# Worcester Cyanobacteria Monitoring Collaborative

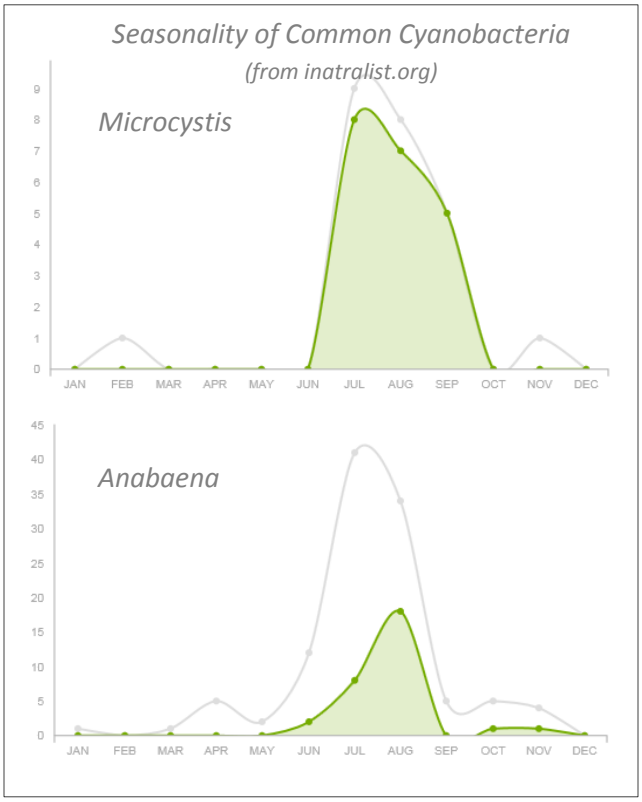
Monthly Report: September, 2017

Volunteers returned to their waterbodies for a fourth and final time this season on September 30th. This month, we examined water samples from Lake Quinsigamond, Indian Lake, Little Indian Lake, Coes Reservoir and Patch Reservoir for algae and cyanobacteria.

**Sampling Weather:** It was a damp and chilly morning to sample the lakes. Air temperatures were in the low 50s. The skies were overcast, and light rains the night prior left the air feeling clammy. All samples were collected between 9 and 10 am.

**General Findings:** This month saw a significant reduction in the number of algae and cyanobacteria found in the samples. We found *Anabaena* in several locations, in addition to making a few new identifications. We identified the cyanobacteria *Chroococcus*, a microcystin producer that creates colonies of 2, 4 or 8 sheathed cells. We also found a new alga, *Synura*, which has silicate scales and spines. There were some forms what we were not able to identify. For the first time, we found no *Microcystis* at all.

**What is means:** As air and water temperatures cool, it is expected that the abundance of cyanobacteria and algae decline and the chances of an algal bloom are lower. Our observations under the scope have been supported by increased water clarity, which was measured by Secchi disk as part of the City of Worcester Lakes and Ponds Water Quality Monitoring Program. However, it is important to remember that the methods used by the Worcester Cyanobacteria Monitoring Coalition cannot predict propensity to harmful algal blooms.

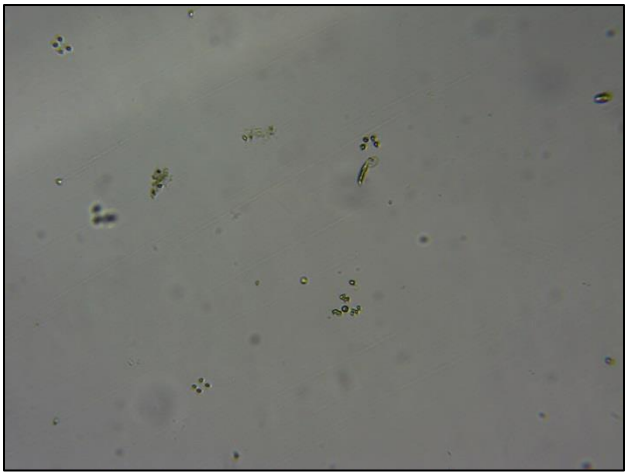



This summer, the tracking of the diversity of algae and cyanobacteria has provided us with insights about lake dynamics. We have seen that every month, certain types have been more common than others. We can compare our observations with those of other regional cyano-hunters to establish trends about seasonality, as seen in the graphs to the right. As the program continues, we will have a deeper pool of data to draw comparisons from. We hope to ultimately use these results to supplement other monitoring programs in order to better predict and prevent harmful algal blooms.

