

# WORCESTER CYANOBACTERIA MONITORING COLLABORATIVE

## Monthly Report

May 2018



Integrated tubes allow us to sample 3 m of water.  
Here we practice collecting them in a barrel.

On the morning of Saturday, May 26<sup>th</sup>, our now confident team of citizen scientists embarked on their second sample collection. This month, volunteers visited Indian Lake, Little Indian Lake, Kiver Pond, Cooks Pond, Coes Reservoir, and Lake Quinsigamond. In addition to retrieving the plankton net samples for cyanobacteria and algae identification, some volunteers took samples with integrated tubes (IT samples). Integrated tubes allow samplers to gather samples representing three meters of the water column, which are then analyzed for the pigments chlorophyll and phycocyanin, the molecules that algae and cyanobacteria use to harvest energy from sunlight.

**Sampling Weather:** A great way to begin a beautiful holiday weekend! The air temperature was about 80 degrees while the water was 67 degrees when the samples were taken in the morning. There had been no rain in the past 24 hours. Samples were collected between 7:30 and 10:05 am.

**General Findings:** May was another month without an observation of cyanobacteria! However, the composition of our samples is changing. During our April sampling, our samples were dominated by diatoms, silica based plankton that are common early in the season. This month, while diatoms were still present, we saw more golden algae and our first green algae. We saw a few new zooplankton, as well as some other unidentified objects that later we found to be debris.

**What it means:** We have begun to see a change in the plankton community dynamic! This occurrence is the natural cycle in which different groups of plankton are more prevalent in the overall microscopic population. By taking note of these changes, as well as other water chemistry parameters, we can begin to better understand how to predict events like algal and cyanobacteria blooms.

As we collect more samples, we will begin to use the fluorimeter, the device that uses light to measure the pigments in the IT samples. This information will complement our visual observations. Stay tuned!

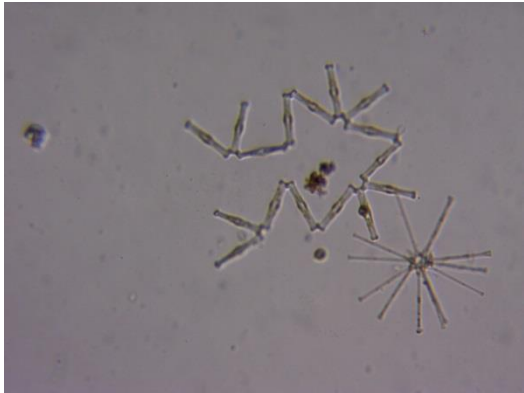


A **coenobium** (pl. coenobia) is a unique type of algal colony in which there are a fixed number of cells.

Usually the formation has a geometric and aesthetically pleasing shape, like this *Pediastrum simplex* found in Indian Lake last year.

*Thanks again to Joy Trahan-Liptak, and all the volunteers for their support!*

# DIATOMS



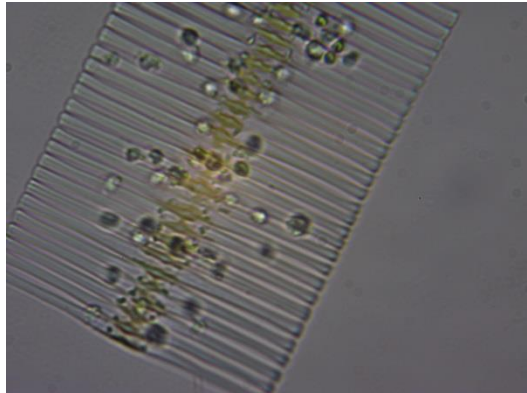
*Tabellaria* (upper left) and *Asterionella* (lower right) at Lake Quinsigamond



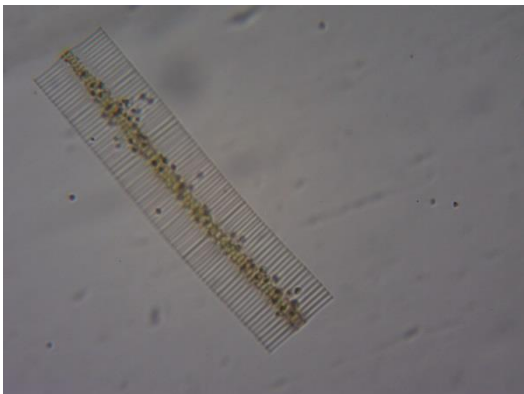
*Tabellaria* at Lake Quinsigamond (40x)



*Asterionella* at Coes Reservoir (4x)



*Fragilaria* at Lake Quinsigamond (40x)



*Fragilaria* at Lake Quinsigamond (10x)



*Asterionella* at Lake Quinsigamond (4x)

