



## A new species and notes on *Baccharis* sect. *Caulopterae* (Asteraceae) from Brazil

*Uma nova espécie e notas sobre Baccharis L. sect. Caulopterae DC. (Asteraceae) no Brasil*

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### Abstract

A new species of *Baccharis* L. sect. *Caulopterae* DC. (Asteraceae) from sandy soils and dunes on the coastal plain of Rio Grande do Sul state, Brazil, is presented: *Baccharis dunensis* A.A.Schneid. & G.Heiden. The new species is described, illustrated and compared to more closely related species. Additionally, *B. burchelli* Baker is reinstated, new synonyms are proposed for *B. burchellii* and *B. crispa* Spreng., and a lectotype is designated for *B. regnellii* Sch.Bip. ex Baker.

**Key words:** *Astereae*, *Baccharis* subg. *Molina*, Compositae, Trimera group.

### Resumo

Uma nova espécie de *Baccharis* L. sect. *Caulopterae* DC. (Asteraceae) dos solos arenosos e dunas da planície costeira do litoral do Rio Grande do Sul, Brasil, é apresentada: *Baccharis dunensis* A.A. Schneid. & G.Heiden. A nova espécie é descrita, ilustrada e comparada com as espécies mais próximas. Adicionalmente, o binômio *B. burchelli* Baker é restabelecido, novos sinônimos são propostos para *B. burchellii* e *B. crispa* Spreng., e um lectótipo é designado para *B. regnellii* Sch.Bip. ex Baker.

**Palavras-chave:** *Astereae*, *Baccharis* subg. *Molina*, Compositae, grupo Trimera.

### Introduction

*Baccharis* is a new world genus comprising about 360 species (Nesom & Robinson 2007), 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).

*Baccharis* sect. *Caulopterae* DC. is represented by about 30 species restricted to South America (Barroso 1976; Giuliano 2001; Müller 2006) and is characterized mainly due to presence of winged stems, epaleaceous clinanthia densely covered with biseriate glandular hairs, papillose glabrous achenes, and pappus bristles of female flowers enlarged basally and fused into a ring.

During the preparation of the checklist of Brazilian species of *Baccharis* the description of a new species and the publication of some nomenclatural notes on *Baccharis* sect. *Caulopterae* DC. became necessary.

### Results and Discussion

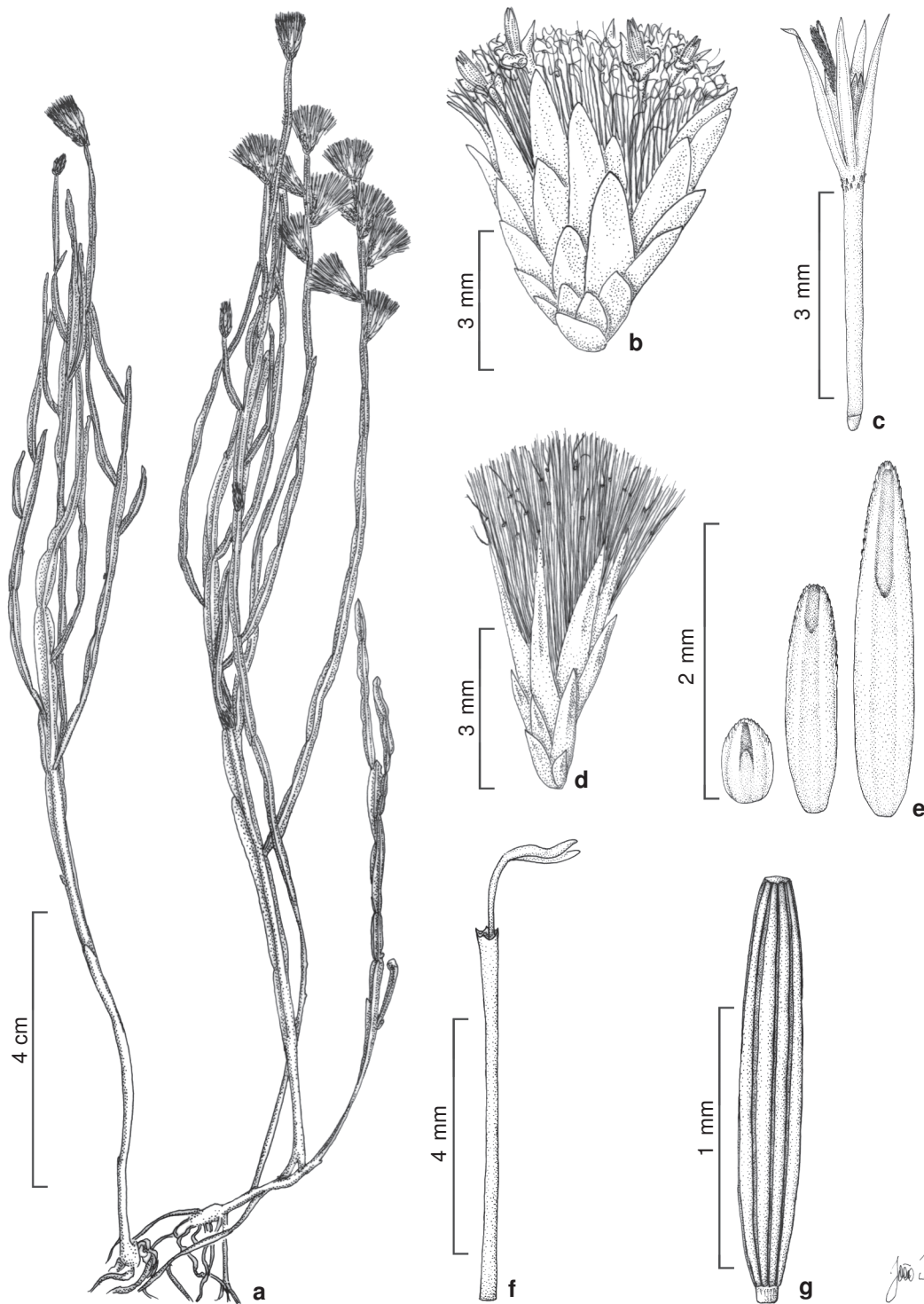
A new species of the coastal dunes of Rio Grande do Sul State, Southern Brazil

