

Male brown anoles displaying at Gardens by the Bay

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

Subjects identified by: Contributors.

Location, date and time: Singapore Island, Marina South, Gardens by the Bay; 15 August 2016; 0930-1130 hrs.

Habitat: Urban parkland on reclaimed land.

Observers: Contributors.

Observation: Many brown anoles were sighted at the gardens. There was a high concentration of these lizards at the planters along the walkway next to the glass domes, adjacent to the shoreline of the Marina Reservoir. The planters contained mainly plants with thorn-lined foliage such as bromeliads, aloes and pandans. Large mature males of around 15 cm total length were often seen perched and displaying at elevated and exposed locations, such as on metal structures (Fig. 1) and on plant parts (Figs. 2-4). They would bob their heads up and down repeatedly, accompanied by erection of the brightly coloured dewlap directly posterior to the lower jaw (Figs. 1-4). The body colour of the displaying males ranges from light brown to almost black. A male on a pandan root (Figs. 3&4) was displaying with head facing the ground, and moving around the circumference of the same root.

Remarks: Male brown anoles display most probably to show ownership of territory against rival males, and also for attracting receptive females in the vicinity.

The brown anole is believed to have been brought into Singapore on imported ornamental plants (Tan & Lim, 2012; Chua, 2013), and has been recorded on many websites and blogs (Chan, 2013; Chow, 2014; Losos, 2015). Although this alien lizard appeared to be restricted to Marina South, one individual was recently reported in Bishan, a residential estate about 15 km to the north (Woo & Wee, 2015), indicating that it was spreading. While there is widespread concern, the implications of its impact on native biodiversity is not known (Tan & Lim, 2012; Chua, 2013; Chan, 2013; Chow, 2014; Losos, 2015). Being a small and apparently prolific species, the brown anole does constitute a food source for larger animals. One example has been photographed at Gardens by the Bay being preyed on by a collared kingfisher (*Todirhamphus chloris*) (see Yong & Yong, 2016: 55).

References:

- Chan K. W., [2 October] 2013. Brown Anoles – new lizard found at Gardens by the Bay. *Wildpix*. <http://wildpix.blogspot.sg/2013/10/brown-anoles-new-lizard-found-at.html>. Accessed on 18 August 2016.
- Chow, L., [June] 2014. Brown Anole, a new exotic lizard for Singapore. *Bird Ecology Study Group*. <http://www.besgroup.org/2014/06/22/brown-anole-a-new-exotic-lizard-for-singapore/>. Accessed on 18 August 2016.
- Chua, G., [23 September] 2013. New lizard in town at Gardens by the Bay. *The Straits Times* (online edition), <http://www.straitstimes.com/singapore/new-lizard-in-town-at-gardens-by-the-bay>. Accessed on 18 August 2016.
- Losos, J., [20 April] 2015. Update on the anoles of Singapore. *Anole Annals. Your source for the latest on Anolis lizards*. <http://www.anoleannals.org/2015/04/20/update-on-the-anoles-of-singapore/>. Accessed on 18 August 2016.
- 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.
- Yong, J. & M. Yong, 2016. *Taking Flight. A photo journey of birds across Singapore*. Marshall Cavendish Editions. 144 pp.

Contributors: **Tan Heok Hui & Zhou Hang**

Contact address: heokhui@nus.edu.sg (Tan)



Fig. 1. Male anole displaying on a metal structure that supports spotlights.



Fig. 2. Male displaying on an aloe leaf.



Fig. 3. Male displaying on a pandan root.



Fig. 4. Another view of the male on a pandan root.

Photographs by Tan Heok Hui