

## Flora of Singapore precursors, 33: Further typifications and notes on Dipterocarpaceae

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**ABSTRACT.** Nomenclatural notes on names of Dipterocarpaceae from Singapore are presented. Four names, including two synonyms, are lectotypified. These are *Cotylelobium malayanum* Slooten, *Dipterocarpus apterus* Foxw., *Dipterocarpus kerrii* King and *Vatica maingayi* Dyer. The etymology of *Dipterocarpus kerrii* is discussed.

**Keywords.** *Cotylelobium*, *Dipterocarpus*, lectotype, synonym, *Vatica*

### Introduction

Dipterocarpaceae is the dominant tree family in large areas of forest in Malesia and has been regarded by eminent botanists as ‘the most important family of Malesian forest trees’ (Van Steenis, 1954), the ‘quintessential Malesian family’ (Stone, 1983), and ‘one of the great exclusively tropical tree families’ (Ashton et al., 2021). The importance of Dipterocarpaceae was historically due to the timber value of many of its species. However, with the rapidly receding areas of their natural habitat in recent years due to the conversion of the forest estate to plantation agriculture, timber supplies have dwindled, and other uses are gaining importance. These include in situ and ex situ conservation, restorative ecology and urban forestry. There are ten genera and 36 species of Dipterocarpaceae that occur naturally in Singapore. These are essential components of remnant primary forest in well-drained sites in Singapore and are often the largest trees there. Several individuals of Dipterocarpaceae in Singapore’s forests are vast and beautiful trees (Fig. 1). The more accessible of these trees can serve as anchor points of interest to raise the cause of forest conservation amongst the general public.

As a precursor to a floristic account of Dipterocarpaceae in Singapore, in a previous paper (Ganesan, 2022), 31 names were typified. This paper discusses the typification of four more names and the etymology of one name. Two of these names are synonyms. Synonyms are in italics and accepted names are given in bold italics. Digitised images of all cited specimens have been seen by the author except for specimens in SING where physical specimens have been seen.



**Fig. 1.** *Shorea ochrophloia* Strugnell ex Symington. **A.** Tree with an emergent crown, c. 40 m tall. **B.** Base and buttresses (author for scale), buttresses large, steep, spreading, plank-like, up to 3.5 m tall and 2.9 m out. Diameter above buttresses (measured with the aid of a ladder) 125 cm. From Bukit Timah Nature Reserve, *Ganesan et al. SKG 597* (SING). (Photos: A, S.K. Ganesan; B, L. Neo)

### Typifications and nomenclatural notes

1. *Cotylelobium malayanum* Slooten, Bull. Jard. Bot. Buitenzorg ser. 3, 12: 43 (1932). – *Cotylelobium flavum* auct. non. Pierre: Slooten, Bull. Jard. Bot. Buitenzorg ser. 3, 10: 396 (1929). – TYPE: Singapore, Sungei Morai [Murai], 1892, *Ridley 3619a* (lectotype SING [SING0000871]), designated here; isolectotype K [K000671410]). = *Cotylelobium lanceolatum* Craib, Bull. Misc. Inform. Kew 1913: 113 (1913).

*Notes.* Van Slooten (1932) referred to *Cotylelobium malayanum* Slooten as a ‘nov. nom.’ However, by excluding the syntypes of *Cotylelobium flavum* Pierre, and by making direct reference to the earlier description in Van Slooten (1929), Van Slooten (1932) validly published a new species. The validating description and source of original material for this name is that of *Cotylelobium flavum* in Van Slooten (1929). It is stated there that the description was based on a single collection, *Ridley 3619a*, collected from Sungei Morai [Murai] Singapore. There are specimens of *Ridley 3619a* in SING and K. Both these specimens are in flower. The one from SING has a determination

slip in Van Slooten's handwriting indicating that he had seen this specimen. In contrast, the specimen in K does not include any annotations in Van Slooten's handwriting. The SING specimen [SING0000871], seen by Van Slooten, is selected as the lectotype.

