



<http://www.biodiversitylibrary.org/>

**Phytologia.**

Bronx Park, New York, H.A. Gleason and H.N. Moldenke,  
<http://www.biodiversitylibrary.org/bibliography/12678>

**v.19 (1969-1970):** <http://www.biodiversitylibrary.org/item/46981>

Article/Chapter Title: Studies in Eupatorieae: New combinations of  
Ageratina

Author(s): King and Robinson

Subject(s): Ageratina; Flora

Page(s): Page 208, Page 209, Page 210, Page 211, Page 212, Page  
213, Page 214, Page 215, Page 216, Page 217, Page 218, Page 219,  
Page 220, Page 221, Page 222, Page 223, Page 224, Page 225, Page  
226, Page 227, Page 228, Page 229

Contributed by: New York Botanical Garden, LuEsther T. Mertz Library  
Sponsored by: The LuEsther T Mertz Library, the New York Botanical  
Garden

This page intentionally left blank.



NEW COMBINATIONS IN AGERATINA

R. M. King and H. Robinson  
Smithsonian Institution, Washington, D.C. 20560

In the present treatment of the genus Ageratina it is gratifying to us to be able to supply the evidence that confirms the suspicions of so many other workers, and which brings some order out of the previous chaos in Eupatorium. With varying degrees of insight, Moench, Necker, Spach, Schultz-Bipontinus, Coulter, and E.L.Greene have noted the more distinctive members of Ageratina and have sought to place them in a separate genus. With equal determination, other workers have found that other species obscure the generic limits, and the concept of a monolithic genus Eupatorium has been restored. More recently cytologists have discovered widely differing series of chromosome numbers in Eupatorium but could find no basis for separation of the species involved. All indications have been that a distinct element existed if reliable characters could be found. Now, by use of detailed floral anatomy, we have been able not only to precisely delimit Ageratina, but to recognize a whole complex of genera as Ageratinoid.

The initial efforts to recognize a distinct genus must have relied on mostly superficial aspect of very limited material. Even so, the efforts of Moench and Necker were both doomed to failure. Moench used the name, Batschia, which was third in a series of four homonyms. Necker did not indicate the status of any of his names and his Kyrstenia is not considered validated until the work of E.L.Greene (1903). Spach (1841) dealing with the two common species of eastern North America (under three names) provided the earliest valid name for the genus, Ageratina.

Of all the previous efforts, that of E.L.Greene deserves special attention. Aside from misplaced faith in the Necker name, Kyrstenia, Greene seemed to have a rather good concept of the group. Among other remarks indicating his resolve to dismantle Eupatorium, he offered the following, "These two plants (i.e. E. ageratoides and E. aromaticum), and with them a host of their congeners are so unlike true Eupatorium and at the same time so like Ageratum in foliage, inflorescence, uniserial involucre, and even as to flowers and fruits, that nothing but the fine-bristly rather than paleaceous pappus could have kept them apart from the genus last named, where, as already noted, Linnaeus did actually place the first species. They differ from Eupatorium by a set of characters exactly corresponding to those by which Erigeron is held separate from Aster."

"One must needs assume the Atlantic North American species



just mentioned to be the proper type of Kyrstenia. They are herbaceous perennials with opposite leaves and a corymbose inflorescence; their thin almost uniserial involucre bracts notably pointed."

Greene goes on to say, "This typical group has many representatives beyond our borders in Mexico, Central and even South America, some herbaceous, others shrubby, of which I cite but few."

It must be made clear that there is not now any evidence of close relationship between Ageratina and Ageratum. The latter has high papillae on the backs of the corolla lobes, strong annulations in the anther collars, and a very different carpodium structure in addition to the pappus character. Also, Greene's concept of Eupatorium was slightly erroneous, since the verticillate group he emphasized is not typical but a rather specialized subgenus. Still, Eupatorium clearly differs from Ageratina by its smooth corolla lobes, hairy stylar base, indistinct carpodium, presence of only glands on the corolla and achene, and blunt-tipped pappus setae.

Among the species cited by Greene there are members of a group that includes Eupatorium pycnocephalum Lessing. This group is the one most frequently confused with Ageratina, and with its basic chromosome number of  $x = 10$  it has been especially frustrating to the efforts of cytologists. These species which are so superficially similar, we would place in the totally separate genus, Fleischmannia, and we do not consider them at all closely related. Fleischmannia while similar in habit, leaf form, and tendency for hairy corollas, is clearly distinct in the papillose backs of the corolla lobes, the strongly annulated thickenings of the anther collars, the complete lack of enlargement of the style base, and the thick-walled cells of the strongly rimmed carpodium. Even the papillae of the inner surface of the corolla lobes are different in basic structure, being only the projecting upper ends of elongate cells and not forming a compact mass. Needless to say the more specialized features of Ageratina such as the narrow stemmed corollas and very deciduous pappus setae do not occur in Fleischmannia.

The genera that are most closely related to Ageratina are not necessarily those that have been confused with it. Often they have possessed distinctive characters and have been maintained separate from Eupatorium. It is to Ageratina rather than to Ageratum that Oxylobus is related in spite of its distinctive squamate pappus. The corollas, stamens, styles, and carpodia of Oxylobus, Macvaughiiella, and Jaliscoa are all basically identical to those of Ageratina. Macvaughiiella is distinguished by the flattened achene with 3 or less pappus setae at its angles, and Jaliscoa has its short crest-like pappus and a paleaceous receptacle. Less close but definitely related are such groups as Spaniopappus of the West Indies, and Eupatorium eximium and its relatives in Costa Rica.



Cytological evidence is strongly in agreement with that from floral anatomy. Reports as obtained from Darlington & Wylie (1956) and various supplements (Cave, 1956-64; Ornduff, 1965-67; Powell & King, 1969) indicate the following: A. adenophora (as E. glandulosum, two separate counts)  $2n = 51$ ; A. altissima (as E. ageratoides and E. rugosum)  $2n = 34, 36$ ; A. anisochroma  $n = ca. 17$ ; A. azangaroensis (as E. sp., Powell & King, 1969)  $n = 17^a$ ; A. glabrata  $n = 17$ ; A. gracilis  $n = 18?$ ; A. herbacea  $n = 17, 2n = 34$ ; A. occidentalis  $2n = 34$ ; A. pazcuarensis  $n = 25$ ; A. petiolaris  $2n = 34$ ; A. prunellaefolia  $n = 50_I, 52_I$ ; A. purpusii  $2n = 34$ ; A. riparia  $2n = 48$ ; A. rockrothii  $2n = 51, over 80$ ; A. scorodonioides  $n = 17$ ; A. sternbergiana  $2n = 34$ ; A. tinifolia  $n = ca. 40$ ; A. ventillana  $n = 17$ ; A. wrightii  $2n = 34$ . One specimen reported as  $n = 10$ , King 3037, Mexico, cf. E. ligustrinum DC. (Turner, Ellison, & King, 1961), has been checked and proves to be Eupatorium albicaule Schultz-Bip. which is not an Ageratina. There seems little doubt that the base number of Ageratina is  $x = 17$ . Ageratina adenophora with type II pollen in some plants (King & Robinson, 1967) seems to be an apomictically reproducing triploid.

At present, there is only one report of  $n = 17$  outside of Ageratina, in a Costa Rican plant possibly related to Eupatorium eximium B.L.Robinson. The closely related genus, Oxylobus, has been consistently reported as  $n = 16$ .

It is worth noting that this cytological evidence has been compiled by us since having established the limits of Ageratina on the basis of floral anatomy. We here provide others with an opportunity to compare what cytological evidence they may have on other species with the list that follows.

Ageratina Spach, Hist. Veg. Phan. 10: 286. 1841

Batschia Moench, Meth. 567. 1794. not Batschia Gmelin, 1791 (Boraginaceae); Batschia Mutis ex Thunberg, 1792 (Menispermaceae); or Batschia Vahl, 1794 (Leguminosae). T.: B. nivea Moench = Ageratina altissima (L.) R.M.King & H.Robinson.

Ageratiopsis Schultz-Bip. ex Bentham & J.D.Hooker, Gen. Pl. 2: 246. 1873. nom. nud. T.: Eupatorium ageratoides Linnaeus f. = Ageratina altissima (L.) R.M.King & H.Robinson.

Mallinoa Coulter, Bot. Gaz. 20: 47. 1895. T.: M. corymbosa Coulter = Ageratina muelleri (Schultz-Bip. ex Klatt) R.M.King & H.Robinson.

Kyrstenia Necker ex E.L.Greene, Leaflet Bot. Obs. Crit. 1: 8. 1903. L.T.: Eupatorium aromaticum L. = Ageratina aromatica (L.) R.M.King & H.Robinson.



Sparingly to densely branched herbs or shrubs; leaves opposite, rarely only subopposite or alternate, deltoid to elliptical, short to long petiolate, margin toothed or lobed to entire, serrate in most species. Inflorescence laxly to rather densely corymbose; heads 10-40 flowered; involucre of ca. 30 rather narrow usually acute subimbricate mostly subequal phyllaries in 1-2(3) series; receptacle glabrous or with minute scattered hairs. Corolla tubular or often with a long very slender base and abruptly enlarged limb; outer surface and margins of lobes smooth often with some bulging or projecting cells at the tip, with hairs and/or glands or glabrous, without stomates; inner surface of lobes papillose with dense layer of short bulging or long-projecting cells; cells of backs of lobes and of tube mostly narrow with sinuous walls. Anther collar composed of numerous quadrate cells below, elongate cells above, all with little or no ornate thickening on the walls; exothecial cells in part usually lax and somewhat longer than wide; anther appendage large, often truncate at apex; pollen spherical, tricolpate, spinose, type II sometimes present. Style usually with distinctly swollen glabrous basal node which is often marked by special firm-walled cells; surface cells of stylar appendage densely long projecting, in two small groups of species with cells only slightly projecting. Achene prismatic, usually 5-costate, usually bearing setae or glands or both; carpopodium distinct but without distinct upper limit, cylindrical or rounded, with rather lax elongate or quadrate cells having thin beaded walls; embryo usually borne high in the achene with lower end partially sclerotized, basal vasculature of achene united to well above level of carpopodium; pappus of 5-40 slender scabrous setae often easily deciduous by specialized fragile zone at base, with pointed apical cells. Chromosome numbers  $n = 17$ ,  $n = 18?$ ,  $2n = 34$ ,  $2n = 36$ ,  $n = \text{ca. } 40$ ,  $2n = 48$ ,  $2n = 51$ ,  $2n = \text{over } 80$ .

Lectotype species: Eupatorium aromaticum L. (King & Robinson, 1969).

Our studies indicate that the genus contains the following 4 subgenera and 196 species.

#### Subgenus Ageratina

Plants herbaceous; corollas usually very narrowly stalked below, usually with hairs on the backs of the lobes, rarely with a few long-stalked glands or glabrous; cells on inner surface of corolla lobes and on stylar appendage densely long-projecting; type II pollen seen in 1 species; achene without glands; carpopodium cylindrical with mostly elongate cells; pappus setae very easily deciduous. 80 species.

Ageratina adenophora (Spreng.) R.M.King & H.Robinson, comb. nov.

Eupatorium adenophorum Spreng., Systema Vegetabilium 3: 420. 1826. Mexico, California, W.Ind., S. Amer., Portugal, Pac.



Isl., Australia. Widely adventive.

Ageratina altissima (L.) R.M.King & H.Robinson, comb. nov.  
Ageratum altissimum L., Sp. Pl. 839. 1753. E. United States.

Ageratina amblyolepis (B.L.Robinson) R.M.King & H.Robinson, comb. nov.  
Eupatorium amblyolepis B.L.Robinson, Proc. Amer. Acad. 35: 330. 1900. Mexico.

Ageratina apollinairei (B.L.Robinson) R.M.King & H.Robinson, comb. nov.  
Eupatorium apollinairei B.L.Robinson, Proc. Amer. Acad. 54: 236. 1918. Colombia.

Ageratina aromatica (L.) Spach, Hist. Veg. Phan. 10: 28. 1841.  
Eupatorium aromaticum L., Sp. Pl. 839. 1753. E. United States.

Ageratina arsenei (B.L.Robinson) R.M.King & H.Robinson, comb. nov.  
Eupatorium arsenei B.L.Robinson, Contr. Gray Herb. n.s. 104: 10. 1934. Mexico.

Ageratina articulata (Schultz-Bip. ex Hieron.) R.M.King & H.Robinson, comb. nov.  
Eupatorium articulatum Schultz-Bip. ex Hieron. in Urban, Engl. Bot. Jahrb. 40: 385. 1908. Venezuela.

Ageratina aschenborniana (Schauer) R.M.King & H.Robinson, comb. nov.  
Eupatorium aschenbornianum Schauer, Linnaea 19: 720. 1847. Mexico.

Ageratina atrocordata (B.L.Robinson) R.M.King & H.Robinson, comb. nov.  
Eupatorium atrocordatum B.L.Robinson, Contr. Gray Herb. n.s. 104: 12. 1934. Mexico.

Ageratina azangaroensis (Schultz-Bip. ex Weddell) R.M.King & H.Robinson, comb. nov.  
Eupatorium azangaroense Schultz-Bip. ex Weddell, Chlor. Andina 1: 217. 1857. Ecuador.

Ageratina badia (Klatt) R.M.King & H.Robinson, comb. nov.  
Eupatorium badium Klatt, Bull. Soc. Bot. Belg. 31: 186. 1892 (1893). Costa Rica, Mexico.

Ageratina bellidifolia (Bentham) R.M.King & H.Robinson, comb. nov.  
Eupatorium bellidifolium Bentham, Pl. Hartw. 43. 1840. Mexico.

Ageratina bimatra (Standley & L.O.Williams) R.M.King & H.Robinson, comb. nov.  
Eupatorium bimatum Standley & L.O.Williams, Ceiba 3: 64. 1952. Honduras.



