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**Validation of the diatom genus name *Coronia* (Surirellaceae, Bacillariophyta)**

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Ruck *et al.* (2016) concluded that “*Campylodiscus* as the lineage that includes taxa with infundibula orphaned the taxa formerly placed in *Campylodiscus* but lacking the synapomorphy of *Campylodiscus sensu stricto*. Among these orphaned *Campylodiscus*, the *Robusti* group was transferred to *Iconella*, leaving only a clade of marine *Campylodiscus* without clear generic placement. This is a strongly supported clade and is morphologically diverse,... Despite strong support for monophyly, we were unable to identify a morphological synapomorphy. Nevertheless, we believe that naming this lineage, even without a synapomorphy, is preferable compared to placing these taxa under *incertae sedis*, which in practice would mean preserving a poly- phyletic *Campylodiscus*.” The authors used the genus name *Coronia* for this lineage, attributing it to Ehrenberg (1841 ‘1840’: 206).

The name *Coronia* was indeed first introduced by Ehrenberg (1841 ‘1840’: 206) but as an unranked category of the genus *Campylodiscus* Ehrenberg. The latter genus name was originally introduced for a fossil species “*Campylodiscus clypeus* (= *Cocconeis ? clypeus*)” by Ehrenberg (1838: 176). No description was provided and the genus name was thus invalid at this time. Ehrenberg (1841 ‘1840’: 206), named by most diatom authorities as the place of publication of *Campylodiscus*, included *Campylodiscus clypeus*, *C. noricus*, *C. remora*, and *C. (coronia) Echenëis* but, again, no genus description was provided. *Campylodiscus* was validated by the provision of a description by Kützing (1844: 59) and the correct citation is *Campylodiscus* Ehrenberg ex Kützing, even though Kützing does not attribute the genus name directly to Ehrenberg. Kützing (1844: 59) included *Campylodiscus echenëis* as “*Campylodiscus (Coronia) Echenëis*” ascribing the name to Ehrenberg. The correct citation of the name is thus *Campylodiscus echenëis* Ehrenberg ex Kützing. The genus *Campylodiscus* Ehrenberg ex Kützing was lectotypified by *Campylodiscus clypeus* (Ehrenberg) Ehrenberg ex Kützing (basonym: *Cocconeis ? clypeus* Ehrenberg) by Boyer (1928: 548).

The unranked category name *Coronia* was subsequently validated by Grunow (1862: 436) by the provision of a description, again however as an unranked category of the genus *Campylodiscus* Ehrenberg ex Kützing; Grunow included in *Coronia* the species *Campylodiscus diplostictus*, *C. echenëis*, *C. indicus*, *C. heliophilus*, one of which would have to be selected as the type of the unranked category name *Coronia*, regardless of the fact that *Campylodiscus (Coronia) echenëis* was the only name used by Kützing (1844) as *Coronia* had no status at this time.

*Sitzungsberichte der Gesellschaft Naturforschender Freunde zu Berlin* [Proceedings of the Berlin Society of Friends of Natural Science] for the years 1839-1859 were published collectively as a book in 1912. For the session of 18 February 1840, at the bottom of p. 19 [translated from the German]: “Moreover, ... the preliminary news that his (Ehrenberg’s) observations ... on the Baltic sludge accumulations in the port of Wismar, ... with the remark that a more detailed message will [be] prepared at some later time by him [Ehrenberg], and he puts a preliminary drawing of the present therein, so far unknown, strange little creature before that, as recently observed by Dr. Werneck in the living form, the fossil genus *Campylodiscus* connects [to] the present world. He [Ehrenberg] called the new, not striped,

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but a sieve-like perforated little creature (*Campylodiscus*) *Coronia Echeneis*." [*Campylodiscus* was originally named by Ehrenberg from fossil material.]

It is not at all evident in our opinion that Ehrenberg intended *Coronia* as a genus, and bearing in mind that it was written in 1839 and the positioning of the parentheses may not have been as intended. One is forced to remark that if it were the case that Ehrenberg intended *Coronia* as a genus, why did he never mention it as a genus name subsequently?

Accordingly, in order to provide a genus name for the clade shown in Ruck *et al.* (2016, fig. 3) for a group of marine species formerly referred to *Camphylo-discus*, we propose formally to raise *Campylodiscus* unranked category *Coronia* Ehrenberg ex Grunow to genus level as follows. Further morphological study is required to distinguish a synapomorphy or synapomorphies that define the *Coronia* clade.

***Coronia* (Ehrenberg ex Grunow) Ruck & Guiry, stat. nov.**

Generitype: *Coronia echenëis* (Ehrenberg ex Kützing) Ruck & Guiry, comb. nov.

Basionym: *Campylodiscus (Coronia) echenëis* Ehrenberg ex Kützing *Die Kieselschaligen Bacillarien oder Diatomeen*: 59, 1844.

**Other species**

***Coronia ambigua* (Greville) Ruck & Guiry, comb. nov.**

Basionym: *Campylodiscus ambiguus* Greville 1860. *Transactions of the Microscopical Society of London, New Series* 8: 31, pl. I: fig. 5, 1860.

***Coronia daemeliana* (Grunow) Ruck & Guiry, comb. nov.**

Basionym: *Campylodiscus daemelianus* Grunow in Schmidt 1874. *Atlas der Diatomaceen-kunde. Probetafel*: fig. 4, 1874.

***Coronia limbata* (Brébisson) Ruck & Guiry, comb. nov.**

Basionym: *Campylodiscus limabtus* Brébisson *Mémoires de la Société des Sciences Naturelles de Cherbourg*, 2: 250, pl. 1: fig. 1, 1854.

***Coronia impressa* (Grunow) Ruck & Guiry, comb. nov.**

Basionym: *Campylodiscus impressus* Grunow in Schmidt *Atlas der Diatomaceen-kunde. Series II* (Heft 13): pl. 51: fig. 10, 1877.

***Coronia samoensis* (Grunow) Ruck & Guiry, comb. nov.**

Basionym: *Campylodiscus samoensis* Grunow in Schmidt. *Atlas der Diatomaceen-kunde. Series I* (Heft 4): pl. 15, figs 19-20, 1875.

***Coronia undulata* (Greville) Ruck & Guiry, comb. nov.**

Basionym: *Campylodiscus undulatus* Greville. *Quarterly Journal of Microscopical Science, Series* 2, 3: 229, pl. IX: fig. 4, 1863.

***Coronia decora* (Brébisson) Ruck & Guiry, comb. nov.**

Basionym: *Campylodiscus decorus* Brébisson *Mémoires de la Société des Sciences Naturelles de Cherbourg*, 2: 251, pl. 1: fig. 2, 1854.

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We warmly acknowledge the scholarship and life-time dedication to the indexing of algal names of the late Paul C. Silva (1922-2014). His life's work, *Index Nominum Algarum*, has made an immense and long-lasting contribution to algal nomenclature. Without the support of his painstaking detective work, we could not have completed this note. We also appreciate the on-going support of Richard L. Moe.

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