

orous lfts minutely ciliolate, nowhere glandular but the very young shoots subresinous, the inflorescence a small panicle of spikes solitary or 2-3 together in axil of coeval lvs, the long narrow pods immersed in foliage. *Stipules* erect, narrowly lanceolate 2-5 × 0.4-0.6 mm, dorsally 1-nerved, deciduous. *Leaf-stalks* 6-12 cm, the petiole including livid pulvinus 15-24 mm, the interpinna segments 6-20 mm, the narrow ventral sulcus bridged between pinnae and charged with a weak, minutely puberulent spicule 0.5-1.2 mm; *pinnae* 5-10-jug., subequilong or erratically graduated, the rachis of longer ones 5-9 cm, the interfoliolar segments 0.6-1.3 mm, their ventral ridge wider distally, the whole rachis, shorn of lfts, appearing serrate in profile; lfts of longer pinnae ±40-70-jug., subequilong except at very base of rachis, the first pair 0.4-1 mm distant from minute ascending paraphyllidia, the blades linear-lanceolate from obliquely obtusangulate base, those near mid-rachis 6-9.5(-10) × 0.8-1.1 mm, 7.5-10 times as long as wide, the ventral face veinless or almost so, the dorsal one pallidly 3-nerved, the midrib centric, the primary nerve on either side submarginal and produced to blade apex. Axis of *flower-spikes* including short peduncle (4-)4.5-9.5 cm; bracts membranous oblanceolate incurved ±1 mm, caducous; *flowers* sessile 4-merous 8-androus, puberulent overall; calyx membranous shallow-campanulate ±1 mm, the low-deltate teeth 0.4-0.5 mm; corollas whitish turbinate 2.2-2.5 mm, the ovate, faintly 1-nerved, shallowly concave lobes ±1.3 × 1 mm; filaments white, monadelphous through ±0.5 mm, exerted 4-5 mm; ovary puberulent but glabrate soon after fertilization; ovules 6-12. *Pod* in profile narrowly linear, attenuate at both ends, 6-16 × ±0.25 cm, gently constricted between seeds and hence submoniliform, obtusely tetragonal and a little laterally compressed, the smooth dilated convex replum 2-2.5 mm wide, the firm, almost plane, reticulately venulose valves ±1.5 mm wide, when ripe separating from replum and breaking into narrowly ellipsoid free-falling dehiscent *articles* 9-13 mm long; *seeds* vertically basipetal, ellipsoid ±7 × 2.5 mm, the testa dull black.

In seasonally dry woodland near 200 m, apparently rare, known only from the e. slope of the upper Paraguai basin in Mato Grosso do Sul (Fda. Sta. Cruz), Brazil and immediately adj. Paraguay (confluence of ríos Apa and Perdi-

do).—Fl. X, IV, the full season unknown. Map 9.

Among *Leiocarpace* this species is strongly characterized by very numerous, crowded, finely but sharply trinerved leaflets and by white flowers giving rise to narrow moniliform, bluntly tetragonal pods with replum as wide as or a little wider than the valves, which break into exceptionally long, narrower articles. The Bolivian *M. dalyi* is alone like it in pod-structure, but this has more than twice as many pinnae, leaflets more faintly trinerved, minutely rufous-lepidote flowers, and pink filaments. The curious story of *Schranckiastrum*, based on misinterpretation of the pod's replum as persistent entire valves and of its valves as a disarticulating replum, has been recounted elsewhere (Barneby, 1984).

69. *Mimosa tenuiflora* (Willdenow) Poir., Encycl. Suppl. 1: 82. 1810, based on *Acacia tenuiflora* Willdenow, Sp. pl. 4: 1088. 1806.—“*Habitat ad Caracas, Bredemeyer.*”—Holotypus, *Bredemeyer 20* in B-WILLD 19189, seen in microform!—Non *M. tenuiflora* Benth., 1846.

Acacia hostilis Martius in Spix & Martius, Reise Bras. 1: 555. 1823.—“... im Algasisso [on rio S. Francisco near 15°S].”—Holotypus, *Martius 1856*, collected IX.1818 (fr), M! = F Neg. 6185 = IPA Neg. 1348.—*Mimosa hostilis* (Martius) Benth., Trans. Linn. Soc. London 30: 415. 1875 & in Martius, Fl. bras. 15(2): 359. 1876. *M. apodocarpa* var. *hostilis* (Martius) Hassler, Repert. Spec. Nov. Regni Veg. 9: 1. 1910.

Mimosa cabrera Karsten, Fl. Columb. 2: 63, t. 132. 1863.—“*Habitat planities calidas siccas septentrionales Columbiae. . .*”—Holotypus, *Karsten s.n.* from “*Coro, Sta. Marta,*” W!

M. nigra J. Huber, Bull. Herb. Boissier II, 1: 303. 1901.—“[Brazil, Ceará:] Dépressions humides dans le Sertão, pres Quixadá (309).”—Holotypus, collected in Oct 1897, labeled ‘*M. acutifolia* var. *nigra*’, MG!

M. limana Rizzini, Leandra 4-5: 14, est. 12. 1974.—“*Vivit in caatinga ad Senhor de Bomfim, Bahia, coll. D. P. Lima 13.147. (16-V-73).* Holotypus in RB no. 148.275.”—Holotypus, RB!