- Ageratina bustamenta (A.P.Decandolle) R.M.King & H.Robinson, comb. nov. Eupatorium bustamenta A.P.Dceandolle, Prodr. 5: 168. 1836. Mexico.
- Ageratina calderillensis (Hieron.) R.M.King & H.Robinson, comb. nov. Eupatorium calderillense Hieron. in Urban, Engl. Bot. Jahrb. 40: 381. 1908. Bolivia.
- Ageratina camachensis (Hieron.) R.M.King & H.Robinson, comb. nov. Eupatorium camachense Hieron. in Urban, Engl. Bot. Jahrb. 40: 386. 1908. Bolivia.
- Ageratina chiapensis (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium chiapense B.L.Robinson, Proc. Amer. Acad. 35: 332. 1900. Mexico.
- Ageratina chiriquensis (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium chiriquense B.L.Robinson, Proc. Amer. Acad. 54: 238. 1918. Panama.
- Ageratina choricephala (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium choricephalum B.L.Robinson, Proc. Amer. Acad. 54: 239. 1918. Mexico.
- Ageratina choricephaloides (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium choricephaloides B.L.Robinson, Proc. Amer. Acad. 55: 8. 1919. Peru.
- Ageratina ciliata (Lessing) R.M.King & H.Robinson, comb. nov. Eupatorium ciliatum Lessing, Linnaea 6: 404. 1831. Mexico.
- Ageratina conspicua (Kunth & Bouché) R.M.King & H.Robinson, comb. nov. Eupatorium conspicuum Kunth & Bouché, Ind. Sem. Hort. Berol. 13. 1847. Mexico.
- Ageratina corylifolia (Griseb.) R.M.King & H.Robinson, comb. nov. Eupatorium corylifolium Griseb., Fl. Brit. W. Ind. 361. 1861. W.Ind.
- Ageratina cuencana (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium cuencanum B.L.Robinson, Proc. Amer. Acad. 54: 241. 1918. Ecuador.
- Ageratina cutervensis (Hieron.) R.M.King & H.Robinson, comb. nov. Eupatorium cutervense Hieron. in Urban, Engl. Bot. Jahrb. 40: 383. 1908. Ecuador, Peru.
- Ageratina dasyneura (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium dasyneurum B.L.Robinson, Proc. Amer. Acad.



55: 10. 1919. Colombia.

Ageratina enixa (B.L.Robinson) R.M.King & H.Robinson, comb. nov.  
Eupatorium enixum B.L.Robinson, Contr. Gray Herb. n.s. 68:  
15. 1923. Mexico.

Ageratina funckii (B.L.Robinson) R.M.King & H.Robinson, comb. nov.  
Eupatorium funckii B.L.Robinson, Contr. Gray Herb. n.s. 68:  
16. 1923. Colombia.

Ageratina gilbertii (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium gilbertii B.L.Robinson, Proc. Amer. Acad.  
55: 16. 1919. Peru.

Ageratina glabrata (H.B.K.) R.M.King & H.Robinson, comb. nov.  
Eupatorium glabratum H.B.K., Nov. Gen. et Sp. 4: 121. ed.  
fol. 1818. Mexico.

Ageratina glandulifera (Hieron.) R.M.King & H.Robinson, comb.  
nov. Eupatorium glanduliferum Hieron. in Sodiro, Engl. Bot.  
Jahrb. 29: 13. 1900. Ecuador.

Ageratina glechonophylla (Lessing) R.M.King & H.Robinson, comb.  
nov. Eupatorium glechonophyllum Lessing, Linnaea 6: 105.  
1831. Chile, Ecuador.

Ageratina gracilenta (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium gracilentum B.L.Robinson, Proc. Amer. Acad.  
55: 18. 1919. Peru.

Ageratina gracilis (H.B.K.) R.M.King & H.Robinson, comb. nov.  
Eupatorium gracile H.B.K., Nov. Gen. et Sp. 4: 124. ed. fol.  
1818. Colombia.

Ageratina grandidentata (A.P.Decandolle) R.M.King & H.Robinson,  
comb. nov. Eupatorium grandidentatum A.P.Decandolle, Prodr.  
5: 167. 1836. Mexico.

Ageratina ibaguensis (Schultz-Bip. ex Hieron.) R.M.King & H.  
Robinson, comb. nov. Eupatorium ibaguense Schultz-Bip. ex  
Hieron. in Urban, Engl. Bot. Jahrb. 40: 384. 1908.  
Venezuela.

Ageratina iodotricha (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium iodotrichum B.L.Robinson, Proc. Amer. Acad.  
55: 19. 1919. Ecuador.

Ageratina lobulifera (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium lobuliferum B.L.Robinson, Contr. Gray  
Herb. n.s. 77: 24. 1926. Peru.



- Ageratina lorentzii (Hieron.) R.M.King & H.Robinson, comb. nov.  
Eupatorium lorentzii Hieron., Engl. Bot. Jahrb. 22: 787.  
1897. Argentina.
- Ageratina luciae-brauniae (Fernald) R.M.King & H.Robinson, comb.  
nov. Eupatorium luciae-brauniae Fernald, Rhodora 44: 463.  
1942. Kentucky.
- Ageratina malacolepis (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium malacolepis B.L.Robinson, Proc. Amer. Acad.  
44: 618. 1909. Mexico.
- Ageratina mariara (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium mariarum B.L.Robinson, Proc. Amer. Acad.  
36: 481. 1901. Mexico.
- Ageratina muelleri (Schultz-Bip. ex Klatt) R.M.King & H.Robinson,  
comb. nov. Eupatorium muelleri Schultz-Bip. ex Klatt,  
Leopoldina 20: 90. 1884. Mexico.
- Ageratina oligocephala (A.P.Decandolle) R.M.King & H.Robinson,  
comb. nov. Eupatorium oligocephalum A.P.Decandolle, Prodr.  
5: 166. 1836. Mexico.
- Ageratina pacifica (B.L.Robinson ex I.M.Johnston) R.M.King &  
H.Robinson, comb. nov. Eupatorium pacificum B.L.Robinson  
ex I.M.Johnston, Proc. Calif. Acad. Sci. 20: 99. 1931.  
Mexico.
- Ageratina pampalcensis (B.L.Robinson) R.M.King & H.Robinson,  
comb. nov. Eupatorium pampalcense B.L.Robinson, Contr.  
Gray Herb. n.s. 104: 24. 1934. Peru.
- Ageratina paupercula (A.Gray) R.M.King & H.Robinson, comb. nov.  
Eupatorium pauperculum A.Gray, Proc. Amer. Acad. 17: 205.  
1881-82. Arizona, Mexico.
- Ageratina pazcuanensis (H.B.K.) R.M.King & H.Robinson, comb. nov.  
Eupatorium pazcuanense H.B.K., Nov. Gen. et Sp. 4: 123.  
ed. fol. 1818. Mexico.
- Ageratina photina (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium photinum B.L.Robinson, Proc. Amer. Acad.  
35: 338. 1900. Mexico.
- Ageratina pichinchensis (H.B.K.) R.M.King & H.Robinson, comb.  
nov. Eupatorium pichinchense H.B.K., Nov. Gen. et Sp. 4:  
122. ed. fol. 1818. Ecuador, Colombia.
- Ageratina prunellaefolia (H.B.K.) R.M.King & H.Robinson, comb.



- nov. Eupatorium prunellaefolium H.B.K., Nov. Gen. et Sp. 4: 123. ed. fol. 1818. Mexico.
- Ageratina psilodora (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium psilodorum B.L.Robinson, Proc. Amer. Acad. 55: 27. 1919. Colombia.
- Ageratina purpusii (Brandege) R.M.King & H.Robinson, comb. nov. Eupatorium purpusii Brandege, Erythea 7: 3. 1899. Baja California.
- Ageratina ramonensis (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium ramonense B.L.Robinson, Proc. Amer. Acad. 44: 619. 1909. Mexico.
- Ageratina repens (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Fleischmannia repens B.L.Robinson, Proc. Amer. Acad. 54: 262. 1918. Mexico.
- Ageratina rhodopappa (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium rhodopappum B.L.Robinson, Contr. Gray Herb. n.s. 77: 31. 1926. Colombia.
- Ageratina rhyodes (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium rhyodes B.L.Robinson, Proc. Amer. Acad. 55: 28. 1919. Ecuador.
- Ageratina rhytidodes (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium rhytidodes B.L.Robinson, Contr. Gray Herb. n.s. 77: 33. 1926. Peru.
- Ageratina riparia (Regel.) R.M.King & H.Robinson, comb. nov. Eupatorium riparium Regel. Gartenfl. 15: 324. 1866. Mexico, W.Ind., Pac. Isl., Australia. Widely adventive.
- Ageratina rivalis (Greenman) R.M.King & H.Robinson, comb. nov. Eupatorium rivale Greenman, Zoe 5: 186. 1904. Mexico.
- Ageratina rothrockii (A.Gray) R.M.King & H.Robinson, comb. nov. Eupatorium rothrockii A.Gray, Syn. Fl. N. Amer. 1(2): 102. 1897. Arizona, Mexico.
- Ageratina roraimensis (N.E.Brown) R.M.King & H.Robinson, comb. nov. Eupatorium roraimense N.E.Brown, Trans. Linn. Soc. ser. 2, 6: 38. 1901. Brit. Guiana, Venezuela.
- Ageratina rufa (E.L.Greene) R.M.King & H.Robinson, comb. nov. Kyrstenia rufa E.L.Greene, Leafl. Bot. Obs. Crit. 1: 10. 1903. Mexico.



- Ageratina schaffneri (Schultz-Bip. ex B.L.Robinson) R.M.King & H. Robinson, comb. nov. Eupatorium schaffneri Schultz-Bip. ex B.L.Robinson, Proc. Amer. Acad. 27: 171. 1892. Mexico.
- Ageratina scopulora (Weddell) R.M.King & H.Robinson, comb. nov. Eupatorium scopulorum Weddell, Chlor. Andina 1: 216. 1857. Peru.
- Ageratina skutchii (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium skutchii B.L.Robinson, Contr. Gray Herb. n.s. 104: 27. 1934. Mexico, C.Amer.
- Ageratina sodiroi (Hieron.) R.M.King & H.Robinson, comb. nov. Eupatorium sodiroi Hieron. in Sodiro, Engl. Bot. Jahrb. 29: 12. 1900. Ecuador.
- Ageratina sotarensis (Hieron.) R.M.King & H.Robinson, comb. nov. Eupatorium sotarense Hieron., Engl. Bot. Jahrb. 21: 333. 1895 (as E. soratense). Colombia.
- Ageratina sternbergiana (A.P.Decandolle) R.M.King & H.Robinson, comb. nov. Eupatorium sternbergianum A.P.Decandolle, Prodr. 5: 167. 1836. Peru.
- Ageratina subcordata (Bentham ex Oerst.) R.M.King & H.Robinson, comb. nov. Eupatorium subcordatum Bentham ex Oerst., Kjoeb. Vidensk. Meddel. 77. 1852. Costa Rica.
- Ageratina tambillensis (Hieron.) R.M.King & H.Robinson, comb. nov. Eupatorium tambillense Hieron. in Urban, Engl. Bot. Jahrb. 40: 380. 1908. Peru.
- Ageratina tarmensis (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium tarmense B.L.Robinson, Contr. Gray Herb. n.s. 104: 28. 1934. Peru.
- Ageratina tenuis (R.E.Fries) R.M.King & H.Robinson, comb. nov. Eupatorium tenue R.E.Fries, Arkiv. Bot. 5(13): 9. 1906. Argentina.
- Ageratina tonduzii (Klatt) R.M.King & H.Robinson, comb. nov. Eupatorium tonduzii Klatt, Bot. Beibl. Leopoldina 1895: 4. 1895. Costa Rica.
- Ageratina vallincola (A.P.Decandolle) R.M.King & H.Robinson, comb. nov. Eupatorium vallincola A.P.Decandolle, Prodr. 5: 168. 1836. Peru.
- Ageratina ventillana (Cuatrecasas) R.M.King & H.Robinson, comb. nov. Eupatorium ventillanum Cuatrecasas, Ann. Missouri



Bot. Gard. 52: 305. 1965. Peru.

Ageratina vulcanica (Bentham ex Oerst.) R.M.King & H.Robinson, comb. nov. Eupatorium vulcanicum Bentham ex Oerst., Kjoeb. Vidensk. Meddel. 78. 1852. C.Amer.

Ageratina xanthochlora (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium xanthochlorum B.L.Robinson, Contr. Gray Herb. n.s. 77: 44. 1926. Mexico.

Ageratina zinniifolia (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium zinniifolium B.L.Robinson, Proc. Amer. Acad. 54: 261. 1918. Colombia.

Ageratina zunilana (Standley & Steyermark) R.M.King & H.Robinson, comb. nov. Eupatorium zunilanum Standley & Steyermark, Field Mus. Publ., Bot. 23: 191. 1944. Guatemala.

Subgenus Klattiella R.M.King & H.Robinson, subg. nov.

Plantae suffrutescentes; corolla inferne perangustata, in parte angustata distincte pubescens, lobis quam fauce aequilongis vel longioribus extus glanduliferis intus obsolete late papillatis; appendices styli valde papillatae; achaenia glandulifera et setifera; carpopodium aliquantum breve rotundatum, cellulis quadratis vel oblongis; setae pappi aliquantum persistentes. 2 species. Type: Eupatorium anisochromum.

Ageratina anisochroma (Klatt) R.M.King & H.Robinson, comb. nov. Eupatorium anisochromum Klatt., Bull. Soc. Bot. Belg. 31: 186. 1892 (1893). Costa Rica.

Ageratina paucibracteata (Alain) R.M.King & H.Robinson, comb. nov. Eupatorium paucibracteatum Alain, Contr. Ocas. Mus. Hist. Nat. Coleg. "De La Salle" 18: 8. 1960. Cuba.

