Rhynia

Pteridophyta
psilophytopsida
(Rhyniales)
psilophytales
Rhyniaceae
Rhynia

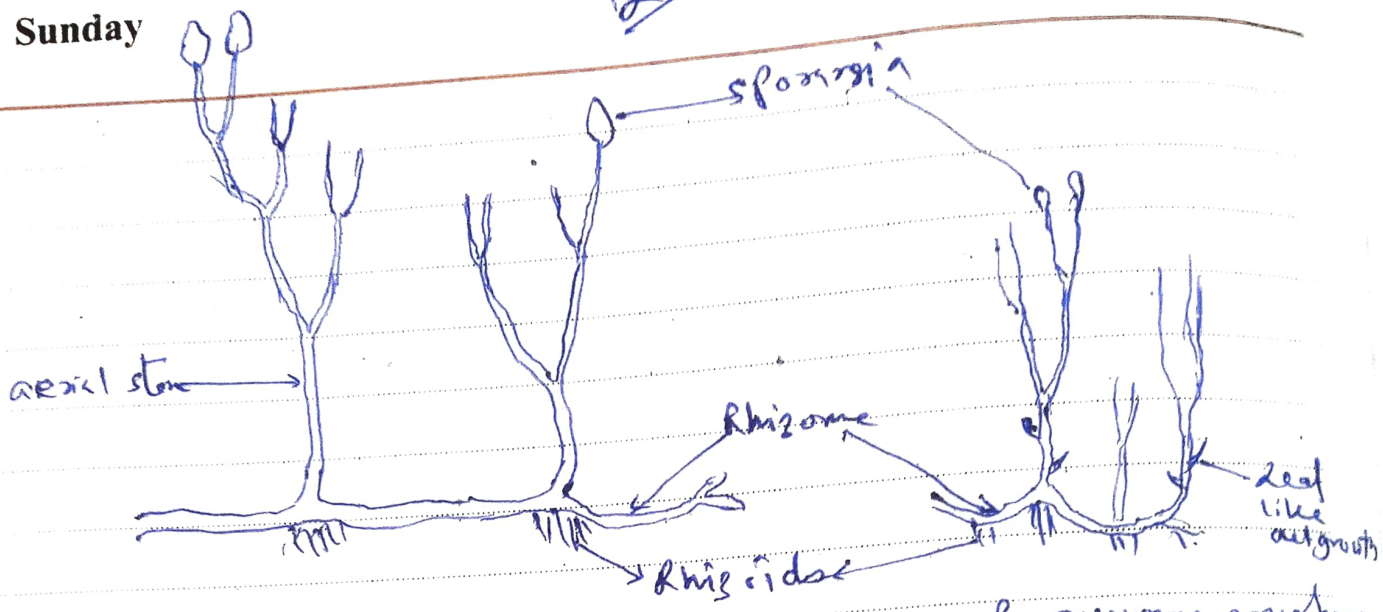
Geological distribution:
Rhynia was derived from the Rhynie of Lower Devonian lime chert bed in Aberdeenshire of scotland. Kidston & Lang (1917) discovered two species of Rhynia ~~fossil~~ ie. Rhynia major and R. gwynne-vaughani as fossil. ~~They are~~ The ~~fossil was~~ a whole plant was preserved as petrified form.

Saturday 8

morphology of the plant:
Rhynia was a herbaceous plant. The plant body consisted of subterranean, prostate, cylindrical and dichotomously branched rhizome which had branched leafless aerial shoots. The aerial branch of R. major were about 50 cm long and 6 mm in diameter and those of R. gwynne-vaughani were 20 cm long.
- The plant lacked roots but Lifts of Rhizoids present towards lower portion of the Rhizome.
- The aerial branches bore pear-shaped terminal sporangia.

