

## TWO NEWS SPECIES OF *BACCHARIS* (ASTERACEAE: ASTEREA) FROM BAHIA, BRAZIL

LEONARDO PAZ DEBLE<sup>1</sup> & ANABELA SILVEIRA DE OLIVEIRA-DEBLE<sup>2</sup>

**Summary:** Deble, L. P. & A. S. de Oliveira-Deble. 2009. Two new species of *Baccharis* (Asteraceae: Astereae) from Bahia, Brazil. Bonplandia 18(1): 45-50. ISSN: 0524-0476.

In the review of the genus *Baccharis* in Brazil two new species from Bahia were recognized: *Baccharis alleluia* and *Baccharis orbiculata*. These species are described, illustrated and distinguished of the allied taxa.

**Key words:** *Baccharis*, new species, Asteraceae, taxonomy, Bahia, Brazil.

**Resumen:** Deble, L. P. & A. S. de Oliveira-Deble. 2009. Dos especies nuevas de *Baccharis* (Asteraceae: Astereae) para Bahía, Brasil. Bonplandia 18(1): 45-50. ISSN: 0524-0476.

En la revisión del género *Baccharis* para Brasil, fueron reconocidas dos especies nuevas: *Baccharis alleluia* y *Baccharis orbiculata*. Estas especies son descritas, ilustradas y diferenciadas de los taxones afines.

**Palabras clave:** *Baccharis*, nuevas especies, Asteraceae, taxonomía, Bahía, Brasil.

### Introduction

The genus *Baccharis* L. is well represented in Bahia, Hind (1993) estimated above 25-30 species, but probably a few more species occurs in this state. During the review of exsiccates, materials of two unusual species were analyzed and we recognized as new species, being described below.

***Baccharis alleluia* Oliveira-Deble & Deble, sp. nov.**

Fig. 1

*A Baccharis salzmanii* DC., *primu aspectu, sed*

*capitula 6.1-7.5 mm longa (vs. 8.5-10.4 mm longa), bracteis involucri scariosis (vs. non scariosis), corolla flores feminei 2.9-3.8 mm longa (vs. 4.4-5 mm longa), cypselis 1.1-1.5 mm longis (vs. 2.3-2.6 mm longis) et capitula in glomerulis vel corymbis longiter pedunculatis (vs. in glomerulis foliaceis, sessilis vel brevi pedunculatis), differt. Baccharis pentziifoliae Sch. Bip. ex Baker, valde proxima, a qua foliis maioribus, 2.1-6.8 cm longis, 0.9-2.8 cm latis (vs. 0.8-2.2 cm longis, 0.5-1.3 cm latis), retinervis (vs. trinervis) optime distincta. Frutex 1 m altus; caulibus adscendentibus erectisve, usque ad apice foliosus. Folia obovata, oblanceolata ad obdeltata, 2.6-6.5 cm longa, 1.1-2.5 cm lata, alterna, retinervia, concolora, integra vel apice utrinque 1-2 dentata, glandulosa, apice obtusa,*

<sup>1</sup> Biólogo, Dr., Departamento de Ciências Florestais, Universidade Federal de Santa Maria/RS, Brazil. deble.biol@gmail.com

<sup>2</sup> Bióloga, Dra., Departamento de Ciências Florestais, Universidade Federal de Santa Maria/RS, Brazil. anabela.biol@gmail.com

