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## A New *Jacquinia* (Theophrastaceae) from the Yucatán Peninsula with a Synopsis of Pale-Flowered Species in Mesoamerica

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**ABSTRACT.** A synopsis of Mesoamerican *Jacquinia* (Theophrastaceae) species with white, yellowish, or cream-colored flowers is presented. A key for their identification is provided. All of these species are restricted to northern Mesoamerica. Among these taxa *Jacquinia sak-lol* Carnevali, Hernández-Aguilar & Tapia-Muñoz, from the state of Quintana Roo in the Mexican Yucatán Peninsula, is proposed as new. The new entity is described and illustrated. The proposed novelty is related to *Jacquinia paludicola* Standley, but it is a shrub and features smaller, more coriaceous leaves with a revolute margin and larger flowers.

**RESUMEN.** Se presenta una sinopsis de las especies de *Jacquinia* (Theophrastaceae) de Mesoamérica con flores blancas, amarillentas o color crema. Se provee una clave para su identificación. Estas especies están restringidas al norte de Mesoamérica. Entre ellas, *Jacquinia sak-lol* Carnevali, Hernández-Aguilar & Tapia-Muñoz del estado de Quintana Roo en la Península de Yucatán Mexicana es propuesta como nueva. La nueva entidad es descrita e ilustrada. La nueva especie es afín a *Jacquinia paludicola* Standley pero es un arbusto, tiene hojas de tamaño menor y de textura más coriácea con el margen revoluto y flores mayores.

**Key words:** *Jacquinia*, Mexico, Theophrastaceae, Yucatán.

The genus *Jacquinia* L. (Theophrastaceae), comprising 35 to 38 species, was recently revised by Ståhl (1989, 1995). A synopsis of Central American taxa was published shortly thereafter (Ståhl, 1989), in which 11 species within Mesoamerica were recognized. Later, a somewhat aberrant species, *Jacquinia nemophila* Pittier, restricted to Panama and featuring larger, thinly textured green flowers and large, wide leaves, was transferred to a new genus, *Votschia* Ståhl. This action reduced the number of Central American *Jacquinia* to 10 (Ståhl, 1993). An additional species, *J. morenoana* Castillo-Campos & E. Medina, was recently described from the state

of Veracruz in Mexico (Castillo-Campos & Medina, 1998).

Many species of *Jacquinia* are typically characterized by brightly colored red or orange flowers. Among the Mesoamerican *Jacquinia* taxa treated by Ståhl (1989), five were described as having flowers of other, paler colors, namely white or pale yellow. As Ståhl (1989) suggested, when discussing *J. albiflora* Lundell this difference in flower color may indicate a different pollinator fauna, although we have no information on pollinators and floral biology of these species.

In Mesoamerica, the taxa of *Jacquinia* with white or yellowish flowers are concentrated in the northern half. No *Jacquinia* species with pale-colored flowers are known from Costa Rica or Panama, although there are several in the West Indies and one, *Jacquinia armillaris* Jacquin, occurs in northern South America (Ståhl, 1995). Nicaragua, which is the southernmost limit for pale-colored *Jacquinia* species in Mesoamerica and where four *Jacquinia* species are known to occur, harbors one pale-flowered taxon, *J. longifolia* Standley, the most widespread and variable of the taxa treated in this account (Ståhl, 2001). On the other hand, Belize, where another set of four *Jacquinia* taxa have been reported (Balick et al., 2000), is home to three pale-flowered species of the genus, suggesting an increase in species diversity with these floral colors toward the north of Central America.

The center of diversity of these pale-flowered *Jacquinia* in Mesoamerica is the Yucatán Peninsula Biotic Province, where all the known Mesoamerican pale-flowered taxa of the genus occur. The Yucatán Peninsula Biotic Province was defined in Durán et al. (1998) and somewhat differently by Carnevali et al. (2001) as including the three Mexican states of Yucatán, Campeche, and Quintana Roo besides the Petén Department of Guatemala, and the three northernmost districts of Belize, namely, Belize, Corozal, and Orange Walk. Here (Trejo-Torres & Hernández-Aguilar, pers. comm.) seven species of *Jacquinia* occur (including the novelty proposed



herein), five of which feature blossoms in the hues of white, pale yellow, or cream-color and are the subject of this account.

