

### SOME INTERESTING OBSERVATIONS ON A TERRESTRIAL FORM OF *CLADOPHORA* GROWING AT ALLAHABAD

THE genus *Cladophora* is one of the largest genera of the green algae, widely distributed both in fresh and salt waters all over the world. Hoek and VanDen<sup>3</sup> made a monographic study of the European species of *Cladophora*, while some American species have been listed by Prescott<sup>1</sup> and Tiffany and Britton<sup>2</sup>. Although some workers also recorded a number of fresh water and marine species from other places, the present alga was found growing on moist soil. Although it was first located at Daraganj, Allahabad in May 1975, subsequently it was collected at many other places outside Allahabad. Due to perennial nature of the alga its growth can be kept under close observation throughout the year. The thalli are dark green and make a dense bushy tuft. Filaments are heterotrichous (Fig. 1). Different types of rhizoids are produced from the prostrate part which help in anchorage and nutrition of the thallus. Erect part of a thallus consists of irregular branches and usually septae occur at long distances. They do not show any regular pattern of branches. Cells too are of different shapes. They are elliptical or some others almost triangular. Some cells also have raised up facets by which they give rise to lateral branches. These cells measure from 50 to 150  $\mu\text{m}$  in length and 50 to 70  $\mu\text{m}$  in breadth. A photosynthetic cell is filled with a net-like discoidal chloroplast having pyrenoids and also many nuclei. Since the alga is exposed to air,

and sun, parts of a filament develop thick-walled perennating cysts of different shapes (Figs. 2 and 3). Variations in shape of vegetative cells and rhizoids, etc., seem to be due to adaptation to terrestrial habit.

As far as authors are aware there is no other record of such a truly terrestrial and perennial species of *Cladophora*. Investigations on the alga are in progress, both in the natural as well as in cultural conditions, and it appears to be a new species.

The authors are thankful to Prof. D. D. Pant, Head of the Botany Department, for providing laboratory facilities and to Dr. G. L. Tiwari for his help in various ways and to the U.G.C. for financial assistance,

Department of Botany,  
University of Allahabad,  
Allahabad, India,  
April 18, 1980.

R. N. YADAVA,  
D. C. PANDEY.

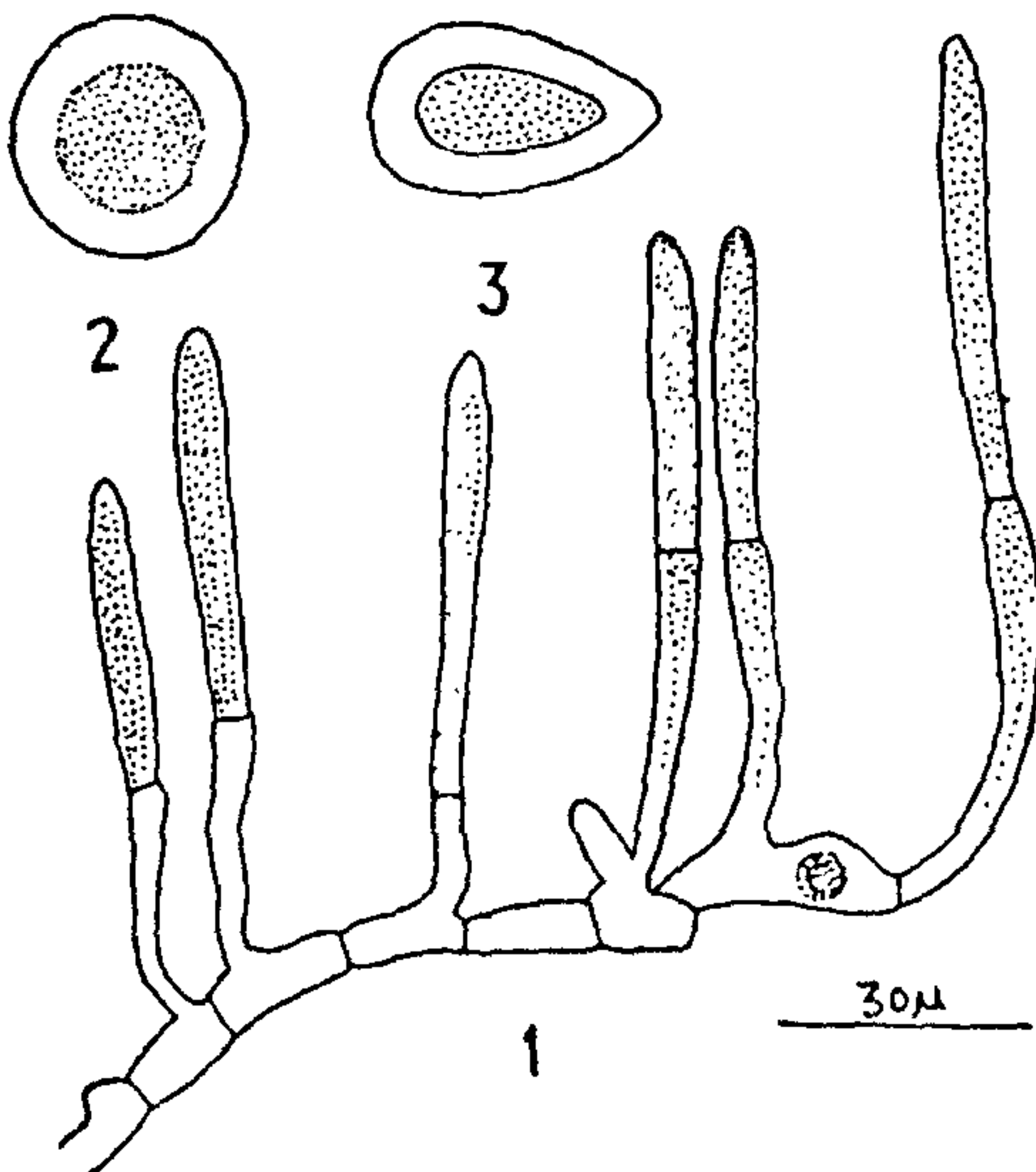
1. Prescott, G. W., *Algae of the Western Great Lakes Area*, 1951, p. 31.
2. Tiffany, L. H. and Britton, M. E., *The Algae of Illinois*, London, 1952.
3. Hoek, C. and VanDen, *Revision of European Species of Cladophora*, Netherlands, 1963.

### COMBINED EFFECT OF SIMULTANEOUS MERCURY POLLUTION OF DIET AND WATER ON THE FISH *CHANNA* (= *OPHIOCEPHALUS*) *PUNCTATUS*

DESPITE extensive research on several aspects of mercury pollution<sup>1-5</sup> no effort appears to have been made to assess the combined effect of mercury pollution through food and water as is likely to happen in an aquatic ecosystem to a fish population. The present report highlights the results of a series of experiments to determine the relative effects of dietary mercury pollution with simultaneous exposure through water at low sub-lethal levels.

Fresh water air-breathing fish *Channa* (= *Ophiocephalus*) *punctatus* belonging to 1 + year age group (wt.  $26.15 \pm 0.25$  g; L.  $132.50 \pm 0.38$  mm) was used as the experimental animals and divided into four groups of 50 each as follows :

- Group I Fed diet containing 0.1% mercuric chloride.
- Group II Exposed to 34  $\mu\text{g/l}$  mercuric chloride representing 2.5% of the 48 hrs LC 50 value at 23.5°C ambient water temperature.
- Group III Fed diet mixed with 0.05% mercuric chloride and exposed to 17  $\mu\text{g/l}$  mercuric chloride representing half the pollutional level in groups I and II respectively.



FIGS. 1-3