

# FUNDAMENTAL COMPONENTS OF TAXONOMY

1 CLASSIFICATION

2 IDENTIFICATION

3 DESCRIPTION

4 NOMENCLATURE

5 PHYLLOGENY

# CLASSIFICATION

- It is an arrangement of plants in a series of groups or sub groups according to particular system of classification (i.e. artificial, natural or phylogenetic) and in accordance with the rules of nomenclature. The basic unit of classification is species. Species having similar characters are placed in a genus. Similar genera are grouped into a family, similar families in an order, similar order in a class, similar class in a division. Therefore, classification is the grouping of those plants which show more similarities than differences.
- Classification also includes assignment of new position and rank to new taxon (i.e. a taxonomic group assigned to any rank e.g. a particular class, family or genus: pl).

# IDENTIFICATION

- It is the determination or recognition of an unknown specimen (or plant) comparing its characters with already identified plants given in the keys for identification. The given specimen may or may not be identified by its comparison with already identified plants.

- **DESCRIPTION** :It is an orderly recording or listing of maximum possible characteristic features of a taxon, individual plant or plant part in a semi-technical language. The characters, on the basis of which a taxon is identified, are called diagnostic characters. These characters are used for diagnosis of a taxon. The recording of description is done in a set pattern(i.e. habitat, habit, roots, stem, leaves, inflorescence, flower, sepals, petals, stamens, carpels, fruit seeds etc.).
- **NOMENCLATURE** : It deals with the determination of a scientific name for a taxon based on rules and regulations of International Code of Botanical Nomenclature.
- **PHYLOGENY** :It is evolutionary and genealogical history of a group of organisms usually represented by its hypothesised ancestor-descendant relations. This relationship is depicted through a phylogram.

# AIMS AND OBJECTIVES OF TAXONOMY

- Plant taxonomy (i.e. systematic botany).
- 1. One of the most important aim of systematic botany is to prepare a scheme of classification of plants that provides phonetic, natural or phylogenetic relationships among them.
- 2. Plant taxonomy aims to establish proper method of identification, nomenclature and description of plant taxa. The important aids of plant identification and nomenclature are: