

# Lectotypification of *Pinnularia carambolae* Frenguelli and *Pinnularia correntina* Frenguelli (*Pinnulariaceae*, *Bacillariophyceae*)

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In a study of the diatom flora of the Esteros del Iberá, a subtropical wetland from Corrientes Province, Argentina, Joaquín Frenguelli (1883–1958) reported the occurrence of 30 diatom genera, as well as describing 46 new diatom taxa (Frenguelli 1933). Of these, Frenguelli described two new species of *Pinnularia*: *P. carambolae* Frenguelli (1933: 396, pl. III: fig. 11, ‘Carambolae’) and *P. correntina* Frenguelli (1933: 396, pl. III: fig. 10).

The original samples (oxidised materials and permanent slides) are accessed as Series 260–266 and 268 in the “Joaquín Frenguelli Diatom Collection”, housed at the herbarium **LPC** (División Ficología, Museo de La Plata, Argentina). *Pinnularia carambolae* was originally recorded as rare in Series 261, 262 and 268, and as exceptional in Series 265, whereas *P. correntina* was reported as rare in Series 261.

The aim of the present study is to analyse Frenguelli’s original samples to identify type material of these two species. While Frenguelli (1933: 374) indicated a single gathering for *P. correntina* (No. 261), in the case of *P. carambolae*, he indicated more than one sample in which this species was found, which could thus be considered syntypes. We have chosen lectotypes in accordance with ICN Art. 9.3 and Art. 9.11 (Shenzhen Code, Turland et al. 2018) and we provide an emended description and photographs of the type material for both taxa.

The materials were examined with a LM Leica DM 2500 equipped with DIC optics and photographed with a Leica DFC 425 digital camera. During the study, two specimens of *P. carambolae* and one specimen of *P. correntina* were found. Their position in the slides was referenced using a S7 England Finder slide (Graticules Pyser–SGI Ltd.).

*Pinnularia carambolae* Frenguelli (1933: 396, pl. 3: fig. 11)

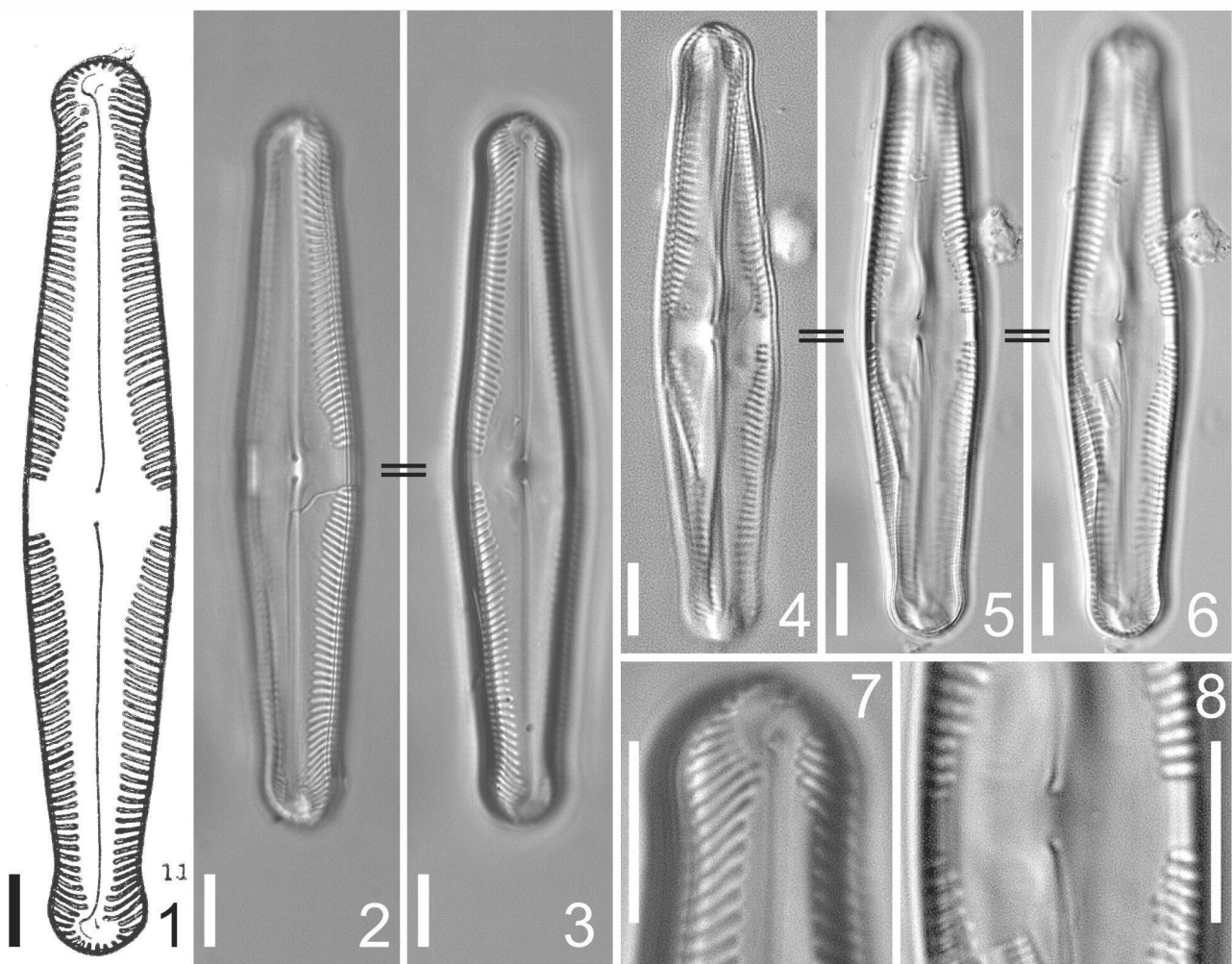
**Lectotype (here designated):** Slide 262(2) of Frenguelli Diatom Collection at **LPC**. Figs 2–3, 7 (Finder: G/42–3) represent the lectotype.

