"Project on Morphological Characters with respect to Flower, Inflorescence and Leaves in Angiosperms"

Contents

Introduction :

In flowering plant (angiosperms), flowers have taken the place of sex organs. Flower and its parts are concerned with sexual reproduction in angiosperms.

What is Inflorescence : Inflorescence is the arrangement & distribution of a flower on peduncle. Flowers borne in cluster constitute inflorescence.

Leaves : Leaves are green photosynthetic organ of the plant. Leaves show great variation according to environmental conditions.

So, according to inflorescence, flowers and leaves we study morphological characters which is our aim of project.

Requirement

1. *Flower with different inflorescence.*

2. *Leaves with different margins.*
3. *Individual flowers.*

Theory

Various morphological characters among the flowering plants are of evolutionary as well as taxonomist significance. Earlier systems of classification were solely based on floral characters and their evolutionary aspects were taken into consideration.

As a student of Biology I must have some knowledge of various morphological characters, their evolutionary and taxonomist significance.

Flower : Flower is a modified shoot specialized to carry out sexual reproduction of the plant.

Parts of a Flower : A flower consist of four floral parts in which two are essential & two are accessory.

Accessory Parts : Accessory part of a flower are sepals and petals spells or claire's. It is outermost, green whorl which protect the flower.

Petals or corolla : It is second part of a flower inside sepals. It is showy attracting. It attraits the insect for pollination.

Perinath : When sepals and petals are not differentiate then they called perinath.

Epiclaire : The structure present before calyx is called epicalyse. It is green in colour.

Essential Parts :

(i) Androecium's or stamens : It is male reproductive unit consist of filament & author.

(ii) Gynoecium's or Carpel : It is female reproductive unit consist of ovary, style and stigma.

Inflorescence : Inflorescence is the arrangement & distribution of flower on a peduncle.

Kinds of Inflorescence : Depending upon the mode of branching of peduncle, the inflorescences are of four main type :

(i) Racemose (ii) Cymose (iii) Mixed (iv) Specialized.

(i) Racemose : The peduncle shows indefinite growth producing flowers laterally in acropetal order i.e. youngest near the apex and older near the base.

(ii) Corymbs : In this type of inflorescence pedicle shows unequal length. Pedicle of lower older flower are longer than those of the upper, younger ones. e.g. Chandni.

(iii) Corymhose-raceme : It is blend of corymbs and raceme. The upper part of the inflorescence is a corymbs and lower part is a raceme. Example : Brassica (Mustard)

(iv) Umbel : The flower bearing part of the peduncle is condensed to a point and reach to equal height. e.g. Dhania.

(v) Spike : It is much like a typical raceme but the flower are sessile. e.g. Achyranthes (Puthkanda).

(vi) Capitulum's : It is also a modification of spike. In it peduncle is compressed to a flat or convey disc. e.g. sunflower.

Cymose Inflorescence: In cymose definite growth is shown by peduncle and flower are arranged in centrifugal i.e. youngest flowers are present near the periphery and older are located in the centre.

Types :

i) **Honochasial Cyme:** In this types, after the formation of a single terminal flower, the further growth of the peduncle is ensured by a single lateral branch. This lateral branch behaves in the manner the main axis.

ii) **Dichasial cyme :-** After the formation of single terminal flower the further growth of the inflorescence axic carried out by two, opposite lateral branches at the mode. e.g. Jasmine.

iii) **Polychaisial Cyme :** After producing a single terminal flower, the further growth of peduncle types place by more than two lateral branches at anode. e.g. Ak (Calotropis).

Mixed Inflorescence : In mixed inflorescence the mode of arrangement of flowers and the branching of axis are of two or more distinct types.

Special Inflorescence :- The receptacle (modified peduncle) in fleshy and flask : shaped with narrow opening guarded by small scales. It contents small, sessile,

unisexual flowers in cymose groups the staminate florets are borne near the opening whereas pistillate florets are borne away from it toward the base. e.g. Genus fills.

Vertiallasters : The peduncle bears cluster of flowers developed in the axils of opposite bracts. Example : Tulsi.

Leaves : The leaves are green, flattened, lateral born at the modes of the stemes, they are the chief photosynthetic organs of the plant.

Phyllotaxy : It is the mode of arrangement or distribution of leaves on the stem and its branches in such a way that they receive maximum sunlight to perform photo-synthesis. Phyllotaxy is of three main types:

i) **Alternate :** In alternate phyllotaxy a single leaf is borne at a node. for example : Rosa, Peepal.

ii) **Opposite :** In opposite two leaves are borne opposite to each other at a node. e.g. Tulsi.

iii) **Whorled :** In whorled phyllotaxy more than two leaves are borne at a node e.g. Kaner

Conclusions

Plants of angiosperm show variation and diversity in terms of flowers inflorescence and leaves. Diversity lead to evolution. Diversity in the force for evolution.

Bibliography

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