GERMINATION OF SPORES AND EARLY STAGES OF DEVELOPMENT IN *BOSTRYCHIA TENELLA* (VAHL.) J. AG.

ABSTRACT

The germination pattern of tetraspores and carpospores of *Bostrychia tenella* (Vahl.) J. Ag. occuring on the roof and boulders of a semidark cave at high tide mark at Gopnath, is identical. The development of stages of the spores germination may be referred to 'ceramium' type.

EXCEPT for a brief account of the germination of tetraspores of *Bostrychia scorpioides* Mont., by Chemin (1937), no detailed account of any of the species of this ecologically interesting genus is available.

(Fig. 1 l-o). The carpospores at the time of liberation are elongate-ovoid and are liberated through the ostiole. It measures 33-42.9 μ dia, and 99-105.6 μ long. After coming in contact with the substratum it rounds off and gets attached to it. The sequence of further divisions and stages in the formation of germling from carpospore is same as in the case of tetraspore (Fig. 1s).

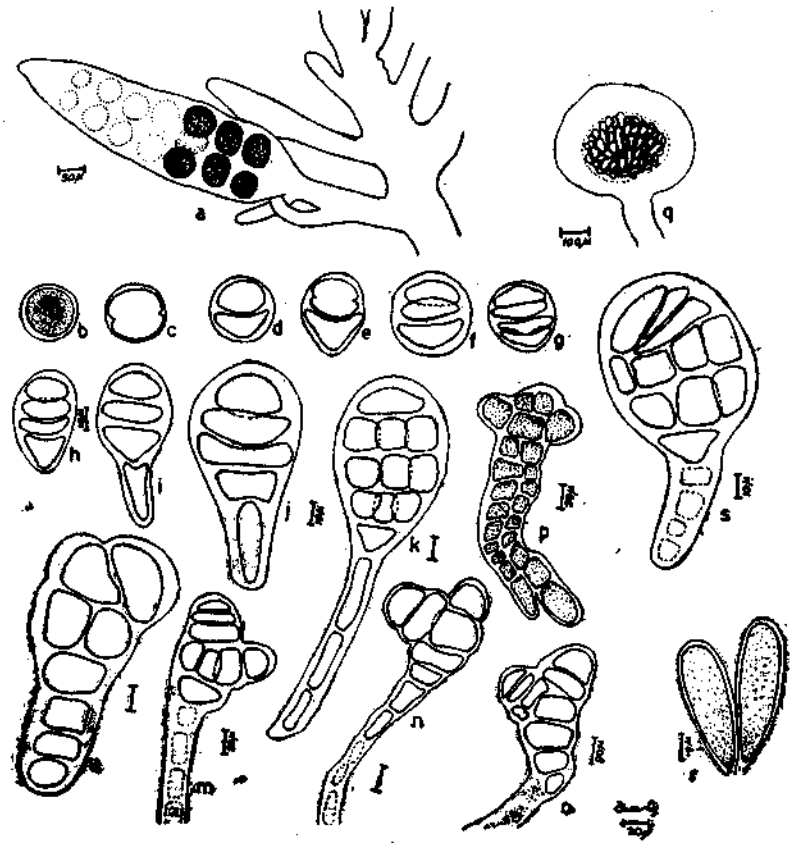

Fig. 1. Germination stages of spores of *Bostrychia tenella* (Vahl.) J. Ag.: a. Tetrasporangial stichidium; b-l. Stages in the germination of tetraspore; m-o. Germlings with lateral branch initial; p. Multicellular germling with branched rhizoid and lateral branch initials; q. Cystocarp; r. Carpospore, and s. Multicellular germling developed from carpospore.

Except for few abnormalities like development of branched rhizoids and an abnormal increase in the size of the cells in the upper half of the germlings in few cases, all spores follow the same pattern of germination.

Discussion: Chemin (1937) described the development of spores in ceramiaceae as 'ceramium' type and this type, sometimes referred to as erect type, is found in all forms of ceramiales, whether filamentous or thalloid. The bipolar nature is unique and constant in this type of germination.

During the present study, it was observed that the vegetative part of the multicellular germling was growing erect in cultures. No evidence of protonemal nature

of the germling can be obtained, as suggested by Chemin (1937), as further stages have not been followed. The growth of the lateral initials on both the sides of the germling and active apical cell indicates that the plant may develop directly from the vegetative part of the germling.

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