

TWO NEW SPECIES OF *BACCHARIS* SECT. *CAULOPTERAE*  
(ASTERACEAE: ASTEREA) FROM SOUTHERN BRAZIL

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ABSTRACT

Two new species of *Baccharis* L. sect. *Caulopterae* DC. (Asteraceae) from the highlands of southern Brazil are presented, ***Baccharis apicifolia*** A.A. Schneid. & Boldrini and ***Baccharis flexuosiramosa*** A.A. Schneid. & Boldrini. The new species are described, illustrated and compared with the similar species, *Baccharis milleflora* (Less.) DC. and *Baccharis organensis* Baker, respectively.

RESUMEN

Dos nuevas especies de *Baccharis* L. sect. *Caulopterae* DC. (Asteraceae) que viven en regiones de altitud del sur de Brasil se presentan, ***Baccharis apicifolia*** A.A. Schneid. & Boldrini and ***Baccharis flexuosiramosa*** A.A. Schneid. & Boldrini. Se describen, ilustran y se compara las nuevas especies con las similares, *Baccharis milleflora* (Less.) DC. y *Baccharis organensis* Baker, respectivamente.

The infrageneric classification of *Baccharis* was recently worked for Giuliano (2001, 2005) to Argentina, Giuliano and Nesom (2003), and by Müller (2006) to Bolivia. Müller used the name “*Baccharis genistelloides* Group” for the species belonging to *Baccharis* sect. *Caulopterae*, which consists of perennial herbs, subshrubs, and shrubs with 2–3-ate stems, normal to squamiform leaves, capitula sessile and arranged in spikes or pseudospikes, female capitula without paleae, and achenes (5–20)-ribbed and glabrous or papillose. Section *Caulopterae* is restricted to South America.

During a taxonomic revision of *Baccharis* sect. *Caulopterae* of southern of Brazil two new species were recognized with morphological characteristics that distinguish them from all other species.

***Baccharis apicifolia*** A.A. Schneid. & Boldrini, sp. nov. (**Figs. 1–2**). TYPE: BRAZIL. RIO GRANDE DO SUL: Município de São Francisco de Paula, rodovia RS 20, km 97 (29° 26' 31.1"S, 50° 32' 35.2"W), 20 Nov 2007, A.A. Schneider 1542 (HOLOTYPE: ICN; ISOTYPES: K, MO, RB).

Affinis *B. milleflora* sed alis angustioribus, foliis oblongis vel lanceolatis in partibus apicalibus ramorum (vs. foliis squamiformibus), alis et foliis granulosis albidis punctiformis differt.

**Shrub**, 0.8–1.5 m tall; shoots branched, terminating in a capitulescence; **stems** 3-winged, wings to 2–8 mm wide, slightly undulate, distinctly interrupted, grayish green, surface cover with whitish granules (stomata), indument of flagellate hairs. **Leaves** obovate to elliptic, sessile, seemingly 1-veined, covered with whitish granules, indument of flagellate hairs, larger leaves 0.5–1.5 cm long, 0.2–0.6 cm wide, apex obtuse to rounded, base cuneate, margins entire. **Capitula** sessile, in terminal short spikes 1–3 cm long, forming pyramidal panicles. **Male capitula** 3–5 mm long; flowers 10–17; involucre 2–3 mm long, 2–2.5 wide, campanulate; phyllaries in 3–4 series, outermost phyllaries ovate, median phyllaries lanceolate, innermost phyllaries linear, 2.6–3.1 times as long as the outermost; all phyllaries with margins broadly scarious; apex obtuse fimbriate; corolla 3–4.3 mm long, tube 2–2.5 mm long, lobes 1–1.8 mm long, coiled at maturity; anthers with apical appendage 2.7–3.2 times as long as the filaments, anther apices acute; style slightly exceeding the corolla, with sweeping hairs, the apex nearly fully divided into lanceolate branches, achenes abortive, glabrous and reduced; pappus uniseriate, 3–4 mm long, bristles 15–20, apically broadened and scarcely barbellate. **Female capitula** 5–7 mm long; flowers 20–30; involucre 3–5.5 mm long, 2–3 mm wide, cylindrical; phyllaries in 3–4(–5) series, outermost and median phyllaries like those of male capitula, innermost phyllaries linear, 0.5–0.7 mm long, 0.1–0.2 mm wide; corolla 2.5–3 mm long, 0.1–0.2 mm wide,

