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New and Reconsidered Mexican Acanthaceae XI: *Justicia* in the Yucatan Peninsula

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Two new species (*Justicia edgarcabrerae* and *J. luzmariae*) and a new combination (*J. leucothamna* based on *Jacobinia leucothamna* Standl.) are proposed for the acanthaceous flora of the Yucatan Peninsula. Distribution maps, images of pollen, and illustrations/photos are presented for all three species. Studies of Acanthaceae in the three states (Campeche, Quintana Roo, and Yucatán) composing the Mexican portion of the Yucatan Peninsula reveal the presence of at least 38 native species of Acanthaceae there. Five of the 13 species of Justicia there are endemic to these states.

RESUMEN

Dos especies nuevas (*Justicia edgarcabrerae* y *J. luzmariae*) y una combinación nueva (*J. leucothamna* basado en *Jacobinia leucothamna* Standl.) se proponen para la flora de acantáceas de la Península de Yucatán. Se presentan mapas de las distribuciones, imágenes de polen, e ilustraciones/fotos para cada especie. Estudios de las Acanthaceae en los tres estados (Campeche, Quintana Roo y Yucatán) que comprenden la porción mexicana de la Península de Yucatán revelan la presencia por lo menos de 38 especies nativas de Acanthaceae allí. Cinco de las 13 especies de Justicia que crecen allí son endémicos a estos estados.

Leonard (1936) treated 59 native species in the plant family Acanthaceae from the Yucatan Peninsula of southern Mexico and northern Central America. Twenty-seven of these were reported from the three states (Campeche, Quintana Roo, and Yucatán) that compose the Mexican portion of the peninsula. Recent studies (Daniel, unpublished and this study) reveal the presence of 38 native species of Acanthaceae in these three Mexican states. Nine of them (24 percent) are endemic there. Although the acanthaceous flora of the Mexican portion of the Yucatan Peninsula is not especially rich in species, the level of endemism there at that taxonomic rank is significantly greater than that noted for several other regions of Mexico, including: Chiapas with 13 percent (Daniel 2005a), "El Bajío" with 5 percent (Daniel and Acosta 2003), Sonora with 3 percent (Daniel 2004), and the Tehuacán-Cuicatlán Valley with 14 percent (Daniel 1999). However, it is nearly equal to the 26 percent endemism reported by Daniel (1997) for species of Acanthaceae in the peninsula of Baja California, another very dry region that is not rich in species. The level of endemism for the Acanthaceae in the Mexican portion of the Yucatan Peninsula is also high compared to the estimated 8.2 percent endemism for the total vascular flora of this region (Carnevali et al. 2003).

Justicia is the largest genus of Acanthaceae with more than 700 species recognized worldwide. It is also the largest genus of Acanthaceae in the Mexican portion of the Yucatan Peninsula with at least 13 species native there. Two of these species from the Yucatan Peninsula are newly described below and a combination is made in *Justicia* for the species previously known as *Jacobinia leucothamna* Standl. Five species of *Justicia* (*J. cobensis* Lundell, *J. dendropila* T.F. Daniel, *J. edgarcabrerae*, *J. leucothamna*, and *J. lundellii* Leonard) are endemic to one or more of the three states composing the Mexican portion of the Yucatan Peninsula. Another one, *J. luzmariae*, is known only from this region and adjacent northern Belize.

Ongoing studies toward a comprehensive taxonomic account of the Acanthaceae of the Mexican portion of the Yucatan Peninsula (Daniel, in progress), including field and herbarium research since 2002, have identified undescribed species (Daniel 2003) and new distribution records (Carnevali et al. 2005; Daniel 2005b) for the family. Additional discoveries and a taxonomic renovation are provided herein.

***Justicia luzmariae* T.F. Daniel, Carnevali, and Tapia, sp. nov.**
Fig. 1.

Type.— Mexico: **Quintana Roo**: Mpio. Lázaro Cárdenas, along hwy. between Kantunilkín and Chiquilá, 7 km S of Chiquilá, 21°22.7′N, 87°22.3′W, 10 m, disturbed evergreen seasonal forest, 25 February 2003, *T. Daniel, G. Carnevali, & J.L. Tapia Muñoz 10315* (holotype: MEXU!; isotypes: BR!, CAS!, CICY!, CIQR!, ENCB!, F!, GH!, K!, MICH!, MO!, NY!, TEX!, UCAM!, US!).

Frutices usque ad 5 m longi vel alti. Folia petiolata, laminae (ovato-ellipticae vel) ellipticae vel subcirculares, 21–90 mm longae, 12–63 mm latae, 1.0–2.6-plo longiores quam latiores. Inflorescentia floribus in spicis vel paniculis spicarum. Bracteae obovatae vel obovato-ellipticae, 3–9 (–14) mm longae, 1–5 (–7) mm latae. Calyx 5-lobus, 6–11 mm longus, lobis homomorphis. Corolla viridi-alba vel viridi-lutea et intus maculata, 12–23 mm longa, extus pubescens trichomatibus eglandulosis. Stamina thecis 1.4–2 mm longis, impariter insertis, pubescentibus, basi calcaratis; pollinis granae 3-aperturatae. Capsula 8.5–14 mm longa, glabra.

