

**Northeast Aquatic Research Algal ID and Enumeration Report**

Prepared: August 10, 2015

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Samples: 2 (Collected on 8/3/15)

1. Lake Pocotopaug Dock
2. Lake Pocotopaug Beach

**Sample 1: Lake Pocotopaug Dock**

Total cell numbers in the Lake Pocotopaug Dock sample collected on 8/3/15 were 164,601 cells/mL. Blue-green algae (Cyanobacteria; 161,127 cells/mL) were the dominant algal group in the sample accounting for 97.9% of total cell numbers. Other algal groups in the sample were diatoms (Bacillariophyceae; 187 cells/mL), desmids (Charophyta; 83 cells/mL), green algae (Chlorophyta; 2,571 cells/mL), cryptophytes (Cryptophyta; 2 cells/mL), euglenophytes (Euglenophyta; 3 cells/mL) and microflagellates (Miscellaneous; 628 cells/mL). The most abundant species was the filamentous cyanophyte *Chrysochloris ovalisporum* (formerly *Aphanizomenon ovalisporum*; 130,061 cells/mL; Figs. 1-2). A total of 45 species were observed in the sample with green algae and blue-green algae the most diverse algal groups with 16 and 13 taxa observed respectively.

Total numbers of potentially toxigenic cyanobacteria (PTOX Cyano) were 149,231 cells/mL (90.7% of total cell numbers). PTOX Cyano species present included *Chrysochloris ovalisporum* (130,061 cells/mL), an unknown nostocalean filament (8,953 cells/mL; Figs. 3-4), *Aphanizomenon* cf. *skujae* (5,341 cells/mL; Fig. 5), *Woronichinia naegeliana* (33 cells/mL; Fig. 6), *Radiocystis geminata* (1,492 cells/mL; Fig. 7), *Microcystis* sp. (691 cells/mL; Fig. 8), *Microcystis* sp. (667 cells/mL; Fig. 9) and *Microcystis wesenbergii* (190 cells/mL; Fig. 10).

**Sample 2: Lake Pocotopaug Beach**

Total cell numbers in the Lake Pocotopaug Beach sample collected on 8/3/15 were 186,510 cells/mL. Blue-green algae (Cyanobacteria; 182,480 cells/mL) were the dominant algal group in the sample accounting for 97.8% of total cell numbers. Other algal groups in the sample were diatoms (Bacillariophyceae; 614 cells/mL), desmids (Charophyta; 41 cells/mL), green algae (Chlorophyta; 2,431 cells/mL), euglenophytes (Euglenophyta; 1 cell/mL), microflagellates and unknown unicells (Miscellaneous; 942 cells/mL) and yellow-green algae (Xanthophyceae; 1 cell/mL). The most abundant species was the filamentous cyanophyte *Chrysochloris ovalisporum* (formerly *Aphanizomenon ovalisporum*; 138,857 cells/mL). A total of 47 species were observed in the sample with green algae and blue-green algae the most diverse algal groups with 20 and 13 taxa observed respectively.

Total numbers of potentially toxigenic cyanobacteria (PTOX Cyano) were 168,288 cells/mL (90.2% of total cell numbers). PTOX Cyano species present included *Chrysochloris ovalisporum* (138,857 cells/mL), an unknown nostocalean filament (16,336 cells/mL), *Aphanizomenon* cf. *skujae* (5,341 cells/mL), *Microcystis* sp. (3,141 cells/mL), *Microcystis* sp.

(2,356 cells/mL), *Woronichinia naegeliana* (1,595 cells/mL), *Radiocystis geminata* (344 cells/mL) and *Microcystis wesenbergii* (318 cells/mL).



Fig. 1 *Chrysoosporum ovalisporum* 400X (Scale bar = 100μm)

