

02

4. Structure of Trichome :-

Trichomes remain arranged in radial rows in mucilaginous matrix. They are abundant toward periphery rather than the centre.

An individual trichome is unbranched and straight or with slightly curved apex — looking like a whip. Each trichome is broad at the base but gradually tapers. The basal part of trichome is marked by the presence of heterocyst with a single polar body/nodule. The distal end terminates in a long, colourless, multicellular hyaline hair. Hair is straight, or slightly curved or ^{even} coiled. Below hair is the meristematic region of trichome. The sheath is only distinguishable

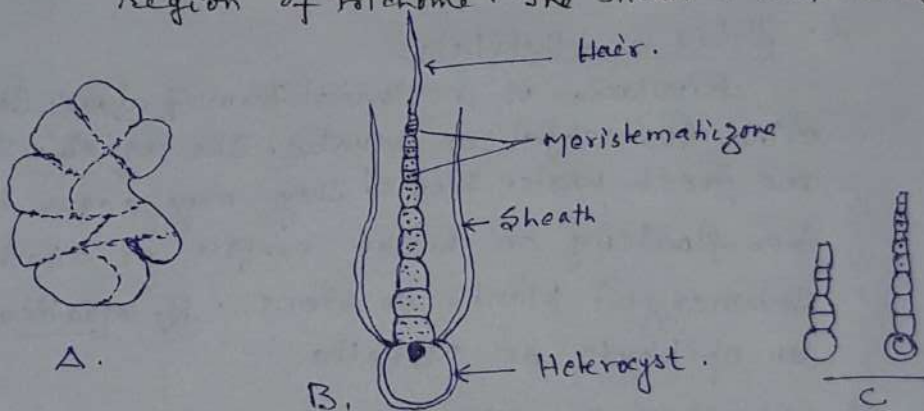


Fig. Rivularia spp. A - Rivularia colony
B - A filament
C - Germination of hormogonia.

near the base of the trichome.

The younger trichomes are pale, blue green in colour.

5. Structure of the cell :-

Cells of the trichome are barrel shaped or sub-spherical and pigmented. They are arranged in a linear order. Cell wall consists two layers i.e. cell sheath and inner investment.

The cell protoplast has the features of a typical cyanophycean cell. (03)

6. Growth:-

Growth occurs with the help of meristematic cells located at the base of the terminal hair. These cells have dense, granular protoplast and pseudo-vacuoles. Thus growth in Rivularia is trichothallic that occurs with the help of intercalary meristem.

7. Reproduction:-

Rivularia reproduces basically by vegetative means. It takes place with the help of —

(a) Hermogonia:- During the formation of hermogonia, the trichome sheds off its hair. This process ~~starts~~ starts in the meristematic zone and progresses gradually towards the base. Hermogones are delimited singly or in long chain by the formation of biconcave separation discs. Each hermogonium has two or more living cells.

Germination of Hermogonium:- On germination, the basal end develops a heterocyst. Other cells divide repeatedly so that a trichome with tapering hair is formed.

(b) By Heterocyst:- In case of Rivularia manginii reproduction takes place by the germination of heterocyst. However, it is of rare occurrence.

On Line Study Material (e-content)

Name of the College: S.S. college; T. bart.

Date: 05.09.2020

Name of the Deptt: Botany.

Time: 11.00 - 12.00

Subject: Algae

Name of the Teacher: Dr. S.S. Sharma.

Topic: Rivularia

Class: B.Sc. Bot.H. - PI.

Medium of Teaching: WhatsApp + College Website

~~Printed. Sub~~ ♣

1. Taxonomic Position:-

Class - Cyanophyceae

Tribe - Hermogoniae

Order - Rivulariales

Family - Rivulariaceae

Genus - Rivularia.

2. Habit and Habitat:-

Rivularia is a colonial form of algae. Colony is either terrestrial or aquatic. The aquatic species are fresh water forms. They may occur either free floating on water surface or attached to submerged plants or stones. R. aquatica is an epiphyte on Nitella

3. Structure of Colony:-

Colonies are yellowish - brown in colour and are either hemi-spherical, spherical, discoid or irregularly lobed gelatinous mass. Each colony has numerous trichomes which are filamentous and unbranched. However, sometimes trichome may show false-branching. Each trichome remains enveloped by mucilage boundary/sheath.