

Nomenclatural notes on algae. III. Further replacement names for various algal taxa

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This is the third in our series on the nomenclature of algae with illegitimate names. For a general framework, see the first number of the series (Molinari & al. 2021), in which 15 illegitimate generic names were replaced, 21 species transferred to new genera, and one was renamed.

Besides treating later homonyms with names beginning with the letters G to K, we here correct some nomenclatural issues that appeared in the course of our research. In total, a familial name and seven generic names are replaced, while 26 new combinations are effected.

Altochara Saidakovsky, *Paleontologicheskii Zhurnal* 1968(2): 103, 1968.

New synonym: *Horniella* Schaikin, *Trudy Geologicheskogo Instituta Akademii Nauk SSSR* 143: 158, 1966 (*Charophyta*, *Characeae*), *nom. illeg., non Horniella* Traverse (1955: 55), *Rutaceae*.

Type of *Altochara*: *Altochara continua* Saidakovsky (designated by the describing author).

Notes: Saidakovsky (1968: 103) erected the genus *Altochara* for Russian gyrogonites (fossilised nucules of charophytes; also a form-genus) from Triassic deposits which matched the generic description of *Horniella*. This was pointed out by Kisielevsky (1991), who treated both as synonyms and even used the binomial designation “*Horniella continua*” for the type species of *Altochara*, without effecting a transfer. Since *Horniella* Schaikin, typified by *Gyrogonites robertsii* R.E.Peck (as ‘*robertsi*’, a monotypic form genus at the time of publication), is an illegitimate junior homonym, the earliest available generic name is *Altochara*, and new combinations are thus required.

Species: ***Altochara amanda*** (Saidakovsky) Molinari & Guiry, *comb. nov.* Basionym: *Horniella amanda* Saidakovsky, *Paleontologicheskii Zhurnal* 1989(3): 90, 1989. ***Altochara aperta*** (Saidakovsky) Molinari & Guiry, *comb. nov.* Basionym: *Horniella aperta* Saidakovsky, *Paleontologicheskii Zhurnal* 1989(3): 90, 1989. ***Altochara applanata*** (Saidakovsky) Molinari & Guiry, *comb. nov.* Basionym: *Horniella applanata* Saidakovsky, *Paleontologicheskii Zhurnal* 1989(3): 91, 1989. ***Altochara concinna*** (Kisielevsky) Molinari & Guiry, *comb. nov.* Basionym: *Horniella concinna* Kisielevsky, *Voprosy geologii Yuzhnogo Urala i Povolzh'ya* 19: 9, 1980. *Altochara continua* Saidakovsky, *Paleontologicheskii Zhurnal* 1968(2): 104, 1968. *Altochara delicata* Saidakovsky, *Paleontologicheskii Zhurnal* 1968(2): 104, 1968. ***Altochara dvinensis*** (Kisielevsky) Molinari & Guiry, *comb. nov.* Basionym: *Horniella dvinensis* Kisielevsky, *Voprosy geologii Yuzhnogo Urala i Povolzh'ya* 19: 10, 1980. ***Altochara excelsa*** (Kisielevsky) Molinari & Guiry, *comb. nov.* Basionym: *Horniella excelsa* Kisielevsky, *Voprosy geologii Yuzhnogo Urala i Povolzh'ya* 19: 10, 1980. ***Altochara flexa*** (Kisielevsky) Molinari & Guiry, *comb. nov.* Basionym: *Horniella flexa* Kisielevsky, *Paleontologicheskii Zhurnal* 1993(3): 107, 1993. *Altochara lipatovae* (Kisielevsky) Saidakovsky, *Paleontologicheskii Zhurnal* 1968(2): 105, 1968. Basionym: *Porochara lipatovae* Kisielevsky, *Voprosy geologii Yuzhnogo Urala i Povolzh'ya* 4: 38, 1967. ***Altochara robertsii*** (R.E.Peck) Molinari & Guiry, *comb. nov.* Basionym: *Gyrogonites robertsii* R.E.Peck (as ‘*robertsi*’), *American Journal of Science, series 5*, 27(157): 54, 1934. ***Altochara victoriae*** (Kisielevsky) Molinari & Guiry, *comb. nov.* Basionym: *Horniella victoriae* Kisielevsky, *Paleontologicheskii Zhurnal* 1993(3): 107, 1993.