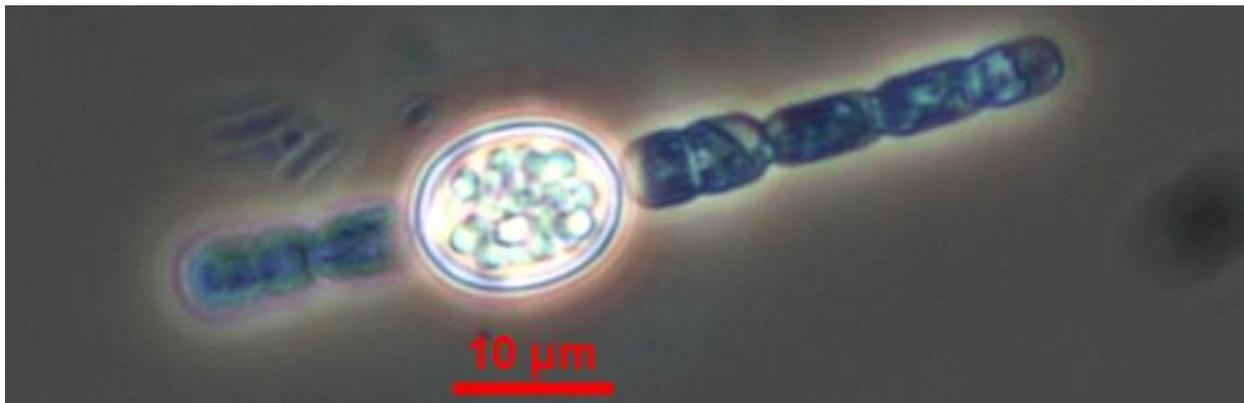


Fig. 2 *Chrysoosporum ovalisporum* 400X (Scale bar = 10μm)

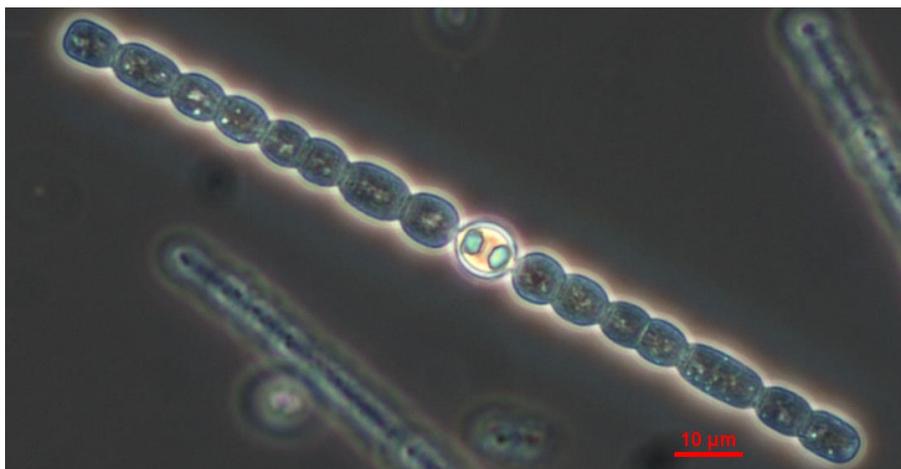


Fig. 3 nostocalean filament sp. 400X (Scale bar = 10μm)

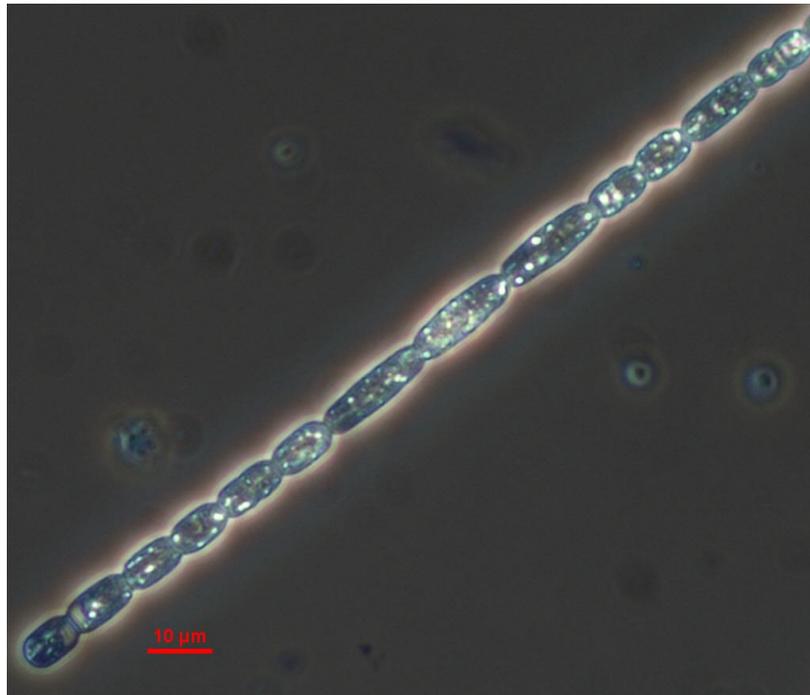


Fig. 4 nostocalean filament sp. 400X (Scale bar = 10μm)

