CCIII: Unit 3

STATUS OF SLIME MOLDS

Slime mold or slime mould is an informal name given to several kinds of unrelated eukaryotic organisms that can live freely as single cells, but can aggregate together to form multicellular reproductive structures. Slime molds were formerly classified as fungi but are no longer considered part of that kingdom. Although not forming a single monophyletic group, they are grouped within the paraphyletic group referred to as kingdom Protista.

More than 900 species of slime mold occur globally. Their common name refers to part of some of these organisms' life cycles where they can appear as gelatinous "slime". This is mostly seen with the Myxogastria, which are the only macroscopic slime molds. Most slime molds are smaller than a few centimeters, but some species may reach sizes up to several square meters and masses up to 20 kilograms. Many slime molds, mainly the "cellular" slime molds, do not spend most ofϖ their time in this state. When food is abundant, these slime molds exist as single-celled organisms. When food is in short supply, many of these single celled organisms will congregate and start moving as a single body. In this state they are sensitive to airborne chemicals and can detect food sources. They can readily change the shape and function of parts and may form stalks that produce fruiting bodies, releasing countless spores, light enough to be carried on the wind or hitch a ride on passing animals.

OCCURANCE

They feed on microorganisms that live in any type of dead plant material. They contribute to the decomposition of dead vegetation, and feed on bacteria, yeasts, and fungi. For this reason, slime molds are usually found in soil, lawns, and on the forest floor, commonly on deciduous logs. In tropical areas they are also common on inflorescences and fruits, and in aerial situations (e.g., in the canopy of trees). In urban areas, they are found on mulch or in the leaf mold in rain gutters, and also grow in air conditioners, especially when the drain is blocked.

ECONOMIC IMPORTANCE OF ALLIED FUNGI (SLIME MOLDS)

Useful importance

1. They feed on some bacteria, protozoa, spores and some other micro-organisms.
2. *Physarum cinereum* forms some colonies on grassy lawn, which sometimes add beauty and sometimes it cause death of the grass.
3. It is used as ideal tool for experimental studies on mitotic cycle, morphogenesis, physiology of protoplasm, the chemical changes governing reproduction by cytologist, biochemist and biophysicist.

Harmful importance

1. Sometimes they live as parasites causing damage to the other organisms.
2. *Plasmodiophora brassicae* attacks the roots of cabbage and other members of Cruciferae, causing a disease called club-root.
3. *Spongofera subterranea* is a parasitic slime mold which cause ‘Powdery-scab’ which attack potato tuber and tomato roots.