

Diversity of Fruiting Bodies of Ascomycetous Fungi

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ABSTRACT

The Ascomycetous Fungi is the largest group. These fungi are highly diverse and versatile organisms adapted to all kinds of environment. Also they are heterogenous in nature and rich in their pattern.

However, it was observed that since during last few years Mycology, a branch of Botany has been neglected in Marathwadwa region and no studies have been done on this particular branch. Therefore, it was felt to undertake the work on taxonomic studies of ascomycetous fungi. These fungi occurring saprophytically on dead and decaying fallen leaves and twigs of plants.

Key Words: Ascomycetes Fungi, Dothidiales, Phacidiales, Spheariales

INTRODUCTION

Ascomycetes is the large group of fungi growing in diverse habitats. The Ascomycetous fungi, with richness of their pattern and highly heterogenous nature, have posed a difficult task to the taxonomists. The classification and taxonomy of Ascomycetous fungi and the pattern of the treatment of different groups by different workers are widely divergent, depending upon their concept of origin of these fungi and evolutionary characters of various taxonomic criteria. Even in the modern classification original concept of Lindau (1897) of Plectomycetes, Pyrenomycetes and Discomycetes is taken into account, which forms the basis of classification.

His concept of perithecium with the presence of an apical ostiole, basal origin of asci, the presence of sterile threads or paraphyses, even now forms the basis of modern classification. Now, it is admitted fact is that a single character as

taxonomic criteria always create more difficulties than solving the problems. Holm(1958) has proposed that, several features like ascus, its structure, manner of ascus opening, its wall, manner of arrangement and development besides the stroma, its nature , colour and consistency of the ascocarp, presense and absence of sterile threads or paraphyses, number of ascospores in each ascus, their colour ,septation and arrangement etc. has taken into consideration.

MATERIALS AND METHODS

The work has been completed through following steps:

1. Collection of infected plant material
- 2.Laboratory work.
- 3.Identification of Fungi.

1.The collection of infected plant material was done at every fortnight. The field observation was done carefully and the date of collection and identification of the host was carefully recorded. It may be mentioned that for the identification of the host, particularly for the vernacular names the help was taken from a comman layman.

2.In the laboratory, the hand sections of these infected plant material were carefully taken. The slides were prepared by using Lactophenol as a mounting medium and cotton blue as a stain. Then the slides were sealed with nail paint and preserved in the laboratory.

3.The prepared slides were carefully observed under caliberated research microscope. The measurement of Ascocarp, Asci and Ascospores were carefully taken. The identification of different genera was done with the help a book “Genera of Fungi” by Clements and Shear(1973).

Observation

The Ascomycetes Fungi produces three types of fruiting bodies i.e. Apothecia,Perithecia and Cleistothecia.

1)APOTHECIA

An apothecium is a wide, open, saucer-shaped or cup-shaped fruit body. It is sessile and fleshy. The structure of the apothecium chiefly consists of three parts: *hymenium* (upper concave surface), *hypothecium*, and *excipulum*. The asci are present in the hymenium layer. The asci are freely exposed at maturity. An example are the members of *Dictyomycetes*. Here the fertile layer is free, so that many spores can be dispersed simultaneously.

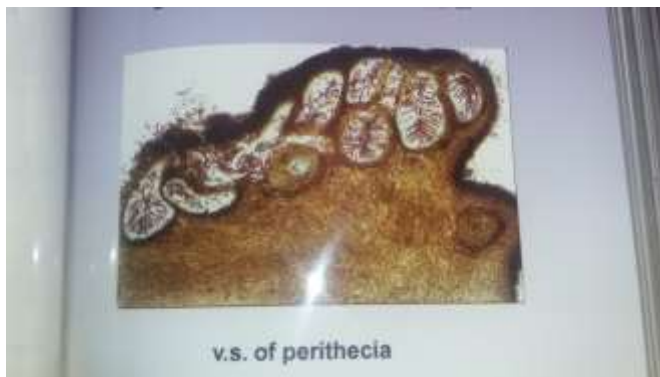
2) PERITHECIA

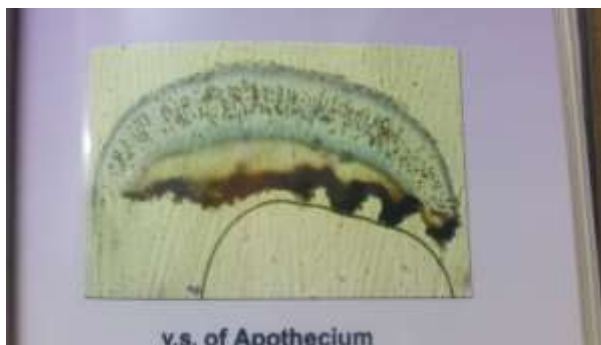
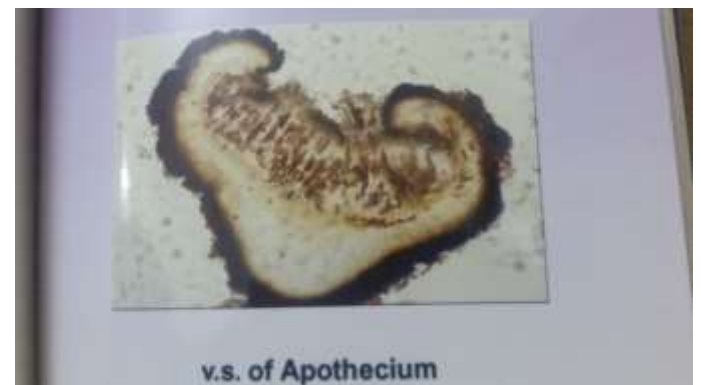
These are flask shaped structures opening by a pore or *ostiole* (short papilla opening by a circular pore) through which the ascospores escape. The *ostiole canal* may be lined by hair-like structures called *periphyses*. The **unitunicate asci** are usually cylindrical in shape, borne on a stipe (stalk), released from a pore, developed from the inner wall of the perithecium and arise from a basal plectenchyma-centrum. Examples are members of *Sphaeriales* and *Hypocreales*.

3) CLEISOTHECIA

A cleistothecium is a globose, completely closed fruit body with no special opening to the outside. The ascomatal wall is called *peridium* and may typically consists of densely interwoven hyphae or *pseudoparenchyma* cells. It may be covered with hyphal outgrowth called *appendages*. The asci are globose, deliquescent, and scattered throughout the interior cavity i.e. as in *Eurotium* or arising in tufts from the basal region of ascocarps as in *Erysiphe*. Cleistothecia are found mostly in fungi that have little room available for their ascocarps, for instance those that live under tree bark, or underground like truffles.







DISCUSSION:

After the critical study of taxonomy of Ascomyceteous fungi, their fruiting bodies shows very great diversity.

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