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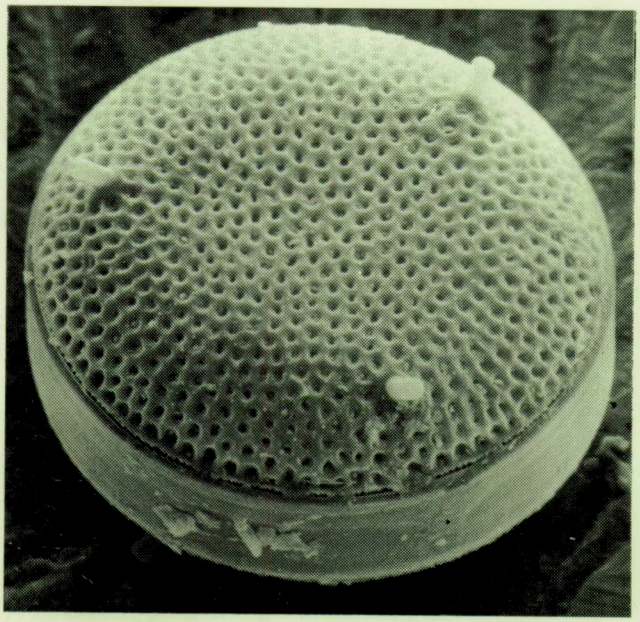
A CHECK-LIST OF THE DIATOMS IN THE HOLOCENE DEPOSITS OF THE WESTERN BELGIAN COASTAL PLAIN WITH A SURVEY OF THEIR APPARENT ECOLOGICAL REQUIREMENTS

I. Introduction, ecological code and complete list

by

Luc DENYS



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1. INTRODUCTION

1.1. General

This is the first part in a series of reports dealing with the diatom taxa recorded in Holocene deposits from the western Belgian coastal plain. The check-list, comprising 980 entries, was based on the analysis of some 800 samples taken mainly from cores and also from some outcrops throughout the area. Details on the provenance, stratigraphical and palaeoecological context of the samples and the methodology used will be given elsewhere. The recent diatom flora of the area is not considered here. Reworked diatoms derived from older deposits are however included.

For data on the diatom flora of the Holocene deposits in adjacent regions and of older Quaternary strata in the study area, reference is made to Beyens (1978) and Vanhoorne & Denys (1987) (the Holsteinian-Cromerian Herzeele Formation in Northern France), Nijs (1979) (Holocene deposits in Northern France), Clarysse (1974) and Denys (1985) (Eemian deposits from the eastern Belgian coastal plain), Deby (1876) (Holocene sediments from that area), Denys & Verbruggen (1989) (Subboreal deposits from the Belgian Lower Schelde Estuary) and finally Denys et al. (1983) (including some presumably Eemian deposits in the western coastal plain).

For ease of use all entries are ordered alphabetically in the complete list concluding this part. In forthcoming parts the taxa are treated individually. For each taxon one or more illustrations in readily available publications are referred to in order to avoid taxonomic ambiguities as much as possible. When necessary, recently proposed nomenclatural changes at generic level and the most commonly used synonyms are given as well.

The taxonomy is kept reasonably conservative with exception of some already more widely accepted alterations. The lists of Hartley (1986) and Williams et al. (1988) and the new 'Süsswasserflora' (Krammer & Lange-Bertalot, 1986, 1988) served as the main guides in this respect.

The major part of the work consists of a literature survey of the ecological requirements attributed to the taxa, followed by my personal appreciation of the most apparent ones in the form of a numerical code, also included in the complete list.

Besides the present volume, the check-list is planned to consist of the following parts:

II. Centrales
III. Araphidineae
IV. Eunotiaceae and Achnanthaceae
V. Naviculaceae: *Navicula*
VI. Naviculaceae excl. *Navicula*
VII. Epithemiaceae, Nitzschiaceae and Surirellaceae

Moreover, a list with the full taxonomic names and the ecological codes in ASCII format can be requested from the author (include 5,25" PC diskette and return postage).

1.2. Ecological information

This compilation resulted from a practical need to gather information on the autecology of a large number of diatoms for palaeoecological use. Unfortunately, such information could not be obtained by an actuo-ecological study in the area. Even if the opportunity to carry out such an extensive study had existed, it is doubtful that its results would have been entirely satisfactory in this respect. The actual rectilinear and sandy Flemish coast offers but little similarity to the palaeosetting and fails to reflect the diversity of environments once present. Undoubtedly many of the taxa occurring in the Holocene deposits simply would not have been noted in recent material. For the time being reliance has to be made on published observations, largely from abroad.

Several complications are inherent to this approach. Not only are there hardly any data available from the literature for certain taxa, but taxonomic concepts have changed considerably throughout the years, species were mis-identified at times, different ecotypes of a morphotaxon may exist and so on. I attempted to achieve a more or less reliable estimate of the ecological range of the taxa by including as many and as varied sources as possible and by checking taxonomic concepts by means of illustrations. With the above in mind, some three hundred selected references were searched for useful information.

