A REVISION OF THE *PSIDIUM SALUTARE* COMPLEX (MYRTACEAE)

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ABSTRACT

The *Psidium salutare* complex is revised with keys, descriptions, maps, and illustrations and is considered to consist of *P. laruotteanum* (with no additional subspecific taxa) and *P. salutare* (with a total of five varieties). This complex ranges from eastern temperate South America to Mexico and Central America. The following taxa are lectotypified: *Calycolpus parviflorus* Sagot, *Myrtus acutata* O. Berg, *Myrtus blanchetiana* O. Berg, *Myrtus cuspidata* O. Berg, *Myrtus cuspidata* var. *tetramera* O. Berg, *Myrtus incana* O. Berg, *Myrtus mucronata* Cambess., *Myrtus nivea* O. Berg, *Myrtus pubescens* O. Berg, *Myrtus rigida* O. Berg, *Myrtus sellowiana* O. Berg, *Myrtus sericea* var. *fruticosa* O. Berg, *Myrtus suffruticosa* O. Berg, *Myrtus suffruticosa* var. *latifolia* O. Berg, *Psidium guayabita* A. Rich., *Psidium pohlianum* O. Berg, *Psidium salutare* var. *laxum* O. Berg and *Psidium salutare* var. *subalternum* O. Berg. The following new combinations are made: *Psidium salutare* var. *decussatum* (DC.) Landrum, *Psidium salutare* var. *mucronatum* (Cambess.) Landrum, *Psidium salutare* var. *pohlianum* (O. Berg) Landrum, and *Psidium salutare* var. *sericeum* (Cambess.) Landrum.

RESUMEN

Se hace una revisión del complejo de *Psidium salutare* con claves, descripciones, mapas, e ilustraciones. El complejo incluye *P. laruotteanum* (sin taxa subspecíficos adicionales) y *P. salutare* (con un total de cinco variedades). Este complejo se encuentra desde el este de Sur América templada hasta México y Centro América. Se seleccionan lectotipos para los siguientes taxa: *Calycolpus parviflorus* Sagot, *Myrtus acutata* O. Berg, *Myrtus blanchetiana* O. Berg, *Myrtus cuspidata* O. Berg, *Myrtus cuspidata* var. *tetramera* O. Berg, *Myrtus incana* O. Berg, *Myrtus mucronata* Cambess., *Myrtus nivea* O. Berg, *Myrtus pubescens* O. Berg, *Myrtus rigida* O. Berg, *Myrtus sellowiana* O. Berg, *Myrtus sericea* var. *fruticosa* O. Berg, *Myrtus suffruticosa* O. Berg, *Myrtus suffruticosa* var. *latifolia* O. Berg, *Psidium guayabita* A. Rich., *Psidium pohlianum* O. Berg, *Psidium salutare* var. *laxum* O. Berg y *Psidium salutare* var. *subalternum* O. Berg. Se hacen las siguientes combinaciones nuevas: *Psidium salutare* var. *decussatum* (DC.) Landrum, *Psidium salutare* var. *mucronatum* (Cambess.) Landrum, *Psidium salutare* var. *pohlianum* (O. Berg) Landrum, y *Psidium salutare* var. *sericeum* (Cambess.) Landrum.

Psidium (Myrtaceae) is a genus of at least 50 and perhaps as many as 100 species (McVaugh 1968) with a natural range from Mexico and the Caribbean to Uruguay and northern Argentina on the American continents and extending to some east Pacific islands (e.g. Galapagos). A few weedy and/or cultivated species have been spread by humans around the World to tropical and subtropical climates (e.g., *P. guajava* L., *P. cattleianum* Sabine). The great variance in estimates of numbers of species is due to complexes of entities that might themselves be considered single variable species or species groups. One such group is the

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Psidium salutare is complex, which ranges from Mexico to Uruguay and includes such commonly accepted species as *P. laruotteanum*, *P. salutare*, *P. luridum*, *P. incanum*, and *P. pohlianum*. The purpose of this paper is to treat the *P. salutare* complex, as it may be several years before a monograph of the whole genus will be completed.

Psidium is distinguished from other genera by a combination of floral and seed characters discussed in Landrum and Sharp (1989), namely, flowers 5-merous with multiovulate locules; placenta often peltate; seed coat rough or dull, not lustrous, covered with a pulpy layer when wet; hard portion of seed coat (5–)8–30 cells thick at narrowest point, the cells thick-walled, elongate, overlapping. The *P. salutare* complex is differentiated from other species of the genus by 1) a usual habit of subshrub or shrub (but reaching tree size in some populations); 2) a habitat mainly of grasslands or low shrubby growth (cerrado) that is frequently burned; 3) an ability to sprout back from underground stems even after fires; 4) leaves with brochidodromous venation with a well marked marginal vein that closely follows the margin and tertiary veins that form a reticulate-dendritic pattern; 5) relatively small flower buds (4–9 mm) with the calyx open; and 6) a peltate placenta with one or two rows of ovules on the edge of the each lamina.

Another group of similar range (northern Argentina to Venezuela), habit, and habitat is the *Psidium cinereum* complex (*P. cinerum* DC., *P. grandifolium* DC., *P. australe* Cambess., *P. missionum* D. Legrand, and *P. suffruticosum* O. Berg). That complex differs in having leaves with brochidodromous venation (sometimes blending into acrodromous venation proximally) with a marginal vein that broadly arches between the laterals and thus does not closely follow the margin, relatively large flower buds (often over 1 cm long) with the calyx open or closed, and a non-peltate, only slightly protruding placenta with numerous irregular rows of ovules.

A third group that is sometimes confused with the *P. salutare* complex is the *P. oligosperma* DC. complex, which includes *P. sartorianum* (O. Berg) Nied. It differs in having the calyx closed or nearly closed and being shrubs to relatively large trees of woodland or forest habitats.

The great variability in the *Psidium salutare* complex is reflected in the numerous names that have been proposed, including at least 44 basionyms at the specific level and several more subspecific names. After several years of intermittent study of herbarium specimens and fieldwork I have concluded that the *P. salutare* complex is best considered two species: *P. salutare* and *P. laruotteanum*. I recognize *P. salutare* as containing five varieties that correspond closely with geographic regions that sometimes overlap. All the varieties recognized here have been recognized previously as species by other taxonomists, e.g., Berg (1857–1859), de Candolle (1828), Legrand and Klein (1977), and Rotman (1976). Because I often find specimens that are intermediate between the enti-

ties I recognize as varieties of *P. salutare*, I suspect that they freely interbreed when growing sympatrically. I strongly recommend accepting them at the varietal level but realize others may disagree. Thus, in the discussion of the nontypical varieties I indicate the name that the entity would have if recognized at the specific level.

For illustrations I have used portions of scanned herbarium specimens. These images can be viewed in their entirety in color in the Image Library on the ASU Herbarium website http://lifesciences.asu.edu/herbarium/. A list of exsiccatae will also be made available at the same website once this paper is published.

Ecology.—The species of *Psidium salutare* complex are similar in ecological preferences and often grow side by side (e.g., near Brasilia, Brazil). Both grow in fire-induced savannas or scrub vegetation (cerrado). Both sprout back from underground stems after fire or other disturbance. The climates in which they grow often have distinct dry and wet seasons, with freezing temperatures being rare or non-existent. Commonly associated with them are other genera of Myrtaceae, e.g., *Campomanesia*, *Eugenia*, and *Myrcia* and the vegetation is often dominated by Poaceae, Fabaceae, and Asteraceae.

KEY TO THE SPECIES AND VARIETIES OF THE *P. SALUTARE* COMPLEX

1. Young leaves densely covered with hairs beneath, the lower surface of the leaf often hidden.
   2. Leaves silvery lanate, usually less that 1.5 cm wide; apex usually sharply acute to abruptly acuminate; hairs of leaves of two lengths, short and tangled and long and nearly straight; Argentina, Uruguay, Bolivia, Paraguay, Rio Grande do Sul (Brazil). _____ **P. salutare** var. **sericeum**
   2. Leaves yellowish to grayish short tomentose, often over 1.5 cm wide; apex acute to rounded; hairs of leaves uniform in length, all tangled; Paraguay, Bolivia, Paraná (Brazil), north to Venezuela and Costa Rica. _____ **P. laruotteanum**
1. Young leaves glabrous to moderately pubescent beneath.
   3. Venation clearly evident above and below, the marginal vein within 1 mm of the margin; leaves often narrowly elliptic or lanceolate, often 3 or more times as long as wide, often lustrous; leaf apex often apiculate; calyx-lobes longer than calyx tube plus hypanthial tube; Argentina, Uruguay, Paraguay, Rio Grande do Sul, Santa Catarina, Paraná. _____ **P. salutare** var. **mucronatum**
   3. Venation clearly evident or not, the marginal vein usually more than 1 mm from the margin; leaves mostly less than 3 times as long as wide, lustrous or not; leaf apex usually without an apiculum; calyx-lobes longer or shorter than calyx tube plus hypanthial tube.
      4. Leaves narrowly elliptic to elliptic, mostly less than 1.5 cm wide, the apex usually rounded; peduncle 0.5–1.5 cm long; Paraná to Goiás. _____ **Psidium salutare** var. **decussatum**
      4. Leaves various, often lanceolate, usually over 2 cm wide, the apex often acute; peduncle 0.4–3 cm long; Paraguay to Mexico and Caribbean.
         5. Leaves 4–9 cm long, 2–5 cm wide, elliptic to obovate; usually shrubs to small trees; plants glabrous; central Brazil, Bolivia to Venezuela. _____ **Psidium salutare** var. **pohlianum**

5. Leaves 3.3–7 cm long, 1–3.3 cm wide, usually lanceolate, ovate, or elliptic; normally subshrubs; plants glabrous or pubescent; Paraguay to Mexico and Caribbean. _____ **Psidium salutare** var. **salutare**

Psidium laruotteanum Cambess., in Saint-Hilaire Bras. merid. 2:282. 1833. (**Figs. 1, 3**). TYPE: BRAZIL: "Prope Alto da Varginha (prov. Minas Geraes)," *Saint-Hilaire s.n.* (HOLOTYPE: P!, = F-36412!, = ASU photo!).

Psidium aerugineum O. Berg, in Mart., Fl. bras. 14(1):391. 1857. TYPE: BRAZIL: "in campis prov. Rio Grande do Sul," *Sellow s.n.* (HOLOTYPE: B, lost; ISOTYPE: LE, = ASU photo!).

Campomanesia suffruticosa O. Berg, in Mart., Fl. Bras. 14(1):448. 1857. TYPE: BRAZIL: "in prov. Ceara," syntypes: *Gardner 1611 & Gardner 1610* in "hb. Vindob. et Mart." LECTOTYPE: *Gardner 1611* W! (designated lectotype by Landrum, 1986), ISOLECTOTYPES, BR!, K!, G, = F-23367!. SYNTYPE: *Gardner 1610* W!, ISOSYNTYPES K!, S!, US!,).

