

SUMMARY

A new Amazonian species of *Justicia*, *J. zarucchii* from the region of the Rio Abacaxis is described, illustrated, and compared with *J. schultesii* and *J. gutierrezii*, its closest relatives.

INTRODUCTION

Recent efforts to identify specimens of *Justicia* collected in Amazonian Brazil have resulted in the recognition of the following undescribed taxon.

Justicia zarucchii Wasshausen, sp. nov. - (Fig. 1-2)

Herba recta ramosa vel suffrutex; foliorum lamina elliptica vel oblonga, acuta vel breviter acuminata, tenuis, parce vel dense velutina; inflorescentia e spicis pluribus umbellatis composita, bracteis conspicuis imbricatis secundis, dorsalibus sterilibus. Ventralibus flores subtendentibus; bractee dorsales luteae, ovatae vel obovatae, 2-2.2 cm longae, tenues, membranaceae; corolla crenea, 2 cm longa, labiis subaequalibus, labio superiore cucullato, apica angustato, obtuso, leviter emarginato; stamina vix exserta.

Erect, much-branched herb or shrub 1.5-2 m tall; stems subquadrangular, ascending, densely velutinous or sericeous, the hairs golden-brownish, erect or variously curved, to 0.75 mm long; leaf blades elliptic to oblong, 24-29 cm long and 7.5-10.5 cm broad, acute or short-acuminate, narrowed at base, thin, entire or undulate, the upper surface moderately to rather densely velutinous, the hairs yellowish-brown, erect, to 0.75 mm long, the costa and lateral veins (12 or 13 pairs) prominent but less so than those of the lower surface, the cystoliths minute (about 0.2 mm long) and obscure on both surfaces; the lower surface moderately and softly velutinous, the hairs similar to those of the upper surface; petioles 2-3 cm long, densely yellowish-brown sericeous;

(*) Department of Botany; Smithsonian Institution; Washington D.C.; USA

inflorescence an umbel of numerous spikes, these 6.5-12 cm long and 2-3.5 cm broad, the bracts conspicuous, closely imbricate, secund, the peduncles 2-3 cm long, densely sericeous, the hairs erect, about 0.75 mm long, yellowish-brown, the rachis similarly sericeous, the hairs somewhat curved and spreading; dorsal bracts sterile, yellow, ovate to obovate, 20-22 mm long, 12-17 mm broad, subobtuse and apiculate, obtuse at base, thin, membranaceous, puberulous and sparingly ciliate on margins, the hairs 0.5 mm long, suberect or ascending, the costa and about 6 pairs of lateral veins somewhat prominent; ventral bracts (those subtending the flowers) narrowly elliptic, 12 mm long, 2.5-3 mm broad, acute, gradually narrowed from above the middle to base, submembranaceous, puberulous and ciliate on the margins, the hairs 0.4 mm long, the costa and lateral veins obscure; bractlets oblong to narrowly lanceolate, 6-7 mm long and 1-1.3 mm broad, acute and minutely apiculate at apex, gradually narrowed from the middle to base, submembranaceous, the pubescence and venation similar to that of the bracts; calyx 1 cm long, the segments 5, lanceolate, 1.2 mm wide, gradually narrowed into a slender tip, puberulent and the margins minutely ciliate; corolla cream colored to pale yellow, about 2 cm long, the lower half glabrous, the upper half finely pubescent, the hairs 0.4 mm long, gland-tipped, the tube 2 mm broad near base, 3 mm broad at throat, the lips subequal, the upper lip erect, triangular, 3 mm wide at base, narrowed to an obtuse slightly emarginate, cucullate tip, the lower lip more or less spreading, obovate, 3.5 mm wide near middle, 3-lobed, the lobes oblong, 3 mm long, 1.25 mm broad, rounded, the outer lobes slightly incurved; stamens slightly exerted beyond the mouth of the corolla tube, glabrous, the anthers 3 mm long, the lobes superposed nearly vertical, the connective slender, about 2 mm long and 0.7 mm wide, the lower anther cell spurred, the spur 0.25 mm long, rounded at tip; pollen grains 4-colporate, prolate, 65 μ m long, 45 μ m broad, the "tremata area" studded with a longitudinal row of more or less circular insulae on each side of the aperture, these rows are likewise surrounded on either side by an additional longitudinal row of apparently fused insulae (Fig. 2); style slightly longer than the stamens, glabrous, the stigma 2-lobed, the lobes minute, rounded; ovary glabrous; capsule clavate, 4-seeded, 2.2 cm long, 4.5 mm broad, 2 mm thick, sparingly puberulous, some of the hairs gland-tipped; retinacula 3 mm long, curved, narrow, acute at tip; seeds suborbicular, flattened, about 3 mm broad and long, strongly muricate.