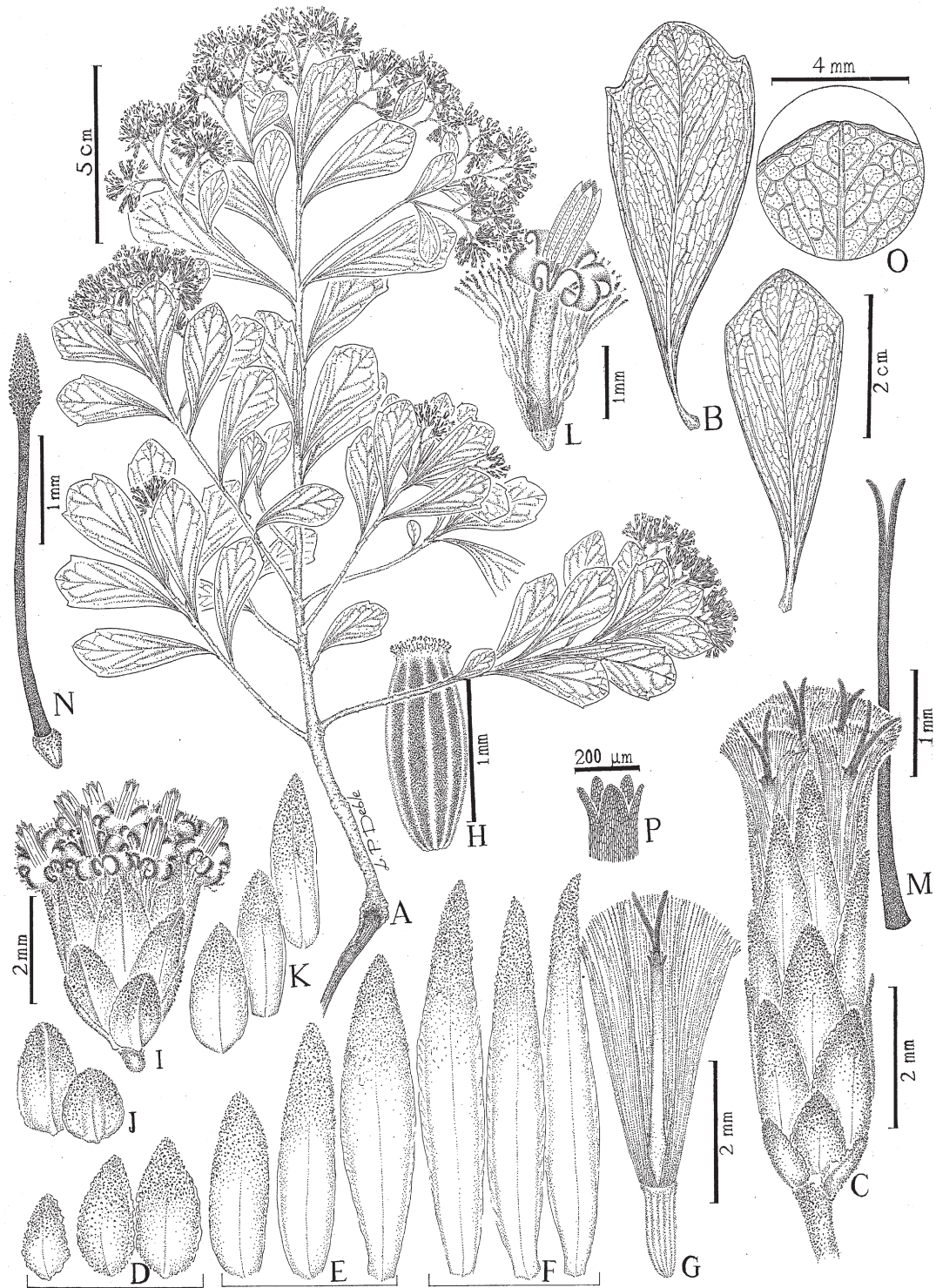


Fig. 1. *Baccharis alleluia* Oliveira-Deble & Deble. A: female branch. B: leaves. C: female capitulum. D-F: female involucre bracts. D: outer. E: median. F: inner. G: female flower. H: cypsela. I: male capitulum. J-K: male involucre bracts. J: outer. K: median and inner. L: male flower. M: style of female flower. N: style of male flower. O: detail of apex leaf. P: apex of female flower (A-H, M, O, P, *Giulietti et al. s.n. holotypus* SPF; I-L, N, *Sucre 10.873 paratypus* RB).

