

Sphenomorphus maculatus (Sauria: Scincidae): a case of death-feigning

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Abstract. This paper documents a typical behaviour of death feigning (thanatosis) in *Sphenomorphus maculatus*, which may be a defensive behaviour of the skink.

Keywords. Death feigning, thanatosis, *Sphenomorphus maculatus*, India, Assam.

Introduction

In response to certain external stimuli, some organisms show a state of immobility which may be a ploy to escape predation. This phenomenon, death-feigning (thanatosis) is reported in mammals (Francq, 1969), birds (Sargeant and Eberhardt, 1975), fishes (Howe, 1991), and amphibians (Sazima, 1974; McCallum, 1999; Toledo, 2004; Kokubum, 2005; Siqueira et al., 2006). **Death feigning in reptiles is also reported, some instances being of *Anelytropsis papillosus* (Torres-Cervantes, Hernández-Ibarra and Ramírez-Bautista, 2004), *Eurolophosaurus divaricatus* (Kohlsdorf, Rodrigues and Navas, 2004), *Coleognathus radiatus* and *Macrocalamus chanardi* (Vogel and Han-Yuen,**

2010), *Xenochrophis piscator* (MacDonald, 1947). In this paper we document observations of death feigning behaviour of *Sphenomorphus maculatus*.

Material and Methods

Observation was made on an individual of *Sphenomorphus maculatus* in wild at Garbhanga Reserve forest (26° 4' 15.79"N, 91° 47' 0.38"E) in Kamrup District of Assam, India, along with observations on three other captive individuals. Photographs of live specimens and the individual showing death feigning were taken. Videography was done to estimate an approximate time for which the animal remained immobilized.

Results and Discussion

Sphenomorphus maculatus (Blyth, 1853) is one of the common skink species to be found in the Garbhanga Reserve forest. The topography of Garbhanga Reserve forest is mostly composed of hilly terrain and the forest type is chiefly mixed deciduous. *S. maculatus* (Fig.1) was primarily found on rocks with water flowing underneath them, sandy banks of forest streams and fallen logs. It was seen to forage actively from early in

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Figure 1. *Sphenomorphus maculatus* from Garbhanga Reserve Forest, Assam, India.



Figure 2. *Sphenomorphus maculatus* feigning death in wild (Garbhanga Reserve Forest, Assam, India).

the morning until midday. *S. maculatus*, like many other lizards, was seen to employ tail autotomy as its first line of defence. An instance of death feigning was observed by us on 3rd March, 2010 at around 1100h, when an individual was seen preying on a spider. As it caught the spider we drew closer to it. The initial reaction of the lizard was to run away, but on finding a rock blocking its escape, the skink dropped on its back showing its ventral surface, whilst still retaining the spider in its mouth (Fig.2). The entire death feigning event was observed to last for approximately 15 seconds. We caught three individuals.

In captivity all of these, when handled, dropped on their back and remained immobile for around 35- 45 seconds (Fig.3). During this period the animal was observed to become stiff, stretching out its fore and hind limbs. Just before the animal regained mobility, a rapid

heartbeat was observed and then the animal was seen to roll over very quickly on its feet and attempt a quick escape.

There have been several hypotheses suggested to explain the adaptive significance of thanatosis. Some believe it to be a ploy to reduce the motivation of predators in capturing live prey (Rovee, Kaufman and Collier, 1976). It has also been postulated to be an escape mechanism from predators which handle prey gently before consuming them (Ratner and Thompson, 1960). Both hypotheses assume that the prey manipulates the predators by sending a false indicator of their death, prior to making their escape (Honma, Oku and Nishida, 2006). Though death feigning have been reported for some species of reptiles, mostly in snakes, this aspect of behaviour in reptiles is still very poorly documented and needs further study.



Figure 3. *Sphenomorphus maculatus* feigning death on handling.

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