

Three diatom names attributed to Thomas Comber: *Neidium dubitatum*, *Neidium iridis* var. *rhodana* and *Nitzschia moissacensis* (Bacillariophyceae)

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According to VanLandingham (1978: 2974, 2982, 3082), the British diatomist Thomas Radcliffe Comber (1837—1902) is supposed to have been responsible for three new combinations: *Neidium dubitatum* ‘(Héribaud) Comber 1901’, *Neidium iridis* var. *rhodana* ‘(Brun) Comber 1901’ and *Nitzschia moissacensis* ‘(Héribaud) Comber 1901’ (for other taxonomic acts made by Comber see Williams & Blanco 2020). VanLandingham ascribes all three of these names to ‘Comber 1901’, but specifies no page numbers nor does he distinguish between two separate 1901 Comber papers: *Catalogue of African Plants Collected by Dr. Friedrich Welwitsch in 1853-1861* (Comber 1901a, see Williams & Blanco, 2020) and Comber’s contribution to the *Fauna, Flora & Geology of the Clyde area* (Comber 1901b) (VanLandingham 1978). Neither of these two 1901 contributions, however, contain reference to any of the three names. Interestingly, for *Nitzschia moissacensis*, VanLandingham also refers to ‘Meister (1914)’ and ‘Comère (1925)’ (VanLandingham 1978: 3082). The question thus arises: who actually made these combinations and where?

Mills’s *An index to the genera and species of the Diatomaceae and their synonyms*, however, provides an answer. Mills includes all three of these Comber names, attributing the authorship of *Neidium dubitatum* (Mills 1934b: 1188) and *Neidium iridis* var. *rhodana* (Mills 1934b, p. 1189) to Comber but gives no particular publication or date; the third, *Nitzschia moissacensis*, is attributed to ‘Combere’ (Mills 1934b: 1221). There is, of course, no such person as ‘Combere’. ‘Combere’ was subsequently interpreted as an orthographic error for Comber, when in fact it was an orthographic error for an entirely different person: Joseph Comère (1854—1932; for biographical details see *Bulletin de la société Française microscopie* 1: 82-87), pharmacist and phycologist, and publisher of the ‘Comère (1925)’ paper referred to by VanLandingham. ‘Comère (1925)’ is the article entitled ‘*Documents pour l’étude des diatomées d’eau douce*’ published in a commemorative issue of *Nuova Notarisia* celebrating 40 years of publishing (1886—1925), which includes all three ‘lost’ names. If the combinations are taxonomically accepted, then two of the three should be attributed to Comère:

Neidium dubitatum (Héribaud) Comère (Comère 1925: 69)

Basionym: *Navicula dubitata* Héribaud (Héribaud 1903: 6, pl. 9, fig. 28)

Neidium iridis var. *rhodanum* (Brun) Comère (Comère 1925: 69)

Basionym: *Neidium affine* var. *rhodanum* Brun (Brun 1895: pl. 14, figs 8-10, as ‘*affinis* var. *rhodana*’)

Synonyms: *Navicula affinis* var. *rhodana* (Brun) F.W. Mills (Mills 1934a: 973). *Neidium rhodanum* (Brun) Brun (Brun 1901: 127)

The third name is a little more complex to unravel. Héribaud described a species, *Grunowia moissacensis* Héribaud (1903: 75, pl. 10, fig. 25). When describing a new variety of *Nitzschia moissacensis*, *Nitzschia moissacensis* var. *heidenii*, Meister did so without specifically transferring the nominate species from *Grunowia* to *Nitzschia* (Meister 1914: 229, pl. 8: fig. 10). Meister, however, wrote: “*Diese Varietät unterscheidet sich vom Typus, siehe J. HÉRIBAUD, Diatomées fossiles d’Auvergne, 1903, pag. 75, t. X, f. 25 [...]*” (Meister 1914: 229), which constitutes a new combination according to ICN Art. 41.4, rendering Comère’s later combination superfluous if it is, indeed, even nomenclaturally legitimate because it is a later homonym. This may explain the

peculiar authority citation in Cassie's paper on 'recent name changes' where she referred to a taxon named "*Nitzschia moissacensis* (Héribaude, Comber) Meister" (Cassie 2001: 607).

Aboal et al. (2003), however, treat *Nitzschia moissacensis* is a synonym of *Grunowia solgensis* (Cleve-Euler) Aboal (in Aboal et al. 2003: 486). In addition, Aboal (in Aboal et al. 2003: 486) noted that Krammer & Lange-Bertalot (1988: 53) treated Meister's *Nitzschia moissacensis* var. *heidenii* and *Nitzschia interrupta* (Reichel) Hustedt (Hustedt 1927: 168) as synonyms of *Nitzschia sinuata* var. *delognei* (Grunow) Lange-Bertalot (Lange-Bertalot 1980: 54), which Aboal (*loc. cit.*) considered to be a synonym of *Grunowia solgensis*. In the recently published *Freshwater Benthic Diatoms of Central Europe* (Cantonati et al. 2017: 458), *Grunowia solgensis* is recognised by the name *Nitzschia solgensis* Cleve-Euler (1952: 67). Aboal (in Aboal et al. 2003: 487) further noted that *Nitzschia moissacensis* might be a synonym for yet another species, "perhaps *N. denticula* (Comère, com. pers.)". For more details on the structure of these diatoms see Kobayasi et al. 1990, and for a recent account of *Grunowia* see Kociolek et al. (2020, in press).

