

STUDIES IN THE EUPATORIEAE (COMPOSITAE). XXX.

THE GENUS AYAPANA

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The species placed here in Ayapana represent one of the most natural groups in the Eupatorieae, a group that has been given amazingly little recognition. The relationships of the species have become evident through the analysis of the anatomical characters, but as presently delimited all the species have a strikingly distinctive aspect. The distinctive aspect of Ayapana is shared by a number of related genera including some which have been mistakenly placed in the tribe Heliantheae.

We have delimited the genus primarily on the basis of the style branches which are covered by rather hairlike projecting cells. In all species the corolla is smooth on both surfaces with glands on the backs of the lobes, the anther collar is rather slender with prominent transverse thickenings in the cell walls, the stylar node is much enlarged and glabrous, the cells of the carpodium are very thick walled with the lower tier of cells very prominently enlarged, the inflorescence is laxly branching, and the leaves tend to be sessile or narrowly winged to the base.

The genus is here considered to include Lepidesmia which has a reduced pappus. Isocarpha with its compact inflorescence and distinct interspersed bracts is related but generically distinct. Both Lepidesmia and Isocarpha have been placed in the tribe Heliantheae, but they like all the members of this group lack solid keeled anther appendages, apically thickened exothecial cells, inornate anther collars and stigmatic lines running to the tips of the style branches that are characteristic of that tribe.

Ayapana is also closely related to the new genus Polyanthina which has scarcely papillose style branches and 200-300 very slender flowers per head. To the south in Peru and Bolivia are other related species having smooth style branches and hairy stylar nodes. These latter species indicate an ultimate relationship with the genus Campuloclinium which is found primarily in southern Brasil.

Ayapana Spach, Hist. Veg. Phan. 10: 290. 1841

Lepidesmia Klatt, Bull. Herb. Boiss. 4: 479. 1896.

Erect herbaceous plants with mostly opposite leaves, leaves

sessil or winged to base, lamina narrowly ovate to elliptical. Inflorescence laxly paniculate-corymbose. Involucre of 15-35 lanceolate subimbricate phyllaries; in 2-3 series; receptacle convex, glabrous; flowers 5-40 per head; corollas tubular or funnel-shaped, glabrous internally, with glands externally on the lobes, cells of corolla narrow with rather sinuous walls; stomates lacking; anther collar usually rather slender with elongate transversely annulate cells, exothecial cells rather quadrate, appendage usually long triangular; stylar node distinctly enlarged and glabrous, stylar appendages with prominent elongate projecting cells; achenes prismatic, 5-costate, with a few to many setae mostly along the costae. Carpopodia very distinct, enlarged with constriction above, cells very thick-walled, lowest row of cells very enlarged and other cell rows much smaller; pappus setae long but reduced to short scales in one species, scabrous, apical cells acute. Chromosome number determined as $X = 17$ (Coleman, 1970).

Type species: Ayapana officinalis Spach = A. triplinervis (Vahl) R.M.King & H.Robinson.

Our studies indicate that the genus contains the following ten species.

Ayapana amygdalina (Lam.) R.M.King & H.Robinson, comb. nov.

Eupatorium amygdalinum Lam. in Lam., Encyc. 2: 408. 1788.

Costa Rica, Venezeula-Bolivia, Brasil.

Ayapana hylophila (B.L.Robinson) R.M.King & H.Robinson, comb.

nov. Eupatorium hylophilum B.L.Robinson, Proc. Am. Acad.

55: 18. 1919. Colombia.

Ayapana jaramillii R.M.King & H.Robinson, sp. nov.

Frutex ad 3 dm. Caules graciles, teretes, inferne procumbentes, pubescentes. Folia opposita, anguste elliptica, ad 9 cm longa, ad 2.3 cm lata, integra, sessilia vel subsessilia, basi anguste cuneata, apice acuta, subtriplinervia, utrinque ferentia pilos graciles numerosos. Inflorescentiae laxae cymosae. Involucris squamatis 25-35, aliquantum inequales, 2-3-seriatae, anguste lanceolatae, acutissimae, dense breviter pubescentes; receptacula glabra. Flores 30-40 in capitulo, 5-6 mm longi; corollae infundibulares, intus glabrae, lobis extus paulo minute glanduliferis et distincte 1-2-setiferis; achaenia distincte setifera; setae pappi scabrae, fragiles.

COLOMBIA: Llanos Orientales: La Macarena (Parte Sur): Rio Guayabero, Sabanos de Arenisca; Alt. 235-700 m. Hierba. Inflorescencia rosada. Enero a Marzo 1959. H. Garcia Barriga et R. Jaramillo Mejia 17082 (Holotype US, isotype COL.).

This species is named for R. Jaramillo Mejía of the staff of the Instituto de Ciencias Naturales in Bogotá, who accompanied the senior author on one of his field trips to Colombia. Sr. Jaramillo's collecting has added greatly to our knowledge of the flora of Colombia.

Ayapana ornatiloba (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium ornatilobum B.L.Robinson, Contr. Gray Herb. 80: 27. 1928. Colombia.

Ayapana pyramidalis (Klatt) R.M.King & H.Robinson, comb. nov. Eupatorium pyramidale Klatt, Abh. Naturf. Ges. Halle 15: 324. 1882. Bolivia.

Ayapana squarrosa (Klatt) R.M.King & H.Robinson, comb. nov. Lepidesmia squarrosa Klatt, Bull. Herb. Boiss. 4: 479. 1896. Cuba, Colombia, Venezuela.

Ayapana tovarensis (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium tovarense B.L.Robinson, Proc. Am. Acad. 54: 259. 1918. Venezuela.

Ayapana trinitensis (Kuntze) R.M.King & H.Robinson, comb. nov. Baccharis trinitensis Kuntze, Rev. Gen. 319. 1891. Colombia, Trinidad, Venezuela.

Ayapana triplinervis (Vahl) R.M.King & H.Robinson, comb. nov. Eupatorium triplinerve Vahl, Symb. Bot. 3: 97. 1794. West Indies, widely adventive.

Ayapana turbacensis (Hieron.) R.M.King & H.Robinson, comb. nov. Eupatorium turbacense Hieron., Bot. Jahrb. 21: 332. 1895. Colombia.

Literature Cited

Coleman, J. R. 1970. Additional chromosome numbers in Brazilian Compositae. Rhodora 72: 94-99.