Cryptogamic nomenclatural notes. 5

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Abstract. New combinations for one species and five forms of diatoms in the genus *Shionodiscus* are published. The lectotype of *Isotachis woronowii* is designated in accordance with Arts. 9.3, 9.11, and 9.12 of the International Code of Nomenclature for algae, fungi, and plants.

Keywords: Bacillariophyta, *Isotachis woronowii*, *Shionodiscus biporus* f. *marginatus*, *Shionodiscus biporus* f. *minimus*, *Shionodiscus biporus* f. *primus*, *Shionodiscus mesoporus*, *Shionodiscus oestrupii* f. *vetus*, *Shionodiscus praeoestrupii* f. *juvenis*, *Thalassiosira bipora* f. *marginata*, *Thalassiosira bipora* f. *minima*, *Thalassiosira bipora* f. *prima*, *Thalassiosira mesopora*, *Thalassiosira oestrupii* f. *vetus*, *Thalassiosira praeoestrupii* f. *juvenis*, diatoms, lectotypification, liverworts, new combination.

Номенклатурные заметки по водорослям, грибам, лишайникам и мохообразным. 5

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Резюме. Обнародованы новые номенклатурные комбинации для одного вида и пяти форм диатомовых водорослей в роде *Shionodiscus*. Лектотип *Isotachis woronowii* обозначен в соответствии с требованиями статей 9.3, 9.11, и 9.12 Международного кодекса номенклатуры водорослей, грибов и растений.

Ключевые слова: Bacillariophyta, *Isotachis woronowii*, *Shionodiscus biporus* f. *marginatus*, *Shionodiscus biporus* f. *minimus*, *Shionodiscus biporus* f. *primus*, *Shionodiscus mesoporus*, *Shionodiscus oestrupii* f. *vetus*, *Shionodiscus praeoestrupii* f. *juvenis*, *Thalassiosira bipora* f. *marginata*, *Thalassiosira bipora* f. *minima*, *Thalassiosira bipora* f. *prima*, *Thalassiosira mesopora*, *Thalassiosira oestrupii* f. *vetus*, *Thalassiosira praeoestrupii* f. *juvenis*, диатомовые, лектотипификация, новая комбинация, печеночники.

Algae — Водоросли

New combinations in the genus *Shionodiscus* (Bacillariophyta). M. A. Gololobova. — Новые номенклатурные комбинации в роде *Shionodiscus* (Bacillariophyta). М. А. Гололобова.

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The genus *Shionodiscus* Alverson, Kang et Theriot was described by Alverson *et al.* (2006). It is characterized by possessing the fultoportulae with longer inward extensions, reduced or absent outward extensions, and rimoportula located on the valve face rather than the valve mantle. Based on these characters, twenty-one species and five varieties formerly included in the genus *Thalassiosira* Cleve were separated from the latter and transferred to *Shionodiscus* (Alverson *et al.*, 2006). Later Ferrario *et al.* (2018) described one more new species and proposed a new combination. Thereby *Shionodiscus* has included twenty-three species and five infraspecific taxa. Like many *Thalassiosira* taxa, *Shionodiscus* species are planktonic marine; there are biostratigraphically important forms among them (Makarova, 1988; Round *et al.*, 1990; Hasle, Syvertsen, 1997; Maruyama, Shiono, 2003). Based on the important features (the ultrastructure of fultoportulae and location of rimoportula), some taxa previously defined within "*Thalassiosira trifulta*" group and recorded in samples from deep-sea cores in the northwestern Pacific Ocean (Shiono, Koizumi, 2001), should be transferred to *Shionodiscus*. In total, six new combinations are proposed.

Shionodiscus mesoporus (Shiono) Gololobova, comb. nov.

Basionym: *Thalassiosira mesopora* Shiono, 2001, J. Geol. Soc. Japan, 107(8): 500, Pl. 2, Fig. 3.

— *Thalassiosira* sp. A: Shiono and Koizumi, 2000, Diatom Res., 15(2): 379, Figs 19–24.

Thalassiosira mesopora was described by Shiono from Ocean Drilling Program (ODP) Hole 797B in the northwest Pacific Ocean (ca. 4.7–3.9 Ma) (Shiono, Koizumi, 2001). According to Shiono and Koizumi (2001), this taxon was provisionally designated as *Thalassiosira* sp. A (Shiono, Koizumi, 2000), and has operculate fultoportulae with internal extensions and without outward extensions, and a single rimoportula located near the valve center (Shiono, Koizumi, 2000: 379, Figs 21–24).

