

*Cnidoscolorum* notulæ  
(*Euphorbiaceæ*), 46

Francisco Javier FERNÁNDEZ CASAS

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## *Cnidoscolorum notulæ* (*Euphorbiaceæ*), 46

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FERNÁNDEZ CASAS, F. J. (06-xii-2008). *Cnidoscolorum notulæ* (*Euphorbiaceæ*), 46. *Fontqueria* 55(70): 573-582 [seorsim 1-10].

**Keywords.** Systematics, New Species, Distributional Map; *Cnidoscolus* Pohl (*Euphorbiaceæ*). South America: Brazil (Bahia)

**Abstract.** A new species is described and illustrated under genus *Cnidoscolus* Pohl, sect. *Jussieuia* (Houstoun) Pax (1910) (*Euphorbiaceæ*): *C. calyptrodontus* Fernández Casas, from Brazil (Bahia).

**Zusammenfassung.** Es wird eine neue Art in der Gattung *Cnidoscolus* Pohl, Sekt. *Jussieuia* (Houstoun) Pax (1910) (*Euphorbiaceæ*): *C. calyptrodontus* Fernández Casas, aus Brasilien (Bahia) beschrieben und illustriert.

**Résumé.** Une nouvelle espèce est décrite et illustrée, appartenant au genre *Cnidoscolus* Pohl, sect. *Jussieuia* (Houstoun) Pax (1910) (*Euphorbiaceæ*): *C. calyptrodontus* Fernández Casas, étant originaire du Brésil (Bahia).

**Resumo.** Descreve-se e ilustra-se uma nova espécie do género *Cnidoscolus* Pohl, sect. *Jussieuia* (Houstoun) Pax (1910) (*Euphorbiaceæ*): *C. calyptrodontus* Fernández Casas, vindo do Brasil (Bahia).

**Resumen.** Se describe e ilustra una especie nueva, dentro del género *Cnidoscolus* Pohl, sect. *Jussieuia* (Houstoun) Pax (1910) (*Euphorbiaceæ*): *C. calyptrodontus* Fernández Casas, procedente de Brasil (Bahia).

We continue our series of publications about the genus *Cnidoscolus* Pohl (*Euphorbiaceæ*, *Crotonoideæ*, *Manihoteæ*), which we have published in this journal since 2001, see the previous paper, F. J. FERNÁNDEZ CASAS & V. W. STEINMANN (22-xi-2008).

A new species is described from two collections found in the ALCB herbarium, in Salvador de Bahia. It belongs to sectio *Jussieuia* (Houstoun) Pax (1910) and it may be distinguished from all species in the genus by its very special lobulate-subdentate calyptra.

46 ***Cnidoscolus calyptrodontus*** Fernández Casas, *Fontqueria* 55(58): 573-582, n° 46 (06-xii-2008)

TYPUS: *M. L. Silva Guedes 12986*, *D. M. Gonçalves Rigueira & al.*, 09-XII-2006 (ALCB 75606, holo-); *M. L. Silva Guedes 13174*, *J. S. Santos & R. de M. Valadão*, 23-XII-2006 (ALCB 75819, iso-)

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

ILLUSTR.: *Laminæ nostræ* i (pag. 575), ii (pag. 576), iii (pag. 577), iv (pag. 578), v (pag. 579), vi (pag. 580), vii (pag. 581).

DISTR. GEOGR.: **America australis:** Brasil (Bahia: Morro do Chapéu). *Tabula nostra* 1 (pag.



574).

**DIAGNOSIS** latina vel character essentialis

Ad *Cnidoscolum infestum* aliquo modo vergentem sed floribus fœmineis discrepat. *Calyptra* ad oram profunde quinquedentata; *corolla fœminea* delapsa tubulosa, ad basim valde quinquedentata.

**MAIN DIAGNOSTIC FEATURES**

Like *Cnidoscolum infestum* but the female flowers are quite different. *Calyptra* with its edge 5-dentate; the *corolla* of the pistillate flowers, once detached, it is tubulose, clearly 5-dentate at the base.

**DESCRIPTIO** ex holotypo, *M. L. Silva Guedes 12986* (ALCB 75606)

INFLORESCENTIÆ paucifloræ. *Bracteæ* virides, stricte triangulares, ad  $3,0 \times 0,5$  mm, sursum decrescentes, acutæ, herbacæ, hirtis albo pilosæ, axillis glandulosis.

