

Transfer of three *Hyalotheca undulata* Nordstedt infraspecific taxa to *Groenbladia undulata* (Nordstedt) Kurt Förster (*Desmidiaceae*, *Zygnematophyceae*)

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Kurt Förster (1918-1983) transferred *Hyalotheca undulata* Nordstedt (in Wittrock & Nordstedt 1879: 25) to the genus *Groenbladia* Teiling (1952: 275) based on a distinctive feature – an axile chloroplast: *Die axilen Chromatophoren verlangen eine Verlegung in die Gattung Groenbladia* (Förster 1973: 578; see our Fig. 1). In the same paper he described *Groenbladia undulata* var. *kriegeri* Kurt Förster (1973: 578, pl. 26: fig. 11; see Fig. 2) from “Mississippi, in paludibus (Miss. 96)”, a swamp 5 miles north of Wiggins...Stone Co. A year later, he transferred *Hyalotheca undulata* var. *perundulata* Grönblad (1938: 63) [syn.: *H. undulata* Nordstedt forma sensu Skuja (1964: 277, pl. 58: 11; see Fig. 5)] to the same species *Groenbladia undulata* as var. *perundulata* (Grönblad) Kurt Förster (1974: 188; see Fig. 4). Based upon the same cell morphology, Förster (1974: 188) also synonymized *Hyalotheca undulata* var. *producta* W.B.Turner (1893: 152, pl. 18: fig. 15; see Fig. 3) with the nominate variety of *G. undulata*. More recently, Ramos & Moura (2019: 2) referred *Hyalotheca undulata* var. *ornata* O.Borge (1925: 45, pl. 2: fig. 25; see Fig. 6) to *G. undulata* var. *ornata* (O.Borge) G.J.P.Ramos & C.W.N.Moura.

Here I propose to transfer the following infraspecific taxa from *Hyalotheca undulata* to *Groenbladia undulata* in accordance with the provisions of the ICN (Madrid Code, Turland & al. 2025).

Groenbladia undulata var. *africana* (Bourrelly) Levanets, *comb. nov.*

Basionym: *Hyalotheca undulata* var. *africana* Bourrelly *Bulletin de l'Institut Français d'Afrique Noire, Série A, Sciences naturelles* 19(4): 1093, pl. 18: fig. 163, 1957.

Lectotype (**here designated**): [icon!] Bourrelly (1957: pl. 18: fig. 163, line drawing of a single cell from a single gathering, ICN Art. 40.6, reproduced here as Fig. 7).

Syntype localities: “Macina, Soudan Français [now Mali]”, 25 and 28 November 1945 [three gatherings].

Registration (of name): <http://phycobank.org/107682>

Registration (of lectotype): <http://phycobank.org/107689>

Groenbladia undulata var. *ligamentosa* (Thomasson) Levanets, *comb. nov.*

Basionym: *Hyalotheca undulata* var. *ligamentosa* Thomasson *Nova Acta Regiae Societatis Scientiarum Upsaliensis, Ser. IV* 17(3): 8, fig. 26 (as ‘*ligamentosum*’), 1957.

Lectotype (**here designated**): [icon!] Thomasson (1957: fig. 26, line drawing of a single cell from a single gathering, ICN Art. 40.6, reproduced here as Fig. 8).

Syntype localities: Zambia: “Lake Bangweulu, common in the samples”.

Registration (of name): <http://phycobank.org/107684>

Registration (of lectotype): <http://phycobank.org/107690>

Groenbladia undulata var. *minor* (V.Allorge & P.Allorge) Levanets, *comb. nov.*

Basionym: *Hyalotheca undulata* var. *minor* V.Allorge & P.Allorge *Revue Algologique* 5(3-4): 369, pl. XV [15]: fig. 7, 1931.

Lectotype (**here designated**): [icon!] Allorge & Allorge (1931: pl. XV [15]: fig. 7, line drawing of a single cell from a single gathering, ICN Art. 40.6, reproduced here as Fig. 9).

Type locality: Spain: Galicia, no exact locality cited.

Registration (of name): <http://phycobank.org/107685>

Registration (of lectotype): <http://phycobank.org/107691>

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Bourrelly, P. (1957). Algues d'eau douce du Soudan Français, région du Macina (A.O.F.). *Bulletin de l'Institut Français d'Afrique Noire, Série A, Sciences naturelles* 19(4): 1047–1102, 21 pls.

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Förster, K. (1974). Amazonische Desmidiaceen. 2. Teil: Areal Maués - Abacaxis. *Amazoniana* 5: 135–242, 1 fig (map), 36 pls.

Grönblad, R. (1938). Neue und seltene Desmidiaceen. *Botaniska Notiser* 1938(1–3): 49–66, Fig 1 (1–12), Fig 2 (1–12), Fig 3 (1–7), Fig 4 (1–5).

Ramos, G.J.P. & Moura, C.W. do N. (2019). Nomenclatural and taxonomic notes on Brazilian desmids I: *Bambusina*, *Groenbladia*, *Hyalotheca* and *Sphaerosoma* (Desmidiaceae, Zygnematophyceae). *Notulae Algarum* 111: 1–3, no figs.

Teiling, E. (1952). Evolutionary studies on the shape of the cells and of the chloroplast in desmids. *Botaniska Notiser* 3: 264–306.

