

Asters Retreat to Eurasia

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The genus *Aster* in a broad sense has been a catchall genus. It has long been known that there are as many as six different base chromosome numbers in the group ranging from $x = 4$ to $x = 13$. This is usually a good indication that we are dealing with significantly dissimilar elements. In 1994, Guy Nesom attempted to reclassify the genus into a number of smaller genera based mainly on morphology and cytology. In the same year, Chunsheng Xiang and John Semple presented results of a molecular study at a conference at Kew that partly supported Nesom's classification. They concluded that *Eucephalus*, *Ionactis*, and *Oreostemma* should be recognized as genera and that *Symphyotrichum* could be included in *Aster* or recognized as a separate genus. A later study by Noyes and Rieseberg added more data, and they concluded that the distinction of Eurasian and North American *Aster* supports Nesom's hypothesis that *Aster* in a strict sense is restricted to Eurasia and is not closely related to the North American genera. This prompted Semple and Xiang with several other authors to largely embrace Nesom's earlier classification by now recognizing at the generic level *Eurybia* and *Symphyotrichum*.

If we look at Wyoming's species in this complex, it is fairly easy to recognize most of these segregated genera. The genus *Eucephalus*, which was recognized as a genus in 1841, contains the species with chaffy (non-herbaceous) involucral bracts. *Eurybia* has the species with large, broad leaves largely confined to the stem (no basal tuft). *Ionactis*, recognized in 1897, has small crowded leaves with solitary heads on nearly naked peduncles. *Oreostemma*, recognized in 1896, has very narrow leaves in a basal tuft and solitary heads, and is mostly alpine or subalpine. *Almutaster* usually has rhizomes, narrow leaves, is glandular above, and grows mostly in alkaline areas.

Symphyotrichum is the largest group representing what most people recognize as a typical *Aster*. Our two species with inconspicuous or no rays fall into this group although these have sometimes been placed in their own genus, *Brachyactis*. The overall result is to take a large diverse genus and remove the conspicuously different species or small groups of species and treat all the remaining species in *Symphyotrichum* rather than *Aster*. When broken down in this manner, it seems to be a more clear arrangement than dumping everything into the same group. A name shorter than *Symphyotrichum* would have been nice, however.

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