

A proposal to dispose of the mistaken diatom names (*Bacillariophyta*) erroneously attributed to the Ukrainian phycologist Dmytro O. Svirenko [Swirenko] (1888–1944)

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The source for many records of apparently new diatom names is the compilation of algal literature, published in Russia and former Soviet Union countries, reprinted as volumes 3 and 9 in the series *Collectanea Bibliographica* (Koeltz 1976*, Hollerbach & Krasavina 1977). Volume 3 is entitled “Algological bibliography of the USSR. From the beginning to 1960” and is a set of seven bibliographic publications recording items dating from between “1737 to 1960”. The collection is described as a series of “unchanged reprint[s] of several contributions on the bibliography of Russian Algology [...]” (Koeltz 1976). Volume 9 is entitled “Algae. A Cumulative Index to the National Bibliography on Algae for 1737-1960 incl.” and is an index to all the algal names included in the seven reprinted bibliographies (Hollerbach & Krasavina 1977). This is a reprint of an earlier publication (Hollerbach & Krasavina 1971). The seven reprinted bibliographies are listed in the introduction to volume 3 (Koeltz 1976). In the index volume, Hollerbach & Krasavina (1971, 1977) record all taxon names without author citation but with a series of numbers indicating the publications in which each taxon of that name occurs. The numbers correspond to those listed in Koeltz (1976). Many of the unique diatom names that appear in this compilation were included in the final three volumes of VanLandingham’s *Catalogue of the Fossil and Recent Genera and Species of Diatoms and their Synonyms* (1978a, 1978b, 1979). Each name included was usually, but not always, annotated with the proviso “[...] according to Hollerbakh et Krasavina 1971 [...]”, which refers to the original publication rather than the 1977 reprint†.

In 2018, Liu & al. (2018) described a number of new species in the genus *Pinnularia* Ehrenberg (Ehrenberg 1843: 45), including *Pinnularia zebra* Y.Liu, Kociolek & Q.X.Wang (in Y. Liu & al. 2018: 20, pl. 27: figs 1–2; pl. 28: figs 1, 2; pl. 29: figs 1–4). That name appeared to be pre-occupied, and was attributed to Dmytro O. Svirenko [Swirenko] (1888–1944), Dr Sci., Corr. Member National Academy of Sciences of Ukraine, one-time director of the Dnepropetrovsk Hydrobiological Station. According to Koeltz (1976: 461), the name ‘*Pinnularia zebra*’ was published along with two varieties, ‘*Pinnularia zebra* var. *porcellus*’ and ‘*Pinnularia zebra* var. *saxonica*’, in the floristic results for the ‘Sud-Bugishen’ [Southern Bug (Buh) River, southern Ukraine] Hydrobiological Expedition (Swirenko 1941, see also Swirenko 1929).

Figure 1 is a reproduction of page 223 from Koeltz (1976) with three taxon names (enclosed in a black box, added here by us); these are the first three names in column 1 of our Table 1: ‘*Epithemia oblonga*’, ‘*E. radiosa*’ and ‘*E. salinarum* var. *intermedia*’. Each name is exclusively referred to publication No. 7014, which is Swirenko (1941). Figure 2 is a reproduction of the reference from Hollerbach & Krasavina (1977). In addition to ‘*Pinnularia zebra*’ and its two supposed varieties, as noted above, a number of other taxa were indicated by Hollerbach & Krasavina (1971) as having also been published, for the first time, in Swirenko (1941). These names are presented in the first column of Table 1. All are errors of one kind or another, most having an incorrect genus name. The

* The republished collection of bibliographic reprints considered here might, perhaps, be credited to Anonymous. Koeltz is the editor of the entire series *Collectanea Bibliographica* and therefore is perhaps best considered the editor of this volume. It is a reasonable assumption that he compiled (and therefore edited) this collection of papers.

† There have been various transliterations of the name Gollerbakh: Gollerbach, Hollerbach and Hollerbakh. Gollerbakh is understood to be the correct transliteration of ‘Голлербах’ from Russian to English, but ‘Hollerbach’ is a more recent version. Although Gollerbakh is the most frequently used transliteration, we have applied the IPNI standard form given as “Maximilian Maximilianovich Hollerbach (1907-1989).”

fourth column in Table 1 is a list of names with specific epithets that correspond to those recorded under an incorrect genus name in Hollerbach & Krasavina (1971, 1977) and where they can be found in Swirenko (1941: 759–761), from the *Systematischer Teil*; this latter work is a summary of all taxa mentioned in the previous sections of Swirenko (1941). The paper includes descriptions of several new species of algae but there are no descriptions of any new species of diatom. For example, there is no such taxon or record for ‘*Epithemia oblonga*’, which seems to be an error for ‘*Navicula oblonga* Kütz.’ (Swirenko 1941: 760). The sixth column in Table 1 contains our suggestions as to what should be the correct name and correct authority, where it can be established. ‘*Navicula oblonga* Kütz.’ should be cited as *Navicula oblonga* (Kützing) Kützing as it is based on *Frustulia oblonga* Kützing (Kützing 1833: 548, pl. 14: fig. 24[‡]).

