Lab-6-

Class 1: Taphrinomycetes

Inhabit :

Most of these fungi live Naked ascus , saprotrophic or parasitic nutrition linked to plants in one way or another, Some live on plant secretions while others live on plant nectar or live on sugary secretions on the surface of healthy or rotting fruits. also some species living symbiotic with some insects especially beetles are called the foods of the gods (Amborsia fungi) ,**the ambrosia symbiosis of wood-boring beetles and fungi.** figure (1)

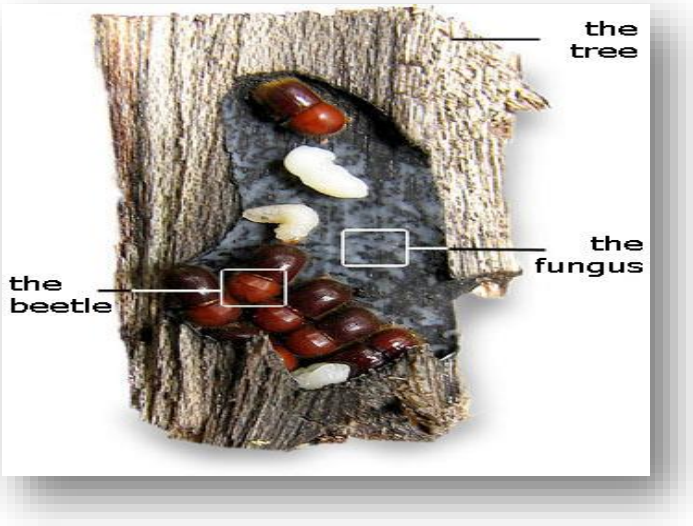

Figure (1) ambrosia symbiosis

Economic importance :

1- These fungi are responsible for most important fermentation processes in the food industry.
2- caused damage to stored food ..
3- used in the Vitamins industry
4- caused some plant diseases such as *Taphrina* sp. .
5- Thesaprotrophic fungus is responsible for the decomposition of plant and waste residues.
6- some species that parasitism on humans caused diseases such as *Pneumocystis* sp.

Order : Taphrinales :

This order includes a variety of fungus, all parasitic fungi on vascular plants, causing an increase in the growth of infected tissues. The disease symptoms appear on infected plants such as wrap leaves, which affects leaves of trees peach and almond , This order includes two families

Family 1: Taphrinaceae

This family includes about 118 species of Genus *Taphrina* sp.whichgrow as yeasts by budding during one phase of their life cycles, then infect plant tissues in which typical hyphaeare formed this condition called **Dimorphic** .

Taphrinadeformans is one of the most important fungi of this family, which causes Peach Leaf Curl disease. Figure (2)

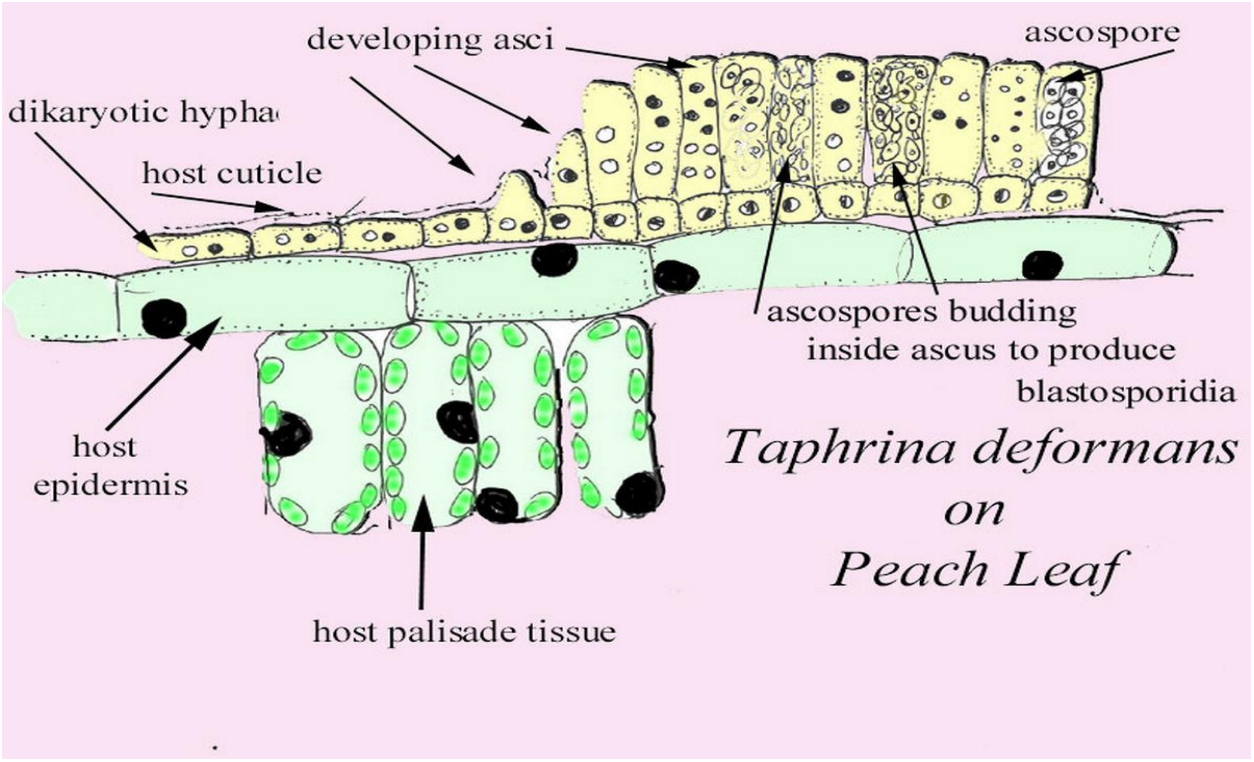

Figure (2) *Taphrina deformans*

Family 2: Protomyctaceae

The most important species of this family is the fungus *Protomycesmacrospores*, which causes **Life gall disease** of a group of plants belonging to the Umbelliferae family such as metal, celery, carrots and coriander.

