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Research article

Memecylon pseudomegacarpum M.Hughes (Melastomataceae), a new species of tree from Peninsular Malaysia

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Abstract. A new species, *Memecylon pseudomegacarpum* (Melastomataceae), is described from southern Peninsular Thailand, Peninsular Malaysia and Singapore. This taxon was previously known under the misapplied name *M. megacarpum*, which is now considered endemic to Borneo. *Memecylon pseudomegacarpum* sp. nov. differs from *M. megacarpum* in having smaller leaves (8–)10.5–17(–22.5) cm rather than (10–)17–28(–35) cm long, with an elliptic lamina (not lanceolate) with a raised mid-rib (not sunken) and a marginal vein which is 2–4 mm from the margin (not 5–12 mm). Both species have similar flowers and share large (c. 15 mm diameter) globose fruits.

Keywords. *Memecylon*, new species, Malaysia, Singapore, Thailand.

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Introduction

Memecylon L. currently contains 320 species (Renner *et al.* 2007) of small trees and shrubs found in the tropical forests of the Old World, with 33 species currently accepted from Peninsular Malaysia (Maxwell 1980; Wijedasa & Hughes 2012). During a revision of Memecylaceae (currently included within Melastomataceae (Angiosperm Phylogeny Group 2009)) for the new Flora of Peninsular Malaysia, the author has come across some taxa in need of description, and some names in need of synonymy or clarification (Wijedasa & Hughes 2012). Such a case is presented by the name *Memecylon megacarpum* coined by Furtado (1963) as a *nomen novum* for the later homonym *M. pulchrum* Cogn., the type of which is from Sarawak. *Memecylon megacarpum* was first applied to specimens from Peninsular Malaysia by Maxwell (1980). Material of this taxon had previously been misidentified under *M. heteropleurum* Blume (King 1900) which is now considered a synonym of *M. excelsum* Blume. Maxwell (1980) highlighted the distinctness of the taxon from *M. excelsum*, but also noted that the application of *M. megacarpum* was not certain as he had not seen the types of this name. Bremer (1983) examined the types during his revision of Bornean *Memecylon*, and observed that the ‘Malaya collections are not entirely similar to those from Borneo’. This prompted an investigation of all relevant herbarium material of *Memecylon* from Borneo and the Malay Peninsula, in order to review the application of the name *M. megacarpum* across the region, and decide whether a new taxon needed to be raised.



Fig. 1. Image of a syntype of *Memecylon megacarpum* Furtado [Beccari 1833 (FI)].

Table 1. Summary of diagnostic characters for *M. pseudomegacarpum* and similar species.

	Lamina shape	Lamina length	Mid-rib	Marginal vein, mm from margin	Fruit shape	Inflorescence
<i>M. acuminatissimum</i>	ovate-lanceolate	10–27	raised	1–3	ellipsoid	lax
<i>M. excelsum</i>	elliptic-lanceolate	13–28	sunken	3–8	ellipsoid	condensed
<i>M. megacarpum</i>	lanceolate	17–28	sunken	5–12	globose	condensed
<i>M. pseudomegacarpum</i>	elliptic	10.5–17	raised	2–4	globose	condensed

Materials and Methods

Herbarium specimens of *M. megacarpum* and other large-leaved species with conspicuous venation which are potentially confusable (*M. acuminatissimum* Blume, *M. excelsum*) were examined from throughout their range in Southeast Asia, from BM, E, FI, K, L, KEP, PSU and SING herbaria. Type material for all three names was also seen (*M. acuminatissimum*, *Korthals s.n.*, K[2], L; *M. excelsum*, *Blume s.n.*, L; *M. megacarpum*, *Beccari 1833*, FI, K (Fig. 1).

Results

The herbarium material previously identified as *M. megacarpum* could be sorted into two morphologically distinct groups based on leaf characters, corresponding with a distribution either in the Malay Peninsula or Borneo. The material from the Malay Peninsula does not match the types of the any of the other taxa studied, leading the author to the conclusion that it represents a new taxon. The species rank was chosen as there are four leaf characters (size, shape, mid-rib, marginal vein) which distinguish it from the otherwise florally similar *M. megacarpum*. A comparison of shared and differential characters for all four species is given in Table 1.

