

STATUS AND DISTRIBUTION IN SINGAPORE OF *NEOSCORTECHINIA SUMATRENSIS* S.MOORE (EUPHORBIACEAE)

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INTRODUCTION

This paper documents the distribution and status of *Neoscortechinia sumatrensis* S.Moore in Singapore (Fig. 1). The genus *Neoscortechinia* belongs to the family Euphorbiaceae, and consists of only six species largely endemic to Malesia. Of these, four are widespread in West Malesia, one is endemic to northeast Borneo, and one confined to New Guinea and the Solomon Islands (van Welzen, 1994). The generic name was initially coined by Sir Joseph Dalton Hooker as *Scortechinia* in 1887, in honour of Father Benedetto Scortechini, a priest and a botanist who collected in Perak, Malaysia (van Welzen, 1994). However, the name had been used earlier by Pier Andrea Saccardo in 1885 to describe a new fungal genus. Hence, it was renamed as *Neoscortechinia* by Ferdinand Albin Pax in 1897 (van Welzen, 1994). The specific epithet *sumatrensis* was coined to indicate the species' first original collection in Sumatra, Indonesia. Although only *Neoscortechinia kingii* (Hook.f.) Pax & K. Hoffm. was formally recorded and included in the native flora of Singapore (Keng, 1990; Chong et al., 2009), it was noted by Turner (1995) citing van Welzen (1994) that *Neoscortechinia sumatrensis* occurred here as well.

Neoscortechinia sumatrensis is a mid-canopy tree that can grow up to 33 m tall, with trunk girth up to 1 m (van Welzen, 1994). Buttress roots are occasionally observed in mature trees. The stalked, spirally arranged leaves have leaf blades that are yellowish light green, elliptic to obovate, 6.6–23.5 cm by 3.4–8.5 cm, with subdentulate to dentate margins, glabrous adaxial surface, and two glands at the base adjoining the petiole (Fig. 2). This species is dioecious, producing only unisexual flowers on each individual. Fragrant, yellow, apetalous flowers are borne on axillary thyrses that branch twice or thrice racemously. Male flowers are 2–2.5 mm wide, while female flowers are typically larger, measuring 3.3–4.5 mm across. The one-seeded fruits are ellipsoid, 1.7–3.3 by 1.1–2.1 cm, grey and are covered with dense, fine hairs (Fig. 3). This species is known to inhabit mainly peat swamp and freshwater swamp forests (Corner, 1978), but also lowland, dryland primary and secondary forests up to 250 m altitude. *Neoscortechinia sumatrensis* occurs from Peninsular Malaysia to Singapore, Sumatra and north-eastwards to north Borneo (Sarawak, Brunei, and Sabah) and is said to be rare in its range (Whitmore, 1972; van Welzen, 1994).

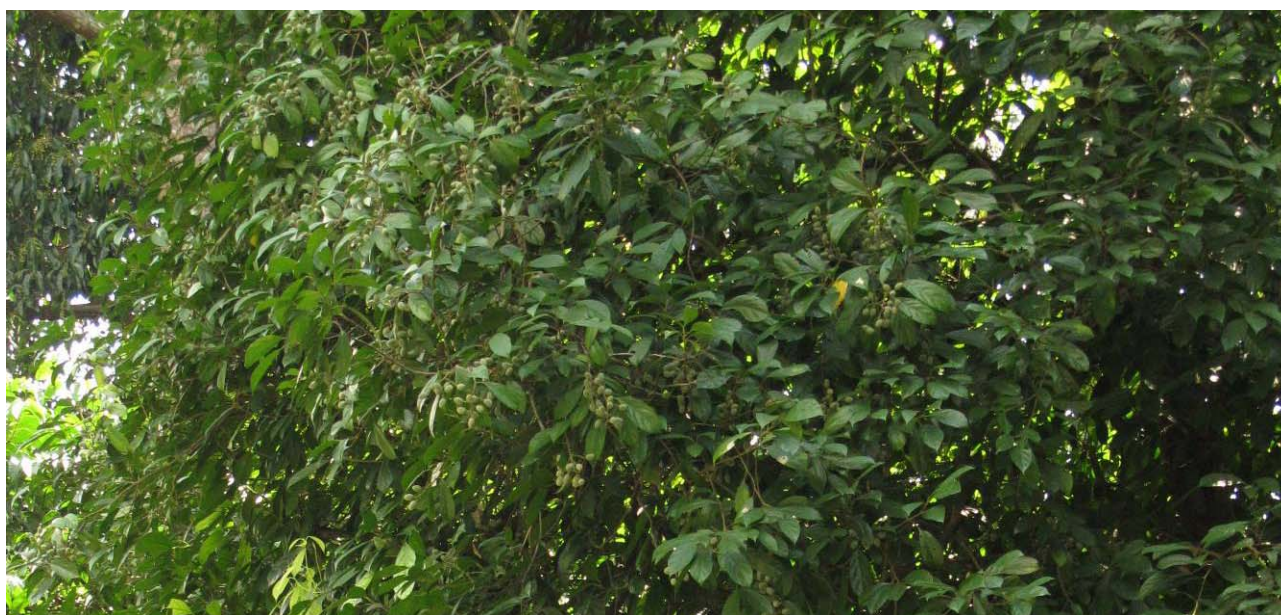


Fig. 1. Fruiting, leafy branches in the crown of a female individual of *Neoscortechinia sumatrensis* growing along the road leading to Nee Soon Firing Range 1, off Mandai Road Track 7. (Photograph by: Alvin Francis Lok Siew Loon).