An unsolved problem arises from the observation that ecological differences may exist between morphologically identical strains from the same species with a different geographic origin. In recent years such differences were also noted between sympatric, sexually incompatible forms of what morphologically appear to be single species. The minor morphological differences which, in the best case, may accompany such ecological divergencies cannot be appreciated from the literature. As diatom palaeoecology depends completely on frustular morphology this will however lead to a loss of indicative value for certain taxa, rather than to faulty interpretations. Besides these complications other phenomena, not linked to the diatoms themselves, may bring about geographical distinctions, which again is only very rarely obvious from the literature. Despite this it was found necessary not to limit this work to the coverage of a single geographic area, in this case NW-Europe, but to include works from all over the world. In case of considerable divergence on the assumed ecology, the European literature was in general given priority.

Only source references published after 1925 and containing (apparently) original information were used; those simply copying other publications were excluded. Primarily, only papers on recent diatoms were consulted. An exception was made for those of certain authors, who mainly published studies on fossil diatoms in which they incorporated their considerable and otherwise inaccessible actuo-ecological knowledge.

The statements taken from authors were kept, except for the language, as close to the original form as possible. A certain standardization was nevertheless necessary and nuances may have been lost this way. Some terminological differences with little use in palaeoecological practice were also weeded out. To reduce the length of the text abbreviations were used. These are explained in Appendix 1. Although part of the information was derived from tables and figures, textual remarks were preferred when available. It was of course not possible to reproduce all the information given in the original publications. The users of this compilation are therefore strongly advised to consult the sources themselves for as much as possible, both for more detail and for the original context.

The ecological information is presented in separate paragraphs, covering lifeform, salinity (incl. euryhalinity), conductivity, pH, calcium, trophic conditions, saprobity, oxygen requirement, tolerance to tides, current, temperature, light, geographical distribution (only for marine-littoral taxa) and a general (not exhaustive) appreciation of the main biotopes.

Finally, before explaining the structure of the code, it should be emphasized that the codes are merely personal, subjective interpretations prone to bias. For a short discussion on the limitations of such codes we refer to remarks made previously (Denys & Lodewijckx, 1985). A set of computer programs for the processing of (stratigraphical) diatom data on the basis of the codes will be available in the near future (Lodewijckx & Denys, in preparation).

2. THE ECOLOGICAL CODE

In the assignment of this code, not all sources received equal weight in judging a taxon's ecology; depending on the amount of material examined and the methodology used, some were considered more important than others. For instance studies using merely presence-absence data were given less weight than those based on (relative) abundance measurements.

Although I attempted to filter out 'misleading' and erroneous statements as much as possible, it is quite likely that some were nevertheless retained; among others because there was no control on the taxonomic concepts of authors who did not refer to published illustrations or identification manuals, nor provided original drawings or photographs. Even the presence of illustrations often does not allow a complete appreciation of this. It is only to be hoped that the effect of such errors on the summary of the data, represented by the ecological code, was leveled-off by the extent of the data set.

The code consists of 15 subsequent numbers of two digits at the most, each referring to the place of the taxon in a certain classification. The numbers 0 and 1 are always reserved for the entries 'unknown' and 'irrelevant' respectively. In the following paragraphs each classification is listed and commented upon where necessary.

1. Lifeform

entries:
0 unknown
2 euplanktonic
3 tychoplanktonic, epontic origin
4 tychoplanktonic, benthic origin
5 tychoplanktonic, both epontic and benthic origin
6 epontic
7 epontic and benthic
8 benthic

Tychoplanktonic (incl. meroplanktonic, facultative planktonic, semi-planktonic) diatoms readily occur in the plankton but are derived primarily from other habitats. Often they may metabolize and reproduce in the plankton just as well as in their original situation. **Epontic** (sessile) refers to taxa that normally live firmly attached to any kind of substratum (macrophytes, rocks, sand grains,...). Sometimes the use of the term is restricted to sea-ice algae (Bunt & Wood, 1963; Horner et al., 1988), but it is applied in its more general meaning also (Crosby & Wood, 1959; Van der Werff & Huls, 1957-1974; Wood, 1964). The difference between epontic and **benthic** diatoms depends on the adhesion to the substrate which is much less strong here. We used the term in a more limited sense than many other authors, who group all non-planktonic forms under this name. Whereas benthic covers periphytic, epipelic and interstitial diatoms, the generally firmly attached epipsammic taxa were considered as epontic.

The distinction between the different categories is not always straightforward as they intergrade and the character of many diatoms is not clear-cut.

2. Salinity classification according to the system of Van der Werff (Van der Werff, 1958; Van der Werff & Huls, 1957-1974)

entries:

0 unknown
2 marine, M
3 marine to marine-brackish, M-MB
4 marine-brackish, MB
5 marine-brackish to brackish-marine, MB-BM
6 brackish-marine, BM
7 brackish-marine to brackish, BM-B
8 brackish, B
9 brackish to brackish-fresh, B-BF
10 brackish-fresh, BF
11 brackisch-fresh to fresh-brackish, BF-FB
12 fresh-brackish, FB
13 fresh-brackish to fresh, FB-F
14 fresh, F

In order to provide the possibility for a somewhat wider optimum than in the original 6-grouped system, options spanning two classes were provided [1]. Even then some taxa are hard to classify because of their apparently broad optima.