The pale-flowered *Jacquinia* species in Mesoamerica include considerable variation in vegetative architecture, leaf shape, inflorescence length, flower shape, and habitat preferences (see Ståhl, 1989, and comments below). For example, *Jacquinia arborea* and *J. longifolia* have white flowers that are a smaller version of the orange-red flowers of *J. macrocarpa* Cavanilles with the free portions of the petals (“corolla lobes”) diverging from the tube (which in this case is totally hidden inside the calyx) immediately above the calyx lobes. Furthermore, the staminodes are petal-like and only somewhat smaller than the corolla lobes, thus giving the effect of a widely opening, 10-lobed corolla (or with two series of perianth whorls, one larger than the internal one). The stamens are exserted. *Jacquinia albiflora* has flowers similar in shape to those of the two taxa above, but instead of having the obovate, obtuse leaves found in them, it features narrowly elliptic leaves, and the staminodes are more petal-like.

On the other hand, *J. paludicola* and *J. sak-lol* have a short but definite corolla tube exserted beyond the calyx apex. The stamens are inserted in the corolla tube. The staminodes are much smaller than the petals, anther-like, with the apices thickened, the bases cordate or subcordate, and a general anchor-like outline. They are either inserted in the corolla mouth or barely protruding. Since there is an exserted corolla tube and the staminodes are relatively small and different from the petals, the flowers have a rotate, 5-lobed corolla.

Thus, the Mesoamerican pale-flowered taxa of *Jacquinia* appear to belong in different species groups, suggesting that the floral color feature has evolved independently several times in the genus. A cladistic analysis of *Jacquinia* would be required to address the question of a single or multiple origins of the floral colors found in the genus.

The five Mesoamerican *Jacquinia* taxa with pale-colored flowers can be distinguished with the following key:

KEY TO MESOAMERICAN *JACQUINIA* SPECIES WITH PALE-COLORED FLOWERS

- 1a. Leaves obovate or obovate-spathulate, apex rounded, with or without a terminal spine (most commonly this lacking).
- 2a. Young branches densely lepidote; leaves thick, coriaceous, the margin revolute; inflorescences as long as to longer than the leaves . . . . . 2. *J. arborea*
- 2b. Young branches glabrous or puberulent;

- leaves thin, thickly membranous, the margin flat; inflorescences much shorter than leaves . . . . . 3. *J. longifolia*
- 1b. Leaves elliptic or narrowly elliptic, acute, always with well-developed terminal spines.
- 3a. Leaves less than 1.5 cm wide, narrowly elliptic; inflorescences composed of (2)3- to 7(9)-flowered racemes; rachis conspicuous; many branchlets flowering simultaneously; corolla campanulate, up to 7.5 mm long; stamens exserted; staminodes petaloid . . . . . 1. *J. albiflora*
- 3b. Leaves 1.7–4 cm wide, elliptic; inflorescences composed of short 1- to 3-flowered racemes or several-flowered fascicles; rachis inconspicuous, always shorter than the peduncle, few branchlets flowering at any given time; corolla campanulate or tubular-rotate, usually longer than 8.5 mm long; stamens inserted or barely protruding at corolla mouth; staminodes ± stamen-like, i.e., the apical portion thickened and differently shaped than the basal portion.
- 4a. Sparsely branched shrub 0.8–3 m tall; leaves thickly coriaceous, 4.5–8.5 cm long, 1.7–3.3 cm wide, margins revolute; inflorescence composed of a short, 2- to 4-flowered raceme or pseudumbel; pedicels 7.9–8.1 mm long; corolla deeply tubular, (7.5–)9–10 mm long; stamens inserted within the tube . . . . . 5. *J. sak-lol*
- 4b. Much-branched trees 3–10 m tall; leaves thinly coriaceous, 10–14 cm long, 3.1–4.5 cm wide, margins flat; inflorescence composed of a 4- to 8-flowered raceme or pseudumbel; pedicels 9–11 mm long; corolla campanulate or shortly tubular, 6 mm long; stamens barely protruding at corolla mouth . . . . . 4. *J. paludicola*

