Chapter 1

INTRODUCTION TO PLANT SYSTEMATICS

Syllabus:
B.Sc: Introduction to plant systematics its aims, objectives and importance
B.S: Introduction to Plant Systematics: aims, objectives and importance.

INTRODUCTION TO PLANT SYSTEMATICS

The study of kinds and diversity of organisms and the evolutionary relationships among them is called systematics or taxonomy. The study of systematics gives the order and relationships among the organisms. The order and relationship arise from evolutionary processes. These studies also give description of the new species. It organizes the animals into groups (taxa). This grouping is based on degree of evolutionary relatedness. Some biologists differentiate between systematics and taxonomy. They believe:

(a) Taxonomy: The original description of species is called taxonomy.

(b) Systematics: The assignment of species into evolutionary groups is called systematics.

Taxonomy or systematics is based on two aspects:

(a) Morphology: The modern classification system has been given by Carolus Linnaeus. This system of classification is still used today. Carlous Linnaeus believed that different species could be grouped into same categories on the basis of similarities between them. The group of animal with similar characteristics forms a **taxon.** Carolus Linnaeus recognized five taxa. Modern taxonomists use eight taxa including earlier five taxa. The taxa are arranged hierarchically. These taxa are: Kingdom, Phylum, Class, Order, Family, Genus, and Species.

(b) Evolution: Carolus Linnaeus did not accept evolution. But still many of his groupings show evolutionary relationships. Morphological similarities between two animals have a genetic basis. It gives rise common evolutionary history. Thus the animals are grouped according to similar characteristics. The members of the same taxonomic group are more closely related to each other than to members of different taxa.

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