Subgenus Neogreenella R.M.King & H.Robinson, subg. nov.

Plantae herbaceae vel frutescentes; corolla inferne plerumque non angustata, lobis quam fauce brevioribus extus glanduliferis vel setiferis vel glabris intus dense vel laxe papillatis; filamenta antherarum in parte inferiore longa; appendices styli plerumque valde papillatae raro leviter papillatae; achaenia glandulifera vel setifera; carpopodium breve rotundatum, cellulis plerumque quadratis; setae pappi aliquantum persistentes. 113 species. Type: Eupatorium wrightii.

Southward the subgenus includes many more shrubby species with more elliptical leaves. Such plants may represent the more



primitive element in the genus. Also, in Peru, a small group of species including A. cuzcoensis, A. pentlandiana, A. simulans, and A. stictophylla is rather distinct in its less papillose style branches and its lack of a distinct stylar node.

Ageratina acutidentata (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium acutidentatum B.L.Robinson, Proc. Amer. Acad. 43: 29. 1907. Mexico.

Ageratina adenachaenia (Schultz-Bip. ex Klatt) R.M.King & H. Robinson, comb. nov. Eupatorium adenachaenium Schultz-Bip. ex Klatt, Leopoldina 20: 75. 1884. Mexico.

Ageratina aegirophylla (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium aegirophyllum B.L.Robinson, Proc. Amer. Acad. 35: 329. 1900. Mexico.

Ageratina ampla (Benth) R.M.King & H.Robinson, comb. nov. Eupatorium amplum Benth, Pl. Hartw. 200. 1845. Colombia.

Ageratina angustifolia (H.B.K.) R.M.King & H.Robinson, comb. nov. Mikania angustifolia H.B.K., Nov. Gen. et Sp. 4: 138. ed. fol. 1818. Colombia.

Ageratina arbutifolia (Benth) R.M.King & H.Robinson, comb. nov. Eupatorium arbutifolium Benth, Pl. Hartw. 199. 1845. Colombia.

Ageratina aristei (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium aristei B.L.Robinson, Proc. Amer. Acad. 55: 6. 1919. Colombia.

Ageratina baccharoides (H.B.K.) R.M.King & H.Robinson, comb. nov. Eupatorium baccharoides H.B.K., Nov. Gen. et Sp. 4: 132. ed. fol. 1818. Colombia.

Ageratina betulaeifolia (E.L.Greene) R.M.King & H.Robinson, comb. nov. Kyrstenia betulaeifolia E.L.Greene, Leafl. Bot. Obs. Crit. 1: 10. 1903. Mexico.

Ageratina blepharilepis (Schultz-Bip.) R.M.King & H.Robinson, comb. nov. Eupatorium blepharilepis Schultz-Bip. in Seemann, Bot. Voyag. Herald 300. 1856. Mexico.

Ageratina brandegeana (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium brandegeanum B.L.Robinson, Contr. Gray Herb. n.s. 68: 10. 1923. Mexico.

Ageratina brevipes (A.P.Decandolle) R.M.King & H.Robinson, comb. nov. Eupatorium brevipes A.P.Decandolle, Prodr. 5: 168.



1836. Mexico.

- Ageratina caeciliae (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium caeciliae B.L.Robinson, Contr. Gray Herb. n.s. 90: 23. 1930. Guatemala.
- Ageratina calaminthaefolia (H.B.K.) R.M.King & H.Robinson, comb. nov. Eupatorium calaminthaefolium H.B.K., Nov. Gen. et Sp. 4: 129. ed. fol. 1818. Mexico.
- Ageratina calophylla (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium calophyllum B.L.Robinson, Contr. Gray Herb. n.s. 75: 5. 1925. Mexico.
- Ageratina campyloclada (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium campylocladum B.L.Robinson, Proc. Bost. Soc. Nat. Hist. 31: 247. 1904. Mexico.
- Ageratina cardiophylla (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium cardiophyllum B.L.Robinson, Proc. Amer. Acad. 35: 331. 1900. Mexico.
- Ageratina chachapoyasensis (Cuatrecasas) R.M.King & H.Robinson, comb. nov. Eupatorium chachapoyasense Cuatrecasas, Ann. Missouri Bot. Gard. 52: 306. 1965. Peru.
- Ageratina chapalensis (Watson) R.M.King & H.Robinson, comb. nov. Eupatorium chapalense Watson, Proc. Amer. Acad. 26: 138. 1891. Mexico.
- Ageratina collodes (B.L.Robinson & Greenman) R.M.King & H.Robinson, comb. nov. Eupatorium collodes B.L.Robinson & Greenman, Amer. Journ. Sci. 50: 152. 1895. Mexico.
- Ageratina crassiceps (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium crassiceps B.L.Robinson, Contr. Gray Herb. n.s. 80: 17. 1928. Colombia.
- Ageratina cremasta (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium cremastum B.L.Robinson, Proc. Amer. Acad. 42: 38. 1906. Mexico.
- Ageratina crenaea (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium crenaeum B.L.Robinson, Proc. Amer. Acad. 35: 333. 1900. Mexico.
- Ageratina cuzcoensis (Hieron.) R.M.King & H.Robinson, comb. nov. Eupatorium cuzcoense Hieron. in Urban, Engl. Bot. Jahrb. 40: 376. 1908. Peru.



Ageratina deltoidea (Jacquin) R.M.King & H.Robinson, comb. nov.  
Eupatorium deltoideum Jacquin, Pl. Hort. Schoenb. Wien 3:  
63. 1798 (1803). Mexico.

Ageratina dendroides (Spreng.) R.M.King & H.Robinson, comb. nov.  
Eupatorium dendroides Spreng., Systema Vegetabilium 3: 415.  
1826. Ecuador.

Ageratina desquamans (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium desquamans B.L.Robinson, Proc. Amer. Acad.  
35: 333. 1900. Mexico.

Ageratina dictyoneura (Urban) R.M.King & H.Robinson, comb. nov.  
Eupatorium dictyoneurum Urban, Symb. Ant. 3: 402. 1903.  
Haiti.

Ageratina dombeyana (A.P.Decandolle) R.M.King & H.Robinson, comb.  
nov. Eupatorium dombeyanum A.P.Decandolle, Prodr. 5: 167.  
1836. Peru.

Ageratina durangensis (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium durangense B.L.Robinson, Proc. Amer. Acad.  
43: 31. 1907. Mexico.

Ageratina elegans (H.B.K.) R.M.King & H.Robinson, comb. nov.  
Eupatorium elegans H.B.K., Nov. Gen. et Sp. 4: 133. ed.  
fol. 1818. Colombia.

Ageratina espinosara (A.Gray) R.M.King & H.Robinson, comb. nov.  
Eupatorium espinosarum A.Gray, Proc. Amer. Acad. 15: 28.  
1880. Mexico.

Ageratina etlensis (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium etlense B.L.Robinson, Contr. Gray Herb.  
n.s. 75: 6. 1925. Mexico.

Ageratina exserto-venosa (Klatt) R.M.King & H.Robinson, comb.  
nov. Eupatorium exserto-venosum Klatt, Abh. Naturf. Ges.  
Halle 15: 324. 1882. Ecuador.

Ageratina fastigiata (H.B.K.) R.M.King & H.Robinson, comb. nov.  
Eupatorium fastigiatum H.B.K., Nov. Gen. et Sp. 4: 125. ed.  
fol. 1818. Colombia.

Ageratina flaviseta (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium flavisetum B.L.Robinson, Proc. Amer. Acad.  
54: 244. 1918. Colombia.

Ageratina glauca (Schultz-Bip. ex Klatt) R.M.King & H.Robinson,  
comb. nov. Eupatorium glaucum Schultz-Bip. ex Klatt,



Leopoldina 20: 89. 1884. Mexico.

Ageratina glischra (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium glischrum B.L.Robinson, Proc. Amer. Acad. 54: 245. 1918. Mexico.

Ageratina gloeoclada (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium gloeocladum B.L.Robinson, Proc. Amer. Acad. 55: 17. 1919. Bolivia.

Ageratina glyptophlebia (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium glyptophlebium B.L.Robinson, Proc. Amer. Acad. 54: 245. 1918. Colombia.

Ageratina gynoxoides (Weddell) R.M.King & H.Robinson, comb. nov. Eupatorium gynoxoides Weddell, Chlor. Andina 1: 216. 1857. Colombia.

Ageratina hartii (Urban) R.M.King & H.Robinson, comb. nov. Eupatorium hartii Urban, Symb. Ant. 3: 395. 1903. Jamaica.

Ageratina havanensis (H.B.K.) R.M.King & H.Robinson, comb. nov. Eupatorium havanense H.B.K., Nov. Gen. et Sp. 4: 128. ed. fol. 1818. Texas, Mexico, W.Ind.

Ageratina hebes (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium hebes B.L.Robinson, Contr. Gray Herb. n.s. 75: 7. 1925. Mexico.

Ageratina hederaefolia (A.Gray) R.M.King & H.Robinson, comb. nov. Eupatorium hederaefolium A.Gray, Mem. Amer. Acad. 4: 65. 1849. Mexico.

Ageratina herbacea (A.Gray) R.M.King & H.Robinson, comb. nov. Eupatorium ageratifolium var. herbaceum A.Gray, Smiths. Contr. Knowl. 5 (6): 74. 1853. New Mexico.

Ageratina hidalgensis (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium hidalgense B.L.Robinson, Contr. Gray Herb. n.s. 75: 8. 1925. Mexico.

Ageratina humboldtii (Hieron.) R.M.King & H.Robinson, comb. nov. Eupatorium humboldtii Hieron., Engl. Bot. Jahrb. 28: 571. 1901. S.Amer.

Ageratina hyssopina (A.Gray) R.M.King & H.Robinson, comb. nov. Eupatorium hyssopinum A.Gray, Proc. Amer. Acad. 15: 28. 1880. Mexico.

Ageratina illita (Urban) R.M.King & H.Robinson, comb. nov.



Eupatorium illitum Urban, Symb. Ant. 3: 401. 1903. Santo Domingo.

Ageratina intercostulata (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium intercostulatum B.L.Robinson, Proc. Amer. Acad. 54: 247. 1918. Colombia.

Ageratina irrasa (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium calaminthaefolium var. irrasum B.L.Robinson, Contr. Gray Herb. n.s. 68: 11. 1923. Mexico.

Ageratina isolepis (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium isolepis B.L.Robinson, Proc. Amer. Acad. 43: 33. 1907. Mexico.

Ageratina ixiocladon (Bentham ex Oerst.) R.M.King & H.Robinson, comb. nov. Eupatorium ixiocladon Bentham ex Oerst., Kjoeb. Vidensk. Meddel. 77. 1852. Costa Rica.

Ageratina jahnii (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium jahnii B.L.Robinson, Proc. Amer. Acad. 54: 248. 1918. Venezuela.

Ageratina kupperi (Suesseng.) R.M.King & H.Robinson, comb. nov. Eupatorium kupperi Suesseng., Engl. Bot. Jahrb. 72: 288. 1942. Costa Rica.

Ageratina lasia (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium lasium B.L.Robinson, Contr. Gray Herb. n.s. 68: 21. 1923. Mexico.

Ageratina lemmonii (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium lemmonii B.L.Robinson, Proc. Amer. Acad. 27: 171. 1892. Mexico.

Ageratina leptodictyon (A.Gray) R.M.King & H.Robinson, comb. nov. Eupatorium leptodictyon A.Gray, Proc. Amer. Acad. 22: 420. 1887. Mexico.

Ageratina liebmannii (Schultz-Bip. ex Klatt) R.M.King & H.Robinson, comb. nov. Eupatorium liebmannii Schultz-Bip. ex Klatt, Leopoldina 20: 75. 1884. Mexico.

Ageratina ligustrina (A.P.Decandolle) R.M.King & H.Robinson, comb. nov. Eupatorium ligustrinum A.P.Decandolle, Prodr. 5: 181. 1836. Mexico.

Ageratina loeseneri (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium loeseneri B.L.Robinson, Proc. Amer. Acad. 35: 336. 1900. Mexico.



- Ageratina lucida (Ortega) R.M.King & H.Robinson, comb. nov.  
Eupatorium lucidum Ortega, Nov. Pl. Hort. Matrit. Dec. 35.  
1797. Mexico.
- Ageratina macbridei (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium macbridei B.L.Robinson, Contr. Gray Herb.  
n.s. 68: 23. 1923. Peru.
- Ageratina mairetiana (A.P.Decandolle) R.M.King & H.Robinson,  
comb. nov. Eupatorium mairetianum A.P.Decandolle, Prodr.  
5: 160. 1836. Mexico.
- Ageratina mortoniana (Alain) R.M.King & H.Robinson, comb. nov.  
Eupatorium mortonianum Alain, Contr. Ocas. Mus. Hist. Nat.  
Coleg. "De La Salle" 18: 8. 1960. Cuba. This has been  
considered a hybrid between A. havanensis and Eupatorium  
villosum Sw. We consider this impossible in view of the  
totally different anatomical characters of E. villosum,  
none of which appear in Ageratina mortoniana.
- Ageratina mygindaefolia (A.Gray) R.M.King & H.Robinson, comb.  
nov. Eupatorium mygindaefolium A.Gray, Proc. Amer. Acad.  
16: 101. 1881. Mexico.
- Ageratina neriifolia (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium neriifolium B.L.Robinson, Contr. Gray  
Herb. n.s. 65: 49. 1922. Venezuela.
- Ageratina ocanensis (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium ocanense B.L.Robinson, Contr. Gray Herb.  
n.s. 68: 27. 1923. Colombia.
- Ageratina occidentalis (W.J.Hooker) R.M.King & H.Robinson, comb.  
nov. Eupatorium occidentale W.J.Hooker, Fl. Bor. Amer. 1:  
305. 1833. W. United States.
- Ageratina ovilla (Standley & Steyermark) R.M.King & H.Robinson,  
comb. nov. Eupatorium ovillum Standley & Steyermark,  
Field Mus. Publ., Bot. 22: 305. 1940. Guatemala.
- Ageratina pachypoda (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium pachypodum B.L.Robinson, Proc. Amer. Acad.  
36: 481. 1901. Mexico.
- Ageratina paramensis (Aristeguieta) R.M.King & H.Robinson, comb.  
nov. Eupatorium paramense Aristeguieta, Fl. Venez. 10:  
171. 1964. Venezuela.
- Ageratina pelotropha (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium pelotrophum B.L.Robinson, Proc. Amer.