Clambering (sometimes appearing vinelike) shrubs to 5 m long or tall. Young stems subquadrate to quadrate, bifariously pubescent with retrorse eglandular trichomes 0.1–0.4 mm long. Leaves petiolate, petioles to 25 mm long, blades subcoriaceous, somewhat discolorous (lighter green abaxially than adaxially), (ovate-elliptic to) elliptic to broadly elliptic to subcircular, 21–90 mm long, 12–63 mm wide, 1.0–2.6 times longer than wide, rounded to acute to subcordate and often asymmetric at base, rounded to acute at apex, surfaces and margin glabrous (or with a few eglandular trichomes along midvein on adaxial surface), margin entire, sometimes ± revolute. Inflorescence of axillary and/or terminal sessile or pedunculate dichasiate spikes or panicles of dichasiate spikes to 132 mm long (including peduncle, if present), axillary spikes (or panicles of spikes) (alternate to) opposite, 1 per axil, fertile portion of spikes 7–14 mm in diameter near midpoint (excluding flowers), peduncles of spikes to 47 mm long, pubescent like young stems, rachis bifariously pubescent with flexuose to retrorse to antrorse eglandular trichomes 0.2–0.5 mm long, inflorescence bracts (i.e., when panicles of spikes present) subulate to elliptic, 2–5 mm long, 1–2 mm wide; dichasia opposite, 1 per axil, 1-flowered, sessile. Bracts obdeltate to obovate to obovate-elliptic, 3–9 (–14) mm long, 1–5 (–7) mm wide, apically (rounded to) truncate to emarginate, abaxial surface sparsely pubescent with antrorse to antrorsely appressed eglandular trichomes 0.1–0.3 mm long (trichomes mostly or entirely restricted to midvein), margin ciliate with flexuose to antrorse eglandular trichomes. Bracteoles linear to linear-elliptic to lunate to lanceolate (sometimes

FIGURE 1. *Justicia luzmariae*. a. Habit (*Crane 509*), ×0.5. b. Inflorescence (*Gómez-Pompa 1352*), ×3. c. Distal portion of stamen with anther (*Gómez-Pompa 1352*), ×13. d. Distal portion of style with stigma (*Gómez-Pompa 1352*), ×23. e. Capsule (*Crane 509*), ×5, opening capsule (top) and inner side of a single valve (bottom). Drawn by Meg Stalcup.

asymmetric), 2.5–7 mm long, 1–2 mm wide, abaxial surface pubescent like bracts. Flowers sessile. Calyx 5-lobed, 6–11 mm long, lobes homomorphic, lanceolate, 5–10 mm long, 1–2 mm wide, abaxially glabrous or with a few trichomes like those on bracts. Corolla greenish externally, greenish white to greenish yellow internally and with maroon markings on both lips (or with the lower lip sometimes light to dark maroon with yellowish green markings), 12–23 mm long, externally pubescent with erect to flexuose eglandular trichomes 0.2–0.5 mm long, tube ± abruptly expanded

in proximal ⅓ to ± gradually expanded distally, 5.5–10 mm long, 3.5–5 mm in diameter near midpoint, internally densely pubescent near base of stamens, upper lip 6–12 mm long, 2-lobed at apex, lobes to 0.5 mm long, lower lip 6–14 mm long, lobes rounded, 1–3 mm long, 1.3–2 mm wide. Stamens inserted between base and midpoint of corolla tube, 8–17 mm long, filaments glabrous, thecae greenish turning maroon, parallel to subparallel, 1.4–2 mm long (including basal appendage), equal to subequal, unequally inserted (overlapping by 0.5–1.2 mm), both dorsally pubescent with flexuose eglandular trichomes, both with blunt basal appendages 0.3–0.7 mm long (appendage of lower theca larger than that of upper theca); pollen (Fig. 2) 3-aperturate, apertures flanked on each side by 1 row of insulae, exine reticulate. Style 7–19 mm long, proximally pubescent with eglandular trichomes, becoming glabrous distally, stigma 0.1–0.2 mm long, asymmetric, lobes sometimes inconspicuous. Capsule 8.5–14 mm long, glabrous, stipe 2.5–4 mm long, head ellipsoid to obovoid, 6–10 mm long. Seeds 4, plano-convex, 3.2–3.5 mm long, 2.2–2.3 mm wide, surfaces smooth (micropapillate), lacking trichomes.

