

Ciliate grazing on the bloom-forming microalga *Gonyostomum semen*

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DATASET01.csv (11.14 KB)

Citation

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Creator/Principal investigator(s)

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Description

Cell count data set from infection experiment containing 8 columns, which are described below.

Day: Day of the experiment.

Date: Date of the experiment.

Code: Unique identifier for each combination of *G. semen* and ciliate strains.

G.semen_strain: Identifier for the *G. semen* strain used in this treatment.

Ciliate_strain: Identifier for the ciliate strain used in this treatment. *G. semen* mono-cultures (without ciliates) are named "control".

Treatment: Distinguishes control and grazing (with ciliates) treatments.

Count: Specifies which taxon was counted (*G. semen* or ciliate).

cells/ml: Cell concentration counted under an inverted microscope in cells/mL.

The freshwater raphidophyte *Gonyostomum semen* forms extensive summer blooms in northern European humic lakes. The development of these blooms might be facilitated by a lack of natural top-down control, as few zooplankton species are able to prey on these large algal cells (up to 100µm) that expel trichocysts upon physical stress. In this study, we describe a small ciliate species (<17µm) that preys on *G. semen* by damaging the cell membrane until cytoplasm and organelles spill out. Sequencing of clonal cultures of the ciliate tentatively identified it as the prostomatid species *Urotricha pseudofurcata*. Grazing experiments illustrated that feeding by *U. cf. pseudofurcata* can significantly reduce cell concentrations of the microalga. However, differences in cell size and growth rate between two investigated ciliate strains resulted in noticeably different grazing pressure. Environmental sequencing data from five different lakes supported potential interactions between the two species. *Urotricha cf. pseudofurcata* might, thus, play an important role in aquatic ecosystems that are regularly dominated by *G. semen*, reducing the abundance of this bloom-forming microalga and enabling transfer of organic carbon to higher trophic levels.

The dataset was originally published in DiVA and moved to SND in 2024.

Data contains personal data

No

Language

[English](#)

Contributor(s)

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Identifiers

URN: [urn:nbn:se:uu:diva-511093](https://nbn-resolving.org/urn:nbn:se:uu:diva-511093)

Research area

[Environmental sciences](#) (Standard för svensk indelning av forskningsämnen 2011)

[Oceanography, hydrology and water resources](#) (Standard för svensk indelning av forskningsämnen 2011)

[Microbiology](#) (Standard för svensk indelning av forskningsämnen 2011)

[Ecology](#) (Standard för svensk indelning av forskningsämnen 2011)

Keywords

[Predator-prey interaction](#), [Urotricha pseudofurcata](#), [Algal bloom](#), [Grazing experiment](#), [Biology with specialization in limnology](#)

Accessibility level

Access to data through SND

Data are freely accessible

Use of data

[Things to consider when using data shared through SND](#)

Versions

Version 1. 2023-09-07

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[DDI 3.3](#)

[DCAT-AP-SE 2.0](#)

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