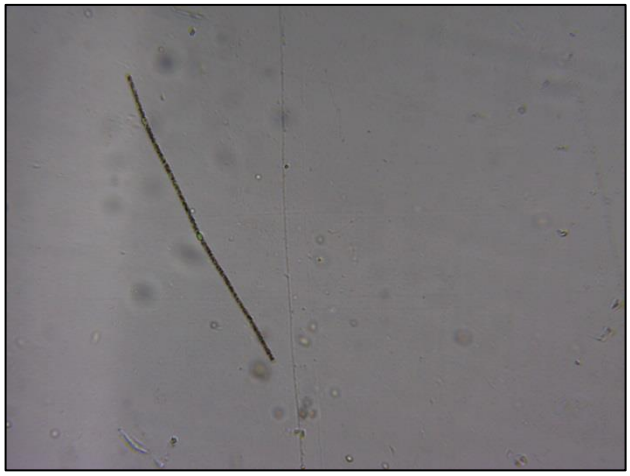
For more information on the diversity of cyanobacteria in our region, check out https://www.inaturalist.org/projects/cyanoscope.

*Thanks again to Regatta Point Sailing, DCR, Dr. Karolina Fucikova, Joy Trahan-Liptak, and the volunteers for their support!*

## Highlights: Little Indian Lake

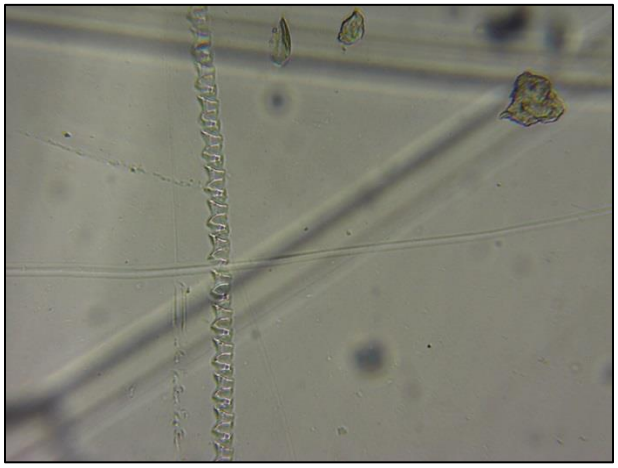


*Chroococcus*, a cyanobacterium that is usually found in colonies of 2, 4 or 8 cells, and has a protective sheath around its pigments.
10x magnification

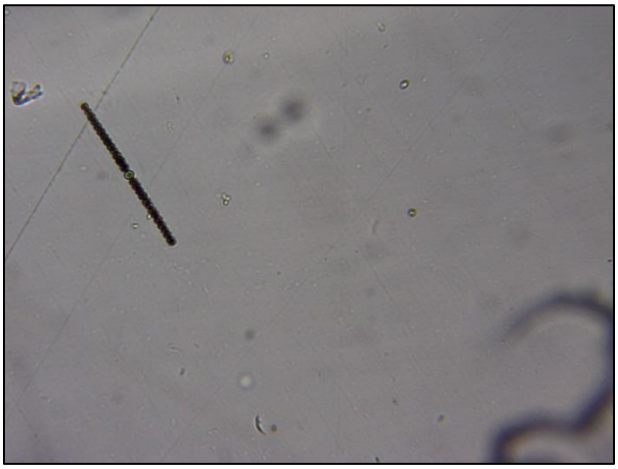


*Anabaena,* a common cyanobacterium.
10x magnification

## Patch Reservoir



An unidentified form that is suspected to be a diatom chain.
10x magnification



*Anabaena,* a common cyanobacterium.
10x magnification

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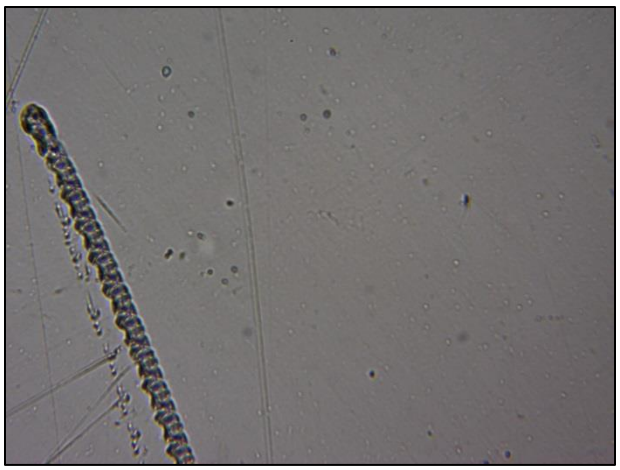
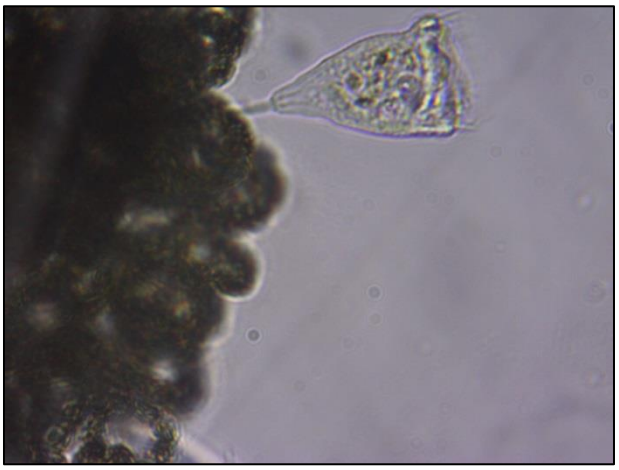
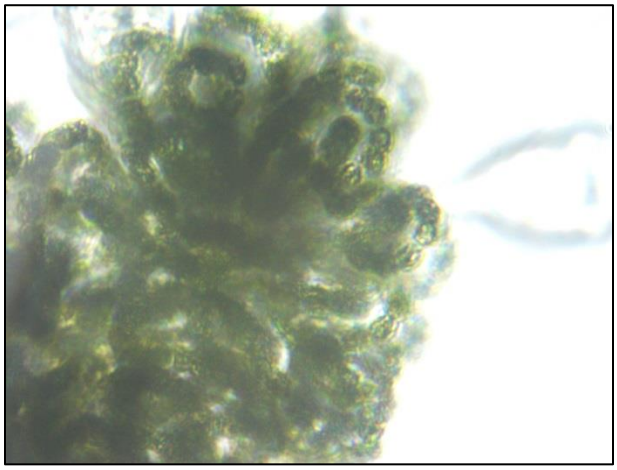
## Coes Reservoir



