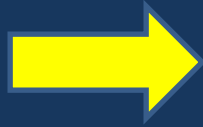


# Kingdom Protista Groups

**Animal-like**



1. Ciliophora
2. Sarcodina

3. Zoomastigina
4. Sporozoa

**Plant-like**



1. Euglenophyta
2. Pyrrophyta
3. Chrysophyta

One of the biggest Roles of these protists is that they are responsible for about 70% of the Photosynthesis on Planet Earth = The Earth's Lungs

**Fungus-like**



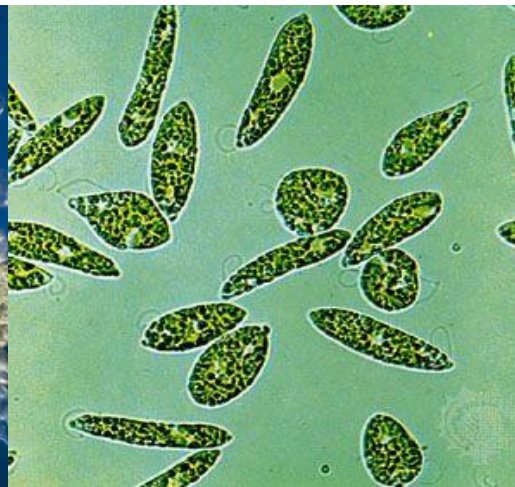
1. Acrasiomycota
2. Myxomycota

# WHAT IS PLANKTON ?



**ZOOPLANKTON**

**PHYTOPLANKTON**



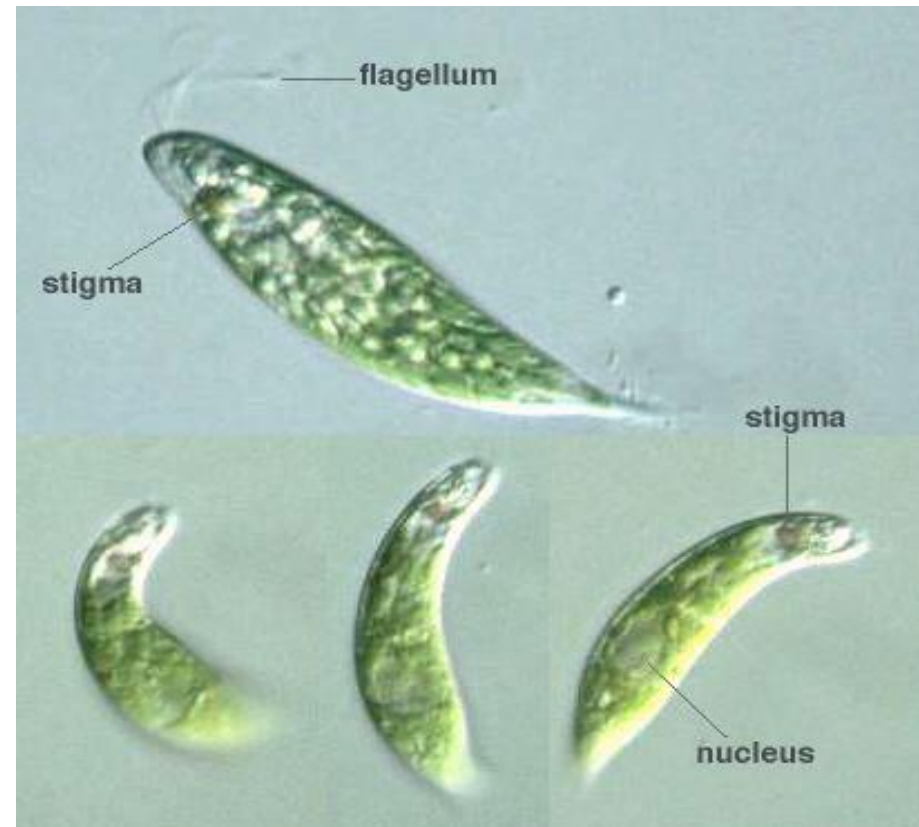
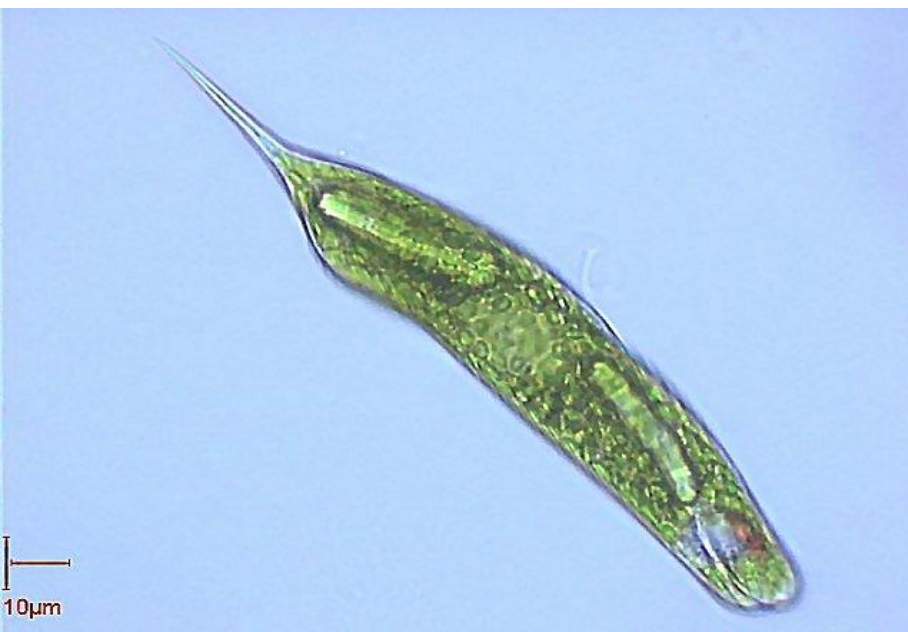
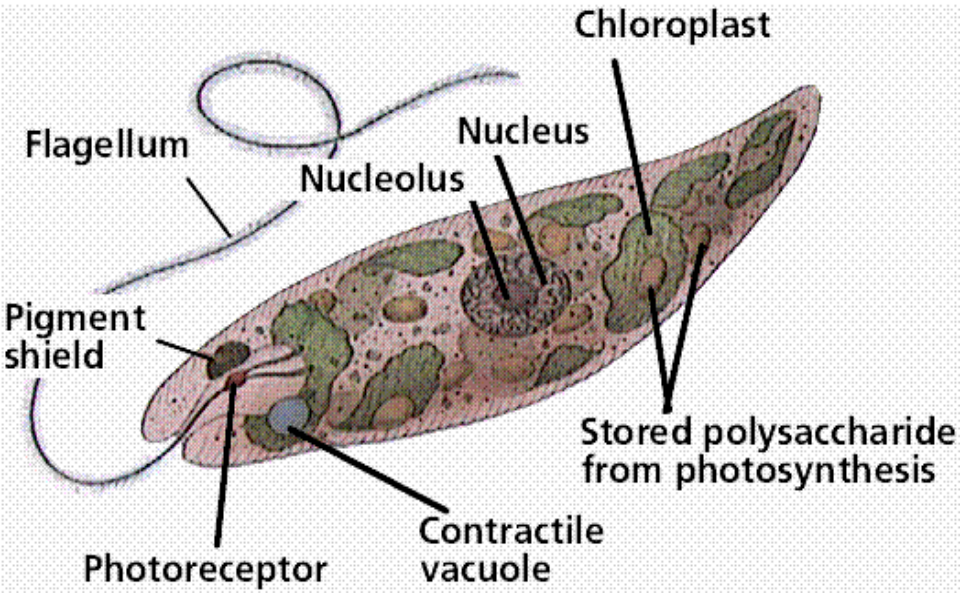


