



First Report of the Indian Smooth Snake, *Coronella brachyura* (Gunther 1866) from Saurashtra Region, Gujarat, India

Patel Jayan¹, Maheta Jaydeep², Bambhaniya Nitish³, Parmar Bhagirath³ and Shah Mansi^{4*}

¹DCF Shetrunjay Forest Division, Gujarat, India.

²Wildlife Care Centre, Ahmedabad, Gujarat, India.

³Jatayu Nature Club, Mahuva, Bhavnagar, Gujarat, India.

⁴Independent Researcher, Ahmedabad, Gujarat, India.

*Corresponding author: shahmansi2510@gmail.com

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Introduction

The Indian Smooth Snake, (suvaro saap) *Coronella brachyura* (Günther 1866), is an endemic and rare species in the family Colubridae known to be present in the western and central parts of India: Maharashtra, Chhattisgarh, Madhya Pradesh, and Gujarat (Vyas and Suraj 2021). *Coronella brachyura* is Latin for “small crown” in reference to the pattern around the head of the snake. Brachys “short” and oura, “tail” (Wiktionary 2017). Members of the Colubrid family of genus *Coronella* Laurenti 1768 are among the least studied snakes across the world. The genus is represented by three species: *Coronella austriaca*, *Coronella girondica*, and *Coronella brachyura* (Gunther 1866).

Adult individuals occur in two colours i.e., glossy black or brown dorsally, and uniform creamy white ventrally. Small in size, reaching a maximum length of 640 mm, this snake is reclusive and mild-tempered (Parmar 2019). *Coronella brachyura* is a terrestrial as well as a climbing, crepuscular burrowing snake (Whitaker and Captain 2004). It probably feeds on geckos, skinks, and garden lizards (Whitaker and Captain 2004). It is usually found under stones, brick piles, and trees, but also in open areas and grasses. Though a mild-tempered snake, it is an active hunter

that hunts quickly, first killing its prey by constricting before consuming it. This snake is active throughout year, but it is more active from late winter to early monsoon season, on hotter days between February and June (Parmar 2019).

Materials and Methods

One of the authors received a call regarding the snake rescue from the Mahuva (21.074204 N, 71.741653 E), Bhavnagar District, Gujarat, India on 31 May 2024 at around 5.30 h. The area where the snake was found is in the midst of the city, where people live and agricultural land begins about 500–650 meters away from the rescue site. Upon reaching the place, the snake was examined under the supervision of the Forest Department and identified using the book “Snakes of India” by Whitaker and Captain 2004. We also made taxonomic observations, took morphological measurements, and photographed the species before safely handing it back to the Forest Department. The pholidosis and morphometric data are presented in the Appendix 1. Snake scalation was done according to Dowling (1951). Head measurements of specimens were measured 25.4 mm with a digital calliper and other body measurements were recorded with string and a ruler to the nearest mm. However, According to the rescuer, he has rescued the snakes of this species earlier but could not collect the data due to lack of awareness and released them.

Reported Area: Gujarat, nestled in western India, boasts a diverse environment rich in both natural and cultural heritage. Its landscape spans from the vibrant coastline along the Arabian Sea to the arid expanse of the Rann of Kutch, offering a spectrum of habitats. The state experiences a wide range of temperatures, with scorching summers and cool winters, shaping its unique biodiversity and influencing the distribution and behaviour of reptiles and amphibians.

Mahuva is one of the cities of Bhavnagar District, nestled in the southwestern part of Gujarat State. Bhavnagar District of Saurashtra Region, Gujarat, India located at 21.7645° N, 72.1519° E spans approximately 8,000 km² (Fig. 1). It experiences semi-arid climate with hot summers and mild winters. The humidity levels are generally moderate, influenced by its proximity to the Arabian Sea. The district receives an average rainfall of about 600–700 mm for agricultural and ecosystem balance. Being near the coastal area, it has a unique biodiversity with dry deciduous forests, thorny scrublands, and patches of grasslands that support the distribution of reptiles and amphibians.

