

Sexual fruiting bodies of Ascomycotina.

In Ascomycotina different members employ gamet-angial copulation, hologamy, gametangial contact, autogamy, spermatization of somatogamy to accomplish the sexual process. Except the simpler Ascomycotina, Hemiascomycetes, where the asci are naked, the most form of asci are found protected inside the fruit body - the ascocarp. In response to sexual act, the neighbouring vegetative hyphae and those growing from the sex organs grow rapidly to become interwoven into a plectenychmatous mass. This mass surrounds the developing asci. The asci and the mass of protective vegetative hyphae develops into an ascocarp. The form of mature ascocarp is varied, and the following types of fruiting bodies found in Ascomycotina.

1] Cleistothecium : It is a minute, globose, hollow and completely closed fruit body enclosed by thick wall known as Peridium. The asci inside the ascocarp are found usually scattered. eg. *Erysiphe*, *Aspergillus* etc.

2] Perithecium : These type of fruiting bodies are commonly flask-shaped and ^{less than} a millimeter in diameter. It has well-defined wall with a definite opening known as Ostiole. The asci and paraphyses line the cavity of the perithecium. These opening is guarded by paraphyses. eg. *Claviceps*, *Xylaria* etc.

3] Apothecium : The fruit body or apothecium are cup, saucer or disc-shaped of few millimetres to several centimetres in diameter. They are commonly coloured

but rarely colourless. The colour of fruiting body may be pale brown, red, orange black etc. It is found in the members of Pezizomycetes (eg. Peziza).

The apothecium is mainly consists of three parts — hymenium, hypothecium and excipulum.

Hymenium is the fertile and uppermost layer that lines surface of the disc. It consists of sac-like elongated cell, the asci intermingled with paraphyses.

Just under the hymenium a thin layer of interwoven hyphae present horizontally to the hymenial layer is known as the hypothecium. The paraphyses develop directly from this layer.

The lowermost region of the ascocarp made up of pseudoparenchymatous layer is known as excipulum, which is extend upwardly and form a cup-like receptacle, enclosing the hypothecium and hymenium layer.

4] Ascostroma : In this type of ascocarp many asci develops in the small cavities known as locules present in the stromatic mass of hyphae. These are not specialized fruiting bodies and are called Ascostroma. eg. *Mycosphaerella*.

5] Hysterothecium : These are small, elongated, black and boat shaped with hard or leathery texture. At maturity the ascocarp open by single longitudinal slit. eg. *Hysteriales*.