

A nomenclatural note on two species of the Achnanthidiaceae (Bacillariophyta)

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Aboal (in Aboal et al. 2003) transferred *Achnanthes curtissima* J.R.Carter (1963) to the genus *Psammothidium*. Carter did not indicate any type for this taxon, mentioning only the type locality (Fell Loch, Wigtownshire, Scotland), but the mere citation of a locality does not constitute mention of a type specimen (ICN Art. 40, note 2). Therefore, the illustration provided (pl. 1: fig. 3) of two valves, being the only element mentioned in the protologue, becomes the holotype of the species (ICN Art. 40.3), and not the lectotype marked in a microscopic slide in Carter's collection, as designated by Krammer & Lange-Bertalot (2004; see also Williams & Reid 2002). However, *A. curtissima* is currently considered a taxonomic synonym of *Cocconeis microscopica* Cholnoky (1959) [\equiv *Achnanthes microscopica* (Cholnoky) Lange-Bertalot & Krammer 1989]. This had been suggested by Krammer & Lange-Bertalot (2004), who found few morphological differences between *A. curtissima* and *A. microscopica* (including the amendment by Archibald 1971) and, thus, cited *A. microscopica* in synonymy. Since *Cocconeis microscopica* retains priority against *Achnanthes curtissima*, Aboal's combination should have been made for Cholnoky's taxon and not for Carter's, and is hereby corrected:

***Psammothidium microscopicum* (Cholnoky) S.Blanco, comb. nov.**

Basionym: *Cocconeis microscopica* Cholnoky *Österr. Bot. Z.* **106**: 17. 1959.

\equiv *Achnanthes microscopica* (Cholnoky) Lange-Bertalot & Krammer 1989

= *Achnanthes curtissima* J.R.Carter 1963

= *Psammothidium curtissimum* (J.R.Carter) Aboal in Aboal et al. 2003

Achnanthes microcephala f. *scotica* J.R.Carter and its subsequent homotypic synonyms are generally considered invalid on the grounds that no type was designated at the time of publication. However, as in the case of *Achnanthes curtissima* J.R.Carter described above, the inclusion of a single element in the protologue (in this case, the illustration pl. 1: fig. 31 in J.R.Carter & Bailey-Watts 1981) suffices for designating a valid type.

This taxon reappeared in Lange-Bertalot & Krammer (1989) as "*Achnanthes microcephala* var. *scotica*" but, when raised to species rank as *Achnanthes scotica* Lange-Bertalot (Lange-Bertalot 1993), this name was illegitimate as *Achnanthes scotica* R.J.Flower & V.J.Jones (Flower & Jones 1989) had priority [\equiv *Psammothidium scoticum* (R.J.Flower & V.J.Jones) Bukhtiyarova & Round], so a new name was introduced a year later as *Achnanthes caledonica* Lange-Bertalot in Lange-Bertalot & Moser (1994).

Current taxonomic opinion has restricted *Achnanthes sensu stricto* to marine or brackish taxa, and former freshwater species of *Achnanthes sensu lato* have been reassigned to more appropriate genera. *Achnanthes microcephala* f. *scotica* was first transferred to *Achnanthidium* as *Achnanthidium caledonicum* (Lange-Bertalot) Lange-Bertalot (1999), and subsequently the isonym *Achnanthidium caledonicum* (Lange-Bertalot) Slate & J.R.Stevenson (2007) was introduced. Cremer (in Cremer & Wagner 2003) published the name *Achnanthidium minutissimum* var. *scoticum* (J.R.Carter) H.Cremer, thus retaining the taxon at the varietal level. However, Lange-Bertalot did not use Carter's original name as the intended basionym (and parenthetical author) for his replacement name published in 1994. Contrary to general belief, a basionym is not always the first name given to a taxon, but merely any legitimate name "which provides the final epithet" of

the new combination (Art. 6.10), except in cases when the resulting combination becomes a tautonym or a later homonym of a legitimate name. According to Art. 11.4, the correct name of a species "... is the combination of the final epithet of the earliest legitimate name of the taxon *in the same rank* [my emphasis], with the correct name of the genus." Thus, Lange-Bertalot (1999) correctly chose "*caledonicum*" as the final epithet of his new combination, as this is the earliest available name at the chosen rank of species. Hence, the correct name for this taxon, when treated as a distinct species of *Achnantheidium*, as is generally the case, is:

***Achnantheidium caledonicum* (Lange-Bertalot) Lange-Bertalot 1999**

Basionym: *Achnanthes caledonica* Lange-Bertalot *Bibliotheca Diatomologica* 29: 95, 1994

≡ *Achnanthes microcephala* f. *scotica* J.R.Carter in J.R.Carter & Bailey-Watts (1981)

≡ *Achnanthes microcephala* var. *scotica* Lange-Bertalot & Krammer (1989)

≡ *Achnanthes scotica* Lange-Bertalot (1993), *nom. illeg., non Achnanthes scotica* Flower & V.J.Jones (1989)

≡ *Achnantheidium minutissimum* var. *scoticum* (J.R.Carter) H.Cremer in H.Cremer & Wagner (2003)

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