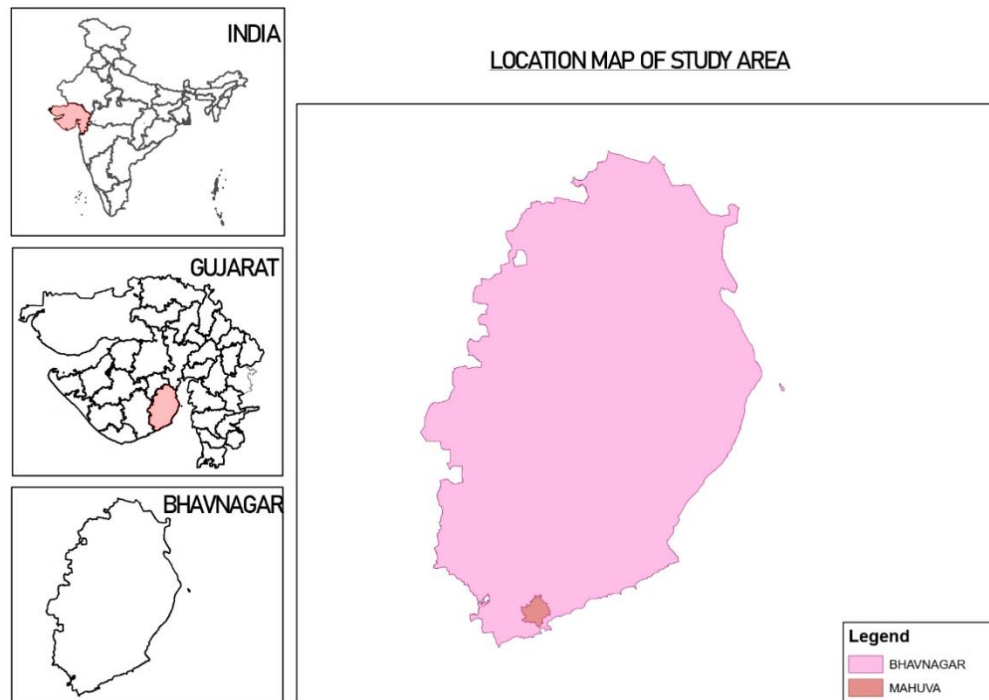


Figure 1: New Report of the species *Coronella Brachyura* from Mahuva, Saurashtra Region, Gujarat, India

Results and Discussion

Coronella brachyura is reported and re-described by Gunther in 1866 from Pune District of Maharashtra. Previously, the species has been reported to be present in central Gujarat and south Gujarat including the localities of Surat, Tapi, and Ahmedabad (Parmar 2019; Patel, H., and R. Vyas. 2019). However, it had never been sighted from the southwestern part of Gujarat. This is the first confirmed report of the presence of the Indian Smooth Snake (*C. brachyura*) from the Mahuva City of Bhavnagar District, Saurashtra Region, Gujarat, India. Upon careful morphometric examination, it was found that the individual had olive grey and dark grey patches present over the anterior half of the dorsal surface and scales are smooth. The belly seen entirely pattern-less with glossy white. Head elongated and slightly differentiated from the neck; eyes prominent with large pupil; and circular nostril. Body smooth and tubular with short tail (Fig. A – F).

Conservation Status: Since the species has a large range of isolated distribution and is harmless in nature, it doesn't pose any threat; hence, it is listed as Least Concern in the IUCN Threatened category and included in Schedule IV species under the Indian Wildlife Protection Act, 2022. As

Mahuva is a rural place and is near the coast, no specific threats to the species were observed, except the general threats to the reptilian fauna including urbanization, expansion of agricultural lands, habitat loss/alteration, large numbers of snakes killed by locals due to fear, and road-kill. Although this species is reported in four states of India i.e., Maharashtra, Chhattisgarh, Madhya Pradesh, and Gujarat, the populations are very small and individuals are rarely found, hence this species should be upgraded to the threatened category in order to provide benefits for its conservation. Also, as currently the population status of the species is not known, systematic surveys are crucial for better conservation and the preparation of management plans.

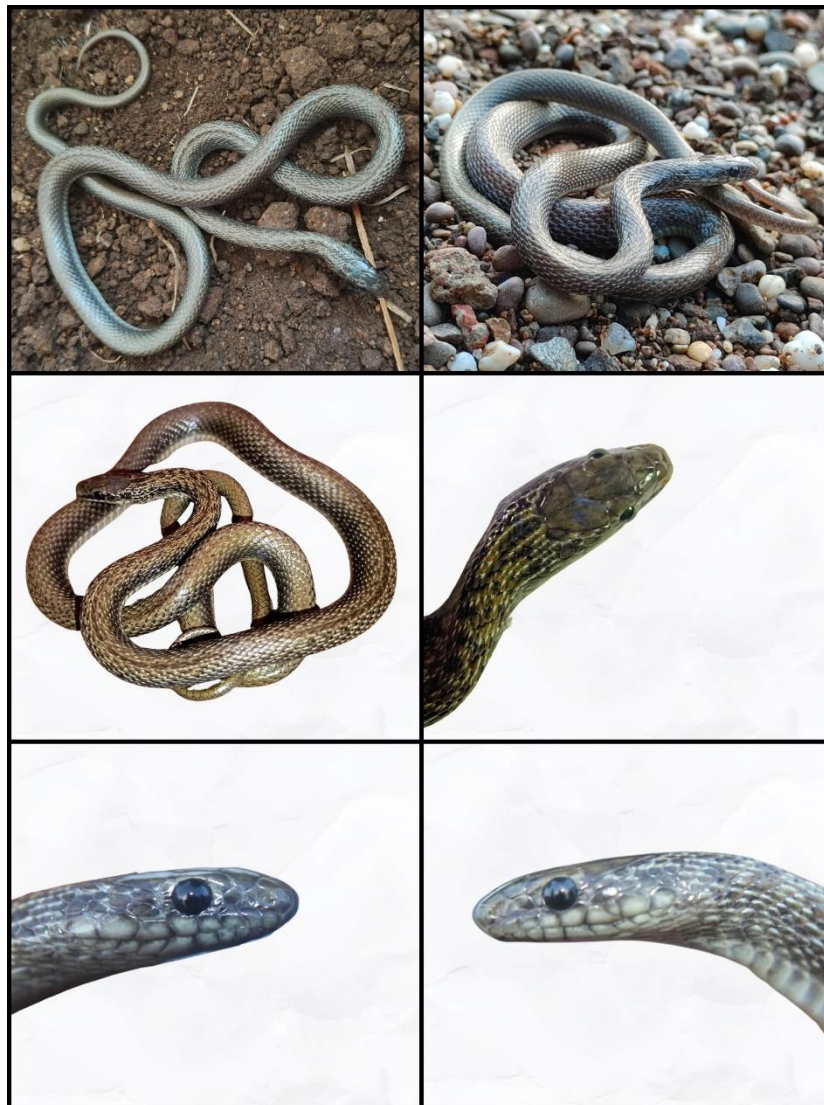


Figure A - F (Left to Right): A. Indian Smooth Snake (*Coronella Brachyura*) in its natural habitat from Saurashtra Region, Gujarat; B & C. Dorsal View of *C. Brachyura*; D. Dorsal View of Head of *C. Brachyura*; E & F. Lateral Aspect of *C. Brachyura*

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Appendix

Table 1: Morphometric measurements and collection details of *C. brachyuran* individual from Mahuva, Bhavnagar, Saurashtra Region – Gujarat

Individual	Species A
Date of Collection	31 st May 2024
Name of Locality	Mahuva, Bhavnagar
TL	490 mm
SVL	420 mm
TaL	70 mm
D	23:23:19
V	214
A	Undivided
SC	53
SL	8 (4/5)
IL	9
PreO	1/1
PO	2/2
T	2+2/2+2
Sex	Male

Abbreviations: V, ventrals; SC, subcaudals; D, dorsal rows; SL, supralabials; L, loreal; PrO, preocular; PO, postocular; T, temporal; IL, infralabial; SVL, snout-ventral length; TaL, tail length; TL, total length; HL, head length; and HW, head width.