

Now the oospore divides into two unequal cells. The upper lenticular cell has one nucleus while lower basal cell (large) has three nuclei which gradually degenerate.

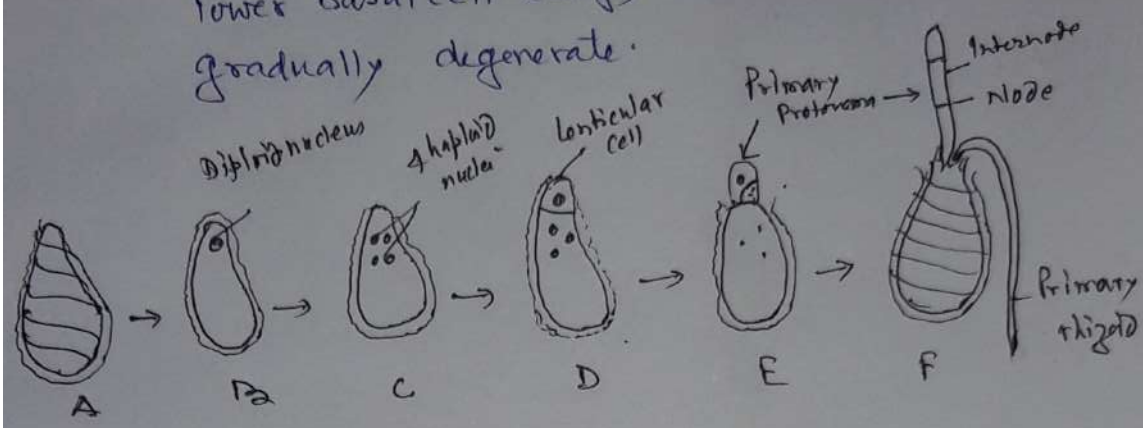


Fig. Chara sp. A-F Successive stages in oospore germination.

The lenticular cell projects out by bursting the oospore wall. It divides obliquely to form a larger protonemal initial and a small rhizoidal initial. Both grow in opposite direction.

The protonemal initial enlarges and differentiated into nodes and internodes and form the upper part of the thallus. The rhizoidal initial forms rhizoids.

(10)

Primary Capitula further divide and form 2 or more secondary capitula. Each secondary capitula further divides and form 2-4 antheridial filaments consisting of 25-250 antheridial cells or antheridia through mitotic divisions. The protoplast of each antheridium metamorphoses into single biflagellate and coiled antherozoid.

#### \* Fertilisation :-

During fertilisation the tube cells just below the corona get separated so that five narrow openings are formed. The antherozoids enter through these openings. Out of many antherozoids only one fertilises with the egg. The fusion results in the formation of oospore (2n).

#### \* Oospore :-

Oospore is hard, spherical to ellipsoidal in shape. The colour ranges from light yellow, to brown, red or black. It remains surrounded by 4 layered wall out of which the inner two layers are colourless.

#### \* Germination :-

During germination the diploid nucleus divides by meiotic division so that four haploid nuclei are formed.



ON LINE STUDY MATERIAL (E-content)

09.

College - S.S. College J'bad.

Date: 12.09.2020

Dept. - Botany

Time: 11.00-12.00

Subject - Algae

Teacher - Dr. S.S. Sharma

Topic - Chara

Class - Bsc Bot (H) - PI &

Medium - WhatsApp + College Web-site

Biotechnology (S) - PI.

CHARA : REPRODUCTION

\* Development of Globule: -

Globule develops at the node of branches of limited growth. Single peripheral cell functions as antheridial initial. Antheridial initial divides transversely and forms lower pedicel cell, and an upper antheridial mother cell. This antheridial mother cell divides by two ~~transverse~~ <sup>vertical</sup> and one transverse division so that an octant is formed.

Each cell of the octant stage divides by two periclinal divisions so that 3 layers of 8 cells are formed. Out of these, the outer 8 cells form the 8 shield cells, the middle 8 cells form manubrium while the inner 8 cells form primary capitulum.

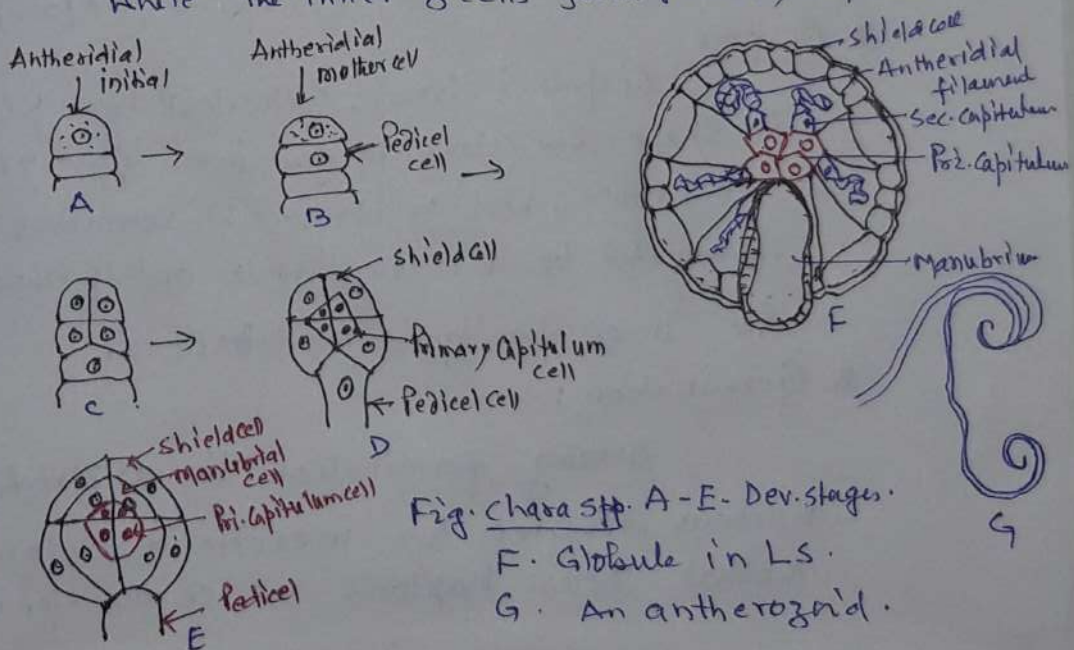


Fig. Chara spp. A-E. Dev. stages.  
 F. Globule in LS.  
 G. An antherozoid.