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Biodiversity Record: A second mature grey fig, *Ficus virens*, at Dover Forest

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Subject: Grey fig, *Ficus virens* (Plantae: Magnoliophyta: Rosales: Moraceae).

Subject identified by: The Singapore Botanic Gardens Herbarium (SING).

Location, date and time: Singapore Island, Dover Forest between Pandan Canal and Commonwealth Avenue West, across Technology Drive from the School of Science and Technology (Fig. 1); 25 April 2021; around 1000 hrs.

Habitat: Secondary forest.

Observers: Chin Tat Chua and Masako Fujita.

Observation: The subject is a mature *Ficus virens* strangling an *Acacia auriculiformis* at the periphery of the forest (Fig. 2). The trunk of the host, the *Acacia auriculiformis*, was completely enveloped by the roots of the *Ficus virens* up to about 6 m from its base (Fig. 3). Above 6 m, the host's trunk could be discerned upon close examination (Fig. 4). The combined girth of the host's trunk and the enveloping roots of the strangler was 3.7 m, measured with string at a height of 1.5 m above the base of both trees. The foliage of the *Ficus virens* was dominant, while that of its host *Acacia auriculiformis* was restricted to a small central patch where its trunk pushed through the canopy of the strangler (Fig. 5). Both trees stood on low ground that tended to become waterlogged from heavy rains. Their base was about 1.5 m vertically below the road level of Technology Drive. The height of the *Ficus virens* was estimated to be about 14 m, and the width of its canopy also 14 m, by comparing with the 4.5-m high roof that shades the pedestrian road crossing nearby (Fig. 6). The *Ficus virens* was not fruiting, and identification was based on its leaves, petioles and twigs (Fig. 7).

About 25 m away to the south, the observers also discovered a *Ficus virens* sapling growing as an epiphyte on a streetscape *Samanea saman* (Fig. 8). This sapling could be the progeny of the subject, given their proximity to each other.

Remarks: About a decade before, in the year 2010, when the southwestern corner of Dover Forest was cleared to build the campus of the School of Science and Technology, this *Ficus virens* was brought to the edge of the forest such that it became fully visible from the pedestrian sidewalk along Technology Drive and Commonwealth Avenue West. On the other hand, its *Acacia auriculiformis* host was probably noticed only if it was anticipated by an observer. This particular stand of *Ficus virens* was recognised by Reuben C. J. Lim in December 2014 (see https://www.flickr.com/photos/reulim/albums/72157712325560978/), but his find was not published.

As the subject was sterile at the time of observation, its identity can only be fully confirmed when it becomes fertile, when its flowers and fruit are available for examination. A voucher specimen collected from the subject was lodged in the Singapore Botanic Gardens Herbarium on 18 May 2021, under the voucher number SING 2021-324 and barcode number SING 0295045.

Ficus virens is regarded as a critically endangered native flora in Singapore, with only 19 mature specimens recorded across the country as of 2013 (Lee et al., 2013). In 2020, a mature tree was reported in Dover Forest in an environmental impact assessment of the area (Thomas et al., 2020), adding one more to that tally. The featured subject is the second mature individual of this species to be found in the Dover Forest, and the 21st to be recorded in the whole of Singapore.

Members of the genus *Ficus* are an important food resource for local fauna, especially birds (Lok et al., 2013), and *Ficus virens*, in particular, is capable of supporting and boosting avian diversity (Lee et al., 2013). In view of its extreme rarity in Singapore and the ecological services that it provides, the subject is worth conservation.

Fig. 1. Map showing the locations of a mature *Ficus virens* across Technology Drive from the School of Science and Technology, and a sapling of the same species growing as an epiphyte about 25 m to the south. (Base map by: Google Earth).