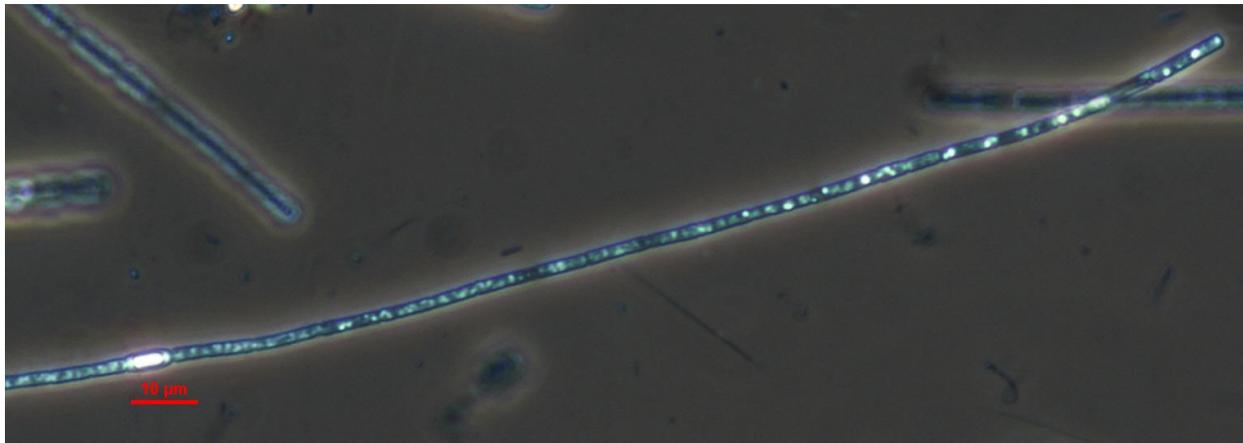


Fig. 5 *Aphanizomenon* cf. *skujae* 400X (Scale bar = 10μm)

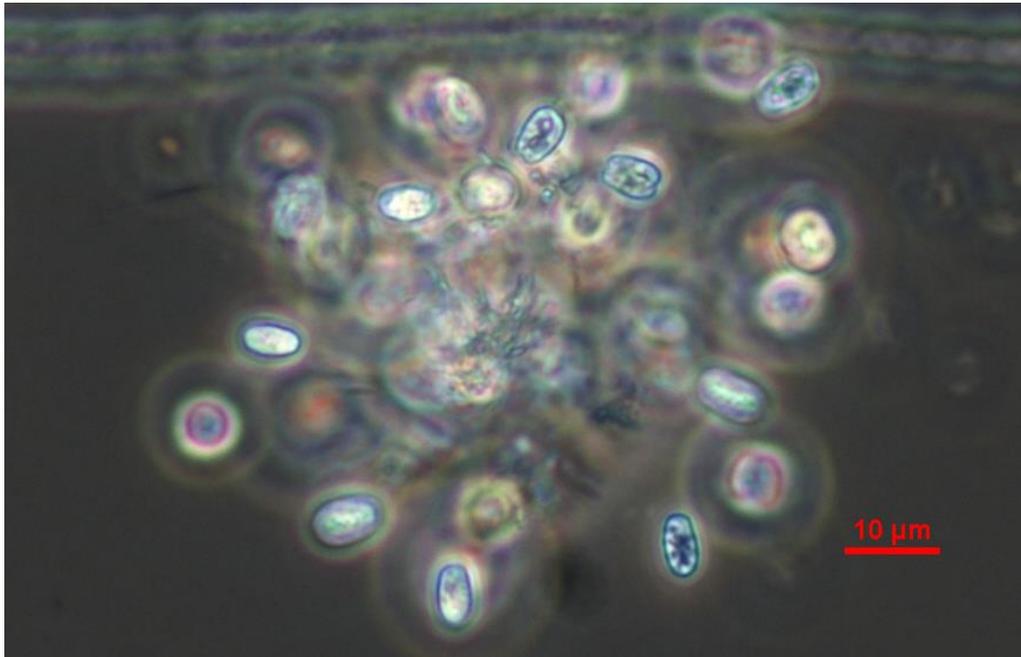


Fig. 6 *Woronichinia naegeliana* 400X (Scale bar = 10 $\mu$ m)