FLORES MASCULI florendi tempore albi, facillime delapsi. *Pedunculus*  $1,0-1,5 \times 1,0$  mm, cylindricus, viridis, albo hirsutus. *Alabastra* piriformia, apice et base rotundata, viridia,



**TYPUS (iso-)**

• *Cnidoscolum calyptrodontus* Fernández Casas, *Fronteras* 35:504, 171-182, p. 46 (2008).  
 Herbario de la Universidad de Costa Rica, Herbario de la Universidad de Costa Rica, Herbario de la Universidad de Costa Rica, Herbario de la Universidad de Costa Rica.  
 — *Herbario de la Universidad de Costa Rica, Herbario de la Universidad de Costa Rica, Herbario de la Universidad de Costa Rica, Herbario de la Universidad de Costa Rica.*

 UNIVERSIDADE FEDERAL DA BAHIA Instituto de Botânica Herbário Alexandre Leal Duarte	ALCB 75819
<b>Euphorbiaceae</b>	
<i>Cnidoscolum calyptrodontus</i> (Fern. & E. G.) G. & E.	
Determinador: GARDNER, M.L. (1) Brasil, Bahia, Povoado de Urussatuba, Miguel Calmon, Estrada de Paulo Sora, Povoado, Agua Fria, Povoado 223 11°27'41" S, 49°19'59" W alt. 54 m	
Catalogo: Hábitat: sem-páramo, com muita água. Folhas muito grandes, pediceladas, com flores brancas. Duarte, M.L., 1874   Carvalho, G.L., Soares, L.S., Valadares, R. de M. 23 Dezembro 2006	

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 SACADOR PAULO SORA

PLATE I. *Cnidoscolum calyptrodontus* Fernández Casas. M. L. Silva Guedes 13174 (ALCB 75819, isotype).



**TYPUS (holo-)**

41 *Cnidioscolus calyptrodontus* Fernández Casas, Fontqueria 55(70): 573-582, n° 46 (2008)  
 19170: M. L. Silva Guedes 12986. O. de Ilheus, Bahia, Brasil, 12/19/94, J. S. Santos & E. de M. Salgueiro, 23-523-896 (ALCB 75606, her)  
 - Her. Antonio (Brasil). Par. Pólo (Brasil). P. 11: 36, n° 31.3 (1982). E. A. Per & E. Hoffmann, Bot. Phytodermatol., vol. 2, 116-118 (1975).  
**BRASIL** (97) Bahia, 24/3/90 - (1175) 440197, arvore, Monte do Chapéu, Vila Venâncio 11°40' S, 41°03' W, Área Antropizada, Herbário, 19. 30 cm. Folha membranácea, com pilosidade tomentosa; inflorescência com filios brancos; fruto castanho, M. L. Silva Guedes 12986. O. de Ilheus, Bahia, Brasil, 12/19/94 (ALCB 75606). *holo-typus* C. calyptrodontus.

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**Instituto de Biologia** **75606**  
**Herbário Alexandre Leal Costa** **No.**

**Euphorbiaceae**  
*Cnidioscolus*

Brazil, Bahia, Chapéu Diamantino, Monte do Chapéu, Vila Venâncio  
 11°40' S, 41°03' W  
 Área Antropizada  
 Herbário de la Silva Guedes 12986. O. de Ilheus, Bahia, Brasil, 12/19/94 (ALCB 75606). *holo-typus* C. calyptrodontus.  
 Guedes, M.L., 12986; Elgueira, E.; Alamo de Res. Et. de 2° Semestre 2006  
 9 Dezembro 2006

PLATE II. *Cnidioscolus calyptrodontus* Fernández Casas. M. L. Silva Guedes 12986 (ALCB 75606, holotype).

