

Hy - Asexual reproduction by Hyphospores in Vaucheria

3. Sexual Reproduction → It is highly oogamous and takes place with the help of well developed male and female reproductive organs known as Anthridia and Oogonia. Respectively Vaucheria plants are mono-ecous (*V. germinata*) or dioecious (*V. dichotoma*).

Development of Oogonia → An Oogonium is form



at the terminal portion of a short lateral branch which swells up and gradually becomes spherical in shape. In some cases it is almost sessile. While in other cases it bears a short stalk. In due course a septa is form at the base of Oogonium. which separating the Oogonia from the coenocytic plant. According to Coach (1932) all the nuclei except one migrate to the main filament. Then a septa is form. But according to Davis (1904) that one single large nucleus behave as an egg nucleus and all the rest degenerate. In any case a mature Oogonia a beak like structure is form, which is uninucleate. The tip of the beak found a pore like structure - where gelatinous sheath comes out and make the passage for the entry of the Anthozoids. After some time Chromatophores and the oil drops now migrate to the center of the ovum and the Oogonia is ready for fertilization.

Fig →

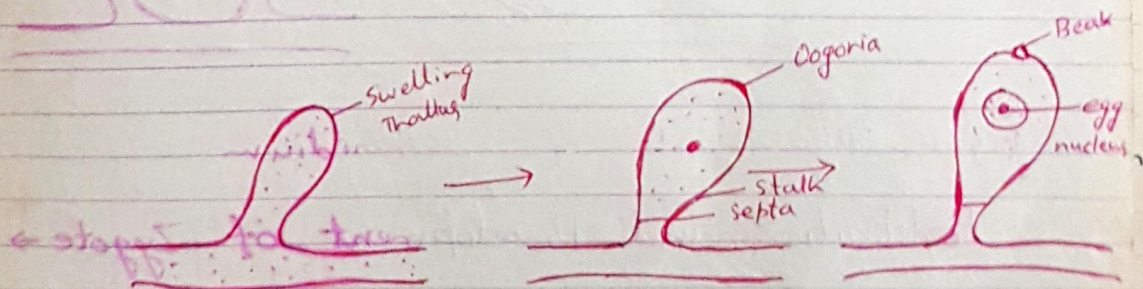


Fig - Development of Oogonia



**Development of Antheridium** → A young Antheridium arises as a curve sickle shaped, cylindrical, tube like structure near the Oogonia. Like Oogonia it also form a septa and it cut off from the parent plant. An Antheridium multi nucleate structure is form by repeated cell division. And each nucleus of the Antheridium surround-ed by cytoplasm and lastly each nucleus forms spermatozooids or Anthozoids. The spermatozooids are spindle shaped, colourless, by flagellate, pyriform. Flagella are lateral and un-equal in size. After maturity they came out from an Antheridial pore and they are ready for fertilization. In most species they are liberated in the early morning.

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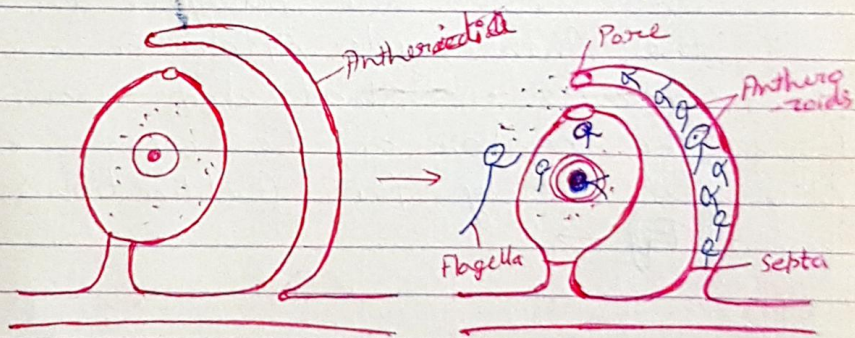


Fig - Development of Antheridium

### Fertilization and Development of Zygote →

At the time of fertilization a small quantity of colourless cytoplasm comes out through the pore of Oogonia, which attract the Anthozoids. A number of Anthozoids may



inter through the zoogonial pore but only one of them fuses with the ovum or egg cell. The egg cell get surrounded by a wall and becomes diploid. Which live over unfavourable condition. The zygote under goes a period of rest from a few months and the return of favourable condition it germinates directly into a new filament of Vaucheria. But before germination reduction cell division takes place. At the time of germination the outer cell wall rupture and the inner cell wall produce a colourless tube like structure which lastly forms a new thallus of Vaucheria.

Fig →

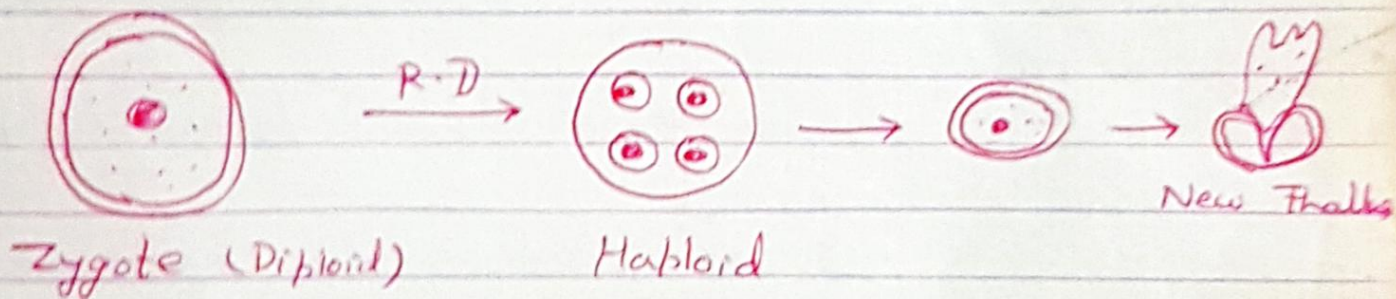


Fig - Development of Zygote