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M Sc II

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**MORPHOLOGY, TAXONOMY AND
ECONOMIC IMPORTANCE OF
ORCHIDACEAE
(Orchid Family)**



Systematic Position:

Class: Dicotyledons

Sub-class: Monochlamydeae

Series: Microspermae

Family: Orchidaceae

Selected Indian Genera:

- ✓ *Cattleya*
- ✓ *Cymbidium*
- ✓ *Cypripedium*
- ✓ *Dendrobium*
- ✓ *Habenaria*
- ✓ *Orchis*
- ✓ *Vanda*
- ✓ *Zeuxine*





Flowers irregular



Fruit capsule

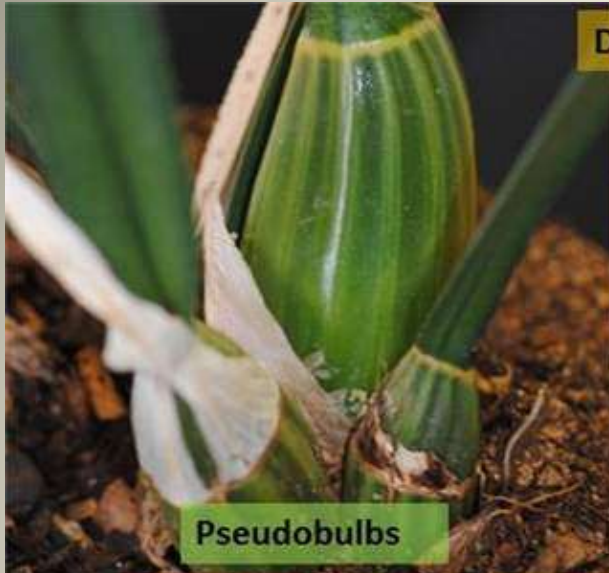


Pollinia and anther cap



Ovary inferior

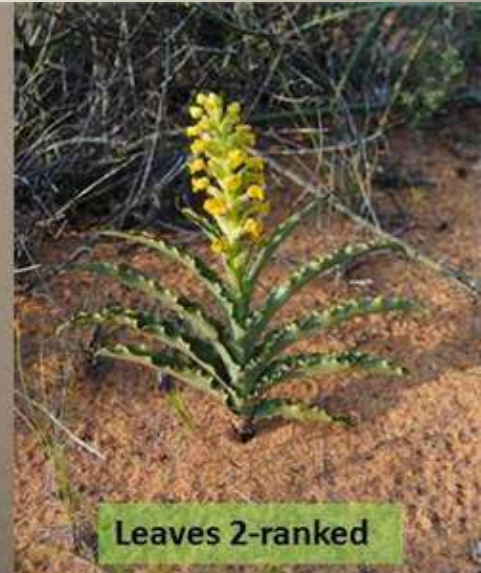
Diagnostic characters



Pseudobulbs



Tubers



Leaves 2-ranked



Gynandrium



Corolla 3



Brachycorythis



Disa



Bonatea



Disa



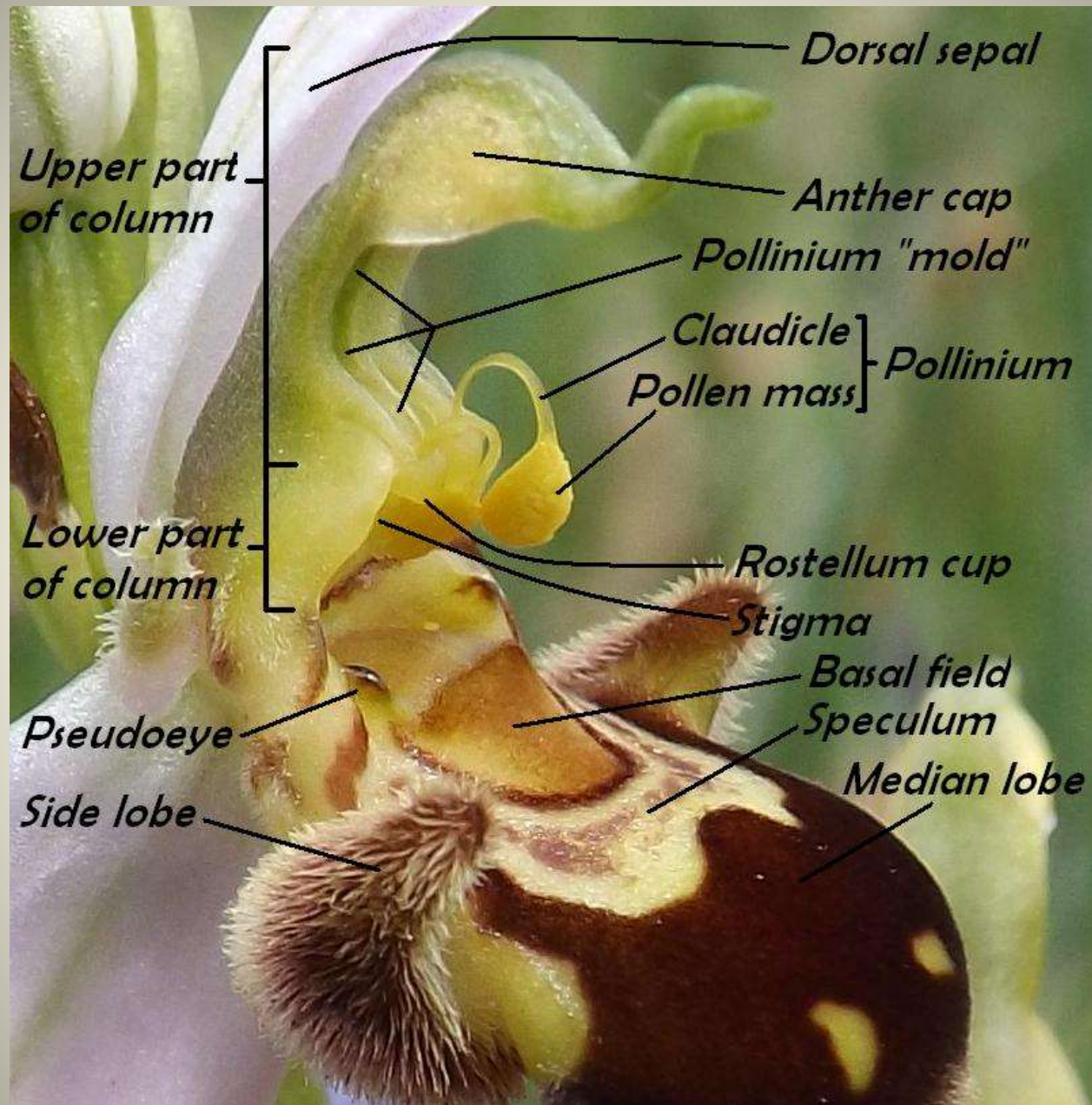
Disa



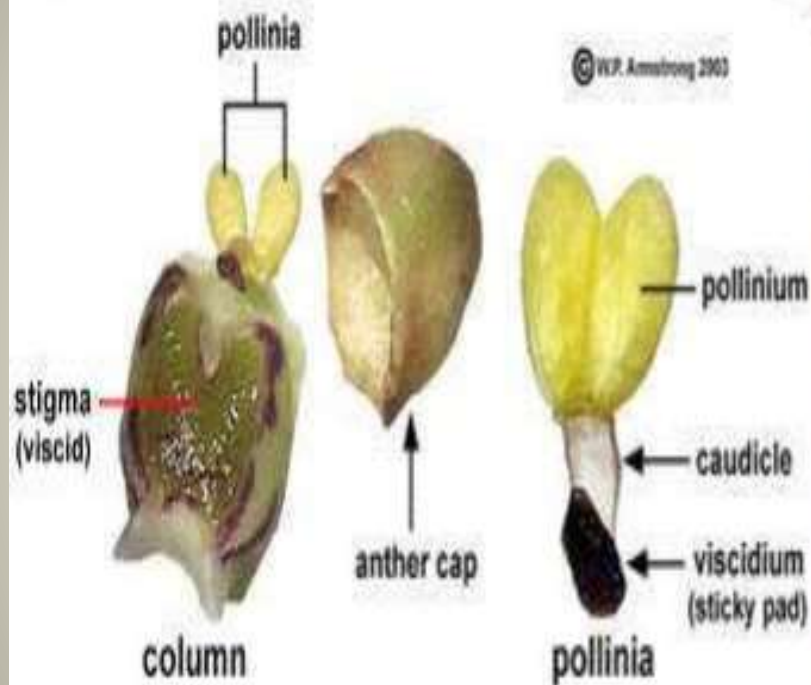
Bonatea

Description of the family

- ✓ Perennial herbs, epiphytes or saprophytes may be terrestrial
- ✓ flowers zygomorphic, hermaphrodite, epigynous, resupinated
- ✓ perianth 6 in two whorls, the posterior segment of the inner whorl developed as lip or labellum;
- ✓ presence of peculiar structures – Labium, column and Rostellum
- ✓ Stamens 1-2, one or two staminal pollen grains united into pollinia;
- ✓ gynoecium trilocular, inferior unilocular with parietal placentation
- ✓ the fertile stamen is adherent to the style and forms with it the column or gynostemium, which projects more or less in the centre of flower
- ✓ Stigma 2 or 3 lobed, in some two fertile and one sterile and modified into rostellum.



POLLINIA AND GYNANDRIUM



Details of the Column of an Orchid (*Brassia* hybrid)

Note: The column includes the gynoecium & androecium.





Economic Importance

Edible:

