

**ERYTHROLAMPRUS REGINAE (Royal Ground Snake). DEATH-FEIGNING BEHAVIOR.** Snakes have diverse and complex defense mechanisms, usually triggered by stress or fear (Dell'aglio et al. 2012. *Bio. Neot.* 12:315–318). Death-feigning is a mechanism used by several snakes (Bhattarai et al. 2017. *Russian J. Herpetol.* 24:323–326), and it is characterized by immobility, voluntary supination, lack of muscle tone, open mouth, turning the body showing the belly, and cloacal discharge (Marques et al. 2013. *Herpetol. Notes* 6:95–96). This behavior is usually initiated after the predator's physical contact with the snake (Misslin 2003. *Clin. Neurophysiol.* 33:55–66). Death feigning can deter predators that are motivated to capture live prey, causing them to give up on the attack (Bates and Nuttall 2013. *African Herpetol. News* 60:5–9).

*Erythrolamprus reginae* is a dipsadid snake, widely distributed in Venezuela, Colombia, Ecuador, Guyana Shield, Brazil, and Peru. This species has a dark brown color on its dorsal portion, with a gradual change to olive green on the medial portion of the body (Ascenso et al. 2019. *Zootaxa* 4586:65–97), and it is usually associated with aquatic habitats, such as lakes and rivers (Arzamendia et al. 2012. *Cuad. Herpetol.* 26:327–374).

Between 4 and 5 December 2013, during a herpetological survey of a private farm (14.74675°S, 59.97878°W; WGS 84; 203 m elev.) in Vila Bela da Santíssima Trindade, Mato Grosso, central-western Brazil, we captured three adult individuals of *E. reginae* in pitfalls traps. When TSS first handled the specimens, two of them showed the defensive behavior of death feigning. The specimens were collected and taken to the field laboratory, where one individual repeated the defensive behavior while being photographed. The snake turned its venter upside and remained motionless for ca. 3 min (Fig. 1), becoming active again after being disturbed by the authors. To our knowledge, this is the first record death feigning by *E. reginae*.

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FIG. 1. *Erythrolamprus reginae* performing death-feigning in Vila Bela da Santíssima Trindade, Mato Grosso, central-western Brazil.

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**GLOYDIUS BREVICAUDUS (Short-tailed Pitviper). DIET.** Several species of Asian pitvipers in the genus *Gloydus* are known to feed on centipedes. The reported examples include *Gloydus shedaoensis* (Shine et al. 2002. *Herpetol. Nat. Hist.* 9:1–14), *G. brevicaudus* (Lee et al. 2012. *Ecological Guidebook of Herpetofauna in Korea*. National Institute of Environmental Research, Incheon, Korea. 268 pp.), *G. ussuriensis* (Kim and Oh 2014. *Korean J. Environ. Ecol.* 28:657–663), and *G. blomhoffii* (Hamanaka and Mori 2020. *Toxicon* 188:11–15). In these cases, centipedes did not seem to be the main prey item.

Herein we provide a detailed account of centipede feeding behavior in *G. brevicaudus*. The observation took place in a mixed forest of Yullbong Neighborhood Park, Yullyang-dong, Cheongju-si, Republic of Korea (36.6700°N, 127.5100°E; WGS 84; 117 m elev.) on 23 June 2022 by J-JS. The day was overcast with a slight breeze, with air temperature of 23°C and relative humidity of 80%. At 0800 h we encountered a subadult (ca. 40 cm total length) *G. brevicaudus* in the process of subduing a fully

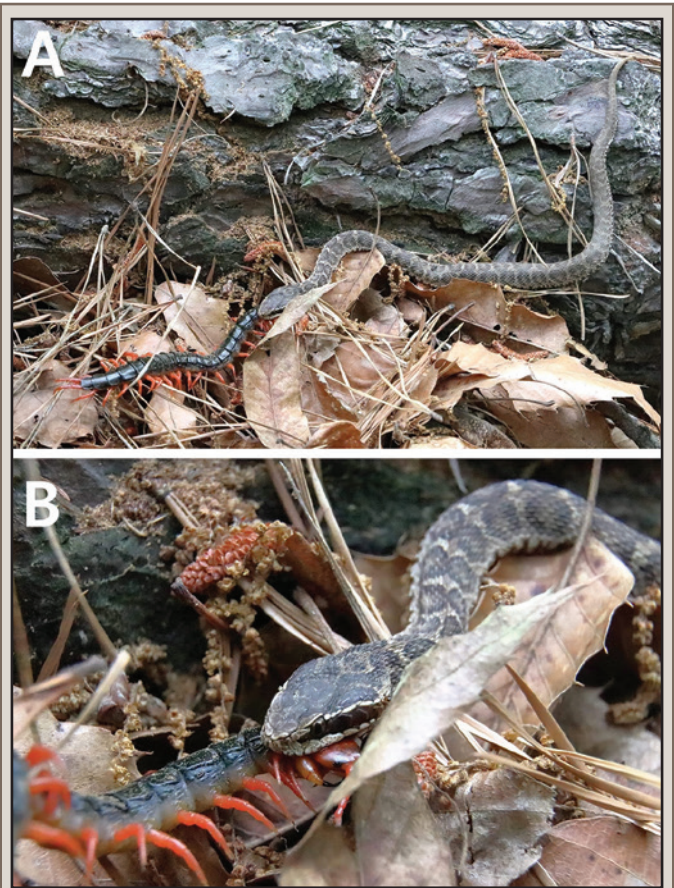


FIG. 1. Subadult *Gloydus brevicaudus* subduing a fully grown *Scolopendra subspinipes mutilans* in a mixed forest of Yullbong Neighborhood Park, Yullyang-dong, Cheongju-si, Republic of Korea. The centipede was ca. 50% of the total length of snake (A) and the snake was biting down on the head of centipede (B).