2. *Dipterocarpus apterus* Foxw., Dipt. Malay Penins. [Malayan Forest Rec. No. 10] 77 (1932). – TYPE: [Peninsular Malaysia], Terengganu, Dungun, 9 July 1931, C.F. Symington 26920 (lectotype KEP [KEP12265], designated here; isolectotype KEP [KEP249519]). = *Dipterocarpus elongatus* Korth., Verh. Nat. Gesch. Ned. Bezitt., Bot. 62 (1841).

*Notes.* In the protologue, the type is given as 'Symington, C.F. No. 26920' without specifying the herbarium. There are two specimens of this collection at KEP. The specimen [KEP12265] has leaves and fruits, whereas [KEP249519] has leaves only. The more informative former specimen is selected as the lectotype.

3. *Dipterocarpus kerrii* King, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 62(2): 93 (1893). – TYPE: [Peninsular Malaysia], Malacca, *Maingay 1196* [Kew distribution no. 199] (lectotype K [K000671001], designated here).

*Notes.* Ashton (2004: 112) designated *Kerr 7438/7349* as the lectotype. The protologue does not specify any specific type but does list several collections, none made by Kerr. *Kerr 7438/7349* is not original material as defined in Art. 9.4. of the ICN (Turland et al., 2018); therefore, Ashton's (2004) lectotypification does not conform to Art. 9.3 of the ICN (Turland et al., 2018) and must be set aside.

The following specimens are listed in the protologue 'Malacca; *Maingay* (Kew *Distrib.*) No. 199, Griffith 727, Derry 1032, Pangkore: on Gunoung Yunggal, Curtis No. 1561'. There are specimens of these at K. Some of these specimens include both flowers and leaves whereas the others include both mature fruits and leaves. None of these specimens is complete. Since mature fruits are generally more informative than flowers in the taxonomy of *Dipterocarpus*, the specimens in fruit are of interest here. The specimens in fruit are all of a similar condition and *Maingay 1196* [Kew distribution no. 199] is selected as the lectotype.

According to Van Steenis-Krusemann (1950), *Dipterocarpus kerrii* King was named after A.F.G. Kerr. Ashton (2004: 112) also attributed the specific epithet to 'A.F.G. Kerr, 1877–1942, who introduced western medical practise to Siam, prodigious amateur botanist'. However, A.F.G. Kerr would have been just 16 years old when this name was published. The specific epithet likely refers to another Dr Kerr, who King (1893: 93) refers to as 'an enthusiastic botanist much interested in the Malayan flora'. I have not been able to trace more information on this other 'Dr Kerr' in Burkill (1927), Stafleu & Cowan (1979) or Desmond & Ellwood (1994).

4. *Vatica maingayi* Dyer, Fl. Brit. India 1(fasc. 2): 302 (1874). – TYPE: [Peninsular Malaysia], Malacca, 15 April 1865/1866, *Maingay 1600* [Kew distribution no. 209] (lectotype K [K000671205], designated here).

*Notes.* No type is designated in the protologue but ‘Malacca, Maingay’ is cited. Ashton (2004) selected *Maingay 209* as ‘holotype’ but there are two problems with this. Firstly, Ashton’s ‘holotype’ cannot be considered a designation of a lectotype as it was published after 2001 and does not include the term ‘designated here’ (Art. 7.11). Secondly, the ‘209’ in ‘*Maingay 209*’ is not a collection number but a Kew distribution number. At K, Maingay’s field numbers were partially replaced by herbarium numbers (Van Steenis-Kruseman, 1950) and it has been found that more than one gathering is often included under the same Kew distribution number (Turner, 2010). Kew distribution numbers are also sometimes encountered in Griffith’s specimens (e.g., Ganesan, 2022, under the heading ‘*Hopea griffithii* Kurz’).

There are two specimens collected by Maingay (*Maingay 1599* and *Maingay 1600*) from Malacca at K. *Maingay 1599* includes flowers and *Maingay 1600* includes mature fruits. In general, fruits are more informative than flowers in the taxonomy of *Vatica*. Therefore, the specimen in fruit, *Maingay 1600*, is selected as the lectotype. *Maingay 1599* is likely to be a separate gathering to *Maingay 1600* as flowers and mature fruits are unlikely to occur together.

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