WISCONSIN DEPARTMENT OF NATURAL RESOURCES

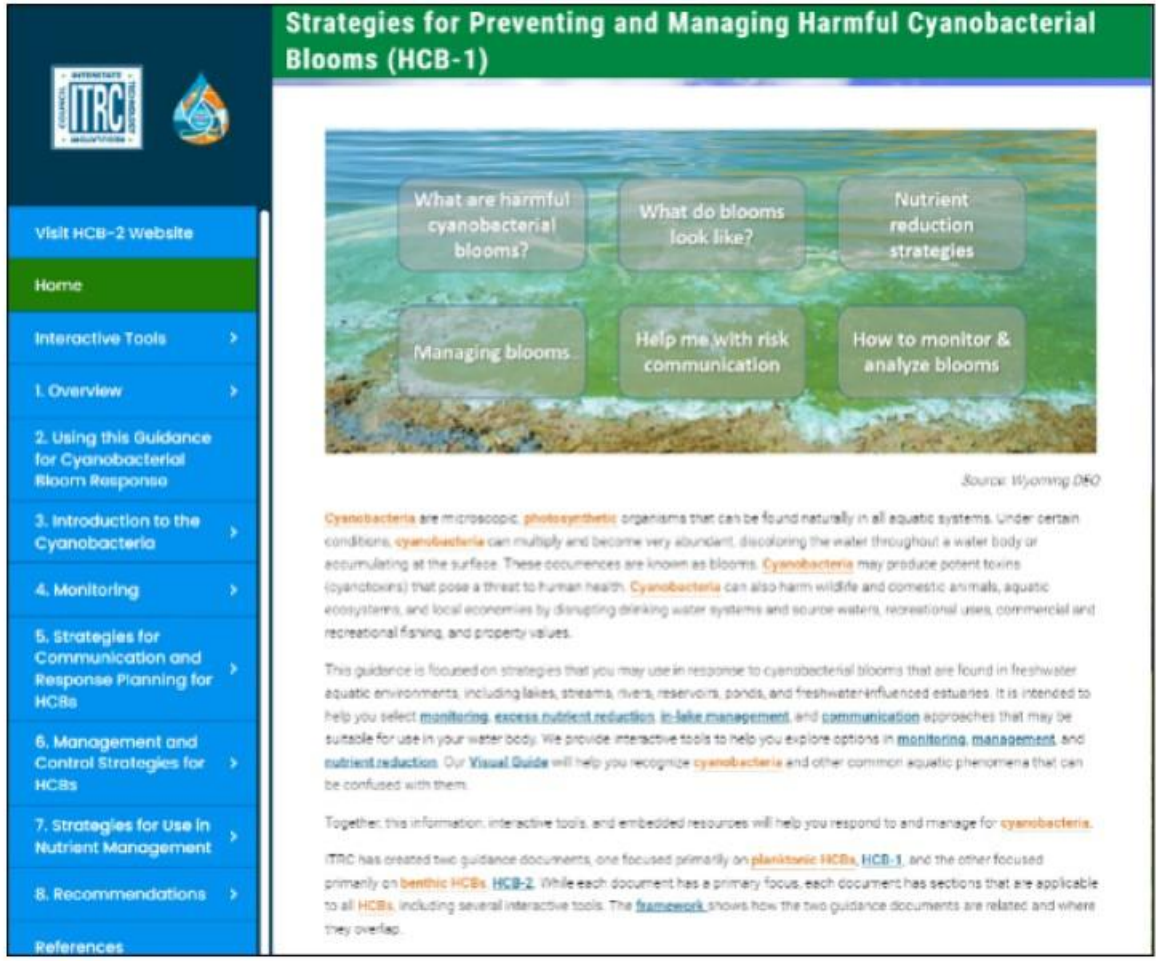
Identifying Benthic Cyanobacteria in Lakes

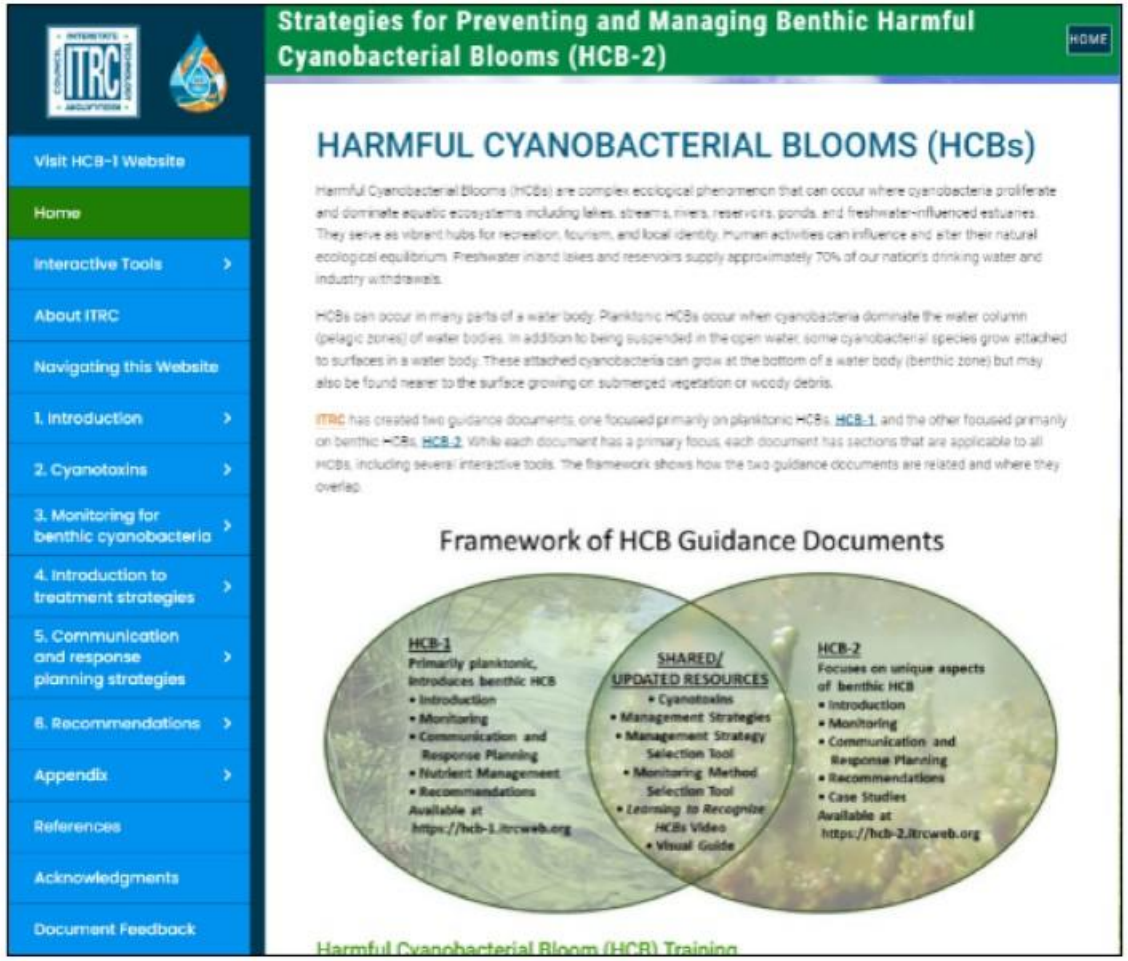
July 7, 2026| Lake Champlain Committee & Tetra Tech

Gina LaLiberte, Bureau of Water Quality

Cyanobacteria are EVERYWHERE!
But… blooms are NOT a problem everywhere.

