STUDIES IN THE EUPATORIEAE (ASTERACEAE). CLIV.

A NEW GENUS, CHACOA.

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Among the southernmost members of the Koanophyllon relationship are two species of the Chaco region of Paraguay and Argentina here recognized as a new genus, Chacoa. The two species differ from each other in a number of details but both have a markedly eximbricate involucre and a narrow basal tube on the corolla. The latter character is of particular significance in view of the characteristically broad tubes on the corollas of Koanophyllon. The long-petiolate leaves are also unusual in the Koanophyllon complex, being notable in K. consanquinea and in Lorentzianthus viscidus, both in the area of Bolivia and southern Brazil southward. Chacoa seems to represent one of the extreme developments of the Koanophyllon complex at the southern end of its range.

The narrow corolla tube is found in one other Brazilian member of the Koanophyllon complex, Vittetia. The latter genus is most distinct in the strongly papillose style branch and for that reason was at the time of description placed near Gyptis. Vittetia differs further from Chacoa by the essentially sessile leaves, the slightly subimbricate involucre and the rose colored corollas. Vittetia seems more closely related to other elements of the genus Koanophyllon than to Chacoa.

Chacoa R.M.King & H.Robinson, genus novum Asteracearum (Eupatorieae). Plantae frutescentes erectae mediocriter ramosae. Caules teretes vel obscure sexangulares puberuli vel hispiduli. Folia opposita vel alternata distincte anguste petiolata; laminae ovatae vel deltoideae base trinervatae supra et subtus glandulopunctatae. Inflorescentiae cymosae vel subcymosae, pedicellis brevibus vel longioribus; squamae involucri eximbricatae ca. 2-seriatae subaequilongae lanceolatae vel lineares herbaceae vix scariosae; receptacula parum convexa glabra epaleacea. Flores ca. 20-45 in capitulo; corollae albae infundibulares extus plerumque in lobis glanduliferae vel minute spiculiferae, tubis angustis vel perangustis, lobis triangularibus vel late triangularibus laevibus; filamenta antherarum in parte

superiore non praesertim elongata, cellulis inferne subquadratis, parietibus vix ornatis; appendices antherarum ovato-oblongae longiores quam latiores; styli inferne glabri non nodulosi, appendices stylorum lineares sublaeves apice parum latiores; achaenia 5-costata glandulifera vel setifera; carpopodia minute breviter cylindrica, cellulis minutis subquadratis 6-8-seriatis; pappus setiformis uniseriatis persistentis, setis scabridis apice non vel vix incrassatis, cellulis apicalibus argute acutis. Grana pollinis ca. 22μ diam.

Species typica: Eupatorium pseudoprasifolium Hassl.

The two species of Chacoa show numerous differences of which the following are most notable.

1. Leaves alternate; heads with 30-45 flowers; achenes minutely glanduliferous . . . . C. mikaniifolia

1. Leaves opposite; heads with ca. 20 flowers, achenes setiferous. . . . . C. pseudoprasiifolia

Chacoa mikaniifolia (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium mikaniifolium B.L.Robinson, Contr. Gray Herb. n.s. 104:22. 1934.

Chacoa pseudoprasiifolia (Hassl.) R.M.King & H.Robinson,comb. nov., Eupatorium pseudoprasiifolium Hassl., Fedde Repert. 15: 25. 1919.

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STUDIES IN THE EUPATORIEAE (ASTERACEAE). CLV.

A NEW GENUS, IDIOTHAMNUS.

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In the efforts to reach a final resolution of the tribe Eupatorieae the value of the new approach is shown again in a group of four species related to Koanophyllon. Also, the remarkable insight of B.L.Robinson is shown regarding three of the species which he noted as similar in spite of their totally different geography. The fourth species of the genus from Venezeula was originally described as Eupatoriastrum clavisetum by Badillo on the basis of the paleaceous receptacles. The paleaceous condition proves to be characteristic of all four species and they are segregated here as a new genus, Idiothamnus.

