

# Egg laying and neonate morphology of the stout sand snake *Psammophis longifrons*

HARSHIL PATEL<sup>1,2\*</sup>, AADIT PATEL<sup>3</sup> & RAJU VYAS<sup>4</sup>

<sup>1</sup>Department of Biosciences, Veer Narmad South Gujarat University, Surat 395007, Gujarat, India

<sup>2</sup>Thackeray Wildlife Foundation, Mumbai 400051, India

<sup>3</sup>Valsad Society for Prevention of Cruelty to Animals (VSPCA), Valsad 396375, Gujarat, India

<sup>4</sup>1 Shashwat Apartment, 23 Anandnagar Society, BPC Road, Alkapuri, Vadodara 390007, Gujarat, India

\*Corresponding author e-mail: [harshilpatel121@gmail.com](mailto:harshilpatel121@gmail.com)

The stout sand snake *Psammophis longifrons* Boulenger 1890, is a little known endemic snake species of the Indian subcontinent, reported from the states of Gujarat, Maharashtra, Madhya Pradesh, Andhra Pradesh, Telangana and Karnataka (Hussain et al., 2020). Apart from distribution and adult morphology, the natural history of this species remains largely unknown although oviposition has been reported in the month of April and in that case the clutch of eight eggs had average egg dimensions of 40 x 21 mm (Vyas & Patel, 2013). Here, we provide further information on reproductive biology and neonate morphology.

A female *P. longifrons*, measuring 170.2 cm in total length (SVL = 136.4 cm, tail length = 33.8 cm) was rescued at ca. 16:30 h on 25 February 2022, from a rural residence in Untdi village, Valsad, Gujarat, India (20.7045° N, 72.9289° E). Two hours after rescue, it laid 15 white leathery eggs (Fig. 1A). The egg dimensions were - mean ( $\pm$  standard deviation) length =  $35.1 \pm 1.3$  mm, range = 33–38 mm; mean diameter =  $22.9 \pm 0.9$  mm, range = 21–24 mm (for data see Table 1S, in Supplementary Material). The mean egg size noted in the present study is smaller than that of the earlier record by Vyas & Patel (2013), perhaps due to factors such as health and size of the female.

The eggs were marked and then incubated in a large plastic container, containing a vermiculate and sandy clay mixture moistened with 80–90 % by weight of water, placed in a cool and dark location at room temperature (22–28° C) (Vyas, 1988). On the night of 20 May 2022, after 84 days of incubation, the first hatchling started to emerge (Fig. 1B) followed by the rest in the next two days; full emergence from the egg took about eight hours. All hatchlings appeared healthy and were active. They were kept under observation for a couple of days, examined to collect data on bodily dimensions and scale counts (Table 1S), and released near the same location from where the female was rescued. Eggs dimensions and the scale counts of all 15 hatchlings are presented in Table 1S.

Based on the present study and previous observations (Vyas & Patel, 2013), the breeding season of *P. longifrons* is late winter; egg laying occurs at the end of February to April and hatchlings emerge from May to June.



**Figure 1.** A. Female *Psammophis longifrons* laying eggs, B. Hatchling emerging from the egg, C. Dorsal view of a hatchling, D. Lateral view of the head of a hatchling

## REFERENCES

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