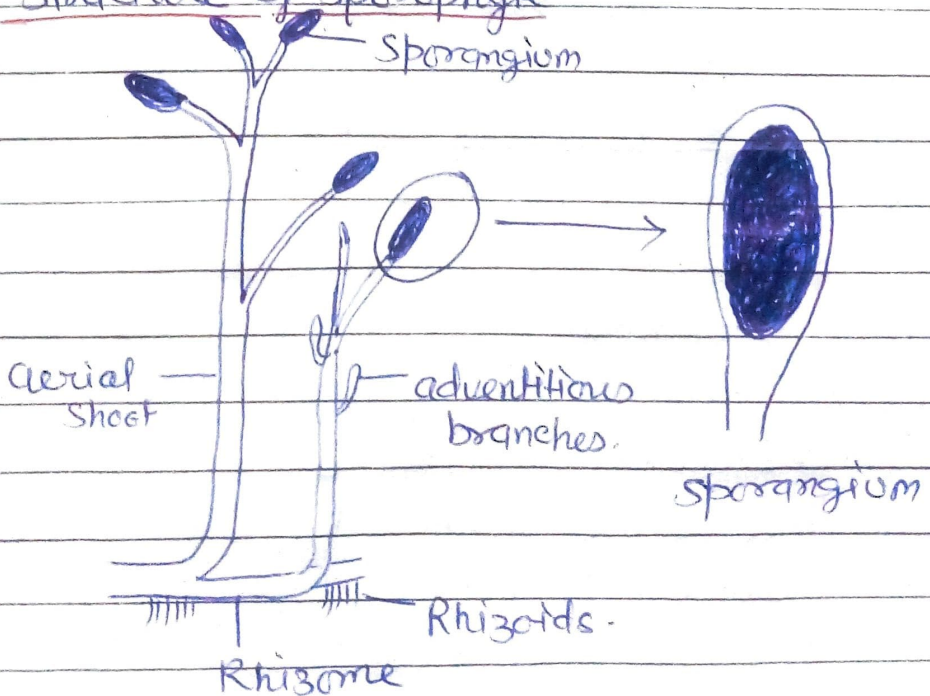


Rhynia

Psilophytosida.
Psilophytales
Rhyniaceae

- » Rhynia is a fossil genus was discovered by Kidston and Lang in 1917 the Rhynie locality of city of Scotland.
- » R. major and R. gwynne-vaughani is only preserved complete plant in hard siliceous rocks.
- » The plant body of Rhynia was sporophytic

Structure of Sporophyte =



Rhynia External Morphology

> The herbaceous plant body consisted of a subterranean, creeping, cylindrical and dichotomously branched rhizome the base upright, simple dichotomously branched aerial leafless shoots

> The shoot of *R. major* were about 50 cm in height and 15-6 mm in diameter.

> The branches of shoot have no vascular connection with the main axis but probably helped in vegetative propagation.

> The aerial branch end in tapering vegetative propagation apices or base pear shaped terminal sporangia.

Internal structure →

> The rhizome as well as the aerial shoot was very simple

> Epidermis is the outer most single layered envelope covered by a thick layer of cuticle

> Epidermis of shoot was interrupted by stomata, where each stoma consist of

two guard cells surrounded by many subsidiary cells.

→ Cortex - The cortex was well organised and broad differentiated into an outer and an inner region.

→ The outer cortex was 1-4 layered compactly arranged polygonal parenchymatous cells without any intercellular spaces which helps represent hypodermis.

→ The inner cortex was composed of spherical parenchymatous cells of large intercellular spaces continuous to outer atmosphere.

→ The structure showed that inner cortex was chief photosynthetic region.

→ Central cylinder - showed the presence of protoxylem.

→ In the stele the xylem was surrounded by phloem whose xylem was composed of only tracheids with annular or spiral thickenings.

→ The phloem was represented by 4-5 layers of thin walled elongated cells with oblique end walls.

→ Endodermis and pericycle were however absent.