

Chemical classification

Crude drugs are classified according to their chemical constituent. The plants contain various constituents in them like alkaloid, glycosides, tannins, carbohydrates, saponin etc.

Merits-It is popular approach for phytochemical studies

Demerits-Ambiguities arise when particular drugs possess a number of compounds belonging to different groups of compounds.

Eg.

Alkaloids-Cinchona, Datura, Vinca

Glycosides-Senna, Aloe

Carbohydrates and its derivatives-Acacia, Starch, Isabgol

Volatile oil-Clove, Coriander, Fennel

Tannins-Catechu, Tea

Lipids-Beesax

Chemo taxonomical classification

This system of classification relies on the chemical similarity of a taxon, *i.e.* it is based on the existence of relationship between constituents in various plants. There are certain types of chemical constituents that characterize certain classes of plants. For example, tropanealkaloids generally occur among the members of solanaceae, thereby, serving as a chemotaxonomic marker.

It is the latest system of classification that gives more scope for understanding the relationship between chemical constituents, their biosynthesis and their possible action.

Serotaxonomical classification

The serotaxonomy can be explained as the study about the application or the utility of serology in solving the taxonomical problems. Antibodies are highly specific protein molecule produced by plasma cells in the immune system. Protein are carriers of the taxonomical information and commonly used as antigen in serotaxonomy.

It express the similarities and the dissimilarities among different taxa, and these data are helpful in taxonomy. It determines the degree of similarity between species, genera, family, etc., by

comparing the reaction with antigens from various plant taxa with antibodies present against a given taxon.

Serology helps in comparing non-morphological characteristics, which helps in the taxonomical data. This technique also helps in the comparison of single proteins from different plant taxa