# THREE Plant-Like Protists PHYLA

PHYTA = PLANT

## #1. PHYLUM - Euglenophyta

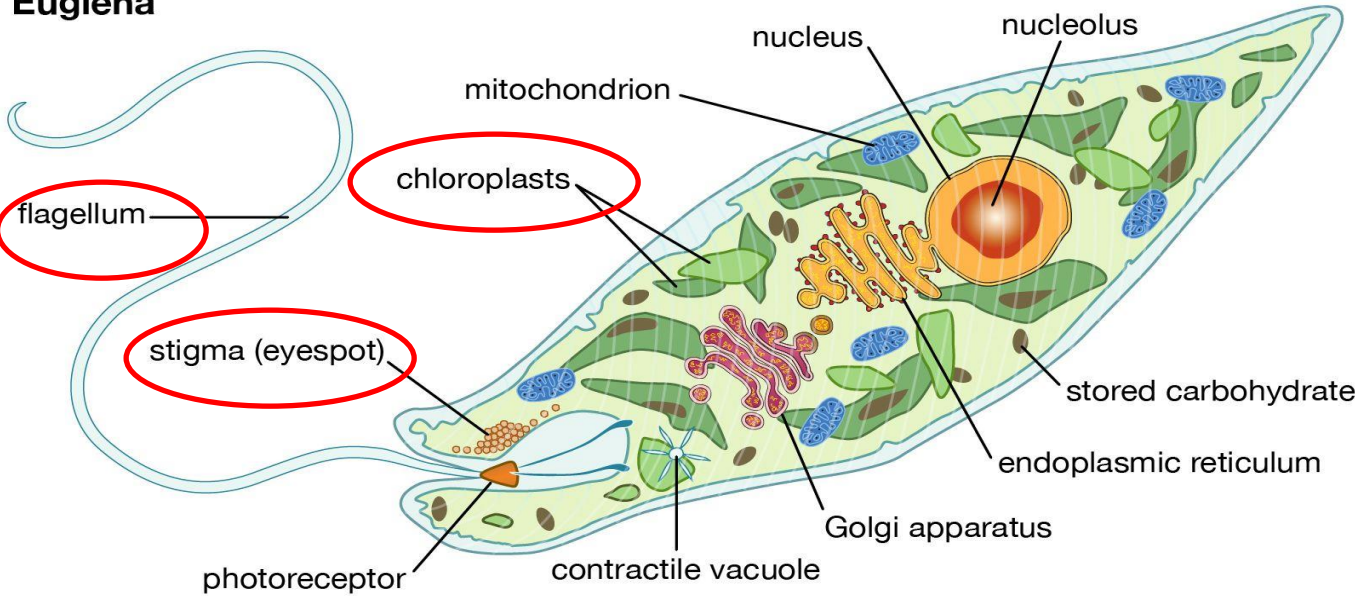
Close relative of Zoomastigins-  
Why?



# Most Species in this Phylum belong To Genus “*Euglena*”

These organisms are very unique in that they are half plant, half animal. They can photosynthesize when light is available making them photosynthetic autotrophs, or they can switch over to being heterotrophic when light is unavailable by absorbing nutrient rich substances from its aquatic environment

Euglena



© Encyclopædia Britannica, Inc.



Play a very important role in providing food and oxygen in aquatic food chains



# #2. Phylum - PYRRROPHYTA

**PYRRO = FIRE**

Have a couple of quite unique characteristics:

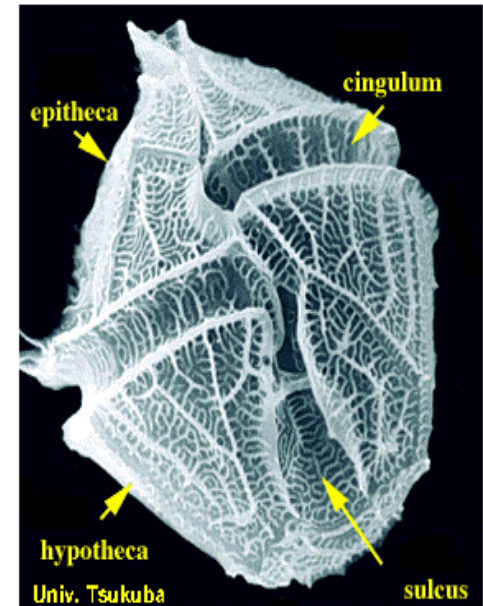
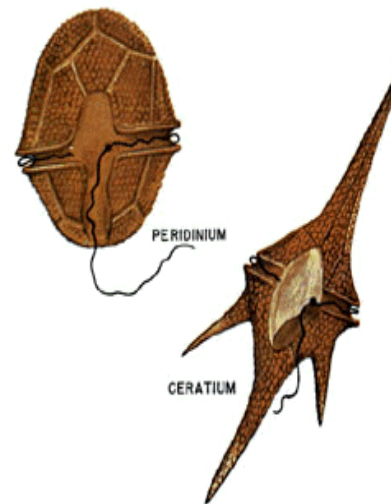
A)- Species known as Dinoflagellates have the ability to run reactions that give off light making them Bioluminescent.

B) Their DNA is not condensed around Histones to form Chromatin, their DNA is Naked like the DNA in prokaryotic cells, but in a nucleus.

