

SPIROGYRA COLLIGATA HODGETTS VAR. *RANCHIENSIS* VAR. NOV.
FROM BIHAR, INDIA

MADHAVI SRIVASTAVA

Department of Botany, Ranchi University, Ranchi (Bihar), India

ABSTRACT

A new variety of *Spirogyra colligata* Hodgetts, *S. colligata* Hodgetts var. *ranchiensis*, is being described. Although differing in other characters, it is distinct from the known species of the genus in having one chloroplast making 3-4 turns and producing black zygospores.

INTRODUCTION

During the course of taxonomic investigations on Zygnemaphyceae in Bihar (India), several taxa were collected; out of this collection one new variety belonging to the species *Spirogyra colligata* Hodgetts is being described here.

DESCRIPTION

***Spirogyra colligata* Hodgetts var. *ranchiensis* var. nov.**

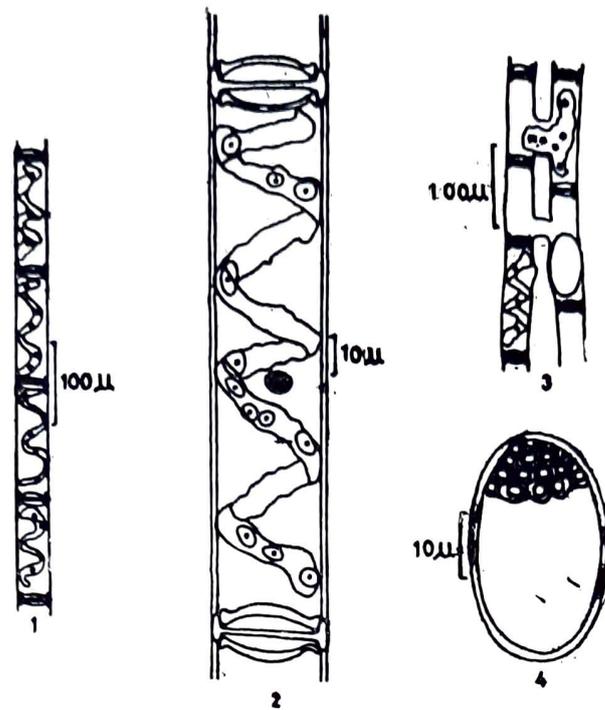
Vegetative cells 106.75-290.0 μm long, 29.0-36.25 μm broad with colligate end walls; chloroplast 1, making 3-4 turns in each cell; conjugation scalariform, tubes formed by both gametangia, male gametangia 94.388-107.872 μm long, 30.339-33.71 μm broad; female gametangia 77.5-94.388 μm long, 33.71-37.081 μm broad, zygospore lenticular to lenticular-globose, 72.5-79.75 μm in diameter, mesospore verrucose and black (Text-fig. 4).

Habitat—Free-floating in paddy fields near "Tagore Hill" at Ranchi, in last week of October, 1976, along with species of *Zygnema* and *Oedogonium*. The specimen is deposited at the Department of Botany, Ranchi University, Ranchi under no. MADHAVI/ACCZ/71.

Cellulae vegetativae 106.75-290.0 μm longae, 29.0-36.25 μm latae cum parietibus apicalibus colligatis; chloroplasti 1, efficientibus 3-4 spiras insingulis cellulis; conjugatio scalariformis, tubulis efformatis ab utroque gametangio, gametangia masculina 94.388-107.872 μm longae, 30.339-33.71 μm latae, gametangia feminea 77.5-94.388 μm longae, 33.71-37.081 μm latae, zygospora lenticulata vel lenticulto-globose 72.5-79.75 μm dimaetro, mesospora verrucosa et nigra.

Habitato—Libere natans in agris oryzae prope "Tagore Hill", Ranchi in fine Octobri, 1976 cum speciosus *Zygnema* et *Oedogonium*. Specimen typum depositum in Botanicae Departmenti, Ranchi Universitatis unter no. MADHAVI/ACCZ/71.

The specimen tallies with *Spirogyra colligata* Hodgetts (TRANSEAU, 1951; RANDHAWA, 1959) in all respects except that it has one chloroplast instead of 4-6 making 3-4 turns instead of 0.5-2.0 and colour of the spore wall is black instead of brown. It is, therefore, considered as a new variety of *Spirogyra colligata* Hodgetts, viz., *S. colligata* Hodgetts var. *ranchiensis* var. nov. on account of its occurrence in Ranchi.



Text-figs 1-4. *Spirogyra colligata* Hodgetts var. *ranchiensis* var. nov. 1. a vegetative filament showing size and shape of cells, 2. Vegetative cell showing chloroplast structure, 3. Portion of filaments showing conjugation stages with ellipsoid zygospore in one of the female gametangium, 4. Zygospore showing verrucose mesospore.

ACKNOWLEDGEMENTS

The author is thankful to Dr. J. P. Sinha, Professor and Head of Botany Department, Ranchi University, Ranchi, to Dr. B. N. Prasad, Professor of Botany, Lucknow University, Lucknow and Dr. M. N. Noor, Department of Botany, Ranchi University for confirming the identification, going through the manuscript as well as for their valuable suggestions. Thanks are also due to Rev. Fr. V. Dierck S. J., St. Xavier's College, Ranchi for the latin translation of the description and to the authorities of Ranchi University for financial support during the research period.

REFERENCES

- RANDHAWA, M. S. (1959). *Zygnemaceae*. Indian Council of Agricultural Research, New Delhi.
 TRANSEAU, E. N. (1951). *The Zygnemataceae*. The Ohio State University Press, Columbus.