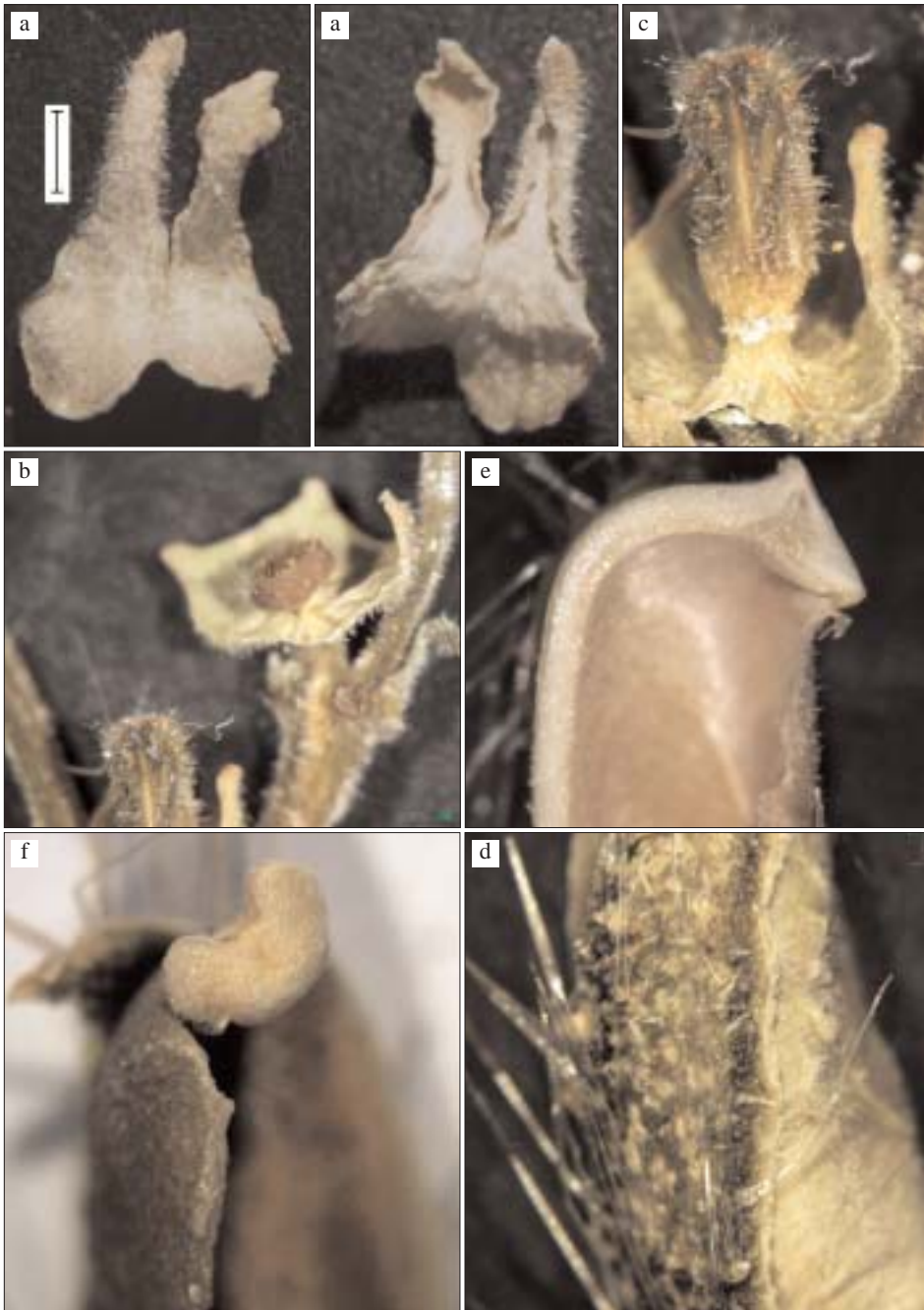


PLATE III. a) Two connate corolla petals. b) Calytra and disc of female flower. c) Ovary and calytra. d) External pericarp. e) Obturator. f) Sporocbole attached to hemifollicle. *M. L. Silva Guedes 13174* (ALCB 75819, isotype). Barr= 1 mm.