ITRC Guidance for Planktonic and Benthic HCBs





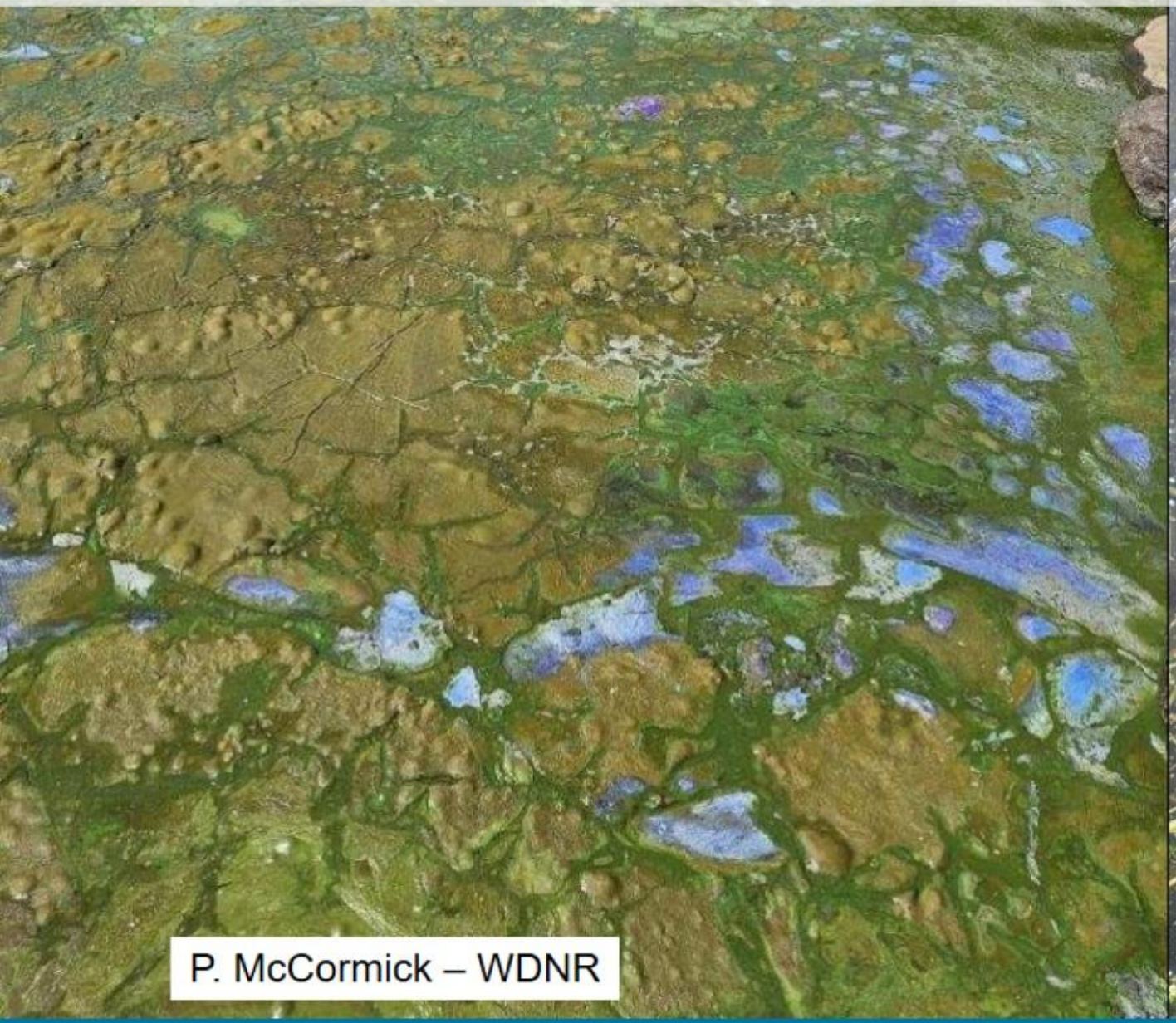
hcb-1.itrcweb.org/ and hcb-2.itrcweb.org/

Learn to Identify Cyanobacteria Blooms Video

- Published with help from the Lake Champlain Basin Program
- Identifies and describes different types of cyanobacteria
- Includes guidance on best management and safety practices

https://www.youtube.com/watch?v=1Aknc7dZHMg&t=1s

Benthic cyanobacteria can be cryptic.



P. McCormick – WDNR

D. Blumer – SEH Inc.

Benthic cyanobacteria can be cryptic.

C. Helker - WDNR

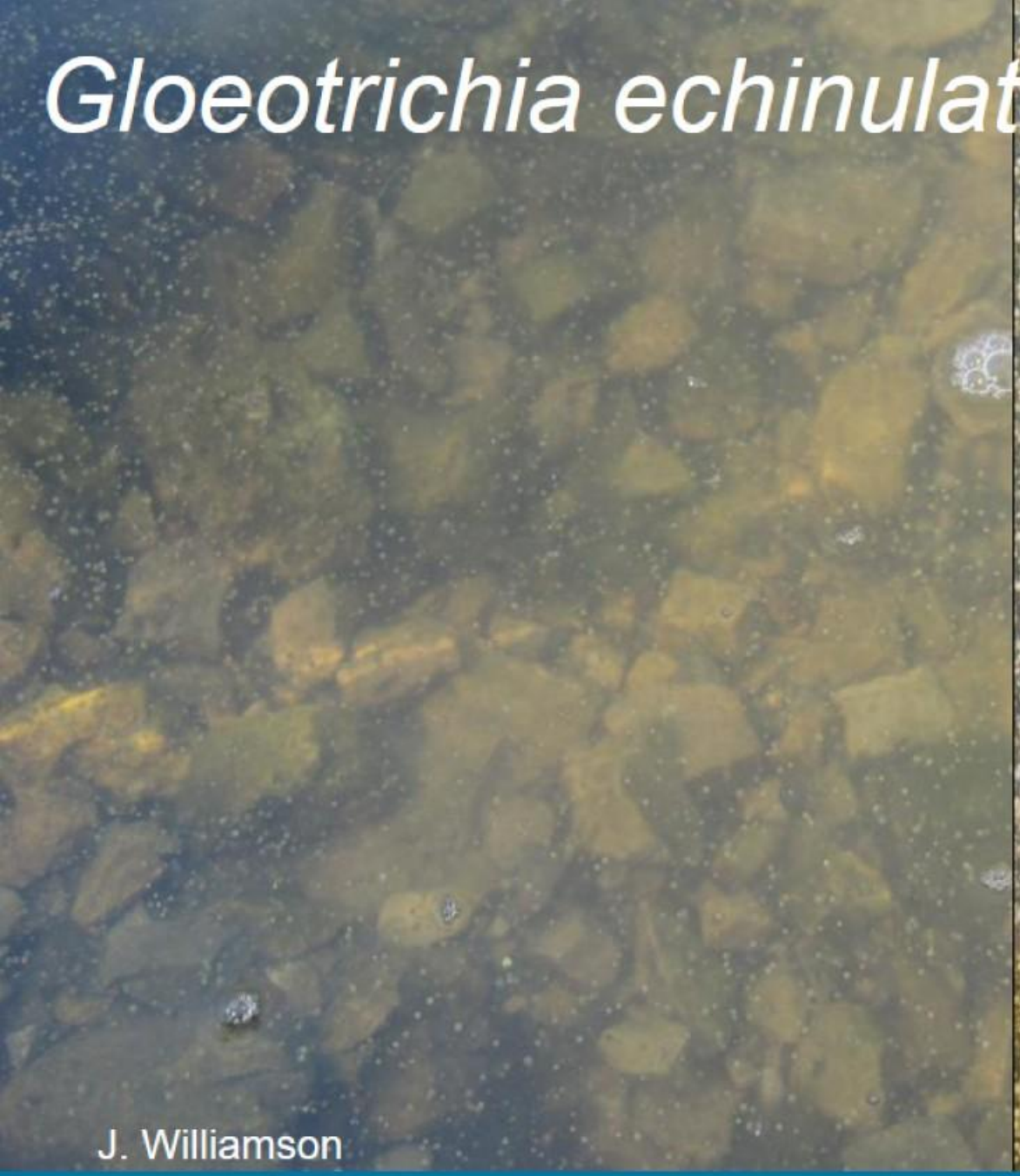
Benthic cyanobacteria can be cryptic.

