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Validation of two names of diatom species in the genera *Planothidium* Round & Bukhtiyarova (*Achnanthes*) and *Placoneis* Mereschkowsky (*Cymbellaceae*) observed in Guyane

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The transfer of *Achnanthes boudoui* Metzeltin & Lange-Bertalot, described from Brazil (Metzeltin & Lange-Bertalot 1998: 18), to the genus *Planothidium* Round & Bukhtiyarova (Round & Bukhtiyarova 1996) and of the east-African species *Navicula perlatooides* Hustedt (1966: 814) to the genus *Placoneis* Mereschkowsky (Mereschkowsky 1903) was proposed by Coste & al. (2010a: 9, “*perlatooides*” in error as “*peltooides*”) and at the occasion of the 2010 ADLaF (*Association des Diatomistes de Langue Française*) meeting in Québec (Coste & al. 2010b: 23). Both proposals were invalid as the publications in which they appeared do not meet the requirements of ICN Art. 29.1 (Turland & al. 2018) as they did not have ISBN or ISSN numbers. Each designation is validated here.

Achnanthes boudoui presents the characteristics of the genus *Planothidium*, such as multiserial striae, the unilaterally bent terminal raphe fissures and the presence of a cavum on the rapheless valve, and thus clearly belongs to that genus (Metzeltin & Lange-Bertalot 1998: pl. 70: figs 1, 4). *Navicula perlatooides*, on the other hand, should be placed within the genus *Placoneis*, based upon the presence of the radiate striae on the entire valve, composed of a simple row of externally rounded areolae (but slightly elongated in *P. perlatooides*), slightly dissimilar deflected external terminal raphe fissures, and the presence of a small stigmoid, placed between the central raphe endings, although this feature is not always present in all *Placoneis* species (see Cox 1987).

Planothidium boudoui (Metzeltin & Lange-Bertalot) M.Coste, Eulin-Garrigue, O.Monnier & Delmas, *comb. nov.* (Figs 1–8)

Basionym: *Achnanthes boudoui* Metzeltin & Lange-Bertalot, *Iconographia Diatomologica* Vol. 5, p. 18; pl. 69: figs 9–14; pl. 70: figs 1, 4. 1998.

Registration: <http://phycobank.org/104484>

Holotype (designated by Metzeltin & Lange-Bertalot 1998: 18): Praep. AmS-573 in coll. Lange-Bertalot (FR).

Type locality: Rio Tapajós near Santarém, Brazil.

Etymology: Dedicated to Prof. A. Boudou, Université de Bordeaux, France.

Distribution in Guyane rivers: widely distributed (Approuague, Bagot, Comté, Kourou, Mana, Maroni, Oyapock, Sinnamary).

Placoneis perlatooides (Hustedt) M.Coste, Eulin-Garrigue, O.Monnier & Delmas, *comb. nov.* (Figs 9–16)

Basionym: *Navicula perlatooides* Hustedt, *Die Kieselalgen Deutschlands, Österreichs und der Schweiz unter Berücksichtigung der übrigen Länder Europas sowie der angrenzenden Meeresgebiete*. Bd. VII: Teil 3: Lieferung 4 in Rabenhorst's Kryptogamen Flora von Deutschland, Österreich und der Schweiz, p. 814, fig. 1786. 1966.

Synonym: *Navicula gastrum* [var. *turgida*] f. *stigmata* O.Müller, *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* 45(1), p. 97, pl. 2, fig. 24. 1910.

Registration: <http://phycobank.org/104485>

Holotype (designated by Simonsen 1987: 171): N10/43, Tanganikasee (under *Navicula perlata* Hustedt).

Type locality: Lake Tanganyika.

Distribution in Guyane rivers: widely distributed (Approuague, Comté, Kourou, Maroni, Marouini, Oyapock, Sinnamary).

