

RELATIVE FREQUENCY OF REPRODUCTIVE MODES IN DIATOMS: A MULTI-SPECIES INVESTIGATION NEAR LAKE PHALEN MINNESOTA

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Diatoms reproduce both vegetatively and sexually and it has been hypothesized that, due to differences among groups of diatoms in the evolutionary costs and benefits of the two modes of reproduction, the relative frequency of the two modes will vary systematically among groups. In particular, it was predicted that the relative frequency of sexual reproduction would be greater for raphid species than for centric and araphid species, and, similarly, more frequent for benthic species than for planktonic (Card and Carra 2011). To test these hypotheses, diatom samples were collected biweekly during the fall of 2010 and the spring and summer of 2011 from Round Lake adjacent to Lake Phalen in St. Paul, Minnesota. *Rhopalodia gibba* and several species were counted and measured, including the raphid pennates *Epithemia sorex* and *E. turgida*, the araphid pennates *Asterionella formosa* and *Diatoma tenuis*, and the centrics *Cyclotella meneghiniana* and *Aulacoseira granulata*. Relative frequencies of the two modes of reproduction were inferred from the number of modes and changes over time in the size-class profiles of the populations.

ORAL PRESENTATION

The raphids have frequent reproduction,
Whilst centrics are shy at seduction.
Araphids, it seems,
Are somewhere between,
Or so says this project's prediction.