

NANNANDROUS *OEDOGONIA* FROM GUJARAT

A. K. JAWALE and R. J. PATEL*

P.G. Research Centre, Department of Botany, Dhanaji Nana Mahavidyalaya, Faizpur- 425503, Dist. Jalgaon, Maharashtra, India.

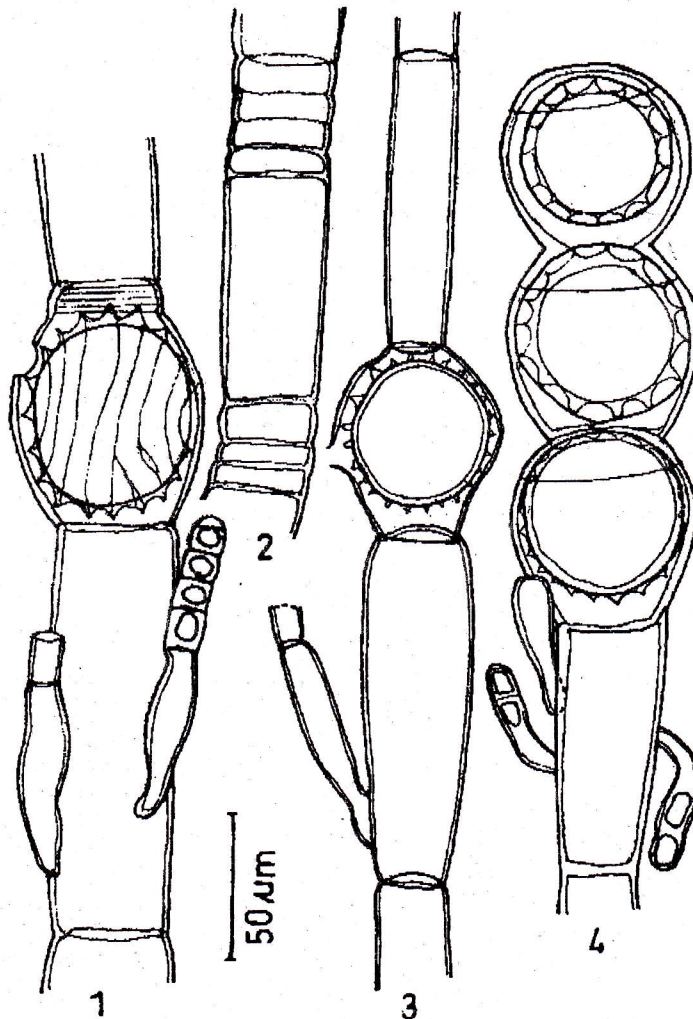
*Department of Biosciences, S.P. University, Vallabh- Vidyanagar- 388120, Gujarat, India.

Three taxa of nannandrous *Oedogonium* (Link) Hirn, viz., *O. nankingense*, *O. eminens* and *O. dentireticulatum* var. *indicum* var. nov. collected for the first time from Gujarat have been described.

Keywords : Nannandrous; New Report; *Oedogonium*; Taxonomy.

Genus *Oedogonium* from Gujarat is known through the earlier works¹⁻⁶. During the extensive study of Oedogoniales from Gujarat the authors came across three taxa of nannandrous *Oedogonium*, *O. nankingense*, *O. eminens* and *O. dentireticulatum* var. *indicum* var. nov.

which are collected for the first time from Gujarat. Identification of the taxa is based on the monograph by Gonzalves⁷. The material is deposited in the Department of Biosciences, Sardar Patel University, Vallabh Vidyanagar.



Figs. 1-2. *Oedogonium nankingense*; **Fig.3.** *Oedogonium dentireticulatum* var. *indicum* var. nov.; **Fig. 4.** *Oedogonium eminens*.

*Systematic Account*1. *Oedogonium nankingense* Jao. Figs. 1-2

Gonzalves, E. A., 1981, p. 436, fig. 9.333.

