

Notes on *Cnidoscolus*
(*Euphorbiace *), 33

Francisco Javier FERN NDEZ CASAS

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Notes on *Cnidoscolus* (*Euphorbiaceae*), 33

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Keywords. Systematics, New Species, *Cnidoscolus* Pohl (*Euphorbiaceae*), sect. *Jussieuia* (Houston) Pax, Brazil (Bahia).

Abstract. A new Brazilian species is proposed under the genus *Cnidoscolus* Pohl (*Euphorbiaceae*): *C. Ceballosii* Fernández Casas, from Bahia.

Zusammenfassung. Es wird hier eine neue Art aus Brasil der Gattung *Cnidoscolus* Pohl (*Euphorbiaceae*) beschrieben: *C. Ceballosii* Fernández Casas, aus Bahia.

Resumé. Une nouvelle espèce est décrite du Brésil dans le genre *Cnidoscolus* Pohl (*Euphorbiaceae*): *C. Ceballosii* Fernández Casas, de l'état de Bahia.

Resumo. Descreve-se uma nova espécie brasileira no gênero *Cnidoscolus* Pohl (*Euphorbiaceae*): *C. Ceballosii*, do estado de Bahia.

Resumen. Se describe como nueva una especie brasileña del género *Cnidoscolus* Pohl (*Euphorbiaceae*): *C. Ceballosii* Fernández Casas, del estado de Bahía.

We continue our series of publications about the genus *Cnidoscolus* Pohl (*Euphorbiaceae*, *Crotonoideae*, *Manihoteae*), which we have published in this journal since 2001, see the previous article, F. J. FERNÁNDEZ CASAS (13-i-2007).

A new species is described with data from three different sources, whose contributions are very unequal. First, at the beginning of the last year (2006) we studied two collections in the CEPEC (Ilhéus, Bahia) and SPF (São Paulo) herbaria. Second, our great friend Andrés Ceballos Jiménez provided us with three sheets from his collection to study, which we have chosen as the type since it is the most complete that we have encountered. Also, we had previously studied material of the species in the herbaria of K (Kew, Richmond) [three copies] and NY (New York); although we had not diagnosed it as new during that revision, some of the notes have been used in developing our description.

33 ***Cnidoscolus Ceballosii* Fernández Casas, spec. nov.**, *Fontqueria* **55**(48): 381-396, n° 33 (10-ii-2007)

TYPUS: *A. Ceballos Jiménez* 2006-093, 25-ii-2006 (MA 744799; MAF s/n; MBM s/n, holo-)

– Sectio *Jussieuia* (Houston) Pax, Pflanzenreich IV, 147: 94, n° iii.3 (1910); F. A. Pax & K. Hoffmann, Nat. Pflanzenfam., ed. 2, 19c: 164 (1931)

DISTR. GEOGR. **America australis:** Brasil (Bahia); cf. tabulae 1 (pag. 384), 2 (pag. 394).

ILLUSTR.: Laminæ nostræ i (pag. 385), ii (pag. 386), iii (pag. 387), iv (pag. 388), v (pag. 389), vi (pag. 390), vii (pag. 391), viii (pag. 392).

ABBREVIATA DIAGNOSIS vel character essentialis

C. adenochlamydi proximus sed stipulis linearibus eglandulosis nec digitato glandulosis, bracteis hirtis pilosis atque stimulosi nec glabris, ovario hirtis nec glabro, statim dignoscendus. Ad *C. Lombardium* aliquo modo accedens sed stipulis linearibus non squamiformibus, foliorum marginibus eglandulosis, floribus fœmineis corollis dialipetalis nec tubulosis, præcipue differt.

MAIN DIAGNOSTIC FEATURES or diagnostic characters

Similar to *C. adenochlamys* but immediately distinguishable by the non glandular and linear stipules, not digitate glandulose, the hirtous pilose bracts bearing urticant bristles, not glabrous, and the dense hirtous, non-glabrous ovary. Rather similar to *C. Lombardii* but differing in its linear, not scale-like, stipules, its glandless leaf margin, and the corolla of its female flowers with separate, non-tubulose, petals..

LATINA DESCRIPTIO

Sicut collectorum schedulæ herba robusta 0,6-1,2 m, crassa, urticantis; latex profluens, albus; caules læte virens, setæ urticantes præditi; folia submembranacea, discolora, sursum atroviridia, deorsum griseo viridia; flores albi, stigmata alba; regma viride, stimulosum.

INDUMENTUM. *Setæ urticantes magnæ* 9-11 mm, secus caules, ramos, petiolos, pedunculos atque regmata; *bases* dolioliformi vel poculiformi, subtus castanei, sursum albicanti; *sphaerula apicalis* minima, sublateralis. *Setæ urticantes mediæ* 3-5 mm, foliorum paginibus raræ, inflorescentiis partibus supremis (alabrastrorum apicis, bracteis, bracteolis, pedunculis partialis) dives; *bases* lætiori, plerumque albescenti.

FOLIA ambitu late ovata, longe petiolata. *Stipulæ* (dua tantum visæ) linear triangulares, ad $7 \times 0,5$ mm, caducissimæ. *Petiolus* quam limbus subæquilongus, hirtus pilosus atque dense stimulosus. *Glandulæ summipetiolares* minores, turmæ duæ approximatæ formantes, parum prominentes, squamæ basales destitutæ, congestæ; unaquæque glandullis 5-6 fusiformes vel clavæformes, inæqualis, congestæ. *Limbus* latior quam longus, bene ultra medium profunde 3-5 lobatus; supra glabrescens vel rare hirtus, atro virens, sursum læte virens vel glaucescens; secus nervos rare stimulosus; deorsum magis pilosus, præcipue secus nervos; secus nervos rarissime stimulosus; ad basim aperte cordatus; nulla parte neuroloimus. *Lobus medius* oblongus, ad basim constrictus, acutus vel acuminatus, inordinatim et rare dentatus. *Nervia radialia* septem; tria magna principalia 40° divergentia; dua exteriora media $45-50^\circ$ divergentia; dua extrema minima, $15-20^\circ$ divergentia; omnia cylindrica et ubique aptera, vix striata, subtus valde prominentia, hirsutissima, sursum parum prominentia, hirsuta. *Nervia secundaria* 35° divergentia, parallela, margines attingentia, dentibus acutis desinentia. *Nervia terciaria* reticulata. *Nervia quaternaria* subreticulata. *Margo* inordinatim ciliato pilosus, omnino stimulosus, rarissime atque inordinatim dentatus; dentes acuti apicibus glandulosis, sub lente uvido aspectu exhibentibus.

INFLORESCENTIÆ axillares terminalesque, mediocres, laxæ, dichasia composita. *Pedunculus communis* usque 11 cm, hirtus pilosus atque stimulosus, longitudinaliter striatus. *Pedunculi partiales inferiores* tres, 3-4 cm, omnes longitudinaliter striati, hirtus villosus atque stimulosus; *Pedunculi partiales superiores* ad inferiores simillimi sed geminati, sensim breviores. *Bracteæ* triangular sublineares, penitus virides, usque $6 \times 1,5$ mm, ubique eglandulosæ, dorso albo piloso, apice rare stimulosum; adaxialiter glabræ, virides; ad basim læte viridi marginatæ, vis canaliculatæ. *Bracteolæ* ad bracteas simillimæ sed breviores, supra numerosæ, ubique virides, vix carinatæ, parum congestæ, dorso albo hirtus pilosæ, apicem versus penicillato stimulosæ.