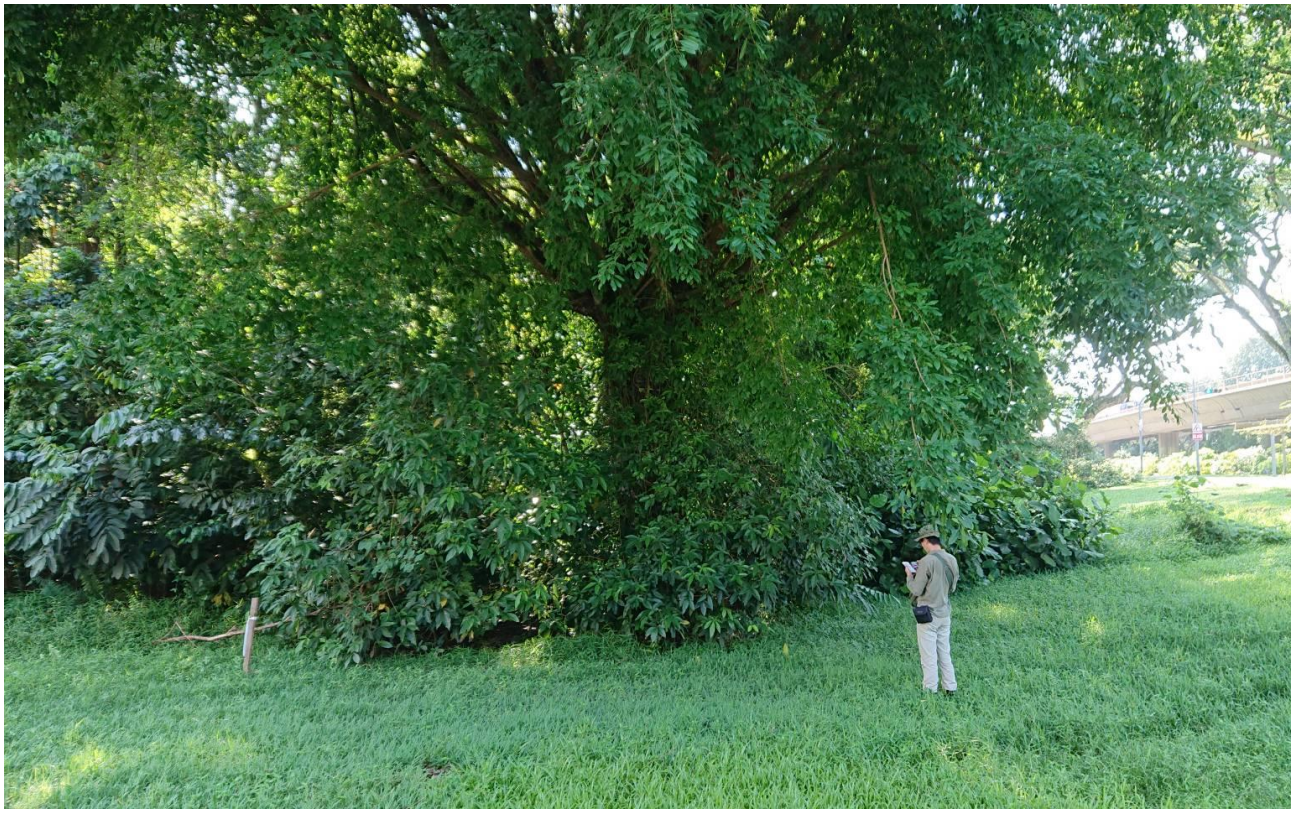

Fig. 2. Lateral view of the mature *Ficus virens* located on the edge of Dover Forest, with the Mass Rapid Transit overpass along Commonwealth Avenue West visible to the right. (Photograph by: Masako Fujita).

Fig. 3. The roots of the *Ficus virens* had completely engulfed the trunk of its host, an *Acacia auriculiformis*. (Photograph by: Chin Tat Chua).

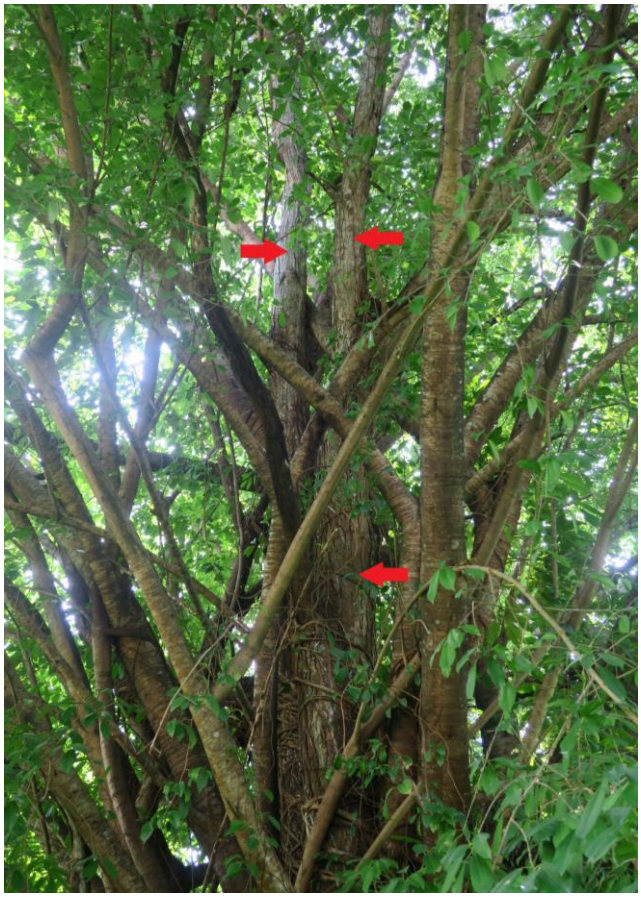

Fig. 4. Red arrows indicate the trunk and branches of the host *Acacia auriculiformis*, which is discernible by comparing the appearance of its bark with that of the surrounding branches of the dominant *Ficus virens*. (Photograph by: Chin Tat Chua).

