Lectotypification of *Gomphonema correntinum* Frenguelli (*Gomphonemataceae, Bacillariophyceae*)

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During field trips throughout Argentina, Joaquín Frenguelli (1883–1958) collected multiple samples from which he made numerous observations on the diatom flora, allowing him to report and describe multiple taxa. One of the sites he visited was the Esteros del Iberá, a vast subtropical wetland in the Corrientes province, from where he reported 30 genera and described 46 new taxa (Frenguelli 1933). The original samples were stored as oxidised materials and permanent slides, accessed as Series 260–266 and 268 in the Frenguelli Diatom Collection, housed at **LPC** (División Ficología, Museo de La Plata, Argentina).

Here, we analyse Frenguelli's original samples to identify the type material for *Gomphonema correntinum* Frenguelli (1933: 422). He reported this species in Series (as Frenguelli named his samples) 261, 263, 264, 265 and 268, but without designating a type, and these collections should thus be considered syntypes (Art. 9.6, Shenzhen Code, Turland & al. 2018). Frenguelli's original samples were examined with a LM Leica DM 2500 equipped with DIC optics and specimens were photographed with a Leica DFC 425 digital camera, and with a SEM Carl Zeiss NTS SUPRA 40 (Centro de Microscopías Avanzadas, Universidad de Buenos Aires, Argentina).

We found 14 specimens in Series 261, four in Series 263 and none in Series 264, 265 and 268. Only one broken frustule was found under SEM in materials from Series 261. Based on the specimens found, we provide here an emended description for *G. correntinum* and designate a lectotype for this taxon in accordance with ICN Arts 9.3 and 9.11 (Shenzhen Code, Turland *& al.* 2018).

Gomphonema correntinum Frenguelli (1933: 422, pl. IV [4]: figs 24, 25) (Figs 2–17)

Lectotype (here designated): slide 261(4) Frenguelli Diatom Collection at **LPC**. Fig. 8 (Finder: O/40) represents the lectotype.

Registration (lectotypification): http://phycobank.org/105478

Type locality: Argentina, Corrientes province, Estero Carambola (28° 27' 22.7" S, 57° 49' 14.9" W). On aquatic macrophytes, 8.xii.1923, leg. J. Frenguelli.

Description: Valves clavate-lanceolate, with the widest part at the middle or slightly towards the apiculate headpole. Footpole slightly protracted and acutely rounded. Valve dimensions (n=14): length 28–42 µm, width 8.5–10 µm. Axial area straight and narrow, occupying about one sixth of the valve width. Central area unilateral and rectangular, delimited by a very shortened stria opposite to the rounded stigma. Raphe filiform and somewhat sinuous. Central raphe endings slightly drop-like expanded. Terminal raphe fissures bent to the same side, in opposite direction to the stigma. Striae uniseriate, parallel at centre becoming radiate towards the apices, 14–15 in 10 µm at the centre, 16–17 in 10 µm at the poles, continuous onto the valve mantle. Areolae with C- or 3-shaped volate occlusions, 40 in 10 µm, hardly discernible with LM. Internally, areolae with round foramina. Apical pore field located on the mantle, at the footpole only, composed of several rows of rounded poroids, divided in two areas by the raphe fissure. Mantle low, in right angle to the valve face. Girdle composed of open copulae, with one row of small poroids, 40 in 10 µm.

Notes: In contrast to our measurements, Frenguelli (1933: 396) reported in his original description greater valve dimensions (length 41–57 µm, width 13 µm) and a lower stria density (10–12 in 10 µm). These discrepancies in morphometrics are usual when re-examining Frenguelli's original materials (see Vouilloud & al. 2022 and references therein). Later records of *G. correntinum* are scarce but all come from subtropical areas in NE Argentina: Frenguelli (1953) reported this species from a basalt quarry in Misiones province and Herbst & Maidana (1983) found it in the flood plain of Paraná River in Chaco province.

Gomphonema Ehrenberg is one of the most taxon-rich genera of diatoms (Radhakrishnan & al. 2020) with more than 930 recognised species (Guiry & Guiry 2025). While many species possess clavate valves, only a handful have an apiculate apex and an acutely rounded footpole. We compared *G. correntinum* with the most similar species *G. perapicatum* Metzeltin & Lange-Bertalot and *G. graciloides* Hustedt to assess whether it should be considered a valid species.

Gomphonema graciloides was described from mosses at 1000 m in Parque Nacional do Itatiaia, Brazil (Hustedt 1965: 410, figs 43, 44), is the most similar species and could be easily confused with *G. correntinum*. However, it is distinguished by its slender valves, less asymmetrical to the apical axis, and its much lower areola density (28 in 10 µm).

