New species of Cybianthus subgenus Conomorpha (Myrsinaceae) from Amazonian Perú

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New species of Cybianthus subgenus Conomorpha (Myrsinaceae) from Amazonian Perú

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ABSTRACT

PIPOLY, J. J. (1991). New species of Cybianthus subgenus Conomorpha (Myrsinaceae) from Amazonian Perú. *Candollea* 46: 41-45. In English, English and Spanish abstracts.

Determinations of collections from areas associated with florula projects underway in Tambopata, Cusco Amazónico, Sucusari, Mishana-Alpahuayo, and Yanamono has revealed two new species of the genus *Cybianthus* subgenus *Conomorpha* (A. DC.) Agostini, *C. gigantophyllus* and *C. spichigeri.* The species are described, illustrated and their phylogenetic relationships are discussed.

RESUMEN

PIPOLY, J. J. (1991). Nuevas especies del género Cybianthus subgénero Conomorpha (Myrsinaceae) de la Amazonía peruana. *Candollea* 46: 41-45. En inglés, resúmenes en inglés y en español.

Al determinar colecciones de sitios asociados con proyectos de florula actuales de Tambopata, Cusco Amazónico, Sucusari, Mishana-Alpahuayo, y Yanamono reveló que hay dos nuevas especies que se describe del género *Cybianthus* subgénero *Conomorpha* (A. DC.) Agostini, *C. gigantophyllus* y *C. spichigeri.* Se ilustre cada especie y se discute su parentezco.

The western limit of the Amazonian Basin in Perú is currently the subject of a series of florulas conducted by the Missouri Botanical Garden under the auspices of the MacArthur Foundation. Among the areas under study, the wettest and concomitantly, (perhaps consequently?) the most diverse forest known is that of Yanamono, now being studied by the author and Sr. Rodolfo Vásquez of Iquitos. It is hoped that, with more florulas underway and permanent plots established, we may gain insight into what are the limiting factors to moist and wet forest diversity, and how might this diversity best be conserved.

Certainly one of the most striking species of *Cybianthus* subgenus *Conomorpha* was encountered in the historical collections of Klug, as well as those of Llewelyn Williams. Both have been widely distributed, but the majority of the duplicates were sterile specimens. The fertile duplicates, along with recent collections by Gentry and Ancuash, have reconfirmed the identity of this plant as a new species, which is described herewith.

Cybianthus gigantophyllus Pipoly, **spec. nov.** (Fig. 1).

Ob folia elliptica ad apicem longo-acuminata, secus marginem revoluta, laminarum nervulos desuper impressos atque subter elevatos, *C. occigranatensi et C. spichigeri* arcte similis, sed haec species ab ambabu petiolatis 2.7-4.0 (nec 1.0-1.5) cm longis, laminarum marginibus irregularibus (nec regularibus) florum bracteis deltatis (nec lineari-lanceolatis) ramulis 4-5 (nec 2-3) mm diametris, pedicellisque subnullis (nec 1.5-1.6 mm longis) praeclare distat.

Typus: Perú. San Martín: Pumayacu, between Balapuerto and Moyobamba, 600-1200 m, Aug.-Sep. 1933 (pist. fl.), *L. C. Klug 3165* (holotypus, US; isotypi, F, G (2 sheets), GH (2 sheets), MO, NY, US).