3. Halobion system following Hustedt (1957)

entries:

0 unknown
2 polyhalobous
3 polyhalobous to α-mesohalobous
4 polyhalobous to ß-mesohalobous
5 mesohalobous euryhaline
6 α-mesohalobous
7 ß-mesohalobous
8 α-mesohalobous to oligohalobous halophilous
9 ß-mesohalobous to oligohalobous halophilous
10 α-mesohalobous to oligohalobous indifferent
11 ß-mesohalobous to oligohalobous indifferent
12 oligohalobous halophilous
13 oligohalobous halophilous to indifferent
14 oligohalobous indifferent
15 oligohalobous indifferent to halophobous
16 oligohalobous halophobous

This classification was derived from Kolbe's halobion system (Kolbe, 1927).

[1] This procedure was followed in many of the following classifications as well.

4. The halobion system according to Hustedt (1953)

entries:
0 unknown
2 polyhalobous
3 polyhalobous to mesohalobous
4 mesohalobous
5 mesohalobous to oligohalobous halophilous
6 mesohalobous to oligohalobous indifferent
7 oligohalobous halophilous
8 oligohalobous halophilous to indifferent
9 oligohalobous indifferent
10 oligohalobous indifferent to halophobous
11 oligohalobous halophobous

Identical to the previous classification but no distinctions are made within the mesohalobous diatoms, which allows easier placement of a number of taxa. Retained here because of its greater popularity than the refined 1957 version.

5. The salinity tolerance classification according to Simonsen (1962)

entries:
0 unknown
2 polyhalobous oligoeuryhaline
3 polyhalobous meioeuryhaline
4 polyhalobous mesoeuryhaline
5 polyhalobous pleioeuryhaline
6 mesohalobous euryhaline
7 mesohalobous holoeuryhaline
8 oligohalobous oligoeuryhaline
9 oligohalobous meioeuryhaline
10 oligohalobous mesoeuryhaline
11 oligohalobous pleioeuryhaline
12 oligohalobous halophobous

6. Euryhalinity

entries:
0 unknown
2 markedly euryhaline
3 somewhat euryhaline
4 stenohaline

7. The pH classification according to Hustedt (1939)

entries:
0 unknown
1 irrelevant[2]
2 alkalibiontic

[2] The entry irrelevant is used for all diatoms placed in the salinity categories B-BM to M (codes 2-7) of the Van der Werff halobion system.

3 alkalibiontic to alkaliphilous
4 alkaliphilous (=basiphilous)
5 alkaliphilous to circumneutral
6 circumneutral (= neutrophilous)
7 circumneutral to acidophilous
8 acidophilous
9 acidophilous to acidobiontic
10 acidobiontic
11 indifferent (= no apparent optimum)

Originally the term indifferent was used for diatoms with a distribution 'gleichmässig um pH=7' (Hustedt, 1939, p. 284). Some authors replaced indifferent by circumneutral. Here both categories are retained: **circumneutral** to indicate an optimum at or close to pH 7 and **indifferent** for taxa with no clear optimum throughout the pH spectrum.

8. Trophic conditions (Naumann, 1932)

entries:
0 unknown
1 irrelevant
2 eutrophic
3 eutrophic to mesotrophic
4 mesotrophic
5 mesotrophic to oligotrophic
6 oligotrophic
7 oligotrophic to dystrophic
8 eutrophic to oligotrophic
9 eutrophic to dystrophic

Irrelevant is used as in 7.; this does not imply a denial of the influence of trophic conditions on the distribution of marine diatoms.

9. Nitrogen uptake metabolism (Cholnoky, 1968)

entries:
0 unknown
1 irrelevant
2 obligate N (C) heterotrophic
3 at least facultative N (C) heterotrophic
4 probably N (C) heterotrophic
5 N (C) autotrophic

According to Cholnoky (1968) some diatoms would be N heterotrophic and capable of deaminating organic compounds. This was put in doubt by other authors. According to Lange-Bertalot (1978) the arguments used by Cholnoky are inadequate and not supported by further observations. Instead a carbon heterotrophy could be involved (Krammer & Lange-Bertalot, 1986; Lange-Bertalot, 1978). This classification was retained here, more because of its ecological usefulness than for its physiological significance. Again the entry irrelevant is given to all salt water taxa.

10. Saprobity (Kolkwitz & Marsson, 1908)

entries:
0 unknown

1 irrelevant
2 up to polysaprobic
3 up to poly-/α-mesosaprobic
4 up to α-mesosaprobic
5 up to α-/ß-mesosaprobic
6 up to ß-mesosaprobic
7 up to ß-mesosaprobic/oligosaprobic
8 up to oligosaprobic
9 saproxenous

We retained Lange-Bertalot's (1978, 1979) concept of pollution tolerance in this classification. Irrelevant is used as in the previous classification.

11. Oxygen requirement (Cholnoky, 1968)

entries:
0 unknown
1 irrelevant
2 high
3 moderate
4 low

Irrelevant is used as previously.