*rotunda vel truncata, base cuneata, sessilia vel brevi petiolata (petiolis usque 6 mm); laminis coriaceis, castaneis ad vireo-castaneis, resinosis; Capitula sessilia vel pedunculata in glomerulis vel corymbis longiter pedunculatis ad axilam foliorum superiorum inserta. Capitula feminea cylindracea, 6.1-7.5 mm longa, 2.2-3.5 mm lata. Involucrum 5.5-6.4 mm longum, 1.6-2.5 mm latum, 4-5 florum. Bracteis involucri 6-7 seriatim, margine scariosi, dorso straminei; externis, 0.8-2.4 mm longis, 0.7-1.1 mm latis; mediis lanceolatis ad elliptico-lanceolatis, 2.6-5.2 mm longis, 0.8-1.2 mm latis. internis linear-ellipticis ad linear-lanceolatis, 5.1-6.2 mm longis, 0.7-1 mm latis. Clinanthium convexum, glabrum. Flores feminei corolla tubular-filiformia, 3.2-3.6 mm longa, apice 5-dentata; dentibus brevi vel usque 0.3 mm longis. Stylo 4-4.8 mm longo; rami styli 0.7-1 mm longi, obtusi. Pappus stramineus ad rufescentibus, 4.1-5 mm longus; setis pappi 94-108. Cypsela 10-costata, cylindracea, 1.1-1.3 mm longa, castanea, glabra, cuticula plana.*

*Typus:* Brazil. Bahia: Mucugê, Alto do Morro do Pina, estrada de Mucugê a Guiné, 25 km NO de Mucugê, subarbusto de 1 m, flores creme esverdeado, odoríferas, ♀, 20-VII-1981, A. M. Giulietti, A. Furlan, J. Semir, I. Cordeiro, L. Rossi, J. Pirani & N. de Menezes, s.n. (*holotypus* SPF 18.425!).

Shrub 0.5-2 m tall; stems erect-patent or erect, branching sympodial; young shoots brownish, glutinous, older shoots darker. Leaves ob ovate, oblanceolate to obdeltate, 2.1-6.8 cm long, 0.9-2.8 cm wide, alternate, reticulum veined, concolorous, margin entire or with 1-2 obtuse teeth near the apex, glandular, not revolute, apex obtuse, rounded or truncate, basally cuneate, sessile or shortly petiolate; leaf blades chartaceous to coriaceous, light brown to green-brownish, strongly resinous in both surfaces; petioles up to 10 mm, light brown, glutinous. Capitulescence borne in pedicellate glomerules or corymbs inserted at the axils of the distal leaves, constituting a corymbiform panicle. Capitula sessile to pedunculate; peduncles light brown, up to 7.8 mm long; bracts 1-2, lanceolate, up to 3.5 mm long. Female capitula cylindrical, 6.1-7.5 mm long,

2.2-3.5 mm wide. Involucre 5.5-6.4 mm long, 1.6-2.5 mm wide. Involucral bracts in 6-7 series, scariose in outermost, entire or scariose only near at apex in innermost bracts, centrally stramineous and whitish in the distal third. Outer bracts ovate, 0.8-2.4 mm long, 0.7-1.1 mm wide. Median bracts lanceolate to elliptic-lanceolate, 2.6-5.2 mm long, 0.8-1.2 mm wide. Inner bracts linear-elliptic to linear-lanceolate, 5.1-6.2 mm long, 0.7-1 mm wide. Clinanthium slightly convex, glabrous. Female flowers 4-6. Corolla tubular-filiform, 2.9-3.8 mm long, apically 5-dentate; teeth obtuse, short or up to 0.3 mm long. Style exceeding the corolla, 3.7-4.8 mm long; branches 0.6-1 mm long, apex obtuse. Pappus 4.1-5 mm long; bristles 94-108. Cypsela cylindrical, 1.1-1.5 mm long, light brown, 10-ribbed, glabrous, cuticle smooth. Male capitula campanulate, 4.3-5.2 mm long and wide. Involucre 3.3-4 mm long, 2.4-3.3 mm wide. Involucral bracts 4-5 series, scariose in outermost, entire or scariose only near at apex in innermost bracts, centrally light brown, whitish in the distal third. Outer bracts broadly ovate to ovate, 1.2-2.1 mm long, 1-1.3 mm wide. Median bracts ovate to oblong, 2.3-3 mm long, 0.8-1.1 mm wide. Inner bracts oblongs to broadly elliptic, 2.9-3.3 mm long, 0.8-1 mm wide. Clinanthium convex, glabrous. Male flowers 9-15. Corolla 3-3.5 mm long; tube 1.8-2.1 mm long; lobes 1.1-1.4 mm long. Style not or slightly exceeding the corolla, 3.3-4 mm long; branches attached, 0.6-0.8 mm. Anthers 0.9-1.1 mm long. Pappus 2.2-3.5 mm long; bristles 43-58. Abortive cypsela obconical, 0.2-0.3 mm long, with short and asymmetric trichomes at apex concentrate.

