

Central Davis Sewer District Algal ID and Enumeration Report

Prepared: April 26, 2024

Prepared By: GreenWater Laboratories

Samples: 2 (Collected on 10/17/23)

1. FB1
2. FB4

Sample 1: FB1

Total cell numbers in the FB1 sample collected on 10/17/23 were 157,428 cells/mL. Green algae (Chlorophyta; 68,796 cells/mL) and blue-green algae (Cyanobacteria; 56,281 cells/mL) were the most abundant algal groups in the sample accounting for 43.7% and 35.8% of total cell numbers respectively. Other algal groups in the sample were diatoms (Bacillariophyta; 25,808 cells/mL), desmids (Charophyta; 3 cells/mL), golden-brown algae (Chrysophyceae; 234 cells/mL), cryptophytes (Cryptophyta; 356 cells/mL), dinoflagellates (Dinophyceae; 43 cells/mL), euglenoids (Euglenozoa; 999 cells/mL), eustigmatophytes (Eustigmatophyceae; 234 cells/mL), haptophytes (Haptophyta; 1,169 cells/mL) and unknown algae (Unknown; 3,506 cells/mL). The most abundant alga in the sample was the colonial cyanophyte *Merismopedia tenuissima* (26,647 cells/mL; Fig. 1). A total of 98 species were observed in the sample with green algae the most diverse group with 53 taxa.

Total cell numbers of potentially toxigenic cyanobacteria (PTOX Cyano) were 11,167 cells/mL (7.1% of total cell numbers). PTOX Cyano species observed in the sample included *Planktothrix agardhii* (7,363 cells/mL; Fig. 2) and *Pseudanabaena* sp. (3,804 cells/mL; Fig. 3).

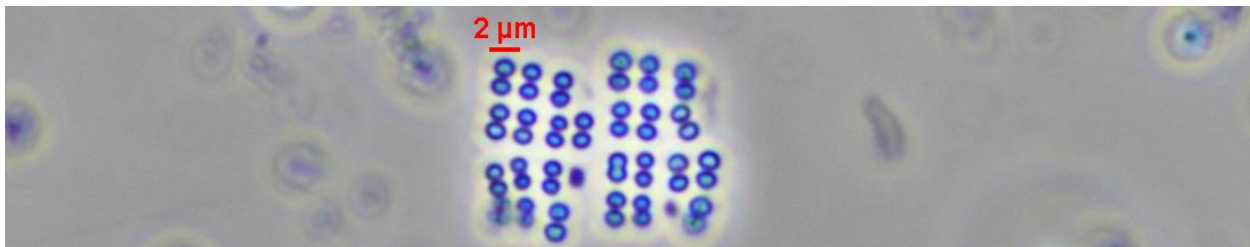


Fig. 1 *Merismopedia tenuissima* 600X (scale bar = 2 μ m)



Fig. 2 *Planktothrix agardhii* 600X (scale bar = 5 μ m)

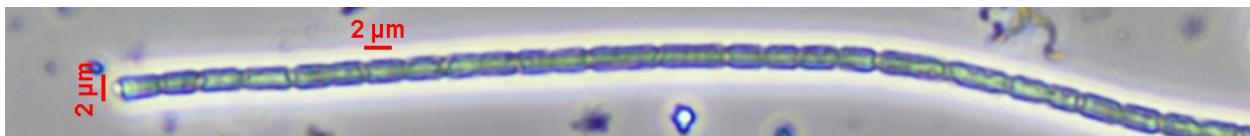


Fig. 3 *Pseudanabaena* sp. 600X (scale bar = 2 μ m)

Sample 2: FB4

Total cell numbers in the FB4 sample collected on 10/17/23 were 31,946 cells/mL. Blue-green algae (Cyanobacteria; 23,342 cells/mL) was the most abundant algal group in the sample accounting for 73.1% of total cell numbers. Other algal groups in the sample were diatoms (Bacillariophyta; 852 cells/mL), green algae (Chlorophyta; 6,916 cells/mL), cryptophytes (Cryptophyta; 41 cells/mL), dinoflagellates (Dinophyceae; 14 cells/mL), euglenoids (Euglenozoa; 113 cells/mL) and unknown algae (Unknown; 668 cells/mL). The most abundant alga in the sample was the colonial cyanophyte *Merismopedia tenuissima* (15,762 cells/mL; Fig. 4). A total of 84 species were observed in the sample with green algae the most diverse group with 33 taxa observed.