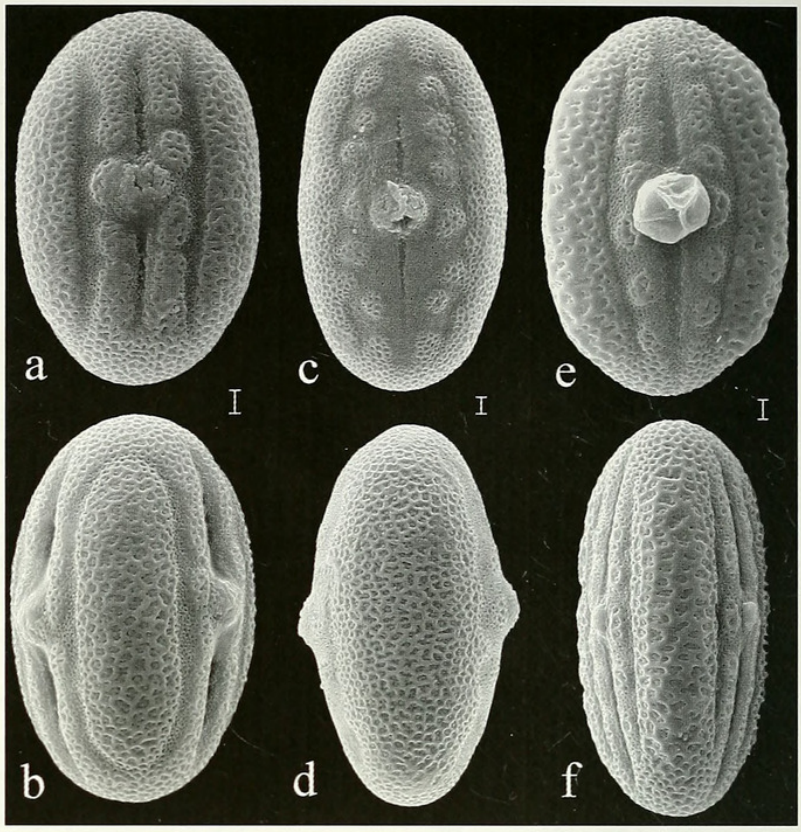

FIGURE 2. Scanning electron micrographs of pollen. a,b. *Justicia edgarcabrerae* (*Cabrera & Durán 624*), apertural view (a) and interapertural view (b). c,d. *Justicia leucothamna* (*Leal & Rico-Gray 111*), apertural view (c) and interapertural view (d). e. *Justicia luzmariae* (*Cabrera et al. 16373*), apertural view. f. *Justicia luzmariae* (*Gómez-Pompa 1352*), interapertural view. All scales = 2 µm.

PHENOLOGY.— Flowering: January–March; fruiting: February–April.

DISTRIBUTION AND HABITAT.— Yucatan Peninsula of Mexico (Campeche, Quintana Roo) and northern Belize (Corozal); plants occur in evergreen seasonal forests ("selva mediana subperennifolia") and tropical subdeciduous forests ("selva baja subcaducifolia") at elevations of 10–301 m.

PARATYPES.— MEXICO: **Campeche**: Mpio. Calakmul, 3 km E del poblado La Lucha, 18°26′N, 89°25′W, *D. Alvarez & C. Jiménez J. 4205* (CAS); Mpio. Calakmul, 3 km E del poblado Chichonal, carretera Xpujil–Escárcega, 18°31′N, 89°32′W, *D. Alvarez & C. Jiménez J. 4238* (CAS); Mpio. Calakmul, 4.2 km N del poblado La Nueva Vida, 18°50′N, 89°22′W, *D. Alvarez & C. Jiménez J. 4369* (CAS); Mpio. Calakmul, Puente Papagayo, 25 km N de Xpujil, 18°44′N, 89°24′W, *J. Calónico S. et al. 21795* (CAS); Mpio. Hopelchén, S de Xpujil rumbo a la frontera, 18°09.5′N, 89°27.5′W, *C. Chan 4572* (CICY, GH, MO, UCAM); 30 km de Sohlaguna, *A. Gómez-Pompa 1352* (CAS, CICY). **Quintana Roo**: Mpio. Carrillo Puerto, 6–10 km NE de Felipe Carrillo Puerto, camino a Vigía Chico, *E. Cabrera et al. 16373* (CAS); 7–8 km S de Chiquilá, a lo largo de la carretera Chiquilá-Kantunilkín, ca. 21°22′42″N, 87°22′18″W, *G. Carnevali et al. 6733* (CAS, CICY, HUH, MEXU, MO, NY, UCAM, UJAT, US, XAL); Mpio. Felipe Carrillo Puerto, ca. 6 km NE of Felipe Carrillo Puerto on road to Vigía Chico, 19°35.9′N, 88°00.3′W, *T. Daniel 10298* (BR, CAS, CICY, CIQR, K, MEXU, MO, NY, US); Mpio. Lázaro Cárdenas, 6 km ENE of San Angel along road (departs Kantunilkín–Chiquilá hwy. 30 km S of Chiquilá) to E. Zapata, 21°14.2′N, 87°23.2′W, *T. Daniel et al. 10316*

(BR, CAS, CICY, K, MEXU). BELIZE: **Corozal**: Cerros Maya Ruins, Lowrey's Bight, *C. Crane 509* (BRIT, LL).