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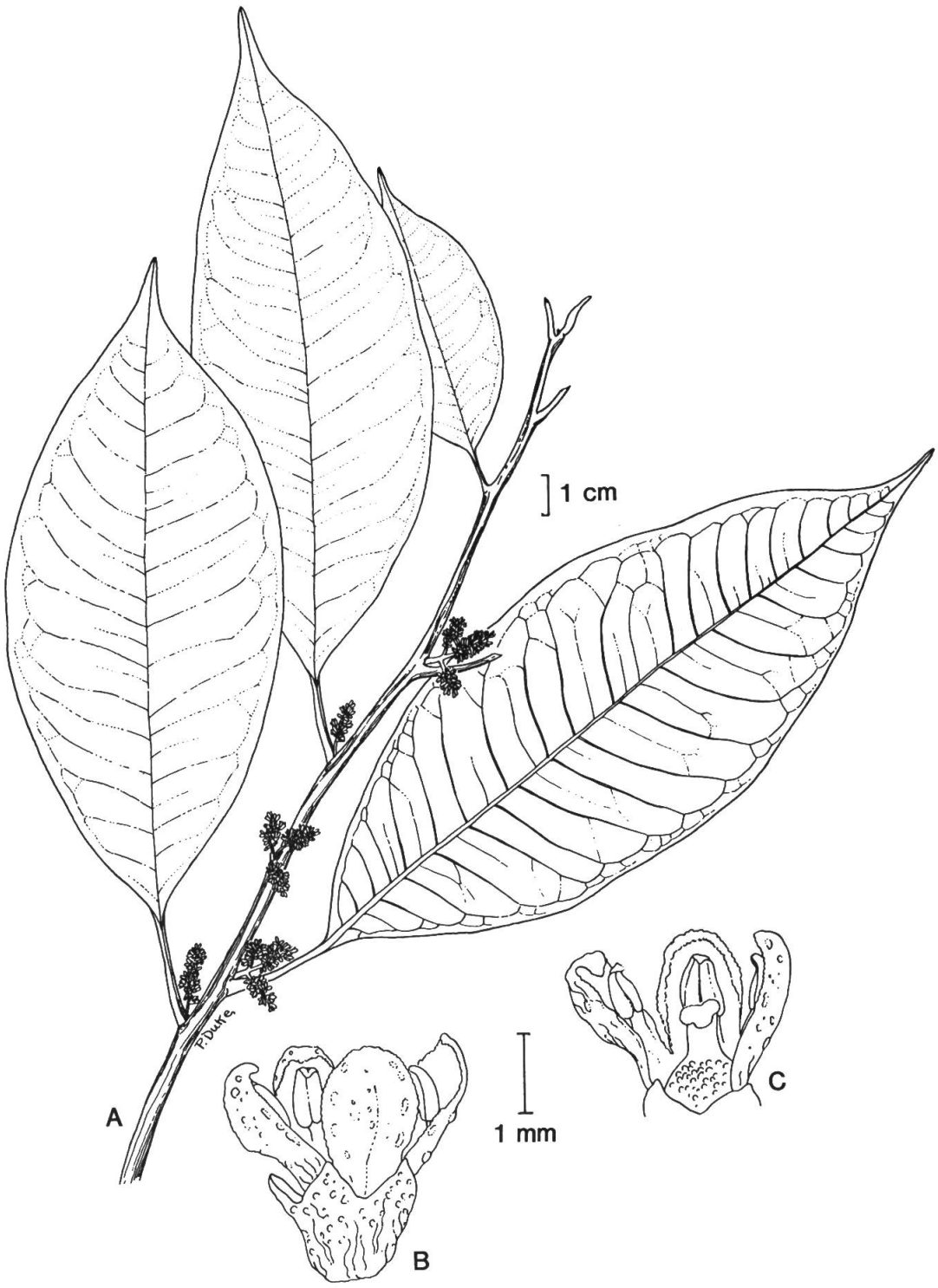

Fig. 1. — *Cybianthus gigantophyllus*
A, habit, note flexuous stems, paniculate inflorescences; **B,** pistillate flower, from without, note urceolate calyx, crenulate corolla lobe margins; **C,** pistillate flower, with one corolla lobe removed. Note cucullate corolla lobe apices, ventrally recurved anthers and capitate, lobed stigma.

