

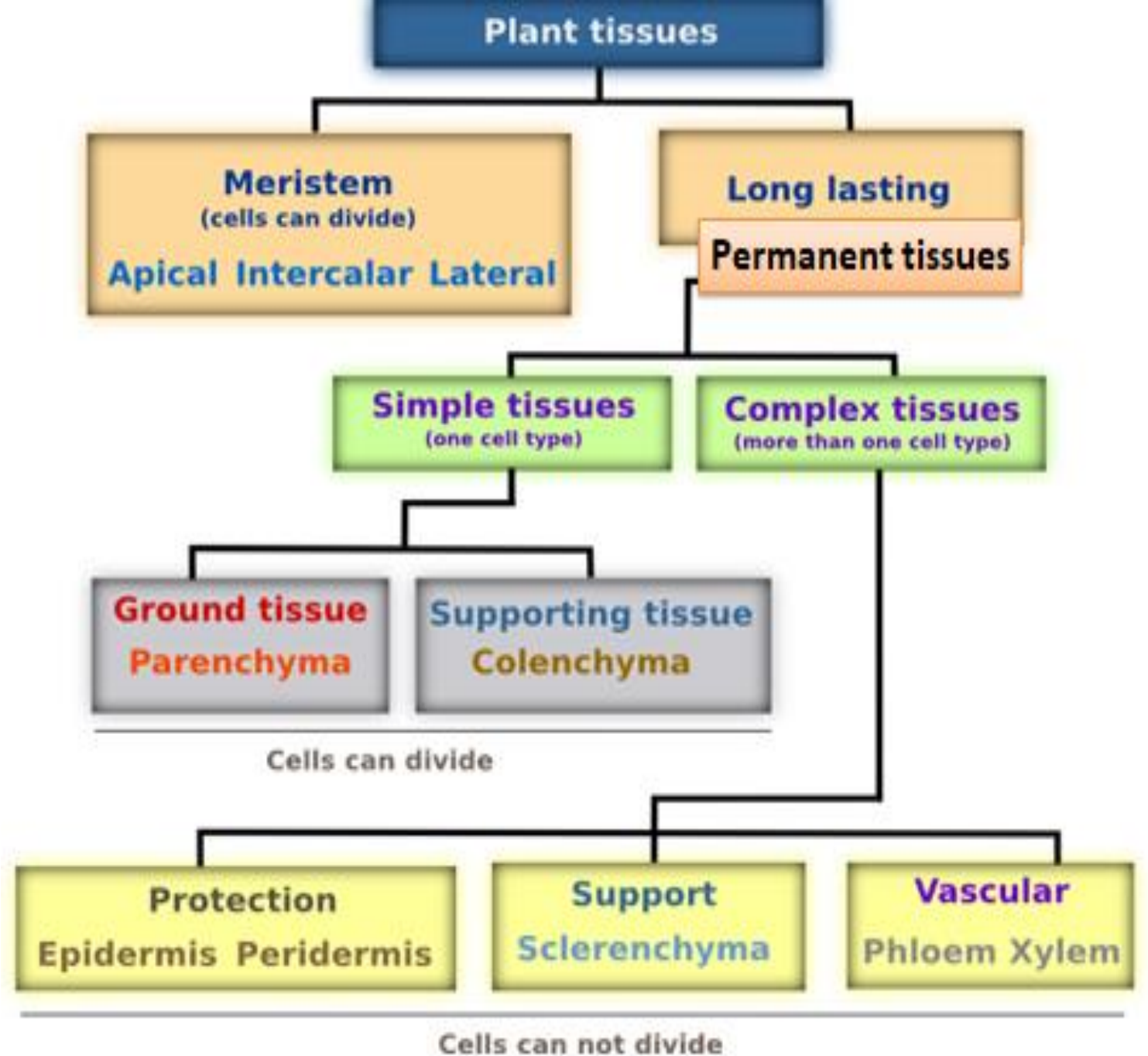
2019-2020

B.255. Plant Histology Lab.

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2nd. week

Plant tissues

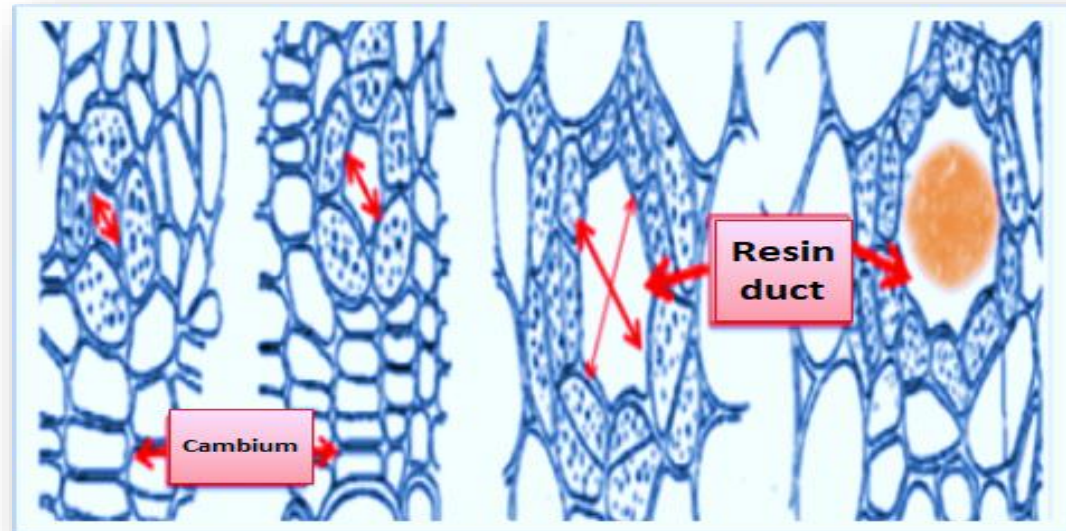


Based on the mode of formation, four types of intercellular spaces are distinguished:

