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The genus *Symplocos* (Symplocaceae) in Peru

BERTIL STÅHL

RESUMEN

STÅHL, B. (1993). El género *Symplocos* (Symplocaceae) en Perú. *Candollea* 48: 351-382. En inglés, resúmenes en español y en inglés.

Se presenta una revisión taxonómica del género *Symplocos* en el Perú. Se reconocen 26 especies, de las cuales *S. andicola*, *S. globulifera*, *S. psiloclada*, *S. robinfosteri* y *S. sandemanii* se describen como nuevas para la ciencia. Además se propone una nueva combinación: *S. quitensis* subsp. *boliviana*. Una especie, *S. compacta*, se excluye del género. Se presentan descripciones o referencias a descripciones adecuadas, una clave de las especies y listas completas de material estudiado. Se ilustran muchas de las especies.

ABSTRACT

STÅHL, B. (1993). The genus *Symplocos* (Symplocaceae) in Peru. *Candollea* 48: 351-382. In English, Spanish and English abstracts.

The genus *Symplocos* in Peru is revised to include 26 species, five of which are described as new, viz. *S. andicola*, *S. globulifera*, *S. psiloclada*, *S. robinfosteri*, and *S. sandemanii*. A new combination, *S. quitensis* subsp. *boliviana*, is proposed. One species, *S. compacta*, is excluded from the genus. Full descriptions or references to relevant descriptions are given. A key to the species and full specimen citations are provided. Many taxa are illustrated.

KEY-WORDS: *Symplocos* — SYMPLOCACEAE — Peru — Andes — Taxonomy.

Introduction

The genus *Symplocos* (Symplocaceae) includes about 250 species of shrubs and small to medium-sized trees. The genus is distributed chiefly in the tropics and subtropics of southeastern Asia and the Americas, being particularly diverse in montane habitats. Whereas *Symplocos* of the Old World has been revised in its entirety in recent years (NOOTEBOOM, 1975, 1980), modern treatments of the genus in the New World have focused on single countries or regions (e.g. ARISTEGUIETA, 1957; OCCHIONI, 1974; MAI, 1986; STÅHL, 1991). For many areas in the neotropics, BRAND's outdated monograph for Das Pflanzenreich (BRAND, 1901) is still the only available source of information on the genus.

The last treatment of the Peruvian species of *Symplocos* is that of MACBRIDE (1959) for the Flora of Peru series. However, this work can hardly be considered critical and seems to have been prepared in great haste. In fact, one species described as new, *S. compacta*, actually belongs to *Ternstroemia* (Theaceae). A family description in Spanish and a list of species occurring in Peru (adopted from MACBRIDE, 1959) was published by SOUKUP (1973). Recently, a new species was described by SAGÁSTEGUI-ALVA & DILLON (1989), who also presented a key to the small-leaved species of *Symplocos* occurring in Peru.

More than for tropical plant groups in general this revision should be regarded as a preliminary work. Although many new Peruvian collections of *Symplocos* have been made since MACBRIDE

(1959) published his work for Flora of Peru, the material is still too small for reliable taxonomic decisions in many cases. It should also be noted that the search for relevant material in the herbaria has not been exhaustive.

Although sparsely represented in the public herbaria, intensive collecting in certain areas indicate that *Symplocos* often is an important and possibly somewhat neglected element of especially the upper montane forests of the Andes. In southern Ecuador no less than 10 species have been recorded from the Podocarpus National Park, with an additional four species having been collected just outside the park (cf. STÅHL, 1991). Included in this work are five species of *Symplocos* collected in the Río Abiseo National Park in north-central Peru (see YOUNG & LEÓN, 1990), and seven from high elevation areas of the Manu National Park in southern Peru. It is hoped that this contribution will stimulate additional collecting of the Symplocaceae in Peru and other Andean countries.

Material and format

This study was based on herbarium material in the following herbaria: A, AAU, BM, F, FI (photographs), G, GB, GH, K, KRA, MA (photographs), MO, NY, P, S, US, W. Full descriptions are provided for most taxa, exceptions being species occurring also in Ecuador and for which relevant descriptions and illustrations are given in my recent treatment for Flora of Ecuador (STÅHL, 1991). However, in a few cases recently made collections of species previously known from Ecuador added so much new information that it was found necessary to publish new, amended descriptions. Typifications have been made only when I have felt confident that all or the most important part of the original material has been studied. To indicate reproductive states of the collections cited, the abbreviations "fl.", "fr.", and "ster." have been added to indicate flowering, fruiting, and sterile material, respectively.

Taxonomic treatment

Key to the species of *Symplocos* in Peru

- | | |
|--|-----------------------------|
| 1a. Plants glabrous; leaves yellowish or light green when dried; stamen filaments \pm filiform, gradually tapering towards apex, united at base only | 2 |
| 1b. Plants often not entirely glabrous, but indumentum sometimes sparse; leaves often \pm brownish when dried; stamen filaments \pm ribbon-shaped, usually abruptly constricted at apex, united for at least half their length | 3 |
| 2a. Leaf blades 2.5-6 \times 1.5-3 cm; fruits obovoid, 10-13 \times 6.5-8 mm ... | 1. S. bogotensis |
| 2b. Leaf blades 11-18 \times 4-9 cm; fruits narrowly fusiform, 15-18 \times 4-5 mm | 2. S. spruceana |
| 3a. Leaves shorter than 3 cm | 4 |
| 3b. Most leaves longer than 3 cm | 8 |
| 4a. Inflorescences with few to several flowers | 5 |
| 4b. Flowers solitary | 6 |
| 5a. Inflorescences sessile, few-flowered fascicles | 26. S. sandiae |
| 5b. Inflorescences not sessile, flowers arranged in little-branched panicles, sometimes with clusters of 5-12 flower at branch tips | 17. S. apiciflora |
| 6a. Leaves strigulose beneath, margins with (6-)8-20 pairs of glands | 14. S. incahuasensis |
| 6b. Leaves usually glabrous, margins with 3-6 pairs of glands | 7 |

- 7a. Leaf blades to 1.2(-1.5) cm long, lateral veins and veinlets inconspicuous or invisible; corolla 5-7 mm long **15. S. nana**
- 7b. At least some leaf blades longer than 1.5 cm, lateral veins conspicuous, often impressed above; corolla 3-4 mm long **16. S. sulcinervia**
- 8a. Flowers solitary 9
- 8b. Most flowers arranged in fascicles, racemes, or panicles 15
- 9a. Leaves densely pilose-tomentose beneath **23. S. robinfosteri**
- 9b. Leaves glabrous, sparsely strigulose, or strigose beneath 10
- 10a. Flowers sessile or with pedicels to 3 mm long 11
- 10b. Pedicels more than 3 mm long 13
- 11a. Leaves sessile, plant glabrous throughout **24. S. psiloclada**
- 11b. Leaves petiolate, usually \pm strigulose or strigose beneath 12
- 12a. Leaf apex acuminate **5. S. globulifera**
- 12b. Leaf apex obtuse **18. S. cernua**
- 13a. Leaves strigulose beneath (old leaves often glabrous), petioles 0.3-1 cm long
13. S. fimbriata
- 13b. Leaves glabrous, sessile or with petioles to 0.5 cm long 14
- 14a. Leaves short-petiolate, blades broadly elliptic to obovate, margins subentire or indistinctly crenulate, plane **11. S. reflexa**
- 14b. Leaves sessile or subsessile, blades usually oblanceolate, margins serrulate or denticulate towards apex, entire and revolute towards base **12. S. baehni**
- 15a. Inflorescences short racemes or little-branched panicles, in both cases with flowers well apart 16
- 15b. Inflorescences fasciculate, with fascicles sessile or pedunculate, or paniculate, if paniculate then with flowers condensed into heads 18
- 16a. Leaf blades ovate, sparsely strigulose beneath; corolla to 3 mm long **4. S. peruviana**
- 16b. Leaf blades obovate, oblanceolate, or elliptic, sparsely to densely pubescent beneath; corolla more than 5 mm long 17
- 17a. Corolla 5-7 mm long; leaf blades to 10 cm long, usually distinctly pubescent beneath
6. S. quitensis
- 17b. Corolla 12-14 mm long; leaf blades to 18 cm long, sparsely strigose beneath **3. S. arechea**
- 18a. Inflorescences sessile or very short-pedunculate 19
- 18b. Inflorescences distinctly pedunculate or branched 24
- 19a. Petiole 1-2 cm long; young shoots smooth; leaf blades to 15 cm long **21. S. fuliginosa**
- 19b. Petiole to 0.6 cm long, if longer then young shoots verrucose; leaf blades usually shorter than 11 cm 20
- 20a. Young shoots and veins of lower leaf surface \pm verrucose; petioles 0.3-1 cm long
19. S. scabra
- 20b. Young shoots and veins of lower leaf surface not verrucose; petioles to 0.6 cm long or leaves sessile 21
- 21a. Young shoots and lower leaf surface very densely pilose-tomentose **23. S. robinfosteri**

- 21b. Young shoots and lower leaf surface glabrous to \pm pubescent, but never densely pilose-tomentose 22
- 22a. Corolla 5-6 mm long; leaf blades to 7.5 cm long **20. S. mezii**
- 22b. Corolla 11-13 mm long; leaf blades 4-11 cm long 23
- 23a. Leaves subsessile, margins strongly revolute towards base **21. S. andicola**
- 23b. Leaves with petioles 0.2-0.6 cm long, margins plane **25. S. nuda**
- 24a. Petioles 0.7-1.2 cm long 25
- 24b. Leaves sessile or petioles less than 0.5 cm long 26
- 25a. Leaf blades sparsely strigulose beneath **4. S. peruviana**
- 25b. Leaf blades tomentose beneath **9. S. patzensis**
- 26a. Inflorescences lateral; leaf blades narrowly obovate, 6-14 cm long **8. S. melanochroa**
- 26b. Inflorescences subterminal; leaf blades elliptic to broadly ovate, to 8 cm long 27
- 27a. Leaf blades to 4 cm wide, tomentose to sparsely strigulose beneath ... **7. S. coriacea**
- 27b. Leaf blades 4.5-6 cm wide, tomentose beneath **10. S. sandemanii**

1. *Symplocos bogotensis* Brand, Pflanzenr. IV.242: 30. 1901; Ståhl, Fl. Ecuador 43: 6, fig. 1. 1991.

Type: Colombia, Dept. Cundinamarca, Alto Batatos, 3000 m, 1866, *Triana 2626* (BM, G, NY, US).

= *Symplocos mirabilis* Brand, Repert. Spec. Nov. Regni Veg. 2: 14. 1906. **Type:** Ecuador, Prov. Loja, near "Ramos-urcu et Acacana", 2800-3300 m, *Lehmann 7717* (lectotype, K, selected in Ståhl, 1991; isolectotype, US).

Symplocos bogotensis is easily recognized because of its glabrous vegetative parts and relatively small and light yellowish green leaves. Like *S. spruceana*, it has flowers with narrow filaments which are united at base only, features characteristic of subgen. *Hopea* (NOOTEBOOM, 1975). *Symplocos bogotensis* has a wide but apparently somewhat patchy, north Andean distribution, ranging from southern Venezuela to northern Peru, where it is known solely from the surroundings of Chachapoyas.

Specimens examined. — Amazonas: Prov. Chachapoyas, without precise locality, 1800-1900 m, no date, *Weberbauer 4334* (F), *4335* (F, G), *4366* (G); Río Ventilla, W of Molinopampa, 2350-2400 m, 23-25 Jul 1962 (fl.), *Wurdack 1515* (F, K, NY, S, US).

2. *Symplocos spruceana* (Miers) Gürke, Nat. Pflanzenfam. 4, 1: 170. 1890. (Fig. 1).

= *Barberina spruceana* Miers, J. Linn. Soc. Bot. 17: 295. 1879. **Type:** Peru, Dept. San Martín, Tarapoto, summit of Mount "Pingullu", Aug 1856 (fl.), *Spruce 4845* (holotype, BM; isotypes, F, G, GH, K, NY, P, W).

Shrub or small tree to ca. 5 m high, probably dioecious; young shoots and branchlets glabrous, smooth. Leaves petiolate, light green or yellowish green when dried; blade elliptic to narrowly elliptic, 11-18 \times 4-6 cm, coriaceous, glabrous, base attenuate, apex short-acuminate, the acumen to 0.5 cm long, margins entire, eglandular, somewhat revolute; midvein prominent beneath, slightly impressed above, lateral veins and veinlets rather inconspicuous; petiole 0.3-1 cm long, \pm canaliculate, glabrous. Inflorescences lateral, borne among or beneath the foliage, racemose, 1-3 cm long, rachis glabrous. Male flowers 10-20 (female or bisexual flowers not seen), fragrant, pedicels ca. 1 mm long; bracts 3, caducous. Calyx glabrous, tube 1 mm long, lobes ovate, ca. 1.5 \times 1.5 mm, margins ciliate. Corolla greenish white, glabrous, tube 0.5 mm long, lobes broadly oblong, ca. 3 \times 2 mm,



Fig. 1. — *Symplocos spruceana* (Miers) Gürke
A, branchlet; B, part of raceme with male flowers; C, fruits. A, B, *Spruce 4845* (type); C, *Williams 7433*.

margins vaguely ciliate. Stamens ca. 40, arranged in 5 indistinct fascicles, filaments united at base only, filiform, 2.5-3.5 mm long, smooth; anthers 0.4 × 0.4-0.5 mm. Disc in male flowers dome-shaped, glabrous. Ovary in male flowers rudimentary, lacking style. Fruits narrowly fusiform, 15-18 × 4-5 mm, often somewhat curved towards apex, glabrous, greenish brown, 1-locular. Seeds not seen.

Symplocos spruceana is so far known only from the east Andean slopes of northern Peru. It is no doubt closely related to *S. bogotensis* but differs from that species in narrower fruits and larger leaves. The two species differ also ecologically, inasmuch as *S. spruceana* is confined to forests at lower altitudes than is *S. bogotensis*.

Although based largely on the same material, the description of *S. spruceana* given here differs in some details from Miers' original diagnosis of *Barberina spruceana*. For example, the number of stamens is given as "12", the pistillate flowers as "majores, in axillis solitarii in eodem ramo", and the number of the type collection as "4865". Despite of these differences there can be no doubt about the identity of the type material.

Specimens examined. — Peru. San Martín: San Roque, 1350-1500 m, 15 Jan 1930 (fr.), *Williams 7433* (A, F, US).

3. ***Symplocos arechea*** L'Hérit., Trans. Linn. Soc. Bot. 1: 176. 1791; Ståhl, Fl. Ecuador 43: 7, fig. 2. 1991. **Type:** Peru, Dept. Huánuco, Cuchero, *Dombey s.n.* (holotype, P).
 = *Praealstonia arechea* (L'Hérit.) Miers, J. Linn. Soc. Bot. 17: 291. 1879.
 = *Symplocos matthewsii* A. DC., Prodr. 8: 250. 1844. **Type:** Peru, Chachapoyas (fide Miers, 1879), 1835, *Matthews 2016* (holotype, FI-WEBB, photograph seen; isotypes, G, K, P).
 = *Praealstonia matthewsii* (A. DC.) Miers, J. Linn. Soc. Bot. 17: 292. 1879.
 = *Symplocos longiflora* Brand var. *moyobambensis* Brand, Repert. Spec. Nov. Regni Veg. 2: 14. 1906. **Type:** Peru, Dept. Loreto, near Moyobamba, 800-900 m, 16 Aug 1904 (fr. & bud), *Weberbauer 4525* (B, destroyed; lectotype, G, selected here; isolectotype fragment, F).
 = *Symplocos apolis* Brand, Annuaire Conserv. Jard. Bot. Genève 15-16: 343. 1913. **Type:** "Pavón, Nov. Hisp." (holotype, G).
 = *Symplocos sylvicola* Sleumer, Repert. Spec. Nov. Regni Veg. 45: 19. 1938. **Type:** Ecuador, Prov. Pastaza, Canelos, 350 m, 21 Feb 1935, *H. Schultze-Rhonhof 2235* (holotype, B, destroyed; lectotype, K, selected in Ståhl, 1991).