M. maracasensis Harms in herb., nom. ined.—*Maracás, Bahia, IX.1906, Ule 8956, G! HAMB! K!*

M. cabrera sensu Benth., 1876: 416.

M. tenuiflora sensu Lewis, 1937, fig. 8E (pod).

Often vulnerantly prickly, microphyllidious arborescent *shrubs* and *trees* commonly 2-5 m with stiff knotty fuscous, livid or blackish branches erratically armed with stout subhori-

zonal castaneous or livid *aculei* 2–10 mm arising from a broad swollen pediment, the sometimes unarmed hornotinous branchlets and foliage puberulent and \pm resinous or viscid with minute soft hairs 0.1–0.3 mm and mostly sessile or semi-immersed, but on some stems partly short-stipitate glands \pm 0.05–0.1 mm diam., the plane firm lfts subconcolorous, dull olivaceous often brunescent when dry, facially either glabrous or finely puberulent, dorsally sprinkled with semi-immersed glands, often minutely ciliolate, the fl-spikes from axils of fully expanded or already fallen lvs, the inflorescence in consequence either immersed in foliage or on defoliate annotinous branchlets. *Stipules* deltate, triangular or triangular-acuminate (0.5–)1–2.5 mm, deciduous. *Leaf-stalks* (2–)2.5–6.5(–9.5) cm, the petiole including livid pulvinus 7–14 mm, at middle 0.5–0.9 mm diam., the longer interpinna segments (3–)4–9(–11) mm, the ventral groove interrupted between pinnae by a spicule 0.3–1 mm; *pinnae* in Brazil 4–7-, n.-ward to 11-jug., decrescent proximally, the rachis of longer ones (2–)2.5–5(–5.5) cm, the longer interfoliolar segments 1–2.2(–2.5) mm; lfts of longer pinnae (15–)17–33(–40)-jug., decrescent only near ends of rachis, in outline linear-oblong obtuse or sometimes minutely apiculate, the longer ones (3.5–)4–8 \times 1–1.6 mm, 2.5–5 times as long as wide, faintly 1(–2)-nerved dorsally, the upper face veinless. *Spikes* solitary or sometimes geminate, subsessile, in young bud appearing as dense cylindric aments \pm 5–10 \times 2–3 mm, the axis becoming 4–10 cm, loosely spicate; bracts cuneate-spatulate 0.6–1 mm, at dilated apex hooded and dorsally puberulent; fl-buds oblong-obovoid, minutely glandular-papillate distally; *flowers* 4-merous 8-androus, some often staminate; calyx turbinate-campanulate 0.75–1 mm, 4-angulate by prominent ribs leading to the very short, cucullately incurved, dorsally puberulent lobes; corolla turbinate 2.1–3.1 mm, whitish or greenish-white, the ovate, apically callous and incurved lobes 0.7–1.6 mm; filaments white, free, the longer ones exerted 3–4 mm; ovary gray-pilosulous laterally and glandular-verruculose overall. *Pods* narrowly oblong or oblong-elliptic in profile, when well fertilized 25–50 \times 6–8.5 mm, 4–6-seeded, the body cuneately contracted at base into a slender stipe 2–4 mm, the shallowly undulate replum 0.3–0.5 mm wide, the thin green valves becom-

ing stramineous or brownish, bullately elevated over each seed, viscid with both sessile and short-stipitate glands, when ripe separating from replum and breaking up into *articles* \pm 6–8 mm long; *seeds* in broad profile obovate-subcordate \pm 4–4.5 \times 3.3 mm, the testa dull brown.

An element of brush-woodland communities subject to periodic or seasonal drought, in Brazil mostly in caatinga but entering cerrado and occasional on sandstone outcrops, in places forming weedy thickets in pastures and along highways, in n. South America in semideciduous forest and chaparral, mostly below 500 m but in Bahia attaining 750(–900) m, discontinuously dispersed in tropical North and South America: n.-e. Brazil in lat. 4–15°S, locally abundant from Ceará and Rio Grande do Norte to s.-e. Piauí and interior Bahia, there reaching the Contas valley e. of the central highlands and in the S. Francisco basin extending to Espigão Mestre and the frontier of Minas Gerais, perhaps disjunct (pending confirmation) in far e. S. Paulo (Campos da Bocaina, leg. Glaziou, P!), interior Venezuela (Zulia, Cojedes, Guárico, Lara, Aragua) and the Guajira Peninsula in n.-e. Colombia; arid valleys of the Pacific slope in El Salvador and Honduras; Pacific lowlands of Oaxaca and Chiapas, Mexico. — Fl. in Brazil irregularly throughout the year, in Venezuela mostly X–II(–V). — *Carbonal, cabrera, cují cabrera* (Venezuela-Colombia); *jurema, j. preta* (Brazil); *tepescohuite* (Mexico). Map 5.

A syndrome of viscid foliage, strongly 4-ribbed calyx with incurved lobes, and a stipitate thin-walled pod charged with mixed sessile and stipitate glands, the valves bullately distended over the seeds, neatly defines this widespread species. The Brazilian populations, which were ascribed by Bentham to an endemic species, *M. hostilis*, differ only very slightly from those of Venezuela by leaves on the average a little shorter and composed of fewer (mostly 4–7, not 6–11) pairs of pinnae; but some individual plants from these widely disjunct areas are nevertheless identical in foliage. Stipitate glands are perhaps more frequent north than south of the Equator, but are imperfectly correlated with dispersal.