The names in the first column of Table 1 are obviously not synonyms of the names in the fourth column but citation errors with an incorrect genus name, or with incomplete or incorrect author citation (Table 1, fourth column), but none are, or can be, attributed to Swirenko as the original author.

Our search into other floristic studies published by Swirenko (1922a, 1922b, 1924, 1926a, 1926b, 1928a, 1928b and 1938) yielded none of the diatom binomials in column 1, Table 1, confirming that the mistaken names appeared first as transcription errors in Hollerbach & Krasavina (1971, 1977) and were subsequently transferred to VanLandingham’s *Catalogue* (1978a, 1978b, 1979).

Strictly speaking, the names in the first column and the names with the incorrect authorities in the fourth column of Table 1 should be referred to as designations, a “term used for what appears to be a name but that (1) has not been validly published and hence is not a name in the sense of the *Code* [...] or (2) is not to be regarded as a name” (Turland & al. 2018, Glossary); Turland (2019: 45) later wrote that “A name, or rather a designation, that has neither a description nor a diagnosis nor a reference to one is called a *nomen nudum* (*nom. nud.*, ‘naked name’) and is not validly published”. Therefore, these designations are erroneously attributed to Swirenko (1941) and should be deleted from any contemporary records in either printed or virtual forms.

An inspection of *DiatomBase* (Kociolek & al. 2020) in October 2020 yielded 14 names said to appear in Swirenko (1941), with a further three that do not appear in Hollerbach & Krasavina (1971, 1977) or Swirenko (1941), but are present in *DiatomBase* without any author attribution (Table 1, column 1, marked with an asterisk). These three names are probably included to accommodate the corresponding infraspecific names. They are currently given ‘uncertain (unassessed)’ status but, in fact, these too are designations. There are some other names that have been erroneously attributed to Swirenko. For example, ‘*Navicula silicula* var. *curta* Swirenko’ appears in *DiatomBase* as published in Swirenko (1928a). However, inspection of Swirenko (1928a) shows the name was attributed to ‘Grun.’ (Albert Grunow 1826–1914). Is the var. *curta* being proposed as new? Clearly not – but there are two further *designations*: *Navicula silicula* var. *curta* Swirenko and *Navicula silicula* var. *curta* Grunow. Both of these names require further investigation, as do many others found in Hollerbach & Krasavina (1977) and reproduced in VanLandingham (1978a, 1978b, 1979), since they were never verified against the original literature published in Russia and former Soviet Union countries.

As far as we can ascertain, the only diatom taxon name that we have verified as validly published by Swirenko is *Epithemia sorex* var. *crassa* Swirenko (1926a: pp. 78, 85, fig. 18).

Swirenko was primarily interested in euglenoids (Euglenozoa; e.g., Swirenko 1914, 1915). A number of species and infra-specific taxa belonging to the genera *Euglena* (Ehrenberg 1830), *Lepocinclis* (Perty 1849), *Phacus* (Dujardin 1841) and *Trachelomonas* (Ehrenberg 1830) were

[‡] There may be at least three more applications of the name *Navicula oblonga*, one pre-dating that of Kützing.



described by Swirenko in various papers and later summarized in Swirenko (1938); none of the names in these publications account for the errors found in our Table 1.

In summary, *Pinnularia zebra* Y. Liu, Kociolek & Q.X. Wang (in Y. Liu & al. 2018) is a valid and legitimate name. Twelve names found in Hollerbach & Krasavina (1971, 1977) and VanLandingham (1978a, 1978b, 1979) cited as published in Swirenko (1941) are invalid designations with incorrect genus names as well as six names with incorrect author citations. The same can be said of the 14 diatom names currently in DiatomBase also erroneously attributed to Swirenko (1941). All of these taxonomic names should be deleted from contemporary records or annotated as invalid binomials or other designations. Given the results of this investigation, it would be useful, to check the other diatom names in Hollerbach & Krasavina (1977) to ascertain their validity.