Benthic cyanobacteria need clear water.

C. Thieman

P. Tikusis

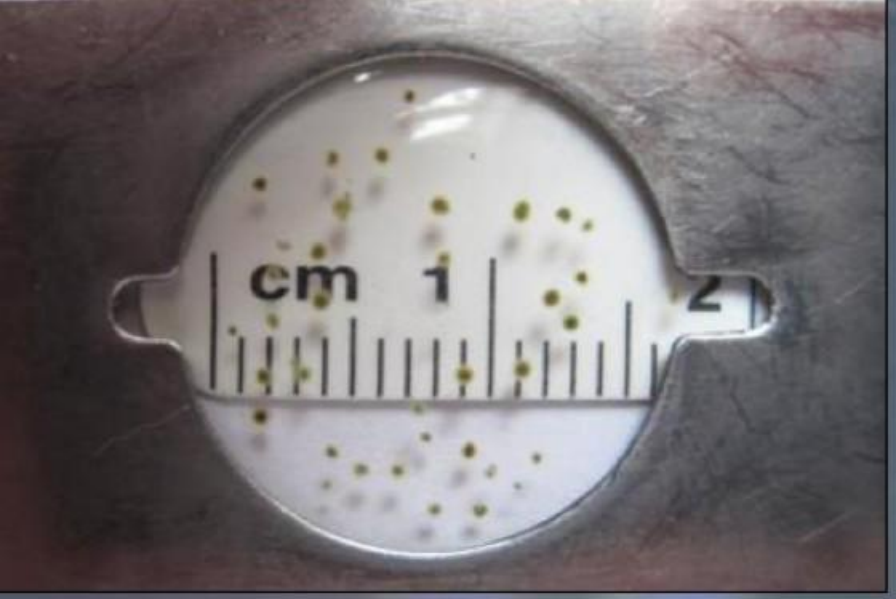
Gloeotrichia echinulata



J. Williamson

J. Williamson

Gloeotrichia echinulata



Clean Lakes Alliance Monitoring Volunteer

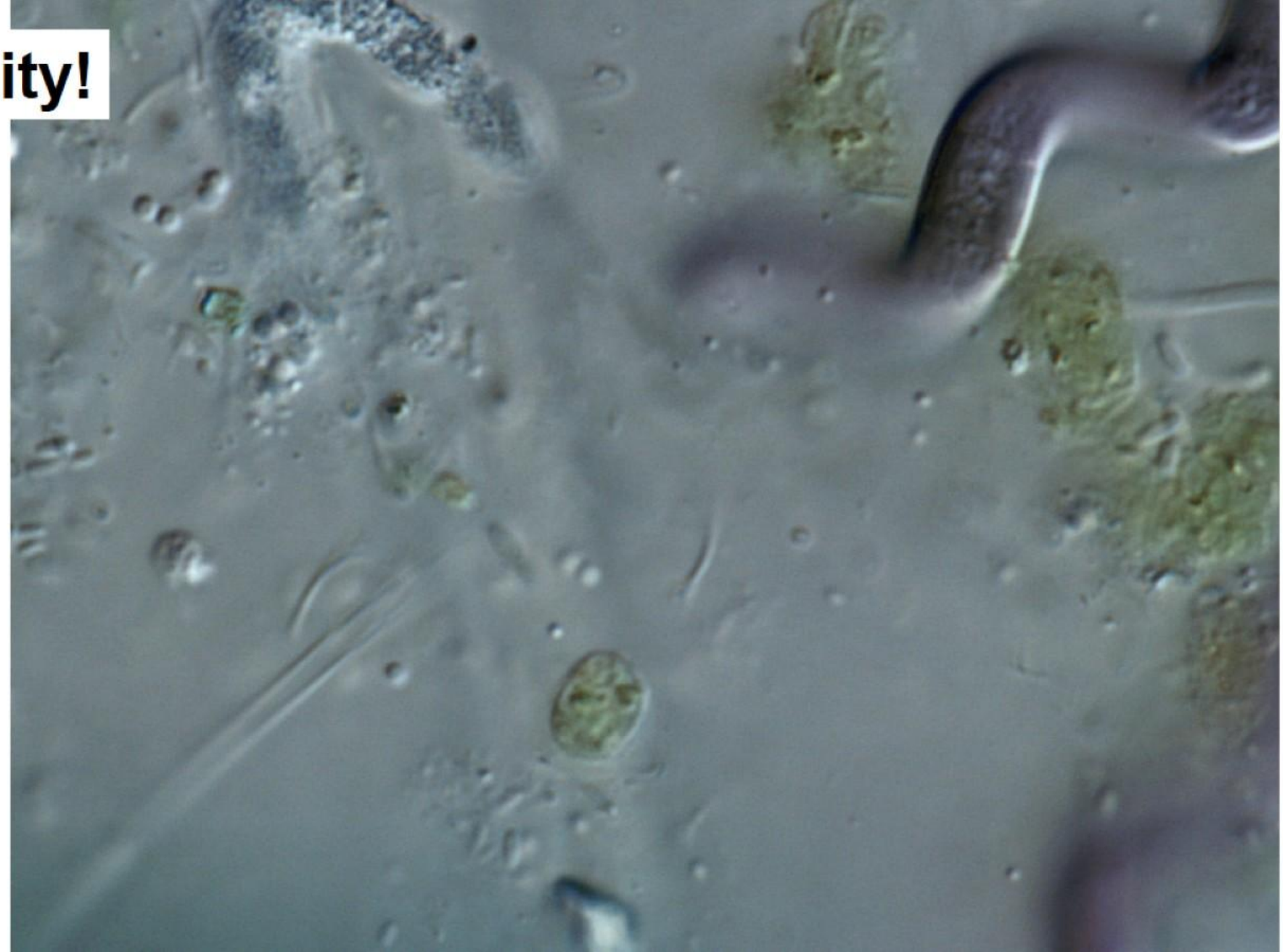
Benthic filamentous cyanobacterial mats

B. & G. Gustafson

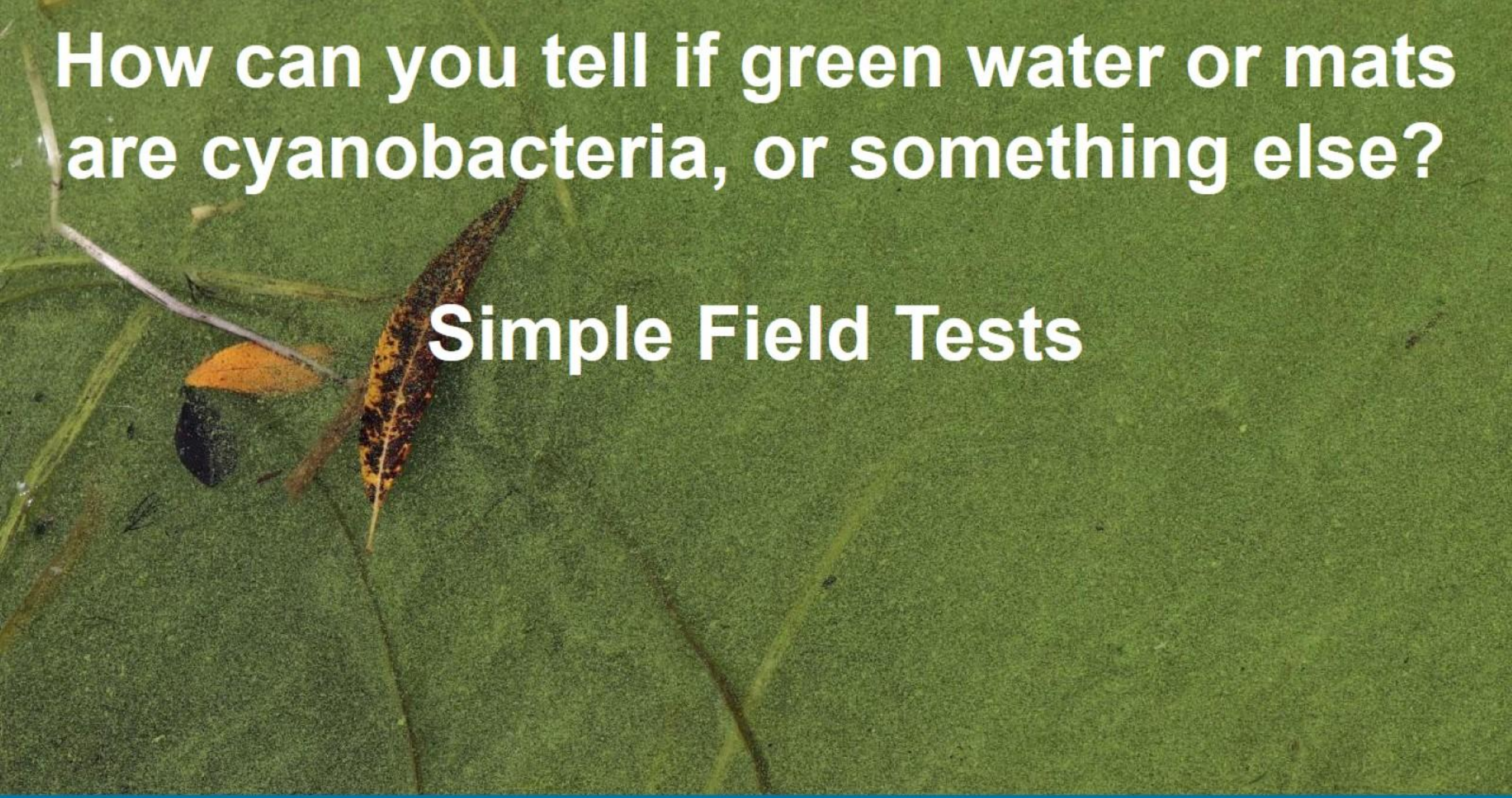
The phycospheres of benthic mats are very diverse.

Motility!

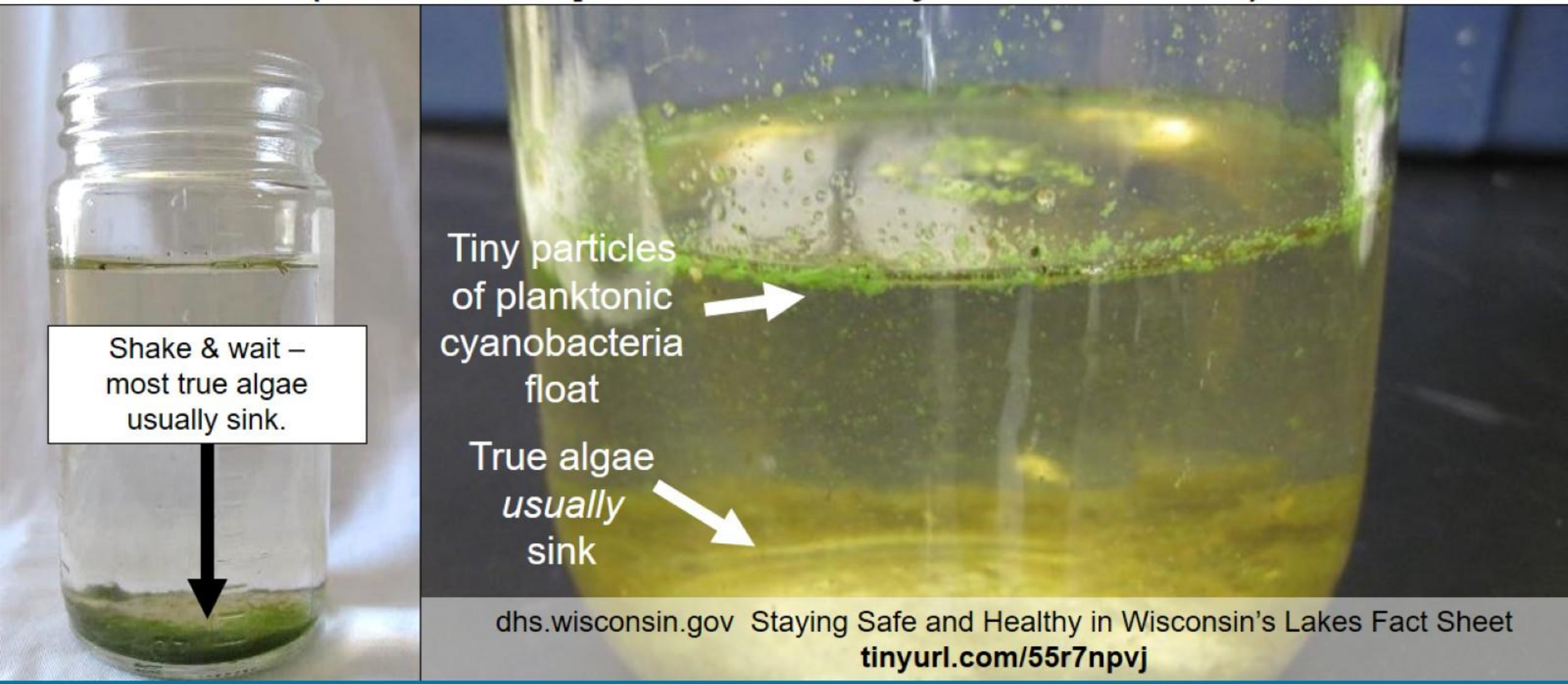
Motility!