FLORES MASCULI in ramulis lateralis dichasiorum dispositi. *Pedunculus* subnullus, usque 0,25 mm, hirtus pilosus. *Alabastra* subcylindrica, sursum parum constricta, subsphærico capitata, hirtus pilosa atque sursum præcipue stimulosus (aliquo modo penicellata), læte viridia, ad $6-8 \times 2-3$ mm. *Corolla* alba, tubulosa, extus hirtus villosa, intus glabra; *tubus* cylindricus, ad $5 \times 1,6-1,8$ mm; *petala* (pars libera) usque $3 \times 1,5$ mm, patentia, oblongo spatulata. *Discopodium* ad 0,25 mm. *Discus* hemisphæricus, ad $1 \times$

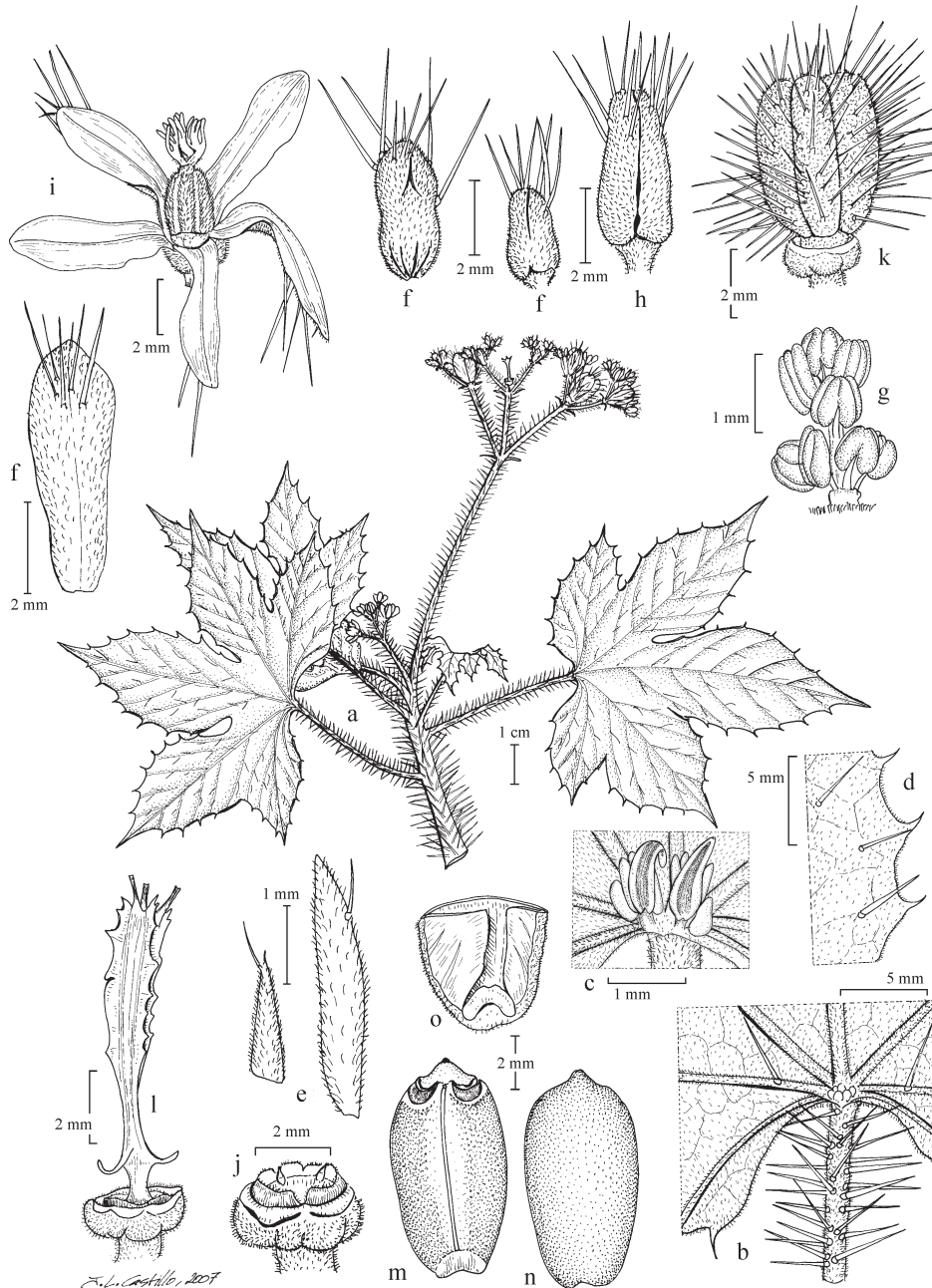


Plate I. *Cnidoscolus Ceballosii* Fernández Casas. A. *Ceballos Jiménez* 2006-093 (MA 744799, isotype). a) Fertile branch. b, c) Summipetiolar glands. d) Adaxial leaf margin. e) Bract and bracteole. f) Male flower buds. g) Androecium. h) Female flower bud. i) Opened female flower. j) Female calyptra and disc. k) Regma. l) Staminal column. m, n) Seeds. o) Sporocoele.



1,5 mm, subtus cavus, pilis rigidis extus obsitus, intus glabrus. *Stamina* decem, biverticillata (5 + 5); quinque exteriora libera, inclusa, quinque interiora in columnam coalita, dua subapicalia et tria apicalia, ad oram florendi tempore subexclusa; *filamenta* cylindrica, ad 2 mm; *columna staminalis* glaberrima, ad 2 mm; *antheræ* ovoideæ, ad 0,7-0,8 × 0,5 × 0,5 mm, dorsifixæ, submedifixæ, omniæ insertæ; *connectivum* latum, iuvenile viride; *staminodia* difficile observanda, minima, dua tantum vidimus, primum ad 0,25 mm, alterum ad 1 mm.

FLORES FÆMINEI in medio dichasiorum inferiororum dispositi. *Pedunculus* 1,5-2 mm. *Alabastra* albo viridescencia, claviformia vel ovoideo subcylindrica; petalis ad basim parum connatis. *Calyptra* sæpe subtus plana, sursum albo marginata, carthilaginosa, glabra. *Discopodium* nullum vel subnullum, sed sub regma usque 0,5 mm attingens. *Discus* depresso poculiformis, læte castanneus, præcipue secus marginem arcanoideo villosus, ad 0,5 × 1,7-2 mm, ad basim ovarii valde applicatus. *Staminodia* sex, minima, subulata, subcelata, extus ægre spectabilis. *Petala* alba, linear subspathulata, ad 8 × 2