Vegetatively, *Justicia luzmariae* appears superficially similar to (and has occasionally been identified as) *Bravaisia berlandieriana* (Nees) T.F. Daniel. Putative relatives of this species are not obvious among known species of *Justicia* from Mexico and Central America, nor does it conform to any of the sections of the genus recognized by Graham (1988). Among other species of *Justicia* occurring in the Yucatan Peninsula, *J. luzmariae* resembles *J. lundellii* in the shared characters of densely bracteate spike-like inflorescences with prominent bracts, equally 5-lobed calyces, dorsally pubescent thecae, and 3-aperturate pollen. In the latter species, however, the calyx is 2.5–3 mm long, the corolla is 7–9 mm long, the pollen is pseudocolpate (lacking insulae), the capsule is pubescent, and the seeds are bacculate.

The species appears to be widespread in eastern and southern regions of Yucatan Peninsula (Fig. 3); it has yet to be collected in the state of Yucatán. Within *J. luzmariae*, plants from northern Quintana Roo (*Carnevali et al. 6733*, *Daniel et al. 10315*, and *Daniel et al. 10316*; Fig. 4) differ from those from central Quintana Roo, southern Campeche, and Belize (all other collections cited; Fig. 1) by their longer corollas (17–23 mm vs. 12–14 mm), stamens (14–17 mm vs. 8–9 mm), and styles (17–19 mm vs. 7–12 mm). Variation in coloration of corollas is also evident in the two populations from northern Quintana Roo. There, the internal surface of the lower lip varies from greenish yellow with maroon markings to light or dark maroon with greenish yellow markings (Fig. 4). The difference in floral length suggests that plants have different pollinators in the two regions. In all other features, plants from northern Quintana Roo appear identical to those from southern Quintana Roo and Campeche.

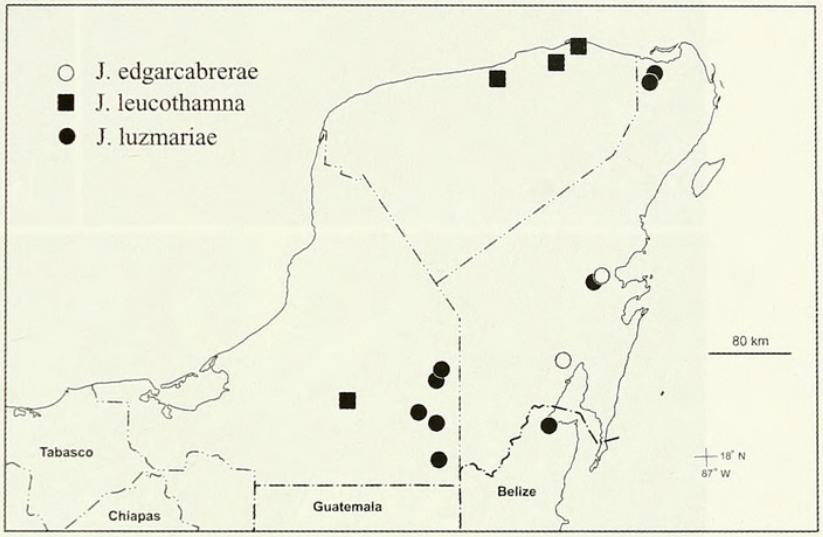

FIGURE 3. Map of the Mexican portion of the Yucatan Peninsula (with states, clockwise from left: Campeche, Yucatán, and Quintana Roo), showing distributions of *Justicia edgarcabrerae*, *J. leucothamna*, and *J. luzmariae*.

The epithet of this species honors Dra. Luz María Calvo Irabién, community ecologist at the Centro de Investigación Científica de Yucatán, whose studies and photographs of plants from near Kantunilkín led us to this species.

Justicia edgarcabrerae T.F. Daniel, Carnevali, and Tapia, sp. nov.

Fig. 5

TYPE.— MEXICO: **Quintana Roo**: brecha a Santa Cruz, 1 km S de Pedro A. Santos, 9 Dec 1980, *E. Cabrera & G. Durán 624* (holotype: CAS!; isotype: MEXU!).