Vernacular names. — Arechea, arecha (Huánuco), monte aceituna (Cuzco).

Symplocos arechea is distributed along the lower east Andean slopes and foothills of Ecuador and Peru, but is expected to occur also in adjacent areas of Colombia and Bolivia. The species is easily recognized on its relatively large and thin leaves (6-18 × 2-7 cm) with distinctly serrate margins, short lateral racemes, and relatively large but narrow flowers.

Specimens examined. — Loreto: Balsapuerto, ca. 220 m, Mar-Apr 1933 (fl.), *Klug 2961, 3001* (A, BM, G, GH, K, MO, S, NY). San Martín: Zepalacio, near Moyobamba, ca. 1100 m, May 1934 (fl.), *Klug 3624* (A, BM, K, MO, NY). Huánuco: Pompayucu, 22 Jan 1927 (fl.), *Kanehira 56* (A, F); same locality, Oct 1829 (fl.), *Poeppig 1464* (BM, G, GH, P, W); Prov. Leoncio Prado, trail from Huachipa to Cerro San Cristobal (on road from Las Palmas to Chinchao), 1000-1300 m, 22 Apr 1976 (fr.), *Plowman 5965* (F, GH, MO). Cuzco: Prov. Convención, Hacienda Amaibamba, 1700 m, 28 Jul 1943 (fl.), *Vargas 3474* (F, US). — Without precise locality: "Peruvia subandina", *Poeppig 109* (G).

4. *Symplocos peruviana* (Szyszyl.) Brand, Pflanzenr. IV.242: 89. 1901. (Fig. 2).

≡ *Symplocos lanceolata* A. DC. var. *peruviana* Szyszyl., Diss. Cl. Math.-Phys. Acad. Litt. Cracov 29: 231. 1894. **Type:** Peru, Dept. Cajamarca, Jaén, ("Shauyn"), 8 Oct 1878 (fl.), *Jelski 266* (lectotype, W, selected here; isolectotype, KRA).

Shrub or tree; young shoots sparsely to densely strigulose, the bark smooth or somewhat rugose, reddish brown to brown. Leaves petiolate, dark greenish brown when dried; blade narrowly ovate to ovate, sometimes elliptic, 4.5-10 × 2.2-5 cm, coriaceous, sparsely strigulose beneath, glabrous and glossy above, base attenuate, often shortly so, apex obtuse or shortly obtuse-acuminate, the acumen to 0.5 cm long, margins indistinctly crenulate with inconspicuous glands, revolute towards base; midvein and lateral veins prominent beneath, in level with surface or somewhat impressed above, veinlets rather inconspicuous; petiole 7-10 mm long, subcanaliculate or plane above, ± strigulose beneath. Inflorescences subterminal or lateral, little-branched panicles or racemes, 1-2.5 cm long, rachis and pedicels strigulose. Flowers 3-8; bracts 3(2), ovate, ca. 1.2 × 1.2 mm, rounded at apex, densely strigulose. Calyx densely strigulose or glabrous, tube 1-1.2 mm long, lobes very broadly ovate, 1.2-1.5 × 1.2 mm, margins ciliolate. Corolla glabrous or very sparsely strigulose, 2.2-3 mm long, lobes broadly oblong, 1.5-2 mm wide, margins entire. Stamens 50-65 in 3 rows, tube 0.5-0.7 mm long, free filaments 0.5-2 × 0.2-0.3 mm, ± papillose; anthers ca. 0.4 × 0.4 mm. Disc annular, puberulous; style 1.5 mm long, strigose to puberulous at base; stigma slightly thickened, distinctly 3-lobed. Ovary 3-locular with about 3 ovules in each locule. Fruits not seen.

This species is characterized by medium-sized, ovate to lanceolate, and glossy leaves. The inflorescences are similar to those of *S. quitensis*, but the flowers are smaller and the stamens generally more numerous.

Symplocos peruviana is known only from the type collected in northern Peru and a recently made collection from southern Ecuador. The latter differs from the type collection in its glabrous calyx but agrees well in all other details. It came to my knowledge too late to be included in the treatment of Symplocaceae for Flora of Ecuador (STÄHL, 1991), and, consequently, *Symplocos peruviana* is here recorded as new to that country.

Additional specimen examined. — Ecuador, Prov. Loja, Podocarpus National Park, Cerro Toledo, 79°07'W, 4°23'S, 2500-3400 m, 30 Oct 1989 (fl.), *Madsen 86275* (AAU).

5. *Symplocos globulifera* Ståhl, spec. nov.

Type: Peru, Dept. Huánuco, Prov. Pachitea, W part of the Sira Mountains, 26-28 km ESE of Puerto Inca, 2250 m, 16 Jun 1988 (fr.), *Wallnöfer 11-16688* (holotype, GB). (Fig. 3).

Frutex vel arbor saltem ad 2 m alta, surculis juvenibus sparsim strigulosis vel subglabris, laevibus, brunneis vel cinereo-brunneis. Folia petiolis 0.2-0.4 cm longis; lamina elliptica vel obovata, 2.5-4.5 × 1.2-1.6 cm, coriacea, basi angustata, apice obtuso-acuminato, acumine 0.5-1 cm longo, margine subintegro vel leviter glanduloso-crenato, plano, pagina inferiore sparsim strigulosa, pagina superiore glabra, costa venis lateralibusque infra aliquam prominentibus, supra aliquam impressis, venulis inconspicuis. Flores ignoti. Fructus solitarii, subglobosi vel breviter ellipsoidei, 4-5.5 × 3.5-4.5 mm, glabri, 3-loculari.

Shrub or treelet to at least 2 m high; young shoots and branchlets sparsely strigulose to subglabrous, the bark almost smooth, brown to greyish brown. Leaves petiolate, brownish green when dried; blade elliptic to obovate, 2.5-4.5 × 1.2-1.6 cm, coriaceous, sparsely strigulose beneath, glabrous above, base attenuate, apex obtuse-acuminate, the acumen 0.5-1 cm long, margins subentire to vaguely glandular-crenulate, plane; midvein and lateral veins somewhat prominent beneath, slightly impressed above, veinlets inconspicuous; petiole 0.2-0.4 cm long, subcanaliculate, sparsely strigulose. Flowers not seen. Fruits solitary, borne in the leaf axils and along branchlets just beneath the foliage, subglobose to broadly ellipsoid, 4-5.5 × 3.5-4.5 mm, glabrous (also at style-base), 3-locular.

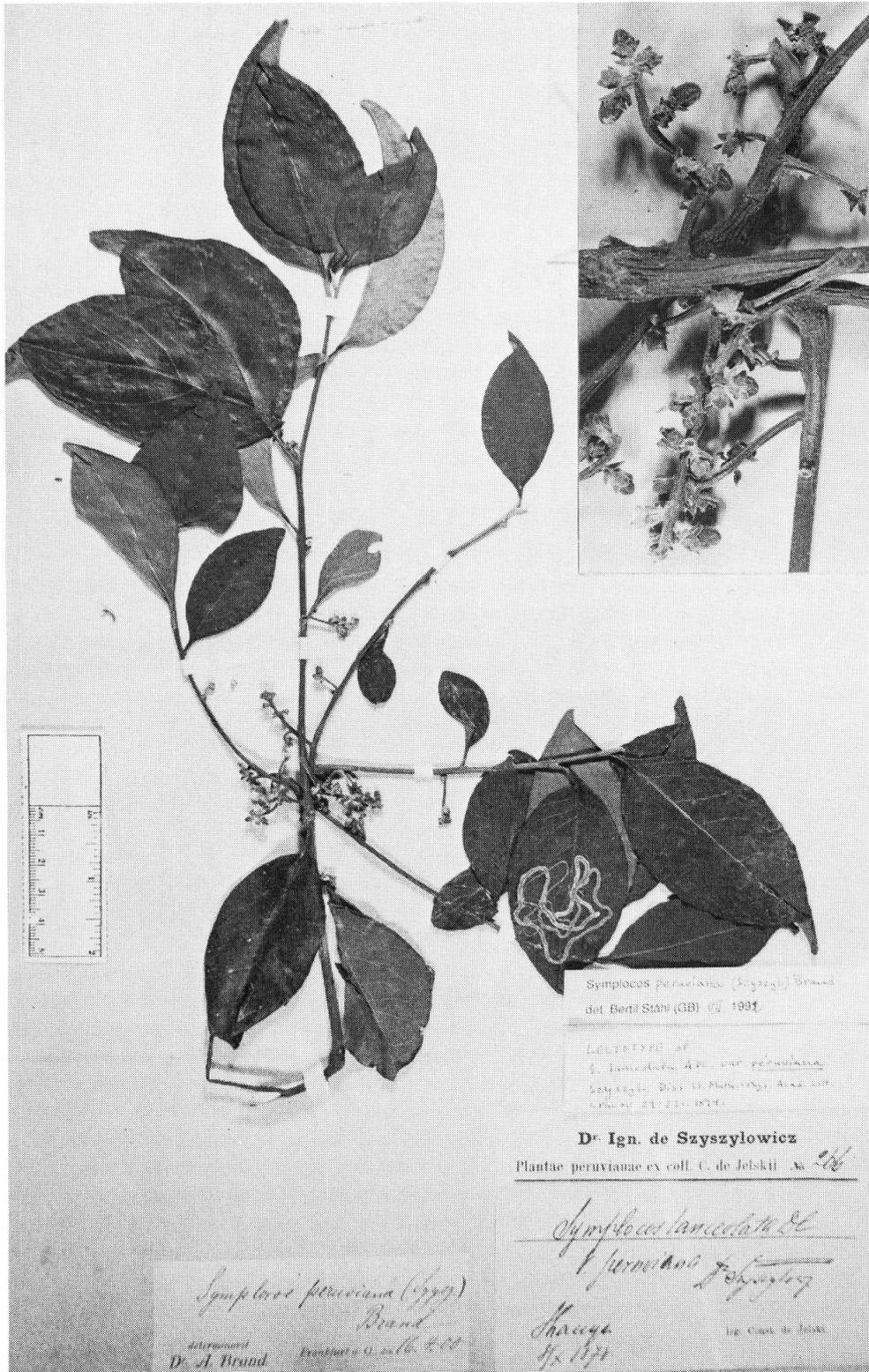


Fig. 2. — *Symplocos peruviana* (Szyszyl.) Brand Jelski 266 (lectotype, W). Inset: inflorescences.

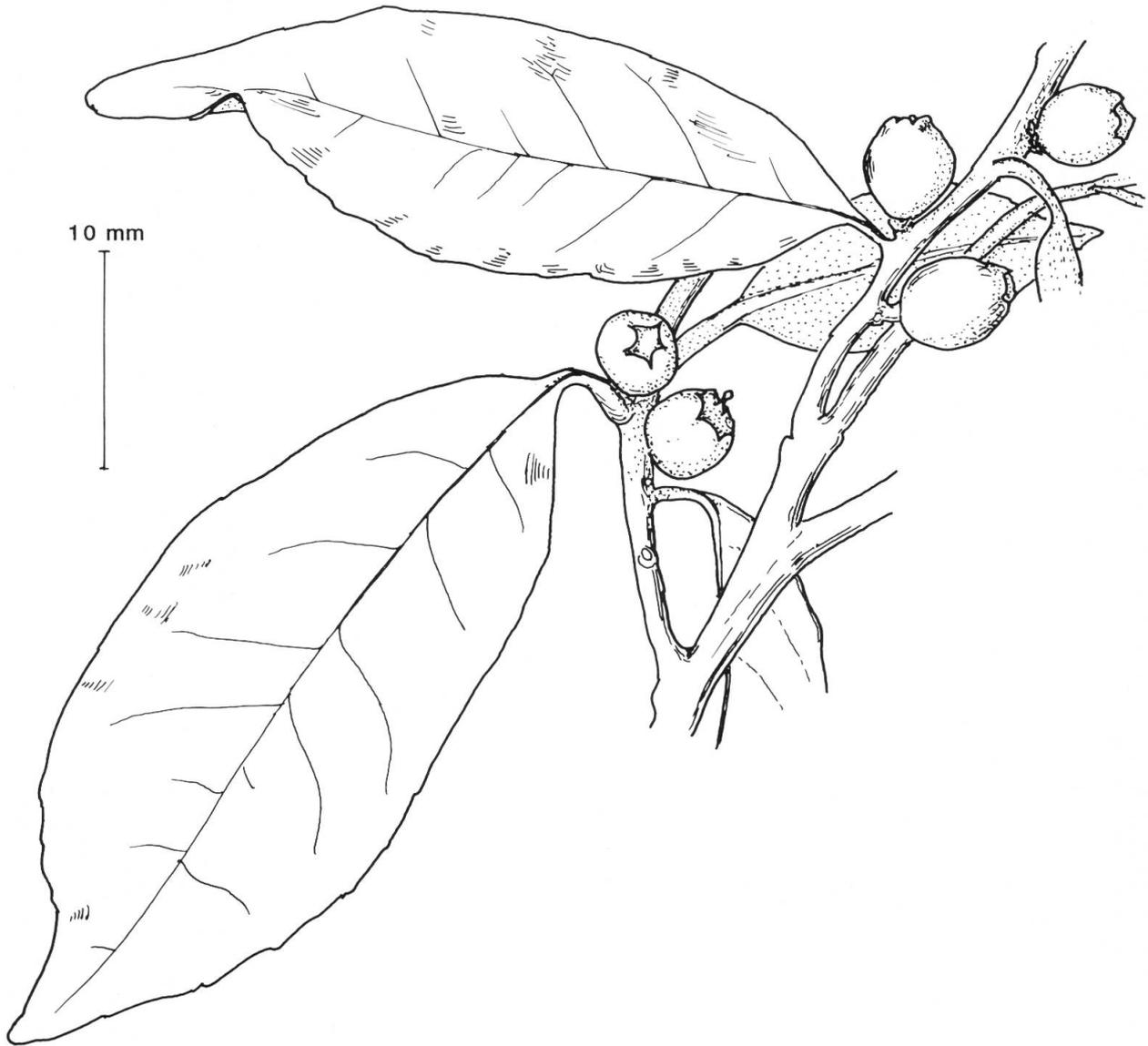


Fig. 3. — *Symplocos globulifera* Stähli
Part of branchlet with fruits (Wallnöfer 11-16688, type).

This new species was collected in elfin forest with many epiphytes. It is easily recognized on its small, acuminate leaves and small, subglobose fruits. In leaf shape and vestiture it somewhat resembles *S. peruviana*, from which it differs by having the flowers solitary. The leaves of *S. globulifera* are also smaller than those of *S. peruviana*, but this difference may be coincidental, both species being known only from their respective type collections.

- 6. *Symplocos quitensis* Brand**, Pflanzenr. IV.242: 76. 1901; Ståhl, Fl. Ecuador 43: 13, fig. 5. 1991.
Type: Ecuador, Prov. Tungurahua, Pilahuín, 3600-4000 m, *Jameson s.n.* (lectotype, K, selected in Ståhl, 1991).

Symplocos quitensis, distinguished by its rather small, more or less pubescent leaves and short lateral racemes or little-branched panicles, is known from numerous localities throughout the Ecuadorian Andes and has also been collected in southern Colombia. In Peru the species seems to be restricted to the central and southern departments. Specimens from the Cuzco Department in southern Peru differ from the remaining material in having the leaves somewhat larger and the fruits ovoid-ampulliform rather than cylindrical-ellipsoid. In a strict sense they should be referred to *S. boliviana*. However, having examined the type material it is evident that *S. boliviana* is not sufficiently distinct to be treated as a separate species. Given the good correlation between distribution and morphological variation, *S. quitensis* is here divided into two subspecies, the distinguishing characters of which are presented in the following key.