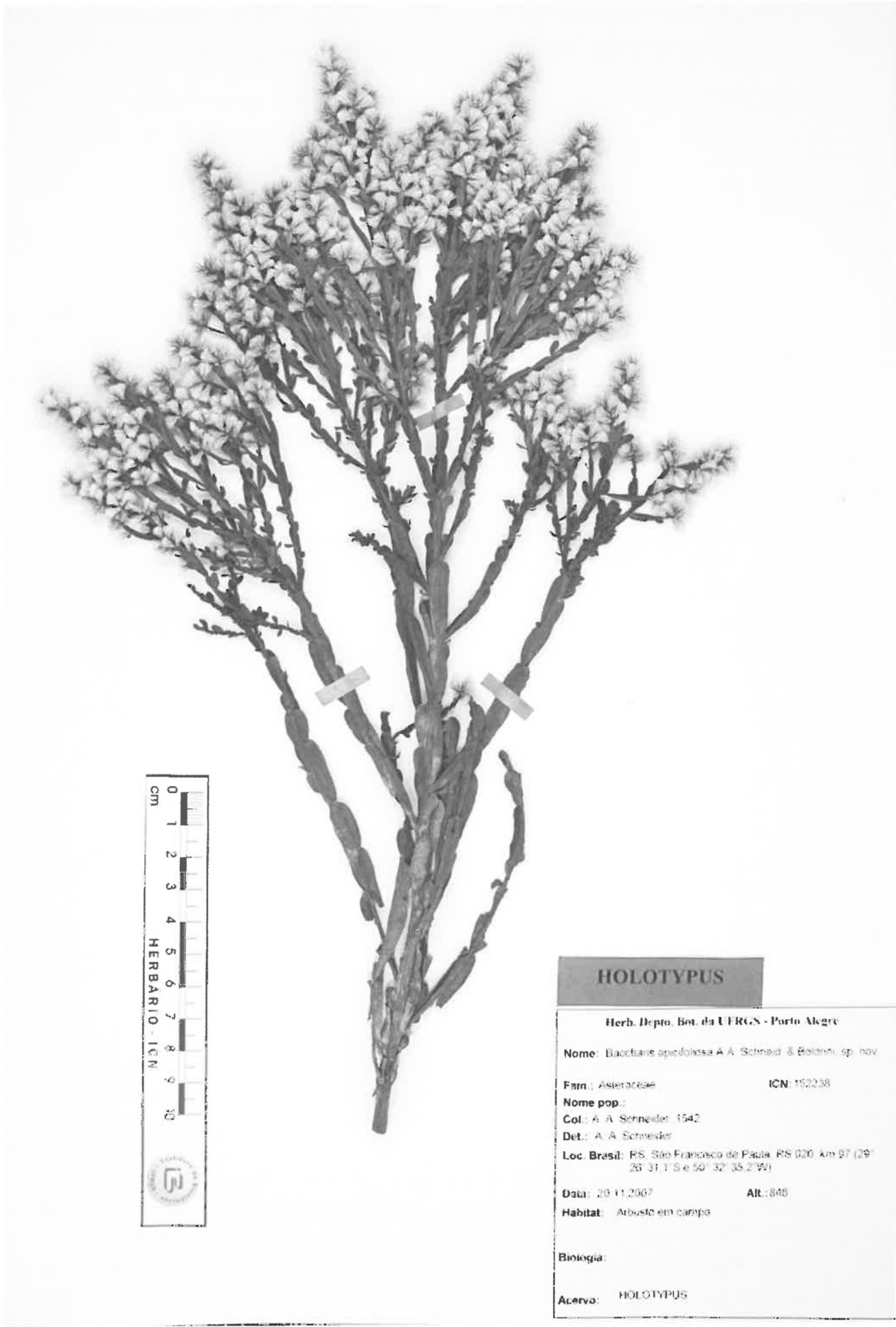


Fig. 1. Holotype of *Baccharis apicifolia* (A.A. Schneider 1542, ICN).