Tree to 4 m tall; branchlets flexuous, 4-5 mm diam., prominently ribbed. Leaves chartaceous, elliptic, (15.5-)17.0-27.0 cm long, (5.9-)7.0-9.1 cm wide, apically long acuminate, the acumen 1.2-3.5(-4.0) cm long, perpuncticulose and pustullate above, sparsely lepidote below, the scales minute, veins 22-26 pairs, slightly impressed above, prominently raised below, the venation brochidodromous; petioles canaliculate, thick (1.6-)2.7-4.0 cm long, ca. 3 mm diam., sparsely lepidote, prominently ridged below. Inflorescence pinnately to bipinnately paniculate, 1.5-2.5 cm long, the peduncle 0.3-0.5 cm long, tortuous, the branches spicate. Staminate flowers: unknown. Pistillate flowers: sessile, floral bracts deltate, carnose, 0.8-0.9 mm long, 0.8-0.9 mm wide, apex acute, margin crenulate basally, densely lepidote; calyx urceolate, 1.6-1.8 mm long, the tube 0.9-1.0 mm long, the lobes carnose, epunctate, widely triangular, 0.5-0.7 mm long, 1.0-1.2 mm wide, apex acuminate-apiculate, the margin regular, entire, lepidote; corolla tubular, 2.7-3.1 mm long, the tube 0.2-0.3 mm long, the lobes erect, carnose, 2.5-3.0 mm long, apex rounded to obtuse, prominently cucullate, keeled abaxially, apically rugose without, glandular granulose along the abaxial margins and over the entire surface within, inconspicuously black punctate, the margin erose-crenulate, glandular-granulose; staminodes 2.3-2.5 mm long, the staminodial tube inconspicuous, membranous, 0.2-0.3 mm long, elobate, glabrous, the free apical filaments 1.3 mm long, flat, the anthers ovate, 0.8-1.0 mm long, 0.6-0.8 mm wide, apiculate, the apiculum ventrally recurved, the base cordate; pistil obturbinate, 1.8-2.0 mm long, the ovary 1.0-1.3 mm wide, the stigma capitate, 3-5-lobed; placenta cupuliform, the ovules 3, erect. Fruit globose, 4-5 mm diam. when dry, exocarp thin, drying black, punctations inconspicuous.

Distribution. — *C. gigantophyllus* is known from the headwaters of the ríos Marañón and Huallaga in San Martín, and the Iquitos area, along the ríos Napo, Nanay and Amazonas in Loreto, in wet forest from 200-600 m elevation. It is apparently a strictly riparian species.

Other specimens examined

Perú. Amazonas: Quebrada Chichijam entsa, río Cenepa, 130 m, 7.6.1973 (fr), *E. Ancuash 580* (AMAZ, MO, NY), vic. Huampami, 5 km E of Valdivia, 73°30'W, 4°30'S, 200-250 m, 12.8.1978 (fr), *Ancuash 1437* (AMAZ, MO, NY). Loreto: Maquisapa, Upper río Nanay, 7.1929 (fr), *L. L. Williams 1182* (F); Maynas, Quebrada Yanomono, Explorama Tourist Camp, above mouth of río Napo on río Amazonas, 9.11.1979 (ster), *A. Gentry & al. 27952* (AMAZ, MO).

Cybianthus gigantophyllus is closely related to *C. occigranatensis* (Cuatrecasas) Agostini and *C. spichigeri,* also described herein. From *C. occigranatensis* it may be distinguished by its sessile flowers, corolla glandular-granulose throughout, and long petioles. From *C. spichigeri* it is immediately recognized by the irregular leaf margins, thicker branchlets and small fruits. *C. spichigeri* and *C. gigantophyllus* both have inflorescences smaller than the leaves, but the tortuous, bipinnate panicles of *C. gigantophyllus* allow easy separation from *C. spichigeri,* which has reduced, simple racemes.

Studies by Dr. Rodolphe Spichiger and Sr. Filameno Encarnación in the Central Forestal Jenaro Herrera have resulted in excellent collections of a hitherto unknown species, notable for its autopomorphic, large and costate fruits. It is with great pleasure that I dedicate the species to Dr. Rodolphe Spichiger, Director of the Conservatoire et Jardin botaniques de Genève.

Cybianthus spichigeri Pipoly, **spec. nov.** (Fig. 2).

Quoad folia elliptica ad apicem longo-caudato-acuminata inflorescentias petiolos breviores laminarum nervulos desuper impressos subterque elevatos *C. gigantophyllo* similis, sed ab ea laminarum marginibus planis (nec revolutis) ramulis gracilis (nec crassis) necnon fructibus costatisque maioribus 0.7-1.5 (nec laevigatisque 0.4-0.5) cm diametris atque petiolis 1.0-2.0 (nec 2.7-4.0) cm longis statim cognoscitur.

Typus: Perú. Loreto: Prov. Requena, Trocha al Aguajal, a 2 km from Centro Forestal Jenaro Herrera, right bank of río Ucayali, 15.2.1982 (stam. fl, fr), *R. Spichiger & F. Encarnacíon 1224* (holotype, US; isotypes, G, MO).

