

New Infragenera in *Baccharis* (Asteraceae, Astereae)

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ABSTRACT. Five new sections of *Baccharis* (Asteraceae, Astereae) are described: *B. sect. Agglomeratae*, including 2 species: *B. condensata* Rusby and *B. platypoda* DC.; *B. sect. Canescentes*, 8 species: *B. gibertii* Baker, *B. gnaphalioides* Sprengel, *B. helichrysoides* DC., *B. leucocephala* Dusén, *B. leucopappa* DC., *B. patens* Baker, *B. phyllicifolia* DC., and *B. psammophila* Malme; *B. sect. Curitybenses*, 1 species: *B. curitybensis* Heering ex Malme; *B. sect. Paleatae*, 1 species: *B. retamoides* Philippi; and *B. sect. Tridentatae*, 6 species: *B. deltoidea* Baker, *B. illinita* DC., *B. illinitoides* Malagarriga, *B. isabelae* Soria & Zardini, *B. subopposita* DC., and *B. tridentata* Vahl. Four new series of *Baccharis* are described: *B. [sect. Angustifoliae]* ser. *Uniflorae*, 7 species: *B. frigida* Kunth, *B. hutchisonii* Cuatrecasas, *B. laxiflora* Rusby, *B. libertadensis* (S. B. Jones) H. Robinson, *B. sternbergiana* Steudel, *B. trineura* Soria & Zardini, and *B. uniflora* (Ruiz & Pavón) Persoon; *B. [sect. Cylindricae]* ser. *Axillares*, 20 species: *B. angusticeps* Dusén ex Malme, *B. aracatubensis* Malagarriga & Hatschbach, *B. axillaris* DC., *B. concinna* G. M. Barroso, *B. cultrata* Baker, *B. elliptica* Gardner, *B. hypericifolia* Baker, *B. incisa* Hooker & Arnott, *B. lateralis* Baker, *B. lymanii* G. M. Barroso, *B. minutiflora* Martius ex Baker, *B. parvidentata* Malagarriga, *B. pauciflosculosa* DC., *B. perdusenii* Giuliano, *B. polyphylla* Gardner, *B. pseudovaccinioides* Malagarriga, *B. selloi* Baker, *B. serrula* Schultz Bipontinus ex Baker, *B. truncata* Gardner, and *B. xiphophylla* Baker; *B. [sect. Nitidae]* ser. *Hirsutae*, 1 species: *B. muelleri* Baker; and *B. [sect. Nitidae]* ser. *Lanuginosae*, 4 species: *B. calvescens* DC., *B. elaeagnoides* Steudel ex Baker, *B. myricifolia* DC., and *B. semiserrata* DC. Three new combinations at the series level are proposed: *Baccharis* ser. *Angustifoliae* (Baker) Giuliano; *B. ser. Cylindricae* (Heering) Giuliano; and *B. ser. Nitidae* (Cuatrecasas) Giuliano. A new name, *Baccharis perdusenii*, is proposed to replace the illegitimate name *B. dusenii* G. M. Barroso. A respective lectotype is designated for *B. platypoda*, *B. retamoides*, and *B. tridentata*; a neotype is designated for *B. uniflora*.

RESUMEN. Se describen cinco nuevas secciones

de *Baccharis* (Asteraceae, Astereae): *B. sect. Agglomeratae*, incluyendo 2 especies: *B. condensata* Rusby y *B. platypoda* DC.; *B. sect. Canescentes*, 8 especies: *B. gibertii* Baker, *B. gnaphalioides* Sprengel, *B. helichrysoides* DC., *B. leucocephala* Dusén, *B. leucopappa* DC., *B. patens* Baker, *B. phyllicifolia* DC. y *B. psammophila* Malme; *B. sect. Curitybenses*, 1 especie: *B. curitybensis* Heering ex Malme; *B. sect. Paleatae*, 1 especie: *B. retamoides* Philippi; y *B. sect. Tridentatae*, 6 especies: *B. deltoidea* Baker, *B. illinita* DC., *B. illinitoides* Malagarriga, *B. isabelae* Soria & Zardini, *B. subopposita* DC. y *B. tridentata* Vahl. Se describen cuatro nuevas series de *Baccharis*: *B. [sect. Angustifoliae]* ser. *Uniflorae*, 7 especies: *B. frigida* Kunth, *B. hutchisonii* Cuatrecasas, *B. laxiflora* Rusby, *B. libertadensis* (S. B. Jones) H. Robinson, *B. sternbergiana* Steudel, *B. trineura* Soria & Zardini y *B. uniflora* (Ruiz & Pavón) Persoon; *B. [sect. Cylindricae]* ser. *Axillares*, 20 especies: *B. angusticeps* Dusén ex Malme, *B. aracatubensis* Malagarriga & Hatschbach, *B. axillaris* DC., *B. concinna* G. M. Barroso, *B. cultrata* Baker, *B. elliptica* Gardner, *B. hypericifolia* Baker, *B. incisa* Hooker & Arnott, *B. lateralis* Baker, *B. lymanii* G. M. Barroso, *B. minutiflora* Martius ex Baker, *B. parvidentata* Malagarriga, *B. pauciflosculosa* DC., *B. perdusenii* Giuliano, *B. polyphylla* Gardner, *B. pseudovaccinioides* Malagarriga, *B. selloi* Baker, *B. serrula* Schultz Bipontinus ex Baker, *B. truncata* Gardner y *B. xiphophylla* Baker; *B. [sect. Nitidae]* ser. *Hirsutae*, 1 especie: *B. muelleri* Baker; y *B. [sect. Nitidae]* ser. *Lanuginosae*, 4 especies: *B. calvescens* DC., *B. elaeagnoides* Steudel ex Baker, *B. myricifolia* DC. y *B. semiserrata* DC. Se proponen tres nuevas combinaciones a nivel de series: *Baccharis* ser. *Angustifoliae* (Baker) Giuliano, *B. ser. Cylindricae* (Heering) Giuliano y *B. ser. Nitidae* (Cuatrecasas) Giuliano. Se propone un nombre nuevo, *Baccharis perdusenii*, para reemplazar el nombre ilegítimo *B. dusenii* G. M. Barroso. Se designa un respectivo lectotipo para *B. platypoda*, *B. retamoides* y *B. tridentata*; se designa un neotipo para *B. uniflora*.

