

## **A New Species of *Baccharis* sect. *Caulopterae* DC. (Asteraceae) from the High Altitude Grasslands of Parque Nacional do Caparaó, Southeastern Brazil**

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# A new species of *Baccharis* sect. *Caulopterae* DC. (Asteraceae) from the high altitude grasslands of Parque Nacional do Caparaó, Southeastern Brazil

Gustavo Heiden & Angelo Alberto Schneider

## Abstract

HEIDEN G. & A. A. SCHNEIDER (2011). A new species of *Baccharis* sect. *Caulopterae* DC. (Asteraceae) from the high altitude grasslands of Parque Nacional do Caparaó, Southeastern Brazil. *Candollea* 66: 337-340. In English, English and French abstracts.

*Baccharis hemiptera* G. Heiden & A. A. Schneid., a new species of the high altitude grasslands from Parque Nacional do Caparaó, southeastern Brazil, is described, illustrated and assigned to *Baccharis* sect. *Caulopterae* DC. The new species is close to *Baccharis glaziovii* Baker, from south-eastern and southern Brazil, and *Baccharis subalata* Wedd., from the Bolivian and Peruvian Andes.

## Key-words

ASTERACEAE – ASTEREAE – BACCHARIDINAE – Brazil – Taxonomy

## Résumé

HEIDEN G. & A. A. SCHNEIDER (2011). Une nouvelle espèce de *Baccharis* sect. *Caulopterae* DC. (Asteraceae) des pelouses de haute altitude du Parc National du Caparaó, sud-est du Brésil. *Candollea* 66: 337-340. En anglais, résumés anglais et français.

*Baccharis hemiptera* G. Heiden & A. A. Schneid., une nouvelle espèce des pelouses de haute altitude du Parc National du Caparaó, sud-est du Brésil, est décrite, illustrée et assignée à la section *Baccharis* sect. *Caulopterae* DC. La nouvelle espèce est comparée à *Baccharis glaziovii* Baker, des sud-est et sud du Brésil, et à *Baccharis subalata* Wedd., de Bolivie et des Andes péruviennes.

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## Introduction

*Baccharis* L. is a New World genus comprising approximately 338 species (MÜLLER, 2010), distributed from southern Canada to southern South America (FIELDING, 2001; GIULIANO, 2001). The tufted indumentum of the leaves and stems, with adjoining basal cells of the trichomes, and the occurrence of dioecy are probably synapomorphic characters of *Baccharis* (MÜLLER, 2006).

For Brazil, the last review work of the genus was provided by BARROSO (1976), encompassing 125 species. However, some species occurring in the country were not included in her work and several new taxa were described later. Nowadays, 150 species are recorded to Brazil, most of them concentrated in the central and eastern regions (HEIDEN & SCHNEIDER, 2010), growing mainly in savannas (*cerrado*) and grasslands (*campos de altitude*, *campos rupestres* and *pampas*).

*Baccharis* sect. *Caulopterae* DC. is represented by about 30 species restricted to South America and is characterized mainly by mostly winged stems, epaleaceous clinanthia densely covered with biseriate glandular hairs, generally papillose glabrous achenes, and pappus bristles of female flowers persistent, enlarged basally and fused into a ring (HEIDEN & al., 2009; HEIDEN & SCHNEIDER, 2010; MÜLLER, 2006, 2010). Recent studies of Brazilian species of *Baccharis* sect. *Caulopterae* allowed the recognition of a distinct new species with winged stems, endemic to the Parque Nacional do Caparaó, Southeastern Brazil. This species is described, illustrated and its infrageneric position and affinities are discussed.

***Baccharis hemiptera* G. Heiden & A. A. Schneid., spec. nova** (Fig. 1)

**Typus: BRAZIL. Minas Gerais/Espírito Santo:** Parque Nacional do Caparaó, 25.IX.1941, ♂, A. C. Brade 17017 (holo-: RB; iso-: JE).