Benthic mats float off the bottom of lakes & rivers.


How can you tell if green water or mats are cyanobacteria, or something else?
Simple Field Tests

Do a "**Jar Test**" to see if a floating layer forms (indicates **planktonic** cyanobacteria)



dhs.wisconsin.gov Staying Safe and Healthy in Wisconsin's Lakes Fact Sheet
tinyurl.com/55r7npvj

Floating Benthic Mats?

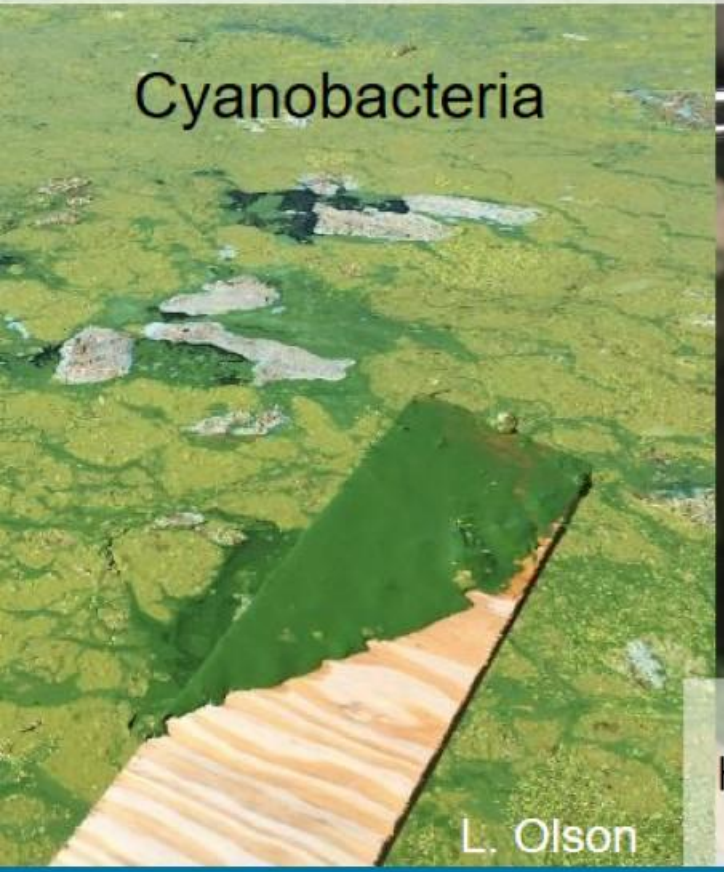
B. & G. Gustafson

Floating Benthic Mats? Often crawlers, not floaters.

