

Sexual Reproduction:

Sexual reproduction of Riccia takes place by the union of sperm and egg produced in Antheridium and Archegonium.

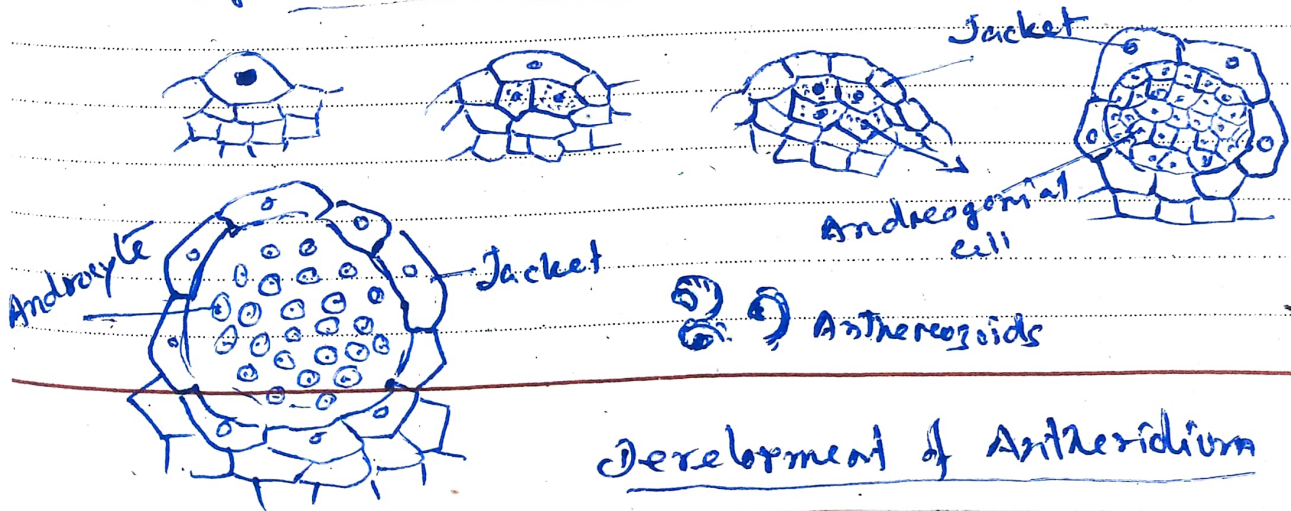
The gametophyte are monoecious and sex organs are scattered over it. Both Antheridia and Archegonia are intermingled over the surface of the gametophyte.

Development of Antheridium:

A superficial single cell behaves as an antheridial initial. It undergoes a periclinal division forming an outer jacket initial and an inner primary androgonial cell. The jacket initial divides by repeated anticlinal division to form a single layered wall of the antheridium.

Tuesday

The primary androgonial cell first divides by an anticlinal division to form two cells. Then further divisions made produce a large number of androgonial cells. These androgonial cells give rise to sperm mother cells or spermatocytes. These spermatocytes (androcytes) metamorphoses into spirally coiled and multiflagellate spermatozooids or antherozoids.



Development of Antheridium



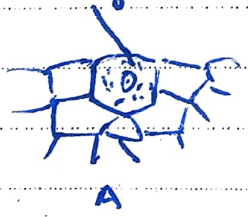
Development of Archegonium :

Any superficial cell of prothallus behaves as an archegonial initial. It undergoes periclinal division to form an outer primary cortex cell and an inner central cell. The primary cortex cell is divided by two anticlinal walls at right angles to one another so that four neck initial are formed. The four neck initial divides transversely to form a neck, 4-7 cells in height of 4 vertical rows. The central cell divides by a transverse division to form an upper primary canal cell and a lower primary ventral cell. The primary canal cell forms neck canal cell. The primary ventral cell divides transversely to produce the egg and a ventral canal cell.

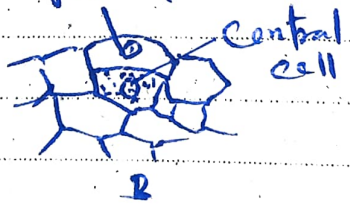
4

Thursday

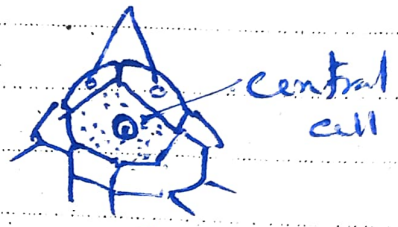
Archegonial initial



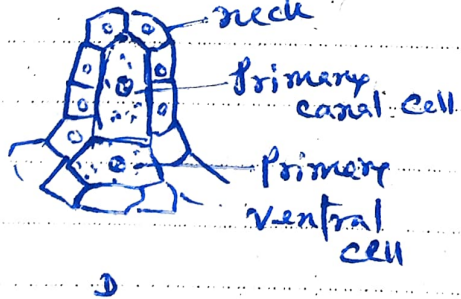
primary cortex cell



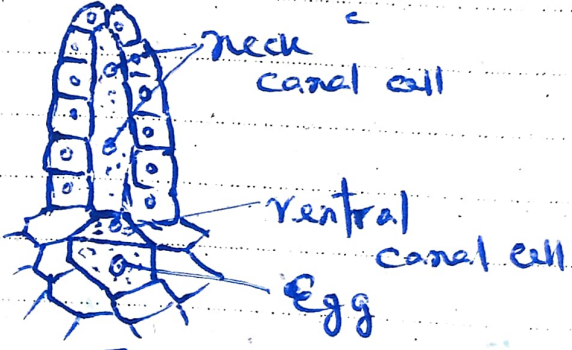
neck initial



neck



neck canal cell



stages of development of Archegonium of P. nederum

|    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
| 3  | M  | T  | W  | T  | F  | S  |
|    |    |    | 1  | 2  | 3  |    |
| 4  | 5  | 6  | 7  | 8  | 9  | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

July 2019

Friday



Fertilization : Fertilization is accomplished by the union of a spermatozooid and egg resulting in the formation of a diploid zygote.