Fig. 2. Leaves with glands (one arrowed) at the base of the leaf blade adjoining the petiole. (Photograph by: Alvin Francis Lok Siew Loon).



Fig. 3. (a) A fruiting branch with fruits covered in fine hairs, giving the fruit a distinct grey colour. (b) Fruit showing red aril, suggesting bird dispersal. Fruit length = 2.1 cm. (Photographs by: Alvin Francis Lok Siew Loon).

PAST AND PRESENT RECORDS

Neoscortechinia sumatrensis has been collected several times from 1981–2005 based on the records at the Herbarium, Singapore Botanic Gardens (SING) (Table 1). According to the same records, *Neoscortechinia forbesii* Hook.f. ex S.Moore was collected on 4 Dec.2008 by M. S. Khoo and N. H. Nik Faizu from Fern Valley of the Bukit Timah Nature Reserve (SING Barcode No. 0123538). However, the individual is very likely to be a cultivated plant or a misidentification by the collector as the species is restricted to and only known to occur in the Solomon Islands and New Guinea (van Welzen, 1994).

Table 1. Previous Singapore collections of *Neoscortechinia sumatrensis* S.Moore deposited in the Herbarium, Singapore Botanic Gardens (SING).

S/No.	Bar Code No.	Collector(s)	Collector's No.	Date Collected	Locality
1.	0036071	Mohd Shah & Ali	4157	17 Dec.1981	Seletar Reservoir
2.	0036070	J. F. Maxwell	82-44	17 Feb.1982	Nee Soon
3.	0036069	J. F. Maxwell	82-150	23 Apr.1982	Nee Soon
4.	0016704	E. Tang & K. Sidek	263	12 Feb.1995	Outside Nee Soon Rifle Range
5.	0008164	J. Lai	21	1996	Bukit Kallang forest
6.	0008165	J. Lai	191	1997	Nee Soon
7.	0030113	J. Lai & E. Tang	271	21 Oct.1997	Nee Soon Swamp Forest
8.	0045919	A. Samsuri, S. K. Ganesan, S. Lee, P. Leong, & A. T. Gwee	233	17 Jun.2003	Nee Soon Swamp Forest, near pipeline
9.	0045807	A. Samsuri, S. K. Ganesan, S. Lee, P. Leong, & A. T. Gwee	99	8 Jul.2003	Nee Soon Swamp Forest
10.	0061049	D. Liew et al.	159	4 May 2005	Nee Soon Freshwater Swamp

DETAILS OF THE COLLECTION

On 23 Jun.2010, a fruiting female individual was encountered by AFSLL and WFA at Nee Soon Swamp Forest, outside the Singapore Armed Forces Nee Soon Firing Range I along a road off Mandai Road Track 7 (Fig. 1). The tree was about 15 m tall. Many of the fruiting branches were observed to have missing fruits, suggesting that they could have been consumed by small mammals such as the plantain squirrel (*Callosciurus notatus*), slender squirrel (*Callosciurus finlaysoni*), long-tailed macaques (*Macaca fascicularis*), or the banded leaf monkey (*Presbytis femoralis femoralis*) which are known to inhabit the area, or other animals, including birds which may be attracted to the red aril-covered seeds that the capsular fruit reveals when it splits when ripe (Fig. 3). Two fruiting specimens were collected and deposited in the SING.

DISCUSSION

The first Singapore specimen of *Neoscortechinia sumatrensis* was that by Haji Mohammed Shah and Ali bin Ibrahim, who encountered a 15 m-tall specimen in Nee Soon Swamp Forest, the last stronghold for relatively pristine native primary swamp forest in Singapore (Ng & Lim, 1992). Most of the subsequent collections were also from the same area, with one record each in Bukit Kallang, and Seletar Reservoir (Table 1). It is thus highly unlikely that this species was introduced in recent times and more likely to have been overlooked in previous native flora checklists (Keng, 1990; Turner et al., 1990; Turner, 1993; Turner, 1995; Chong et al., 2009). Currently, *Neoscortechinia sumatrensis* is known to occur only in Nee Soon Swamp Forest, Seletar Reservoir, and Bukit Kallang (Table 1) and the number of mature individuals distributed in Singapore is unknown. However, based on its restriction to swamp forest and limited availability of such habitats in Singapore, a conservative national conservation status of critically endangered is proposed for this species, since there are unlikely to be more than 50 mature individuals (Davison, 2008) of this very rare species.

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