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**Nomenclatural and taxonomic notes on Brazilian desmids I: *Bambusina*, *Groenbladia*, *Hyalotheca* and *Sphaerosozma* (Desmidiaceae, Zygnematophyceae)**

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In the course of our studies of Brazilian desmids, we have noted a number of nomenclatural issues. Most of the literature on Brazilian desmids is from the last century, and includes a number of endemic species, rarely reported, but which require revision based on recent taxonomic studies, and updating in accordance with the International Code of Nomenclature (ICN; Shenzhen Code, Turland *et al.* 2018). This is the first paper of a series in which such changes will be effected. Here we propose to update the names of taxa ascribed to the filamentous desmid genera *Bambusina*, *Groenbladia*, *Hyalotheca* and *Sphaerosozma*.

Cleve (1964), based on *Desmidium borreri* Ralfs, synonymized *Bambusina brebissonii* Kützing ex Kützing with *B. borreri* (Ralfs) Cleve, but several infraspecific names still need to be updated, as follows.

***Bambusina borreri* var. *gigantea*** (Kurt Förster) G.J.P.Ramos & C.W.N.Moura *comb. nov.*

Basionym: *Bambusina brebissonii* var. *gigantea* Kurt Förster, *Hydrobiologia* 23: 433, pl. 35: fig. 7, 1964 (as “*giganteum*”).

Note: Although no type was explicitly indicated (ICN Art. 40.1) for *Bambusina brebissonii* var. *gigantea*, a single location is named (“Rio das Femmeas, Porta Azul”) meeting the requirements of ICN Art. 40.2 for indication of type.

***Bambusina borreri* var. *major*** (Raciborski) G.J.P.Ramos & C.W.N.Moura *comb. nov.*

Basionym: *Gonatozygon brebissonii* var. *majus* Raciborski *Flora, Jena* 81: 31, 1895.

Synonym: *Bambusina brebissonii* var. *major* (Raciborski) Croasdale in Scott, Grönblad & Croasdale, *Acta Botanica Fennica* 69: 66, fig. 257, 1965.

The type species of genus *Hoplozyga* (Nordstedt) Raciborski, *Hoplozyga armata* (Löfgren & Nordstedt) Raciborski, has been referred to the genus *Bambusina* by Wille (1909: 10, as “*Haplozyga*”), requiring the transfer of all species and intraspecific taxa of *Hoplozyga* to *Bambusina*, some of which remain to be transferred as follows:

***Bambusina armata* var. *raciborskii*** (Kurt Förster & Eckert) G.J.P.Ramos & C.W.N.Moura *comb. nov.*

Basionym: *Hoplozyga armata* var. *raciborskii* Kurt Förster & Eckert in Kurt Förster *Algological Studies/Archiv für Hydrobiologie, Supplement Volumes* 28: 231, 1981.

Note: “*Hoplozyga armata* var. *raciborskii*” Kurt Förster & Eckert in Kurt Förster, *Revue Algologique N.S.* 8: 154, figs. 1, 13 (6 a, b), 14, 1966 (as “*Haplozyga armata* var. *raciborskii*”) was not valid as two collection localities were mentioned in the protologue (Tapakoomasee and Rio das Femmeas both in Brazil) so that the name is not based on a single gathering (ICN Art. 40.2) and a type was not automatically designated at this time. Förster (1981: 231) subsequently validated the name by selecting Förster (1966: fig. 13) as the holotype (“ikonotypus”) although saying this it was “*wahrscheinlich* [probably] var. *armata*”.

***Bambusina eckertii*** (Kurt Förster) G.J.P.Ramos & C.W.N.Moura *comb. nov.*

Basionym: *Hoplozyga eckertii* Kurt Förster, *Revue Algologique* 8: 155, figs. 4-11, 15-17, 1966 (as “*Haplozyga Eckertii*”).

Note: *Hoplozyga eckertii* Kurt Förster is a valid name in Förster (1966: 155-156) as a single gathering from Rio das Femmeas is specified in the protologue, which is automatically the type (ICN Art. 40.2). The subsequent attempted validation by Förster (1981: 231) was therefore superfluous.

*Hyalotheca undulata* Nordstedt was transferred to the genus *Groenbladia* as *Groenbladia undulata* (Nordstedt) Förster (1973), requiring the transfer of the following infraspecific taxon.

***Groenbladia undulata* var. *ornata*** (O.Borge) G.J.P.Ramos & C.W.N.Moura *comb. nov.*

Basionym: *Hyalotheca undulata* var. *ornata* O.Borge, *Arkiv för Botanik* 19(17): 45, pl. 2: fig. 25, 1925.

Coesel (2000) raised *Hyalotheca indica* var. *javanica* Gutwinski to species level, *H. javanica* (Gutwinski) Coesel, based on an untraceable sinus and less-rounded apical angles. The Brazilian specimens described by Grönblad & Croasdale from Santarém (Pará State) are distinguished from the nominal variety by having relatively longer cells, and the punctate wall arranged in less regular horizontal rows. Here we consider these features sufficient to raise this form to varietal level.

***Hyalotheca javanica* var. *maior*** (Grönblad & Croasdale) G.J.P.Ramos & C.W.N.Moura *comb. et stat. nov.*

Basionym: *Hyalotheca indica* f. *maior* Grönblad & Croasdale in Scott, Grönblad & Croasdale, *Acta Botanica Fennica* 69: 63, pl. 19: fig. 242, 1965 (as “*Hyalotheca indica* var. *javanica* f. *maior*”).

*Onychonema laeve* Nordstedt has been transferred to *Sphaerososma laeve* (Nordstedt) Thomasson (1957), which necessitates the transfer of the following intraspecific names, as follows:

***Sphaerososma laeve* var. *macracanthum*** (Grönblad) G.J.P.Ramos & C.W.N.Moura, *comb. nov.*

Basionym: *Onychonema laeve* var. *macracanthum* Grönblad, *Acta Societatis Scientiarum Fennicae* 2(6): 33, figs. 304, 305, 1945.

***Sphaerososma laeve* var. *rectangulare*** (Grönblad) G.J.P.Ramos & C.W.N.Moura *comb. nov.*

Basionym: *Onychonema laeve* var. *rectangulare* Grönblad, *Acta Societatis Scientiarum Fennicae* 2(6): 33, figs. 306-307, 1945.

***Sphaerososma laeve* var. *subrectangulare*** (Grönblad) G.J.P.Ramos & C.W.N.Moura *comb. nov.*

Basionym: *Onychonema laeve* var. *subrectangulare* Grönblad, *Acta Societatis Scientiarum Fennicae* 2(6): 33, fig. 308, 1945.

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