

EVALUATING THE MORPHOSPECIES CONCEPT IN THE SELENASTRACEAE
(CHLOROPHYCEAE, CHLOROPHYTA)

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Isolates of the genera *Monoraphidium*, *Ankistrodesmus* and *Raphidocelis* were cultured from two areas in Minnesota and North Dakota, USA. These isolates were identified to species level (when possible) using light microscopy and standard monographs and then characterized by 18S rDNA sequence analysis. Phylogenetic analyses indicated that in some cases, 18S rDNA sequences from these isolates were very similar, but not identical to the sequences of other isolates of the same morphospecies from different parts of the world. However, some isolates that were identified as the same species actually belong to different lineages within the Selenastraceae, whereas other isolates with identical or nearly identical 18S rDNA sequences possessed rather different morphologies. Overall, our data suggest that the application of a broad morphospecies concept to the Selenastraceae has resulted in an underestimation of the species diversity of this family and probably erroneous conclusions about the distribution of species.

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