

First observation of male combat in the greater black krait *Bungarus niger*

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The greater black krait *Bungarus niger* Wall, 1908 (Serpentes: Elapidae) is a venomous snake distributed from north-east India, Nepal, Bhutan and Bangladesh to Myanmar (Whitaker & Captain, 2004; Leviton et al., 2008; Lalremsanga & Lalronunga, 2017; Uetz, 2020). It is easily identified by its coloration (iridescent black to dark chocolate dorsally and off-white ventrally) and presence of enlarged hexagonal vertebral scales (Whitaker & Captain, 2004). Little information is available on the natural history of *B. niger* especially its reproductive behaviour and no intraspecific competition had been recorded previously. Male combat has been observed and described in many species of snakes from different families, with varying rituals and behaviours (Shine, 1978; Senter et al., 2014) including the Malayan krait, *Bungarus candidus* (Shine, 1978). Herein, we report the first record of male combat behaviour in *B. niger*.

On the 2nd October 2017 at 13:53 h, we witnessed two adult male *B. niger* engaging in male combat (Fig. 1) near Lamchhip village, Aizawl District, Mizoram, north-east India (23° 26.497' N, 92° 47.114' E; 1,177 m asl). The snakes were caught in the act and the bout was observed for about 10 minutes, until they moved out of sight into a thicket along the road, continuing with the combat. The two snakes intertwined their bodies while moving forward (Fig. 1A - D), raised their head almost up to a fifth of their total length (Fig. 1D) and tried to push the head of the opponent to the ground (Fig. 1A - B). One male was observed biting the neck of its opponent (Fig. 1C), which is an apparently rare phenomenon in male combat (Senter et al., 2014).

During the encounter, no female was sighted nearby although this would be expected as male combat in snakes is normally associated with competition to mate with a



Figure 1. A sequence of photos of male combat in *Bungarus niger*

female. It seems likely that in this case the female remained hidden in the adjacent vegetation. As to the fate of the male that was bitten on the neck, we do not know if it suffered any ill effects. It is believed that venomous species are less susceptible to their own venom but are not completely resistant to it, a recent report of a lethal self-inflicted bite in the case of the lesser black krait *Bungarus lividus* is a case in point (Purkayastha et al., 2021).

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