*Distribution and habitat:* *Baccharis alleluia* is known only from Bahia state in Lençóis, Mucugê and Rui Barbosa cities, being found in "savanas arbustivas" or "campos rupestres" at altitudes between 900-1.100 m.

*Etymology:* The specific epithet is a Latin variation of the Hebrew liturgical expression "Hallelujah" significance "praise ye Yah" ("praise the Lord"), that in vernacular language meaning "happiness or happy",

being a tribute from Bahia state, that is known as happiness or happy land.

Obs.: The sympatric species *B. salzmanii* DC. is most closely related to *B. alleluia*, but differs by the capitulescence borne in sessile or almost sessile glomerules, protected by distal leaves (vs. pedicellate glomerules or corymbs inserted at the axils of the distal leaves, constituting a corymbiform panicle), by capitula with 8.5-10.4 mm long (vs. 6.1-7.5 mm long), by margin hyaline, apex darker, not scariose involucre bracts (vs. margin scariose, apex whitish), by female corolla with 4.4-5 mm long (vs. 2.9-3.8 mm long) and by cypselas with 2.3-2.6 mm long (vs. 1.1-1.5 mm long). Another similar species is the allopatric *B. pentziifolia* Sch. Bip. ex Baker, but this species shows distinctly smaller, 0.8-2.2 cm long, 0.5-1.3 cm wide, trinerved leaves.

*Paratypes*: **BRAZIL. Bahia**: s. l., s. d., ♂, *Sucre* 10.873 (RB); Lençóis, Chapada Diamantina, Morro da Mãe Inácio, subarbusto 70 cm, flores creme, ♀, 18-VIII-1996, *Grillo* 28 & *Conceição* (SPF); Rui Barbosa, savana arbustiva, planta 2 m, ♂, 975 m, 16-X-1978, *Faria* 11 (RB).

***Baccharis orbiculata* Deble & Oliveira-Deble, sp. nov.**

Fig. 2

*A Baccharis truncatae* Gardner, cui affinis, foliis suborbiculatis ad orbiculatis (vs. obdelatis), apice rotundatis (vs. truncatis), base rotundatis, truncatis ad cordatis (vs. cuneatis), capitulorum femineum involucris majoribus, 7.3-9.8 mm longum, 2.2-4.1 mm latum (vs. 4.5-5.2 mm longum, 1.8-2.4 mm latum), optime distincta. Frutex 1.8 m altus; caulibus adscendentibus erectisve, apice dense foliosus, postremo cicatricosis. Folia suborbiculata ad orbiculata, 10-14 mm longa, 9.7-14.5 mm lata, concolora, integerrima, conduplicata, glandulosa, alternata, apice rotundata, base rotundata, truncata vel cordata, breviter petiolata (petiolis usque 1.2 mm); laminis cartaceis, resinosis, nigrescentis (in