Key words: Asteraceae, Astereae, *Baccharis*, sections, series, South America.

Baccharis L., with ca. 375 species (Giuliano, in prep.), is the largest genus within Asteraceae tribe Astereae. Its infrageneric taxonomy is under revision; the sections created by classical authors (Persoon, 1807; Candolle, 1836; Baker, 1882) were highly heterogeneous groups, since they were based upon vegetative features (mainly leaf shape). Cuatrecasas (1967) redefined and lectotypified those infragenera, thus elucidating in part this problem. However, nearly 90 species have never been assigned to sections, whereas many others are misplaced in the sections into which they were originally classified. Here nomenclatural novelties are presented, in advance of the overall revision of the infrageneric taxonomy of *Baccharis*.

NEW SECTIONS OF *BACCHARIS*

Baccharis* sect. *Agglomeratae Giuliano, sect. nov. TYPE: *Baccharis platypoda* DC., Prodr. 5: 409. 1836.

A ceteris sectionibus generis *Baccharidis* differt foliis penninervis numerosis nervis lateralibus et capitulescentiis valde dimorphis (capitula staminata in glomerulis longiter pedunculatis ad axillam foliorum superiorum inserta; capitula pistillata in capitulescentiis globosis densis terminalibus disposita).

Erect shrubs, clothed by minute tufted trichomes. Leaves petiolate, blade pinnately veined, margins entire or with few pairs of teeth. Capitula sessile, the staminate ones arranged in long pedicellate glomerules inserted at the axils of the distal leaves, the carpellate ones arranged in terminal sessile globose capitulescences; involucre campanulate; receptacles flat, alveolate. Ratio of carpellate:staminate florets [corresponding to carpellate vs. staminate specimens respectively] ca. 1:1. Carpellate florets with corollas dentate at apex. Achenes terete, 10-ribbed, glabrous; pappus bristles in 2 series, non-acrescent, caducous. Staminate florets with corollas showing little differentiated limb; style branches attached, brief; pappus bristles plumose at apex.

Includes two species, one from the Andes of Bolivia (*B. condensata*) and the other from eastern Brazil (*B. platypoda*).

1. ***Baccharis condensata*** Rusby, Descr. S. Amer. Pl.: 148. 1920.
2. ***Baccharis platypoda*** DC., Prodr. 5: 409. 1836. TYPE: "N° 283, Herbar de Brésil (Mr. Vauthier 1833), Marianne (Prov. Minas Geraes), Boite N° 795 Herb. genevense" (lectotype, designated here, G-DC). [This specimen was selected from the three sheets at G-DC containing type material because it is representative for the species, and the label clearly provides the type locality and collection data.]

Baccharis platypoda was placed by Candolle (1836) and Baker (1882) in the formerly heterogeneous broad section *Cuneifoliae* DC. in *Baccharis*. The other species included in section *Agglomeratae* has never been classified into any section.

Section *Agglomeratae* belongs to subgenus *Baccharis* because it has attached brief staminate style branches and 10-ribbed glabrous achenes with biseriate caducous pappus bristles; however, its affinities with other sections are unknown. This section is unique within the genus because of the capitulescence dimorphism and the pinnately veined blades with numerous lateral veins.

Baccharis* sect. *Canescentes Giuliano, sect. nov. TYPE: *Baccharis helichrysoides* DC., Prodr. 5: 415. 1836.