<https://www.youtube.com/watch?v=tgeqE6Eeo7E>



Dinoflagellates



# THE FIRE PLANTS - Pyrrophyta

IT'S NOT ALL GOOD !!

## ALGAL BLOOMS

In aquatic environments near agricultural land, fertilized fields/golf courses and sewage output. The nutrient levels in the water cause an algal bloom. These blooms block sunlight through the vertical column, also, they end up dying off and deoxygenating the aquatic environment. This kills off the animals in that pond or lake.

Another species of Dinoflagellate called *Gonyaulax polyhedron*, contains a neurotoxin. When this species has a bloom, a **Red Tide** condition occurs killing off most of the shellfish and the marine animals that feed off of those shellfish... Including Humans! [RED TIDE VIDEO](#)



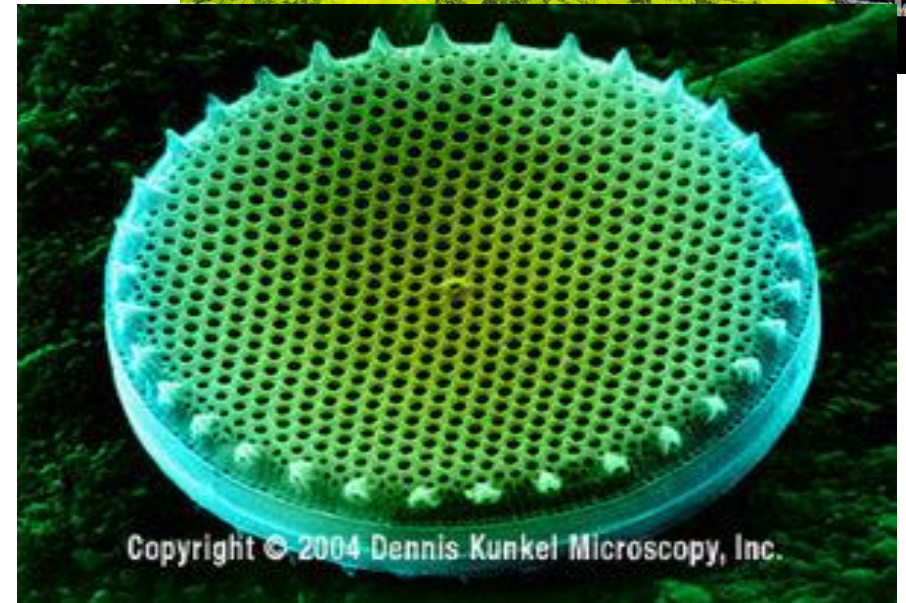


# #3. PHYLUM : CHRYSOPHYTA

CHRYSO = GOLDEN

Include plant-like protists such as Yellow-green algae, Brown algae and Diatoms.

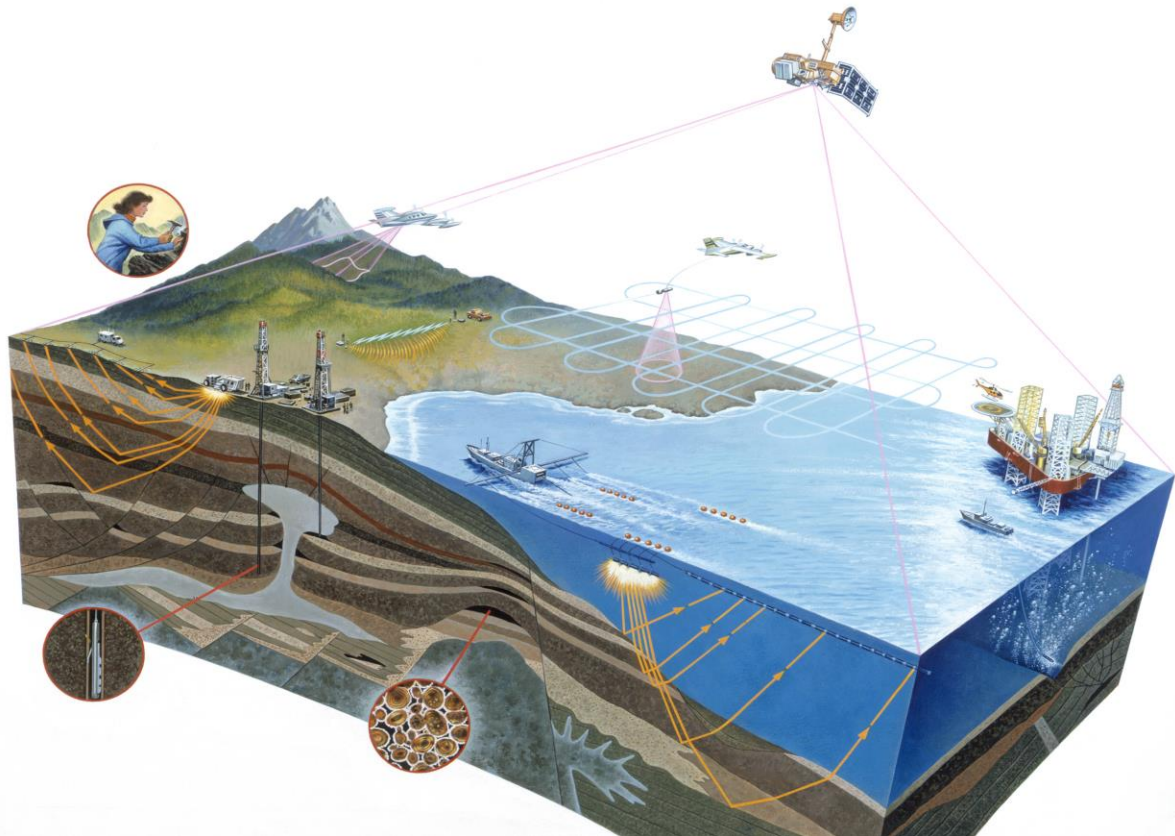
- Some species, like these Diatoms build an intricate cell wall made of Silicon dioxide = GLASS