Class 2: Schizosaccharomycetes

Order : Schizosaccharomycetales

Family : Schizosaccharomycetaceae

Ex : *Schizosaccharomyces* sp.

Is a genus of fission yeasts. The most well-studied species is *S. pombe*, At present four Schizosaccharomyces species have been described (*S. pombe*, *S. japonicus*, *S. octosporus* and *S. cryophilus*). is a significant model organism in the study of eukaryotic cell biology.This yeast has contributed to the knowledge of many genetic information that has been reported in reaching a cure for many diseases, especially cancer , Yeasts reproduce by budding or forming spores called **Blastospores**. Sometimes the bud is not separated from the mother forming**pseudohypha** which is a chain of linked buds.Figure (3)

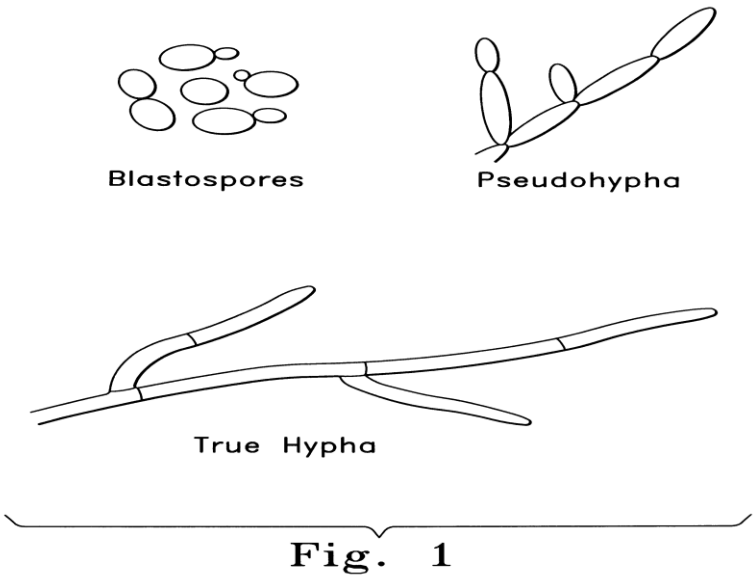

Figure (3)

Blastospores

Ex : *Pneumocystis* sp.

Is not commonly found in the lungs of healthy people, but, being a source of opportunistic infection, it can cause a lung infection in people with a weak immune system. *Pneumocystis pneumonia* is especially seen in people with cancer undergoing chemotherapy .

Class 3: Saccharomycetes

Order : Saccharomycetales

Ex : ***Saccharomycescerevisiae***

It is species of yeast , the microorganism behind the most common type of fermentation. S. cerevisiae cells are round to ovoid, 5–10 μm in diameter. It reproduces by a division process known as budding or forming spores called Blastospores .

Class 4: Pezizomycetes

Order : Pezizales

This order consists of a group of fungi whose fruit bodies are Disc shape or Apothecium, which are open from the beginning or closed from the beginning and then open later. The fruiting body is relatively large, sometimes up to 10-15 cm in size, bright colors and fruiti Is a large genus of saprophytic cup fungi that grow on the ground, rotting wood, or dung. Most members of this genus are of unknown edibility and are difficult to identify as separate species without use of microscopy. The genus has been estimated to contain over 100 species .

Class 5 : Eurotiomycetes
Order : Eurotiales

This order consists of fungus characterized by the formation of closed fruit bodies Cleistothecium composed of pseudo-histological tissue fungal and asxual reproduction by the formation of conidates, containing seven families, including the most important Eurotiaceae, which includes several species, most notably *Aspergillus* sp, *Penicillium* sp .

Ex 1 : ***Penicillium sp.***

The researcher(link) is the first who diagnosis *Penicillium* in 1809,*Penicillium* includes a list of 227 species worldwide, isolated from environments such as air, soil, food waste, fruits, vegetables, fodder, and

enclosed environments. and have ability to attack food products, fruits and fodder because of their ability to grow in severe conditions, including growth in oxygen Low levels and high levels carbon dioxide, even at low temperatures .

Penicillium digitatum (Green Mold) is an important and common species that causes green fruit rot, The most common post-harvest diseases,causesmajorEconomic losses, usually affecting most types of fruits, especially citrus.

Penicillium expansum (Blue Mold) is one of the most important causes of blue rot of post-harvest fruits and causes majoreconomic losses annually. This type is known to cause the production of carcinogenic Mycotoxins. Patulin has been found in many samples of apple fruit Infected with this species.

Ex 2 :*Aspergillus*sp.

Aspergillus is an opportunistic pathogenic fungi that cause of the aspergillosis disease, This genus has about 200 species that grow in different environments. This fungus is common and all species of *Aspergillus* generally produce spores Conidia, which is best germinated at a temperature close to 35 ° C, has some species of *Aspergillus* that High ability to resist Inappropriate environmental conditions through the production of sexual phases or stone objects.

Aspergillus niger is one of the most important fungal species which is characterized by spores of black color and is called black mold (Black Mold).

Aspergillusflavus is a widespread fungal species in tropical and subtropical regions that causes damage to poorly stored crops. *A.flavus* produces aflatoxins, the most Mycotoxins dangerous, either lethal or carcinogenic to the liver.