We found that smaller specimens of *G. perapicatum,* a species described from Guyana, are similar in outline to *G. correntinum* while the larger ones are clearly different. Moreover, the former has larger valves (40–75 x 12–13.5 µm), lower stria (7–8 in 10 µm) and areola (15–18 in 10 µm) densities, and areolae clearly discernible under LM (Metzeltin & Lange-Bertalot 2007).

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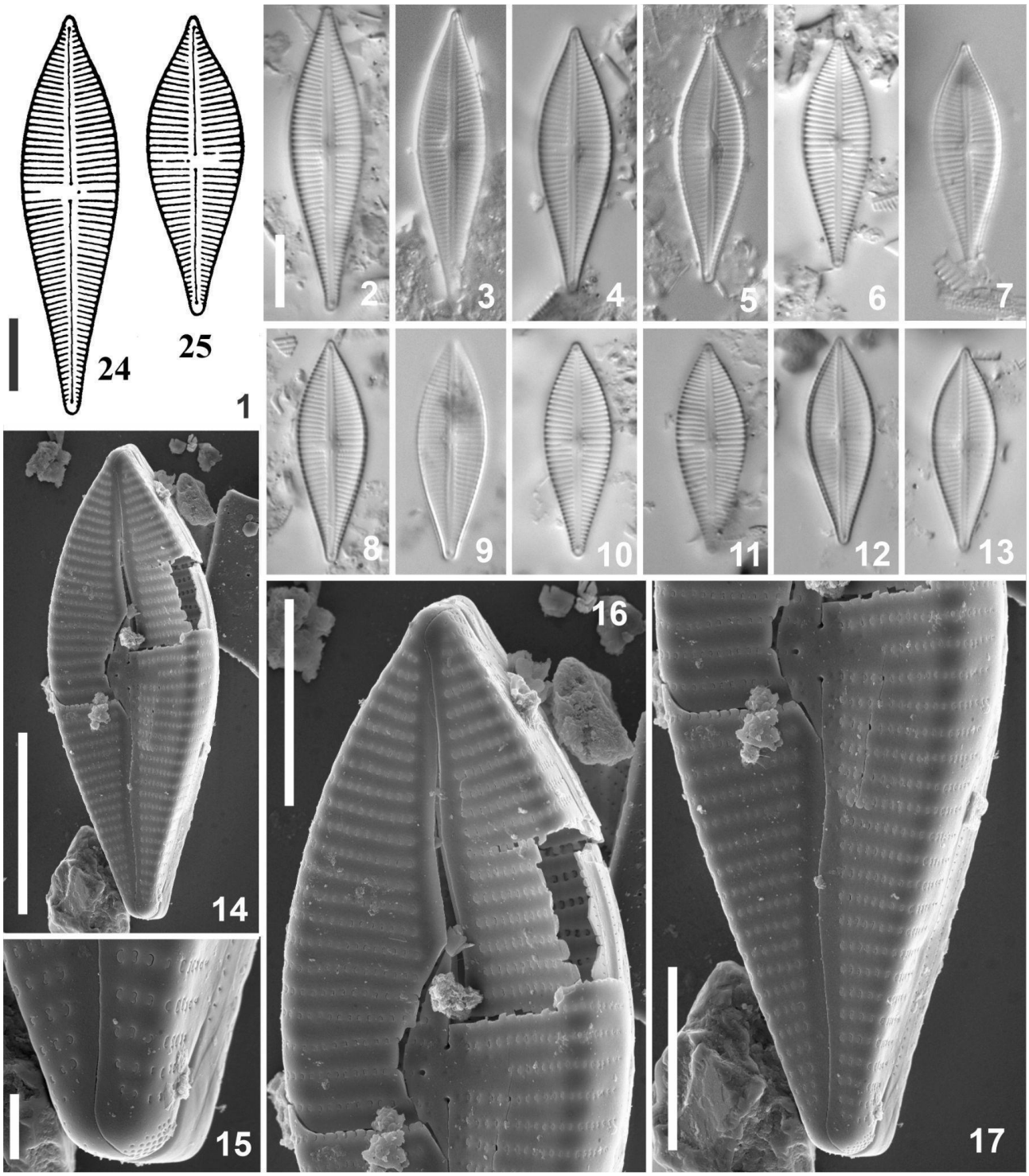

Figs 1–12. *Gomphonema correntinum* Frenguelli. **Fig. 1.** Original drawings. **Figs 2–13.** LM. Specimens in valve view showing size diminution series. **Figs 14–17.** SEM. **Fig. 14.** Frustule in valve view. **Fig. 15.** Detail of footpole with apical pore field divided by raphe fissure. Note open copulae with poroids. **Fig. 16.** Upper half of the broken frustule showing internal valve face with round foramina. **Fig.17.** Lower half of the frustule showing round stigma and sinuous raphe. Figs 2–6, 8, 10–17: specimens from Series 261, Figs 7, 9: specimens from Series 263. Scale bar: 10 µm (Figs 1–14); 1 µm (Fig. 15); 5 µm (Figs 16–17).