A NEW SPECIES OF *PLINIA* (MYRTACEAE) FROM ECUADOR, WITH DEMOGRAPHIC NOTES FROM A LARGE FOREST PLOT

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Abstract. *Plinia yasuniana*, a new species from Ecuadorian Amazon is described and illustrated. This new species is characterized by the large leaves with numerous, impressed lateral veins and subcordate to truncate bases. In a 25-ha plot at Yasuní National Park there are 14 individuals with dbh ≥ 1 cm.

Resumen. Se describe e ilustra *Plinia yasuniana*, una nueva especie proveniente de la Amazonía Ecuatoriana. Esta nueva especie se caracteriza por las hojas grandes con nervaduras laterales numerosas, impresas y bases subcordadas a truncadas. En una parcela de 25 ha en el Parque Nacional Yasuní se ha registrado un total de 14 individuos con DAP ≥ 1 cm.

Keywords: Myrtaceae, *Plinia*, Yasuní, 25-ha plot, Ecuador

The Neotropical genus *Plinia* L. comprises approximately 40 species distributed from Central America, West Indies, and South America to Brazil (Barrie, 2004). These species are characterized by 4-merous flowers, usually in glomerules and with persistent bracts; closed or nearly closed calyx in bud, tearing into irregular lobes at anthesis, bilocular ovary with two ovules per locule; globose fruits, crowned by remnants of the calyx lobes; 1 or 2 seeds; and eugenioid embryo, i.e., with fleshy and separate cotyledons and indistinct radicle.

About five species of *Plinia* are known from Ecuador, mostly growing in lowland forests: *P. pinnata* L. (Sucumbíos), *P. inflata* McVaugh (Orellana and Pastaza), and a few unnamed taxa. In preparation of the Myrtaceae treatment for the Flora of Ecuador Project, a new species from Ecuadorian Amazon is here described and illustrated.

Plinia yasuniana M. L. Kawasaki & A. J. Pérez, *sp. nov.* TYPE: ECUADOR. Orellana: Yasuní National Park Scientific Station, Kinkagu trail (600 m), 00°40'40"S, 76°23'40"W, 200–300 m, 17 November 2009 (fl, fr), *A. J. Pérez & W. Santillán 4409* (Holotype: QCA). Fig. 1.

Frutex; foliis anguste ellipticis vel oblanceolatis, 28–32 cm longis, 5.5–8.5 cm latis, ad apicem abrupte acuminatis, basi subcordatis vel truncatis, nervo medio supra sulcato; venis lateralibus 20–25, supra sulcatis; inflorescentiis glomerulis bracteatis; alabastris clausis, per anthesin irregulariter 4-partitis; hypanthio prolongato; ovario biloculari, loculis biovulatis; fructibus globosis; embryo cotylis carnosis et separatis, radicula indistincta.

Shrubs 1–3 m high, 2–4 cm dbh; trichomes yellowish-white, mostly on young branches and inflorescences. *Bark* brownish-red with longitudinal fissures, peeling in small plates. *Leaf blades* narrowly elliptic or oblanceolate, coriaceous, 28–32 × 5.5–8.5 cm, the upper surface glabrous, drying olive-green, the lower surface light brown, sparsely pubescent, the trichomes especially on the veins, glabrescent; glands numerous, punctiform, indistinct above, salient below; midvein sulcate on upper surface, salient on lower surface; lateral veins 20–25 pairs, sulcate above, salient below; marginal vein 1, almost parallel to the margin, ca. 3 mm from it, similar to the lateral veins in prominence; apex abruptly acuminate; base subcordate to truncate; petioles ca. 1 cm long, plane, puberulous. *Inflorescences* cauliflorous, of glomerules with 5–9 flowers; bracts and bracteoles in several pairs, lanceolate, 3–6 mm long, with conspicuous glands, densely

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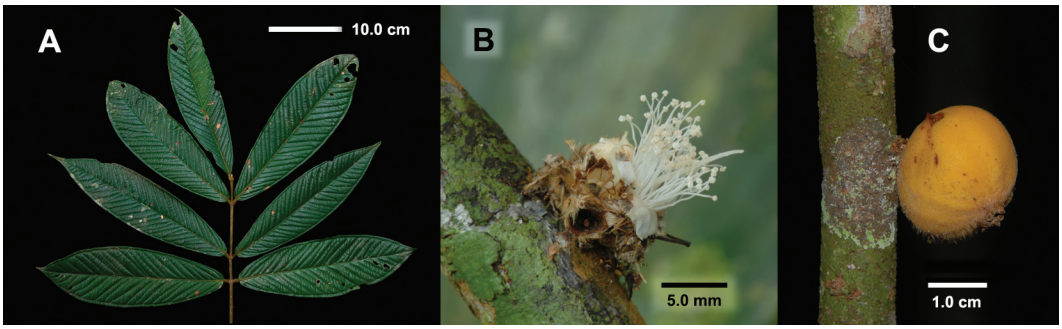