Nomenclatural note: Hustedt (1966) intended to give “*Navicula perlata*” Hustedt a new name because of *Navicula perlata* T.Marsson (1900: 33, 64) having priority. However, “*Navicula perlata*” Hustedt (in Schmidt & al. 1934: pl. 398: fig. 43–48) was invalidly published since it lacks a formal description. Hustedt (1944: 282) later provided a description and validated the name that then became illegitimate. When Hustedt published *Navicula perlatooides* Hustedt (1966: 814), he cited Müller’s validly published forma, *Navicula gastrum* [var. *turgida*] f. *stigmata* O.Müller (Müller 1910), that should be treated as replaced synonym at the rank of species. At that time the species epithet ‘*stigmata*’ was no longer available under *Navicula* because of *Navicula stigmata* M.F.Rich (Rich 1937: 213, pl. IX [9]: figs A-C). Thus, *Navicula perlatooides* Hustedt is the legitimate and valid name for Müller’s taxon at the rank of species under *Navicula* and is available as a basionym. Simonsen (1987, pl. 273: figs 11–16) provided images for Hustedt’s type.

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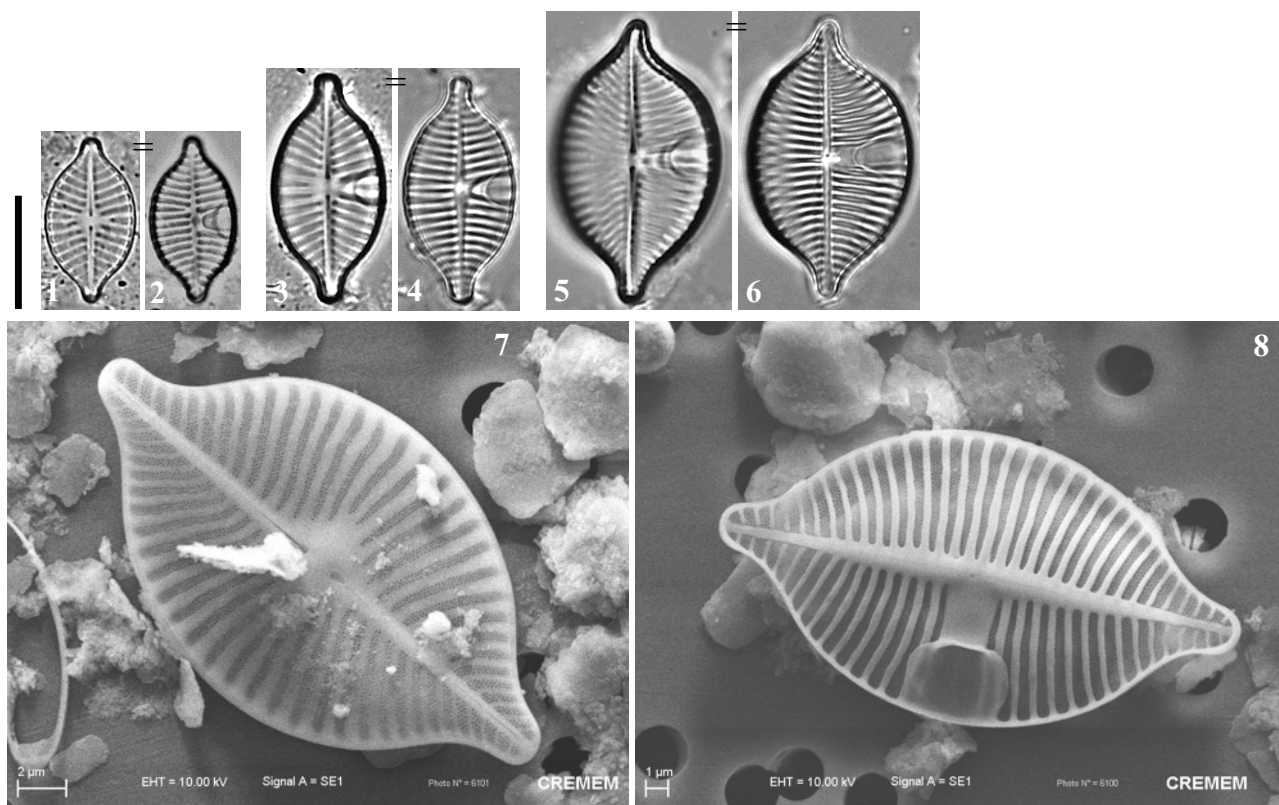
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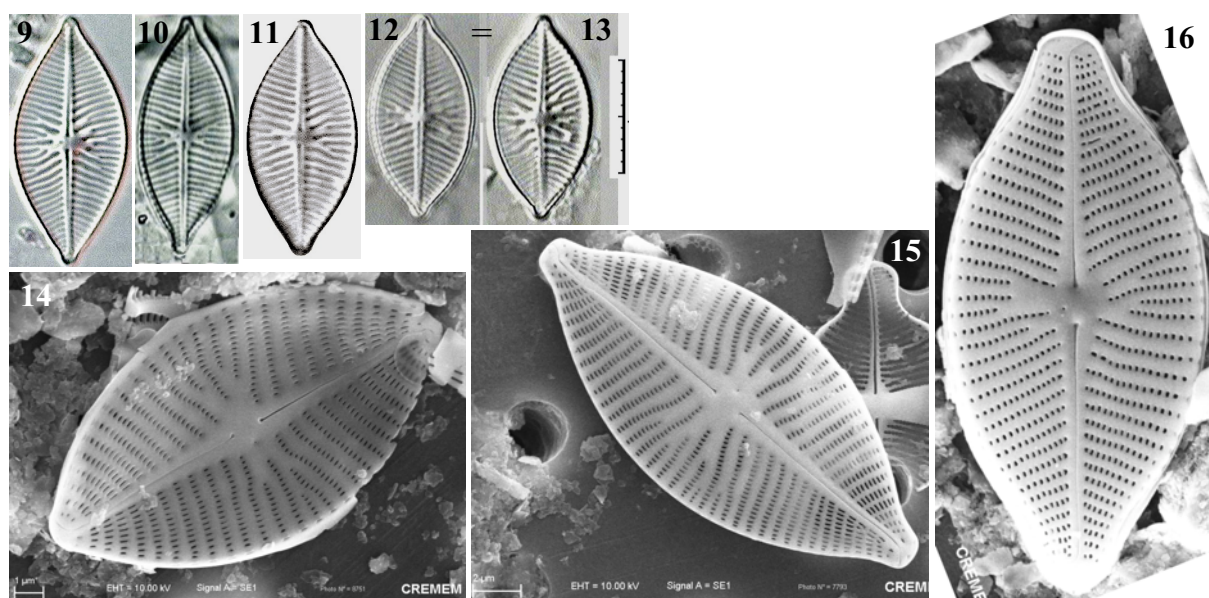
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Figs 1–8. *Planothidium boudoui* (Metzeltin & Lange-Bertalot) M.Coste & al., *comb. nov.* **Figs 1–6.** LM micrographs, scale bar = 10 µm. **Figs 1, 2.** River Mana at Saut Fracas, 2009. **Figs 3, 4.** River Kourou at Léodate, 2009. **Figs 5, 6.** River Sinnamary at Saut Dalles, 2009. **Figs 1, 3, 5.** Raphe valves. **Figs 2, 4, 6.** Rapheless valves. **Figs 7, 8.** SEM micrographs, River Oyapock at Païra Itou, 2009. **Fig. 7.** Raphe valve plan outside view. **Fig. 8.** Rapheless valve inside view.



Figs 9–16. *Placoneis perlatoides* (Hustedt) M.Coste & al., *comb. nov.* **Figs 9–13.** LM micrographs, scale bar = 10 µm. **Figs 9–11.** River Maroni at Apsik Icholi Litani, 2009. **Figs 12, 13.** River Oyapock at Saut Maripa, 2009. **Figs 14–16.** SEM micrographs, plan outside views. **Fig. 14.** River Maroni at Twenke, 2009. **Figs 15, 16.** River Oyapock at Païra Itou, 2009.