Skeletonematopsis P.A.Sims, *gen nov.* (*Trochosiraceae, Mediophyceae*), a new fossil genus name

Michael D. Guiry[1] & David M. Williams[2]

[1]*AlgaeBase, Ryan Institute, University of Galway, Galway, H91 TK33, Ireland.*

[2] *Natural History Museum, Cromwell Road, London SW7 5BD, United Kingdom.*

The genus name *Skeletonema* was introduced by Greville (1865: 43) for a single species, *Skeletonema barbadense* Greville (1865: 43, pl. V: fig. 1), a seemingly extinct, fossil species from the "Barbadoes deposit, Cambridge estate; in slides communicated by C. Johnson, Esq.; extremely rare." [Middle Eocene]. A few years later, what was considered an extant species of the genus, *Skeletonema costatum* (Greville) Cleve, was added (Cleve 1873: 7) to *Skeletonema* Greville.

Sims (1995), however, after a LM and SEM examination of *Skeletonema barbadense* and several other fossil species, found that they were unrelated to living species of *Skeletonema* and proposed a new genus name "*Skeletonemopsis*" P.A.Sims with "*Skeletonemopsis barbadensis*" (Greville) P.A.Sims as the type, on the "assumption that" (Ross & al. 1996: 316) a proposal to conserve *Skeletonema* Greville with a new type would be subsequently published and accepted. However, as *Skeletonema barbadense* Greville was the type of *Skeletonema* Greville at the time of publication, "*Skeletonemopsis*" P.A.Sims would have been illegitimate at the time of publication.

Ross & al. (1996) proposed *Skeletonema* Greville for conservation with an extant species, *Skeletonema costatum* (Greville) Cleve, as type and "*Skeletonemopsis*" P.A.Sims for conservation with "*Skeletonemopsis barbadensis*" (Greville) P.A.Sims as type. Both proposals were accepted and both *nomina conservanda* formally appeared in the Appendices of the ICN (Comperé 1999: 130-1).

However, it was not appreciated by Ross & al. (1996) and the various nomenclatural committees that "*Skeletonemopsis*" P.A.Sims is an invalid name as it was not published with a Latin description or reference to one as required by Art. 44.1. While it appears that Art. 44.1 does not apply to fossil algae (see Art. 43.1), this article does not apply to fossil diatoms (see Art. 1.2), and a Latin diagnosis was therefore necessary for validity. "*Skeletonemopsis*" P.A.Sims is therefore an invalid designation, and its conservation was thus ineffective.

We here propose to validate Sims's name but with slightly corrected orthography. The genus name is based on a genus name ending in the neuter Greek suffix '*-nema'* [a thread] and a genus name based on such a name should be formed "*-nematopsis*" as in, for example, *Gloiodermatopsis* Lindauer and *Scytonematopsis* Kisseleva.

Skeletonematopsis P.A.Sims, *gen. nov.*
Replaced designation: "*Skeletonemopsis*" P.A.Sims, *nom. inval. Diatom Research*, 9(2): 408, 1995
Description: Cells cylindrical, forming chains by means of linking spines. Valve face circular, convex, bordered by a marginal ridge with linking spines. Linking spines mostly partially hollow with bullulae. Areolae radiating from valve centre to valve margin, loculate with external vela and internal foramina. Rimoportulae positioned just above valve margin in a single ring, internal openings small, oval, lying within the marginal ring of foramina; external openings often covered by auricular flaps.
Registration: http://phycobank.org/104137
Type: ***Skeletonematopsis barbadensis*** (Greville) P.A.Sims, *comb. nov.*

Basionym: *Skeletonema barbadense* Greville, *Transactions of the Microscopical Society, New Series, London* 13: 43, pl. V: fig. 1, 1865.
Registration: http://phycobank.org/104138
Type: BM 3059, Greville collection.

Skeletonematopsis crawfordii P.A.Sims, *sp. nov.*
Replaced designation: "*Skeletonemopsis crawfordii*" P.A.Sims, *Diatom Research*, 9(2): 408, figs 14-17, 49, 1995.
Description: Sims (1995: 395)
Holotype: **BM** 82254. England Finder J 44.
Registration: http://phycobank.org/104139
Distribution: Alpha Ridge, Arctic Ocean (Sims 1995).
Age: Late Cretaceous.
Note: Named for the diatomist Richard M. Crawford.

Skeletonematopsis mahoodii P.A.Sims, *sp. nov.*
Replaced designation: "*Skeletonemopsis mahoodii*" P.A.Sims, *Diatom Research*, 9(2): 397, figs 25–32, 48, 1995.
Description: Sims (1995: 397)
Holotype: **BM** 82249. England Finder D 38 1/3.
Registration: http://phycobank.org/104140
Distribution: Komandorsky Islands [Commander Is.], Kaminsky formation; Prydz Bay, East Antarctica (Sims 1995).
Age: Early to Late Oligocene.
Note: Named for the diatomist Albert D. Mahood.

Skeletonematopsis morenoensis P.A.Sims, *sp. nov.*
Replaced designation: "*Skeletonemopsis morenoensis"* P.A.Sims, *Diatom Research*, 9(2): 391, Figs 5–8, 45, 1995.
Description: Sims (1995: 391).
Holotype: **BM** 82248
Registration: http://phycobank.org/104141
Distribution: Moreno Shale, California (Sims 1995).
Age: Late Cretaceous (Maastrichtian).

Skeletonematopsis rugosa P.A.Sims, *sp. nov.*
Replaced designation: "*Skeletonemopsis rugosa*" P.A.Sims, *Diatom Research*, 9(2): 398, Figs 18-24, 50, 1995.
Description: Sims (1995: 397).
Holotype: **BM** 82250. England Finder M 36/4.
Registration: http://phycobank.org/104142
Distribution: Inza, Ulyanovsk Oblast. ?Lower Syzran, Lower stage of Ulyanovsk region. ?Seymour Island, eastern Antarctic Peninsula (Sims 1995).
Age: Palaeocene.

Skeletonematopsis simbirskiana (A.W.F.Schmidt) P.A.Sims, *comb. nov.*
Basionym: *Skeletonema simbirskianum* A.W.F.Schmidt *Atlas der Diatomaceen-kunde*. Series IV: Heft 45/46, pl. 180: fig. 33, 1892.
Registration: http://phycobank.org/104143

Lectotype (here designated): [icon!]: A.W.F.Schmidt *Atlas der Diatomaceen-kunde*. Series IV: Heft 45/46, pl. 180: fig. 33, 1892
Epitype (here designated; as "neotype" in Sims 1995: 395): Inza, Russia; **BM** 82250 England Finder O 36; illustrated as figs 46, 47 in Sims (1995).
Registration: (designations of types): http://phycobank.org/104146
Distribution: Simbirsk and Inza, Russia (Sims 1995).
Age: Palaeocene.
Note: The basionym was introduced without a description but was validated by analytical figures (ICN Art. 38.7).

We greatly appreciate the taxonomic insights of Pat Sims on *Skeletonema* and *Skeletonematopsis* and we thank Wolf-Henning Kusber for helpful discussions.

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