Acad. 42: 44. 1906. Mexico.

Ageratina pentlandiana (A.P.Decandolle) R.M.King & H.Robinson, comb. nov. Eupatorium pentlandianum A.P.Decandolle, Prodr. 5: 157. 1836. Peru.

Ageratina petiolaris (Moc. & Sesse ex A.P.Decandolle) R.M.King & H.Robinson, comb. nov. Eupatorium petiolare Moc. & Sesse ex A.P.Decandolle. Prodr. 5: 166. 1836. Mexico.

Ageratina piurae (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium piurae B.L.Robinson, Contr. Gray Herb. n.s. 77: 28. 1926. Peru.

Ageratina pomaderrifolia (Bentham) R.M.King & H.Robinson, comb. nov. Eupatorium pomaderrifolium Bentham, Pl. Hartw. 199. 1845. Colombia.

Ageratina popayanensis (Hieron.) R.M.King & H.Robinson, comb. nov. Eupatorium popayanense Hieron. in Urban, Engl. Bot. Jahrb. 40: 373. 1908. Colombia.

Ageratina porriginosa (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium porriginosum B.L.Robinson, Contr. Gray Herb. n.s. 75: 11. 1925. Mexico.

Ageratina pringlei (B.L.Robinson & Greenman) R.M.King & H.Robinson, comb. nov. Eupatorium pringlei B.L.Robinson & Greenman, Amer. Journ. Sci. 50: 152. 1895. Mexico.

Ageratina prionobia (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium prionobium B.L.Robinson, Proc. Amer. Acad. 36: 483. 1901. Mexico.

Ageratina prunifolia (H.B.K.) R.M.King & H.Robinson, comb. nov. Eupatorium prunifolium H.B.K., Nov. Gen. et Sp. 4: 132. ed. fol. 1818. Ecuador.

Ageratina pseudo chilca (Bentham) R.M.King & H.Robinson, comb. nov. Eupatorium pseudo chilca Bentham, Pl. Hartw. 198. 1845. Ecuador.

Ageratina rafaelensis (Coulter) R.M.King & H.Robinson, comb. nov. Eupatorium rafaelense Coulter, Bot. Gaz. 16: 97. 1891. Mexico.

Ageratina resiniflua (Urban) R.M.King & H.Robinson, comb. nov. Eupatorium resinifluum Urban, Symb. Ant. 1: 461. 1899. Porto Rico.



- Ageratina reticuliflora (Standley & L.O.Williams) R.M.King & H.Robinson, comb. nov. Eupatorium reticuliflorum Standley & L.O.Williams, Ceiba 1: 254. 1951. Costa Rica.
- Ageratina rhodopoda (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium rhodopodum B.L.Robinson, Contr. Gray Herb. n.s. 75: 12. 1925. Mexico.
- Ageratina rhomboidea (H.B.K.) R.M.King & H.Robinson, comb. nov. Eupatorium rhomboideum H.B.K., Nov. Gen. et Sp. 4: 127. ed. fol. 1818. Mexico.
- Ageratina rubricaulis (H.B.K.) R.M.King & H.Robinson, comb. nov. Eupatorium rubricaulis H.B.K., Nov. Gen. et Sp. 4: 124. ed. fol. 1818. Mexico.
- Ageratina rupicola (B.L.Robinson & Greenman) R.M.King & H.Robinson, comb. nov. Eupatorium rupicola B.L.Robinson & Greenman, Proc. Amer. Acad. 32: 42. 1896. Mexico.
- Ageratina saltillensis (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium saltillense B.L.Robinson, Proc. Amer. Acad. 43: 34. 1907. Mexico.
- Ageratina scorodonioides (A.Gray) R.M.King & H.Robinson, comb. nov. Eupatorium scorodonioides A.Gray, Proc. Amer. Acad. 15: 27. 1880. Mexico.
- Ageratina simulans (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium simulans B.L.Robinson, Proc. Amer. Acad. 55: 31. 1919. Peru.
- Ageratina stevioides (Steyermark) R.M.King & H.Robinson, comb. nov. Eupatorium stevioides Steyermark, Fieldiana, Bot. 28: 637. 1953. Venezuela.
- Ageratina stictophylla (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium stictophyllum B.L.Robinson, Proc. Amer. Acad. 55: 36. 1919. Peru.
- Ageratina stricta (A.Gray) R.M.King & H.Robinson, comb. nov. Eupatorium strictum A.Gray, Proc. Amer. Acad. 21: 384. 1886. Mexico.
- Ageratina subferruginea (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium subferrugineum B.L.Robinson, Contr. Gray Herb. n.s. 96: 22. 1931. Peru.
- Ageratina subintegra (E.L.Greene) R.M.King & H.Robinson, comb. nov. Kyrstenia subintegra E.L.Greene, Leafl. Bot. Obs.



Crit. 1: 10. 1903. Mexico.

Ageratina tetragona (Schrad.) R.M.King & H.Robinson, comb. nov.  
Eupatorium tetragonum Schrad., Ind. Sem. Hort. Gotting.  
1830 ex Linnaea 6: 72. 1831. Mexico.

Ageratina theaefolia (Benth) R.M.King & H.Robinson, comb. nov.  
Eupatorium theaefolium Benth, Pl. Hartw. 199. 1845.  
Colombia, Venezuela.

Ageratina thyrsiflora (E.L.Greene) R.M.King & H.Robinson, comb.  
nov. Kyrstenia thyrsiflora E.L.Greene, Leaflet. Bot. Obs.  
Crit. 1: 9. 1903. Mexico.

Ageratina tinifolia (H.B.K.) R.M.King & H.Robinson, comb. nov.  
Eupatorium tinifolium H.B.K., Nov. Gen. et Sp. 4: 133. ed.  
fol. 1818. Colombia.

Ageratina tomentella (Schrad.) R.M.King & H.Robinson, comb. nov.  
Eupatorium tomentellum Schrad., Ind. Sem. Hort. Gotting.  
1833: 3. 1833. Mexico.

Ageratina tristis (A.P.Decandolle) R.M.King & H.Robinson, comb.  
nov. Eupatorium triste A.P.Decandolle, Prodr. 5: 166.  
1836. Jamaica.

Ageratina urbanii (Ekman ex Urban) R.M.King & H.Robinson, comb.  
nov. Eupatorium urbanii Ekman ex Urban, Arkiv Bot. 23A  
(11): 55. 1931. Haiti.

Ageratina vacinniaefolia (Benth) R.M.King & H.Robinson, comb.  
nov. Eupatorium vacinniaefolium Benth, Pl. Hartw. 200.  
1845. Colombia.

Ageratina venulosa (A.Gray) R.M.King & H.Robinson, comb. nov.  
Eupatorium venulosum A.Gray, Proc. Amer. Acad. 21: 384.  
1886. Mexico.

Ageratina vernalis (Vatke & Kurtz) R.M.King & H.Robinson, comb.  
nov. Eupatorium vernale Vatke & Kurtz, Ind. Sem. Hort.  
Berol. 1871: Append. 2. 1871. Mexico, Guatemala.

Ageratina vernicosa (Schultz-Bip. ex Greenman) R.M.King &  
H.Robinson, comb. nov. Eupatorium vernicosum Schultz-Bip.  
ex Greenman, Zoe 5: 186. 1904. Mexico.

Ageratina viburnoides (A.P.Decandolle) R.M.King & H.Robinson,  
comb. nov. Eupatorium viburnoides A.P.Decandolle, Prodr.  
5: 171. 1836. Mexico.



Ageratina viscosa (H.B.K.) R.M.King & H.Robinson, comb. nov.  
Eupatorium viscosum H.B.K., Nov. Gen. et Sp. 4: 129. ed.  
 fol. 1818. Colombia.

Ageratina wrightii (A.Gray) R.M.King & H.Robinson, comb. nov.  
Eupatorium wrightii A.Gray, Smiths. Contr. Knowl. 3: 87.  
 1850. W. United States, Mexico.

Subgenus Pachythamnus R.M.King & H.Robinson, subg. nov.

Plantae frutescentes vel subarborescentes; caulis distincte incrassatus; folia facile decidua per anthesin plerumque absentia; corolla inferne vix angustata extus interdum rare setifera, cellulis apicalibus protuberantibus, lobis intus valde et dense papillatis; filamenta antherarum in parte inferiore brevia; appendices styli leniter papillatae; achaenia setifera; carpodium breve rotundatum, cellulis quadratis; setae pappi aliquantum persistentes. 1 species. Type: Eupatorium crassirameum.

Ageratina crassiramea (B.L.Robinson) R.M.King & H.Robinson, comb. nov.  
Eupatorium crassirameum B.L.Robinson, Proc. Amer. Acad. 35: 332. 1900. Mexico, C.Amer.

#### Species synonymized

E. amplifolium A.Gray = A. rubricaulis  
E. durandii Klatt = A. anisochroma  
E. remyanum Philippi = A. glechonophylla

#### Literature Cited

- Cave, M. S. 1956-64. Index to plant chromosome numbers. Univ. N. C. Press, Chapel Hill.
- Darlington, C. D. and A. P. Wylie 1956. Chromosome Atlas of Flowering Plants. i-xix, 1-519. New York.
- Greene, E. L. 1903. Neglected Eupatoriaceous genera. Leaflet. Bot. Obs. Crit. 1: 7-13.
- King, R. M. and H. Robinson 1967. Multiple pollen forms in two species of the genus Stevia (Compositae). SIDA 3: 165-169.
- \_\_\_\_\_ and \_\_\_\_\_ 1969. Studies in the Compositae-Eupatorieae, XI. Typification of genera. SIDA 3: 329-342.
- Ornduff, R. 1965-67. Index to plant chromosome numbers. Reg. Veg. 1965, 50: 1-128; 1966, 55: 1-126; 1967, 59: 1-129.



- Powell, A. M. and R. M. King 1969. Chromosome numbers in the Compositae: Colombian species. Amer. Journ. Bot. 56: 116-121.
- Spach, E. 1834-48. Histoire naturelle des Végétaux. Phanérogames. 14 vols., atlas. Paris.
- Turner, B. L., W. L. Ellison and R. M. King 1961. Chromosome numbers in the Compositae. IV. North American species, with phyletic interpretations. Amer. Journ. Bot. 48: 216-223.



**The following text is generated from uncorrected OCR.**

**[Begin Page: Page 208]**

STUDIES IN THE EUPATORIEAE ( COMPOS IT AE ) . XIX.

NEW COMBINATIONS IN AGERATINA

R. M. King and H. Robinson

Smithsonian Institution, Washington, D.C. 20560

In the present treatment of the genus *Ageratina* it is gratifying to us to be able to supply the evidence that confirms the suspicions of so many other workers, and which brings some order out of the previous chaos in *Eupatorium* . With varying degrees of insight, Moench, Necker, Spach, Schultz-Bipontinus, Coulter, and E.L. Greene have noted the more distinctive members of *Ageratina* and have sought to place them in a separate genus. With equal determination, other workers have found that other species obscure the generic limits, and the concept of a monolithic genus *Eupatorium* has been restored. More recently cytologists have discovered widely differing series of chromosome numbers in *Eupatorium* but could find no basis for separation of the species involved. All indications have been that a distinct element existed if reliable characters could be found. Now, by use of detailed floral anatomy, we have been able not only to precisely delimit *Ageratina* , but to recognize a whole complex of genera as *Ageratinoid*.

The initial efforts to recognize a distinct genus must have relied on mostly superficial aspect of very limited material.



Even so, the efforts of Moench and Necker were both doomed to failure. Moench used the name, *Batschia*, which was third in a series of four homonyms. Necker did not indicate the status of any of his names and his *Kyrstenia* is not considered validated until the work of E. L. Greene ( 1903 ) . Spach (1841 ) dealing with the two common species of eastern North America (under three names) provided the earliest valid name for the genus, *Ageratina* .

Of all the previous efforts, that of E.L.Greene deserves special attention. Aside from misplaced faith in the Necker name, *Kyrstenia* , Greene seemed to have a rather good concept of the group. Among other remarks indicating his resolve to dismantle *Eupatorium* , he offered the following, "These two plants (i.e. *E. ageratoides* and *E. aromaticum* ) , and with them a host of their congeners are so unlike true *Eupatorium* and at the same time so like *Ageratum* in foliage, inflorescence, uniserial involucre, and even as to flowers and fruits, that nothing but the fine-bristly rather than paleaceous pappus could have kept them apart from the genus last named, where, as already noted, Linnaeus did actually place the first species. They differ from *Eupatorium* by a set of characters exactly corresponding to those by which *Erigeron* is held separate from *Aster* ."

"One must needs assume the Atlantic North American species



**[Begin Page: Page 209]**

1970 King & Robinson, *Ageratina* 209

just mentioned to be the proper type of *Kyrstenia*. They are herbaceous perennials with opposite leaves and a corymbose inflorescence; their thin almost uniserial involucral bracts notably pointed."

