ON *TRIPLASTRUM SPINULOSUM* (KISSELEV) GAUTHIER-LIÉVRE FROM GUJARAT, INDIA*

R. J. PATEL** AND C. K. ASOKA KUMAR***

***Department of Biosciences, Sardar Patel University, Vallabh Vidyanagar, 388120, Gujarat, India*

****Department of Botany, Regional College of Education, Bhopal, M. P., India*

ABSTRACT

A rare desmid, *Triplastrum spinulosum* (Kisselev) Gauthier-Liévre was collected during the study of desmid flora of Gujarat. The comparative account of the species has been given in the present paper. Consideration of *T. indicum* Iyengar as a synonym of *T. spinulosum* by earlier workers is justified.

INTRODUCTION

Genus *Triplastrum* with a species *indicum* was established by IYENGAR AND RAMANATHAN (1942). It was collected from the paddy fields near Madras in the month of December, 1940. One of the main characters of the genus *Triplastrum* is the absence of knot-like projections (verrucae). On the basis of this character, they separated two species of *Triploceras* : *T. abbreviatum* Turner and *T. simplex* Allorge, and kept these taxa as members belonging to new genus *Triplastrum* as *T. abbreviatum* (Turner) Iyengar *et* Ramanathan and *T. simplex* (Allorge) Iyengar *et* Ramanathan (TURNER, 1892 ; IYENGAR & RAMANATHAN, 1942). Since then, there is no report of its occurrence from India.

During the study of desmid flora of Gujarat, the authors collected this rare desmid from Harni Pond near Baroda and a pond at Lunawada.

DESCRIPTION

Triplastrum spinulosum (Kisselev) Gauthier-Liévre (Text-figs. 1-4)

Cylindrical cell characterised by slightly inflated and trilobed ends, each lobe bearing three to four short spines ; cell with shallow but pronounced median constriction ; cell with smooth and hyaline ; semicell with two to three axile chloroplasts with radiating plates, arranged in a row, each with a centrally located conspicuous pyrenoid.

Zygospores spherical with thick crenated walls. Length 70-75.5 μm ; breadth 9-11.5 μm ; breadth at pole 11-13 μm ; isthmus 8.5-9 μm ; diam. of zygospore 26-32 μm.

Locality : Harni Pond, Harni near Baroda, January, 1969 (No. 1487) ; Kanka Pond, Lunawada, October, 1970 (No. 1766).

DISCUSSION

When IYENGAR AND RAMANATHAN (1942) established a new genus *Triplastrum*, they were unaware of *Triploceras spinulosum* Kisselev (KRIEGER, 1937). As *Triploceras spinulosum* is closely related to *Triplastrum indicum*, GAUTHIER-LIÉVRE (1960) reduced latter to a variety of the former, *Triplastrum spinulosum* (Kisselve) Gauthier-Liévre var. *indicum* (Iyengar *et* Ramanathan) Gauthier-Liévre. She also described one more variety,

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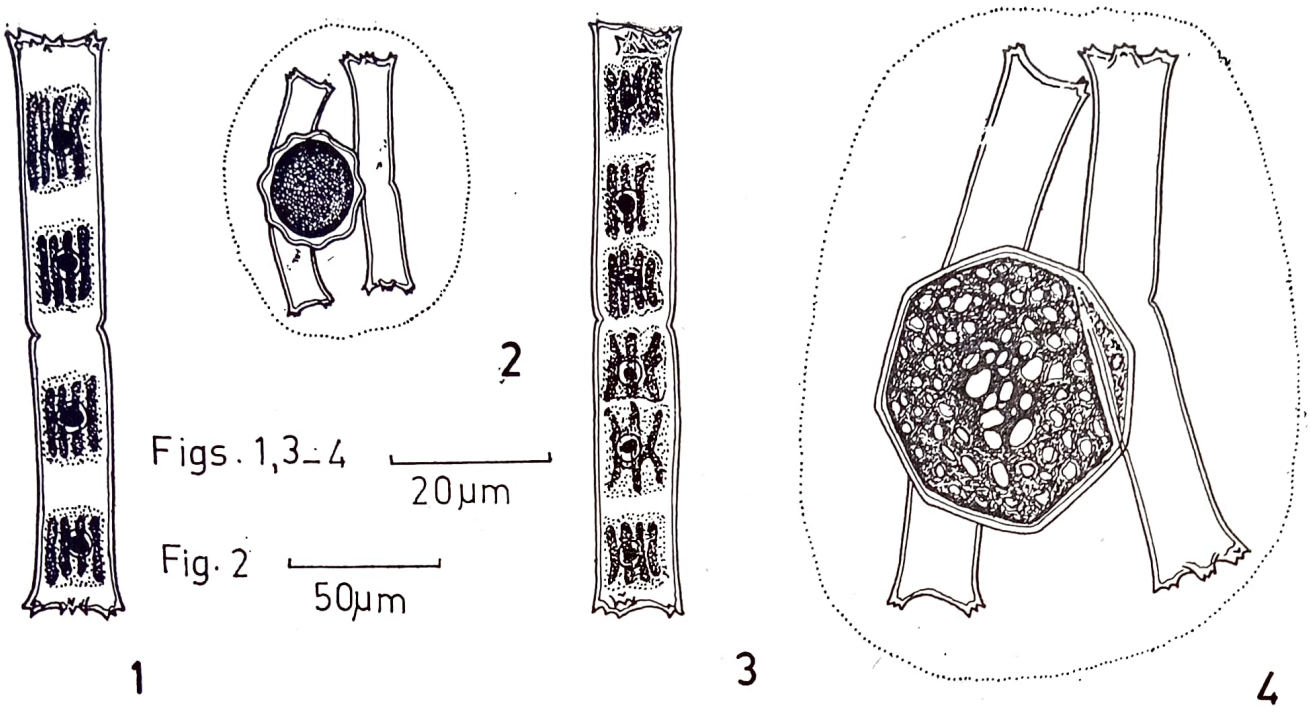

Text-figs. 1-4. *Triplastrum spinulosum* (Kisselev) Gauthier-Liévre : 1 Cell showing 2 chloroplasts per semicell with a pyrenoid in each. 2. Showing crenate wall nature of mature zygospore, 3 Cell with 3 chloroplasts per semicell and 2-3 pyrenoids per semicell. 4. Showing the nature of conjugating cells with immature zygospore.

T. spinulosum var. *africanum* with slightly narrow apices, the polar lobes being strongly divergent and bi- or tridenticulate. Both these varieties are created on the basis of dimensions more or less, number of chloroplasts and pyrenoids 1-3 per semicell.

During the study of freshwater algae of South Africa, CLASSEN (1977) has given a very good account of *Triplastrum spinulosum* (Kisselev) Gauthier-Liévre collected from two different localities of Transvaal. The specimens from Transvaal showed all the characters common to *T. spinulosum*, *T. spinulosum* var. *indicum* and *T. spinulosum* var. *africanum*. Hence, two varieties, *indicum* and *africanum* were considered as synonyms of *Triplastrum spinulosum* (CLASSEN, 1977).

Gujarat material is agreeable with *T. spinulosum* collected from Mosdene, Transvaal in respects to dimensions, number of chloroplasts and pyrenoids per semicell, except the zygospores being smaller in dimensions (CLASSEN, 1977). *T. spinulosum* (Kisselev) Gauthier-Liévre (=*T. indicum* Iyengar) is described for the first time from Gujarat and is second report of its occurrence from India.

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