

Taxonomy and nomenclature of some *Penium* (*Peniaceae*, *Zygnematophyceae*) taxa from South Africa and Mozambique

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During our studies of Southern African desmids we have discovered some nomenclatural issues that require correction. Most of the published literature is from the 20th century, and includes several endemic taxa, which require revision based on recent taxonomic studies, and updating in accordance with the ICN (Turland & al. 2018). In the present note, we propose to update the names of taxa ascribed to the genus *Penium* Brébisson ex Ralfs 1848 by Felix Eugen Fritsch (1874–1954) in Fritsch & Stephens (1921) and Béla Jenő Cholnoky (1899–1972) in Cholnoky (1952, 1955) from freshwater habitats of South Africa and Mozambique.

Penium minutum (Ralfs) Cleve was transferred to the genus *Haplotaenium* Bando as *Haplotaenium minutum* (Ralfs) Bando (1988), and thus the transfer of the following infraspecific taxon name is necessary.

Haplotaenium minutum* var. *productum (Fritsch) Levanets & Janse van Vuuren, *comb. nov.*

Basionym: *Penium minutum* var. *productum* Fritsch in Fritsch & Stephens, *Transactions of the Royal Society of South Africa* 9(1): 21, fig. 6, D, 1921.

Type locality: Cape Colony, Transkei Territories, Kentani District [now South Africa, Eastern Cape Province, Kentani], rare, leg. Miss A. Pegler, A.L.S., November 1912.

Registration: <http://phycobank.org/104275>

Note: In our opinion this variety should be included within *Haplotaenium minutum* (Ralfs) Bando to which it is morphologically related.

Penium jenneri Ralfs was transferred to the genus *Cylindrocystis* Meneghini ex De Bary as *Cylindrocystis jenneri* (Ralfs) West & G.S. West (1904), requiring the transfer of the following infraspecific taxon name.

Cylindrocystis jenneri* var. *garusica (Cholnoky) Levanets & Janse van Vuuren, *comb. nov.*

Basionym: *Penium jenneri* var. *garusicum* Cholnoky, *Boletim da Sociedade Portuguesa de Ciências Naturais*, ser. 2, 4(1): 121, no fig., 1952.

Type locality: Mozambique, Garuso Mountains, Jagersberg, westrocks, full sun, granite, leg. Prof. Dr H.G. Schweickerdt, 1 April 1952.

Registration: <http://phycobank.org/104289>

Note: In our opinion this variety should be included in *Cylindrocystis jenneri* (Ralfs) West & G.S. West to which it is morphologically related.

Penium cucurbitinum Bisset was transferred to the genus *Actinotaenium* (Nägeli) Schellenberg as *Actinotaenium cucurbitinum* (Bisset) Teiling (1954), requiring the transfer of the following infraspecific taxon name.

Actinotaenium cucurbitinum* var. *africanum (Cholnoky) Levanets & Janse van Vuuren, *comb. nov.*

Basionym: *Penium cucurbitinum* var. *africanum* Cholnoky, *Boletim da Sociedade Portuguesa de Ciências Naturais*, ser. 2, 4(1): 121, fig. 33 (misprinted 'fig. 83'), 1952 (as 'var. *africana*').



Type locality: Mozambique, Garuso Mountains, Jagersberg, westrocks, full sun, granite, leg. Prof. Dr H.G. Schweickhardt, 1 April 1952.

Registration: <http://phycobank.org/104290>

Note: In our opinion this variety must be placed into *Actinotaenium cucurbitinum* (Bisset) Teiling to which it is morphologically related.

Penium phymatosporum Nordstedt was transferred to the genus *Actinotaenium* (Nägeli) Schellenberg as *Actinotaenium phymatosporum* (Nordstedt) Kouwets & Coesel (1984), requiring the transfer of the following infraspecific taxon name.

Actinotaenium phymatosporum* var. *crassulum* (Cholnoky) Levanets & Janse van Vuuren, *comb. nov.

Basionym: *Penium phymatosporum* var. *crassulum* Cholnoky, *Hydrobiologia* 7: 205, fig. 160, 1955.

Type locality: South Africa, Rayton-vlei (near the town of Rayton, about 30 km east of Pretoria), a depression in the small drainage ditch of spring [shallow side spring, very slow flowing, not dirty] (probably also a spring itself), pH 5.9, temperature of the water 19.5–20°C, June [1955?].

Registration: <http://phycobank.org/104291>

Note: In our opinion this variety should be included in *Actinotaenium phymatosporum* (Nordstedt) Kouwets & Coesel to which it is morphologically related.

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