

## Biodiversity Record: Attempted predation of spiny hill terrapin by keeled rat snake

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**Subjects:** Keeled rat snake, *Ptyas carinata* (Reptilia: Squamata: Colubridae);  
Spiny hill terrapin, *Heosemys spinosa* (Reptilia: Testudines: Geoemydidae).

**Subjects identified by:** James Donnelly.

**Location, date and time:** Singapore Island, Bukit Timah Nature Reserve, Jungle Path; 1 April 2023; around 0900 hrs.

**Habitat:** Primary lowland dipterocarp forest.

**Observer:** James Donnelly.

**Observations:** A keeled rat snake of approximately 2.5 m total length was observed on the forest floor, searching the leaf litter in one general area for around 1 hour. At one point, it buried its head deep in the leaf litter and emerged with a juvenile spiny hill terrapin in its jaws.

Over the next five minutes the snake manoeuvred the turtle in its jaws and made two attempts to swallow it. However, the snake could not fit the turtle's broad and hard carapace armed with serrations along the margins into its mouth. Eventually, the snake gave up and dropped the turtle which immediately scurried into the leaf litter. The snake then moved deeper into the forest.

A video of this encounter recorded by the author can be viewed at <https://youtu.be/gLZ3Sh3eZcA>.



Fig. 1. Frontal view of keeled rat snake hunting on the forest floor. Fig. 2. The rat snake having pulled a juvenile spiny hill terrapin from the leaf litter. Note the snake has its jaws around the rear half of the turtle.

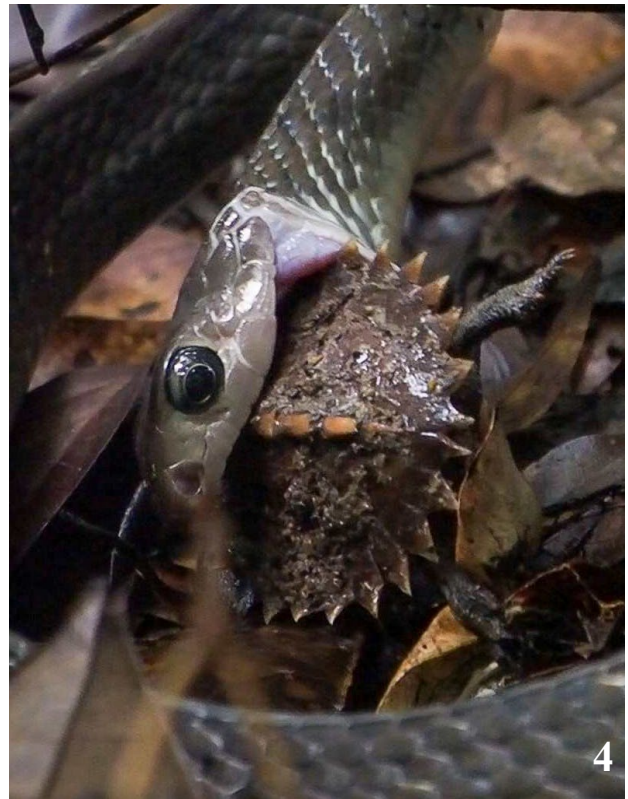
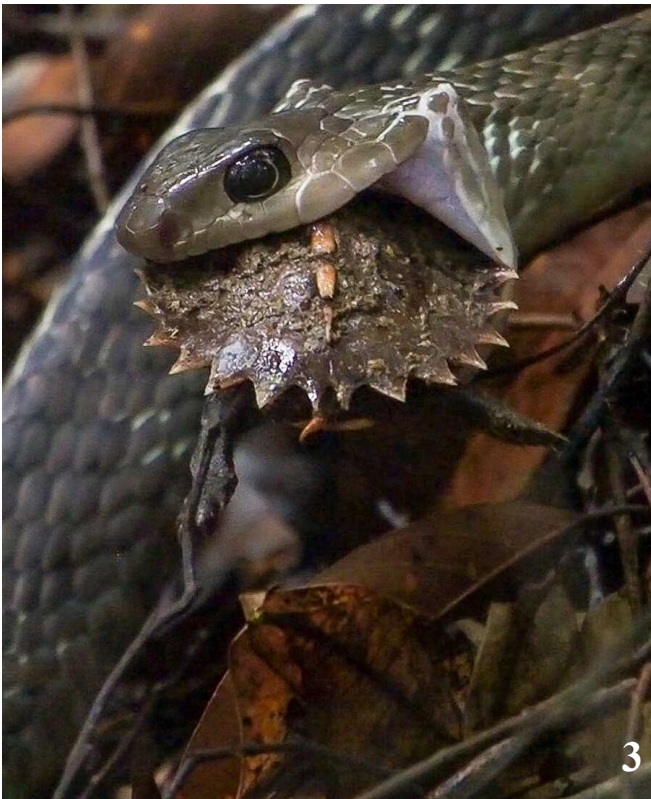


Fig. 3. Snake manoeuvring the turtle such that its anterior portion is in the snake's mouth. Fig 4. The snake attempting to swallow the turtle but is prevented from doing so by the turtle's broad carapace with spiky margins. (Photographs by: James Donnelly).

**Remarks:** This appears to be the first record of a snake attempting to consume a turtle in the wild, at least in Singapore. The diet of *Ptyas carinata* is known to include mammals, frogs and other snakes (Charlton, 2020; Das, 2021). It is not inconceivable for a snake with such a varied diet to attack a turtle, and it is possible for a turtle to be ingested by a snake, provided it is small enough to fit into the snake's mouth. In the featured observation, the snake's attempt to prey on the turtle appears to have been thwarted by the turtle's carapace being too broad and hard, and also by the spikes along the margins.

**Literature cited:**

- Charlton T (2020) A Guide to Snakes of Peninsular Malaysia and Singapore. Natural History Publications (Borneo), Kota Kinabalu, Sabah, viii + 300 pp.
- Das I (2021) A Naturalist's Guide to the Snakes of Southeast Asia. 3<sup>rd</sup> edition. John Beaufoy Publishing, England, 176 pp.