HETEROSPERMA XANTI TRANSFERRED TO THE GENUS BIDENS (ASTERACEAE: COREOPSIDEAE)

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Bidens xanti (A. Gray) B.L. Turner, comb. nov.
Bidens coreocarpoides Sherff
Bidens xantiana Rose ex Vasey & Rose
Heterosperma brandegeeani Sherff
Heterosperma coreocarpoides (Sherff) Sherff
Heterosperma microglossum Sherff

As indicated in the above synonymy, this species was included in the genus Heterosperma by several authors. Gray, in his original description, stated, ‘‘The disk-achenia, and indeed the whole structure, except the fertile achenia, accord with Bidens.’’ Vasey and Rose (1890) in their description of Bidens xantiana, and Sherff (1935) in his description of B. coreocarpoides, also retained the taxon in Bidens, albeit with mistaken identifications. Sherff (1955) subsequently placed Heterosperma xanti in the genus Heterosperma where it was retained by most workers until Clement (by annotation, TEX) and Melchert (also by annotation, TEX) again placed it in the genus Bidens, this in agreement with Melchert’s forthcoming treatment of Bidens for Mexico (in prep.). Clement never published the new combination concerned, nor did Melchert.

Heterosperma (and the genus Coreocarpus) is distinguished from Bidens largely by its heteromorphic achenes, those of the disc florets differing from those of the ray florets, as noted by Panero (2007), in his key to genera of the tribe Coreopsideae. Regardless, I have included Heterosperma xanti in Bidens because it will not fit comfortably, all characters considered, within the former genus nor in
Coreocarpus, in spite of the fact that the plants concerned possess heteromorphic achenes. Indeed, Melchert and Turner (1990) transferred two species of the genus Coreocarpus (C. gracillima and C. hintonii), as conceived by Smith (1989), into Bidens, and Melchert intended to transfer Heterosperma xanti into the latter genus, as judged by his annotations on herbarium sheets at TEX. In short, the presence of dimorphic achenes in this or that species of Bidens is to be expected. This is also implicit in the work of Kimball and Crawford (2003) and Kimball et al. (2003) whose DNA studies confirm the position of Coreocarpus hintonii within Bidens, and that of Coreopsis cyclocarpa (having heteromorphic achenes) in the genus Heterosperma. Bidens xanti does, however, possess radial achenes similar to those of Heterosperma, if not Coreocarpus; the former, however, has floral traits like those of Bidens, hence the above transfer.

**LITERATURE CITED**


