



Notes on *Cnidoscolus*
(*Euphorbiace *), 30-31

Francisco Javier FERN NDEZ CASAS

FONTQUERIA **55**(46): 361-372 [repaged offprint: 1-12]
MADRID, 12-XII-2006

FONTQUERIA is a series of botanical publications without administrative affiliation. It publishes original works in Botany, particularly those that are of interest to the editors. Its publications are in any language, the only limitation being the ability of the editorial team.

Accredited with the *International Association for Plant Taxonomy* for the purpose of registration or new non-fungal plant names.

PRODUCTION

Database consultant: Guillermo GONZ LEZ GARC A
Typesetting: Ambrosio VALTAJEROS POBAR, Ulpiano SOUTO MANDELOS
Screen operators: Samuel FARENA SUBENULLS, Emilio NESTARES SANTAIN S
Preprinting: Sonja MALD  RESTREPO, Demetrio ONCALA VILLARRASO

DISTRIBUTION

Postal distribution: contact the editor
Mail for electronic distribution: Fontqueria@yahoo.com

EDITOR

Francisco Javier FERN NDEZ CASAS. Madrid (MA)

JOINT EDITORS

Creuza NASCIMENTO DA SILVA. C ceres. Portuguese texts
Antonio Manuel REGUEIRO y GONZ LEZ-BARROS. Madrid. English texts
Francisco Javier S NCHES GARC A. C ceres. Latin texts

EDITING CONSULTANTS for this fascicle

Josep Mar a MONTSERRAT i MART  (BC, Barcelona)
Mar a Antonia RIVAS PONCE (UAM, Madrid)

ISSN: 0212-0623

Dep sito legal: M-29282-1982

Notes on *Cnidoscolus* (*Euphorbiaceae*), 30-31

Francisco Javier FERN NDEZ CASAS
Royal Botanic Garden. E-28014 Madrid

FERN NDEZ CASAS, F. J. (12-xii-2006). Notes on *Cnidoscolus* (*Euphorbiaceae*), 30-31. *Fontqueria* **55**(46): 361-372 [repaged offprint: 1-12].

Keywords. Systematics, New species, *Cnidoscolus* (*Euphorbiaceae*), Sect. *Graminifolius*. Brazil (Tocantins).

Abstract. A new section and a new species are proposed under *Cnidoscolus* (*Euphorbiaceae*): Sect. *Graminifolius*, *C. graminifolius*, from Brazil (Tocantins).

Zusammenfassung. Es wird hier eine neue Sektion und eine neue Art der Gattung *Cnidoscolus* (*Euphorbiaceae*) beschrieben: Sect. *Graminifolius*, *C. graminifolius*, aus Brasil (Tocantins).

Resum . Une section et une esp ce nouvelles sont d crites du Br sil (Tocantins) dans le genre *Cnidoscolus* (*Euphorbiaceae*): Sect. *Graminifolius*, *C. graminifolius*.

Resumo. Descrevem-se de Brasil (Tocantins) uma se c o e uma esp cie novas no g nero *Cnidoscolus* (*Euphorbiaceae*): Sect. *Graminifolius*, *C. graminifolius*.

Resumen. Se describe de Brasil (Tocantins) una secci n y una especie nuevas en el g nero *Cnidoscolus* (*Euphorbiaceae*): Sect. *Graminifolius*, *C. graminifolius*.

We continue our series of publications about the genus *Cnidoscolus* Pohl (*Euphorbiaceae*, *Crotonoideae*, *Manihoteae*), published in this magazine, cf. the previous paper by F. J. FERN NDEZ CASAS (2006).

It is described a new species. It is a very isolated species within the genus, and we propose to classify it under a new monotypic section.

The collection type –the only one known to us– was collected in the state of Tocantins and found it in this same year, during a visit to the herbarium CEN (Bras lia).

To prepare their description with greater detail and ease, our colleague Taciana Barbosa Cavalcanti, curator of the herbarium CEN –and precisely the type collector–, to loan their collection to the herbarium MAF, where we could study it and to make drawings of greater thoroughness.

30 Sect. **Graminifolius** Fern ndez Casas, **sect. nov.**, *Fontqueria* **55**(46): 361, n  30 (12-xii-2006)

SPECIES TYPICA: *Cnidoscolus graminifolius* Fern ndez Casas, *Fontqueria* 55(46): 362s, n  31 (12-xii-2006)

DIAGNOSIS

Foliis graminaceis, sessilibus, linearibus atque parallele nervatis. Setis urticantibus magnis mediis destitutis, minoribus tantum epicarpio, parum evolutis.

DIAGNOSTIC CHARACTERS

Leaves stalkless, herbaceous and linear, with parallel veins. Both big and medium size urticant bristles quite lacking, the smaller ones on the epicarp only, rudimentary.

31 **Cnidoscolus graminifolius** Fernández Casas, **spec. nov.**, Fontqueria **55(46):** 362-372, nº 31 (12-xii-2006)

TYPUS: *T. Barbosa Cavalcanti* 3493, *G. Alves Moreira*, *A. Osni Scariot*, *G. Pereira-Silva*, *J. M. de Rezende*, *A. Soares Rodrigues*, 29-IX-2003 (CEN 52259[+1], holo-)

– Sectio *Graminifolius* Fernández Casas, Fontqueria 55(46): 361 (12-xii-2006)

DISTR. GEOGR. **America australis**: Brasil (Tocantins: munic. Dianópolis); cf. tabula 1 (pag. 366).

ILLUSTR.: Laminæ nostræ i (pag. 363), ii (pag. 364), iii (pag. 367), iv (pag. 368), v (pag. 369), vi (pag. 370), vii (pag. 371).

ABBREVIATA DIAGNOSIS vel character essentialis

A quibusvis congeneribus foliis graminaceis, sessilibus, linearibus atque parallele nervatis abhorret. Ab aliis herbaceis *Cnidoscoli* urticantibus setis magnis mediisque destitutis bene differt.