Key to the subspecies of *S. quitensis*

- 1a. Leaf blades to 6.5 × 4 cm; fruits cylindrical to ellipsoid, glabrous **6a. subsp. *quitensis***
 1b. Leaf blades to 10 × 5 cm; fruits ovoid to ampulliform, often puberulous when young
6b. subsp. *boliviana*

6a. *Symplocos quitensis* Brand subsp. *quitensis*

- = *Symplocos alpina* Brand, Repert. Spec. Nov. Regni Veg. 2: 13. 1906. **Type:** Peru, Dept. Huánuco, Prov. Huamalíes, SW of Monzon, 3400-3500 m, *Weberbauer 3345* (B, destroyed, photo in G, MO).

One of the collections here included under subsp. *quitensis*, *Smith 7706*, differs from plants collected in Ecuador by its small, subglobose fruits (4.5-6 mm diam.) and may be regarded as a variant intermediate between subsp. *quitensis* and subsp. *boliviana*. The type collection of *S. alpina* should, according to the protologue, have cylindrical fruits 10 mm long, similar to plants of *S. quitensis* in Ecuador.

Specimens examined. — Pasco: Prov. Oxapampa, trail to summit of Cordillera Yanachaga via Río San Daniel, 75°27'W, 10°23'S, 3150-3300 m, 12 Jul 1984 (fr.), *Smith 7706* (F, MO). Huancavelica: Prov. Tayacaja, Montepungo, 5 km E of Surcubamba, 3000 m, 13 Jan 1939 (fl.), *Stork & Horton 10375* (F, G, GH, K).

6b. *Symplocos quitensis* Brand subsp. *boliviana* (Brand) Ståhl, **comb. & stat. nov.**

- ≡ *Symplocos boliviana* Brand, Pflanzenr. IV.242: 89. 1901. **Type:** Bolivia, without precise locality and date, *Bang 1895* (NY, US).
 ≡ *Symplocos flavescens* Rusby, Bull. New York Bot. Gard. 4: 407. 1907, non Brand. **Type:** Same as for *S. boliviana* Brand.

Specimens examined. — Cuzco: Prov. Paucartambo, the Manu National Park, Trocha Ericsson, 3400 m, 26 Jul 1991 (fr.), *León & Young 2827* (F); Acjanaco, on path to Quellhua Cocha, 3400-3500 m, 1 Jul 1991 (fr.), *Cano & Baldeon 4897* (F).

7. *Symplocos coriacea* A. DC., Prodr. 8: 248. 1844. **Type:** Peru, *Pavón s.n.* (lectotype, G-DC, selected here; isolectotypes, G, P). (Fig. 4).

≡ *Praealstonia coriacea* (A. DC.) Miers, J. Linn. Soc. Bot. 17: 292. 1879.

= *Symplocos tristis* Brand, Pflanzenr. IV.242: 74. 1901. **Type:** Peru, "Vitoc", *Pavón 143* (lectotype, G, selected here; isolectotypes, BM, F fragment, G, MA).

= *Symplocos lugubris* Brand, Pflanzenr. IV.242: 75. 1901. **Type:** Peru, Chachapoyas, *Matthews s.n.* (holotype, K).

Tree to 7 m high; young shoots and branchlets densely to sparsely brownish tomentulose or strigulose, sometimes glabrous, the bark almost smooth, brown. Leaves subsessile or short-petiolate, ± brownish green when dried; blade elliptic to broadly elliptic, 3-7 × 1.7-4 cm, cartilaginous, the lower surface tomentulose to sparsely strigulose, the upper glabrous and dull, base cordate or truncate, apex rounded or retuse, margins faintly crenulate or subentire, faintly glandular, ± revolute; midvein, lateral veins, and veinlets prominent beneath, ± impressed above; petiole to 0.4 cm long, tomentulose to strigulose. Inflorescences subterminal, little-branched panicles, the flowers 10-30 on each branch, aggregated into terminal heads; rachis sparsely to densely brownish tomentulose or strigulose; bracts 3 or sometimes fewer, inserted just beneath the calyx, very unequal in size, sparsely to densely strigulose. Calyx glabrous, tube 0.7-1 mm long, lobes very broadly ovate, 1.2-1.5 × 1.5-2 mm, margins ciliate. Corolla white, glabrous, 2.5-3.2 mm long, lobes oblong to broadly oblong, 1.5-2.2 mm wide, margins entire or occasionally sparsely ciliolate. Stamens 25-30 in 3 rows, tube 0.7-1 mm long, free filaments 0.5-1 × 0.3-0.4 mm, papillose; anthers 0.4 × 0.5-0.6 mm. Disc annular, puberulous; style 0.7-1 mm long, glabrous; stigma subcapitate, indistinctly 3-lobed; ovary 3-locular with 3 ovules in each locule. Fruits ovoid, 7-9 × 5-6 mm, strigulose at style-base, other parts glabrous, dull brownish black.

In my treatment of Symplocaceae for Flora of Ecuador (STÅHL, 1991), *Symplocos coriacea* and *S. tristis* were treated as separate species. However, after having examined the type material it has become clear that, firstly, these two species have to be treated as synonyms and, secondly, the two collections included under *S. coriacea* in the Flora of Ecuador treatment will have to be referred to another, still not formally recognized species. The collections referred to *S. tristis* in the same work differ from the Peruvian material by having the calyx strigulose and the floral parts and fruits somewhat larger. However, pending additional material they are still best retained under *S. coriacea* in the present sense.

The protologue of *S. coriacea* does not accord entirely with the type specimens and the present circumscription of the species. Firstly, the type locality is given as "Pillao", and, secondly, the corolla is described as silky. In fact, the latter feature was, together with a general resemblance in leaf shape, the main reason for the incorrect application of the name in Flora of Ecuador. Although the specimens used for the present lectotypification clearly belong to the original material, it cannot be ruled out that de Candolle not saw additional specimens, some of which may have been lost or are preserved in herbaria not consulted by me.

Symplocos lugubris represents a variant with glabrous or very sparsely pubescent young shoots, but is otherwise indistinguishable from *S. coriacea*.

Specimens examined. — San Martín: Mariscal Caceres, Río Abiseo National Park, hill past Las Palmas, 2650-2750 m, 16 Aug 1986 (fr.), *Young 4011* (F). Huánuco: Prov. Huánuco, Carpish Hills, ca. 2 km E of tunnel on road to Tingo Maria, 76°05'W, 9°42'S, 2650 m, 5 Mar 1985 (fl.), *Stein & Todzia 2325* (MO, NY). Pasco: Prov. Oxapampa, Yanachaga National Park, N of Oxapampa on side road to Quillazu, 75°22'W, 10°28'S, 2000-3500 m, 25 Jun 1988 (fl. & fr.), *Foster & d'Achille 12248* (F, GB).

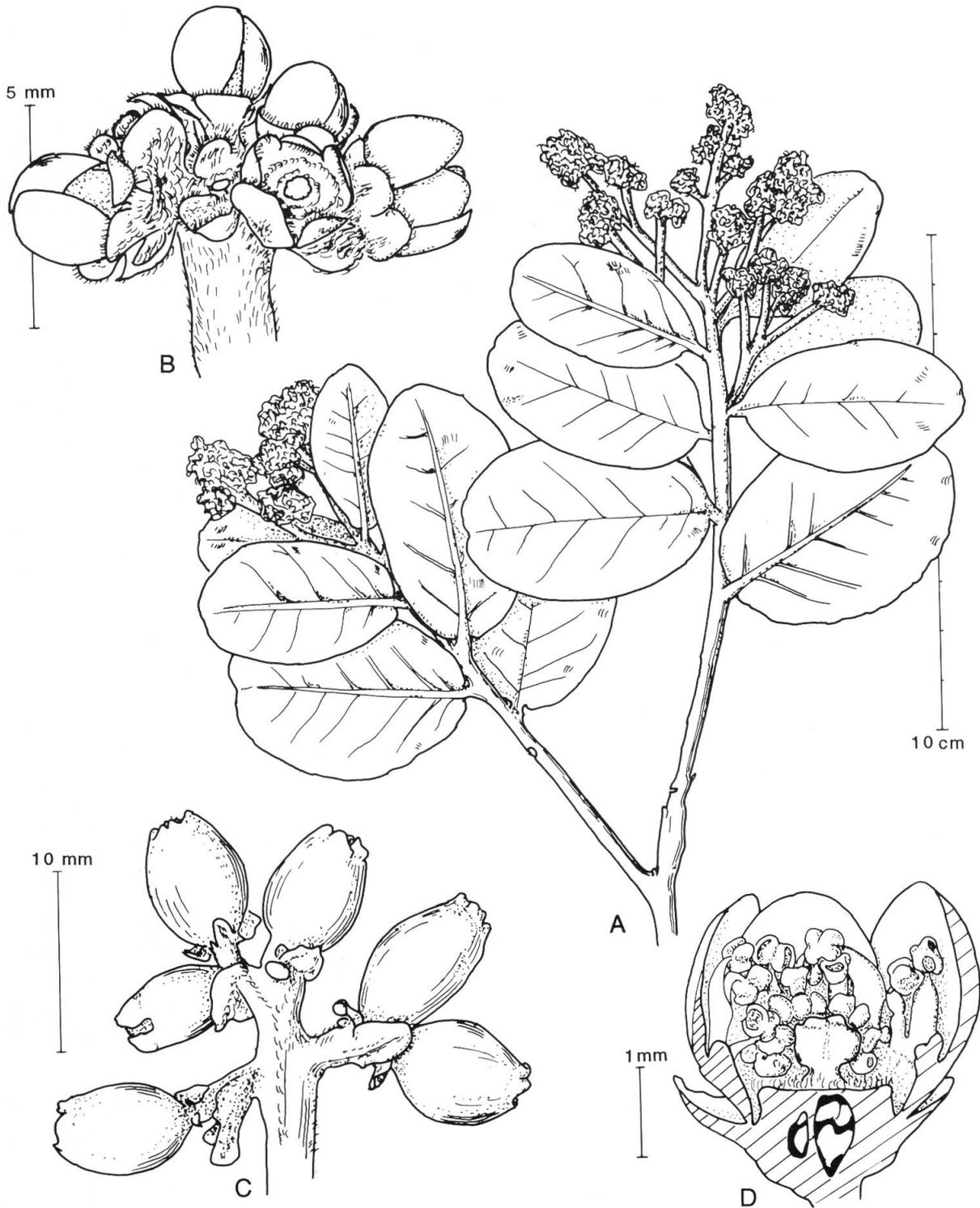


Fig. 4. — *Symplocos coriacea* A. DC.

A, flowering branchlet; **B**, distal part of inflorescence; **C**, part of infructescence; **D**, flower in longitudinal section. **A**, **B**, **D**, Stein & Todzia 2325; **C**, Foster & d'Achille 12248.

8. **Symplocos melanochroa** Sleumer, Repert. Spec. Nov. Regni Veg. 42: 265. 1937. **Type:** Peru, Dept. Cuzco, Prov. Paucartambo, above Cosñipata, between Tambomayo and Tres Cruces, 2300-2600 m, 7 May 1914 (fl. & fr.), *Weberbauer 6970* (holotype, B, destroyed; lectotype, F, selected here; isolectotypes, F, GH, US). (Fig. 5).

Shrub to at least 2 m high; young shoots and branchlets densely tomentulose, reddish brown. Leaves sessile, \pm brownish when dried; blade narrowly obovate, 6-14 \times 2.5-6 cm, coriaceous, \pm tomentulose beneath, densely so in young leaves, sparsely tomentulose to glabrous above, base truncate to subcordate, apex rounded or obtuse, margins entire, eglandular, at least in mature leaves, plane; midvein and lateral veins prominent beneath, somewhat impressed above, veinlets rather inconspicuous. Inflorescences lateral, little-branched panicles 1.5-4 cm long with branches arising mainly from the upper half of main rachis, rachis and panicle branches densely tomentulose. Flowers aggregated towards ends of panicle branches. Bract 1, velutinous to densely tomentose. Calyx velutinous, tube 1.5 mm long, lobes ovate, ca. 2 \times 1.5 mm. Corolla violet, 3-3.5 mm long, lobes broadly oblong, ca. 2 mm wide, strigulose in the centre, margins entire. Stamens 55-65 in 3(4) whorls, tube 0.8-1 mm long, free filaments 0.2-1.2 \times 0.2-0.3 mm, papillose; anthers ca. 0.2 \times 0.3 mm. Disc annular, pilose, style 1.2 mm long, glabrous, stigma subcapitate, indistinctly 3-lobed; ovary 3-locular with ca. 3 ovules in each locule. Fruits broadly ovoid to subglobose, 6-8 \times 5-6 mm, \pm tomentulose.

Symplocos melanochroa is a highly distinctive species because of its dense, rust-coloured pubescens on vegetative and reproductive organs, large sessile leaves, small flowers, and subglobose, tomentulose fruits. Its nearest relative is possibly *S. colorata* Brand, a species described from Bolivia. The latter species differs from *S. melanochroa* in smaller, less pubescent leaves and glabrous fruits. *Symplocos melanochroa* is also similar to *S. patzensis* and *S. sandemanii* (for differences, see under these species).

Symplocos melanochroa is known only from the type collection.

9. **Symplocos patzensis** Mansf., Notizbl. Bot. Gard. Berlin 9(86): 468. 1925. **Type:** Peru, Dept. Libertad, Prov. Patáz, Valley of Río Mixiollo, tributary of Río Huallaga, 3000-3100 m, 3 Aug 1914 (fl.), *Weberbauer 7033* (lectotype, US, selected here; isolectotype, GH). (Fig. 6).

Shrub to 4 m high; young shoots and branchlets densely tomentulose, reddish brown. Leaves petiolate, dark brown when dried; blade broadly elliptic, 5.5-12.5 \times 4-7.5 cm, coriaceous, the lower side \pm tomentulose, the upper tomentulose along midvein at base, other parts glabrous, base short-attenuate to truncate, apex rounded or obtuse, margins vaguely crenulate with inconspicuous glands, slightly revolute; midvein, lateral veins, and veinlets prominent beneath, \pm impressed above; petiole 1-1.2 cm long, plane or almost plane above, densely tomentulose. Inflorescences subterminal, little-branched panicles 2.5-5 cm long with branches arising mainly along the upper half of main rachis, rachis and branches densely tomentulose. Flowers aggregated towards ends of panicle branches. Bracts 3, lanceolate, unequal in length, to 3.5 mm long, villous. Calyx villous, tube 1.5 mm long, lobes very broadly ovate, ca. 1.5 \times 2 mm, margins ciliate. Corolla glabrous, ca. 4 mm long, lobes oblong, ca. 2 mm wide, margins entire. Stamens 50-60 in 3 whorls, tube 1 mm long, free filaments 0.5-1.5 \times 0.3-0.4 mm, slightly papillose; anthers ca. 0.4 \times 0.4 mm. Disc annular, densely puberulous; style 1-1.2 mm long, glabrous; stigma subcapitate, 4-lobed; ovary 4-locular with 3 ovules in each locule. Fruits not seen.

Symplocos patzensis resembles *S. melanochroa* in leaf venation and by having a more or less dense, rust-coloured pubescens on vegetative and reproductive parts. However, *S. patzensis* is easily separated from that species by the leaves being broadly elliptic and distinctly petiolate, and the inflorescences subterminal; it differs also from *S. melanochroa* in two important floral features, namely the glabrous corolla and the 4-locular ovary.