Class Equisetopsida C.Agardh (Agardh *et al.* 1825)
 Subclass Magnoliidae Novák ex Takht. (Takhtajan 1967)
 Superorder Rosanae Takht. (Takhtajan 1967)
 Order Myrtales Juss. ex Bercht. & J.Presl (Berchtold & Presl 1820)
 Family Melastomataceae Juss. (Jussieu 1789)
 Genus *Memecylon* L. (Linnaeus 1753)

Memecylon pseudomegacarpum M.Hughes, sp. nov.

urn:lsid:ipni.org:names:77131845-1

Table 1, Figs 2, 3

Memecylon heteropleurum auct. non Blume: King, *Journal of the Asiatic Society of Bengal* 69 part II, N° 1: 78 (1900).

Memecylon megacarpum auct. non Furtado: Maxwell, *Gardens' Bulletin Singapore* 33: 91 (1980), *Tree Flora of Malaya* 4: 193 (1989).

Diagnosis

The new species, *M. pseudomegacarpum*, differs from *M. megacarpum* in having smaller leaves (8–) 10.5–17(–22.5) cm rather than (10–)17–28(–35) cm long, with an elliptic lamina (not lanceolate) with

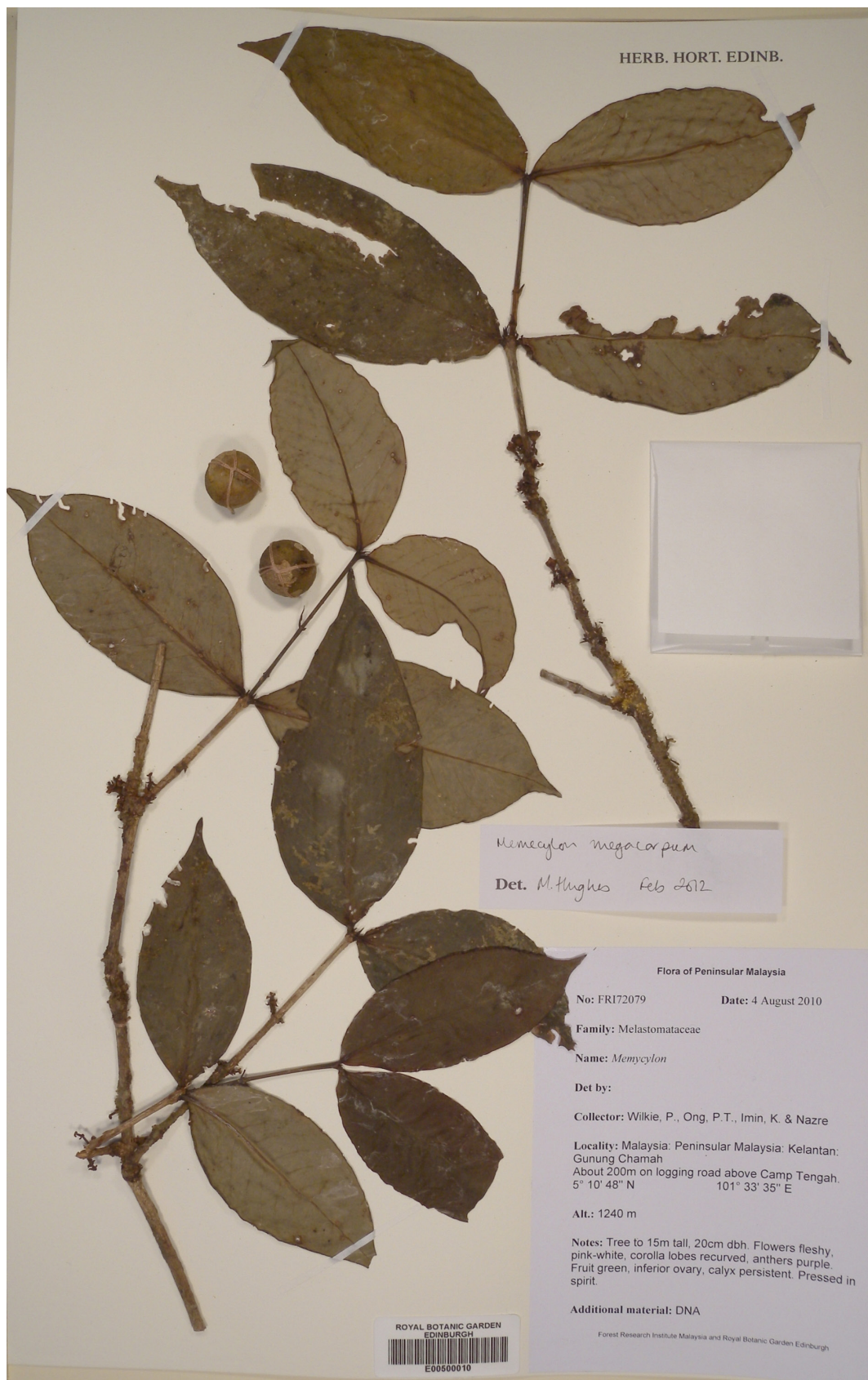


Fig. 2. Image of an isotype of *Memecylon pseudomegacarpum* sp. nov. [Wilkie et al. FRI172079 (E)].

