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LECTURE NO-07

DATE: 10th OCT. 2020

B.Sc. PART I PAPER - II

CORE CONCEPT OF PTERIDOPHYTES

PSILOTUM (Psilotum): I

It is a low-growing plant devoid of any root or leaves.

It consists of primarily of regularly dichotomously branched stems. Besides reaching about 1 foot above the soil surface, the stems extend beneath the soil branching to form a network of similar stems to hold the plant erect and absorb water and minerals for nutrition.

Rhizomes: These underground stems, called rhizomes. The rhizome is covered by epidermal cells that grow out into the soil which are called rhizoids act like root hairs.

Because *Psilotum nudum*'s primitive system of absorbing nutrients and water through rhizomes is terribly inefficient. *Psilotum* establishes an obligatory mutualistic relationship with a fungus that penetrates the rhizome. The fungus derives some photosynthetic products from *psilotum* and *psilotum* is

Occurrence: Two species of *Psilotum* are world-wide distributed. *P. nudum* and *P. flaccidum*. This is grown on humid moist places. This can grow as an epiphyte. The sporophytes are dichotomously branched with an underground rhizome and upright branches. The upright branches are leafless. Rhizoid present instead of roots. Stem ~~has~~ have a relatively simple vascular cylinder. The sporangia are borne in groups (trilocular) and form synangia. Spore produced are all alike homosporeous. The development of ~~spore~~ gametophyte is exosporic and form monoecious subterranean gametophyte. The development of embryo is exosp. exosepic.

Sporophyte: The plant body of *Psilotum* is sporophytic. Branched rhizome system and dichotomously branched slender upright green aerial systems that bears small appendages and synangia.

Aerial stem: Any one of the rhizome