

**Validation of new combinations in the diatom genus *Lyrella* Karayeva (*Lyrellaceae*, *Bacillariophyceae*)**

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It has come to our attention that six proposed transfers in Siqueiros Beltrones & al. (2017) of *Navicula* Bory taxa to *Lyrella* Karayeva did not meet the requirements of ICN Art. 41.5 (Shenzhen Code, Turland & al. 2018) as a full and direct reference given to its author and place of valid publication, with page or plate reference and date, were not included. We thus formally effect valid publication of these names with some new observations on their nomenclature.

Lyrella clavata* var. *caribaea (Cleve) Siqueiros Beltrones, *comb. nov.*

Basionym: *Navicula caribaea* Cleve, in A.W.F.Schmidt *Atlas der Diatomaceenkunde*, Series 1, Heft 1.pl. 2: fig. 17, 1874.

Homotypic synonym: *Navicula maculata* var. *caribaea* (Cleve) Cleve (Cleve, 1895: 46)

Type locality: “Camp. Bank” [Bahía de Campeche, Golfo de México]

Note: The basionym was introduced without a description but was validated by analytical figures (ICN Art. 38.7 "For the purpose of Art. 38.5, prior to 1 January 1908, an illustration with analysis (see Art. 38.9 and 38.10) is acceptable in place of a written description or diagnosis."). The name also appeared with a question mark in the same year in Schmidt (*Jahresbericht der Kommission zur Untersuchung der Deutsch Meer* 2: 89, pl. I: fig. 40, 1874), with a brief description and illustration, which most likely refers to the name as published or being published in Schmidt's *Atlas*. A further reference to the name appeared in Schmidt's *Atlas* (Vol. 5: part 8, p. 5) referring to material from Zanzibar and the Virgin Islands.

Lyrella fundata (Hustedt) Siqueiros Beltrones, *comb. nov.*

Basionym: *Navicula fundata* Hustedt, *Kieselalgen Deutschlands, Österreichs und der Schweiz*

In: *Rabenhorst's Kryptogamen Flora von Deutschland, Österreich und der Schweiz*, Bd VII, Teil 3, Lieferung 3, p. 363 (key), 520, fig. 1560 [4 photographs], 1964

Type locality: “Campechy-Bay” [Bahía de Campeche, Golfo de México]

Lyrella hennedyi* var. *crassa (H.Peragallo & M.Peragallo) Siqueiros Beltrones, *comb. nov.*

Basionym: *Navicula hennedyi* var. *crassa* H.Peragallo & M.Peragallo. *Diatomées marines de France et des districts marines voisins*, pl. XXV [25]: fig. 9, 1898.

Type locality: Naples [Italy].

Note: The basionym was first introduced without a description but is validated by analytical figures (ICN Art. 38.7).

Lyrella hennedyi* var. *furcata (H.Peragallo & M.Peragallo) Siqueiros Beltrones, *comb. nov.*

Basionym: *Navicula hennedyi* var. *furcata* H.Peragallo & M.Peragallo. *Diatomées marines de France et des districts marines voisins*, pl. XXIV [24], figs 16, 17, 1897.

Syntyple localities: Banyuls [Atlantic France] and Naples [Italy].

Note: The basionym was first introduced without a description but is validated by analytical figures (ICN Art. 38.7). A description appeared on p. 141 of the same work in 1899.

Lyrella lyra* var. *constricta Siqueiros Beltrones, *nom. nov.*

Replaced name: *Navicula lyra* var. *constricta* H.Peragallo & M.Peragallo *Diatomées marines de France et des districts marines voisins*, pl. XXIII [23]: fig. 3. 1897, *nom. illeg.*

Description: “*Valve légèrement panduriforme, extrémités subrostrées.*” (Peragallo & Peragallo 1897-1898: 139).

Representative illustration: H.Peragallo & M.Peragallo *Diatomées marines de France et des districts marines voisins*, pl. XXIII [23]: fig. 3

Type locality: Naples [Italy].

Note: The basionym was first introduced without a description but validated by analytical figures (ICN Art. 38.7). However, the Peragallo & Peragallo name, whilst valid, is illegitimate as it is a later homonym of *Navicula lyra* var. *constricta* O'Meara (O'Meara 1875: 393, pl. 33: fig. 6, type locality: Broadhaven Bay, Co. Mayo, Ireland), which in our opinion illustrated a different taxon, and a new name is thus required, and it is acceptable to reuse the varietal epithet (ICN Art. 58.1).

Lyrella lyra* var. *subtypica (Heiden) Siqueiros Beltrones, *comb. nov.*

Basionym: *Navicula lyra* var. *subtypica* Heiden *Mitteilungen aus der Grossherzoglich Mecklenburg Geologischen Landesanstalt* 10(21): 7. 1900.

Type locality: Yokohama [Japan].

Note: Heiden validated this varietal designation by referring to the name as a variety and citing pl. 2: fig. 24 in Schmidt (1874, as ‘N. lyra E subtyp.’). Schmidt's designation is not valid as it was not intended as a name. Schmidt's “E” refers to Ehrenberg, and not to a varietal designation.

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Karayeva, N.I. (1978). New genus of the family Naviculaceae West. *Botanicheskii Zhurnal* 63(11): 1593-1596.

O'Meara, E. (1875). Report on the Irish Diatomaceae. *Proceedings of the Royal Irish Academy, Series 2* 2: 235-425, pls 26-34.

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