

Topic: Verbanaceae

B.Sc. Botany Hons. II

Paper: III Group: B

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B. Floral characters:

Inflorescence:

Cyme or racemose spikes often with an involucre of coloured bracts; cymose is usually dichasial (Clerodendron).

Flower:

Zygomorphic, hermaphrodite, rarely unisexual by abortion (Aegiphila), hypogynous, pentamerous or tetramerous (Physopsis), rarely actinomorphic (Physopsis) complete.

Calyx:

Sepals 5 lobed, gamosepalous, persistent, bell shaped or tubular, rarely 4 to 8 valvate, inferior.

Corolla:

Petals 5 or 4 lobed, gamopetalous petals unequal, tubular or cylindrical, bi-lipped, imbricate, inferior.

Androecium:

Stamens 4, didynamous, fifth stamen may be staminode or absent rarely 5 present (Tectona), epipetalous, bithecous, filaments free, dorsifixed, introrse, dehiscence longitudinal.

Gynoecium:

Bicarpellary, syncarpous, rarely carpels 4 (Duranta) or 5 (Geunisia) superior in early stage bilocular but soon divided into 4 or many loculed by false septa, axile placentation or free central in Avicennia;

style terminal, stigma entire or bilobed.

Fruit:

Drupe rarely schizocarpic capsule enclosed by persistent calyx.

Seed:

Non-endospermic with a straight embryo.

Pollination:

Entomophilous.

Floral formula:



Some Important plants of the family:

1. *Avicennia alba* (White mangrove):

A tree of Sunderban with long pneumatophore and viviparous seeds.

2. *Callicarpa arborea* (H. Ghiwala):

A tree with hard, light coloured wood.

4. *Duranta repens*:

An erect shrubby hedge plant.

5. *Lantana indica*:

Lantana indica Weed.

6. *Tectona grandis* (H. Sagwan):

A deciduous tree yields timber teak for furniture.

7. *Verbana officinalis*:

Stem quadrangular, common on waste places.

8. *Vitex negundo*:

Vitex negundo (H. Indrani).

Economic Importance of Verbenaceae:

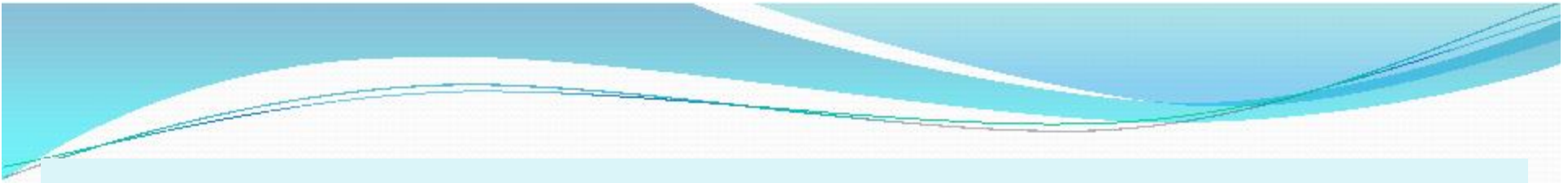
The family is of fairly great economic importance.

1. Timber:

The wood of *Tectona grandis* (Teak, H. Sagwan) is extremely hard and lasting. The wood is largely used in manufacturing of ships and good quality furniture. Teak is grown in forests of Burma, Madhya Pradesh and Assam. The wood of *Gmelina arborea* is used in making drums, sitars and other musical instruments.

2. Medicinal:

The roots of *Clerodendron* are used in asthma and cough. The decoction of leaves of *Lantana camara* is given in tetanus and



rheumatism. The leaf's juice of *Gmelina arborea* is used in gonorrhoea, cough and ulcers.

3. Oils:

Lippia alba produces a valuable oil.

4. Tanning:

The bark of *Avicennia* is used in tanning.

5. Febrifuge:

The leaves of *Vitex negundo* serve as febrifuge. The branches of this plant are kept over stored grains to keep off insects.

6. Ornamental: *Lantana*, *Verbena officinalis*, *Duranta*.