

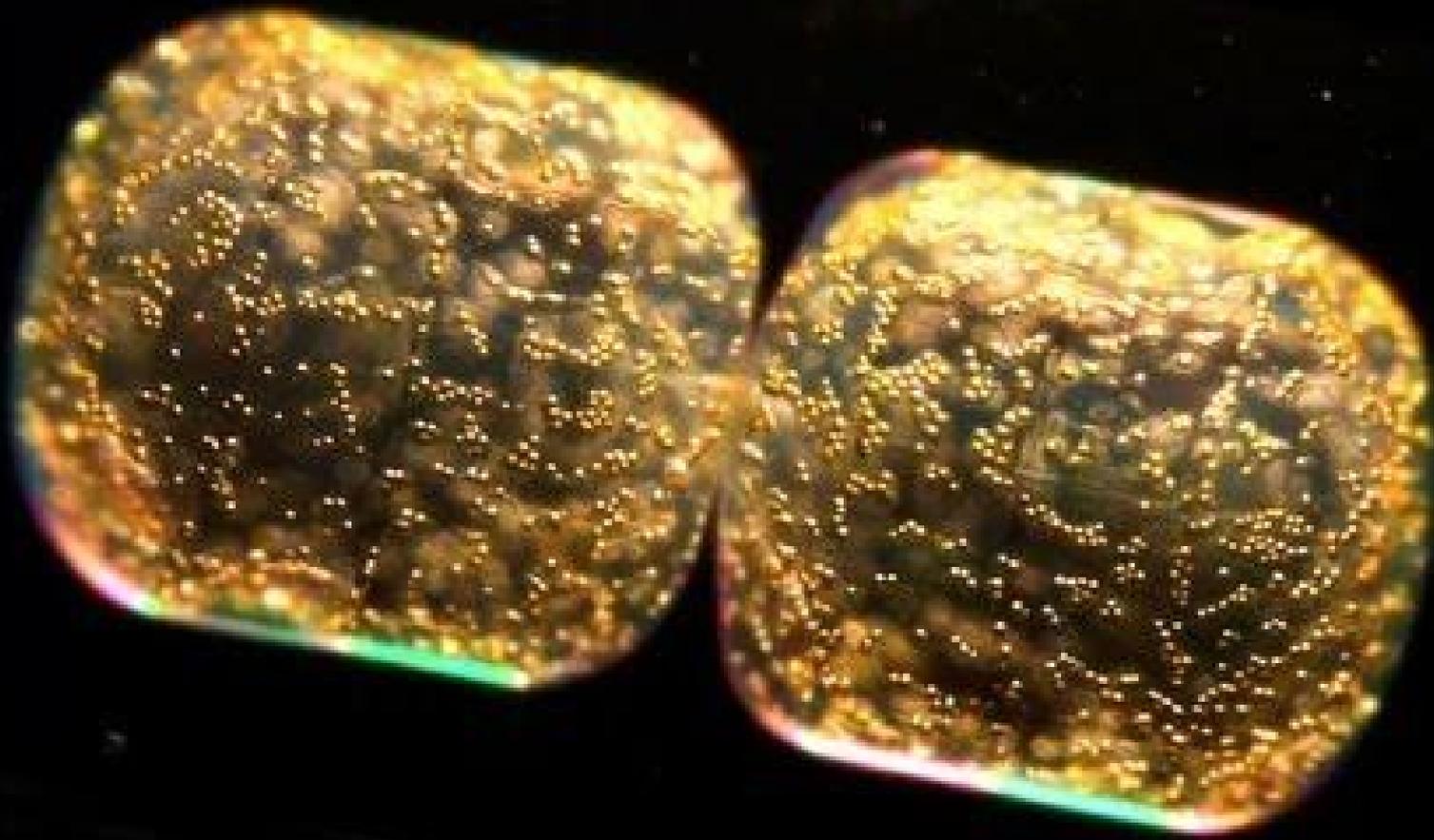


Standing Waters: The Plankton Community

Introducing... Plankton!

Do you know what plankton is?
No. Not the one off of Spongebob.

Well.. Plankton means small drifting organisms. Most of their time is spent drifting in open water. They normally don't take up much space.





Zooplankton and Phytoplankton

- Phytoplankton photosynthesize, like plants.
- Zooplankton move, like animals.
- Although Zooplankton have mobility, it is limited and mainly determined by currents.

More Classifications

There are many different classifications for Plankton. Two more classifications are Euglena and Ceratium. The problem with these classifications is that they fit under both zooplankton and phytoplankton. They are also sorted into producers, consumers, and decomposers.

Phytoplankton

- Phytoplankton occur in one of three kingdoms: Monera, Protista, and Plantae.
- They are often called algae, but not all algae is plankton.

Monerans

All monerans are bacteria or blue-green algae. They live almost everywhere.

There are four reasons they're important.

- They're producers. They make food.
- They make oxygen. They add oxygen and air.
- Some fix nitrogen. It needs to be fixed to be usable.
- They're often found in polluted water. Some species give off toxins, like *Anabaena* and *Anacystis*.

Protista

- There are two types: protozoan protists and algal protists.
- The protozoan protists are zooplankton, while algal protists are phytoplankton.
- There are about 11000 species of algal protists.
- About 500 of them are colored flagellates.
- About 1000 are dinoflagellates, and most of the rest are diatoms.
- Protista consists of Phylum Sarcodina (sarcodinans), Phylum Ciliophora (ciliates), and Phylum Zoomastigina (animal/ colorless flagellates).

Importance of the 3 Groups of Algal Protists

Diatoms- They are beautiful cells to study. They are the most important algae, and among living things too. First step in many food chains.

Dinoflagellates- 2nd most important algae. First step to many food chains and they make oxygen.

