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HYMENOCLEAS ARE AMBROSIAS (COMPOSITAE)

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ABSTRACT

Inclusion of *Hymenoclea* within the taxonomic circumscription of *Ambrosia* necessitates new combinations: ***Ambrosia monogyra***, ***A. ×platyspina***, ***A. salsola***, ***A. salsola* var. *fasciculata***, and ***A. salsola* var. *pentalepis***.

Key words: *Ambrosia*, Compositae, *Hymenoclea*

After review of similarities and differences between and among species of *Hymenoclea* Torrey & A. Gray ex A. Gray and *Ambrosia* Linnaeus, especially with regard to restriction sites in chloroplast DNAs, Miao et al. (1995) concluded that the two species of *Hymenoclea* do not constitute a clade, are separately allied to franserioid members of *Ambrosia*, and are better included in *Ambrosia* than maintained as a distinct genus. They listed *Hymenoclea* as a synonym of *Ambrosia* Linnaeus subg. *Franseria* (Cav.) Miao et al., Pl. Syst. Evol. 194:252, 1995.

Baldwin et al. (1996) documented natural hybridization between *Hymenoclea salsola* Torrey & A. Gray ex A. Gray and the franserioid species *Ambrosia dumosa* (A. Gray) W. W. Payne and between *H. salsola* and *A. ambrosioides* (Cavanilles) W. W. Payne, another franserioid species. They noted “. . . normal pairing of chromosomes in interspecific hybrids” (i.e., between species of *Ambrosia* and *Hymenoclea*) as indicating “Close genetic similarity . . .” of parental species and went on to say, “Hybridization between species of *Ambrosia* and *Hymenoclea* may reflect inadequacy of the long-standing generic classification of Ambrosiinae . . .”

We have considered the findings of Miao et al. (1995) and Baldwin et al. (1996) and we are convinced that hymenocleas should be treated within the taxonomic circumscription of *Ambrosia*:

***Ambrosia monogyra*** (Torrey & A. Gray ex A. Gray) Strother & B. G. Baldwin, comb. nov. Basionym: *Hymenoclea monogyra* Torrey & A. Gray ex A. Gray, Mem. Amer. Acad. Arts n.s. 4: 79. 1849. Syntypes: “Along the valley of the Gila, Lieut. Emory. Also at ‘Ojito,’ New Mexico? Dr. Gregg.” Peterson and Payne (1973, p. 253–254) cited the Emory collection at NY as type and thereby effected lectotypification.

***Ambrosia salsola*** (Torrey & A. Gray ex A. Gray)

Strother & B. G. Baldwin, comb. nov. Basionym: *Hymenoclea salsola* Torrey & A. Gray ex A. Gray, Mem. Amer. Acad. Arts n.s. 4:79. 1849. Type: California, “Sandy, saline uplands near the Mojave River, . . . , Fremont.” Lectotype (Peterson and Payne 1973, p. 254): 1844, *Frémont* 400 (NY).

***Ambrosia salsola*** (Torrey & A. Gray ex A. Gray) Strother & B. G. Baldwin var. ***fasciculata*** (A. Nelson) Strother & B. G. Baldwin, comb. nov. Basionym: *Hymenoclea fasciculata* A. Nelson var. *fasciculata*. [cf. *Hymenoclea fasciculata* A. Nelson, Bot. Gaz. 37:270. 1904. Type: Nevada, “Kernan,” 29 Apr 1902, *L. N. Goodding* 662 (NY). The variety *fasciculata* dates from publication of *Hymenoclea fasciculata* A. Nelson var. *patula* A. Nelson, Bot. Gaz. 47:431. 1909. Type: Nevada, “Moapa,” 8 Apr 1905, *L. N. Goodding* 2178 (RM). Peterson and Payne (1973, 1974) treated the two types, *Goodding* 662 and 2178, as convarietal. Initially, Peterson and Payne named that variety *Hymenoclea salsola* Torrey & A. Gray ex A. Gray var. *fasciculata* (A. Nelson) K. M. Peterson & W. W. Payne (Brittonia 25:255. 1973). Under the applicable Code (Stafleu et al. 1972) in 1973, Peterson and Payne should have used the varietal epithet “*patula*” because autonyms were “not to be taken into consideration for purposes of priority.” Peterson and Payne subsequently renamed that same variety *Hymenoclea salsola* Torrey & A. Gray ex A. Gray var. *patula* (A. Nelson) K. M. Peterson & W. W. Payne (Brittonia 26:397. 1974), which is now an illegitimate name because under the current Code (Greuter et al. 2000), the autonymic varietal name has priority at varietal rank.]

***Ambrosia salsola*** (Torrey & A. Gray ex A. Gray) Strother & B. G. Baldwin var. ***pentalepis*** (Rydberg) Strother & B. G. Baldwin, comb. nov. Basionym: *Hymenoclea pentalepis* Rydberg in N. L.

Britton et al., N. Amer. Fl. 33:14. 1922. Type: Arizona, "Pima Cañon," 10 Apr 1901, *D. Grif-fiths 2630* (NY)  $\equiv$  *Hymenoclea salsola* Torrey & A. Gray ex A. Gray var. *pentalepis* (Rydberg) L. D. Benson, Amer. J. Bot. 30:631. 1943.

*Hymenoclea hemidioica* A. Nelson, Amer. J. Bot. 25:117. 1938. Syntypes: Arizona, Mohawk Mountains, 29 Mar 1935, A. Nelson 1340 and 1341 (RM?, not seen).

We use the name ***Ambrosia*  $\times$  *platyspina*** (Seaman) Strother & B. G. Baldwin, comb. nov. [Basionym: *Hymenoclea*  $\times$  *platyspina* Seaman, Madroño 23:111. 1975, pro sp.], for hybrids between *A. dumosa* and *A. salsola*.

We believe the name *Ambrosia sandersonii* S. L. Welsh, Rhodora 95:396. 1993[1994] [ $\equiv$  *Hymenoclea sandersonii* (S. L. Welsh) N. H. Holmgren in A. Cronquist et al., Intermount. Fl. 5:473. 1994], also refers to hybrids, perhaps to hybrids between *A. eriocentra* (A. Gray) W. W. Payne and *A. salsola* (Baldwin et al. 1996). We treat Welsh's name as *Ambrosia*  $\times$  *sandersonii* S. L. Welsh, pro sp.

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