Floating Benthic Mats? Often crawlers, not floaters.

Are you seeing floating cyanobacterial mats or something else?

"**Stick Test**" – does it coat a stick like paint?
Does it drape over a stick like green hair?
(There is 1 exception, so look at color.)



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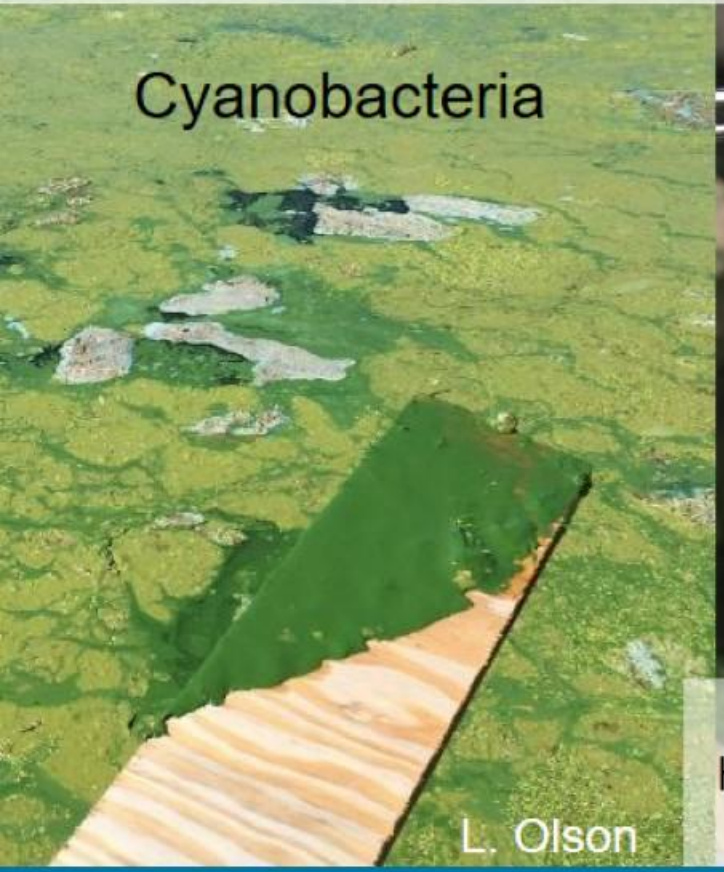

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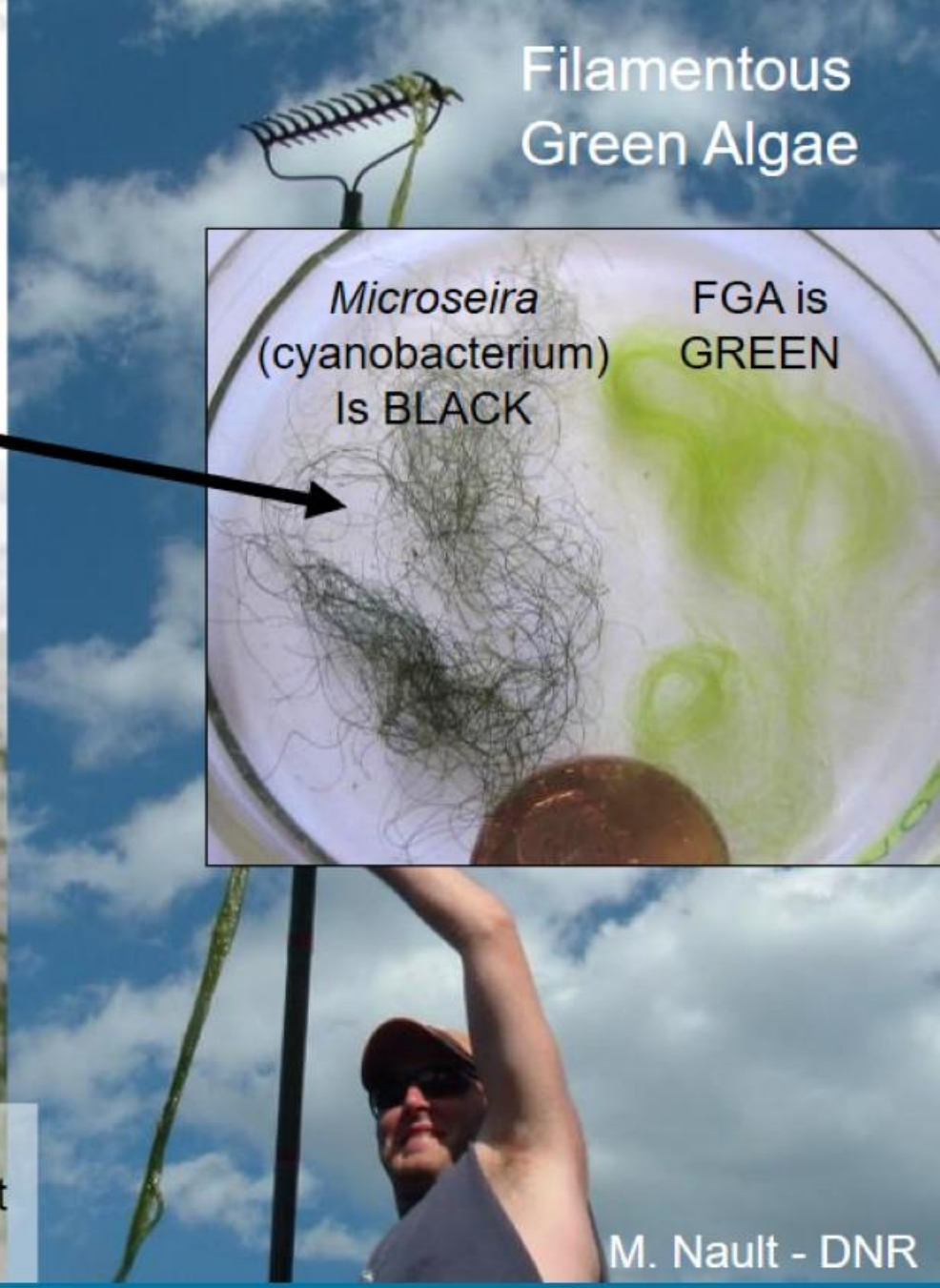
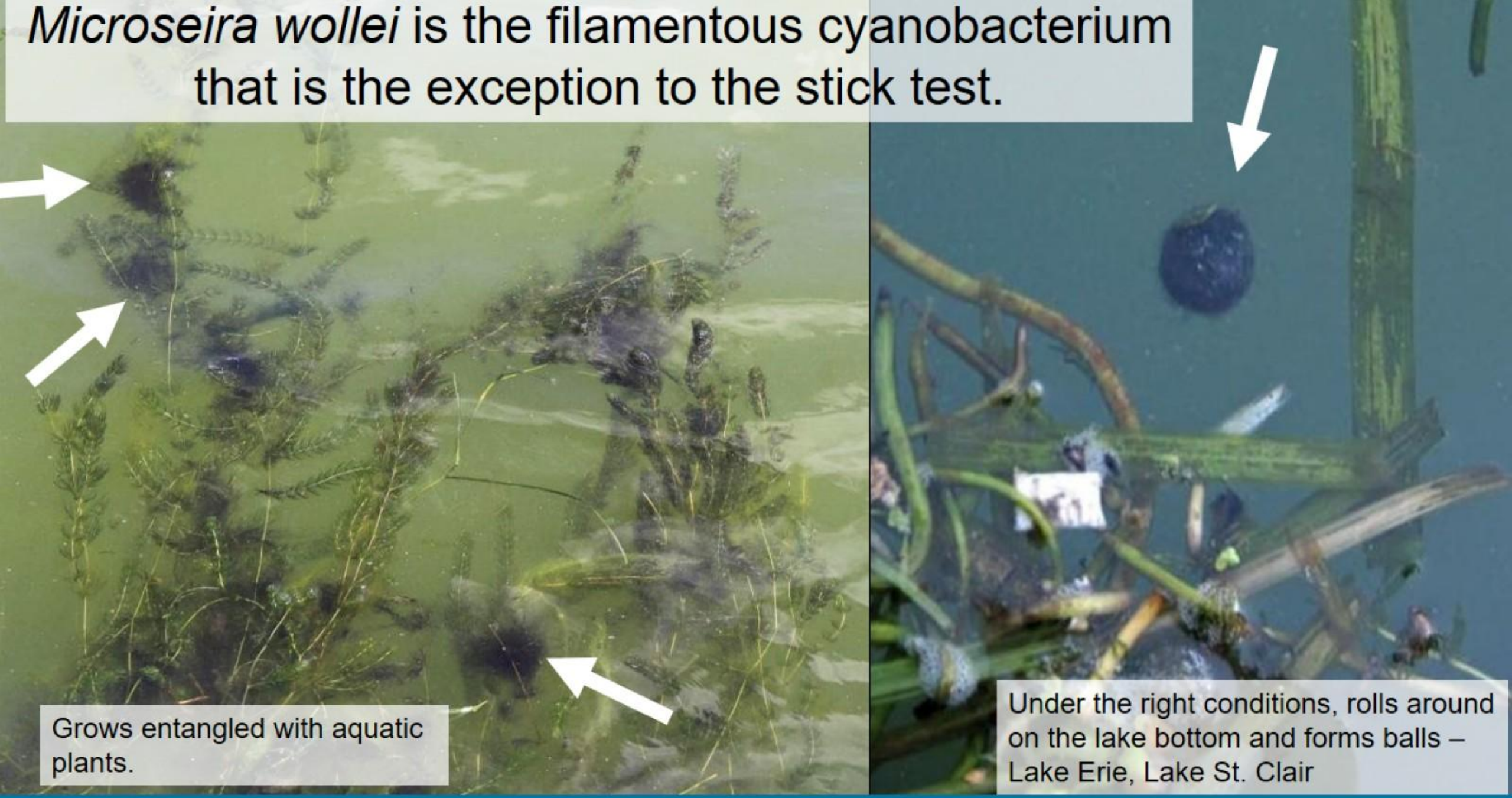