Greene goes on to say, "This typical group has many representatives beyond our borders in Mexico, Central and even South America, some herbaceous, others shrubby, of which I cite but few. "

It must be made clear that there is not now any evidence of close relationship between *Ageratina* and *Ageratum*. The latter has high papillae on the backs of the corolla lobes, strong annulations in the anther collars, and a very different carpodium structure in addition to the pappus character. Also, Greene's concept of *Eupatorium* was slightly erroneous, since the verticillate group he emphasized is not typical but a rather specialized subgenus. Still, *Eupatorium* clearly differs from *Ageratina* by its smooth corolla lobes, hairy stylar base, indistinct carpodium, presence of only glands on the corolla and achene, and blunt-tipped pappus setae.

Among the species cited by Greene there are members of a group that includes *Eupatorium pycnocephalum* Lessing. This group is the one most frequently confused with *Ageratina*, and with its



basic chromosome number of  $x = 10$  it has been especially frustrating to the efforts of cytologists. These species which are so superficially similar, we would place in the totally separate genus, *Fleischmannia*, and we do not consider them at all closely related. *Fleischmannia* while similar in habit, leaf form, and tendency for hairy corollas, is clearly distinct in the papillose backs of the corolla lobes, the strongly annulated thickenings of the anther collars, the complete lack of enlargement of the style base, and the thick-walled cells of the strongly rimmed carpodium. Even the papillae of the inner surface of the corolla lobes are different in basic structure, being only the projecting upper ends of elongate cells and not forming a compact mass. Needless to say the more specialized features of *Ageratina* such as the narrow stemmed corollas and very deciduous pappus setae do not occur in *Fleischmannia*.

The genera that are most closely related to *Ageratina* are not necessarily those that have been confused with it. Often they have possessed distinctive characters and have been maintained separate from *Eupatorium*. It is to *Ageratina* rather than to *Ageratum* that *Oxylobus* is related in spite of its distinctive squamate pappus. The corollas, stamens, styles, and carpodia of *Oxylobus*, *Macvaughiiella*, and *Jaliscoa* are all basically identical to those of *Ageratina*. *Macvaughiiella* is distinguished by the flattened achene with 3 or less pappus setae at its angles, and *Jaliscoa* has its short crest-like pappus and a paleaceous receptacle. Less close but definitely related are such groups as *Spaniopappus* of the West Indies, and *Eupatorium*



eximium and its relatives in Costa Rica.

**[Begin Page: Page 210]**

210 PHYTOLOGIA Vol. 19, no. U

Cytological evidence is strongly in agreement with that from floral anatomy. Reports as obtained from Darlington & Wylie (1956) and various supplements (Cave, 1956-64; Ornduff, 1965-67; Powell & King, 1969) indicate the following: *A. adenophora* (as *E. glandulosum*, two separate counts)  $2n = 51$ ; *A. altissima* (as *E. ageratoides* and *E. rugosum*)  $2n = 34, 36$ ; *A. anisochroma*  $n = ca. 17$ ; *A. azangaroensis* (as *E. sp.*, Powell & King, 1969)  $n = 17 a$ ; *A. glabrata*  $n = 17$ ; *A. gracilis*  $n = 18?$ ; *A. herbacea*  $n = 17$ ,  $2n = 34$ ; *A. occidentalis*  $2n = 34$ ; *A. pazcuarensis*  $n = 25$ ; *A. petiolaris*  $2n = 34$ ; *A. prunellaefolia*  $n = 50j, 52j$ ; *A. purpusii*  $2n = 34$ ; *A. riparia*  $2n = 48$ ; *A. rockrothii*  $2n = 51$ , over 80; *A. scorodonioides*  $n = 17$ ; *A. sternbergiana*  $2n = 34$ ; *A. tinifolia*  $n = ca. 40$ ; *A. ventillana*  $n = 17$ ; *A. wrightii*  $2n = 34$ . One specimen reported as  $n = 10$ , King 3037, Mexico, cf. *E. ligustri-num* DC. (Turner, Ellison, & King, 1961), has been checked and proves to be *Eupatorium albicaule* Schultz-Bip. which is not an *Ageratina*. There seems little doubt that the base number of *Ageratina* is  $x = 17$ . *Ageratina adenophora* with type II pollen in some plants (King & Robinson, 1967) seems to be an apomictically reproducing triploid.

At present, there is only one report of  $n = 17$  outside of



Ageratina, in a Costa Rican plant possibly related to *Eupatorium eximium* B.L.Robinson. The closely related genus, *Oxylobus*, has been consistently reported as  $n = 16$ .

It is worth noting that this cytological evidence has been compiled by us since having established the limits of *Ageratina* on the basis of floral anatomy. We here provide others with an opportunity to compare what cytological evidence they may have on other species with the list that follows.

*Ageratina* Spach, Hist. Veg. Phan. 10: 286. 1841

*Batschia* Moench, Meth. 567. 1794. not *Batschia* Gmelin,

1791 (Boraginaceae); *Batschia* Mutis ex Thunberg, 1792

(Menispermaceae); or *Batschia* Vahl, 1794 (Leguminosae).

T.: *B. nivea* Moench = *Ageratina altissima* (L.) R.M.King  
& H.Robinson.

*Ageratiopsis* Schultz-Bip. ex Bentham & J.D.Hooker, Gen. Pl.

2: 246. 1873. nom. nud. T.: *Eupatorium ageratoides*

Linnaeus f. = *Ageratina altissima* (L.) R.M.King &

H.Robinson.

*Mallinoa* Coulter, Bot. Gaz. 20: 47. 1895. T.: *M. corymbosa*

Coulter = *Ageratina muelleri* (Schultz-Bip. ex Klatt)

R.M.King & H.Robinson.

*Kyrstenia* Necker ex E.L.Greene, Leafl. Bot. Obs. Crit. 1: 8.



1903. L.T. : Eupatorium aromaticum L. = Ageratina

aromatica (L.) R.M.King & H.Robinson.

**[Begin Page: Page 211]**

1970 King & Robinson, Ageratina 211

Sparingly to densely branched herbs or shrubs; leaves opposite, rarely only subopposite or alternate, deltoid to elliptical, short to long petiolate, margin toothed or lobed to entire, serrate in most species. Inflorescence laxly to rather densely corymbose; heads 10-40 flowered; involucre of ca. 30 rather narrow usually acute subimbricate mostly subequal phyllaries in 1-2(3) series; receptacle glabrous or with minute scattered hairs. Corolla tubular or often with a long very slender base and abruptly enlarged limb; outer surface and margins of lobes smooth often with some bulging or projecting cells at the tip, with hairs and/or glands or glabrous, without stomates; inner surface of lobes papillose with dense layer of short bulging or long-projecting cells; cells of backs of lobes and of tube mostly narrow with sinuous walls. Anther collar composed of numerous quadrate cells below, elongate cells above, all with little or no ornate thickening on the walls; exothecial cells in part usually lax and somewhat longer than wide; anther appendage large, often truncate at apex; pollen spherical, tricolpate, spinose, type II sometimes present. Style usually with distinctly swollen glabrous basal node which is often marked by special firm-walled cells; surface cells of stylar appendage densely long projecting, in two



small groups of species with cells only slightly projecting.

Achene prismatic, usually 5-costate, usually bearing setae or glands or both; carpopodium distinct but without distinct upper limit, cylindrical or rounded, with rather lax elongate or quadrate cells having thin beaded walls; embryo usually borne high in the achene with lower end partially sclerotized, basal vasculature of achene united to well above level of carpopodium; pappus of 5-40 slender scabrous setae often easily deciduous by specialized fragile zone at base, with pointed apical cells.

Chromosome numbers  $n = 17$ ,  $n = 18?$ ,  $2n = 34$ \*  $2n = 36$ ,  $n = \text{ca. } 40$ ,  $2n = 48$ ,  $2n = 51$ ,  $2n = \text{over } 80$ .

Lectotype species: *Eupatorium aromaticum* L. (King & Robinson, 1969) .

Our studies indicate that the genus contains the following 4 subgenera and 196 species.

#### Subgenus *Ageratina*

Plants herbaceous; corollas usually very narrowly stalked below, usually with hairs on the backs of the lobes, rarely with a few long-stalked glands or glabrous; cells on inner surface of corolla lobes and on stylar appendage densely long-projecting; type II pollen seen in 1 species; achene without glands; carpopodium cylindrical with mostly elongate cells; pappus setae very easily deciduous. 80 species.



*Agoseris adenophora* (Spreng.) R.M.King & H.Robinson, comb. nov.

*Eupatorium adenophorum* Spreng., *Systema Vegetabilium* 3: 420.

1826. Mexico, California, W.Ind., S. Amer., Portugal, Pac.

**[Begin Page: Page 212]**

212 PHYTOLOGIA Vol. 19, no. k

Isl., Australia. Widely adventive.

*Ageratina altissima* (L.) R.M.King & H. Robinson, comb. nov.

*Ageratum altissimum* L., Sp. Pl. 839. 1753. E. United

States.

*Ageratina amblyolepis* (B.L.Robinson) R.M.King & H.Robinson, comb.

nov. *Eupatorium amblyolepis* B.L.Robinson, Proc. Amer. Acad.

35: 330. 1900. Mexico.

*Ageratina apollinae* (B.L.Robinson) R.M.King & H.Robinson,

comb. nov. *Eupatorium apollinae* B.L.Robinson, Proc. Amer.

Acad. 54: 236. 1918. Colombia.

*Ageratina aromatica* (L.) Spach, Hist. Veg. Phan. 10: 28. 1841.

*Eupatorium aromaticum* L., Sp. Pl. 839. 1753. E. United

States.

*Ageratina arsenei* (B.L.Robinson) R.M.King & H.Robinson, comb. nov.



*Eupatorium arsenei* B.L.Robinson, Contr. Gray Herb. n.s. 104 :

10 . 1934 . Mexico .

*Ageratina artijculata* (Schultz-Bip. ex Hieron.) R.M.King & H.Robin-

son, comb, nov, *Eupatorium articulatum* Schultz-Bip. ex

Hieron. in Urban, Engl. Bot. Jahrb. 40: 385. 1908. Venezuela.

*Ageratina aschenborniana* (Schauer) R.M.King & H.Robinson, comb,

nov. *Eupatorium aschenbornianum* Schauer, Linnaea 19: 720.

1847 . Mexico .

*Eupatorium atrocordatum* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium atrocordatum* B.L.Robinson, Contr. Gray

Herb. n.s. 104: 12. 1934. Mexico.

*Ageratina azangaroensis* (Schultz-Bip. ex Weddell) R.M.King &

H.Robinson, comb. nov. *Eupatorium azangaroense* Schultz-Bip.

ex Weddell, Chlor. Andina 1: 217. 1857. Ecuador.

*Ageratina badia* (Klatt) R.M.King & H.Robinson, comb. nov.

*Eupatorium badium* Klatt, Bull. Soc. Bot. Belg. 31: 186.

1892 (1893). Costa Rica, Mexico.

*Ageratina bellidifolia* (Bentham) R.M.King & H.Robinson, comb. nov.

*Eupatorium bellidifolium* Bentham, Pl. Hartw. 43. 1840.

Mexico .



*Ageratina bj^atra* (Standley & L.O.Williams) R.M.King & H.Robinson,  
comb. nov. *Eupatorium bimatum* Standley & L.O.Williams,  
Ceiba 3: 64. 1952. Honduras.

**[Begin Page: Page 213]**

1970 King St Robinson, *Ageratina* 213

*Ageratina bustamenta* (A.P.Decandolle) R.M.King & H.Robinson, comb,  
nov. *Eupatorium bustamenta* A.P.Dceandolle, Prodr. 5: 168.  
1836 . Mexico .

*Ageratina calderi* ^en sis (Hieron.) R.M.King & H.Robinson, comb,  
nov. *Eupatorium calderillense* Hieron. in Urban, Engl. Bot.  
Jahrb. 40: 381. 1908. Bolivia.

*Ageratina cjmaohensis* (Hieron.) R.M.King & H.Robinson, comb. nov.  
*Eupatorium camachense* Hieron. in Urban, Engl. Bot. Jahrb.  
40: 386. 1908. Bolivia.

*Ageratina chjLajDejnsis* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium chiapense* B.L.Robinson, Proc. Amer. Acad.  
35: 332. 1900. Mexico.

*Ageratina chiriguensis* (B.L.Robinson) R.M.King & H.Robinson,  
comb. nov. *Eupatorium chiriguense* B.L.Robinson, Proc. Amer.  
Acad. 54: 238. 1918. Panama.



Ageratina ciliarifolia (B.L.Robinson) R.M.King & H.Robinson,  
comb. nov. Eupatorium choricephalum B.L.Robinson, Proc.  
Amer. Acad. 54: 239. 1918. Mexico.

Ageratina ciliarifolia (B.L.Robinson) R.M.King & H.Robinson,  
comb. nov. Eupatorium choricephaloides B.L.Robinson, Proc.  
Amer. Acad. 55: 8. 1919. Peru.

Ageratina ciliata (Lessing) R.M.King & H.Robinson, comb. nov.  
Eupatorium ciliatum Lessing, Linnaea 6: 404. 1831.  
Mexico .

Ageratina conspicua (Kunth & Bouché) R.M.King & H.Robinson,  
comb. nov. Eupatorium conspicuum Kunth & Bouché, Ind.  
Sem. Hort. Berol. 13. 1847. Mexico.

Ageratina corylifolia (Griseb.) R.M.King & H.Robinson, comb. nov.  
Eupatorium corylifolium Griseb., Fl. Brit. W. Ind. 361.  
1861. W.Ind.

Ageratina cuencana (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. Eupatorium cuencanum B.L.Robinson, Proc. Amer. Acad.  
54: 241. 1918. Ecuador.

Ageratina cutervensis (Hieron.) R.M.King & H.Robinson, comb. nov.  
Eupatorium cutervense Hieron. in Urban, Engl. Bot. Jahrb.  
40: 383. 1908. Ecuador, Peru.



*Ageratina dasyneura* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium dasyneurum* B.L.Robinson, Proc. Amer. Acad.