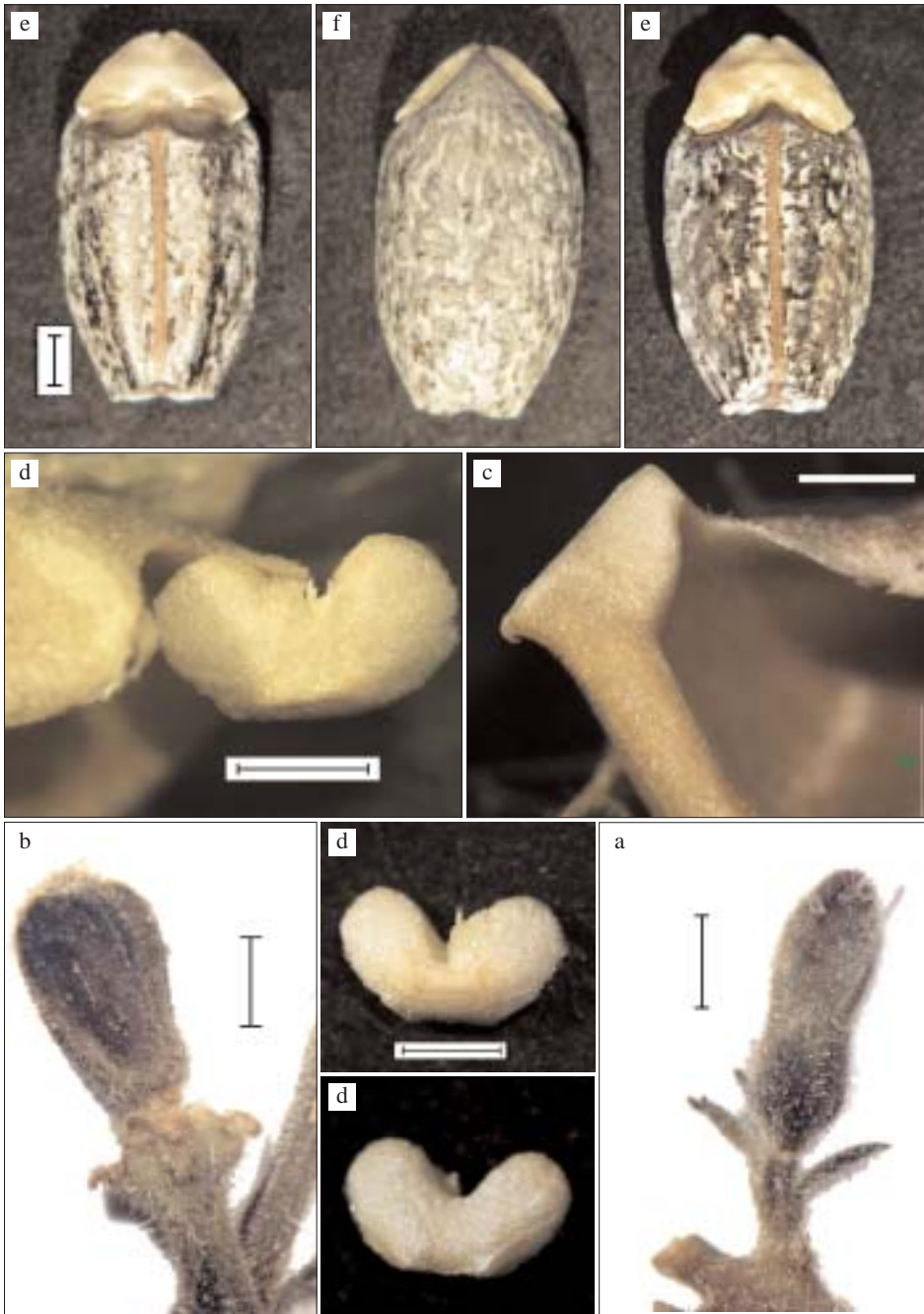


PLATE IV. a) Male flower bud and bracts. b) Ovary, disc and calyptra. c) Obturator. d) Sporoechole attached to hemifollicle. e) Seeds, ventral view. f) Seed, dorsal view. *M. L. Silva Guedes* 12986 (ALCB 75606, holotype). Barr= 1 mm.



