

Myrtaceae- family

M,Sc. II Sem. Unit III

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Systematic position of Myrtaceae Family-

Kingdom- *Phanerogamia* (flowering plants)

Class- *Dicotyledonae* (two cotyledons in the seed)

Sub class- *Polypetalae* (Petals are free)

Series- *Caliciflorae* (cup shaped thalamus)

Order- *Myrtales* (flower regular, ovary inferior, syncarpous , axile placentation)

Family- *Myrtaceae*

Diagnostic characters of the family-

Medium sized trees or shrubs, leaves are simple, exstipulate, gland dotted, calyx 4-5 ,corolla 4-5, free or united in cup, stamens are indefinite in number, carpels 2- 8 .

Family description

Distribution- **Myrtaceae**, the myrtle family containing about 150 genera and 3,300 species that are widely distributed in the tropics. Several species are cultivated in the garden.

Vegetative characters -

Habit - Medium sized trees or shrubs, *Eucalyptus* =up to 200m

Root - Tap root, branched

Stem – Erect, woody, branched

Leaf - Simple, opposite or alternate in *Eucalyptus*, exstipulate, gland dotted, margin entire, evergreen.

Reproductive characters

Inflorescence - Generally cymose, branched cymose in *Eugenia jambolana*, axillary in *Psidium*, umbell in *Eucalyptus*.

Flower - Regular, bisexual, epigynous.

Calyx - Calyx lobes 4 (*Eugenia jambolana*) or 5 present on the rim of axis, free, quincuncial in *Psidium* or connate into a calyptra, sometimes thrown off as a lid

Corrolla - Petals 4 or 5, free, imbricate, superior or connate into a calyptra, sometimes thrown off as a lid,

Androecium - Stamens usually numerous in 1 to several whorls; Filaments distinct or connate into 5 bundles, scarlet red and brush e.g. *Callistemon*, anthers 2-celled, dorsifixed or basifixed.

Gynoecium - Ovary inferior, carpels 2 (*Eugenia jambolana*) to 5- indefinite. syncarpous, fused with receptacle, placentation- axile, ovules 1 to several per locule. Style simple and stigma capitate.

Fruit – Capsule (*Callistemon* , *Eucalyptus*), a berry (*Psidium*) or drupe (*Eugenia*), 1- to many-seeded, usually with persistent calyx.

1. *Callistemon Lanceolatus* DC

Commonly called Bottle brush., Small evergreen Tree with slender, drooping branches.

Leaf: Simple, Petiolate, Exstipulate, Lanceolate, Unicostate reticulate venation, Gland dotted.

Inflorescence: Pendent ,spike.

Flower: Sessile, Bracteate, Bisexual, Actinomorphic, Epigynous, Pentamerous.

Calyx: 5 Sepals, small, green, Gamosepalous, adnate to ovary wall, imbricate.

Corolla: 5 Petals, Polypetalous, Small, Quincuncial aestivation.

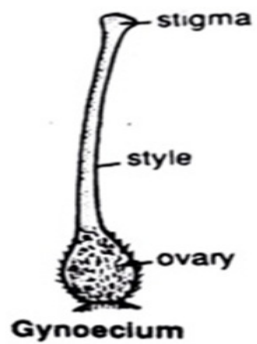
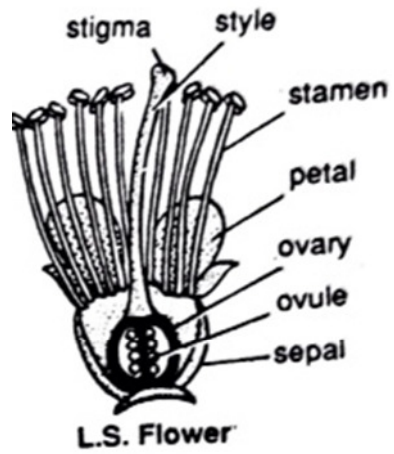
Androecium: ∞ Stamens, Polyandrous, Filaments long, red, Anthers dorsifixed. superior.

Gynoecium: 3 Carpels, Syncarpous, Ovary inferior, axile placentation, Style long curved, Stigma flat.

Fruit: Capsule



Callistemon lanceolata



Floral Formula: $\text{Br}, \oplus, \overset{\nearrow}{\underset{\nwarrow}{\text{O}}}, K_{(5)}, C_5, A_{(\infty)}, G_{\overline{(3-4)}}$

2. Eucalyptus Citriodora Hook.

A Tall evergreen tree with smooth shining stem which is Woody, Branched, Cylindrical and Solid.

Leaf: Petiolate, Exstipulate, Lanceolate, Gland dotted, Unicostate reticulate.

Inflorescence: Umbellate Cymose.

Flower: Bracteate, Pedicellate, Actinomorphic, Bisexual, Epigynous, Pentamerous,

Calyx: 4-5 Sepals, Gamosepalous, Totally fused. Forms a cap with petals called Calyptra,

Corolla: 4-5 Petals, Gamopetalous, Totally fused forming a cap called calyptra. It falls off on the opening of flower.

