

PROPOSALS TO CONSERVE OR REJECT
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Edited by Dan H. Nicolson¹

(1110) Proposal to conserve *Dictyococcus* against *Cyanoderma* (*Neochloridaceae*, *Chlorophyta*)

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(1110) *Dictyococcus* Gerneck in Beih. Bot. Centralbl. 21(2): 231. 15 Apr 1907, *nom. cons. prop.* [*Chloroph.*].

Type: *D. varians* Gerneck.

(=) *Cyanoderma* Weber Bosse in Natuurk. Verh. Holl. Maatsch. Wetensch. Haarlem, ser. 3, 5(1): 18. 1887, *nom. rej. prop.*

Lectotype (vide Kylin, Gatt. Rhodophyc.: 54. 1956): *C. brachypodis* (J. G. Kühn) Weber Bosse (*Pleurococcus brachypodis* J. G. Kühn, *Dictyococcus brachypodis* (J. G. Kühn) Wujek & Timpano).

In describing *Cyanoderma* for some algae inhabiting sloth hairs, Weber-van Bosse assigned two already recognized species to her genus: *Pleurococcus bradypodis* ('bradypi') and *P. choloepodis* ('choloepi'), both taxa described by Kühn (in Abh. Naturf. Ges. Halle 9(1): 66. 1864) from sloth hair. *Cyanoderma bradypodis* (J. G. Kühn) Weber Bosse was subsequently designated the type of the name of the genus by Kylin. Weber-van Bosse assigned *Cyanoderma* to the blue-green algae, relating the genus to the *Chamaesiphonaceae*. Later workers observed a red alga growing in sloth hairs and falsely assumed that this alga was Weber-van Bosse's *Cyanoderma*. Hieronymus (in Beitr. Biol. Pfl. 5: 470. 1892) re-assigned *Cyanoderma* from the blue-green algae to the red algae, and that placement was followed by subsequent workers (Schmitz in Engler & Prantl, Nat. Pflanzenfam. 1(2): 316. 1896; Skuja in Bot. Rev. (Lancaster) 4: 667. 1938; Bourrelly in Rev. Algol. 1: 122. 1954; Kylin, Gatt. Rhodophyc.: 54. 1956; Garbary & al. in Nova Hedwigia 33: 148. 1980).

Wujek & Timpano (in Brenesia 25-26: 163. 1988) succeeded in isolating a number of algal cultures from the hairs of two-toed and three-toed sloths in Panama and Costa Rica. They were able to follow up on some preliminary observations of Thompson (in J. Phycol. 8, Suppl.: 8. 1972). Their conclusion was that the algae Weber-van Bosse observed and grew in culture from the sloth hair were most likely pleurocapsoid blue-green algae. In addition, they isolated two coccoid chlorophytan algae corresponding to Kühn's *Pleurococcus bradypodis* and *P. choloepodis*. They also

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isolated a red alga with a branched, filamentous organization, which reproduced both by fragmentation and by endospores. In their opinion it is this red alga that workers had erroneously come to regard as Weber-van Bosse's *Cyanoderma*, and because "*Cyanoderma* was based on a blue-green alga and on the erroneous assumption regarding Kühn's two species", the sloth-hair-inhabiting red alga had been without a generic name. They therefore established *Rufusia pilicola* Wujek & Timpano for the filamentous red algal taxon lacking a name, while transferring Kühn's *P. bradypodis* to *Dictyococcus* Gerneck and Kühn's *P. choloepodis* to *Chlorococcum* Meneghini (Monogr. Nostoch. Ital.: 24. 1842). They dismissed *Cyanoderma* with the statement that it "becomes a synonym as all other species of the genus were placed in *Pleurocapsa* Hansgirg". [NB: The author of *Pleurocapsa* should be Thur. (in Hauck, Meeresalgen: 515. 1885).]

This above treatment of *Cyanoderma* failed to recognize Art. 10.1 of the *Code* (Greuter & al. in *Regnum Veg.* 131: 1994), which requires that *Cyanoderma* be typified, not by the pleurocapsoid blue-green alga that Weber-van Bosse had in hand but, by "the type of a name of a species", namely, *Pleurococcus bradypodis* J. G. Kühn, the designated type. It is this taxon that Wujek & Timpano (l.c.) demonstrated to be a zoospore-producing coccoid green alga, *Dictyococcus*. *Dictyococcus*, a genus with only 3 recognized species with occurrences in Europe (Komárek & Fott in Huber-Pestalozzi, *Phytoplankt. Süßwass.* 7(1): 137. 1983), has been assigned either to the *Chlorococcaceae* (Starr in *Indiana Univ. Publ., Sci. Ser.* 20: 55. 1955; Fott, *Algenkunde*: 242. 1959; Silva in Parker, *Synops. Classif. Living Org.* 1: 140. 1982), or to the *Palmellaceae* (subfam. *Neochloridoideae*) (Komárek & Fott, l.c.), or to the *Neochloridaceae* (Christensen, *Algae Tax. Surv.* 2: 259. 1994). If *P. bradypodis*, the lectotype of *Cyanoderma*, is indeed correctly assigned to *Dictyococcus*, the problem arises that *Cyanoderma* Weber Bosse (1887) has priority over *Dictyococcus* Gerneck (1907). This nomenclatural result calls for the assignment of *Cyanoderma*, a generic name that has already been treated as a blue-green alga and then as a red alga, now as a green alga. In the light of the checkered history of the generic name *Cyanoderma* and its having been regarded for almost a century as a red algal genus, the most practical course is to conserve *Dictyococcus* against *Cyanoderma*.

Another option would be to conserve *Cyanoderma* (from 1887) with *C. pilicolia* comb. ined. (*Rufusia pilicola* Wujek & Timpano) as its conserved type, thereby maintaining its traditional but incorrect usage as a name for a genus of red alga that lives in sloth hairs. The conservation of *Dictyococcus* appears to be the more reasonable option.