In recent years *tepescohuite* has received sensational publicity as a miracle drug in the treatment of burns. It is said to be harvested in Chiapas in great quantities.

shorter gray puberulence, the narrow thick-textured lfts densely gray-tomentulose above, beneath both puberulent and charged overall with crowded sessile, brilliantly topaz-colored glands ± 0.1 mm diam., submarginally ciliate with contracted, hence substellate setulae, the long narrow amentiform fl-spikes axillary to coëvally expanding lvs, not or scarcely exerted from foliage. *Stipules* lance-subulate recurved $1.5-2 \times 0.4-0.6$ mm, puberulent on both faces, persistent. *Leaf-stalks* of major lvs 4-12 cm, the petiole $\pm 6-10$ mm, the ventral groove bridged between pinnae and there charged with a short ascending spicule, the longer interpinna segments 5-11 mm; *pinnae* 7-12-jug., decrescent proximally, the rachis of longer pinnae 2-4.5 mm, the longer interfoliolar segments ± 2 mm; lfts of longer pinnae 17-32-jug., decrescent at each end of rachis, the first pair 0.2-0.4 mm distant from subulate paraphyllidia 0.3-0.5 mm, the blades linear obtuse from scarcely asymmetric base, the longer ones $5.5-7.5 \times 1.5$ mm, 3.7-5 times as long as wide, externally veinless on both faces. *Spikes* including short peduncle 5-7 cm, without filaments 3.5-4.5 mm diam.; bracts linear-spatulate ± 0.7 mm, caducous; *flowers* 4-merous 8-androus, mostly bisexual; calyx shallowly campanulate 0.9-1.6 mm, thinly puberulent externally, the broadly deltate teeth shorter than or nearly as long as tube; corollas broadly turbinate-campanulate 2.3-2.7 mm, externally puberulent like calyx, the ovate 1-nerved, almost plane lobes $1.1-1.5 \times 0.9-1$ mm, red- or golden-glandular dorsally; filaments pink (fading brownish), free to base, exerted 4.5-5 mm; ovary pilosulous. *Pod* sessile, in profile broad-linear $22-30 \times 7$ mm, 4-6-seeded, the replum ± 1 mm wide, like the stiffly papery valves at once setulose, puberulent and gland-sprinkled overall, the valves breaking into individually dehiscent *articles* 4-4.5 mm long; *seeds* in broad view 4×3.5 mm, the smooth lustrous testa livid-streaked, the pleurogram $\pm 2.5 \times 2$ mm.

In cerrado, attaining 760 m; described from a plant collected by C. F. P. von Martius, supposedly in October, 1818, near Caiteté, close to the Atlantic-São Francisco divide at $\pm 14^{\circ}\text{S}$ in s.-centr. Bahia, but known precisely in modern times only from the valley of rio Carinhanha, on the Bahia-Minas Gerais border at $\pm 45^{\circ}45'\text{W}$.—Fl. VII-IX(?X).

Mimosa coruscocaesia seems to be a special-

ized derivative of *M. gemmulata*, remarkable in ser. *Leiocarpaceae* for plumose and substellate setules. Because of these trichomes, Bentham misidentified the type-collection as *M.* (ser. *Lepidotae*) *cylindracea*, which is eglandular and has yellow, haplostemonous flowers. The flower of *M. coruscocaesia* is diplostemonous and the filaments, of an indeterminable color in the type, are now known to be pink. The plumulose setules that clothe the stems and leaf-stalks of *M. coruscocaesia* are of a rusty-brown or yellowish hue that contrasts with the soft dove-gray tomentulose indumentum of the leaflets' upper face. The epithet refers to the contrast between the blue-gray upper and the gland-encrusted lower faces of the leaflets.

Rediscovery of *M. coruscocaesia* at 760 m elevation in transfranciscan Minas Gerais, and not on Chapada Diamantina from which the type was reported by Martius, raises a question about the accuracy of Martius's label. The field data that appear on some Martius collections are known to be either vague or actually misleading. The species is reported (1989) by Pereira Neto to be common along rio Carinhanha near $45^{\circ}45'\text{W}$, and therefore must have lain in the path of Spix and Martius on their journey from Malhada on the São Francisco west to Chapada do Paranã in September of 1818. Until its occurrence in south-central Bahia is confirmed, *M. coruscocaesia* may be considered probably endemic to the Carinhanha valley along the common border of Bahia and northwestern Minas Gerais.

85. *Mimosa verrucosa* Bentham, J. Bot. (Hooker) 4: 390. 1841.—"Oeiras, Prov. Piauh, Gardner, n. 2136; Prov. Bahia [Itabira, acc. some labels], Blanchet, n. 2869."—Lectotypus, Gardner 2136, collected IV.1839 (fl), K (hb. Hook.)! = IPA Neg. 1270; isotypi, BM! G! GH! NY! P! US! W!; syntypi, Blanchet 2869, F! = F Neg. 54872, G! K! = NY Neg. 1853, M! MO! NY! W!

M. verrucosa sensu Bentham, 1875: 412; 1976: 355; Lewis, 1987, fig. 8H.

Unarmed several-stemmed *shrubs* and bushy *treelets* 2.5-4.5 m, gray-pubescent throughout with short simple hairs, and the stems, lf-axes, peduncles and major veins of lfts' lower face charged with densely pubescent verruciform *set-*

