CHAPTER 15

In the last chapter, you reviewed a little about taxonomy and you also explored the plant kingdom. This week, you will be studying two more kingdoms. The first one is called...

Kingdom Fungi

("fun-guy")

Mushrooms are a species of fungi. Many of you have probably seen a mushroom before, right? If you haven't seen one on the ground, you may have seen a picture of this organism which looks like an umbrella! You may be thinking that a mushroom is more like a plant than an animal, right? **Nope!**

All species of fungi are relatives of both plants and animals.

The umbrella-shaped mushroom is really the **flower** of a fungus! Fungi do not make food for themselves, like plants do! This makes fungi **heterotrophic**, much like animals!

Before you start imagining a mushroom moving around like an animal and eating its food, let's get something straight. Fungi, like the mushroom, cannot move. To eat they have to absorb their nutrients through their body like a sponge.

But how do they do that?

Fungi can live on the ground, on a tree or on another organism! They spread a "sticky goo" from their body onto the area they live.

This "goo" contains chemicals, called **enzymes** ("n-zimes"). Enzymes do all kinds of things for an organism. The enzyme that fungi make can break up biotic material into smaller parts that the mushroom can absorb. This is how a mushroom can eat its nutrients! The enzymes that fungi spread around their habitat are very important for all living organisms...

...not just the mushroom itself!

Fungi are known as **decomposers**. Decomposers break down biotic material (anything that comes from an organism – living or dead) into more useful forms (like nutrients for living plants!)

Fungi break down so much biotic material into smaller parts, that they cannot absorb it all! The leftover nutrients that are not used by the fungi can be used by other plants and animals in the habitat.

Let's try to imagine a forest without any fungi:

Get a picture of a forest in your head. Now some of those trees fall down, right? Without decomposers like fungi living in that forest, where would all those fallen trees go?

They wouldn't go anywhere!

They would still be there, right? Without fungi, there would be piles and piles of dead trees lying around...

So how would a new plant grow with piles of dead trees in the way?

If the ground is covered with dead trees, how will new plants get any sunlight? And without decomposers breaking down biotic material in your forest, where will new plants get their nutrients?

You guessed it, they won't!

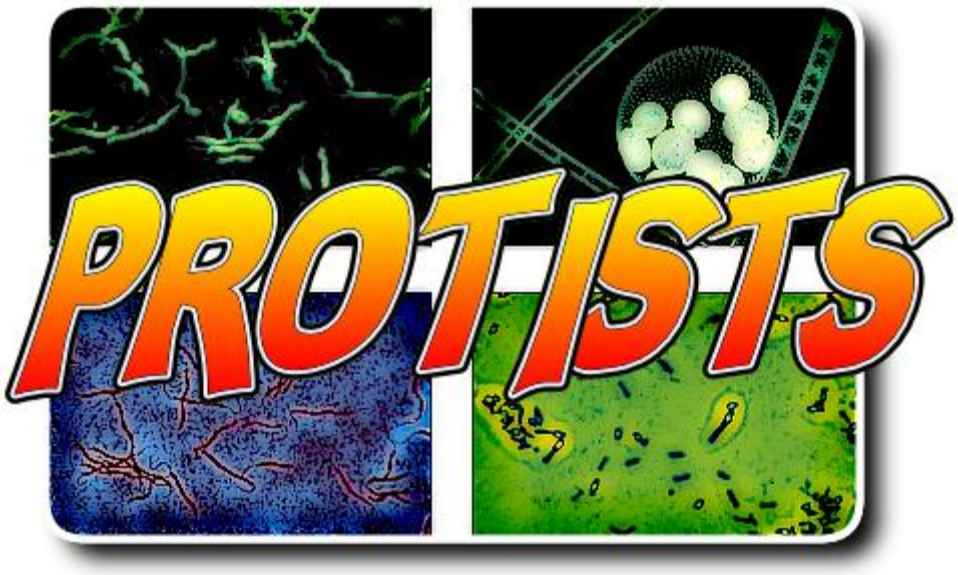
Every habitat must have a large number of decomposers to break down the biotic material for new organisms to survive. The second kingdom you are going to look at this week is a little different. It is known as...

Kingdom Protista

("pro-tees-ta")

All of the organisms in this kingdom, known as **protists**, have been placed into this kingdom because...

nobody knows what to do with them!



Each species of protist have a combination of traits from plants, animals and fungi! Scientists put them into this kingdom because each species does not fit perfectly into the plant, animal or fungi kingdoms. For example, scientists have sorted most of the protists into three groups:

Slime molds - Fungus-like protists

Algae ("al-gee") - Plant-like protists

and **Protozoans** ("pro-toe-zo-unz") - Animal-like protists

These three groups have been made to sort protists by how they get their food. **Slime molds** are fungus-like protists because they absorb nutrients from their habitat.

