

The Curious Case of the Disappearing Asters

by Alan Weakley, UNC Herbarium Curator

Would an aster by any other name look as showy?

One dark and stormy night in 1994 I was awakened from a deep sleep by a loud thump. Creeping carefully down the stairs, I discovered to my astonishment that a large bouquet of *Aster* on the dining table had disappeared! In its place was a cornucopia of composites, including *Symphotrichum*, *Ionactis*, *Eurybia*, *Sericocarpus*, *Doellingeria*, *Ampelaster*, and *Oclemena*! Once again, a plant taxonomist had struck in dark of night, taken a simple two-syllable genus with the same English common name, and replaced it with a handful of four- and five-syllable Latin tongue-twisters.

Whatever can we do about such things?

The classification of living things is based on the principle that each taxonomic unit (for instance the Composite/Aster Family, the genus *Aster*, or a species) groups together things that are most closely related to one another, and that the group should not also contain things which are disparate, unrelated, or more closely related to another group.

The concept of the genus *Aster* has had a long history of controversy and confusion. Asa Gray, the most influential nineteenth-century North American botanist, struggled with *Aster*—at all levels, from its circumscription (what to include in it), to the taxonomy of the component species. Late in his life, he wrote:

I am half dead with *Aster*. I got on very fairly until I got to the thick of the genus, around what I call the *Dumosi* and *Salicifolia*. Here I work and work, but make no headway at all. I can't tell what are species and [sic] how to define any of them. . . . I was never so bogged. . . . If you hear of my breaking down utterly, and being sent to an asylum, you may lay it to *Aster*, which is a slow and fatal poison.

Ultimately, Gray took a broad view of *Aster*, and with some uncertainty included in it many of the “segregate genera” named in the 1820s and 1830s. His view proved influen-

tial, and has generally prevailed until very recently—although Edward L. Greene, John K. Small, and others recognized many of the segregates. In the 1940s and onward, renowned composite expert Arthur Cronquist returned to Gray's broad view and even added an additional segregate, *Sericocarpus*, to *Aster*.

In the last decade, studies of the genus *Aster* have resulted in major changes in the understanding of the genus and its relatives. In 1994 Guy Nesom (UNC Botany Ph.D. 1980) used traditional taxonomic tools (morphology and chromosomes) to suggest two things: that Gray's broadly conceived *Aster* included disparate components that should not be grouped together, and, even more radically, that none of the American “asters” was closely related to Eurasian asters.

Many experts were skeptical, and they set about to prove Nesom wrong, using molecular and other taxonomic methodologies. All methods concluded, however, that Nesom was right: the smaller genera should be used, and North American asters are not closely related to the European genus *Aster*. Since the “type species” of *Aster* is European, the name must remain associated with Eurasia and all our species have been transferred to other genera, a taxonomic system that will be used in the upcoming aster volume of the Flora of North America and in my Flora of the Carolinas, Virginia, and Georgia.

So, here is a bouquet of the new asters: climbing aster (*Ampelaster carolinianus*), stiff-leaved aster (*Ionactis linariifolius*), tall flat-topped aster (*Doellingeria umbellata*), whorled aster (*Oclemena acuminata*), common blue aster (*Symphotrichum cordifolium*), big-leaved wood-aster (*Eurybia macrophylla*), and white-topped aster (*Sericocarpus linifolius*). Fortunately, we can appreciate our new understanding of the diversity of asters, and in common names at least, they are still “asters!”