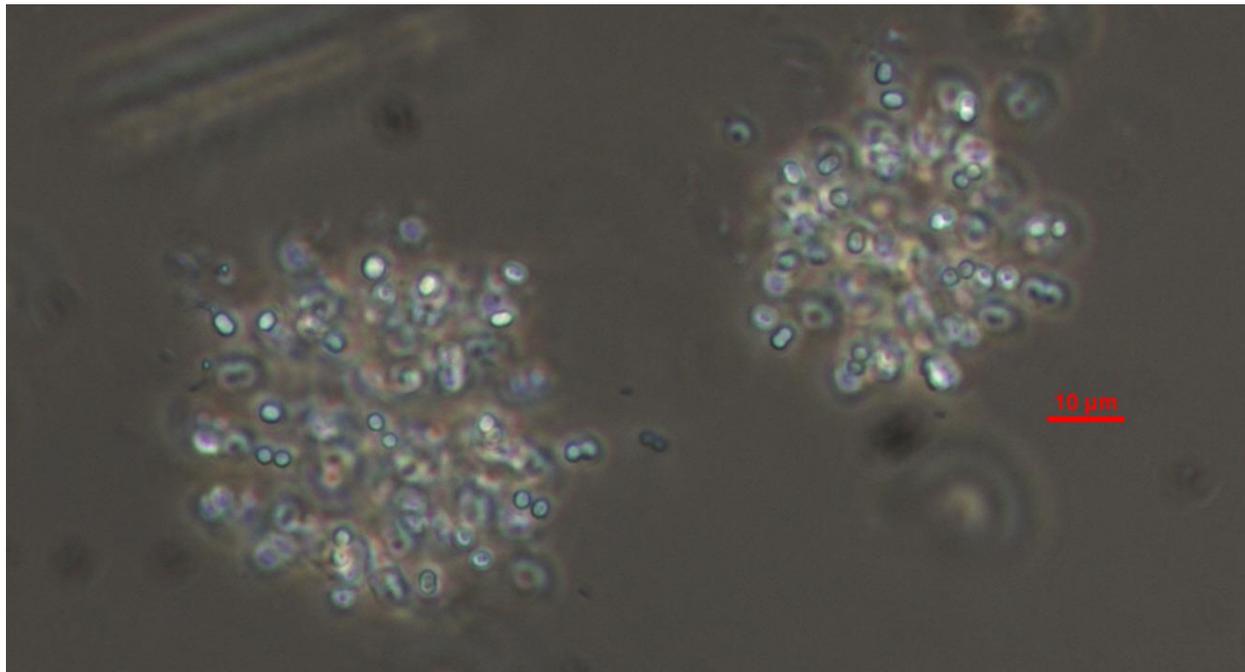


Fig. 7 *Radiocystis geminata* 400X (Scale bar = 10 $\mu$ m)