Herbae perennes usque ad 1 m altae. Folia petiolata, laminae ovatae, 13–44 mm longae, 6.5–21 mm latae, 1.5–2.3-plo longiores quam latiores. Spicae axillares. Bracteae spathulatae vel late ellipticae vel subcirculares vel subdeltatae, (5–) 6–9 mm longae, (1–) 2–6.5 mm latae. Calyx 5-lobus, 3.5–5 mm longus, lobis homomorphis. Corolla luteola, 8.3–11.3 mm longa, extus pubes-

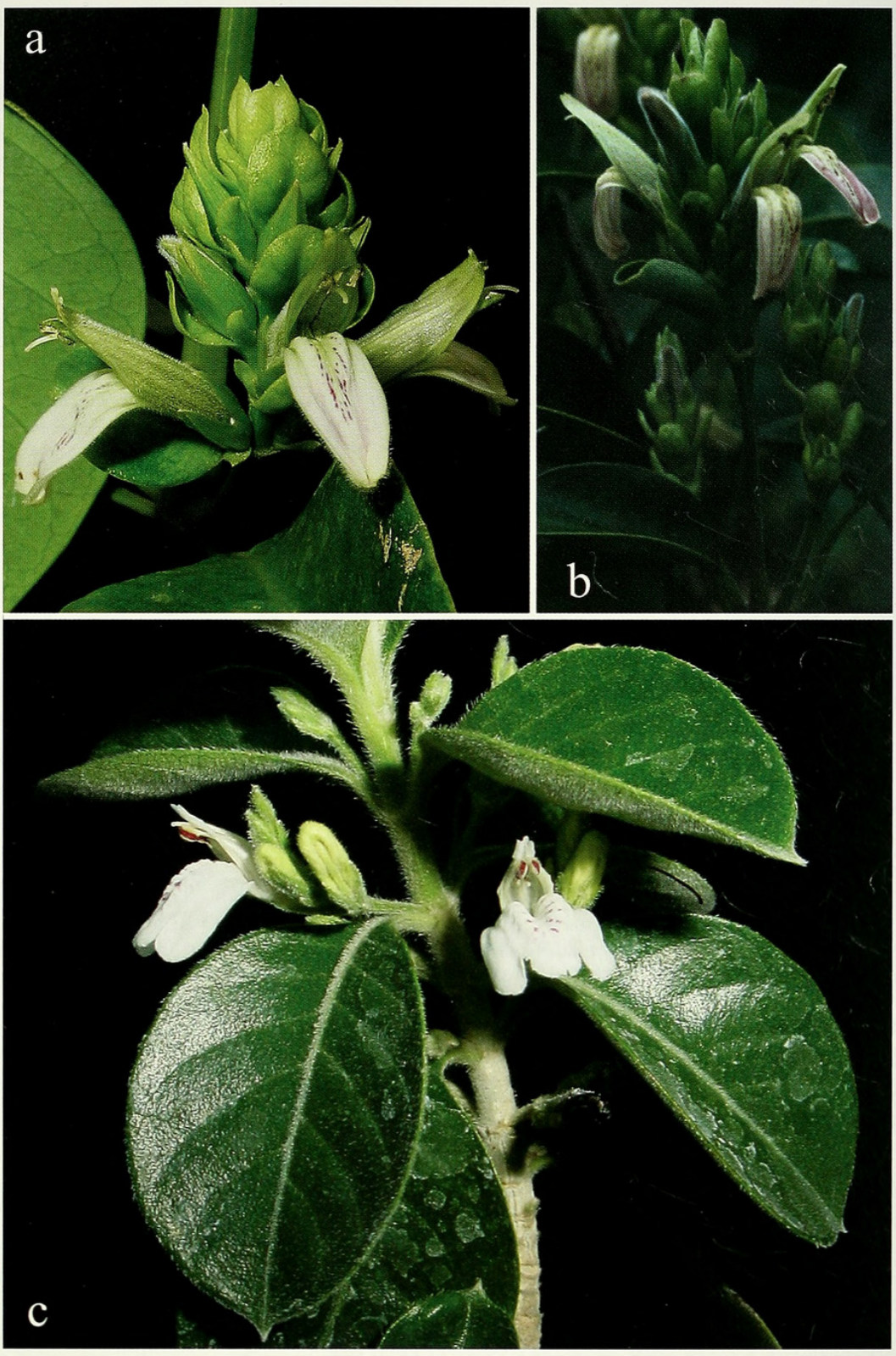

FIGURE 4. Photographs of *Justicia luzmariae* (a, b) and *J. leucothamna* (c). a. *Carnevali et al. 6733*, ×1.8. b. *Daniel et al. 10316* (maroon form), ×1.3. c. *Tapia & Cházaro 1453*, ×2.5.