Suffrutices albo-lanuginosi; folia sessilia discoloria uninnervia vel penninnervia; capitula in cymis corymbiformibus compositis axillaribus et terminalibus vel in cymis corymbiformibus congestis ad apicem ramulorum disposita; involucre hemisphaerica; achaenia 5-costata pilis geminis et papillis vestita; florum pistillatorum setae pappi accrescentes; florum staminatorum rami styli lanceolati separati.

Erect or decumbent subshrubs, plants lanuginous, densely clothed by uniseriate straight or slightly curved trichomes, usually accompanied by biseriate glandular trichomes on upper leaf surfaces and by tangled uniseriate trichomes on lower leaf surfaces. Leaves sessile, discolorous, 1-veined or with 1 to 3 pairs of lateral veins, margins entire and revolute. Capitula pedicellate, arranged in axillary and terminal compound corymbiform cymes, or in congested corymbiform cymes at the apex of scapose stems; involucre hemispheric; receptacles convex or conic, alveolate, clothed by trichomes. Ratio of carpellate:staminate florets ca. 1:1. Carpellate florets with corollas dentate at apex. Achenes terete, 5-ribbed, with short and asymmetric or very long twin trichomes; pappus bristles in 2 series, accrescent, persistent. Staminate florets with corollas showing well-differentiated limb; style branches lanceolate, free; pappus bristles smooth.

Eight species, which grow in eastern and southern Brazil, southeastern Paraguay, northeastern Argentina, and Uruguay.

1. ***Baccharis gibertii*** Baker, in Martius, Fl. Bras. 6(3): 52. 1882.
2. ***Baccharis gnaphalioides*** Sprengel, Syst. Veg. 3: 461. 1826.
3. ***Baccharis helichrysoides*** DC., Prodr. 5: 415. 1836. TYPE: Brazil. Rio Grande do Sul: *Sello d2013* (ex Herbarium of Museum Imperialis Brasiliensis n° 811) (lectotype, designated by Barroso (1976: 60), P).

4. *Baccharis leucocephala* Dusén, Ark. Bot. 9(15): 24. 1910.
5. *Baccharis leucopappa* DC., Prodr. 5: 415. 1836.
6. *Baccharis patens* Baker, in Martius, Fl. Bras. 6(3): 52. 1882.
7. *Baccharis phyllicifolia* DC., Prodr. 5: 415. 1836.
8. *Baccharis psammophila* Malme, Kongl. Svenska Vetenskapsakad. Handl. ser. 3, 12(2): 70. 1933.

Baccharis leucocephala and *B. psammophila* have not been assigned to any section before; the other species have been placed by classical authors (Candolle, 1836; Hooker & Arnott, 1841; Baker, 1882) in the formerly heterogeneous section *Discolores* DC.; however, by virtue of the redefinition of this section by Cuatrecasas (1967), it has to include *B. phyllicoides* Kunth and related species (*B. caprarifolia* DC., *B. erioclada* DC., *B. nummuloides* Heering ex Malme, etc.). Also, several of the species here affiliated with section *Canescentes* were placed by Heering (1904) and Giuliano (2001) in *Baccharis* sect. *Paniculatae* Heering, but the latter possesses heads solitary at the apex of short branchlets (in turn grouped to form leafy paniculate capitulescences), usually flat naked receptacles, and achenes with uniseriate non-glandular trichomes and/or biseriate glandular trichomes, while section *Canescentes* has heads inserted at the axils of highly reduced bracts, conic or convex receptacles covered by long setae, and achenes with twin trichomes.

***Baccharis* sect. *Curitybenses* Giuliano, sect. nov.**

TYPE: *Baccharis curitybensis* Heering ex Malme, Kongl. Svenska Vetenskapsakad. Handl. ser. 3, 12(2): 69. 1933.

Sectionibus subgeneris *Baccharidis* similis achaeniis 10-costatis et pappi setis 2-seriatis caducis, sed florum staminatorum styli ramis lanceolatis separatis et achaeniis pilis geminis vestitis differt.

Erect shrubs, lanuginous, densely clothed by uniseriate filiform trichomes. Leaves petiolate, blades discolorous, 3-veined, margins entire or with few pairs of teeth. Capitula pedicellate, arranged in corymbiform cymes inserted at the axil of reduced distal leaves, in all forming a leafy compound corymb; involucre hemispheric; receptacles flat, alveolate. Ratio of carpellate:staminate florets ca. 1:1. Carpellate florets with corollas dentate at apex. Achenes terete, 10-ribbed, with twin trichomes; pappus bristles in 2 series, non-acrescent, caducous. Staminate florets with corollas with well-dif-

ferentiated limb; style branches lanceolate, free; pappus bristles plumose at apex.

Includes only one species, endemic to southeastern Brazil (São Paulo, Paraná, and Santa Catarina).