The genus is in the Critonioid relationship close to Koanophyllon and Eupatoriastrum and has the paleae as in the latter. Eupatoriastrum differs, however, by the 200-300 flowered heads, the short anther appendages and the hollow stems. It is likely that Idiothamnus and Eupatoriastrum are more closely related to Koanophyllon than to each other and they have apparently developed paleaceous receptacles separately.

Paleae are present on the receptacles of all four species of Idiothamnus but these are least prominent in I.lilloi. The genus can be recognized also by the characteristically elliptical pinnately veined leaves with acuminate bases and tips. The predominently ascending position of the leaves in dried specimens also lends to the distinctive appearance.

Idiothamnus R.M.King & H.Robinson, genus novum Asteracearum (Eupatorieae). Plantae frutescentes. Caules teretes minute puberuli. Folia opposita breviter petiolata; lamina elliptica base cuneata apice acuminata subtus glandulo-punctata nervis secondariis pinnatis. Inflorecentiae corymbosae, ramis patentibus vel erecto-patentibus. Involucri squamae 2-3-seriatae subinaequales; receptacula paleacea. Flores 10-20 in capitulo; corollae anguste infundibulares epilosae, lobis longe triangularibus laevibus extus glanduliferis; filamenta in parte superiore brevia, cellulis inferioribus quadratis, parietibus non vel pauce ornatis;

appendices antherarum ovatae longiores quam latiores; styli inferne glabri non nodulosi, appendices stylorum filiformes sublaeves apice vix clavatae laeves; achaenia 5-costata sparse setifera inferne angustiora; carpopodia parva brevia cylindrica vel obturaculiformia, cellulis minutis subquadratis 6-7-seriatis; pappus setiformis uniseriatis persistens patentescens, setis interdum subincrassatis 20-30 apice plerumque clavatis, cellulis apicalibus acutis. Grana pollinis ca. 18-22μ diam.

Species typica: Eupatoriastrum clavisetum Badillo

The geography of the new genus is perplexing with its wide dispersion of localized species. Idiothamnus pseudorgyalis occurs in the ranges near Rio de Janeiro; I. orgyalioides is known only from near Tarapoto in Peru; I. lilloi is known only from the eastern slopes of the Argentine Andes from Salta and Tucuman; and I. clavisetus has been found only in the Costal Range of north-central Venezeula. This suggests either a distribution mechanism superior to that of most Eupatorieae or it is the remnants of a much wider distribution in the past. The habit of the plants suggests more of a woodland habitat than in most members of the tribe. Such an ecological difference could help explain the distribution.

The four species can be distinguished as follows:

1. Leaves serrate; heads with ca. 12 flowers. . . . 2

1. Leaves entire; heads with 18-20 flowers; phyllaries with 2-4 ribs 3

2. Branches puberulous; phyllaries ovate to oblong with 6-8 ribs, tips usually not reflexed; pappus with ca. 30 setae . . . . . I. pseudorgyalis

2. Branches tomentellous; phyllaries mostly lanceolate with 2-4 ribs, with reflexed tips; pappus with ca. 20 setae . . . . . I. lilloi

3. Branches of inflorescence usually spreading at right angles; phyllaries sharply pointed with tips often dentate; with the outer surface nearly glabrous . . . . . I. orgyaloides

3. Branches of inflorescence ascending; phyllaries with short-pointed mostly entire tips, with outer surface puberulous . . . . . I. clavisetus

The genus contains the following four species.

Idiothamnus clavisetus (Badillo) R.M.King & H.Robinson, comb. nov. Eupatoriastrum clavisetum Badillo, Bol. Soc. Venez. Cien. Nat. 8:238. 1943.

Idiothamnus lilloi (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium lilloi B.L.Robinson, Contr. Gray Herb. n.s. 90:27. 1930.

Idiothamnus orgyaloides (B.L.Robinson) R.M.King & H. Robinson, comb. nov. Eupatorium orgyaloides B.L. Robinson, Proc. Amer. Acad. 55:24. 1919.