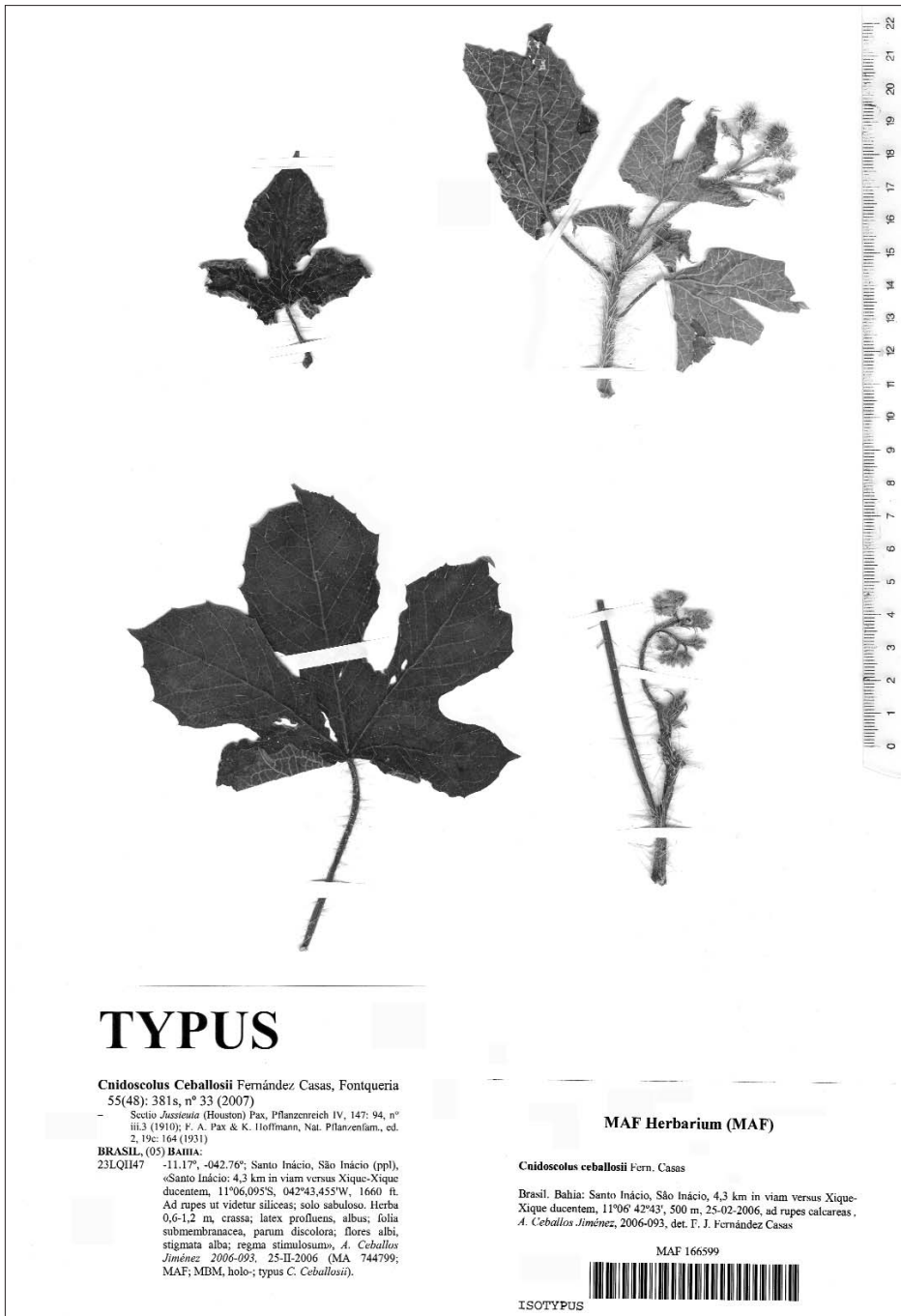


Plate II. *Cnidoscolus Ceballosii* Fernández Casas. A. *Ceballos Jiménez* 2006-093 (MAF 166599, iso-; typus *C. Ceballosii*).

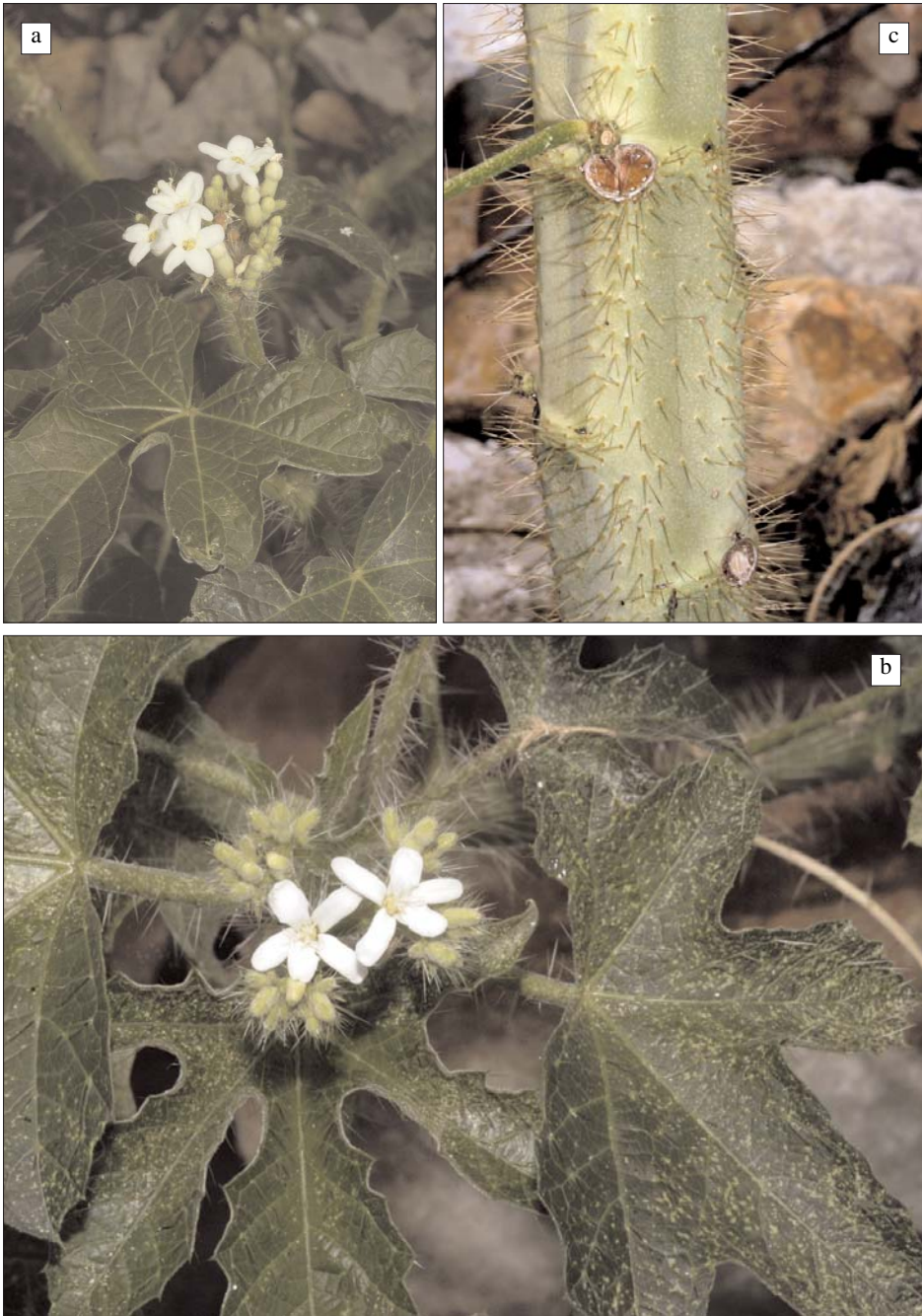


Plate III. *Cnidoscolus Ceballosii* Fernández Casas. A. *Ceballos Jiménez 2006-093* (the type population). a) Inflorescence with male flowers opened. b) Inflorescence with female flowers opened. c) Stem near its base, quite herbaceous.

