

Brown anoles mating at Marina Bay

Subjects: Brown anole, *Norops sagrei* (Reptilia: Sauria: Dactyloidae).

Subjects identified by: Kelvin K. P. Lim.

Location, date and time: Singapore Island, Marina Bay South Gardens; 16 August 2015; around 1915 hrs.

Habitat: Urban parkland, on reclaimed land.

Observers: Karen W. C. Leong & Vikram Mahtani.

Observation: Two brown anoles, each no more than 10 cm total length, was observed on the ground in the early evening as the sun was setting. They were struggling, and one was biting the other on the neck. The observers tried to frighten the lizards with the intention of breaking up a supposed fight. Only the biter fled, but returned shortly and began biting the other lizard on the neck again. In the ensuing struggle, the biter tried to position its tail under the tail of the other. At this point, the observers realised that the lizards were mating and left them alone. By then the presumed male had joined his vent to that of the supposed female, and had pinned her to the ground with his two left limbs. He stopped biting her when she stopped struggling and remained motionless. The attached pictures (Figs. 1-4) were obtained after the male had stopped biting the female, but still joined to her. Their union was observed for about one minute until the female abruptly tore away and scuttled off, leaving the male behind, apparently exhausted (Fig. 5). The female is noted to have a bifurcated tail tip (Fig. 4).

Remarks: There appears to be no distinct sexual dimorphism on the copulating lizards. The male in the present observation does not seem to have the bright red throat sac or dewlap that is characteristic of courting male brown anoles (see Tan & Lim, 2012: 360, fig. 1). The dull colouration of the featured male suggests that he could be a subordinate masquerading as a female, so he can secretly mate with the females and avoid detection and eviction by the dominant territorial male. The non-native brown anole was first observed in Singapore in 2012 at the Marina Bay area, probably introduced with ornamental plants (Tan & Lim, 2012). One example seen at Bishan in March 2015 appears to be the first published record of the brown anole outside the Marina Bay area (Woo & Wee, 2015: 61).



Fig. 1. Lateral view of copulating pair of brown anoles with the male on top. Photograph by Karen W. C. Leong



Fig. 2. Copulating pair of brown anoles.



Fig. 3. Frontal view of copulating anoles. Note that the male lacks the reddish dewlap on his throat.



Fig. 4. Dorsal view of copulating anoles. Note the female's bifurcated tail tip indicated by arrow.



Fig. 5. Copulation ended when the female scuttled off, leaving the male behind.

Photographs by Karen W. C. Leong

References:

- Tan H. H. & K. K. P. Lim, 2012. Recent introduction of the brown anole *Norops sagrei* (Reptilia: Squamata: Dactyloidae) to Singapore. *Nature in Singapore*. 5: 359-362.
- Woo W. X. & S. X. R. Wee, 2015. Brown Anole at Bishan. *Singapore Biodiversity Records*. 2015: 61.

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