**[Begin Page: Page 214]**

21h PHYTOLOGIA Vol. 19, no. k

55: 10. 1919. Colombia.

*Ageratina ejiia* (B.L.Robinson) R.M.King & H.Robinson, comb. nov.

*Eupatorium enixum* B.L.Robinson, Contr. Gray Herb. n.s. 68:

15. 1923. Mexico.

*Ageratina fujackii* (B.L.Robinson) R.M.King & H.Robinson, comb. nov.

*Eupatorium funkii* B.L.Robinson, Contr. Gray Herb. n.s. 68:

16. 1923. Colombia.

*Ageratina gilbertii* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium gilbertii* B.L.Robinson, Proc. Amer. Acad.

55: 16. 1919. Peru.

*Ageratina glabrata* (H.B.K.) R.M.King & H.Robinson, comb. nov.

*Eupatorium glabratum* H.B.K. , Nov. Gen. et Sp. 4: 121. ed.

fol. 1818. Mexico.



*Ageratiia glandulifera* (Hieron.) R.M.King & H.Robinson, comb.

nov. *Eupatorium glanduliferum* Hieron. in Sodiro, Engl. Bot.

Jahrb. 29: 13. 1900. Ecuador.

*Ag^eratina. glechcmopjfflla* (Lessing) R.M.King & H.Robinson, comb,

nov. *Eupatorium glechonophyllum* Lessing, Linnaea 6: 105.

1831. Chile, Ecuador.

*Ageratina graj^enta* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium gracilentum* B.L.Robinson, Proc. Amer. Acad.

55: 18. 1919. Peru.

*Ageratina graj:jilis* (H.B.K.) R.M.King & H.Robinson, comb. nov.

*Eupatorium gracile* H.B.K., Nov. Gen. et Sp. 4: 124. ed. fol.

1818 . Colombia .

*Ageratina g^rand^dentata* (A.P.Decandolle) R.M.King & H.Robinson,

comb. nov. *Eupatorium grandidentatum* A.P.Decandolle, Prodr.

5: 167. 1836. Mexico.

*Ageratina. ijbaguensj^s* (Schultz-Bip. ex Hieron.) R.M.King & H.

Robinson, comb. nov. *Eupatorium ibaguense* Schultz-Bip. ex

Hieron. in Urban, Engl. Bot. Jahrb. 40: 384. 1908.

Venezuela.



*Ageratina iodotricha* (B.L.Robinson) R.M.King & H. Robinson, comb,  
nov. *Eupatorium iodotrichum* B.L.Robinson, Proc. Amer. Acad.  
55: 19. 1919. Ecuador.

*Ageratina lobulifera* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium lobuliferum* B.L.Robinson, Contr. Gray  
Herb. n.s. 77: 24. 1926. Peru.

**[Begin Page: Page 215]**

1970 King & Robinson, *Ageratina* 215

*Ageratina lorentzii* (Hieron.) R.M.King & H.Robinson, comb. nov.  
*Eupatorium lorentzii* Hieron., Engl. Bot. Jahrb. 22: 787.  
1897 . Argentina .

*Ageratina luciae-brauniae* (Fernald) R.M.King & H.Robinson, comb,  
nov. *Eupatorium luciae-brauniae* Fernald, *Rhodora* 44: 463.  
1942. Kentucky.

*Ageratina malacolepis* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium malacolepis* B.L.Robinson, Proc. Amer. Acad.  
44: 618. 1909. Mexico.

*Ageratina mariarum* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium mariarum* B.L.Robinson, Proc. Amer. Acad.  
36: 481. 1901. Mexico.



*Ageratina muelleri* (Schultz-Bip. ex Klatt) R.M.King & H.Robinson,  
comb. nov. *Eupatorium muelleri* Schultz-Bip. ex Klatt,  
Leopoldina 20: 90. 1884. Mexico.

*Ageratina oligocephala* (A.P.Decandolle) R.M.King & H.Robinson,  
comb. nov. *Eupatorium oligocephalum* A.P.Decandolle, Prodr.  
5: 166. 1836. Mexico.

*Ageratina pacifica* (B.L.Robinson ex I.M.Johnston) R.M.King &  
H.Robinson, comb. nov. *Eupatorium pacificum* B.L.Robinson  
ex I.M.Johnston, Proc. Calif. Acad. Sci. 20: 99. 1931.  
Mexico .

*Ageratina pampalcensis* (B.L.Robinson) R.M.King & H.Robinson,  
comb. nov. *Eupatorium pampalcense* B.L.Robinson, Contr.  
Gray Herb. n.s. 104: 24. 1934. Peru.

*Ageratina pauperculum* (A.Gray) R.M.King & H.Robinson, comb. nov.  
*Eupatorium pauperculum* A.Gray, Proc. Amer. Acad. 17: 205.  
1881-82. Arizona, Mexico.

*Ageratina pazcuanensis* (H.B.K.) R.M.King & H.Robinson, comb. nov.  
*Eupatorium pazcuanense* H.B.K., Nov. Gen. et Sp. 4: 123.  
ed. fol. 1818. Mexico.

*Ageratina photinum* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium photinum* B.L.Robinson, Proc. Amer. Acad.  
35: 338. 1900. Mexico.



Agrostis gatana iisii (H.B.K.) R.M.King & H.Robinson, comb,  
nov. Eupatorium pichinchense H.B.K., Nov. Gen. et Sp. 4:  
122. ed. fol. 1818. Ecuador, Colombia.

Ageratina orunejefolia (H.B.K.) R.M.King & H.Robinson, comb.

**[Begin Page: Page 216]**

216 PHYTOLOGIA Vol. 19, no. U

nov. Eupatorium prunellaefolium H.B.K., Nov. Gen. et Sp.  
4: 123. ed. fol. 1818. Mexico.

Eupatorium psilodorum (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. Eupatorium psilodorum B.L.Robinson, Proc. Amer. Acad.  
55: 27. 1919. Colombia.

Ageratina pjargusii (Brandege) R.M.King & H.Robinson, comb. nov.  
Eupatorium purpusii Brandege, Erythea 7: 3. 1899. Baja  
California .

Ageratina ramonensis (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. Eupatorium ramonense B.L.Robinson, Proc. Amer. Acad.  
44: 619. 1909. Mexico.

Ageratina repens (B.L.Robinson) R.M.King & H.Robinson, comb. nov.  
Fleischmannia repens B.L.Robinson, Proc. Amer. Acad. 54:



262. 1918. Mexico .

*Ageratina ijhodpjpgajga* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium rhodopappum* B.L.Robinson, Contr. Gray-  
Herb, n.s. 77: 31. 1926. Colombia.

*Ageratjia rhyodes* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium rhyodes* B.L.Robinson, Proc. Amer. Acad.  
55: 28. 1919. Ecuador.

*Assestis 3 . J£)S&i\$£££JL* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium rhytidodes* B.L.Robinson, Contr. Gray Herb,  
n.s. 77: 33. 1926. Peru.

*Ageratjia riparia* (Regel.) R.M.King & H.Robinson, comb, nov.  
*Eupatorium riparium* Regel. Gartenfl. 15: 324. 1866.  
Mexico, W.Ind., Pac. Isl., Australia. Widely adventive.

*Ageratina rivalis* (Greenman) R.M.King & H.Robinson, comb. nov.  
*Eupatorium rivale* Greenman, Zoe 5: 186. 1904. Mexico.

*Ageratjia rothrockii* (A.Gray) R.M.King & H.Robinson, comb. nov.  
*Eupatorium rothrockii* A.Gray, Syn. Fl. N. Amer. 1(2): 102.  
1897. Arizona, Mexico.

*Ageratjia. roraimensis* (N.E.Brown) R.M.King & H.Robinson, comb,  
nov. *Eupatorium roraimense* N.E. Brown, Trans. Linn. Soc.  
ser. 2, 6: 38. 1901. Brit. Guiana, Venezuela.



*Ageratina rufa* (E.L.Greene) R.M.King & H.Robinson, comb. nov.

*Kyrstenia rufa* E.L.Greene, Leafl. Bot. Obs. Crit. 1: 10.

1903 . Mexico .

**[Begin Page: Page 217]**

1970 King & Robinson, *Ageratina* 217

*Ageratina schaffneri* (Schultz-Bip. ex B.L.Robinson) R.M.King &

H. Robinson, comb. nov. *Eupatorium schaffneri* Schultz-Bip.

ex B.L.Robinson, Proc. Amer. Acad. 27: 171. 1892. Mexico.

*ASSHStiOS. scopulora* (Weddell) R.M.King & H.Robinson, comb. nov.

*Eupatorium scopulorum* Weddell, Chlor. Andina 1: 216. 1857.

Peru.

*Ageratina slgotchii* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium skutchii* B.L.Robinson, Contr. Gray Herb,

n.s. 104: 27. 1934. Mexico, C.Amer.

*Ageratina sodiroi* (Hieron.) R.M.King & H.Robinson, comb. nov.

*Eupatorium sodiroi* Hieron. in Sodiro, Engl. Bot. Jahrb.

29: 12. 1900. Ecuador.

*Agjstratina sojtarensis* (Hieron.) R.M.King & H.Robinson, comb. nov.

*Eupatorium sotarense* Hieron., Engl. Bot. Jahrb. 21: 333-

1895 (as *E. soratense*) . Colombia.



*Ageratina sternbergiana* (A.P.Decandolle) R.M.King & H.Robinson,

comb. nov. *Eupatorium sternbergianum* A.P.Decandolle, Prodr.

5: 167. 1836. Peru.

*Ageratina subcordata* (Bentham ex Oerst.) R.M.King & H. Robinson,

comb. nov. *Eupatorium subcordatum* Bentham ex Oerst. ,

Kjoeb. Vidensk. Meddel. 77. 1852. Costa Rica.

*Ageratina tamillensis* (Hieron.) R.M.King & H.Robinson, comb,

nov. *Eupatorium tambillense* Hieron. in Urban, Engl. Bot.

Jahrb. 40: 380. 1908. Peru.

*Ageratina tarmensis* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium tarmense* B.L.Robinson, Contr. Gray Herb.

n.s. 104: 28. 1934. Peru.

*Ageratina tenuis* (R.E. Fries) R.M.King & H.Robinson, comb. nov.

*Eupatorium tenue* R.E. Fries, Arkiv. Bot. 5(13): 9. 1906.

Argentina.

*Ageratina tonduzii* (Klatt) R.M.King & H.Robinson, comb. nov.

*Eupatorium tonduzii* Klatt, Bot. Beibl. Leopoldina 1895:

4. 1895. Costa Rica.

*Ageratina vallincola* (A.P.Decandolle) R.M.King & H.Robinson,

comb. nov. *Eupatorium vallincola* A.P.Decandolle, Prodr.

5: 168. 1836. Peru.



*Ageratina vejitillana* (Cuatrecasas) R.M.King & H.Robinson, comb.  
nov. *Eupatorium ventillanum* Cuatrecasas, Ann. Missouri

**[Begin Page: Page 218]**

218 PHYTOLOGIA Vol. 19, no. h

Bot. Gard. 52: 305. 1965. Peru.

*Ageratina vulcanica* (Bentham ex Oerst.) R.M.King & H.Robinson,  
comb. nov. *Eupatorium vulcanicum* Bentham ex Oerst., Kjoeb.  
Vidensk. Meddel. 78. 1852. C.Amer.

*Ageratina xanthochlora* (B.L.Robinson) R.M.King & H.Robinson,  
comb. nov. *Eupatorium xanthochlorum* B.L.Robinson, Contr.  
Gray Herb. n.s. 77: UU. 1926. Mexico.

*Ageratina zinnifolia* (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. *Eupatorium zinnifolium* B.L.Robinson, Proc. Amer.  
Acad. 54: 261. 1918. Colombia.

*Ageratina zunilana* (Standley & Steyermark) R.M.King & H.Robinson,  
comb. nov. *Eupatorium zunilanum* Standley & Steyermark,  
Field Mus. Publ., Bot. 23: 191. 1944- Guatemala.

Subgenus *Klattiella* R.M.King & H.Robinson, subg. nov.



Plantae suffrutescens; corolla inferne perangustata, in parte angustata distincte pubescens, lobis quam fauce aequilongis vel longioribus extus glanduliferis intus obsolete late papillatis; appendices styli valde papillatae; achaenia glandulifera et setifera; carpopodium aliquantum breve rotundatum, cellulis quadratis vel oblongis; setae pappi aliquantum persistentes. 2 species. Type: *Eupatorium anisochromum* .

*Agjeratana aj^socjirpna* (Klatt) R.M.King & H.Robinson, comb. nov.  
*Eupatorium anisochromum* Klatt . , Bull. Soc. Bot. Belg. 31: 186. 1892 (1893). Costa Rica.

*Ageratina p\_aucijbj^ : cjteata* (Alain) R.M.King & H.Robinson, comb. nov. *Eupatorium paucibracteatum* Alain, Contr. Ocas. Mus. Hist. Nat. Coleg. "De La Salle" 18: 8. 1960. Cuba.

Subgenus *NejDgj^senejLla*. R.M.King & H.Robinson, subg. nov.

Plantae herbaceae vel frutescentes; corolla inferne plerumque non angustata, lobis quam fauce brevioribus extus glanduliferis vel setiferis vel glabris intus dense vel laxe papillatis; filamenta antherarum in parte inferiore longa; appendices styli plerumque valde papillatae raro leviter papillatae; achaenia glandulifera vel setifera; carpopodium breve rotundatum, cellulis plerumque quadratis; setae pappi aliquantum persistentes. 113 species. Type: *Eupatorium wrightii* .

Southward the subgenus includes many more shrubby species



with more elliptical leaves. Such plants may represent the more

**[Begin Page: Page 219]**

1970 King & Robinson, *Ageratina* 219

primitive element in the genus. Also, in Peru, a small group of species including *A. cuzcoensis*, *A. pentlandiana*, *A. simulans*, and *A. stictophylla* is rather distinct in its less papillose style branches and its lack of a distinct stylar node.

