



COMPILED AND CIRCULATED BY PROF. NANDITA BHAKAT, ASSISTANT PROFESSOR,
DEPARTMENT OF BOTANY, NARAJOLE RAJ COLLEGE

ENGLER AND PRANTL'S SYSTEM OF CLASSIFICATION

PROF. NANDITA BHAKAT
ASSISTANT PROFESSOR
DEPARTMENT OF BOTANY
NARAJOLE RAJ COLLEGE





CLASSIFICATION

Classification is the arrangement that is placing of a plant or group of plants in a series of groups or categories according to a particular system and in accordance with the rules of nomenclature.

➤ DIFFERENT SYSTEMS OF PLANT CLASSIFICATION :

➤ Artificial system:

In an artificial system of classification, organisms are classified into different taxa merely on the basis of one or a few superficial characters only.

➤ Natural system:

A natural classification is that which is based on the utilization of all facts and figures available in nature.

➤ Phylogenetic system:

— This type of classification classifies organisms according to their evolutionary sequence. Phylogeny deals with ancestral history deduced from development ; it may also be defined as “evolutionary” Pedigree or genealogical history. So in phylogenetic system of classification natural affinities and relationship of organisms are taken into consideration in their classification in addition to several constant morphological characters.



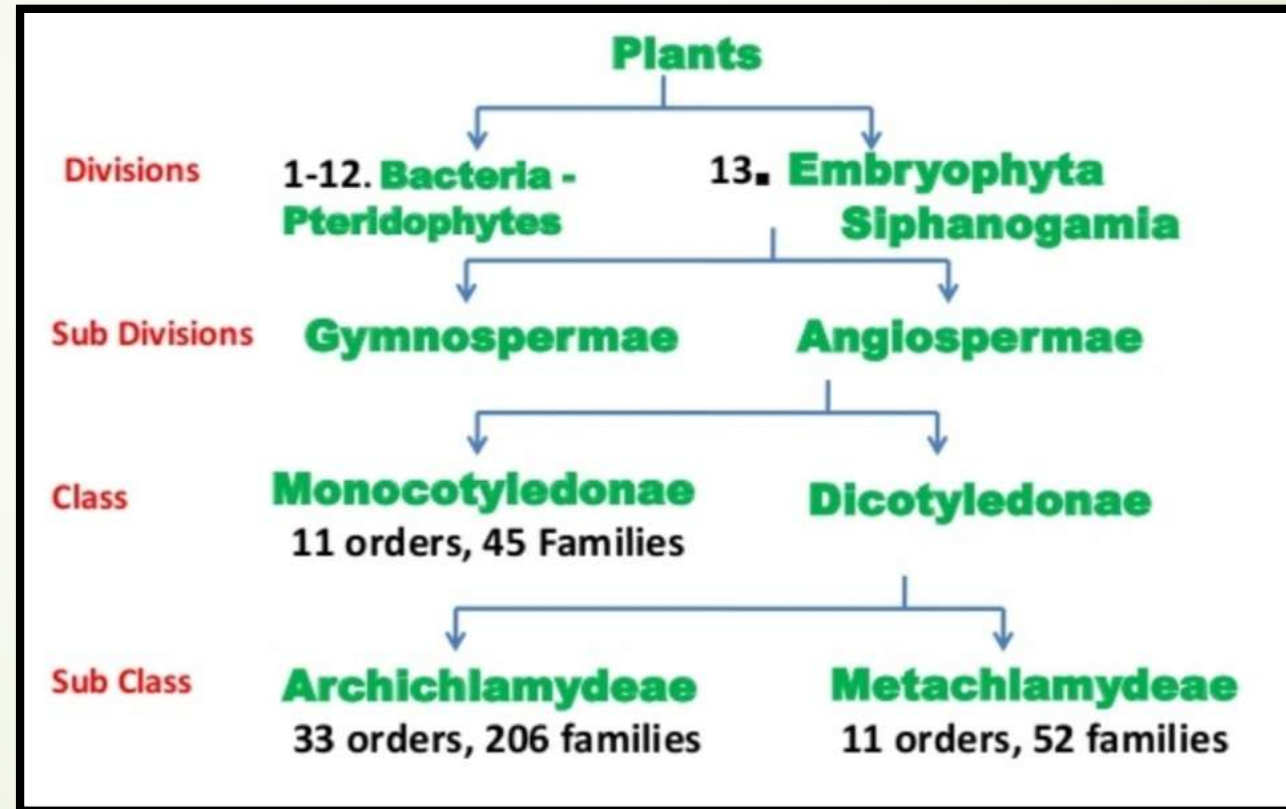
ENGLER AND PRANTL'S SYSTEM OF CLASSIFICATION:

Adolph Engler (1844-1930) in collaboration with Karl A E Prantl(1849-1893) published a phylogenetic system of classification in their 20 volume monographic work, titled *Die Natürlichen pflanzenfamilien*. This volume accounted for all the genera of algae, fungi, bryophytes, pteridophytes and higher vascular plants (spermatophytes). Engler looked upon the monocots as a primitive group and put them first in the list. So this arrangements starts with monocot families.





OUTLINE OF ENGLER AND PRANTL'S SYSTEM OF CLASSIFICATION





ANGIOSPERMAE

➤ Monocotyledonae : (11 orders, 45 families)

Order starts with **pandanales** and ends with **miocrospermae** and family starts with **typhaceae** and ends with **Orchidaceae**.

➤ Archichlamydeae : (33 orders, 206 families)

Order starts with **verticillatae** and ends with **umbelliflorae** and family starts with **casuarinaceae** and ends with **cornaceae**.

➤ Metachlamydeae : (11 orders, 52 families)

Order starts with **diapensiales** and ends with **cam-panulatae** and family starts with **diapensiaceae** and ends with **compositae**.



MERITS

1. It is a phylogenetic system. Plant groups are arranged mostly according to evolutionary affinities (primitive groups followed by advanced).
2. The system provides modern taxonomic keys for the identification of each group of plants.
3. Gymnosperms treated as a separate group. It's position before Angiosperms is very accurate and is in perfect accordance to the modern concept of evolution.
4. The position of orchidaceae at the end of Monocots is also very accurate as its the most evolved family of Monocots.
5. Anatomical data were taken into consideration in this system of classification for the first time.



DEMERITS

1. Monocots considered primitive to dicots which is not correct according to modern evolutionary evidence.
2. The concept of primitive flower (unisexual, achlamydeous) is against the modern concept of evolution.
3. Combining aseptalous families to form archichlamydeae is not desirable as it has resulted in the formation of a very large group 33 orders and 206 families.
4. The system is not of much practical utility.



COMPILED AND CIRCULATED BY PROF. NANDITA BHAKAT, ASSISTANT PROFESSOR,
DEPARTMENT OF BOTANY, NARAJOLE RAJ COLLEGE

THANK YOU