Registration (lectotypification): <http://phycobank.org/104900>

Type locality: Argentina, Corrientes Province, Río Carambola (28°4’12”S, 57°24’36”W). On aquatic macrophytes, 12.xii.1923, leg. J. Frenguelli.

Description: Valves rhombic-lanceolate with slightly subcapitate ends. Valve dimensions (n=2): length 85–98 µm, width 15–17 µm. Axial area moderately broad, broadening into a fascia-like central area. Raphe lateral with slightly curved central endings, terminating in dilated pores apart from each other. Terminal raphe fissures bayonet-shaped. Striae alveolate, radiate in the middle and moderately to strongly convergent at the ends, 9–11 in 10 µm.

Note: Unlike our measurements, Frenguelli (1933: 396) reported in his original description greater valve dimensions (length 111–129 µm and width 21–22.5 µm) and a lower stria density (7 in 10 µm).



**Figs 1–8.** *Pinnularia carambolae* Frenguelli. **Fig. 1.** Original drawing from Frenguelli's publication. **Figs 2–8.** Specimens of sample 262 in valve view. **Figs 2–6.** LM-DIC views of entire valves. **Fig. 7.** Detail of the valve apex of the specimen illustrated in Figs 2–3. **Fig. 8.** Detail of the central area of the specimen illustrated in Figs 4–6. Scale bar: 10 µm.

*Pinnularia correntina* Frenguelli (1933: 396, pl. 3: fig. 10)