Total cell numbers of potentially toxigenic cyanobacteria (PTOX Cyano) were 2,206 cells/mL (6.9% of total cell numbers). PTOX Cyano species observed in the sample included cf. *Kamptonema* sp. (1,227 cells/mL; Fig. 5), *Nodularia harveyana* (676 cells/mL; Fig. 6), *Pseudanabaena* sp. (177 cells/mL; Fig. 7), cf. *Phormidium* sp. (52 cells/mL; Fig. 8), cf. *Anabaena* sp. (48 cells/mL; Fig. 9), cf. *Phormidium* sp. (21 cells/mL; Fig. 10) and *Raphidiopsis raciborskii* (5 cells/mL; Fig. 11).

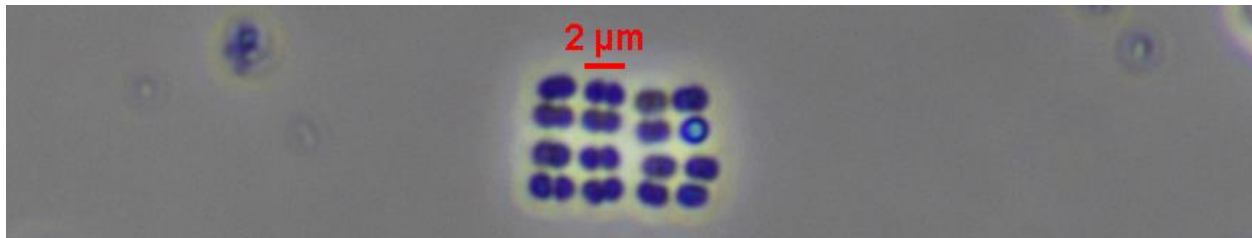


Fig. 4 *Merismopedia tenuissima* 600X (scale bar = 2μm)

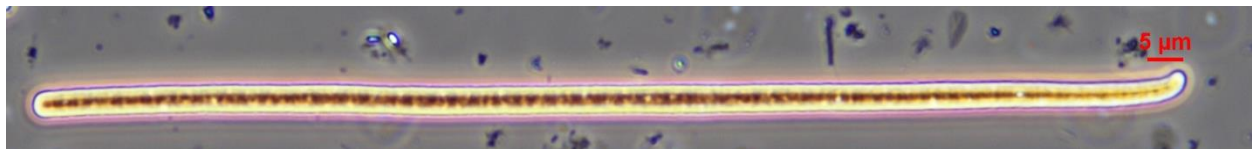


Fig. 5 cf. *Kamptonema* sp. 600X (scale bar = 5μm)

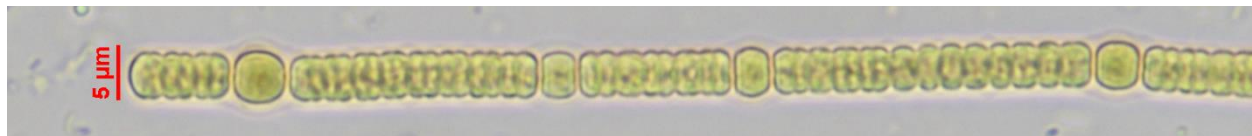


Fig. 6 *Nodularia harveyana* 600X (scale bar = 5μm)

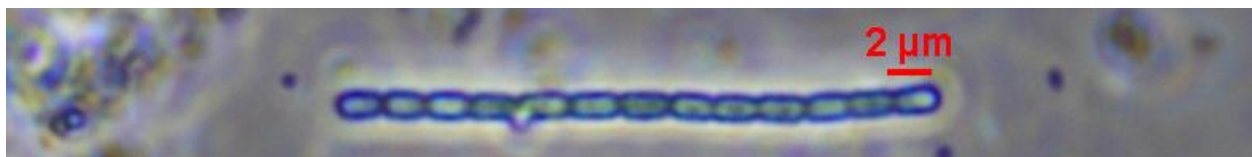


Fig. 7 *Pseudanabaena* sp. 600X (scale bar = 2μm)

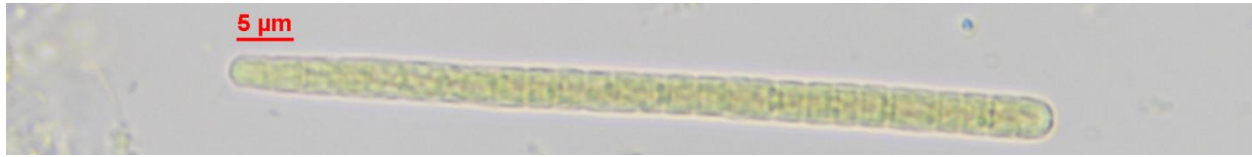


Fig. 8 cf. *Phormidium* sp. 600X (scale bar = 5µm)

