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NEW NOMENCLATURE IN SYZYGIUM (MYRTACEAE) FROM INDONESIA AND ITS VICINITIES

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ABSTRACT

WIDODO, P. 2012. New nomenclature in *Syzygium* (*Myrtaceae*) from Indonesia and its vicinities. *Reinwardtia* 13(3): 235–240. — Current generic concepts in *Myrtaceae* suggest that nearly all Old World taxa originally described in *Eugenia* L. and *Jambosa* Adans. should be accommodated within *Syzygium* P. Br. ex Gaertn. Six new combinations and a new name in *Syzygium* are proposed. Complete synonymy and typifications are given.

Keywords: *Eugenia s.l.*, *Jambosa*, *Myrtaceae*, new combinations, *Syzygium*, taxonomy.

ABSTRAK

WIDODO, P. 2012. Tatanama baru pada *Syzygium* (*Myrtaceae*) dari Indonesia dan kawasan sekitarnya. *Reinwardtia* 13 (3): 235–240. — Konsep generik pada jambu-jambuan (*Myrtaceae*) saat ini menunjukkan bahwa hampir semua taksa dari Dunia Lama yang semula dipertelakan dalam *Eugenia* L. dan *Jambosa* Adans. harus dimasukkan ke dalam *Syzygium* P. Br. ex Gaertn. Enam kombinasi baru dan satu nama baru dalam *Syzygium* diusulkan. Sinonimi dan tipifikasi lengkap disajikan.

Kata kunci: *Eugenia s.l.*, *Jambosa*, *Myrtaceae*, kombinasi baru, *Syzygium*, taksonomi.

INTRODUCTION

Syzygium is an entirely Old World genus. In Indonesia and its surrounding areas, many *Syzygium* species were originally described in *Eugenia* L. or *Jambosa* Adans. The generic circumscriptions of *Eugenia*, *Jambosa*, *Syzygium* and some minor satellite genera has had a troubled history with authors frequently transferring species between genera. Alston (1931) reduced *Jambosa* Adans. (1763) to the synonymy of *Syzygium* and the former name is now treated as a *nomen rejiciendum*. The generic concepts of Niedenzu (1893) and Diels (1922) were largely followed by Merrill and Perry (1939) and Ashton (1981) who included in *Syzygium* not only those Old World species with calyptrate petals (*Syzygium s.s.*) but also most of the other Old World species with free petals (*Jambosa*). Generally, this concept has been adopted by the majority of subsequent taxonomists, with the exception of Henderson (1949), and Kochummen (1978), who treated all species as *Eugenia s.l.*, creating significant taxonomic uncertainty.

Taxonomic confusion in *Eugenia* and *Syzygium* resulted from the considerable overlap of macro- and micro-morphological characters. Currently it is clear that these genera are significantly different. Detailed analysis by Schmid (1972) showed the differences between *Eugenia* and *Syzygium* included the evident pubescence of the

young floral buds, persistent and conspicuous bracteoles, and a seed coat which adheres to the pericarp in *Eugenia*. Recent molecular evidence supports a scenario in which these two genera are in fact independent lineages (Biffin, 2005; Widodo, 2010).

Direct observation and comparison of all type specimens cited below, as well as of extensive material of *Eugenia* from the New World, allows the following nomenclatural transfers to be made with confidence.

SYZYGIUM Gaertn.

Syzygium Gaertn., Fruct. Sem. Pl. 1(1788) 166, t. 33, f. 1, nom. cons. – *Eusyzygium* Miq., Fl. Ned. Ind. 1, 1(1855) 447, nom. inval. – Lectotype: *Syzygium caryophyllaeum* Gaertn. (typ. cons.), Ceylon, designated by McVaugh (1956). [= *Syzygium caryophyllatum* (L.) Alston, pro specim. Ceylon. *Eugenia* auct. non L. (1753); M.R. Hend., Gard. Bull. Singapore 12 (1949)16; Kochummen, Tree Fl. Malaya 3 (1978)172.