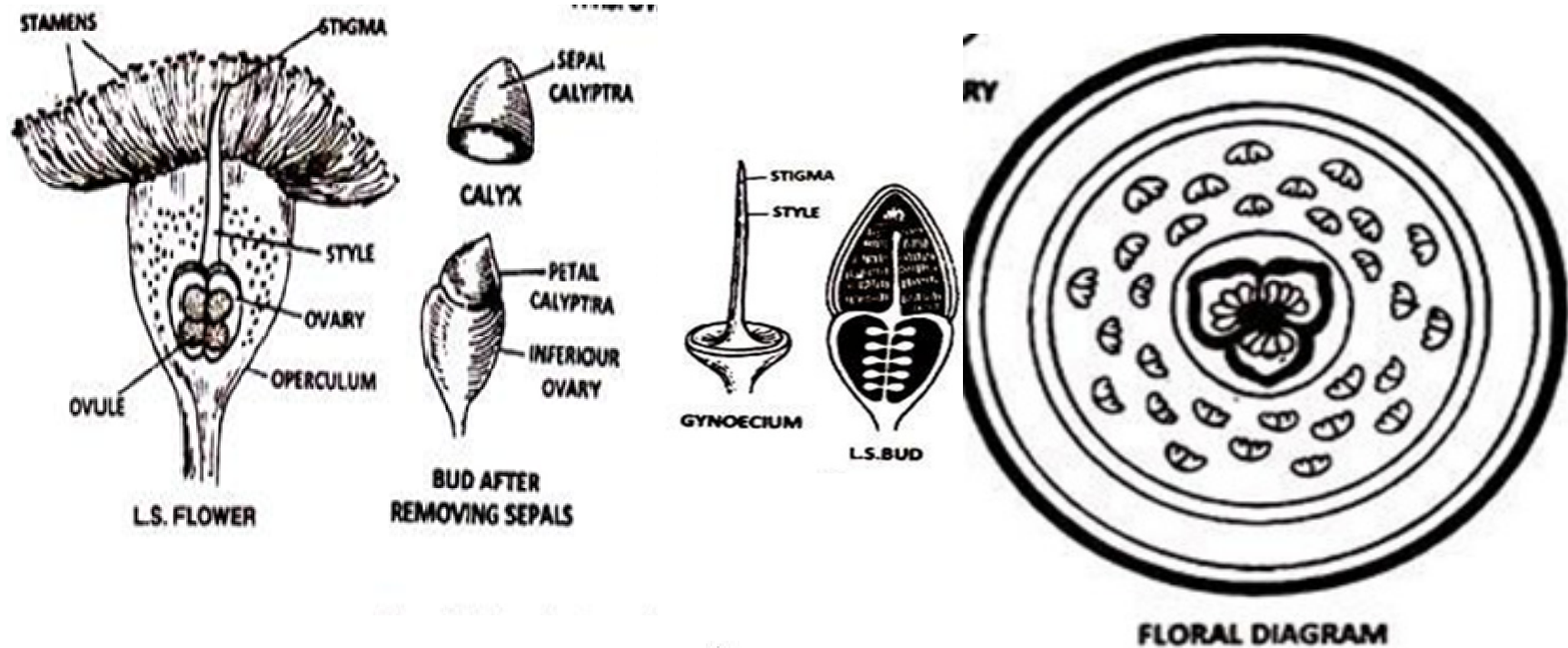
Androecium: ∞ Stamen, Polyandrous attached to the rim of calyx tube. Folded inwards in the bud, Anthers ditheous, Introrse.

Gynoecium: Tricarpellary, Syncarpous, Inferior, Trilocular, Ovary adnate to hypanthium, ovules numerous. Axile placentation, Style one long and persistent, Stigma minute.

Fruit: Capsule. Seeds numerous.



Eucalyptus Citriodora



Floral Formula: $\text{Br. } \oplus, \text{ } \frac{\text{♂}}{\text{♀}}, K_{(4-5)}, C_{(4-5)}, A_{\infty}, \overline{G_{(3)}}$

Economic Importance

- 1] *Eugenia Jambolana* - Fruit edible, The seed powder is used in diabetes .
- 2] *Eugenia caryophyllata* - cultivated for cloves which are dried unopened flower buds with peduncles which are used as spice & condiment. Oil is medicinally important in toothache.
- 3] *Psidium guajava* - cultivated for edible fruit from which jams jelly etc are prepared.
- 4] *Eucalyptus citridora* - cultivated in garden & planted on road side as tree & rapid growth. Leaves yield eucalyptus oil which is used medicinally in cold & chest diseases & used as antiseptic.
- 5] *Callistemon lanceolatus*—flowers in long drooping spikes, look like bottle brush, red crimson in colour. Cultivated in gardens for its beautiful red flowers.