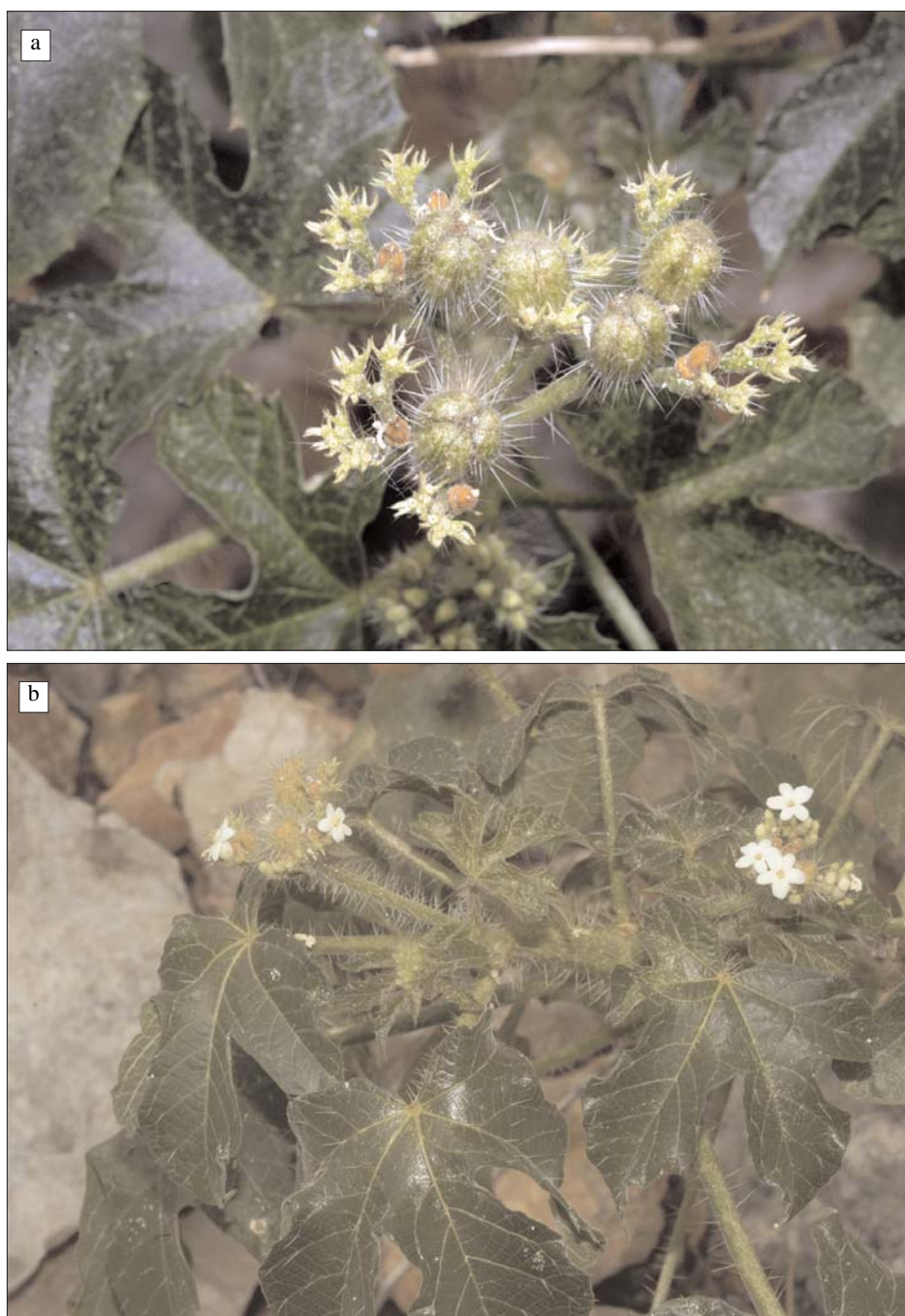


Plate IV. *Cnidoscolus Ceballosii* Fernández Casas. A. Ceballos Jiménez 2006-093 (the type population). a) Young and ripe fruits. b) Two inflorescences and leaves.

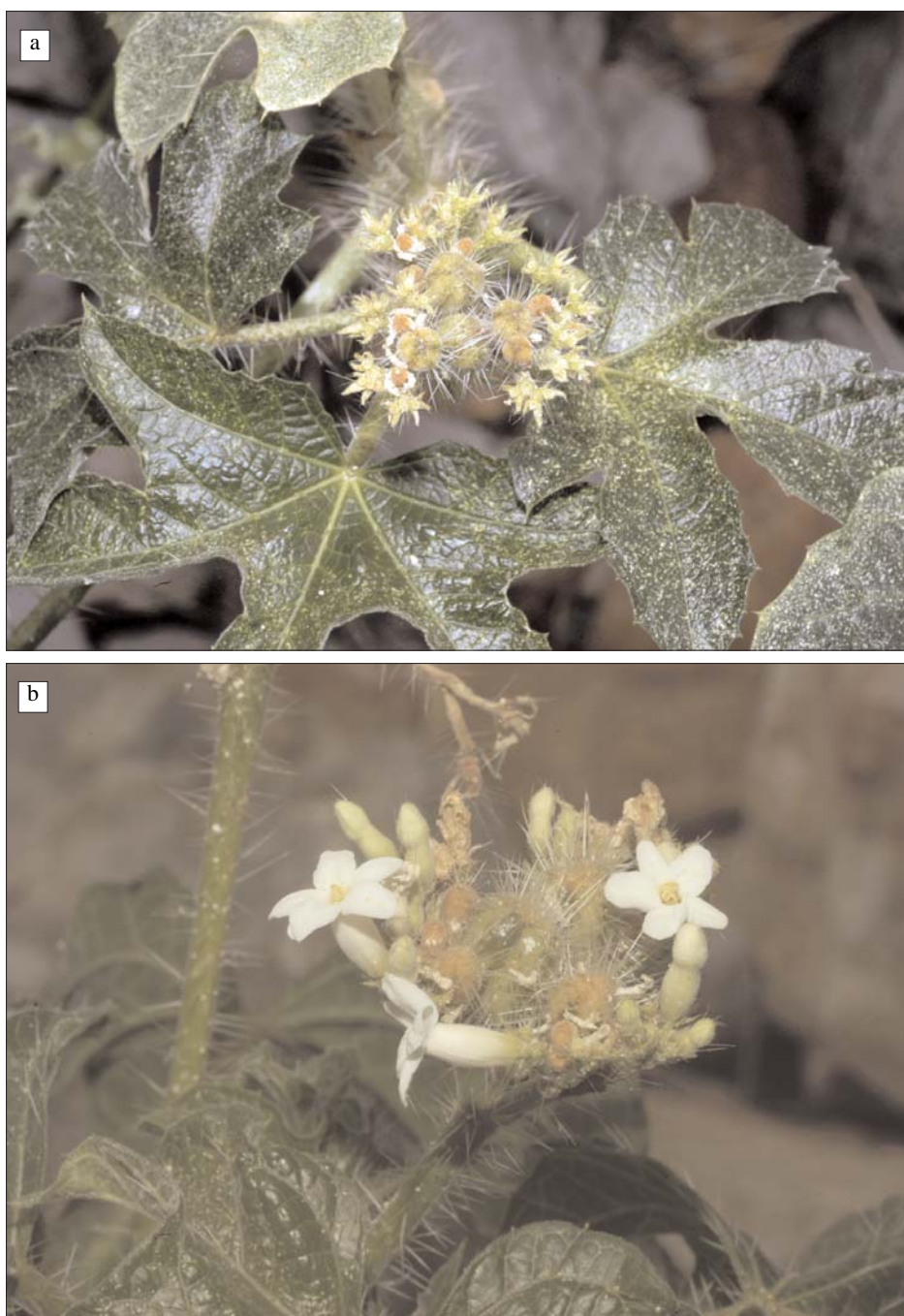


Plate V. *Cnidoscolus Ceballosii* Fernández Casas. A. Ceballos Jiménez 2006-093 (the type population). a) Young fruits. b) Inflorescence.