Jambosa Adans., Fam. Pl. 2 (1763) 88, 564, orth. cons. ("Jambos", orth. rej.); Rumph. ex DC., Prodr. 3 (1828) 286, isonym. – *Eugenia* L. subgen. *Jambosa* (Adans.) Benth. in Benth. & Hook. f., Gen. Pl. 1(1865) 718. – *Eugenia* L. sect. *Jambosa* (Adans.) F. Muell., Fragm. Phytogr. Austral. 5 (1865), nom. inval.; Boerlage, Handl. Fl. Ned. Indië 1, 2 (1890) 497. – *Eugenia* L. sect. *Eujambosa* Nied. in Engl. & Prantl., Nat. Pflanzenfam. 3, 7 (1893)83, nom. inval. – Type: *Jambosa vulgaris* DC.,

nom. superfl. [= *Jambosa jambos* (L.) Millsp. (typ. cons.). = *Syzygium jambos* (L.) Alston]

1. ***Syzygium biniflorum*** (Ridl.) Widodo *comb. nov.*

Basionym: *Eugenia biniflora* Ridl., Bull. Misc. Inform. Kew (1925) 80. — Type: Sumatra, Lubok Tandai, 0 m asl. *Cybrootes* 7103 (Holotype: K!).

Small tree, glabrous. *Twigs* terete and compressed, canaliculated. *Leaves* elliptic-lanceolate, acuminate cuspidate, 12.5–15 cm long, 4.5–5 cm wide; greenish brown above and yellowish brown beneath when dry; leaf base long attenuate or cuneate, subcoriaceous, apex shortly acuminate; venation horizontally paralleled, 30 pairs of veins; petiole slender, 1.5–2 cm long, dark brown to black when dry; midrib depressed, elevated beneath; 12.5–15 cm long, 4.5–5 cm wide; petiole 1 cm long; intramarginal vein 1 mm from margin. *Inflorescence* a few flowered cyme, usually two per leaf axis and subterminal; peduncle *ca.* 2 cm long, terete and compressed, canaliculate, dark brown when dry; bracts ovate to acute, persistent, patent, 2 mm long; 1 or 2 flowers per cyme; pseudostipe very short or none; calyxes obconic, 4 mm long; lobes short rounded-ovate; petals calyptrate; stamens up to 20.

Notes. This is a small tree in undergrowth of mature forests. It is remarkable for the numerous parallel nerves, and the very few flowers (one or two) in each axillary inflorescence.

2. ***Syzygium celebicum*** (Blume) Widodo *comb. nov.* — Fig. 1.

Basionym: *Jambosa celebica* Blume, Mus. Bot. 1 (1850) 107. — *Eugenia celebica* (Blume) Merr., Interpr. Herb. Amboin. (1917) 397. — Type: Celebes, Tondano *Herb. Lugd. Bat. Sheet No 898.203-317 & 318* (Holotype: L!).

A tree, height unknown. *Twigs* terete and compressed below nodes, drying yellowish. *Leaves* opposite, elliptic-oblong, 10–19 cm long, 3.8–8.25 cm wide; dark purplish brown above and paler below when dry; petiole slender, 0.5–10 mm long, canaliculate above, convex beneath, black when dry; leaf base cuneate, apex acuminate; major lateral veins 6–9 pairs, nerves confluent curved in the intramarginal vein; coriaceous without glandular dots; intramarginal vein 2–5 mm from margin. *Inflorescence* axillary; peduncle terete, short, drying yellowish; few flowered, subsessile; pseudostipe very short or none; calyx tube subcampanulate, the limb disk-shaped or circular, short, 4-lobes, subequal; corolla subincurved. Stamen numerous,

filament filiform. Ovary 2-locules, multiovule.

3. ***Syzygium horsfieldii*** (Miq.) Widodo *comb. nov.*

Basionym: *Jambosa horsfieldii* Miq., Fl. Ned. Ind. 1(1) (1855)420. — *Eugenia horsfieldii* K. et V. — Type: Java, Surakarta, *Horsfield T No 6* (Holotype: K!). — Fig. 2.

A tree, size unknown. *Twigs* slightly 4-angled, and compressed below nodes, pale brown or grayish when dry. *Leaves* subopposite, elliptic or elliptic-oblong, acuminate, 10–15.2 long, 4.5–7 cm wide; drying brown above and pale brown below; petiole slender, 4–7 mm long, black when dry, subtereted when young, canaliculated when young, leaf base acute; elliptic or elliptic-oblong; base obtuse-rounded, apex acuminate, glandular dotted, punctuate; midrib pale brown when dry; major lateral veins 6–10 pairs; intramarginal veins 3–5 mm from margin. *Inflorescence* terminal, few flowered (or solitary?); pedicel short (*ca.* 25 mm long); pseudostipe very short or none; calyxes short, calyx tube campanulate, base short, conspicuously constricted to peduncle junction; lobe 4, inequal.

