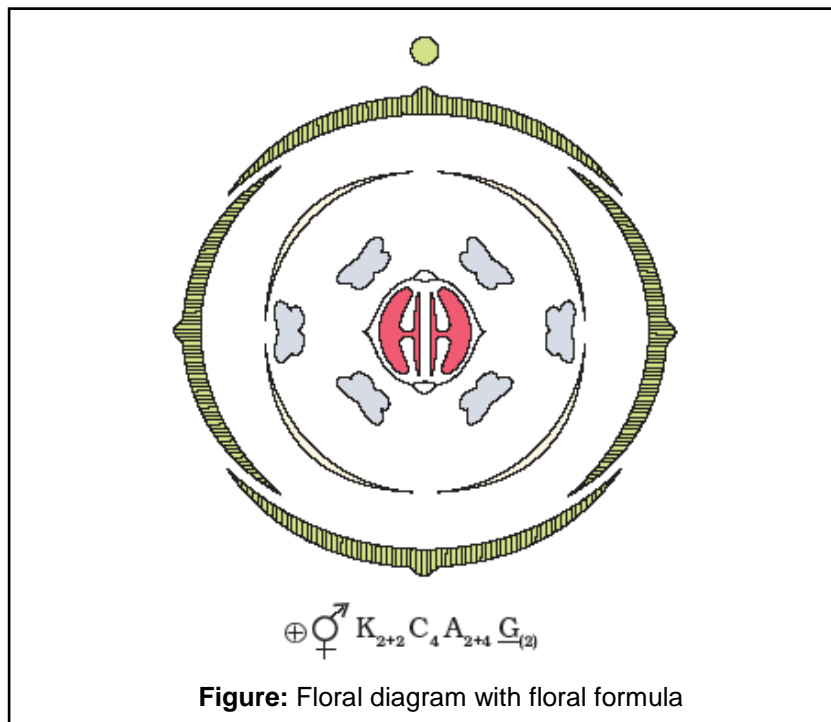


FAMILY CRUCIFERAE (BRASSICACEAE)

Classification:

Kingdom	–	Plantae	
Class	–	Dicotyledonae	
Sub - class	–	Polypetalae	
Order	–	Pariales	Flower - Hypogynous Placentation - Parietal



Distinguishing Features of Cruciferae:-

- (i) The plant organs have **pungent odour**. (This odour is due to presence of **sulphur containing glucosides compound**.)

Myrosin enzyme (present in secretory cells) hydrolyse them into glucose & different isothiocyanates (Various oils)

- (ii) **Inflorescence** - Typical raceme.

Exceptions:-

- (i) ***Iberis amara*** : Candytuft (chandani) has corymb type of inflorescence in which lower flower have much longer pedicels than the upper ones.
- (ii) The compound corymb inflorescence is present in cauliflower.

The common characteristics of flower: -

- (i) **Flower-Ebracteate**

Bisexual or hermaphrodite

Actinomorphic but some times zygomorphic e.g. *Iberis amara*

Flower - Hypogynous and **tetramerous**.

- (ii) **Calyx**-sepals 4, polysepalous, calyx arranged in two whorls 2 outer and 2 inner, imbricate or valvate or quincuncial aestivation.

- (iii) **Corolla**-Petals 4, polypetalous, **valvate aestivation and cruciform/cross form**.

- Each petal in cruciferae is divided into two parts-long **claw** and broader (spreading) lamina-**limb**. i.e. clawed petals.
- (iv) **Androecium** : - **Stamens 6 (2+4)**, arranged in two whorls - in which **two outer stamens are small** (antisealous) **and inner four stamens are long** (antipetalous). This condition is known as **tetradynamous**. **Nectaries** are present at the base of the anthers.
- Polyandrous condition is found.
 - Anthers are dithecous.
 - * Exception :- 2 Stamens in *Coronopus*, 4 stamens in *Lepidium* and *Cardamine* and 16 stamens in *Megacarpa*.
- (v) **Gynoecium** :- Bicarpellary, syncarpous.
- **The ovary is unilocular in the beginning but it become bilocular later on the due to the formation of a false septum (replum)**. Replum is developed from the thalamus in place of wall of the ovary.
 - **Placentation is parietal.**
 - **Ovules are campylotropous (Curved ovule).**
- (vi) **Fruit** :- Usually **siliqua**.
Silicula fruit is found in *Capsella*.
Iberis(Chandani),
- (vii) **Seed** :- Non endospermic

Economic Importance:

(A) Food Stuff

- | | | |
|--------------|-----------------|-------------------|
| (i) Radish | (ii) Turnip | (iii) Cauliflower |
| (iv) Cabbage | (v) Knol-Khol | (vi) Mustard |
| (vii) Rai | (viii) Taramira | |

(B) Medicinal uses:-

- | | | |
|------------|------------------|-----------------------------|
| (i) Halima | (ii) Wall flower | (iii) Chandani (Candy tuft) |
|------------|------------------|-----------------------------|

(C) Ornamental Plants:-

- Chandani (Candy tuft)
- Wall Flower
- Shepherd's purse (*Capsella bursa -pestoris*)