

Thanatosis and autohaemorrhaging in the Aesculapian Snake *Zamenis longissimus* (LAURENTI, 1768)

Thanatosis (death feigning) and autohaemorrhaging (reflex bleeding) are among the variety of behaviors used by reptiles in response to a potential predator threat. Thanatosis seems to function by depriving the predator of the stimulus represented by a “live”, moving potential prey, therefore causing it to abort the predatory behavior (PASTEUR, 1982). Thanatosis is known in a large number of reptiles, particularly in snakes (see VOGEL & HAN-YUE 2010; MIRZA et al. 2011; JELIĆ & VILAJ 2011). Autohaemorrhaging is encountered in reptiles in two variants. In the first, the emitted blood is squirted at the predator and is toxic, typical of *Phrynosoma* species (COOPER & SHERBROOKE 2010). In the second, the emitted blood is not (or not known to be) toxic, is not squirted but runs more or less profusely from buccal, nasal or cloacal membranes concomitantly with coiling, death feigning or other defensive behaviors, apparently enhancing their deterrent effect, typical of snakes such as *Tropidophis* species, *Rhinocheilus lecontei* BAIRD & GIRARD, 1853, *Nerodia erythrogaster* (FORSTER, 1771), *Heterodon platyrhinos* LATREILLE, 1801 (SMITH et al. 1993), *Lampropeltis nigra* (YARROW, 1882) (JENKINS et al. 2001) and *Natrix natrix* (LINNAEUS, 1758) (GREGORY et al. 2007).

For the present note, the authors report both thanatosis and autohaemorrhaging in an Aesculapian Snake *Zamenis longissimus* (LAURENTI, 1768), from Romania. The animal was found along a road in the Latorița Valley, County of Vâlcea, Romania, in May 2009 (see IFTIME & IFTIME 2010, for the faunal survey of the area), and had to be picked up and restrained for ca. 20 minutes to prevent it from being killed by local shepherds. At first, it tried to escape by wriggling and thrashing; then it became calmer, but suddenly (and without having been afflicted in any way) it emitted blood through the lips and nostrils (Fig. 1). This lasted for two or three minutes. The blood flow was minimal and did not appear to weaken the specimen. Later on, the animal assumed a death-feign-



Fig. 1: *Zamenis longissimus* (LAURENTI, 1768) displaying autohaemorrhaging (reflex bleeding) when held. Photo: A. IFTIME.

ing behavior, going “limp” and relaxing its muscular tonus. When deposited outside the reach of the people, it started to move as to escape, but slowly and realizing it was still observed by the potential “predator”, resumed its death-feigning. The snake was left as such.

While these behaviors were not previously known in *Z. longissimus*, they come as no surprise since they are known in a great range of colubrid genera and species, including *Coelognathus radiatus* (BOIE, 1827), which is similar to *Zamenis* (formerly the two genera were grouped together in *Elaphe*) (VOGEL & HAN-YUE, 2010). Such behavioral patterns appear more or less sporadically among populations, but not in all specimens. Thanatosis occurs frequently, but not always, in *Natrix natrix*, while reflex bleeding is very rare (GREGORY et al. 2007); also, thanatosis was only recently described in the well-known European species *Coronella austriaca* LAURENTI, 1768 (JELIĆ & VILAJ 2011). The present observation expands the range of defensive behaviors known for *Z. longissimus*, a widespread and ecologically flexible species.

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