4. ***Syzygium korthalsii*** Widodo, *nom. nov.* [non *S. lanceolatum* (Lam.) Wight & Arn., 1834]. — Fig. 3.

Basionym: *Jambosa lanceolata* Korth. ex Miq., Fl. Ned. Ind. 1(1) (1855) 426; *Ned. Kruidk. Arch.* 1 (1846) 199. — *Jambosa korthalsii* Blume, Mus. Bot. Lugd.-Bat. 1 (1849)101, *nom. superfl.* — Lectotype: Sumatra, Gunung Malintang, *Korthals s.n.* (Holotype: L, sh. no. 898.203-346 designated here).

A tree, height and diameter not seen. All parts glabrous. *Twigs* usually 4-angled to winged, with smooth and whitish pale brown bark. *Leaves* opposite, relatively very long compared to width, lanceolate-linear, 30–45 cm by 2.5–5 cm, brown above and milky brown below when dry; leaf base cordate; leaf apex acute-very acute; petiole *ca.* 3 mm long, swollen and corky, drying pale brown; midrib furrowed on upper surface, and raised on lower surface, pale brown when dry; major lateral veins *ca.* 25 pairs, 1–1.5 cm apart, at an angle of 60°–70°, sometimes curved near the midrib and straight near intramarginal veins; minor lateral veins absent or present, oil dots between 2 major lateral veins a few or less than 20 per cm²; intramarginal vein 1 or 2, faint, 1–3 mm from margin. *Inflorescence* not seen; flower with a *pseudostipe* 5–7 mm long; hypanthial cup funnel-shaped; *sepals* triangular, 5–6 mm long, 5 mm wide; petals not seen; style 35 mm long. *Fruits* not seen.

Notes. *S. korthalsii* is distinctive from the other Sumatran species in its leaf shape which is linear,

reaching approximately 45 cm long, and only around 3.5 cm wide in average. Korthals (1846) described *Jambosa lanceolata* based on his collection from the forests of Mt. Malintang (“Melintang”), W. Sumatra, Indonesia. Blume (1850) incorrectly concluded that this was a mixed collections, and proposed the names *J. confusa* Blume for material from Java: *Blume s.n.* (holo: L! sheet no 898.203-342), *J. insignis* Blume for that from Borneo: *Korthals s.n.* holo: L! (sheet no 898.203-347), and *J. korthalsii* Blume for the original collections from Mt. Malintang: *Korthals s.n.* (Holo L! sheet no 898.203-346). An additional specimen examined is *Teijsmann 840 HB* (BO!). He also suggested that Korthals’s name was superfluous, as there was already a *J. lanceolaria*, based on *Eugenia lanceolaria* Roxb. (1832). Actually, Blume made it himself right here under *J. korthalsii*. These epithets are similar, but do not mean the same thing [*lanceolarius* = small (tip of a) spear; *lanceolatus* = lancet-shaped], and are not confusable under the ICBN. Contrary to Blume’s opinion, *Jambosa korthalsii* therefore is a superfluous name and it is *Jambosa lanceolata* that stands as the correct name that now requires transferral to *Syzygium*. Currently in *Syzygium* the combination *S. lanceolatum* (Korth.) is taken by *S. lanceolatum* (Lam.) Wight & Arn. (1834). I therefore here propose a new name using Blume’s illegitimate epithet as is allowed under Art. 58.1 of the ICBN (McNeill *et al.*, 2006).

5. *Syzygium suave* (Ridl.) Widodo *comb. nov.*

Basionym: *Eugenia suave* Ridl., J. Fed. Malay States-Mus. 5 (1915)160. – Type: NE Malay Peninsula, Hills of Kol Samui, May 1913, *H.C. Robinson s.n.* (Holotype: K!).

