

DAPHNIPHYLLUM (DAPHNIPHYLLACEAE) IN PENINSULAR MALAYSIA

R. KIEW & A.R. RAFIDAH

Forest Research Institute Malaysia, Kepong, Selangor, Malaysia

SUMMARY

Three species of *Daphniphyllum* occur in Peninsular Malaysia: *D. glaucescens* Blume var. *lancifolium* (Hook.f.) T.C.Huang, *D. laurinum* (Benth.) Baill. and *D. scortechinii* Hook.f. *Daphniphyllum glaucescens* var. *glaucescens* and var. *blumeanum* (Baill. ex Müll.Arg.) J.J.Sm. do not occur in Peninsular Malaysia and specimens identified as such belong to *D. glaucescens* var. *lancifolium*.

Key words: *Daphniphyllum*, Peninsular Malaysia.

INTRODUCTION

There has been confusion concerning the number of *Daphniphyllum* species that occur in Peninsular Malaysia. Hooker (1890) recorded three species, *D. lancifolium* Hook.f., *D. laurinum* (Benth.) Baill. and *D. scortechinii* Hook.f. Ridley (1924) included another species, *D. bancanum* Kurz, in addition to the three species recorded by Hooker. Huang (1966) in his monograph of *Daphniphyllum* considered only two species to be present in Peninsular Malaysia, i.e. *D. laurinum* (with *D. bancanum* as a synonym) and *D. glaucescens* Blume with *D. lancifolium* and *D. scortechinii* being reduced to subspecies of the latter. Whitmore (1972) recognized two species, *D. glaucescens* and *D. laurinum*, but not the subspecies noting that “the form with blunt leaves may be distinguished as *D. glaucescens* ssp. *scortechinii* (Hook.f.) Huang, the other as *D. glaucescens* ssp. *lancifolium* (Hook.f.) Huang”. Turner (1997) listed *D. laurinum* and *D. glaucescens* with *D. lancifolium* and *D. scortechinii* as synonyms of the latter. However, Huang (1997) in his Flora Malesiana account no longer recognized subspecies in *D. glaucescens* but reinstated Malesian taxa at specific rank, thus he considered both *D. lancifolium* and *D. scortechinii* as species. However, he retained var. *blumeanum* (Baill. ex Müll.Arg.) J.J.Sm. as a variety of *D. glaucescens*. Thus, the number of *Daphniphyllum* taxa he recorded for Peninsular Malaysia was five (four species, *D. lancifolium*, *D. laurinum*, *D. scortechinii* and *D. glaucescens* with two varieties, var. *blumeanum* and var. *glaucescens*).

In revising the genus for the Flora of Peninsular Malaysia, it became clear that, while *D. laurinum* and *D. scortechinii* are distinct species, it was difficult to distinguish the two varieties of *D. glaucescens* from *D. lancifolium*. The differences between these three taxa were therefore re-assessed based on specimens of var. *glaucescens* from Java, of var. *blumeanum* from Java and Sulawesi, from where the two varieties had

Table 1. Differences between varieties of *Daphniphyllum glaucescens* and Peninsular Malaysian specimens identified as varieties of *Daphniphyllum glaucescens* and *D. lancifolium*.

	<i>Daphniphyllum glaucescens</i>		Peninsular Malaysian
	var. <i>blumeanum</i>	var. <i>glaucescens</i>	<i>D. glaucescens</i> and <i>D. lancifolium</i>
Infructescence length (cm)	7–10.5	5.5–10.5	(2.3–)4–5.5(–7)
Fruit stalk length (mm)	12–15	10–15	5–10(–15)
Fruit surface	smooth	tuberculate	tuberculate
Stigmas in fruit	caducous	caducous	persistent

originally been described, and specimens identified as these two varieties from Peninsular Malaysia and as *D. lancifolium*.

Leaf characters were not useful in separating these taxa. However, a combination of fruit characters, especially stalk length and fruit surface previously used by Huang (1996, 1997), as well as infructescence length and persistence of the stigmas (Table 1) showed firstly that specimens from Peninsular Malaysia variously described as *D. lancifolium*, *D. glaucescens* var. *glaucescens* and var. *blumeanum* belong to a single taxon; and secondly that the Peninsular Malaysian taxon is distinct from either var. *glaucescens* and var. *blumeanum*, neither of which therefore occur in the Peninsula.

Using the characters in Table 1, Peninsular Malaysian specimens (var. *lancifolium*) are distinct from those of var. *blumeanum* (fruit surface smooth) and from both var. *blumeanum* and var. *glaucescens* using a combination of infructescence and fruit stalk lengths (generally shorter in Peninsular Malaysia specimens) and in the stigmas being persistent. The tuberculate surface of the fruits is the result of uneven shrinkage of the fruit wall on drying rather than to outgrowths of the fruit wall or state of maturity.

Although the Peninsular Malaysian population is distinct by a combination of these characters, it cannot be distinguished from the other varieties of *D. glaucescens* by characters of the leaf, female flower, and fruit size and shape. Therefore this taxon does not warrant specific rank and is accorded varietal status.

Hooker (1890), Ridley (1924) and Huang (1997) all based their descriptions of *D. lancifolium* on very few specimens, all from the type locality. Now that more specimens have been collected, a detailed description is provided, except for male flowers, which have yet to be collected.

Daphniphyllum glaucescens* Blume var. *lancifolium* (Hook.f.) Rafidah, *stat. nov.