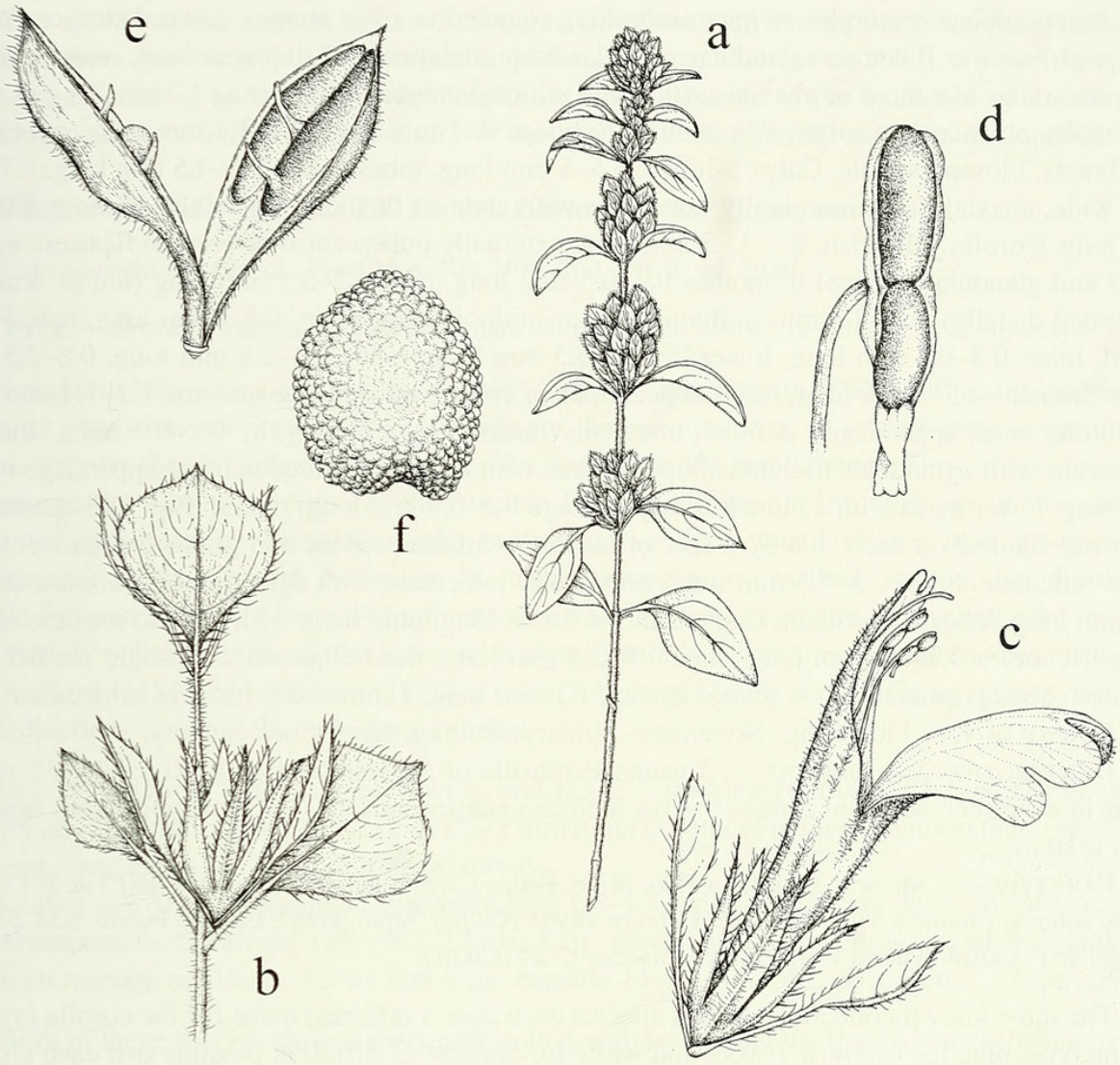

FIGURE 5. *Justicia edgarcabrerae*. a. Habit (*Cabrera & Durán 624*), ×0.4. b. Inflorescence nodes (*Cabrera & Durán 624*), ×4.8. c. Dichasium (*Cabrera 16968* and *Cabrera & Durán 624*), ×5.8. d. Distal portion of stamen with anther (*Cabrera & Durán 624*), ×17.3. e. Capsule (*Cabrera & Durán 624*), ×7.2. f. Seed (*Salazar C. 26*), ×22.6. Drawn by Nadia Strasser.

cens trichomatibus glandulosis et eglandulosis. Stamina thecis 1.1–1.4 mm longis, impariter insertis, theca supera pubescens trichomatibus eglandulosis, theca inferna basi calcarata; pollinis granae 3-aperturatae. Capsula 5.5–6.5 mm longa, pubescens trichomatibus eglandulosis.

Perennial herbs to 1 m tall. Young stems subquadrate, pubescent with erect to flexuose eglandular trichomes 0.5–1.2 mm long, trichomes disposed throughout but ± concentrated in 2 lines. Leaves petiolate, petioles to 8 mm long, blades ovate, 13–44 mm long, 6.5–21 mm wide, 1.5–2.3 times longer than wide, (rounded to) acute at apex, acute to subattenuate at base, surfaces pubescent with erect to flexuose to antrorse eglandular trichomes, margin entire. Inflorescence of axillary (and terminal) pedunculate dichasiate spikes to 53 mm long (including peduncles and excluding flowers), 10–11 mm in diameter near midspike, spikes opposite at nodes, 1–2 per axil, borne on peduncles to 5 mm long, rachis ± evenly pubescent with erect to flexuose to antrorse eglandular trichomes 0.3–0.8 mm long; dichasia alternate, sessile, 1-flowered. Bracts opposite to subopposite, spatulate to broadly-elliptic or subcircular or subdeltate and stalked at base, (5–) 6–9 mm long, (1–) 2–6.5 mm wide, fertile bracts somewhat larger than to conspicuously larger than sterile bracts

