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A study on herpetofaunal diversity and status in Savadatti, Belagavi District Karnataka, India



Sitana species found in Savadatti.
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According to the Conservation Assessment and Management Plan (CAMP) report (Srinivasulu et al. 2014), there are about 157 species of endemic reptiles in the Western Ghats and peninsular India, of which about 14.64% are deemed to

be at risk of extinction and 5.73% are considered to be 'Near Threatened'. Recently, in the Kushtagi taluk, Koppal district, Karnataka, 21 species of squamate reptiles have been identified by Hiremani et al. (2022). Despite these

studies, little is known about the diversity of reptiles in different areas of Karnataka. As with any other animal fauna, the composition of reptilian fauna varies geographically, necessitating additional research in various regions.



Map of Karnataka showing Belgaum district (A), Savadatti taluk (B), and study area (C).

Savadatti is a religious town with semi-arid conditions and a wetland region, situated in the Belagavi district of Karnataka state between 15.6092–16.1563 N and 74.8027–75.3184 E. However, no herpetofauna records have been found in the area. Consequently, this research aims to record

the current state of reptile variety in the area surrounding Savadatti town, Belagavi district, Karnataka state. The sampling was conducted throughout several ecological regions, including grasslands, bushlands, and rocky areas, comprising a total area of 3.04 km². Specifically, the sampling was conducted during the

early morning hours, when sunlight intensity was relatively low and animals were actively engaged in basking behaviour. The research was carried out for a duration of 10 months from September 2021 to June 2022. The study mainly was conducted using the visual encounter methodology.

The identification of all observed reptiles with distinct markings was accomplished by consulting taxonomic literature sources (Daniels 2002; Das & Das 2018; Das 2020) to determine their specific species classification.

In the present study, 20 species of reptiles were found including 10 lizard species, seven snake species, two turtle species, and one tortoise species (Table 1).

Squamates dominated among them, making up 17 species followed by testudines, which had three species. With four species, the Colubridae family had the most Squamates (20%), followed by Agamidae with three (15%), Scincidae,



Table 1. Checklist of reptilian fauna in Savadatti, Belagavi District, Karnataka.

	Order	Family	Scientific name	Common/ Local name	IUCN Red List status	
1	Squamata	Agamidae	<i>Calotes versicolor</i>	Oriental Garden Lizard	LC	
2			<i>Sitana dharwarensis</i>	Dharwar Fan-throated Lizard	LC	
3			<i>Sitana sp.</i>	Fan-throated Lizard	NE	
4		Chameleonidae	<i>Chameleo zeylanicus</i>	Indian Chameleon	LC	
5		Colubridae	<i>Coelognathus helena</i>	Common Trinket Snake	LC	
6			<i>Fowlea piscator</i>	Checkered Keelback	LC	
7			<i>Oligodon arnensis</i>	Banded Kukri	VU	
8			<i>Ptyas mucosa</i>	Indian Rat Snake	LC	
9		Elapidae	<i>Naja naja</i>	Indian Cobra	LC	
10		Gekkonidae	<i>Hemidactylus frenatus</i>	Common House Gecko	LC	
11			<i>Hemidactylus parvimaculatus</i>	Spotted House Gecko	LC	
12		Lacertidae	<i>Ophisops elegans</i>	Snake-eyed Lizard	LC	
13			<i>Ophisops microlepis</i>	Small-scaled Lacerta	LC	
14		Scincidae	<i>Eutropis carinata</i>	Common Skink	LC	
15			<i>Eutropis macularia</i>	Bronze Skink	LC	
16		Viperidae	<i>Daboia russelii</i>	Russell’s Viper	LC	
17			<i>Echis carinatus</i>	Saw-scaled Viper	LC	
18		Testudines	Testudinidae	<i>Geochelone elegans</i>	Indian Star Tortoise	VU
19			Trionychidae	<i>Lissemys punctata</i>	Indian Flapshell Turtle	VU
20			Geoemydidae	<i>Melanochelys trijuga</i>	Indian Black Turtle	LC

LC—Least concern | VU—Vulnerable | NE—Not Evaluated.

Gekkonoidae, Lacertidae, and Viperidae with two each (10%), and Chameleonidae and Elapidae with one each (5%). Three families, Testudinidae, Trionychidae, and Geoemydidae, each with one species (5%), comprised the Testudines, including turtles and tortoises.

Other gekkonoid lizard species were discovered in rocky places and trees, whereas species like *H. frenatus* and *H. parvimaculatus* were frequently found in urban areas. Typically, Fan-throated Lizards were observed in black soil and grassland regions. We were unable

to identify the species of Fan-throated Lizard *Sitana*. The skinks were found in both rural and urban areas, and were frequently observed in residential gardens and bushes, whereas the lacertilians were restricted to rocky regions.

Other arboreal camouflage lizards, such as Chameleons, were only found in rocky regions and were infrequently observed. The Indian Star Tortoise was discovered in a grassland, while the Indian Flapshell Turtle and the Indian Black Turtle were spotted near a wetland and water body, respectively.



In the current study, out of 20 species of reptiles, 16 species are 'Least Concern', three are 'Vulnerable', and the one species of *Sitana* is 'Not Evaluated' by the IUCN Red List. While the study area is home to certain vulnerable reptile species like Banded Kukri, turtles, and tortoises, some snakes were discovered dead on roadways. These spotted road mortals raise the possibility that anthropogenic activities and urbanization pose a harm to the diversity of reptilian species. These findings necessitate the implementation of conservation measures in order to preserve the reptilian diversity in this region.

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