

# NEW SPECIES OF MYRTACEAE FROM YASUNÍ NATIONAL PARK, ECUADOR

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**Abstract.** Two new species of Myrtaceae from Yasuní National Park in Ecuadorian Amazon, *Myrcia gigantifolia* and *Plinia valenciana*, are described and illustrated. *Myrcia gigantifolia* grows in Varzea forest along Tiputini river, while *Plinia valenciana* grows in lowland forest.

**Resumen.** Se describen y se ilustran *Myrcia gigantifolia* y *Plinia valenciana*, dos especies nuevas de Myrtaceae provenientes del Parque Nacional Yasuní en la Amazonía Ecuatoriana. *Myrcia gigantifolia* crece en el bosque de Varzea a lo largo del río Tiputini, mientras que *Plinia valenciana* crece en bosques de Tierra Firme.

**Keywords:** Myrtaceae, *Myrcia*, *Plinia*, Ecuador, Yasuní

Yasuní National Park, located in the Ecuadorian Amazon, is remarkable for its exceptional diversity of plants, especially trees and shrubs (Pitman et al., 2002; Valencia et al., 2004; Bass et al. 2010). In preparation of the treatment of Myrtaceae for the Flora of Ecuador project, ca. ten new species have been recognized in Yasuní; two additional ones, *Myrcia gigantifolia* and *Plinia valenciana*, are described and illustrated herein.

***Myrcia gigantifolia*** M.L.Kawasaki & A.J.Pérez, *sp. nov.* TYPE: ECUADOR. Orellana: Yasuní National Park, Río Tiputini, 00°38'S, 76°30'W, 200–300 m, 20 June 2011 (fr), A. J. Pérez, E. Pinto, W. Looor & J. Guittar 5107 (Holotype: QCA; Isotypes: F, W). Fig. 1.

Among the species of *Myrcia*, this new species is distinguished by the very large (35–75 × 17–33 cm) ovate to lanceolate leaves, cordate at base, and by the large panicles (17.5–35 cm long).

*Trees* 7–10 m high, ca. 10 cm dbh, puberulous to glabrous. *Leaves* subsessile, the blades ovate to lanceolate, coriaceous, 35–75 × 17–33 cm, drying olive-green, puberulous to glabrous; glands numerous, punctiform, indistinct on both surfaces; midvein impressed above, convex below; lateral veins 20–30 pairs, impressed above, convex below; marginal vein 1, 2–4 mm from blade margin, similar in prominence to the lateral veins; apex abruptly acuminate; base cordate, amplexicaul. *Inflorescences* subterminal, paniculate, multiflorous, 17.5–35 cm long, the axes puberulous to glabrous; bracts and bracteoles deciduous, not seen. *Flower buds* subglobose, 4–6 mm long; hypanthium not prolonged beyond the ovary; calyx-lobes 5, ca. 2 × 3 mm, broadly rounded at apex, puberulous; petals 5, suborbicular, 4–5 × 3–5 mm, sericeous within, puberulous without; stamens numerous, the filaments 3–9 mm long, the anthers ca. 0.5 mm long; style ca. 1 cm long, the stigma punctiform; disk 5–6 mm diam., densely pubescent; ovary 2-locular, with 2

ovules per locule. *Fruits* ellipsoid, 1.5–2 cm long, red to dark purple, puberulous to glabrous; seeds 1 or 2, 1–1.5 cm long, the seed coat membranous; embryo myrcioid, the cotyledons leafy and folded, the radicle elongate, equaling the cotyledons in length.

*Myrcia gigantifolia* is readily recognized from the other species of the genus by the very large (35–75 × 17–33 cm), ovate to lanceolate leaves, cordate at base; these are among the largest leaves known in Neotropical Myrtaceae. *Myrcia obumbrans* (O. Berg) McVaugh from Peru (*Rubachia obumbrans* O. Berg, *E. F. Poeppig* 2210: W, holotype [photo F neg. 31508]; F, isotype) also has cordate and sessile leaves, but they are smaller (20–35 × 11–17 cm), elliptic or ovate (vs. ovate to lanceolate), drying dark-brown (vs. olive-green); the panicles are shorter (ca. 14 cm long vs. 17.5–35 cm long), the flower buds are larger (ca. 7 mm long vs. 4–6 mm long), and the hypanthium is costate and sericeous (vs. smooth and puberulous).