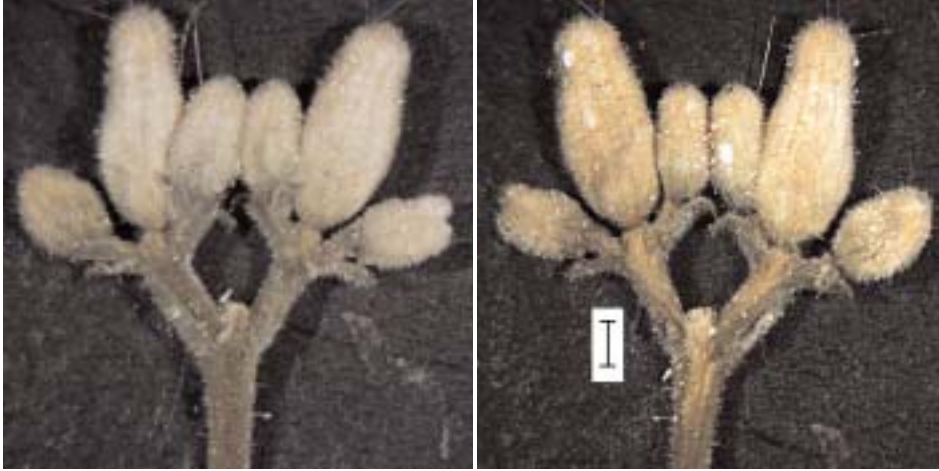


PLATE V. Two sides of a dried inflorescence; the pistillate flower is lacking, it has been detached of a natural manner. *M. L. Silva Guedes 13174* (ALCB 75819, isotype). Black barr= 1 mm

supra medium constricta, apice rare stimulosi, extus minute albo villosa, intus glabra. *Corolla* usque 9-10 mm, alba, extus villosa, ad  $\frac{3}{5}$  connata, conspicue decem nervata. *Discus* breviter pedunculatus,  $0,7 \times 0,8$  mm, subsphærico annularis, fulvo aurantiacus, subtus cavus, carnosus, rare albo villosus. *Stamina* decem, biverticillata, quinque exteriora admodum libera, quinque interiora in columnam glabram coalita, omnia inserta, tria longiora subexclusa. *Antheræ* 1,2-1,5  $\times$  0,6-0,7 mm, albo lutescentes, dorsifixæ, submedifixæ; *connectivum* parum conspicuum. *Staminodia* nulla.

FLORES FEMINEI. *Calyptra* (sub regma iuvenile observata) effecta, profunde repando undulata, lobato dentata. *Pedunculus* 2,5-4,0  $\times$  1,0 mm, viridis, cylindricus, albo hirtus villosus, viridis; pilis eglandulosis cum glandulosis intermixtis. *Discus* hemisphærico annularis, luteo rubescens, carnosus, subtus et supra cavus, supra albo villosus.

REGMA. *Obturator* 2,0  $\times$  1,2 mm, obtusissimus. *Pericarpium externum* herbaceum, viride, ex albo sex lineatum, valde stimulosum, pilosum; *pili* omni hyalino albicanti, glandulosi magni cum eglandulosi minimi intermixti. *Pericarpium internum* osseum, ad 0,5 mm crassus. *Sporoecbolus* 2,1  $\times$  1,2 mm, bilobatus; *auriculæ* divergentes; *ventriculus* nullus.

SEMINA. *Testa* grisea et atro castanea, ruminata albo-maculata. *Dorsum* parum prominente, plus minusve lævis, ecarinatum, e basi usque ad medium vel  $\frac{2}{3}$  vix canaliculatum; *apex* acutus, quam caruncula brevior; *basis* modice emarginata. *Venter* dogæformis [*doga*, -æ (Latin), =duela (Spanish), =stave (English)], planus. *Carina ventralis* plana, læte picta. *Pleurae* dogæformes, longitudinaliter parum curvatæ. *Sedis* parum concava, trapeziformis,  $30^\circ$  prona, ad medium vix transversaliter umbonata. *Demensa semina* sex,  $\pm 0,1$  mm, L: 7,4  $\pm 0,24$ ; l: 4,2  $\pm 0,19$ ; p: 2,4  $\pm 0,14$  [07,1  $\times$  4,0  $\times$  2,2; 07,2  $\times$  3,9  $\times$  2,3; 07,2  $\times$  4,1  $\times$  2,4; 07,4  $\times$  4,4  $\times$  2,5; 07,6  $\times$  4,2  $\times$  2,4; 07,7  $\times$  4,3  $\times$  2,6].

**DESCRIPTION** of the type collection *M. L. Silva Guedes 12986* (ALCB 75606)

INFLORESCENCES few-flowered. *Bracts* green, narrowly triangular, c. 3.0  $\times$  0.5 mm, decreasing upwards in the inflorescence, acute, herbaceous, white and hirtous pubescence, with glands in the axillas.

