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2 Natural System of Classification

It is also known as phenetic system of classification. The natural system of classification is based on natural affinities among the organisms. It considers both external and internal features like structure, anatomy, embryology and phytochemistry.

Advantages

Advantages of natural system are given below

- (i) Only related organisms are kept in a group.
- (ii) Unrelated organisms are kept in separate groups.
- (iii) It shows natural relationships among the organisms.
- (iv) It shows possible origin of different taxa.

Disadvantages

Disadvantages of natural system are given below

- (i) There is more emphasis given on natural character.
- (ii) In this system several related families are separated and unrelated families are put together.
- (iii) Evolutionary basis is neglected.

3. Phylogenetic System of Classification

The phylogenetic system of classification indicates the evolutionary as well as genetic relationships among organisms. This system is based on fossil records of biochemical, anatomical, morphological, physiological, embryological and genetical.

The system was initiated by Engler and Prantl (1887-1899) in Die Naturalischen Pflanzfamilien. In phylogenetic system, flowering plants are placed in ascending series related to complexity of floral morphology. The phylogenetic system of classification are mainly the rearrangement of taxonomic characters in addition to the phylogenetic information.

Advantages

Advantages of phylogenetic system are given below

- (i) Families and order in this system are of small size.
- (ii) This system is in conformation with the modern views of phylogeny.
- (iii) They use information from various sources to solve problems of classification. Such informations become more important in the absence of supporting fossil evidences.

Disadvantages

Disadvantages of phylogenetic system are given below

- (i) This is not helpful in plant identification.
- (ii) The classification is outdated as the habit is used as main basis of classification.