Death-feigning behavior in two species of Lygosoma (Squamata: Scincidae) from India

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Keywords: defensive behavior, lizards, Lygosoma guentheri, Lygosoma punctata, thanatosis.

Palavras-chave: comportamento de defesa, lagartos, Lygosoma guentheri, Lygosoma punctata, tanatose.

Thanatosis (meaning “putting to death” in Greek) or death feigning is a form of defensive behavior in which an animal pretends to be dead when threatened or attacked by a predator (McFarland 1982). Death feigning has been reported across taxa and reported in mammals (Francq 1969), birds (Sargeant and Eberhardt 1975), fishes (McKay 1981, Howe 1991), reptiles (Gomes et al. 2004, Bertoluci et al. 2006, Purkayastha and Das 2010, Ribeiro et al. 2010, Vogel and Han-Yuen 2010), amphibians (Sazima 1974, Bertoluci et al. 2007, Toledo et al. 2010), arthropods (Miyatake 2001, King and Leaich 2006), and molluscs (Zhang et al. 2009).

Though widespread, there are few reports of thanatosis in Asian reptiles and only five records of it in reptiles from India—viz., Xenochrophis piscator (Schneider, 1799) (MacDonald 1947, Vogel and Han-Yuen 2010), Coelognathus radiatus (Boie, 1827) (Vogel and Han-Yuen 2010), Lycodon aulicus (Linnaeus, 1758) (Mirza et al. 2011), Pseudoxenodon macrops (Blyth, 1855) (Bhosale and Thite 2013), and Spheno-morphus maculatus (Blyth, 1853) (Purkayastha and Das 2010).

Here, we report thanatosis in two more species of Indian reptiles for the first time—Lygosoma guentheri (Peters, 1879) and L. punctata (Gmelin, 1799). Lygosoma guentheri is an Indian endemic skink distributed across peninsular India (Figure 1A). It occurs at elevation up to 1800 m. Lygosoma punctata is widely distributed in India, Pakistan, Sri Lanka, and Bangladesh (Figure 1B). It occurs at elevation up to 2500 m a.s.l. (Srinivasulu et al. 2014). Both skinks are diurnal, terrestrial, and insectivorous; little is known about the natural history of either species.

Opportunistic observations were made on skinks in their habitats at three localities in South Gujarat Region of Gujarat, India. The lizards were identified and photographed and then released in their respective habitats. Death-feigning behavior was observed on three occasions. When possible, we photographed live skinks and individuals engaged in death feigning. On one occasion, we recorded a video to estimate the time the lizard remained immobilized. Death-feigning behavior was observed twice in adult Lygosoma guentheri and once in a juvenile L. punctata.
On 01 May 2016 at about 13:00 h, an adult *Lygosoma guentheri* (180 mm total length) was found under a rock in a mango orchard near the village of Valsad-Pardi, Valsad (20°37′25.58″ N, 72°55′57.73″ E; 13 m a.s.l.). When the skink was caught by hand, it immediately started writhing in an effort to escape. However, finding no way to escape, it turned over on its back to expose the venter. The skink extended its limbs and stiffened (Figure 2A). During the 50 s that the lizard maintained this position, we observed a rapid heartbeat, after which the skink slowly began to roll on its right side (Figure 2B). Then the skink rolled its anterior body slowly onto its anterior limbs and remained in that position for about 70 s (Figure 2C). Subsequently, the skink rolled over quickly onto its feet and remained motionless for a few seconds (Figure 2D) and attempted a quick escape. The whole event lasted for nearly 2 min and 30 s.
On 29 October 2015 at about 09:30 h, an adult *Lygosoma guentheri* (200 mm total length) was observed foraging on the ground on a plateau near the village of Piprol, Dharampur, Valsad (20°13’18.12" N, 73°19’37.29" E; 435 m a.s.l.). When we approached, the skink took shelter under a nearby boulder. When the individual was caught by hand, it immediately began writhing to escape; then skink abruptly stopped moving and flipped on its back, exposing its venter. The lizard extended its limbs and stiffened (Figure 3), and remained immobile for about 25 s with a rapid heartbeat. After that, the skink quickly rolled over onto its feet and attempted to escape.

On 20 July 2014, a juvenile of *Lygosoma punctata* (130 mm total length) was seen foraging in leaf litter in moist deciduous forest (20°45’3.07’’ N, 73°28’50.86’’ E; 120 m a.s.l.). When caught, skink moved its bright colored tail and tried to escape. After some time, it stopped moving and flipped on its back, showing its venter. It stiffened and remained immobile for about 10 s, after which the skink rolled over onto its feet and escaped quickly in the nearby vegetation. We were unable to photograph this event.

It seems that death feigning is a tactic used by animals to manipulate predators by appearing to be dead before making an escape (Honma et al. 2006). Thanatosis has been reported primarily in snakes, and its occurrence in other reptiles is poorly documented; properly documented studies of this behavior and its role in survival of the animal are needed.

**Acknowledgments.**—We are thankful to Raju Vyas, Zeeshan Mirza, and two anonymous reviewers for valuable suggestions that benefited this manuscript. HP was supported by INSPIRE Fellowship (IF 130480) from the Department of Science and Technology (DST), New Delhi, India.

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**References**


Editor: Jaime Bertoluci