Psidium basanthum O. Berg, in Mart., Fl. bras. 14(1):601. 1859. TYPE: BRAZIL: "prope Paracatu et Mugi prov. S. Pauli," *Riedel s.n.* (HOLOTYPE: LE, = ASU photo!).

Psidium glaucescens O. Berg, in Mart. Fl. bras. 14(1):600. 1859. TYPE: BRAZIL: "Serra da Chapada prov. Minarum," *Riedel s.n.* (HOLOTYPE: LE,= ASU photo!; ISOTYPE: P!, = F-36410!).

Psidium aerugineum var. *angustifolium* O. Berg, in Mart., Fl. bras. 14(1):601. 1859. TYPE: BRAZIL: (HOLOTYPE: LE; probable HOLOTYPE = ISOTYPE of *Psidium aerugineum*).

Myrtus bergiana Nied., in Engl. & Prantl, Naturl. Pflanzenfam. 3, Abt. 7:66. 1893. New name for *Campomanesia suffruticosa* O. Berg.

Psidium warmingianum Kiaersk., Enum. Myrt. bras. 28. 1893. New name for *Campomanesia suffruticosa* O. Berg.

Psidium warmingianum var. *verticillata* Kiaersk., Enum. Myrt. bras. 28. 1893. TYPE: BRAZIL: "Lagoa Santa," *Lund & Warming s.n.* (HOLOTYPE: C).

Psidium savannarum Donn. Sm., Bot. Gaz.:244. 1897. TYPE: COSTA RICA: "Savana at Buenos Ayres, Comarca de Puntarenas," *Tonduz CR-4033* (HOLOTYPE: CR; ISOTYPE: BR!).

Psidium bergianum (Nied.) Burret, Notizbl. Bot. Gart. Berlin-Dahlem 15:485. 1941.

Myrtus formosus Barb. Rodr., Myrt. Paraguay 16. 1903 TYPE: PARAGUAY: "Ipe hu....Sierra Maracayu," *Hassler 5079* (HOLOTYPE: G!, = ASU photo!).

Psidium capibaryense Barb. Rodr. ex Chodat & Hassl., Bull. Herb. Boissier 7:797. 1907 TYPE: PARAGUAY: "pr. Vaqueria Capibary," *Hassler 4387* (HOLOTYPE: G!, = ASU photo!).

Psidium quinquedentatum Amshoff, Recueil Trav. Bot. Neer. 39:164. 1942. TYPE: SURINAM: "Upper Sipaliwini R. near Brazilian frontier," *Rombouts, H. E. 329* (HOLOTYPE: U; ISOTYPES, MO!, NY!).

Shrub up to ca. 1.5 m high, often less than 0.5 m high, with new shoots arising from a woody subterranean base or rhizome, densely tomentose to sparsely pubescent over most surfaces; hairs to ca. 1.5 mm long, grayish, yellowish-white, to rusty, usually curled and tangled; young twigs usually densely tomentose, remaining so for more than 1 year, the bark of older twigs becoming rough and scaly. **Leaves** normally opposite (rarely in whorls of 3, or spirally arranged) obovate, oblanceolate, elliptic, or oblong, 3–9 (–11) cm long, 1.6–4.5(–6) cm wide, 1.6–3.2 times as long as wide; apex rounded, acute, or acuminate; base obtuse to cuneate; petiole 0–2 mm long, ca. 2 mm wide, tomentose; midvein flat or slightly raised above, prominent below, usually more densely hairy above than surrounding blade, the venation brochidodromous with 7–13 pairs of lateral veins, these weak to prominent, slightly raised above in mature leaves, ascending at an angle

FIG. 1. *Psidium laruotteanum*. **A,** *Ribas & Pereira 1812* (ASU), young branch of 0.7 m shrub; note large leaves. **B & C,** *Hatschbach 53638* (ASU). **B,** middle portion showing full stature of plant with new growth arising from ground level stem; **C,** close view of flowers.

of ca. 45 degrees, nearly straight, joining an equally prominent, shallowly arcing marginal vein near (1–2 mm) the margin, the tertiary veins weaker, alternating with the laterals, branching, arising from the marginal vein; blades stiffly coriaceaous at maturity, drying gray-green to reddish-brown (under hairs), the lower surface usually densely tomentose, the upper surface usually sparsely to moderately pubescent. **Flower bud** ovoid to pyriform, 4–9 mm long; peduncles solitary in the axils of leaves or bracts, 0.2–3 cm long, 1–1.5 mm wide, normally uniflorous (rarely triflorous), densely pubescent; bracteoles linear to narrowly elliptic, 5–8 mm long, 1–1.5 mm wide, densely pubescent, caducous at about

anthesis; calyx open, prolonged ca. 1 mm beyond the ovary summit, the lobes about triangular, 1–4 mm long, 1–3 mm wide, densely pubescent within and without, sometimes less pubescent than the hypanthium; petals suborbicular to obovate, 8–10 mm long, subglabrous; hypanthium funnel-shaped, 2–5 mm long, densely tomentose; disk ca. 4 mm across; stamens 70–200, 5–9 mm long; anthers suborbicular, 0.5–1 mm long; style 6–8 mm long; ovary (2–)3(–4)-locular; ovules 7–19 per locule, reflexed, usually uniseriate on the margin of a peltate placenta. **Fruit** subglobose, 1.2–2 cm long; seeds 5–20, more or less rounded, 4–7 mm long.

Representative specimens. **BOLIVIA. Santa Cruz:** Velasco Prov., P. N. Noel Kempff M., Campamento Las Gamas (14°48'52"S, 60°24'08"W), 900 m, 1 Nov 1995 (fr), *Killeen & Grinwood 7819* (ASU).

BRAZIL. Distrito Federal: ca. 20 km NE de Brasilia na estrada Brasilia/Fortaleza, 20 Sep 1967 (fl), *Haas Sr. et al 69* (HB); Plano Piloto, Brasilia D.F., 20 Sep 1962 (fl), *Heringer 9007* (HB, NY); Horto do Guara Brasilia D.F., 5 Jan 1962 (fr), *Heringer 881021* (HB); Jardim Botânico de Brasilia (15°52'S, 47°50'W), 1070 m, 31 Aug 1995 (st), *Poença et al. 1444* (ASU, UB); Chapada da Contagem, road NE edge of P. N. de Brasilia, Rua 4, 1160 m, 10 Sep 1995 (fl), *Proença et al. 1456* (ASU, UB); entre Sobradinho/Planaltina, KM 20, 3 Sep 1995 (st), *Proença et al. 1473* (ASU, UB); Samambaia, Parque Boca da Mata, 3 Sep 1995 (fr), *Rezende 186* (ASU); S side of Campus, 16 Nov 1977 (fr), *Universidade de Brasilia, Taxonomy Class 552* (US). **Goiás:** Rod. GO-118, 5–8 km a W de Alto Paraíso, 1200 m, 16 Oct 1990 (fl), *Hatschbach 54613* (ASU); São João da Alianca, 30 Oct 1979 (fr), *Heringer 2650* (NY); Cidade Ecletica (50 km de Brasilia), 10 Nov 1973 (fl), *Heringer 12962* (NY, UB); Serra dos Pireneus, ca. 20 km E of Pirenopolis, 1000 m, 16 Jan 1972 (fr), *Irwin et al. 34281* (NY); Mun. de Mineiros (17°28'S, 52°31'W), 800 m, 12 Dec 1983 (fr), *Magnago 334* (HRB); Cristalina, ca. 2 km N of turnoff to Cristalina on highway to Brasilia, 1150 m, 9 Sep 1995 (st), *Proença et al. 1447* (ASU, UB); Padre Bernardo, 10 km S de Brazlandia (15°43'S, 48°12'W), 13 Nov 1990 (fr), *Viera et al. 610* (ASU). **Mato Grosso:** Chapada dos Guimaraes, just above Cachoeira Furada, Reserva Buriti, 720 m, 12 Oct 1973 (fl), *Prance et al. 18827* (NY); Alto do Araguaia, 15 km NO de Alto do Araguaia na estrada para Itiquira (17°15'S, 53°21'W), 18 Sep 1996 (st), *Proença et al. 1526* (ASU, UB). **Mato Grosso do Sul:** Brasilandia, proximidade do rio Pardo (21°40'30"S, 52°40'W), 23 Oct 1981 (fl), *Dambros 215* (HRB); 6 km N pov. Agua Clara margen esq. estr. que liga Faz. Uniflora, Gema e outras (20°24'S, 52°55'W), 12 Nov 1981 (fr), *Guimaraes 1339* (HBR, RB); a 6 km do Posto São Sebastiao - Tres Lagoas (20°05'S, 51°51'W), 26 Jan 1982 (fr), *Guimaraes 1367* (HBR, RB); Camapuã, Capão Redondo, 11 Nov 1973 (fl), *Hatschbach 33063* (MBM); Coxim, Reserva do Exército (18°30'S, 54°42'W), 19 Sep 1996 (st), *Proença et al. 1550* (ASU, UB). **Minas Gerais:** Rodov. Brasilia - Belo Horizonte, Paracatú, 3 Jun 1960 (fl), *Heringer 7566* (UB); Serra do Espinhaco, ca. 48 km W of Montes Claros, 950 m, 25 Feb 1969 (fr), *Irwin et al. 23866* (MO, NY); Morro das Pedras, ca. 37 km NE of Patrocinio, 1000 m, 29 Jan 1970 (fr), *Irwin et al. 25604* (NY); Serra do Cipó, between Veu da Noiva and Alto do Palacio (ca. 19°15'S, 43°40'W), 1000–1400 m, 31 Jan 1982 (fr), *Landrum 4242* (MBM, NY); entre Cruzilha e Mindurim, 27 Nov 1967 (fr), *Mattos 15225* (SP); prox. ao Horto Florestal, 27 Nov 1940 (fl), *Occhioni s.n.* (RB); Diamantina, rd. to São João da Chapada, 17 km NW of jct. with rd. from Curvelo-Diamantina, 1180 m, 23 Nov 1985 (fr), *Thomas et al. 4868* (ASU). **Paraná:** Parque Vila Velha, Mun. Ponta Grossa, 850 m, 4 Oct 1963 (fl), *Hatschbach 10234* (MBM); Chapadao S. Antonio (Mun. Arapoti), 11 Oct 1968 (fl), *Hatschbach 19977* (MBM); Rio S'Ana, Mun. Cerro Azul, 6 Oct 1977 (fl), *Hatschbach 40353* (HRB); Mun. Senges, Rod. PR-11, prox, km 252, 18 Nov 1989 (fl), *Hatschbach 53638* (ASU). **São Paulo:** Botucatu, 14 km E of São Manuel (22°45'S, 48°25'W), 550 m, 2 Nov 1973 (fl), *Gottsberger 11–21173* (ASU); Mun. Moji-Guaçu: Faz. Campininha, 9–11 km NNW de Padua Sales, 28 Sep 1960 (fr), *Mattos 8339* (SP); 3 km ao sul de Pilar do Sul, estado de São Paulo, 21 Oct 1966 (yfl), *Mattos 14088* (SP); Itararé, campos de São Pedro na Serra de Bom Sucesso, Faz. Ventania, 1000 m, 21 Oct 1966 (fr), *Mattos 14119* (SP); estrada Itararé - Itapeva, a ponte do Rio Verde (24°05'06"S, 49°12'06"W), 14 Nov 1994 (fr), *Souza et al. 7244* (ASU).