MAIN DIAGNOSTIC FEATURES or diagnostic characters

It is quite different from any other species in the genus because of its stalkless, herbaceous and linear leaves with parallel veins. It is the only herbaceous *Cnidoscolus* lacking both big and medium stinging bristles.

LATINA DESCRIPTIO

Sicut collectorum schedula flores cremei, stamina alba.

INDUMENTUM. Primo visu planta glaberrima sed sub lente pilos albos vel albicantes, raros et antrorse plicatos habet, ad stipulas, iuxta nodos, et secus inflorescentias præcipue. *Setæ urticantes* nullæ apparent, sed epicarpium aliquas perpusillas, parum evolutas, exhibet.

RHIZOMATA lignosa, cylindrica, parum ramificata, plus minusve verticalia, ad 2-4 mm \varnothing , caules herbacei, erecti vel ascendentes exeis prodeuntes. *Cortex* rhizomatum extus atro griseus, intus fortiter fibrosus. *Caules* cylindrici, longitudinaliter parum striati, ad nodos rare pilosi; pilis antrorse plicatis, hialinis vel albicantibus. *Internodia* quam folia multo minora.

FOLIA graminea, epeciolata, id est sessilia. *Stipulæ* longe triangulares vel subsetaceæ, stramineæ vel castanneæ, 1-4 laciniis lateralibus marginalibusque præditæ, raris pilis albicantibus præcipue ad basim ornata. *Glandulæ summipetiolares* nullæ, sæpe gemmæ axillares aspectu et positione eas fingentes. *Limbus* sessilis usque 15 cm \times 4 mm, linearis, acutus, graminoidis; setis stimulosi marginalis exceptis, glaberrimus. *Nerviium medium* præcipue abaxialiter vis prominens, albicans, fere album. *Nervia secundaria* parum conspicua, exigua, brochydodroma. *Margo* vix incrassatus, strictus, albicans vel subhyalinus, ad basim latior, modice undulato dentatus, diminute atque antrorse spinulosus; pilis urticantibus minutissimis, antrorse subhamosis, 0,1 mm.

INFLORESCENTIÆ paucifloræ, quam folia multo brevioræ, breviter pedunculatæ. *Axes* (vel petioli communis) longiusculis, diminute antrorse hirto villosis. *Bracteæ* triangulares, geminatæ atque oppositæ et subcoalescentes, ad stipulæ simillimæ sed in anthesim virides; inferiores subæquilongæ, sursum gradatim minorantes; triangulares, ad basim in unoquoque latere expansionis triangularibus habet.

FLORES MASCULI. *Pedunculus* brevissimus. *Corolla* 12-14 mm, hipocraterimorpha, ad 5/8 in tubum connata, intus glaberrima, extus modice albo villosa; *tubus* turbinatus, ad basim decemnervatus; petalorum partes liberi patenti, vix cochleariformi, ad basim trinervi, parum albo marginati. *Alabastra* ad basim turbinata, claviformia, non constricto capitata, petalorum partes liberi quinquenciali, oblongi, parum cochleariformi. *Discus* parum discopodiatus, id est breviter sed nitide pedunculatus, annularis, glaberrimus, e