ulae 0.1–0.5 mm diam., the plane lfts equally gray-tomentulose on both faces or sometimes only thinly so above, beneath charged between veins with superficial or impressed, globose yellow or orange glands ± 0.5 mm diam., the pliantly amentiform fl-spikes either all solitary or all fasciculate by 2–4 in axils of coevally expanding lvs, or some forming a shortly exserted efoliate pseudoraceme. *Stipules* firm, erect incurved, lance-attenuate 3–7 mm, at dilated, dorsally convex base 1–2 mm wide, pubescent within and without, persistent. *Leaf-stalks* 4–9.5 cm, the petiole 6–18(–21) \times 0.7–1.4 mm, the longer interpinnae segments 5–15 mm, the ventral groove interrupted between pairs of pinnae by a conic-subulate puberulent spicule 0.6–1.3 mm; *pinnae* 6–9(–10)-jug., a little decrescent at each end of rachis, the first pair 0.8–1.3 mm distant from refracted subulate paraphyllidia 0.4–1.2 mm, the blades of all obliquely oblong from semicordate base, obtuse or minutely apiculate, those at mid-rachis (3–)4–10(–12) \times (1.5–)2–4.5 mm, (2–)2.2–3(–3.3) times as long as wide, all veinless above, beneath prominulose 3-nerved from pulvinule, the straight midrib displaced to divide blade $\pm 1:2$, the inner posterior nerve produced well beyond mid-blade, the outer one short incurved. Axis of *flower-spikes* including short peduncle 6–14.5 cm; bracts linear-oblongate 0.7–1.2 mm, dorsally puberulent, caducous; *flowers* 4-merous 8-androus, mostly bisexual, the obtusely obovoid fl-buds densely whitish-tomentulose with short simple hairs intermixed with minute glands, the calyx and tips of corolla-lobes exceptionally partly stellate-verruculose; calyx broadly campanulate 0.9–1.5(–1.8) mm, the deltate or depressed-deltate teeth 0.2–0.5 mm; corolla 2.5–3.3 mm, the nearly erect lobes ovate or lance-ovate 1.1–1.3 \times 0.6–1.1 mm; filaments bright pink, free to base, exserted 5–7.5 mm; ovary tomentulose. *Pods* (few seen) broadly linear plano-compressed, cuneately contracted at base into a stipe 2–3 mm, the body when well fertilized 30–45 \times ± 8 mm, 4–6-seeded, the undulately constricted replum ± 0.7 mm wide, the replum and papery valves alike densely gray- or sordid-tomentulose with short simple hairs mixed on valves with minute scattered glands and on replum with stellate scales, the ripe valves breaking into free-falling *articles* 5.5–9 mm long; ripe *seeds* not seen.

In caatinga woodland, disturbed carrasco

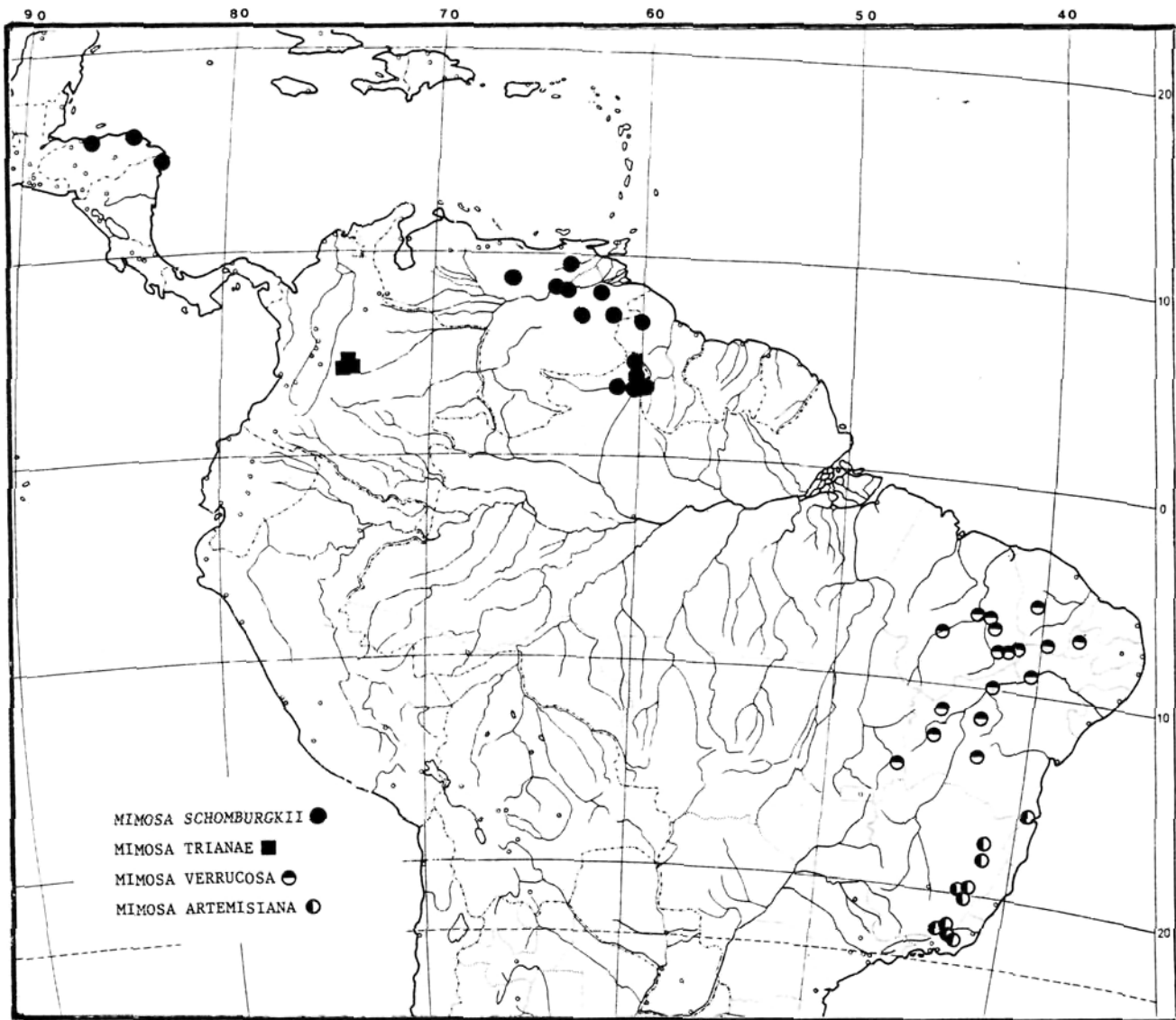
thickets, and cerrado, 100–820 m, locally plentiful in middle e. Brazil in $\pm 3^{\circ}$ – 14° S, 40° – 46° W, from the Balsas–Parnaíba divide in s. Maranhão e. across n. and centr. Piauí to s.-w. Ceará (Chapada do Araripe), s. to lower S. Francisco valley in extreme w. Pernambuco, n.-centr. and w. Bahia, and extreme e.-centr. Goiás; naturalized or planted for ornament in Brasília, D. F.—Fl. II–V, VII–VIII, the full term not known.—*Jurema preta*, applied also to *M. ophthalmocentra*. Map 14.

