
Two New Species of Myrtaceae from South America

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ABSTRACT. Two new species of Myrtaceae are described and illustrated, *Calycolpus aequatorialis* of Ecuador and *Psidium huanucoense* of Peru. *Calycolpus aequatorialis* appears to have a close relative in *C. surinamensis*, but differs in having a closed calyx, relatively little indumentum, and strongly 4-winged twigs. *Psidium huanucoense* is compared with the similar species *P. acutangulum* from which it differs in having velvety indumentum of short, yellowish, erect hairs and larger leaves. Comparison with *P. guineense* is also made, from which it differs in venation, number of ovules, anther length, and hair length.

Key words: *Calycolpus*, Ecuador, Myrtaceae, Peru, *Psidium*.

Calycolpus O. Berg is a genus of ca. 12 species ranging from Central America to Minas Gerais, Brazil, with the greatest diversity in northeastern South America in the Guayana Highlands (McVaugh, 1969). It is closely related to *Psidium* L. and distinguished from it by a combination of inflorescence, floral, and seed coat characters (Landrum & Sharp, 1989). For a few years I have been aware of an unusual species from northeastern Ecuador, known from a single collection, that I assumed belonged to *Psidium* because of its closed calyx and strongly 4-winged twigs, characters common in *Psidium*. These same characters were until now unknown and rare, respectively, in *Calycolpus*. The best characters for distinguishing *Psidium* and *Calycolpus* are in the seeds, which are still unknown for this species, so some doubt remains, but on consideration of other characters, I believe this species is best placed in *Calycolpus*. It has ovate, persistent bracteoles, which are unknown in *Psidium*, but found in some species of *Calycolpus*. It has bracteate shoot inflorescences with a short axis and leaves that dry dark reddish brown, both of which are common characters in *Calycolpus* and rare in *Psidium*. The prominent brochidodromous venation with the marginal vein closely following the margin is unusual in *Psidium*, but essentially identical to that found in *C. surinamensis*. This is the first species of *Calycolpus* known that has a

closed calyx, a character that until now was useful in separating the genera.

- 1. *Calycolpus aequatorialis*** Landrum, sp. nov.
TYPE: Ecuador. Sucumbios: Sendero La Hormiga, 0°5'25"N, 76°12'50"W, 26 Apr. 1986 (fl), J. Jaramillo 8487 (holotype, QCA, ASU photo; isotypes, NY, QCA, ASU photos). Figure 1.

Haec species *Calycolpo surinamensi* primo aspectu similis, sed calyce ante anthesin clauso, sub anthesi irregulariter fisso, et ramunculis juvenibus 4-alatis differt.

Arbor usque 12-metralis; folia lanceolata, elliptica, vel oblonga, 8.7–18 × 3.6–6.7 cm, 2–3.4 plo longiora quam latiora, apice acuminato, plerumque falcato; stamina ca. 325, ca. 1 cm longa, antherae ca. 3 mm longae, connectivum multi-glanduliferum.

Tree ca. 12 m high, glabrous to minutely puberulent, sometimes densely so on hypanthium and calyx apex within; hairs whitish, to ca. 0.25 mm long, mainly appressed; young twigs with 4 prominent wings (to ca. 1 mm wide), dark reddish brown when dry, glabrous to moderately appressed puberulent. **Leaves** lanceolate, elliptic or oblong, 8.7–18 cm long, 3.6–6.7 cm wide, 2–3.4 times as long as wide, glabrous or nearly so; apex acuminate, usually falcate; base obtuse to acute; petiole 5–6 mm long, 1.5–2 mm wide, channeled, sparsely appressed puberulent; midvein prominent below, impressed above, the venation brochidodromous, with 15 to 20 pairs of lateral veins, these prominent below, impressed above, leaving the midvein at an angle of 60–80°, a clear marginal vein connecting with laterals and ± paralleling the margin, running ca. 2–4 mm within the margin, the tertiary veins connecting the larger veins in a ± dendritic pattern; blades coriaceous, drying dark reddish brown. **Flower buds** pyriform, ca. 18 mm long; peduncles uniflorous, 12–26 mm long, ca. 2 mm wide, terete to somewhat flattened, borne in axillary clusters (short bracteate shoots), obscurely and sparsely puberulent; bracteoles ovate to suborbicular, ca. 3.5 mm long and wide, often wider than long, clasping hypanthium, persisting at least until anthesis; calyx closed in bud, prolonged in an apiculate tip, tearing irregularly at anthesis, sparsely puberulent without



