



DEPARTMENT OF BOTANY

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LECTURE NO. : 05

DATE - 16th JULY, 2020

HONOUR'S PART - II

GROUP A - ANATOMY

PRINCIPLE AND DISTRIBUTION OF MECHANICAL TISSUES - III

C. Secretory Tissue - These are the special kinds of tissues directly concerned with secretions of various types and are of 2 main categories :

1. Glandular tissue - This is again of two types :

(i) Internal glands - Occur embedded in various tissues.

(a) Oil glands in Eucalyptus, citrus (Lemon; Orange) etc.

(b) Mucilage glands in Cycas.

(c) Resin secreting glands in Pinus.

(d) Water secreting glands (Hydathodes), occurring at the tips of leaves of some grasses, Colocassia or along margins (Tropaeolum) etc. The Hydathodes (so called water stomata) consist of water pore, epithem and vein ends.

(ii) External glands - Occur usually on epidermal linings.

(a) Enzyme secreting glands or Digestive glands as in insectivorous plants, which secrete protein digesting enzymes.

(b) Glandular hairs secreting gummy substances (as in Tobacco),

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irritating poisonous substances (as in Nettles) etc.

(c) Nectar secreting glands (Nectaries), common in insect pollinated flowers.

2. Laticiferous tissue - This consist of thin-walled, elongated, branched and multinucleate tubular structures common in the members of the families Euphorbiaceae, Asclepiadaceae, Papaveraceae, Apocynaceae, Composite, Musaceae etc. They secrete usually a milky, often yellowish or watery fluid called latex. It is an emulsion of various substances like proteins, sugars, enzymes, rubber, alkaloids etc. in a watery matrix. It is divided again into two types :

(i) Latex cells - Independently branched units, which never fuse to form a net work e.g. Euphorbia, Nerium, Calotropis etc.

(ii) Latex vessels - Fusion product of latex cells forming a net work e.g. papaver, Hevea, Sonchus etc.

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