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Wittrock, V.B. & Nordstedt, C.F.O. (1879). Literatur-öfversigt [Literature review]. Algae aquae dulcis exsiccatae praecipue Scandinavicae quas adjectis algis marinis chlorophyllaceis et phycochromaceis.... *Botaniska Notiser* 1879(1): 20–27.

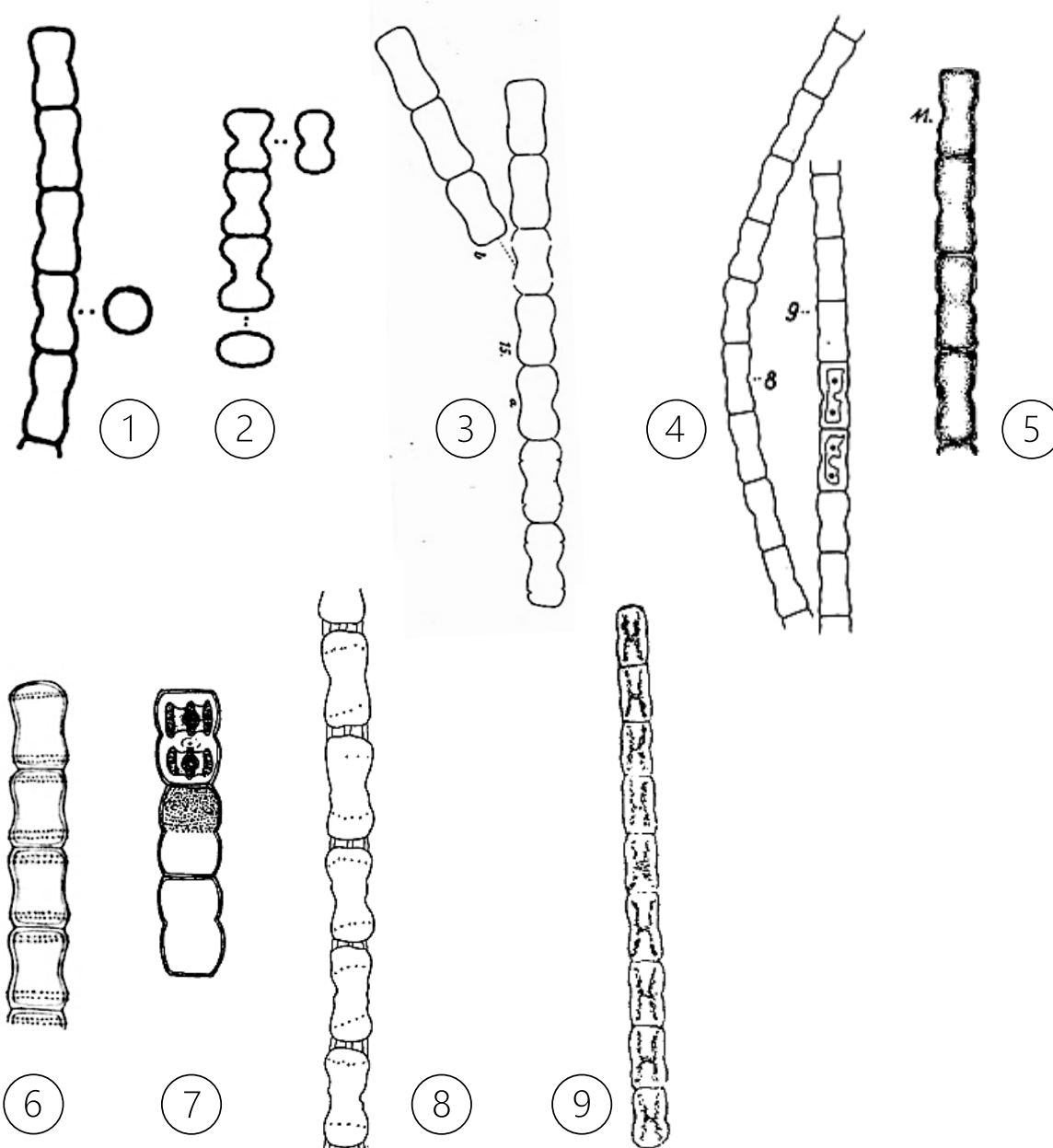


Fig. 1. *Groenbladia undulata* (Nordstedt) Kurt Förster (after Förster 1973).

Fig. 2. *Groenbladia undulata* var. *kriegeri* Kurt Förster (after Förster 1973).

Fig. 3. *Hyalotheca undulata* var. *producta* W.B.Turner (after Turner 1893).

Fig. 4. *Groenbladia undulata* var. *perundulata* (Grönblad) Kurt Förster (from Förster 1974).

Fig. 5. *Hyalotheca undulata* Nordstedt *forma* Skuja (from Skuja 1964).

Fig. 6. *Gloenbladia undulata* var. *ornata* (O.Borge) G.J.P.Ramos & C.W.N.Moura (after Borge 1925).

Fig. 7. *Groenbladia undulata* var. *africana* (Bourrelly) Levanets, *comb. nov.* (after Bourrelly 1957).

Fig. 8. *Groenbladia undulata* var. *ligamentosa* (Thomasson) Levanets, *comb. nov.* (after Thomasson 1957).

Fig. 9. *Groenbladia undulata* var. *minor* (V.Allorge & P.Allorge) Levanets, *comb. nov.* (after Allorge & Allorge 1931).