

REDISCOVERY OF *RENANTHERA ELONGATA* (BLUME) LINDL. (ORCHIDACEAE) IN SINGAPORE

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INTRODUCTION

This paper documents the rediscovery and status of *Renanthera elongata* (Blume) Lindl. (Fig. 1) in Singapore. *Renanthera* is a small genus of about 20 species, distributed from China, throughout Southeast Asia, to New Guinea, and the Solomon Islands (Rice, 2003; Govaerts et al., 2011). In Southeast Asia, there are four species occurring in Thailand (with one endemic variety), three in Peninsular Malaysia, two in Sumatra and Java, and five in Borneo (with three endemics) (Comber, 1990, 2001; Seidenfaden & Wood, 1992; Govaerts et al., 2011). Only six species occur outside of Southeast Asia—three are found in China, one in Taiwan, and two in India and New Guinea to the Solomon Islands—as members of this genus prefer places of even climate (Comber, 1990; Govaerts et al., 2011). In Singapore, only two species have been recorded—*Renanthera elongata* and *Renanthera histrionica* Rchb.f., both of which are presumed to be nationally extinct in the wild (Chong et al., 2009).

The genus *Renanthera* was originally proposed by the Portuguese missionary, physician, and botanist João de Loureiro in 1790 in *Flora Cochinchinensis* when describing *Renanthera coccinea* Lour., the type species on which the generic name is based (Comber, 2001; Aubron, 2005). The generic name *Renanthera* is derived from the Greek words “renis” and “anther”, which mean “kidney” and “anther”, respectively—a rather poor-fitting name referring to the shape of the anther (Mayr & Schmucker, 1998; Stearn, 2002). The specific epithet *elongata* means “lengthened out or elongated”, probably referring to the elongated stems of the species (Dourado, 1982). Although being a small genus, *Renanthera* species are known to be very popular among orchid enthusiasts, as some species such as *Renanthera storei* Rchb.f. and *Renanthera philippinensis* (Ames & Quisumb.) L.O. Williams readily undergo hybridization with other genera in the Vandaeae tribe, and have thus been extensively exploited. *Renanthera* hybrids also represent a significant proportion of the cut flower industry, with their vibrant blooms exported all over the world (Comber, 1990; Rice, 2003).

PAST AND PRESENT RECORDS

Renanthera elongata is a terrestrial or epiphytic orchid, usually growing up to more than 1 m long (Figs. 2, 3) (Comber, 1990, 2001; Seidenfaden & Wood, 1992; Keng et al., 1998). The plant usually climbs up trees, with numerous adventitious roots from the side of the stem to help anchor itself securely to the trunk or branches of the tree. Leaves are usually borne on the apical half of the stem and spaced 1.5–3 cm apart. The leaf blades are narrowly oblong to strap-shaped, 7–13 cm long and 1.2–2.5 cm wide, and are unequally bilobed at the tip. The axillary inflorescences arise horizontally from the stem (Fig. 3), are about 40 cm long and usually three- to four-branched. Each branch is held horizontally, about 20 cm long and bearing numerous flowers. Floral bracts are broadly triangular and about 1 mm long. The flowers are scarlet-red with faint darker spots (Fig. 4). The dorsal sepal is oblong, obtuse, and is 7 mm long and 3 mm wide; lateral sepals are broader, asymmetrical, and are 7 mm long and 5 mm wide. The petals are spatulate, obtuse, and are 5.7 mm long and 1.5 mm wide. The lip is small, trilobed, and spurred, with the broadly triangular and truncate side-lobes held at 45° to the vertical, while the mid-lobe is oval, narrower, curled, and with two small calli near the base. The spur is 3 mm long and cylindrical. The column is 2 mm long.

Renanthera elongata is probably the most widely distributed species in the genus—occurring naturally from Thailand, Peninsular Malaysia, Singapore, Sumatra, Java, Bali, Borneo, and the Philippines—growing terrestrially in grassland and scrubland, or epiphytically on limestone hills, in coastal swampland or open places near the sea (Comber 1990, 2001; Seidenfaden & Wood, 1992; Rice, 2003). In Singapore, this species was only collected once, by J. S. Goodenough in 1890 (deposited in the Herbarium, Singapore Botanic Gardens (SING), bar code number 0010938).

