S.P.V.V.S

G.P.PORAWAL ARTS COMMERCE & V.V.SALIMATH

SCEINCE COLLEGE SINDAGI – 586128

DIST – VIJAYAPUR

RANI CHANNAMMA UNIVERSITY, BELAGAVI

PROJECT REPORT ON
TYPES OF OVULES AN D MONOSPERIC EMBRYOSAC

DEPARTMENT : BOTANY - 2022-23

DATE : 9-02-2023

NAME : Bhagyashree Awarad

SUBJECT : Botany

TITLE OF THE PROJECT: TYPES OF OVULES AN D MONOSPERIC EMBRYOSAC

CLASS : BSc III sem

REGISTER NO : U15NB21S0099

S.S. muttin Pendimath

SUBMITTED To.

Coordinator IQAC
P. PORWAL ARTS, COM & V. SALIMATH Sc. College SINDGI-586128.

HEAD
Dept. of Botany
G.P.P. & V.V.S. College
SINDGI - 586 128

Examiners

1)

2) 24/2/23

BHAGYASHREE S. Awarda

SUBMITTED BY

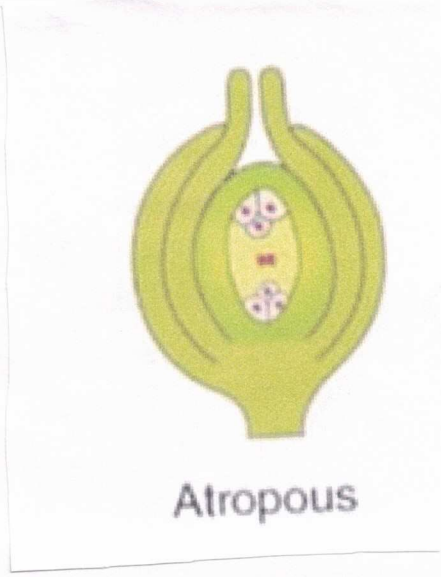
Principal,
G. P. Porwal Arts, Comm & V. V. Salimath Sc. College SINDGI-586128. College Code: 5234

OVULES TYPES

OVULES DEFNITSON :- The part of the ovary of Seed Plants that Contains the female Gerem Cell and after fertilization becomes the Seed.

In a flower, the ovule starts to Swell after fertilization, And it starts to toughen a up in the due process of becoming a Seed. The ovary starts Growing around it And becomes a fruit. However. this is not true for all Plants, Plants like avocado have a Single ovule, while kiwi has many ovules which can develop into fruits In Angiosperms. whereas in Gymnosperms. The ovules are found on female cones.

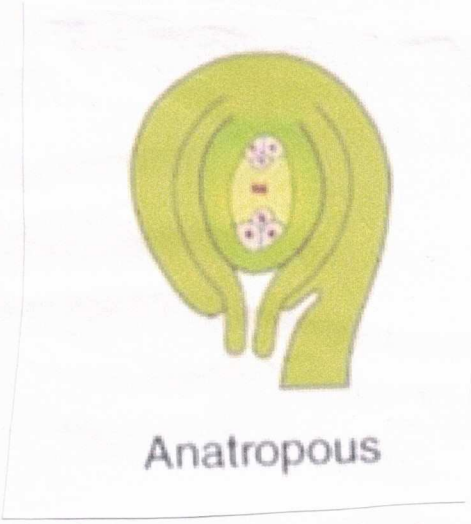
01 ATHETROPOUS OVULE



The micropyle, Chalaza And funicle lie in one straight line. The Body of the ovules is straight. allowing the micropyle. the funicle connecting the ovule to the Placenta. And the Chalaza. where the Integuments And Nucellus combine to be in alignment.

Example :- Family Polygonaceae. Piperaceae. And ovule of most Gymnosperms.

