Nomenclatural notes on algae. VIII. Automatically typified names for some groups of alveolates

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Descriptive names are explicitly allowed under Art. 16.1.b (ICN, Turland & al. 2018) and are defined as those (i) over the rank of family and (ii) not formed from a generic name and a specific Latin ending denoting rank (although this has been challenged; Brzozowski 2020). They can be used unchanged at different ranks. The application of such names can be problematic if the characters referenced in them are not self-evident; this has been a recurrent theme in zoological nomenclature. Sharp (1873) said: "A name is intended to be a name and not a description". Descriptive names have been discouraged by some 20th century authors (e.g. Faure 1946, Starobogatov 1991), despite receiving some support more recently (Queiroz 2005).

Cavalier-Smith (2017) proposed various new zoological classes and orders for some eukaryotic flagellates under his "parvphyla"* *Dinoflagellata* and *Apicomonada* using descriptive names, valid under Art. 45.1 of the *Code* (Turland & al. 2018). Since the publication of Adl & al. (2019), many of these names were effectively synonymised, and others not used at all. Some of these unused higher rank taxa are given new, automatically typified names herein to facilitate their inclusion in monographs and databases.

Colpodellophyceae Molinari & Guiry, *nom. et stat. nov.*
Replaced name: *Paraconoidia* Cavalier-Smith, *Protoplasma* 255(1): 307, 2017 ('Paraconoidia superord. n.').
Registration: http://phycobank.org/104128
Notes: Adl & al. (2019) treatment of the order *Colpodellales* (as *Colpodellida*) emends the group as to include photosynthetic organisms, and places it directly under *Alveolata*, which is usually treated at the kingdom-group level, without intermediate groups. A subclass typified by *Colpodella* Cienkowski was already proposed by Mylnikov & al. (2000, as *Colpodellia*), however, a class name was lacking. Since Adl. & al. (2019) used the ending *-aceae* for all families, some of which include photosynthetic organisms, we regularise the use of botanical endings for every level, as in AlgaeBase (Guiry & Guiry 2023).
Composition: A single subclass, *Colpodellophycidae* Mylnikov & al. (synonym: *Vitrellophycidae* Cavalier-Smith); one order: *Colpodellales* Cavalier-Smith (synonym: *Vitrellales* Cavalier-Smith); four families: *Alphamonadaceae* Cavalier-Smith (T: *Alphamonas* A.G.Alexeieff), *Chromeraceae* Oborník & J.Lukeš (T: *Chromera* R.B.Moore & al.), *Colpodellaceae* A.G.B.Simpson & D.J.Patterson (*Chilovora* Cavalier-Smith, T: *Colpodella* Cienkowski, *Voromonas* Cavalier-Smith), and *Vitrellaceae* Oborník & J.Lukeš (T. *Vitrella* Oborník & al.)

Additionally, the flagellate genus *Acrocoelus* I.Fernández & al., previously considered closely allied to or included within the *Colpodellaceae*, was assigned to its own order *Acrocoelida* without a family (Cavalier-Smith & Chao 2004). We propose it here:

* A "parvphylum" is a suprageneric taxon above the class level and below the infraphylum level.

Acrocoelidae, Molinari & Guiry, *fam. nov.*
Description: as for the order *Acrocoelida* Cavalier-Smith (in Cavalier-Smith & Chao 2004: 201).
ZooBank registration: urn:lsid:zoobank.org:act:144B7B5D-B3C2-485A-8AD5-85D4C1B73CBD

Colpovorophyceae, Molinari & Guiry, *nom. nov.*
Replaced name: *Myzodinea* Cavalier-Smith, *Protoplasma* 255(1): 306, 2017.
Registration: http://phycobank.org/104129
Composition: A single order, ***Colpovorales***, Molinari & Guiry, *nom. nov.*
Replaced name: *Myzodinida* Cavalier-Smith, *Protoplasma* 255(1): 307, 2017.
Registration: http://phycobank.org/104130
Composition: A single family, *Colpovoraceae* Cavalier-Smith (*Colpovora* Cavalier-Smith).

Akashiwales, Molinari & Guiry, *nom. nov.*
Replaced name: *Spirodinida* Cavalier-Smith, *Protoplasma* 255(1): 307, 2017.
Registration: http://phycobank.org/104131
Composition: A single family, *Akashiwaceae* Cavalier-Smith (T: *Akashiwo* Gert Hansen & Moestrup).
Notes: All the above names were proposed within the *Dinoflagellata* and were not used by Adl & al. (2019): *Colpovora* is not included in the classification presented in the table 2 of Adl & al. (2019), and *Akashiwo* is listed as a dinoflagellate *incertae sedis* in the same table.

The present work has been registered in ZooBank with the Life Science Identifier urn:lsid:zoobank.org:pub:D9F855B6-F347-4262-8B06-00A1FCD36C36.

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