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**NATRIX NATRIX (European Grass Snake). DIET.** *Natrix natrix* is a mostly nocturnal and semiaquatic snake that feeds on relatively wide spectrum of prey, particularly amphibians (in most of Europe largely *Rana temporaria*; in drier habitats also small lizards, geckos and mammals (Filippi et al. 1996. Herpetozoa 8:155–164; Luiselli et al. 2005. Herpetol. J. 15:221–230; Berec et al. 2015. In Moravec [ed.], Plazi. Reptilia. Fauna ČR, pp. 337–362. Academia, Praha). *Natrix natrix* are known to consume poisonous prey (e.g., fire-bellied toads, *Bombina* spp.), which, in captivity, has led to death of the snake (Kabisch 1978. Die Ringelnatter. Die Neue Brehm Bücherei. A. Ziemsen Verlag, Wittenberg Lutherstadt. 88 pp.). Here we report the first account of young *N. natrix* (total length ca. 60 cm) consuming poisonous *Salamandra salamandra* (Fire Salamander) in Slovakia. The observation occurred on 27 August 2015 near Drienovská Cave, eastern Slovakia (48.62427°N, 20.95246°E, WGS 84; 245 m elev.), at 2005 h. When discovered, the juvenile salamander (total length ca. 10 cm) was still alive in snake's jaws (Fig. 1) and by 2009 h, it was almost fully consumed. Then the snake slithered away and we were not able to observe if it suffered any ill effects from the toxin.



FIG. 1. Young *Natrix natrix* ingesting a juvenile *Salamandra salamandra* near Drienovská Cave, eastern Slovakia.

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**NATRIX NATRIX (Grass Snake). MORTALITY.** Animal casualties are among the more generalized and conspicuous ecological effects of roads (Beckmann et al. 2010. Safe Passages. Highways, Wildlife, and Habitat Connectivity. Island Press, Washington, D.C. 383 pp.). Snakes can be highly susceptible to road mortality because they are relatively slow-moving, frequently cross roads, and are often too small to be spotted (Shine et al. 2004. Ecol. Soc. 9:9–21; Ciesiolkiewicz et al. 2006. Polish J. Ecol. 54:465–472). Herein, we present a case of mortality of reptiles due to a high road curb in an important migration corridor.

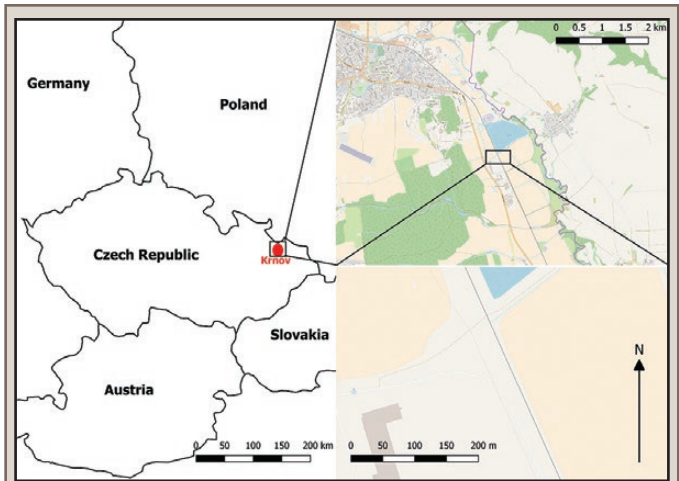


FIG. 1. Map indicating area of concentrated reptile mortality near Krnov, northeastern Czech Republic.

Our observation occurred at the Industrial Zone Červený dvůr (50.0723°N, 17.7357°E, WGS84; 306 m elev.), established in 2004, near the town of Krnov, northeastern Czech Republic (Fig. 1). In May 2004 > 25 dead *Natrix natrix*, of all ages (Fig. 2A, B) and one dead adult *Anguis fragilis* (Slow Worm) were found on the road near the curb (Fig. 2C; František Kuba, pers. comm.). Most of the dead specimens were concentrated on a relatively short road section (50 m) which is the closest part of the road to the local water source (Petrův pond) where individuals were often observed basking or swimming (Kuba, pers. comm.). This road was constructed in 2004; before that there was a meadow adjacent to Petrův pond and the only barrier for snakes was a small path which lead to the pond.