SYNOPSIS OF THE MESOAMERICAN *JACQUINIA* SPECIES WITH PALE-COLORED FLOWERS

***Jacquinia* L., Diss. Fl. Jam. App. 1759. TYPE: *Jacquinia ruscifolia* L.**

- 1. ***Jacquinia albiflora*** Lundell, Wrightia 2: 60. 1960. *Jacquinia aurantiaca* var. *albiflora* (Lundell) Lundell, Wrightia 3: 114. 1964. TYPE: Guatemala. Petén: Tikal National Park, Tikal, in low forest on top of Temple III, 29 July 1959, E. Contreras 45 (holotype, LL not seen; isotypes, MO photocopy, S not seen, TEX not seen, US).

Among other pale-flowered species in the area covered, *Jacquinia albiflora* is easily recognized by the combination of 3- to 7-flowered racemes produced on relatively long peduncles (10–25 mm long) and the relatively small leaves, these 2.2–3.8(4.8) cm long (average: 3.26, standard deviation: 0.55, *n* = 55), 0.6–1.2(1.5) cm wide (average 0.99,



standard deviation: 0.20,  $n = 55$ ). The relatively long peduncles allow for inflorescences that are commonly about as long as to longer than the leaves. The leaves are elliptic or narrowly elliptic and are seldom wider than 1.2 cm (rarely up to 1.5 cm wide). The species is endemic to the Yucatán Península Biotic Province (as defined in Carnevali et al., 2001). The flowers are white, eventually fading into pale yellow upon aging. Specimens of *Jacquinia albiflora* are commonly mistaken for *J. macrocarpa* Cavanilles, but in *J. macrocarpa* flowers are red or orange-red and the leaves are much larger and proportionally wider with a range of dimensions of (2.9)3.5–5.5(6.5) cm long (average: 4.14, standard deviation: 0.98,  $n = 109$ ) and (1.0)1.3–1.8(2.0) cm wide (average: 1.52, standard deviation: 0.44,  $n = 109$ ). *Jacquinia albiflora*, with its relatively long inflorescences and many simultaneously opening flowers that are similar to those of *J. macrocarpa*, albeit smaller, is most probably related to this taxon rather than to other pale-flowered taxa.

The specimen *C. Cowan 3009* (CICY, CSAT, MEXU), from “Bajo de Morocoy al E de Nicolas Bravo, carretera Escarcega-Chetumal, México,” is atypical in displaying larger leaves of a thinner texture. The population represented by this collection is tentatively referred to *J. albiflora* until a more thorough sampling of its variation is available. It may represent a different (perhaps undescribed) species.

*Jacquinia albiflora* has the following floral dimensions: calyx lobes 1.5–2 mm long, 1.5–2 mm wide; corolla tube inserted within the calyx 1.5–2 mm long, the corolla lobes ca. 3 mm long, 2 mm wide; the staminodes are 1.5 mm long and wide; stamens 1.8–2 mm long, filaments 0.9–1 mm long, anthers ca. 1 mm long.

**Distribution and habitat notes.** *Jacquinia albiflora* has been reported from the Mexican states of the Yucatán Peninsula (Campeche, Quintana Roo, and Yucatán), in the Guatemalan Petén, and in northern Belize. It is usually a heavily branched shrub 1–2.5 m tall. It grows in several kinds of ecosystems, but most collections have been made in low inundated forests or “tintales,” at elevations of 0–250 m. Most flowering collections have been made in April to July, while fruiting collections have been made from May until November.

**Representative specimens examined.** GUATEMALA. **Petén:** Tikal National Park, 12–15 Apr. 1931, *H. H. Bartlett 12594* (A), 24 Apr. 1971, *R. Tun Ortiz 1723* (US); in ramonal covering the ruins, 20 Apr. 1968, *E. Contreras 7716* (US); Aguada Naranjal on Arroyo Corriental, 10 Feb. 1959, *C. L. Lundell 15461* (GH); on top of Temple III, 30