12. Tolerance to intertidal exposure (Simonsen, 1962)

entries:
0 unknown
1 irrelevant
2 pseudampotiphilous
3 probably pseudampotiphilous
4 indifferent s.s.
5 probably ampotixenous
6 ampotixenous

Irrelevant is used for diatoms classified in the salinity categories F, FB, BF, BF-B and intermediates (codes 9-14) in the Van der Werff halobion system, as well as for all euplanktonic forms.

13. Habitat

entries:
0 unknown
2 aquatic
3 also commonly in periodic water or wet subaerial
4 also commonly moist subaerial
5 also commonly dry subaerial

Marine intertidal diatoms are considered as aquatic.

14. Current

entries:
0 unknown

1 irrelevant
2 rheobiontic
3 rheophilous
4 indifferent
5 limnophilous

There appears to be no ground to include a limnobiontic entry. Irrelevant is used for diatoms placed in the salinity categories B-BM, BM, MB, M and intermediates (codes 2-7) in the Van der Werff halobion system.

15. Preservation potential

entries:
2 large
3 moderate
4 low
5 very low

This is a rough appreciation based on the degree of silicification of the frustule and personal observations on the fossil preservation state.

3. ALPHABETICAL LIST AND ECOLOGICAL CODES

Achnanthes amoena Hust.
6 5 5 4 6 2 1 1 1 1 1 4 2 1 3
Achnanthes bahusiensis (Grun.) Lange-Bertalot
7 7 5 4 4 2 1 1 1 1 1 4 2 1 4
Achnanthes bioreti Germain
7 14 14 9 9 4 6 5 5 6 2 1 4 3 3
Achnanthes bremeyeri Lange-Bertalot
7 6 5 4 6 2 1 1 1 1 1 4 2 1 4
Achnanthes brevipes Ag.
6 7 5 4 7 2 1 1 1 1 1 3 2 1 2
Achnanthes brevipes var. **intermedia** (Kütz.) Cl.
6 7 5 4 6 2 1 1 1 1 1 3 2 1 3
Achnanthes clevei Grun.
6 12 14 9 10 3 4 3 5 6 0 1 3 4 3
Achnanthes clevei var. **rostrata** Hust.
6 12 14 9 10 3 4 3 5 6 0 1 3 4 3
Achnanthes coarctata (Bréb.) Grun.
6 13 14 9 9 4 6 9 5 8 2 1 5 4 3
Achnanthes conspicua Mayer
6 12 14 9 9 4 4 5 5 8 0 1 3 4 3
Achnanthes delicatula (Kütz.) Grun. subsp. **delicatula**
6 8 5 4 7 2 4 2 5 0 0 4 3 4 3
Achnanthes didyma Hust.
6 14 16 11 12 4 8 6 5 0 0 1 2 0 4
Achnanthes exigua Grun.
6 12 14 9 10 3 4 2 5 6 2 1 3 4 3
Achnanthes groenlandica (Cl.) Grun.
6 4 2 2 3 3 1 1 1 1 1 0 2 1 3
Achnanthes groenlandica var. **phinneyi** McIntire & Reimer
6 4 2 2 3 3 1 1 1 1 1 0 2 1 3

Achnanthes groenlandica var. **phinneyi** f. **jaydei** McIntire & Reimer
6 4 2 2 3 3 1 1 1 1 1 0 2 1 3
Achnanthes hungarica Grun.
6 12 14 9 9 4 4 2 5 4 0 1 3 4 3
Achnanthes inflata (Kütz.) Grun.
6 12 14 9 10 3 4 0 5 9 2 1 4 3 3
Achnanthes joursacense Hérib.
6 12 14 9 9 4 4 5 5 0 2 1 2 4 3
Achnanthes kolbei Hust.
6 12 14 9 9 4 4 0 5 9 0 1 2 4 3
Achnanthes krasskei Kobayasi & Sawatari
6 13 15 10 9 4 5 0 5 9 0 1 3 0 3
Achnanthes kryophila Petersen
6 13 14 9 9 4 7 6 5 9 2 1 4 0 4
Achnanthes lanceolata (Bréb.) Grun.
6 12 14 9 11 2 4 3 5 4 2 1 4 4 3
Achnanthes lanceolata var. **bimaculata** Hust.
6 12 14 9 0 0 4 0 5 0 0 1 2 0 3
Achnanthes lanceolata var. **rostrata** Hust.
6 12 14 9 0 0 4 0 5 0 2 1 4 4 3
Achnanthes laterostrata Hust.
6 12 14 9 9 4 6 0 5 9 0 1 3 4 3
Achnanthes lauenburgiana Hust.
6 14 16 11 12 4 4 0 5 0 0 1 2 0 3
Achnanthes lemmermannii Hust.
6 12 14 9 9 4 7 0 5 9 0 1 2 0 3
Achnanthes lilljeborgii Grun.
6 3 2 2 3 3 1 1 1 1 1 0 2 1 3
Achnanthes linkei Hust.
6 8 5 4 6 2 4 2 5 0 0 0 3 1 3
Achnanthes longipes Ag.
6 4 2 2 3 2 1 1 1 1 1 6 2 1 2
Achnanthes lutheri Hust.
6 14 16 11 12 4 8 0 5 9 0 1 3 0 3
Achnanthes manifera Brun
6 3 2 2 3 3 1 1 1 1 1 4 2 1 3
Achnanthes marginulata Grun.
6 14 16 11 12 4 7 6 5 9 0 1 4 0 3
Achnanthes marginestriata Simonsen
6 3 2 2 3 2 1 1 1 1 1 0 2 1 4
Achnanthes minutissima Kütz.
6 12 14 9 10 2 6 9 5 6 2 1 5 4 4
Achnanthes parvula (Kütz.) Cl.
6 8 5 4 7 2 4 2 5 0 0 3 3 1 3
Achnanthes ploenensis Hust.
6 12 14 9 9 4 4 2 5 9 0 1 2 0 3
Achnanthes pseudogroenlandica Hendey
6 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Achnanthes pusilla Grun.
6 12 14 9 0 0 6 0 5 0 2 1 3 0 4
Achnanthes sancti-paulii (Heiden & Kolbe) Kobayasi & Sawatari
6 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Achnanthes semiaperta Hust.
6 12 14 9 0 0 0 0 5 0 0 1 2 0 3
Achnanthes submarina Hust.
6 0 0 4 0 0 0 0 0 0 0 0 2 0 4
Achnanthes suchlandtii Hust.
6 13 14 9 9 4 6 6 5 0 0 1 2 0 3
Achnanthes taeniata Grun.
2 7 4 3 6 2 1 1 1 1 1 1 2 1 5
Achnanthes tenera Hust.
6 6 5 4 0 2 1 1 1 1 1 0 2 1 4
Actinocyclus cholnokyi VanLandingham
2 2 2 2 4 2 1 1 1 1 1 1 2 1 3