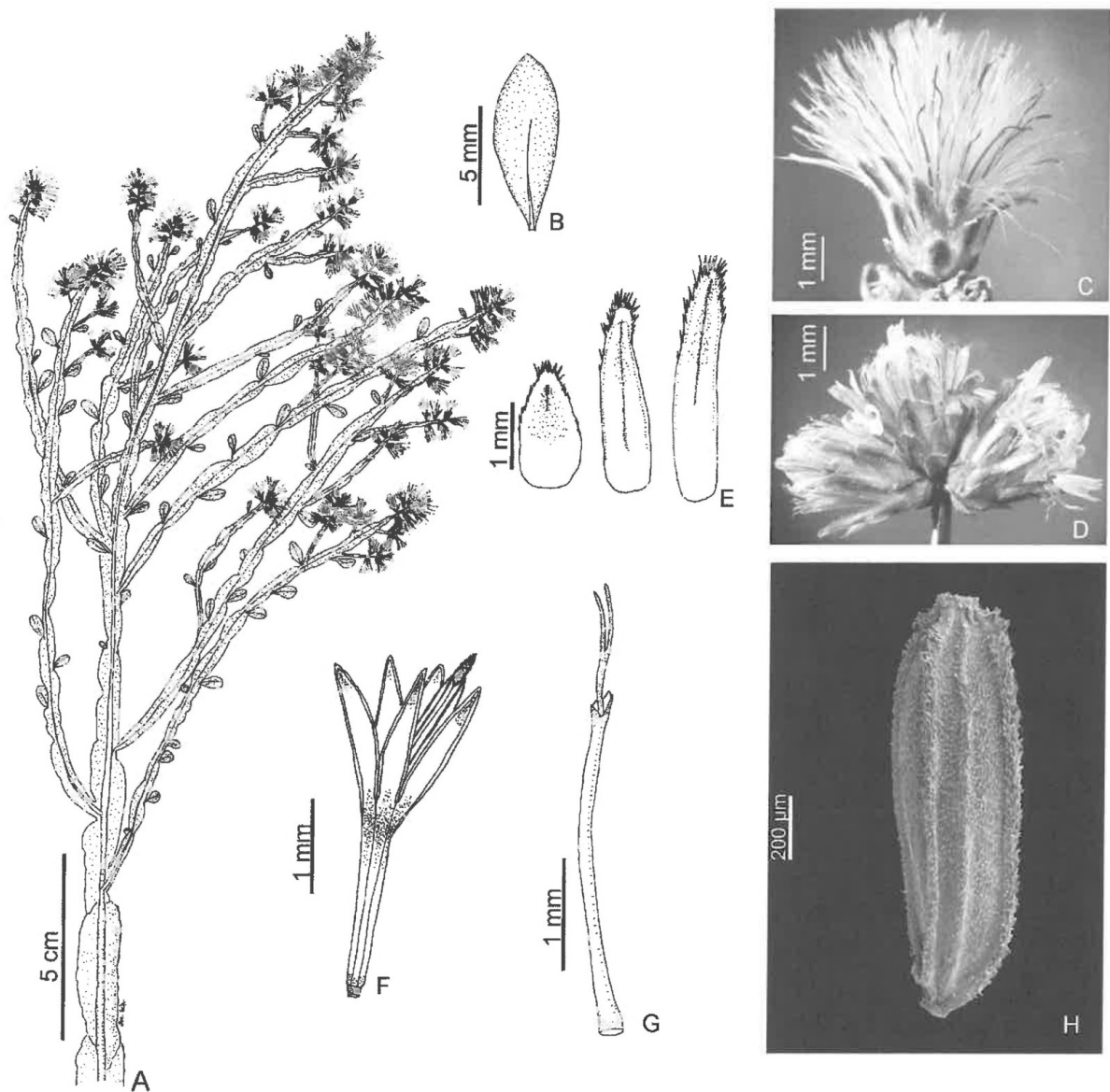


FIG. 2. *Baccharis apicifoliosa*. A. Flowering branch, female plant. B. Leaf (A and B from R. Wasum 802 PACA). C. Female capitula. D. Male capitulum. E. Phyllaries of female capitulum (outer to inner). F. Male flower (D and F from A. Sehnem 5050 PACA). G. Female flower. H. Achene examined by SEM. (C, E, G and H from A.A. Schneider 1542, ICN).

filiform, apex short-ligulate with ligule shallowly 3–5-dentate, glabrous; style 5.2–6.1 mm long, branches 0.4–0.8 mm long; **achenes** 0.9–1.3 mm long, 0.3–0.5 mm wide, nearly cylindric, slightly compressed laterally, covered by low papillae; 5(–7)-ribbed, ribs with papillae more prominent; **pappus** uniseriate, 3.5–4.5 mm long, bristles 20–25, persistent, basally fused.

**Etymology.**—The specific epithet refers to the presence of conspicuous leaves only in the apical part of the shoots.

**Geographical distribution and habitat.**—Restricted to highlands of south Brazil, in the states of Rio Grande do Sul and Santa Catarina. This species grows in grassland, with many individuals occurring abundantly near and in damp areas and often in secondary forests, at altitudes between 750–1500 m, often growing with *B. milleflora*, *B. trimera* (Less.) DC. and *B. articulata* (Lam.) Pers.

**PARATYPES.** **BRAZIL.