

WHAT'S *MELOSIRA ARCTICA* DOING IN WELLINGTON CHANNEL, NUNAVUT, CANADA?

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First-year ice sampling at 21 stations located in the Canadian Arctic Archipelago around Cornwallis Island, Nunavut, Canada in May 2012 revealed not only rich algal communities in the lower ice layers but a significant sub-ice community, observed only once, at a nearshore station in Wellington Channel. This Arctic sub-ice community was dominated by the well-known filamentous colonial centric diatom, *Melosira arctica* Dickie, and occurred in cm long mucilage-rich strands. This widespread taxon across the entire Arctic regions has been often reported, however, associated epiphytes are poorly known. These epiphytes were commonly observed and consisted mainly of two pennate diatoms, *Synedropsis hyperborea* (Grunow) Hasle, Medlin & Syvertsen and *Pseudogomphonema arcticum* (Grunow) Medlin, with occasional occurrence of small solitary cells of *Chaetoceros* less than 10 µm in size. Interestingly these epiphytic pennate diatoms form small tuft colonies themselves adhering to the cell wall of *M. arctica*. In addition to these epiphytes, some solitary pennate diatom cells, namely *Entomoneis paludosa* var. *hyperborea* (Grunow) Poulin & Cardinal, *Haslea crucigeroides* (Hustedt) Simonsen, *Nitzschia longissima* (Brébisson ex Kützing) Grunow and *Pleurosigma stuxbergii* Cleve & Grunow, were observed crawling over the colonial curtain formed by *M. arctica*. Bottom ice and sub-ice habitats pose different challenges and selective pressures to the diatom species colonizing these environments. Suggestions for why *Melosira* assemblages can become dominant under certain conditions will be offered.