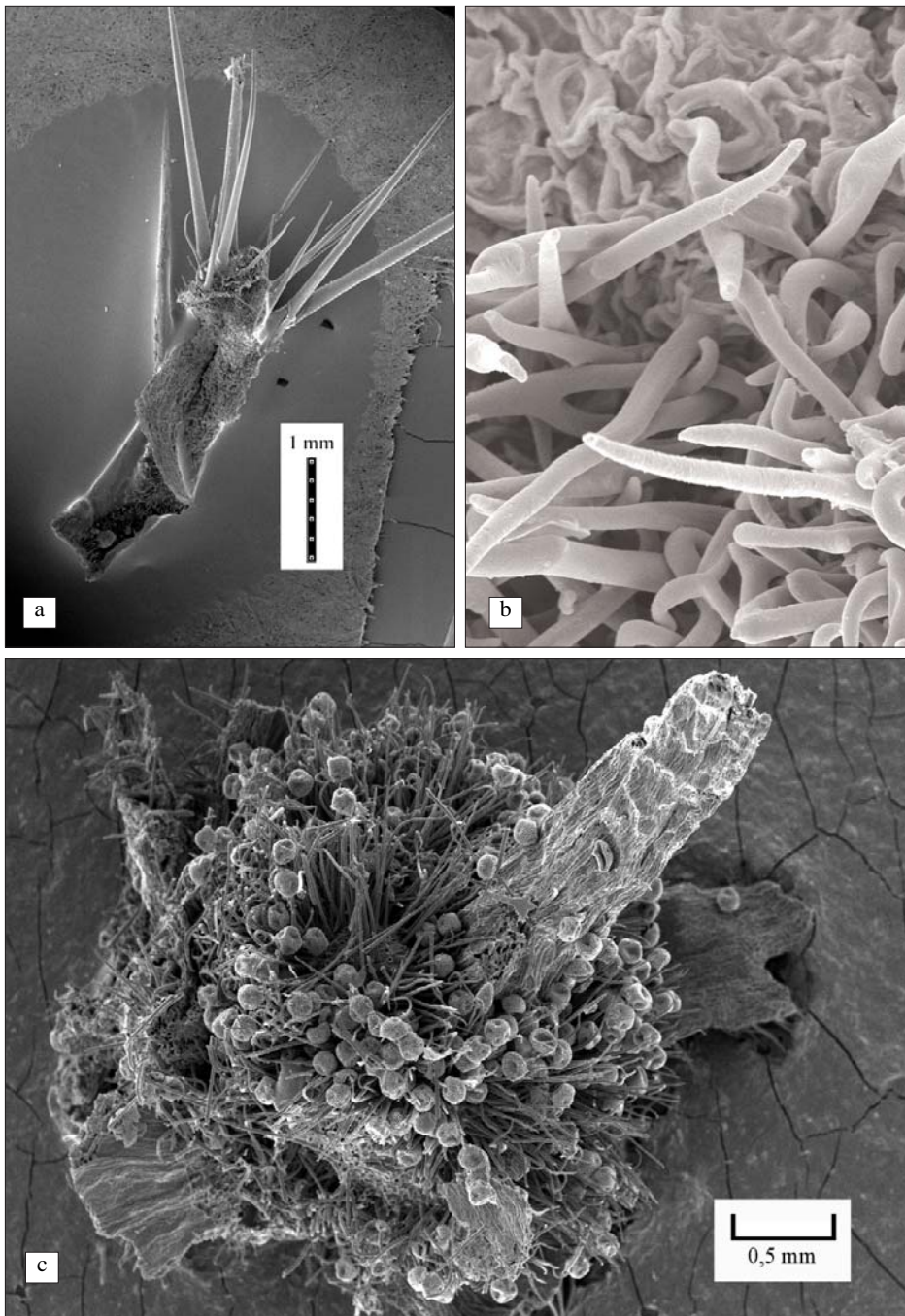


Plate VI. *Cnidoscolus Ceballosii* Fernández Casas. A. *Ceballos Jiménez 2006-093* (the type population). a) Female petal. b) Female petal pubescence. c) Male flower disc (and pollen grains).

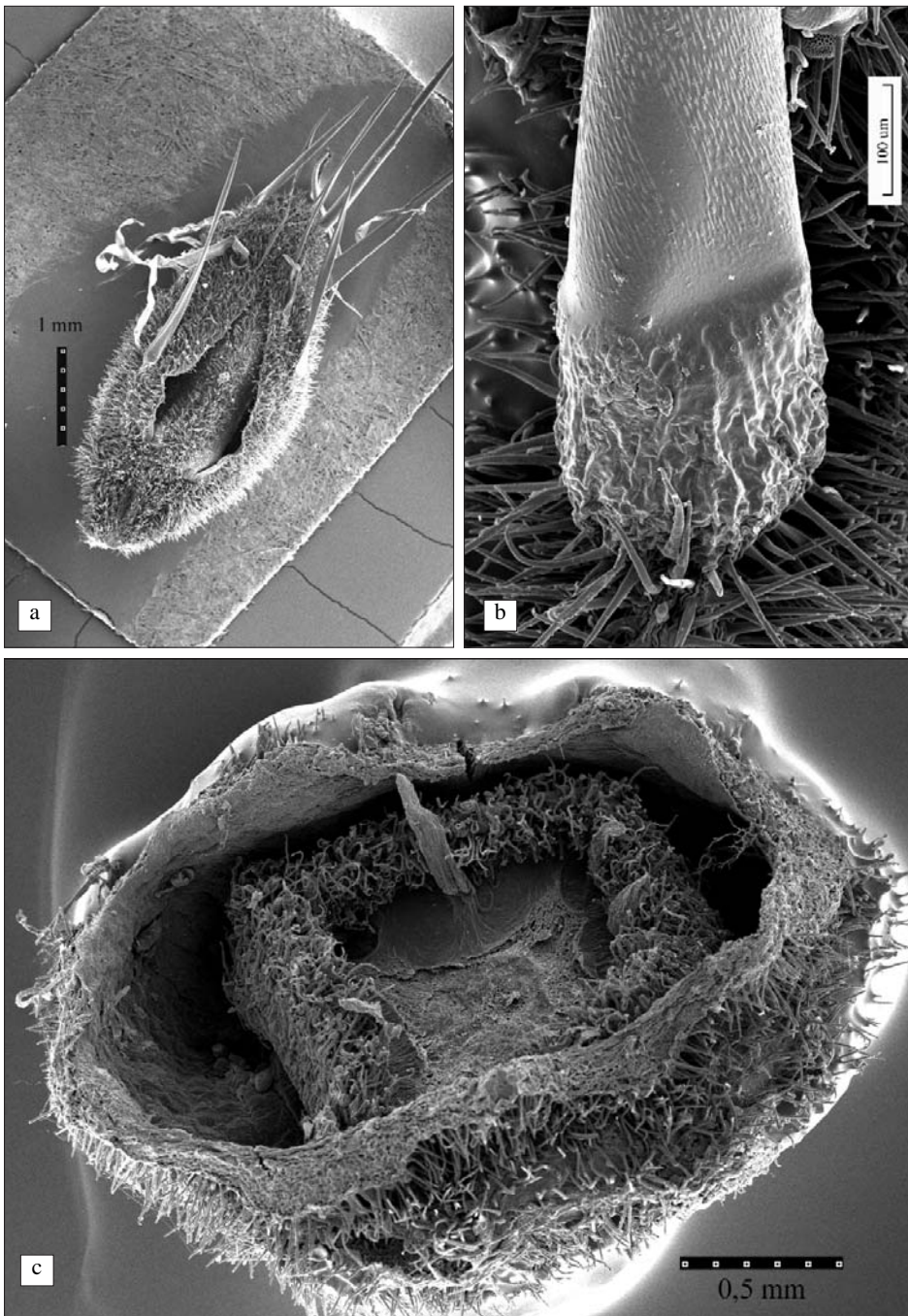
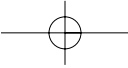


Plate VII. *Cnidoscolus Ceballosii* Fernández Casas. A. *Ceballos Jiménez 2006-093* (the type pupulation). a) Female flower bud. b) Big urticant bristle base. c) Female calyptra, disc and staminodia.