** **Rio Grande do Sul:** Bom Jesus, Fazenda Fundo das Almas, 23 Nov 2001, R. Wasum 1262 (HUCS, PACA); Cambará

do Sul, Feb 1948, B. Rambo 36246 (PACA); Montenegro, Linha Pinhal, 20 Nov 1950, A. Sehnem 5050 (PACA); São Francisco de Paula, rodovia RS 235, 12 Nov 2000, R. Wasum 726 (HUCS, PACA); estrada para Taquara, 26 Nov 2000, R. Wasum 773 (HUCS, PACA); Pró-Mata, 1 Oct 2001, M. Sobral et al. 9394 (ICN). **Santa Catarina:** Bom Retiro, Campo dos Padres, 19 Dec 1948, R. Reitz 2619 (PACA). Urubici, Serra do Corvo Branco, 17 Oct 2006, A. A. Schneider 1358 (ICN).

*Baccharis apicifolia* is similar to *Baccharis milleflora* (Less.) DC.; the two species are differentiated by contrasts in the following key.

- |  |                                    |
|--|------------------------------------|
| 1. Species with conspicuous leaves, leaves oblong-lanceolate; surface of wings covered with whitish granules; wings to 2–8 mm wide _____ | <b><i>Baccharis apicifolia</i></b> |
| 1. Species with squamiform leaves; surface of wings without whitish granules; wings to 5–15(–20) mm wide _____                           | <b><i>Baccharis milleflora</i></b> |

***Baccharis flexuosiramosa*** A.A. Schneid. & Boldrini, sp. nov. (**Fig. 3–4**). TYPE: BRAZIL. RIO GRANDE DO SUL: Município de Cambará do Sul, Parque Nacional dos Aparados da Serra, Canyon Itaimbezinho, 7 Dec 2006, A.A. Schneider 1419 (HOLOTYPE: ICN; ISOTYPES: K, MO, RB).

*Baccharis organensi* Baker similis, sed foliis minoribus opacis (vs. vernicosis), ramis alatis (vs. angulatis) flexuosioribus differt.