1. *Baccharis curitybensis* Heering ex Malme, Kongl. Svenska Vetenskapsakad. Handl. ser. 3, 12(2): 69. 1933. TYPE: Brazil. Paraná: Curitiba, 20 Oct. 1908, *Dusén 6906* (lectotype, designated by Barroso (1976: 97), S).

This species was not previously affiliated with any section. It shows contradictory characters: the number and structure of the achene ribs and the number of series and the caducous condition of the pappus bristles are similar to those of subgenus *Baccharis*; on the other hand, the style branches are lanceolate and free as in all the rest of the subgenera, and the achenes are clothed by twin trichomes. Further research is needed in order to elucidate its affinities.

***Baccharis* sect. *Paleatae* Giuliano, sect. nov.**

TYPE: *Baccharis retamoides* Philippi, Anales Univ. Chile 34: 180. 1870.

Sectioni *Angustifoliis* primo adpectu similis, sed plantis minutis nidis pilosis vestitis, capitulorum pistillatorum receptaculis paleaceis, floribus pistillatis:staminatis ratione 4:1 vel 5:1, et achaeniis pilis geminis dense vestitis differt.

Erect subshrubs, clothed by minute tufted trichomes. Leaves sessile, blades 1-veined, margins entire, the distal ones reduced to small bracts. Capitula pedicellate, solitary at the apex of the branches or grouped to form a corymbiform or racemiform cyme; involucre hemispherical; receptacles of carpellate capitula paleaceous. Ratio of carpellate:staminate florets 4:1 or 5:1. Carpellate florets with corollas truncate at apex. Achenes terete, 5-ribbed, large-sized (2.7–4.5 mm long), densely clothed by long twin trichomes; pappus bristles in 2 to 3 series, accrescent, persistent. Staminate florets with corollas showing well-differentiated limb; style branches lanceolate, free; pappus bristles denticulate.

Includes a single species, which grows in Argentina, from the provinces of Salta to Mendoza.

1. *Baccharis retamoides* Philippi, Anales Univ. Chile 34: 180. 1870. TYPE: Argentina. Mendoza: 1868–1869, *R. Philippi s.n.* (lectotype, designated here, SGO-060829). [Although the two original type material sheets (the other is SGO-044062) are morphologically similar and present identical collection data, this specimen is selected because it is more profusely branched.]

This species was previously placed within section *Angustifoliae* Baker emend. Cuatrecasas (Giuliano, 2001), based on leaf morphology and capitulescence architecture; nevertheless, it presents remarkable differences, such as the vegetative vestiture of minute tufted hairs (vs. non-tufted uniseriate hairs with acuminate apical cell), carpellate capitula with paleaceous receptacles (vs. non-paleaceous), ratio of carpellate:staminate florets ca. 5:1 (vs. ca. 1:1), and achenes clothed by long twin trichomes (vs. sparsely clothed by uniseriate trichomes). Within *Baccharis*, the paleaceous receptacles are found in section *Oblongifoliae* DC. emend. Cuatrecasas, *Pseudobaccharis* (Cabrera) Cuatrecasas, *Psila* (Philippi) Cuatrecasas, and *Trinervatae* DC. emend. Cuatrecasas, whereas hemispherical involucre plus ratio of florets 5:1 are present in section *Stephananthus* (Lehmann) Heering; nevertheless, *B. retamoides* shows notable differences (especially in habit, and achene and pappus morphology), which makes highly improbable any relationship among any of them.

Baccharis sect. **Tridentatae** Giuliano, sect. nov.

TYPE: *Baccharis tridentata* Vahl., Symb. Bot. 3: 98. 1794.

Sectioni *Cylindricis* affinis plantis xylopodiferis et foliis trinervatis saepe oppositis vel suboppositis, sed capitulis in cymis corymbiformibus compositis dispositis, capitulorum pistillatorum involucris campanulatis pedicellatis, floribus pistillatis: staminatis ratione 2:1, et florum pistillatorum setae pappi non accrescentes differt.

Erect subshrubs with xylopodium, clothed by minute tufted trichomes. Leaves pseudopetiolate, 3-veined, margins with few pairs of teeth. Capitula pedicellate, arranged in compound corymbiform cymes at the apex of the branches; involucre campanulate; receptacles of the carpellate capitula flat, of the staminate ones convex, both alveolate. Ratio of carpellate:staminate florets ca. 2:1. Carpellate florets with corollas dentate at apex. Achenes terete, 10-ribbed, glabrous; pappus bristles in 2 series, non-acrescent, caducous. Staminate florets with corollas showing little differentiated limb; style branches attached, brief; pappus bristles plumose at apex.

Six species, which grow in two areas: Andes of Bolivia and northwestern Argentina, and from eastern Brazil to northeastern and central Argentina.