Symplocos patzensis is known only from the type collection.

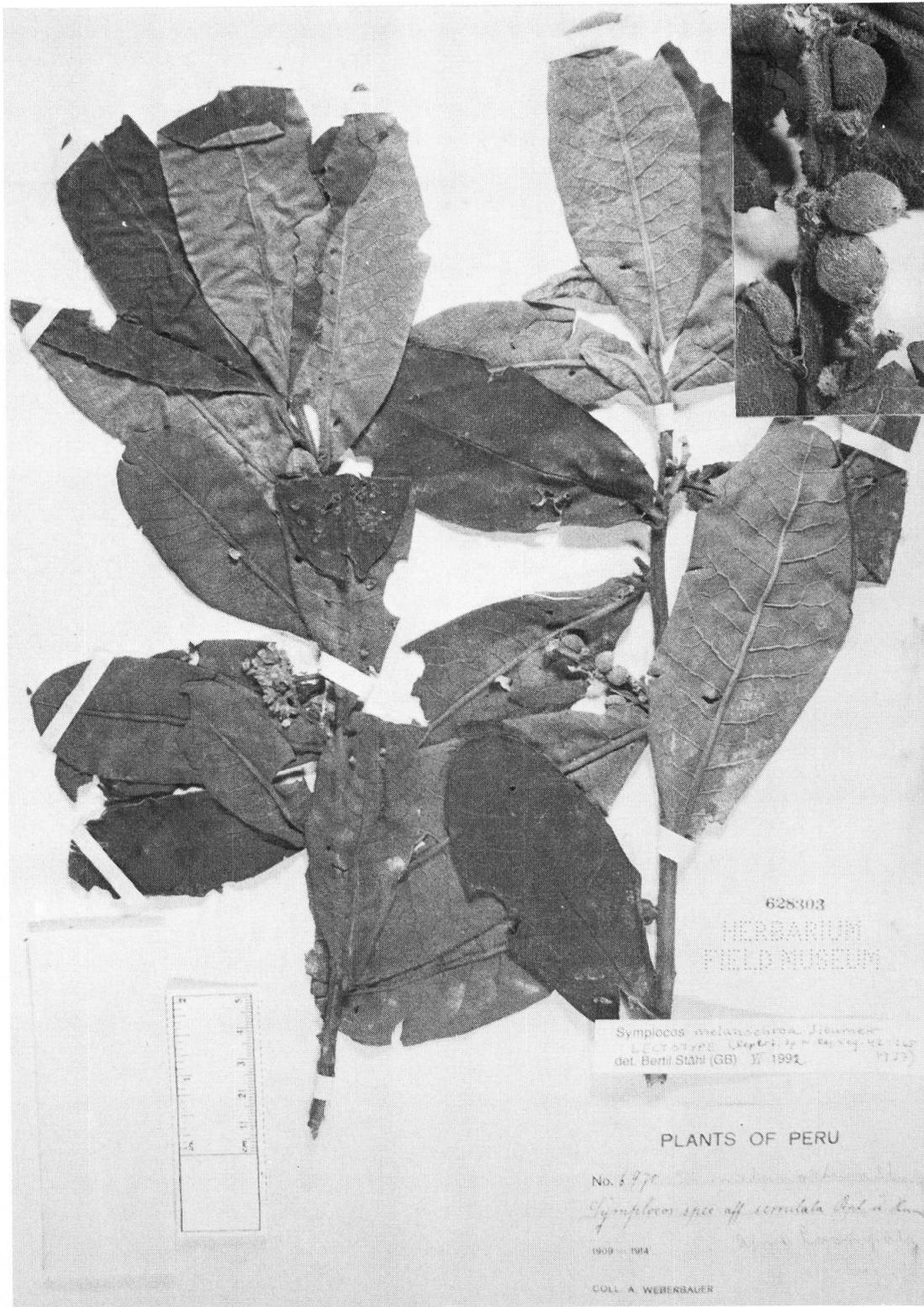


Fig. 5. — *Symplocos melanochroa* Sleumer
Weberbauer 6970 (lectotype, F). Inset: fruits.

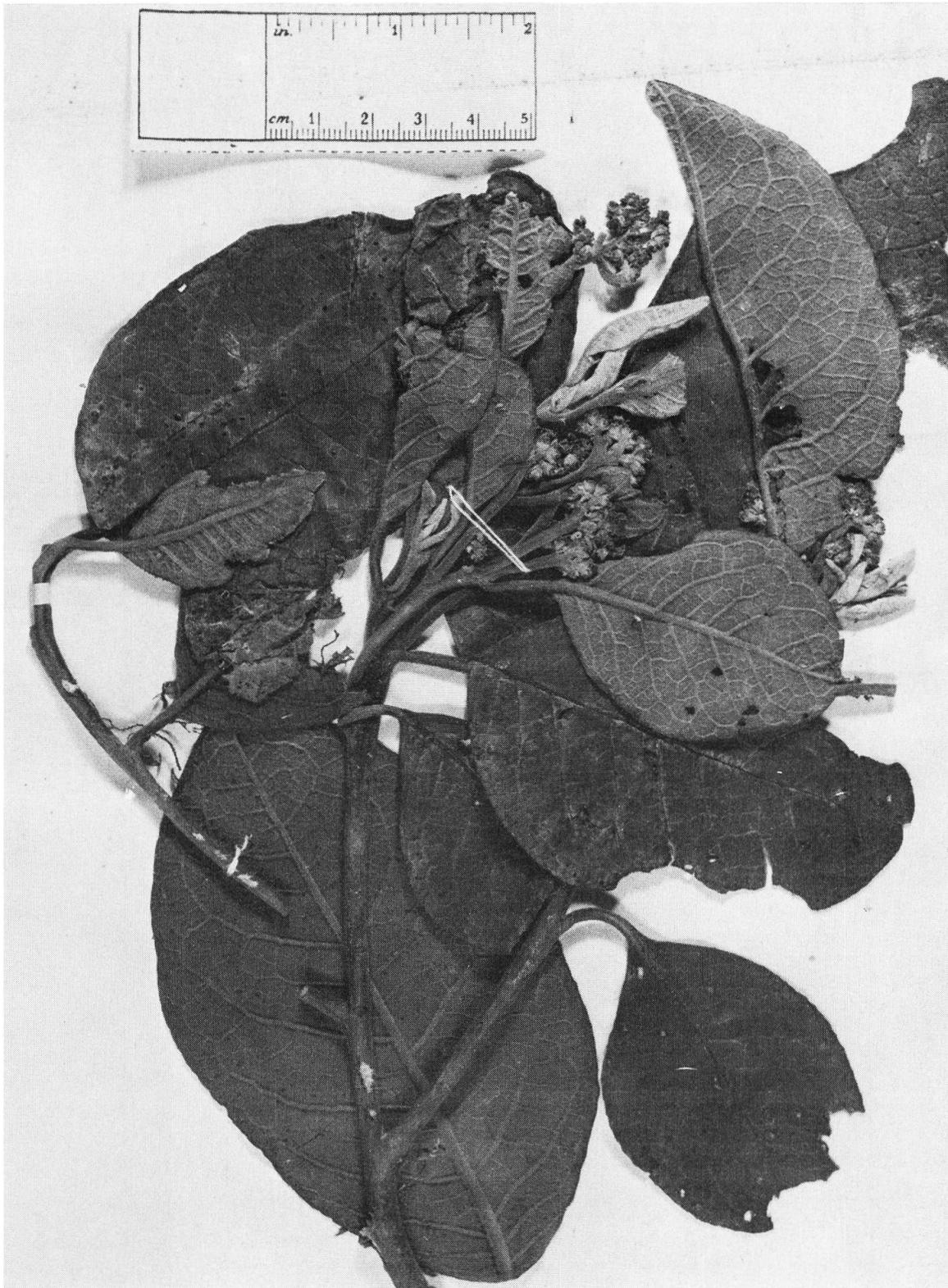


Fig. 6. — *Symplocos patazensis* Mansf.
Weberbauer 7033 (lectotype, US).

10. *Symplocos sandemanii* Ståhl, spec. nov.

Type: Peru, Dept. Cajamarca, La Calmena-Llama (Cutervo), 2900 m, Jul 1943 (fl.), *Sandeman 4186* (holotype, K). (Fig. 7).

Frutex surculis juvenibus plus minusve tomentulosis, laevibus, brunneis. Folia petiolis ad 0.4 cm longis; lamina late ovata, 7-8.5 × 4.5-6 cm, coriacea, basi truncata vel subcordata, apice rotundato vel obtuso, margine leviter crenulato, plano, pagina inferiore brunneo-tomentulosa, pagina superiore costa ad basim puberula, costa venis lateralibusque infra prominentibus, supra potius impressis, venulis potius inconspicuis. Inflorescentiae subterminales, paniculatae, sparsim ramosae, 3 cm longae, dense tomentulosae, fuscae, floribus ad apicem ramorum aggregatis. Bractee circiter 3, dense tomentulosae. Calyx dense tomentosus, tubo 1-1.5 mm longo, lobis perlate ovatis, circiter 2 × 2.5 mm, marginibus ciliatis. Corolla glabra, 5-5.5 mm longa, tubo circiter 1 mm longo, lobis late oblongis, 3-3.5 mm latis, marginibus integris. Stamina 35-40, bi- vel trifaria, tubo 1-1.5 mm longo, filamentis liberis 1-2.5 × 0.4-0.5 mm, papillosis, antheris 0.4 × 0.5 mm. Discus annularis, dense tomentosus. Stylus 1 mm longus, glaber, stigmatibus subcapitato, obscure trilobato. Ovarium triloculare, ovulis in quoque locule 3. Fructus ignotus.

Shrub; young shoots and branchlets ± tomentulose, the bark smooth, brown. Leaves subsessile or short-petiolate, dark brown when dried; blade broadly ovate, 7-8.5 × 4.5-6 cm, coriaceous, brownish-tomentulose beneath, the upper side puberulous along midvein, other parts glabrous, base truncate to subcordate, apex rounded or obtuse, margins vaguely crenulate, glandular, plane or slightly revolute; midvein and lateral veins prominent beneath, slightly impressed above, veinlets rather inconspicuous; petiole to 0.4 cm long, tomentulose. Inflorescences subterminal, 3 cm long, paniculate with short branches, rachis and branches densely brownish-tomentulose. Flowers aggregated at tips of panicle branches; bracts ca. 3, inserted just beneath the calyx, densely tomentulose. Calyx densely tomentose, tube 1-1.5 mm long, lobes very broadly ovate, ca. 2 × 2.5 mm, margins ciliate. Corolla glabrous, 5-5.5 mm long, tube ca. 1 mm long, lobes broadly oblong, 3-3.5 mm wide, margins entire. Stamens 35-40 in 2 or 3 rows, tube 1-1.5 mm, free filaments 1-2.5 × 0.4-0.5 mm, papillose; anthers 0.4 × 0.5 mm. Disc annular, densely tomentulose; style 1 mm long, glabrous; stigma subcapitate, indistinctly 3-lobed; ovary 3-locular with ca. 3 ovules in each locule. Fruits not seen.

This new species is very similar to *S. patzensis* but differs from that species in smaller leaves, shorter petioles, and the 3-locular ovary. It is known only from the type collection.

11. *Symplocos reflexa* A. DC., Prodr. 8: 248. 1844; Tafalla, Fl. Huayaquil. 211, fig. 157. 1989; Ståhl, Fl. Ecuador 43: 36, fig. 18A. 1991. **Type: Ecuador, Prov. Cañar, Azogues, *Tafalla s.n.* (holotype, G; isotypes, K, MA photo, P).**

≡ *Praealstonia reflexa* (A. DC.) Miers, J. Linn. Soc. Bot. 17: 292. 1879.

Shrub or small tree to 5 m high; young shoots and branchlets glabrous, the bark smooth, dark brown to reddish brown. Leaves petiolate, often shortly so, brownish green when dried; blade broadly elliptic or obovate, 4-8 × 2-4.2 cm, coriaceous, glabrous, base truncate or shortly attenuate, apex obtuse, margins subentire to faintly crenulate, indistinctly glandular, plane or sometimes slightly revolute; midvein prominent beneath, in level with surface above, lateral veins and veinlets rather conspicuous; petiole 0.1-0.5 cm long, ± terete, slightly winged, glabrous. Flowers solitary, borne in the leaf axils or in axils of fallen leaves just beneath the foliage; bracts (3-)5, inserted just beneath the calyx; pedicel 3-8 mm long, recurved, glabrous. Calyx glabrous, tube 2-2.5 mm long, lobes very broadly ovate, 2.5-4.5 × 3.5-5 mm, margins ciliate. Corolla dark violet, glabrous, 7-12 mm long, lobes broadly oblong, 4-6 mm wide, margins ciliolate. Stamens 50-85 in 3 or 4 rows, tube 6-7 mm long, free filaments 0.5-3 × 0.6-1 mm, smooth; anthers 0.5-0.7 × 0.5-0.7 mm. Disc annular or dome-shaped, puberulous; style 5-8 mm long, glabrous or puberulous at base; stigma truncate to subcapitate, 3-lobed; ovary 3-locular with 3 or 4 ovules in each locule. Fruits ellipsoid, 12-13 × 8 mm, glabrous, black when dried.

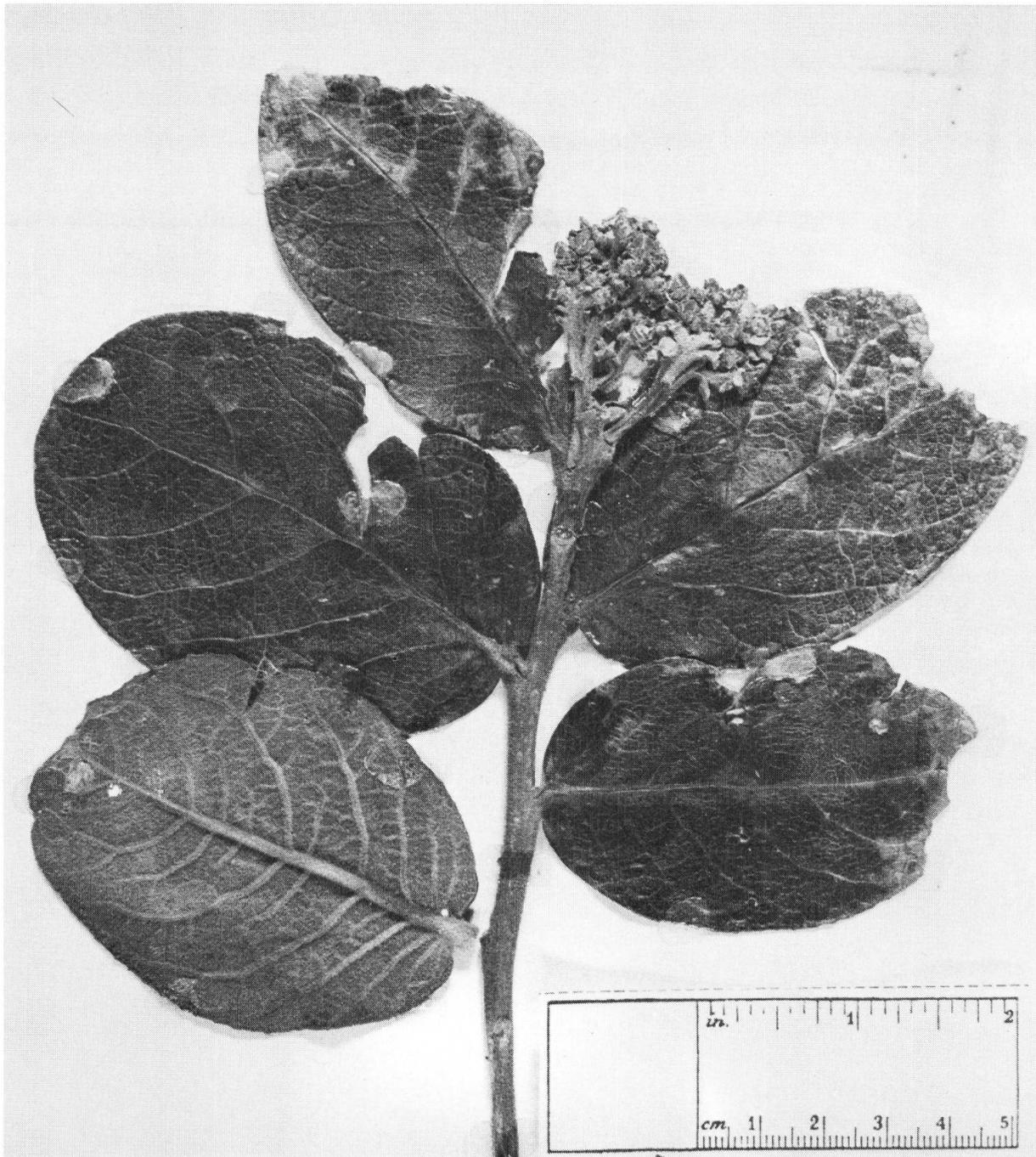


Fig. 7. — *Symplocos sandemanii* Ståhl
Sandeman 4186 (holotype).

