



Taxonomic notes on Dutch desmids VII (new species, new names, new record)

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Abstract

From the Netherlands, *Cosmarium bipyrenoideum* and *Euastrum spondylosioides* were described as new to science. *Cosmarium laeve* var. *distentum* was raised to *Cosmarium distentum*, whereas *Cosmarium cataractarum* was newly reported for the Dutch flora. All four species were discussed for possible affiliations with other desmid taxa.

Introduction

Increasing desmid collecting activities in the Netherlands resulted in finds of species that could not be identified satisfactorily. In particular, the genus *Cosmarium* Corda ex Ralfs (1848: 91) appears to be rich in ill-defined, collective species. In the present study, a number of them is subjected to a detailed taxonomic study.

Materials and Methods

Most samples were collected by squeezing (semi)aquatic plants. Samples from semi-atmophytic habitats obtaining *Euastrum spondylosioides*, however, were obtained by pressing a shallow cuvette into the wet soil. Samples containing *Cosmarium distentum* were gathered by scooping floating layers of blooming populations of that species from the water surface. Conductivity was measured with a HANNA HI 98311 EC/TDS/Temperature Tester. After collecting, the samples were kept at a temperature of 4 °C in a refrigerator and examined alive within a week. Part of the samples were also fixed with formaldehyde.

Taxonomic Account

Cosmarium bipyrenoideum Coesel et Meesters, sp. nov. (Figs. 1–3, 11–15)

Cells in frontal view slightly longer than broad, deeply constricted. Sinus closed to about halfway, then opening widely. Semicells semicircular-reniform with broadly rounded basal angles. Cells in apical view oblong with almost parallel sides and broadly rounded angles. Cell wall smooth, faintly scrobiculate. Chloroplast with two pyrenoids. Dimensions: length 37–45 µm, breadth 35–40 µm, isthmus 8–12 µm, thickness ca. 20 µm.

Type:—THE NETHERLANDS. Flevoland: shallow pool in ‘Kuinderbos’ near Kuinre, 52.782° N, 5.807° E, among aquatic weeds, conductivity 170 µS cm⁻¹, Coesel & Meesters, 5 September 2014, (holotype L! Hugo de Vries Lab 2014.01, preserved as a fixed natural sample).

Differential diagnosis:—At first glance, *Cosmarium bipyrenoideum* is a little conspicuous, smooth-walled *Cosmarium* species, superficially resembling common species such as *C. phaseolus* Ralfs (1848: 106), *C. depressum* (Nägeli 1849: 114) P.Lundell (1871: 38) or *C. klebsii* Gutwiński (1892: 19). Most striking difference with those species, however, is