Stick Test

Microseira wollei is the filamentous cyanobacterium that is the exception to the stick test.

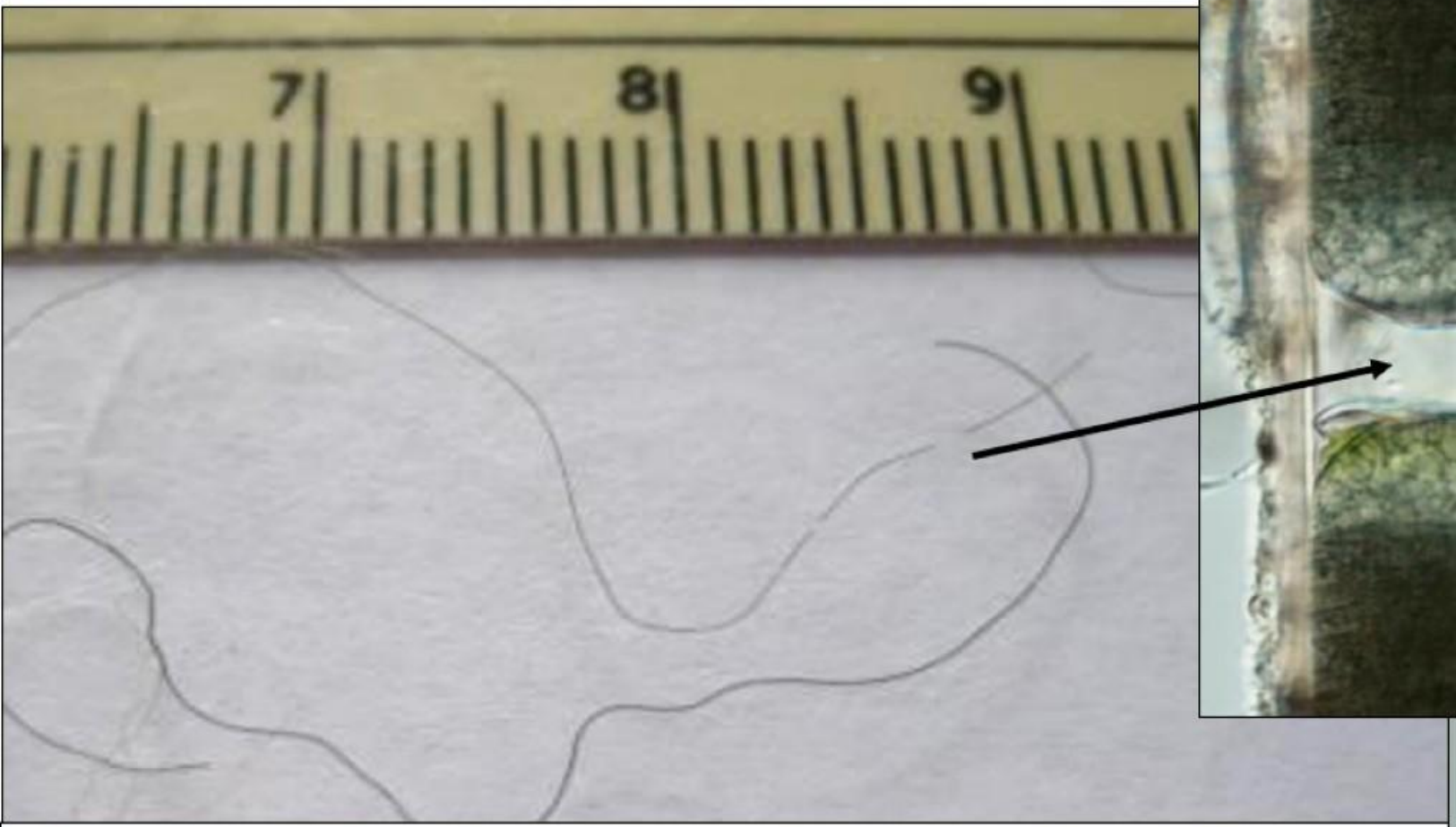


Grows entangled with aquatic plants.

Under the right conditions, rolls around on the lake bottom and forms balls – Lake Erie, Lake St. Clair

Microseira wollei

(formerly *Lyngbya*, *Plectonema*)



False branching may occur

Up to several cm long - huge for a cyanobacterium.
"Breaks" are gaps between trichomes inside sheath.