During the following summer a few more dead individuals were found and live juvenile *N. natrix* with sluggish behavior were rescued from the curb. Moreover, a *Vipera berus* (European Adder) was observed attempting cross the road and two additional *A. fragilis* were found next to the high curb (Kuba, pers. comm.). This location was visited once a month in subsequent years and additional dead specimens of *N. natrix*, *A. fragilis*, and *V. berus* were noticed. However, there were not other mass mortality events like the one in spring 2004. From 2005 to 2012, approximately 15 dead or exhausted *N. natrix*, 3 *A. fragilis*, and 3 *V. berus* were observed on the ring road with a high curb near Petrův pond reported by a single observer. The longest dead *N. natrix* had ca. 60 cm total length, but most of the dead snakes found were ca. 15–30 cm long.

The high curb apparently represents a deadly trap for juvenile squamates to cross the road. It appears that adult females oviposited in the meadow, requiring hatchlings to cross the road to reach the pond. The most likely cause of death was high temperature in combination with high curb of the road; as the road generally had low traffic volume. Juvenile *N. natrix* and other small reptiles became exhausted during their migration and died on the road. Although it seems easier for adult specimens to cross the curb, these barriers could contribute to decline of local reptile populations.

We thank František Kuba for providing important information and Peter Gillatt for final text corrections.

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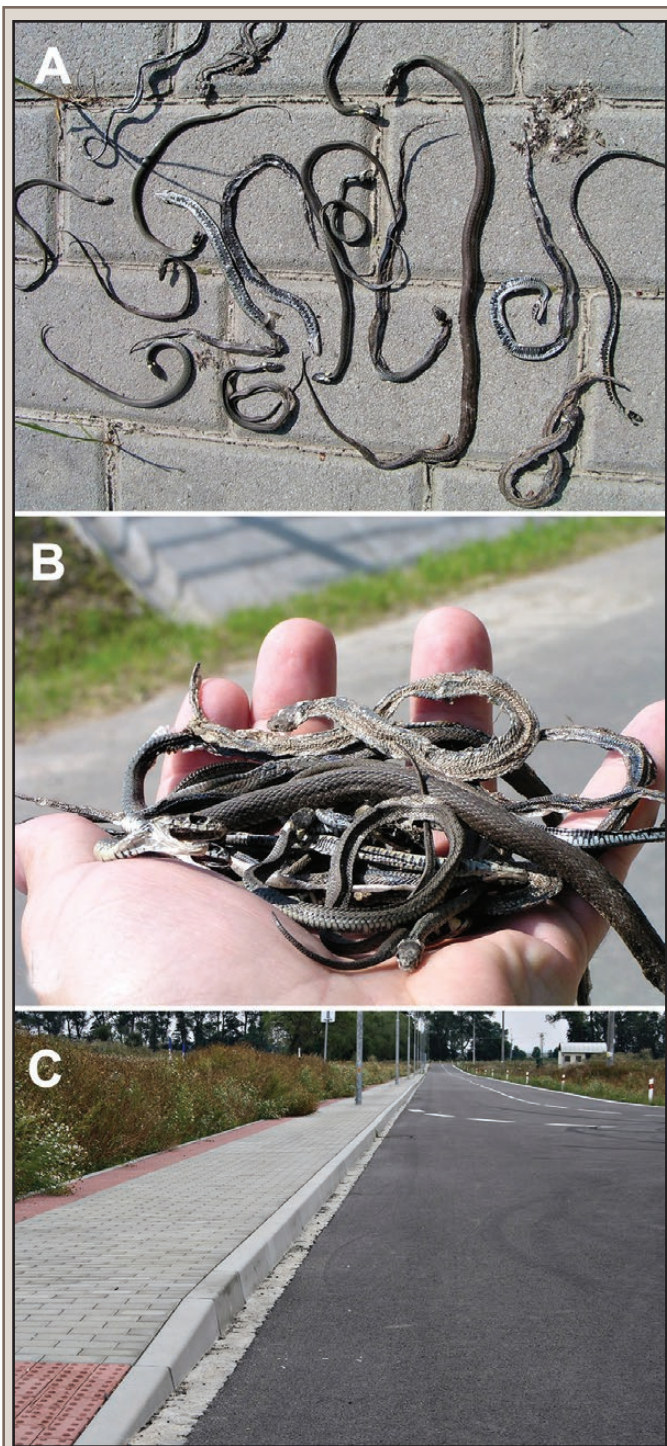


FIG. 2. A–B) Dead individuals of *Natrix natrix* in northeastern Czech Republic in 2004. C) Road with a high curb near Petrův pond, which represents a deadly trap for local reptiles.