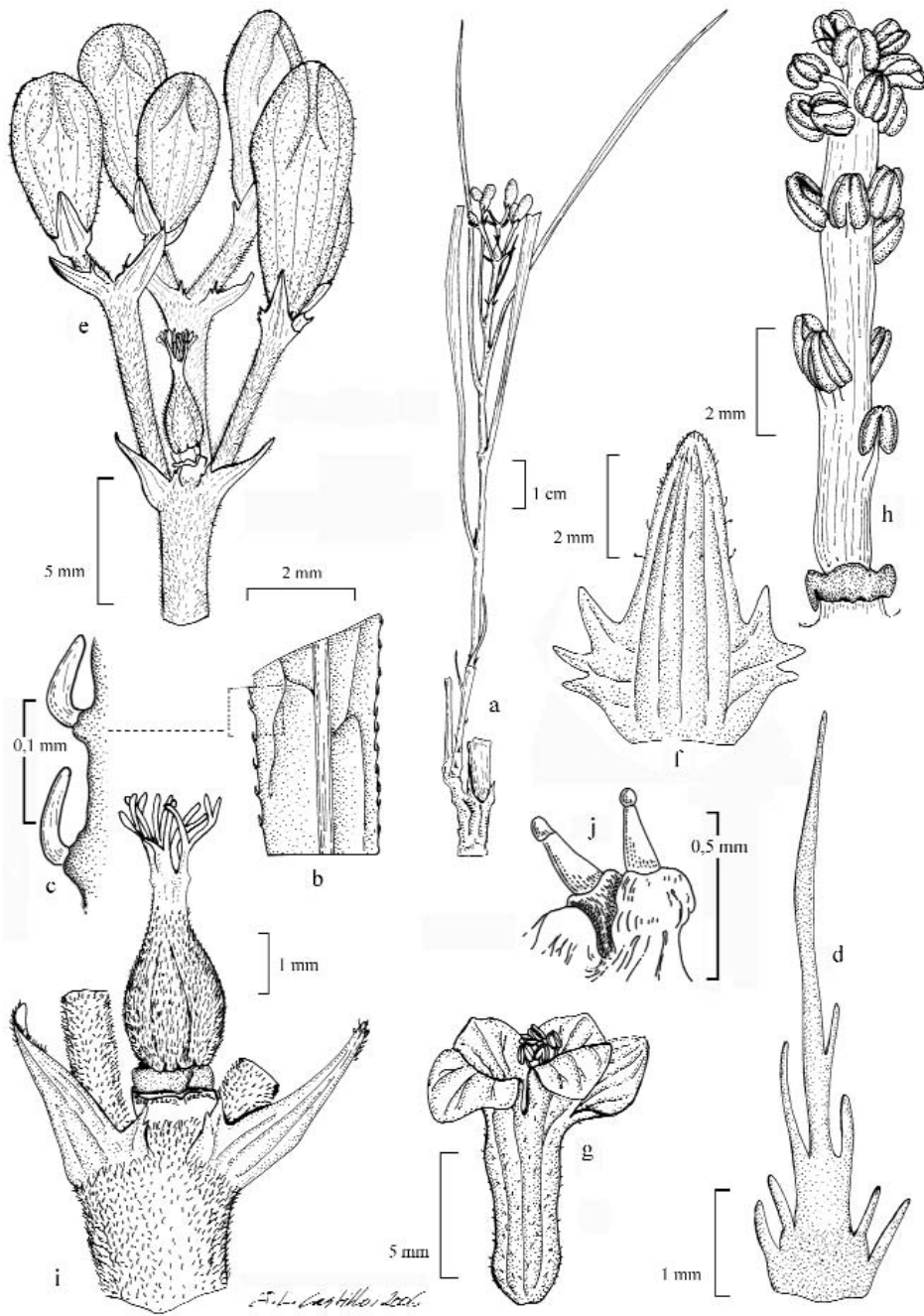


Plate I. *Cnidoscolus graminifolius* Fernández Casas. *T. Barbosa Cavalcanti* 3493 (CEN 52259, holotype). a) Habit. b) Leaf segment. c) Leaf margin with stinging bristles. d) Stipule. e) Inflorescence. f) Hypsophyll. g) Male flower. h) Androecium. i) Ovary. j) Stinging bristles (on fruit).

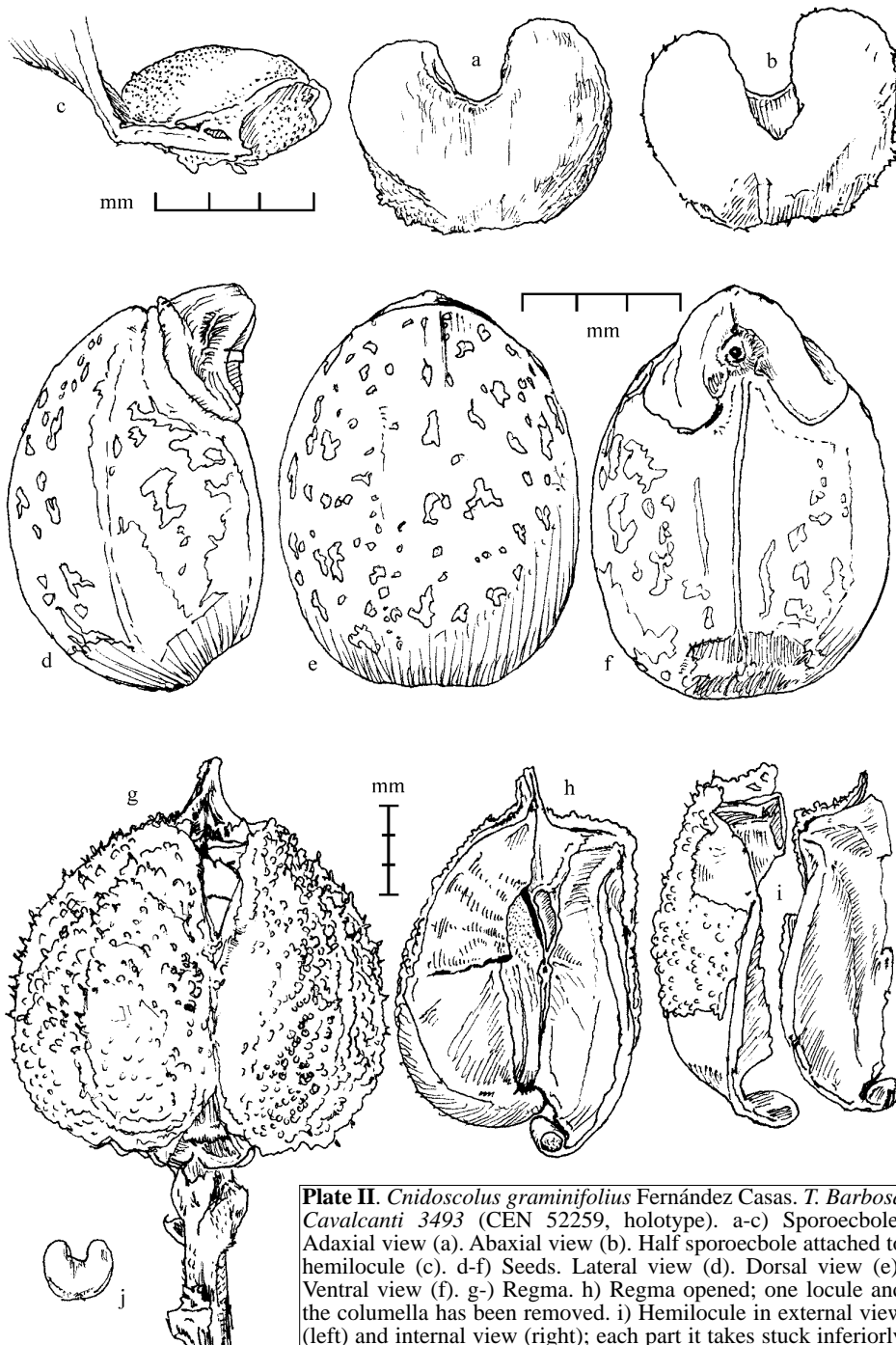


Plate II. *Cnidoscolus graminifolius* Fern ndez Casas. *T. Barbosa Cavalcanti* 3493 (CEN 52259, holotype). a-c) Sporocchole. Adaxial view (a). Abaxial view (b). Half sporocchole attached to hemilocule (c). d-f) Seeds. Lateral view (d). Dorsal view (e). Ventral view (f). g-) Regma. h) Regma opened; one locule and the columella has been removed. i) Hemilocule in external view (left) and internal view (right); each part it takes stuck inferiorly half sporocchole. j) Sporocchole, from above view.

glandulis quinque connatis composito. *Columna staminalis* omnino glaberrima, longitudinaliter striata. *Stamina* ad 18-25, 4-5-verticillata, 3-5+5+5+3-5 usque 5+5+5+5+3-5; verticillis duobus inferioribus distantibus, filamentis brevissimis, <0,5 mm; verticillis supremis approximatis; *filamentis* longitudine antheras subæquilogis. *Antheræ* ad 1-1,5 × 0,5 mm, albæ, basifixæ; *connectivum* fusiforme, ad medium latum, in extremitates strictum. *Staminodia* tria, brevia, ad 1 mm, filiformia subulata, quam antheras supremas æquantia vel breviora.

