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STATUS OF *THRIXSPERMUM AMPLEXICAULE* (BL.) RCHB.F. (ORCHIDACEAE) IN SINGAPORE

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INTRODUCTION

This paper documents the distribution and status of *Thrixspermum amplexicaule* (Bl.) Rchb.f. (Orchidaceae) in Singapore. This species is a long, slender, climbing, terrestrial orchid that grows to 3–4 m tall with stalkless, succulent, broad based, heart-shaped leaves in two opposite rows clasping a 3–4 mm thick, pale yellow stem (Seidenfaden & Wood, 1992; Keng et al., 1998; Figs. 3 & 4). The flowers observed here were pale mauve, the typical colour, although Comber (1990) has reported the occasional white-flowered form. These are borne singly or in pairs (Fig. 1) in succession from a 15–25 cm long inflorescence with pronounced bracts (Seidenfaden & Wood, 1992; Keng et al., 1998). It is usually found growing in bright places near swampy areas and in open areas of forest in Singapore (Keng et al., 1998). This species in distributed from the Andaman Islands, Peninsular Malaysia, Thailand, Vietnam, Indonesia, the Philippines and New Guinea (Seidenfaden & Wood, 1992).

This species was classified as nationally endangered in the first edition of The Singapore Red Data Book (Turner et al., 1994) and its status has since been changed to nationally critically endangered in the upcoming second edition of The Singapore Red Data Book since there are less than 50 plants left in the wild, which is the upper limit for this category (Tan et al., in press).

Table 1. Previous Singapore collections of *Thrixspermum amplexicaule* (Bl.) Reichb.f. deposited in the Herbarium, Singapore Botanic Gardens (SING, with bar code no.) or Herbarium, Raffles Museum of Biodiversity Research, National University of Singapore (SINU, with accession no.).

S/No.	Accession/Bar Code No.	Herbarium	Collector	Collector's No.	Year	Locality
1.	0010987	SING	H. N. Ridley	s.n.	Undated	Ang Mo Kio
2.	0055856	SING	H. N. Ridley	s.n.	1889	Botanic Gardens
3.	0010989	SING	J. S. Goodenough	1792	1890	Changi
4.	0010990	SING	J. S. Goodenough	1792	1890	Seletar
5.	0010986	SING	H. N. Ridley	s.n.	1893	Bukit Mandai
6.	2007012336	SINU	T. S. Teo	32	1990	Pulau Ubin
7.	0010988	SING	Ali bin Ibrahim	152	1993	Pulau Ubin
8.	0051117	SING	A. Samsuri et al.	3	2004	Lim Chu Kang, Poyan

DISTRIBUTION

On 10 Jul.2007, a small population of *Thrixspermum amplexicaule* was discovered at the MacRitchie Reservoir in a swampy area separated from the main reservoir by an earth bund, growing with grasses on sediment deposit mounds, together with *Alstonia spatulata*, *Dendrobium lobbii*, *Dillenia suffruticosa* and *Nepenthes gracilis* (Figs. 2 & 3). Only a few individuals were observed at this locality and none were seen to be in bloom.

On 27 Nov.2007, another population was found on a small island in an inlet of Poyan Reservoir together with *Dillenia suffruticosa* and *Stenochlaena palustris* (Fig. 4). Here, plants grew in a large healthy clump, which was in full bloom

Fig 1. A pair of flowers of *Thrixspermum amplexicaule*. Scale bar = 1 cm.

Fig. 2. The marshy area behind an earth bund separating it from the main body of MacRitchie Reservoir.

Fig. 3. *Dendrobium lobbii* (foreground right) growing with *Thrixspermum amplexicaule* (branch from left).

Fig. 4. The second locality where *Thrixspermum amplexicaule* was found growing on a small island amongst *Dillenia suffruticosa* and *Stenochlaena palustris* plants.

at the time of discovery (Fig. 4). It is not known what the flowering trigger of this species is, although the flowers of this species in this locality was observed to remain open for only a short period, as they were found half open upon returning to the site after approximately two hours. No other conspecific individuals were observed here.

Besides the above two localities, two other populations of this orchid still found in Singapore are at a swampy area upstream to the Tebrau inlet at the Upper Peirce Reservoir (Yam, 1992) and in Pulau Ubin with collections made in 1990 and 1993 (Table 1). The latter occupies an area approximately 3 × 5 m, where the plants are found in a back mangrove community, growing with or scrambling over *Dalbergia candenatensis*, *Dolichandrone spathacea*, *Flagellaria indica*, *Taliparitiliaceum* and others. It is within the Outward Bound School area in the west of the island, and has been fenced up to protect it from human disturbance.

What all these localities have in common, is that they occur on nutrient-poor substrates, either on sandy-clayey soils as in the case of the Poyan Reservoir population, or on waterlogged, acidic soils in the case of the MacRitchie Reservoir and Pulau Ubin populations. Comber (1990) reported the same, and also noted finding this species growing on nutrient-poor grassland or on rocks and suggested that this species is not found at sites with rich soil, because the strong growth of competing plants would almost certainly smother it. In its Singapore localities, it grows with small shrubs and grasses, usually scrambling over them, owing to its thin weak stem that offers little support.

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