

Lichen.

Lichen are intimate association of fungi and algae in which both organism intertwined to form a compound thallus called consortium. In a consortium the fungal component is called mycobiont while the algal component is called phycobiont. These two parts live together to form a compound thallus. The fungal component of a lichen thallus is either ascomycetes (Ascolichen) or basidiomycetes (Basidiolichen). The algal component of most of the lichen is either unicellular chlorophyta (*Protophytes*) or filamentous chlorophyta (*Cladophora* sp)

Helotism: The partnership between an alga and a fungus in which the association is decidedly at the expense of the alga is called helotism.

Types of lichen:

Generally, lichen are of 5 types viz →

Leprose: This is the simplest type, where the fungal mycelium envelops either single or small clusters of algal cells. The algal cell does not envelop all over by fungal hyphae. The lichen appears as powdery mass on the substratum.

eg → Lepraria incana.

Crustose: In this case the lichen thallus is poorly develop. The thallus forms a crust closely adhere to the substratum and may be partly or wholly embedded in the substratum.

eg → Lecanora sp, Graphis sp.

3) Foliose: In this case the thallus is flat, dorsiventral and more or less leaf like with lobbed or irregular margins. The thallus adhere to the substratum by means of a rhizoid like structure or hyphal outgrowth, called rhizines, developed from the lower surface.

eg → Parmelia sp, Peltigera canina.

4) Fruticose: These are shrubby lichens. In this case the thallus is bushy, twig like, finger like or strap shaped with wide range in side. Thalli are attached to the substratum by a definite basal part composed of closely packed hyphae.

eg → Usnea sp, Cladonia rangiferina

5) Filamentous: In this case the algal members of filamentous which remain covered by only a few fungal hyphae.

eg → Racodium sp.

Based on the distribution of algal member inside the thallus, the lichens are divided into 2 types —

1) Homoiomerous: In this case the fungal hyphae and the algal cells are more or less uniformly distributed throughout the thallus.

eg → Collema sp.

2) Heteromerous: In this case the thallus is differentiated into four distinct layers, Upper cortex, algal zone, medulla and lower cortex. The algal members are restricted in the algal zone only.

eg → Parmelia sp.