Jan. 1964, *C. L. Lundell 17613* (GH); 4 km NO de Uuxactún, 18 May 1973, *R. Tun Ortiz 2588* (US); San Clemente to Dos Arroyos, 1 May 1931, *H. H. Bartlett 12821* (A, US). MEXICO. **Campeche:** Municipio Campeche, Crucero de P. Trueba y autopista, Ciudad de Campeche, 19°48'15"N, 90°31'30"W, 8 m, selva baja caducifolia secundaria, 2 Apr. 2000, *C. Gutiérrez B. 6802* (CICY, UCAM), 28 Oct. 2002, *G. Carnevali et al. 6557* (CICY, NY); Municipio Calakmul, 500 m al N del poblado 11 de Mayo, 18°05'52"N, 89°27'42"W, 4 May 1998, *E. Madrid et al. 813* (CICY, MEXU); Municipio Calakmul, 59 km N of Xpujil, camino a Xcan-ha, 18°59'51"N, 89°18'04"W, 9 Apr. 1998, *E. Martínez et al. 30615* (MEXU); 2 km al NE de Calakmul, 18°27'24"N, 89°47'25"W, 8 Aug. 1997, *E. Martínez et al. 28188* (MEXU); a 6 km al S de la entrada a Calakmul, 18°26'39"N, 89°26'39"W, 120 msnm, 16 Oct. 1997, *E. Martínez S. et al. 28851* (MEXU); a 8 km al NE de Bel-ha, 18°57'38"N, 89°14'42"W, 9 Apr. 1998, *E. Martínez S. et al. 30588* (MEXU). **Quintana Roo:** Municipio Othón P. Blanco, Ejido Caobas, aprox. 18°47'18"N, 88°59'47"W, 28 Apr. 1999, *G. Carnevali et al. 5433* (CICY, MEXU); Lake Chichankanab, Apr. 1917, *F. Gaumer 23653* (GH, US). **Yucatán:** Municipio Valladolid, parte Sur-este del ejido San Lorenzo perteneciente al pueblo de Pixoy, 20°42'28"N, 88°15'41"W, 21 Apr. 1983, *E. Ucan 2410* (CICY).

**2. *Jacquinia arborea*** Vahl, *Ecol. Amer.* 26: 26. 1796. *Jacquinia armillaris* var. *arborea* (Vahl) Grisebach, *Fl. Brit. West.-Ind. Isl.* 397. 1861. TYPE: Lesser Antilles. Monserrat: *J. Ryan s.n.* (lectotype, designated by Ståhl (1992: 59), C not seen).

*Jacquinia arborea* is a member of the Caribbean complex of *J. armillaris* Jacquin, a group of three closely related taxa (Ståhl, 1992). *Jacquinia arborea* is distinctive among pale-flowered taxa in Mesoamerica due to the combination of broadly obovate to obovate leaves with revolute margins, and elongated, racemose inflorescences with 7 to 25(40) flowers.

*Jacquinia arborea* has the following floral dimensions: calyx lobes 2.2–3.2 mm long, 2.5–3.2 mm wide; corolla tube 4–5 mm long, the corolla lobes 2.8–4 mm long, 2.5–3.5 mm wide; the staminodes 1.8–3 mm long, 2–3 mm wide; stamens 2.7–3.8 mm long, filaments 1–1.8 mm long, anthers 1.7–2 mm long (Ståhl, 1992).

**Distribution and habitat notes.** In Mesoamerica *Jacquinia arborea* is only known from three localities. One of them is the Islas de la Bahía in Honduras. The second locality is Cozumel Island, in Quintana Roo State, Mexico (Ståhl, 1992). The third is the mainland at the archaeological site of Tulum, just across the narrow strait that separates Cozumel from mainland Quintana Roo (see collections below). Outside of Mesoamerica, this species is known from Jamaica, eastern Hispaniola, Puerto



Rico, the Lesser Antilles, Trinidad and Tobago, and Curacao and Bonaire (Ståhl, 1992).

In the area covered by this paper, *Jacquinia arborea* has always been collected growing in coastal dune shrubland, characterized by sclerophyllous shrubs and with an abundance of succulent herbs. *Jacquinia arborea* is usually a shrub or a small tree 3–6 m tall. It has been collected in flower in November–December, while mature fruits have been found in May–June.