Actinocyclus kuetzingii (A. Schmidt) Simonsen
4 2 3 3 5 2 1 1 1 1 1 0 2 1 2
Actinocyclus normanii (Greg.) Hust. f. **subsalsus** (Juhlin-Dannfelt) Hust.
2 8 9 5 11 2 4 2 5 0 0 1 2 0 3
Actinocyclus octonarius Ehr.
4 3 4 3 4 2 1 1 1 1 1 0 2 1 2
Actinocyclus octonarius var. **crassus** (W. Sm.) Hendey
4 3 4 3 4 2 1 1 1 1 1 0 2 1 2
Actinocyclus octonarius var. **tenellus** (Bréb.) Hendey
4 3 4 3 4 2 1 1 1 1 1 0 2 1 3
Actinocyclus subtilis (Greg.) Ralfs
2 4 3 3 0 2 1 1 1 1 1 1 2 1 3
Actinoptychus senarius (Ehr.) Ehr.
3 4 3 3 3 2 1 1 1 1 1 4 2 1 3
Actinoptychus splendens (Shadb.) Ralfs
3 2 2 2 3 3 1 1 1 1 1 4 2 1 2
Amphipleura pellucida (Kütz.) Kütz.
7 12 14 9 9 4 4 3 5 6 0 1 2 5 4
Amphora acuta Greg.
6 3 2 2 3 3 1 1 1 1 1 6 2 1 3
Amphora angusta Greg.
6 4 3 3 5 2 1 1 1 1 1 4 2 1 3
Amphora arenaria Donk.
6 2 2 2 3 2 1 1 1 1 1 0 2 1 3
Amphora arenicola Grun.
8 0 2 2 0 2 1 1 1 1 1 0 2 1 3
Amphora bacillaris Greg.
8 3 3 3 3 2 1 1 1 1 1 0 2 1 3
Amphora beaufortiana Hust.
8 4 2 2 3 2 1 1 1 1 1 0 2 1 3
Amphora bigibba Grun.
7 2 2 2 3 2 1 1 1 1 1 0 2 1 3
Amphora cingulata Cl.
8 2 2 2 3 2 1 1 1 1 1 0 2 1 3
Amphora coffeaeformis (Ag.) Kütz.
7 8 5 4 7 2 4 2 5 4 3 4 3 4 3
Amphora coffeaeformis var. **acutiuscula** (Kütz.) Hust.
7 4 3 3 5 2 1 1 1 1 1 4 2 1 3
Amphora commutata Grun.
7 8 7 4 7 2 4 2 5 0 0 0 3 0 2
Amphora copulata (Kütz.) Schoeman & Archibald
7 12 14 9 10 2 4 2 5 5 3 1 3 4 3
Amphora delicatissima Krasske
7 6 5 4 6 2 1 1 1 1 1 0 2 1 4
Amphora dubia Greg.
8 3 2 2 3 2 1 1 1 1 1 0 2 1 3
Amphora exigua Greg.
7 4 3 3 5 2 1 1 1 1 1 4 2 1 3
Amphora graeffeana Hendey
8 4 3 3 4 2 1 1 1 1 1 4 2 1 3
Amphora granulata Greg.
7 4 4 3 5 2 1 1 1 1 1 4 2 1 3
Amphora holsatica Hust.
8 8 5 4 7 2 2 2 5 0 0 0 3 0 3
Amphora hybrida Grun.
8 5 5 4 7 2 1 1 1 1 1 0 2 1 3
Amphora laevis Greg. var. **laevissima** (Greg.) Cl.
8 2 2 2 3 2 1 1 1 1 1 4 2 1 4
Amphora lineolata Ehr.
8 6 6 4 6 2 1 1 1 1 1 4 2 1 3
Amphora macilenta Greg.
7 2 2 2 4 2 1 1 1 1 1 0 2 1 3
Amphora marina W. Sm.
7 5 3 3 5 2 1 1 1 1 1 4 2 1 3

