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Biodiversity Record: Predation of swamp-eel by red-tailed pipe snake

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Subjects: Red-tailed pipe snake, *Cylindrophis ruffus* (Reptilia: Squamata: Cylindrophiidae);
Sunda swamp eel, *Monopterus javanensis* (Teleostei: Synbranchiformes: Synbranchidae).

Subjects identified by: Ong JunXiang Lumin, Tay JingXuan, Theodora Tan, Toh WanTing, Loraine Lee and Lim LiTing.

Location, date and time: Singapore Island, Windsor Nature Park; 10 March 2024; around 1058 to 1135 hrs.

Habitat: Secondary rainforest, next to a freshwater stream. It was gloomy and dark, just an hour before rain.

Observers: Ong JunXiang Lumin, Tay JingXuan, Theodora Tan, Toh WanTing, Loraine Lee and Lim LiTing.

Observation: A red-tailed pipe snake of around 45 cm total length, was first seen slowly foraging on a patch of mud at 1058 hrs (Fig. 1). As it poked its head under some fallen leaves, a swamp eel emerged from beneath and moved away with great haste. The eel, estimated to be several cm shorter than the snake, managed to slither almost a metre away from where it emerged, before burrowing under another set of fallen leaves. At 1111 hrs, the snake caught up with the eel, probably having tracked it down by scent, and managed to bite onto the tail end of the eel (Fig. 2). It then released its initial grip and lunged forward to latch its jaws onto the mid-section of the eel (Fig. 3). While the eel struggled violently attempting to twist itself free, the snake, without letting go, worked its jaws towards the head of the eel (Fig. 4). At 1117 hrs, the snake had its jaws clamped over the eel's head and proceeded to ingest its prey (Figs. 5 & 6). After its head was swallowed, the eel ceased to struggle, and only slight movements of its tail were noted. By 1134 hrs, the eel was completely swallowed (Fig. 7).

Fig. 1. Dorso-lateral view of the pipe snake foraging on a patch of mud (Photograph by: Toh WanTing).

Fig. 2. The snake biting onto the eel's tail (Photograph by: Ong JunXiang Lumin).

Fig. 3. Lateral view of the snake biting onto the mid-section of the eel (Photograph by: Toh WanTing).

Fig. 4. Ventral view of the anterior ends of both snake and eel, with the snake working its jaws along the side of the struggling eel towards its head (Photograph by: Ong JunXiang Lumin).

Fig. 5. The snake mid-way through swallowing the eel (Photograph by: Ong JunXiang Lumin).

Fig. 6. Dorso-frontal view of the snake ingesting the tail portion of the eel (Photograph by: Tay JingXuan).
Fig. 7. Dorso-lateral view of the snake having swallowed the entire eel, raising its head and opening and closing its mouth, seeming to work its prey in further (Photograph by: Tay JingXuan).

Remarks: The semi-fossorial and nocturnal red-tailed pipe snake occurs in wet lowland forests and agricultural land. It is not known to be venomous, and its diet includes eels, small snakes, caecilians, frogs and insect larvae (Stuebing et al., 2014; Charlton, 2020). Although widespread in Singapore, this species is rarely seen (Figueroa et al., 2023). This observation seems unusual because the featured snake was active and hunting in the day.

In Singapore, the Sunda swamp eel is also seldom seen even though it is locally widespread in many bodies of freshwater. It even frequents drains or canals and seems tolerant of moderate amounts of water pollution (Baker & Lim, 2012). It is an air-breather that is capable of surviving out of water. It is also nocturnal, sheltering in burrows during the day (Ng, 2016).

The featured observation shows that this non-venomous snake's hunting strategy simply involves clamping onto prey with its mouth and then swallowing it whole and alive. The lack of resistance from the eel after its head was ingested could be due to it having been fatigued from its efforts to escape. It is interesting to note that this snake was relatively slow in catching up with the eel, taking around 13 minutes to track it down.

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