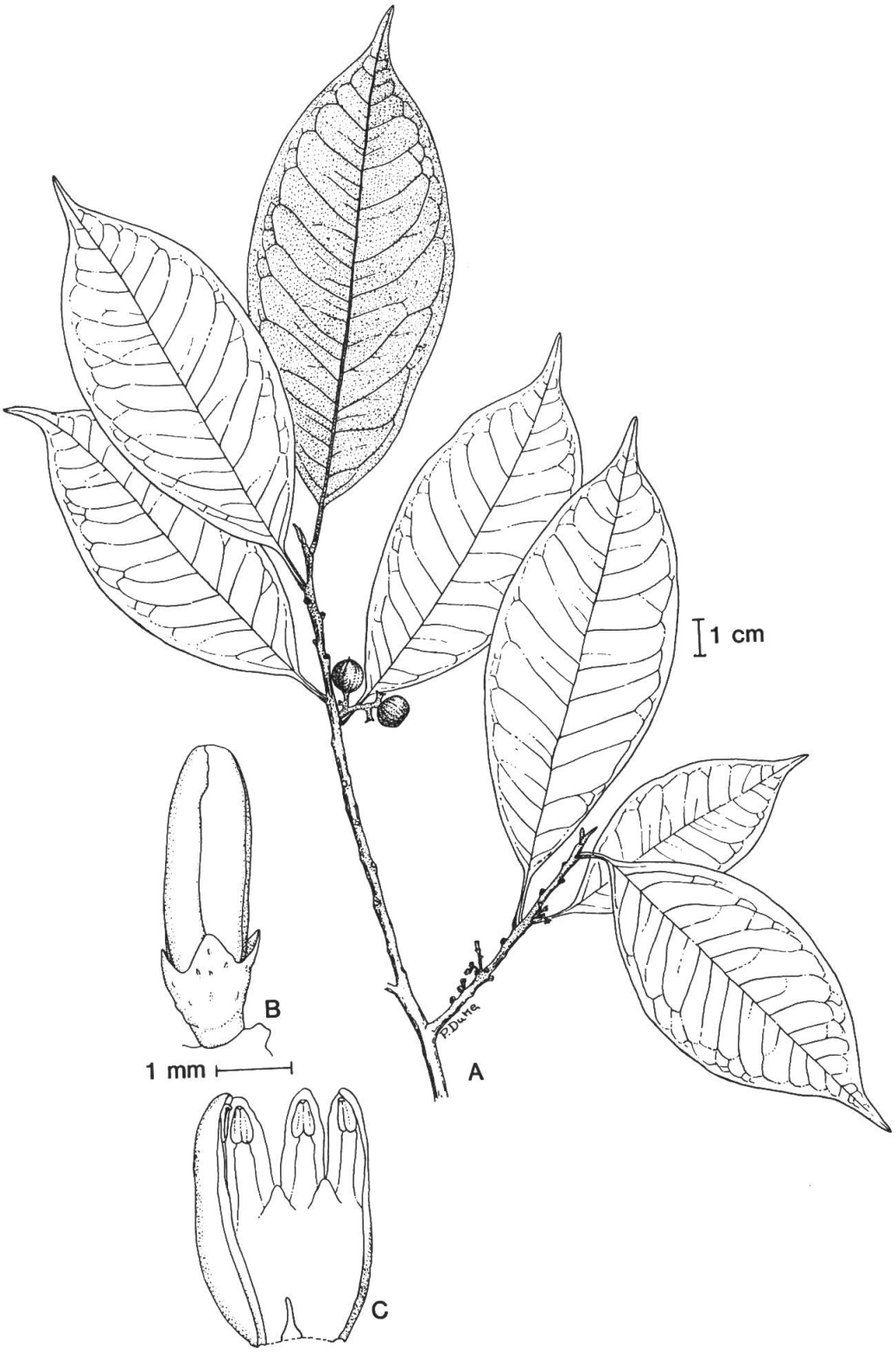

Fig. 2. — *Cybianthus spichigeri*
A, habit, note minute inflorescences, large, costate fruits; **B,** staminate flower, in bud, note suburceolate calyx; **C,** staminate flower, note long, prominently lobate staminal tube, cucullate corolla lobes, ventrally recurved anthers.

