

AN ATTEMPT TO REVISE THE GENUS *PERONIA* BRÉB. ET ARN. EX KITTON
WITH POSSIBLY TWO NEW SPECIES

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Peronia Brébisson et Arnott ex Kitton is a small freshwater genus belonging to the Eunotiales Silva, and shares basic characteristics with other genera within this group, e.g. the presence of a rudimentary raphe, the absence of a central nodule, and the ecology. The populations of *Peronia* species usually occur in very low abundances in oligotrophic and dystrophic water, growing as a periphyton attached to the surface by mucilage.

Although the genus *Peronia* includes 12 described taxa, only a couple of species are commonly reported, and they appear to have been confused in the past, with various authors having different concepts for them. The type species of the genus, *P. erinacea* Brébisson et Arnott ex Kitton was described in 1868 without an illustration. Hustedt illustrated two very different forms of *P. erinacea* in Schmidt's Atlas, one of them he later decided to put in the genus *Asterionella*, as *Asterionella fibula* (Brébisson in Kützing) Hustedt based on the name *Gomphonema fibula* Brébisson ex Kützing, a previous name for *P. erinacea*. *Gomphonema fibula* has indeed been a source of the most confusion, because of having been transferred both into *Asterionella fibula* (Brébisson in Kützing) Hustedt and into *Peronia fibula* (Brébisson in Kützing) Ross.

Another two species, *Peronia heribaudi* Hustedt and *P. angustivalva* Cleve-Euler, were later as well considered synonyms of *P. fibula*. *Peronia intermedium* (H. L. Smith) Patrick was found out to be actually a species of the genus *Meridion*, as originally identified by H. L. Smith. Thus, based on this synonymy, it appears that there are only two species of *Peronia*: *Peronia fibula*, and *Peronia brasiliensis* Hustedt.

Despite this resolution, observations on the type material, original drawings in the classical literature and photographs in the modern literature, it still seems that the concept of those two species is still not clear, probably also due a considerable variability in *Peronia* valve shapes. Our goal was to look at available type material and other populations from the North America (mostly from the collection of slides at the Academy of Natural Sciences in Philadelphia), and to demonstrate the morphological variability within the *Peronia* populations.

In addition, we present two forms of *Peronia* from our samples which are different from the two recognized species: one from the northeastern U. S. (mostly from Maine), having a drawn-out, acute head pole; the second one from Roraima Tepui (on the border of Venezuela, Brazil and Guayana), which has a bluntly capitate head pole. These *Peronia* forms may be species new to science.

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