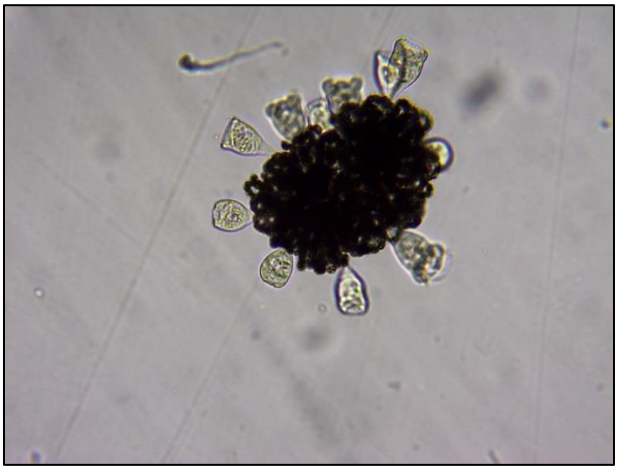
An unidentified form that is suspected to be a diatom chain.
10x magnification



*Vorticella* ciliates attached to a colony of *Anabaena* cyanobacteria.
40x magnification



The same *Vorticella* ciliates attached to a colony of *Anabaena* cyanobacteria.
40x magnification



The same *Vorticella* ciliates attached to a colony of *Anabaena* cyanobacteria.
10x magnification

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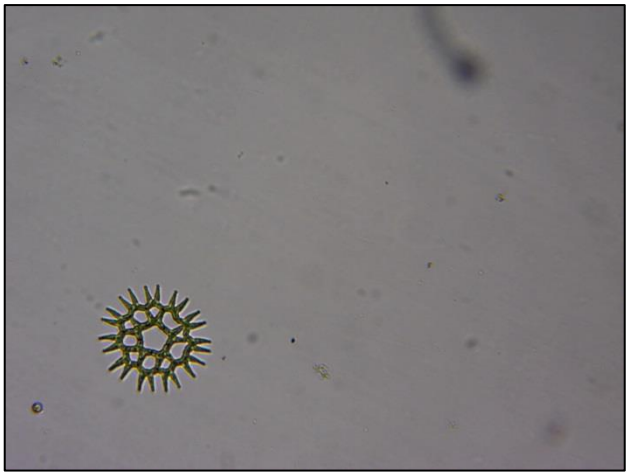
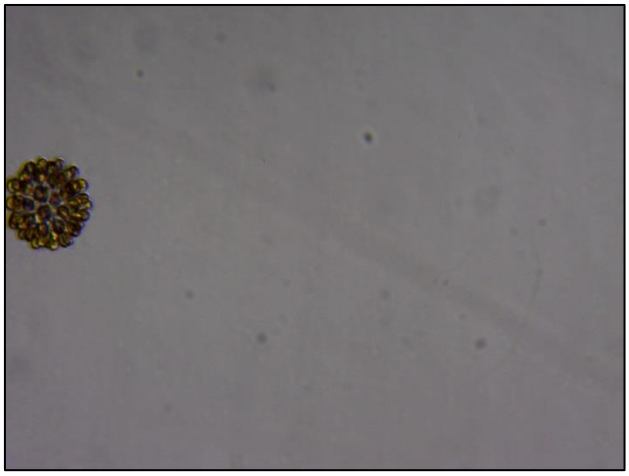
## Indian Lake



*Pediastrum simplex,* a green agla.
10x magnification

## Lake Quinsigamond



*Synura*, an alga with silicate scales and spines.
10x magnification

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*Joy Trahan-Liptak, and the volunteers for their support!*