

The correct name for *Apistonema* Pascher (*Prymnesiaceae*, *Coccolithophyceae*)

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Pascher (in Pascher & al. 1925: 131, published 11 June–15 July) described the genus *Apistonema* without type or any species, for a freshwater alga of short, branched filaments. He published its first species, *Apistonema commutatum* Pascher some months later (1925: 532, published 10 November), saying “Ich möchte hier aber ausdrücklich betonen, daß es nicht ausgeschlossen ist, daß im Süßwasser wie im Meere morphologisch sehr vereinfachte Phaeophyceen Vorkommen” [However, I would like to stress here that it is not impossible that morphologically very simplified Phaeophyceae may occur in fresh water as well as in the sea.] He later added a second freshwater species, *A. pyrenigerum* Pascher (1931: 71, figs 2–7; pl. 6), based upon the presence of a pyrenoid in the chloroplasts. In total, seven species names have been introduced for the genus, but only four are currently accepted (Guiry & Guiry 2024), Pascher’s two species, *A. submarinum* P.A.Dangeard (1934: 263, figs. 1–3; pls. 25–26) and *A. polychloris* H.Ettl (1965: 126, pl. 31: figs. 9–13).

In his treatment of the genus, Waern (1952: 85) commented that *Apistonema* was “nothing new under the sun”, since it had been previously described by Cienkowski (1881: 154) as *Gloeothamnion*, and equated *A. pyrenigerum* with *G. palmelloides*, the type of the genus, with “hardly any doubt”. Despite this, he disregarded the priority of *Gloeothamnion* because he considered that Pascher’s (1925) monograph “...should be used as the starting point for [chrysophyte] nomenclature, ...”. However, no such starting point has at any time been set for this group (ICN Shenzhen Art. 4, Turland & al. 2018).

As *Gloeothamnion* has priority over *Apistonema*, it must be adopted as the name of this taxon as circumscribed by Waern (1952) and Andrews & Wujek (2017) in accordance with the Principle of Priority (ICN Princ. III and Shenzhen Art. 11).

Gloeothamnion Cienkowski, *Trudy Sankt-Peterburgskogo Obshchestva Yestestvoispytateley* 12: 154, 1881.

Synonym: *Apistonema* Pascher, *Die Süßwasser-Flora Deutschlands, Österreichs und der Schweiz* 11: 131, 1925.

Type species: *Gloeothamnion palmelloides* Cienkowski, 1881.

Gloeothamnion commutatum* (Pascher) Molinari & Guiry, *comb. nov.

Basionym: *Apistonema commutatum* Pascher, *Archiv für Protistenkunde* 52: 532, figs. j1–m1, 1925.

Registration: <https://phycobank.org/104893>

Note: Type of *Apistonema* Pascher. Reported from Sicily, Italy; Lunz am See, in Lower Austria and the Bohemian Forest (Pascher 1931).

Gloeothamnion palmelloides Cienkowski, *Trudy Sankt-Peterburgskogo Obshchestva Yestestvoispytateley* 12: 154, pl. 1: figs 12–16, pl. 2: figs 17–19, 1881.

Synonym: *Apistonema pyrenigerum* Pascher, *Archiv für Protistenkunde* 73: 71, figs. 1–7, 1931.

Note: *Gloeothamnion palmelloides* was found by Cienkowski (1881) in samples from the Black Sea, the salt lakes of Sloviansk in Ukraine and the White Sea near to the Solovetsky Monastery, Arkhangelsk Oblast, Russia. *Apistonema pyrenigerum* was originally described from freshwater

samples of the Palliardi Spring of Františkovy Lázně, Czechia, but Waern (1952) reports this species from marine samples of the Öregrund Archipelago, Sweden, and Andrews & Wujek (2017) report it from Quivira National Wildlife Refuge, Kansas, USA.

Gloeothamnion polychloris (H.Ettl) Molinari & Guiry, *comb. nov.*

Basionym: *Apistonema polychloris* H.Ettl, *Nova Hedwigia* 10: 126, pl. 31: figs. 9–13, 1965.

Registration: <https://phycobank.org/104894>

Note: This species has only been reported from freshwater bodies of Hynčice, Silesia, Czechia (Ettl 1965) and Cape Martian, Crimea (Tsarenko & al. 2012).

Gloeothamnion submarinum (P.A.Dangeard) Molinari & Guiry, *comb. nov.*

Basionym: *Apistonema submarinum* P.A.Dangeard, *Le Botaniste* 26: 263, figs. 1–3; pls. XXV–XXVI, 1934.

Registration: <https://phycobank.org/104895>

Note: Dangeard (1934) isolated his material from commercial oysters and does not mention a type locality.

Andrews, H.T. & Wujek, D.E. (2017). Ecology, reproduction, and classification of the haptophyte alga *Apistonema* from Kansas. *Southern Naturalist* 62(4): 292–295, 2 figures, 1 table.

Cienkowski, L. (1881). Otchet o Belomorskoy ekskursii 1880 g. [An account on the White Sea excursion in 1880]. *Trudy Sankt-Peterburgskogo Obshchestva Yestestvoispytateley* 12: 130–171. [in Russian]

Dangeard, P.-A. (1934). Mémoire sur l'*Apistonema submarinum* sp. nov. et considérations générales sur la structure des Protozoaires et des Protophytes. *Le Botaniste* 26(1–4): 261–344, 6 figures, 2 plates.

Ettl, H. (1965). Die Algenflora des Schönhengstes und seiner Umgebung. II. *Nova Hedwigia* 10: 121–159, plates 30–43.

Guiry, M.D. & Guiry, G.M. 2024. *AlgaeBase*. World-wide electronic publication, University of Galway. <https://www.algaebase.org>; searched on 19 August 2024

Pascher, A. (1925). Die braune Algenreihe der Chrysophyceen. *Archiv für Protistenkunde* 52: 489–564, 56 figures, plate 15.

Pascher, A. (1931). Eine neue braune Fadenalge des Süßwassers (Chrysophyceen). *Archiv für Protistenkunde* 73: 60–72, 9 figures, plate 6.

Pascher, A., Schiller, J. & Migula, W. (1925). *Die Süßwasser-Flora Deutschlands, Österreichs und der Schweiz, Bd. 11: Heterokontae, Phaeophyta, Rhodophyta, Charophyta*. pp. i–iv, 1–250, 211 figures. Jena: Verlag von Gustav Fischer.

Tsarenko, P.M., Maslov, I.I. & Kulikovskiy, M.S. (2012). Mikrovodorosli prirodnogo zapovednika «Mys Mart'yan» i soprodel'nykh territoriy [Microalgae of the Mys Martyan Nature Reserve and adjacent territories]. *Nauchnyye zapiski Prirodnogo Zapovednika «Mys Mart'yan»* 3: 136–165. [in Russian]

Turland, N.J., Wiersema, J.H., Barrie, F.R., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Kusber, W.-H., Li, D.-Z., Marhold, K., May, T.W., McNeill, J., Monro, A.M., Prado, J., Price, M.J. & Smith, G.F., editors (2018). *International code of nomenclature for algae, fungi, and plants (Shenzhen Code)* adopted by the Nineteenth International Botanical Congress Shenzhen, China, July 2017. *Regnum Vegetabile*, Vol. 159. pp. [i]–xxxviii, 1–253. Glashütten: Koeltz Botanical Books.

Waern, M. (1952). Rocky-shore algae in the Öregrund Archipelago. *Acta Phytogeographica Suecica* 30: i–xvi, 1–298, 106 figures.