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Class : Deg. I (Hons.)

Paper : I (Group-'A': Algae)

Topic : Life cycle of Fucus (continued)

Lecture No. - 61

Date : 26/08/2020

Life-cycle of Fucus (continued):

Oogonia:

The oogonium is a large, dark-coloured spherical structure.

It is borne on a short uni-cellular stalk (or stalk cell). The young oogonium is filled with dense cytoplasm. It has a single nucleus. It accumulates a lot of reserve food materials. Then its single nucleus undergoes three successive divisions to form 8 daughter nuclei.

The first nuclear division is meiotic.

As a result, the number of chromosomes in the daughter nuclei is reduced to the haploid or gametic number. It is 32.

After the nuclear division, the cytoplasm undergoes cleavage into 8 uni-nucleate parts.

Each uni-nucleated daughter protoplast rounds off. Thus, eight spherical eggs or oosphere are formed.

At maturity, the oogonial wall thickens and becomes differentiated into three-layers. These are the innermost endochite, the middle mesochite and outermost exochite.

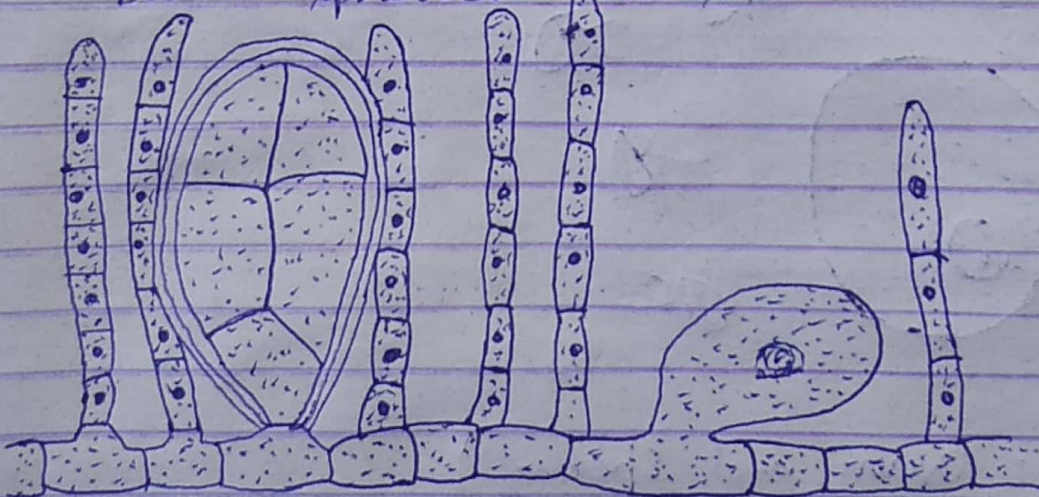
The exochite ruptures.

The eight oogonia are still enclosed by the two inner layers.

They are set-free as a package through the ostiole into the surrounding water.

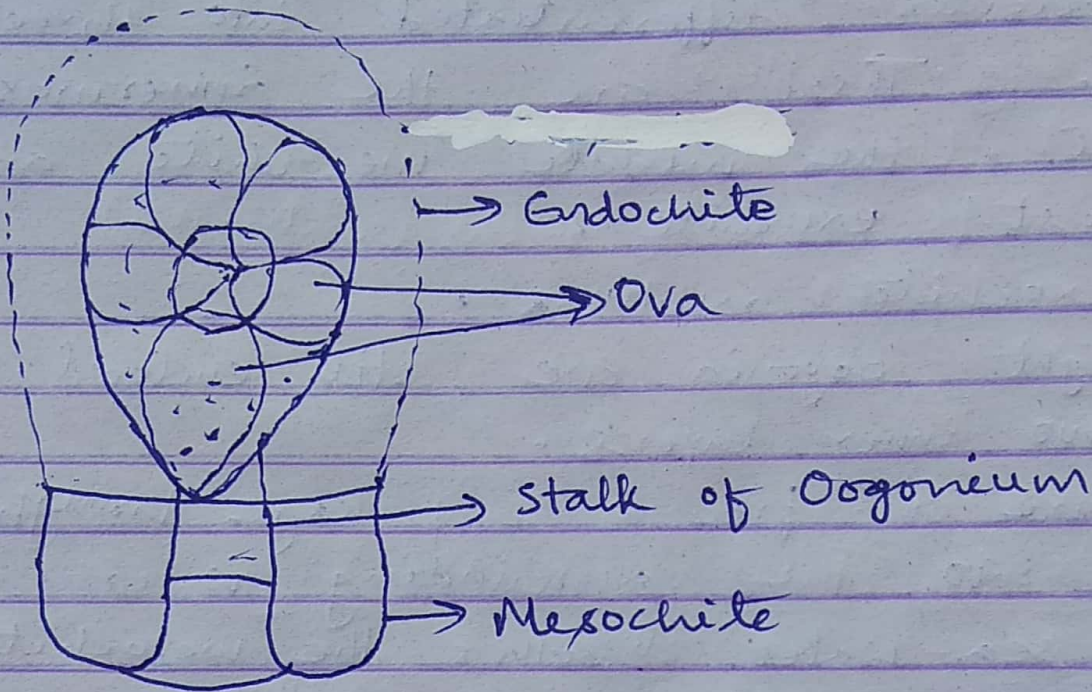
The sea-water dissolves the mesochite and the endochite.

The ova are now free in water, which float on water as non-motile or passive brown spherical bodies.

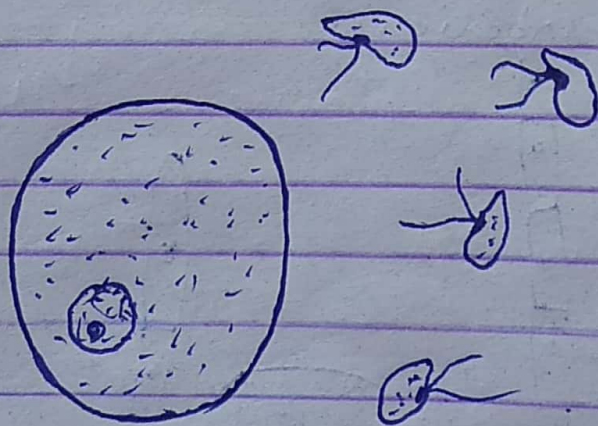


(Fig: Part of Oogonial Conceptacle of Fucus with Oogonia and Paraphysis)

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(Fig: Rupturing of oogonial wall)



(Fig: Omm and Sperm)