MALVACEAE

Class : Dicotyledonae
Sub class : Polypetalae

Series : Thalamiflorae
Order : Malvales
Family : Malvaceae

This family is represented by about 82 genera and 1500 species, which are world-wide in distribution. However, they are absent in very cold regions.

Important Plants

1. Abutilon indicum (Tutturbenda)
2. Abelmoschus esculentus (Lady's finger)
3. Althaea rosea (Hollyhock)
4. Gossypium herbaceum (Cotton)
5. Hibiscus rosa-sinensis (China-rose (or) Shoe-flower)
6. Hibiscus micranthus (Nitya malle)
7. Hibiscus cannabinus (Gongura) (Madras hemp)
8. Malvaviscus arboreus (Mirapa Mandara)
9. Thespesia populnea (Ganga ravi)
10. Sida cordifolia (Bala)

Vegetative Characters

Plants are mesophytes.

Members of this family are mostly herbs or shrubs. A few are trees.
Vegetative parts of the plant body are covered by stellate hairs.
Plant tissue contains mucilagenous cavities.
Normal tap root system without any modifications.

It is usually aerial and erect but decumbent in some plants, herbaceous or woody, cylindrical and branched.
Cauline, alternate, stipulate, petiolate and dorsiventral, mosdy simple (Hibiscus) or palmately lobed or multifoliate, reticulate venation.

Inflorescence:
Solitary cyme, axillary (Hibiscus) or terminal (Gossypium). Rarely simple raceme or panicle

Flower:
Flowers are usually large and showy. They are pedicellate, generally ebracteate and bracteolate.
The number of bracteoles ranges from 3 - 1 0 and they form a whorl outside the calyx which is called 'Epicalyx'.

The presence of epicalyx is the characterstic feature of this family.

Flowers are complete, actinomorphic, bisexual, pentamerous, hypogynous, and heterochlamydeous.

Epicalyx is absent in Sida and abutilon

Calyx:

It consists of five sepals, gamosepalous, valvate.

Corolla:

It has five petals. Polypetalous and twisted. Petals are fused at the base with the staminal tube.

Androecium:

Stamens are numerous, epipetalous and monadelphous. (Hibiscus).

The filaments fuse to form a staminal tube around the style.

Anthers are monothecous, reniform, dorsifixed, extrorse and the dehiscence is transverse. Pollen grains are large and spherical with spinous exlne.

Gynoecium:

Number of carpels ranges from three to many (5 in Hibiscus) and syncarpous.

Ovary is superior. Number of locules in the ovary is equal to the number of carpels.

Each locule shows one to many ovules on axile placehtation.

The style is simple and terminal. Stigmas are as many as carpels (Hibiscus) or twice the number of carpels and capitate.

The style passes through the staminal tube.

Floral Formula:

Ebr, Epik $_{3}$., $_{o}$,0, J ,$K_{(5)}$,C_{5}, $A_{(a)}$,$G_{(3_0)}$

Pollination :

Self pollination is prevented due to protandry. Most of the members are entomophilous (pollination by insects).

Fruit:

It is a loculicidal capsule (Gossypium, Abelmoschus) orschizocarp (Abutilon, Sida) or a berry (Malvaviscus)

Seed:

It is dicotyledonous. Endosperm is scanty or absent. Hairy out growths develop from the seed coat (Gossypium)

Economic Importance:

1. Different species of Gossypium give cotton fibres which are used for making cloth and beds. Cotton seeds yield oil which is used for cooking and soap making. The oil cake is used as cattle feed.
2. Hibiscus cannabinus (gongura) is useful as a leafy vegetable and also yields fibre.
3. Plants like Hibiscus rosa-sinensis, H.micranthus, Althea rosea and Malvaviscus arboreus are grown as ornamental plants.
4. Fruits of Abelmoschus esculentus (Lady's finger) are used as vegetables.
5. Abutilon and Sida are used as medicinal plants.