siccis). Capitula breviter pedicellata in spicis foliorum disposita. Capitula feminea cylindracea, 8.1-11.2 mm longa, 2.6-4.5 mm lata. Involucrum 7.3-9.8 mm longum, 2.2-4.1 mm latum, 6-9-florum. Bracteis involucri, 6-8 seriatis, margine hyalinis, dorso castaneo, punctato-glanduloso, externis fimbriatis, intimis integris. Bracteis externis ovatis ad ovato-lanceolatis, 1.8-3.9 mm longis, 1.1-1.6 mm latis; mediis ovato-ellipticis ad lanceolatis, 4.2-6.3 mm longis, 1.2-1.5 mm latis; internis linear-ellipticis ad linear-lanceolatis, 6.8-9.4 mm longis, 1.1-1.3 mm latis. Flores feminei corolla filiformia, 4.9-5.2 mm longa, base bulbiformia, conspersis pilosis, apice 5-dentata; dentibus lanceolatis, 0.3-0.5 mm longis. Stylo 5.6-6.4 mm longo; rami styli linear-oblongi, 1-1.4 mm longi. Pappus albus, 4.2-5.4 mm longus; setis pappi 41-49. Cypselas 12-16 costata, cylindracea, 2.6-3.5 mm longa, glabra, cuticula striata.

*Typus*: Brazil. Bahia: Piatã, Catolés de Cima, próximo Rio do Bem Querer, caminho para casa do Sr. Altino 13°17'S, 41°53'W, 1.280 m, campo rupestre com solo argiloso e areia lavrada pelos escravos, arbusto de até 1.8 m, folhas verde musgo, brácteas verde claro, flores creme, ♀, 29-VIII-1992, W. Ganev 997 (*holotypus* SPF!, *isotypus* HUEFS).

Shrub 0.5-2.5 m tall; stems erect-patent or erect, branching sympodial; young shoots reddish brown, glutinous, older shoots darker. Leaves nearly orbicular, 8-17 mm long and wide, spirally alternate, reticulum veined, concolorous, margin entire, glandular, non revolute, apex rounded, basally rounded, truncate or cordate, shortly petiolate; leaf blades chartaceous, frequently conduplicate, dark brown, strongly resinous in both surfaces; petioles up to 1.2 mm, reddish brown, glutinous. Capitula shortly pedunculate in leaf axils; peduncles reddish brown, up to 7.2 mm long; bracts 1-3, lanceolate, up to 2.5 mm long. Female capitula cylindrical to broadly cylindrical 8.1-11.2 mm long, 2.6-4.5 mm wide. Involucre 7.3-9.8 mm long, 2.2-4.1 mm wide. Involucre bracts in 6-8 series, margin hyaline, fimbriate in outermost, very thin and entire in innermost, centrally brownish, punctate glandular and