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grown Chinese Red-headed Centipede (*Scolopendra subspinipes mutilans*; ca. 20 cm total length). The snake was biting down on the head of centipede and the centipede was moving slightly but otherwise did not show resistance or defensive behaviors (Fig. 1). We left the snake after 15 min of visual observation to minimize disturbance, by which point the centipede was completely immobilized.

A previous study on *G. blomhoffii* suggested higher resistance of centipedes to pitviper venom than other prey items (Hamanaka and Mori 2020, *op. cit.*), and large centipedes can attack and eat small snakes (Chiacchio et al. 2017. *J. Insect Behav.* 30:563–566). Meanwhile, some pitviper species exhibit plasticity in feeding behaviors between centipedes and other prey items (e.g., *Sistrurus miliarius*; Farrell et al. 2018. *J. Herpetol.* 52:156–161). Therefore, we speculate that the head-biting behavior we observed may be a way to prevent counter attacks by centipedes. Our observation also shows the ability of *G. brevicaudus* to subdue large prey items relative to their body size (ca. 50%).

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**HETERODON PLATIRHINOS (Eastern Hog-nosed Snake). REPRODUCTION and NESTING HABITAT USE.** *Heterodon platirhinos* is a medium-sized oviparous dipsadid snake (Platt 1969. *Univ. Kansas Publ., Mus. Nat. Hist.* 18:253–420). Thermoregulation, reproduction, and foraging of *H. platirhinos* greatly depend on their access to appropriate habitats (Buchanan et al. 2017. *J. Wildl. Manag.* 81:509–520). They have a strong predisposition for digging, as evidenced by their upturned snout, stout body, short tail, and keeled scales. Natural accounts of hognose snakes digging to create nests and/or to locate prey have been complemented by laboratory experiments illustrating their affinity for loose soils conducive for digging (Cunnington and Cebek 2005. *Am. Midl. Nat.* 154:474–478). *Heterodon platirhinos* nests primarily in loose, sandy, well drained soils (Platt 1969, *op. cit.*). Reforestation and elimination of natural open canopy xeric habitats may necessitate the use of anthropomorphic surrogates by *H. platirhinos* (Goulet et al. 2015. *Northeast. Nat.* 22:530–540.).

At 0815 h on 7 June 2021, a brightly patterned *H. platirhinos* was observed excavating soil on the bank of a railroad in Carbon County Pennsylvania, USA. It appeared to be post-partum due to extreme emaciation and tapering of its lower body. Brief observations and pictures were taken to minimize disturbance and interruption of behavior (Fig. 1). At 0923 h the same individual was observed to still be excavating the nest but was also joined by a second large melanistic *H. platirhinos*. The melanistic individual remained stationary in proximity of the first individual but did not have any obvious interactions with that snake. A similar behavior to this was noted by Cunnington and Cebek (2005, *op. cit.*) which they speculated could be evidence of a communal nesting site. Since the melanistic individual still appeared gravid, I think it was assessing that location as a potential oviposition site. This is also supported by evidence that eastern hognose snakes are solitary snakes except for incidences of group nesting and courtship/copulation (Platt 1969, *op. cit.*). At 1215 h a third individual was found excavating in the soil embankment of the railroad (0.8 km from first individual; Fig.



FIG. 1. Patterned *Heterodon platirhinos* excavating a burrow along a railroad embankment in Pennsylvania, USA. A second large gravid female sits next to it, likely waiting to contribute to communal nest.



FIG. 2. The third female *H. platirhinos* observed on 7 June 2021 in Pennsylvania, USA. This individual displayed nesting behavior consistent with previously described accounts of nesting in the literature.

2). The head and the tail of the snake were obscured, with a loop of its body showing, which is consistent with nesting behavior described by (Cunnington and Cebek 2005, *op. cit.*). Substrate had evidently been pushed out by the snake in this excavation process. While it would have been nice to confirm that these were nests, excavating nests is unwise, especially since nest site fidelity in other reptiles is well supported (Bonnet et al. 2021. *Herpetol. J.* 31:142–150).

Choosing appropriate nesting habitats is critical to the survival of offspring. Nesting in open areas can incur greater risks of predation to the nesting females and the offspring (Platt 2022. *Herpetol. Rev.* 53:112–114.). High levels of turtle nest predation by raccoons were reported from a high-density nesting site on a railroad embankment in New York, USA (Platt 2022, *op. cit.*). The use of railroads as corridors by mammals (Popp and Hamr 2018. *Divers.* 10:104) could result in higher levels of predation of reproductive females and nest mortality. While railroads may provide nesting habitat for certain reptiles, the risk incurred by reproductive individuals and their young

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