*Representative specimens studied.* MEXICO. **Quintana Roo:** Municipio Cozumel, Isla de Cozumel, 35 km al S de San Miguel de Cozumel sobre el camino al faro y la punta Sur, 19 June 1985, E. Cabrera & H. de Cabrera 8709 (MEXU, XAL); Municipio Solidaridad, Tulum Archeological Zone, 20°12'48"N, 87°25'45"W, 24 Nov. 1980, J. I. Calzada et al. 7206 (CICY, XAL); Xel-Ha lagoon, 20°19'05"N, 87°21'25"W, 22 Apr. 1985, J. S. Flores 10583 (CICY, XAL).

**3. *Jacquinia longifolia*** Standley, J. Wash. Acad. Sci. 14: 241. 1924. TYPE: El Salvador. San Vicente: vicinity of San Vicente, alt. 350–500 m, 2–11 Mar. 1922, P. C. Standley 21159 (holotype, US; isotypes, F, G not seen, GH not seen, MO, NY not seen).

*Jacquinia schippii* Standley, Publ. Carnegie Inst. Wash. 461(4): 78. 1935. TYPE: Belize. Toledo: Jacinto Hills, in forest, alt. 270 m, 11 Dec. 1932, W. A. Schipp 1233 (holotype, F; isotypes, A, BM, G, GH, K, MA, MICH, MO, NY, S, none of the isotypes seen).

*Jacquinia longifolia* is easily recognized by the spatulate, thinly textured leaves with a rounded to broadly acute apex; terminal spines are present or absent. The species seems to be extremely variable regarding size and disposition of the leaves, and the degree of development of the pubescence found in the lower third of the leaves, petioles, and inflorescences.

This species is similar to *Jacquinia paludicola* Standley. Both taxa are shade-loving and have leaves with flat margins that dry to a pale, dull green-brown hue. The flowers of the two species are similar in size and overall morphology and are similarly produced on short racemes or pseudo-umbels of 4 to 8 flowers, which are much shorter than the subtending leaves. The staminodes of *J. paludicola* are, however, more anther-like than in *J. longifolia* and are also inserted within the corolla mouth or barely protruding from it. Among Mesoamerican taxa of the genus with pale-colored flowers, *Jacquinia longifolia* may be closest phylogenetically to *J. arborea* because of its obovate, apically rounded or obtuse leaves and the overall structure of the flowers. *Jacquinia arborea*, however, features much

longer inflorescences with many more flowers and is a plant of coastal habitats.

*Jacquinia longifolia* has the following floral dimensions: calyx lobes 2–2.5 mm long, 2–2.7 mm wide; corolla tube 2.5–3 mm long, the corolla lobes 2.5–3.2 mm long, 2–2.8 mm wide; staminodes 2–2.2 mm long, 1.5–2 mm wide at apex; stamens 3–3.7 mm long.

*Distribution and habitat notes.* *Jacquinia longifolia* occurs in Mexico (Quintana Roo), Belize, Guatemala (Petén), El Salvador, Honduras, and Nicaragua (Ståhl, 1989, 2001; Balick et al., 2000). The species has been collected at elevations ranging from –5 to 950 m, apparently always in humid vegetation associations such as tall evergreen forests. The single collection known from the Yucatán Peninsula was gathered in a low inundated forest. Flowering collections have been made in May through December.

*Representative specimens studied.* EL SALVADOR. **San Vicente:** vicinity of San Vicente, 7–14 Feb. 1947, P. C. Standley & E. Padilla 3398 (GH, US), 2–11 Mar. 1922, P. C. Standley 21743 (GH, US). MEXICO. **Quintana Roo:** Municipio Carrillo Puerto, Reserva de la Biósfera de Sian Ka'an, 20°50'N, 89°00'W, 28 June 1984, R. Durán & I. Olmsted 1013 (CIQR, MO, XAL).

**4. *Jacquinia paludicola*** Standley, Field Mus. Nat. Hist., Bot. Ser. 11: 138. 1932. TYPE: Belize. Belize: Forest Home, alt. 60 m, 11 Sep. 1932, W. A. Schipp 1028 (holotype, F not seen; isotypes, MO, NY, neither isotype seen).