1. **Baccharis deltoidea** Baker, in Martius, Fl. Bras. 6(3): 90. 1882.
2. **Baccharis illinita** DC., Prodr. 5: 412. 1836.
3. **Baccharis illinitoides** Malagarriga, Mem. Soc. Ci. Nat. La Salle 37: 138. 1976.

4. **Baccharis isabelae** Soria & Zardini, Candollea 46(2): 537. 1991.

5. **Baccharis subopposita** DC., Prodr. 5: 413. 1836.

6. **Baccharis tridentata** Vahl, Symb. Bot. 3: 98. 1794. TYPE: "*Baccharis tridentata*; *Conyza cuneifolia*; Montevideo," Commerson s.n. (lectotype, designated here, C). [This is the single original specimen of this taxon deposited at C; Vahl in the protologue solely stated "habitat in Brasilia."]

Baccharis illinitoides and *B. isabelae* have not been assigned at the sectional level before; the other four species were formerly placed in the large heterogeneous section *Cuneifoliae* DC. by classical authors (Candolle, 1836; Hooker & Arnott, 1841; Baker, 1882). Recently, *B. subopposita* and *B. tridentata* were placed by Giuliano (2001) in section *Cylindricae* Heering because they present xylopodium as well as 3-veined opposite or subopposite leaves, but they do have significant differences such as: capitula in compound corymbs (vs. foliose spikes or glomerules), carpellate capitula with involucre campanulate (vs. cylindrical), the ratio of carpellate:staminate florets 2:1 (vs. 1:1), and a pappus slightly accrescent (vs. usually notably accrescent); these differences justify the recognition of this taxon as an independent section.

NEW SERIES OF *BACCHARIS*

Baccharis sect. **Angustifoliae** Baker emend. Cuatrecasas

Baccharis ser. **Uniflorae** Giuliano, ser. nov.
TYPE: *Molina uniflora* Ruiz & Pavón, Syst. Veg. 208. 1798 [= *Baccharis uniflora* (Ruiz & Pavón) Persoon].

A serie typica differt plantis minutis nidis pilosis vestitis et foliis trinervis.

Plants clothed by minute tufted trichomes. Leaves 3-veined. Receptacles of carpellate capitula without paleae. Ratio of carpellate:staminate florets ca. 1:1.

Seven species, mainly distributed in the Andean region of Ecuador, Peru, and Bolivia.

1. **Baccharis frigida** Kunth, in Humboldt, Bonpland & Kunth, Nov. Gen. Sp. 4 [folio]: 38. 1818.
2. **Baccharis hutchisonii** Cuatrecasas, Caldasia 10: 25. 1967.
3. **Baccharis laxiflora** Rusby, Bull. New York Bot. Gard. 8(28): 129. 1912.
4. **Baccharis libertadensis** (S. B. Jones) H. Robinson, Phytologia 65(1): 37. 1988.

5. **Baccharis sternbergiana** Steudel, Nomencl. Bot. (ed. 2) 1: 179. 1840. Replaced name: *Baccharis semiserrata* DC., Prodr. 5: 419, n° 149. 1836, non *Baccharis semiserrata* DC., Prodr. 5: 404, n° 38. 1836.
 6. **Baccharis trineura** Soria & Zardini, Candollea 56: 116. 2001.
 7. **Baccharis uniflora** (Ruiz & Pavón) Persoon, Syn. Pl. 2: 425. 1807. *Molina uniflora* Ruiz & Pavón, Syst. Veg.: 208. 1798. TYPE: Peru. Junín: Tarma, 13,000 ft., June 1922, *Macbride & Featherstone 1051* (neotype, designated here, US). [The original type material of Ruiz and Pavón could not be located at MA or any other herbaria where duplicates of their specimens are deposited; therefore, a neotype must be designated. The specimen *Macbride & Featherstone 1051* was selected because it is representative for the species and was collected in one of the original type localities.]
- For the following series that includes the lectotypified species for *Baccharis* sect. *Angustifoliae*, *Baccharis ulicina* Hooker & Arnott, the following combination is proposed:

Baccharis ser. **Angustifoliae** (Baker) Giuliano, stat. nov. Basionym: *Baccharis* sect. *Angustifoliae* Baker, in Martius, Fl. Bras. 6(3): 55. 1882; emend. Cuatrecasas, Revista Acad. Colomb. Ci. Exact. 13(49): 88. 1967. TYPE: *Baccharis ulicina* Hooker & Arnott, J. Bot. (Hooker) 3: 38. 1841 (lectotype, designated by Cuatrecasas (1967: 88)).

Plants loosely clothed by small uniseriate trichomes with apiculate or flagellate terminal cells. Leaves uninervate. Receptacles of carpellate capitula without paleae. Ratio of carpellate:staminate florets ca. 1:1.

Includes 19 North and South American species.