A bushy treelet of rapid growth, ornamental in flower, the long pliant tassels of pink filaments forming a pleasing contrast with the gray foliage. In the material examined there is considerable variation in size of leaves and leaflets. The larger leaflets are commonly about 5–7.5 \times 2–3.5 mm, but can attain 9–12 \times 4–4.5 mm, a variation probably due to conditions of shade or moisture. Over most of its range the calyx of *M. verrucosa* is pubescent with simple hairs, but one collection from Chapada do Araripe in Ceará (*Castellanos & Duarte 533*, BRADE, NY) has a stellately lepidote calyx and a few stellae on the tip of the corolla-lobes. This may possibly represent an independent taxonomic unit.

86. *Mimosa schomburgkii* Benth., J. Bot. (Hooker) 2: 133. 1840.—“Pirara, British Guiana. *Schomburgk*, n. 715.”—Holotypus, K. (hb. Benth.)! = NY Neg. 1854; isotypi, +B = F Neg. 1371, F (3 sheets)! = F Negs. 54862–4, G! US (715bis)! W!

M. schomburgkii sensu Benth., 1841: 390, 1875: 412, 1876: 355 (obs.); Record, Trop. Woods 11: 24. 1927; Britton & Rose, 1928: 158; Ducke, 1949: 56. 1958: 50; Heringer & Paula, Anais Soc. Bot. Brasil Congr. Nac. Bot. 30: 76–81 (passim), fig. 11. 1979.

Broad-crowned, amply microphyllidious *trees* (3–)5–12(–15) m with trunk 7–40 cm diam., the flowering branches unarmed but the sterile ones (Ducke, 1958, l.c.) said to be prickly, the defoliate annotinous and older branches glabrescent atrocastaneous lenticellate but the hornotinous ones, lf-stks and axes of inflorescence rusty-scabrous-tomentulose with either short-stalked or sessile medusiform *setae*, the resinously aromatic foliage bicolored, the lfts above brown-olivaceous sublustrous, finely remotely stellate, puberulent or sometimes glabrous, beneath sparsely charged with pale yellow or whitish globose glands ± 0.1



MAP 14. Central and tropical South America. Ranges of *M. schomburgkii* Bentham, *M. trianae* Bentham, *M. verrucosa* Bentham, and *M. artemisiana* Heringer & Paula.

mm diam. and, especially along midrib, scattered medusiform setulae, the terminal efoliate or proximally leafy-bracteate panicle of narrow amentiform fl-spikes exerted up to 1–3 dm from foliage. *Stipules* erect linear-attenuate or subulate 2–8 × 0.4–0.9 mm, the involute blade densely stellate dorsally, early dry deciduous. *Leaf-stalks* (6–)8–15 cm, the petiole including elongated pulvinus 12–22 mm, at middle 0.8–1.5 mm diam., the longer interpinnal segments (6–)7–12 mm, the ventral groove continuous between pinnae (spicules 0); *pinnae* 7–13(–15)-jug., decrescent proximally, the rachis of longer ones (4.5–)5–8.5 cm, the interfoliolar segments (1.4–)1.8–3.5 mm; lfts of longer pinnae 20–26-jug., decrescent near base of rachis and also upward from a point near or below middle, the small first

pair directly next to subulate, densely tomentulose paraphyllidia 0.3–0.7(–1) mm, the ventrally convex blades narrowly oblong or lance-oblong from obtusely auriculate base, those near mid-rachis 5–10.5 × (1.5–)1.8–3.2 mm, 2.8–3.8 times as long as wide, all 2–3-nerved from pulvinule, the slender subcentric, dorsally prominulous midrib either simple or commonly weakly 3–5-branched on each side, the weak inner posterior nerve expiring either below or near mid-blade, the outer one very short, often scarcely discernible beneath. *Spikes* mostly fasciculate by 2–4, densely many fld, without filaments 4–5 mm diam., the axis including very short peduncle (3.5–)4–9(–10.5) cm; bracts linear-oblongate 0.7–1.3 × 0.2–0.4 mm, stellulate dorsally beyond middle, caducous from beneath the obo-