Figure 1. *Calycolpus aequatorialis* Landrum. —A. Branchlet with flower buds and old flowers. —B. Magnified portion of young 4-winged twig and short bracteate shoot bearing a flower bud. —C. Longitudinal section of a flower bud with two views of the placenta with numerous ovules, and a cross section of a floral ovary. —D. Magnified view of anthers showing the glands in the connectives. A–D, Jaramillo 8487 (QCA).

and within, more densely so near apex within, the remnants ca. 0.2 mm thick when dry; petals glabrous except for a ciliate margin, strongly glandular; hypanthium ca. 8 mm long, densely puberulent; disk subglabrous, ca. 10 mm across; stamens ca. 325, to ca. 1 cm long; anthers oblong, to ca. 3 mm long, with 8 to 22 glands in connective; style ca. 12 mm long, glabrous; ovary 3-locular in 1 flower

dissected; ovules ca. 75 in 1 locule observed, ca. 10-seriate, the placenta a nearly sessile, peltate pad. **Fruit** unknown.

This remarkably distinct species is known from a single gathering made by J. Jaramillo, who collected several duplicates, surely realizing that it was something unusual. Habitat information is

lacking from the label, but judging from other collections by Jaramillo from the general vicinity (information available through Tropicos at MO, <<http://mobot.mobot.org/W3T/Search/vast.html>>), it is a lowland wet tropical forest at about 250 m that is rich in Araceae, Bignoniaceae, Gesneriaceae, Lauraceae, etc. This single collection was flowering in April.

In describing *Calycolpus surinamensis*, McVaugh (1969) drew attention to the strong venation and large persistent bracteoles as being unusual characters in *Calycolpus*, both characters that it shares with *C. aequatorialis*. The lateral veins in these species leave the midvein at an angle of about 60° or more. This type of venation is also found in *C. bolivarensis* Landrum and similar bracteoles are possessed by *C. legrandii* Mattos, species unknown to McVaugh. Closed calyces appear to have evolved numerous times in Myrtaceae, so it is not surprising to find them also in *Calycolpus*. All the specimens known to me are of a single collection and are held at QCA and NY.

Psidium L. (Myrtaceae) is a genus of at least 50 and perhaps as many as 100 species ranging from Mexico and the Caribbean to Argentina and Uruguay. The distinguishing characters of *Psidium* are discussed in Landrum (2003) and in Landrum and Sharp (1989).

2. *Psidium huanucoense* Landrum, sp. nov.

TYPE: Peru. Huánuco: Puerto Inca, Dpto. Yuyapichis, Unidad Modelo de Manejo y Producción Forestal DANTAS, 9°40'S, 75°02'W, 270 m, 16–30 Apr. 1990, Tello 47 (holotype, USM, ASU photo; isotypes, G, ASU photo, NY, ASU photo). Figure 2.

Haec species *Psidio acutangulo* primo aspectu similis, sed alabastro et fructu pilis erectis densis ochraceis difert.

Arbor usque 15-metralis; ramunculi juvenes 4-alati; folia elliptica-ovalia, ovata vel lanceolata, 8.5–21 × 5.5–9 cm, 1.3–2.5 plo longiora quam latiora; calyx ante anthesin clausus, sub anthesi irregulariter fissus; stamina ca. 600, ca. 12 mm longa, antherae ca. 1.5 mm longae; loculi ca. 265-ovulati.