FLORES FEMINEI. Flos unicus in unaquaque inflorescentia, ad basim. *Pedunculus* hirto pubescens, brevissimus, latior quam longus (flos subsessilis). *Calyptra* parum evoluta, subnulla, hirto pubescens, margine glabro atque carthilagineo. *Petala* quinque, 12 × 2,5-3 mm, spatulata, cremea, linea media fuscioe percursa. *Discus* sessilis, glaberrimus, 0,5 × 1,6 mm, glandulis quinque coalitis instructo; glandulæ superne vis tridentatæ sunt. *Staminodia* decem, subulata, perbrevia, 0,1-0,2 mm ultra discum attingentia, lutescentes, apice atro brunneo. *Ovarium* obpiriforme, longitudinaliter quinquelineatum, longe apiculatum. *Ovarium* 2,5 × 2 mm, modice atque dense villosum, piriforme, viridescens, longitudinaliter sexnervatum; regma perijuvenile, ad 3,5 × 2 mm, pubescentia hialina vel subalbescens, antrorse plicata, secus apiculum gradatim rarior. *Stylopodium* 1,2 mm, conico truncatum, apice vix dilatatum. *Stylopodium* 0,5 mm, glabrescens, 1,2 mm, apice vix dilatatum. *Styli* tres, perbreves, glaberrimi, castanei vel atrorubri, ad 0,3-0,4 mm, ad basim connati, extus cylindrici, intus canaliculati. *Stigmata* tria, 1,5-2 mm, 1-2 furcata, glaberrima, ad basim castanea vel atrorubrescentia, sursum lætiora; subcylindrica vel parum compressa.

REGMA ovoideum; *pericarpium* extus tuberculatum, rare et minute pilosum, setis urticantibus brevissimis præditum. *Tubercula* dense disposita, hemisphærica, ut videtur basibus modificatis setæ urticantes sunt. *Stylopodium* 2,5 × 1,5 mm, induratum, conicum, striatum, rare pilosiusculum. *Columella* 8 × 3 mm. *Sporoecbolus* 2 × 3 mm, albus, subreniformis, ad mediam longitudinem profunde fissus.

SEMINA ad 8 × 6 × 5 mm. *Testa* ex albo castaneo maculata. *Caruncula* alba, cerina, profunde bilobata, quam apex parum longior. *Hilum* sinu carunculæ insitum. *Linea perimetralis maxima* fere plana, paululum fuscior. *Dorsum* valde convexum, 4 mm, carina subevanida usque 3/4 longitudinis percusum. *Apex* obtusus. *Pars ventralis* quam dorsalis minus profunda, 2 mm. *Carina ventralis* ex hilo usque ad sedem penita, levigata, castanea. *Pleuræ* convexæ, parum determinatæ. *Sedes* fere patens, depressionibus duabus atque apiculis obtusis lateralibusque duobus.

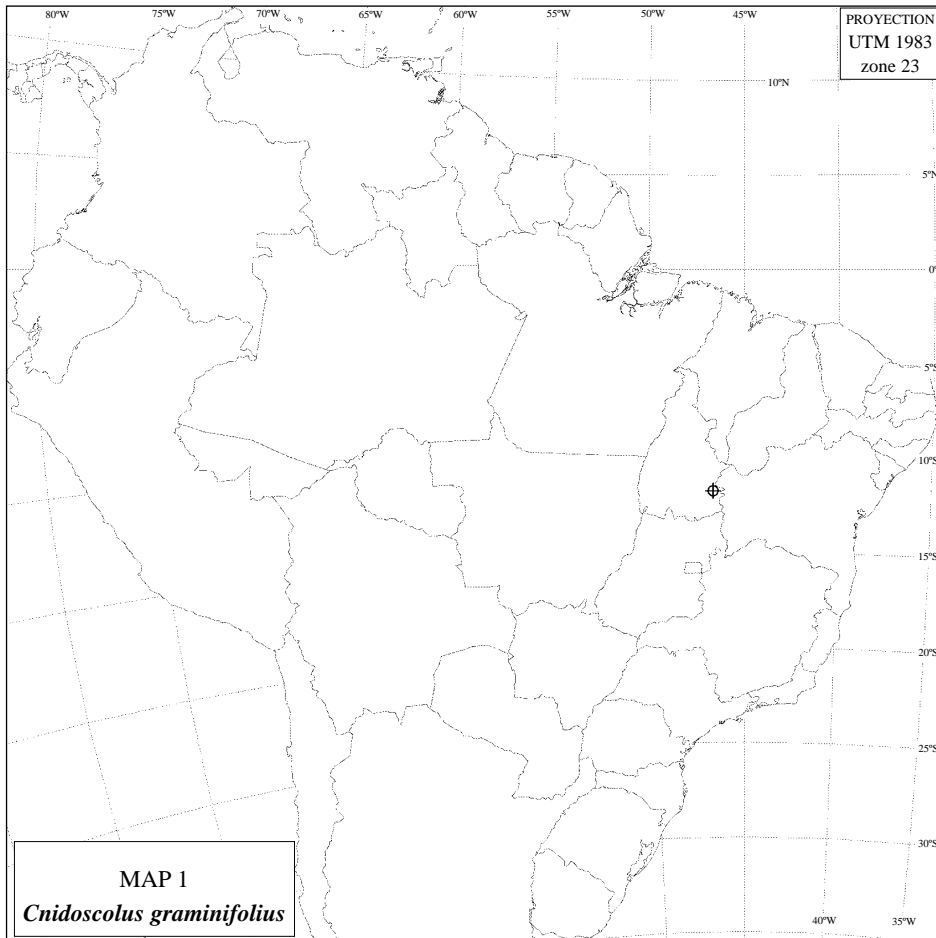
REGARDING THE ETYMOLOGY AND ORTHOEPY of the specific name

The species name is the masculine and singular form of the adjective *graminifolius*, -a, -um, composed in turn by two Latin roots. In the first place the noun *gramen*, -is, whose genitive singular it is *graminis*, is used for grass in general, and specifically for gramineous; follows the adjective *folius*, -a, -um, that is, with leaves. It means then with gramineous leaves, and their accentuation is paroxytone: *graminifolius*.

