

## MORPHOLOGY AND ECOLOGY OF A NEW *GOMPHONEMA* SPECIES FROM WEST AND NORTH EUROPE AND RE-EXAMINATION OF *GOMPHONEMA EXILISSIMUM*

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The correct identification of taxa in the *Gomphonema parvulum* Kütz. complex is often difficult, but critical if false conclusions for pure and applied ecological and taxonomic studies are to be avoided. Two *Gomphonema* species with similar morphology but different ecology to *G. parvulum* were investigated. The type material and a recently collected population of *Gomphonema exilissimum* (Grunow) Lange-Bert. & E. Reichardt from Scotland are documented using light (LM) and scanning electron microscopy (SEM). The other species is new to science and similar in LM and SEM to *G. exilissimum*. *Gomphonema cymbelliclinum* E. Reichardt & Lange-Bert. apud Reichardt is also similar in valve outline but not closely related. In contrast to these taxa the new species appears to be typical of acidic and low alkalinity waters. It is often common and abundant in western and northern European freshwaters. Its variability is demonstrated using populations from Finland, France, Ireland, Norway, Sweden, and the U.K. Ecological data with respect to species associations and water chemistry spanning seven years of observations in a river catchment in Wales are presented for the new *Gomphonema* species.