

**Nomenclatural notes on names of diatom taxa of J. Frenguelli. I. Replacement names for later homonyms.**

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Joaquín Frenguelli (1883–1958) was an Italian-Argentinian physician and naturalist whose scientific work encompassed diverse fields of natural sciences. He carried numerous field surveys throughout his life and gathered several collections, currently housed at the Museo de La Plata (Argentina). One of the most relevant is the diatom collection, which comprises materials mainly from southern South America and Antarctica.

During a review of the names erected by Frenguelli for inclusion in DiatomBase (<https://www.diatombase.org/>), we found several cases of homonymy (ICN Art. 53.1, Turland & al., 2018) of names validly published prior to 1 January 1958 (Art. 40.1). Therefore, we correct these nomenclatural issues, proposing new names for them.

Eunotia sudetica* var. *zаноagensis* Vouilloud & Guerrero, *nom. nov.

Replaced name: *Eunotia sudetica* var. *undulata* Halász, *Annales Historico-Naturales Musei Nationalis Hungarici (Bot.)*, 34: 184, 1941, *nom. illeg.*, non *Eunotia sudetica* var. *undulata* Frenguelli, *Anales del Museo Nacional de Historia Natural*, 37: 449, 1933.

Note: The epithet refers to Zănoaga Mare Lake (Romania, called “Zenóga-tó” in Hungarian), locality where the variety was described.

Frustulia calamensis* Vouilloud & Guerrero, *nom. nov.

Replaced name: *Frustulia splendida* (Frenguelli) Sar & Sala in Sar & al., *Diatom Monographs* 10: 405, 2009, *nom. illeg.*, non *Frustulia splendida* Hustedt, *Archiv für Hydrobiologie, Supplement* 15: 216, 1937.

Basionym: *Vanheurckia splendida* Frenguelli, *Revista del Museo de La Plata (Nueva Serie), Sección Paleontología*, 1: p. 32, 1936.

Note: The epithet refers to the Calama desert (Chile), the region from which the species was described.

Navicula dicephala* var. *sannicoensis* Guerrero & Vouilloud, *nom. nov.

Replaced name: *Navicula dicephala* var. *constricta* Frenguelli *Revista del Museo de La Plata (Nueva Serie), Sección Paleontología* 3: 178, 1945, *nom. illeg.*, non *Navicula dicephala* var. *constricta* A.Cleve, *Societas Scientiarum Fennica. Commentationes Biologicae* 4(14): 105, 1934.

Note: The epithet refers to Sañicó stream (Neuquén), locality where the variety was described. Mereschowsky (1903) transferred *Navicula dicephala* to the genus *Placoneis* [*P. dicephala* (Ehrenberg) Mereschowsky 1903: 7]. *Navicula dicephala* var. *constricta* A.Cleve was transferred to *Placoneis* as *P. dicephala* var. *constricta* (A.Cleve) J.Y.Li & Y.Z.Qi 2018: 67, pl. VII [7]: fig. 12. VanLandingham (1975) and Sar & al. (2009) pointed out that Frenguelli's variety is a later homonym of the latter. Frenguelli's illustrations denote that his taxon does not fit the modern concept of the genus *Navicula* Bory, but further analysis is needed to establish its taxonomic status.

Navicula cefarellii Vouilloud & Guerrero, *nom. nov.*

Replaced name: *Navicula miramaris* Frenguelli *Anales del Museo Nacional de Historia Natural* 35: 253, 1930, *nom. illeg.*, *non Navicula miramaris* Frenguelli, *Physis* 8: 155, pl. I: fig. 17, 1925.

Note: Renamed in honour to our friend and colleague Adrián O. Cefarelli, Universidad Nacional de la Patagonia San Juan Bosco, Argentina. Even though both original names were used for diatoms described from the same area, the original descriptions and illustrations clearly show that they are different taxa.

Navicula rioplatensis Guerrero & Vouilloud, *nom. nov.*

Replaced name: *Navicula rhynchocephaloides* Frenguelli, *Revista del Museo de la Plata, Nueva Serie, Sección Botánica*, 3: 251, pl. I: fig. 17, 1941, *nom. illeg.*, *non Navicula rhynchocephaloides* Hustedt in Schmidt & al., *Atlas der Diatomaceen-kunde*. Leipzig. O.R. Reisland, Series VIII (Heft 93): pl. 370: fig. 8, 1930.

