

VAUCHERIA MADHUENSIS PATEL SP. NOV. FROM INDIA

About 22 taxa of *Vaucheria* have been reported from India (BOERGESEN, 1932 ; DIXIT, 1937 ; VENKATARAMAN, 1961 ; PATEL & FRANCIS, 1968 ; PATEL & SONI, 1975 ; AGARKAR & AGARKAR, 1975 ; ADONI & SETH, 1975 ; SANTRA & ADHYA, 1976). Except *V. piliboloides* Thuret and *V. longicaulis* Hoppaugh, all the species so far recorded are from fresh-water habitats. *V. piliboloides* was first collected from Dwarka, Gujarat (BOERGESEN, 1932) and later on the same species was reported from Colaba, Bombay (DIXIT, 1937). *V. longicaulis* was described in detail from Okha, Gujarat (PATEL & FRANCIS, 1968). The present paper deals with the taxonomic report of a new species, *V. madhuensis* from Mithapur, Gujarat.

During the survey of algal flora of Mithapur sea-coast, the author collected *Vaucheria* sp. in the last week of December, 1965 and 1970 from Mithapur, about 10 km South of Okha.

The fertile material of the present alga was found growing as a dark green mass on sandy covered rocks at high water mark. Plants are monoecious and freely branched. Branching is not dichotomous. They are attached by means of rhizoids measuring upto 22.5 μm in diameter.

Considering the account of the descriptions of *Vaucheria* species so far described, the present alga does not agree with any species and hence it is described here as a new species.

***Vaucheria madhuensis* sp. nov.**

Figs. 1-10

Filaments freely branched, 67.5-70.0 μm in diameter.

Monoecious ; oogonium side by side to an antheridium at a certain distance from it, globose to ovoid, opening by an aperture, 120.0-180.0 μm broad, 165.0-232.5 μm long; oospore brown at maturity, subglobose to ovoid, medium in position, not filling the oogonium, wall thin, smooth, 120.0-172.5 μm broad, 142.5-210.0 μm long. Antheridia solitary or occasionally two, terminal on short or long lateral branches, may or may not be perpendicular to the main axis, cylindrical, curved or hooked 24.0-30.0 (—47.0 near the base) μm broad, up to 135.0 μm long, opening by an apical aperture.

Habitat—Growing on sandy covered rocks at high water mark on the coast of Mithapur, Gujarat.

Type Patel-1374a, b, c.

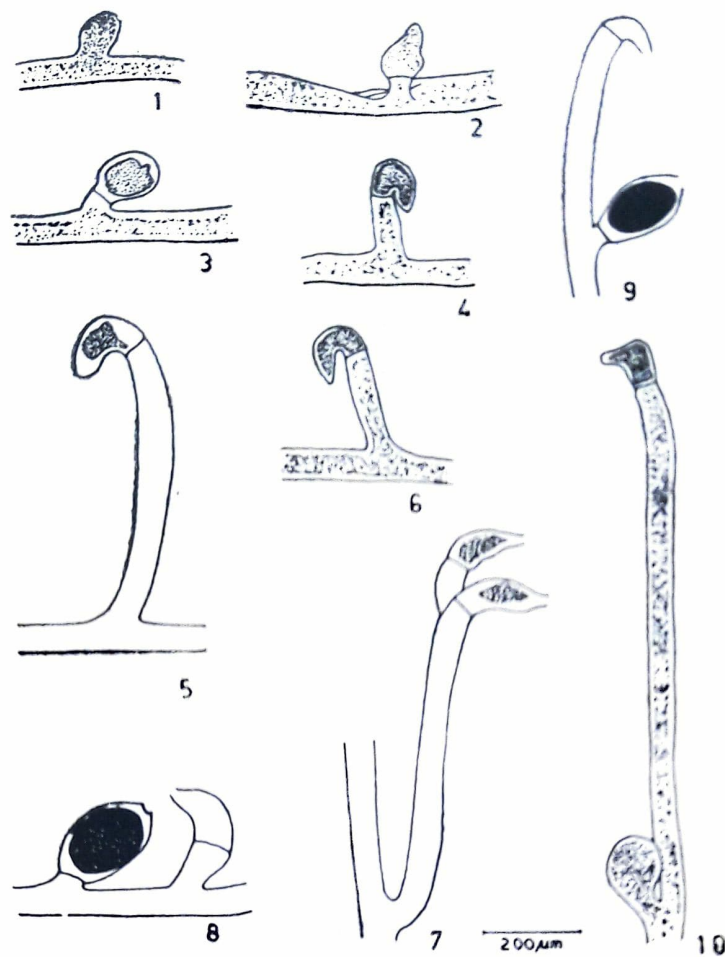
Latin diagnosis

***Vaucheria madhuensis* sp. nov.**

Figs. 1-10

Filamenta libere ramosa, 67.5-90.0 μm diameter.