ENGLISH DESCRIPTION

According to the the collector's label, the flowers are cream, and the stamens are white.

INDUMENTUM. The plant seems quite glabrous at first sight; but with a magnifying glass, some can seen with white or whitish, thin and applied hair, regularly antrorse, mainly in the stipules, more abundant next to the base of those same stipules, next to the cauline knots, and along the inflorescence. The *urticating bristles* are lacking in all parts except on the epicarp; those of the regma are very short, with the base dispropor-



tionately big, almost spherical and whitish, with the relatively big terminal sphere, not always differentiated.

RHIZOMES vertical, cylindrical woody, 2-4 mm ϕ , with scarce oblique ramifications; of these herbaceous shafts are born, erect or ascending. *Bark* of the externally flat, gray dark rhizome, fibrous on the inside. *Stems* cylindrical, slightly striated lengthwise, with very scattered applied hairs, hyaline or whitish, next to the knots. *Internodes* much shorter than the leaves.

LEAVES as we have already mentioned are graminoids, sessile either without petiole. *Stipules* largely triangular even almost setose, straw or brown coloured, sometimes with 1-4 long and narrow lacinia spreading along their margins, some with whitish and antrorse hair, mainly towards their base; others are glabrous and without glands. *Summipetiolar glands* absent, although on occasions they are axillary yolks that one finds, for their morphology and for the place that it occupy. *Limb* linear, 15 cm \times 4 mm, acute, graminoid; except for for the tiny marginal antrorse hairs, quite glabrous. *Middle longitudinal nerve* more clear than the rest of the limb, almost white, very marked and

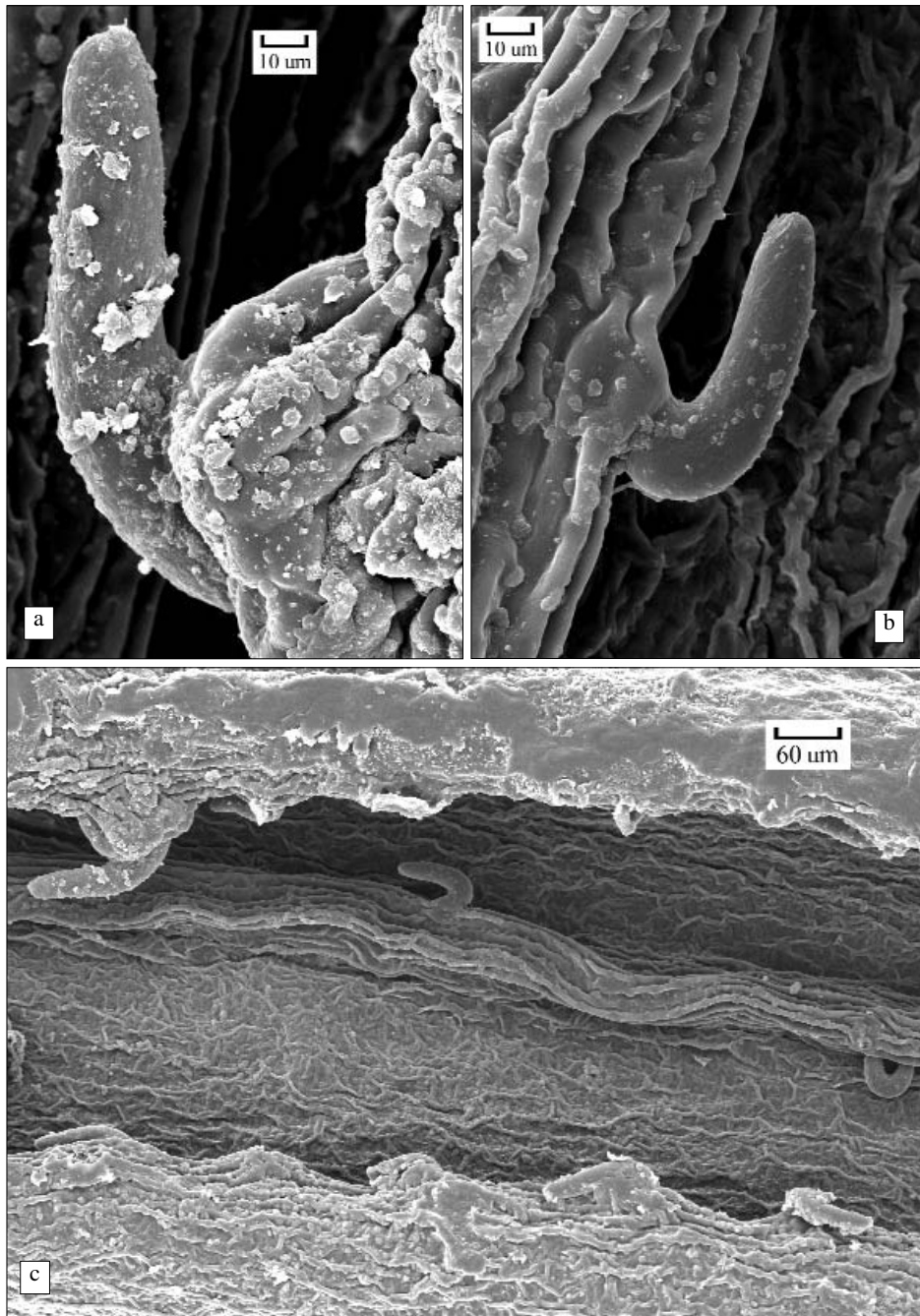


Plate III. *Cnidoscolus graminifolius* Fern ndez Casas. *T. Barbosa Cavalcanti* 3493 (CEN 52259, holotype). a, b) Antorse hairs on the leaf margin. c) Two leaf margins and medial nerve with antorse hairs.

