

STUDIES IN THE EUPATORIEAE (ASTERACEAE). LVII.

THE GENUS, DISYNAPHIA.

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

The members of the genus Disynaphia have almost always been recognized as a related group with their slender to obovate spirally arranged leaves, corymbose-paniculate inflorescences and five flowered heads. This distinctive group has sometimes been given the series name Dysnaphia (once spelled Dasynaphia) based on the original generic name. Additional critical characters of the group recognized here are the hastate bases of the anthers, the sparsely glandiferous achenes, the very rudimentary carpopodium, the pubescent outer surfaces of the phyllaries, the lack of long slender phyllaries in the outer series and the linear style branches with crowded erect papillae. On the basis of these characters the generic status is restored.

A few Brazilian species do resemble Disynaphia in habit. Campovassouria bupleurifolia is apparently closely related but differing by the glabrous outer surfaces of the phyllaries and the small but distinct carpopodia among other things. The two species known as Eupatorium blanchetii Sch.-Bip. ex Baker and E. praefictum B.L.Robinson are apparently not closely related to Disynaphia and they can be distinguished very easily by their setiferous achenes with more distinct carpopodia.

Disynaphia W.S.Hooker & Arnott ex A.P.Decandolle, Prodr. 7:267.  
1838.

Plants erect, much branched shrubs or subshrubs. Leaves alternate, rarely opposite or subopposite, sessile to subsessile, blades linear to oblong or oblanceolate, entire to serrulate. Inflorescence a corymbose panicle. Pedicels covered with prominent short hairs. Involucre of 11-15 phyllaries, in 2-3(4) series; outer series short and more rounded. Receptacle slightly convex or flat, glabrous to slightly pubescent, 4-5 flowers per head; corollas tubular, 5-lobed, outer surface of corolla glabrous below or with a few short stalked glands, lobes usually about as long as wide, with short stalked glands, stomates absent. Inner surface of corolla glabrous, anther collar short, composed of mostly rectangular or quadrate cells, cell walls with annulate thickenings. Anther bases hastate, in a few species as long as collar. Anther appendage large, composed of large cells; style base not enlarged, glabrous. Styler appendage slender, densely covered with short erect papillae. Achenes prismatic, 4-5 ribbed, glabrous to slightly glandular, minute

punctations often in transverse rows, a few species setiferous, pappus of ca 35 usually irregularly scabrous setae, pappus often dehiscing as unit. Chromosome number determined from one species Eupatorium ligulifolium H. & A. as  $X = 10$  (Turner & Irwin, 1960).

Type species: Disynaphia montevidensis A.P.Decandolle = D. calyculatum.

Our studies of the genus indicate that it contains the following 12 species.

- Disynaphia achillaea (Chod.) R.M.King & H.Robinson, comb. nov.  
Eupatorium achillaea Chod., Bull. Herb. Boiss. Ser. II. 1: 411. 1901. Paraguay.
- Disynaphia albissima (Hassler) R.M.King & H.Robinson, comb. nov.  
Eupatorium albissimum Hassler, Fedde Rep. Spec. Nov. 11: 172. 1912. Paraguay.
- Disynaphia calyculata (Hook. & Arn.) R.M.King & H.Robinson, comb. nov. Eupatorium calyculatum Hook. & Arn., Hook. Comp. Bot. Mag. 1: 242. 1836. Argentina, Brazil, Uruguay.
- Disynaphia ericoides (A.P.Decandolle) R.M.King & H.Robinson, comb. nov. Eupatorium ericoides A.P.Decandolle, Prodr. 5: 150. 1836. Brazil.
- Disynaphia filifolia (Hassler) R.M.King & H.Robinson, comb. nov.  
Eupatorium filifolium Hassler, Fedde Rep. Spec. Nov. 11: 171. 1912. Paraguay.
- Disynaphia ligulaefolia (Hook. & Arn.) R.M.King & H.Robinson, comb. nov. Eupatorium ligulaefolium Hook. & Arn., Hook. Comp. Bot. Mag. 1: 242. 1835. Brazil.
- Disynaphia littoralis (Cabrera) R.M.King & H.Robinson, comb. nov. Eupatorium littorale Cabrera, Bol. Soc. Argent. Bot. 7: 189. 1959. Brazil.
- Disynaphia multicrenulata (Sch.-Bip. ex Baker) R.M.King & H. Robinson, comb. nov. Eupatorium multicrenulatum Sch.-Bip. ex Baker, Mart. Fl. Bras. 6(2): 335. 1876. Brazil.
- Disynaphia radula (Chod.) R.M.King & H.Robinson, comb. nov.  
Eupatorium radula Chod., Bull. Herb. Boiss. Ser. II. 2: 311. 1902. Brazil, Paraguay.
- Disynaphia senecionidea (Baker) R.M.King & H.Robinson, comb. nov. Eupatorium senecionideum Baker, Mart. Fl. Bras. 6(2): 318. 1876. Brazil.

Disynaphia spathulata (Hook. & Arn.) R.M.King & H.Robinson,  
comb. nov. Eupatorium spathulatum Hook. & Arn., Hook.  
Comp. Bot. Mag. 1: 242. 1835. Brazil.

Disynaphia variolata (B.L.Robinson) R.M.King & H.Robinson, comb.  
nov. Eupatorium variolatum B.L.Robinson, Contr. Gray Herb.  
n.s. 73: 20. 1924. Brazil.

#### Reference

Turner, B.L. & H.S.Irwin 1960. Chromosome numbers in the  
Compositae II. Meiotic counts for fourteen species of  
Brazilian Compositae. Rhodora 62:122-126.

#### Acknowledgement

This study was supported in part by the National Science  
Foundation Grant GB 20502 to the senior author.