Microseira wollei
(formerly *Lyngbya*, *Plectonema*)

Oscillatoria

Oscillatoria

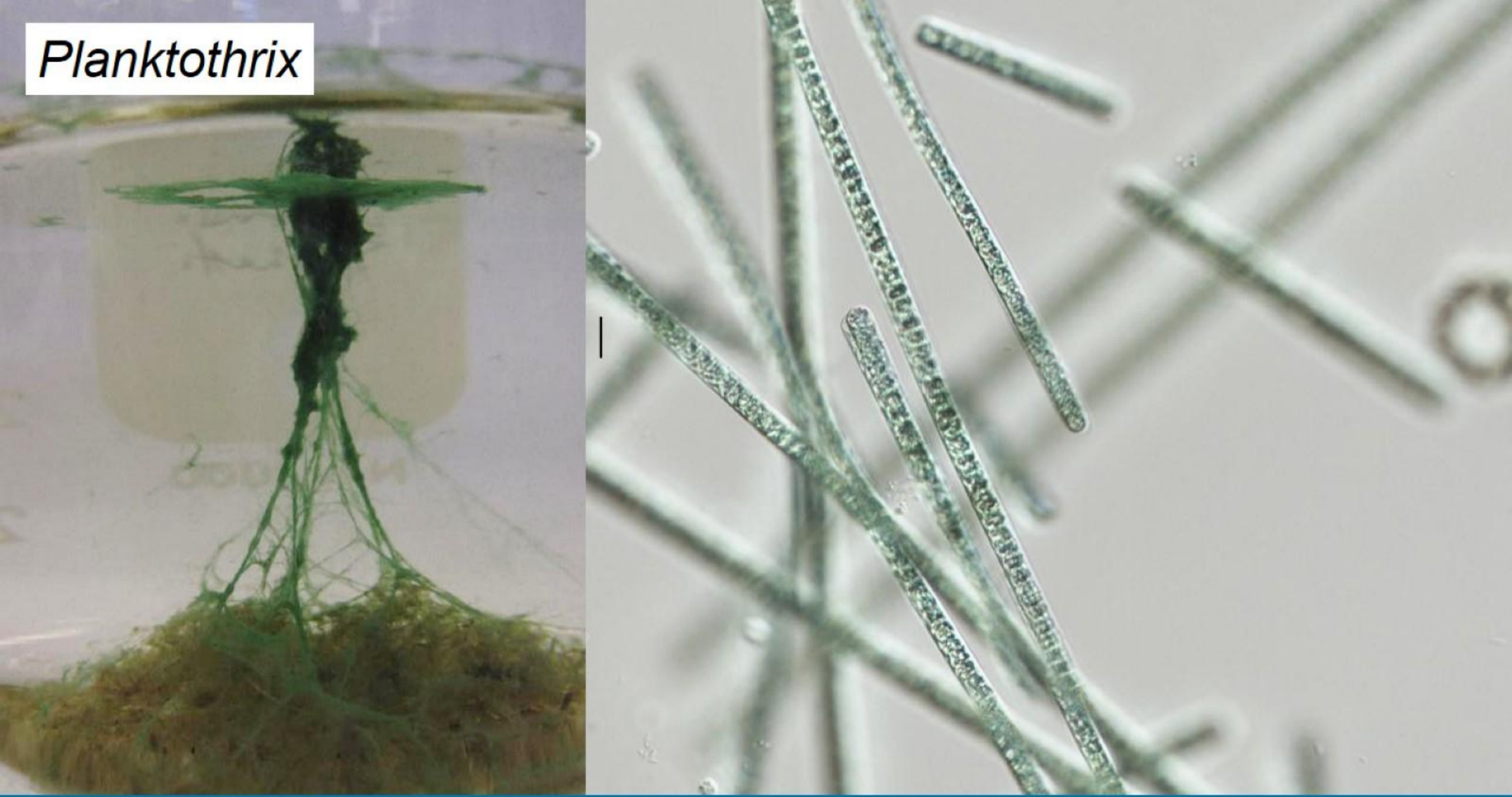
Oscillatoria princeps

E. Evensen

Planktothrix

S. Caven

J. Klosiewski – WDNR

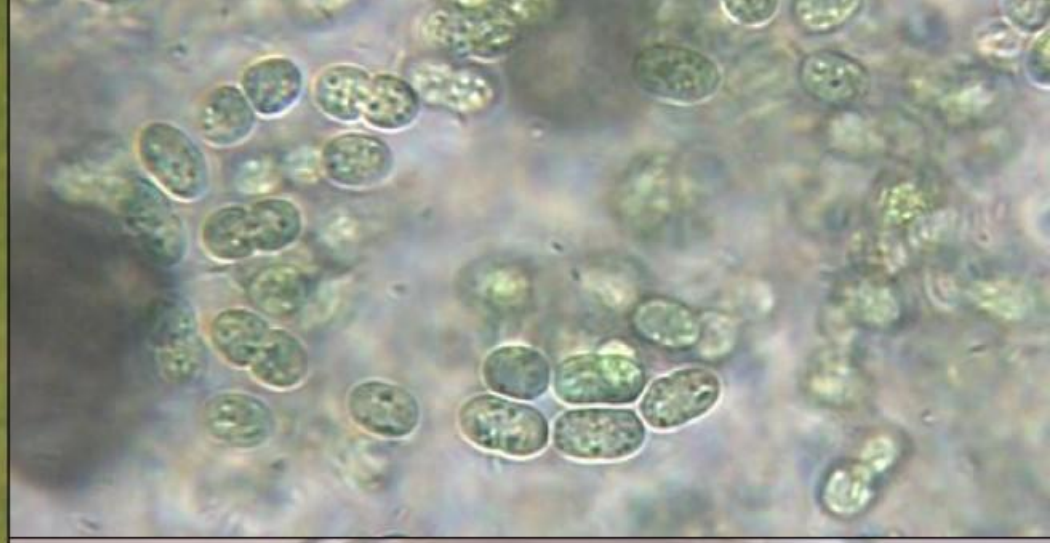

Planktothrix

Benthic cyanobacterial colonies or globules

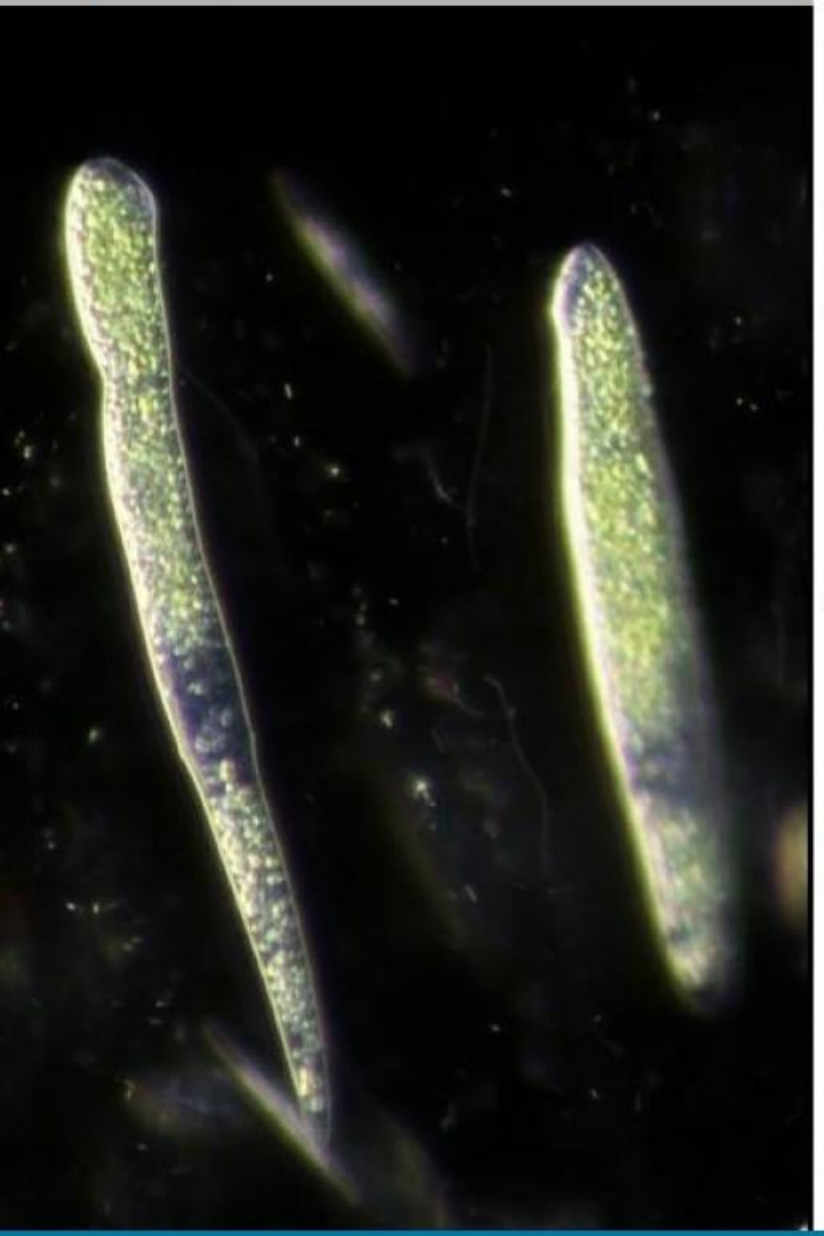
P. Skawinski

Aphanothece stagnina

P. Skawinski



Ophrydium versatile (colonial protozoan – NOT a cyanobacterium)