vinus 2–24 mm, the petiole 2–8.5 × 0.45–0.75 mm, openly sulcate ventrally, spicules 0; *pinnae* either exactly 1- or 2–4(–5)-jug., the rachis of longer (or only) pair 1.5–6 cm, the interfoliolar segments 0.8–3.7 mm, excavated on each side of ventral ridge; lfts (10–)12–22-jug., the small first pair 0.5–0.9 mm distant from minute or vestigial paraphyllidia, scarcely graduated upward, the blades sessile against the rachis by obliquely truncate, postically retro-angulate base, in outline asymmetrically ovate obtuse, the larger ones 2–6 × 0.75–2.3 mm, ±2–2.3 times as long as wide, at times subundulate marginally, all veinless above, the moderately displaced midrib with 1 short posterior nerve faintly perceptible but scarcely prominulous beneath. *Peduncles* 7–23 mm; *capitula* plumply ovoid ±20–25-fld, without filaments 2.5–3 mm diam., prior to anthesis moriform, the fl-buds thinly puberulent with simple, mostly retrorse hairs; bracts firm obovate or ovate 0.4–0.6 mm, persistent; *flowers* 4-merous 4-androus, only a few distal ones bisexual, these scarcely larger than the staminate ones; calyx shallowly open-campanulate 0.2–0.3 mm, the irregularly lobulate rim minutely ciliolate; corolla turbinate 1.6–2 mm, the ovate, shallowly concave, obscurely 1-nerved lobes 0.7–1 × 0.5–0.7 mm; filaments whitish drying dull yellowish, monadelphous through 0.3–0.5 mm into a cup without intervening staminodial rudiments, exerted ±3.5 mm. *Pods* 1–2 per capitulum, in profile narrowly oblong, cuneately attenuate at both ends, sometimes incipiently stipitate, the plano-compressed body (10–)17–25 × 4–4.5 mm, (1–)2–3-seeded, the shallowly constricted replum ±0.4–0.7 mm wide, the papery brownish valves at length colliculate over each seed, finally breaking up into free-falling *articles* ±6–7.5 mm long, the repium and valves alike thinly sordid-stellate overall; *seeds* basipetally descending, narrowly obovoid ±5 × 3 mm, the testa smooth dull.

Mimosa chrysastra, which appeared isolated when first described, now finds a close relationship in *M. macedoana*, vicariant on Sa. do Cipó. It resembles *M. macedoana* in glabrescent leaflets and small globose capitula, but differs in smaller, dorsally quite glabrous, weakly 2-nerved (not dorsally thin-stellate and prominulously 3–5-nerved) leaflets and in thinly retropuberulent, not stellate corolla. Like *M. macedoana* it occurs with two leaf-patterns, conveniently treated as varieties.

Key to varieties of *M. chrysastra*

1. Lf-stks 9–24 mm, the pinnae (of rare lower lvs 1–)2–3(–5)-jug.; lfts of distal pinnae 17–21-jug., the pairs 0.8–1.3 mm apart, the largest 2–2.6 × 0.75–1 mm. 204a. var. *itambeana* (p. 331).
1. Lf-stks 2–8.5 mm, the pinnae exactly 1-jug., lfts (10–)12–22-jug., the pairs 1.5–3.7 mm apart, the largest lfts 2.7–6 × 0.75–2.3 mm. 204b. var. *chrysastra* (p. 331).

204a. *Mimosa chrysastra* Martius ex Benth
var. *itambeana* Barneby, var. nov., cum var. *chrysastra* habitu, pube, flosculis et legumine toto congrua, foliorum autem formula graviter dispar: foliorum plurimorum petiolus communis 9–24 (nec 2–8.5) mm longus pinnaeque 2–3-jugae, foliorum imorum rarius 1-sum-morumque usque 5-jugae (nec omnium exacte 1-jugae); foliola subdimidio minora, ad maximum 2–2.6 × 0.75–1 (nec 2.7–6 × 1.3–2.3) mm.—Brazil. Minas Gerais: Pico de Itambé in Sa. do Gavião, 2000 m, 10.IX.1974 (fl, fr), *Regina Wels Windisch & A. Ghillány 180*.—Holotypus, BRADE 61233; clastotypus (fragm), NY.

M. itambeana Barneby, in sched., nom. nud.

Characters as given in key to varieties.

In unrecorded habitat, but to be sought in campo rupestre or rock-crevices near 2000 m, known only from Pico de Itambé, at 18°25'S in centr. Minas Gerais, Brazil.—Fl. IX–X(–?).

204b. *Mimosa chrysastra* Martius ex Benth
var. *chrysastra*. *M. chrysastra* Martius ex Benth, 1875, 1876, ll.cc., sens. str.—“Habitat in summo monte Itambé provinciae Minas Geraës: Martius.”—Holotypus, collected 5.VI.1818 (fr), M! = F Neg. 6177.

M. chrysastra sensu Burkart, 1964: 388.

Characters as given in key to varieties.

Forming low thickets in shallow humus-rich soil overlying sandstone bedrock, locally plentiful on upper slopes and summit, near 2250 m, of Pico de Itambé, at 18°25'S in centr. Minas Gerais, Brazil.—Fl. II, V, the full season not known.

205. *Mimosa scabrella* Benth, J. Bot. (Hooker) 4: 387. 1841.—“*Brasilica, Sello*.”—Holotypus, *Sello s.n.*, K (hb. Benth.)! = NY Neg. 1846; isotypi, *Sello 4450*, +B = F Neg. 1370, *Sello s.n.*, BM! NY! P! W!

M. bracaatinga Hoehne, A Bracaatinga ou Abaracaatinga [Publ. Secr. Agric. Industr. Comm. São Paulo] 23, fig. p. 29 (fl). 1930.—“No. 23096 [fr] cultivada na Granja do Canguery, em Curytiba, em 19-10-28; no. 24575 [fr], mandado pelo Sr. Antonio Martins Franco, de Curytiba, em 29-10-29, e no. 25021 ramos . . . cultivados no Horto da Cantareira . . . colhidos por nós em 16-1-30 [sterile].”—No typus seen, the interpretation traditional, following Burkart and Lins, ll.cc. infra.

