

TWO NEW FAMILIES AND SOME NEW NAMES AND COMBINATIONS IN THE ALGAE

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In a recent survey of algal taxonomy published for the use of Danish university students, the author (1962, 1966) has introduced some new taxa and names. A few of them express new systematic opinions, and will be separately accounted for. The majority have been made for formal reasons only, and are established here in accordance with the code of nomenclature.

Dunaliellaceae T. Christensen, *fam. nov.*

Cellula monadoïdes, solitaria, nulla membrana vel lorica induta, notas Chlorophycearum praecipue flagella nuda exhibens.

Genus typificum: *Dunaliella* E. C. Teodoresco 1905, p. 230.

Platymonadaceae T. Christensen, *fam. nov.*

Cellula monadoïdes, solitaria, membrana induta, notas Prasinophycearum praecipue flagella squamis et appendicibus filiformibus crassioribus vestita exhibens.

Genus typificum: *Platymonas* G. S. West 1916, p. 3.

In the *Chlorophyta* the author has followed Chadeffaud (1950) in excluding the allies of *Prasinocladus* from the *Chlorophyceae* and placing them in a separate class, the *Prasinophyceae*. Such separation entails a splitting of two former Chlorophycean families, the *Polyblepharidaceae* comprising naked monads, and the *Chlamydomonadaceae* comprising similar forms provided with a cell wall. *Polyblepharides*, which is the type of the former family, has not yet been adequately studied but probably represents the *Prasinocladus* type as assumed by Chadeffaud, so that the family name *Polyblepharidaceae* should be applied to naked forms placed in the *Prasinophyceae*. *Chlamydomonas*, on the other hand, shows a typical Chlorophycean construction. The family name *Chlamydomonadaceae*, therefore, must be applied to walled forms remaining in the *Chlorophyceae*. For previous members of the *Polyblepharidaceae* now left behind in the *Chlorophyceae*, and for previous members of the *Chlamydomonadaceae* now placed in the *Prasinophyceae*, new family names have been introduced in the Danish text. In the first edition (Christensen, 1962) they were called *Dunaliellaceae* and *Tetraselmidaceae*, respectively. Since then some doubt has arisen (cf. Manton & Parke, 1965) as to whether *Tetraselmis* Stein (1878) and *Platymonas* West (1916) are taxonomically identical, as is assumed by Butcher (1959), following Korschikoff (1938). If there is no such identity *Platymonas* still belongs in the *Prasinophyceae*, while *Tetraselmis* possibly does not. Therefore, the second family name, not yet formally established, has been changed to *Platymonadaceae* in the second edition (Christensen, 1966).

Dictyochales T. Christensen, *nom. nov.* — *Siphonotestales* Lemmermann 1901, p. 92.

Familia typifica: *Dictyochaceae* Lemmermann 1901, p. 92.

According to the codes of nomenclature adopted by the Stockholm and the Paris

Congresses, the name of an order should invariably be taken from that of its type family. In the Algae names that did not comply with this rule were gradually replaced by others formed in agreement with the code, and this process had nearly been carried through when, without notification in the Synopsis of Proposals, a proposal was brought forward and hastily carried in Montreal giving authors an absolutely free hand in this respect. The present author is in favour of the simplicity and uniformity prescribed by the previous codes and has used his unwanted freedom only to keep to a rule no longer obligatory. In the survey referred to, the order name *Dictyochales* has been introduced as a substitute of that given by Lemmermann because the latter is not derived from the name of a subordinate taxon.

Planonephraceae T. Christensen, *nom. nov.* familiae Cryptophycearum. — *Senniaceae* Skuja 1948, p. 366, *nom. illeg.* Genus typificum:

Planonephros T. Christensen, *nom. nov.* — *Nephroselmis* sensu Pascher & Lemmermann 1913, p. III (*vix Nephroselmis* Stein 1878, pl. 19). — *Sennia* sensu Skuja 1948, p. 366 (*non Sennia* Pascher in Pascher & Lemmermann 1913, p. 184). Species typifica:

Planonephros dispar T. Christensen, *nom. nov.* — *Nephroselmis olivacea* sensu Pascher & Lemmermann 1913, p. III (*vix Nephroselmis olivacea* Stein 1878, pl. 19). — *Sennia commutata* sensu Skuja 1948, p. 366 (*non Sennia commutata* Pascher in Pascher & Lemmermann 1913, p. 184).

Bean-shaped flagellates with yellow-green plastids and two flagella issuing from the concave side are known both in the *Cryptophyceae* and in the *Chlorophyta*. One of them is described by Stein (1878) under the name *Nephroselmis olivacea*. Stein refers his organism to the *Cryptomonadina*, but from his illustration it seems to show more resemblance to the Chlorophytic forms and Stein's opinion may be mainly based on the peculiar colour of the chromatophore. Senn (1911) describes a rather similar looking organism, supposing it to be identical with that studied by Stein, but referring it to the *Volvocaceae*. Pascher & Lemmermann (1913) describe and picture two forms, one under the *Cryptophyceae*, the other as an organism of uncertain affinity. The name given by Stein is applied to both without cross reference. In the case of the form of uncertain affinity, however, a new name, *Sennia commutata*, is introduced, with Stein's name cited only as a synonym; Senn is mentioned as one of the previous finders, and this as well as the new name makes it fairly clear that what is meant is not '*Nephroselmis olivacea* Stein', but '*Nephroselmis olivacea sensu Senn (non Stein)*'. No matter whether Senn's or Pascher's organism should be regarded the type of *Sennia*, this name applies to the non-Cryptophycean genus. Skuja (1948) resumes Senn's opinion that the organism studied by Stein is non-Cryptophycean, and therefore uses the generic name *Nephroselmis* and the family name *Nephroselmidaceae* for forms now placed close to the *Polyblepharidaceae*. In this usage he is followed by most subsequent authors. Application of the name *Nephroselmis* to such forms, however, leaves the Cryptophycean form without a name. Skuja suggests a simple interchange of names, applying the name *Sennia* to the Cryptophycean genus. But such circumscription of the genus *Sennia* excludes the type, and therefore cannot be maintained. The question where to place *Nephroselmis* Stein will hardly be answered in a fully convincing manner without a form being found that agrees better with Stein's description than any of those later studied. In the new taxonomic survey referred to, the author has placed it in the *Chlorophyta*, following general usage as well as his own estimate. For the Cryptophycean form and for the family established by Skuja to accommodate it, the above names have been introduced. They have been chosen to cover largely

the same meaning as the word *Nephroselmis*, the stem *selmid*, flagellum, being replaced by the stem *plan(o)*, moving around.

Vertebrata lanosa (L.) T. Christensen, *comb. nov.*; basionyma: *Fucus lanosus* Linnaeus 1767, p. 718.

Introduction of this new combination is a necessary consequence of accepting the taxonomic concept of Kylin (1956) with regard to the genera *Polysiphonia* and *Vertebrata*, cf. Tandy (1931).

Nemaliales orth. mut. — *Nemalionales* Schmitz in Engler 1892, p. 17.

The name *Nemalion* was originally the specific epithet of a plant referred to the genus *Fucus* (Bertoloni, 1818). Probably, as stated by Frank in Leunis & Senft (1877), it was latinised from Greek *nema leion*, slippery thread (noun first as in the Linnean epithets *Virgaurea* and *Adiantum-nigrum*; a more regular form being *Lionema*, in conformity with the name *Liochlaena*). Harvey (1846) gives a different interpretation, deriving it from Greek *nema*, thread, and *leion*, crop (a more regular form then being *Nematoleion*). No matter which of these derivations is correct, the stem of the generic name ends in *-li(o)*, not in *-lion*. Oddly enough, authors have used the group designations *Nemalieae* and *Nemalionales* side by side. The former is correct in omitting the *-on-*. The latter has to be shortened by the same two letters so as to conform with the designation *Phaeothamniales* based on the generic name *Phaeothamnion*.

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