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— var. magna 3676(o, p), 3912(p)
 — var. minuta 2161a
 — var. perlonga 719b, 5297
 — var. producta 200, 611, 920, 1026, 1037, 1435, 1645, 20026, 2200, 2893, 3605
 — var. protracta 719a, 1073, 1074, 3912, 5297
 — var. semilonga 920
 granulata 58, 342, 428, 533, 874, 1122, 1155, 1158, 1484, 1569, 1747, 1775, 1786,
 1795, 1801, 1802, 3734(o), 5297
 — var. vertagus 1569, 1775
 hyndm-nii 549, 591, 806, 1024, 1113, 1115, 1459a, 1569, 1775, 1857, 2053, 2099, 2150,
 2190, 2194, 2279, 2311, 2576, 2577, 3112, 3122, 3371, 3574, 3667, 3734, 3747,
 3873, 4008, 4009, 4699, 5037, 5042, 5405, 5407, 5540, 5685, 6066, 6097, 6720,
 6721, 6932, 6943, 6962, 6977, 6979
 — var. curta 1569, 1775
 intermedia 1022, 1234, 3112, 3873, 5042, 5203, 5402, 5896, 6721, 6753, 6932, 6979,
 6982
 librile 3734(o, p)
 longicornis 3734
 lunaris var. subarcuata 6097
 maeotica 5297
 muelleri 1655, 1702, 2195, 3093, 3106, 3122, 6516, 6518, 6799, 6827, 6906, 6977,
 6979, 6982
 musculus 58, 248, 390, 533, 920, 951, 953, 992, 1435a, 20026, 2760, 3433, 3572
 — var. constricta 920, 951
 oblonga 7014
 oculata 12, 18, 882, 549, 1155, 1655, 2647
 ornata 3676(o, p), 5297
 parallela 6097
 perinsignis 3676(o), 3912, 5297
 porcellus 200, 382, 3605
 proboscidea 135, 3173, 3175, 3605, 5297
 radiosa 7014
 reichenii 4699
 reticulata 241
 salinarum var. intermedia 7014
 saxonica 8784
 schuettiana 5297
 sorex 11—13, 23, 52, 66, 88, 90, 135, 200, 212, 241, 290, 316, 317, 340, 342, 375,
 387, 388, 390, 400, 427, 497, 529, 533, 549, 563, 608, 611, 618, 714, 799, 874,
 948, 953, 992, 1017, 1022, 1024, 1026, 1030, 1034, 1070, 1122, 1138, 1143, 1144,
 1155, 1158, 1231, 1234, 1239, 1265, 1316, 1336, 1338, 1355, 1369c, 1374, 1392,
 1424b, 1435, 1435a, 1435b, 1459a, 1471, 1481, 1481a, 1484, 1484a, 1485, 1497,
 1566, 1569, 1578a, 1588, 1605, 1607, 1621, 1637, 1642, 1648, 1655, 1661, 1664,
 1664a, 1690, 1693, 1696, 1702, 1703a, 1767, 1775, 1784, 1786, 1786, 1792a, 1795, 1801,
 1802, 1802a, 1809, 1832, 1834, 1837, 1839, 1857, 1876, 1879, 1880, 1882, 1923,
 20026, 2045, 2047, 2048, 2064, 2097—2100, 2104, 2150, 2152, 2153, 2161a, 2184a,
 2189, 2190, 2195, 2200, 2232, 2233, 2268, 2277—2279, 2311, 2335, 2367, 2441,
 2505, 2509, 2538, 2575, 2578, 2580, 2638, 2647, 2673, 2762, 2801, 2845, 2880(o),
 2881, 2893, 2897, 2903, 2907, 2914, 2919, 2950, 2952, 2994, 3058, 3059, 3062,
 3067, 3092, 3093, 3112, 3122, 3146, 3150(o), 3152(o), 3182, 3212a, 3332, 3594,
 3605, 3691, 3798, 3866—3869, 3873, 3884, 3976, 4009, 4010, 4015, 4215, 4216,
 4220, 4342, 4346, 4439, 4454, 4572, 4573, 4601(o), 4640, 4667, 4702, 4709, 4907, 4931,
 4959, 4963(o), 5036, 5037, 5042, 5046, 5053, 5058, 5060, 5066, 5070, 5090,
 5098, 5100, 5102, 5127, 5200, 5203, 5210, 5211, 5226, 5362, 5402, 5405, 5407,
 5453, 5544, 5545, 5615, 5618, 5766(o), 5849, 5869, 5895, 5896, 5958, 6019, 6020,
 6031, 6032, 6050(o), 6052, 6053, 6070, 6086, 6097, 6100(o), 6191, 6254, 6287,
 6412, 6419, 6516, 6518, 6569, 6670, 6702, 6704, 6712, 6720, 6721, 6736, 6737,
 6760, 6763, 6765—6769, 6781, 6796, 6799, 6800, 6827, 6828, 6888—6890, 6906,
 6932, 6943, 6953, 6954, 6977, 6982, 6994, 7014
 — var. amphicephala 989

Fig. 1. Reproduction of p. 223 from Hollerbach & Krasavina (1971, 1977) with three taxon names (enclosed in black boxes), corresponding to the first three names in column 1 of our Table 1.