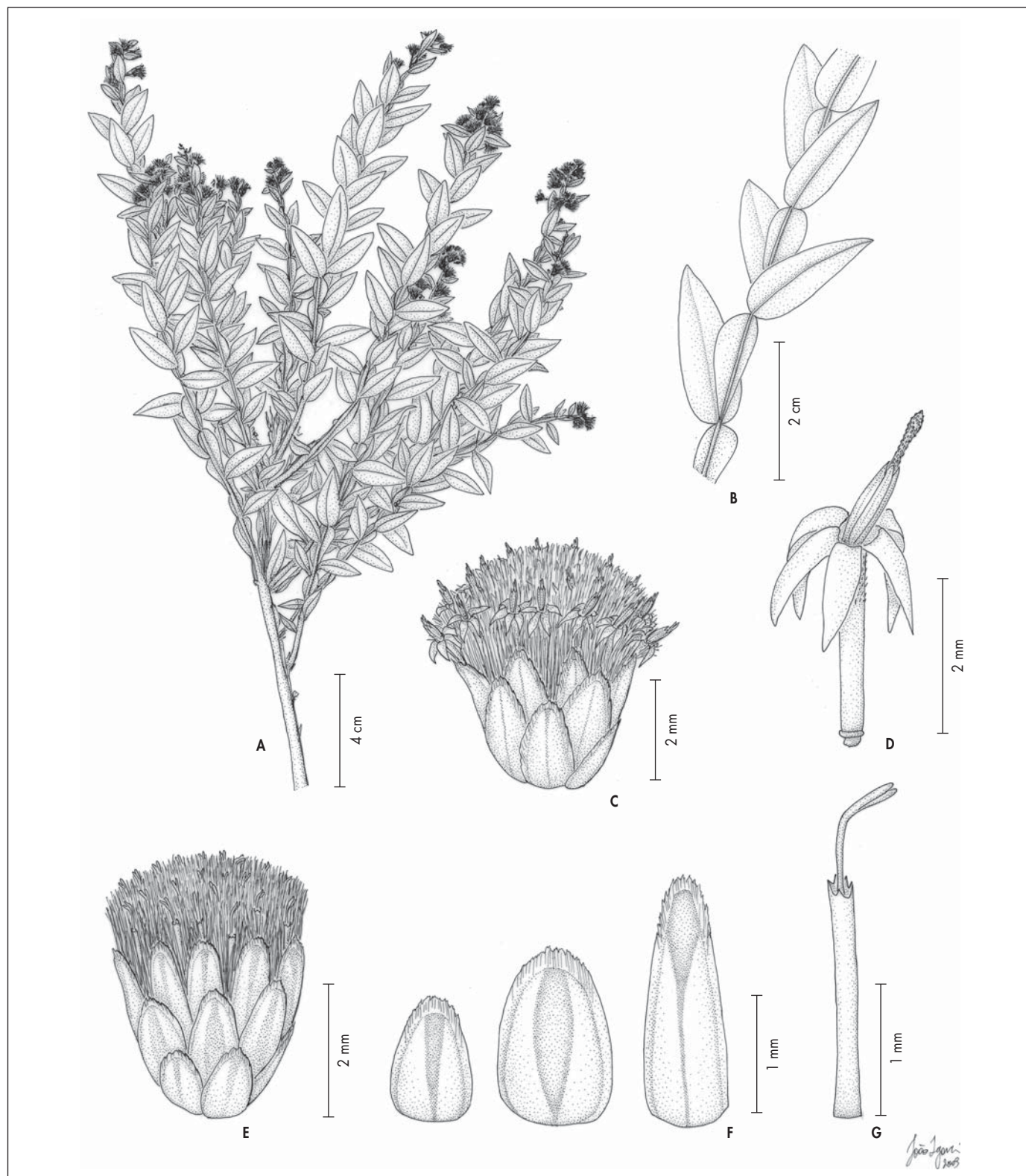
*Ad Baccharis* sect. *Caulopterae* DC. *pertinens*, *Baccharis glaziovii* Baker *cui maxime proxima, sed ramis novellus et apicalibus 2-alatus (non 3-alatus), alis angustioribus (0.1-0.3 cm vs. 0.5-1.3 cm) et capitulis in inflorescentiae minoribus (1-3.5 longae × 0.8-1.9 cm latae vs. 7-17 cm longae × 3-7.5 cm latae) differt.*