Fig. 5. Lateral view of *Ficus virens* and its host *Acacia auriculiformis*. Note how the foliage of the *Ficus* had almost completely smothered that of its host. (Photograph by: Chin Tat Chua).

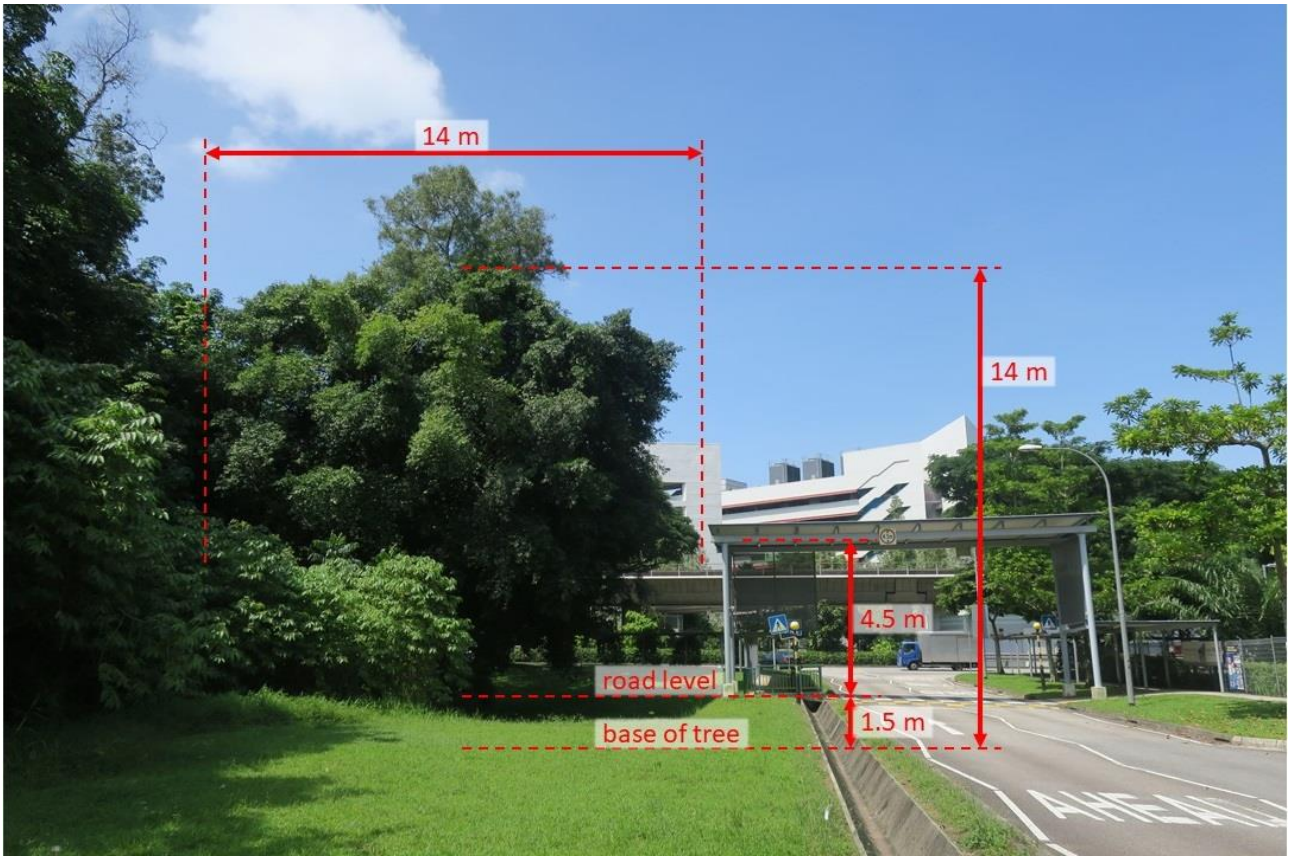

Fig. 6. Estimating the height and canopy width of the *Ficus virens*. (Photograph by: Chin Tat Chua).