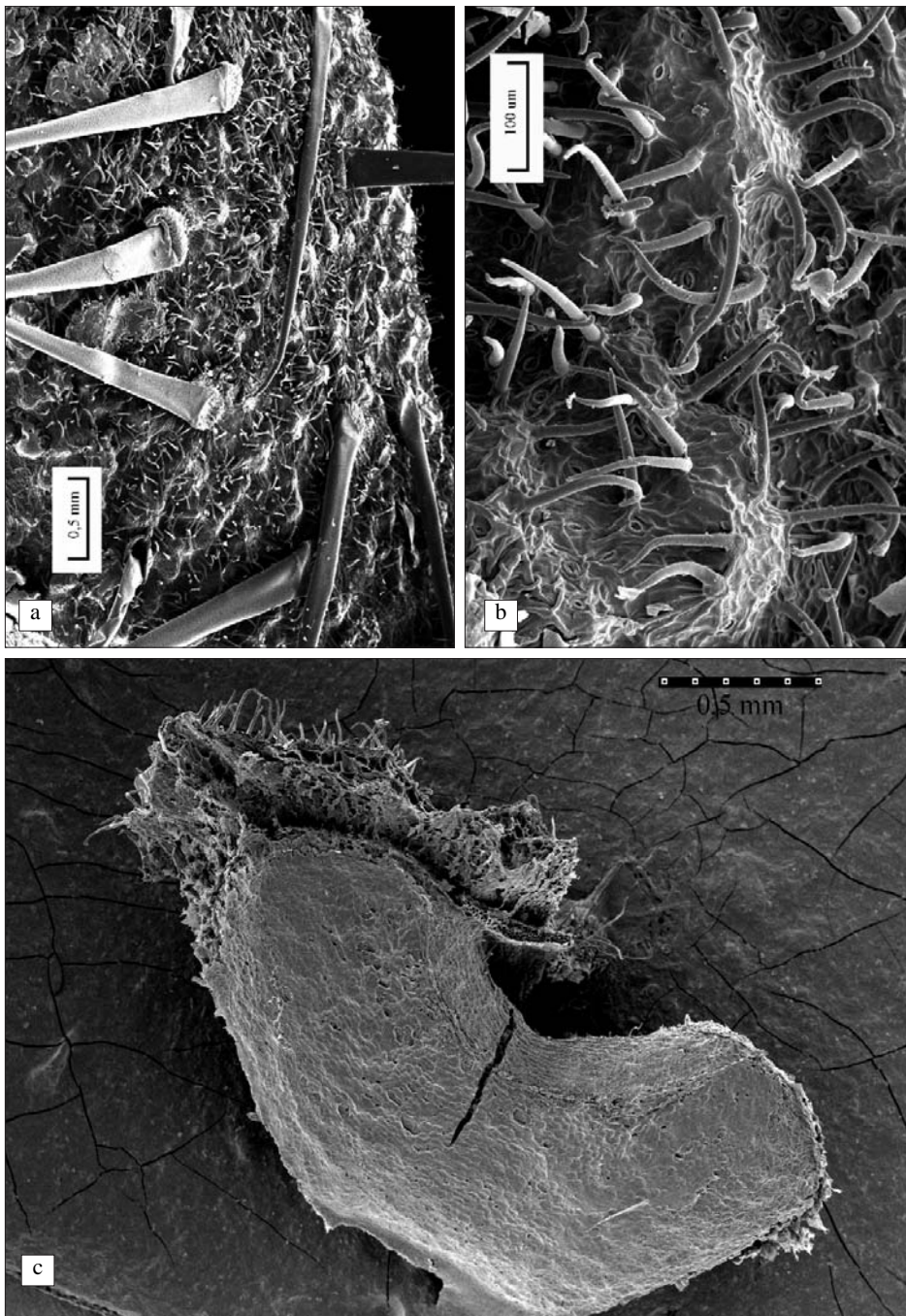


Plate VIII. *Cnidoscolus Ceballosii* Fernández Casas. A. *Ceballos Jiménez 2006-093* (the type population). a, b) Epicarp. c) Sporocbole, dorsal view.