Shionodiscus biporus (Shiono) Alverson, Kang et Theriot f. **marginatus** (Shiono) Gololobova, comb. nov.

Basionym: *Thalassiosira bipora* Shiono f. *marginata* Shiono, 2001, J. Geol. Soc. Japan, 107(8): 501, Pl. 1, Figs 2, 7.

— *Thalassiosira* sp. B: Shiono, 2000, Diatom Res., 15(1): 143, Figs 45–48.

Thalassiosira bipora f. *marginata* was described by Shiono from Deep Sea Drilling Project (DSDP) Hole 579A in the northwest Pacific Ocean and it was also recorded from ODP in the northwest Pacific Ocean (ca. 5.0–4.8 Ma) (Shiono, Koizumi, 2001). According to Shiono and Koizumi (2001), this taxon was provisionally designated as *Thalassiosira* sp. B (Shiono, 2000), and it has fultoportulae without outward extensions, and a single rimoportula is located near the valve margin (Shiono, 2000: 143, Figs 46–48). Unfortunately, the internal valve face was not observed, but in the center, there is an external opening resembling the central fultoportula (Shiono, 2000: Figs 46, 47; Shiono, Koizumi, 2001: Fig. 7).

Shionodiscus biporus (Shiono) Alverson, Kang et Theriot f. **minimus** (Shiono) Gololobova, comb. nov.

Basionym: *Thalassiosira bipora* Shiono f. *minima* Shiono, 2001, J. Geol. Soc. Japan, 107(8): 500, Pl. 1, Figs 3, 4, 8, 9.

— *Thalassiosira* sp. C: Shiono, 2000, Diatom Res., 15(1): 145, Figs 49–54.

Thalassiosira bipora f. *minima* was described by Shiono from DSDP Hole 580 in the northwest Pacific Ocean and it was also recorded from ODP in the northwest Pacific Ocean (ca. 5.0–0.1 Ma) (Shiono, Koizumi, 2001). According to Shiono and Koizumi (2001), this taxon was provisionally designated as *Thalassiosira* sp. C (Shiono, 2000), and it has operculate fultoportulae with internal extensions and without outward extensions, and a single rimoportula located between the valve center and margin (Shiono, 2000: 145, Figs 51–54).

Shionodiscus biporus (Shiono) Alverson, Kang et Theriot f. **primus** (Shiono) Gololobova, comb. nov.

Basionym: *Thalassiosira bipora* Shiono f. *prima* Shiono, 2001, J. Geol. Soc. Japan, 107(8): 501, Pl. 3, Figs 6a–10.

Thalassiosira bipora f. *prima* was described by Shiono from ODP Hole 797B in the Sea of Japan (ca. 5.1–4.9 Ma) (Shiono, Koizumi, 2001). According to Shiono and Koizumi (2001), this taxon has operculate fultoportulae with internal extensions and without outward extensions, and a single rimoportula is located near the submarginal zone of the valve.

Shionodiscus oestrupii (Ostenf.) Alverson, Kang et Theriot f. **vetus** (Shiono) Gololobova, comb. nov.

Basionym: *Thalassiosira oestrupii* Ostenf. f. *vetus* Shiono, 2001, J. Geol. Soc. Japan, 107(8): 502, Pl. 2, Figs 8, 9.

— "*Thalassiosira oestrupii* early form": Shiono and Koizumi, 2000, Diatom Res., 15(2): 361, Figs 28, 39–42.

Thalassiosira oestrupii f. *vetus* was described by Shiono from DSDP Hole 580 in the northwest Pacific Ocean (ca. 2.4 and 2.2 Ma) (Shiono, Koizumi, 2001). According to Shiono and Koizumi (2001), this taxon was provisionally designated as "*Thalassiosira oestrupii* early form" (Shiono, Koizumi, 2000), and it has trifultate fultoportulae with internal extensions and without outward extensions, and a single rimoportula located halfway between the valve center and margin (Shiono, Koizumi, 2000: Figs 39–42).

Shionodiscus praeoestrupii (M. P. Dumont, Baldauf et J. A. Barron) Alverson, Kang et Theriot f. **juvenis** (Shiono) Gololobova, comb. nov.

Basionym: *Thalassiosira praeoestrupii* M. P. Dumont, Baldauf et J. A. Barron f. *juvenis* Shiono, 2001, J. Geol. Soc. Japan, 107(8): 503, Pl. 2, Figs 11, 12.