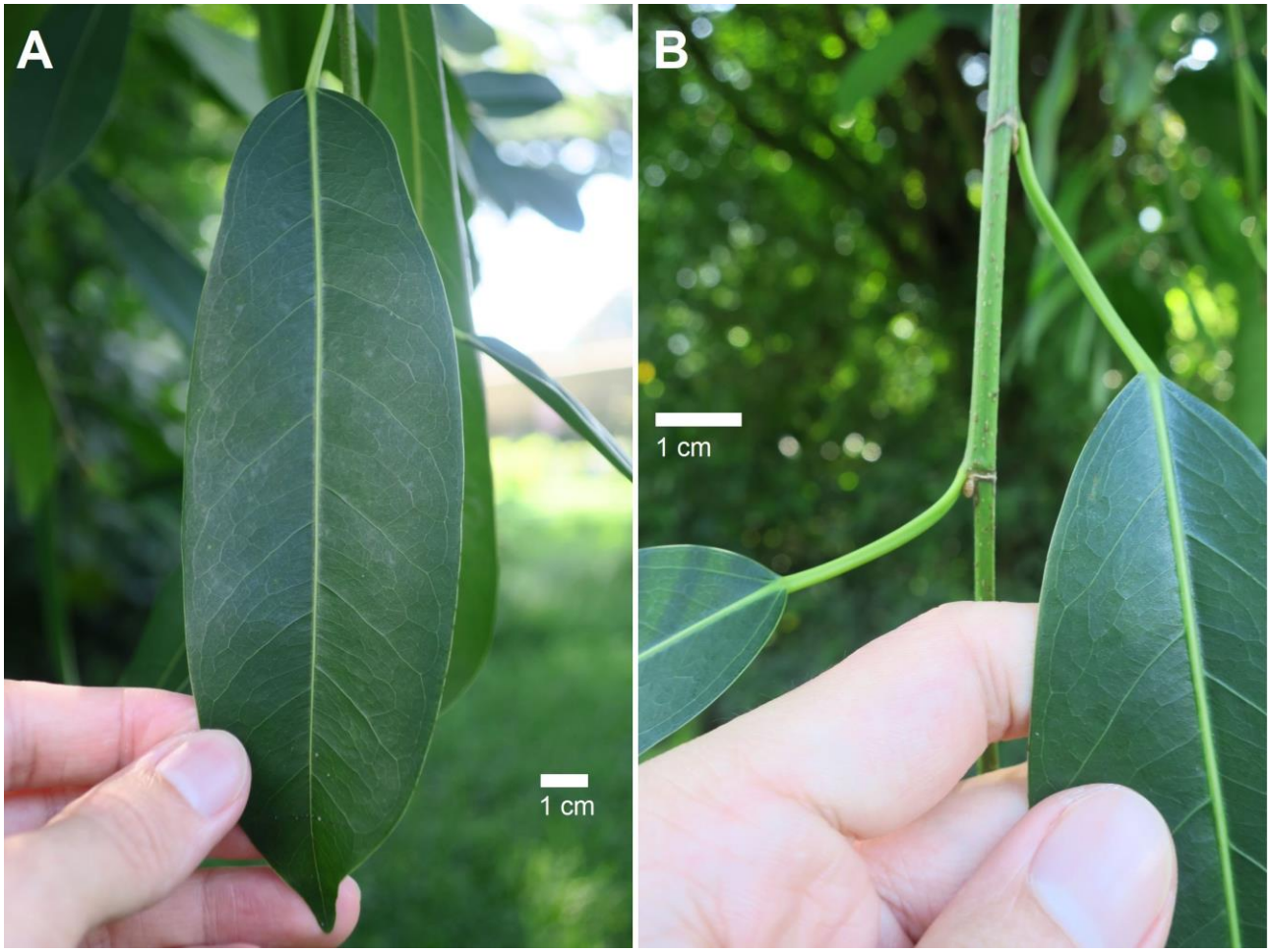

Fig. 7. The leaf (A), petioles and twig (B) of the *Ficus virens*. (Photographs by: Chin Tat Chua).

Fig. 8. A sapling *Ficus virens* growing as an epiphyte on a streetscape *Samanea saman* about 25 m to the south of the subject. (Photograph by: Chin Tat Chua).

Note: The author owes a debt of gratitude to Angie Ng B. C. for her invaluable help with the preliminary identification of the subject and for reading and suggesting improvements to this record; and to the Singapore Botanic Gardens Herbarium for identifying the subject and creating a voucher specimen from the cutting sent in for identification.

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