(i.e., bracts subheteromorphic to heteromorphic), rounded to acute at apex, abaxial surface pubescent with erect to flexuose eglandular and glandular trichomes 0.2–0.5 mm long, margin ciliate with trichomes like those of abaxial surface and with eglandular trichomes to 1.3 mm long as well. Bracteoles oblanceolate (often asymmetric) to linear, 4–7 mm long, 0.2–1.4 mm wide, pubescent like bracts. Flowers sessile. Calyx 5-lobed, 3.5–5 mm long, lobes equal, 2.5–4.5 mm long, 0.7–0.9 mm wide, abaxially and marginally pubescent with erect to flexuose eglandular trichomes 0.5–1 mm long. Corolla yellowish, 8.3–11.3 mm long, externally pubescent with erect to flexuose eglandular and glandular (sparse) trichomes 0.1–0.5 mm long, tube 4.2–5.5 mm long (not or scarcely expanded distally), 1.5–2.3 mm in diameter near midpoint, upper lip 4–5.3 mm long, apically 2-lobed, lobes 0.3–0.5 mm long, lower lip 4.5–6.5 mm long, lobes 1.2–2.5 mm long, 0.8–2.5 mm wide. Stamens 4.5–5 mm long, inserted near apex of corolla tube, thecae maroon, 1.1–1.4 mm long (including basal appendage), parallel, unequally inserted (overlapping by 0.2–0.3 mm), dorsally pubescent with eglandular trichomes, upper theca with a ± inconspicuous basal appendage to 0.2 mm long, lower theca with a blunt basal appendage 0.5–0.9 mm long; pollen (Fig. 2) 3-aperturate, apertures flanked on each side by 1 row of insulae or insulae absent and grains 6-pseudocolpate, exine reticulate. Style 7.5–8.5 mm long, proximally pubescent with eglandular trichomes, stigma 0.2 mm long, lobes not evident. Capsule 5.5–6.5 mm long, pubescent with erect to retrorse eglandular trichomes 0.1–0.4 mm long, stipe 1.9–2.5 mm long, head ellipsoid with slight medial constriction. Seeds (immature?) 4, plano-convex, 1.1 mm long, 1 mm wide, surfaces tuberculate.

Phenology.— Flowering: November–January; fruiting: November–January.

Distribution and habitat.— Yucatan Peninsula of Mexico (Quintana Roo; Fig. 3); plants occur in evergreen seasonal forests ("selva mediana subperennifolia") at elevations from near sea level to10 m.

Paratypes.— Mexico: **Quintana Roo**: Mpio. Felipe Carrillo Puerto, 19 km NW [NE] de F. Carrillo Puerto sobre el camino a Vigía Chico, *E. Cabrera 16968* (CIQR); Mpio. Felipe Carrillo Puerto, KM 20 carr. antigua de F. Carrillo Puerto a Vigía Chico, *Salazar C. 26* (CIQR).

The three known collections of this species each note a different color for the corolla (yellow for the type, blue for *Cabrera 16968*, and white for *Salazar C. 26*). It is possible that each characterization is at least partially correct, and like several other species of *Justicia* in the region, the corollas are cream to yellowish with bluish or purplish markings.

Among species of *Justicia*, *J. edgarcabrerae* appears related to a suite of heteromorphically bracteate American species that includes *J. chol* T.F. Daniel, *J. costaricana* Leonard, *J. nevlingii* Wassh. & T.F. Daniel, and *J. uxpanapensis* T.F. Daniel (Daniel 2002; Wasshausen and Daniel 1995). Among these species pollen varies from 2-aperturate (e.g., *J. uxpanapensis*) to 3-aperturate (e.g., *J. chol*) to 4-aperturate (e.g., *J. nevlingii*). *Justicia edgarcabrerae* is especially similar to *J. chol* which occurs in wetter forests of southern Mexico and has corollas that are white to cream-yellow with maroon markings (Daniel 1995). It differs from that species by the characters noted in the following couplet:

1a. Young stems quadrate to quadrate-sulcate; cauline trichomes with maroon septa; leaves with petioles to 35 mm long, blades acuminate at apex; calyx 2.5–3.5 mm long; corolla tube 5.5–7 mm long; stamens 3.5–4.5 mm long, thecae superposed (separated by a gap up to 0.5 mm long); rainforests of Chiapas and Tabasco ..... *J. chol*

1b. Young stems subquadrate; cauline trichomes without maroon septa; leaves with petioles to 8 mm long, blades (rounded to) acute at apex; calyx 3.5–5 mm long; corolla tube 4.2–5.5 mm long; stamens 4.5–5 mm long, thecae unequally inserted (overlapping by 0.2–0.3 mm); evergreen seasonal forests of Quintana Roo ..... *J. edgarcabrerae*

The epithet of this species is based on the name of the well known Mexican plant collector, Edgar Cabrera (see biographical information in Sousa S. and Cabrera C. 1983), whose fine specimens have enriched knowledge of the Yucatecan flora. Because of the existence of *J. cabrerae* Leonard, named for a different collector, we use both given and family names in this epithet.