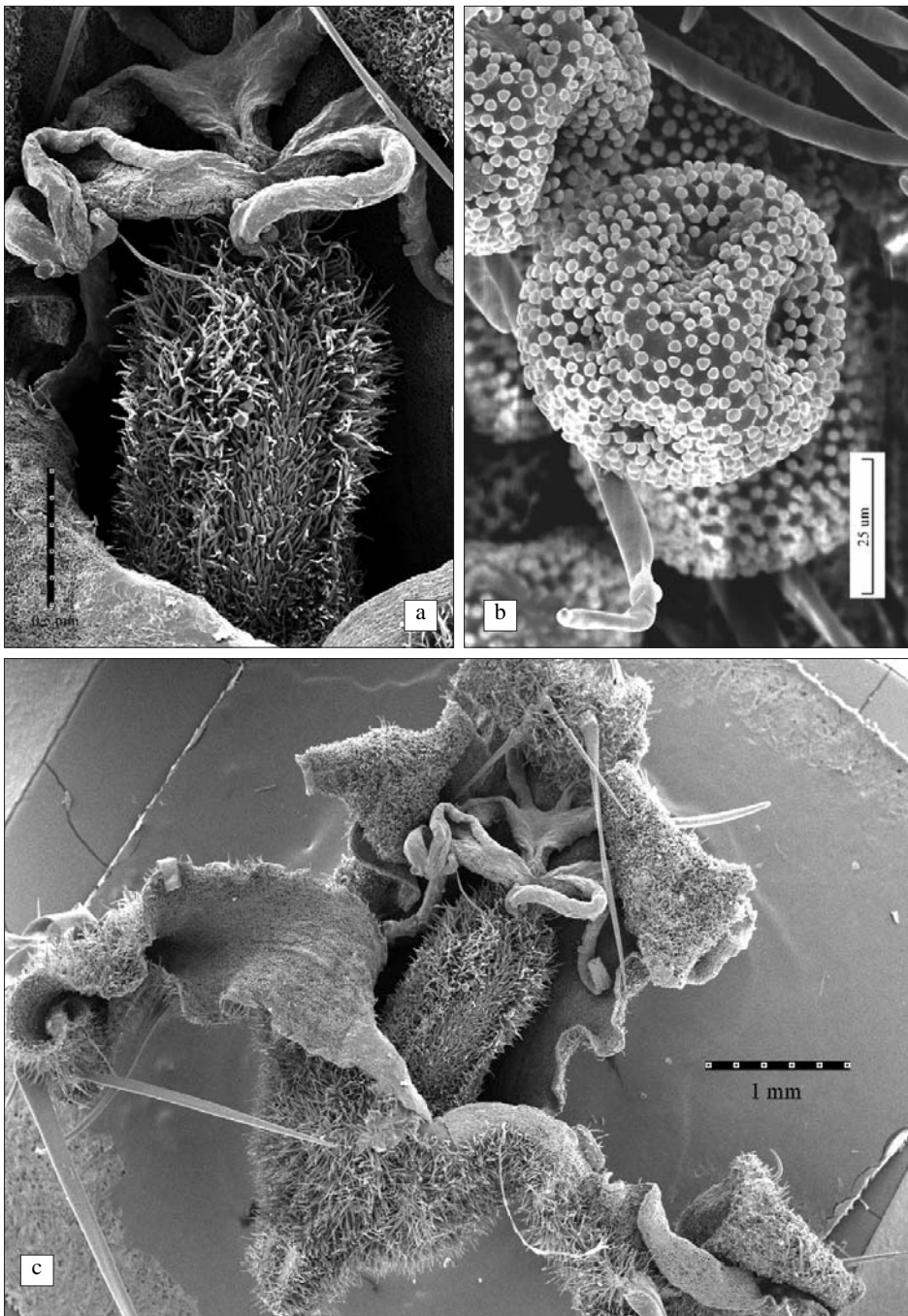


Plate IX. *Cnidoscolus Ceballosii* Fernández Casas. A. *Ceballos Jiménez* 2006-093 (the type pupulation). a) Gynoecium. b) Pollen grain. c) Complete female flower.

mm, usque ad basim libera, extus hirto villosa, intus glabra, sursum præcipue longe stimulosa; setæ plus minusve erectæ, magnæ, usque 5 mm. *Ovarium* longitudinaliter sex sulcatum, sulcis exceptis dense hirto piloso, primum conicum, demum subcylindricum, apice disco minimo, plano, carthilaginoso, præditum. *Styli* perbrevis, si adsunt, coaliti ad 0,3 mm. *Stigmata* tria, ad 1,6-1,8 mm, trifida, vel duplice bifida, ligulata, subcanaliculata, in sicco læte castanea, ad basim dorsaliter rare pilosa.

REGMA oblongo cylindricum, ad 10-11 × 9 mm, longitudinaliter vix sulcatum, pilosum atque dense stimulosum, apice modice depressum, exapiculatum. *Calyptra* ad 1-1,5 × 2-3 mm. *Discus* sub regma undulatus, sursum hirto pilosus, margo undulatus, callosus, glabrus. *Epicarpium* viride, rugulosum. *Endocarpium* infirme osseum. *Stylopodium* nullum. *Columella* clavæformis, albescens, longitudinaliter triptera, ad 9 × 1,7 mm. *Sporoecbolus* albus, profunde bilobatus, ad 1,2-1,3 × 2,2-2,4 mm, sursum pulvinulos duos præditus; subtus planus; lobi radialiter cuneati.

SEMINA ad 9 × 5,5 × 3 mm. *Testa* subalbida vel læte castanea (iuvenilis tantum vidimus). *Caruncula* albescens, cerina, profunde bilobata, integra nec fimbriata, quam apex parum longior. *Hilum* sinu carunculæ insitum. *Linea perimetralis maxima* bene notata, apicem versus vis convexa excepta fere plana; ad medium modice convexa. *Dorsum* modice convexum; carina evanida si adest; *apex* valde obtusus, breviter acuminatus; *basis* emarginata. *Pars ventralis* subplana, ex hilo usque ad sedem penita, lævigata. *Pleuræ* modice convexæ. *Sedes* 30° prona, lenibus depressionibus duæ prædita.

REGARDING THE ETYMOLOGY AND ORTHOEPY of the specific name

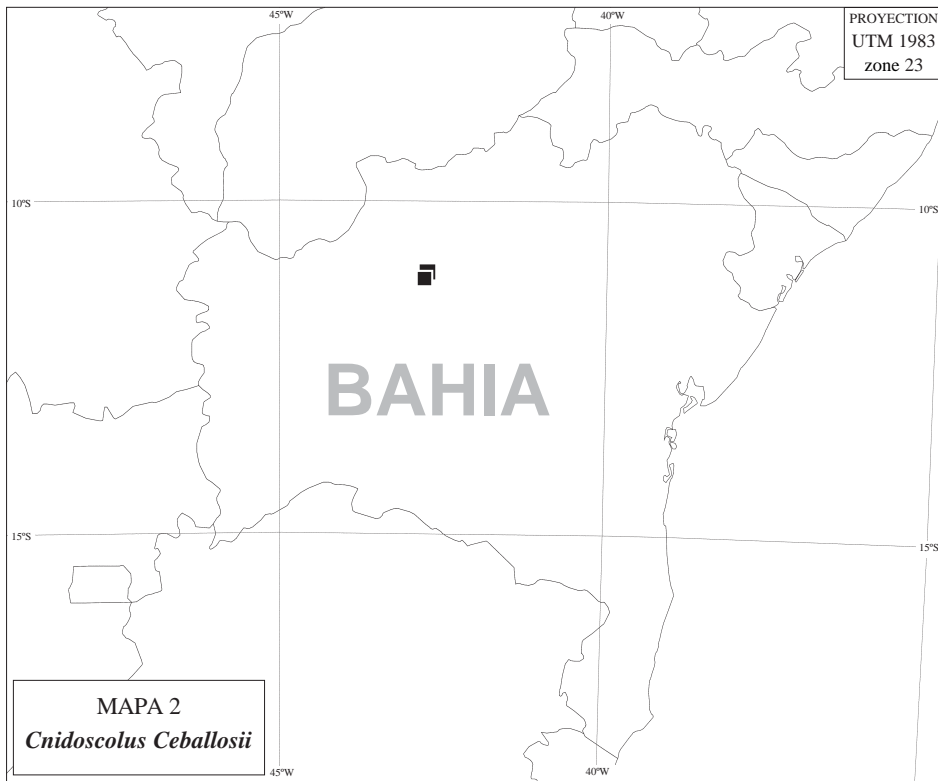
The specific name *Ceballosii* is the genitive case of the latinized name Ceballos. The name commemorates its type collector, our great friend Andrés Ceballos Jiménez, the forestry engineer and inveterate traveller. The name is proparoxytone, stressed in the antepenultimate syllable, Ceballosii.

ENGLISH DESCRIPTION

In accordance with the collectors' labels, robust herb, 0.6-1.2 m, thick, urticant; with abundant white latex; stems light green, bearing urticant bristles; leaves submembranose, of varied colour, with dark-green face and grey-green back; white flowers, white stigmas; green regma, stimulose.

INDUMENT. *Large urticant bristles* 9-11 mm, plentiful along the stems, branches, branchlets, petioles, peduncles, and around the regma; its base is dolioliform or poculiform, brown beneath, whitish above; apical ball very small, somewhat inclined. *Medium-sized urticant bristles* 3-5 mm, scarce on both faces of the leaves, in the uppermost parts of the inflorescences (apexes of the buds, bracts, bracteoles, secondary axes); the *base* clearer, mainly whitish.