Tree to ca. 15 m high, sparsely to densely puberulent on most surfaces; hairs light tan to whitish, usually erect, to ca. 0.25 mm long; young twigs with 4 prominent wings, light brown to reddish brown when dry, moderately puberulent, glabrescent with age. **Leaves** elliptic, ovate, or lanceolate, 8.5–21 cm long, 5.5–9 cm wide, 1.3–2.5 times as long as wide, moderately puberulent below (especially along veins), sparsely puberulent to glabrescent above; apex broadly rounded to acute or acuminate

(sometimes abruptly so); base cuneate to rounded; petiole 5–12 mm long, 1.5–3 mm wide, channeled, puberulent to glabrescent; midvein prominent below, impressed above, the venation brochidodromous or partially eucamptodromous, with 7 to 10 pairs of lateral veins, these prominent below, impressed to about flat above, leaving midvein at about 45°, a clear marginal vein evident at least distally, arching slightly between laterals, ± equaling laterals in prominence, running 3–12 mm from margin, a second weaker marginal vein running along margin itself sometimes evident, the tertiary veins connecting larger veins in a dendritic (rarely ladder-like) pattern; blades coriaceous, drying dark reddish brown above, olive green below. **Flower buds** pyriform, 15–17 mm long, densely puberulent; peduncles uniflorous or triflorous, 10–22 mm long, to 2.5 mm wide, flattened, the lateral arms of the dichasia to ca. 8 mm long; bracteoles lanceolate-linear, 6–10 mm long, 1–2 mm wide, puberulent, caducous before anthesis; calyx closed in bud, terminating in an acute to acuminate tip, tearing irregularly at anthesis, the remnants 0.5–0.7 mm thick when dry; petals obovate to suborbicular, probably ca. 1.5 cm long when expanded, strongly glandular, densely appressed puberulent centrally without; hypanthium campanulate, about 6–7 mm long; disk ca. 6 mm across; stamens ca. 600, ca. 12 mm long; anthers oblong, ca. 1.5 mm long (perhaps longer when fully expanded), with 5 to 10 glands in the connective; style glabrous, to ca. 1.5 cm long, the stigma peltate; ovary 5-locular in 1 ovary examined; ovules ca. 265 in 1 locule examined. **Fruit** ca. 5 cm diam.; seeds probably more than 200, 4–5 mm long.

Phenology. Flowering in April; fruiting in November.

Habitat and distribution. Based on label data, the habitat is wet tropical forest at ca. 280 m, with ca. 2.5 m of annual precipitation and an average temperature of 23–25°C; so far known from a restricted region of Huánuco, Peru.

Specimens of *Psidium huanucoense* have previously been identified as *P. acutangulum* DC., and it resembles that species except for the velvety indumentum of fine, yellowish, erect hairs, this condition being especially distinct on the flower bud and fruit and quite unlike *P. acutangulum*. The leaves of *P. huanucoense* are generally much larger (8.5–21 × 5.5–9 cm) than in *P. acutangulum* (3.5–13 × 1.5–5.6 cm). The peltate placenta with a broad smooth central area is unlike *P. acutangulum* and more similar to *P. guineense* Swartz. It differs from *P. guineense* in having a