— "*Thalassiosira praeoestrupii* later form": Shiono and Koizumi, 2000, Diatom Res., 15(2): 368–369, Figs 49–51.

Thalassiosira praeoestrupii f. *juvenis* was described by Shiono from DSDP Hole 580 in the northwest Pacific Ocean and it was recorded from ODP Hole 797B also (ca. 3.2–0.4 Ma) (Shiono, Koizumi, 2001). According to Shiono and Koizumi (2001), this taxon was provisionally designated as "*Thalassiosira praeoestrupii* later form" (Shiono, Koizumi, 2000), and it has trifultate fultoportulae with internal extensions

and without outward extensions, and a single rimoportula is located halfway between the valve center and margin (Shiono, Koizumi, 2000: Figs 49–51).

Bryophytes — Мохообразные

Lectotypification of *Isotachis woronowii* (Balantiopsidaceae, Marchantiophyta). A. D. Potemkin, J. Hentschel, I. V. Sokolova. — Лектотипификация *Isotachis woronowii* (Balantiopsidaceae, Marchantiophyta). А. Д. Потемкин, Й. Хентшель, И. В. Соколова.

A set of specimens collected by Georg (Jurij Nikolaewitch) Woronow in Colombia, South America in 1926, and identified by Theodor Herzog, a German bryologist from Jena, was found in the Bryophyte Herbarium of the Komarov Botanical Institute (LE). Among them, there was an original specimen of *Isotachis woronowii* Herzog (1942).

The validating description of *I. woronowii* (Herzog, 1942: 566) is based on the collection of Woronow made in Colombia in 1926. Neither the introduction nor the type citation "Columbia: Territorio del Caquetá, fauces fluvii El Hacha prope Sucre, leg. G. Woronow (Iter americanum 1925/26, no. 96 [Typus!], 91, 94, 112 und 141") (Herzog, 1942: 568) contains information on the place of storage of the respective specimens. Another specimen no. 96 is stored at JE and recorded in the database "Virtual Herbaria" (JACQ consortium, 2004–). Since the staff of the JE Herbarium were ignorant of the type specimen stored at LE, the specimen no. 96 at JE (JE04002061) was databased as a "holotype".

There are seven letters by Woronow sent to Herzog from 1927 to 1930 preserved at JE. The first letter was received by Herzog shortly after Woronow's return from his expedition to South America. In this letter, dated 29 X 1927, Woronow thanked Herzog for agreeing to examine the bryophytes collected by himself in South America. In one of subsequent letters (15 XI 1927), Woronow clearly indicated that he would provide 500 to 600 gatherings, including 200 liverworts, with Latin label information and collection numbers. Also, Woronow (29 X 1927, 17 III 1928) clearly granted his permission to duplicate the specimens, as far as the gathering is sufficiently rich in material. The labels of all respective specimens kept at JE are handwritten by Herzog himself. Obviously, Herzog separated duplicates for his own collection, copied the label information, and returned the originals. Thus, both specimens no. 96 are parts of the original material. The one housed at JE is a duplicate of the specimen from LE, and it was used by Herzog for his description and drawing (Herzog, 1942: Fig. 4: k–s). Noteworthy, Hatcher (1960: 597) in the first part of his monograph of the genus *Isotachis* Mitt. cited the specimen no. 96 from JE as follows: "Territory del Caquata [Caquetá], S. Woronow 96, a portion of the original mater[i]al of *I. woronowii* (Hb. Herz.)". Since Hatcher did not use the term "type" (typus) or its equivalent as required by Art. 7.11 of the ICN (Turland *et al.*, 2018), his citation does not constitute an effective designation of a type.

Since the type cited in the protologue is represented by more than one specimen kept in two different herbaria, no location of the type in the protologue is mentioned, and published data on a single specimen no. 96 as a type in LE or JE are unknown, these specimens represent syntypes (Turland *et al*., 2018: Arts. 9.6, 9.23). In accordance with Arts. 9.3, 9.11, and 9.12 of the ICN (Turland *et al*., 2018) and the facts stated above, we designate the lectotype of *Isotachis woronowii* as follows:

Isotachis woronowii Herzog, 1942, Beih. Bot. Centralbl., Abt. 2, 61(B): 566.

Lectotype (designated here by Potemkin and Hentschel): Columbia: Territorio del Caquetá, fauces fluvii El Hacha prope Sucre, leg. G. Woronow no. 96 (JE04002061, isolectotype LE B0020839).

The specimens nos. 91, 94, 112, and 141 are paratypes (Turland *et al*., 2018: Art. 9.7).

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