Symplocos reflexa is distributed from southern Ecuador to central Peru. It is characterized by glabrous, rather thick, obovate or broadly elliptic leaves with usually subentire margins and a rather conspicuous venation, as well as by its large, solitary flowers borne on more or less reflexed pedicels. It is close to *S. baehni* and *S. fimbriata* (for differences, see under these species).

Specimens examined. — Amazonas: Prov. Chachapoyas, Cerros de Cerro-Calla, 19 km above Leimebamba on road to Balsas, 3100 m, 6 Jun 1964 (fl.), *Hutchison & Wright 5562* (US); uppermost slopes and summit of Cerros de Calla-Calla, 3400-3550 m, 18 Aug 1962 (fl.), *Wurdack 1700* (F, K, NY, S, US). Cuzco: Prov. La Convención, below "Camp 5", 73°32'W, 12°37'S, 2800 m, 9 Jul 1968 (fl.), *Dudley 10903* (F). Prov. Paucartambo, Pillahuata, 3000 m, 11 Dec 1942 (fl.), *Vargas 3013* (US); Jajauna above Challabamba, 3350-3450 m, 23 Jul 1990 (fl.), *Cano 3961* (F).

12. *Symplocos baehni* Macbr., Field Mus. Nat. Hist., Bot. Ser. 13, 5, 1: 217. 1959. **Type:** Peru, "Vitoc", *Ruiz & Pavón s.n.* (holotype, MA, not seen, photo in GB, GH).

Tree to 20 m high; young shoots glabrous, the bark smooth, dark brown, older parts greyish. Leaves sessile or very short-petiolate, brownish green when dried; blade oblanceolate, sometimes elliptic, 5-10 × 1.5-4.5 cm, coriaceous, glabrous, base truncate or attenuate, apex acute, margins from about the middle to apex serrulate or denticulate, plane, distinctly glandular, from the middle to base entire, eglandular, ± strongly revolute; midvein prominent beneath, impressed above, lateral veins and veinlets rather conspicuous, in level or almost in level with surfaces; petiole to 0.1 mm long. Flowers solitary, borne in the leaf axils among the foliage; bracts 5, inserted just beneath the calyx; pedicels 12-17 mm long, straight or slightly recurved, glabrous. Calyx glabrous, tube 2 mm, lobes very broadly ovate, 5 × 6 mm, margins entire. Corolla rose, glabrous, 11-12 mm long, tube 1-1.5 mm long, lobes broadly oblong, ca. 6 mm wide, margins entire. Stamens 125-150 in ca. 4 rows, tube 3.5-4 mm long, free filaments 0.5-4 × 0.4-0.6 mm, smooth; anthers 0.4 × 0.4 mm. Disc dome-shaped, glabrous; style 4-5 mm long, glabrous; stigma subcapitate, 3-lobed. Ovary 3-locular, ovules not seen. Fruits not seen.

Symplocos baehni is known only from the type and a recently made collection from south central Peru. It is similar to *S. reflexa*, but is distinguishable from that species by its sessile or subsessile, oblanceolate leaves, distinctly serrulate or denticulate leaf margins, and longer pedicels. It seems also to differ in some floral characters (calyx and corolla margins eciliate, stamens more numerous, style shorter), but the material is still too small to evaluate the taxonomic significans of these differences. The specimen cited as the type of *Symplocos baehni* is not unequivocally indicated as such but bears a label with the writings "This is a n. sp.!/Baehni". The specimen fits the original description in all essential details.

Specimen examined. — Cuzco: Prov Paucartambo, the Manu National Park, Tres Cruces at base of Cerro Apujañariquay, 3700 m, 5 Mar 1991 (fl.), *Cano 4583* (F).

13. *Symplocos fimbriata* Ståhl, Fl. Ecuador 43: 37, fig. 18B-C. 1991. **Type:** Ecuador, Prov. Pichincha, SW slope of Loma Tablarumi, 9 km E of Olmedo on road to Laguna San Marcos, 78°02'W, 00°08'N, 3400-3500 m, 18 Dec 1987 (fl. & fr.), *Molau & Eriksen 2095* (holotype, GB; isotypes, AAU, QCA).

Tree to 7 m, sometimes higher; young shoots sparsely strigulose, branchlets glabrous, the bark smooth, dark reddish brown or brown. Leaves petiolate, brownish green when dried; blade ovate or sometimes almost elliptic, 3.5-9(-12) × 1.5-4.5(-5.5) cm, coriaceous or subcartilaginous, the lower side sparsely strigulose, eventually glabrous, the upper side glabrous, base truncate, sometimes short-attenuate or subcordate, apex acute or obtuse, margins distinctly glandular-serrulate or serrate, plane or sometimes somewhat revolute; midvein and lateral veins prominent beneath, midvein and sometimes lateral veins ± impressed above, veinlets rather inconspicuous; petiole 0.3-1 cm long, subcanaliculate, ± strigulose. Flowers solitary, lateral, borne among or just beneath the

foliage; bracts 4 or 5, inserted just beneath the calyx; pedicels (5-)12-25 mm long, usually rather slender, straight or recurved in fruit, glabrous. Calyx glabrous, tube 2 mm long, lobes very broadly ovate, 3-4.5 × 4-5 mm, margins ciliate. Corolla pink or pale red, glabrous, 8-12 mm long, lobes broadly oblong, 4.5-7 mm wide, margins usually ciliolate. Stamens 60-100 in 4-7 whorls, tube 3-5 mm long, free filaments 1-3 × 0.8-1.1 mm, smooth; anthers 0.7-0.9 × 0.6-0.8 mm. Disc dome-shaped or subannular, sparsely to densely puberulous; style ca. 5 mm long, glabrous; stigma subcapitate, indistinctly 3-lobed; ovary 3-locular with 2 or 3 ovules in each locule. Fruits narrowly ellipsoid or cylindrical, 14-18 × 6-9 mm, glabrous.

Symplocos fimbriata is similar and probably closely related to *S. reflexa*, with which it shares the same general distribution range. It differs from *S. reflexa* primarily in foliar characters, such as the strigulose lower leaf surface and the distinctly serrulate margins. In addition, the leaf shape of *S. fimbriata* is ovate-elliptic rather than obovate-elliptic and the corolla has a paler shade of red, often described as pink. The pedicel in *S. fimbriata* is usually longer than in *S. reflexa*, but plants with short pedicels (to 5 mm) have been collected in Dept. Cuzco, making this character somewhat unreliable.

Specimens examined. — San Martín: Prov. Mariscal Caseres, Río Abiseo National Park, Puerta del Monte, 3350-3450 m, 19 Nov 1985 (fl.), *Young 1638* (F); 20 Nov 1985 (fr.), *Young 1871* (F, MO); 20 Nov 1985 (fl.), *Young 1893* (F); 3 Jul 1986 (fl. & fr.), *Young 3850* (F); 23 Jul 1987 (fl. & fr.), *Young and León 4924* (F). Cuzco: Prov. Paucartambo, Tres Cruces, 3600 m, 4 Jun 1960 (fl.), *Vargas 13319*; Jun 1966 (fl.), *Vargas 17453* (US).

14. *Symplocos incahuasensis* Sagást. & Dillon, *Brittonia* 41: 32, fig. 1. 1989. **Type:** Peru, Dept. Lambayeque, Prov. Ferreñafe, slopes of Cerro Negro near Laguna Tembladera, above Incahuasi, ca. 79°20'W, 6°15'S, 3300 m, 12 Sep 1985 (fl. & fr.), *Sagástegui-Alva & al. 12836* (holotype, HUT, not seen; isotype, F; additional isotypes, not seen by me, in CPUN, G, MO, NY, PRG). = *Symplocos sandiae* auct. non Brand: Macbride, *Publ. Field Colombian Mus., Bot. Ser.*, 8: 223. 1930, p.p.

Shrub or small tree to 3 m high; young shoots and branchlets glabrous or sparsely strigulose, densely furnished with leaf scars, the bark brown, smooth. Leaves brownish when dried, short-petiolate; blade elliptic, oblong, or sometimes narrowly obovate, (1-)1.5-2.5 × (0.4-)0.6-1.2 cm, coriaceous, ± strigulose beneath, glabrous above, base attenuate, often shortly so, apex obtuse, margins ± revolute towards base, very vaguely crenulate, with (6-)10-20 pairs of obtuse glands; midvein prominent beneath, impressed above, lateral veins inconspicuous or invisible, veinlets invisible; petiole 1-2(-3) mm long, subcanaliculate, ± strigulose. Flowers solitary, lateral, borne among the foliage; pedicels 1-1.5 mm long, glabrous; bracts 4, glabrous or very sparsely strigulose, broadly or very broadly ovate, unequal in size, to 2.5 × 2.5 mm, margins ciliolate. Calyx glabrous, tube 1.5 mm long, lobes very broadly ovate, to 3.5 × 2.5 mm, margins ciliolate. Corolla pink or mauve, glabrous, ca. 7 mm long, lobes oblong, 4 mm wide, margins entire. Stamens 35-45 in 2(3) whorls, tube 2.5 mm long, free filaments 0.5-1.5 × 0.4-0.6 mm, smooth; anthers ca. 0.5 × 0.5 mm. Disc annular, puberulous; style 3 mm long, glabrous; stigma subcapitate, indistinctly 3-lobed; ovary 3-locular with ca. 3 ovules in each locule. Fruits ellipsoid, ca. 10 × 6 mm, glabrous, black when dried.

Symplocos incahuasensis, *S. nana*, and *S. sulcinervia* form an easily and possibly natural group recognized by small or very small leaves and solitary, axillary flowers. However, with the present circumscription, *S. incahuasensis* includes a rather large variation, especially in leaf size and number of leaf margin glands, the type collection being at the lower end of the scale. *Symplocos incahuasensis* may therefore be hard to distinguish from the two other small-leaved species (see below).

In the Flora of Peru, MACBRIDE (1959) referred the collection *Weberbauer 7024* to *S. sandiae*. However, that collection does not fit the original description of *S. sandiae*, which was based on a now lost specimen.

Specimens examined. — La Libertad: Prov. Patáz, W of Tayabamba, 3900 m, Jul 1914 (fl.), *Weberbauer 7024* (F, GH, US); Chirimachay, 3450-3600 m, 24 Feb 1986 (fl.), *Young 3018* (F, MO).

- 15. *Symplocos nana*** Brand, Pflanzennr. IV.242: 76. 1901; Ståhl, Fl. Ecuador 43: 44, fig. 20E-F. 1991. **Type:** Bolivia, Puitar, 4000 m, Feb 1867, *Pearce s.n.* (K).

Symplocos nana is distributed from southern Ecuador to Bolivia. It is easily recognized by the minute leaves with well demarcated petioles, inconspicuous venation, at least abaxially, and the upper sides distinctly darker than the lower ones. It is similar to *S. incahuasensis* but is distinguished from that species by its usually smaller and glabrous leaves with very few marginal glands (1-4 pairs). Plants from central Peru differs from those collected in southern Ecuador by having the young shoots more or less terete and strigose (vs. angular and glabrous). One collection from central Peru, *Young 1640*, has the lower leaf sides strigulose, but agrees in other characters with the rest of the material.

Specimens examined. — Amazonas: Prov. Bagua, Cordillera Colán, E of La Peca, 3150 m, 25 Aug 1978 (fl.), *Barbour 3176* (NY). San Martín: Prov. Mariscal Caceres, Río Abiseo National Park, Puerta del Monte, 3450 m, 19 Nov 1985 (ster.), *Young 1640* (F). Huánuco: Río Masamerich, 3400-3500 m, *Weberbauer 6642* (F, GH, US). Puno: Sachapata, Sep 1854 (fr.), *Lechler 2711* (K). Cuzco: Prov. Paucartambo, Manu National Park, Tres Cruces, 3600-3700 m, 6 Mar 1991 (fl.), *Cano 4604* (GB).

- 16. *Symplocos sulcinervia*** Ståhl, Fl. Ecuador 43: 42, fig. 20A-B. 1991. **Type:** Ecuador, Prov. Loja, Podocarpus National Park, above Nudo de Cajanuma, trail to Mirador, 79°10'W, 04°05'S, 3000-3150 m, 23 Feb 1989 (fl.), *Madsen 85854* (holotype, AAU).

A recently described species from southern Ecuador, distinguished from the two previous, small-leaved species by its small flowers (3-4 mm long) and more distinct leaf venation. Thus far only one collection is known from Peru.

Specimens examined. — Amazonas: Prov. Chachapoyas, summit of Cerro Malcabal (Cerro Tumbé), 3-6 km SW of Molinopampa, 2850-2900 m, 20 Jul 1962 (fl.), *Wurdack 1432* (F, K, NY, S, US).

- 17. *Symplocos apiciflora*** Ståhl, Fl. Ecuador 43: 39, fig. 19. 1991. **Type:** Ecuador, Prov. Loja, Podocarpus National Park, above Nudo de Cajanuma, trail to Mirador, 3000-3150 m, 23 Feb 1989 (fl.), *Madsen 85856* (holotype, AAU).

Symplocos apiciflora was described from a single collection made in southern Ecuador. The species is distinguished by its rather small and broadly elliptic leaves and small white flowers arranged in little-branched panicles. The only known collection from Peru differs by having longer petioles and the inflorescences borne in the leaf axils along most of the branchlets, vs. only in the axils of the uppermost leaves. In other floral and vegetative features the two collections agree perfectly.

Specimen examined. — Pasco: Prov. Oxapampa, Cordillera Yanachaga, Cerro Pajonal ("chacos"), 12 km SE of Oxapampa, 75°20'W, 20°35'S, 2700-2800 m, 7 Oct 1982 (fl.), *Foster 8996* (F).

18. *Symplocos cernua* Humb. & Bonpl., Pl. Aequin. 1: 188, tab. 53. 1805. **Type:** Peru, Dept. Cajamarca, Jaén de Bracamorros, 600 m, *Bonpland s.n.* (holotype, P; isotype fragment, G).
 ≡ *Praealstonia cernua* (Humb. & Bonpl.) Miers, J. Linn. Soc. Bot. 17: 292. 1879.
 = *Symplocos extraaxillaris* Brand, Repert. Spec. Nov. Regni Veg. 14: 324. 1916; Bot. Jahrb. 54, Suppl. 117: 80. 1916. **Type:** Peru, Dept. Piura, NW of Huancabamba, 2800-2900 m, 13 May 1912 (fl.), *Weberbauer 6340* (holotype, B, destroyed; lectotype, F, selected here).