LEAVES with transverse ovate outline, largely petiolate. *Stipules* (we have only seen two) linear to triangular, ca. 7 × 0.5 mm, early-falling. *Petiole* approximately as long as the lamina, hairy villous and densely stimulose. *Summipetiole glands* small, two adjacent small bundles, not very prominent, lacking basal scales, crowded together, each with 5-6 fusiform or club-shaped glands, unequal, tight. *Lamina* wider than long, deeply 3-5 lobate until well beyond half of their radius; face glabrescent or sporadically hirtous, dark-green or glaucescent; with urticant bristles along the nerves; more pilose on the back, mainly along the nerves, where it also presents the occasional urticant bristle; *base* open cordate; in no part pedate. *Apical lobe* oblong, narrowed at the base, sharp or acuminate, with few disordered and dispersed teeth. *Radial nerves* seven; three large main diverging at 40°; two more external, medium-sized, diverging at 45-50°; and two



totally external, smaller, diverging at 15-20°; all cylindrical and wingless throughout, barely grooved, very prominent and hirsute on the back; adaxially less prominent and hirsute. *Secondary nerves* diverging at 35°, parallel to one other, open, they reach the margin and innervate each marginal, sharp denticule. *Tertiary nerves* reticulate. *Quaternary nerves* subreticulate. *Margin* with some rows of unordered pilose cilia, with few well separated and disordered teeth; teeth sharp with glandulose apex, and humid appearance under a magnifying glass.

INFLORESCENCES axillary and terminal, medium-sized, lax, compound dichasium. *Common peduncle* up to 11 cm, hirtous-hairy and stimulose, with longitudinal grooves. *Inferior partial peduncles* three, 3-4 cm, all grooved lengthwise, hirtous-villose and stimulose. *Superior partial peduncles* very similar to the inferior peduncles but geminate, gradually shortened. *Bracts* triangular, almost linear, completely green, up to 6 × 1.5 mm, without glands throughout, back white pilose, with scarce urticant bristles in the apex; glabrous towards the axis, green; with light-green margin next to the base, strongly canaliculate. *Bracteoles* very similar to the bracts but shorter, very numerous on upper part, green everywhere, scarcely carinate, rather canaliculate, back with whitish hair, towards their apex with urticant bristles distributed like those of a paintbrush.

MASCULINE FLOWERS born on the lateral branches of the dichasium. *Peduncle* almost nonexistent, up to 0.25 mm, hirtous-hairy. *Flower buds* subcylindrical, somewhat narrowed towards top, subspherical capitate, hirtous-pilose and, especially towards top, stimulose (somewhat brush-like), light-green, ca. 6-8 × 2-3 mm. *Corolla* white, tubulose,

on the outside hairy hirtous, inside glabrous; tube cylindrical, ca. $5 \times 1.6-1.8$ mm; petals (we refer to their free part) up to 3×1.5 mm, patent, oblong spatulate. *Discopode* ca. 0.25 mm. *Disc* hemispherical, ca. 1×1.5 mm, hollow underneath, covered on the outside by rigid hairs, glabrous inside. *Stamens* ten, biverticillate (5 + 5); the free external five, included, the five internal fused into column, two subapical and three apical, partially appear through the mouth of the tube during anthesis; *filaments* cylindrical, ca. 2 mm; *staminal column* quite glabrous, ca. 2 mm; anthers ovoid, ca. $0.7-0.8 \times 0.5 \times 0.5$ mm, dorsifix, submedifix, all inserted; *connective* wide, green in young flowers; *staminodes* difficult to observe, tiny, we have only observed two, one ca. 0.25 mm, the other ca. 1 mm.

FEMALE FLOWERS born in the centre of the inferior dicasium. *Peduncle* greenish 1.5-2 mm. *Flower buds* white, clavate or ovoid subcylindrical; petals inferiorly barely connate or not at all. *Calyptra* frequently almost flat at base, with white superior border, cartilaginous, glabrous. *Discopode* lacking or almost absent, but up to 0.5 mm under the regma. *Disc* depressed cup-shaped, light-chestnut, arachnoid-like hairy, mainly along the margin, ca. $0.5 \times 1.7-2.0$ mm, strongly attached at the base of the ovary. *Staminodes* six, very small, awl-shaped, almost hidden, observed with difficulty. from outside. *Petals* white, linear spatulate, ca. 8×2 mm, free up to their base, hairy hirtous on the outside, glabrous inside, towards the top mainly large stimulose; urticant bristles more or less erect, large, up to 5 mm. *Ovary* with six longitudinal furrows, densely hirtous-villose everywhere except in the furrows, which are glabrous, conical at first, then subcylindrical, with a flat cartilaginous apical disk. *Styles* very short, when they can be defined, connate ca. 0.3 mm. *Stigmas* three, ca. 1.6-1.8 mm, trifid or doubly bifid, straw-shaped or subcanaliculate, light-chestnut when dry, next to the base and on the back, with dispersed short hairs.

REGMA oblong cylindrical, ca. $10-11 \times 9$ mm, with slightly marked longitudinal grooves, pilose and densely stimulose, slightly depressed at the apex, lacking apiculus. *Calyptra* ca. $1.0-1.5 \times 2-3$ mm. *Disc* wavy under the regma, above hirtous-pilose, wavy, hardened and glabrous margin. *Epicarp* green, rugulose. *Endocarp* weakly ossified. *Stilopode* null. *Columella* club-shaped, whitish, with three longitudinal wings, ca. 9×1.7 mm. *Sporoecbole* white, deeply bilobed, ca. $1.2-1.3 \times 2.2-2.4$ mm, with two small cushions on the upper part; flat underneath; the lobes are radially cuneate.

SEEDS ca. $9 \times 5.5 \times 3$ mm. *Seed-coat* whitish or light chestnut in colour (only juveniles have been seen). *Caruncle* whitish, with waxy consistency, deeply two-lobed, entire, non-fimbriate, in dorsal view stands out a little beyond the apex. *Hilum* affixed at the caruncle notch. *Maximum perimetral line* very well defined, quite flat, except towards the apex where it is very convex; slightly convex towards the middle. *Back* moderately convex; *keel* diffuse if it exists; very obtuse apex, shortly acuminate; *base* emarginate. *Ventral* part almost flat, sunken from the thread to the seat, flat. *Lateral flanks* smoothly convex. *Seat* inclined at 30° , with two slight depressions.

EXAMINED SPECIMENS

BRASIL, (05) BAHIA:

- 23LQH46** -11.17°, -042.76°; «(Serra do Açuruá) São Inácio: 4'8 km S on the road to Gentio do Ouro, 11°08'S, 042°44'W, 500 m. Caatinga. Stinging herb to ca. 80 cm with pale green stems and whitish stinging hairs; leaves with lamina dark green above, grey-green beneath; flowers white; fruit green, with stinging hairs», R. M. Harley 19155, S. J. Mayo, R. S. Pinheiro, T. Soares dos Santos & R. M. Storr, 27-II-1977 (CEPEC 20112; K s/n [3]; NY s/n; SPF 31056). Petiolus 13 cm, limbus $10(12) \times$

16 cm.

23LQH47 -11.08°, -042.75°; Santo In cio, S o In cio (ppl), 11°06'S, 042°44'W, «Santo In cio. Arbusto at  1 m, latescente, urente; fl res alvas», A. Furlan, I. Cordeiro, J. R. Pirani & N. L. de Menezes, 01-XII-1980 (CFCR 332, non vidi; SPF 21963[+1]). Tallos carnosos, blandos, 10-12 mm. Inflorescencias m s cortas que los pec olos. Pec olo (76 mm) m s largo que el limbo, que mide desde el centro 70 mm, en total 95 mm.

23LQH47 Santo In cio, S o In cio (ppl), «Santo In cio: 4,3 km in viam versus Xique-Xique ducentem, 11°06,095'S, 042°43,455'W, 1660 ft. Ad rupes calcareas. Herba 0,6-1,2 m, crassa; latex profluens, albus; folia submembranacea, parum discolora; flores albi, stigmata alba; regma stimulosum», A. Ceballos Jim nez 2006-093, 25-II-2006 (MA 744799; MAF 166599; MBM s/n, holo-; typus *C. Ceballosii*).

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