Tree to 15 m tall; branchlets thin, terete, 2.0-3.0 mm diam., densely lepidote. Leaves chartaceous, elliptic to narrowly oblanceolate, (10-)15-20 cm long, (3.0-(5.2-6.5(-7.2) cm wide, apically caudate-acuminate, the acumen 1.9-2.3 mm long, basally acutish to obtuse, not decurrent on the petiole, with impressed secondary veins above, the veins prominently raised below, brochidodromous, glabrous above, lepidote below, the scales raised; petioles canaliculate, 1.0-2.0 cm long, densely lepidote. Inflorescences polygamous (only fruit and staminate flowers known) 0.4-1.5 cm long, shorter than the petioles, erect, densely lepidote, tardily glabrescent; usually a poorly formed panicle or appearing racemose, with 1-3 racemes branched from a single peduncle to 0.4 mm long; pedicels obconic, (0.8-)1.5-2.5(-3.0) mm long, to 1.2 mm diam. apically in fruit, densely lepidote; calyx suburceolate, carnose, to 1.5 mm long, the tube ca. 0.5 mm long, the lobes carnose, deltate, 1.0 mm long and wide, apex acute, the margins irregular, entire, sparsely lepidote, prominently rugose without, with one punctate dot per lobe; corolla 2.4-2.8 mm long, the tube 0.5 mm long, the lobes carnose, oblong, 1.9-2.9 mm long, 0.9-1.1 mm wide, apically acute, prominently cucullate, with only a few, scattered scales without, glandular-granulose throughout within and along the margin; stamens 2.2-2.4 mm long, the tube conspicuous and carnose, 1.0-1.4 mm long, bearing lobes to 0.2 mm long alternate with the apically free filaments 0.9-1.3 mm long, the apex of the tube and lobes punctate, the anthers deltate, 0.5-0.7 mm long and wide, apiculate, the apiculum ventrally recurved slightly, the base cordate, the dorsal connective prominently punctate with small dots, forming a triangle along the margin of the connective; pistillode conic, to 0.7 mm long, 0.2-0.3 mm wide, hollow, glabrous. Pistillate flowers: calyx suburceolate, carnose, to 1.2 mm long, the tube to 0.5 mm long, the lobes deltate, 0.6-0.7 mm long and wide; corolla, staminodes and pistil not seen. Fruit depressed-globose, 0.7-0.8 mm long, 0.7-1.5 cm diam. when dry, prominently costate longitudinally.

Distribution. — Endemic to the ríos Ucayali, Marañón and Napo Drainiage Basin complex, Loreto, Perú.

Specimens examined

Perú. Loreto: Prov. Maynas, Alpahuayo (IIAP Station), ca. 73°30'W, 4°10'S, 150 m, 13.11.1984 (fr), *R. Vásquez & al. 5911* (AMAZ, MO, NY), 6.6.1985 (fr), *R. Vásquez & al. 6588* (AMAZ, MO, NY); río Nanay, Caserío Mishana, 30 km SW of Iquitos, 73°35'W, 3°55'S, 150 m, 19.8.1978 (fr), *R. Foster 4226* (MO, NY), 16.5.1981 (fr), *R. Vásquez & G. Criollo 1801* (MO, NY), 20.1.1985 (fr), *R. Vásquez & N. Jaramillo 6137* (MO, NY). Prov. Requena. Aguajal, 3 km from Centro Forestal Jenaro Herrera, right margin, río Ucayali, 18.5.1982 (fr), *F. Encarnación 26105* (AMAZ, MO), 22.5.1982 (fr), *26200* (MO, NY, US), Arboretum, Centro Forestal Jenaro Herrera, 180 m, 13.11.1981 (fr, fl bud), *R. Spichiger & F. Encarnación 1027* (MO, US).

Cybianthus spichigeri is unique within the entire genus because of its costate fruits. The only other species in the genus with fruits as large as those of *C. spichigeri* are *C. quelchii* (N. E. Brown) Agostini of the Guayana Highland, now considered a member of subgenus *Conomorpha* (Pipoly, unpubl. data) and *Cybianthus amplus* (Mez) Agostini, another member of subgenus *Conomorpha* species with large, coriaceous, revolute leaves and well-developed panicles. The polygamous nature of the plants seen thus far indicates that sexual lability is present in the lowland Myrsinaceae just as in the montane taxa. Studies on the population dynamics of *C. spichigeri* and *C. peruvianus,* a dioecious species, near Iquitos, will be used to compare the life histories and reproductive success of the two reproductive strategies.

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