1. **Baccharis darwinii** Hooker & Arnott, J. Bot. (Hooker) 3: 39. 1841.
2. **Baccharis erosoricola** Rzedowski, Bol. Soc. Bot. México 45: 111. 1983 [1984].
3. **Baccharis gracilis** DC., Prodr. 5: 423. 1836.
4. **Baccharis heterothalmoides** Britton, Bull. Torrey Bot. Club 19: 4. 1892.
5. **Baccharis marcetiifolia** Benthams, Pl. Hartw.: 202. 1845.
6. **Baccharis melanopotamica** Spegazzini, Anales Soc. Ci. Argent. 48: 189. 1899.
7. **Baccharis multisulcata** Baker, in Martius, Fl. Bras. 6(3): 45. 1882.
8. **Baccharis nivalis** (Weddell) Schultz Bipontinus ex Philippi, Anales Univ. Chile 87: 705. 1894.
9. **Baccharis occidentalis** S. F. Blake, Contr. U.S. Natl. Herb. 22(8): 595. 1924.
10. **Baccharis orbignyana** Klatt, Abh. Naturf. Ges. Halle 15: 327. 1882.
11. **Baccharis palmeri** Greenman, Proc. Amer. Acad. Arts 41(9): 259. 1905.
12. **Baccharis petrophila** R. E. Fries, Nov. Acta Regiae. Soc. Sci. Upsal. ser. 4, 1(1): 81. 1905.
13. **Baccharis squarrosa** Kunth, in Humboldt, Bonpland & Kunth, Nov. Gen. Sp. 4 [folio]: 52. 1818.
14. **Baccharis taltalensis** Johnston, Contr. Gray Herb. 85: 125. 1929.
15. **Baccharis tenella** Hooker & Arnott, J. Bot. (Hooker) 3: 42. 1841.
16. **Baccharis texana** (Torrey & A. Gray) A. Gray, Mem. Amer. Acad. Arts, n.s., 4: 75. 1849.
17. **Baccharis ulicina** Hooker & Arnott, J. Bot. (Hooker) 3: 38. 1841. TYPE: Argentina. Woods of Córdoba, *Tweedie 1123* (holotype, K not seen).
18. **Baccharis vanessae** R. M. Beauchamp, Phytologia 46(4): 216. 1980.
19. **Baccharis wrightii** A. Gray, Smithsonian Contr. Knowl. 3(5): 101. 1852.

Baccharis sect. **Cylindricae** Heering

Baccharis ser. **Axillares** Giuliano, ser. nov. TYPE: *Baccharis axillaris* DC., Prodr. 5: 407. 1836.

A serie typica differt foliis saepe sessilibus trinervis vel penninervis, capitulis in spicis vel racemis foliosis dispositis, florum pistillatorum setis pappi non accrescentibus.

Leaves usually sessile, 3-veined or pinnately veined. Capitula arranged in leafy spikes or racemes. Pappus of carpellate florets non-acrescent.

Twenty species, distributed in eastern and southern Brazil.

1. **Baccharis angusticeps** Dusén ex Malme, Kongl. Svenska Vetenskapsakad. Handl. ser. 3, 12(2): 77. 1933.
2. **Baccharis aracatubensis** Malagarriga & Hatschbach, Rodriguésia 28(40): 168. 1976.
3. **Baccharis axillaris** DC., Prodr. 5: 407. 1836. TYPE: Brazil. "Sancti-Pauli," 1833, *Sello s.n.* (ex Herbarium of Museum Imperialis Brasiliensis n° 481) (holotype, P).
4. **Baccharis concinna** G. M. Barroso, Rodriguésia 28(40): 162. 1976.
5. **Baccharis cultrata** Baker, in Martius, Fl. Bras. 6(3): 93. 1882.
6. **Baccharis elliptica** Gardner, London J. Bot. 7: 83. 1848.
7. **Baccharis hypericifolia** Baker, in Martius, Fl. Bras. 6(3): 69. 1882.
8. **Baccharis incisa** Hooker & Arnott, J. Bot. (Hooker) 3: 29. 1841.