FIGURE 1. *Plinia yasuniana* M. L. Kawasaki & A. J. Pérez. **A**, Leaves; **B**, Inflorescence; **C**, Fruit. A–C from *A. J. Pérez & W. Santillán 4409* (QCA).

tomentose. *Flower buds* obovate, 4–6 mm long, densely tomentose, sessile; calyx lobes 4, irregularly shaped, with conspicuous glands, tomentose without, glabrous within; hypanthium ca. 3 mm long, densely tomentose, prolonged ca. 1 mm beyond the ovary; petals 4, obovate, ca. 2–3 mm long, white, ciliate; disk ca. 2 mm diam., glabrous; stamens numerous, the filaments to 8 mm long, the anthers ca. 0.5 mm long; style ca. 1 cm long, the stigma punctiform; ovary 2-locular, with 2 ovules per locule. *Fruits* globose, ca. 3 cm diam., yellow, puberulous, crowned by remnants of the calyx lobes; seed 1, ca. 2 × 1 cm, the seed coat membranous; embryo eugenioid, the cotyledons fleshy, separate, the radicle indistinct.

This new species is similar to *Plinia panamensis* Barrie in the large leaves with numerous lateral veins that are sulcate on the upper surface. *Plinia yasuniana*, however, is distinguished by the leaves that are more commonly oblanceolate (vs. ovate to lanceolate), with subcordate to truncate (vs. cordate) bases, and by the smaller flowers (hypanthium ca. 3 mm long vs. ca. 7 mm long) and fruits (ca. 3 cm diam. vs. 7–12 cm diam. and prominently ribbed).

Etymology: The specific epithet refers to the type locality, Yasuní National Park.

Additional specimens examined: ECUADOR. Orellana: Road Chiruisla–Tiputini River, km 12, 00°41'33"S, 75°55'43"W, 280 m, 27 June 2006 (fr), *J. Jaramillo et al. 25851* (QCA). Yasuní National Park Scientific Station, 50-ha plot, Tag # 47540, 00°38'S, 76°30'W, 200–300 m, 14 October 2007 (fr), *A. J. Pérez & P. Alvia 3572* (QCA). Yasuní National Park Scientific Station, Tiputini River, NW of confluence with Tivacuno River, 6 km E of Maxus road, Km 44, spur road to Tivacuno well, 00°38'S, 76°30'W, 200–300 m, 3 November 1996 (fr), *K. Romoleroux & R. Foster 2546* (F, QCA). Sucumbíos: Aguarico River, Zabalo Community, 00°21'24"S, 75°39'56"W, ca. 235 m, 9 November 1998 (fr), *R. Aguinda et al. 116* (F). Cuyabeno Reserve, path going in the direction E from the tourist house, 00°01'S, 76°11'W, 300 m, 22 August 1981 (fl), *J. S. Brandbyge et al. 33887* (AAU, F, MO, QCA, QCNE, SEL). Lago Agrio, Cuyabeno Reserve, Tarapoa–Tipishca, intersection of Río Cuyabeno, 00°01'S, 76°15'W, 230 m, 14 November 1991 (fr), *W. Palacios et al. 8941* (MO, QCNE).

Distribution and habitat: *Plinia yasuniana* is an understory rain forest treelet from Ecuadorian Amazon. It is recorded from the 50-ha plot in the forests surrounding the Yasuní Scientific Station (Valencia et al., 2004) at 30–300 m elevation and in Cuyabeno Reserve at 230–300 m elevation. Inside a 25-ha forest plot located in the Yasuní National Park, there are 14 individuals with dbh ≥ 1 cm; in this plot, between 2002 and 2007, the annual recruitment rate was 1.2 individuals per year and the annual growth was 0.20 mm. Juveniles and adults are more abundant on ridges, but some individuals can be occasionally found in depressions.

Phenology: flowering and fruiting more frequently from August to November, but individual trees were observed to be fertile throughout the year.

Uses: The mesocarp of mature fruits is sweet and edible; monkeys were observed eating the fruits in the 25-ha forest plot in the Yasuní National Park.

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