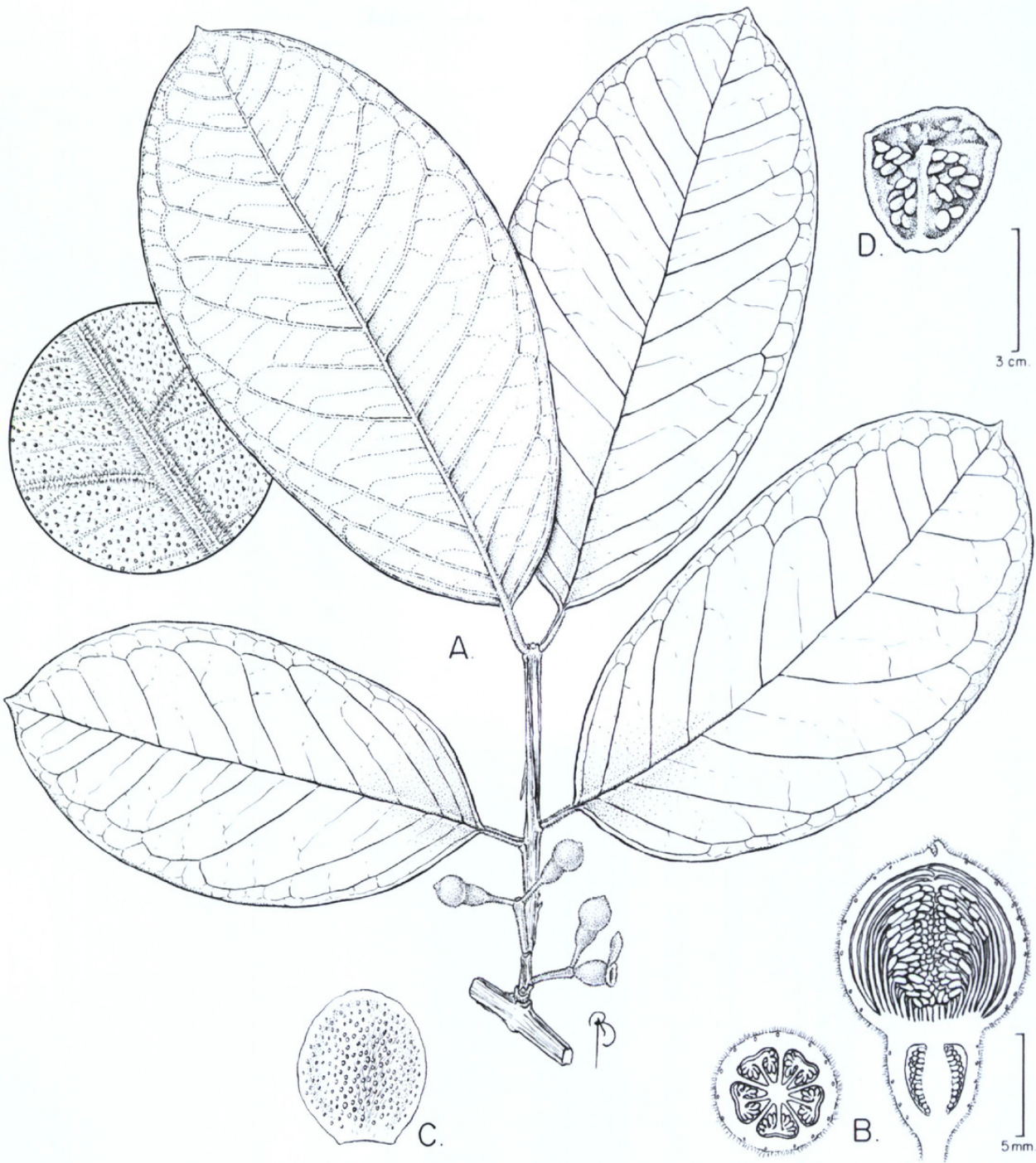


Figure 2. *Psidium huanucoense* Landrum. —A. Branchlet with flower buds and old flower with magnified portion of lower leaf surface. —B. Longitudinal section of a flower bud and cross section of a floral ovary. —C. Detached petal. —D. Portion of a fruit. A–C, *Tello 47* (USM); D, *Kröll Saldaña 684* (ASU).

strong marginal vein. The number of ovules is fewer in *P. guineense* (generally 50 to 100), the anthers usually longer (1–3 mm), and the hairs longer (0.3–0.5 mm). The acute to acuminate tip of the closed calyx of *P. huanucoense* is rare in *P. guineense*.

Paratypes. PERU. **Huánuco:** Puerto Inca, Yuyapichis, Unidad Modelo de Manejo y Producción Forestal DANTAS, 9°40'S, 75°02'W, 270 m, 1–15 Apr. 1991

(bud), *Tello 1756* (G, MO, USM), 1 Nov. 1989 (fr), *B. Kröll Saldaña 684* (ASU).

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Literature Cited

- Landrum, L. R. 2003. A revision of the *Psidium salutare* complex (Myrtaceae). *Sida* 20: 1449–1469.
- & W. P. Sharp. 1989. Seed coat characters of some American Myrtinae (Myrtaceae): *Psidium* and related genera. *Syst. Bot.* 14: 370–376.
- McVaugh, R. 1969. Myrtaceae. In *The Botany of the Guayana Highland*—Pt. 8. *Mem. New York Bot. Gard.* 18(2): 55–286.



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