COSTA RICA. Puntarenas: on road to Salitre, ca. 2 km from Buenos Aires, ca. 500 m, 11 Sep 1989 (st), *Landrum 6560* (ASU); Buenos Aires de Osa, Barrio el Carmen, 22 Jul 1987 (fl), *Sanchez & Poveda 1260* (MO).

GUYANA. Pakaraima Mts., near base of Malakwalai-Tipu (4°48'N, 60°12'W), 700 m, 9 Jul 1994 (fr), *Henkel & Chen 5522* (ASU).

PARAGUAY. Canindeyu: Ygatimí, Reserva Natural del Bosque Mbaracayú, Nandurocai (ca. 24°20'S, 55°40'W), 19 Nov 1995 (st), *Landrum 8860* (ASU, FCQ).

VENEZUELA. Bolivar: Santa Elena de Uairén, 2–4 Mar 1972 (fl), *Bunting & Holmquist 4764* (NY); Roscio, ca. 3 km NW de San Ignacio de Yuruaní (5°01'N, 61°8'W), 900 m, 20 Jun 1983 (fr), *Huber & Alarcon 7512* (MO, NY, VEN). **Zulia:** Sierra de Perijá, above Pishikakao, 400–1850 m, 1–3 Apr 1972 (fl), *Steyermark et al. 105766* (MICH).

Psidium rufum DC. (= *P. widgrenianum* O. Berg), which ranges from Paraná to Goiás and Bahia, is sometimes confused with *P. laruotteanum*. They are contrasted in the key below.

1. Shrub usually no more than 1.5 m high; hairs grayish, yellowish, or reddish brown, usually curled and tangled, obscuring the lower leaf surface; midvein and lateral veins flat or slightly raised above; petiole 0–2(–3) mm long; calyx-lobes triangular or subtriangular, 1–4 mm long. ——— **P. laruotteanum**
1. Shrub or tree to 8 m high; hairs mainly reddish brown, mostly erect, usually not obscuring the lower leaf surface; midvein and often lateral veins impressed above; petiole (2–)3–9 mm long; calyx-lobes mainly broadly rounded, 0.5–2 mm long (rarely triangular and up to 4 mm long). ——— **P. rufum**

Psidium laruotteanum is variable as to leaf size and shape (Fig. 1). Smaller plants, especially new sprouts, tend to have small elliptic leaves and larger plants tend to have large oblanceolate or obovate leaves. Since a similar pattern is seen throughout the range, I do not suspect a genetic basis for this difference.

Berg cites the type of *Psidium aerugineum* var. *angustifolium* as being at LE but cites no collector or locality. A specimen at LE, collected by Sellow, annotated by Berg as *Psidium aerugineum*, I considered to be an isotype of that taxon. I suspect that this same specimen is the holotype of *Psidium aerugineum* var. *angustifolium*, but it was never annotated by Berg as such. It has relatively narrow young leaves, which Berg mentions in the protologue of var. *angustifolium*. I have found two other cases where Berg described a taxon at LE but seems not to have annotated a specimen (*Psidium riedelianum* O. Berg, in Mart., Fl. bras. 14(1):602. 1859) and *P. pohlianum* var. *brevipes* discussed below under *P. salutare* var. *pohlianum*.

Psidium salutare (H.B.K.) O. Berg, Linnaea 27:356. 1856. *Myrtus salutaris* H.B.K., Nov. gen. sp. 6:132. 1823. TYPE: "Carichanam, ad ripam Orinoci," *Humboldt & Bonpland s.n.* (HOLOTYPE: P, = F-36905!; ISOTYPE: B, =B1263/11 photo at MICH!).

Subshrub or shrub up to ca. 1.5 m high (often less than 0.5 m high), with new shoots arising from a woody subterranean base or rhizome, with shoots often short lived, or in one variety sometimes reaching tree size (up to 10 m high), glabrous, glabrous except for disk and calyx-lobes within, or sparsely to mod-

erately pubescent on young growth, or silvery lanate in one variety; hairs when present whitish, 0.3–1 mm long; young twigs glabrous to densely pubescent, reddish-brown, becoming grayish, the older bark gray to reddish-brown, becoming flaky. **Leaves** opposite or alternate on some shoots (rarely ternate), ovate, lanceolate, elliptic, narrowly elliptic, obovate, oblanceolate, (1–)2–9 cm long, 0.6–5.5 cm wide, 1.4–5 times as long as wide, the margin entire to somewhat revolute; apex obtuse, acute to acuminate, abruptly acuminate, sometimes apiculate; base cuneate, obtuse, or rounded; petiole 0–2 mm long, 1–1.5(–2) mm wide; midvein normally flat or slightly raised above, prominent below, the venation brochidodromous, with 5–12 pairs of lateral veins, these prominent to scarcely visible, leaving the midvein at an angle of ca. 45 degrees or less, nearly straight, joining a clear shallowly arcing, equally prominent marginal vein near (0.2–2 mm) the margin, the tertiary veins forming a dendritic pattern between the laterals; blades stiffly coriaceous at maturity, drying reddish-brown to gray-green, dull or lustrous above, the cellular pattern sometimes visible with a dissecting scope. **Flower buds** pyriform, 4–7 mm long; peduncles, axillary, uniflorous or triflorous, 0.4–3.5 cm long, 0.5–0.8 mm wide; bracteoles linear to lanceolate, deciduous or persisting, 2–9 mm long, 0.5–2 mm wide; calyx open, cup-like, tearing ca. 1 mm between the lobes at anthesis, the lobes broadly rounded to ovate-triangular, 0.5–5(–6) mm long, 2–3 mm wide, glabrous to lanate without, usually puberulent (less often glabrous) within; petals obovate to suborbicular, 5–11 mm long; hypanthium obconic to campanulate, 2–4 mm long, extended beyond the ovary summit ca. 1 mm; disk 3–4 mm across, puberulent or glabrous; stamens 100–200, 5–12 mm long; anthers subglobose to oblong, 0.3–0.8 mm long; style 5–8 mm long; ovary 2–3-locular; ovules 9–48 per locule, uniseriate or biseriate along edge of the placenta, this strongly to scarcely peltate. **Fruit** globose to subglobose, 8–10 mm in diam.; seeds 4–20, 4–8 mm long, subovoide.

Psidium salutare is a widespread and variable species. There are a few recognizable forms that correspond to geographic regions that I recognize as varieties, but the limits between these varieties are often unclear. Legrand and Klein (1977, p. 723) also noted difficulty in distinguishing these entities, but chose to retain them at the specific level. One might speculate that these morphological types represent adaptive syndromes of characters for somewhat different niches. In-depth studies of the entities, including population samples, field studies, estimates of genetic distinctness and exchange, and transplant experiments should prove interesting in the future, especially for sympatric varieties, e.g., var. *sericeum* and var. *mucronatum*, or var. *decussatum* and var. *pohlianum*. As recognized here, there is still considerable variation in var. *salutare* to which specimens unassignable to any of the other varieties are tentatively placed.

Psidium salutare var. **salutare**

Psidium salutare (HBK) O. Berg, Linnaea 27:356, as to type. 1856. (**Figs. 2E, 4, 5**).

Myrtus arayan HBK, Nov. gen. sp. 6:133. 1823. TYPE: PERU [ECUADOR]: "prope Gonzanamam Peruvianorum, ad ripam fluminis Catamayo," *Humboldt & Bonpland s.n.* (HOLOTYPE: P,= F-36874!).

Psidium ciliatum Benth., in Hook. J. bot. 2:318. 1840. TYPE: BRITISH GUIANA: "dry savannahs," *Schomburgk s.n.* (HOLOTYPE: K; ISOTYPES [*Schomburgk 365*], P!, = ASU photo!, W, = F-31434!).

Eugenia guayavillo Benth., Plantas Hartwegianas, 174. 1845. TYPE: MEXICO: "Popayan," *Hartweg 977* (HOLOTYPE: K, = ASU photo!).

Psidium guayabita A. Rich., Ess. Fl. Cub. 581. 1846. TYPE: CUBA: "Vuelta de Abajo," *J. M. Valenzuela s.n.*, (2 sheets at P!, ["TYPE" LECTOTYPE, here designated], = ASU photo!).

Psidium salutare var. *subalternum* O. Berg, Linnaea 27:357. 1856. TYPE: BRITISH GUIANA: "ad flumen Tacutu," *Rich. Schomburgk 498 & 1252; Rob. S. 365* (SYNTYPES B, lost; ISOSYNTYPES [*Schomburgk 365*], P! [LECTOTYPE, here designated], W, = F-31434!, = ASU photo!).

Psidium oerstedeanum O. Berg, Linnaea 27:360. 1856. TYPE: COSTA RICA & GUATEMALA: "Provincia Guanacaste (Oersted) & Rincón in Guatemala (Friedrichsthal)," *Oersted s.n. & Friedrichsthal 1226* (SYNTYPES W and "hb. Oersted. no16"; SYNTYPE: C [*Oersted 4004*], = F-50931!).

Psidium salutare var. *laxum* O. Berg, Linnaea 27:357. 1856. TYPE: VENEZUELA: "Orinoco, ad Upata," *Otto 987* (HOLOTYPE: B, lost; ISOTYPE: LE [LECTOTYPE, here designated], = ASU photo!; possible ISOTYPE: W = F-31435!).

Psidium salutare var. *stricta* O. Berg, Linnaea 27:356. 1856. Inadmissible name to be replaced by *P. salutare* var. *salutare*.

Myrtus rigida O. Berg, in Mart., Fl. bras. 14(1):417 1857. TYPE: BRAZIL: "ad Paranapitanga distr. Itapeva in prov. S. Pauli," *Sellow s.n.* (HOLOTYPE: B, lost; ISOTYPE: P! [LECTOTYPE, here designated], = F-36443!, ASU photo!).

Myrtus blanchetiana O. Berg, in Mart. Fl. bras. 14(1):418. 1857. TYPE: BRAZIL: "Bahia," *Blanchet 3310* (HOLOTYPE: B, lost; ISOTYPES, W, G = F-23481!, P! [LECTOTYPE, here designated], = ASU photo!).

Myrtus sagraea O. Berg, Linnaea 30:710. 1860. TYPE: CUBA: without locality, *De la Sagra s.n.* (HOLOTYPE: P!, =ASU photo!).

Psidium lanceolatum O. Berg, Linnaea 30:704. 1861. TYPE: BRAZIL: without locality, (HOLOTYPE: P!, = ASU photo!).

Psidium guayabita var. *oblongata* Griseb., Cat. pl. Cub. 91. 1866. TYPE: CUBA: without locality, *Wright 2436* (HOLOTYPE: GOET; ISOTYPES, MICH!, MO!, NY!, = ASU photo!, P!).