**Etymology:** The specific epithet refers to the very large size of the leaves.

**Additional specimens examined:** ECUADOR. Orellana: Yasuní National Park, Yasuní Scientific Station, Tiputini River, 00°38'S, 76°30'W, 200–300 m, 15 Mar 2016 (fl), A. J. Pérez et al. 9338 (F, QCA); 9341 (COLG, F, QCA).

**Distribution and habitat:** Known only from the Yasuní National Park in Orellana Province; several individuals of all stages have been observed growing in Varzea forest along the Tiputini river.

**Phenology:** Collected with flowers in March and with fruits in June.

***Plinia valenciana*** M.L.Kawasaki & A.J.Pérez, *sp. nov.* TYPE: ECUADOR. Orellana: Yasuní National Park - ECY, PDBY 50-ha plot, 00°38'S, 76°30'W, 200–300 m, 11 September 2007 (fl), A. J. Pérez & P. Alvia 3532 (Holotype: QCA; Isotype: F). Fig. 2.

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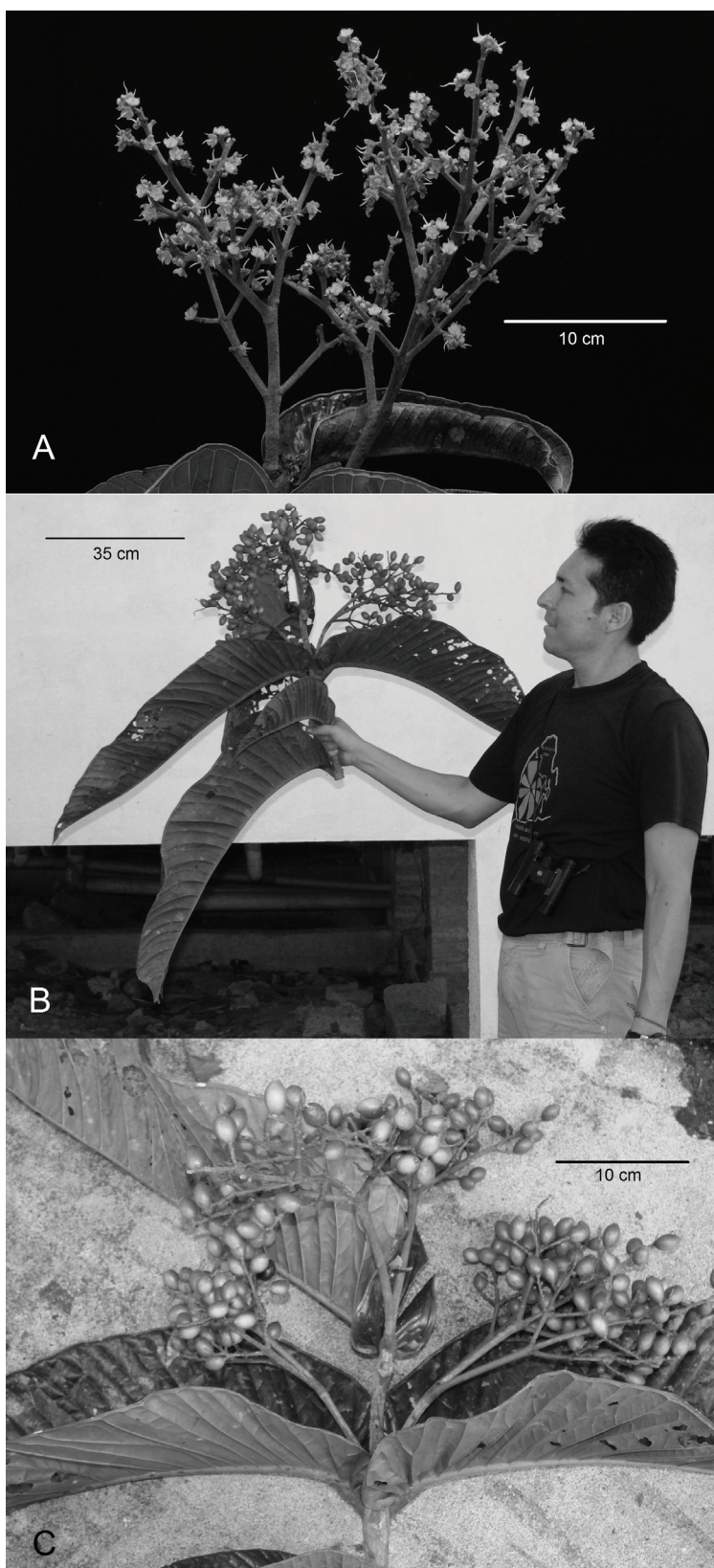


