

## Hissing – first description of this defensive behaviour by the reticulate wormsnake *Amerotyphlops reticulatus*

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The Scolecophidia is a group of basal snakes popularly known as blindsnakes, threadsnakes or wormsnakes (Vidal et al., 2010). Among the Scolecophidia, several defence strategies are known that include - escaping, spiking with the terminal spine, erratic movements, body contortion and thrashing, cloacal discharge, secretion of foul substances, knotting, thanatosis and even colour change - but to date these snakes have not been reported to hiss (Visser, 1966; Gehlbach et al., 1968; Watkins II et al., 1969; Gehlbach, 1970; Webb & Shine, 1993; Martins, 1996; Ernst & Ernst, 2003; Martins et al., 2018; Acuña-Vargas et al., 2021). In contrast, many species of 'higher' snake (Alethinophidia) may emit a hissing sound upon inhalation/exhalation, caused by air vibrations in the windpipe (Young, 2003; Muscat & Rotenberg, 2016; Fernandes et al., 2023). Hissing may be effective in deterring predators that rely on hearing, such as birds and mammals, as it causes alertness and fear in the predator, often dissuading them from capturing the prey (Fernandes et al., 2023).

*Amerotyphlops reticulatus* (Linnaeus, 1758) belongs to the family Typhlopidae, and is one of South America's largest wormsnakes, with a maximum recorded length of 522 mm (Dixon & Hendricks, 1979). It is nocturnal and preys upon the larvae of social insects (Beebe, 1946; Cunha & Nascimento, 1978; Aponte-Gutiérrez, 2021). This species is widespread in northern South America, especially in the Amazon (Nogueira et al., 2019).

On 14 May 2019, during a field trip in a Cerrado Gallery forest in Campo Julio Municipality, Mato Grosso, Brazil (13° 20'52.08" S, 59° 23'39.00" W), an adult *A. reticulatus* (Fig. 1) was discovered lying motionless amidst the forest floor litter. The heavy rainfall of the preceding day had saturated the ground, likely prompting the snake to venture from its burrow. The snake was briefly captured for photographic documentation. Upon handling, the snake opened its mouth and emitted a short hissing sound (BHS video, 2024). This behaviour recurred whenever the snake was touched or gently squeezed, with the sounds being brief and ceasing immediately thereafter. Following photography, the snake was released.

This hissing behaviour, described for the first time in a scolecophidian snake, is a significant addition to the defensive strategies of the group and to the known defensive repertoire of *A. reticulatus*. Further research



**Figure 1.** The individual of *Amerotyphlops reticulatus* in a defensive posture in Campo Julio Municipality, Mato Grosso, Brazil

is needed to understand its prevalence and evolutionary significance since it may have evolved independently or be a common ancestral feature shared with alethinophidian snakes.

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