Tree to 10 m high, stem ca. 30 cm diam.; young shoots and branchlets glabrous, the bark smooth, brownish black. Leaves petiolate, brownish when dried; blade narrowly ovate or elliptic, 4-7 × 1.5-3.2 cm, coriaceous, in very young stages strigose, when fully developed glabrous or sparsely pilose along midvein beneath, base short-attenuate, apex obtuse, margins sparsely glandular-denticulate, at least in young leaves, sometimes slightly revolute; midvein prominent beneath, somewhat impressed above, lateral veins and veinlets rather inconspicuous, at least above; petiole 0.2-0.5 cm long, slightly winged, subcanaliculate, glabrous. Flowers solitary, borne among and beneath the foliage, pedicels 1-3 mm long, recurved, glabrous; bracts ca. 5, ± tomentulose to almost glabrous. Fruits not seen.

Symplocos cernua is known only from two collections (both types) made in northern Peru. The collections are in a rather poor state and detailed information on floral features are therefore lacking in the description presented here. *Symplocos cernua* is distinguished from other species by the following combination of characters: solitary, short-pedicellate, and rather small flowers, medium-sized, distinctly petiolate leaves, and sparse pubescens on vegetative parts.

19. *Symplocos scabra* Macbr., Publ. Field Colombian Mus., Bot. Ser., 8: 128. 1930. **Type:** Peru, Dept. Huánuco, Tambo de Vaca, ca. 3900 m, 10-24 Jun 1923 (fr.), *Macbride 4898* (holotype, F; isotypes, G, MA, US, W). (Fig. 8).

Tree to 6 m, sometimes higher; young shoots and branchlets strigose to tomentose, the bark verrucose, brown. Leaves petiolate; blade elliptic or ovate to narrowly ovate, 3-8 × 1.5-3.5 cm, cartilaginous, ± strigose beneath, glabrous above, base shortly attenuate, apex obtuse or obtusely acute, margins crenulate or denticulate, glandular, sometimes slightly revolute; midvein, lateral veins, and veinlets of the lower side prominent and verrucose, those of the upper side more or less impressed; petiole 0.3-1 cm long, caniculate, indistinctly winged, strigose. Flowers not seen. Infructescences unbranched, borne beneath the foliage, pedicels 0.3-0.5 cm long. Fruits (1-)2-4), ovoid to cylindrical, 14-16 × 6-7 mm, strigulose at style-base, other parts glabrous, 3-locular.

In leaf characters *Symplocos scabra* resembles *S. clethrifolia* Ståhl from southern Ecuador. However, the latter species has fasciculate inflorescences, whereas *S. scabra* appears to have short racemes or the flowers solitary. In addition, the leaves of *S. clethrifolia* are usually larger and comparatively broader than those of *S. scabra*. A proper evaluation of the differences between these two species will have to await additional collections with flowers.

Specimens examined. — San Martín: Prov. Mariscal Cáceres, Río Abiseo National Park, Chochos and Puerta del Monte, 3200-3500 m, 7 Sep 1985 (fr.), *Young 1564* (F); 22 Nov 1985 (fr.), *Young 2040* (F); 22 Nov 1985 (fr.), *Young 2140* (F, MO); 25 Nov 1985 (fr.), *Young 2360* (F); 24 Nov 1985 (fr.), *Young 2436* (F); 24 Nov 1985 (fr.), *Young 2558* (F).

20. *Symplocos mezii* Szyszyl., Diss. Cl. Math.-Phys. Acad. Litt. Cracov 29: 230. 1894. **Type:** Peru, Dept. Cajamarca, Jaén ("Shauyn"), 9 Sep 1878 (fl.), *Jelski 265* (lectotype, KRA, here selected). (Fig. 9).

Shrub or tree. Young shoots and branchlets strigose, the bark somewhat rugose, brown. Leaves petiolate; blade narrowly obovate or elliptic, 3-7.5 × 1.5-3 cm, coriaceous, the lower surface strigulose, on midvein strigose, the upper side glabrous, glossy and distinctly darker than the lower side,

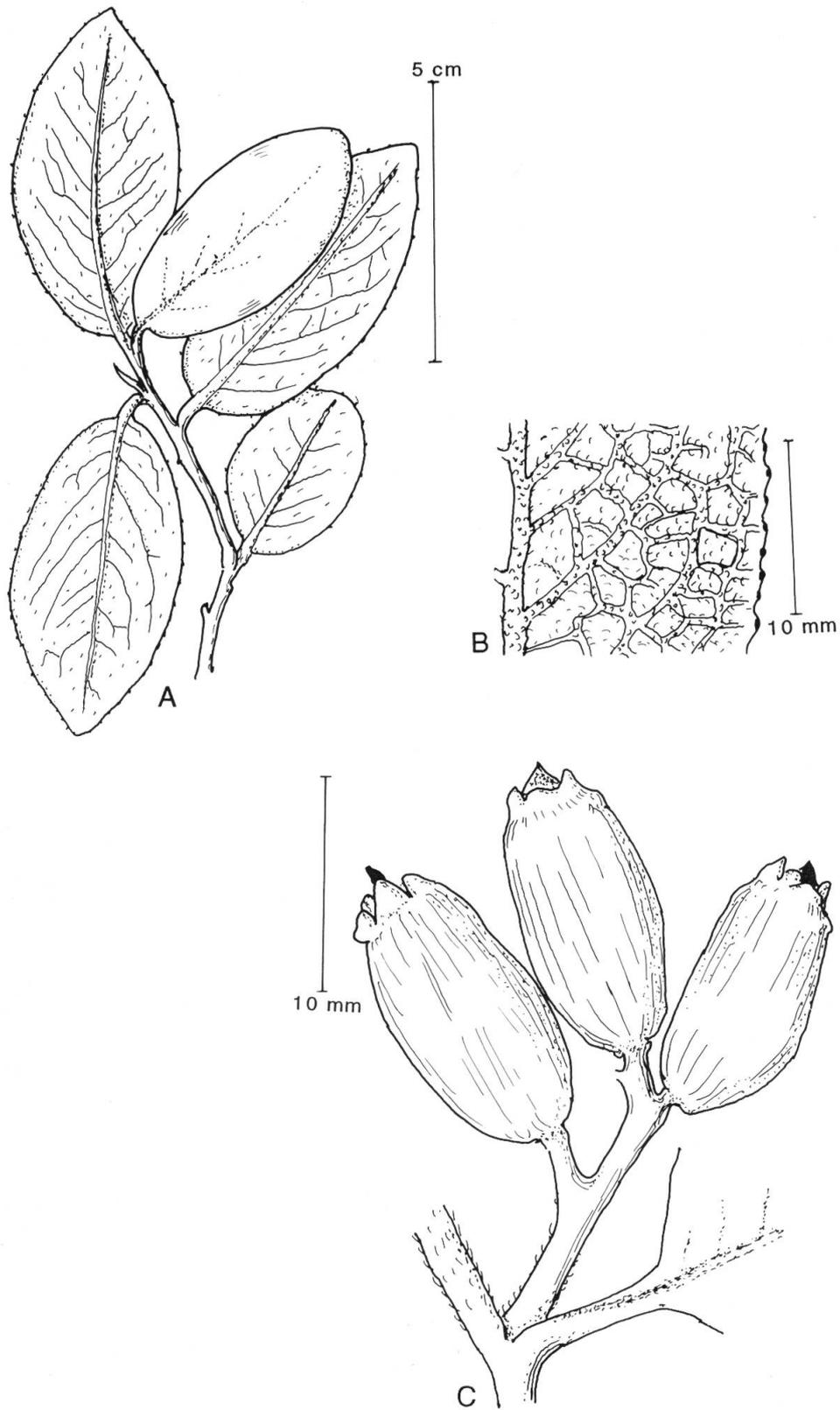


Fig. 8. — *Symplocos scabra* Macbr.
A, branchlet; B, part of lower leaf surface; C, infructescence. A, B, Young 1564; C, Young 2140.

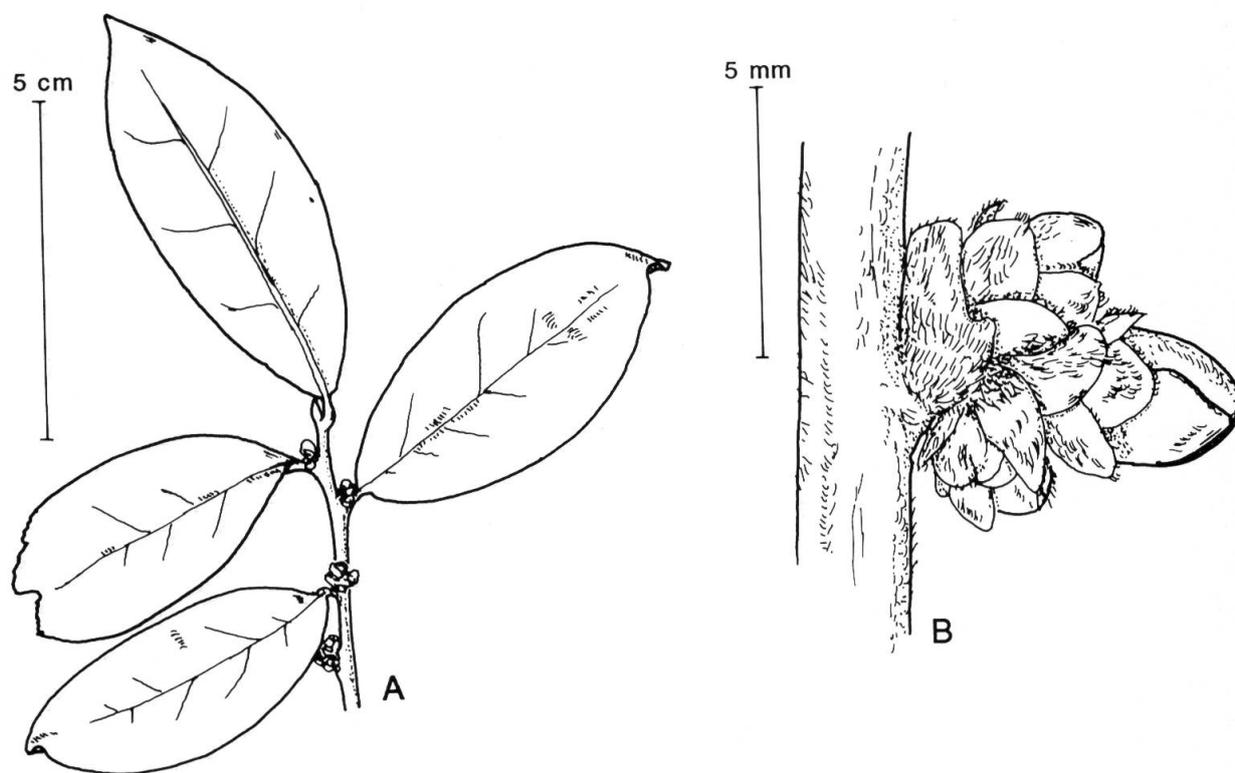


Fig. 9. — *Symplocos mezii* Szyszyl.
A, branchlet; B, inflorescence (flowers in bud). A, B, *Jelski 265* (type).

base truncate or short-attenuate, apex obtuse or shortly obtuse-acuminate, margins crenulate, glandular, plane or somewhat revolute at base; midvein prominent beneath, slightly impressed above, lateral veins rather prominent beneath, in level with surface above, veinlets rather inconspicuous, at least above; petiole 0.2-0.3 cm long, subcanaliculate, strigose. Inflorescences lateral, fasciculate or flowers sometimes solitary, if fasciculate then with 2-4 flowers, sometimes aggregated into larger units. Bracts 4, broadly ovate, 3×3 mm, strigulose. Calyx strigulose, tube ca. 1.2 mm, lobes very broadly ovate, ca. 2.2×2.7 mm, margins ciliolate. Corolla 5-6 mm long, tube 1 mm long, lobes strigulose in the middle, broadly oblong, 3-3.5 mm wide, margins entire. Stamens 50-60 in about 3 rows, tube ca. 2 mm long, free filaments $0.5-2 \times 0.4$ mm, papillose; anthers 0.4×0.3 mm. Disc annular, densely puberulous, style ca. 2.2 mm long, glabrous; stigma capitate, 3-lobed. Ovary 3-locular with 3 or 4 ovules in each locule. Fruits not seen.

Symplocos mezii is known only from the type collection. It is distinguished by relatively small and distinctly petiolate leaves, few-flowered, axillary inflorescences, and strigulose bracts and floral parts. According to the original description the flowers are borne on short peduncles, but no such structures are present on the type specimen.

It is evident that *Symplocos mezii* is very close to *S. canescens*, recently described from southern Ecuador (STÄHL, 1991). The latter species has the flowers solitary or sometimes in pairs, but this seems to be the only substantial character to keep it separate from *S. mezii*. Additional, preferable fruiting material from northern Peru may help to evaluate the relationships between these two species.

21. *Symplocos andicola* Stähli, spec. nov.

Type: Peru, Dept. San Martín, Mariscal Cáceres, Río Abiseo National Park, Chocho Valley, NW corner of Park, 3300-3350 m, 21 May 1986 (fl. & fr.), *Young 3137* (holotype, F). (Fig. 10).

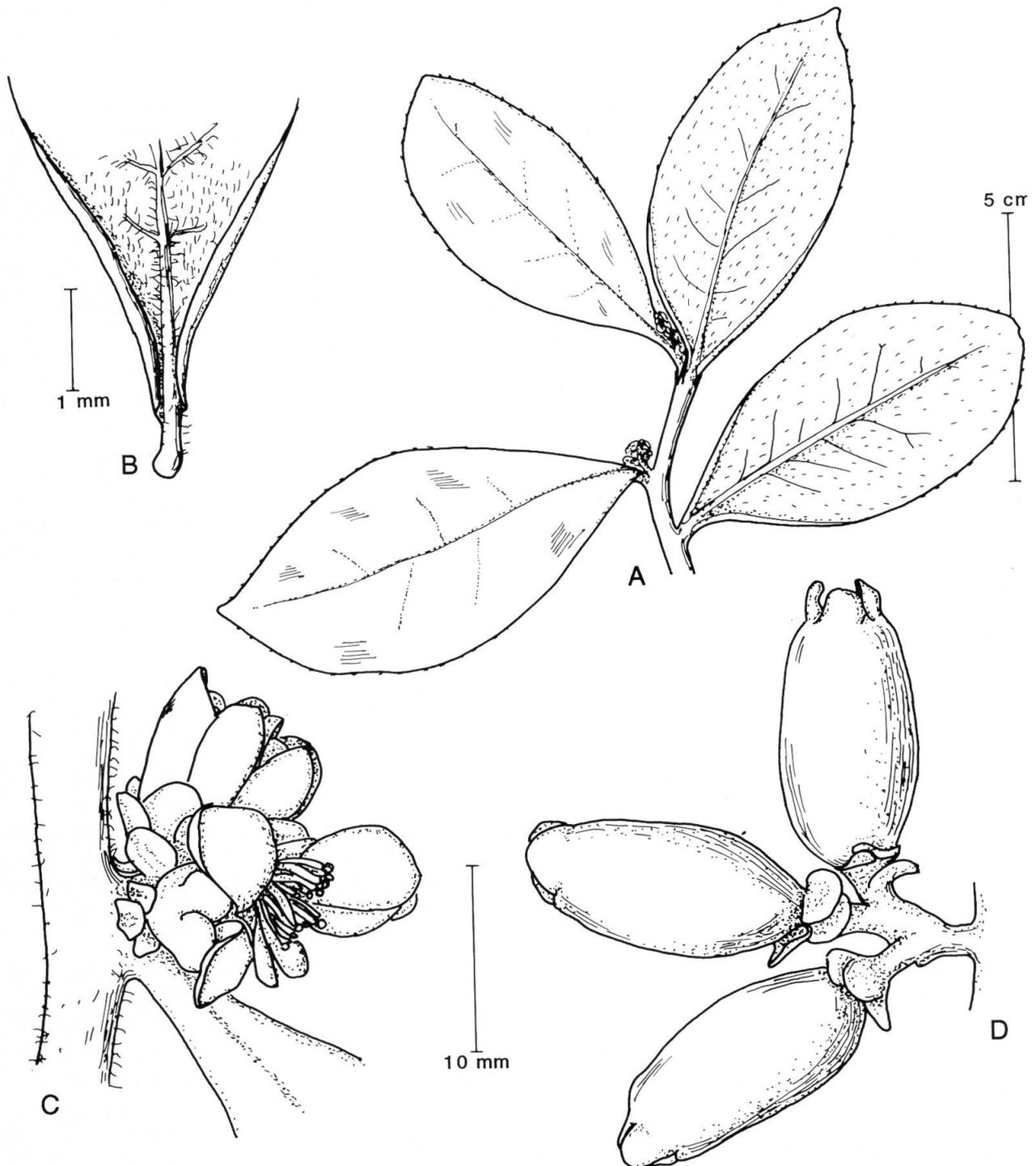


Fig. 10. — *Symplocos andicola* Stähli
 A, branchlet; B, lower part of leaf, abaxial side; C, inflorescence; D, infructescence. A, C, *Young 3137*; B, D, *Young & León 4838*.