7014. Swirenko D. O. Die botanischen Ergebnisse der Süd-Bugischen hydrobiologischen Expedition. — Arch. Hydrobiol., 1941, Suppl.-Bd 6, H. 4, S. 593—770, 6 Taf. Ill. Bibliogr. (55 ref.).

Fig. 2. Publication 7014 = Swirenko (1941), from Koeltz (1976).



Table 1: Mistaken diatom names (invalid ‘designations’) found in Hollerbach & Krasavina (1971, 1977) attributed to Swirenko (1941). Abbreviations: D = invalid designation, AphiaID (see Vandepitte & al. 2015) from *DiatomBase* (28th November 2020); names with * not found in either Koeltz (1976) or Swirenko (1941)

Koeltz (1976)		DiatomBase	Swirenko (1941)		Presumed ‘correct’ name
Name (‘designation’)	Page	AphiaID	Name	Page	Name
<i>Epithemia oblonga</i>	223		<i>Navicula oblonga</i> Kütz. (D)	760	<i>Navicula oblonga</i> (Kütz.) Kütz.
<i>Epithemia radiosa</i>	223	957814	<i>Navicula radiosa</i> Kütz.	760	<i>Navicula radiosa</i> Kütz.
<i>Epithemia salinarum</i> var. <i>intermedia</i>	223	969768	<i>Navicula salinarum</i> var. <i>intermedia</i> Cleve (D)	760	<i>Navicula salinarum</i> var. <i>intermedia</i> (Grun.) Cleve
* <i>Epithemia salinarum</i>	-	968633	---		---
<i>Epithemia salinarum</i> var <i>salinarum.</i>	-	969769	---		---
<i>Fragilaria sigmoidea</i>	252	957913	<i>Nitzschia sigmoidea</i> (W.Sm) Grun. (D)	761	<i>Nitzschia sigmoidea</i> (Nitzsch) W.Sm
<i>Gomphonema acuminatum</i> var. <i>trigonum</i>	270	970138	<i>Gomphonema acuminatum</i> var. <i>trigonocephalum</i> Grun.(D)	760	<i>Gomphonema acuminatum</i> var. <i>trigonocephalum</i> (Ehrenb) Van Heurck (according to Patrick & Reimer 1966)
<i>Neidium affine</i> var. <i>minimum</i>	383	970917	<i>Neidium affinis</i> var. <i>minus</i> Cleve (D)	761	Unknown
<i>Nitzschia gastroides</i>	392	958496	<i>Cymbella gastroides</i> Kütz. (D)	759	<i>Cymbella gastroides</i> (Kütz.) Kütz.
<i>Nitzschia ventricosa</i> var. <i>obtus</i>	399	971193	<i>Cymbella ventricosa</i> var. <i>obtus</i> Cleve (D)	759	<i>Cymbella ventricosa</i> var. <i>obtus</i> (Grun. in Schmidt & al.) Cleve?
* <i>Pinnularia turgida</i>	-	968751	---		---
<i>Pinnularia turgida</i> var. <i>turgida</i>	-	971536	---	760	---
<i>Pinnularia turgida</i> [var. <i>genuina</i>]	460	971515	<i>Epithemia turgida</i> var. <i>genuina</i> Grun.	760	<i>Epithemia turgida</i> var. <i>genuina</i> Grun.
<i>Pinnularia turgida</i> var. <i>granulata</i>	460	971547	<i>Epithemia turgida</i> var. <i>granulata</i> (Ehrenb.) Brun	760	<i>Epithemia turgida</i> var. <i>granulata</i> (Ehrenb.) Brun
* <i>Pinnularia zebra</i>	-	968753	---		---
<i>Pinnularia zebra</i> var. <i>zebra</i>	-	971563	---		---
<i>Pinnularia zebra</i> var. <i>porcellus</i>	461	971561	<i>Epithemia zebra</i> var. <i>porcellus</i> (Kütz.) Grun.	760	<i>Epithemia zebra</i> var. <i>porcellus</i> (Kütz.) Grun.
<i>Pinnularia zebra</i> var. <i>saxonica</i>	461	971562	<i>Epithemia zebra</i> var. <i>saxonica</i> (Kütz.) Grun.	760	<i>Epithemia zebra</i> var. <i>saxonica</i> (Kütz.) Grun.