Department of biology

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((Mycology))

Stage (-3-)

LEC- ((9))

Ascomycota

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Phylum Ascomycota

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Phylum Ascomycota Advanced fungi called sac fungi include all fungi that form sexual spores of the cystic type Ascospore, which is given the name that takes the shape of a sac, knowing that there is great variation in the shape of the sacs. They are widespread fungi and are the most common fungi in existence. They include 50,000 species and have very great importance in our lives in terms of harms and benefits. One of their important characteristics that appeared for the first time is that they are not at all preservatives. Spores, rather, they are exogenous spores (conidia (singular Conidium), which have many and wide variations in shape, color, and size. There are no swimming or flagellated stages within these fungi. They also form hyphae that contain septa, that is, they are divided into their physical stages, either from a single yeast, filamentous, or fleshy cell, as is the case in truffles. Truffle The cell wall contains a high percentage of chitin, in addition to sugars, peptides, and amines. Asexual reproduction is through fragmentation, budding, and formation of conidia, and sexual reproduction is through mating and contact of the gametophytes, as well as through seed reproduction. These fungi are found in all environments. Their importance is very great, as they have great benefits and harms for humans, animals, and plants. The figure below shows the shapes of some whiteboard bags.

sexual spores of the cystic

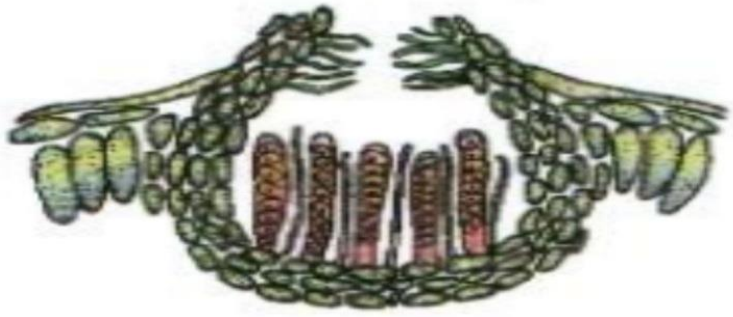
The typical resulting bags contain eight cystic spores, which also differ according to the type of fungus. These bags may remain naked or be surrounded by a fruiting body called here the Ascocarp. The type of this fruiting body is a distinctive characteristic of families, orders, and genera.

There are several types of fruiting bodies: -

The closed fruiting body, Cleistothecium, has a closed spherical shape with no opening, and contains scattered, loose sacs inside it that emerge at maturity as a result of rupture. The outer wall of the fruiting body.

Cleistothecium

The fruiting body, Perithecium, is flask-shaped, and the sacs are fixed at the bottom, interspersed with sterile threads, paraphysis hyphae. There is an opening at the top from which the mature spores, called the ostiole, emerge



Perithecium

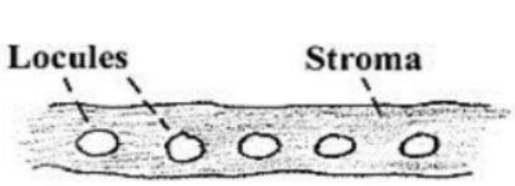
ثمرة زقية دورقية

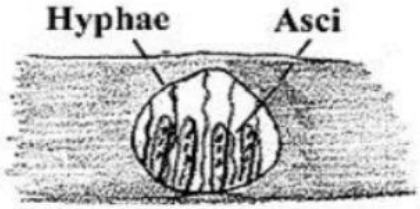
. The Apothecium fruiting body is layered or cup-shaped, and above it the spore sacs are arranged in the form of a fertile hymenium layer. The sacs in some genera are interspersed with colored spines.

Apothecium

ثمرة زقية طبقية

Ascostroma, the visceral fruiting body, is a visceral tissue interspersed with openings or locules, within which the double-walled cysts are located, and the cysts are interspersed with sterile cells.





Sac fungi were divided according to their fruiting body into classes, as follows: without fruiting body, with closed fruiting body, with flask fruiting body

Class: - Archiascomycetes

Class: - Plectomyces

Class: - Pyrenomycetes

Class: Discomycetes

Class Loculoascomycetes

Class Labulbeniomycetes

1-Class of naked sac fungi (Archaea) Class Archiascomyces (non ascocarpic fungi) These are the simplest sac fungi, and their sacs begin with naked asci (that is, without a fruiting body. The sac arises directly from the zygote and not from the hyphae. The sacs are transparent and have thin walls from which the sac spores emerge after the walls are cracked). Individuals of this species are found as scavengers, decomposing excreta and waste, or parasitizing on plants, animals, and humans. Therefore, they are of great economic importance because of their parasitism, as well as because they cause damage to fruits and stored foods. They are used in fermentation processes. They are also used in the production of vitamins and in the manufacture of some foods. Their individuals are often yeast-like or simple filamentous in appearance. This species is divided into several orders, the most important of which is Order: - Saccharomycetales, Order: Taphrinales

Order: - Taphrinales, filamentous, divided fungi with a simple structure that are parasitic on plants. An example of this is the fungus Taphrina deformans, which belongs to the Family Taphrinaceae due to leaf curl disease in peaches. Taking a section of an infected leaf, the presence of a fertile layer of cysts at the ends of the shoots.

Leaves curl disease

The order Saccharomycetales includes yeasts, that is, unicellular saccharomyces that reproduce by budding and form blastospores, which may be pseudohyphae. It includes many families, the most important of which is the Family Saccharomycetaceae, to which Sacchromyces cerevesia belongs, which is the yeast used in making pastries, as the package of yeast that you buy in the market contains a strain of this yeast loaded with a carrier substance. Such as starch.