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Androecium:- It constitutes the third whorl of the flower and is made up of one or more stamens (The stamen is the male reproductive organ in angiosperms). Each stamen consists of filament, anther and connective. Each anther is usually bilobed and each lobe has two chambers the pollen sac. The pollen grains are produced in pollen sac.

Anther attachment to the filament: -

1- Basifixed: - The filament is attached to anther by its base.

2- Dorsifixed: The filament is attached at the centre to the back of the anther.

3- Versatile:- The filament attached to the back of the anther at a point only, thus the anther can swing freely eg. Wheat, grass, maize.



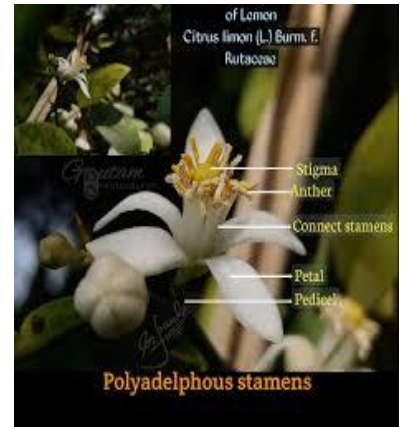
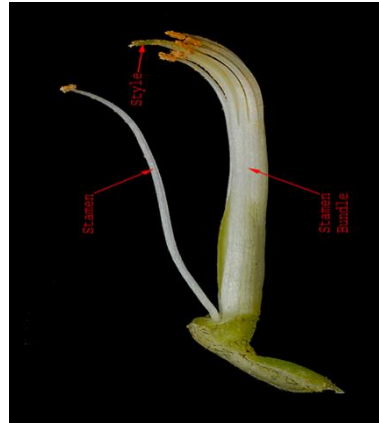
Cohesion or fusion of stamens : When the floral parts of similar whorl are fused, then it is called cohesion. When the stamens of an androecium are free from one another, it is called **polyandrous**.

Adelphous : when stamens are united by their filament only, it is called adelphous. It is of following types –

A- Monoadelphous – When all the filaments are united into a single bundle but anthers are free from each other. In this type of cohesion a tube is formed around the gynoecium which is called **staminal tube** eg. Cotton and Hibiscus.

B- Diadelphous – When the filaments are united in two bundles but the anther remains free eg. Legumes. In these plants from 10 stamens, 9 stamens are arranged in bundle while 1 remains free.

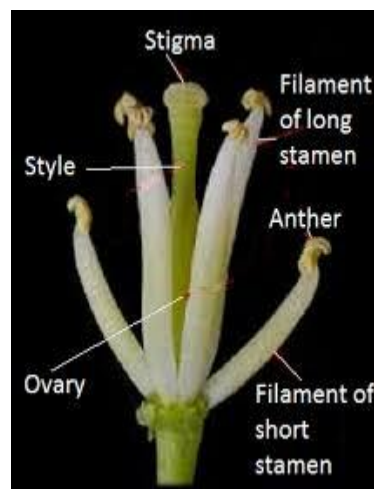
C- Polyadelphous – When filaments are united into more than two bundles. eg. Citrus,



Length of stamens :

A- Didynamous – When four stamens are present, two of them are long and two are short, eg. Labiatae family.

B- Tetradynamous – When there are six stamens and they are arranged in two whorls. In outer whorl, there are two short stamens while in inner whorl, there are four long stamens, eg. Cruciferae family.



Gynoecium (Pistil): It is the fourth and second essential whorl of the flower. It is female part of the flower comprising of the inner whorl of megasporophylls in the form of carpels bearing ovules.

Pistil structure: - It consists of ovary, style and stigma.

A- Ovary: - It is the enlarged basal part, on which lies the elongated tube the style

B- Style: - It connects the ovary to the stigma.