*Dioecious* erect shrub 0.5-1.5 m tall, resinous; shoots mostly ending in a capitulescence. *Stem* cylindrical, branches 2-winged in the most distal internodes of the shoot and in the recent shoots and 3-winged in the remaining internodes; wings of a single internode strikingly unequal, one wing 0.5-1.7 cm long, 0.1-0.3 cm wide, plane, mostly measuring the distance between only two nodes in 2-alate shoots, whereas in 3-alate shoots one wing run to the next node, the other wing reduced to a ca 0.1 cm wide rim; well developed wing proximally attenuate, distally rounded; wings of dried specimens without

prominent vein reticulum, seemingly glabrous, indumentum tufted, of sparse biseriate trichomes, tufts appearing under magnification as small resinous dots. *Leaves* spirally alternate 1-2.9 cm long, 0.3-1.1 cm wide, sessile, narrowly elliptic to ovate, base rounded to cordate, apex attenuate to acute, margins entire, revolute; seeming 1-veined, but inconspicuous pinnate-veined; leaf texture papiraceous; indumentum like those of wings. *Panicles* pyramidal, 1-3.5 cm long, 0.8-1.9 cm wide, composed by racemes or isolated capitula derived from reduced racemes, capitula sessile to pedicellate, pedicels up to 4 mm long, bracts leafy, 0.3-0.5 cm long, 0.1-0.2 cm wide. *Male capitula* 4-5.5 mm long; involucre 3-3.5 mm long, 4-5 mm wide, cup-shaped; phyllaries in 3-4 series, abaxial surface light brown, outer phyllaries broadly-ovate 1-1.2 mm long, median ovate 1.2-1.5 mm long, inner linear 1.7-2 mm long, basis obtuse, apex rounded to attenuate, margins light yellow, narrowly scarious, short-dentate near the apex; clinanthium plane, alveolate, densely covered by biseriate trichomes. *Male flowers* 14-20; corolla 2.8-3.5 mm long, 5-laciniate, tube 1.8-2.2 mm long, throat 0.3-0.4 mm long, cup-shaped, lobes 0.7-1 mm long, externally with biseriate trichomes in the distal third of the tube; anthers exceeding the corolla, styles 2.2-3.3 mm long, apex entire or slightly divided; pappus 2-2.5 mm long, bristles 15-20, uniseriate, apex slightly broadened, terminal cell ends shortly protruding. *Female capitula* 3.2-4.1 mm long; involucre 3.2-3.6 mm long, 2.1-2.6 mm wide, cup-shaped; phyllaries in 3-4 series, abaxial surface pale yellow to light brown, with a median longitudinal brown stripe, outer and median ovate 1-1.5 mm long, inner narrowly ovate-lanceolate 1.7-2 mm long, apex short-dentate, margins scarious; clinanthium convex, alveolate, densely covered by biseriate glandular trichomes, the ridges taller than the scar diameter. *Female flowers* 30-38; corolla 1.8-2.2 mm long, filiform, apex shortly ligulate, 3-5-denticulate, glabrous; styles 2.5-2.8 mm long, branches linear-lanceolate 0.25-0.4 mm long. Immature *cypsels* cylindrical, papillose, 4-5-ribbed, glabrous; pappus 2.1-2.7 mm long, bristles 20-25, uniseriate, basally fused, slightly shorter than the style.

*Baccharis hemiptera* belongs to *Baccharis* sect. *Caulopterae* DC., within *Baccharis* subgen. *Molina* (Pers.) Heering, due to its winged stems, epaleaceous clinanthia densely covered with biseriate glandular hairs, papillose glabrous cypsels, and the pappus bristles of female flowers enlarged basally and fused into a ring.

The allopatric *B. glaziovii* Baker, occurring northward of the Serra do Itatiaia (southern Minas Gerais and western Rio de Janeiro), southward up to the highlands of north-eastern Rio Grande do Sul, and extending westward to southern Mato Grosso do Sul, north-eastern Argentina (Misiones) and eastern Paraguay (Caaguazú), it is the species most similar to *B. hemiptera* occurring in Brazil. Both are shrubs with winged stems, developed leaves, at least in most of the branches length,



**Fig. 1.** – *Baccharis hemiptera* G. Heiden & A. A. Schneid. **A.** Fertile shoot; **B.** Detail of shoot; **C.** Male capitulum; **D.** Male flower (pappus removed); **E.** Female capitulum; **F.** Phyllaries of female capitulum (outer to inner); **G.** Female corolla and style.