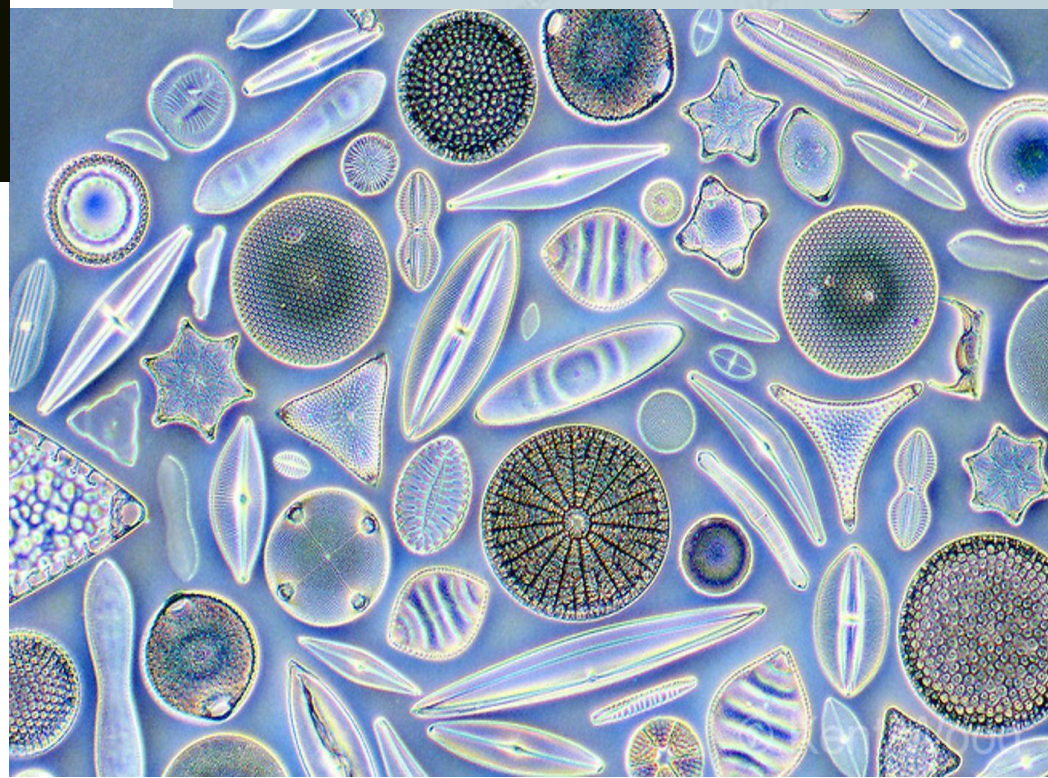
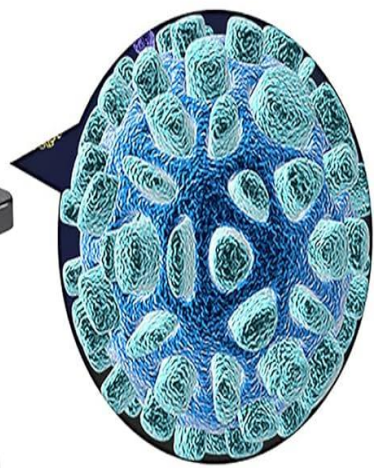
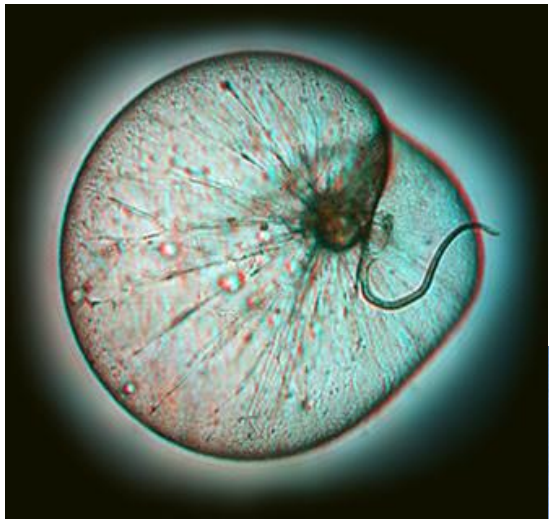
# CHRYSTOPHYTES