Note: Hustedt's name was validated with a very brief description in German in the plate explanation. The epithet refers to the Río de La Plata estuary, where the variety was described.

Pinnularia copahuensis Guerrero & Vouilloud, *nom. nov.*

Replaced name: *Pinnularia delicata* Frenguelli, *Revista del Museo de La Plata (Nueva Serie), Sección Botánica*, 5: p. 131, pl. 3: fig. 38, 1942, *nom. illeg.*, *non Pinnularia delicata* (Frenguelli) F.W. Mills, *An index to the genera and species of the Diatomaceae and their synonyms*, 14: 1023, 1934.

Note: The epithet refers to the Copahue volcano, in which slope is the type locality.

Rabenhorst (1853) described *Pinnularia elliptica* from Italy and France. This species has several later homonyms: Frenguelli (1942) created *Pinnularia elliptica* for a diatom living as epiphytic on algae in a small stream in the province of Neuquén, Argentina; Lohman & Andrews (1968) described *Pinnularia elliptica* as fossil from a Late Eocene nonmarine diatomite in Wyoming, USA. More recently, Liu & al. (2018) described *Pinnularia elliptica* Y.Liu, Kociolek & Q.X.Wang from China. This latter homonymy has already been rectified by replacement with the new name *Pinnularia palidis* Y.Liu, Kociolek & Q.X.Wang (Kociolek & al. 2018). However, new names are needed to replace the other illegitimate names:

Pinnularia lamaroana Guerrero & Vouilloud, *nom. nov.*

Replaced name: *Pinnularia elliptica* Frenguelli, *Revista del Museo de La Plata (Nueva Serie), Sección Botánica*, 5: p. 146, pl. III: fig. 27, 1942, *nom. illeg.*, *non Pinnularia elliptica* Rabenhorst, *Die Süßwasser-Diatomaceen (Bacillarien) für Freunde der Mikroskopie*: 42, pl. 6: fig. 23 a–b, 1853, *nec Pinnularia elliptica* Lohman & Andrews, *Geological Survey Professional Paper, Contributions to Paleontology* 593E: E19, pl. 2: figs 1, 2, 1968, *nom. illeg.*

Note: Named in honour of our friend and colleague Anabel A. Lamaro, Universidad Nacional La Plata, Argentina. Sar & al. (2009) pointed out that Frenguelli's name is a later homonym of *P. elliptica* Rabenhorst.

Pinnularia wagonensis Guerrero & Vouilloud, *nom. nov.*

Replaced name: *Pinnularia elliptica* Lohman & Andrews, *Geological Survey Professional Paper, Contributions to Paleontology*, 593E: E19, pl. 2: figs 1, 2, 1968, *nom. illeg.*, *non Pinnularia elliptica* Rabenhorst, *Die Süßwasser-Diatomaceen (Bacillarien) für Freunde der Mikroskopie*: 42, pl. 6: fig. 23 a–b, 1853, *nec Pinnularia elliptica* Frenguelli, *Revista del Museo de La Plata (Nueva Serie), Sección Botánica*, 5: p. 146, pl. 3: fig. 27, 1942, *nom. illeg.*



Note: The epithet refers to the geological Wagon Bed Formation (Wyoming, USA) where this species was found. Sar & al. (2009) pointed out that Frenguelli's name is a later homonym of *P. elliptica* Rabenhorst.

Surirella guaraniorum Vouilloud & Guerrero, *nom. nov.*

Replaced name: *Surirella simplex* Frenguelli, *Revista del Museo de la Ciudad Eva Perón (n. s.)* 8, *Botánica* 32: p. 84, 1953, *nom. illeg., non Surirella simplex* A. Cleve, *Acta Societatis pro Fauna et Flora Fennica*, 62: 17, 1939.

Note: The epithet refers to the Guaraní ethnic group that inhabits the region. The illegitimacy of Frenguelli's species was previously pointed out by VanLandingham (1978) and Sar & al. (2009).

We are grateful to Michael D. Guiry and Eduardo Molinari for their valuable corrections and comments. Funding from WoRMS Philanthropy Grant 2021 is also acknowledged.

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