*Baccharis dunensis* A.A.Schneid. & G.Heiden, *sp. nov.* Type: BRASIL. RIO GRANDE DO SUL: Capão da Canoia, entre Noiva do Mar e Atlântida, 12.IV.1978, J. Pfadenhauer 250 (holotype ICN!). Fig. 1.

“*Baccharis riograndensis* Teodoro & J.E.Vidal” *affinis, sed alis angustioribus et pappo pluriseriato differt, similis* *B. triangularis*

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**Figure 1** – *Baccharis dumensis* A.A.Schneid. & G. Heiden – a. habit; b. staminate capitulum; c. staminate flower (pappus removed); d. pistillate capitulum; e. phyllaries of pistillate capitulum; f. corolla and style of pistillate flower; g. cypsela. (a, d-g Schwacke 283; b, c Heiden 1054).

*Hauman loco habitato, habitu, caule anguste alato, sed inflorescentia spiciformi et foliis apicalibus coronatis abscentibus differt.*

Subshrub, 0.1–0.3 m tall; branching sympodial, shoots erect or erectopatente, ending in a capitulescence, green, resinous; stems 3-winged, wings to 0.1–2 mm wide, plane, green, attenuate near to the nodes, internodia 0.3–2 cm long. Leaves squamiform, sessile, nearly triangular, 0.1–0.7 × 0.1–0.7 mm. Capitula sessile, solitary, along terminal spike-like branches 1–4 cm long. Male capitula 5.5–7 mm long; flowers 10–25; involucre 5–6 × 2–4 mm, campanulate; phyllaries in 4 or 5 series, outermost phyllaries oblong, median phyllaries broadly lanceolate, innermost phyllaries lanceolate, all phyllaries with apex obtuse, margins yellow to light brown, broadly scarious; corolla 4–5 mm long, tube 2–3 mm long, lobes 1.5–2 mm long, coiled at maturity; style slightly exceeding the corolla, 4.5–6 mm long, the apex nearly fully divided into lanceolate branches, dilated towards apex, ovary abortive, glabrous and reduced; pappus uniseriate, 5–6 mm long, bristles 15–25, apically broadened and scarcely barbellate. Female capitula 7.5–12 mm long; flowers 10–30; involucre 7–8 × 1.5–2.5 mm, cylindrical; phyllaries in 4–6 series, like those of male capitula; corolla 5–6 mm long, filiform, short-ligulate, the ligule denticulate, glabrous; style 6.5–7.3 mm long; cypselae 1.5–1.7 × 0.2–0.4 mm, nearly cylindrical, epapillate; 10–12-ribbed, pappus pluriseriate to several seriate, 3.5–8 mm long, bristles 37–60, persistent, basally fused.

**Material examined:** RIO GRANDE DO SUL: Mostardas, Lagoa do Peixe, 21.II.1970, ♂, *E. Viana et al. s.n.* (ICN 7531). Rio Grande, Ilha dos Marinheiros, 29.II.1880, ♀, *C.A.W. Schwacke* 283(R); 25.V.2009, ♂, *G. Heiden et al. 1053* (HECT, ICN, JE, K, RB). São José do Norte, I.1992, ♂, *P. Tagliani* 77 (HURG); 10.IX.2008, *G.H. Silveira & P.C. Crespan s.n.* (ICN 157830). Tavares, Lagoa do Peixe, 15.XII.1986, ♀, *E. Danilevicz* 38 (HAS). Tramandaí, 20.VIII.2005, *B. Irgang s.n.* (ICN 157829).