STAMINATE FLOWERS white during anthesis, falling early. *Peduncle* 1.0-1.5  $\times$  1.0 mm, green, white hirsute. *Flower bud* pear-shaped, rounded at the base and at the apex,

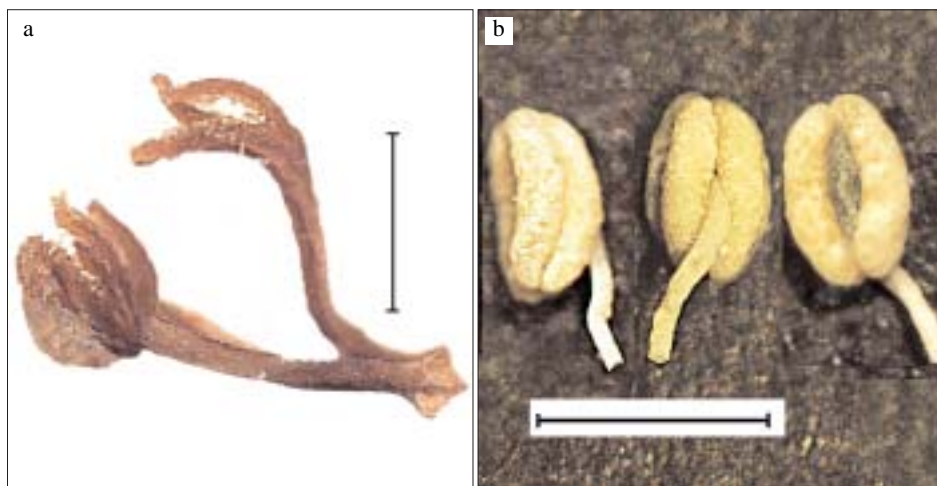


PLATE VI. a) Stylar column, once detached. b) Three views of the same anther of a pistillate flower. *M. L. Silva Guedes 13174* (ALCB 75819, isotype).

Black barr= 1 mm

green, constricted above the middle, with disperse urticant bristles in the upper half, outside hairy shaggy outside, glabrous inside. *Corolla* up to 9-10 mm, white, hairy outside, connate up to 3/5 of its length, with ten conspicuous longitudinal nerves. *Disc* briefly pedunculate,  $0.7 \times 0.8$  mm, annular subspheric, yellowish orange, hollow below, fleshy, with very sparse white down. *Stamens* 10, biverticillate (5+5), the external five fully free, the inner five fused in a glabrous column, all included, the three longest subexcluse. *Anthers* 1.2-1.5  $\times$  0.6-0.7 mm, yellowish white, dorsifixed, submedifixed; *connective* not very conspicuous. *Staminodes* absent, at least they were not observed.

**PISTILLATE FLOWERS.** *Calyptra* (observed under the regma) developed, deeply undulate, lobate dentate. *Peduncle* 2.5-4.0  $\times$  1.0 mm, green, cylindric, whitish hirsute villous, non-glandular hairs intermingled with glandular ones. *Disc* annular hemispheric, yellow reddish, fleshy, hollow by above and by below, white hairy above.

**REGMA.** *Obturator* 2.0  $\times$  1.2 mm, very obtuse. *External pericarp* herbaceous, green, transversed lengthwise by six white lines, with many stinging bristles, pilose; *hairs* hyaline, whitish, some large and glandular, mixed with smaller non-glandular ones. *Internal pericarp* bony, c. 0.5 mm thick. *Sporoecbole* 2.1  $\times$  1.2 mm, bilobate; *auricles* divergent; *ventricule* lacking.

**SEEDS.** *Seed coat* gray and dark brown, ruminant white-spotted. *Back* not very prominent, more or less smooth, devoid of keel, shallowly channeled from the base up to 2/3 of its length; *apex* acute, shorter than the caruncle; base moderately emarginate. *Ventral surface* flat, stave-shaped. *Ventral keel* flat, light colored. *Flanks* stave-shaped, slightly bent lengthwise. *Seat* a little concave, trapeziform, leaning 30° off the radius, slightly transversely umbilicate. *Measured seeds* six,  $\pm 0.1$  mm, L:  $7.4 \pm 0.24$ ; l:  $4.2 \pm 0.19$ ; p:  $2.4 \pm 0.14$  mm [07.1  $\times$  4.0  $\times$  2.2; 07.2  $\times$  3.9  $\times$  2.3; 07.2  $\times$  4.1  $\times$  2.4; 07.4  $\times$  4.4  $\times$  2.5; 07.6  $\times$  4.2  $\times$  2.4; 07.7  $\times$  4.3  $\times$  2.6].