Big tree to 25 m tall, *ca.* 40 cm diameter. *Bark* grayish brown, peeling off in irregular strips 3–5 mm thick, 3–10 cm broad, 15–25 cm long. *Sapwood* light brown, *heartwood* dark brown. *Leaves*

oblong, 9–15 cm long, 2.5–4 cm wide; upper surface dark green, light green beneath; leaf drying grayish above and pale brown below; petiole slender, 10–15 mm long, canaliculate above, pale to dark brown when dry; base acuminate or obtuse, apex acuminate. Major lateral veins 9–14 pairs. Intramarginal vein 1–2 mm from margin. *Flowers* accented whitish. Peduncle branches and pedicel sharply 4-angled, pale brown when dry; hypanthial cup narrowly to broadly funnel-shaped; pseudostipe short or none. Calyxes yellowish white, especially the latter red tinged. Corolla white, stamen white, anthers yellow.

6. *Syzygium sumatranum* (Miq.) Widodo *comb. nov.* — Fig. 4.

Basionym: *Jambosa sumatrana* Miq., Fl. Ned. Ind. 1(1) (1855) 419. – Type: Sumatra, upper Angkola, *Junghuhn s.n.*, *Herb. Lugd. Bat No 898.203- 374 & 376* (Holotype: L!).

A tree, size unknown. *Twigs* subterete, and slightly 4-angled-compressed below nodes, pale brown when dry. *Petioles* canaliculate, slender 4–6 mm long, yellowish brown when dry. *Leaves* opposite sometimes subopposite; elliptic or oblong sub abrupt acuminate, 7.5–13 cm long, 3.5–5.8 cm wide; drying dark brown above and reddish brown below; leaf base obtuse, without glandular dots; midrib sulcate above, paler beneath (brown when dry); major lateral veins 6–9 pairs; intramarginal vein 2–4 mm from margin. *Inflorescence* terminal, rarely axillary; peduncle terete, yellowish when dry. *Flowers* usually sessile; calyxes turbinate-clavate 2 – 4 mm long, subequal, when young.

7. *Syzygium valetonianum* (King) Widodo *comb. nov.*

Basionym: *Eugenia valetoniana* King, J. Asiat. Soc. Ben-

Table 1. Morphological differences between *J. korthalsii*, *J. confusa*, and *J. insignis*

| No | Characters | <i>J. korthalsii</i> | <i>J. confusa</i> | <i>J. insignis</i> |
|----|--------------------|--|--|--|
| 1 | Twigs | 4-angled to 4-winged, with smooth and whitish pale brown bark. | terete and slightly compressed near the nodes. | 4-angled. |
| 2 | Leaf form and size | lanceolate-linear, 30 – 45 cm by 2.5 – 5 cm | oblong-lanceolate, tapered gradually from below the middle to apex, 20 – 44 cm by 3 – 5 cm | ovate-oblong or lanceolate, long acuminate, 4 – 10 cm by 1 – 2.75 cm |
| 3 | Leaf base | cordate | broadly obtuse or rounded | rounded or subcordate |
| 4 | Locality | Sumatra, Mount Malintang | Java | Borneo, Martapura |

gal, Pt. 2, Nat. Hist. 70 (1901)112. – Type: Malay Peninsula, Perak Larut 300 – 500 m alt. *King s.n.* (Holotype: K!).

A tree, 20–25 m tall. Young branches thicker than a crow-quill, terete, the bark pale brown, flaky. *Leaves* elliptic–oblong, 7–10 cm long, 3–4 cm wide; both surfaces dark purple to blackish when dry; base cuneate–obtuse, apex acuminate or obtuse; petiole slender 10–15 mm long, canaliculate above, brown when dry; major lateral veins 8–12 pairs; intramarginal vein 1–2 mm from margin. *Inflorescence* terminal or axillary, paniculate, shorter than the leaves, with very short, terete, few flowered cymose branches, or in a small pedunculate cymes; peduncle terete, blackish when dry. *Flowers* sessile, calyxes *ca.* 7.5 mm long, hypanthial cup clavate–campanulate, constricted into a short pseudostipe; the wide mouth truncate, or with 4–deciduous, short, rounded lobes. Petals small, orbicular, deciduous. *Fruits* when unripe pyriform, when ripe globular, crowned by the wide calyx–limb, *ca.* 12 mm long.

