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*Shaping Lives...
Empowering Communities...*

Scope of Phytotomy

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Definition

- Anatomy also known as Phytotomy or phyto anatomy
- Plant anatomy is concerned with the study internal structure of various parts of plants
- **Nehemiah Grew** is known as 'Father of plant anatomy
- **K.A. Chaudhary** is known as 'Father of Indian plant anatomy



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Applications of Plant Anatomy : **Seven applications..**

- Proper authentication of Crude drug material
- Enables to Detect Adulterants in Crude Drugs
- Enables to Identify Fragmentary Plant Materials
- Enables to Identify Wood
- Enables to Identify Archaeological Plant Remains
- Provides Evidences in Forensic Investigation
- Provides Characters of Taxonomic Significance



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- Structural and functional organization
- Plant metabolic activity
- Plant development and storage of food
- Wood structure and industrial activity
- Plant protection against pests
- Discovering new plant species
- To understand the conduction path of water and mineral nutrients



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The objectives of plant anatomy

- To learn more about how organisms are put together and how they work
- To obtain a deeper knowledge of how to care for plants
- How to address plant diseases and stressful condition ?
- To understand the function of structures.
- **plant anatomy** focuses on the structural or body parts and systems that make up a **plant**



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Field of Plant Anatomy

- The structure of plants as a whole
- The dissection of plants to learn about their component parts
- The components of tissue and a single cell
- **Histology** is a Branch of Plant anatomy
- The study of the tissues of plants is called histology. It is performed by examining a thin slice (section) of tissue under a light microscope or electron microscope.
- It is the study of the organization of tissues.



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Importance of Anatomical Characters in Taxonomy

- Identification of Plants
- Establishing Genetic Relationship
- Solving Taxonomic Disputes



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Anatomical Characters Used in Plant Systematics

- Trichomes
- Stomata and epidermal features
- Leaf anatomy
- Nodal anatomy
- Stem
- Sclereids and Fibers
- Cambium
- Wood anatomy



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Thank You