9 Sunday

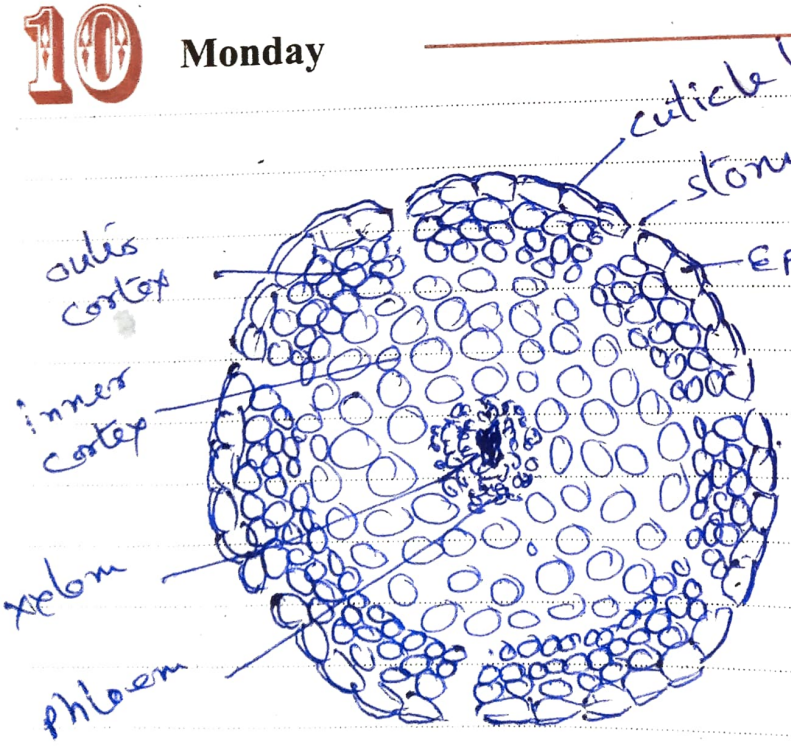
2



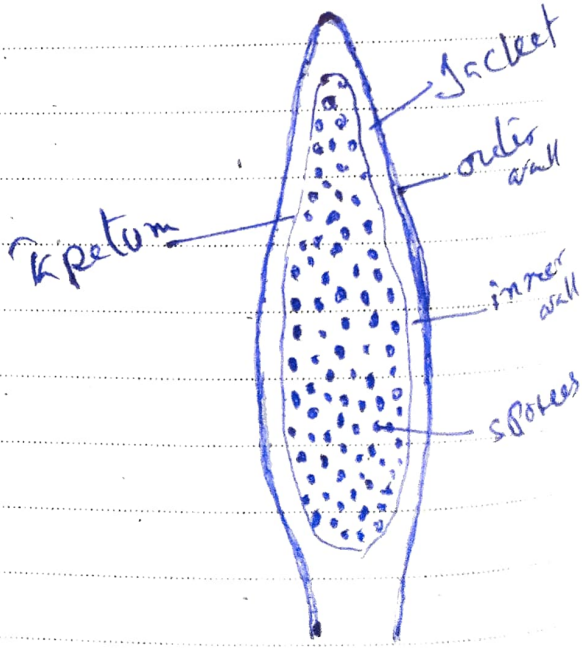
R. major

R. gaspense-mushroom

10 Monday



T.S. of a stem



T.S. of sporangium

Tuesday 11

Anatomy of aerial stem and Rhizome :

The anatomy of the stem and rhizome exhibit as follows

Epidermis: Epidermis, the outermost layer is of thick walled cells which had a thick cuticle layer on it. The epidermal layer is discontinued by the presence of stomata at intervals.

Cortex: Cortex is distinguished into outer and inner region. Cortical region is broad. The outer zone consisted of 1-4 layers of compactly arranged Parenchymatous cells which may represent the hypodermis. Inner cortex is made up of thin walled parenchymatous cells and loosely arranged which are linked with the stomata.

Wednesday 12

Vaskular system :

A protostele was present in the central zone of the shoot and Rhizome. The xylem is surrounded by the phloem. The xylem was made of Trachids elements while phloem is consisted of 4-5 layers of thin walled elongated cells with minute sieve-like areas on the phloem cells.
Distinct Endodermis and pericycle was absent.

Reproductive structure : Sporangia :

Sporangia were present singly on the apices of the aerial shoot. The sporangia were oval and nearly 12 mm long and 4 mm wide.

13 Thursday

sporangium had a multilayered jacket. A tapetum protects the spores. There were many spore tetrads were present in the sporangium.

spore tetrad

The spore size was 65 microns and monosporous. Spore wall heavily cutinized with triradiate mark.

spores

Gametophyte :- No distinct gametophytic phase have been discovered till now. Some botanist averted to describe the R. gwynne-vaughani as the gametophytic phase of R. major but it is not certain.

14 Friday