Bacillosiphon J.J.Copeland, *Annals of the New York Academy of Sciences* 36: 66, 1936 (*Cyanobacteria*, *Synechococcaceae*).

Synonyms: *Bacularia* Borzi, *Nuova Notarisia* 16: 21, 1905, *Borziella* Molinari & Guiry, *Notulae Algarum* 177: 2, 2021.

Type: *Bacillosiphon induratus* J.J.Copeland (monotypic genus at the time of publication).

Notes: In a previous instalment (Molinari & al. 2021), the authors failed to realise that the earliest legitimate name (Art. 11.3, Turland & al. 2018) for the listed species was *Bacillosiphon*, a heterotypic synonym of *Bacularia* and, by extension, of *Borziella*. The error was kindly notified to us by Dr Richard L. Moe whilst registering our nomenclatural novelties in *Index Nominum Algarum*.

Species: ***Bacillosiphon coerulescens*** (Borzi) Molinari & Guiry, *comb. nov.* Basionym: *Bacularia coerulescens* Borzi, *Nuova Notarisia* 16: 21, 1905. ***Bacillosiphon gracilis*** (Komárek) Molinari & Guiry, *comb. nov.* Basionym: *Bacularia gracilis* Komárek, *Folia Geobotanica et Phytotaxonomica* 30: 86, 1995. *Bacillosiphon induratus* J.J.Copeland, *Annals of the New York Academy of Sciences* 36: 66, 1936. ***Bacillosiphon thermalis*** (Frémy) Molinari & Guiry, *comb. nov.* Basionym: *Bacularia thermalis* Frémy, *Exploration du Parc National Albert Park, Mission H. Dumas* 19: 39, 1949. ***Bacillosiphon vermicularis*** (Molinari & Guiry) Molinari & Guiry, *comb. nov.* Basionym: *Borziella vermicularis* Molinari & Guiry 2021: 2, 2021. Synonym: *Rhabdoderma vermiculare* Fedorov, *Novosti sistematiki nizshikh rastenii* 6: 15, 1969, *nom. illeg.*, non *Rhabdoderma vermiculare* Fott, 1952.

Bajociana Molinari & Guiry, *nom. nov.*

Replaced name: *Jansonia* Pocock, *Palaeontographica, Abteilung B* 137: 97, 1972 (*Gonyaulacales incertae sedis*), *nom. illeg.*, non *Jansonia* Kippist (in Lindley 1847: 307), *Fabaceae*.

Type: *Jansonia jurassica* Pocock (a monotypic genus at the time of publication).

Notes: After its original publication (Pocock 1972), the genus was emended (Jansonius 1986, Riding & al. 1991) and expanded with the addition of three species (Riding & al. 1991, Martínez & al. 1999, Tykoezinski & al. 2000). *Fosteria eclipsiana* J.B.Riding & R.Helby was transferred to *Fostericysta* J.B.Riding (Mantle & Reading 2012). The genus is renamed after the Bajocian age, in which stratigraphic deposits the type species was discovered.

Species: ***Bajociana jurassica*** (S.A.J.Pocock) Molinari & Guiry, *comb. nov.* Basionym: *Jansonia jurassica* S.A.J.Pocock, *Palaeontographica, Abteilung B* 137: 97, 1972. ***Bajociana manifesta*** (J.B.Riding & Walton) Molinari & Guiry, *comb. nov.* Basionym: *Jansonia manifesta* J.B.Riding & Walton (in Riding & al.), *Palynology* 15: 148, 1991. ***Bajociana psilata*** (M.A.Martínez, Quattrocchio & Sarjeant) Molinari & Guiry, *comb. nov.* Basionym: *Jansonia psilata* M.A.Martínez, Quattrocchio & Sarjeant, *Revista Española de Micropaleontología* 31(2): 257, 1999.

Genicularina Molinari & Guiry, *nom. nov.*

Replaced name: *Genicularia* De Bary, *Untersuchungen über die Familie der Conjugaten (Zygnemeen und Desmidiéen)*: 77, 1858 (*Charophyta, Gonatozygaceae*), *nom. illeg.*, non *Genicularia* Roussel (1806: 84), *Wrangeliaceae*.

Type: *Gonatozygon spirotaenia* De Bary (monotypic genus at the time of publication).

