

DIATOM TAXONOMIC CONSISTENCY: RESOURCES AND APPROACHES AT THE ACADEMY OF NATURAL SCIENCES, PHILADELPHIA, USA

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The ANSP Phycology Section has several resources available for diatom researchers to help promote taxonomic consistency. Three of the most useful are the current set of taxa names (2011 ANSP / NAWQA / EPA), the algae image database and website, and the NADED database with diatom counts and site information. These three are integrated with each other and with a counting program (Tabulator) and a program for calculating metrics (Phyco-Aide).

The Phycology Section is part of the Patrick Center for Environmental Research, and works closely with the Diatom Herbarium (Marina Potapova, Curator). The Phycology Section had its origins in the Limnology Department, which Ruth Patrick started in 1947. Beginning about 1994, the Phycology Section began storing diatom counts and related data in the North American Diatom Ecological Database (NADED). Section staff and collaborators have added diatom data to NADED from many projects throughout the US, including those national in scope such as the USGS National Water-Quality Assessment Program (NAWQA) and EPA's National Aquatic Resource Surveys (NARS). NADED now contains more than 25,000 diatom counts (and more than 16,000 soft-algae counts) from over 10,000 sites in the U.S. These records can be searched to find distribution data for individual taxa and to find accession numbers for the corresponding more than 47,000 slides archived in the ANSP Diatom Herbarium.

The 2011 ANSP/NAWQA/EPA set of taxa names is an update of previous versions and is the product of much work by many diatomists at several institutions. It includes recent synonyms for 2,000 diatom taxa (>1715 described) and more than 1100 soft algae. This set of names and its predecessors have been used in analysis of algal samples for many state and federal projects, including NAWQA, NARS, and the diatom component of the NEOTOMA paleoecology database. Agencies have supported this effort with the goal of providing a common and consistent set of names that can be used in projects they fund so that resulting datasets can be more effectively compared and combined. Files of names can be downloaded at: <http://diatom.ansp.org/nawqa/Taxalist.aspx>. Each name is associated with a unique NADED ID. Names are intended to be consistent with those used in the "Diatoms of the United States" website and equivalent in form to those in the California Academy Catalogue of Diatom Names.

The Algae Image Database and website (http://diatom.ansp.org/algae_image/) document many taxa in the sets of taxa names, particularly undescribed and less common taxa.