Amphora marina var. **minima** Cl.
7 5 3 3 5 2 1 1 1 1 1 4 2 1 3
Amphora mexicana A. Schmidt var. **major** (Cl.) A. Cl.
7 0 4 3 0 2 1 1 1 1 1 0 2 1 2
Amphora montana Krasske
7 12 14 9 9 4 4 0 5 9 2 1 5 3 4
Amphora normanii Rabenh.
7 12 14 9 9 4 4 3 5 8 2 1 4 4 3
Amphora ostrearia Bréb.
7 2 2 2 3 2 1 1 1 1 1 4 2 1 3
Amphora ostrearia var. **vitrea** Cl.
7 2 2 2 3 2 1 1 1 1 1 4 2 1 3
Amphora ovalis (Kütz.) Kütz.
7 12 14 9 10 2 4 2 5 5 3 1 3 4 2
Amphora pediculus (Kütz.) Grun.
7 12 14 9 10 2 4 3 5 4 2 1 3 4 3
Amphora proteoides Hust.
7 0 3 3 3 2 1 1 1 1 1 0 2 1 2
Amphora proteus Greg.
7 5 3 3 5 2 1 1 1 1 1 4 2 1 2
Amphora proteus var. **oculata** H. & M. Perag.
7 5 3 3 5 2 1 1 1 1 1 4 2 1 2
Amphora robusta Greg.
7 4 2 2 3 2 1 1 1 1 1 4 2 1 2
Amphora staurophora (Castr.) Cl.
8 0 2 2 0 2 1 1 1 1 1 0 2 1 4
Amphora subacutiuscula Schoeman
7 0 0 0 0 0 0 0 0 0 0 0 2 0 3
Amphora subcapitata (Kisselev) Hust.
7 0 0 0 0 0 0 0 0 0 0 1 2 0 3
Amphora tenerrima Aleem & Hust.
7 7 5 4 7 2 1 1 1 1 1 4 2 1 3
Amphora tenuissima Hust.
7 3 3 3 3 2 1 1 1 1 1 0 2 1 4
Amphora terroris Ehr.
7 2 2 2 3 2 1 1 1 1 1 4 2 1 2
Amphora turgida Greg.
7 4 3 3 0 2 1 1 1 1 1 0 2 1 3
Amphora veneta Kütz.
7 10 13 8 8 2 4 2 5 2 3 1 3 4 3
Amphora ventricosa Greg.
6 2 2 2 3 3 1 1 1 1 1 0 2 1 3
Amphora wisei (Salah) Simonsen
7 4 3 3 3 2 1 1 1 1 1 4 2 1 3
Anaulus balticus Simonsen
8 4 2 2 3 2 1 1 1 1 1 4 2 1 4
Anaulus creticus Drebes & Schulz
2 2 2 2 0 0 1 1 1 1 1 1 2 1 4
Anomoeoneis exellii Salah
8 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Anomoeoneis sphaerophora (Ehr.) Pfitzer
8 10 12 7 8 2 4 2 5 4 0 1 3 4 3
Anomoeoneis sphaerophora f. **costata** (Kütz.) Schmid
8 9 8 5 7 2 4 2 5 0 0 1 3 4 3
Anomoeoneis sphaerophora f. **sculpta** (Ehr.) Krammer
8 9 7 4 7 2 2 2 5 4 0 1 3 0 2
Anorthoneis eurystoma Hust.
6 3 2 2 3 0 1 1 1 1 1 4 2 1 3
Anorthoneis excentrica (Donk.) Grun.
6 2 2 2 3 2 1 1 1 1 1 4 2 1 3
Anorthoneis hyalina Hust.
6 2 2 2 2 4 1 1 1 1 1 0 2 1 2
Anorthoneis pulex Sterrenburg
6 0 2 2 0 0 1 1 1 1 1 0 2 1 4