*Thanks again to Joy Trahan-Liptak, and all the volunteers for their support!*

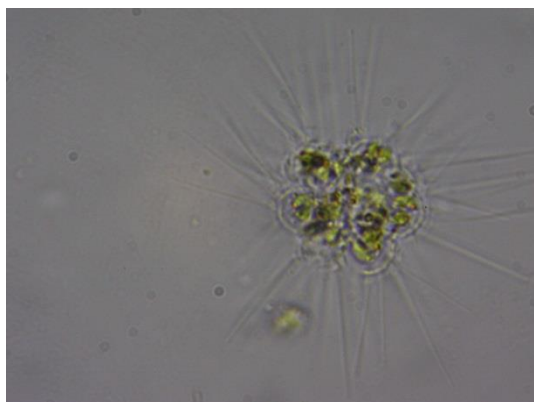
## GOLDEN ALGAE



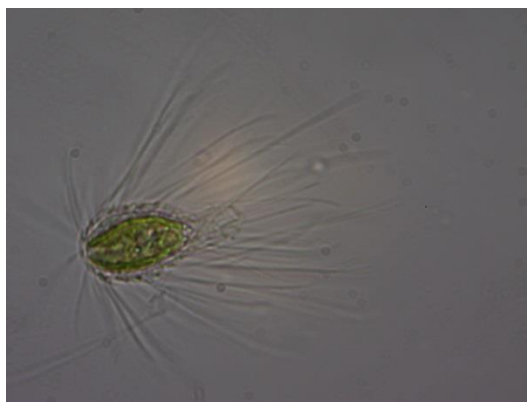
*Dinobryon* at Cooks Pond



*Dinobryon* at Cooks Pond

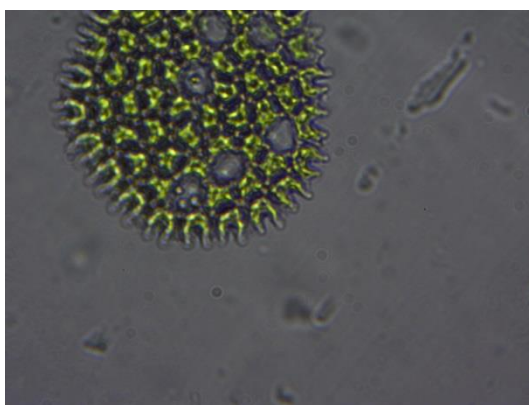


*Chrysosphaerella* at Lake Quinsigamond  
(40x)



*Mallomonas* at Cooks Pond

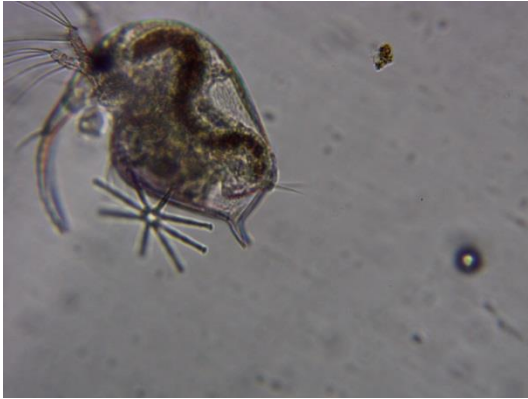
## GREEN ALGAE



*Pediastrum*, perhaps *Pediastrum duplex*,  
at Indian Lake

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## ZOOPLANKTON



*Cladocera* at Coes Reservoir (10x)

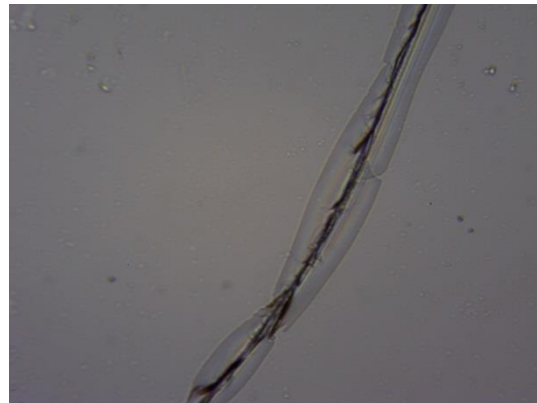


*Copepod* exoskeleton/molt at Cooks Pond (10x)

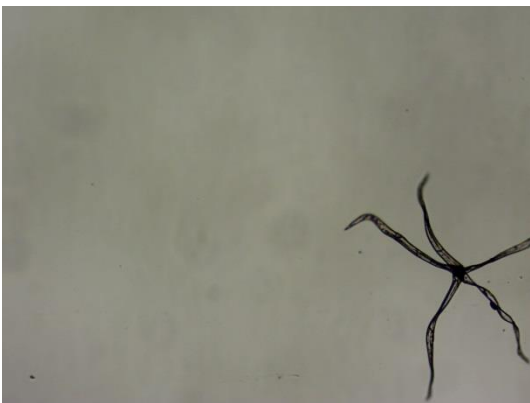
## MISCELLANEOUS



Trichome at Coes Reservoir (4x)



Trichome at Cooks Pond (10x)



Trichome at Coes Reservoir (4x)



Detritus at Lake Quinsigamond (10x)

Interested in joining the WCMC? Contact [burmeisterj@worcesterma.com](mailto:burmeisterj@worcesterma.com) to learn more!

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