Notes: Roussel (1806) created many names for algae without making the appropriate combinations for them, including *Genicularia*. He cited the type as “*Conferva geniculata* L.” *nom. inval.*, one of the names included in the synonymy of *Conferva corallina* Linnaeus (in Murray 1774), itself an illegitimate replacement name for *Conferva corallinioides* Linnaeus, the basionym of *Griffithsia corallinioides* (Linnaeus) Trevisan, the current name for the type species of *Griffithsia* C.Agardh, *nom. cons.* We follow Guiry (2013) for the taxonomy of the newly named genus.

Species: ***Genicularina americana*** (W.B.Turner) Molinari & Guiry, *comb. nov.* Basionym: *Genicularia americana* W.B.Turner, *Journal of the Royal Microscopical Society, series 2* 5: 933,

1885. *Genicularina elegans* (West & G.S.West) Molinari & Guiry, *comb. nov.* Basionym: *Genicularia elegans* West & G.S.West, *Journal of the Linnean Society of London, Botany* 35: 536, 1903. *Genicularina spirotaenia* (De Bary) Molinari & Guiry, *comb. nov.* Basionym: *Gonatozygon spirotaenia* De Bary, *Hedwigia* 1: 106, 1856.

Glyphospermopsis Molinari & Guiry, *nom. nov.*

Replaced name: *Glyphosperma* Meunier, *Microplankton des mers de Barents et de Kara*: 94, 1910 (*Chlorophyta, Pterospermataceae*), *nom. illeg., non Glyphosperma* S.Watson (1883: 164), *Asphodelaceae*.

Type: ***Glyphospermopsis flagellifera*** (Meunier) Molinari & Guiry, *comb. nov. (infra)*.

Notes: Two species were originally included in *Glyphosperma* Meunier, *Glyphosperma flagelliferum* Meunier (**lectotype, here designated**) and *G. nervosum* Meunier, and the genus was regarded as “*organisme énigmatique*” (Meunier 1910), then as a protozoan (Deflandre & Deflandre-Rigaud 1958). The genus is here provisionally referred to the *Pterospermataceae* due the presence of a double wall in both species and a long flagellum in one (see Parke & Boalch 1973). Many of the taxa described by Alphonse F. Meunier (1857-1918), and indeed, many planktonic organisms, are in urgent need of revision with modern techniques (e.g., Agatha 2008); hopefully, the renaming of this genus will draw some attention on them.

Species: ***Glyphospermopsis flagellifera*** (Meunier) Molinari & Guiry, *comb. nov.* Basionym: *Glyphosperma flagelliferum* Meunier, *Microplankton des mers de Barents et de Kara*: 94, 1910. ***Glyphospermopsis nervosa*** (Meunier) Molinari & Guiry, *comb. nov.* Basionym: *Glyphosperma nervosum* Meunier, *Microplankton des mers de Barents et de Kara*: 95, 1910.

Hydraeophycus Molinari & Guiry, *nom. nov.*

Replaced name: *Heterotrichella* P.Schäfer & Senowbari-Daryan, *Palaeontographica, Abteilung B* 185: 121, 1983 (*Chlorophyta, Chaetophoraceae*), *nom. illeg., non Heterotrichella* Reisingl (1964: 449), *Xanthonemataceae*.

Type: *Heterotrichella hydriotica* P.Schäfer & Senowbari-Daryan (designated by the authors).

Notes: The genus *Heterotrichella* was erected for two fossil algae from Triassic deposits on the island of Hydra, one of the Saronic Islands of Greece. It was later classified as a member of the *Chaetophoraceae* on morphological grounds (Dullo & al. 1987, Kuss 1990) and has been found in Triassic and Jurassic rocks in eastern Europe and Arabia (Dullo & al. 1987, Kuss 1990, Flügel & al. 1992). The replacement genus is named for the island in which it was originally found.

Species: ***Hydraeophycus hydrioticus*** (P.Schäfer & Senowbari-Daryan) Molinari & Guiry, *comb. nov.* Basionym: *Heterotrichella hydriotica* P.Schäfer & Senowbari-Daryan, *Palaeontographica, Abteilung B* 185: 122, 1983. ***Hydraeophycus magnus*** (P.Schäfer & Senowbari-Daryan) Molinari & Guiry, *comb. nov.* Basionym: *Heterotrichella magna* P.Schäfer & Senowbari-Daryan, *Palaeontographica, Abteilung B* 185: 123, 1983.