**DESCRIPTIO** ex isotypo *M. L. Silva Guedes 13174* (ALCB 75819)

INFLORESCENTIÆ terminales axillaresque, paucifloræ, dichasiis compositis instructæ. *Bracteæ* virides, strictæ triangulares, ad 3,0  $\times$  0,7-1,0 mm, plerumque extus arcuatæ, sursum decrescentes, acutæ, herbacæ, virides, hirtis albo pilosæ, axillis 1-2 glandulis præditis.

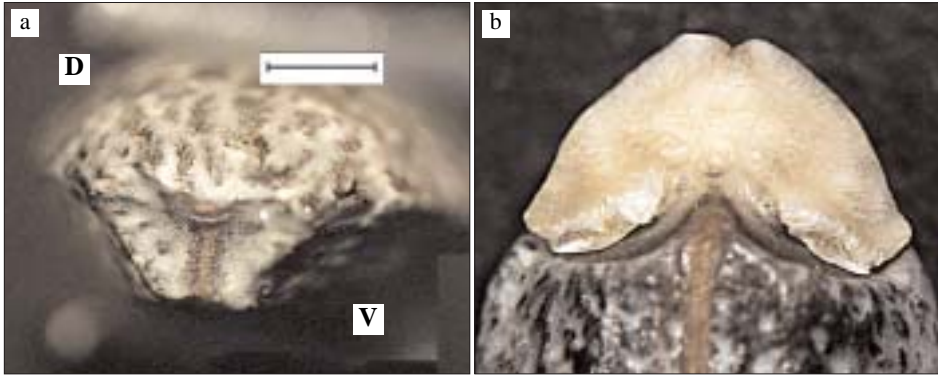


PLATE VII. a) Seed seat, showing the umbilicus and the ventral keel end, D= back side, V= ventral side . b) Seed caruncle, showing pleurae and hilum. *M. L. Silva Guedes 13174* (ALCB 75819, isotype). Black barr= 1 mm

FLORES MASCULI florendi tempore albi, faccile delapsi. *Alabastra* viridia, supra medium constricta, apice rare stimulosa, extus minute albo villosa, intus glabra. *Corolla* alba, herbacea vel subcoriaceo membranosa, intus glaberrima, extus petalorum labia imbricata excepta hirto villosa. *Petala* (partes liberæ) quincuncialia. *Discus* annularis, rare hirto villosus, supra subtusque cavus.

FLORES FÆMINEI albi. *Pedunculus* cylindrico subclaviformis, 1-2 mm. *Calyptra* efec-ta, ampla, submembranacea, læte viridis, secus nervos præcipue hirto villosa; *margo* valde quinque- lobatodentatus. *Discus* hemisphærico annularis, ad  $1,5 \times 0,6$  mm, supra cavus, ad marginem albo pilosiusculo. *Staminodia* 8-10, bacillaria, brevissima,  $<0,5$  mm, alba, ægre intra discum visibiles. *Corolla* alba, extus parum hirto villosa, apicem versus rare stimulosa, intus glabra, ex calyptra post anthesin faccile delapsa; *lobi* sub finem anthesis suberecti vel inordinatim digesti (aliquot corrugati), involuti; *corolla delapsa* ad 5 mm longa, aliquo modo conica, inferne repando quinquenuata, ad 30-nervata; *sini basali* ad  $1,5 \times 2,0$  mm, rotundati, sæpe ob nervo efracto apice remanente submucronati; *lobi apicali* ad  $2,5 \times 1,0-1,3$  mm, involuti. *Ovarium* dolioliforme vel subcylindricum, ex albo sexlineatum, basi et apice depressum, apice præcipue parum albo pilosum atque stimuloso penicillatum. *Styli* tres, omnino glabri, inferne in colum-nam cylindricam coaliti, stylorum pars libera divergens, cylindrica, intus canaliculata; toti faccile ex basi delapsi sæpiuscule cum corolla dejecti; *columna*  $0,5 \times 0,2$  mm, ad basim dilatata, in centro obconica dentibus sex periphæralis prædita; stylorum pars libe-ra ad 1 mm, apice trifido. *Stigmata* tria in quoque stylo, usque 0,6 mm, lineari digitata; stigmatica superficies stylorum canaliculus decurrentia.