M. bracaatinga var. *aspericarpa* Hoehne, op. cit. 28, fig. p. 29 (right). 1930.—No. 23493 [fr] . . . das visinhanças de Boa Esperança, a beira do Caminho para o Rio das Mortes, em 8-11-28.—Typus not seen; equated with *M. scabrella* by Lins, 1984: 45.

M. bracaatinga fma *paucijuga* Hoehne, op. cit. 27, fig. p. 25, in discussion, nom. provis.

M. secunda Hoehne ex Angely, Fl. descript. Paraná 2: 660. 1977, nom. nud. in syn.

M. scabrella sensu Bentham, 1875: 410, 1876: 350 (exclus. *Burchell* 7713 e Goiás); Burkart, 1948: 224, 1964: 409 (antecedent bibliography), 1979: 179–185, est. 27–29 + map (Sta. Catarina); Lins, 1984: 44, fig. 7 + map (Rio Grande do Sul); Morim de Lima, 1985, photo 17 (pod).

M. verrucosa sensu Glaziou, 1906: 181, ex parte (8651).

Unarmed trees of rapid growth, attaining 20 m or sometimes more with trunk to 4 dm diam. and broad low-convex crown of foliage, the brittle reddish-brown annotinous branchlets, lf-stks and peduncles scabrous with erect, densely plumulose *setulae* 0.1–0.4(–0.5) mm sometimes mostly contracted into lepidote stellae, the dense but variably ample foliage decisively or weakly bicolored, the lfsts gray-stellate beneath, usually less densely so or rarely subglabrous above, the usually numerous globose or shortly oblong-ellipsoid capitula for the most part axillary but at times some distal ones shortly pseudoracemose, the long-persistent fruits immersed in foliage and often retained on annotinous defoliate branchlets. *Stipules* lanceolate or linear 2.5–7 × 0.5–1.3 mm, caducous usually before maturity of associated lf. *Leaf-stalks* mostly 3.5–9 cm, of some small early and few depauperate distal lvs shorter (no further described), the petiole 1.5–4 cm, at middle 0.5–1.1 mm diam., the longer interpinnal segments 5–13(–20) mm; *pinnae* of lvs on flowering branches 3–8(–9)-, on some vigorous non-flowering shoots to 14-jug., usually a little accrescent distally, the axis of longer ones 3–8(–9) cm, their longer interfoliolar segments 1–3.3(–4) mm; lfsts of distal pinnae (12–)15–32-jug., decrescent only at very ends of rachis, the first pair (0.1–)0.3–0.8 mm distant from subulate or narrowly ovate paraphyllidia 0.5–1.2 mm, the blades

narrowly oblong or oblong-elliptic obtuse from semicordate or obtusangulate base, those near mid-rachis usually 3.5–9 × 1.2–2.7 mm, on Mt. Itatiaia in Rio de Janeiro attaining 12–14 × 4 mm, in either case 2.7–3.9 times as long as wide, the venation of smaller lfsts concealed by gray indumentum, the subcentric costa of ampler ones and sometimes a short posterior nerve weakly raised beneath. *Peduncles* solitary or mostly 2–3-nate, 6–20 mm; *capitula* without filaments 5–12 × (4.5–)5–8 mm, 1–1.5 times as long as diam., prior to anthesis moriform, the densely creamy- or yellowish-silky-strigulose, obovoid fl-buds surpassing the oblong-oblancheolate obtuse or apiculate bracts, these 0.7–1.8 mm, dorsally tomentulose distally, persistent; *flowers* 4-merous 4-androus, a few random ones (not seen) reportedly 5-androus, some proximal ones staminate; calyx membranous campanulate 0.4–0.8 mm, glabrous externally, the truncate or broadly low-denticulate orifice minutely ciliolate; corollas 2.2–2.9 mm, the firm ovate concave lobes 0.7–1.3 × 0.7–0.9 mm; filaments sulfur-yellow, monadelphous with intervening subulate stamindia into a cup 0.7–1.3 mm enveloping the puberulent ovary, exerted 3.5–4.5 mm. *Pods* usually several per capitulum, sessile, in profile broad-linear, abruptly apiculate, 15–42 × (5–)6–8(–9) mm, the replum 0.5–0.8 mm wide, obscurely or not at all constricted between seeds, the epidermis of stiffly papery low-convex valves concealed by a coat of contracted verruciform or stelliform brownish *setulae*, when ripe breaking into individually dehiscent *articles* 5–7 mm long; *seeds* (described by Boelke, Darwiniana 7(2): 255, in clave. 1946, sub *M. bracaatinga*) 4.2–6.4 × 3.7–4.6 mm, the testa black, the cotyledons green.

A characteristic tree of disturbed woodland and *Araucaria* forest in the mountains and campos of extratropical s.-e. Brazil n.-ward from centr. Rio Grande do Sul, in places forming a closed woodland called *bracaatingal*, extending only weakly across the Tropic of Capricorn, at 700–1900 m, along Sa. do Mar into the e. lobe of S. Paulo (Cunha) and along Sa. da Mantiqueira to Mt. Itatiaia in w. Rio de Janeiro; cultivated in Brasília and doubtless elsewhere in tropical Brazil; widely planted for ornament, fuel, pulp and charcoal in Central and n. S. America and in the Old World tropics.—Fl. in Brazil (VII–)VIII–I(–III), perhaps intermittently later.—*Bracaatinga*; *abaracaatinga*; *paracaatinga*.