Daphniphyllum lancifolium Hook.f. (1890) 354; Ridl. (1924) 235; T.C.Huang (1997) 160.
Daphniphyllum glaucescens Blume ssp. *lancifolium* (Hook.f.) T.C.Huang (1966) 165. — *Daphniphyllum glaucescens* Blume, Whitmore (1972) 182 p.p. — *Daphniphyllum glaucescens* Blume var. *glaucescens* auct. non T.C.Huang (1997) 156. — *Daphniphyllum glaucescens* Blume var. *blumeanum* (Baill. ex Müll. Arg.) J.J.Sm. auct. non Huang (1997) 156. — Type: *King's Coll. 7010* (holo K), Perak, Gunung Hijau 'Gunong Ejau' alt. 4500–4600 ft.

Shrub or tree 2–21 m tall, to 25(–40) cm diameter. *Bark* smooth, red brown; inner bark brown to greyish brown. *Sapwood* pale to brownish white. *Leaves* clustered at the end of twigs; petioles slender, 1.5–4.5 cm long; blades lanceolate, (7–8.5–)11–17 by 2.5–4.5 cm, thinly coriaceous, glossy, dark green drying blackish green, glaucous beneath, base cuneate, margins slightly revolute, apex acuminate; midrib prominent beneath; lateral veins 8–10 pairs, very fine and inconspicuous on both surfaces, intercostal veins reticulate. *Male inflorescences* unknown. *Female inflorescences* racemose with subumbels of up to 10 flowers at the tip, 2.5–6 cm long. *Female flowers* green, pedicels 5–15 mm long; calyx campanulate, 2–4 mm long, 3- or 4-lobed; staminodia present; ovary ellipsoid to globose, c. 2 mm long, stigmas bilobed, 1–1.5 mm long, strongly circinnate. *Infructescences* to 7 cm long. *Fruits* with stalks 6–16 mm long, calyx caducous, drupes pale green ripening purple, ellipsoid, 6–12.5 by 5–10 mm, tuberculate; stigmas persistent.

Vernacular name — Rasa (Malay).

Distribution — *Daphniphyllum glaucescens* is widespread in Malesia. Only var. *lancifolium* occurs and is endemic in Peninsular Malaysia (Perak, Kelantan, Terengganu, Pahang and Johor).

Ecology — In montane forests at 700–1600 m, usually on steep slopes of upper montane forest, sometimes common.

Note — When Hooker (1890) described *Daphniphyllum lancifolium* he cited *King's Collector* without a number but gave the detail 'Perak; alt. 4500–4600 ft.' The only *King's Collector* specimen at Kew is number 7010 and it has 'alt. 4500–4600 ft' written on the label. This is therefore the type. Huang (1966) was in error in citing *King's Collector* 7007 as the type, because firstly there is no duplicate of it at Kew, and secondly the label records a different altitude (4000–4600 ft).

Specimens examined:

PERAK. Bukit Larut FR, Gunung Hijau *King's Collector* 7007 (BM, L, SING), *King's Collector* 7010 (holotype K), *Burkill & Haniff SFN* 12632 (KEP, SING), *Whitmore FRI* 12906 (K, KEP, L, SING); Bubu FR *Symington FMS* 30881 (KEP); Gunung Batu Puteh *Wray* 249 (SING). — KELANTAN. Gunung Stong *Symington FMS* 37698 (K, KEP, SING); Gunung Rabong *Soepadmo & Mahmud* 1131 (KLU, L, SING). — TERENGGANU. Gunung Padang *Moysey & Kiah* 31897 (KEP, SING), *Whitmore FRI* 12674 (KEP, L). — PAHANG. Cameron Highlands, Mentigi FR *Chan FRI* 16811 (KEP, L); Gunung Berembun *Kochummen FRI* 19087 (K, KEP, L); *Ng FRI* 5910 (K, KEP, L); Gunung Jasar *Ogata KEP* 110316 (K, KEP, L, SING); Gunung Batu Brinchang *Whitty & Henderson* 18046 (KEP, SING); Tanah Rata *Whitty & Henderson* 18006 (KEP, SING); Genting Highlands *Whitmore FRI* 3888 (K, KEP, L). — JOHOR. Gunung Chabang Tiga *Samsuri & Ahmad Shukor SA* 717 (KEP); Gunung Belumut *Holtum* 10746 (KEP), *Walker FMS* 33845 (KEP).

ACKNOWLEDGEMENTS

This research was carried out as part of the Flora of Peninsular Malaysia Project (Project no. 01-04-01-0000 Khas) at the Forest Research Institute Malaysia funded by the Ministry of Science, Technology and Innovation (MOSTI). We are grateful to the curators of the Kew, United Kingdom; Natural History Museum of London, United Kingdom, Singapore Botanic Gardens; and University of Malaya, Kuala Lumpur, Malaysia herbaria for permission to examine specimens in their care.

REFERENCES

- Hooker, J.D. 1890. *Daphniphyllum*. *Flora of British India* 5: 353–354.
- Huang, T.C. 1966. Monograph of *Daphniphyllum*. *Taiwania* 12: 137–232.
- Huang, T.C. 1996. Notes on taxonomy and pollen of Malesian *Daphniphyllum* (Daphniphyllaceae). *Blumea* 41: 231–244.
- Huang, T.C. 1997. Daphniphyllaceae. *Flora Malesiana*, Ser. I, 13: 145–168.
- Ridley, H.N. 1924. *Daphniphyllum*. *Flora of the Malay Peninsula* 3: 234–235.
- Turner, I.M. 1997 ('1995'). Daphniphyllaceae. *Gard. Bull. Singapore* 47: 183.
- Whitmore, T.C. 1972. Daphniphyllaceae. *Tree Flora of Malaya* 1: 181–182.