

Validation of “*Cosmarium pulcherrimum* f. *kossinskajae*” Palamar-Mordvintseva (Desmidiaceae, Zygnematophyceae)

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In 1982, in vol. 11, Part 2 of *Manual for identification of the freshwater algae of the USSR*, Galyna Mykhailivna Palamar-Mordvintseva (1924–2017) published a new form: *Cosmarium pulcherrimum* f. *kossinskajae* Palamar-Mordvintseva (1982: 387). This form was not validly published as it was not accompanied by a Latin description or diagnosis required between 1958–2011 (Art. 44.1, Turland & al. 2025). Additionally, the type of this taxon was not indicated as required by Art. 8.1 and was described from numerous gatherings in the Russian Arctic islands. Several years later, the same desmid was mentioned in Palamar-Mordvintseva (1986: 137) with a full repetition of the description, illustration, and distribution. Palamar-Mordvintseva’s designation is validated below.

Cosmarium pulcherrimum* f. *kossinskajae Palamar-Mordvintseva ex Levanets & Berezovska, *forma nov.*

Replaced designation: “*Cosmarium pulcherrimum* f. *kossinskajae*” Palamar-Mordvintseva *Manual for identification of the freshwater algae of the USSR. Desmidiaceae*, 11(2): 387, fig. 103: 2, 1982, *nom. inval.*

Description: Cell length 45.6 µm, width 36 µm. Isthmus 18 µm. Above the isthmus there are 7 longitudinal rows of granules. Different from f. *boreale* by the ratio of length to width, side view of the cell and a smaller number of longitudinal rows of granules in the centre of the semicells above the isthmus (from Palamar-Mordvintseva 1982: 387).

Holotype: [icon!] Palamar-Mordvintseva (1982: fig. 103: 2, line drawing of a single cell from a single gathering; ICN Art. 40.6, reproduced here as Fig. 1)

Further localities: RSFSR [Russian Soviet Federative Socialist Republic, now Russian Federation]: Arctic Islands.

Etymology: Named for the Russian phycologist Ekaterina Konstantinovna Kossinskaja (1900–1957).

Registration: <http://phycobank.org/107388>

Note. *Cosmarium pulcherrimum* Nordstedt (1870: 213, pl. III [3]: fig. 24) is a poorly known species from Brazil, and subsequent records from Europe are very doubtful (lacking original figures) or represent different species (e.g. West & West 1908; Petkov 1910). Nordstedt (1872: 32, pl. VI [6]:14) described *Cosmarium pulcherrimum* var. *boreale* from Spitzbergen, which is very similar to *C. speciosissimum* Schmidle and both forms most probably are synonymous. Nordstedt (1880: 5) later described *Cosmarium pulcherrimum* f. *senegalense* (as “*senegalensis*”) Nordstedt from *Utricularia* collected in Senegal, which is slightly larger and showed different central ornamentation, but also published without a figure; and, again, its relationships are unknown. Gutwiński (1890: 70, no fig.; 1892: 58, pl. II [2]: fig. 21) described *Cosmarium pulcherrimum* β [var.] *truncatum* Gutwiński from Lemberg [Lviv in modern Ukraine]. Schmidle (1895: 304, pl. IV [4]: fig. 11 [only semicell]) added further confusion, describing *Cosmarium pulcherrimum* [var. *truncatum*] f. *minus* (as “*minor*”) from Indrapura, Sumatra (see Kouwets 2025: 513), an illegitimate later homonym of *Cosmarium pulcherrimum* var. *minus* (as “var. *minor*”) Wolle (1892, expl. pl. LX [60]: figs 25–27).

In the most recent treatment of European flora of the genus *Cosmarium* (Kouwets 2025: 513 [Part 1]), this taxon is not mentioned since it is probably considered to be found in the Asian part of the Russian Federation. Finally, we agree with Kouwets (2025: 513 [Part 1]) that the taxonomy of this group of species (including *C. binum* Nordstedt and *C. subspeciosum* Nordstedt) is very confused and needs a complete revision.

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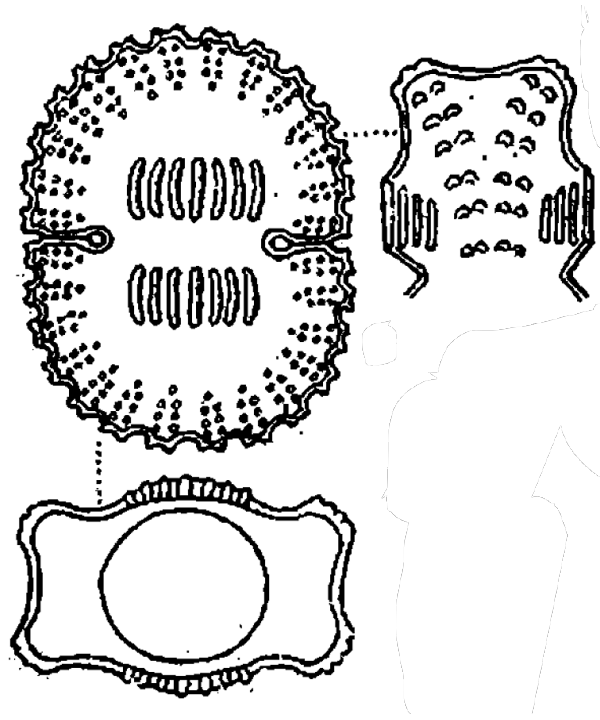


Fig. 1. Holotype: [icon!] of *Cosmarium pulcherrimum* f. *kossinskajae* Palamar-Mordvintseva ex Levanets & Berezovska, *forma nov.* (after Palamar-Mordvintseva 1982: fig. 103: 2).