**OPHEODRYS AESTIVUS (Rough Greensnake). NOCTURNAL FORAGING.** *Opheodrys aestivus* is a species of small, arboreal snake found throughout the southeastern USA. It is generally considered to be a visually oriented hunter, moving through dense foliage to consume a wide variety of arthropod prey such as caterpillars and spiders (Plummer 1981 J. Herpetol. 154:425–432). However, at least one observation suggests *O. aestivus* may rely on chemical cues to track prey in the absence of visual

stimuli (Durso 2010 Herpetol. Rev. 41:95–96). One study which involved careful observation of their behavior in the field has suggested this is an entirely diurnal species, foraging during the day, and sleeping at night (Plummer, *op. cit.*). Here we report an observation of nocturnal foraging by *O. aestivus*.

At 2130 h on 30 August 2017, at Joyce Wildlife Management Area in Tangipahoa Parish, Louisiana, USA (30.400°N, 90.429°W; WGS 84) we observed an individual *O. aestivus* (SVL ca. 350 mm) displaying what we believe to be nocturnal foraging behavior in foliage surrounding a gravel lot. The gravel lot is adjacent to a large tract of cypress-tupelo swamp and slightly elevated relative to the surrounding area. The snake was found while scanning foliage with a flashlight, and was initially spotted outstretched on the distal portion of a low hanging Sugarberry (*Celtis laevigata*) branch approximately 1.5 m off the ground. The snake was slowly moving towards the trunk of the tree while vigorously flicking its tongue. We observed the snake as it moved up the branch and after approximately 1 min the snake attempted to depredate a small inchworm (Lepidoptera: Geometridae; total length ca. 15 mm), which was initially seized, but quickly dropped because the snake overshot and bit onto the branch. We continued to observe the snake for a brief period (ca. 2 min) as it continued to crawl slowly along the branch. This behavior occurred under artificial lighting but in otherwise natural and undisturbed settings 2 h after sunset (1926 h).

At night, *O. aestivus* typically adopt a coiled sleeping position in trees and shrubbery (Plummer, *op. cit.*). The outstretched posture of this individual upon observation was consistent with previously reported foraging behavior for this species (Plummer, *op. cit.*). Given the vigorous tongue flicking we witnessed at the outset of our observation, and immediacy of the attempted predation following initial detection, we believe this individual was likely using vomerofaction to forage for insects in the dark. We are not aware of other observations describing nocturnal foraging in this species, and believe this to be an unusual behavior for the species, given the lack of prior note in the literature and remarks by herpetologists in the region (B. Glorioso, pers. comm.).

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**PHILODRYAS OLFERSII (Lichtenstein's Green Racer). DEFENSIVE BEHAVIOR.** *Philodryas olfersii* is an opisthoglyphous snake, widely distributed in the Neotropics. It has primarily diurnal habits and occupies both terrestrial and arboreal habitats (Hartmann and Marques 2005. Amphibia-Reptilia 26:25–31). Its defensive repertoire includes cloacal discharge, venomous bite, and escape (Marques et al. 2001. Serpentes da Mata Atlântica: Guia Ilustrado para a Serra do Mar. Holos, Ribeirão Preto. 184 pp.; Pontes and Rocha 2008. Serpentes da Serra do Mendanha, Rio de Janeiro, RJ: ecologia e conservação. Technical Books, Rio de Janeiro. 147 pp.; Bernarde 2014. Serpentes peçonhentas e acidentes ofídicos no Brasil. Anolisbooks, São Paulo. 224 pp.) On 27 November 2015, at approximately 1600 h, we observed two individuals of *P. olfersii* at the edge of a forest stream in the municipality of Rosario do Sul (30.2664°S, 54.9441°W, WGS84; elev. 220 m), state of Rio Grande do Sul, southern Brazil. The first individual was observed on a large rock. Sensing our approach, it plunged into the water from a height of ca. 40 cm. The