Psidium guayabita var. *angustifolia* Griseb., Cat. pl. Cub. 91. 1866. TYPE: CUBA: without locality, *Wright 2436a* (HOLOTYPE: GOET).

Calycolpus parviflorus Sagot, Ann. Sci. Nat. (Paris) VI. 20:181. 1885. TYPE: FRENCH GUIANA: without locality, *Leprieur s.n.* (HOLOTYPE: P!, 2 specimens, ["TYPE" LECTOTYPE, here designated], = ASU photo!).

Psidium deltosepalum Barb. Rodr. ex Chodat & Hassl., Bull. Herb. Boissier 7:799. 1907. TYPE: PARAGUAY: "pr. Vaqueria Capibary," *Hassler 4400* (HOLOTYPE: G!, 3 specimens, =ASU photos!; ISOTYPES, NY!, P!).

Psidium valenzuelense Barb. Rodr. ex Chodat & Hassl., Bull. Herb. Boissier 7:798. 1907. TYPE: PARAGUAY: "pr. Valenzuela," *Hassler 6947* (HOLOTYPE: G!, 2 specimens; ISOTYPE: NY!).

Psidium arayan (HBK) Burret, Notizbl. Bot. Gart. Berlin-Dahlem 15:484. 1941.

Psidium gentlei Lundell, Amer. Mid. Nat. 29:483. 1943. TYPE: BELIZE: TOLEDO DIST.: "Monkey River, Jenkins Creek," 1 Aug 1942 (fr), *Gentle 4062* (HOLOTYPE: MICH!; ISOTYPES MO!, NY!).

Myrcianthes reptans D. Legrand, Bol. Univ. Paraná Fac. Farm. 27:1–3. 1971. TYPE: BRAZIL: Paraná, "Mun. Palmeira, Faz. S. Amelia," *Hatschbach 17697* (HOLOTYPE: MVM; ISOTYPE: HB!, =ASU photo!).

FIG. 2. *Psidium salutare*, branchlets with leaves and flowers or young fruits. **A**, *Irwin et al. 10699* (NY), var. *decussatum*. **B**, *Landrum 3856* (NY), var. *mucronatum*. **C**, *Irwin et al. 9101* (NY), var. *pohlianum*. **D**, *Venturi 7582* (F), var. *sericeum*. **E**, *Burch 6180* (NY), var. *salutare*.

Usually a subshrub less than 0.5 m high; leaves elliptic, lanceolate, oblanceolate, ovate, or obovate, 3–7 cm long, 1–3.3 cm wide, 1.6–3.2 times as long as wide, glabrous to moderately pubescent; venation obscure to moderately pronounced, the marginal vein usually about 1 mm from margin; apex usually without an apiculum; peduncle 1–5 cm long, uniflorous or triflorous; calyx-lobes shorter or longer than the hypanthial tube plus calyx tube, acute to rounded.

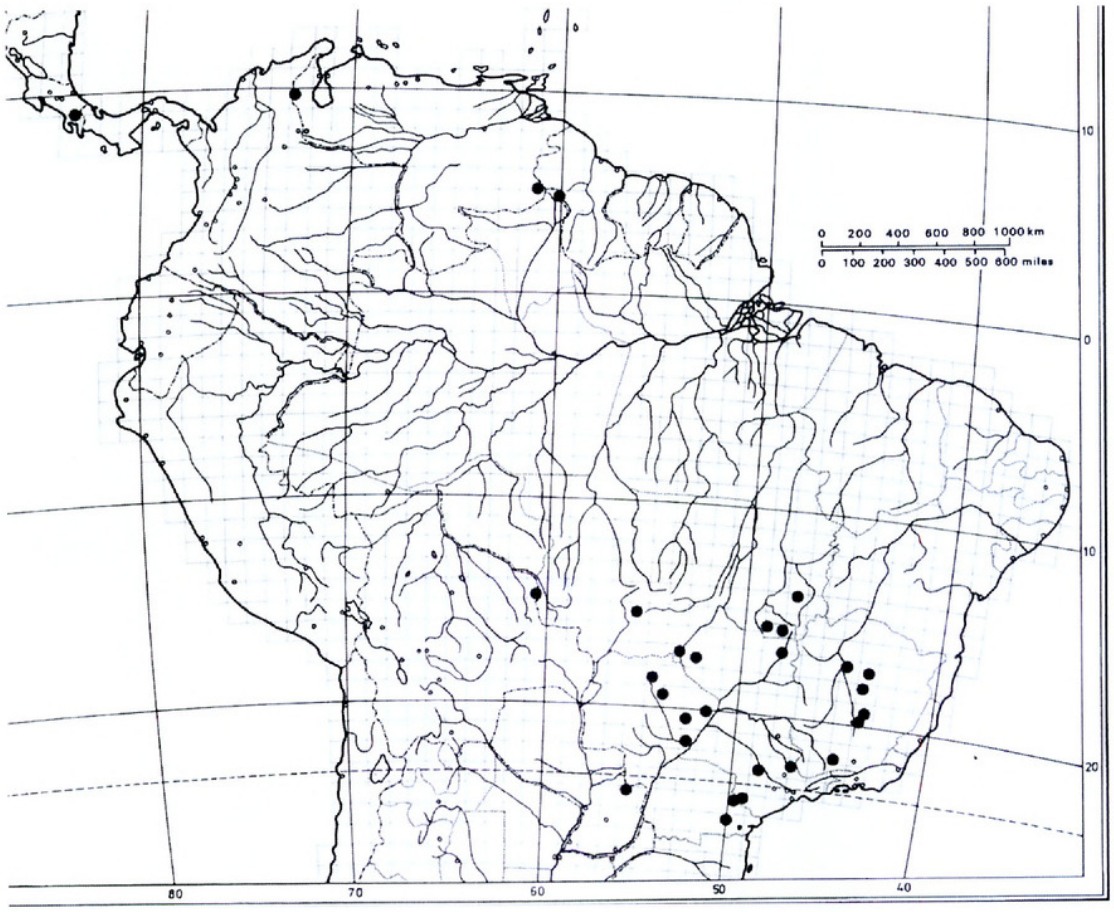

FIG. 3. Distribution of *Psidium laruotteanum*.

Representative specimens. **BELIZE. El Cayo:** Mountain Pine Ridge, San Agustin, Jul -Aug 1936 (fr), *Lundell 6560* (MICH, MO, NY); upper 200 m of Baldy Beacon, ca. 1000 m, 10 Jul 1970 (fr), *Spellman 1647* (MO).

BOLIVIA. Santa Cruz: P. N. Noel Kempff Mercado, Los Fierros (14°36'20"S, 60°51'30"W), 200 m, 26 Oct 1993 (fr), *Killeen et al. 5943* (ASU); P. N. Noel Kempff Mercado, 6 km NE del campamento Las Gamas (13°53'41"S, 60°48'46"W), 850 m, 28 Oct 1995 (fl), *Rodriguez & Surubí 549* (ASU).

BRAZIL. Ceará: Chapada do Araripe, ca. 15 km SW of Crato on BR-122 (7°30'S, 39°35'W), 860 m, 9 Jan 1983 (fl), *Plowman & Tavares Cacula 12704* (F). **Distrito Federal:** margem do lago Paranoa, 9 Nov 1978 (fr), *Heringer 701* (NY). **Goiás:** Corubaiba, Rio Corumba, Foz do Corrego (17°48'S, 48°21'W), 21 Sep 1993 (fl), *Da Silva et al. 1880* (SP); Serra do Caiapó, 35 km S of Caiaponia on road to Jatai (17°12'S, 51°47'W), 800–1000 m, 29 Oct 1964 (fl), *Irwin et al. 7552* (CAS); Serra dos Cristais, ca. 10 km W of Cristalina (17'S, 48'W), 1200 m, 4 Mar 1966 (fr), *Irwin et al. 13449* (MICH, MO, NY). **Mato Grosso:** Barra do Garças, 210 km along new road NNE of village of Xavantina, Corrego do Gato, ca. 450 m, 4 Oct 1968 (fl), *Eiten & Eiten 9058* (US); General Carneiro, Meruri [Meruré], Sep 1963 (fl), *Hartmann 369* (SP); 1 km NE of Garapú (13° 12'S, 52° 34'W), 300–400 m, 1 Oct 1964 (fl), *Irwin & Soderstom 6506* (MICH, MO, NY, RB); Mirassol D'Oeste, entre Cáceres e Pôrto Esperidiã, 23 Oct 1983 (fl), *Saddi 3477* (RB). **Minas Gerais:** São Gonçalo do Rio Preto, P. E. do Rio Preto (ca. 18°6'S, 43°20'W), 20 Feb 2002 (fr), *Lombardi 4583* (ASU); Beltim, Serra da Caveira, 1600 m, 11 Mar 1945 (fr), *Williams & Assis 6227* (MO). **Pará:** Martins Pinheiro, Campina do Mangaba, 28 Feb 1975 (yfr), *Coradin 141* (MICH); Maracaná, ca. 73 airline km NE of Castanhal, Martins Pinherio (0°52'S, 47°35'W), 50 m, 6 Apr 1980 (fr), *Davidse*

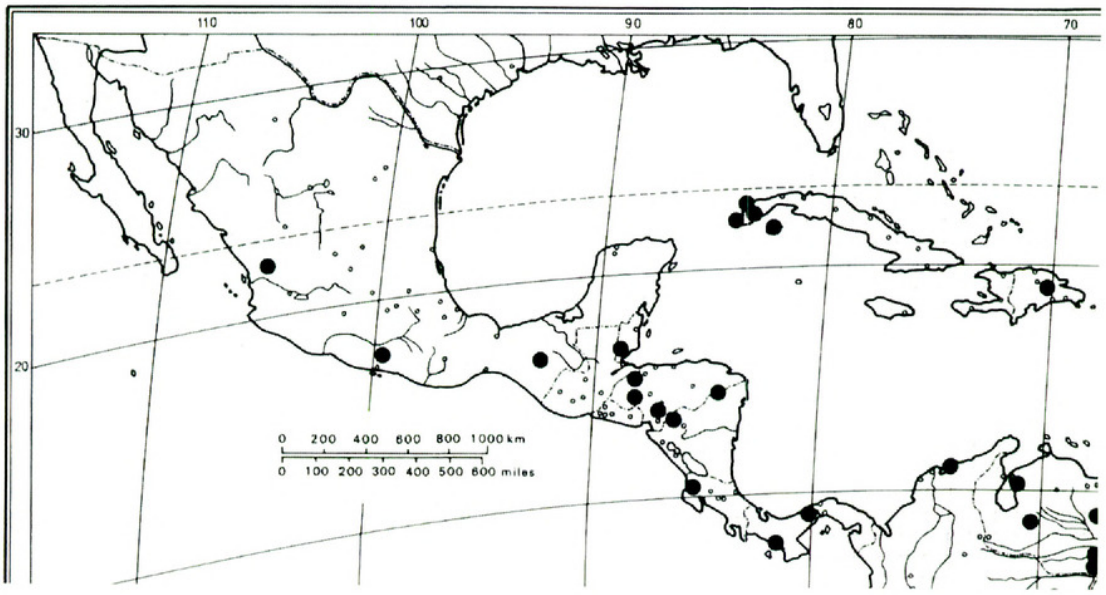

Fig. 4. Distribution of *Psidium salutare* var. *salutare* in northern part of range.