**Shrub**, 0.8–2.5 m tall; shoots branched, terminating in a capitulescence; **stems** 3-winged, wings to 2–8 mm wide, plane, attenuate near to the nodes, internodia long, grayish green. **Leaves** oblanceolate-obovate or elliptic, sessile or with a short petiole to 4 mm long, seemingly 1-veined on the adaxial face and 3-veined on the abaxial face, covered with hair tufts, opaque, 1.2–3 cm long, 0.7–1.8 cm wide, apex obtuse to rounded, base attenuate, margins entire, 1-nervate in adaxial face and 3-nervate in abaxial face. **Capitula** sessile, in terminal short spikes, 1–3 cm long, forming pyramidal panicles. **Male capitula** 5 mm long; flowers 20; involucre 4 mm long, 2–2.4 mm wide, campanulate; phyllaries in 3–4 series, outermost phyllaries ovate, median phyllaries broadly lanceolate, innermost phyllaries oblanceolate or lanceolate, 2.8–3.2 times as long as the outermost; all phyllaries with margins broadly scarious; apex acute with fimbriate hairs; corolla 3–3.5 mm long, tube 2–2.5 mm long, with few hairs, lobes 1 mm long, coiled at maturity; anthers with apical appendage 3 times as long as the filaments, apices acute; style slightly exceeding the corolla, with sweeping hairs, the apex nearly fully divided into lanceolate branches, dilated towards apex, with few hairs, achenes abortive glabrous and reduced; pappus uniseriate, 3–3.5 mm long, bristles 15–20, apically broadened and scarcely barbellate. **Female capitula** 5–6 mm long; flowers 20–25; involucre 4.5–5.5 mm long, 2–2.5 mm wide, cylindrical; phyllaries in 3–4 series, outermost and median phyllaries like those of male capitula, innermost phyllaries lanceolate-linear; corolla 2.3–2.6 mm long, 0.1–0.2 mm wide, filiform, ligulate with dentate ligule, glabrous; style 3.1–4 mm long, with few hairs; **achenes** 1.5–1.8 mm long, 0.3–0.5 mm wide, nearly cylindric, slightly compressed laterally, covered with inconspicuous papillae; 6(–8)-ribbed, ribs with papillae more prominent; **pappus** uniseriate, 2.8–3.3 mm long, bristles 15–20, persistent, basally fused.

*Etymology*.—The specific epithet refers to the flexibility of the shoots.

*Geographical distribution and habitat*.—Restricted to the highlands of southern Brazil, in the states Rio Grande do Sul and Santa Catarina. This species grows on the borders of cold forests and on shores of rivers at altitudes between 900–1500 m.

PARATYPES. **BRAZIL. Rio Grande do Sul:** Município de Cambará do Sul, Parque Nacional dos Aparados da Serra, Canyon Itaimbezinho, 7 Dec 2006, A.A. Schneider 1420 (ICN); Município de São Francisco de Paula, Distrito de Tainhas, Camping Passo da Ilha, 29° 05' 09.2"S, 50° 21' 48.9"W, 900 m, 4 Dec 2006, A.A. Schneider 1448 (ICN). **Santa Catarina:** Município de Urubici, Serra do Corvo Branco, 28° 03' 36.5"S, 49° 21' 48.1"W, 1400 m, 18 Oct 2006, A.A. Schneider 1348.

*Baccharis flexuosiramosa* has 3-veined leaves and apparently is closely related to *B. organensis*; the two species differ by contrasts in the following key.

- |   |  |
|---|--|
| 1. Shoots winged; leaves seemingly 1-veined on adaxial face, 1.2–3 cm long, 0.7–1.8 cm wide _____             | <b><i>Baccharis flexuosiramosa</i></b> |
| 1. Shoots not winged; leaves seemingly 3-veined on adaxial face, 3.5–5.5(–6.5) cm long, 1.5–2.6 cm wide _____ | <b><i>Baccharis organensis</i></b>     |