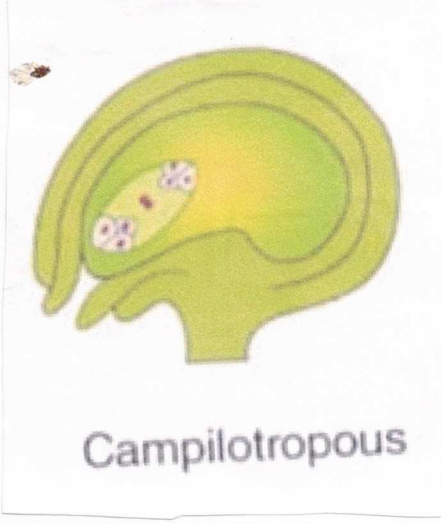
02. ANATROTROPOUS OVULE



The Body of the ovule is comp-letly Inverted so that microphyle And helium come to lie very close to each the other. 82% of families of angiosperms contain this type of ovule.

example :- Plants belonging to Gamelopetale Sub-class according to Berthom And Hooker classification

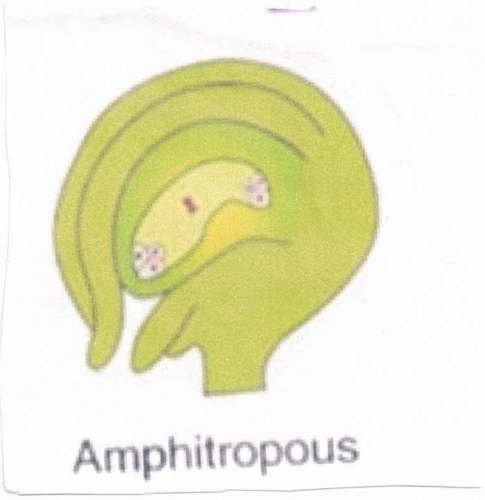
0.3. CAMPYLOTROPOUS OVULE



When the ovule is curved the micropyle is directed towards Chalaza. Chalaza is situated at right angles to the funicle.

Example :- Members of Cruciferae and Leguminase family

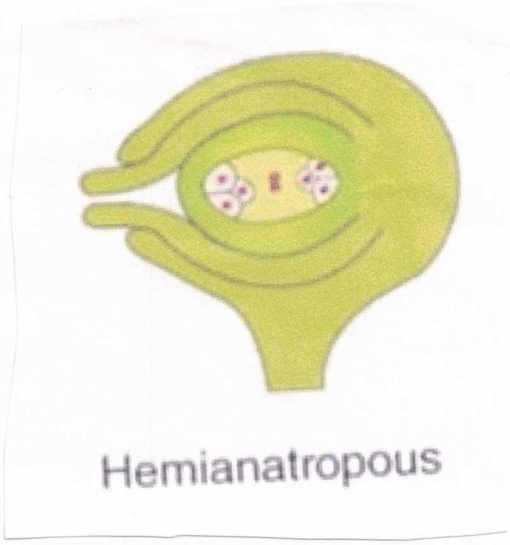
0.4. AMPHIBIOUS OVULE



The ovule curvature is more pronounced and embryosac becomes horse shoe shaped.

Examples :- Families Alismataceae.
Butomaceae.

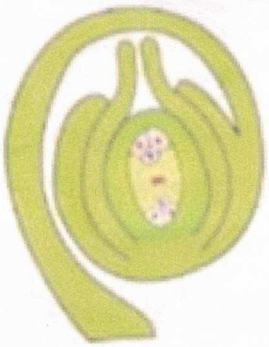
O.S. HEMIANATROPOUS OVULE



when Nucleus And Integuments lie more or less at right angles to the funicle. It's Shape eventually looks like the ovules is laying on it's side

Example :- Families - Ranunculaceae And primulaceae.