17923 (NY). **Paraná:** Lapa, Rio Passa Dois, 900 m, 5 Oct 1958 (fl), *Hatschbach 5048* (MBM); Palmeira, Rod. Do Café, Rio Tibagi, 780 m, 18 Nov 1962 (fl), *Hatschbach 9636* (MBM); Campo Mourã, 14 Oct 1965 (fl), *Hatschbach 12997* (MBM); Balsa Nova, Barra do Rio dos Papagaios, 14 Mar 1968 (fr), *Hatschbach 18749* (MBM); Ponta Grossa, Vila Velha, 7 Oct 1969 (fl), *Hatschbach 22326* (MBM); Guarapuava, Entre Rios, 21 Oct 1969 (fl), *Hatschbach 22551* (MBM); Jaguariaiva, Lageado 5 Reis, 18 Sep 1975 (fl), *Hatschbach 37098* (MBM); Alm. Tamandaré Rodovia dos Minerios, Rio Barigui, 9 Feb 1982 (fl), *Hatschbach 44564* (MBM); Palmeira, Faz. Santa Rita, ca. 65 km W of Curitiba (ca. 25°25'S, 49°50'W), 2 Dec 1981 (fl), *Landrum 3966* (MBM, NY); Rio Branco do sul, along road to Cerro Azul (ca. 25°S, 40°20'W), 7 Jan 1982 (fr), *Landrum 4112* (CAS, MBM, MICH, MO, NY). **Rio Grande do Sul:** Fazenda Faxinal, Arroio dos Ratos, 13 Apr 1982 (fl), *Hagelund 13890* (CTES). **Santa Catarina:** Campo Erê, 24 km W of Campo Erê (26° 22' S, 53° 11'W), 900–1000 m, 7 Dec 1964 (fl), *Smith & Klein 13826* (MICH, NY). **Tocantins:** Arraias, km 15–20 a W na rod. para Paranã, 10 Nov 1991 (fl), *Hatschbach 56024* (MBM).

COLOMBIA. Caqueta: San Vicente del Caguán, laguna "El Retorno," (74°17.0'W, 1°5.43'N), 265 m, 26 Jan 1990 (fl), *Betancur & Porras 1517* (MO). **Los Llanos:** Boyacá, La Comarca, ca. 15 km E of Barranca de Upia, 300 m, 12 Feb 1939 (fl), *Haught 2602* (MICH). **Sta. Marta:** Onaca, 2500 ft, 28 Aug 1898 (fl), *Smith 2509* (NY). Vichada: Parque Natural "El Tuparro," ca. 11 km NE of El Tapón on rd. to Centro Administrativo (5°12'N, 69°4'W), 18 Mar 1985 (fl), *Zarucchi & Barbosa 3749* (ASU).

COSTA RICA. Guanacaste: entre La Cruz et Liberia, 30 Jan 1909 (fl), *Brenes s.n.* (NY); Lomas Barbudal, Bagaces, 100 m, 10 May 1984 (fr), *Gomez & Herrera 23021* (ASU); 7 km NW of Bagaces, Comelco Ranch, 29 May 1971 (fl), *Heithaus 128* (MO); Santa Rosa National Park, across road from entrance (10° 53'N, 85° 35'W), 250–300 m, 28 Jun 1977 (fl), *Liesner 2700* (MO); al norte de la ciudad de Liberia, camino al Parque Nac. Rincón de la Vieja, 2 Oct 1985 (fr), *Gomez 23687* (MO).

CUBA. Isla de la Juventud (Isla de Pinos): La Cañada, 16 Feb 1916 (fl), *Britton et al. 14401* (NY); Sierra de Los Caballos, 2 Mar 1916 (fl), *Britton 15160* (NY,US); near Nueva Gerona, 1904 (fl, fr), *Curtiss 350* (MO, NY, US). **Piñar del Río:** vicinity of Herradura, 26 Aug 1910 (fr), *Britton et al. 6450* (NY); Piñar del Río to Viñales, 200 m, 12 Sep 1910 (fr), *Britton 7309* (NY); near el Guama, 9 Mar 1900 (fl), *Palmer & Riley 212* (US); Laguna Jovero to Laguna Herradura, 12 Dec 1911 (st), *Shafer 10922* (NY); Arroyo del Sumidero, 7–9 Aug 1912 (fl), *Shafer & Br. León 13680* (NY); San Juan y Martinez, 7 May 1988 (fl), *Urquiola et al. 4522* (ASU); Mantua, 8 Nov 1990 (fr), *Urquiola et al. 6678* (ASU).

Fig. 5. Distribution of *Psidium salutare* var. *salutare* in South America (open circles), and *P. salutare* var. *sericeum* (dots).

DOMINCAN REPUBLIC. Sanchez Ramirez: Cotuí, 6 Sep 1952 (fr), *Jimenez 2433* (MICH, US).

ECUADOR. Loja: Zambi, camino a Tablaso (3°55'S, 79°30'30"W), 1500 m, 18 Mar 1995 (st), *Eynden & Cueva 294* (ASU, QCA).

EL SALVADOR. Ahuachapan: 1923, *Padilla 633* (US).

GUATEMALA. Chiquimula: Volcán Ipala, near Amatillo, 900–1510 m, 25 Oct 1939 (fl), *Steyermark 30553* (NY).

GUYANA. Rupununi Northern Savana, Annai Hillside, stand 37, ca. 350 ft, 7 Oct 1963 (fl), *Goodland 926* (NY); Potaro-Siparuni, Pakaraima Mts., Tay-klay-o Creek, upper Ireng River (4°50'N, 59°58'W), 650–825 m, 19 Jan 1993 (yfr), *Henkel 880* (ASU); 7 km SW of Aishalton, Boidkorodai Mt., S Rupununi Savana (2°25'N, 59°20'W), 220 m, 18 Nov 1993 (fr), *Henkel 3479* (ASU); Kanuku Mts., Rupununi R., Bush Mouth near Witaru Falls (3°4'N, 59°28'W), 90–120 m, 9 Feb 1985 (fl), *Jansen-Jacobs et al. 87* (ASU, MO); NE from Karasabai, to Yourora Creek (4°03'N, 59°30'W), ca. 100 m, 7 Mar 1989 (fr), *McDowell 2154* (ASU).

HONDURAS. Comayagua: Siguatepeque, Escuela Nacional de Ciencias Forestales, 26 May 1972 (fl), *Burch 6180* (EAP, MO, NY). **El Paraíso:** Guinope, 2.5 mi S of the intersection of El Zamorano-Morolica and Guinope rd (13°51'50"N, 86°58'43"W), 1370 m, 16 Jun 1994 (fl), *Davidse et al. 35004* (ASU); between Manzaragua and San Lucas, 1350 m, 22 Sep 1968 (fr), *Molina 22698* (EAP, NY); 10 mi S of Yuscarán, ca. 1700 ft, Jul 1962 (yfr), *Webster 12011* (MICH); 5 km E of Ojo de Agua, 760 m, 4 Sep 1946 (fr), *Williams & Molina 10484* (EAP, MICH, MO). **Gracias a Dios:** Caserio de Rus-Rus, vaguada de Río Rus-Rus, Jul 1977 (fr), *Nelson & Romero 4126* (EAP, MO). **Francisco Morazán:** road from Comayagua to Tegucigalpa, 6.7 km SW of Parque Aurora, near KM 27, ca. 1300 m, 27 Aug 1989 (fr), *Landrum 6480* (ASU); ca. 25 km NW of Tegucigalpa on road to Comayagua, ca. 1000 m, 27 Aug 1989 (fr), *Landrum 6520* (ASU).

MEXICO. Chiapas: Concordia, 543 m, 16 Jun 1945 (fl), Matuda 5905 (MO); Rocky plains, Monserrate, Jun 1925 (Fl), *Purpus 10306* (US). **Guerrero:** Agua del Obispo, 34 km W of Chilpancingo on road to Acapulco, ca. 900 m, 23 Jul 1989 (fr), *Landrum & Landrum 6338* (ASU, MEXU). **Nayarit:** Mina Esperanza Rosa Morada, (fl), *Ortega 6658* (US); foothills between Acaponeta y Pedro Pablo, 2 Aug 1897, *Rose 1950* (US). **Veracruz:** Ejido El Nigromante, 6 Oct 1971 (st), *Chavelas et al. 4230* (MEXU).

NICARAGUA. Chontales: Hda. Veracruz (12° 11–12'N, 85° 21–22'W), 120–475 m, 4–6 Aug 1983 (fl), *Stevens 22419* (MO). **Nueva Segovia:** Monte Rico, 5 km al NE de El Jicaro (13° 44'N, 86° 5'W), ca 705 m, 3 Sep 1984 (fr), *Moreno 24611* (MO).

PANAMA. Toboga Island, Gulf of Panamá, 0–250m, 20 May 1911 (fl), *Pittier 3581* (US). **Canal Zone:** Ancon Hill, Nov–Dec 1923 (fl), *Standley 26340* (MO, US). Chiriquí: Boquete, 4000 ft, 29 Jun 1938 (fl), *Davidson 835* (MO). **Panamá:** hills NE of Hacienda La Joya, 50–300 m, 9 Dec 1934 (fl), *Dodge et al. 16899* (MO); between Río Pacora and Chepo, 3 Apr 1969 (fl), *Dwyer 5101* (MICH).

PARAGUAY: Caaguazú: Ea. La Esmeralda, 11 Dec 1982 (fr), *Schinini 22902* (CTES, MICH).

