

Aplanospore-formation

in *Vaucheria uncinata* Kutz.

DURING our investigations of the Punjab Fresh-water Algæ, we came across a sheet of *Vaucheria uncinata* Kutz., in a pond called Mastiwal near Bodal in the Hoshiarpur District. Usually this species is found



Fig. 1.

free floating in ponds and slowly flowing fresh-water streams but in this particular case a sheet of the alga was found partly

* Lau and Reichenheim. *Naturwiss*, **20**, 49, 1932.
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submerged in a drying puddle and partly exposed to dry air. Specimens were separately taken from both the parts and examined. It was found that filaments from the

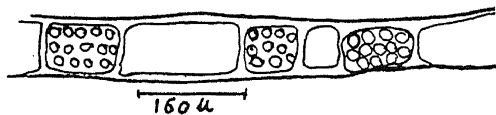


Fig. 2.

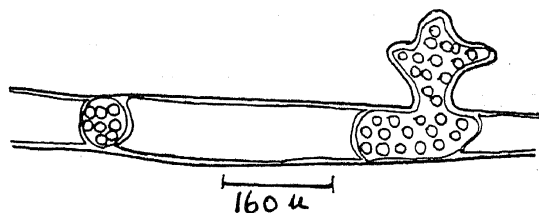


Fig. 3.

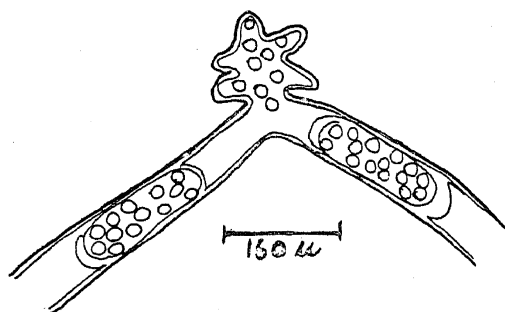


Fig. 4.

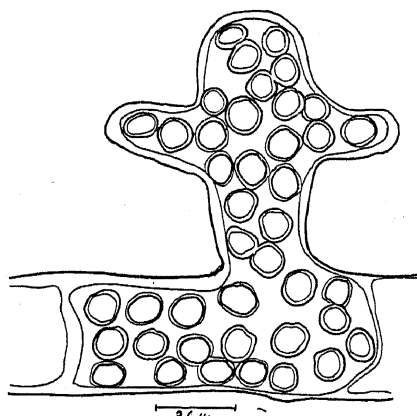


Fig. 5.

submerged parts were laden with oospores and antheridia, while in the exposed portion aplanospore-formation was dominant almost to the exclusion of the normal sexual process and replacing it in many cases. Extensive

septum-formation takes place in the filaments so that they are cut off into coenocytes varying from 90 to 200 μ in length (Figs. 1 and 2). These coenocytes later on become aplanosporangia, each containing from 8 to numerous rounded aplanospores with thick walls. The aplanospores average about 18 μ in diameter and have a wall about 3 μ thick. In many cases side branches which ordinarily bear oogonia laterally and an antheridium apically become filled with aplanospores (Figs. 3-5). One great peculiarity is the

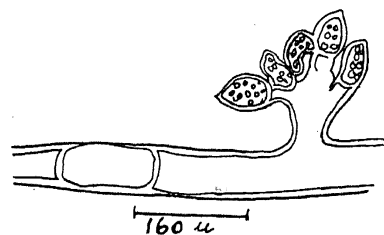


Fig. 6.

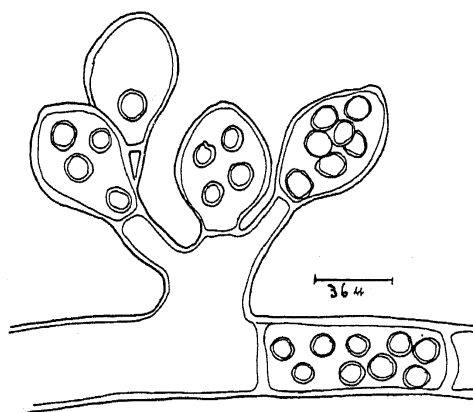


Fig. 7.

presence of aplanospores even in oogonium-like-structures, (Figs. 6 and 7) and in such cases it was seen that no antheridium terminates the bunch of these structures, so here we apparently see a case of replacement of sexual reproduction by a purely asexual mode of reproduction. In this case drought and unfavourable physiological conditions appear to be the cause of the change.

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July 1, 1933.