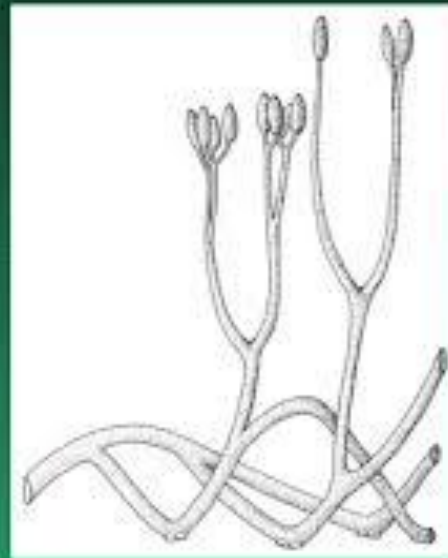


Life cycle of Rhynia

Content :-

- Classification.
- Introduction
- External morphology.
- Internal structure.
- Reproduction.



Aglaophyton
(*Rhynia*) *major*
(protracheophytes)

Classification

Kingdom-Plantae

Division-Tracheophytes

Class-Rhyniopsida

Order –Rhyniales

Family –Rhyniaceae

Genus –Rhynia.

Introduction

- They are simplest extant vascular plant.
- Discovered by **Sir William Dawson's (1858)** from Devonian period of Palaeozoic age.
- Found at USA, Scotland, Norway and Belgium.
- Some investigator Dr. Mackie (1913), Dr. Kidston and Prof. Lang.
- It has two species *R. major* and *R. gwynne-vaughani*.

External morphology

Herbaceous

- R. Major
- 50 cm in height
- 1.5-6 mm in diameter.
- Aerial shoot are smooth

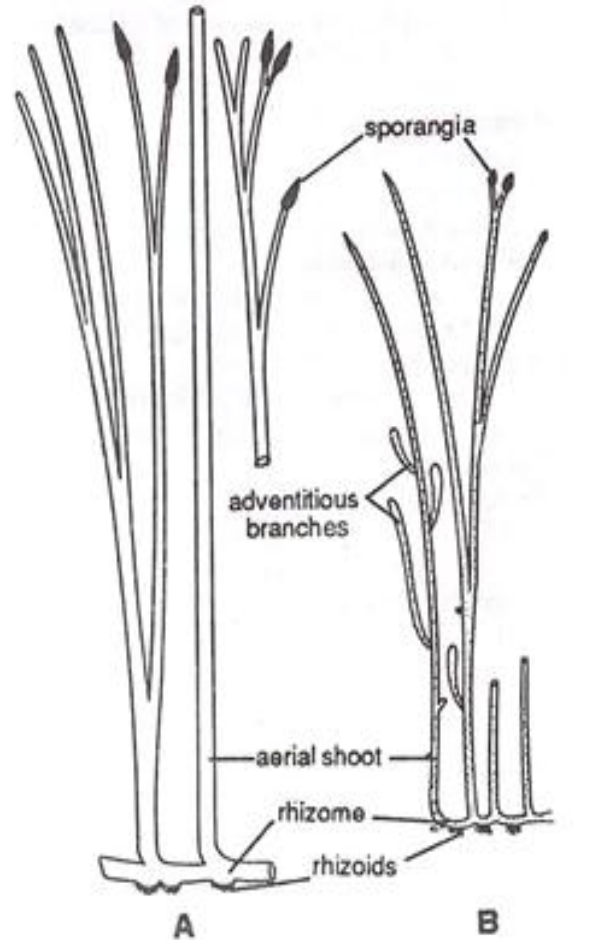
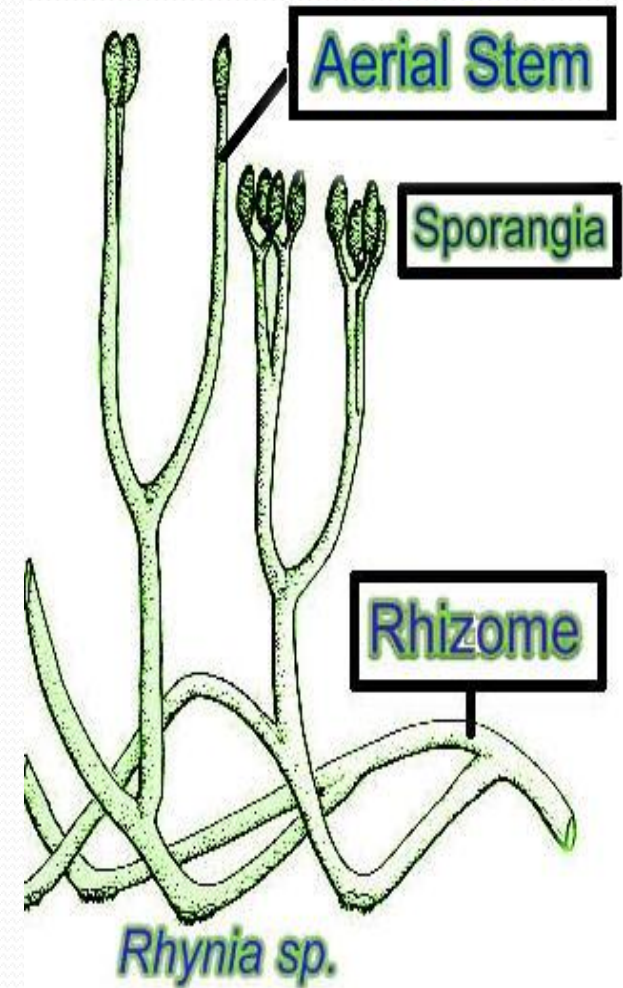