0.6 CIRCINOTROPOUS OVULE



Circinotropous

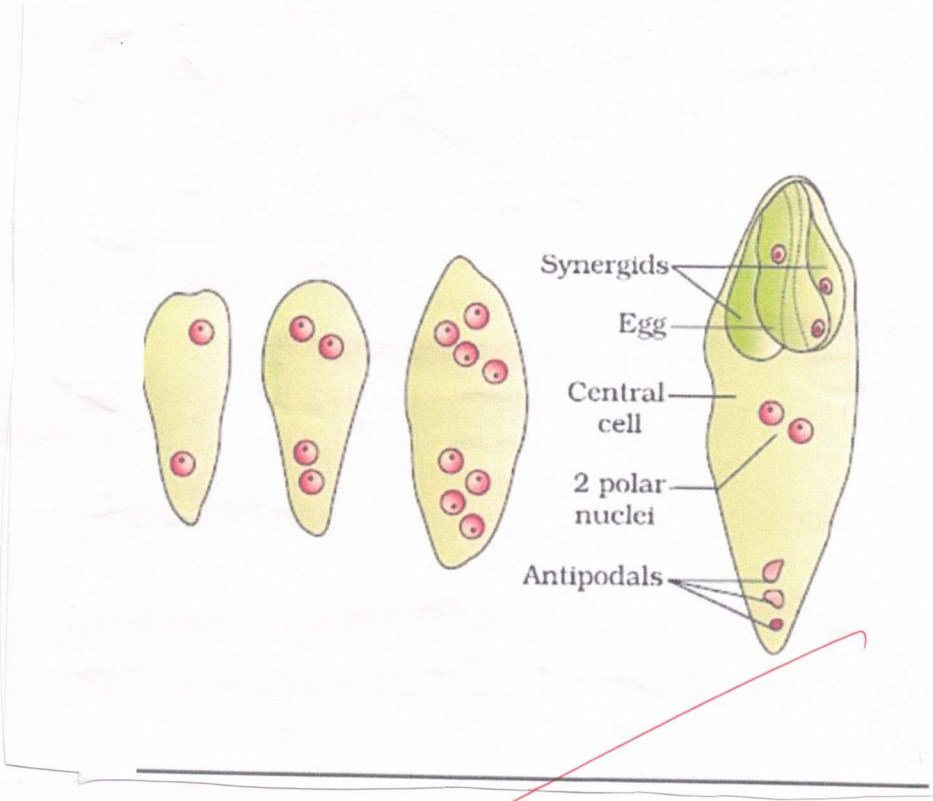
The funicle is exceptionally long and forms a complete circle around the ovules. when is free from it except for a small cot the end of funicle

Example :- Opuntia and other members of families Cactaceae And plumbaginaceae

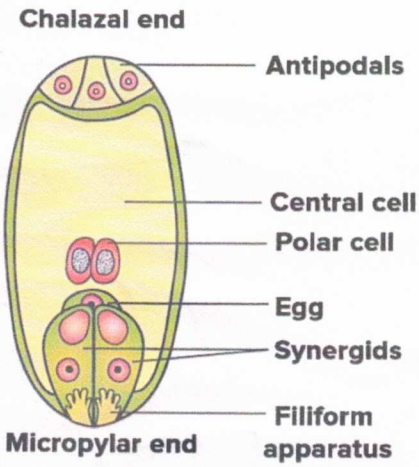
IN ANGIOSPERMS, 6 different types of OVULES can be formed These are:

1. ORTHOTROPOUS OVULE
2. ANATROPOUS OVULE
3. CAMPYLOTROPOUS OVULE
4. AMPHIBIOUS OVULE
5. HEMIANATROPOUS OVULE
6. CIRCINOTROPOUS OVULE

DEVELOPMENT OF MONOSPORIC EMBROSAC



In this type. only one megaspore situated towards Chalazal And takes part in the development of embrosac. The functional hapted megaspore enlarges in size by means of three successive mitotic divisions. Give rise to on nucleated embryosac of these a nucleus occurs as micropular end and the other at the Chalazal end 3 nuclei at the micropular end from egg apparatus 4th migrates from the both pole to the Centre from polar nuclei a fully developed typical or polygonium. a fully developed the type of embryo -sac ovule structure consist 7 cells 8 need



Egg Apparatus :- This is a Group of 3 cells situated at the micropolar end. The centrally located cell is called egg cell. on its sides are present two synergids egg cell has a large vacule as the upper end a promim nucleus near it's lower end synergids end a prominent nucleus near it's lower end synergids show a filiform apparatus attached to their upper wall. It is known to attract Guide the Pollen tube. each of synergids has a vacule at its end lower end Nucleus at the upper end.

Polar Nuclia :- There are Situated in the Centre of the embryosac representing a large binucleate Central cell. Generally both the polar Nucles fuse before fertilization And from Single diploid Nucleus called Secondary nucleus

Antipodals :- The 3 cells situated at the Chalazed end are called antipodals. these cells Generally degenerate. Soon after fertilization Polygonium Type occurs in about 10% of Angiosperms And is the Common type.

Synergids Secreate Chemotraphic tube The Special cellular thickening called filiform apporatus of Synergids help in the absorption Conduction of Nutrients from the Nucleus to embryo sac. It also Guide the Pollen tube into the egg. These a 7 celled with 8 Nucleated embryosac is formed

ASM

Coordinator IQAC
G. P. PORWAL ARTS, COM &
V. V. SALIMATH Sc. College,
SINDGI-586128.

Principal,
G. P. Porwal Arts, Comm &
V. V. Salimath Sc. College
SINDGI-586128. College Code: 5234