VENEZUELA: Apure: Pedro Camejo, near mouth of Cano San Miguel (67°17'W, 6°33'N), 38 m, 29 Apr 1977 (fl), *Davidse & Gonzalez 12373* (MICH, MO); 11 km directly E of Paso de San Pablo, along banks of Río Capanaparo (67°39'W, 7°2'N), 45 m, 8–9 May 1977 (fr), *Davidse & Gonzalez 12953* (MICH, MO, VEN). **Bolivar:** Cedeño, Foráneo La Urbana, 30 m, 2 Feb 1989 (fl), *Cuello 743* (MO); Caroni, Puerto Ordaz (8°17'N, 62°55'W), 30 m, 20 Nov 1997 (fl), *Diaz & Marin 3384* (ASU); Mun. Asc. Farreras, Maripa-Aripao (7°29'N, 65°20'W), 80 m, Feb 1990 (fr), *Elcoro 686* (MO); Piar, Cerro Tomasote (7°48'N, 62°02'W), 540 m, May 1986 (fl), *Fernandez 2742* (MO); Represa Guri, 1–5 km S of dam (7°45'N, 63°0'W), 20–240 m, 1 Apr 1981 (fl), *Liesner & Gonzalez 11064* (ASU, MO, VEN); km 111 on Puerto Ordaz-Cerro Bolivar Railroad, 300–350 m, 26 Oct Chiguao (6°32'N, 63°8'W), May Jun 1987 (fl), *Stergios 11113* (MO); E of Miamo, Altiplanicie de Nuria, between Hato de Nuria and camp, 400 m, 23 Jan 1961 (fr), *Steyermark 88711* (NY, VEN); entre San Felix y Puerto Ordaz, opposite the Fabrica de Alfareria, 26 Jun 1964 (fr), *Steyermark 94291* (MICH). **Guarico:** Est. Biologica de los Llanos, ca. 12 km SE de Calabozo (8°56'N, 67°25'W), 75 m, 15 May 1987 (fr), *Ramirez 2182* (MO). **Mérida:** between Beguilla and Mucuchachí, 1065–2430 m, 4 May 1944 (fl, fr), *Steyermark 56312* (NY, VEN). **Portuguesa:** Llanos de Araure, 9 Apr 1925 (fl), *Pittier 11748* (NY). **Sucre:** Cumbre de Montaña de Mochima, 18 km SE de Cumana (10°20'N, 64° 20'W), 350–400 m, 16 Sep 1973 (fr), *Steyermark et al. 108604* (MO, VEN). **Zulia:** Miranda, entre la via El Consejo-El Pensado y el Límite con el Edo. Falcón, 21 May 1980 (fl), *Bunting & Stoddart 9238* (NY).

Psidium salutare var. *salutare* (*P. salutare* in the traditional sense) is sometimes confused with *P. oligospermum* (=*P. sartorianum*). Their ranges are similar, both extending to central Mexico and the Caribbean and as far south as southeastern Brazil and Paraguay. They are compared in the key below.

1. Calyx open in the flower bud (closed corolla clearly visible); calyx lobes either evident or the margin of the calyx merely sinuate; subshrubs of open grasslands or scrub vegetation; petals 5–11 mm long; hairs when present ca. 0.5 mm long. ——— **P. salutare** var. **salutare**

1. Calyx closed in the flower bud (closed corolla hidden); calyx calyptrate or with terminal lobes (appearing puckered); shrubs to large trees, usually of forested habitats; petals 3–6 mm long; hairs when present up to ca. 0.2 mm long. _____ **P. oligospermum**

Psidium salutare var. *salutare* as understood here ranges from Paraguay to the Caribbean and Mexico and is quite variable. There are two local forms that might merit recognition as varieties: 1) Populations in Cuba have the calyx-lobes connate about 2–3 mm beyond the staminal ring; these have long gone under the name *P. guayabita*. 2) In Paraná to Rio Grande do Sul, Brazil and Paraguay there are populations with rather large elliptic to obovate, thinly pubescent leaves and include the types of *Myrcianthes reptans* and *Psidium valenzuelense*. Similar specimens occur in Central America, so it appears that *P. salutare* var. *salutare* is a morphologically flexible entity throughout its range.

Psidium salutare var. **decussatum** (DC.) Landrum, comb. nov. (**Figs. 2A, 6**). *Psidium decussatum* DC., Prodr. 3:235. 1828. TYPE: BRAZIL: "prov. Minarum," *Martius s.n.* (HOLOTYPE: M, = F-19710!, = ASU photo!).

Usually a subshrub less than 0.5 m high; leaves elliptic to narrowly elliptic, (1) 2–5.3 cm long, 0.7–1.7 cm wide, (1.5–)2.5–4.5 times as long as wide, glabrous (rarely sparsely pubescent); venation obscure, the marginal vein about 0.5 mm from margin; apex without an apiculum; peduncle 0.5–1.5 mm long, uniflorous (rarely triflorus); calyx-lobes shorter or about as long as hypanthial tube plus calyx tube, acute or rounded.

Representative specimens. **Distrito Federal:** 12 km W of Taguatinga, 1250 m, 26 Nov 1965 (fl), *Irwin et al. 10699* (NY); 2 km E of Lago Paranoá, DF-6, 1000 m, 26 Feb 1970 (fr), *Irwin et al. 26671* (NY); Chapada da Contagem, rd. NE edge Parque Nac. de Brasilia, Rua 4, 1160 m, 10 Sep 1995 (st), *Proença et al. 1458* (ASU, UB); ao lado da Reserva Biologica das Aguas Emendadas, 3 Sep 1995 (st), *Proença et al. 1496* (ASU, UB). **Goiás:** 10 km W of Cristalina (17°S, 48°W), 1200 m, 5 Mar 1966 (fr), *Irwin et al. 13548* (NY). **Minas Gerais:** Morro das Pedras, ca. 37 km NE of Patrocinio, 1000 m, 29 Jan 1970 (fr), *Irwin et al. 25600* (NY). **Paraná:** Colombo, Capivari, 4 Nov 1971 (fr), *Hatschbach 27711* (MBM); Rio Branco do sul, along road to Cerro Azul (ca. 25°S, 49°20'W), 7 Jan 1982 (fr), *Landrum 4110* (MICH, NY); Bocaiúva do Sul, Serra da Bocaina, 16 Jan 2001 (fr), *Ribas & Barbosa 3166* (ASU).

If this entity is recognized at the specific level the name *Psidium decussatum* DC. should be used. It seems to freely intergrade with var. *pohlianum* near Brasilia.

Psidium salutare var. **mucronatum** (Cambess.) Landrum, comb. nov. (**Figs. 2B, 6**). *Myrtus mucronata* Cambess., in Saint-Hilaire, Fl. Bras. merid. 2:295. 1833. TYPE: Saint-Hilaire s.n. "ad ripas fluminum Rio de la Plata et Uruguay in provincia Cisplatina," *Martius s.n.* (three specimens, P!, all marked as ISOTYPE, one= F neg. 36436!, [LECTOTYPE, here designated]).

Myrtus lurida Spreng., Syst. Veg. 2:480. 1825. TYPE: URUGUAY: "Monte Video," *Sello s.n.* (HOLOTYPE: B?, probably lost).

Myrtus pauciflora Cambess., in Saint-Hilaire, Fl. Bras. merid. 2:296. 1833. TYPE: "Encapamento do Ricao das galinhas in parte occidentali provinciae Cisplatinae," *Martius s.n.* (HOLOTYPE: P!, = F-36439!, = ASU photo!).

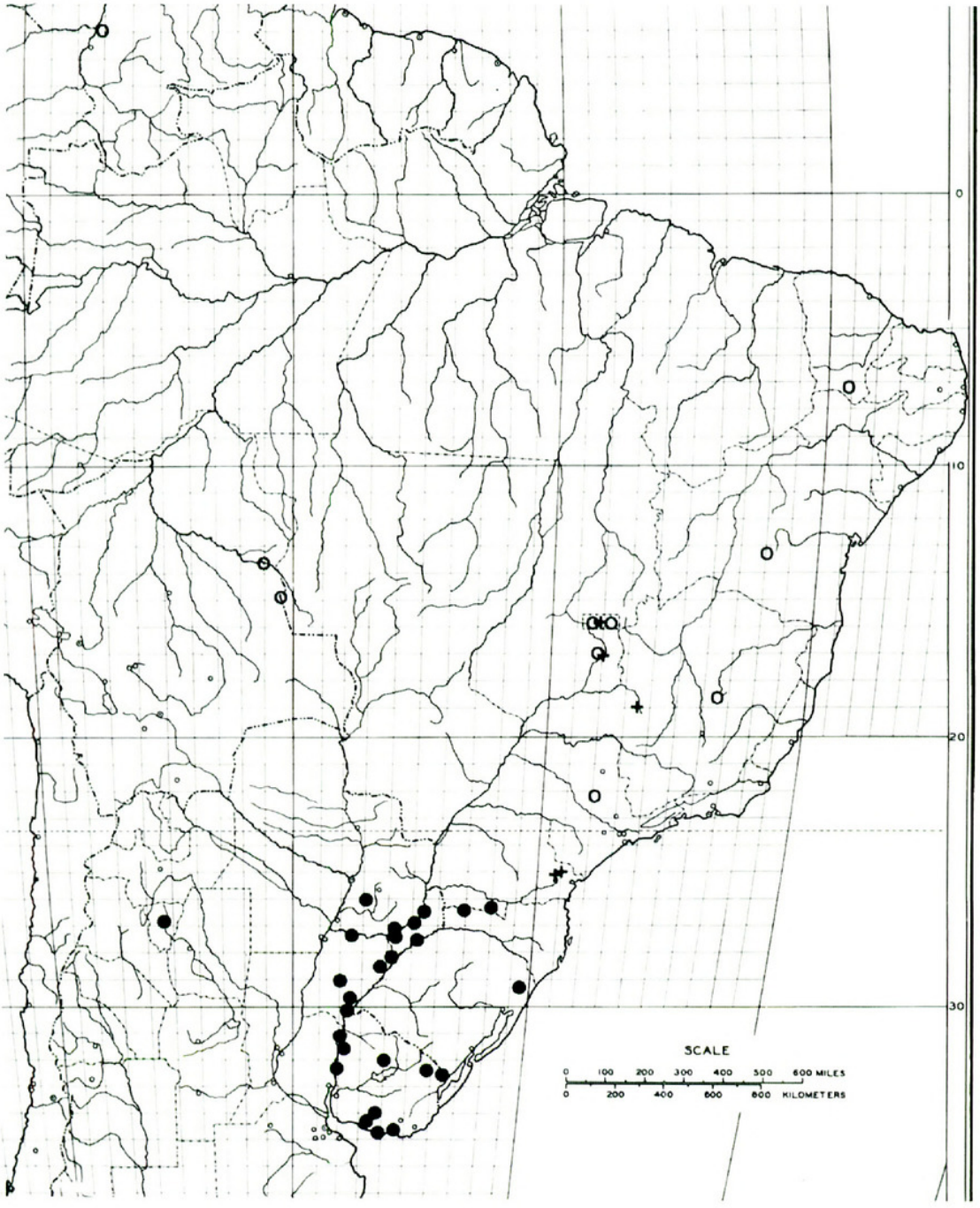

Fig. 6. Distribution of *Psidium salutare* var. *pohlianum* (open circles), *P. salutare* var. *decussatum* (crosses), and *P. salutare* var. *mucronatum* (dots).

Myrtus cuspidata O. Berg, in Mart., Fl. bras. 14(1):415. 1857. TYPE: URUGUAY: "in Montevideo," *Sellow s.n.* (SYNTYPES [types of the varieties] B, lost; ISOTYPE of *Myrtus cuspidata* var. *pentamera* at SGO! [LECTOTYPE, here designated], = ASU photo!).

Myrtus cuspidata var. *pentamera* O. Berg, in Mart., Fl. bras. 14(1):415. 1857. TYPE: URUGUAY: "in Montevideo," *Sellow s.n.* (HOLOTYPE: B, lost; ISOTYPE: SGO!, = ASU photo!). Name to be replaced with *Myrtus cuspidata* var. *cuspidata*.