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a raised mid-rib (not sunken) and a marginal vein which is 2–4 mm from the margin (not 5–12 mm); in floral and fruit characters the species are similar.

Etymology

Derived from the Greek *pseudo-*, meaning resembling but not equalling, and the epithet of the species *Memecylon megacarpum* (Latin; the large-fruited *Memecylon*).

Type

PENINSULAR MALAYSIA: Kelantan, Gunung Chamah, about 200 m on logging road above Camp Tengah, 5°10'48"N, 101°33'35"E, alt. 1240 m, 4 Aug. 2010, *Wilkie, P., Ong, P.T., Imin, K. & Nazre FRI72079* (holo-: KEP, iso-: E) (Fig. 2).

Other specimens examined

THAILAND: **Trang:** Yan Ta Khao, Sai Rung Falls, 25 Apr. 1987, *Maxwell 87-421* (AAU, PSU). **Yala:** Bannang Sata, Than To Waterfall, 9 Dec. 1972, *Santisuk 350* (C, K).

PENINSULAR MALAYSIA: **Kedah:** 33rd mile Jeniang road, 21 Oct. 1938, *Kiah SFN35959* (KEP, SING); Bongsu F.R., 29 Apr. 1970, *Everett FRI14169* (KEP, SING); Bukit Enggang Reserve, 13 Jun. 1966, *Whitmore FRI0405* (KEP, SING); Gunong Bintang, Bukit Blakang Parang, 15 Apr. 1928, *Haniff SFN21048* (SING); Khao Mai Forest Reserve, 3 Apr. 1938, *Kiah SFN35153* (KEP, SING). **Penang:** West Hill, Apr. 1886, *Curtis 814* (SING). **Perak:** May 1889, *Wray, J.L. 3425* (SING); Gunong Bubu, 18 Aug. 1966, *Ding DH662* (KEP); *ibid.*, 29 Feb. 1970, *Suppiah FRI11746* (KEP, SING); Larut, Sep. 1884, *King's collector 6621* (P, SING [2]); *ibid.*, May 1884, *King's collector 6075* (E); *ibid.*, Apr. 1883, *King's collector 5090* (E); Slim Hills F.R., 8 Sep. 1966, *Whitmore FRI0817* (KEP, SING); Sungai Ryah, Nov. 1880, *King's collector 1110* (SING); Taipeng, Waterfall Hill, 1904–1914, *Burn-Murdoch 162* (SING); Ulu Kerling, 1886, *King's collector 8589* (P, SING); *ibid.*, Mar. 1886, *King's collector 8689* (SING). **Kelantan:** Gunong Stong, 13 Aug. 1969, *Whitmore FRI12415* (KEP, SING); Ulu Sungai Lebir Kechil, 17 Sep. 1967, *Cockburn, P.F. FRI7115* (KEP, SING). **Terengganu:** Bukit Lanjut F.R., 18 Sep. 1969, *Loh FRI13459* (KEP, SING); Gunong Tebu, 1 Jun. 1974, *Shah & Shukor MS3303* (KEP); Jungle path to Gunong Tebu, 1 Jun. 1974, *Shah et al. MS3303* (SING); Ulu Telemong F.R., 16 Sep. 1969, *Loh FRI13445* (KEP, SING). **Pahang:** Bt. Beserah F.R., 15 May 1967, *Whitmore FRI3751* (KEP); Batu Balain, 23 Nov. 1924, *Burkill & Haniff SFN15829* (SING); Beserah, 4 Dec. 1924, *Burkill & Haniff SFN16135* (SING); Bt. Beserah F.R., 15 May 1967, *Whitmore FRI3751* (SING); Cameron Highlands, Robinson Falls, 23 Feb. 1947, *Henderson s.n.* (SING); Frasers Hill, 16–20 Sep. 1922, *Burkill & Holtum 7869* (SING); *ibid.*, 9 Mar. 1995, *Chin et al. 4514* (KEP, SING [2]); Gua Peningat, 14 Jul. 1970, *Loh FRI17225* (KEP); Kadouchong, Pulau Tawar, Aug. 1891, *Ridley 2242* (SING); Krau Wildlife Reserve, 13 Oct. 1999, *Christensen 2356* (KEP); Krau, Kuala Lompat, 19 Apr. 1970, *Soepadmo 759* (SING); *ibid.*, 19 Apr. 1970, *Soepadmo ES759* (KEP); Lesong Forest Reserve, 27 Apr. 1971, *Suppiah FRI14891* (KEP, SING); Merapoh F.R., 16 May 1980, *Kamarudin FRI28738* (KEP); Raub, 22 Mar. 1971, *Sohadi FRI14661* (KEP, SING); *ibid.*, 19 Nov. 1929, *Strugnell FMS20464* (SING); Raub, Tersang F.R., 29 Dec. 1930, *Ali FMS23365* (SING); Rompin, Gunong Lesong, 25 Nov. 1973, *Shah & Shukor MS3112* (C, SING); Sg. Henderik, 13 Oct. 1931, *Osman 28309* (KEP); *ibid.*, 13 Oct. 1931, *Osman FRI28305* (KEP); Sungai Teku, 29 Jul. 1936, *Kadim s.n.* (SING); Sungei Lemoi, 15 Sep. 1931, *Jaamat FMS28188* (SING); Taman Negara, South side of Sg. Riul, 14 Jul. 1970, *Everett FRI14458* (KEP, SING); Temerloh, Kemasul F.R., 1 Sep. 1966, *Ismail FRI98912* (SING); *ibid.*, 1 Sep. 1966, *Ismail KEP98912* (KEP); Ulu Sungai Sat, 9 Jul. 1970, *Shah & Noor MS1743* (KEP, SING); *ibid.*, 12 Jul. 1970, *Shah & Noor MS1843* (C, KEP [2], SING); Ulu Sungai Wi, 13 Aug. 1934, *Jaamat 33746* (KEP). **Selangor:** Bukit Laggong, 6 Mar. 1969, *Suppiah KEP108881* (KEP); Bukit Lagong F.R., 6 Apr. 1960, *Kochummen FRI79112* (KEP, SING); *ibid.*, 20 May 1947, *Smith 52283* (KEP); Gading F.R., 19 Jul. 1969, *Chan FRI11239* (KEP, SING); *ibid.*, 22 Jul. 1969, *Chan FRI13190* (KEP); Ginting Highlands Road, 30 May 1973, *Kochummen*