[A-D: Brade 17017, RB; E-G: Leoni 7240, RB] [Drawing João Iganci]



and capitula borne in terminal pyramidal panicles. However, *B. glaziovii* is distinguished by the absence of 2-alate branch segments as found in the most distal internodes of the shoots and in recent shoots of *B. hemiptera*, some additional features to distinguish *B. glaziovii* of *B. hemiptera* are the much longer and wider stem wings (1-19 cm long and 0.5-1.3 cm wide vs. 0.5-1.7 cm long and 0.1-0.3 cm wide), much larger panicles (7-17 cm long and 3-7.5 cm wide vs. 1-3.5 cm long and 0.8-1.9 cm wide), and longer female capitula (4.3-5.6 mm vs. 3.2-4.1 mm) with phyllaries in 5-6 series (vs. 3-4 series), longer corollas (2.2-3 mm vs. 1.8-2.2 mm) and styles (2.7-3.3 mm vs. 2.5-2.8 mm).

*Baccharis subalata* Wedd. var. *subalata*, from Bolivian and Peruvian Andes, is an allopatric taxon superficially similar to *B. hemiptera*. By the mean of the description and illustration provided by MÜLLER (2006), some characteristics of *B. subalata* var. *subalata* distinguishing it from *B. hemiptera* may be recognized, such as the occurrence of mostly 3(-4)-alate branches (vs. presence of 2-alate branches in the most distal internode of the shoots and in recent shoots, mixed with 3-alate branches in the remaining internodes), the leaves reticulum veined (vs. seemingly 1-veined), male flowers with longer pappus (2.8-4 mm vs. 2-2.5 mm long) and longer throat (1.2-1.8 mm long vs. 0.3-0.4 mm long), and female flowers with longer corollas (2.2-3.7 mm vs. 1.8-2.2 mm long).

*Distribution, habitat and ecology.* – *Baccharis hemiptera* occurs in Parque Nacional do Caparaó, along the boundary between the states of Espírito Santo and Minas Gerais, Southeast Brazil. It grows in shallow and moist soils at sunny sites in high altitude grasslands above 2000 m. These upper montane grasslands are islands of open vegetation inserted in the Atlantic rainforest biome. The species was found with flowering buds in August and flowers from September to October.

*Conservation status.* – *Baccharis hemiptera* is endemic to the highlands of Caparaó, around Pico da Bandeira Mountain, between 2000 to 2600 m. Considering the few collections available, the uniqueness of Caparaó environment (a range of mountains up to 2890 m surrounded by medium-leveled hills and lowlands), and the anthropogenic pressure of livestock and tourism (in surrounding areas and inside of the national park), the new species is considered vulnerable (VU), concerning its status of conservation fide IUCN (2010).

*Etymology.* – The species is named referring to the development of just one side of each leaf basis between two internodes to form the narrow wings of the branches.

*Specimens examined.* – **BRAZIL. Minas Gerais/Espírito Santo:** Parque Nacional do Caparaó, proximidades da Casa Queimada, fl., ♂, 19.X.1999, *Mazine, Sobral & Forster* 201 (ESA, ICN); campo de altitude, fl., ♀, 13.IX.2008, *Leoni* 7240 (GFJP, RB); Pico da Bandeira, 16.XI.1996, fl., ♂, *Silva* 14 (HUFU, ICN); Pico Luiz Inácio, fl., ♂, 21.X.1947, *Moreira* 42 (R); Casa Queimada, 2500 m, fl., ♂, 3.IX.1929, *Snethlage s.n.* (R 38302); proximidades da Guarita, 10.IX.1991, fl., ♂, *Brandão* 19609 (PAMG); Rancho de Pedra, 2000 m, st., 29.VI.1950, *Santos & Campo s.n.* (R 52192); a 4 km do Pico da Bandeira, 2500 m, bud, 6.VIII.1969, *Souza* 5 (ICN, RB).

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