*Jacquinia paludicola* is closely related to *J. longifolia*, as discussed above. Both tend to attain larger sizes than the other three pale-flowered *Jacquinia* species known from Mesoamerica, often being up to 20 m tall in *J. longifolia*. *Jacquinia paludicola* may be collected as an understory shrub or treelet up to 4 m tall, but some collections indicate heights up to 7 m. As in *J. longifolia*, the leaves are thin, but in *J. paludicola* the leaves are elliptic, acute, and long acuminate, and of larger sizes, to 14 cm long and 4.5 cm wide. The flowers have been described by collectors as yellow.

*Distribution and habitat notes.* *Jacquinia paludicola* is known only from the humid portions of the southern Yucatán Peninsula Biotic Province ranging into southern Belize and the Izabal Department of Guatemala (Ståhl, 1989, 2001; Balick et al., 2000). It has not yet been collected in the Mexican states of Quintana Roo and Campeche, but it is to be expected there. *Jacquinia paludicola* grows in tall evergreen forests and has been collected in flower in June through September; fruiting



material has been sampled in September to January.

*Jacquinia paludicola* has the following floral dimensions: calyx lobes ca. 3 mm long, 2.3–2.5 mm wide; corolla tube ca. 5 mm long, the corolla lobes ca. 2.5 mm long, ca. 2 mm wide; staminodes ca. 2 mm long, ca. 1.5 mm wide at apex; stamens 3.4–3.6 mm long, filaments 2 mm long, anthers 1.5 mm long.

*Representative specimens studied.* BELIZE. **Toledo:** Blue Creek, 16°20'N, 88°45'W, 12 June 1981, C. Whiteford 3217 (MEXU); Joe Taylor Creek, 30 Sep. 1952, P. H. Gentile 7772 (GH, US). GUATEMALA. **Alta Verapaz:** bordering Río Chiyú, 3.5 km, 28 Sep. 1968, E. Contreras 7753 (US); 6 km from Chahal, 16 Oct. 1968, E. Contreras 7946 (US). **Petén:** Cerro Tzul, La Cumbre, C. L. Lundell & E. Contreras 20176 (MEXU); Poptún, en camino a San Luis, km 117, 7 Jan. 1972, R. Tun Ortiz 2160 (US), 7 Dec. 1970, R. Tun Ortiz 1484 (US); Cadenas Road, km 142, 3 Nov. 1966, E. Contreras 6515 (US); San Luis, Río Quebrada Seca, 11 July 1959, C. L. Lundell 16364 (GH). **Izabal:** along Río Frio and tributaries, 18 Dec. 1941, J. A. Steyermark 41537, 41546 (US).

**5. *Jacquinia sak-lol*** Carnevali, Hernández-Aguilar & Tapia-Muñoz, sp. nov. TYPE: Mexico. Quintana Roo: Municipio Othón P. Blanco, Ejido Caobas, Sabana del Jaguactal, un desvío de 9.5 km por carretera de terracería al oeste de la carretera hacia Tres Garantías, unos 21 km al sur de la carretera principal Xpujil–Chetumal, aprox. 18°18'00"N, 89°07'00"W, 31 May 2002, F. Lara & R. Santos 6 (holotype, CICY; isotype, MO). Figure 1.

Species haec *J. paludicolae* similis sed foliis coriaceis brevioribus proportione latiore marginibus revolutis, floribus majoribus crassioribus, tubo proportione longiore abhorret; *J. longifoliae* similis sed foliis ellipticis acutis, marginibus revolutis, floribus majoribus differt.

*Shrubs* 0.8–1.5(–3) m tall; branchlets pubescent; terminal buds densely covered by scales (perulate); *leaves* 4.5–8.5 cm long, 1.7–3.3 cm wide, pseudoverticillate on or near branch apex, and at the apex of next lower brachyblast, coriaceous, elliptic, acute to (rarely) obtuse or (teratologically) subtruncate, ending in a stiff mucro 1–1.5 mm long, basally decurrent, margin revolute, upper surface glabrous, punctate, underside lightly pubescent on the basal third, particularly over the mid-vein, venation brochidodromous; mid-vein channeled on the upper side, prominent on the underside; petiole ca. 1 mm long; *inflorescence* terminal or axillar, (1)2- to 4-flowered, ca. 9–12 mm long; peduncles ca. 5 mm long; pedicels 7.9–8.1 mm long, glabrous, the flowers 1–2 mm apart, thus inflorescence appearing pseudo-umbellate; *flowers* horizontally patent to