Algae are plant-like protists. They are autotrophic, so they make their own food. You may have seen algae... it is usually called **seaweed**. If you have ever been in a lake or pond and had that green, gooey slime attached to you, it was probably algae!

Protozoans are the animal-like protists. They are heterotrophic, so they tend to get their food. Protozoans mostly live in aquatic biomes. Some protozoans can make you very sick!

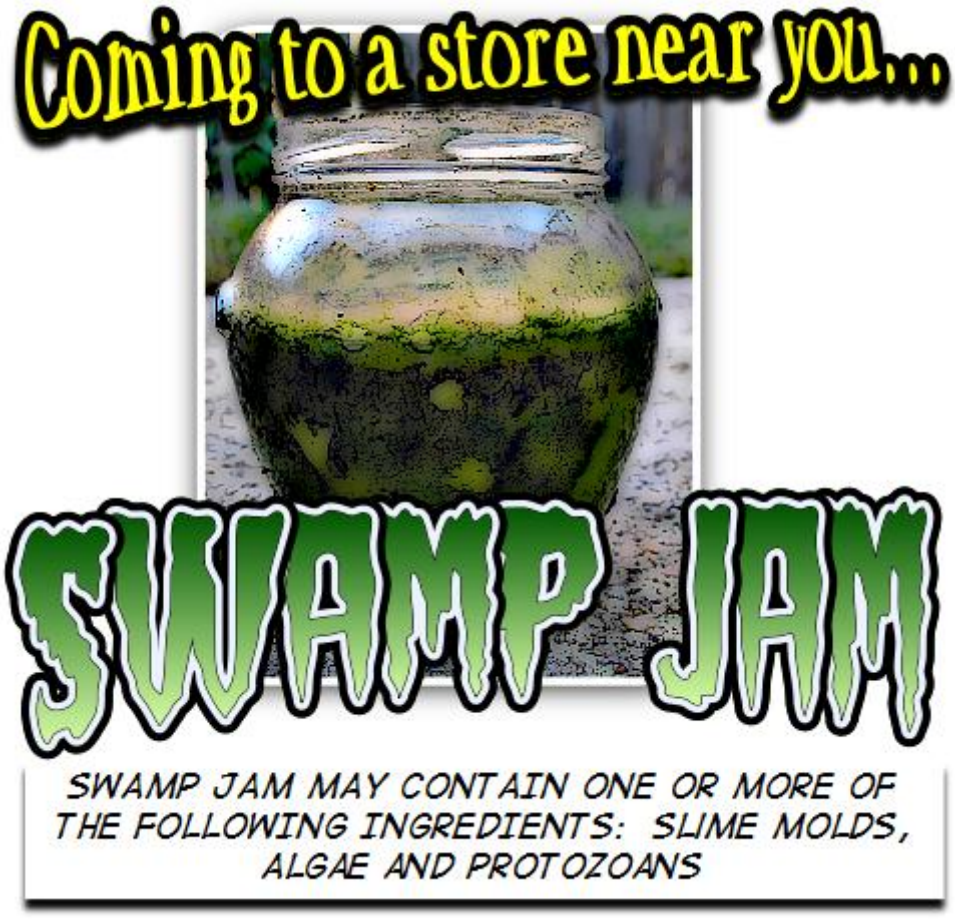
That is why is it not such a good idea to drink water right out of a lake or river!

There is a problem with sorting protists according to how they get their food!

Some protists are both autotrophic and heterotrophic!

That's right! Some protists eat their food and make their own food as well! Confusing, isn't it? Most scientists do not even agree on which group to place these organisms! They are still trying to figure this out!

Many protists that are grouped together still have different traits. This is not like the organisms in the animal, plant and fungi kingdoms!



Fill in the blanks with the correct letters. The words in the list on the right provide a clue to the answer.

1) pr _ tozoa _ _	snimal-like protists
2) d _ compose _ _	organisms that break down biotic material into more useful forms
3) _ lg _ e	plant-like protists
4) ki _ gdom p _ _ _ is _ a	organisms that share traits with plants and animals and fungi
5) _ ingdo _ fun _ _	organisms that act as decomposers and absorb their food through their bodies
6) e _ zy _ _ s	chemicals made by organisms that can help the organism do many different things
7) slime _ _ ld _	fungus-like protists

Match the words in the first column to the best available answer in the second column.

_____ Kingdom Fungi	1) plant-like protists
_____ Enzymes	2) organisms that share traits with plants and animals and fungi
_____ Decomposers	3) organisms that break down biotic material (like dead plants and animals) into more useful forms (like nutrients for living plants)
_____ Kingdom Protista	4) animal-like protists
_____ Slime molds	5) chemicals made by organisms that can help the organism do many different things
_____ Algae	6) fungus-like protists
_____ Protozoans	7) organisms that act as decomposers and absorb their food through their bodies

You are given a chance to become a protist! However, you have three kinds of protists to choose from:

Slime molds, Algae and Protozoans

Which one would you like to be and why?