Nannandrous, idioandrosporous; vegetative cells cylindrical, those of female filaments 30-41 μm in diameter, 94-196 μm long; those of androsporangial filaments 24-34 μm in diameter, 67-139 μm long; oogonium single, subglobose or obovoid-globose, 53-70 μm in diameter, 66-75 μm long, poriferous, pore superior; oospore 52-54 μm in diameter, 55-68 μm long; outer spore wall with 7-8 spiral, crenulate, sometimes anastomosing costae, inner layer smooth and thick; androsporangia single or up to 4-seriate, 26-32 μm in diameter, 9-13 μm long; dwarf males on suffultory cells, stipe 15-18 μm in diameter, 51-60 μm long; antheridia single or 4-seriate, 9-10 μm in diameter, 9-13 μm long.

Habitat : In a pond at Karamsad (C. No. 336)

2. *Oedogonium eminens* (Hirn) Tiff. Fig. 4

Gonzalves, E.A., 1981, p. 515-516, fig. 9.414.

Nannandrous, vegetative cells cylindrical, 23-31 μm in diameter 83-120 μm long, suffultory cell inflated, 35-38 μm in diameter, 68-83 μm long, oogonia single or up to 4-seriate, subovoid, 61-65 μm diameter, 62-74.5 μm long; operculate, division superior, oospore globose, 58-63 μm in diameter, spore wall scrobiculate; dwarf males situated on the suffultory cells, stipe 10 μm in diameter, 37-52 μm long; antheridia single or in twos, 10 μm in diameter, 16 μm long.

Habitat : In roadside ditches at Vallabh Vidyanagar (C.No. 325)

3. *Oedogonium dentireticulatum* Jao var. *indicum* Jawale and Patel var. nov. Fig. 3

Nannandrous, gynandrosporous, vegetative cells cylindrical, 19-23 μm in diameter, 96-132 μm long; suffultory cell inflated, 34 μm in diameter, 109 μm long; oogonium single, subglobose, 55 μm in diameter, 62 μm long, poriferous, pore median to inframedian, oospore globose, 45-51 μm in diameter, spore wall two layered, outer layer reticulate and dentate, teeth spreading form reticulations, 6-7.5 μm long; androsporangia 19 μm in

diameter, 25 μm long; dwarf males on suffultory cells, stipe 12 μm in diameter, 76 μm long, antheridia single, 9.4 μm in diameter, 15 μm long.

Nannandra gynandrospora, cellulae vegetativae cylindricae, 19-23 μm diam., 96-132 μm longae; cellulae suffultis inflata, 34 μm diam., 109 μm longae; oogonia singula, subglobosae, 55 μm diam.; 62 μm longae, poriferum, poro mediana vel inframediano; oospora globosa, 45-51 μm diam., parietes bis laminati, lamina exteriore reticulato et dentata, 6-7.5 μm longae; androsporangia 19 μm diam., 25 μm in longae, mares nani super cellulae suffultis, stipites 12 μm diam., 76 μm longae, antheridia singula, 9.4 μm diam, 15 μm longae.

Holotype : RJP No. 489, collected in a pond at Gamdi, kept in the Department of Biosciences, Sardar Patel University, Vallabh Vidyanagar, Gujarat.

This variety is close to *O. dentireticulatum* var. *dentireticulatum* but as the vegetative cells, suffultory cells, oogonia, androsporangia and antheridia are larger; stipe of dwarf male is about 3 times longer hence considered as a new variety.

References

1. Kamat N D 1962, Chlorophyceae of Ahmedabad, India, *Hydrobiologia* **20** 248-279.
2. Patel R J 1988, On *Oedogonium acrosporum* De Bary. *Geophytologia* **18(2)** 158-161.
3. Patel R J 1990, Contribution to Oedogoniales (Chlorophyceae) of Gujarat. *J. Phytol. Res.* **3(1&2)** 119-122
4. Jawale A K and Patel R J 2000, Genus *Oedogonium* (Link) Hirn from Gujarat - I. *J. Adv. Sci. Tech.* **3(I & II)** 71-76.
5. Jawale A K and Patel R J 2001, Genus *Oedogonium* (Link) Hirn from Gujarat - II. *J. Adv. Sci. Tech.* **4(I & II)** 39-46
6. Jawale A K 2002, On two new species of *Oedogonium* (Link) Hirn from Gujarat, India. *J. Adv. Sci. Tech.* **5(I & II)** 24-27.
7. Gonzalves E A 1981, *Oedogoniales*, I.C.A.R., New Delhi, 757 pp.