Idiothamnus pseudorgyalis R.M.King & H.Robinson, sp. nov. Plantae frutescentes erectae pauce ramosae. 1-2 m altae? Petiolae 1.0-1.5 cm longae; laminae 12-20 cm longae 4-9 cm latae base sensim anguste cuneatae margine serrulatae apice anguste acuminatae supra sparse pilosae subtus pilosae et glandulo-punctatae. Inflorescentiae late corymbosae usque ad 7 cm altae et 11 cm latae, ramis ultimis plerumque 1-2 mm longis. Capitula ca. 6 mm alta; flores ca. 12 in capitulo; squamae involucri ca. 15 inaequales 2-5 mm longae 2-3 seriatae ovatae vel lanceolatae apice acutae vel subacutae margine parce vel non scariosae extus 6-8 striatae exteriores minute puberulae; paleae lineari-lanceolatae ca. 5 mm longae. Corollae 3.5 mm longae, lobis ca. 0.5 mm longae et 0.4 mm latae; filamenta in parte superiore ca. 175μ longa; thecae ca. 1 mm longae, appendicibus ca. 175μ longis et 150μ latis. Achaenia ca. 2 mm; cellulae carpopodiorum 10-12μ diam; setae pappi ca. 30 ca. 3 mm longae.

TYPE: BRAZIL: Brasilia. Riedel sn. (Holotype GH)

Photographs of Eupatorium orgyale from the DeCandolle herbarium show a plant resembling Austroeupatorium inulaefolium (H.B.K.) K. & R. and there is a name E. duodecimiflorum Sch.-Bip. nom. nud. published by Baker (1876) in the synonmy of E. orgyale. On this topic B. L. Robinson (1930) says," The sheet in the Prodromus Herbarium representing DeCandolle's E. orgyale bears unfortunately mixed material. The specimens to which is attached the label of Blanchets no. 1923, mentioned in the original diagnosis, is wholly at variance with DeCandolle's description for it has deltoid-ovate 3-nerved leaves rounded or subcordate at base instead of the ovate-lanceolate pinnately nerved leaves cuneate at base called for by the diagnosis. On the same sheet is a very poor specimen from Rio de

Janeiro presumably collected by Lund. This seems to have furnished most of the characters set down by DeCandolle and may be regarded as the type. DeCandolle seems to have been in error in stating that the heads were sessile and 6-flowered. At all events, in authentic material of E. duodecimiflorum Sch.-Bip., which appears to represent the Lund element in E. orgyale and to correspond with the essentials of its original diagnosis, the heads are about 12-flowered and are shortly, but clearly pedicellate."

The view of B. L. Robinson is not accepted here as further reading of the diagnosis and study of the microfiche of the DeCandolle herbarium provide too much evidence to the contrary. The two specimens in the DeCandolle herbarium labelled as Lund and Blanchet both have the abruptly narrowed bases of the Austroeupatorium type.

The misshapen fragment apparently cited by B. L. Robinson is mounted slightly apart from either of the plants cited by DeCandolle and there is no indication of origin. What can be seen indicates that this is also not the species generally known as E. orgyale but the important consideration is that it was not cited by the original author and should not be selected as the type.

It is further noteworthy that DeCandolle probably did intend his description to apply to the Austroeupatorium like plants. He said the leaves were"late ovato-lanceolatis" and the term ovate was not used elsewhere in the Eupatorieae unless the leaf were more abruptly narrowed below. DeCandolle in "basi cuneatis" was probably referring to the cuneately winged petiole, and the trinervate condition of the leaf is not clear since all secondaries are equally ascending. A final consideration would be DeCandolle's reference to "invol. squamis 2-ser. oblongis obtusis" and "Invol. albida", appropriate characters for Austroeupatorium but not acceptable for the Brazilian species of Idiothamnus.

DeCandolle probably was incorrect in his statement about 6-flowered heads as both Baker and B. L. Robinson commented.

References

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