FIGURE 1. *Myrcia gigantifolia* M.L.Kawasaki & A.J.Pérez. **A**, leaves and old flowers; **B**, branchlet with leaves and fruits; **C**, leaves and fruits. **A** from Pérez *et al.* 9338 (QCA); **B–C** from Pérez *et. al.* 5107 (QCA).



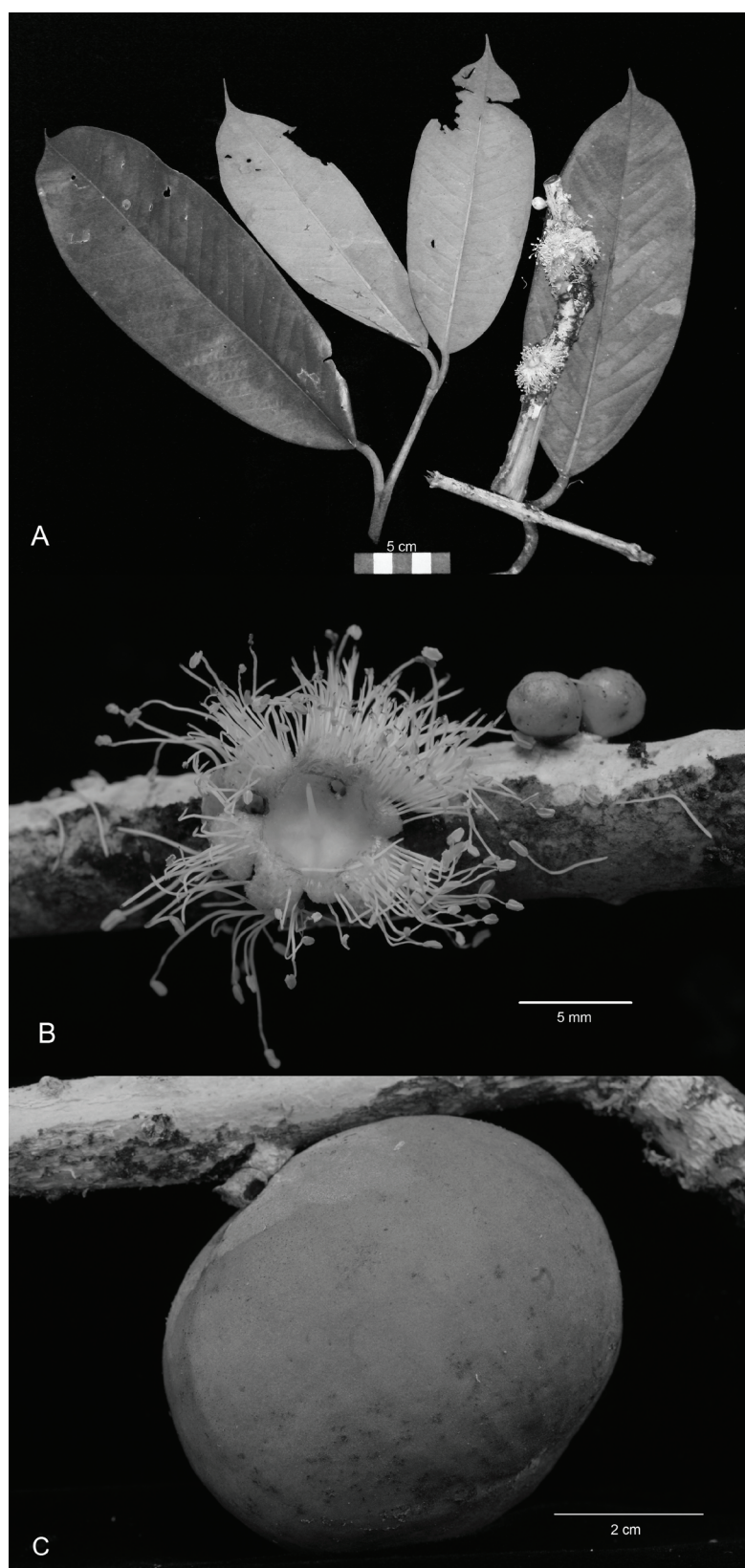


FIGURE 2. *Plinia valenciana* M.L.Kawasaki & A.J.Pérez. **A**, leaves and inflorescences; **B**, flower buds and open flower; **C**, fruit. A from Pérez & Alvia 3532 (QCA); B from Pérez *et. al.* 4950 (QCA); C from Pérez *et. al.* 4831 (QCA).

Similar to *Plinia darienensis* Barrie in leaf morphology, but it differs in the smaller flowers and fruits.

*Trees* ca. 8 m high, ca. 8 cm dbh; trichomes mainly on young growth, lower surface of leaves, and flowers, yellowish-white; bark smooth, whitish. *Leaf blades* narrowly elliptic, coriaceous, 24–30 × 7–9 cm, the upper surface glabrous, drying olive-green, the lower surface olive-green or brownish-green, sparsely pubescent to puberulous, the trichomes especially on midvein, glabrescent; glands numerous, punctiform, salient on both surfaces; midvein salient or biconvex on upper surface, salient on lower surface; lateral veins 13–17 pairs, salient on both surfaces; marginal veins 2, the innermost almost parallel to the margin, 2–3 mm from it, similar to the lateral veins in prominence; apex abruptly acuminate; base cuneate to obtuse; petioles 2–2.5 cm long, puberulous. *Inflorescences* cauliflorous, of glomerules pauciflorous; bracts and bracteoles ovate, ca. 2 mm long, puberulous. *Flower buds* globose, ca. 5 mm diam., sessile; calyx lobes 4, tearing irregularly at anthesis, glabrous; hypanthium ca. 3 mm long, sparsely pubescent, prolonged ca. 1 mm beyond the ovary; petals 4, obovate, ca. 3 mm long, white, ciliate; disk ca. 5 mm diam., glabrous; stamens numerous, the filaments to 1 cm long, the