Myrtus cuspidata var. *tetramera* O. Berg, in Mart., Fl. bras. 14(1):415. 1857. TYPE: URUGUAY: "in Montevideo," *Sellow s.n.* (HOLOTYPE: B, lost; ISOTYPE: SGO! [LECTOTYPE, here designated], = ASU photo!).

Myrtus mucronata var. *perforata* O. Berg, in Mart., Fl. bras. 14(1):416. 1857. Illegitimate name to be replaced by *M. mucronata* var. *mucronata*.

Myrtus mucronata var. *opaca* O. Berg, in Mart., Fl. bras. 14(1):416. 1857. TYPE: URUGUAY: "in Montevideo," *Sellow s.n.* (HOLOTYPE: B).

Myrtus ovalis O. Berg, in Mart., Fl. bras. 14(1):417 1857. TYPE: URUGUAY: "in Montevideo," *Sellow s.n.* (HOLOTYPE: B).

Myrtus suffruticosa O. Berg, in Mart., Fl. bras. 14(1):418 1857. TYPE: URUGUAY: "in Montevideo," *Sellow s.n.* (syntypes [types of the varieties] B, lost; ISOTYPE of *Myrtus suffruticosa* var. *latifolia* at P! [lectotype, here designated], = ASU photo!).

Myrtus suffruticosa var. *latifolia* O. Berg, in Mart., Fl. bras. 14(1):418. 1857. TYPE: URUGUAY: "in Montevideo," *Sellow s.n.* (HOLOTYPE: B, lost; ISOTYPE: P! [LECTOTYPE, here designated], = ASU photo!).

Myrtus suffruticosa var. *angustifolia* O. Berg, in Mart., Fl. bras. 14(1):419. 1857. TYPE: URUGUAY: "in Montevideo," *Sellow s.n.* (HOLOTYPE: B, lost).

Myrtus acutata O. Berg, in Mart., Fl. bras. 14(1):415. 1857. TYPE: URUGUAY: "in Montevideo," *Sellow s.n.* (HOLOTYPE: B, lost; ISOTYPES, P [two specimens] , one = F-36424! [LECTOTYPE, here designated]).

Myrtus sellowiana O. Berg, in Mart., Fl. bras. 14(1):413. 1857. TYPE: BRAZIL: "ad Tapanhoacanga prov. Minarum," *Sellow s.n.* (HOLOTYPE: B, lost; ISOTYPE: P!, = F-36445! [LECTOTYPE, here designated], = ASU photo!).

Psidium thea Griseb., Pl. lorentz. 91. 1874, and in Goett. Abh. 19:139. 1874. TYPE: ARGENTINA: "Cordoba, in monte Cerro negro pro. San Bartolo., Tucuman," *Hieronymus?* (HOLOTYPE: probably GOET; possible ISOTYPE: P = F-36422!).

Myrtus mucronata var. *thea* (Griseb.) Griseb. Abh. Konigl. Ges. Wiss. Gottingen 24:127. 1879.

Psidium luridum (Spreng.) Burret, Notizbl. Bot. Gart. Berlin-Dahlem 15:484. 1941.

Psidium pubifolium Burret, Notizbl. Bot. Gart. Berlin-Dahlem 15:484. 1941. New name for *Myrtus ovalis* O. Berg.

Psidium luridum var. cinereum Mattos, Loefgrenia 64:2. 1975. TYPE: BRAZIL: Santa Catarina, "Campo Erê, 17 km W of Campo Erê, ca. 26° 22'S, 53° 08' W, 900–1000 m," *Smith & Klein 13807* (HOLOTYPE: HBR, ISOTYPE: R!, = ASU photo!).

Psidium pubifolium f. nanum Rotman, Darwiniana 20:433. 1976. TYPE: BRAZIL. Santa Catarina, "Campo Erê, 37 km W of Campo Erê, ca. 26° 22'S, 53° 08'W, 900–1000m," *Smith & Klein 13807* (HOLOTYPE: MVM, ISOTYPE: R!, = ASU photo!).

Usually a subshrub less than 0.5 m high; leaves mostly narrowly elliptic to lanceolate, (1.5–)2–6 cm long, 0.7–2.3 cm wide, (1.4–)1.5–5 times as long as wide, glabrous to subglabrous, often lustrous; venation pronounced, raised on both surfaces, the marginal vein usually within 1 mm of the margin; apex apiculate; peduncle often over 2 cm long, uniflorous; calyx-lobes usually longer than hypanthial tube plus calyx tube, usually acute.

Representative specimens. **ARGENTINA. Corrientes:** 2.5 km de la ciudad de Monte Caseros, 28 Dec 1968 (fr), *Carnevali 1317* (CTES); Paso de Los Libres, Bonpland, costa río Uruguay, 19 Jan? 1945 (fr), *Ibarrola 2135* (NY); Santo Tomé, 33 km N de Santo Tomé, 27 Jan 1976 (fl), *Krapovickas & Cristobal 28934* (CTES, NY); Ituzaingó, Rincón Ombú Chico, 3–5 Jul 1974 (fl), *Krapovickas et al. 25477* (CTES, MICH); Mercedes a Itá Corá, Ayo. Pay-Ubre, dep. Mercedes, 2 Feb 1974 (fr), *Quarín & Gonzalez 2069*

(CTES); Berón de Astrada, 15 km W of Itá Ibaté, Ayo. Santa Isabel, 16 Jan 1977 (fl), *Schinini 14105* (CTES); Estación Experimental INTA, Dep. Empedrado, 7 Dec 1978 (fl), *Schinini 16225* (CTES); Co. Nazareno (Co. de Susini), 15 Feb 1979 (fr), *Schinini et al 17192* (CTES). **Entre Rios:** Santa Ana, dep. Federación, 15 Oct 1968 (fl), *Gomez Sosa 99* (CTES). **Misiones:** Posadas, Bonpland, 11 Jan 1908 (fl), *Ekman 2048* (MICH, NY); Candelaria, Bonpland, arroyo Martires Chico, 16 Jan 1976 (fl), *Krapovickas & Cristobal 28785* (CTES); Cainguás, Monte Carlo, 205 m, 2 Feb 1955 (fr), *Montes 14806* (NY); Apóstoles, 29 Jan 1948 (fr), *Schulz 6889* (CTES). **Tucumán:** Villa Nongues, Jan 1918 (fr), *Lillo 1351* (MO).

BRAZIL. Paraná: Palmas, Rio Chopim, 7 km abaixo da nascente, 20 Nov 1990 (fl), *Hatschbach 54810* (ASU, MBM). **Rio Grande do Sul:** São Francisco de Paula, (fr), *Rambo 30793* (MICH); Bom Jesus, Fazenda B. Velho, 4 Jan 1947 (fr), *Rambo 35177* (MO, NY).

PARAGUAY. Itapua: Arroyo Guazu Acatí, 15 Sep 1983 (fl), *Basualdo s.n.* (FCQ); Capitán Miranda, 4.2 km N of entrance to Hotel Tirol (ca. 27°12'S, 55°45'W), ca. 210 m, 13 Aug 1995 (st), *Landrum 8665* (ASU). **Paraguarí:** National Park Ybycuí, NE corner of the park on Arroyo Corrientes (26°03'S, 56°50'W), 21 Dec 1988 (fr), *Zardini et al. 9015* (PY).

URUGUAY. Artigas: ruta 30, 7 km S de Artigas, 10 Dec 1995 (fr), *Solis Neffa et al. 242* (CTES); Cerro Largo: S of Melo, 4.8 km, 9 Jan 1944 (fr), *Bartlett 21279* (MICH). **Maldonado:** Sierra de Animas, ca. 65 km E of Montevideo (ca. 34°45'S, 55°30'W), 22 Nov 1981 (fl), *Landrum 3856* (NY). **Montevideo:** Punta Espinillo, (fl), *Legrand 2710* (MICH); Chapicuy, orillas del río Uruguay, Sta. Sofía, 15 Nov 1942 (fl), *Rosengurtt et al. B-4183* (MO, NY); Rocha: Santa Teresa, (fl), *Legrand MVM-1064* (MICH). **San José:** Rincón Gallinas, 5 m, Dec 1931 (fl), *Herter 88052* (NY, RB). **Tacuarembó:** Gruta de los Cuervos, 17 Jan 1944 (fr), *Legrand 3338* (NY).

There are many intermediates between typical var. *mucronatum* (which is glabrous) and typical var. *sericeum* (which is densely covered with silvery hairs). The fact that these varieties also have similar distributions, leads me to suspect that there is a simple genetic difference between them. Intermediates have mainly been identified as var. *sericeum*.

Psidium salutare var. *mucronatum* frequently grows with *P. missionum* and can easily be confused with that species. The two species are contrasted in the key below.

1. Leaves 2–4.5 cm long, 0.7–2.3 cm wide, 1.5–5 times as long as wide; marginal vein distinct, closely following the margin; placenta protruding, peltate; style 5–6 mm long, glabrous. _____ **P. salutare** var. **mucronatum**
1. Leaves 2.5–8.8 cm long, 1.1–4 cm wide, 1.8–3.5 times as long as wide; marginal vein evident only in distal portion of leaf, arching broadly between laterals; placenta protruding only slightly, not peltate; style 7–9 mm long, usually with a few scattered hairs. _____ **P. missionum**

If the entity here called *Psidium salutare* var. *mucronatum* is recognized at the specific level, the name *P. luridum* (Spreng.) Burret should be used. There may be no type specimen of *Myrtus lurida* in existence, having been at B and now destroyed. Burret (1941), who studied the type shortly before it was destroyed, listed *Myrtus cuspidata* as a synonym. That coupled with Sprengel's protologue leave little doubt as to its identity. The type of *Myrtus ovalis* at B was also destroyed, but the protologue is sufficient to consider it a synonym of this variety.

Psidium salutare var. **pohlianum** (O. Berg) Landrum, comb. nov. (**Figs. 2C, 6**).
Psidium pohlianum O. Berg, in Mart. Fl. bras. 14(1):390. 1857. TYPE: BRAZIL: "ad S.

Luzia in prov. Goyazensi," *Pohl 913, Sellow s.n.* (SYNTYPES B, lost; SYNTYPE [*Pohl 913*], W, = F-31431!; ISOSYNTYPE [*Sellow s.n.*], P!, [LECTOTYPE, here designated], = ASU photo!).

Psidium pohlianum var. *brevipes* O. Berg, in Mart., Fl. bras. 14(1):601. 1859. TYPE: BRAZIL: "prope S. Carlos prov. S. Pauli," *Riedel s.n.* (apparent HOLOTYPE 2 sheets at LE, =ASU photos!).

Shrub or tree to 10 m high; leaves mostly elliptic, to obovate, or oblanceolate, 4–9 cm long, 2–5.5 cm wide, 1.4–2.7(–3.5) times as long as wide, glabrous; venation pronounced, raised on both surfaces, the marginal vein usually about 1 mm from the margin; apex usually without an apiculum; peduncle 0.4–2 cm long, often triflorous; calyx-lobes shorter or about as long as hypanthial tube plus calyx tube, rounded to obtuse.

