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## Mobbing of red-tailed racer by squirrels and macaques

 $\textbf{Subjects}: \ \textbf{Red-tailed racer}, \ \textit{Gonyosoma oxycephalum} \ (\textbf{Reptilia}: \ \textbf{Serpentes}: \ \textbf{Colubridae});$ 

Plantain squirrel, *Callosciurus notatus* (Mammalia: Rodentia: Sciuridae); Slender squirrel, *Sundasciurus tenuis* (Mammalia: Rodentia: Sciuridae);

Long-tailed macaque, Macaca fascicularis (Mammalia: Primates: Cercopithecidae).

Subjects identified by: Contributors

Location, date and time: Singapore Island -

- 1) Central Catchment Nature Reserve, shore of Lower Peirce Reservoir; 5 July 2015; 1200 hrs.
- 2) Upper Thomson, Venus Loop; 6 March 2016; 1000 hrs.

Habitat: Secondary lowland forest.

## **Observers**:

- 1) Sankar Ananthanarayanan, Law Ing Sind, Rebecca Lee, Tok Yin Xin & Jonathan Tan.
- 2) Marcus F. C. Ng.

Observations: Two separate records -

- 1) Along the shore of Lower Peirce Reservoir, a troop of long-tailed macaques was seen circling a branch approximately 4 m above the ground around which a red-tailed racer of about 1.5 m in length was coiled (Fig. 1). The macaques surrounded the snake and watched it warily. Some of them made alarm calls, while visually tracking the snake, apparently distressed by its presence. While several individuals of the troop kept their distance, some of the younger members got closer to investigate the snake and even shook the branches vigorously (Fig. 2). After about 5 minutes, the troop left the snake alone and moved away.
- 2) Multiple alarm calls made by squirrels were heard along Venus Loop. At least three plantain squirrels and two slender squirrels, appeared highly agitated and were circling a branch about 3 m from the ground. On the branch was a red-tailed racer about 1.5 m in length. The slender squirrels kept their distance but were active in a broad perimeter around the snake (Fig. 6). The plantain squirrels were bolder, with one approaching the snake head-on within the snake's striking distance (Figs. 3 & 4). After about a minute, in which the squirrels seemed to be trying to 'head-off' the snake, the reptile reversed course and made a steep descent into a plant thicket (Fig. 5) out of the observer's view. The squirrels continued to circle the area and issue alarm calls for at least another 10 minutes. All the squirrels involved were adults, but juvenile squirrels were seen elsewhere along the trail. The observer has seen lactating females during this period, indicating that breeding is taking place.

**Remarks**: The aggressive responses of monkeys and squirrels to the conspicuous presence of a snake in their immediate vicinity are expected as both of these mammals are preyed on by large snakes. Regarded as an 'endangered' species in Singapore (Lim, 2008: 265), the red-tailed racer grows to around 2.4 m, and is known to feed on small mammals (Baker & Lim, 2012: 103). Between macaques and squirrels, the latter would be prey of appropriate size for a red-tailed racer.

## References:

- Baker, N. & K. K. P. Lim, 2012. Wild Animals of Singapore. A Photographic Guide to Mammals, Reptiles, Amphibians and Freshwater Fishes. Updated edition. Draco Publishing and Distribution Pte. Ltd. & Nature Society (Singapore). 180 pp.
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  K. L. Ng & H. C. Ho (eds.), 2008. The Singapore Red Data Book. Threatened Plants & Animals of Singapore. Second Edition. Nature Society (Singapore). pp. 263-266.

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Fig. 1. The red-tailed racer at Lower Peirce that was surrounded by macaques. Photograph by Sankar Ananthanarayanan



Fig. 2. Two young macaques in close proximity to the snake (in the foreground). Image from a video by Sankar Ananthanarayanan



Fig. 3. Plantain squirrel approaching red-tailed racer at Venus Loop. Photograph by Marcus F. C. Ng



Fig. 4. Plantain squirrel apparently mobbing red-tailed racer. Photograph by Marcus F. C. Ng



Fig. 5. Red-tailed racer reversed and made a steep descent into a plant thicket. Photograph by Marcus F. C. Ng



Fig. 6. One of the slender squirrels that was apparently harassing the red-tailed racer at Venus Loop. Photograph by Marcus F. C. Ng