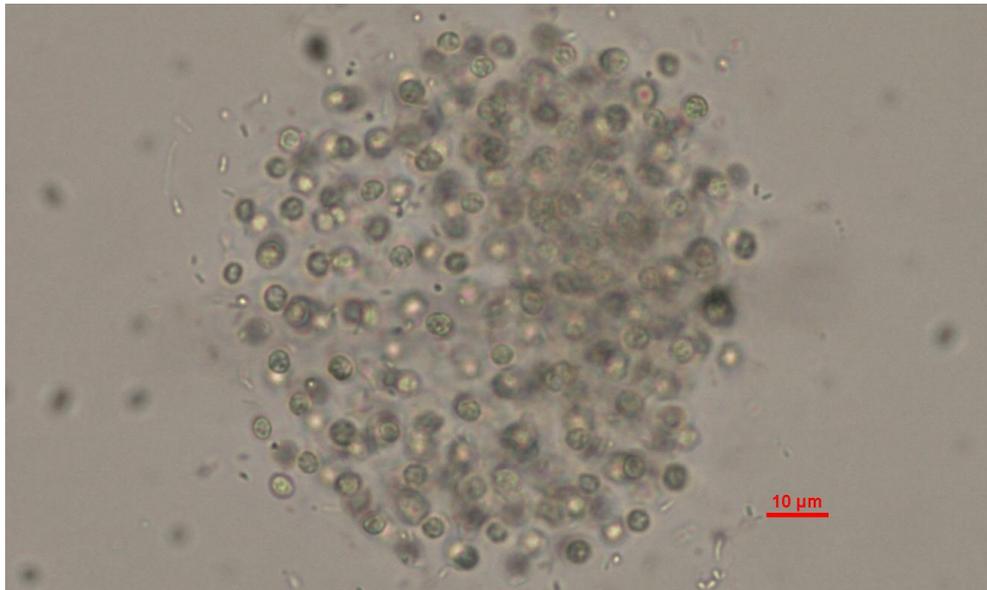


Fig. 8 *Microcystis* sp. 400X (Scale bar = 10µm)

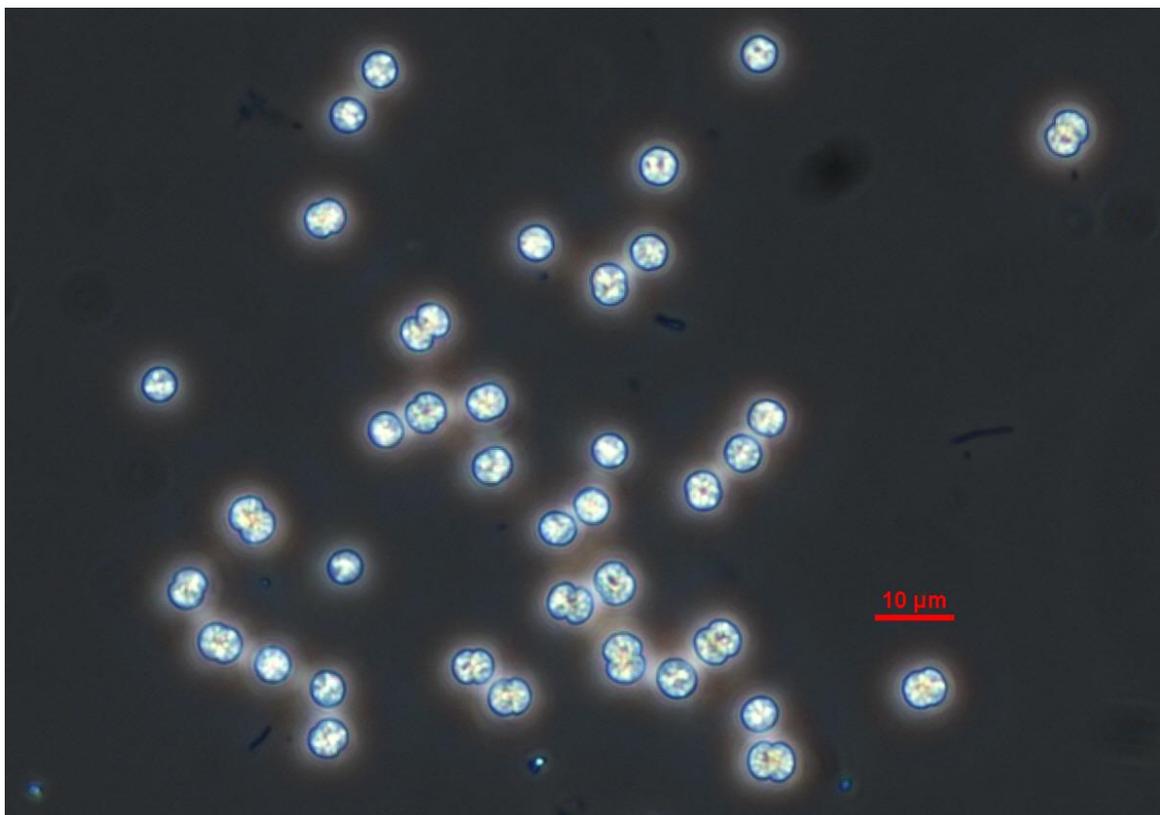


Fig. 9 *Microcystis* sp. 400X (Scale bar = 10µm)



Fig. 10 *Microcystis wesenbergii* 400X (Scale bar = 10 $\mu$ m)