Type: BRASIL. Amazonas, Mun. de Axinim, Rio Abacaxis, along Petrobras road from Igarape Axinim, 7 Jul 1983, J. L. Zarucchi, C. A. Cid Ferreira, S. R. Hill, C. A. Todzia, J. Lima dos Santos, J. Guedes de Oliveira, and B. W. Nelson 2971 (Holotype, INPA; Isotypes, NY, US).

ADDITIONAL MATERIAL: Brazil, Amazonas, Munic. Borba, Igarape Axinim, 7 Jul 1983, S. R. Hill et al 12982 (INPA, NY, US).

Habitat: Secondary growth on terra firme forest, near river.

Justicia zarucchii is not nearly allied to the other known species of Neotropical



Fig. 1. *Justicia zarucchii* Wasshausen (Zarucchi et al. 2071): A, habit; B, dorsal and ventral bracts, bractlets and calyx segments; C, ventral bracts and bractlets; D, calyx; E, corolla; F, corolla expanded.

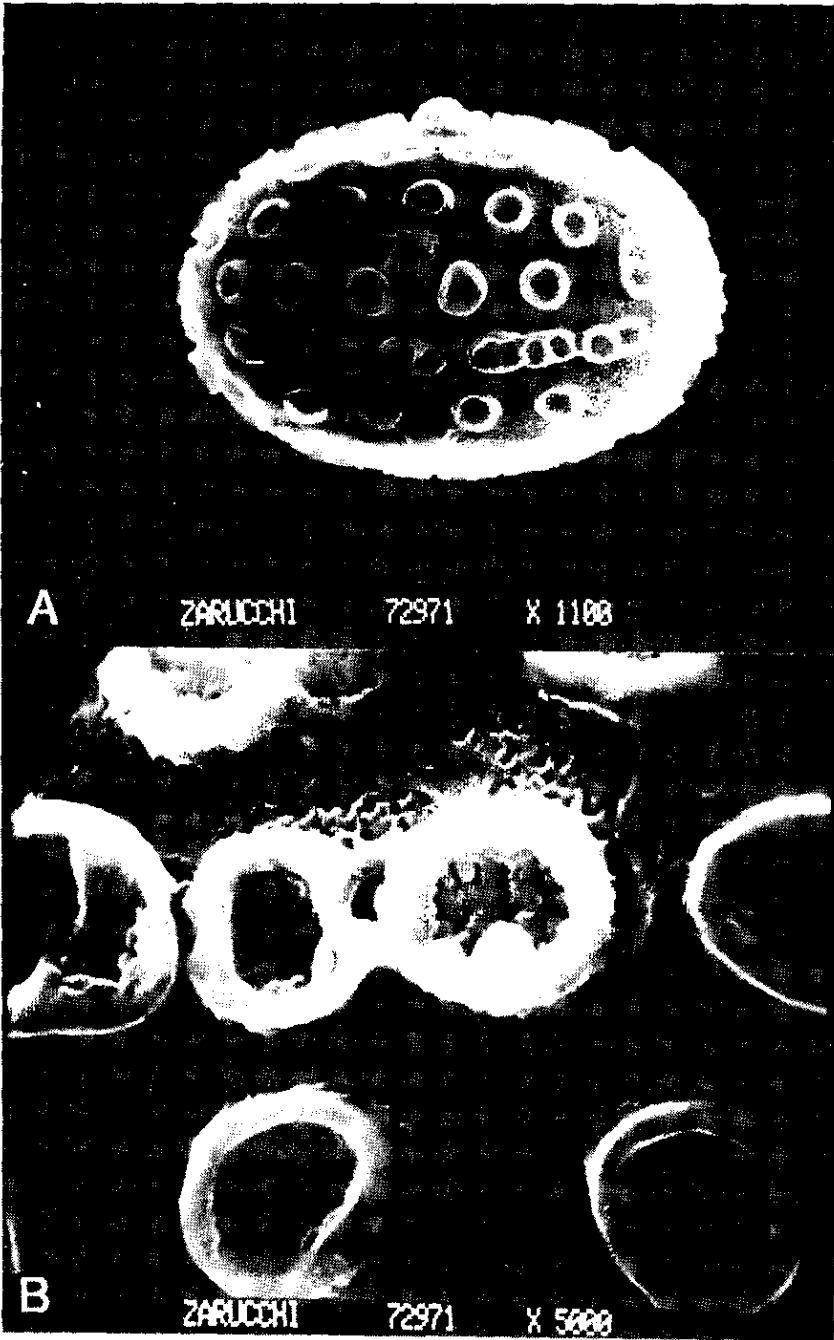


Fig. 2. SEM photomicrographs of *Justicia zarucchii* Wasshausen pollen (from Zarucchi et al. 2971): A, equatorial view, X 1100; B, portion of surface, X 5000.