9. *Baccharis lateralis* Baker, in Martius, Fl. Bras. 6(3): 100. 1882.
10. *Baccharis lymanii* G. M. Barroso, Rodriguésia 28(40): 165. 1976.
11. *Baccharis minutiflora* Martius ex Baker, in Martius, Fl. Bras. 6(3): 69. 1882.
12. *Baccharis parvidentata* Malagarriga, Mem. Soc. Ci. Nat. La Salle 37(107): 138. 1976.
13. *Baccharis pauciflorescens* DC., Prodr. 5: 413. 1836.
14. *Baccharis perdusenii* Giuliano, nom. nov. Replaced name: *Baccharis dusenii* G. M. Barroso, Rodriguésia 28(40): 166. 1976, nom. illeg., non *B. dusenii* O. Hoffmann, in Dusén, Wiss. Erg. Schwed. Exp. Magellansl. 3(5): 244. 1900. TYPE: Brazil. Rio de Janeiro: Itatiaia, 1902, *Dusén 660* (holotype, R not seen).
15. *Baccharis polyphylla* Gardner, London J. Bot. 7: 88. 1848.
16. *Baccharis pseudovaccinioides* Malagarriga, Contr. Inst. Geobiol. La Salle Canoas 2: 47. 1952.
17. *Baccharis selloi* Baker, in Martius, Fl. Bras. 6(3): 68. 1882.
18. *Baccharis serrula* Schultz Bipontinus ex Baker, in Martius, Fl. Bras. 6(3): 70. 1882.
19. *Baccharis truncata* Gardner, London J. Bot. 7: 82. 1848.
20. *Baccharis xiphophylla* Baker, in Martius, Fl. Bras. 6(3): 68. 1882.

For the following series that includes the lectotypified species for *Baccharis* sect. *Cylindricae*, *Baccharis santiagensis* Heering [= *B. rufescens* Sprengel], designated by Ariza Espinar (1973: 180), the following combination is proposed:

Baccharis* ser. *Cylindricae (Heering) Giuliano, stat. nov. Basionym: *Baccharis* sect. *Cylindricae* Heering, in Reiche, Anales Univ. Chile 111: 176. 1902 [1903]. TYPE: *Baccharis santiagensis* Heering, in Reiche, Anales Univ. Chile 111: 176. 1902 [1903] (lectotype, designated by Ariza Espinar (1973: 180)).

Leaves pseudopetiolate (rarely petiolate), 3-veined. Capitula arranged in leafy glomerules, which usually are arranged in a raceme-like capitulescence. Pappus of carpellate florets usually accrescent.

Includes 31 species mainly from Brazil, Paraguay, Uruguay, and Argentina; a few species have Andean distribution.

1. *Baccharis brevifolia* DC., Prodr. 5: 409. 1836.
2. *Baccharis camporum* DC., Prodr. 5: 399. 1836.
3. *Baccharis chilco* Kunth, in Humboldt, Bonpland & Kunth, Nov. Gen. Sp. 4 [folio]: 44. 1818.
4. *Baccharis cognata* DC., Prodr. 5: 413. 1836.
5. *Baccharis flabellata* Hooker & Arnott, J. Bot. (Hooker) 3: 28. 1841.
6. *Baccharis glaucescens* (Chodat & Hassler) Soria & Zardini, Candollea 46: 539. 1991.
7. *Baccharis humilis* Schultz Bipontinus ex Baker, in Martius, Fl. Bras. 6(3): 92. 1882.
8. *Baccharis intermixta* Gardner, London J. Bot. 7: 84. 1848.
9. *Baccharis itatiaiae* Wawra, Itin. Princ. S. Coburgi 2: 28. 1888.
10. *Baccharis leptoccephala* DC., Prodr. 5: 413. 1836.
11. *Baccharis leptophylla* DC., Prodr. 5: 423. 1836.
12. *Baccharis longii* Govaerts, World Checklist Seed Pl. 2(1): 9. 1996.
13. *Baccharis microdonta* DC., Prodr. 5: 416. 1836.
14. *Baccharis oreophila* Malme, Kongl. Svenska Vetenskapsakad. Handl. ser. 3, 12(2): 75. 1933.
15. *Baccharis pedersenii* Cabrera, Darwiniana 16: 410. 1970.
16. *Baccharis pentodonta* Malme, Kongl. Svenska Vetenskapsakad. Handl. 32(5): 52. 1899.
17. *Baccharis pentziifolia* Schultz Bipontinus ex Baker, in Martius, Fl. Bras. 6(3): 96. 1882.
18. *Baccharis petraea* Heering, Jahrb. Hamburg. Wiss. Anst. 21 (Beih. 3): 30. 1904.
19. *Baccharis pflanzii* Perkins, Bot. Jahrb. Syst. 49: 224. 1913.
20. *Baccharis pseudobrevifolia* D. J. N. Hind, Kew Bull. 48: 263. 1993.
21. *Baccharis pseudotenuifolia* Malagarriga, Contr. Inst. Geobiol. La Salle Canoas 2: 46. 1952.
22. *Baccharis ramosissima* Gardner, London J. Bot. 7: 84. 1848.
23. *Baccharis reticularia* DC., Prodr. 5: 409. 1836.
24. *Baccharis retusa* DC., Prodr. 5: 412. 1836.
25. *Baccharis rufescens* Sprengel, Syst. Veg. 3: 464. 1826.

Baccharis santiagensis Heering, in Reiche, Anales Univ. Chile 111: 176. 1902 publ. 1903. TYPE: Chile. Cordilleras de Santiago, *Díaz 21* (holotype, SGO).