Arbor saltem ad 12 m alta, surculis juvenibus sparsim pilosis vel sublanatis, brunneis, laevibus vel leviter verrucatis. Folia subsessilia; lamina obovata vel oblanceolata, 6-11 × 2.5-5.5 cm, coriacea vel subcartilaginea, basi angustata, apice acuto vel breviter acuminato, margine glanduloso-denticulato, ad basim vulgo revoluta, pagina inferiore villosa vel pilosa, pagina superiore ad costam strigulosa, ceterum glabra, costa venis lateralibusque infra potius prominentibus, supra leviter impressis, venulis vulgo inconspicuis. Inflorescentiae laterales, fasciculatae, sessiles vel brevipedunculatae, pedunculi ad 5 mm longis, strigosis. Flores 2-5. Bractae 3, strigulosae, marginibus ciliolatis. Calyx glaber vel lobis ad centrum leviter strigulosus, tubo 2 mm longo, lobis perlate ovatis, circiter 2.5 × 3.5 mm, marginibus ciliolatis. Corolla rosea, glabra, circiter 12 mm longa, lobis late oblongis, circiter 6 mm latis, marginibus integris. Stamina 60-70, quadri- vel quinquefaria, tubo 5 mm longo, filamentis liberis 3-6 × 1-1.2 mm, laevibus, antheris 0.8 × 0.6 mm. Discus annularis, pilosus. Stylus 8 mm longus, glaber, stigmatibus subcapitato, quadrilobato. Ovarium quadriloculare, ovulis in quoque locule 4. Fructus ellipsoideus vel cylindricus, 14-16 × 7-8 mm, glaber, laevis.

Tree to 12 m, sometimes higher, stem to 25 cm diam.; young shoots and branchlets sparsely pilose or sublanate, brown, the bark almost smooth or somewhat verrucate. Leaves subsessile, brownish green when dried; blade obovate to oblanceolate, 6-11 × 2.5-5.5 cm, coriaceous or subcartilaginous, the lower side villous to pilose-strigose, the upper often strigulose along midvein, at least at base, other parts glabrous, base attenuate, sometimes shortly so, apex acute or short-acuminate, margins distinctly glandular-denticulate, usually strongly revolute towards base; midvein and lateral veins rather prominent beneath, slightly impressed above, veinlets mostly inconspicuous; petiole to 0.1 cm long. Inflorescences lateral, fasciculate, sessile or mostly short-pedunculate with the peduncles to 5 mm long, strigose, somewhat prolonged in fruit. Flowers 2-5; bracts 3, strigulose, margins ciliate. Calyx glabrous or lobes faintly strigulose in the middle, tube 2 mm long, lobes very broadly ovate, ca. 2.5 × 3.5 mm, margins ciliate. Corolla pink, glabrous, ca. 12 mm long, lobes broadly oblong, ca. 6 mm wide, margins entire. Stamens 60-70 in 4 or 5 whorls, tube 5 mm long, free filaments 3-6 × 1-1.2 mm, smooth; anthers 0.8 × 0.6 mm. Disk annular, pilose; style 8 mm long, glabrous; stigma subcapitate, 4-lobed; ovary 4-locular with 4 ovules in each locule. Fruits ellipsoid to cylindrical, 14-16 × 7-8 mm, glabrous, smooth.

This new species, which is based on recent collections from the San Martín and Pasto Departments, is characterized by subsessile leaves with the lower sides pilose-villous and the margins distinctly glandular-denticulate and more or less strongly revolute towards base. The 4-locular ovary is also an unusual feature, in Peruvian *Symplocos* otherwise only met with in *S. patzensis* and *S. arachea*. The Pasco collection has a less dense pubescens on vegetative parts than the rest of the material but agrees in other important features.

Specimens examined. — San Martín: Same locality and date as type (fl. & fr.), *Young 3173* (F); same locality, 17 Jul 1987 (fl.), *Young & León 4838* (F, MO). Pasco: Prov. Oxapampa, Río San Alberto Valley, E of Oxapampa, 75°22'W, 10°34'S, 2600 m, 25 Jul 1984 (fr.), *Smith & Pretel 8022* (F, MO, NY).

22. *Symplocos fuliginosa* Ståhl, Fl. Ecuador 43: 9, fig. 3. 1991. Type: Ecuador, Prov. Pichincha, 15 km S of Alóag on road to Santo Domingo, 1100-1400 m, 15 Apr 1988 (fr.), *Zak & Jaramillo 3451* (holotype, GB; isotype, MO). (Fig. 11).

Tree to 10 m high, stem 15 cm diam.; young shoots and branchlets glabrous or more or less strigose, the bark smooth, dark brownish black or brown. Leaves petiolate, brownish green when dried; blade elliptic or obovate to broadly obovate, 6-15 × 3.5-6.5 cm, submembranaceous to coriaceous, densely to sparsely strigose-strigulose beneath, glabrous above, base attenuate, apex acute or short-acuminate, margins distinctly glandular-serrulate; midvein prominent beneath, impressed above, lateral veins rather conspicuous, veinlets rather inconspicuous; petiole 1-2 cm long, canaliculate, glabrous or strigulose. Inflorescences lateral, borne beneath the foliage, fasciculate, sessile. Flowers 2-5, strongly fragrant; bracts 5-7, strigulose, margins ciliate. Calyx strigulose, tube 2 mm long, lobes very broadly ovate, ca. 3 × 3.5 mm, margins sparsely ciliate. Corolla greenish white,

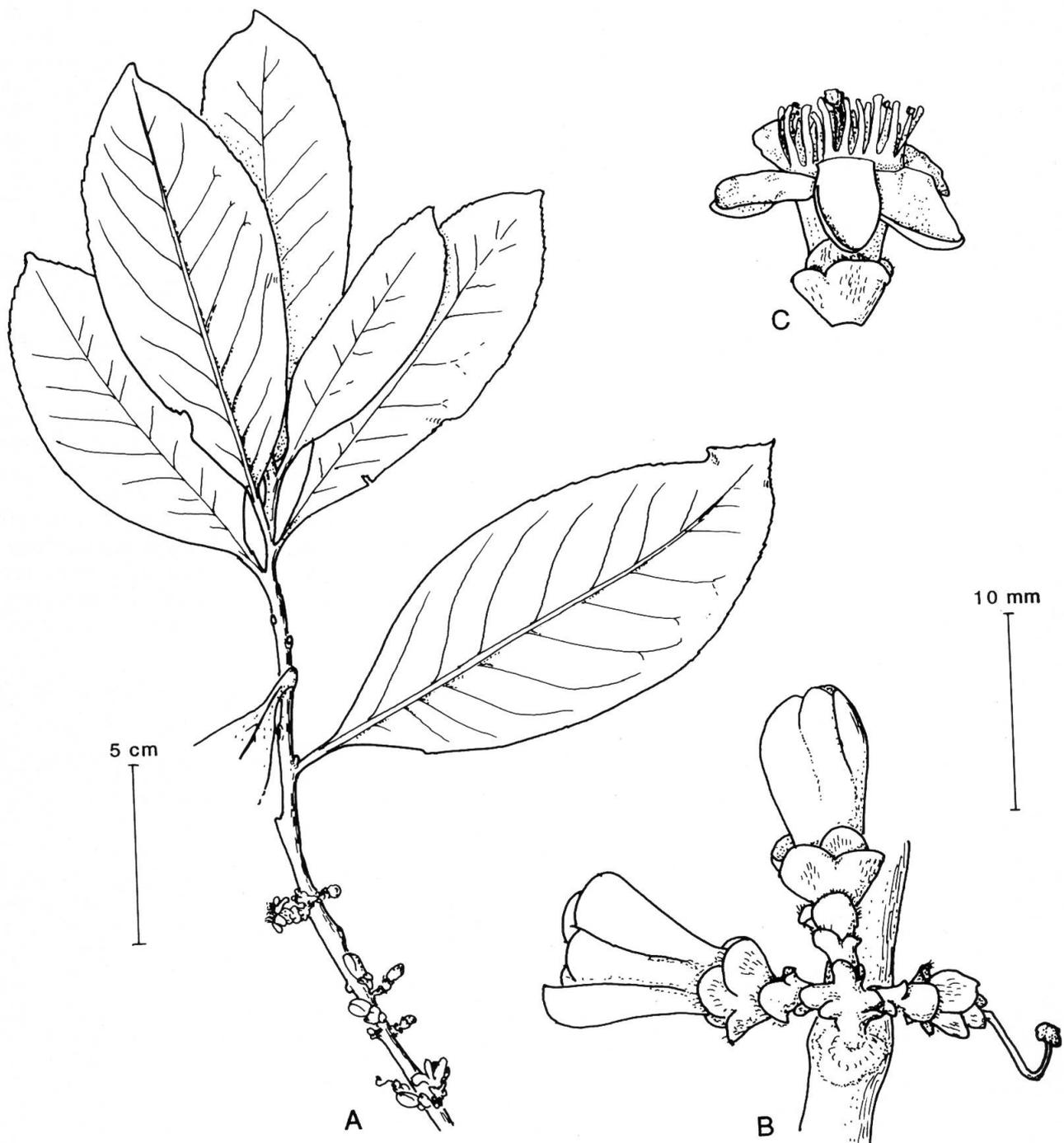


Fig. 11. — *Symplocos fuliginosa* Stähl
A, flowering branchlet; B, inflorescence; C, flower. A-C, Tillet 673-319.

glabrous, 12-13 mm long, lobes oblong, 3.5-4 mm wide, margins entire. Stamens 60-80 in 3 or 4 whorls, tube 6-7 mm long, free filaments 2-4 × 0.5-0.8 mm, papillose; anthers ca. 0.4 × 0.4 mm. Disc dome-shaped, strigulose; style ca. 10 mm long, glabrous, stigma 3-lobed, capitate; ovary 3-locular with 2-4 ovules in each locule. Fruits narrowly ellipsoid to cylindrical, 18-24 × 10-12 mm, glabrous, brownish when dry.

Symplocos fuliginosa is readily distinguished from other species of Peruvian *Symplocos* by its large and broad leaves, long petioles, and rather large flowers borne along the stems beneath the foliage. The species is known from a single Peruvian collection and two recent records from central and northern Ecuador (STÄHL, 1991). The collections from Peru and Ecuador differ somewhat in amount of indumentum on vegetative parts (denser in the former) but are otherwise very similar.

Specimen examined. — Amazonas: Prov. Pongará, Campamento Buenos Aires, about 55 km from Yambrashamba and about 40 km N of Jumbillo, 1850-2000 m, 2 Mar 1967 (fl.), *Tillett 673-319* (US).

23. *Symplocos robinfosteri* Ståhl, spec. nov.

Type: Peru, Dept. Pasco, Prov. Oxapampa, Distr. Huancabamba, Sta. Barbara, above Lanturachi, 75°40'W, 10°20'S, 3300-3500 m, 2 Jul 1985 (fl.), *Foster & al. 10405* (holotype, F; isotypes, G, GB). (Fig. 12).

Arbor saltem ad 5 m alta, surculis juvenibus dense ferrugineo-pilosis vel strigosis. Folia subsessilia vel petiolis ad 0.3 cm longis; lamina elliptica vel late elliptica, 4-8 × 2-4.5 cm, cartilaginea, basi truncata vel breviter angustata, apice rotundato, margine glanduloso-denticulato, interdum ad basim revoluta, pagina inferiore dense ferrugineo-pilosa vel tomentosa, pagina superiore glabra, costa venis lateralibus venulisque infra prominentibus, supra impressis. Flores solitarii, raro binati, laterales, subsessiles vel pedicellis ad 3 mm longis, flores binati pedunculis ad 12 mm longis, pedicellis pedunculisque brunneo-strigosis. Bractee 5, ad costam strigulosae. Calyx glaber, tubo 1.5-2 mm longo, lobis perlate ovatis, 4-5 × 5-7 mm, marginibus ciliolatis. Corolla rubra, glabra, 12-14 mm longa, lobis late oblongis vel late ellipticis, 6-10 mm latis, marginibus integris. Stamina 120-140, quinquefaria, tubo circiter 6 mm longo, filamentis liberis 0.5-4 × 0.5-1.2 mm, laevibus, antheris 0.5 × 0.5-0.6 mm. Discus tholiformis, dense puberulus. Stylus 7-8 mm longus, glaber, stigmatate subcapitato. Ovarium triloculare, ovulis in quoque locule 3. Fructus ovoideus vel late ellipsoideus, 11-13 × 7-8 mm, glaber, laevis, in sicco fuscus punctis pallidis numerosis.

Small tree to at least 5 m high; young shoots and branchlets densely pilose-strigose of reddish brown hairs. Leaves short-petiolate or subsessile, greenish brown when dried; blade elliptic to broadly elliptic, 4-8 × 2-4.5 cm, cartilaginous, densely brownish pilose-tomentose beneath, glabrous above, base truncate or short-attenuate, apex rounded, margins prominently glandular-denticulate, sometimes revolute at base; midvein, lateral veins and veinlets prominent beneath, impressed above; petiole to 0.3 cm long, pilose-tomentose. Flowers solitary or rarely in pairs, lateral, subsessile or with pedicels to 3 mm long, paired flowers borne on peduncles to 12 mm long, pedicels and peduncles brownish-strigose. Bracts 5, ovate, to 5 × 5 mm, ± strigulose in the middle. Calyx glabrous, tube 1.5-2 mm long, lobes very broadly ovate, 4-5 × 5-7 mm, margins ciliate. Corolla deep red, glabrous, 12-14 mm long, lobes broadly oblong to broadly elliptic, 6-10 mm wide, margins entire. Stamens 120-140 in about 5 rows, tube ca. 6 mm long, free filaments 0.5-4 × 0.5-1.2 mm, smooth; anthers 0.5 × 0.5-0.6 mm. Disc dome-shaped, densely puberulous; style 7-8 mm long, glabrous; stigma subcapitate. Ovary 3-locular with 3 ovules in each locule. Fruit ovoid to broadly ellipsoid, 11-13 × 7-8 mm, glabrous, smooth, dark brown with many pale dots.