FRI16730 (KEP, SING); Kuala Lumpur, 1890, Mat 2053 (SING); Near Ginting Highlands College, 9 May 1972, *Kochummen FRI16520* (KEP, SING); Semangko F.R., Aug.–Sep. 1968, *Ando et al. AKK36* (KEP); *ibid.*, Aug.–Sep. 1968, *Ando et al. AKK22* (KEP); *ibid.*, 5 Feb. 1972, *Suppiah FRI19244* (KEP); Telok Forest Reserve, 9 Dec. 1970, *Kochummen FRI16260a* (KEP); Ulu Gombak F.R., 24 May 1967, *Kochummen FRI2353* (KEP [2], SING); *ibid.*, 28 Feb. 1968, *T. & P. 2643* (SING); *ibid.*, 20 Apr. 1961, *Yong FRI99002* (KEP, SING); Weld Hill Forest Reserve, 10 Apr. 1917, *Hamid 965* (SING); *ibid.*, 28 May 1925, *Jaamal FRI10266* (SING). **Negeri Sembilan**: Bukit Tangga, Dec. 1920, *Ridley s.n.* (SING); Bukit Tanggah, 4 Dec. 1969, *Everett FRI13781* (KEP, SING); Gunong Angsi, 25 Nov. 1923, *Nur 11699* (SING); Gunong Angsi F.R., 18 Feb. 1971, *Sohadi FRI14612* (KEP, SING); Pasoh Forest Reserve, 16 Mar. 1988, *Lafrankie 2891* (KEP); *ibid.*, Jun. 1987, *Lafrankie 2308* (KEP); *ibid.*, 21 Oct. 1981, *Rogstad 593* (KEP); *ibid.*, 6 Nov. 1978, *Suppiah FRI28164* (KEP, SING). **Malacca**: Sungei Udang, Jun. 1890, *Derry 582* (SING). **Johor**: Gunong Ma'okil Muar, 21 Apr. 1974, *Samsuri & Shukor SA957* (C, KEP, SING); Gunong Panti base, 28 May 1939, *Corner SFN36290* (KEP, SING); Gunong Pulai Forest Reserve, 23 Sep. 1970, *Chan FRI17539* (KEP, SING); Mawai-Jemaluang road, 20 Jan. 1935, *Corner SFN 28683* (SING); *ibid.*, 9 Feb. 1935, *Corner SFN29016* (SING); NW Johore, Gunong Ledang, 21 Feb. 1989, *Khairuddin FRI32814* (KEP); Sedenak, Aug. 1908, *Ridley 13507* (SING). **SINGAPORE**: Bukit Mandai, 1892, *Ridley 3614a* (SING); Bukit Timah N. R., 10 Oct. 1938, *Henderson Tree211* (SING); *ibid.*, 1892, *Ridley 9210* (SING); *ibid.*, 17 Mar. 1951, *Sinclair 6805* (E); Bukit Timah N. R., North View Path, 26 May 1970, *Noor MNI203* (SING); Bukit Timah N. R., Quarry Road, 7 Nov. 1995, *Tang & Sidak 1033* (SING); Chan Chu Kang, 1893, *Goodenough 5092* (SING); *ibid.*, 1894, *Ridley 6215* (SING); Changi, Feb. 1894, *Ridley 5928* (SING); Gardens Jungle, 8 Apr. 1983, *Kiah SK647* (SING); *ibid.*, 22 Mar. 1977, *Samsuri SA1474* (C, SING).