26. *Baccharis salzmännii* DC., Prodr. 5: 409. 1836.
27. *Baccharis schultzii* Baker, in Martius, Fl. Bras. 6(3): 78. 1882.
28. *Baccharis sessiliflora* Vahl, Symb. Bot. 3: 97. 1794.
29. *Baccharis subdentata* DC., Prodr. 5: 408. 1836.
30. *Baccharis varians* Gardner, London J. Bot. 7: 84. 1848.
31. *Baccharis vernicosa* Hooker & Arnott, J. Bot. (Hooker) 3: 28. 1841.

Baccharis sect. **Nitidae** Cuatrecasas

Baccharis ser. **Hirsutae** Giuliano, ser. nov. TYPE: *Baccharis muelleri* Baker, in Martius, Fl. Bras. 6(3): 61. 1882.

A serie typica differt pilis hirsutis et capitulis in cymis corymbiformibus terminalibus dispositis.

Plants hirsute, clothed by long erect uniseriate trichomes and minute glandular and non-glandular tufted trichomes; the vestiture becomes much sparser with age. Capitula in terminal corymbiform cymes.

Includes a single species, endemic to the state of Santa Catarina, Brazil.

1. *Baccharis muelleri* Baker, in Martius, Fl. Bras. 6(3): 61. 1882. TYPE: Brazil. Santa Catarina: Barra do Itajaí, *Mueller 355* (lectotype, designated by Barroso (1976: 99), K).

Baccharis ser. **Lanuginosae** Giuliano, ser. nov. TYPE: *Baccharis calvescens* DC., Prodr. 5: 413. 1836.

A serie typica differt plantis albo-lanuginosis pilis uniseriatis rectis et crispis dense vestitis.

Plants lanuginous, clothed by long uniseriate trichomes accompanied by minute glandular and non-glandular tufted trichomes on upper leaf surfaces, and by tufts of short crisped trichomes on lower leaf surfaces; the pubescence becomes much sparser with age. Leaves concolorous or discolorous. Capitula arranged in axillary corymbiform cymes.

Four species, distributed in eastern and southern Brazil, eastern Paraguay, and the province of Misiones, Argentina.

1. *Baccharis calvescens* DC., Prodr. 5: 413. 1836. TYPE: Brazil. Minas Gerais: Marianna, *Vauthier 332* (lectotype, designated by Barroso (1976: 119), G-DC).
2. *Baccharis elaeagnoides* Steudel ex Baker, in Martius, Fl. Bras. 6(3): 53. 1882.
3. *Baccharis myricifolia* DC., Prodr. 5: 405. 1836.
4. *Baccharis semiserrata* DC., Prodr. 5: 404. 1836.

Baccharis semiserrata presents vestiture sparser than that of *B. calvescens* and *B. elaeagnoides*, whereas in *B. myricifolia* the pubescence is only restricted to young organs.

For the following series that includes the lectotypified species for *Baccharis* sect. *Nitidae*, *Molina nitida* Ruiz & Pavón, the following combination is proposed:

Baccharis ser. **Nitidae** (Cuatrecasas) Giuliano, stat. nov. Basionym: *Baccharis* sect. *Nitidae* Cuatrecasas, Revista Acad. Colomb. Ci. Exact. 13(49): 70. 1967. TYPE: *Molina nitida* Ruiz & Pavón, Syst. Veg.: 204. 1798 [= *Baccharis nitida* (Ruiz & Pavón) Persoon].

Plants clothed by minute tufted trichomes. Leaves concolorous. Capitula usually arranged in axillary corymbs.

Includes six species from the Andes, the Guayana Shield, Brazil, and Paraguay.

1. *Baccharis amambayensis* Zardini & Soria, Candollea 46: 535. 1991.
2. *Baccharis dentata* (Vellozo) G. M. Barroso, Rodriguésia 28(40): 123. 1976.
3. *Baccharis nitida* (Ruiz & Pavón) Persoon, Syn. Pl. 2: 425. 1807. *Molina nitida* Ruiz & Pavón, Syst. Veg.: 204. 1798. TYPE: Peru. "Lima. Clasis 19. *Baccharis axillaris*. F. P. c. 1.65.c.d. ex Chinchao" (lectotype, designated by Cabre-ra (1960: 199), MA).
4. *Baccharis rivularis* Gardner, London J. Bot. 7: 83. 1848.
5. *Baccharis schomburgkii* Baker, Fl. Bras. 6(3): 89. 1882.
6. *Baccharis singularis* (Vellozo) G. M. Barroso, Rodriguésia 28(40): 96. 1976.

Acknowledgments. I thank Susana Freire for helpful comments, and John Pruski and John Temple for valuable reviews of the manuscript. This study was supported by a fellowship ("Beca de Formación de Postgrado") awarded by the Consejo Nacional de Investigaciones Científicas y Técnicas de la República Argentina (CONICET).

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