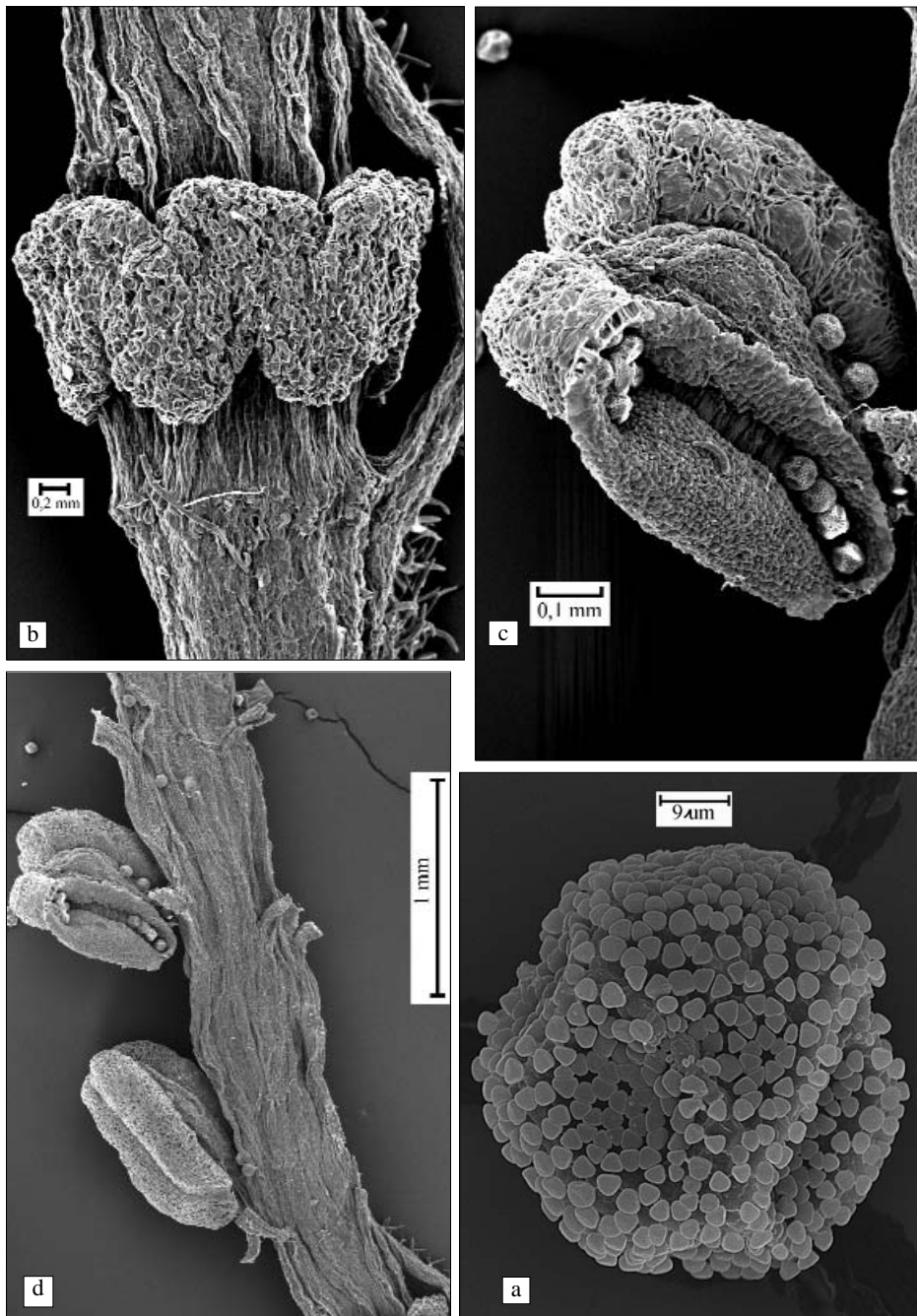
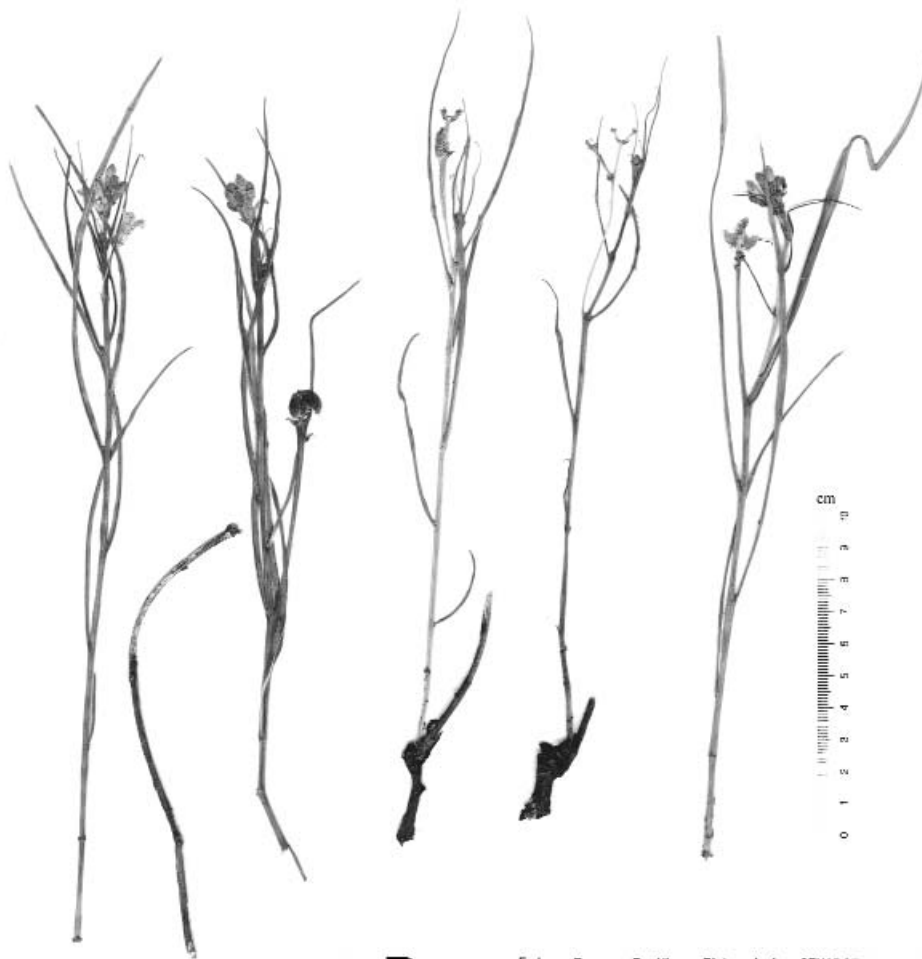


