The valid transfer of *Stauroneis goeppertiana* to *Luticola* (Bacillariophyceae)

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The genus *Luticola* D.G.Mann in Round *et al.* (1990: 670) is one of many genera separated from *Navicula* Bory (1822: 128) to accommodate taxa with morphological features inconsistent with *Navicula sensu stricto*, most notably the presence of striae that are not lineolate. Features of *Luticola* that distinguish it from *Navicula sensu stricto* include a single chloroplast, punctate striae, presence of a stigma (or more specifically, a buciniportula; Riaux-Gobin & Al-Handal 2012) located in the central area of the valve, and proximal raphe ends that are deflected away from the stigma (Round *et al.* 1990; Krammer & Lange-Bertalot 1986; Levkov *et al.* 2013). Members of the genus *Luticola* can be found in damp mosses, rocks, wet walls, soils, and epizoic on turtles, suggesting a preference for subaerial habitats (Levkov *et al.* 2013; Wetzel *et al.* 2010, Wu & Bergey 2017).

In the course of developing a taxonomic resource for a *Luticola* entity for the *Diatoms of the United States* website (http://westerndiatoms.colorado.edu), it came to our attention that *Luticola goeppertiana* (Bleisch) D.G.Mann *in* Round, Crawford & Mann (1990: 670), *nom. inval.*, was invalidly introduced. The attempt to transfer *Navicula mutica* var. *goeppertiana* (Bleisch) Grunow (1880: 41) to the genus *Luticola* failed to provide a full and direct citation of the correct basionym (Mann in Round *et al.* 1990). The basionym was incorrectly cited as "*Navicula mutica* var. *goeppertiana* M. Bleisch 1861, in L. Rabenhorst. Alg. Europ.: 1183" by D.G.Mann in Round *et al.* (1990: 670). The correct basionym is *Stauroneis geoppertiana* Bleisch *in* Rabenhorst (1861: No. 1183) (Guiry & Guiry 2017). The invalid status of *L. goeppertiana* has not been discussed in recent publications on *Luticola* (e.g., Pavlov *et al.* 2009, Levkov *et al.* 2013). A valid transfer to the genus *Luticola* is necessary and is provided as follows in accordance with ICN Art. 6.10, Art. 41.5, Art. 32, Rec. 32.A.1 (McNeill *et al.* 2012):

Luticola goeppertiana* (Bleisch) D.G.Mann *ex* J.Rarick, S.Wu, S.S.Lee & Edlund *comb. et stat. nov.

Basionym: *Stauroneis goeppertiana* Bleisch *in* Rabenhorst *Algen Europa's, Fortsetzung der Algen Sachsens, Resp. Mittel-Europa's* Decade 19-20, No. 1183, 1861.

The nomenclatural history of *L. goeppertiana* starts with *Stauroneis goeppertiana* Bleisch *in* Rabenhorst (1861: label to exsiccata no. 1183). On the printed label, in Gothic German script, Rabenhorst provided a full description of the new species and credits Dr. Bleisch with finding this taxon, although the name is merely introduced in Roman script as "Stauroneis Goeppertiana nova species." The name *Stauroneis goeppertiana* Bleisch was introduced a second time (without a description) by Bleisch (1863: 81), who reported the type locality as the walls of a granitic pipe holder on the market place of Strehlen (Poland). Confusion regarding the authorship of the

basionym is clarified by Rabenhorst (1864: 248) when he unambiguously gave Bleisch as the authority "*Bleisch* (in Rabenh. Alg. N. 1183.)." Later, the name was transferred to the genus *Navicula as Navicula goeppertiana* (Bleisch) H.L.Smith (1876: Typ. No. 276). Grunow (1880: 41) considered this entity as a variety, and proposed *N. mutica* var. *goeppertiana* (Bleisch) Grunow (1880: 41).

Subsequently, some disagreement arose regarding the identity of *N. mutica* var. *goeppertiana* and *N. mutica* Kützing (Kützing1844: 93); for instance, Patrick & Reimer (1966: 454) considered *N. mutica* var. *goeppertiana* as conspecific with *N. mutica*. However, Pavlov *et al.* (2009) described material of *L. goeppertiana* from isotype exsiccata material: BRM slide No. N15/56 Strehlen, Schlesien (Silesia), Poland. On the basis of this type material, *L. goeppertiana* has linear-lanceolate to lanceolate valve shape and protracted apices, whilst *Luticola mutica* has elliptical-lanceolate to lanceolate valve shape and rounded apices (Krammer & Lange-Bertalot 1986).

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