Anorthoneis vortex Sterrenburg
6 0 2 2 0 0 1 1 1 1 1 0 2 1 4
Asterionella formosa Hassal
2 11 14 9 9 4 5 3 5 6 3 1 2 5 4
Aulacodiscus argus (Ehr.) A. Schmidt
3 2 2 2 3 3 1 1 1 1 1 0 2 1 2
Aulacoseira ambigua (Grun.) Simonsen
2 12 14 9 9 3 5 2 5 6 3 1 2 4 3
Aulacoseira distans (Ehr.) Simonsen
4 14 15 10 9 4 7 7 5 8 3 1 3 4 3
Aulacoseira granulata (Ehr.) Simonsen
2 12 14 9 9 3 4 2 5 6 0 1 2 4 3
Aulacoseira granulata var. **angustissima** (Müll.) Simonsen
2 12 14 9 9 3 4 2 5 6 0 1 2 4 3
Aulacoseira granulata var. **muzzazensis** (Meister) Simonsen
2 12 14 9 9 4 3 2 5 0 0 1 2 4 3
Aulacoseira islandica (Müll.) Simonsen + subsp. **helvetica** (Müll.) Simonsen
2 13 14 9 9 4 4 10 5 6 3 1 2 4 3
Aulacoseira italica (Ehr.) Simonsen
4 12 14 9 9 4 5 10 5 6 3 1 3 4 3
Aulacoseira italica var. **tenuissima** (Grun.) Simonsen
4 12 14 9 9 4 5 0 5 6 0 1 3 4 3
Aulacoseira italica var. **valida** (Grun.) Simonsen
4 12 14 9 9 4 5 5 5 0 0 1 3 4 3
Auliscus sculptus (W. Sm.) Ralfs
3 2 2 2 3 3 1 1 1 1 1 4 2 1 2
Bacillaria paxillifer (Müll.) Hendey
3 9 5 4 7 2 5 2 5 6 4 1 3 4 3
Berkeleya micans (Lyngb.) Grun.
6 2 2 2 3 3 1 1 1 1 1 6 2 1 4
Berkeleya rutilans (Trent.) Grun.
7 7 5 4 7 2 1 1 1 1 1 4 2 1 4
Berkeleya scopulorum (Bréb.) Cox
6 2 2 2 3 2 1 1 1 1 1 4 2 1 3
Biddulphia alternans (Bail.) V.H.
3 2 2 2 4 3 1 1 1 1 1 4 2 1 2
Biddulphia reticulata Roper
3 2 2 2 0 3 1 1 1 1 1 0 2 1 2
Biddulphia reticulum (Ehr.) Boyer
3 2 2 2 3 3 1 1 1 1 1 0 2 1 2
Biddulphia rostrata Hust.
5 5 3 3 0 2 1 1 1 1 1 0 2 1 3
Biddulphia subaequa (Kütz.) Ralfs
4 6 3 3 4 2 1 1 1 1 1 0 2 1 2
Brachysira microcephala (Grun.) Compère
8 13 14 9 9 4 5 5 5 6 0 1 3 4 4
Brachysira serians (Bréb.) Round & Mann
8 14 16 11 12 4 8 7 5 8 0 1 3 4 2
Brockmanniella brockmannii (Hust.) Hasle, von Stosch & Syvertsen
4 2 2 2 3 4 1 1 1 1 1 4 2 1 4
Caloneis aemula (A. Schmidt) Cl.
8 7 5 4 6 2 1 1 1 1 1 0 2 1 3
Caloneis amphisbaena (Bory) Cl.
8 10 12 7 10 3 4 2 5 4 0 1 3 4 3
Caloneis amphisbaena var. **aequata** Kolbe
8 8 7 4 10 3 2 2 5 0 0 0 3 0 3
Caloneis amphisbaena f. **subsalina** (Donk.) Van der Werff & Huls
8 8 7 4 11 2 4 2 5 0 0 4 3 0 3
Caloneis bacillum (Grun.) Cl.
8 12 14 9 8 2 4 9 5 6 0 1 4 4 3
Caloneis bacillum var. **fontinalis** Grun.
8 12 14 9 9 4 4 0 5 0 0 1 4 3 3
Caloneis brevis (Greg.) Cl.
8 4 2 2 4 2 1 1 1 1 1 4 2 1 3