*Ageratina acujyidentata* (B.L.Robinson) R.M.King & H.Robinson, comb. nov. *Eupatorium acutidentatum* B.L.Robinson, Proc. Amer. Acad. 43: 29. 1907. Mexico.

*Ageratina adjnachagnia* (Schultz-Bip. ex Klatt) R.M.King & H. Robinson, comb. nov. *Eupatorium adenachaenium* Schultz-Bip. ex Klatt, *Leopoldina* 20: 75. 1884. Mexico.

*Ageratina aegirojohylla* (B.L.Robinson) R.M.King & H.Robinson, comb. nov. *Eupatorium aegirophyllum* B.L.Robinson, Proc. Amer. Acad. 35: 329. 1900. Mexico.

*Ageratina amgla* (Bentham) R.M.King & H.Robinson, comb. nov.

*Eupatorium amplum* Bentham, *Pl. Hartw.* 200. 1845. Colombia.



*Ageratina angustifolia* (H.B.K.) R.M.King & H.Robinson, comb. nov.

*Mikania angustifolia* H.B.K., Nov. Gen. et Sp. 4: 138. ed.

fol. 1818. Colombia.

*Ageratija arbutifolia* (Benth) R.M.King & H.Robinson, comb. nov.

*Eupatorium arbutifolium* Benth, Pl. Hartw. 199. 1845.

Colombia .

*Ageratina aristei* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium aristei* B.L.Robinson, Proc. Amer. Acad.

55: 6. 1919. Colombia.

*Agrostis baccharoides* (H.B.K.) R.M.King & H.Robinson, comb. nov.

*Eupatorium baccharoides* H.B.K., Nov. Gen. et Sp. 4: 132.

ed. fol. 1818. Colombia.

*Ageratina betulaeifolia* (E.L.Greene) R.M.King & H.Robinson, comb,

nov. *Kyrstenia betulaeifolia* E.L.Greene, Leaf. Bot. Obs.

Crit. 1: 10. 1903- Mexico.

*Ageratina blepharilepis* (Schultz-Bip.) R.M.King & H.Robinson,

comb. nov. *Eupatorium blepharilepis* Schultz-Bip. in

Seemann, Bot. Voyag. Herald 300. 1856. Mexico.

*Ageratina brandegeana* (B.L.Robinson) R.M.King & H.Robinson,

comb. nov. *Eupatorium brandegeanum* B.L.Robinson, Contr.

Gray Herb. n.s. 68: 10. 1923. Mexico.



*Aggrgiina. J^S§YiE\$£* (A.P.Decandolle) R.M.King & H.Robinson, comb,  
nov. *Eupatorium brevipes* A.P.Decandolle, Prodr. 5: 168.

**[Begin Page: Page 220]**

220 PHYTOLOGIA Vol. 19, no. h

1836 . Mexico .

*Agerajina c^eciliae* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium caeciliae* B.L.Robinson, Contr. Gray Herb,  
n.s. 90: 23. 1930. Guatemala.

*Ageratina caJ ; am : nUiaefolia* (H.B.K.) R.M.King & H.Robinson, comb,  
nov. *Eupatorium calaminthaefolium* H.B.K., Nov. Gen. et Sp.  
4: 129. ed. fol. 1818. Mexico.

*Ageratina caj ; oDhylla* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium calophyllum* B.L.Robinson, Contr. Gray-  
Herb, n.s. 75: 5. 1925. Mexico.

*Ageratina jc^mjgy\_loclada* (B.L.Robinson) R.M.King & H.Robinson,  
comb. nov. *Eupatorium c ampy lo c ladum* B.L.Robinson, Proc.  
Bost. Soc. Nat. Hist. 31: 247. 1904- Mexico.

*Ageratina ca^ipphylla* (B.L.Robinson) R.M.King & H.Robinson,  
comb. nov. *Eupatorium cardiophyllum* B.L.Robinson, Proc.  
Amer. Acad. 35: 331. 1900. Mexico.



*Ageratina chachapoyasensis* (Cuatrecasas) R.M.King & H.Robinson,  
comb. nov. *Eupatorium chachapoyasense* Cuatrecasas, Ann.  
Missouri Bot. Gard. 52: 306. 1965. Peru.

*Ageratina chapalensis* (Watson) R.M.King & H.Robinson, comb. nov.  
*Eupatorium chapalense* Watson, Proc. Amer. Acad. 26: 138.  
1891. Mexico.

*Ageratina collodes* (B.L.Robinson & Greenman) R.M.King & H.Robinson,  
comb. nov. *Eupatorium collodes* B.L.Robinson & Greenman,  
Amer. Journ. Sci. 50: 152. 1895. Mexico.

*Ageratina crassiceps* (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. *Eupatorium crassiceps* B.L.Robinson, Contr. Gray Herb,  
n.s. 80: 17. 1928. Colombia.

*Ageratina cremastum* (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. *Eupatorium cremastum* B.L.Robinson, Proc. Amer. Acad.  
42: 38. 1906. Mexico.

*Ageratina crenaea* (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. *Eupatorium crenaeum* B.L.Robinson, Proc. Amer. Acad.  
35: 333. 1900. Mexico.

*Ageratina cuzcoensis* (Hieron.) R.M.King & H.Robinson, comb. -nov.  
*Eupatorium cuzcoense* Hieron. in Urban, Engl. Bot. Jahrb.  
40: 376. 1908. Peru.



**[Begin Page: Page 221]**

1970 King & Robinson, Ageratina 221

*Ageratina deltoidea* (Jacquin) R.M.King & H.Robinson, comb. nov.

*Eupatorium deltoideum* Jacquin, Pl. Hort. Schoenb. Wien 3'

63. 1798 (1803). Mexico.

*Ageratina dendroides* (Spreng.) R.M.King & H.Robinson, comb. nov.

*Eupatorium dendroides* Spreng., Systema Vegetabilium 3' 415.

1826. Ecuador.

*Ageratina desquamajis* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium desquamans* B.L.Robinson, Proc. Amer. Acad.

35: 333. 1900. Mexico.

*Ageratina dictyoneura* (Urban) R.M.King & H.Robinson, comb. nov.

*Eupatorium dictyoneurum* Urban, Symb. Ant. 3' 402. 1903.

Haiti .

*Ageratina dombeyana* (A.P.Decandolle) R.M.King & H.Robinson, comb,

nov. *Eupatorium dombeyanum* A.P.Decandolle, Prodr. 5: 167.

1836. Peru.

*Ageratina durangensis* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium durangense* B.L.Robinson, Proc. Amer. Acad.

43: 31. 1907. Mexico.



*Ageratina elegans* (H.B.K.) R.M.King & H.Robinson, comb. nov.

*Eupatorium elegans* H.B.K., Nov. Gen. et Sp. 4: 133. ed.

fol. 1818. Colombia.

*Ageratina jesginosara* (A.Gray) R.M.King & H.Robinson, comb. nov.

*Eupatorium espinosarum* A.Gray, Proc. Amer. Acad. 15: 28.

1880. Mexico.

*ASST<sup>ii</sup>S<sup>^</sup> JSiiSESiS*. (B.L. Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium etlense* B.L. Robinson, Contr. Gray Herb,

n.s. 75: 6. 1925. Mexico.

*Ageratina exsjejbo-venosa* (Klatt) R.M.King & H.Robinson, comb,

nov. *Eupatorium exserto-venosum* Klatt, Abh. Naturf. Ges.

Halle 15: 324. 1882. Ecuador.

*Ageratina fastigiata* (H.B.K.) R.M.King & H.Robinson, comb. nov.

*Eupatorium fastigiatum* H.B.K., Nov. Gen. et Sp. 4: 125. ed.

-, fol. 1818. Colombia.

*AjaSSSiES. i<sup>^</sup>XkSSJa* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium flavisetum* B.L.Robinson, Proc. Amer. Acad.

54: 244. 1918. Colombia.

*Ageratina glauca* (Schultz-Bip. ex Klatt) R.M.King & H.Robinson,

comb. nov. *Eupatorium glaucum* Schultz-Bip. ex Klatt ^



[Begin Page: Page 222]

222 PHYTOLOGIA Vol. 19, no. U

Leopoldina 20: 89. 1884. Mexico.

*Ageratina glischra* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium glischrum* B.L.Robinson, Proc. Amer. Acad.

54: 245. 1918. Mexico.

*Ageratina gloeoclada* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium gloeocladum* B.L.Robinson, Proc. Amer. Acad.

55: 17. 1919. Bolivia.

*Assesia gintonia* (B.L.Robinson) R.M.King & H.Robinson,

comb. nov. *Eupatorium glyptophlebium* B.L.Robinson, Proc.

Amer. Acad. 54: 245. 1918. Colombia.

*Assesia gynoxoides* (Weddell) R.M.King & H.Robinson, comb. nov.

*Eupatorium gynoxoides* Weddell, Chlor. Andina 1: 216. 1857.

Colombia .

*Ageratina hartii* (Urban) R.M.King & H.Robinson, comb. nov.

*Eupatorium hartii* Urban, Symb. Ant. 3: 395. 1903. Jamaica.

*Eupatorium havanense* (H.B.K.) R.M.King & H.Robinson, comb. nov.

*Eupatorium havanense* H.B.K., Nov. Gen. et Sp. 4: 128. ed.

fol. 1818. Texas, Mexico, W.Ind.



*Ageratina hebes* (B.L.Robinson) R.M.King & H.Robinson, comb. nov.

*Eupatorium hebes* B.L.Robinson, Contr. Gray Herb. n.s. 75: 7.

1925 . Mexico .

*Ageratina hederifolia* (A.Gray) R.M.King & H.Robinson, comb. nov.

*Eupatorium hederifolium* A.Gray, Mem. Amer. Acad. 4: 65.

1849 • Mexico .

*Ageratina herbacea* (A.Gray) R.M.King & H.Robinson, comb. nov.

*Eupatorium ageratifolium* var. *herbaceum* A.Gray, Smiths.

Contr. Knowl. 5 (6): 74. 1853. New Mexico.

*Ageratina hidalgensis* (B.L.Robinson) R.M.King & H.Robinson, comb.

nov. *Eupatorium hidalgense* B.L.Robinson, Contr. Gray Herb,

n.s. 75: 8. 1925. Mexico.

*Ageratina humboldtii* (Hieron.) R.M.King & H.Robinson, comb. nov.

*Eupatorium humboldtii* Hieron., Engl. Bot. Jahrb. 28: 571.

1901. S.Amer.

*Eupatorium hyssopinum* (A.Gray) R.M.King & H.Robinson, comb. nov.

*Eupatorium hyssopinum* A.Gray, Proc. Amer. Acad. 15: 28.-

1880 . Mexico .

*Ageratina illita* (Urban) R.M.King & H.Robinson, comb. nov.



**[Begin Page: Page 223]**

1970 King & Robinson , Ageratina 223

Eupatorium illitum Urban, Symb. Ant. 3: 401. 1903- Santo Domingo.

Ageratina. iQterjjo^tjalata (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium intercostulatum B.L.Robinson, Proc. Amer. Acad. 54: 247. 1918. Colombia.

Ageratiia irrasa (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium calami nthaef olium var. irrasum B.L.Robinson, Contr. Gray Herb. n.s. 68: 11. 1923. Mexico.

Ageratijia j^solejpi^ (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium isolepis B.L.Robinson, Proc. Amer. Acad. 43: 33. 1907. Mexico.

Ajgerjatina ixioqladon (Bentham ex Oerst.) R.M.King & H.Robinson, comb. nov. Eupatorium ixiocladon Bentham ex Oerst., Kjoeb. Vidensk. Meddel. 77. 1852. Costa Rica.

; Ajgej?atina jabnii (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium jahnii B.L.Robinson, Proc. Amer. Acad. 54: 248. 1918. Venezuela.

^SSESiiSS. KSEESTi (Suesseng.) R.M.King & H.Robinson, comb. nov. Eupatorium kupperi Suesseng., Engl. Bot. Jahrb. 72: 288.



1942. Costa Rica.

*Ageratina lasia* (B.L.Robinson) R.M.King & H.Robinson, comb. nov.

*Eupatorium lasium* B.L.Robinson, Contr. Gray Herb. n.s. 68:

21 . 1923 . Mexico .

*Ageratina lemmonii* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium lemmonii* B.L.Robinson, Proc. Amer. Acad.

27: 171. 1892. Mexico.

*Aggratina leptodictyon* (A.Gray) R.M.King & H.Robinson, comb.

nov. *Eupatorium leptodictyon* A.Gray, Proc. Amer. Acad. 22:

420. 1887. Mexico.

*Ageratina liebmannii* (Schultz-Bip. ex Klatt) R.M.King & H.Robinson,

comb. nov. *Eupatorium liebmannii* Schultz-Bip. ex

Klatt, Leopoldina 20: 75. 1884 . Mexico.

*Aggratina ligustrina* (A.P.Decandolle) R.M.King & H.Robinson,

comb. nov. *Eupatorium ligustrinum* A.P.Decandolle, Prodr.

5: 181. 1836. Mexico.

*Eupatorium loeseneri* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium loeseneri* B.L.Robinson, Proc. Amer. Acad.

35: 336. 1900. Mexico.



[Begin Page: Page 224]

22U PHITOLOGIA Vol. 19, no. k

*AgeratiJia lucida* (Ortega) R.M.King & H.Robinson, comb. nov.

*Eupatorium lucidum* Ortega, Nov. Pl. Hort. Matrit. Dec. 35.

1797 • Mexico .

*Ageratina macbridei* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium macbridei* B.L.Robinson, Contr. Gray Herb,  
n.s. 68: 23. 1923. Peru.