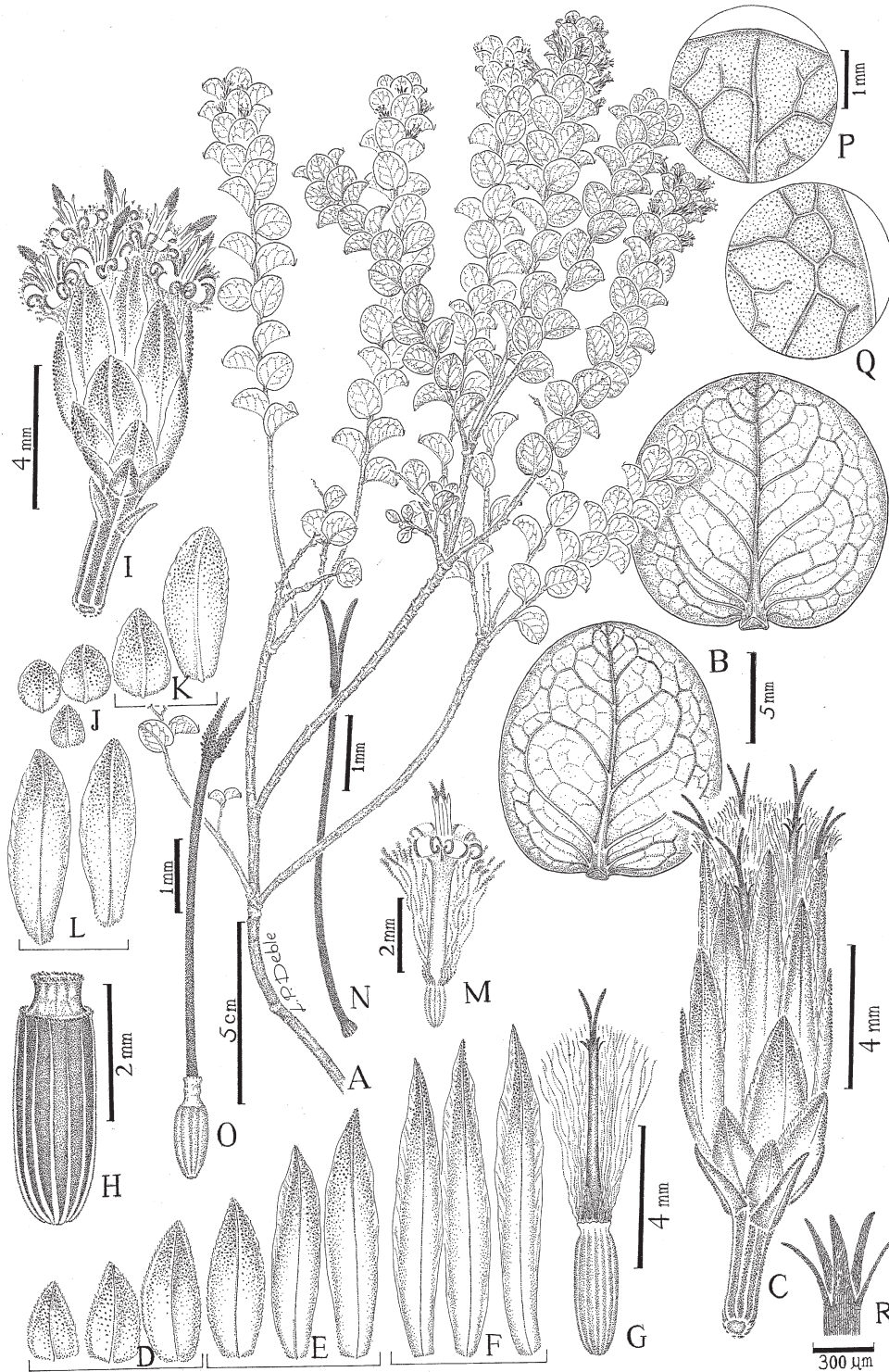


Fig. 2. *Baccharis orbiculata* Deble & Oliveira-Deble. A: female branch. B: leaves. C: female capitulum. D-F: female involucre bracts. D: outer. E: median. F: inner. G: female flower. H: cypsel. I: male capitulum. J-L: male involucre bracts. J: outer. K: median. L: inner. M: male flower. N: style of female flower. O: style of male flower. P: detail of apex leaf. Q: detail of margin leaf. R: apex of female flower (A-H, N, P-R, *Ganev 997 holotypus* SPF; I-M, O, *Ganev 734 paratypus* SPF).