Plate IV. *Cnidoscopus graminifolius* Fernández Casas. *T. Barbosa Cavalcanti* 3493 (CEN 52259, holotype). a) Pollen grain. b) Disc of male flower, with discopode. c) Dehiscent anther, rimose. d) Staminal column.



Embrapa

Empresa Recursos Genéticos e Biotecnologia - CENARGEN

HERBÁRIO CEN nº 52259 Brasília-DF Brasil

Cnidoscopus graminifolius Fdez. Casas, Fintiquaria 55(46): 361s, n° 31 (2006)

Aut. F. J. Fernández Casas (MA), XI-3006

Nome Científico

Cód. Acesso

Col. T. B. Cavalcanti et al. 3493

Localização MA, 713-155

Data 25/09/2003

Método Etnobotânica

Uso

MAE 166449

Município DIAMANTINA, TO

Local: Estrada da Estrada, s/n, s/n, s/n

Ambiente: Cerrado

Substrato: Cerradão

Substrato: Acreoso

Alt.: 678 m

Lat.: 11° 44' 20" S

Long.: 46° 40' 57" O

Altitude

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

Flora

TYPUS
(holo-)



Plate V. *Cnidoscopus graminifolius* Fernández Casas. T. Barbosa Cavalcanti 3493 (CEN 52259, holotype). Holotype voucher.



Plate VI. *Cnidoscopus graminifolius* Fernández Casas. *T. Barbosa Cavalcanti* 3493 (CEN 52259, holotype). Detail of the inflorescence. a) Female flower at inflorescence base; one petal has been removed. b) Male flower (removed).

until half of their longitude, from there they begin to branch out a certain amount. *Petals* (the free part of them) patent in anthesis, with the oblong free part, slightly spoon-like, with a discreet, but more clear whitish border. *Floral buds* turbinate at their base, pear-shaped, without a neck narrowed under their spherical head, with imbricate petals in a quincuncial way. *Disc* with short discopode, that is to say, a clear and shortly pedunculate, annulate, quite glabrous, made up of five welded glands. *Staminal column* everywhere quite glabrous, grooved lengthwise. *Stamens* ca. 18-25, prepared in four or five whorls, we have counted from 3-5+5+5+3-5 up to 5+5+5+5+3-5; the two lower whorls are quite separate, their filaments are very short, <0,5 mm; the other two approximate superior whorls, with their filaments of the approximate longitude of the ant-

in projection, especially for the back. *Lateral nerves* only slightly developed, hardly perceptible, brochydrome. *Margin* slightly augmented, whitish or almost hyaline, narrow, enlarged near base, gently wavy jagged, with antrorse and minute hooked hairs, 0,1 mm.

INFLORESCENCES few flowered, considerably shorter than the leaves, with the peduncle rather short. *Axes* or branches of the relatively long dichasia, with tiny body antrorse hairs. *Bracts* triangular, geminate and opposed, faced and sometimes welded to each other by their ends, similar to the stipules but green during the anthesis, the tiny ones have their same size, up they fall progressively; triangular and with smaller two expansions, also triangular in the base, one on each side.

MALE FLOWERS. Very slightly pedunculate. *Corolla* 12-14 mm, hypocrateriform, welded basally in almost cylindric tube, slightly turbinate, along 5/8 of their longitude, inside quite glabrous, on the outside moderately hairy hirsute; with five free pieces, patent, oblong, 4-6 × 4-5 mm, trinervate, obtuse. *Tube* with ten longitudinal nerves; it divides it divides freely from the petals with three nerves at the base and

hers. *Anthers* ca. 1-1,5 × 0,5 mm, white, attached by the base; wide connective in the centre and straight at their ends. *Staminodes* three, short, ca. 1 mm, filiform subulate, the same or shorter than the apical anthers.

FEMALE FLOWERS generally solitary at the base of each inflorescence. *Peduncle* hirsute pubescent, considerably wider than long, that is to say, that the flower is practically sessile. *Calyptra* scarcely developed, a slight dilation of the peduncle hardly perceptible; hirsute pubescent and with the scars of petals' abscission that form a cartilaginous margin, glabrous. *Petals* five, free up the base, 12 × 2,5-3 mm, spatulate, of cream color and with a darker central line. *Disc* sessile, quite glabrous, 0,5 × 1,6 mm, made up of five glands welded in a ring; each gland develops three soft similar teeth upward. *Staminodes* ten, subulate, tiny, hardly appear 0,1-0,2 mm above the glandular yellowish disk, with its dark brown extremity, they are those of smaller size that we have observed until now.

Ovary 2,5 × 2 mm, obpyriform, soft and densely pubescent, greenish, with six longitudinal nerves; in an incipient fruit that measures 3,5 × 2 mm, its pubescence is hyaline or whitish, applied and antrorse, becomes slacker towards the apicule. *Stylopod* in cone trunk, 1,2 mm, slightly enlarged at their apex. *Styles* three, very short, glabrous completely, reddish or brown, ca. 0,3-0,4 mm, connate at the base, on the outside convex, inside canaliculate, of dark brown or reddish color. *Stigmas* three, 1,5-2 mm, once or twice furcate, quite glabrous, they are born brown or reddish as the styles and they go lighter towards the top; almost cylindrical or smoothly compressed.