- One unique characteristic seen in most Chrysophytes, is that rather than storing their extra sugar molecules into STARCH (like most plants), instead, they convert and store it as energy rich OIL molecules. Layers of dead Diatoms over 100s of millions of years has accumulated into oceans of crude oil reserves in the Earth's crust.





# STOP and VIEW Plant-like Protists











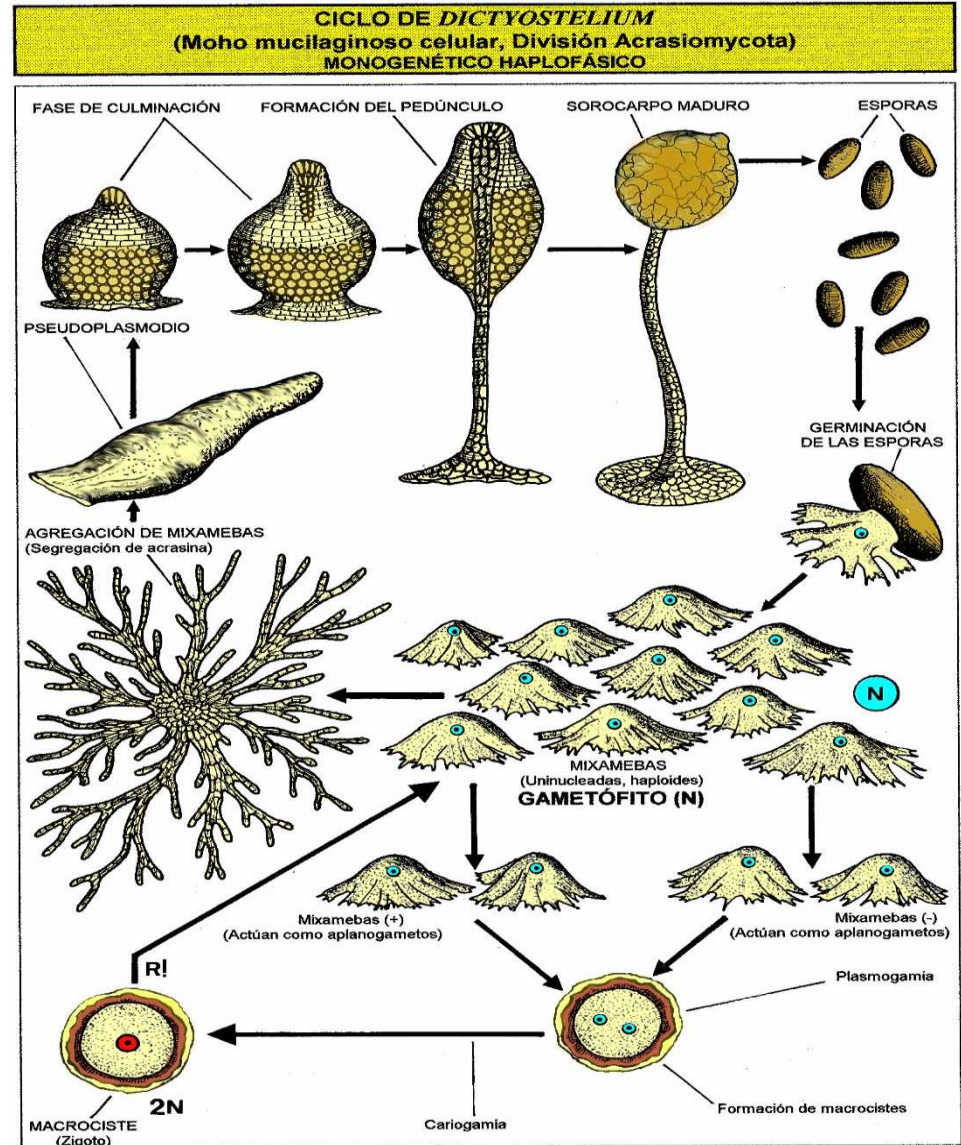




# TWO FUNGAL-LIKE PROTISTS

## 4. PHYLUM :

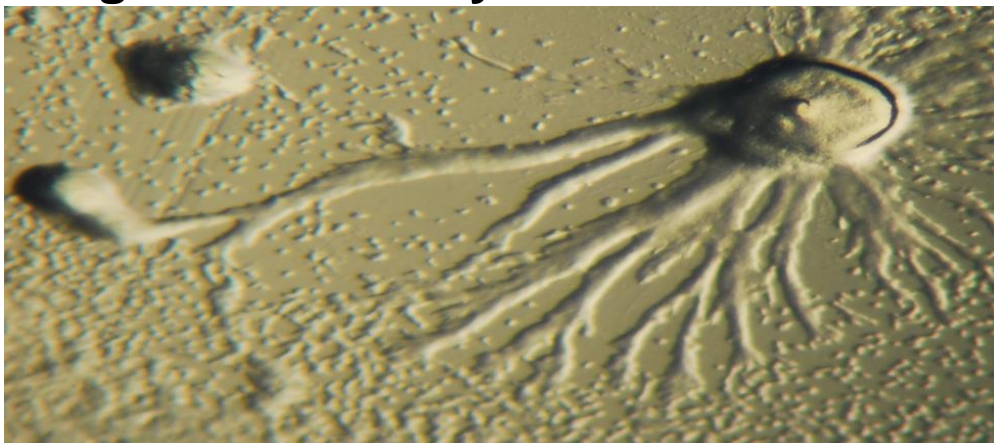
## ACRASIOMYCOTA



- Form Cellular Slime Molds



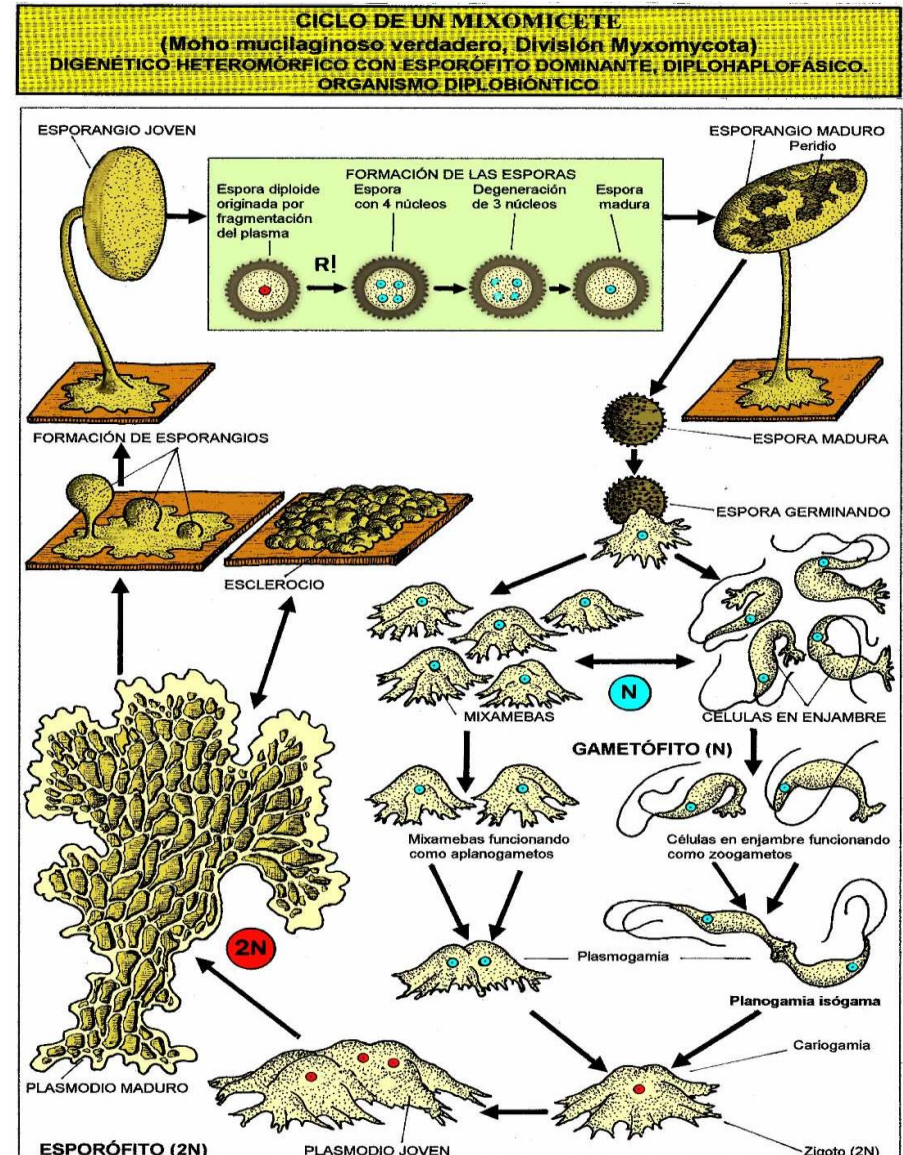