*Baccharis dunensis* is a small subshrub (0.1–0.3 m tall), with branched and narrow winged alate stems. It is likely to *B. triangularis* because both have similar habit and habitat and narrow winged stems. However, it can be distinguished from the later species mainly due the absence of a pseudoinvolucre of reduced bractlike cuneate leaves, crowded around the capitula, which are apically solitary on the fertile branches. It is also

similar to *B. riograndensis* by the cylindrical-elongated female capitula, but it is distinguished by the smaller tall (0.1–0.3 m to *B. dunensis* and 0.3–0.6 m to *B. riograndensis*), the narrow wings of the vegetative branches (0.1–2 vs. 2.5–7 mm wide to *B. riograndensis*) and pappus several seriate.

*Baccharis dunensis* is probably endemic to the coastal plain of the state of Rio Grande do Sul. It is restricted to sandy soils and dunes along the coastal plain. Flowering and fruiting specimens have been collected from January to May. The conservation status was framed in VU Ba(iii)–Vulnerable, according to *IUCN Red list category* (IUCN 2009) because the species is known to less than 10 locations and these places are suffering intense anthropogenic pressure resulting in loss of area and decline of habitat quality, mainly due to urban expansion, dunes removal and biological invasion of coastal vegetation by exotic species such as *Casuarina* L. and *Pinus* L.

#### Nomenclatural notes on *Baccharis* sect. *Caulopterae* from Brazil

*Baccharis burchellii* Baker in Martius, Eichler & Urban, Fl. bras. 6(3): 44. 1882. Type: BRAZIL. SÃO PAULO: “ad margine silvulae prope Morumbi”, *W.J. Burchell* 4471 (holotype K, photo ICN!; isotype P, photo ICN!).

*Baccharis regnellii* var. *subalata* Heering in Usteri, Fl. São Paulo 258. 1911. Type: BRAZIL. SÃO PAULO: 23.XI.1906, *A. Usteri* 70b (holotype not found; isotype SP!), *syn. nov.*

Baker (1882) assigned *Baccharis burchellii* (ser. *Caulopterae*) and *B. regnellii* (ser. *Oblongifoliae*) in distinct series, based on the presence/absence of winged stems and leaf shape. Barroso (1976) recognized the affinities between these species, however she considered *B. burchellii* as a synonym of *B. regnellii* var. *subalata* Heering. In the current work, *B. burchellii* was considered as a distinct species and its name has been applied based on their studied types and recent collections. *Baccharis burchellii* is morphologically related to *B. regnellii*, but it can be distinguished mainly by the winged stem and sessile leaves with entire margins (vs. stem apterous and leaves with petiole and crenulate margins in *B. regnellii*).

***Baccharis crispa*** Spreng., Syst. veg. 3: 466. 1826. *Molina crispa* (Spreng.) Less., Linnaea 6: 141. 1831. *Baccharis genistelloides* var. *crispa* (Spreng.) Baker in Martius, Eichler & Urban, Fl. bras. 6(3): 41. 1882. *Pingraea crispa* (Spreng.) F.H. Hellw., Candollea 46: 217. 1993. *Baccharis genistelloides* subsp. *crispa* (Spreng.) Joch. Müll., Syst. Bot. Monogr. 76: 198. 2006. Type: Uruguay, Montevideo, 1821-1822, ♂, F. Sellow d397 [M.I.B. 736] (holotype P, photo ICN!; isotypes BR; G; G-DC; R!, W).

*Baccharis subcrispa* Teodoro, Contr. Inst. Geobiol. 8: 39. 1957. Type: BRAZIL, RIO DE JANEIRO: Pedra do Altar, A.C. Brade 15593 (holotype RB!; isotypes ICN!, JE!), *syn. nov.*

Barroso (1976) considered *Baccharis subcrispa* as synonym of *B. opuntioides* Mart. ex Baker, an endemic species to the Serra do Caparaó (ES/MG). However, based on the analysis of the holotype of *B. subcrispa*, we ascertain this name as conspecific to *B. crispa* due its morphological congruence.

***Baccharis regnellii*** Sch. Bip. ex Baker in Martius, Eichler & Urban, Fl. bras. 6(3): 74. 1882. Type: BRAZIL, MINAS GERAIS: Poços de Caldas, 9.IX.1867, ♀, A.F. Regnell II-155. (lectotype R!, here designated; duplicates BR, photo ICN!; C, photo ICN!; US, photo ICN!).

Baker (1882) described *Baccharis regnellii* listing two specimens (*Regnell II.155* and *Glaziou 7718*). During the revision of herbarium R, a duplicate of the gathering *Regnell II.155* (R) was found. This specimen is designated here as lectotype, due its congruency with the original description and by representing a fertile branch with developed capitula and flowers.

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