

Biodiversity Record: Possible courtship behaviour of crab-eating water snake

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Subjects: Crab-eating water snake, *Fordonia leucobalia* (Reptilia: Squamata: Homolopsidae).

Subjects identified by: Cheong Wai Lun.

Location, date and time: Singapore Island, Pasir Ris Park; 8 October 2022; around 2130 hrs.

Habitat: Small patch of mangrove forest. On a mud-lobster mound surrounded by pools of brackish water during low tide.

Observers: Zyon Aaronel Wee Zhun Wei and Cheong Wai Lun.



Fig. 1. Top view of two crab-eating water snakes having just emerged from a burrow on the mud-lobster mound, with the smaller one on top appearing to press onto the dorsum of the other snake. Fig. 2. The snakes at the edge of a pool of water at the base of the mud-lobster mound. Fig. 3. The larger snake slithering around apparently in haste with its head buried in the mud. Fig. 4. Both snakes partially submerged in the tidal pool just before they broke contact and went their separate ways. (Photographs by: Cheong Wai Lun)

Observation: One snake of about 90 cm total length was observed slithering in and out of burrows in the mud-lobster mound. The observers believed it was hunting for crabs. The observers then left, but returned 15 minutes later to the same mud-lobster mound. They found another snake, an obviously smaller one, entering a burrow. About 30 seconds later, two snakes emerged from the burrow with their bodies in contact with each other (Fig. 1). The larger individual appeared to be the snake seen 15 minutes earlier, the smaller one was assumed to be the one noted 30 seconds before (Fig. 2). The smaller snake attempted to position itself along the back of the other snake. Its head was some distance behind the head of the larger snake, and it tried to align its ventral surface pressed against the dorsal surface of the other snake. The larger snake slithered all over the mud-lobster mound and into an adjacent tidal pool with other snake persistently trying to maintain its position along the back of the other. Their cloacas were never in direct contact. At one point in the pool, the larger snake stuck its head in the mud but did not manage to dislodge the smaller snake (Fig. 3). This behaviour lasted for around 30 seconds (Fig. 4) before the two snakes suddenly broke body contact and went on their separate ways. The larger snake slithered into a burrow on the mud-lobster mound, while the other snake remained active in the pool.

Remarks: This observation is noteworthy as it does not appear to have been previously documented for *Fordonia leucobalia* which is a locally uncommon semi-aquatic mangrove snake that specializes in feeding on hard-shelled crabs (Murphy, 2007; Baker & Lim, 2012). The mounting behaviour of the smaller snake is interpreted most likely as that of courtship, although the gender of either snake was not determined. The smaller snake that persistently tried to maintain body contact on the top is likely to be a male, while the apparently larger individual that seemed eager to avoid the interaction by constantly moving is presumed to be female. Territorial display is also a possibility if both snakes are of the same gender, but it seems highly unusual for a distinctly smaller individual to be challenging a larger conspecific, and for the other snake to not respond in a similar manner. The display apparently did not culminate in copulation as the cloaca of both snakes did not meet during the interaction.

Similar courtship displays have been observed on arboreal Oriental whip snakes, *Ahaetulla prasina* (see Kim, 2020) and paradise gliding snakes, *Chrysopelea paradisi* (see Kaiser et al., 2016). However, these are arboreal snakes and involved more than one male suitor.

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