Fig. 206. *Rhytnia*, external features. A, *R. major*; B, *R. gwynne-vaughani*.

- R. Gwynne-vaughani 20 cm in height
- 1-3 mm in diameter
- Shoots with adventitious branches

Common character

- ❖ Root is absent
- ❖ Rhizoids are present instead of root
- ❖ Aerial stem was dichotomously branched and taper
- ❖ The tip of aerial branch bear solitary terminal sporangia



Internal structure

Anatomy of stem

- Epidermis :- 1 } It is thick and covered by thin cuticle
2 } presence of stomata
-] cortex:- 1 } Differentiated into outer and inner cortex
2 } Having intercellular spaces with chloroplast
3 } Endodermis and pericycle are absent
- Stele:- 1 } Presence of Protosteles
2 } xylem made up of annular tracheids and no sieve element in phloem

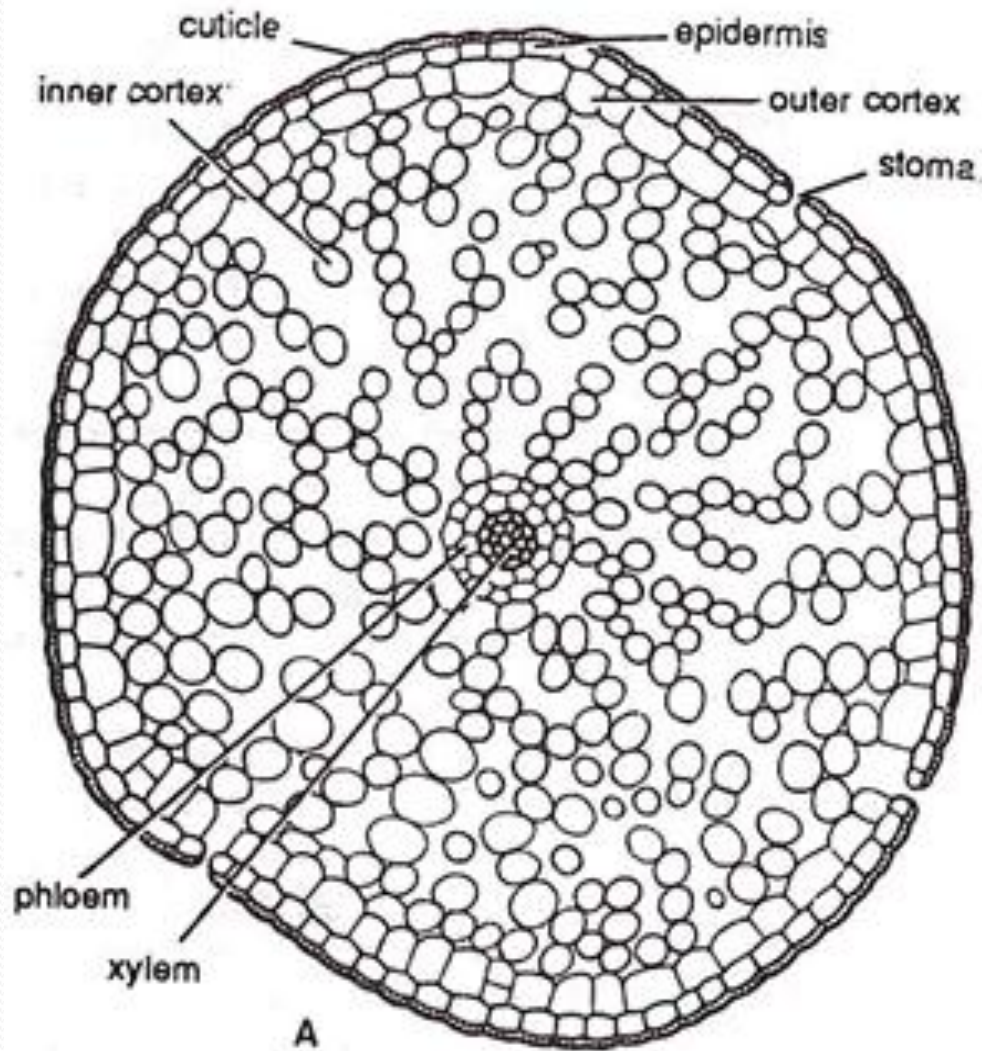
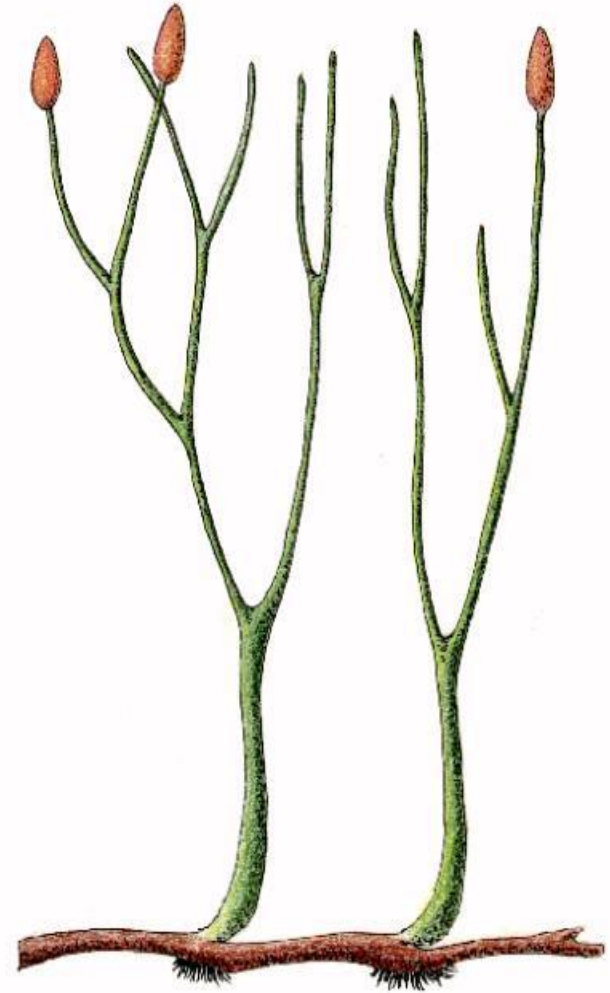


Fig. 207. *Rhynia*. A, T.S. rhizome; B,

Reproductive structure of Rhynia

- It takes place by sporangia formation.
- Born singly apices of apical branches ,oval and cylindrical .
- 12 mm long & 4mm breadth.