Table 01

Summary of the major character differences between *Justicia zarucchii*, *J. schultesii* and *J. gutierrezii*

	<i>J. zarucchii</i>	<i>J. schultesii</i>	<i>J. gutierrezii</i>
Habit	Much-branched herb or shrub 1.5-2 m tall	Shrub	Small tree
Leaf blades	24-29 cm long and 7.5-10.5 cm broad, thin, both surfaces moderately to densely velutinous, the hairs yellowish-brown	To 17 cm long and 5.5 cm broad, moderately firm, both surfaces pilose, the hairs white to light yellowish	To 12 cm long and 5 cm broad, rather firm, upper surface glabrous or sparingly strigose, lower surface densely and softly strigose or hirsute, the hairs white to light yellowish
Inflorescence	Compound umbel composed of numerous spikes, these 6.5-12 cm long and 2-3.5 cm broad, peduncles 2-3 cm long, these and the rachis densely sericeous	Spikes solitary or paired, terminal and subterminal to 4 cm long and 1.2-1.7 cm broad, peduncles to 0.5 cm long, these and the rachis densely pilose	Spikes terminal and subterminal to 2.5 cm long and 1.2 cm broad, peduncles to 1 cm long, these and the rachis densely hirsute or subtomentose
Bracts (dorsal)	Sterile, yellow, ovate to obovate, 20-22 mm long, 12-17 mm broad, thin, membranous, puberulous	Ovate, 10 or 11 mm long and 8 mm broad, pilose	Sterile, ovate, 11 mm long and 8 mm broad, hirsute
Bracts (ventral)	Narrowly elliptic, 12 mm long, 2.5-3 mm broad, puberulous	Elliptic, 10 or 11 mm long, 4.5 mm broad, puberulous	Broadly oblanceolate, 14 mm long, 4 mm broad, hirsute
Bractlets	Obong to narrowly lanceolate, 6-7 mm long and 1-1.3 mm broad, acute and minutely apiculate, puberulous	Linear, 8 mm long and 0.5 mm broad, glabrous or pilose dorsally	Lanceolate, 9 mm long and 1.5-2 mm broad, acuminate, pilose
Calyx segments	Lanceolate, 10 mm long, 1.2 mm broad, gradually narrowed into a slender tip	Linear-lanceolate, 5.5 mm long, 0.75 mm broad, gradually narrowed into a slender tip	Lanceolate, 10 mm long, 0.75 mm broad, slenderly acuminate
Corolla	Cream to pale yellow,	White, about 2 cm	White, about 2.5 cm

	<i>J. zarucchii</i>	<i>J. schultesii</i>	<i>J. gutierrezii</i>
Corolla (contd)	about 2 cm long, upper lip narrowed to an obtuse slightly emarginate, cucullate tip	long, upper lip narrowed to an obtuse slightly emarginate tip	long, upper lip gradually narrowed to a subacute tip
Stamens	Slightly exerted beyond the mouth of the corolla tube	Slightly exerted beyond the mouth of the corolla tube	Reaching the tip of the upper corolla lip
Anther lobes	3 mm long, the connective about 2 mm long	3 mm long, the connective about 0.5 mm long	1.25 mm long, the connective 0.75 mm long

Justicia. It superficially resembles *J. gutierrezii* Leonard from the Intendencia of Caquetá, Colombia, however, this species is unique in its smaller, to 2.5 cm long, terminal and subterminal spikes, smaller, 11 mm long and 8 mm broad, sterile dorsal bracts and the 2.5 cm long corolla with the upper lip gradually narrowed to a subacute tip. A second species, *J. schultesii* Leonard, from Colombia's Commissaria Vaupês, is distinguished from *J. zarucchii* by solitary or paired, terminal and subterminal spikes to 4 cm long and 1.2-1.7 cm broad, smaller, 10 or 11 mm long and 8 mm broad, ovate bracts and linear, 8 mm long and 0.5 mm broad bractlets. The major differences between the three species are summarized in Table 1.

This very showy and beautiful species with its large, bright yellow bracts and its cream to pale yellow corollas also exhibits an unusual and interesting type of pollen grain. Occasionally, species of *Justicia* exhibit a 4-porate pollen grain with the "trema area" studded with one or more rows of insulae. *J. zarucchii* not only exhibits this unusual type of pollen but in addition, the inner row of insulae is surrounded by an additional longitudinal row of apparently fused insulae (Fig. 2). This species is named in honor of the collector, my good friend, James L. Zarucchi.

RESUMO

Uma nova espécie de *Justicia*, *J. zarucchii* da região do rio Abacaxis é descrita, ilustrada e comparada com *J. schultesii* and *J. gutierrezii*, as espécies mais próximas.

ACKNOWLEDGMENTS

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