

SARAH HAMSHER

Sarah Hamsher is captivated by diatom diversity and evolution. She aims to discover and describe diatom diversity and better understand diatom evolution using morphological and molecular data. Recently, her work has focused on two collaborative projects: 1) describing the microbial mat communities of high-sulfur, low-oxygen habitats using a culturing-assisted metabarcoding approach and uncovering functional relationships between mat members; and 2) studying the diversity and evolution of the Rhopalodiales, a group of diatoms with cyanobacterial endosymbionts. Sarah is also broadly interested in the spread of the invasive freshwater macroalga, Starry Stonewort (*Nitellopsis obtusa*), as well as the influence of mixotrophy on aquatic ecosystems. In addition to her research, Sarah is active in phycological education and is always looking for more ways to incorporate algal biology into undergraduate courses and K-12 outreach activities.

EDUCATION

- 2012 Ph.D., Biology, University of New Brunswick
- 2010 Diploma in University Teaching, University of New Brunswick
- 2003 M.S., Environmental and Plant Biology, Ohio University
- 1999 B.S., Writing and the Environment, Juniata College

ACADEMIC APPOINTMENTS

- 2018 – Grand Valley State University, Department of Biology and R. B. Annis Water Resources Institute, Assistant Professor
- 2017 – 2018 Temple University, Department of Biology, Assistant Research Professor
- 2014 – 2015 University of Colorado, Department of Ecology and Evolutionary Biology, Part-time Postdoctoral Researcher (CTA)
- 2012 – 2013 University of Colorado, Museum of Natural History, Postdoctoral Researcher

PAPERS

1. Hamsher, S. E., Evans, K. M., Mann, D. L., Poulíčková, A. and Saunders, G. W. (2011) Barcoding diatoms: exploring alternatives to COI-5P. *Protist* 162: 405–422. <https://doi.org/10.1016/j.protis.2010.09.005>
2. Hamsher, S. E., Keepers, K. G., Pogoda, C. S., Stepanek, J. G., Kane, N., and Kociolek, J. P. (2019) Extensive chloroplast genome rearrangement amongst three closely related *Halamphora* spp. (Bacillariophyceae), and evidence for rapid evolution as compared to land plants. *PLOS One* 14(7): e0217824. <https://doi.org/10.1371/journal.pone.0217824>
3. Hamsher, S. E., Graeff, C. L., Stepanek, J. G., and Kociolek, J. P. (2014) Frustular morphology and polyphyly in freshwater *Denticula* (Bacillariophyceae) species, and the description of *Tetralunata* gen. nov. (Epithemiaceae, Rhopalodiales). *Plant Ecology and Evolution*. 147: 346–365. <http://dx.doi.org/10.5091/plecevo.2014.990>
4. Moore (Neuman), E.K., Woznicki, S.A., Karol, K.G., & Hamsher, S.E. (2023) Modeling of suitable habitats for starry stonewort (*Nitellopsis obtusa*) in inland lakes in the Midwest and northeast U.S.A. *Biological Invasions*. 25: 3307–3322. <https://doi.org/10.1007/s10530-023-03111-6>
5. Hamsher, S. E., Ellis, K., Holen, D., and Sanders, R. W. (2020) Effects of light, dissolved nutrients and prey on ingestion and growth of a newly identified mixotrophic alga,

Chrysolepidomonas dendrolepidota (Chrysophyceae). *Hydrobiologia* 847: 2923–2932.
<https://doi.org/10.1007/s10750-020-04293-z>