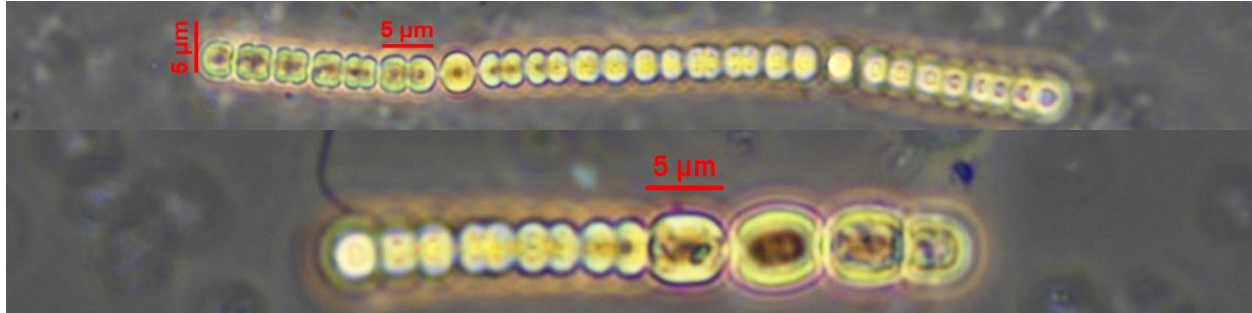


Fig. 9 cf. *Anabaena* sp. 600X (scale bar = 5µm)

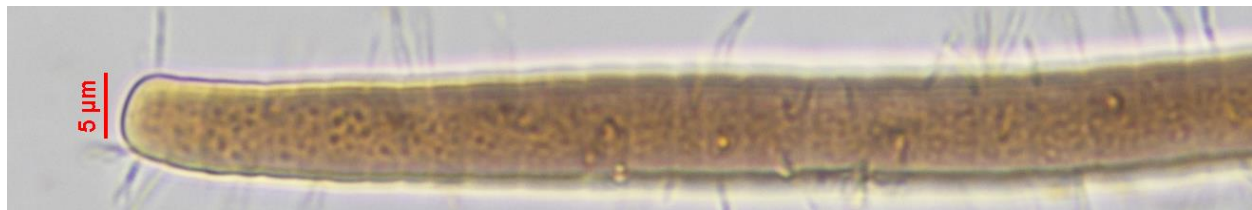


Fig. 10 cf. *Phormidium* sp. 600X (scale bar = 5µm)

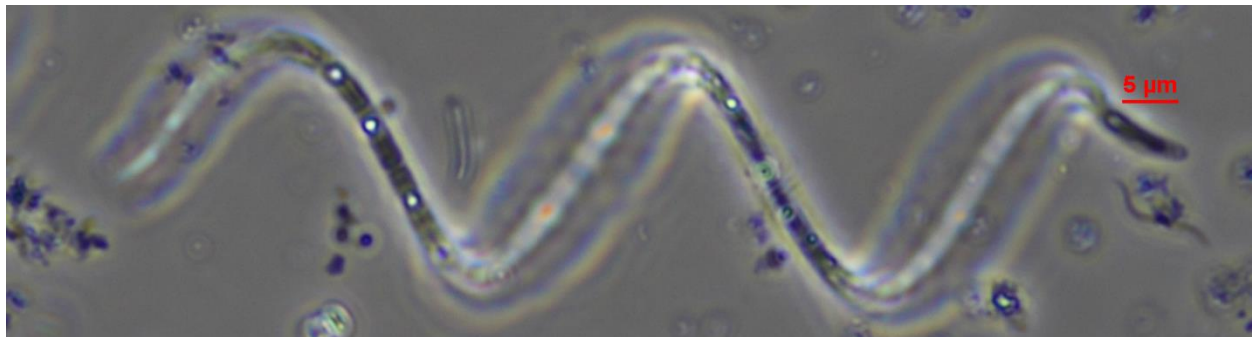


Fig. 11 *Raphidiopsis raciborskii* 600X (scale bar = 5µm)

Submitted by:

Andrew D. Chapman

Andrew D. Chapman, M.S.

Date:

4/26/2024

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