Slime Moulds

Classification

Slime moulds are classified under the Kingdom Protista because, like other protists, they don't fit in with other kingdoms. The term slime mould is a relatively broad term for any number of organisms; there are upwards of 700 different species of known slime moulds. They fall into two major groups, cellular slime moulds and unicellular or plasmodial slime moulds. They have membrane-bound organelles, true nuclei, and a plasma membrane.

Red slime mould on decaying log.

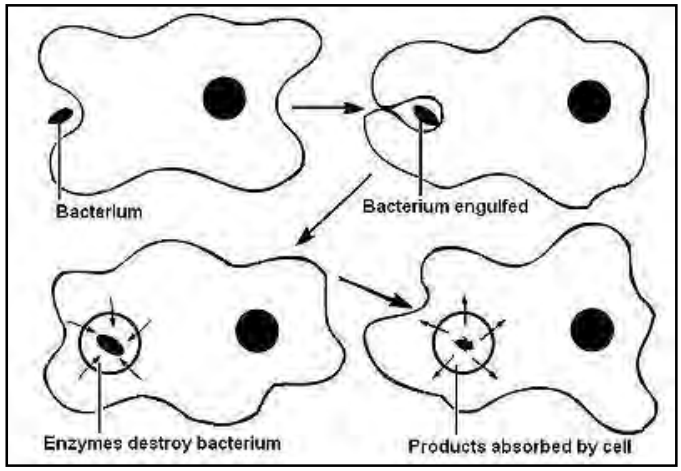
Dog vomit slime mould.

Habitat

Generally slime moulds live in damp areas of vegetation. They live under rotting logs and damp leaves.

Nutrition

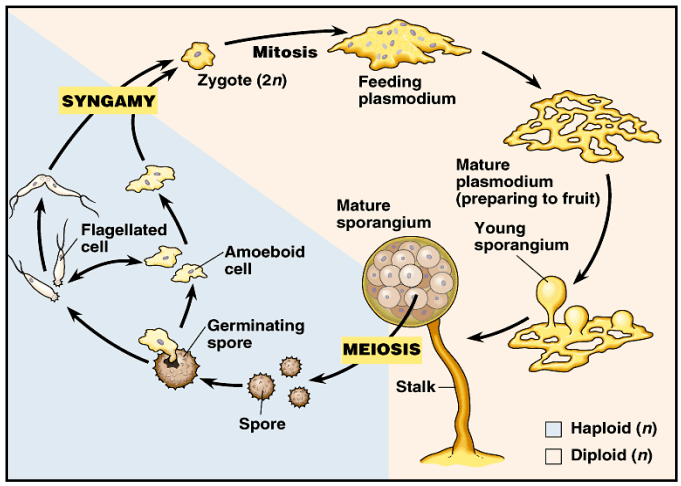
Slime moulds are heterotrophic. They cannot make their own food and require other organisms to gain nutrients. Slime moulds go through a process called "phagocytosis" in order to gain the necessary nutrients. This simply means that the slime mould engulfs its food items and internally digests it. They can utilize many different substances including decaying leaves, logs and dung. But the slime mould will also engulf other microscopic organisms such as bacteria, yeasts and other small protists.



Reproduction

Plasmodial Slime Mould Reproduction:

When growing, the millions of nuclei that make up a single plasmodial slime mould divide at the same time. Under favourable conditions, plasmodial slime moulds reproduce by forming a reproductive stalk containing spores. This reproductive stalk looks spherical or even popsicle-like on top. When the time is right, these stalks will release the spores and new slime moulds will proliferate. This usually occurs in the spring and autumn when there is adequate moisture and suitable temperatures.



Cellular Slime Mould Reproduction:

Cellular slime moulds reproduce in much the same way as plasmodial slime moulds. However, there is one major difference, cellular slime moulds are composed of separate cells each with one nucleus; whereas plasmodial slime moulds are one huge cell with millions of nuclei. The individual cellular slime moulds, also called "slugs," crawl along the substrate at an average speed of 1 millimetre per hour leaving behind a trail of chemicals which draws other slugs toward it. As more and more slugs travel over this trail, the chemical becomes stronger drawing in even more. Eventually all of the slugs aggregate. About a third of the cells come together to produce a stalk-like fruiting body. Other cells are then transformed into spores inside the fruiting body. When the moisture levels and temperatures are just right, the spores are released and cellular slime moulds are "born." Some spores are able to survive in their dormant stage for up to 75 years before germination.

(Note: the alternative American spelling of mold is frequently found in articles found on the internet.)