Description

Shrub or more usually a small to medium-sized tree, to 15 m high; bole to 15 cm diameter. Bark very thin, dark grey to brown, finely fissured. Branchlets brown, 2 grooved or slightly flattened on 2 sides, becoming terete when mature, internodes 3.5–11 cm long, demarked by a thin interpetiolar line. Leaves opposite, simple, glabrous; petiole 1–4 mm long, 2 mm wide; lamina stiff, glossy green above, drying dark brown and slightly paler reddish brown beneath, usually elliptic, sometimes elliptic-lanceolate, (8–) 10.5–17(–22.5) × (4–)5–7(–9) cm; base obtuse or acute, usually *c.* 90°; margin entire; apex acuminate to shortly acuminate, acumen up to 15 mm long; mid-rib raised above, sometimes flattish, prominent below; venation pinnate, lateral veins visible and slightly sunken above, 14–16 pairs, prominent below and appearing quite straight and regularly spaced; marginal vein distinct, looping between the lateral veins, 2–4 mm from margin. Inflorescences axillary, either on older leafless branches or amongst the leaves, glomerulate with 5–15 flowers, total length *c.* 1 cm, glabrous; primary peduncles very short, 1–2 mm long, often arising from woody tubercles. Flowers bisexual; pedicels stout, *c.* 2 mm, 2 conspicuous triangular bracteoles sometimes present; ovary inferior, indistinct from the calyx; calyx initially subglobose, very pale pink, 3–4 mm diameter, quite fleshy, becoming funnel-shaped and truncate at maturity with 4 short slits, minutely papillose; petals 8, very pale pink, triangular, *c.* 4 mm long, reflexed; anthers 8, with an elongated C-shaped blue connective, with a large and distinct centrally placed gland; style filiform, caducous, stigma minute. Fruits unilocular berries; stalk 2–3 mm long; berry large for the genus, globose, often very slightly flattened at the poles, 13–17 × 15–18 mm, slightly rough in texture; calyx remnant raised, 3–4 mm wide.

Distribution

Southern Peninsular Thailand, Peninsular Malaysia and Singapore (Fig. 3).

Conservation status

Least Concern. The species is widespread in Peninsular Malaysia and occurs in several protected areas.

Ecology

Common in primary or disturbed lowland mixed dipterocarp forest often on flat and poorly drained areas on riverbanks and valley bottoms, but also found on hillsides and ridges, from low altitudes to occasionally c. 1400 m in hill mixed dipterocarp forest or in peat swamp forest or on limestone hills.