Slime Molds are very strange organisms, they have a two-stage life cycle. One stage is eerily similar to an Amoeba, the other stage includes a mass of these amoeboid-like cells congregating to form a visible mass that oozes and travels several centimeters to then produce fruiting bodies that put out spores for dispersal of more amoeboid-like cells that go back into stage one of life cycle.





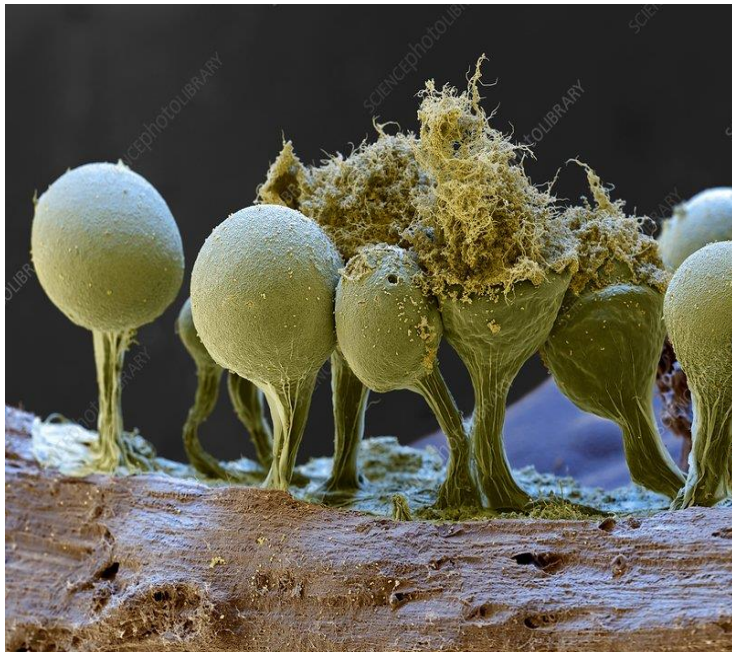
# 5. PHYLUM : Myxomycota

Form Non-cellular (Acellular) Slime  
Molds called Plasmodium





- These acellular (“without cells”) slime molds, also have a two-stage life cycle. The first stage is just like the “cellular slime molds”, in that an amoeba-like cell acquires nutrients from decomposing matter. Then during its second stage, this cell multiplies its nucleus over and over again and adds to its cell membrane and cytoplasm to become a gigantic multinucleated cell called a PLASMIDIUM



- At maturity, they produce fruiting bodies that put out spores that drift off and then germinate into flagellated cells that move out to find a new place to start stage #1 again







<https://www.youtube.com/watch?v=Nx3Uu1hfl6Q>



This one is commonly referred to as “DOG VOMIT Slime Mold”



