



Death-feigning in the Red-bellied Ground Lizard, *Stenocercus erythrogaster* (Hallowell 1856) (Squamata: Tropicuridae), in Colombia

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Death-feigning, thanatosis, or tonic immobility is a defensive behavior in response to an external stimulus that occurs when animals become totally flaccid, invert their body partially or completely, and sometimes leave the mouth half-open with the tongue extended and turning the pupils toward the back of the eye (e.g., Rogers and Simpson 2014; Humphreys and Ruxton 2018). This behavior has been reported in multiple reptilian species as a mechanism to avoid predation (e.g., Cardoso 2014; Patel et al. 2016; Marineros-Sánchez 2017; Machado-Filho et al. 2018; Costa-Campos and Costa 2020; Sengupta et al. 2020). Herein we report death-feigning in Red-bellied Ground Lizards (*Stenocercus erythrogaster*) in the northwestern foothills of the Sierra Nevada de Santa Marta, Santa Marta, Magdalena, Colombia.

At 1240 h on 27 February 2021, a juvenile *S. erythrogaster* captured in the village of Minca, Santa Marta (11.147917,

-74.108917; elev. 730 m asl) twisted its body in an effort to escape but a few seconds later abruptly exhibited tonic immobility by remaining motionless with the body fully inverted during manipulation (Fig. 1). Subsequently, when placed close to the ground, it quickly righted itself and escaped up a ravine. At 2300 h on 24 July 2022, another juvenile from the village of Bonda, Santa Marta (11.257056, -74.088056; elev. 380m asl), was captured while sleeping on a twig during a nocturnal survey. As in the previous observation, the lizard inverted its body and became completely immobile after capture (Fig. 1) but quickly ran up to a cliff when placed on the ground.

A number of studies (Bertoluci et al. 2006; Gerald 2008; Santos et al. 2010; Nunes et al. 2012; Patel et al. 2016; Humphreys and Ruxton 2018; Lipinski et al. 2020; de Oliveira et al. 2021) have reported death-feigning in juveniles



Figure 1. Juvenile Red-bellied Ground Lizards (*Stenocercus erythrogaster*) feigning death in response to handling in Minca (left) and Bonda, Santa Marta, Colombia. Photographs by Andrés Rojas (left) and Juan David Jiménez-Bolaño.

of multiple lizard species. Juvenile lizards experience greater fluctuations in body temperature given their relatively high surface: volume ratios (Sartorius et al. 1999; Sales et al. 2011; Cardoso 2014), suggesting that they are less likely to have the required body temperature to escape from a predator, and evidence suggests that the frequency of thanatosis increases at low environmental temperatures (Miyatake et al. 2008). Thanatosis seems to have evolved as a defensive mechanism that favors increased survival in situations when lizards are unable to sustain near-thermal optima as a consequence of small size or environmental conditions (Dela Cruz and Doering 2020; Maia-Carneiro et al. 2020). Also, the apparent frequency of this behavior among tropidurids suggest that death-feigning is a primitive character in the group (Bertoluci et al. 2006) and, although it has been reported in the genera *Eurolophosaurus*, *Liolaemus*, *Plica*, and *Tropidurus*, to the best of our knowledge, this is the first record of death-feigning in the genus *Stenocercus*.

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