## First record of male-male combat in Xenopeltis unicolor

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The sunbeam snake (*Xenopeltis unicolor*), is one of two **I** species in the family Xenopeltidae. It is distributed throughout south-east Asia where it is often encountered in open areas close to bodies of water, particularly agricultural areas (Cox, 1993, Karns et al., 2005). It is a medium-sized (approximately 1 m) fossorial snake, characterised by a wedge-shaped head and highly iridescent smooth scales. Male-male combat in snakes, is sometimes misidentified as opposite sexes courting, but is a key behaviour that may drive life history strategies (Shine et al., 1981). Not all snake species exhibit male-male combat. Evolutionary relationships between these behaviours show that body bridging and downward anterior pushing may be ancestral traits amongst snakes. Some clades show more complex behaviours such as neck biting, while others exhibit none at all (Senter et al., 2014).

Herein we present the first known recorded observation of male-male combat within Xenopeltidae. On the 13 February 2018 at 21:40 h, in Pathum Thani, Bangkok, Thailand (13.9691°N, 100.5760°E, Datum 47P) during a herpetofaunal survey we witnessed two adult male *X. unicolor* engaging in male-male combat (Fig. 1). The snakes were observed on a roadside verge consisting mainly of tall grass, displaying body bridging behaviour, twisting continuously while moving forward. After approximately 10 minutes they coiled around each other and bit each other (holding) for approximately 1 minute (Fig. 2). They continued body bridging behaviour and once aligned, simultaneously pushed their anterior downwards on to each other. They disregarded the presence of observers and combat continued onto a road, for an additional 10 minutes. They coiled around each other and bit each other again, locking for a further minute. Combat concluded with 1 minute of body bridging and simultaneous anterior downward pushing, until 22:03h when they separated and the smaller individual began moving away. The larger individual displayed a jerking head-raise behaviour before moving away in the opposite direction.

Despite their wide distribution and relative abundance within certain habitats, no form of intrasexual competition has been recorded previously in *X. unicolor*. Schuett et al. (2001) however, predicted that male-male fighting should be expected in the Xenopeltidae based on their defence behaviour and the present observation confirms this prediction. As the family Xenopeltidae belongs to a basal lineage in snake phylogeny, the present observation contributes to a further understanding of the evolution of intrasexual competition (e.g. Senter et al., 2014).

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Figure 1. Two male *X. unicolor* engaged in combat, exhibiting body bridging on a road next to a grass verge



Figure 2. The two male *X. unicolor* subsequently coiling and biting each other

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