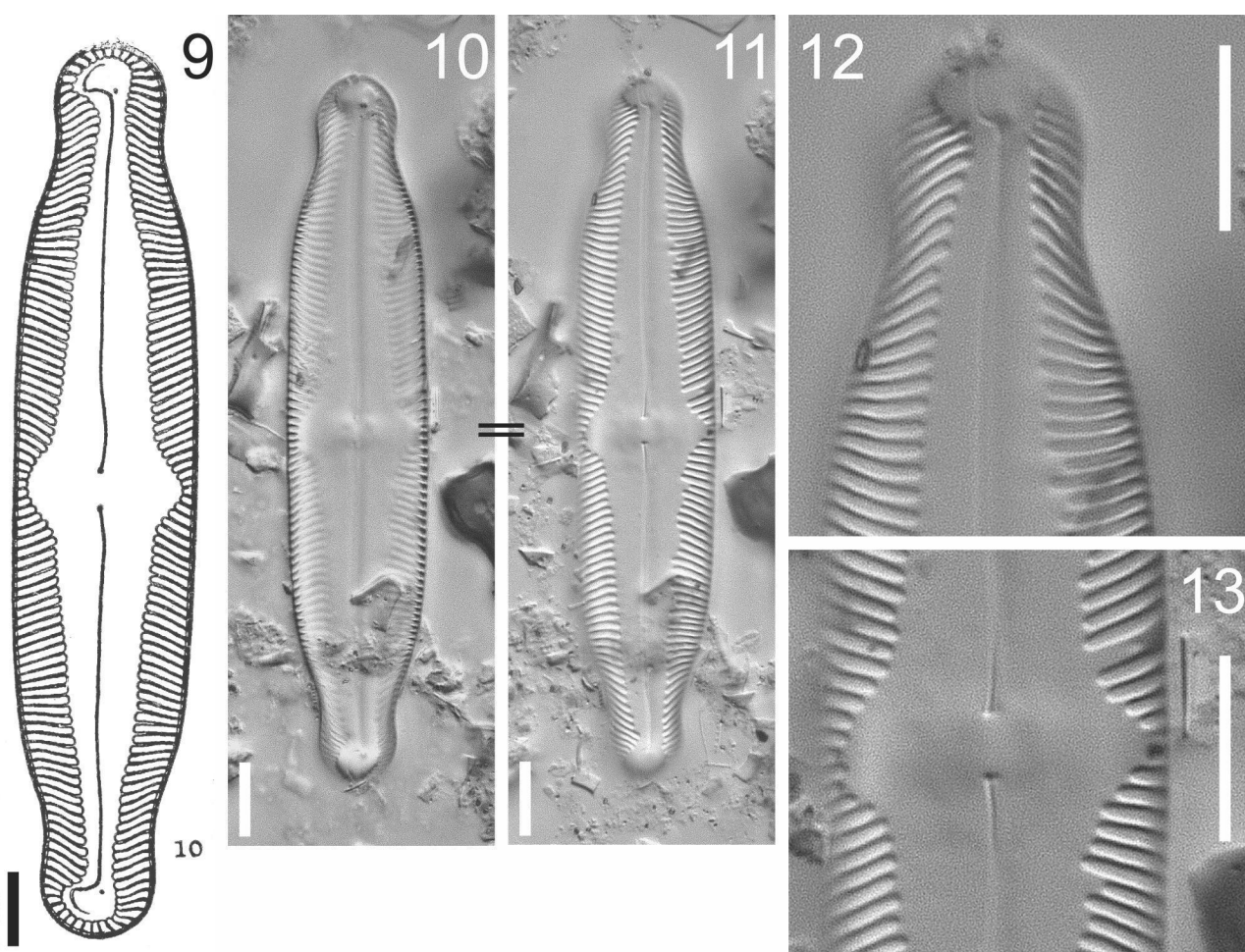
**Lectotype (here designated):** Slide 261(2) of Frenguelli Diatom Collection at LPC. Figs 10–13 (Finder: L/39–1).

Registration: <http://phycobank.org/104901>

Type locality: Argentina, Corrientes Province, Estero del Carambola (28°28'12"S, 57°49'12"W). On aquatic macrophytes, 8.xii.1923, leg. J. Frenguelli.

Description: Valves linear with straight to weakly convex sides; ends broadly rounded and subcapitate. Valve dimensions (n=1): length 95 µm, width 19 µm. Axial area 1/2 of the valve width, narrowing to the valve ends; central area large and rhomboidal, nearly reaching the margin. Raphe lateral, central endings apart from each other and slightly curved; terminal fissures bayonet-shaped. Striae radiate in the middle, moderately to strongly convergent at the ends, 9–10 in 10 µm.

Note: Unlike our measurements, Frenguelli (1933) reported in his original description greater valve dimensions (length 126 µm and width 27 µm) and a lower stria density (7.5 in 10 µm).



**Figs 9–13.** *Pinnularia correntina* Frenguelli. **Fig. 9.** Original drawing from Frenguelli's publication. **Figs 10–13.** Lectotype specimen of sample 261 in valve view. **Figs 10–11.** LM-DIC views of an entire valve. **Fig. 12.** Detail of the valve apex of the specimen. **Fig. 13.** Detail of the central area of the specimen. Scale bar: 10 μm.

Discrepancies in morphometrics between our measurements and those given by Frenguelli are usual when re-examining Frenguelli's original materials (Vouilloud & al. 2022 and references therein). This mis-match between the reported sizes by Frenguelli and subsequent measurements, possibly due to differences in the methodology used for measuring the specimens.

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