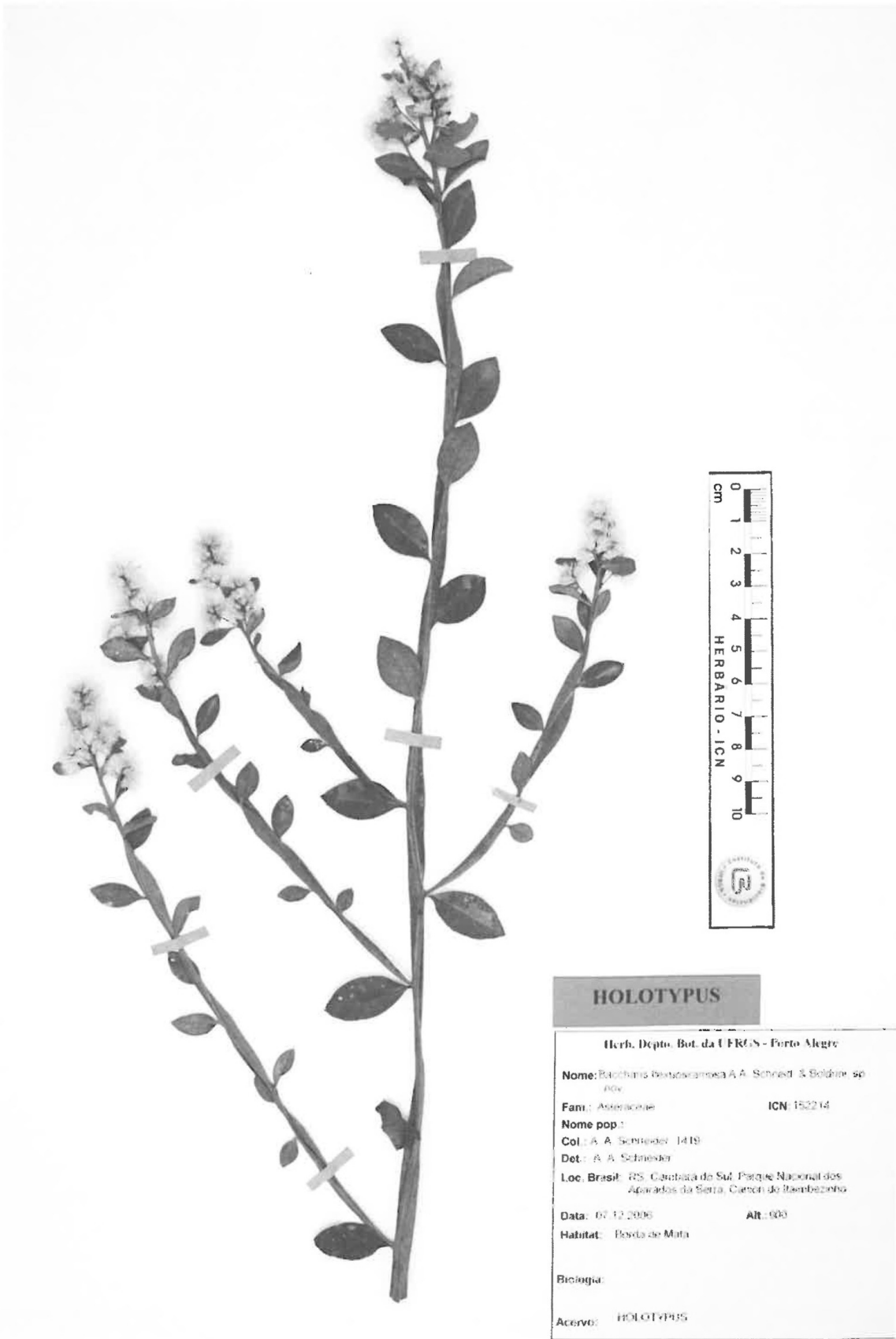


FIG. 3. Holotype of *Baccharis flexuosiramosa* (A.A. Schneider 1419, ICN).