Representative specimens. **BOLIVIA. Santa Cruz:** P. N. Noel Kempff Mercado, Pista Las Gamas, (14°48'11"S, 60°23'35"W), 815 m, 9 Nov 1993 (fr), *Guillén & Centurión 1023* (ASU); P. N. Noel Kempff Mercado, 6 km SW del campamento Las Gamas (14°49'36"S, 60°23'10"W), 850 m, 30 Oct 1995 (fr), *Rodriguez & Surubí 592* (ASU); P. N. Noel Kempff Mercado, Huanchaca I, (13°53'55"S, 60°48'46"W), 850 m, 3 Nov 1995 (fr), *Rodriguez & Surubí 630* (ASU).

BRAZIL. Bahia: near Junco, ca. 15 km WNW of town of Rio de Contas (41°55'W, 13°32'S), 22 Jan 1974 (fr), *Harley 15596* (ASU, MICH). **Ceará:** Crato, Barreiro Grande- Agreste, 2 Apr 1995 (fr), *Silveira 22103* (RB). **Distrito Federal:** 10 km E of Planaltina, 1150 m, 10 Oct 1965 (yfr), *Irwin et al. 9101* (NY); Chapada da Contagem, rd. NE edge Parque Nac. de Brasilia, Rua 1, 1160 m, 1160 m, 10 Sep 1995 (fl), *Proença et al. 1455* (ASU, UB). **Goiás:** Serra dos Cristais, ca. 12 km E of Cristalina (17°S, 48°W), 1200 m, 9 Mar 1966 (fr), *Irwin et al. 13226* (CAS, MICH, NY); Serra dos Cristais, ca. 3 km W of Cristalina (17°S, 48°W), 1250 m, 3 Mar 1966 (fr), *Irwin et al. 13367* (CAS, NY). **Minas Gerais:** Palacio, Serra do Cipó, 150 km N of Belo Horizonte, 1450 m, 20 Feb 1968 (fl), *Irwin et al. 20561* (F); 4 km N of Patrocinio, 1000 m, 31 Jan 1970 (fr), *Irwin et al. 25733* (NY). **São Paulo:** Itirapina, Estrada de Graúna, 2 Feb 1993 (fr), *Fabio de Barros 2515* (ASU).

VENEZUELA. Amazonas: Atures, ca. 30 km al N de Puerto Ayacucho y a unos 5 km al NE de Galipero (5°48'N, 67°20'W), 80 m, 9 May 1980 (yfr), *Huber 5210* (MICH, MO, NY, VEN); Atures, Rincones de Chacorro, 30 km N de Puerto Ayacucho, 5 km NE de Galipero (5°48'N, 67°20'W), ca. 80 m, 27 Feb 1982 (fl), *Huber 6289* (MICH, MO, NY, VEN); Atures, road NE from Puerto Ayacucho, 27.5 km towards El Burro, 28 Apr 1984 (fr), *Plowman & Guanchez 13756* (CAS, F, MO, NY, RB). **Bolivar:** Río Parguaza, 13 Apr 1946 (fl), *Velez 2374* (US, VEN).

If the entity here called *Psidium salutare* var. *pohlianum* is recognized at the specific level , the name *Psidium pohlianum* O. Berg should be used. As mentioned above, this variety intergrades with var. *decussatum* in the vicinity of Brasilia.

Two specimens at LE fit the protologue of *Psidium pohlianum* var. *brevipes*, but are annotated by Berg as to species only. I assume these specimens to represent the holotype of var. *brevipes*. One specimen is mixed with a fragment of *P. guineense*.

Psidium salutare var. **sericeum** (Cambess.) Landrum, comb. nov. (**Figs. 2D, 5**).

Myrtus sericea Cambess., in Saint-Hilaire, Fl. Bras. merid. 2:295. 1833. TYPE: BRAZIL: "Capilha de Mercedes... provinciae Cisplatinae, necnon... Rincao de Saneloés ad ripam amnis Ibicuy in provincia Missionum," *Saint-Hilaire s.n.* (HOLOTYPE: P!, = F-36446!; ISOTYPE: P!, = ASU photo!).

Myrtus nivea O. Berg, in Mart., Fl. bras. 14(1):414. 1857. TYPE: URUGUAY: "ad P[...] dos Inforcados in Montevideo," *Sellow s.n.* (HOLOTYPE: B, lost; ISOTYPES P! [LECTOTYPE, here designated], =ASU photo!, W, = F-31405!).

Myrtus sericea var. *fruticosa* O. Berg, in Mart., Fl. bras. 14(1):414. 1857. TYPE: URUGUAY: "ad Cerro in Montivedeo," *Sellow s.n.* (HOLOTYPE: B; ISOTYPE: P! [LECTOTYPE, here designated], = ASU photo!).

Myrtus sericea var. *suffruticosa* O. Berg, in Mart., Fl. bras. 14(1):414. 1857. TYPE: BRAZIL: illegitimate name to be replaced by *M. sericea* var. *sericea*.

Myrtus incana O. Berg, in Mart., Fl. bras. 14(1):416. 1857. TYPE: BRAZIL: "ad Cassapava in Rio Grande do Sul," *Sellow s.n.* (HOLOTYPE: B; ISOTYPE: P! [LECTOTYPE, here designated], = ASU photo!).

Myrtus pubescens O. Berg, in Mart., Fl. bras. 14(1):415. 1857. TYPE: BRAZIL: "ad Andre' Ferrina," *Sellow s.n.* (HOLOTYPE: B; ISOTYPE: P! [LECTOTYPE, here designated], = F-36441!, = ASU photo!).

Psidium incanum (O. Berg) Burret, Notizbl. Bot. Gart. Berlin-Dahlem 15:485. 1941.

Psidium niveum (O. Berg) Herter, Rev. Sudamer. Bot. 7:221. 1943.

Psidium tomentellum Burret, Notizbl. Bot. Gart. Berlin-Dahlem 15:485. 1941. New name for *Myrtus sericea* Cambess.

Usually a subshrub less than 0.5 m high; leaves elliptic, ovate, obovate, narrowly elliptic, oblanceolate to lanceolate, 2–7 cm long, 0.6–2.8 cm wide, 2–3.7 times as long as wide, densely covered with silvery gray hairs when young; venation pronounced under hair cover, the marginal vein usually within 1 mm of the margin; apex apiculate; peduncle often over 2 cm long, uniflorous; calyx-lobes usually longer than hypanthial tube plus calyx tube, usually acute.

Representative specimens. **ARGENTINA. Corrientes:** Santo Tomé, ruta 41, 5–6 km al N de Galarza (ca. 28°4'S, 56°39'W), 17 Nov 1994 (fl), *Arbo et al 6402* (CTES); Estancia Ana Cuá, 17 Dec 1970 (fl), *Carnevali 2243* (CTES); Estancia Garruchos, cachuera, Ayo. Chimiray, 6 Feb 1972 (fr), *Krapovickas et al 21174* (CTES); General Paz, Arroyo Sta. Isabel at ruta 12 E of Itá Ibaté (ca. 57°30'W, 27°20'S), 9 Dec 1987 (fr), *Landrum 5701* (ASU, CTES); Estancia El Recreo, 21 km E Bonpland, costa río Uruguay, Dep. Paso de los Libres, 18 Nov 1973 (fl), *Lourteig et al 2737* (CTES); Monte Caseros, Dep. Monte Caseros, 19 Feb 1975 (fr), *Prause 0* (CTES); Empedrado, Estación Experimental INTA, 7 Dec 1978 (fl), *Schinini 16188* (CTES); 10 km S de Bella Vista, 8 Nov 1978 (fl), *Schinini & Ahumada 15894* (CTES, MO); 11 km S de Mercedes, antiguo camino a Curuzu Cuatia, Co. Pajarito, 23 Feb 1984 (fr), *Tressens et al 2420* (CTES). **Entre Rios:** Concordia, Dec 1946 (fl), *Meyer 11007* (LIL). **Misiones:** Posadas, Lareto, Casa de Drewes, 26 Jan 1908 (fr), *Ekman 2056* (MICH, NY); San José, Feb 1961 (st), *Martinez Crovetto 8D-1* (CTES). **Tucumán:** Burruyacú, Cerro del Campo, 1000 m, Nov 1978 (fl), *Venturi 7582* (F).

BOLIVIA. Santa Cruz: Prov. Florida, 4 km N of center of Samaipata (18°08'S, 63°52'W), 2000–2100 m, 31 Dec 1992 (fr), *Nee & Vargas 43465* (ASU).

BRAZIL. Rio Grande do Sul: Continuacão da estrada Alegrete-Cerro do Tigre, apos o Cerro do Tigre, direcão rio Ibicuí, 11 Feb 1990 (fr), *Falkenberg & Sobral 15235* (MBM); Pôrto Alegre, Montserrat, 13 Nov 1941 (fl), *Emrich 8380* (LIL); Fazenda Faxinal, Arroio dos Ratos, 5 Nov 1980 (fl), *Hagelund 13420* (CTES, NY); Morro das Abertas, 9 Jan 1949 (fl), *Rambo 39674* (LIL); São Vicente do Sul, estrada a Cacequi, rio Ibicui, Dec 1985 (st), *Sobral & Marchiori 4544* (UB).

PARAGUAY. Central: Itá, Granja Isapy, orilla arroyo Lazarillo, 30 Jan 1966 (fr), *Krapovickas et al 12231* (CTES). **Cordillera:** Ypacaray, 6 Dec 1950 (fr), *Sparre & Vervoost 814* (LIL). **Misiones:** San Juan Bautista, ca. 8.5 km along road to Pilar, ca. 170 m, 8 Nov 1995 (fr), *Landrum 8790* (ASU); Ea. La Soledad, 3 km S de Santiago (56°46'W, 27°10'S), 3–4 Feb 1988 (fr), *Schinini & Vanni 26108* (ASU, CTES). **Paraguari:** Rt. 1, between Quindy and Caapucú, near km 246 (26°S, 57°15'W), ca. 250 m, 7 Nov 1995 (st), *Landrum 8764* (ASU).

URUGUAY. Cerro Largo: Arroyo Zapallar, 22 Dec 1961 (fr), *Praderi 740* (LIL). **Durazno:** Est. Las Palmas, Mar 1922 (st), *Osten 16563* (NY). **Montevideo:** La Colorada, 17 Nov 1947 (fl), *Legrand 2711* (NY).

Paysandú: Chapicuy, orillas del río Uruguay, Sta. Sofia, 15 Nov 1942 (fl), *Rosengurtt B-3250* (MO, NY). **Rivera:** Tranqueras, (fl), *Legrand 4145* (MICH, NY). **San José:** Rincón Gallinas, Dec 1931 (fl), *Herter 8051* (MO). **Tacuarembó:** Cerro Dos Hermanos, Mar 1922 (fr), *Osten 16651* (NY).

This entity has long gone by the name *Psidium incanum* (O. Berg) Burret, which is the correct name if one recognizes it at the specific level. It most closely resembles var. *mucronatum* and intergrades with it.

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