Kordea Molinari & Guiry, *nom. nov.*

Replaced name: *Johnsonia* Korde, *Trudy Paleontologicheskogo Instituta Akademii Nauk SSSR* 108: 275, 1965 (*Chlorophyta, Dasycladaceae*), *nom. illeg., non Johnsonia* Dale ex Miller (1754: [693]), *nom. rejic. Verbenaceae, nec Johnsonia* Adanson (1763: 343), *Meliaceae, nec Johnsonia* R.Brown (1810: 287), *nom. cons., Asphodelaceae*.

Type: *Johnsonia spinosa* Korde (monotypic genus at the time of publication).

Notes: This alga has been found in Upper Permian deposits from Russia. It was synonymised by Kuss (1994) with *Likanella* Milanović, despite the clear difference outlines by Milanović (1965) between the two genera. Based on the assessment by Granier & Michaud (1990), it has been treated since as a taxonomically accepted genus, closely allied to other calcareous groups (Hosseini & al. 2014).

Species: ***Kordea spinosa*** (Korde) Molinari & Guiry, *comb. nov.* Basionym: *Johnsonia spinosa* Korde, *Trudy Paleontologicheskogo Instituta Akademii Nauk SSSR* 108: 275, 1965.

Wareniococcus Molinari & Guiry, *nom. nov.*

Replaced name: *Hyalococcus* H. Warén, *Öfversigt af Finska vetenskaps-societetens förhandlingar* 61(14): 68, 1920 (*Chlorophyceae incertae sedis*), *nom. illeg., non Hyalococcus* J. Schröter (1889: 152), *Trichosporonaceae*.

Type: *Hyalococcus dermatocarponis* H. Warén (monotypic genus at the time of publication).

Notes: This alga, of uncertain taxonomic position, is found as a phycobiont in some species of the lichen *Dermatocarpon* Eschweiler (Ullah & al. 2021, Fontaine & al. 2012). The genus is renamed in honour of Harry Ilmari Warén (1893-1973; later known as Harry Waris; see Simola 2000), its original author.

Species: ***Wareniococcus dermatocarponis*** (H. Warén) Molinari & Guiry, *comb. nov.* Basionym: *Hyalococcus dermatocarponis* H. Warén, *Öfversigt af Finska vetenskaps-societetens förhandlingar* 61(14): 69, 1920.

Zheleznaya Molinari & Guiry, *nom. nov.*

Replaced name: *Kenella* Korde, *Trudy Paleontologicheskogo Instituta Akademii Nauk SSSR* 139: 216, 1973 (*Cyanobacteria, Zheleznayaceae*), *non Kenella* Samylina (1968: 211), *Magnoliidae incertae sedis*.

Type: *Kenella ornata* Korde (a monotypic genus at the time of publication).

Notes: The genus, renamed for its type locality at the Srednyaya Zheleznaya [Средняя Железная; Middle Iron] River, was originally placed among the red algae; however, Riding & Voronova (1985) stated that the oldest representatives of the *Botomaella* transitional series, including *Kenella*, are cyanobacteria allied to the *Rivulariaceae*, a view confirmed by Riding (1991). Since the generic name upon which is based was illegitimate at the time of publication, *Kenellaceae* is also illegitimate (Art. 18.3, Turland & al. 2018), and is replaced (*infra*).

Species: ***Zheleznaya ornata*** (Korde) Molinari & Guiry, *comb. nov.* Basionym: *Kenella ornata* Korde, *Trudy Paleontologicheskogo Instituta Akademii Nauk SSSR* 139: 216, 1973.

Zheleznayaceae Molinari & Guiry, *nom. nov.*

Replaced name: *Kenellaceae* Korde, *Trudy Paleontologicheskogo Instituta Akademii Nauk SSSR* 139: 212, 1973, *nom. illeg.*

Type: ***Zheleznaya*** Molinari & Guiry, *Notulae Algarum* No. 179: 4 (*supra*), 2021 (*Cyanobacteria, Nostocales*).

Notes: The order *Kenellales* Korde (1973: 212), to which the family was originally assigned, is formally synonymised with *Nostocales* Borzi, in compliance with Recommendation 16A.1 of the ICN (Turland & al. 2018), because of the proximity of its only genus (*Zheleznaya*, formerly *Kenella*) to the *Rivulariaceae*. The family formerly also included the genus *Nicholsonia* Korde, now considered a taxonomic synonym of *Girvanella* Nicholson & Etheridge (Riding 1991), a genus placed in its own family, *Girvanellaceae* (*Oscillatoriales*).

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