Notes. A species close to *E. griffithii*, and also close to *E. clarkeana*, and *E. koordersiana*, but with much smaller panicles and fruit at first pyriform.

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Fig. 1. *Syzygium celebicum*. Photo: P. Widodo.



Fig. 2. *Syzygium horsfieldii*. Photo: P. Widodo.

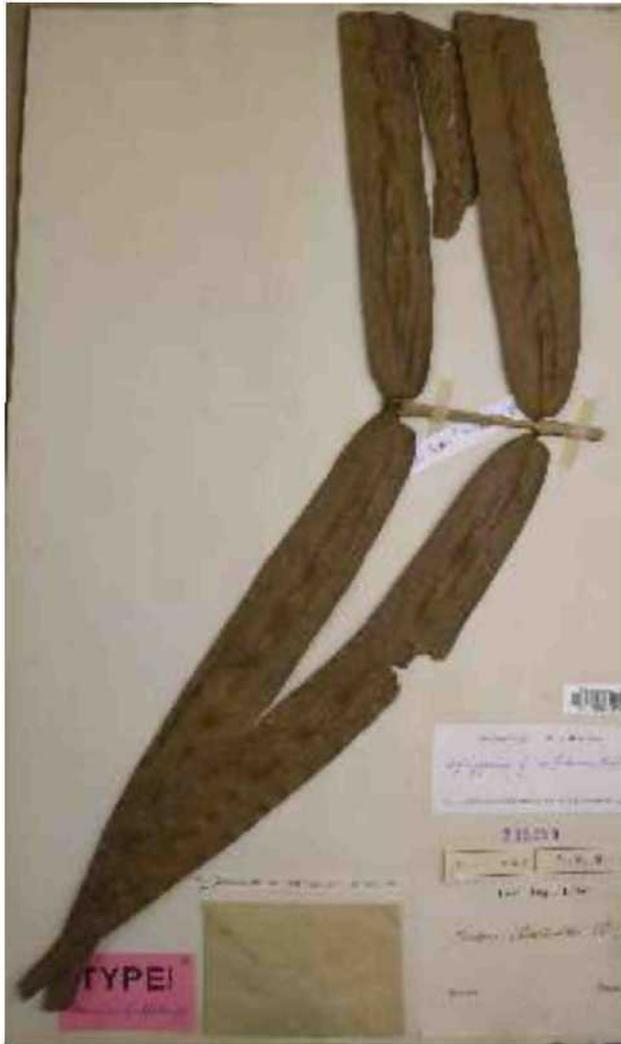


Fig. 3. *Syzygium korthalsii* Photo: P. Widodo.



Fig. 4. *Syzygium sumatranum*. Photo: P. Widodo.

ERRATUM**REINWARDTIA Vol. 13, Part 2, 2010**

1. Please change the existing word in p. 213, LINE 7 on ABSTRAK (written in Bahasa Indonesia version) with the following:

Keberadaan dua jenis terakhir melampaui distribusi yang sebelumnya hanya diketahui di **barat** garis Wallace.

2. Please change the existing epithet name in p, 214, COLUMN 1, LINE 40 on Key to the species of *Marantaceae* in Sulawesi number 5.a. after *Phrynium*:

.....*longispicum*

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Reinwardtia is a scientific journal on plant taxonomy, plant ecology, and ethnobotany. Manuscript intended for a publication should be written in English represent an article which has not been published in any other journal or proceedings. Every manuscript will be sent to two blind reviewers.

Two printed copies (on A4 paper) of the manuscript of not more than 200 pages together with an electronic copy prepared on Word Processor computer program using Time New Romance letter type and saved in Rich Text File must be submitted.

For the style of presentation, authors should follow the latest issue of *Reinwardtia* very closely. Title of the article should be followed by authors name and mailing address in one-paragraphed English abstract of not more than 250 words. Keywords should be given below each abstract. On a separated paper, author(s) should send the preferred running title of the article submitted.

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Map, line drawing illustration, or photograph preferably should be prepared in landscape presentation to occupy two columns. Illustration must be submitted as original art accompanying, but separated from the manuscript. On electronic copy, the illustration should be saved in jpg or gif format at least 350 pixels. Legends or illustration must be submitted separately at the end of the manuscript.

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