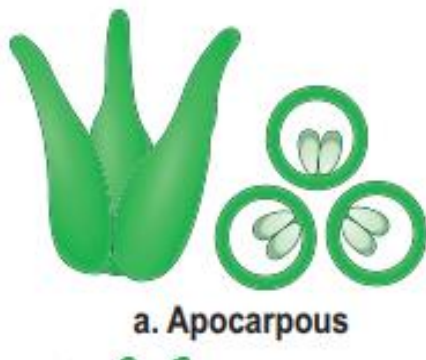
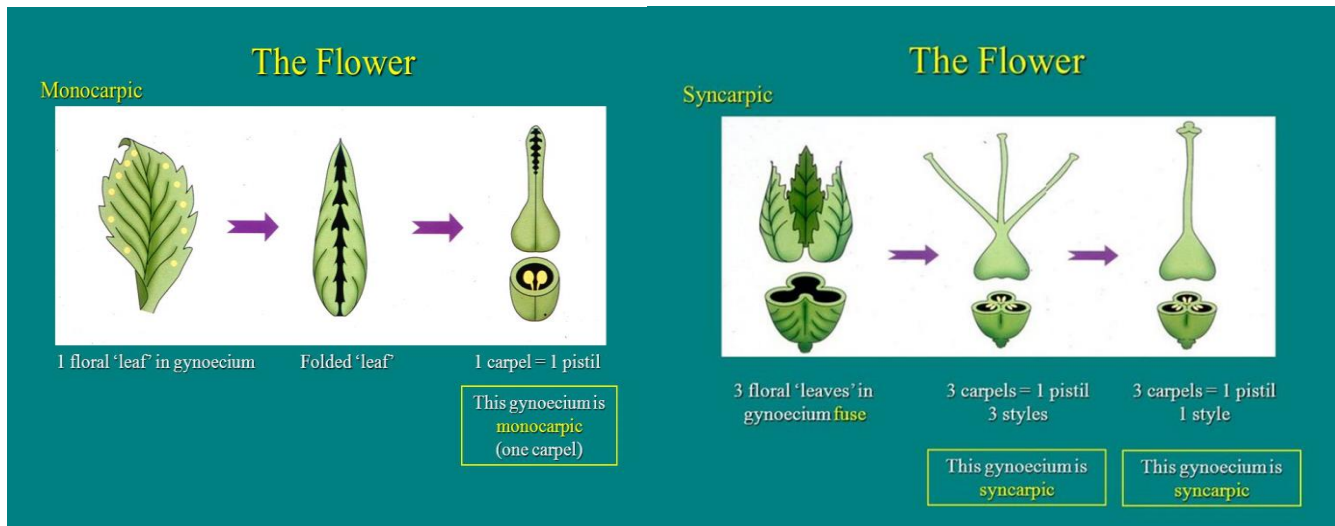
C- The stigma:- It is usually at the tip of the style and is receptive surface for pollen grains.

Types of pistils: -

1- **Simple pistil (Monocarpous):** - It is composed of one carpel.

2- **compound carpel (Syncarpous):** - It is composed more than two carpels.

3- **apocarpous pistil:** - It is composed from multiple and separate pistils.



Classification of flowers according to ovary position

A- Hypogynous flower – When petals, sepals and stamens are situated below the ovary, the flower is called hypogynous and in this condition **ovary** will be **superior**. eg. Mustard.

B- Perigynous flower – When the receptacle grows upwardly and form a cup shaped structure. Gynoecium is situated in the center and other parts of flower are located on the rim of the receptacle almost at the same level. The ovary here is said to be **half inferior** eg. plum, peach, rose.

C- Epigynous Flower– The margin of receptacle grows upward enclosing the ovary completely and getting fused with it, the other parts of flower arises above the ovary, the ovary

is said to be **inferior** and this condition is known as epigynous eg. Guava, Cucumber and ray florets of sun flower.

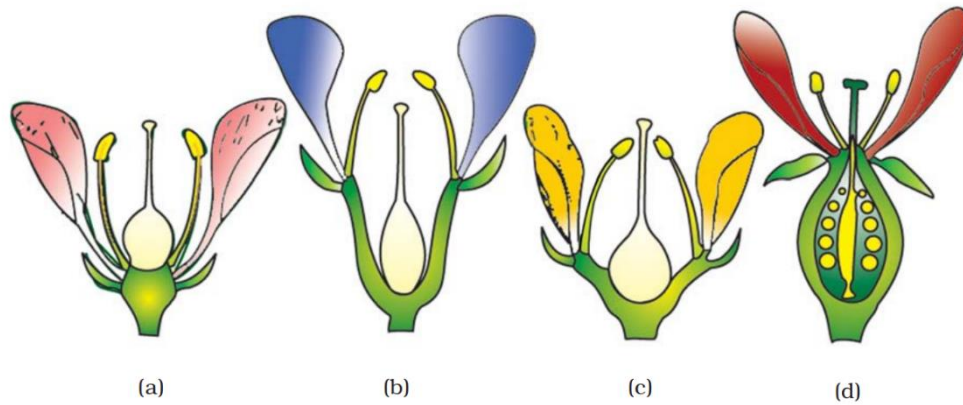


Figure 5.13 Position of floral parts on thalamus : (a) Hypogynous (b) and (c) Perigynous (d) Epigynous