- ✓ *Vanilla fragrans*
- ✓ *Habenaria susannae*
- ✓ *Orchis latifolia*

Medicinal purpose:

- ✓ *Cymbidium*
- ✓ *Dactylorhiza*
- ✓ *Eulophia*

Ornamental Plants:

- ✓ *Cattleya*
- ✓ *Cymbidium*
- ✓ *Dendrobium*
- ✓ *Epidendrum*
- ✓ *Habenaria*
- ✓ *Miltonia*
- ✓ *Odontoglossum*
- ✓ *Oncidium*
- ✓ *Orchis*
- ✓ *Paphiopedalum*
- ✓ *Phalaenopsis*
- ✓ *Vanda*
- ✓ *Vanilla*
- ✓ *Zeuxine*



2.3.2- Teachers use ICT-enabled tools including online resources for effective teaching and learning

We, PG and Research Department of Botany, Kongunadu Arts and Science College has adopted the ICT tools for enhanced and better teaching which results in expected outcome from stakeholders. All faculty members are enabled to use smart classrooms and online search engines like Google- Class room, Scholar, Drive, You Tube (for subject videos, instrument animations), Docs, Chrome, Forms, Meet etc. for the benefit of students. In addition, Lecture Capturing System (LCS) videos on specific topics prepared by our faculties is available in Library is being utilized by the students. Faculty members are thorough in using Microsoft Word, Excel, Power Points. Online teaching platforms such as MOOCS, SWAYAM and NDLI are regularly being used by faculties to give the students a good learning opportunity. Faculty members are regularly using research databases such as Web of Sciences, Pub Med, Google Scholar, Elsevier and Springer for literature searches for updated teaching. Further, faculty members are familiarized with software system to maintain complete data of academic activities like student attendance, continuous internal assessment mark entry, both theory and practical exam mark entry, class and hour allotment etc. In addition, faculty members known to use