darker in the distal third. Outer bracts broadly ovate to ovate-lanceolate, 1.8-3.9 mm long, 1.1-1.6 mm wide. Median bracts ovate-elliptic to lanceolate, 4.2-6.3 mm long, 1.2-1.5 mm wide. Inner bracts linear-elliptic to linear-lanceolate, 6.8-9.4 mm long, 1.1-1.3 mm wide. Clinanthium slightly convex, glabrous. Female flowers 6-9. Corolla filiform, 4.9-5.2 mm long, basally bulbiform, apically 5-dentate, with few trichomes at base concentrate; teeth acute 0.3-0.5 mm long. Style exceeding the corolla, 5.6-6.4 mm long; branches obtuse, 1-1.4 mm long. Pappus 4.2-5.4 mm long; bristles 41-49. Cypsela cylindrical, 2.6-3.5 mm long, light brown, 12-16 ribbed, glabrous, cuticle folded. Male capitula campanulate, 6.3-9.2 mm long, 4.5-6.4 mm wide. Involucre 5.4-7.5 mm long, 3.8-4.9 mm wide. Involucral bracts 5-6 series, margin hyaline, fimbriate in outermost, very thin and entire in innermost bracts, centrally brownish, punctate glandular and darker in the distal third. Outer bracts ovate to nearly circular, 0.9-2.8 mm long, 0.8-1.7 mm wide. Median bracts broadly oblong to obovate, 3.1-4.4 mm long, 1.6-2 mm wide. Inner bracts oblongs to broadly elliptic, 4.8-6.1 mm long, 1.5-1.9 mm wide. Clinanthium convex, glabrous. Male flowers 9-16. Corolla 4.4-5.1 mm long; tube 3.2-3.6 mm long; lobes 1.2-1.5 mm long. Style slightly exceeding the corolla, 4.9-5.4 mm long; branches attached or free, 0.8-0.9 mm. Anthers 1.2-1.4 mm long. Pappus 3.2-4 mm long; bristles 22-31. Abortive cypsela cylindrical, 0.9-1 mm long, glabrous.

Distribution and habitat: *Baccharis orbiculata* is known only from center of Bahia state in Abaíra, Barra da Estiva, Mucugê and Piatã cities, being found in "campos rupestres" at altitudes between 1.100-1.300 m.

Etymology: The specific epithet refers the nearly orbicular leaves.

Obs.: *Baccharis orbiculata* belongs to the section *Cylindricae* Heering, series *Axillares* Giuliano, being easily distinguished of others species by nearly orbicular, frequently

conduplicate, apex rounded, base rounded, truncate or cordate leaves and by the size of the female capitula. The sympatric species *Baccharis truncata* Gardner is related to *B. orbiculata*, but differs by its obdeltate, truncate at apex, basally cuneate leaves (vs. nearly orbicular, apex rounded, base rounded, truncate or cordate leaves), and by female involucre with 4.5-5.2 mm long, 1.8-2.4 mm wide (vs. 7.3-9.8 mm long, 2.2-4.1 mm wide). *Baccharis bahiensis* Baker, another similar species, differs of *B. orbiculata* by its obovate, 11-33 mm long, 7-22 mm wide leaves (vs. nearly orbicular, 8-17 mm long and wide leaves).

*Paratypes*: **BRAZIL. Bahia**: Abaíra, caminho ribeirão de Baixo-quebradas, próximo a encosta da Serra do Atalho, 13°15'S, 41°50'W, 1.200 m, campo rupestre com solo argiloso, arbusto até 1.5 m, ♂, *Ganev 794* (HUEFS, SPF!); caminho Boa Vista-Bicota, 13°19'S, 41°51'W, 1.300 m, arbusto até 2.5 m, ♂, 25-VII-1992, *Ganev 734* (HUEFS, SPF!); Barra da Estiva, estrada Ituaçu-Barra da Estiva, a 12 km de Barra da Estiva, próximo do Morro do Ouro, campo rupestre, arbusto 1.5 m, ♂, 17-VII-1981, *Giulietti & al. s.n.* (CFCR 1.238, SPF!); Mucugê, estrada Mucugê-Guiné, 28 km de Mucugê, subarbusto 50-100 cm, ♂, 07-IX-1981, *Furlan & al.* (CFCR 2027! SPF 18822!); Alto do morro do Pina, estrada de Mucugê-Guiné, a 25 km NO de Mucugê, arbusto de 1.2 m, ♂, 20-VII-1981, *Giulietti & al. s.n.* (CFCR 1.538, SPF!).

### Acknowledgements

The authors are indebted to the curators of SPF and RB, for making specimens available for study.

### Bibliography

HIND, D. J. N. 1993. Notes on the Compositae of Bahia, Brazil: I. Kew Bull. 48 (2): 245-277.

*Original recibido el 30 de junio de 2009; aceptado el 21 de julio de 2009.*