

**Title:** Great Lakes Diatoms website

**Author:** Janice L. Pappas, Ph.D (University of Michigan 2000), [jlppapas@umich.edu](mailto:jlppapas@umich.edu)

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**ABSTRACT:** On November 27, 1995, the Great Lakes Diatoms website was published at the University of Michigan. At the time, I was tasked with constructing the website based on Dr. Stoermer's card file system of Great Lakes diatom taxa identified and studied in his laboratory for over 25 years. I was one of Dr. Stoermer's graduate students, and subsequently, was a research scientist at the University of Michigan for many years where I studied diatoms and limnology as well.

Some of the diatom taxa in the website are unique to the Great Lakes, while others are found worldwide. The website is a compendium of Great Lakes diatom digital images and associated morphological and locality data that has been valuable to limnologists, taxonomists, systematists, phylogeneticists as well as citizen scientists and the public. Such information is an aid in furthering our understanding of diatoms as an important component of Great Lakes food webs and ecosystems. Because diatoms are important in biogeochemical cycles and carbon sequestration, they have been called one of the "directors of our future." Diatoms play an important role as environmental indicators in water systems, and water quality assessment is dependent on diatom taxonomic status, so that the Great Lakes Diatoms website provides an avenue toward this goal.

*Content information about the Great Lakes Diatom website*

To reach the Great Lakes Diatom website, the URL is <https://public.websites.umich.edu/~phytolab/GreatLakesDiatomHomePage/top.html>. This is the top page from which to link to other specific pages. The top page gives an overview of how to use the website. There are links to a checklist of Great Lakes diatoms, a FYI (for your information) page, a people page, a general diatom websites page (identified as a "here" link), a PEET products page, and buttons to Major Groups and Genera List pages. The checklist page is a list of diatom taxa in the Great Lakes published in 1999 in the Journal of Great Lakes Research. The content of the FYI page refers to each card file page (or just card page) on each diatom taxon. This nine-point list includes taxonomic information on each species card page, and diatom images are light micrographs (LMs) captured in transmitted light or bright field unless otherwise noted. When on the people page of major contributors to the website, there are two secondary people page links to other contributors and a picture gallery. The PEET Products page has a list of publications and presentations as well as links to projects and activities associated with the PEET grant at the time the website was constructed.

The Major Groups and Genera List buttons provide navigation to the diatom taxa. The Major Groups page has a list the diatom groups Eucentric, Araphid, Monoraphid, Cymbelloid, and Nitzschioid in the first column, and Eccentric, Eunotioid, Naviculoid, Epithemioid, and Surirelloid in the second column. Each of these major group identifiers appear as buttons that link to lists of diatom genera.

Genera (which is plural for genus) comprise a part of a scientific name for each diatom. A scientific name is the italicized binomial in which the genus (capitalized) and species (not capitalized) are given in Latin. The diatom genera from the Great Lakes appear in the Genera List in alphabetical order and represent those taxa known at the time of website construction. Each genus is linked to a list of species names, and each species name is linked to a species card. Species lists are given in alphabetical order and have LMs placed after their scientific names. Besides taxonomic information and digital micrographs, there is also information on synonyms and ecology on each species card.

Over a seven-year period, people in diatom research added their contributions to the website according to their research interests. As a result, the taxa covered on the Great Lakes Diatoms website is sporadic with respect to the genera. It should also be noted that a few typos, errors, and missing images are evident, but this does not detract from the overall value of the body of work. One error worth noting is that the genus *Denticula* should be in the Nitzschioid Major Groups list, not in the Epithemioid Major Groups list. The Major Groups list was devised at the time of website construction for navigational purposes of genera and does not reflect recognized biological classification categories or phylogenetic lineages. Regardless, the Great Lakes Diatom website is a valuable resource of information on an important water system.

#### *Content information about the PDF of the Great Lakes Diatom website*

A PDF (portable document format) was generated of the Great Lakes Diatom website for the Deep Blue Repository that includes working links. However, because the PDF has turned a hierarchical website into a linear document, navigating the PDF is facilitated in Adobe Acrobat Reader by selecting “Find” under the “Edit” menu for particular words or phrases of interest, or by using the Page Thumbnails in the left column. In addition, color-coded backgrounds provide a quick check as to the type of page encountered while navigating the either the website on the Internet or the PDF. The top page is entitled Great Lakes Diatoms and has a periwinkle background color. The Major Groups list is on a medium blue background, and each Major Group page is on a yellow-orange background. The Genera List is on a medium orange background, while the Checklist is on a beige background. The FYI page is on a dark royal blue background, and the more information on diatoms page is on a blue filtered diatom slide background. The Contributors’ page is on a green background, a past contributors’ page is on a lavender background, and additional gallery pictures appear on a greenish-purple and white background pages. The publications from the PEET grant page is on a light orange background. Species Lists have a light mauve background, and species cards have a teal background. Collections data have a light aqua background, and reference pages have a dark aqua background. Digital images that appear on Species Lists and species cards are also on individual pages with a white background.

A brief Table of Contents of the Great Lakes Diatom website PDF is provided below when viewed in Adobe Acrobat Reader as another means of navigation. In the tool bar at the top,

the page number is given, then a slash, after which appears the total number of pages in the PDF. Any page may be found by highlighting, then typing the number to the left of the slash.

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The Great Lakes Diatoms website and PDF will continue to provide a service to those interested in research and learning about diatoms and the Great Lakes for many years to come.

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