthy 1990; Tikader & Sharma 1992; Das 1997a; Das 2003), sometimes including adjacent countries (Das 1994; Das 1996a; Sharma 2002) have been published. An apparent inadequacy of the above-mentioned checklists of Indian reptiles published over the past 20 years is that species with valid distributional records are not differentiated from those with questionable records

METHODOLOGY

The present study was carried out during 2019-21 in Buldana district. This study aims to analyze the Remote Sensing (RS) and Geographical Information System (GIS) based distribution of the *Hemidactylus leschenaultia* 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 *Hemidactylus leschenaultia* 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.*, (2009) 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), Joshi and Tantarapale (2016). As local (vernacular) names are according to native people of study area, so they may be varies from area to area.



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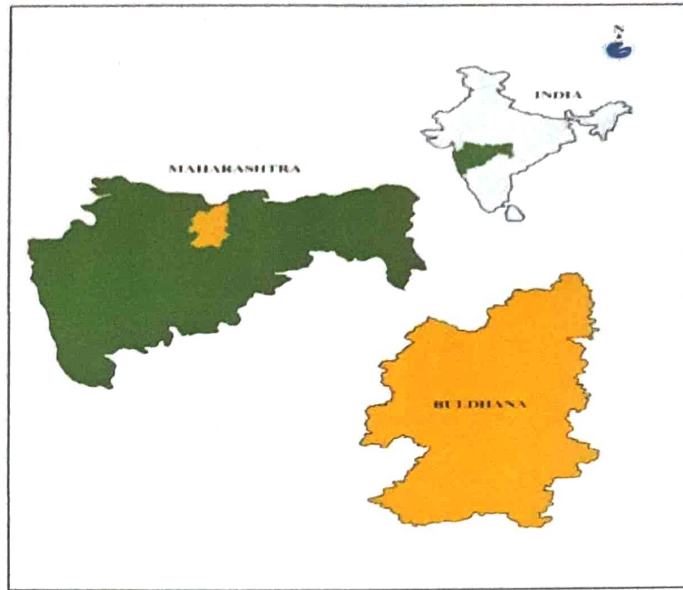


Figure: Location of Buldana District, Maharashtra, India

OBSERVATION

It was most abundant, often found inside homes. From snout to vent 3.20 in (8.1 cm); tail 3.25 in (8.3 cm). Snout longer than the distance between the eye and the ear-opening, 1.33 to 1.40 times the diameter of the orbit; forehead concave, the supraorbital ridges prominent in full-grown specimens; ear-opening rather large, oval, vertical. Body and limbs moderate. A slight fold of the skin on the side of the belly present, from axilla to groin. Digits free, strongly dilated, inner well developed; 6 or 7 (rarely 5) lamellae under the inner digits, 9 to 11 under the median.

Head covered with minute granules posteriorly, with larger ones anteriorly; rostral four-sided, not twice as broad as deep, with median cleft above; nostril pierced between the rostral, three nasals, and generally the first labial; 10 to 12 upper and 8 or 9 lower labials; mental large, triangular or pentagonal; two pairs of chin-shields, the inner the larger and in contact behind mental. Upper surface of body covered with small granules, uniform or intermixed with more or less numerous scattered round tubercles. Abdominal scales moderate, cycloid, imbricate. Male with a series of femoral pores interrupted on the preanal region; 12 to 16 pores on each side. Tail depressed, flat below, covered above with small smooth scales and six longitudinal series of conical tubercles; beneath with a median series of transversely dilated plates. Grey above, with darker markings, forming undulating cross-bars, rhomboidal spots on the middle of the back, or regular longitudinal bands; a dark band from the eye to the shoulder; lower surfaces white. Species is oviparous, breeding activities observed during winter.





Hemidactylus leschenaultia

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 230 individuals were reported out of which 112 were reported during February 2019 to January 2020 while 118 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

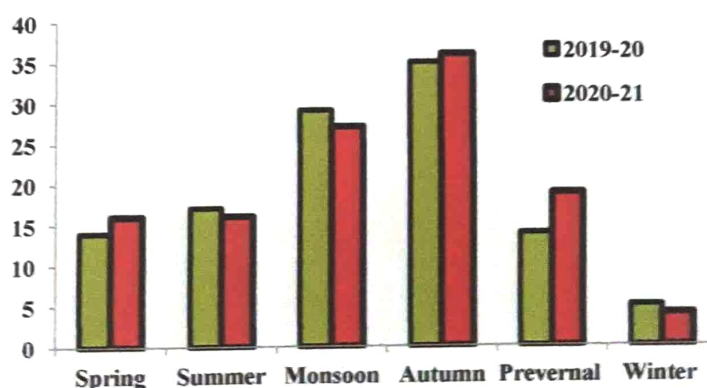


Figure : Overall occurrence of species



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