REGMA ovoid; *epicarp* wart-like, with tiny dispersed hair, and with very short stinging bristles. *Warts* dense, hemispherical, they may be they are the modified bases of the stinging bristles. *Stylopod* 2,5 × 1,5 mm, conical, grooved, hardened, with tiny dispersed hair. *Columella* 8 × 3 mm. *Sporoeciole* 2 × 3 mm, white, almost kidney-shaped, deeply lobed up to half of their longitude.

SEEDS ca. 8 × 6 × 5 mm. *Testa* whitish with little brown chesnut spots. *Caruncule* white, waxy, 3 × 4 mm, deeply bilobed, stands out a little above the apex. *Hilum* inserts at the bottom of the caruncular neckline. *Outwardly line* almost plane, light darkened. *Back* very convex, 4 mm, with a keel that is insinuated from the apex up to 3/4 of their longitude. *Apex* obtuse. *Ventral part* less deep than the back, 2 mm. The *ventral keel* runs from the hilum to the bottom of the seat, it has little relief, of a brown color. *Laterals* convex, not well defined. *Seed seat* almost patent, with two depressions aligned in the only plane of seminal symmetry, that is, one is a continuation of the other which are not at the sides, with a light pick on each side.

OBSERVATIONS

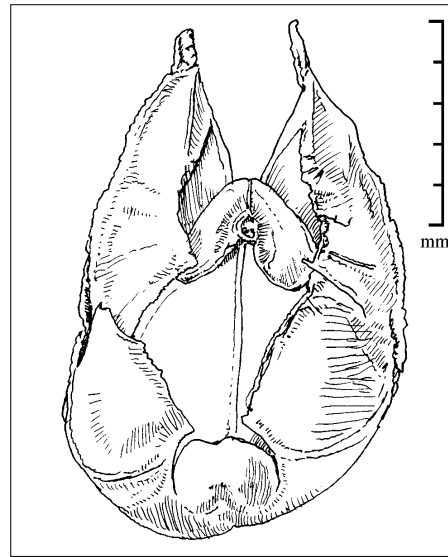


Plate VII. *Cnidoscolus graminifolius* Fernández Casas. *T. Barbosa Cavalcanti* 3493 (CEN 52259, holotype). Loculus seen from below, showing the sporoeciole.

After this study was finished and written up, I received the electronic microphotographs of the leaf trichomes. When contemplating the pictures made at 700 \times (increases) –the three showed in the plate iii (page 367)– it can be observed that are not exactly as I had described them, when seeing them with weak increase, because we had believed them diminute stinging bristles. They are excessively small; they are not stinging, at least they lack the so characteristic spherical and fragile head; their extremity is not even sharp enough to puncture. Even if they were stinging, given their scanty size they could inject very little toxin. They are neither exactly sigmoid as we had thought, nor do they have a base which would seem characteristic of that trichome type. In conclusion, they are not the stinging bristles that up to now we knew in all the species of the genus, yes they vary in size, position and frequency, and a little in their morphology, but we consider them to have a constant character

The classic stinging bristles they are present in our plant, apparently exclusively on the epicarp. They are very small, a little rudimentary, but they possess the characteristic apical sphere, relatively big, and their base very developed –at least they grow on the almost spherical papilla that form the rough pericarp–.

No special pollen study was made, but the few grains that we can see are depicted –figures a and c of the plate iv– they are not identical to those of other well-known species, cf. K. I. MILLER & G. L. WEBSTER (1962: 177, fig. 13-15); F. J. FERNÁNDEZ CASAS (2004: 200, lám. vii, fig. c). See in this respect also G. L. WEBSTER (1994: 12-13).

The more excellent morphologic and diagnostic feature of this species are their leaves graminoid and sessile, absolutely different from those of any other species in the genus.

The membership to the genus is based in the presence of stinging bristles, in its floral and carpological features, absolutely canonical, as well as in the completely typical seed, and in the sporococle.

EXAMINED SPECIMEN

BRASIL, (31) TOCANTINS:

23LLH10 -11.71°, -046.70°; «(munic. Dianópolis) após Lagoa Bonita: 11°44'26"S, 046°40'57"W, 621 m. Cerrado; beira da estrada; relevo ondulado; substrato arenoso. Flôres creme; estames alvos», *T. Barbosa Cavalcanti 3493*, *G. Alves Moreira*, *A. Osni Scariot*, *G. Pereira-Silva*, *J. M. de Rezende*, *A. Soares Rodrigues*, 29-IX-2003 (CEN 52259, holo-; MA 743455; MAF 166449; type *C. graminifolius*).

ACKNOWLEDGEMENTS

Miguel Jerez Luna produced the electron micrographs in plates iii (pag. 367) and iv (pag. 368). Ulpiano Emilio Souto Mandelos has processed the digital photograph of the plates v and vi; he also made the distributional map of page 366. Juan Castillo Gorroño drew the plate i (page 363). José María Pizarro Domínguez drew plates ii (page 364) and vii (page 371).

LITERATURE CITED

- FERNÁNDEZ CASAS, F. J. (2004). *Cnidoscolus Lombardii* Fdez. Casas, spec. nov. *Fontqueria* **55**(27): 191-202 [seorsim 1-12].
- FERNÁNDEZ CASAS, F. J. (2006). *Cnidoscolorum notulæ* (*Euphorbiaceae*), 27-29. *Fontqueria* **55**(45): 343-360 [seorsim 1-18].
- MILLER, K. I. & G. L. WEBSTER (1962). Systematic position of *Cnidoscolus* and *Jatropha*. *Brittonia* **14**(2): 174-180.
- WEBSTER, G. L. (1994). Classification of the *Euphorbiaceae*. *Ann. Missouri Bot. Gard.* **81**(1): 3-32.