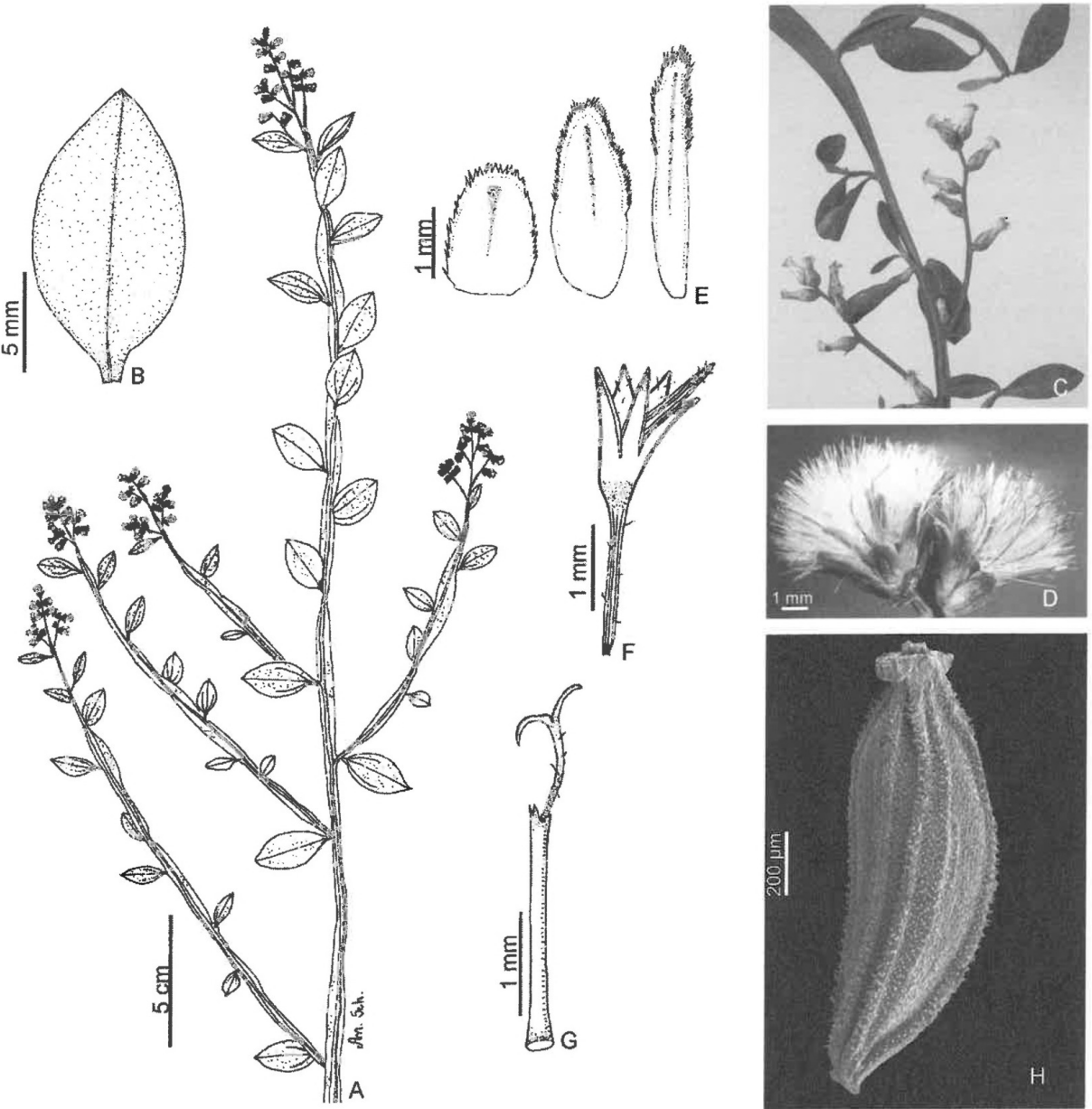


FIG. 4. *Baccharis flexuosiramosa*. A. Flowering branch, female plant. B. Leaf. C. Part of female plant with two spikes. D. Female capitula. E. Phyllaries of female capitulum (outer to inner). F. Male flower. G. Female flower. H. Achene examined by SEM (A–C and G–H from A.A. Schneider 1419, ICN).

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