Symplocos robinfosteri, known only from a single locality in central Peru, is recognized by its tough leaves with distinctly glandular-denticulate margins, densely brownish tomentose-pilose lower sides, and a more or less impressed adaxial venation; the flowers are comparatively large and appear usually solitary. It resembles *S. clethrifolia* Ståhl from the Andes of Ecuador,

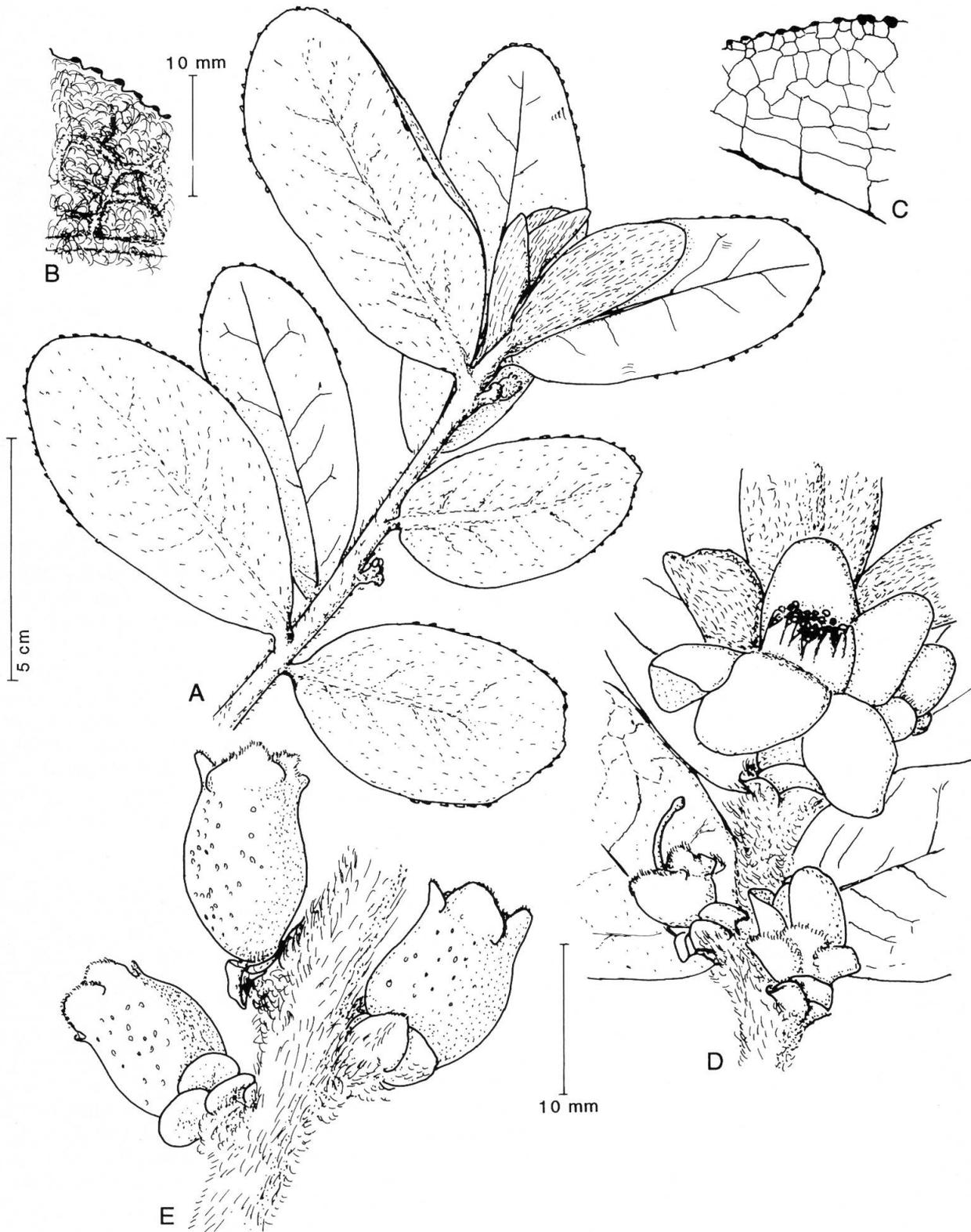


Fig. 12. — *Symplocos robinfosteri* Stähli
 A, branchlet; B, part of lower leaf surface; C, part of upper leaf surface; D, flowers; E, fruits. A-D, Foster & al. 10405 (type);
 E, Foster & al. 10447.

particularly in many leaf characters (shape, size, venation). The latter species differs from *S. robin-fosteri* in having the pubescens much sparser, the petioles longer, and the flowers smaller and mostly arranged in groups of 3-5.

Specimens examined. — Same locality and date as type (fr.), *Foster & al. 10447* (G, GB).

24. *Symplocos psiloclada* Ståhl, spec. nov.

Type: Peru, Dept. Cuzco: Prov. Paucartambo, Jajauna above Challabamba, 3300 m, 20 Jul 1990 (fr.), *Cano 3916* (holotype, F; isotype, GB). (Fig. 13).

Frutex vel arbor saltem ad 3 m alta, surculis juvenibus glabris. Folia subsessilia; lamina elliptica vel late elliptica, interdum subrotundata, 3-10.5 × 2-6 cm, cartilaginea, glabra, basi truncata, apice obtuso vel rotundato, margine glanduloso-denticulato, leviter revoluta, costa venis lateralibusque infra prominentibus, supra impressis, venulis potius inconspicuis. Flores solitarii, axillares, sessiles; bractee 8-10, glabrae. Calyx glaber, tubo 2 mm longo, lobis parlate ovatis, 3.5 × 4.5-5.5 mm, marginibus integris. Corolla purpurea, 7-8 mm longa, tubo 1 mm longo, lobis oblongis, 4-5 mm latis, marginibus integris. Stamina 150-200, quinque- vel sexfaria, tubo 4 mm longo, filamentis liberis 0.5-2 × 0.5-0.7 mm, laevibus, antheris 0.8 × 0.7 mm. Discus annularis, glaber. Stylus 2 mm longus, glaber, stigmatate subtruncata, obscure trilobato. Ovarium triloculare, ovulis in quoque locule 3. Fructus anguste ellipsoideus vel cylindricus, 10-16 × 6-7 mm, glaber, laevis.

Shrub or tree to at least 3 m high; young shoots and branchlets glabrous, the bark smooth, brown to brownish black. Leaves subsessile, brownish when dried; blade elliptic to broadly elliptic, sometimes subrotund, 3-10.5 × 2-6 cm, cartilaginous, glabrous, base truncate, apex obtuse or rounded, margins distinctly glandular-denticulate, somewhat revolute; midvein and lateral veins prominent beneath, slightly impressed above, veinlets rather conspicuous. Flowers solitary, sessile, axillary, borne among the leaves or just beneath the foliage; bracts 8-10, inserted just beneath the calyx, glabrous, very broadly ovate, somewhat unequal in size, to 4 × 5 mm, margins ciliolate. Calyx glabrous, tube 2 mm long, lobes very broadly ovate, 3.5 × 4.5-5.5 mm, margins ciliolate. Corolla purple, 7-8 mm long, tube 1 mm long, lobes oblong, 4-5 mm wide, margins entire. Stamens 150-200 in 5 or 6 rows, tube 4 mm, free filaments 0.5-2 × 0.5-0.7 mm, smooth; anthers 0.8 × 0.7 mm. Disc annular, glabrous; style 2 mm long, glabrous; stigma subtruncate, indistinctly 3-lobed; ovary 3-locular with about 3 ovules in each locule. Fruits narrowly ellipsoid to cylindrical, 10-16 × 6-7 mm, glabrous, smooth.

Although collected several times, this new species is known solely from a rather restricted area of the Cuzco Department. Besides being completely glabrous, *S. psiloclada* is distinguished by broad, though leaves and rather large, sessile flowers, which appear solitary and are supported by numerous bracts. In leaf shape *S. psiloclada* is somewhat reminiscent of *S. andicola*, but large differences in vestiture and floral features make a close relationship with that species seem unlikely.

Specimens examined. — Cuzco: Prov. Paucartambo, Region of Acjanaco and the Cordillera of Tres Cruces, 3300-3500 m, 7 Dec 1978 (fl.), *Luteyn & Lebrón-Luteyn 6381* (NY); the Manu National Park, Tres Cruces, 3500-3600 m, 21 Jul 1990 (fl.), *Cano 3922* (F); 7-12 km from Acjanaco Pass on road to Tres Cruces, ca. 3700 m, 4 Apr 1985 (fl. & fr.), *Stein 2476* (F); Cerro Macho Cruz, 3350-3450 m, 23 Jul 1990 (fl.), *Cano 3954* (F); same locality, 3200—3300 m, 12 Jul 1991 (fl.), *Cano & Baldeon 5054* (F).

25. *Symplocos nuda* Humb. & Bonpl., Pl. Aequin. 1: 195. 1805; Tafalla, Fl. Huayaquil. 211, fig. 158. 1989; Ståhl, Fl. Ecuador 43: 20, fig. 9. 1991. **Type:** Ecuador, Prov. Loja, Loja, *Bonpland 3370* (lectotype, P, selected in Ståhl, 1991; isotypes, F fragment, G, P-Bonpl.).

≡ *Praealstonia nuda* (Humb. & Bonpl.) Miers, J. Linn. Soc. London 17: 292. 1879.

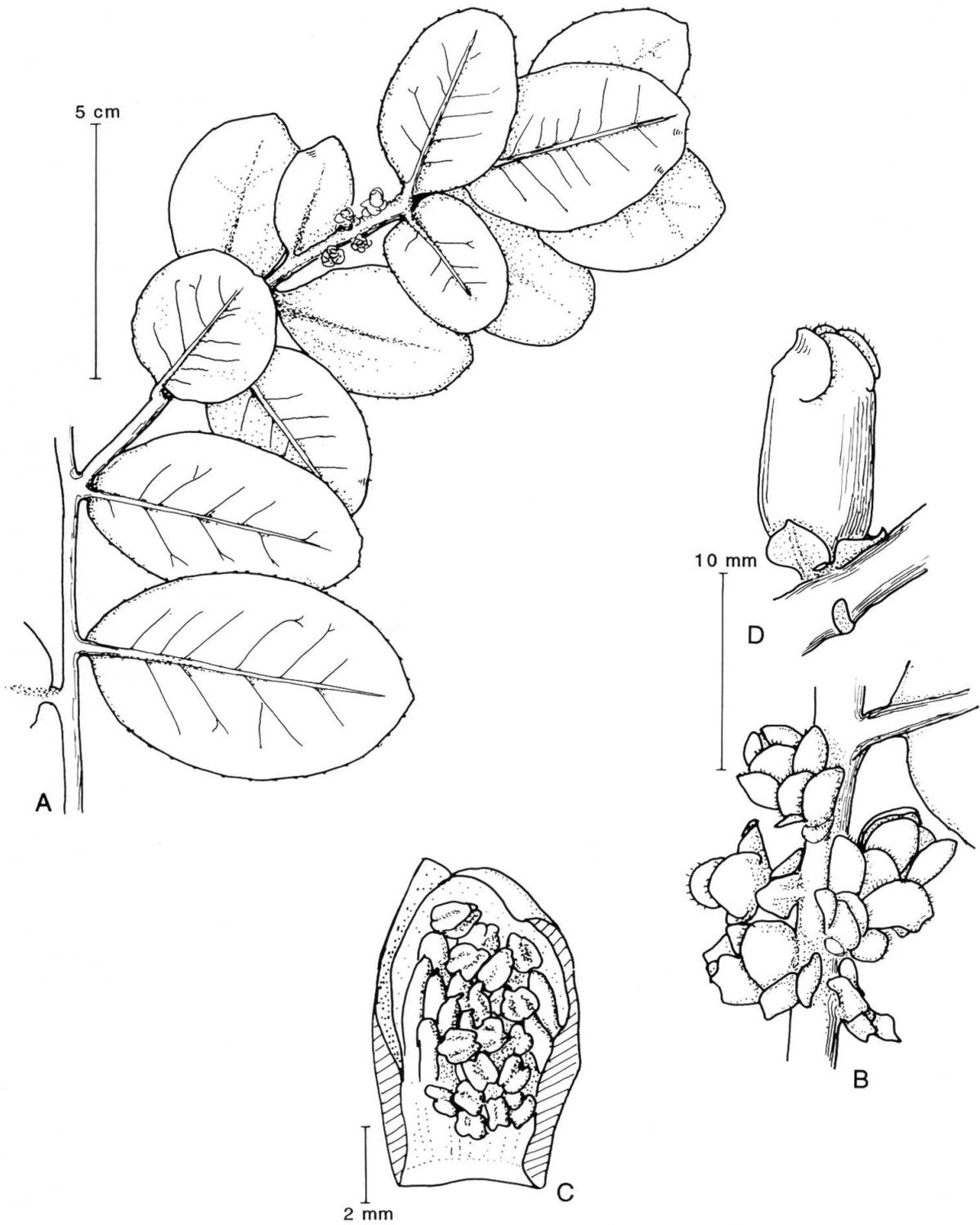


Fig. 13. — *Symplocos psiloclada* Stahl

A, branchlet; B, part of stem with flowers; C, part of corolla with stamens; D, fruit. A-C, *Cano 3922*; D, *Cano 3916* (type).

For additional synonymy, see STÅHL (1991).

Specimen examined. — “Huánuco, Pérou, *Rivero*, 1836” (P).

Symplocos nuda is characterized by rather thin, oblanceolate leaves with serrulate margins and a sparse indumentum on the lower surfaces, fasciculate, 3-florous inflorescences, white corollas, and large fruits. It has been collected several times in central and southern Ecuador, but is known from Peru solely from a single obscure specimen, which possibly was collected by Rivera Lopez. The specimen is in a poor state but available parts show great similarity with plants of *S. nuda* from Ecuador.

26. *Symplocos sandiae* Brand, Repert. Spec. Nov. Regni Veg. 14: 324. 1916. **Type:** Peru, Dept. Puno, Sandía, 3100-3300 m, Apr, year not stated, *Weberbauer 741* (holotype, B, destroyed).

No herbarium material of *S. sandiae* has been found and information about this species can only be gained from the original diagnosis. *Symplocos sandiae* adheres to *S. nana*, *S. sulcinervia*, and *S. incahuasensis* by virtue of its small leaves, but differs from these species by having the leaves sessile, the flowers arranged in few-flowered fascicles, and the young shoots verrucose.

Uncertain taxon

Symplocos weberbaueri Brand, Repert. Spec. Nov. Regni Veg. 2: 13. 1906. **Type:** Peru, Dept. Junín, Prov. Tarma, W of Huacapistana, 3000-3100 m, *Weberbauer 2069* (not seen).

Although describing the branchlets as “ferrugineo-pilosis”, Brand related *Symplocos weberbaueri* to another species described by him, *S. lugubris*, which is characterized by glabrous branchlets. This character, in turn, is the main feature distinguishing *S. lugubris* from *S. tristis*, also described by Brand. In this work both *S. lugubris* and *S. tristis* are treated as synonyms of *S. coriacea* and it seem likely that *S. weberbaueri* should be added to that synonymy.

Excluded taxon

Symplocos compacta Macbr., Candollea 5: 399. 1934. **Type:** Peru, Dept. Huánuco, Río Pozuzo, *Weberbauer 6731* (holotype, F; isotypes, G, US). = *Ternstroemia* sp. (Theaceae).

This species is possibly conspecific with *Ternstroemia quinquepartita* Ruiz & Pav., to which it keys in KOBUSKI's (1942) treatment of *Ternstroemia* in South America. However, the type collection of *S. compacta* does not completely fit Kobuski's description of that species; the leaves of the former is smaller (0.8-1.2 × 0.4-0.7 vs. 2.5 × 1-1.2 cm), the pedicels are shorter (0.4-0.7 vs. 2-2.5 cm), and the stamens are fewer (ca. 50 vs. ca. 100).

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