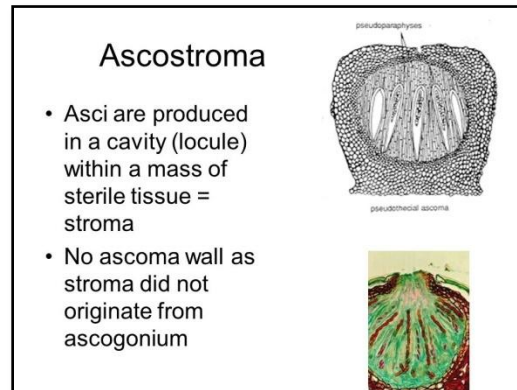
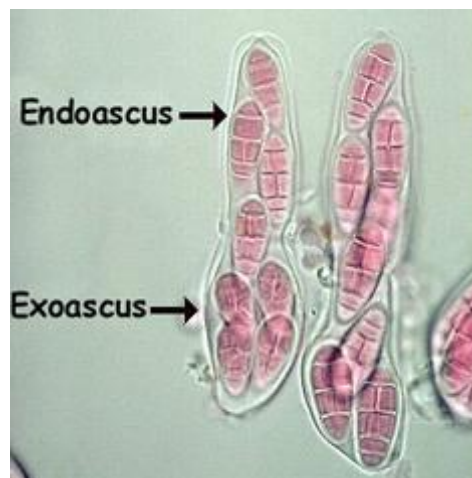


# V CLASS LOCULOASCOMYCETES

- The series Loculoascomycetes is characterized by producing their asci in **ascostroma**.



- An ascostroma is a **locule that forms in a stroma** where the asci are borne.
- This differs from a perithecium that is formed within a stroma in that a perithecial wall is formed by the perithecium that delimits it from the stroma. Such a **wall layer is absent in the Loculoascomycetes**.
- Asci in this series are said to be **bitunicate**.
- This differs from a unitunicate ascus in that the **endoascus** will grow through the outer layer, the **exoascus**, and extends beyond it through the open pore at the tip of the exoascus. This type of ascus has also been referred to as the **jack-in-the-box ascus**.



- Paraphyses may also occur in this series.
- The example is the genus *Leptosphaerulina*. The ascostroma in this genus is very difficult to distinguish from perithecial species of *Pyrenomyces* because it is a uniloculate ascostroma. However, if examined, microscopically, this genus can be observed to have a bitunicate ascus, a characteristic of the Loculoascomycetes series of Ascomycota.

## VI THE LABOULBENIOMYCETES

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- The Laboulbeniomyces form a distinct and unusual group of fungi. All are **parasitic on insects** and related arthropods but remain on the outside of the animal in much the same way a tick or leech would.
- The feature all Laboulbeniomyces have in common is the ascospore. The spore is long and narrow and has a dark attachment on the upper end.
- The ascospores are not forcibly discharged from the ascus but instead collect inside the perithecium and then are pushed up out of the ostiole.
- They collect at the ostiole in a cluster or in a chain, attachment pad up, and adhere to a mite or insect when it comes in contact with them. They adhere to the animal by the attachment pad and then penetrate its cuticle with an absorption cell called a **haustorium**. Once the haustorium is in place the spore can begin to develop into its final form.
- This is important because unlike other fungi that may be transported by insects and mites, members of the Laboulbeniomyces transform their ascospores into spore-bearing structures while attached to the animal and, because of the nutrition obtained through the haustorium, are able to produce significant numbers of spores.
- The extent to which this attached spore develops forms the basis of the two orders, the Pyxidiophorales and the Laboulbeniales.