The morphology, dispersal and economic virtues of *M. scabrella* have been most fully described by Burkart and by Lins in the places cited above. A curious form under cultivation in Paraná (mun. Bocaiva do Sul, *Moreira & A. Miguel* s.n., NY) has pod-valves grossly verrucose as well as stellate.

Burkart (1948: 225) plausibly suggested that the type-locality of *M. scabrella* is near Lages in Sta. Catarina, where Sello must have encountered it on his fifth voyage.

206. *Mimosa eriocarpa* Benth., *J. Bot.* (Hooker) **4**: 387. 1841.—“Brazil, *Sello*.”—Holotypus, K (hb. Benth.); presumed isotypi, *Sello d.1427*, +B = F Neg. 1315! F (fragm ex B)! *Sello* s.n., G! K (hb. Hook.)! NY! W!

M. eriocarpa sensu Benth., 1875: 410, t. 66, 1876: 351; Burkart, 1964: 413; Lins, 1984: 30, fig. 3 + map.

Slender, much branched *shrubs* attaining 3 m, with defoliate and glabrate anntinous and older stems and densely leafy hornotinous ones, the latter like the lf-axes tomentulose with slender erect plumose *setae* to ± 1 mm, the brownish lvs bicolored, the lfts dark dull brown and subglabrous above, a little paler and either stellate or shortly plumose-setulose beneath, the stellae subcontiguous especially on anterior side of midrib but not concealing hypophyllum, the small subglobose capitula solitary or 2–3 together in distal lf-axils, early immersed in foliage. *Stipules* linear-subulate 1.5–4 mm, stellate dorsally, deciduous. *Leaf-stalks* 2–3.5(–4) cm, the petiole 2–12 mm, the longer interpinnal segments 2–8 mm; *pinnae* 3–6(–8)-jug., accrescent distally, the rachis of furthest pair 12–24 mm, the longer interfoliolar segments 0.5–1.2 mm; lfts of distal pinnae 12–18-jug., a little decrescent at both ends of rachis, the first pair 0.2–0.6 mm distant from small subulate paraphyllidia, the blades oblong-elliptic from bluntly auriculate base, obtuse at apex, the larger ones 2.5–3.5 \times 1–1.8 mm, the venation on both faces fully immersed. *Peduncles* 8–18 mm; *capitula* ovoid, without filaments $\pm 4 \times 3$ mm, the receptacle in fruit to 4 mm; bracts lance-ovate 1–1.8 mm, stellately lepidote dorsally, persistent; *flowers* 4-merous 4-androus; calyx not seen entire; corolla (seen only in rudimentary condition) campanulate ± 1.5 mm, cleft to middle, densely stellate externally, yellow within; filaments monadelphous at base and al-

ternating with rudimentary staminodia less than 1 mm. *Pods* several per capitulum, sessile, plumply obovoid-subglobose, bereft of vesture 5–6 \times 3 mm, the replum 0.45–0.6 mm wide, the papery-crustaceous valves concealed by a dense fleece of pinkish plumose setae to 1–2.5 mm, the whole resembling a cottony gall 5–9 \times 5–7.5 mm, the cavity continuous, 1-seeded; *seeds* scarcely 2 mm long.

Rocky stream-banks and low moist places in extratropical campo, known only from centr. and n.-e. Rio Grande do Sul, Brazil.—Fl. VII–IX.

Detached flowering branchlets of *M. eriocarpa* suggest a diminutive or starveling *M. scabrella*, of which the leaf-formula is sometimes similar. *The mature plant, however is a slender shrub, never arborescent; the capitula, commonly subtended by one or more rows of empty bracts, are fewer-flowered and narrower, and the one-seeded pods concealed in a dense mantle of plumose setae, suggesting pinkish insect-galls when fresh, are perfectly characteristic.*

207. *Mimosa taimbensis* Burkart, *Darwiniana* **13(2–4)**: 362, fig. 2. 1964.—“Rio Grande do Sul: São Francisco de Paula, Taimbé, leg . . . A. Sehnem 5140, 18.XII.1950 (typus speciei). . . .”—Holotypus, SI (not seen); paratypes, *Smith & Klein 7749*, NY! US!; *Smith & Reitz 14239*, NY! US!

M. taimbensis sensu Burkart, 1979: 166 + map (Sta. Catarina), est. 23; Lins, 1984: 50 + map (Rio Grande do Sul), fig. 8.

M. taimbensis (sphalm.) Gray Index, issue 248.

Unarmed microphyllidious arborescent *shrubs* 1–5 m with reddish-brown glabrate defoliate anntinous branches and densely leafy hornotinous branchlets sordidly tomentulose with shorter stelliform and longer plumulose *setulae* to 0.15–0.4 mm, the lvs notably bicolored, the small firm lfts (dry) lustrous dark-olivaceous and glabrous or almost so above, beneath white-stellate-tomentulose, the narrow amentiform capitula axillary to distal lvs, immersed in foliage. *Stipules* erect setiform 1.5–4.5 mm, persistent but becoming dry and fragile. *Leaf-stalks* 6–18 mm, the petiole including firm pulvinus 4–10 \times 0.4–0.6 mm, the interpinnal segments (0.5–)1.5–4 mm; *pinnae* (1–)2–4-jug., in some plants mostly 2-jug., subaccrescent distally, the rachis of furthest pair 20–36 mm, the interfoliolar segments \pm as long as base of lfts; lfts of longer pinnae 11–