Taxonomic issues aside, if *Grunowia moissacensis* Héribaude is considered to be a species of *Nitzschia*, then Comère's combination is superfluous and the correct name is:

Nitzschia moissacensis (Héribaude) Meister (Meister 1914: 229)

Basionym: *Grunowia moissacensis* Héribaude (Héribaude 1903: 75, pl. 10: fig. 25)

Isonym: *Nitzschia moissacensis* (Héribaude) Comère (Comère 1925: 87).

Aboal, M., Alvarez Cobelas, M., Cambra, J. & Ector, L. (2003). Floristic list of non-marine diatoms (*Bacillariophyceae*) of Iberian Peninsula, Balearic Islands and Canary Islands. Updated taxonomy and bibliography. *Diatom Monographs* 4: 1-639.

Brun, J. (1895). Diatomées lacustres, marines ou fossiles, espèces nouvelles ou insuffisamment connues. *Le Diatomiste* 2, pls. 14-17, 19-20.

Brun, J. (1901). Diatomées du lac Léman. *Bulletin de l'Herbier Boissier*, série 2, 1 (2): 117-128.

Cantonati, M., Kelly, M.G. & Lange-Bertalot, H. (2017). *Freshwater Benthic Diatoms of Central Europe: Over 800 Common Species Used in Ecological Assessment*. Koeltz Scientific Books, 942 pp.

Cassie, V.C. (2001). Recent name changes in eukaryotic freshwater algae of New Zealand. *New Zealand Journal of Botany* 39: 601-616.

Cleve-Euler, A. (1952). Die Diatomeen von Schweden und Finnland. Part V. (Schluss.). *Kungliga Svenska Vetenskapsakademiens Handlingar*, ser. IV, 3 (3), 153 pp.

Comber, T. (1901a). Diatomaceae. In: *Catalogue of African Plants Collected by Dr. Friedrich Welwitsch in 1853-1861*. London and Aylesbury, volume 2, part 2, pp. 382-395.

Comber, T. (1901b). Diatoms. In: *Fauna, flora & geology of the Clyde area* (Scott Elliot, G.F., Laurie, M. & Murdoch, J. Barclay, eds), British Association, pp. 31-48.

Comère, J. (1925). Documents pour l'étude des diatomées d'eau douce. *La Nuova Notarisia, fascicolo commemorativo del 40^o anno dalla fondazione della "Notarisia" (1886-1925)*, pp. 51-102.

Héribaude, J. (1903). *Les Diatomées Fossiles d'Auvergne* (Second Mémoire). Librairie des Sciences Naturelles, Paris.

Hustedt, F. (1927). Bacillariales aus dem Aokikosee in Japan. *Archiv für Hydrobiologie* 18:155-172.

Kobayasi, H., Kobori, S. & Sunaga, S. (1990). Taxonomy and morphology of two forms of the *Nitzschia sinuata* complex. In: *Proceedings of the 11th International Diatom Symposium. San Francisco, California, pp. 12-17*.

Kociolek, J.P., Danz, A., Swenson, J., Thirouin, K., Williams, D.M. & Borsa, T. (2020). Taxonomy, valve ultrastructure, nomenclature and a comparison of two species of Bacillariales from freshwaters of Puerto Rico. *Phytotaxa*, in press.



- Krammer, K. & Lange-Bertalot, H. (1988). Bacillariophyceae. 2 Teil. Bacillariaceae, Epithemiaceae, Surirellaceae. *Süßwasserflora von Mitteleuropa* 2/2. Gustav Fischer Verlag, Jena.
- Lange-Bertalot, H. (1980). New species, combinations and synonyms in the genus *Nitzschia*. *Bacillaria* 3: 41-77.
- Meister, F. (1914). Beiträge zur Bacillariaceenflora Japan. *Archiv für Hydrobiologie und Planktonkunde* 9: 226-232.
- Mills, F.W. (1934a). *An index to the genera and species of the diatomaceae and their synonyms. 1816-1932*. Part 13 (Me-Na), Wheldon & Wesley, Limited, London, pp. 921-1000
- Mills, F.W. (1934b). *An index to the genera and species of the Diatomaceae and their synonyms. 1816-1932*. Part 16 (Na-Ni), Wheldon & Wesley, Limited, London, pp. 1162-1240.
- VanLandingham, S.L. (1978). *Catalogue of the fossil and recent genera and species of diatoms and their synonyms*. Part VI. *Neidium* through *Rhoicosigma*. Lehre, Verlag von J. Cramer.
- Williams, D.M. & Blanco, S. (2020). Thomas Radcliffe Comber (1837—1902), his contribution to the diatoms recorded in the *Catalogue of African Plants Collected by Dr. Friedrich Welwitsch in 1853-1861* (1898—1901) with notes on nomenclatural issues and biogeographical implications. *Phytotaxa* 451: 45—62.