anthers ca. 1 mm long; style ca. 1 cm long, the stigma punctiform; ovary 2-locular, with 2 ovules per locule. *Fruits* globose to oblate, 5.5–6 cm diam., yellow, glabrous, crowned by remnants of the calyx lobes; seeds 1 or 2, ca. 5 × 3.5 cm, the seed coat membranous; embryo eugenoid, the cotyledons

fleshy, separate, the radicle indistinct.

*Plinia valenciana* resembles *P. darienensis* Barrie from Panama (Barrie, 2004) in the narrowly elliptic leaves with salient venation (midvein and lateral veins) on both surfaces, but it is distinguished by the longer petioles (2–2.5 cm long vs. 1–1.5 cm long) and the smaller flowers and fruits. In *P. valenciana*, the flower buds are globose, ca. 5 mm diam. (vs. pyriform, 12–15 mm long), the disk is ca. 5 mm diam. (vs. 6–8 mm diam.), the style is ca. 1 cm long (vs. ca. 1.8 cm long), and the fruits are smooth, 5.5–6 cm diam. (vs. ribbed, 6.5–8 cm diam.).

**Eponymy:** Named in honor of Dr. Renato Valencia, Principal Investigator of the Yasuní Forest Dynamic Project and professor at Pontificia Universidad Católica del Ecuador, for his support and contribution to the development and knowledge of botany and ecology in Ecuador.

**Additional specimens examined:** ECUADOR. Orellana: Yasuní National Park - ECY, PDBY 50-ha plot, 00°38'S, 76°30'W, 200–300 m, 23 Aug 2010 (fr), A. J. Pérez *et al.* 4831(F, QCA); 22 Nov 2010 (fl), A. J. Pérez *et al.* 4950 (F, QCA).

**Distribution and habitat:** Known only from the Yasuní National Park in Orellana Province, in lowland wet forests. In a 25-ha plot there were 13 individuals with dbh ≥ 1 cm, averaging one individual per two hectares; from 1995 to 2007 the average growth rate was 0.47 mm per year.

**Phenology:** Collected with flowers in September and November; with fruits in August.

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