sub-nutant, cream-white or pale yellow-white, ca. 1 cm long, glabrous; sepals 5 mm long, suborbicular or broadly elliptic, imbricate, margins ciliate, thin; corolla rotate, the tube 6–7 mm long, lobes ca. 4 mm long and wide; staminodes alternate to corolla lobes, ca. 2 mm long and wide, transversely oblong or broadly anchor-like in general outline, apex broadly obtuse to rounded; stamens inserted within the corolla tube, ca. 4 mm long, filaments 2 mm; anthers extrorse, 3 mm long, 1.6 mm wide; style 0.5 mm long, persistent, stigma capitate; *fruit* globose, ca. 1.5–2 cm diam., yellow at maturity, surface rugose; *seeds* brown, flat, 5.5 mm long, 4 mm wide.

*Etymology.* From the Mayan “sak,” white, and “lol,” flower, in allusion to the white (or nearly white) flowers of this species. The epithet choice *sak-lol* is allowed by Article 23.5 of the *Code* (Greuter et al., 2000) as a noun in apposition. The hyphen is deliberate and supported by Article 60.9, ex. 17.

This distinctive new species is vegetatively similar to some forms of the variable *Jacquinia macrocarpa* Cavanilles. A look at the flowers of both species, however, reveals immediately that such similarity is superficial. *Jacquinia macrocarpa* features bright orange, campanulate flowers, while *J. sak-lol* displays cream-white, tubular blooms.

The relationships of *Jacquinia sak-lol* seem to lie with *J. paludicola*. In both species the elliptic leaves are arranged in pseudo-whorls of 2 to 4 leaves along the stems but mostly close to the apex of the branches. The pseudo-whorls are separated by 5–10 cm on the branches (up to 15 cm long in *J. paludicola*). Both species feature a tubular, rotate corolla with the staminodes and the stamens inserted within the corolla tube. The staminodes are anther-like and conspicuously smaller than the corolla lobes. Both species also feature short-peduncled inflorescences with relatively few flowers.

*Jacquinia sak-lol*, however, is a shrub (as opposed to a tree) up to 2 m tall. The leaves are smaller and of a thicker texture. The margins of the leaf blade are revolute in *J. sak-lol* while they are flat in *J. paludicola*. The flowers are larger in *J. sak-lol* with a corolla tube of 6–7 mm long (vs. ca. 5 mm long) and the corolla lobes ca. 4 mm long and wide, as opposed to the 2.5 mm long, 2 mm wide corolla lobes of *J. paludicola*.

*Distribution and habitat notes.* *Jacquinia sak-lol* occurs in shady spots inside low-inundated forests (locally known as “tintales” because of the dominance of *Haematoxylum campechianum* L.) or in a mosaic of tall evergreen forests and tintales.