Planta monoecia ; oogonium quiddam intervallum iuxta antheridium situm, globosum ad ovoideum, ex apertura aperiens, 120.0-180.0 μm lat., 165.0-232.5 μm long ; oospora matura brunnea, subglobosa ad ovoideum, situ media, oogonium non complens, 120.0-172.5 μm lat., 142.5-210.0 μm long., membrana tenui, levique. Antheridia singula aut interdum bina, in ramis lateralibus, brevibus longisque, ad axem principalem perpendiculariter aut non perpendiculariter dispositis, terminaliter posita, cylindrica, curvata



Figs.1-10 *Vaucheria madhuensis* sp. nov. : 1-3 Showing the development of oogonia. 4-6 Showing the different positions of antheridia. 7 Terminal part of the lateral branch to show two antheridia. 8-9 Filaments showing the mature oospores and empty antheridia. 10. Terminal antheridium and position of developing oogonium at a distance. (All figures \times 65-57).

hamatava, 24.0-30.0 (—47.0 prope basim) μm lat., usque ad 135.0 μm long, ex apertura apicali aperientia.

Habitatio : Plantae in rupis arena tectis ad locum per aestum tantummodo supremem obductum, in litore loci Mithapur, Gujarat dicti, colentes.

Typus : Patel, 1374, a, b, c.

The author expresses his sincere thanks to Prof. em. A. Reith, DDR-4325-Gatersleben, for confirming the identification of the species. Sincere thanks are also due to Prof. H. Croasdale, Department of Biological Sciences, Darmouth College, Hanover, 03755, U.S.A. for rendering the latin diagnosis.

REFERENCES

- ADONI, A. D. & SETH, L. B. (1975). Occurrence of some *Vaucheria* spp. new to India. *Phykos* **14**(1&2) : 47.
- AGARKAR, M. S. & AGARKAR, D. S. (1975). A note on the interesting form of *Vaucheria bilateralis* from Rewa, Madhya Pradesh. *Phykos* **14** (1&2) : 25-26.
- BOERGESEN, F. (1932). Some Indian green and brown algae especially from the shores of the Presidency of Bombay. *J. Indian bot. Soc.* **11** : 57-70.
- DIXIT, S. C. (1937). Chlorophyceae of Bombay Presidency, India-I. *Proc. Indian Acad. Sci.* **3B** : 16-25.
- PATEL, R. J. & FRANCIS, M. A. (1968). Observation on *Vaucheria longicaulis* Hoppaugh from India. *Phykos* **7**(1&2) : 98-101.

- PATEL, R. J. & SONI, M. J. (1974). On *Vaucheria fontinnalis* (L). Christensen from India. *J. Indian bot. Soc.* **53** : 193-195.
- PATEL, R. J. & SONI, M. J. (1975). On genera *Ophiccytium* and *Vaucheria* from Gujarat, India. *The Botanique.* **6(4)** : 185-190.
- SANTRA, S. C. & ADHYA, T. K. (1976). Vaucheriaceae of Eastern Himalayas (India). *Nova Hedwigia* **27** : 655-659.
- SAXENA, P. N. (1962). Algae of India-2, Vaucheriaceae. *Bull. Natn. Bot. Gdn. Lucknow*, **70** : 1-50.
- VENKATARAMAN, G. S. (1961). *Vaucheriaceae*. I.C.A.R., New Delhi, India.

R. J. PATEL

*Department of Biosciences, Sardar Patel University,
Vallabh Vidyanagar, 388 120, Gujarat, India*

FORM IV

(See Rule 8)

- | | |
|--|---|
| 1. Place of publication | Lucknow. |
| 2. Periodicity of its publication | Two numbers annually |
| 3. Printer's name | Mr. M. Paul |
| Nationality | Indian |
| Address | Lucknow Publishing House, Lucknow |
| 4. Publisher's name | The palaeobotanical Society, |
| Nationality | Indian |
| Address | 53, University Road, Lucknow-226 007 |
| 3. Editor's name | Dr. D. C. Bharadwaj |
| Nationality | Indian |
| Address | 53, University Road, Lucknow-226 007 |
| 6. Names and addresses of individuals, who own the Newspaper and partners or share holders holding more than one per cent of the total capital | The Palaeobotanical Society, 53, University Road, Lucknow-226 007 |

I, M. N. Bose, hereby declare that the particulars given above are true to the best of my knowledge and belief.

(Sd.) M. N. Bose

*Secretary
The Palaeobotanical Society
Signature of Publisher*

31st December, 1979