*Ageratdna maj : rejtiana\_* (A.P.Decandolle) R.M.King & H.Robinson,

comb. nov. *Eupatorium mairetianum* A.P.Decandolle, Prodr.

5: 160. 1836. Mexico.

*Agjeratina moj^tjmiana* (Alain) R.M.King & H.Robinson, comb. nov.

*Eupatorium mortonianum* Alain, Contr. Ocas. Mus. Hist. Nat.

Coleg. "De La Salle" 18: 8. 1960. Cuba. This has been

considered a hybrid between *A. havanensis* and *Eupatorium*

*villosum* Sw. We consider this impossible in view of the

totally different anatomical characters of *E. villosum* ,

none of which appear in *Ageratina mortoniana* .

*Agjeratina mygindaef plia* (A.Gray) R.M.King & H.Robinson, comb,

nov. *Eupatorium mygindaefolium* A.Gray, Proc. Amer. Acad.



16: 101. 1881. Mexico.

*Ageratina neriifolia* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium neriifolium* B.L.Robinson, Contr. Gray  
Herb. n.s. 65: 49. 1922. Venezuela.

*Ageratina ocaoensis* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium ocanense* B.L.Robinson, Contr. Gray Herb,  
n.s. 68: 27. 1923. Colombia.

*Ag^ratijia ojc^identalis* (W.J.Hooker) R.M.King & H.Robinson, comb,  
nov. *Eupatorium occidentale* W.J .Hooker, Fl. Bor. Amer. 1:  
305. 1833. W. United States.

*Ajge^atina oyilla* (Standley & Steyermark) R.M.King & H.Robinson,  
comb. nov. *Eupatorium ovillum* Standley & Steyermark,  
Field Mus. Publ., Bot. 22: 305. 1940. Guatemala.

*Agej^j^ £achyjgoda* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium pachypodum* B.L.Robinson, Proc. Amer. Acad.  
36: 481. 1901. Mexico.

*Ageratina pjaj^amensis* (Aristeguieta) R.M.King & H.Robinson, comb,  
nov. *Eupatorium paramense* Aristeguieta, Fl. Venez. 10:  
171. 1964. Venezuela.

*^SfiStiS 3 . ESiSiroEfeS.* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium pelotrophum* B.L.Robinson, Proc. Amer.



[Begin Page: Page 225]

1970 King & Robinson, Ageratina 225

Acad. 42: 44. 1906. Mexico.

Ageratina penlandiana (A.P.Decandolle) R.M.King & H.Robinson,  
comb. nov. Eupatorium pentlandianum A.P.Decandolle, Prodr.  
5: 157. 1836. Peru.

Ageratina gejdolaris (Moc. & Sesse ex A.P.Decandolle) R.M.King &  
H.Robinson, comb. nov. Eupatorium petiolare Moc. & Sesse  
ex A.P.Decandolle. Prodr. 5: 166. 1836. Mexico.

Agjeratijia piurae (B.L.Robinson) R.M.King & H.Robinson, comb. nov.  
Eupatorium piurae B.L.Robinson, Contr. Gray Herb. n.s. 77:  
28. 1926. Peru.

ra pcanaderrifolia (Benth) R.M.King & H.Robinson, comb,  
nov. Eupatorium pomaderrifolium Benth, Pl. Hartw. 199.  
1845 . Colombia .

Ageratina popayanensis (Hieron.) R.M.King & H.Robinson, comb,  
nov. Eupatorium popayanense Hieron. in Urban, Engl. Bot.  
Jahrb. 40: 373. 1908. Colombia.

Ajreratina porriginosa, (B.L.Robinson) R.M.King & H.Robinson,  
comb. nov. Eupatorium porriginosum B.L.Robinson, Contr.



Gray Herb. n.s. 75= 11. 1925. Mexico.

*Ageratina pringlei* (B.L.Robinson & Greenman) R.M.King &

H.Robinson, comb. nov. *Eupatorium pringlei* B.L.Robinson &  
Greenman, Amer. Journ. Sci. 50: 152. 1895. Mexico.

*Ageratina prionobia* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium prionobium* B.L.Robinson, Proc. Amer. Acad.  
36: 483. 1901. Mexico.

*Ageratija prunifolia* (H.B.K.) R.M.King & H.Robinson, comb. nov.  
*Eupatorium prunifolium* H.B.K. , Nov. Gen. et Sp. i+: 132.  
ed. fol. 1818. Ecuador.

*Ageratina pseudochilca*. (Benth) R.M.King & H.Robinson, comb,  
nov. *Eupatorium pseudochilca* Benth, Pl. Hartw. 198.  
1845. Ecuador.

*Ageratina rafaensis* (Coulter) R.M.King & H.Robinson, comb,  
nov. *Eupatorium rafaense* Coulter, Bot. Gaz. 16: 97.  
1891. Mexico.

*Ageratina resiniflua* (Urban) R.M.King & H.Robinson, comb. nov.  
*Eupatorium resinifluum* Urban, Symb. Ant. 1: 461. 1899.  
Porto Rico.



[Begin Page: Page 226]

226 PHITOLOGIA Vol. 1?, no. h

*Ageratina reticuliflora* (Standley & L.O.Williams) R.M.King &

H.Robinson, comb. nov. *Eupatorium reticuliflorum* Standley &

L.O.Williams, *Ceiba* 1: 254. 1951. Costa Rica.

*Ageratina rhodogoda* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium rhodopodum* B.L.Robinson, *Contr. Gray Herb*,

n.s. 75: 12. 1925. Mexico.

*Ageratina rhomboidea* (H.B.K.) R.M.King & H.Robinson, comb. nov.

*Eupatorium rhomboideum* H.B.K., *Nov. Gen. et Sp.* 4: 127. ed.

fol. 1818. Mexico.

*Ageratina rubricaulis* (H.B.K.) R.M.King & H.Robinson, comb. nov.

*Eupatorium rubricaulis* H.B.K., *Nov. Gen. et Sp.* 4: 124. ed.

fol. 1818. Mexico.

*Ageratina rugicola* (B.L.Robinson & Greenman) R.M.King & H.Robin-

son, comb. nov. *Eupatorium rupicola* B.L.Robinson & Green-

man, *Proc. Amer. Acad.* 32: 42. 1896. Mexico.

*Ageratina saltillensis* (B.L.Robinson) R.M.King & H.Robinson,

comb. nov. *Eupatorium saltillense* B.L.Robinson, *Proc.*

*Amer. Acad.* 43: 34. 1907. Mexico.



*Ageratina accodojioides* (A.Gray) R.M.King & H.Robinson, comb,  
nov. *Eupatorium scorodonioides* A.Gray, Proc. Amer. Acad.  
15: 27. 1880. Mexico.

*Ageratina simulans* (B.L.Robinson) R.M.King & H.Robinson, comb,  
nov. *Eupatorium simulans* B.L.Robinson, Proc. Amer. Acad.  
55: 31. 1919. Peru.

*Stevia stevioides* (Steyermark) R.M.King & H.Robinson, comb,  
nov. *Eupatorium stevioides* Steyermark, Fieldiana, Bot.  
28: 637. 1953. Venezuela.

*Stictophyllum stictophyllum* (B.L. Robinson) R.M.King & H.Robinson,  
comb. nov. *Eupatorium stictophyllum* B.L.Robinson, Proc.  
Amer. Acad. 55: 36. 1919. Peru.

*Ageratina stricta* (A.Gray) R.M.King & H.Robinson, comb. nov.  
*Eupatorium strictum* A.Gray, Proc. Amer. Acad. 21: 384.  
1886 . Mexico .

*Eupatorium subferrugineum* (B.L.Robinson) R.M.King & H.Robinson,  
comb. nov. *Eupatorium subferrugineum* B.L.Robinson, Contr.  
Gray Herb. n.s. 96: 22. 1931. Peru.

*Ageratina subintegra* (E.L.Greene) R.M.King & H.Robinson, comb,  
nov. *Kyrstenia subintegra* E.L.Greene, Leafl. Bot. Obs.



[Begin Page: Page 227]

1970 King & Robinson, Ageratina 227

Crit. 1: 10. 1903- Mexico.

*Eupatorium tetragonum* (Schrad.) R.M.King & H.Robinson, comb. nov.

*Eupatorium tetragonum* Schrad., Ind. Sem. Hort. Gotting.

1830 ex Linnaea 6: 72. 1831. Mexico.

*Ageratina theaeifolia* (Benth) R.M.King & H.Robinson, comb. nov.

*Eupatorium theaeifolium* Benth, Pl. Hartw. 199. 1845.

Colombia, Venezuela.

*Ageratina thyrsoiflora* (E.L.Greene) R.M.King & H.Robinson, comb,

nov. *Kyrstenia thyrsoiflora* E.L.Greene, Leafl. Bot. Obs.

Crit. 1: 9. 1903. Mexico.

*Ageratina tinifolia* (H.B.K.) R.M.King & H.Robinson, comb. nov.

*Eupatorium tinifolium* H.B.K., Nov. Gen. et Sp. 4: 133. ed.

fol. 1818. Colombia.

*Ageratina tomentella* (Schrad.) R.M.King & H.Robinson, comb. nov.

*Eupatorium tomentellum* Schrad., Ind. Sem. Hort. Gotting.

1833: 3. 1833 • Mexico.

*Ageratina tristis* (A.P.Decandolle) R.M.King & H.Robinson, comb,

nov. *Eupatorium triste* A.P.Decandolle, Prodr. 5: 166.



1836. Jamaica.

*Ageratina urbanii* (Ekman ex Urban) R.M.King & H.Robinson, comb,  
nov. *Eupatorium urbanii* Ekman ex Urban, Arkiv Bot. 23A  
(11): 55. 1931. Haiti.

*Ageratina vacinniaefolia* (Benth) R.M.King & H.Robinson, comb,  
nov. *Eupatorium vacinniaefolium* Benth, Pl. Hartw. 200.  
1845. Colombia.

*Ageratina venulosa* (A.Gray) R.M.King & H.Robinson, comb. nov.  
*Eupatorium venulosum* A.Gray, Proc. Amer. Acad. 21: 384.  
1886 . Mexico .

*Ageratina vernalis* (Vatke & Kurtz) R.M.King & H.Robinson, comb,  
nov. *Eupatorium vernale* Vatke & Kurtz, Ind. Sem. Hort.  
Berol. 1871: Append. 2. 1871. Mexico, Guatemala.

*Ageratina vernicosa* (Schultz-Bip. ex Greenman) R.M.King &  
H.Robinson, comb. nov. *Eupatorium vernicosum* Schultz-Bip.  
ex Greenman, Zoe 5: 186. 1904. Mexico.

*Ageratina viburnoides* (A.P.Decandolle) R.M.King & H.Robinson,  
comb. nov. *Eupatorium viburnoides* A.P.Decandolle, Prodr.  
5: 171. 1836. Mexico.



[Begin Page: Page 228]

228 PHTT010GIA Vol. 19, no. U

*Ageratina viscosa* (H.B.K.) R.M.King & H.Robinson, comb. nov.

*Eupatorium viscosum* H.B.K., Nov. Gen. et Sp. 4: 129. ed.

fol. 1818. Colombia.

*Agejratija wrightii*. (A.Gray) R.M.King & H.Robinson, comb. nov.

*Eupatorium wrightii* A.Gray, Smiths. Contr. Knowl. 3: 87.

1850. W. United States, Mexico.

Subgenus *PachyjUtiamnus* R.M.King & H.Robinson, subg. nov.

Plantae frutescentes vel subarborescentes; caulis distincte  
incrassatus; folia facile decidua per anthesin plerumque absentia;  
corolla inferne vix angustata extus interdum rare setifera,  
cellulis apicalibus protuberantibus, lobis intus valde et dense  
papillatis; filamenta antherarum in parte inferiore brevia;  
appendices styli leniter papillatae; achaenia setifera; carpo-  
podium breve rotundatum, cellulis quadratis; setae pappi  
aliquantum persistentes. 1 species. Type: *Eupatorium crassirameum* .

*Ageratina crassiramea* (B.L.Robinson) R.M.King & H.Robinson, comb,

nov. *Eupatorium crassirameum* B.L.Robinson, Proc. Amer.

Acad. 35: 332. 1900. Mexico, C.Amer.

Species synonymized



*E. amplifolium* A.Gray = *A. rubricaulis*

*E. durandii* Klatt = *A. anisochroma*

*E. remyanum* Philippi = *A. glechonophylla*

#### Literature Cited

Cave, M. S. 1956-64. Index to plant chromosome numbers. Univ. M. C. Press, Chapel Hill.

Darlington, C.D. and A. P. Wylie 1956. Chromosome Atlas of Flowering Plants, i-xix, 1-519. New York.

Greene, E. L. 1903. Neglected Eupatoriaceous genera. Leaflet. Bot. Obs. Crit. 1: 7-13.

King, R. M. and H. Robinson 1967. Multiple pollen forms in two species of the genus *Stevia* (Compositae) . SIDA J: 165-169.

and 1969. Studies in the Compositae-Eupatorieae,

XI. Typification of genera. SIDA 3: 329-342.

Ornduff, R. 1965-67. Index to plant chromosome numbers. Reg. Veg. 1965, 50: 1-128; 1966, 55: 1-126; 1967, 59: 1-129.



**[Begin Page: Page 229]**

1970 King & Robinson, *Ageratina* 229

Powell, A. M. and R. M. King 1969. Chromosome numbers in the  
Compositae: Colombian species. *Amer. Journ. Bot.* 56:  
116-121 .

Spach, E. 1834-48. *Histoire naturelle des Veget-aux. Phan^ro-*  
*games.* 14 vols., atlas. Paris.

Turner, B. L., W. L. Ellison and R. M. King 1961. Chromosome  
numbers in the Compositae. IV. North American species, with  
phyletic interpretations. *Amer. Journ. Bot.* 48: 216-223.