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IN *NAJA MOSSAMBICA* (SERPENTES: ELAPIDAE)**

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The First Photographic Evidence of Death-Feigning in *Naja mossambica* (Serpentes: Elapidae)

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Abstract

This short account details the first photographic evidence of death-feigning in a juvenile *Naja mossambica* Peters, 1854 (*Naja (Afronaja) mossambica* Peters, 1854) from KwaZulu-Natal, South Africa, accompanied by figures displaying threat posture and death-feigning. Records of this behaviour in other species, including photographs, are considered and referenced.

Introduction

Death-feigning, death feint (Peters, 1964) or thanatosis is well-known in snakes with the North American Hognose Snakes being perhaps the best known example. Examples of death-feigning in snakes elsewhere than in Africa are reported in several papers (e.g., Durso & Mullin, 2013; Fernández-Guiberteau & Carrero, 2016; Gehlbach, 1970; Gregory, 2008; Gregory, Isaac, & Griffiths. 2007; Iftime & Iftime, 2014; Jelic & Vilaj, 2011; Kreiner, 2007; Sannolo, *et al.* 2014).

While death-feigning in African snakes is well documented in *Hemachatus haemachatus* (e.g., Branch, 1988; FitzSimons, 1919; FitzSimons, 1962; Marais 2004; Rose, 1950, 1955 & 1962) it has also been documented in fourteen other species and subspecies in southern and eastern Africa including the genus *Naja* (Bates & Nuttall, 2013). Both Spawls & Branch (1995) and Carruthers (2005) reported sham death in *N. mossambica* although strangely Bates & Nuttall (2013) found only a single record (Broadley & Blaylock, 2013) for *Naja mossambica* exhibiting death-feigning, however, no photographic evidence was provided in any of these records.

The following web accounts show photographic evidence of death-feigning in other African cobra species: Marais (2019) photographed a *Naja nivea* from the Western Cape displaying similar behaviour, while there are several records of *Naja annulifera* exhibiting such death-feigning with Stander (2017), and Taylor (2019) having both photographed examples of *Naja annulifera* displaying this behaviour.

Observation Account

On the morning of Saturday 11th October 2020 at approximately 10 am, O. Nelson turned over a small rock on a grassy ridge in Cato Ridge, KwaZulu-Natal (29°43'08.0"S 30°37'34.0"E) exposing a young *Naja mossambica* - Mozambique Spitting Cobra (snout-vent length 350 mm with a total length 420 mm). The snake immediately spread a hood and began to spit showing the typical defensive behaviour of the species. The snake was placed in a plastic container before being photographed.

At around 12 pm the snake was removed from the container and placed on the ground for photography prior to release. It immediately reared up and spread its hood (Fig. 1), before spitting, and eventually attempting to flee. After being photographed for approximately 5 - 8 minutes the snake suddenly slumped down to the ground and began to twist the anterior part

of the body exposing the underside of the snake (Figs. 2 & 3). After being touched with a steel hook stick and moved to an adjacent rock the snake assumed this “playing dead” posture for four minutes then made several flicks of the tongue slowly righting itself into a normal position and lying motionless until it was touched again when the snake attempted to flee. Shortly afterwards the snake was placed amongst some grass and then moved off into without incident.



Figure 1 – Juvenile *Naja mossambica* spreading hood in threat display. From Cato Ridge, KwaZulu-Natal. (Photo: T. Ping)



Figure 2 – Juvenile *Naja mossambica* feigning death. From Cato Ridge, KwaZulu-Natal. (Photo: T. Ping)

Conclusions

While this observation is not unique, nor newly discovered, in the species, we believe that this account serves as the first photographic evidence of death-feigning in the Mozambique Spitting Cobra *Naja mossambica* and, therefore, a useful contribution to African herpetology.



Figure 3 – Juvenile *Naja mossambica* feigning death. From Cato Ridge, KwaZulu-Natal. (Photo: T. Ping)

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