Colored Flagellates- Move with one or two whip-like tails. Often first steps in food chains in polluted water.

Plantae

Out of all the plants on earth, there are a group of about 6000 organisms called green algae. Many green algae are planktonic. Desmids are almost all planktonic. The importance is that they support many food chains. They are also important suppliers of oxygen.

Zooplankton

- Occur in two kingdoms: Protista and Animalia.
- They play key roles in aquatic ecosystems.

Zooplankton in Protista

- They're the most abundant zooplankton in water, and are single-celled.
- Phylum Sarcodina- No definite shape. They move by pseudopods (fake feet). Some have shells, many live on bottom.
- Phylum Ciliophora- Some are visible to the unaided eye. Feed on organic matter.
- Phylum Zoomastigina- Animal flagellates or colorless flagellates. Most are planktonic, and they lack chlorophyll.

Animalia

Two groups contain the important zooplankton.

- Rotifers- Many celled, and they aren't related to protozoans closely. They're barely visible. Found 95% in fresh water, and 75% in shore zones. They're intolerant of pollution, and they feed on protozoans and algae.

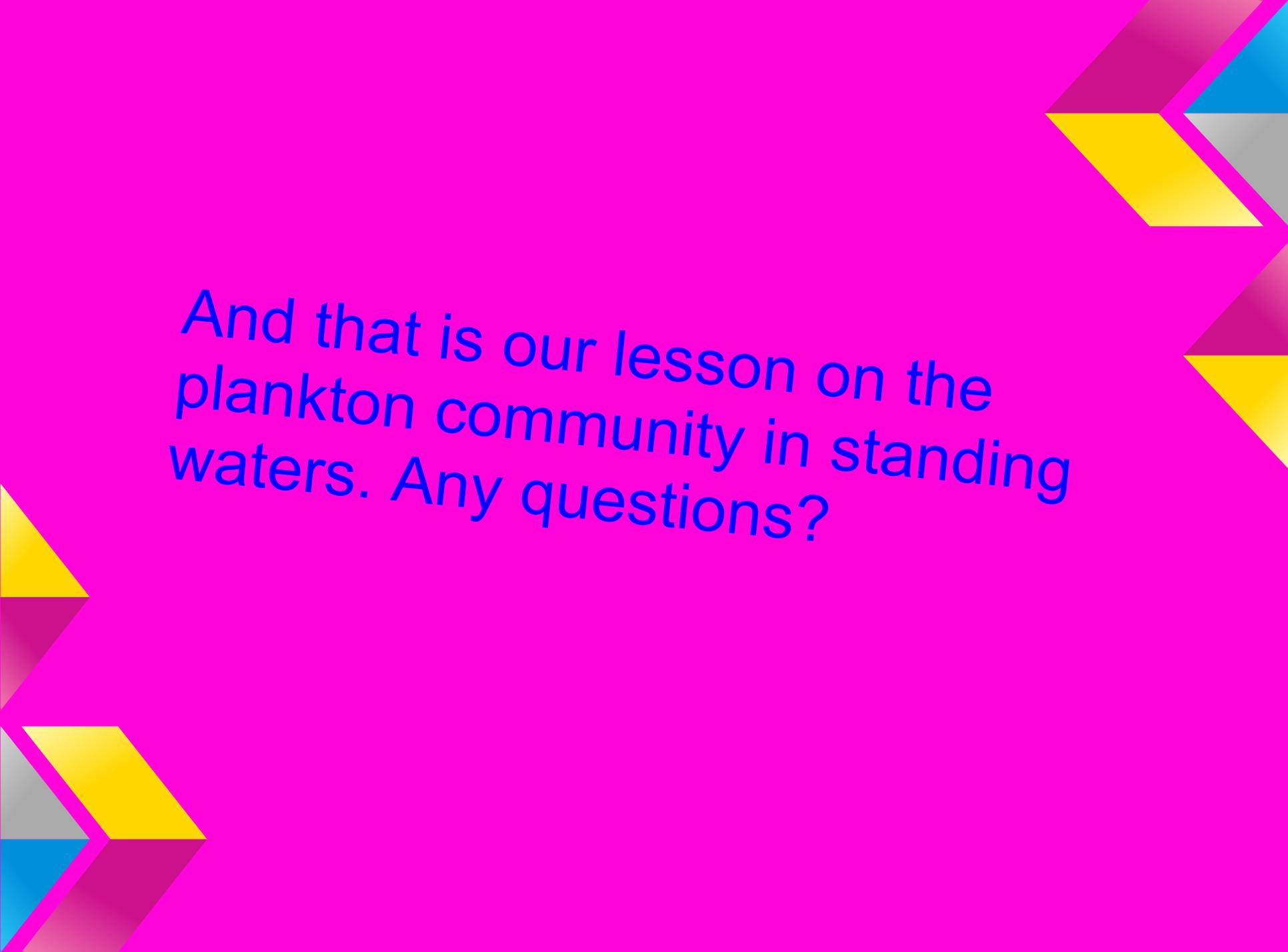
Animalia- Crustaceans

A little larger than rotifers. There are three common groups.

- Cladocerans- Uncommon in fast water. There are mostly females. They filter their food from the water, and they're normally the most important herbivore.
- Copepods- They filter feed, and, like cladocerans, migrate from the top to bottom.
- Ostracods- Often called seed shrimp. They filter feed and look like clams under a microscope.

So.. Let's Review.

- Phytoplankton are at the start of many aquatic food chains.
- Zooplankton play key roles in most aquatic food chains.
- Phytoplankton photosynthesize like plants, while zooplankton move like animals.
- Phytoplanktons are algae, but not all algae are planktonic.

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And that is our lesson on the plankton community in standing waters. Any questions?