That sole specimen collected by J. S. Goodenough in 1890 was from Pulau [=Island] Tekong, but this species is now only known to occur in Nee Soon Swamp Forest (NSSF). This orchid was first encountered by AFSLL in 1996 in NSSF. However, the identity was not confirmed as it was still in vegetative state. It was later encountered several times by AFSLL in 2009 at NSSF, and collected by AFSLL, WFA and CKY on a tree in Nee Soon Range on 23 Aug. 2010



Fig. 1. Scarlet flowers of *Renanthera elongata*. Scale bar = 5 mm. (Photograph by: Ang Wee Foong).

(Fig. 2). The most recent encounter was on 10 Aug.2011, when a single specimen was found growing on a broken tree branch in the NSSF beside a forest stream. The identity of the orchid was confirmed when the collected specimen flowered on 15 Aug.2011.

Although the last and only Singapore collection of this threatened orchid was from Pulau Tekong in 1890, it is possible that the species still persists at the coastal or mangrove forests there. The island was gazetted as a military area in the early 1970s and has been under the administration of the Ministry of Defence (MINDEF) since the 1980s, with the last civilian resident moving out in 1987 (Lee, 2009). Since then, much of the island's northern coastal vegetation has been protected from urban development hence, there is hope that this species and other coastal epiphytes could still persist in the north of Pulau Tekong.

Renanthera species require good amounts of light throughout the year in order to flower (Aubron, 2005). In fact, *Renanthera elongata* has been observed to flower only after it reaches the crown of trees where it is exposed to full sunlight (Dourado, 1982). When flowering, the massive blooms of several plants are known to cover the crown of the tree with its spectacular red flowers, hence the Malay vernacular name of this plant “pokok api sesuda”,



Fig. 2. A plant found growing on an unknown tree in between Nee Soon Ranges I and II. (Photograph by: Ang Wee Foong).

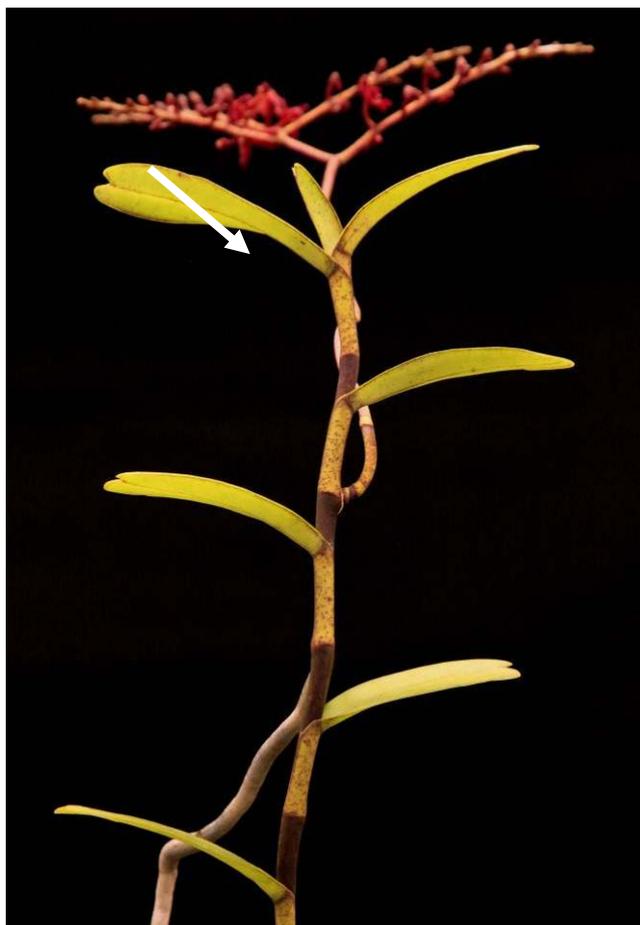


Fig. 3. Plant with a branched inflorescence. (Photograph by: Ang Wee Foong).



Fig. 4. A close-up of a flower. Scale bar = 5 mm. (Photograph by: Ang Wee Foong).

that translates to “tree on fire”. This orchid species would be an ideal candidate to be introduced into streetscape planting as a native enhancement on street trees, as its natural habitat is similar to the urban environment, and it will be able to produce attractive, massive scarlet blooms.

ACKNOWLEDGEMENTS

We would like to express our gratitude to the Chief Executive Officer and staff members of the National Parks Board (NParks) for allowing us access to the collection of *Renanthera elongata* at the Herbarium, Singapore Botanic Gardens (SING), as well as for granting us permission to access and make collections in the Central Catchment Nature Reserve, and to the Ministry of Defence (MINDEF) for granting us access to restricted areas within the Central Catchment Nature Reserve.

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