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SEP
Endangered Resources
26

Nostoc kihlmanii

J. Marty – EOR, Inc.

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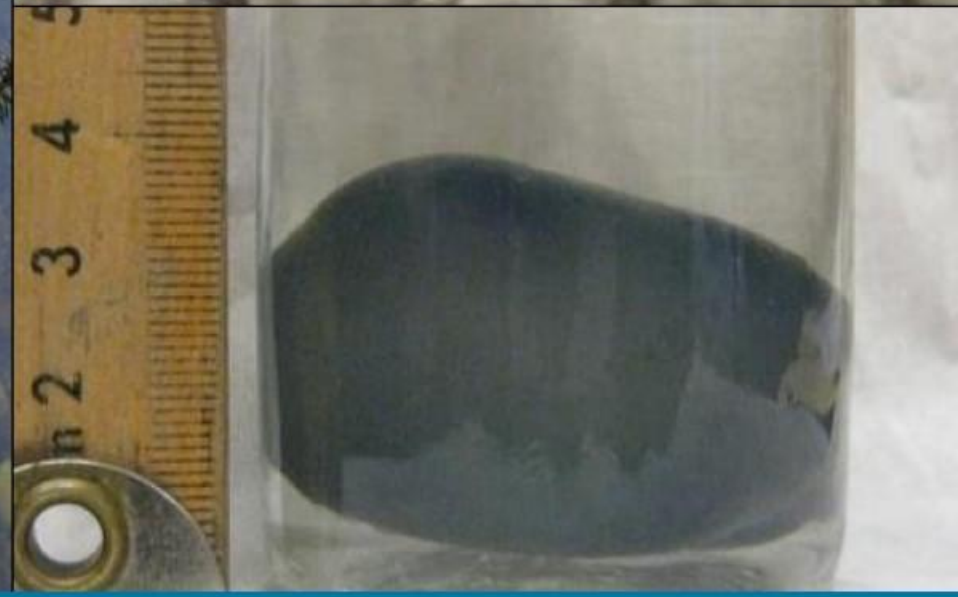
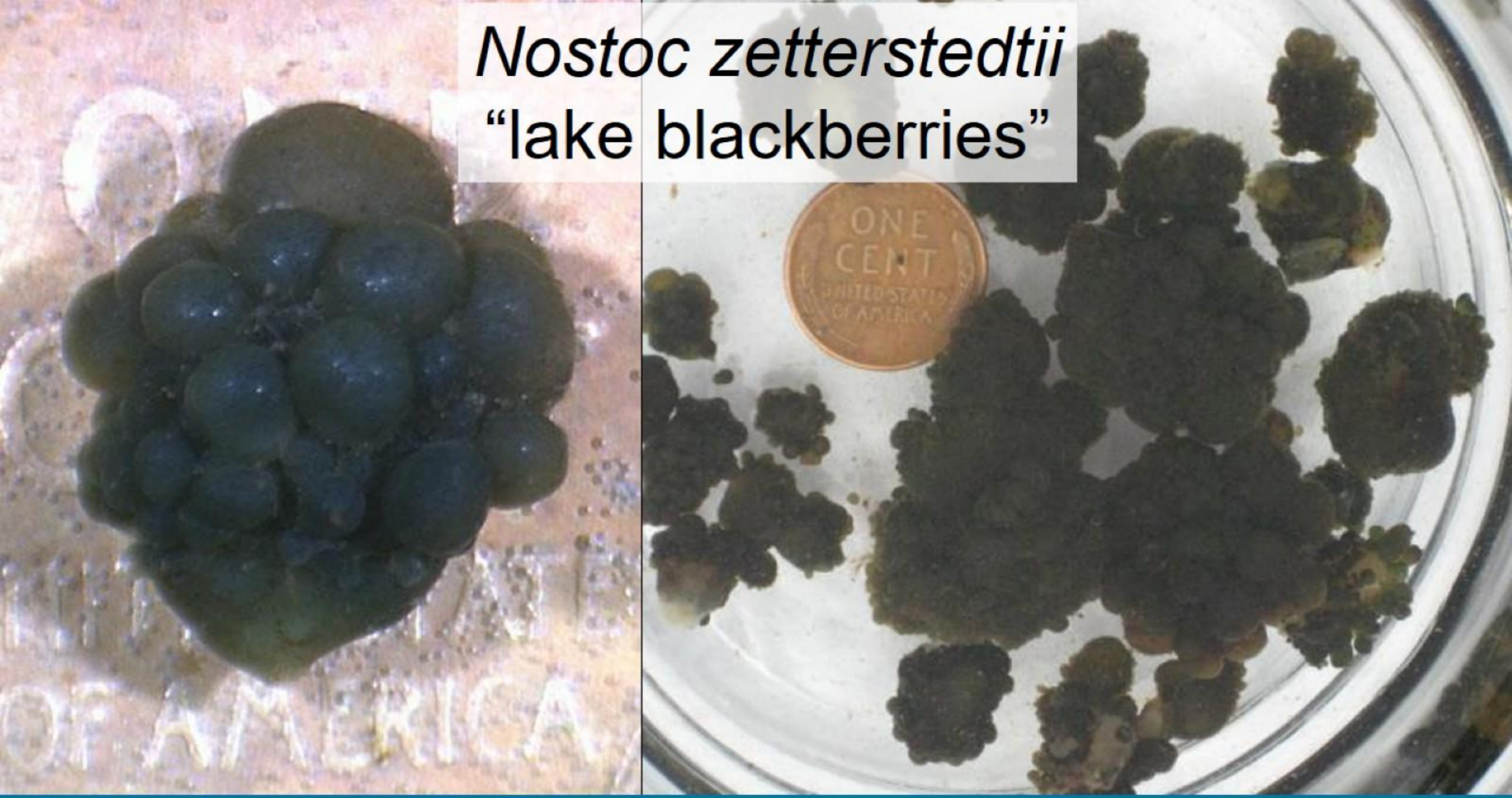
Nostoc kihlmanii
J. Gunderson

Nostoc pruniforme
"lake plums"




Nostoc zetterstedtii
"lake blackberries"
ONE
CENT

Keep your pets safe around water!

- **Supervise pets** & keep them out of unsafe water.
- **Prevent pets from drinking untreated water and eating floating or onshore material,** to avoid parasites, waterborne diseases, & cyanotoxins.
- Choose the clearest, cleanest water for swimming; **avoid shallow, warm, stagnant water bodies.**
- **Wash dogs off with clean water** after swimming.
- Provide **shade access & clean drinking water**.
- Use **flat objects for retrieval**; keep splashing games short & give your dog **frequent breaks** from playing.
- Don't use lake water on your lawn during a bloom.

CONNECT WITH US

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"WILD WISCONSIN: OFF THE RECORD"