- **1. Schizogenous intercellular spaces,**
- **2. Lysigenous intercellular spaces,**
- **3. Schizo- Lysigenous intercellular spaces,**
- **4. Rhexigenic intercellular spaces.**

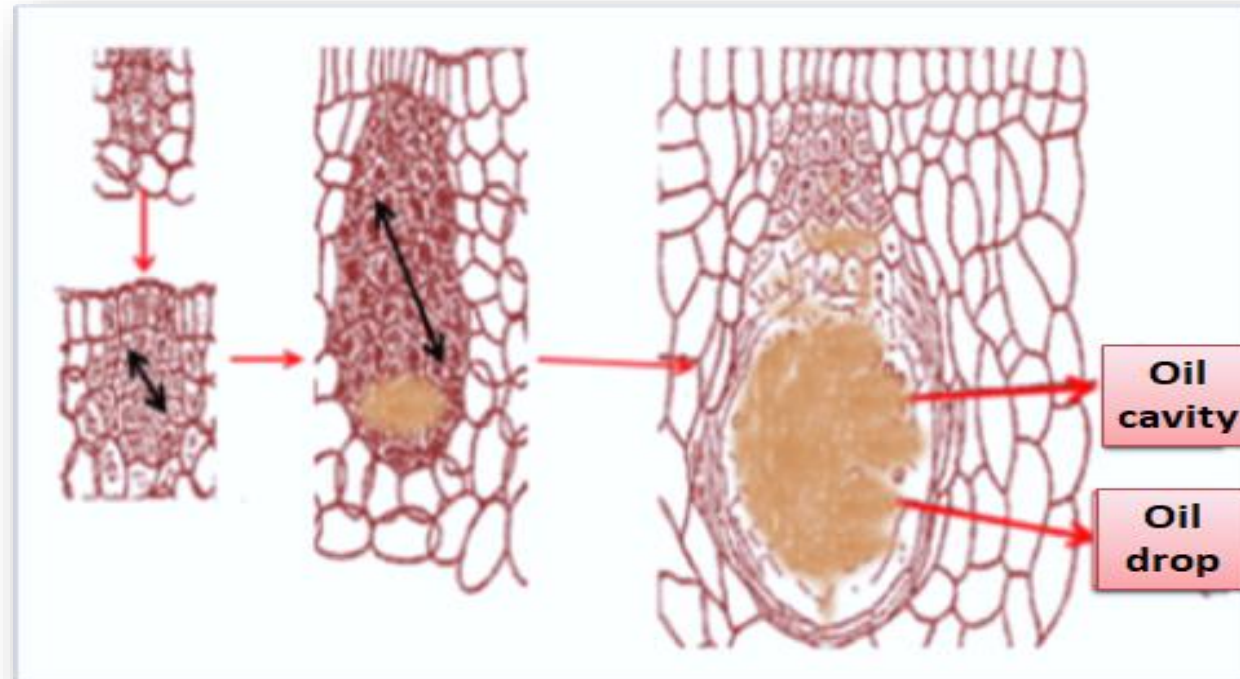
1. Schizogenous intercellular spaces

- The most common intercellular spaces **result from separation of cell walls from each other along more or less extended areas of their contact**. The resin ducts in the Coniferales, and the secretory ducts in the Compositae and Umbelliferae are the typical examples. The ordinary **intercellular spaces** and schizogenous cavities form an intercommunicating system of long intercellular canals which **facilitate diffusion of gases and liquids from one part of the plant body to the other**. The resin ducts in the Coniferales, and the secretory ducts in the Compositae and Umbelliferae are the typical examples. The cells lining the cavity are secretory in nature and release their product in the intercellular canal.



2. Lysigenous intercellular spaces:

This type of intercellular space arises through dissolution of entire cells, which are therefore called lysigenous intercellular spaces. *Citrus* and *Gossypium* are good examples. These cavities of intercellular spaces store up water, gases and essential oils in them. The examples are commonly found in water plants and many monocotyledonous plants. The secretory cavities in Eucalyptus, Citrus and Gossypium are good examples.



3.Schizo- Lysigenous intercellular spaces

Sometimes intercellular spaces of mixed origin develop, which, having been formed schizogenously, enlarge rhexigenically or lysigenously. Schizo- Lysigenous intercellular has features between Schizogenous and Lysigenous intercellular spaces. For example protoxylem cavity (Closed-collateral vascular bundle).



4. Rhexigenic intercellular spaces

- Rhexigenic intercellular spaces, result from the rupture, or rhexis, and subsequent atrophy of cells. The large cavities in the internodes of stems in many Gramineae and Labiatae are formed by cellular rhexis. For example: *Triticum* (Wheat)

