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An observation on neonate litter size of the venomous Saw-scaled Viper from Madurai, India

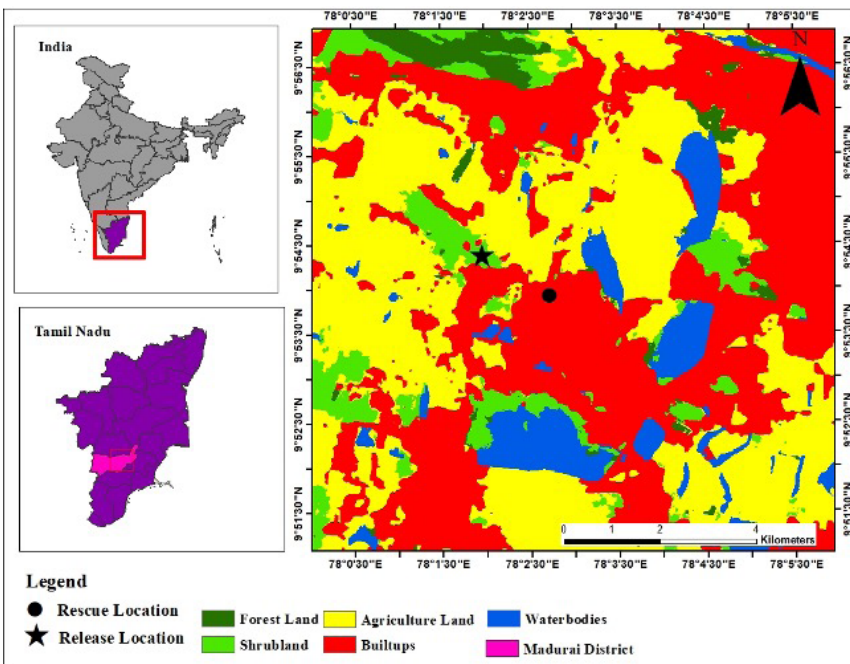
Echis is a genus belonging to the family Viperidae which includes all Saw-scaled Vipers, represented by 12 species (Uetz 2023). *Echis carinatus* has five subspecies such as *E.c. carinatus*, *E.c. sochureki*, *E.c. astolae*, *E.c. multisquamatus*, and *E.c. sinhaleus*. In India, *E.c. carinatus* is distributed throughout the peninsular region, whereas *E.c. sochureki* is restricted to northern and western India (Whitaker & Captain 2004). The southern Indian population is widespread in the dry portions of Tamil Nadu inhabiting deciduous, scrub jungle, semi-evergreen forest, grassland, and rocky areas (Ananjeva et al. 2021). It usually dwells under rocks and around smaller bushes (Ananjeva et al. 2021). Morphologically, it is a smaller snake than other viperids, and it is seen in



An adult female Saw-scaled Viper with nine new-born babies.
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Size of a new-born baby in comparison with 1 Rupee Indian coin.
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Catch and release location of the *Echis carinatus carinatus*.

many colour forms like brown, olive, reddish, orange, and greyish (Mallow et al. 2003). It is primarily nocturnal and possesses larger eyes and vertical pupils. This note reports the litter size of neonates in the *E.c.*

carinatus from Madurai, Tamil Nadu, India. On 7 August 2018, we received a snake-catch call near a house in Srinivasa Colony, located at the foothill of Mottamalai, a lower elevation hillock in Madurai, Tamil Nadu (9.8987 N; 78.0452

E). People had spotted some snakes while turning over a rock behind their house. The rock was firmly embedded in the ground and had a single outlet for access. We quickly responded and arrived at the scene at 1650 h. Upon lifting the rock, we discovered an adult female of *E.c. carinatus* in the process of moulting, accompanied by nine new-borns.

We confirmed that the individual was a gravid female that had recently given birth to the other nine neonates, as evidenced by the presence of a wet amniotic sac beside them. The adult female displayed activity with the neonates aggregating around her. The neonates were observed to have completely shed their skin. After five minutes, the neonates began moving in a different direction.

Consequently, all individuals, including the adult female, were carefully lifted using a snake hook, securely placed in a cotton cloth bag, and released into the nearby shrubland habitat (9.9063 N; 78.0326 E) with the assistance of the forest department staff.



Echis carinatus is reported to reproduce up to 23 individuals from Iran (Mallow et al. 2003), 6–8 in India and 3–15 individuals from a northern population of India (Daniel 2002). The neonate individuals are known to range 115–152 mm in length (Daniel 2002). The neonate specimens observed during the rescue were approximately 130 mm in length. The adult female was measured at 30.23 cm in length. While information about the reproductive season within the genus *Echis* is scanty. *E.c. carinatus* is known to reproduce between April and August in northern India. However, the reproductive seasonality for *E.c. carinatus* applies in this southern Indian observation from Madurai, Tamil Nadu. Thus, this may act as a reproductive trait for some viperids.

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- Kirubakaran Samson¹, Anbazhagan Abinesh², C.S. Vishnu³ & P.R. Vishwanath⁴**
- ¹ Department of Rural Development Science, Arul Anandar College, Karumathur, Madurai, Tamil Nadu 625514, India.
- ² 409/155 Lakshmi Nanjan Nivas, Stanley Park, Coonoor-The Nilgiris, Tamil Nadu, 643105, India.
- ³ Wildlife Institute of India, Chandrabani, Dehradun, Uttarakhand 248001, India.
- ⁴ Urvanam, 29 a CSR Nagar, Thirunagar, Madurai, Tamil Nadu 625006, India.
Email: ³vishnusreedharannair@gmail.com (corresponding author)

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