Discussion

Memecylon pseudomegacarpum sp. nov. and *M. megacarpum* can be separated at a glance with a little experience. *Memecylon megacarpum* is much more easily confused with *M. excelsum* Blume when sterile as both have a sunken mid-rib, the latter being otherwise easily distinguishable by its smaller, ellipsoid fruits. The raised mid-rib is diagnostic for *M. pseudomegacarpum* sp. nov. and in Peninsular Malaysia is found in only one other species, *M. acuminatissimum* Blume, which differs in having ovate-lanceolate leaves, longer (5–8 cm) cymose inflorescences, and smaller, ellipsoid fruit (6–8 mm diameter). Currently *M. pseudomegacarpum* sp. nov. is known only from southern Peninsular Thailand, Peninsular Malaysia and Singapore. Although no specimens are known from Indonesia, it seems plausible that the

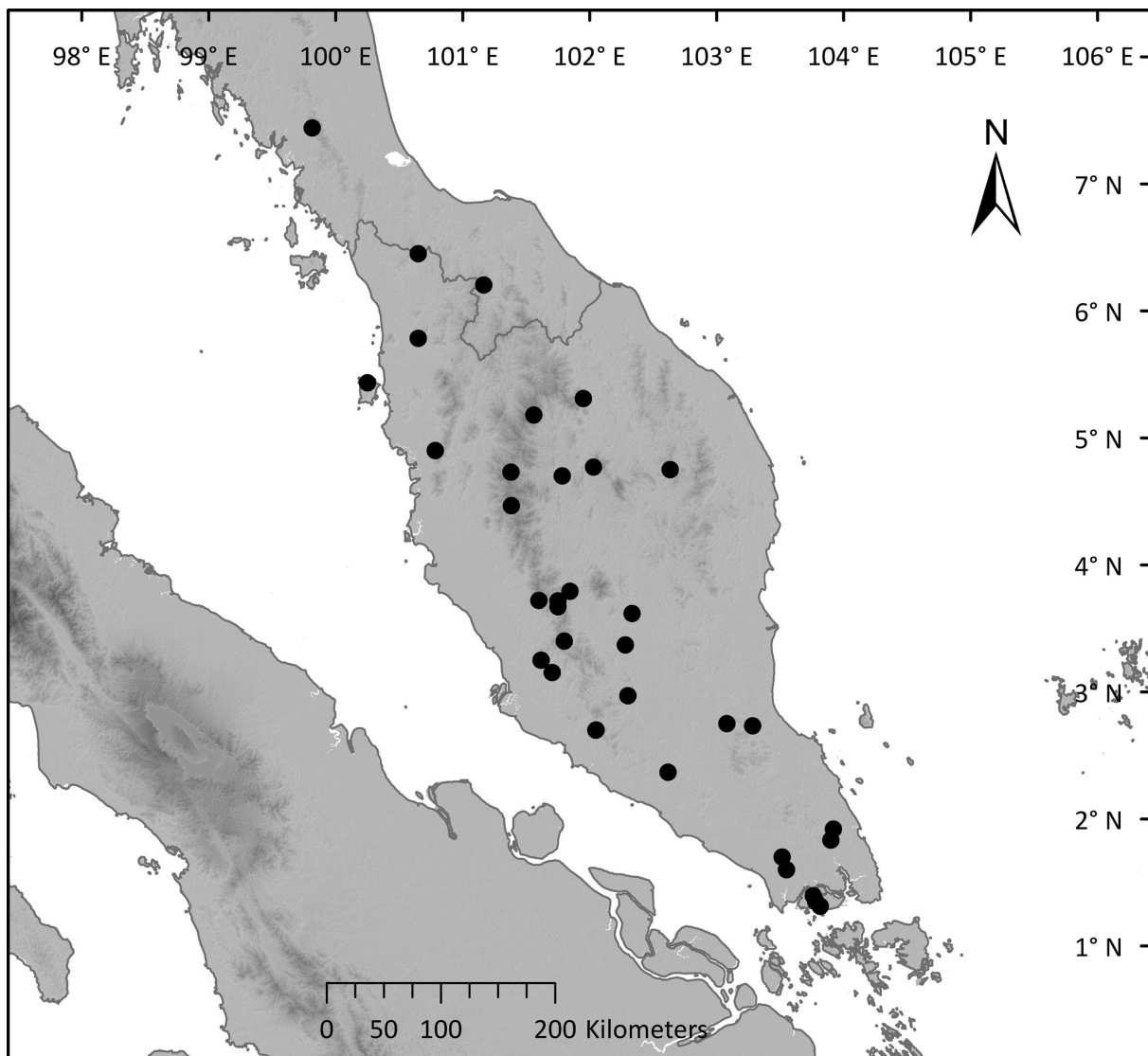


Fig. 3. The distribution of *Memecylon pseudomegacarpum* sp. nov.

distribution could extend into that country via the Riau Islands and possibly eastern Sumatra. Images of cited specimens are available from Hughes & Wijedasa (2012).

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