***Justicia leucothamna* (Standl.) T.F. Daniel, Carnevali, and Tapia, comb. nov.**

Jacobinia leucothamna Standl., Field Mus. Nat. Hist., Bot. Ser. 8: 44. 1930.

TYPE.— MEXICO: **Yucatán**: Silam [= Dzilam González, see below], *G. Gaumer 1242* (holotype: F!).

Jacobinia Nees is usually included within *Justicia* (see Graham 1988), and a combination in the latter genus has not previously been made for this species. *Justicia leucothamna* is apparently known only by the six collections from the Yucatan Peninsula listed herein. Thus, it appears to be endemic to the Mexican portion of the Yucatán Peninsula (Fig. 3). The affinities of this species were not addressed by Standley in the protologue or by Leonard (1936) in a treatment of Acanthaceae of the Yucatan Peninsula. In many features (e.g., axillary, secund, and dichasiate spikes; four calyx lobes of equal length; whitish corollas; and contiguous but unequally inserted and dorsally pubescent thecae, the lower with a prominent basal appendage) the species resembles *J. salviiflora* H.B.K. of Graham's (1988) section *Sarotheca* (Nees) Benth. These species differ by the distinctions noted in the following couplet:

1a. Leaves to 85 mm long, to 43 mm wide, and 1.2–2.7 times longer than wide, apically acute- to rounded- to truncate-apiculate; calyx 3–5 mm long; corolla white with maroon markings, 9–12 mm long; capsule 8–12 mm long, glabrous . . . . . *J. leucothamna*

1b. Leaves to 170 mm long, to 77 mm wide, and 1.5–4.4 times longer than wide, apically acute to acuminate to subfalcate; calyx 5.5–12 mm long; corolla greenish yellow tinged with pink and with maroon markings, 12–21 mm long; capsule 14–20 mm long, pubescent. . . *J. salviiflora*

Both of these species have 2-aperturate pollen with trema regions flanked on each side by one row of peninsulae or insulae (Fig. 2).

Martínez S. et al. 30861 occurs well to the south of other known collections of this species (Fig. 3). It was collected in a moister habitat ("selva mediana subcaducifolia") than the collections from northern Yucatán ("selva baja caducifolia"), and its stems and leaves are not as densely pubescent as in plants from the drier regions. On the basis of recent collections, Standley's (1930) description of *J. leucothamna* can be augmented as follows: corollas white with maroon markings on the lower lip (Fig. 4), 9–12 mm long; stamens 4–6.5 mm long, thecae maroon, 1–1.3 mm long; capsules 8–11.5 mm long, glabrous; seeds 4, 1.8–2.2 mm long, surface and margin densely tuberculate with conical tubercles.

The type locality of this species was cited by Gaumer as "Silam." Among his collections of Acanthaceae, Gaumer distinguished between "Silam" and "Port Silam." In addition, Millspaugh, who worked with Gaumer's collections, distinguished "Silam" from "the port of Silam" (Millspaugh 1896); and on his map of the Peninsula (Millspaugh 1896), "Silam" is shown interior to the coast. This certainly suggests that "Silam" refers to what appears on modern maps as Dzilam González, and that "the port of Silam" would refer to what appears on modern maps as Dzilam de Bravo (which is situated on the coast, ca. 15 km NE of Dzilam González). Thus the type locality would appear to be Dzilam González.

ADDITIONAL SPECIMENS EXAMINED.— MEXICO: **Campeche**: Mpio. Calakmul, 45 km NW de Conhuas, camino a Champotón, 18°49′N, 90°00′W, *E. Martínez S. et al. 30861* (CAS, MEXU). **Yucatán**:

Silam, *G. Gaumer 2280* (F, GH, MO); Mpio. Río Lagartos, pasando el Rancho Paraiso rumbo a Las Coloradas, 21°35′N, 88°10′W, *J. Leal & I. Espejel 223* (CICY); Mpio. San Felipe, 16 km después de Panabá rumbo a San Felipe, 21°26′N, 88°15′W, *J. Leal & V. Rico-Gray 111* (CICY); Mpio. Dzemul, km 6 de la carretera Dzemul–Xtampú, 4 km S del entronque a ruinas de Xtampú, 21°16.5′N, 89°18.5′W, *J.L. Tapia M. & M. Cházaro 1453* (CAS, CICY).

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