l.S of Sporangium

- Outer most layer having thick epidermis
- Presence of tapetum layer
- Having tetrahedral homospore.
- No evidence of gametophyte

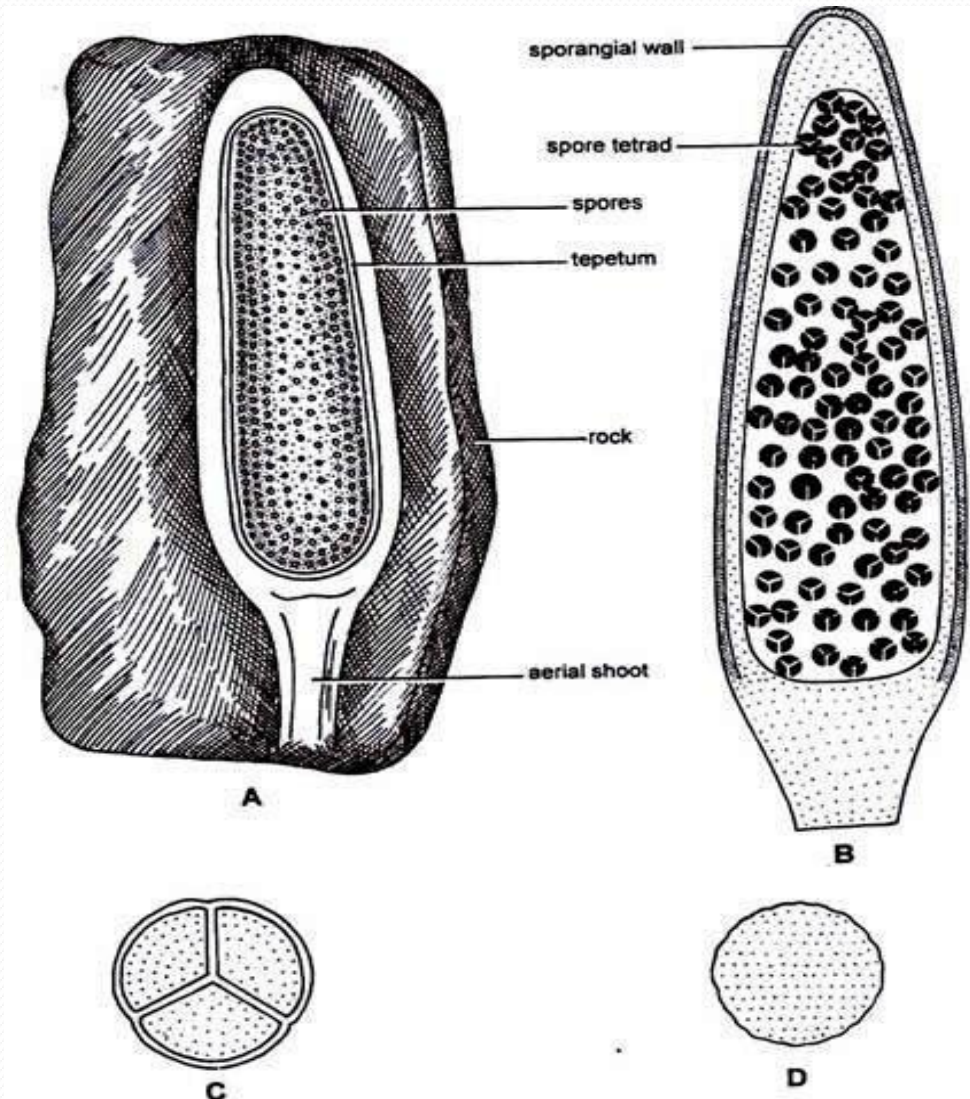


Fig. 3 (A-D) *Rhynia*. Sporangia and spores A. L. S. of sporangium of *R. major*, B. L.S. of sporangium of *R. gwynne-vaughani*, C. Sporetetrad, D. Spore