**DESCRIPTION** of the isotype collection *M. L. Silva Guedes 13174* (ALCB 75819)

INFLORESCENCES terminal and axillary, few-flowered, formed by compound dichasia. *Bracts* green, narrowly triangular, c.  $3.0 \times 0.7-1.0$  mm, often arched outwards, decreasing upwards in the inflorescence, acute, herbaceous, green, hirtous with white hairs, having 1-2 glands in the axillas.

STAMINATE FLOWERS white during anthesis, falling early. *Flower buds* green, constricted above the middle, with a few stinging bristles in the apex, white villous outside, glabrous inside. *Corolla* white, herbaceous or nearly leathery, membranous, very glabrous inside, hirto villos outside, except in the imbricate internal parts of the petals. *Petals* (free parts) quincuncial. *Disc* annular, with disperse hirsute villous pubescence, concave up above and by down.

PISTILLATE FLOWERS white. *Peduncle* cylindric subclavate, 1-2 mm. *Calyptra* developed, wide, almost membranous, light green, hirsute villous, mainly throughout the nerves; *margin* strongly 5-toothed or 5-lobate. *Disc* annular hemispheric, c.  $1.5 \times 0.6$  mm, hollow above, slightly pilose toward the margin. *Staminodes* 8-10, rod-shaped, very short, <0.5 mm, white, hardly visible above the edge of the disk. *Corola* white, somewhat hirsute villous outside, with scattered stinging bristles toward the apex, easily detached from the calyptra, after flowering; *lobes* at the end of anthesis suberect or disorderly (a little wrinkled), involute; *detached corolla* c. 5 mm long, somewhat conical, inferiorly repand 5-sinuate, with about 30 nerves; *basal sinus* c.  $1.5 \times 2.0$  mm, rounded, often with a small mucro remaining from a broken nerve; apical *petals* c.  $2.5 \times 1.0$ - $1.3$  mm, involute. *Ovary* barrel-shaped or subcylindric, transversed by six white longitudinal lines, depressed at the base and at the apex, somewhat pilose, mainly on the apex and with a little tuft of stinging bristles. *Styles* three, completely glabrous, connate below into a column, their free part divergent, cylindrical, inwardly canaliculate; the whole group comes off easily from the base and it usually accompanies the corolla when this falls; *column*  $0.5 \times 0.2$  mm, widened toward the base, conical with the apex downward in the center and with six little teeth in the edge; free part of the styles c. 1 mm, with trileft apex. *Stigma* three in each style, up to 0.6 mm, the stigmatic surface extended inside the inner channel of each style.

#### REGARDING THE ETYMOLOGY AND ORTHOEPY of the specific name

*Calyptrodontus* is a Latin adjective (male singular, agreeing with *Cnidoscolus*) comprised of two words of Greek origin, ὀδοῦς, ὀδοντός, meaning tooth, and κάλυπτρα, meaning cap or cowl; it therefore means "with dentate cap or cowl (calyptra)", in reference to the shape or its calyptra, which is quite special within its section. The name is a paroxytone, stressed on the penultimate syllable, ca-lyp-tro-dón-tus.

#### EXAMINED SPECIMENS

##### BRASIL, (05) BAHIA:

- 24LTN80** -11.71°, -040.97°; «(munic. Morro do Chapéu) Vila Ventura: 11°40'S, 041°01'W. Área antropizada. Herbácea, ca. 50 cm; folhas membranáceas, com pêlos urticantes; inflorescência com flores brancas; fruto imaturo», *M. L. Silva Guedes 12986*, *D. M. Gonçalves Rigueira & al.*, 09-XII-2006 (ALCB 75606, holo-; typus *C. calyptrodontus*).
- 24LUN24** -11.35°, -040.60°; «(munic. Miguel Calmon) Parque Sete Pasagens: entorno, Água Branca, Ponto 225, 11°22'52"S, 040°34'59"W, 547 m. Caatinga. Herbácea, com pêlos urticantes, com látex branco; folhas membranáceas; inflorescência com flores brancas» *G. Carvalho, M. L. Silva Guedes 13174, J. S. Santos & R. de M. Valadão*, 23-XII-2006 (ALCB 75819, iso-; typus *C. calyptrodontus*).

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