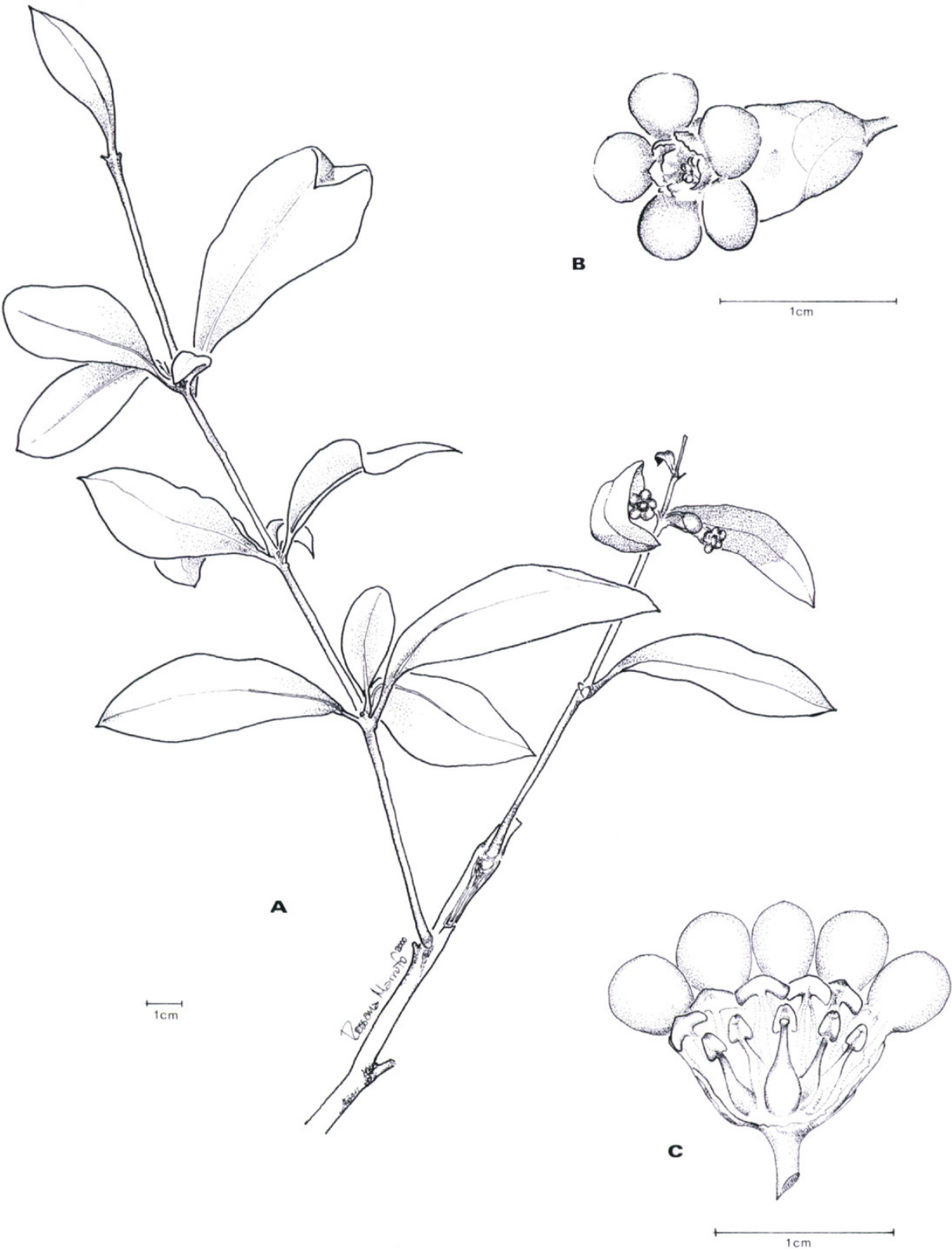


Figure 1. *Jacquinia sak-lol* Carnevali, Hernández-Aguilar & Tapia-Muñoz. —A. Flowering habit. —B. Flower, lateral view. —C. Flower tube split lengthwise, showing staminodes, stamens, and ovary; because of some distortion that occurred in the process of cutting and laying out the tube, the staminodes are not totally alternate with the corolla lobes. Drawn by Rossana Marrufo based on G. Carnevali, F. May-Pat & M. Gómez 5063 (CICY).

Elevations range from 50 to 250 m. It is a sparsely branched shrub or small tree that appears to grow at low population densities. The species has been collected in flower only in May, while fruiting specimens have been gathered in August and January.

**Paratypes.** MEXICO. **Quintana Roo:** Municipio Othón P. Blanco, 5 km al N de La Unión, alrededores del rancho Paso del Danto, 17°57'30"N, 88°53'00"W, aprox. 150 msnm, 27 Jan. 1999, *F. May et al.* 1386 (CICY), 2 Aug. 1992, *J. Granados* 58 (CICY); Ejido Caobas, 26 km al S de la carretera Xpujil a Chetumal, por la vía a Tres Garantías, sobre la brecha ca. 3 km al W de la carretera, ca. 18°13'30"N, 89°04'20"W, 27 May 1998, *G. Carnevali et al.* 5063 (CICY).

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