



# Attempted Predation on a Land Snail by a Malabar Pit Viper, *Trimeresurus malabaricus* (Jerdon, 1854) (Squamata: Viperidae: Crotalinae)

Yatish Lele<sup>1</sup> and Hrishikesh Chunekar<sup>2</sup>

<sup>1</sup>Pune-411030, Maharashtra, India (yatishlele@gmail.com)

<sup>2</sup>Pune-411038, Maharashtra, India (hrishi\_chunekar@yahoo.com)

Photographs by the senior author.

The Malabar Pit Viper (*Trimeresurus malabaricus*) is a venomous snake endemic to India, broadly distributed in the Western Ghats at altitudes of 600–2,100 m from Mahabaleshwar to Kanyakumari (Smith 1943, Whitaker and Captain 2004). The species inhabits moist forests, both evergreen and deciduous, where it is nocturnally active on rocks, in trees and low bushes, and occasionally on the ground (Das 2002, Whitaker and Captain 2004, Sawant et al. 2010). The diet is known to include frogs, lizards, small birds, and mammals, and cannibalism has been observed (Das 2002, Whitaker and Captain 2004, Khaire 2006).

At 0200 h on 15 September 2012, on a road toward Shirgaonkar point (15°57'30.72"N, 73°59'50.72"E) in semi-evergreen forest (Champion and Seth 1968) at Amboli, Sawantwadi Taluka, Sindhudurg District, Maharashtra, India, we observed a Malabar Pit Viper (total length approximately 50 cm) on the road with its head apparently trapped in a snail shell from which it was struggling to escape (Fig. 1). This observation suggests that the snake was trying to feed on the snail and had inserted its head inside the shell in an effort to extract the snail (Fig. 2).



**Fig. 1.** Malabar Pit Viper (*Trimeresurus malabaricus*) trying to feed on a land snail.

Land snail-eating has been recorded only in snakes in the families Dipsadidae and Preatidae and a few species in the family Colubridae (Sazima 1989, Guo et al. 2011, Grazziotin et al. 2012, Sheehy 2012). Snail shells spiral to the left (sinistral) or the right (dextral), a trait determined by a single gene (Freeman and Lundelius 1982, Ueshima et al. 2003). Most preatid snakes have evolved asymmetrical mouthparts to feed on snails with dextral shells. Snails with sinistral shells appear to survive preatid snake predation at higher rates than more abundant snails with dextral shells (Hoso et al. 2010). The snail apparently attacked by the Malabar Pit Viper clearly has a sinistral shell, which might be responsible at least in part for the snake getting its head stuck.

This observation is the first record of a Pit Viper trying to feed on a snail. Although Malabar Pit Vipers exhibit a rather catholic diet, whether snails are regular prey is unknown.

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**Fig. 2.** A close up of the same snake with its head stuck in the shell.