Caloneis fusioides (Grun.) Heiden & Kolbe
8 4 2 2 3 3 1 1 1 1 1 0 2 1 3
Caloneis leptosoma (Grun.) Krammer
8 14 15 10 12 4 11 6 5 9 2 1 4 0 3
Caloneis liber (W. Sm.) Cl.
8 3 2 2 3 3 1 1 1 1 1 5 2 1 3
Caloneis limosa (Kütz.) Patr.
8 12 14 9 10 3 4 6 5 6 0 1 2 5 3
Caloneis permagna (Bail.) Cl.
8 9 7 4 0 3 4 2 5 0 0 0 3 0 2
Caloneis tenuis (Greg.) Krammer
8 13 15 10 9 4 6 6 5 8 0 1 4 4 3
Caloneis truncata König
8 0 3 3 0 2 1 1 1 1 1 0 2 1 3
Caloneis ventricosa (Ehr.) Meister
8 12 14 9 9 4 5 3 5 6 0 1 3 4 3
Caloneis ventricosa var. **truncatula** (Grun.) Meister
8 12 14 9 9 4 5 3 5 6 0 1 3 4 3
Caloneis westii (W. Sm.) Hendey
8 8 5 4 7 2 4 2 5 0 0 4 3 1 3
Campylodiscus biangulatus Grev. var. **lorenzianus** (Grun.) H. & M. Perag.
8 3 2 2 3 2 1 1 1 1 1 0 2 1 3
Campylodiscus bicostatus W. Sm.
8 8 7 4 6 2 2 2 5 0 0 1 3 0 2
Campylodiscus clypeus (Ehr.) Ehr.
8 8 7 4 6 2 2 2 5 6 0 1 3 0 2
Campylodiscus decorus Bréb.
8 0 2 2 0 2 1 1 1 1 1 0 2 1 3
Campylodiscus echeneis Ehr.
8 7 5 4 6 2 1 1 1 1 1 4 2 1 2
Campylodiscus fastuosus Ehr.
8 3 2 2 3 2 1 1 1 1 1 6 2 1 3
Campylodiscus hibernicus Ehr.
8 12 14 9 9 4 4 2 5 8 0 1 3 5 2
Campylodiscus noricus Ehr.
8 12 14 9 9 4 4 9 5 8 0 1 2 4 2
Campylodiscus ralfsii W. Sm.
8 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Campyloneis grevillei (W. Sm.) Grun.
6 2 2 2 2 4 1 1 1 1 1 5 2 1 2
Campyloneis grevillei var. **regalis** (Grev.) Cl.
6 2 2 2 2 4 1 1 1 1 1 5 2 1 2
Campylosira cymbelliformis (A. Schmidt) Grun.
4 2 2 2 4 2 1 1 1 1 1 4 2 1 3
Catenula adhaerans (Mereschk.) Mereschk.
6 6 5 4 6 2 1 1 1 1 1 4 2 1 4
Cerataulus radiatus (Roper) Ross
3 2 2 2 3 3 1 1 1 1 1 4 2 1 2
Cerataulus turgidus (Ehr.) Ehr.
3 2 2 2 3 3 1 1 1 1 1 6 2 1 2
Cocconeis britannica Naeg.
6 3 2 2 3 3 1 1 1 1 1 4 2 1 3
Cocconeis clandestina A. Schmidt
6 3 2 2 4 2 1 1 1 1 1 6 2 1 3
Cooconeis costata Greg.
6 0 2 2 4 2 1 1 1 1 1 4 2 1 3
Cocconeis debesi Hust.
6 0 2 2 0 0 1 1 1 1 1 0 2 1 2
Cocconeis diminuta Pant.
7 12 14 9 10 3 4 9 5 6 0 1 2 4 3
Cocconeis disculoides Hust.
6 2 2 2 3 3 1 1 1 1 1 4 2 1 3
Cocconeis disculus (Schum.) Cl.
7 12 14 9 11 2 4 3 5 6 0 1 2 4 3

Cocconeis distans Greg.
6 2 2 2 3 2 1 1 1 1 1 6 2 1 3
Cocconeis distans var. **bahusiensis** Cl.-E.
6 2 2 2 3 2 1 1 1 1 1 0 2 1 3
Cocconeis fluminensis (Grun.) H. & M. Perag.
6 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Cocconeis guttata Hust. & Aleem
6 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Cocconeis hoffmannii Simonsen
6 0 2 2 3 3 1 1 1 1 1 0 2 1 3
Cocconeis molesta Kütz.
6 3 2 2 3 2 1 1 1 1 1 6 2 1 4
Cocconeis nidulus Edsbagge
6 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Cocconeis pediculus Ehr.
6 10 13 10 10 3 4 2 5 5 2 1 3 4 3
Cocconeis pelta A. Schmidt
6 2 2 2 2 4 1 1 1 1 1 5 2 1 3
Cocconeis peltoides Hust.
6 4 2 2 4 2 1 1 1 1 1 4 2 1 3
Cocconeis pinnata Greg.
6 2 2 2 3 3 1 1 1 1 1 6 2 1 3
Cocconeis placentula Ehr. + var. **euglypta** (Ehr.) Grun. + var. **lineata** (Ehr.) V.H.
6 12 14 9 8 2 4 3 5 5 0 1 3 4 3
Cocconeis placentula var. **klinoraphis** Geitler
6 12 14 9 0 0 4 3 5 5 0 1 3 4 3
Cocconeis pseudograta Hust.
6 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Cocconeis quarnerensis Grun.
6 3 2 2 3 3 1 1 1 1 1 6 2 1 3
Cocconeis scutellum Ehr.
6 5 4 3 5 2 1 1 1 1 1 4 2 1 3
Cocconeis scutellum var. **minutissima** Grun.
6 5 4 3 5 2 1 1 1 1 1 4 2 1 4
Cocconeis scutellum var. **ornata** Grun.
6 5 4 3 5 2 1 1 1 1 1 4 2 1 3
Cocconeis scutellum var. **parva** Grun.
6 5 4 3 5 2 1 1 1 1 1 4 2 1 3
Cocconeis speciosa Greg.
6 0 2 2 0 0 1 1 1 1 1 0 2 1 2
Cocconeis stauroneiformis (W. Sm.) Okuno
6 4 2 2 4 2 1 1 1 1 1 4 2 1 3
Cocconeis tenuis Hust.
6 4 2 2 0 0 1 1 1 1 1 0 2 1 4
Cocconeis thumensis Mayer
6 13 15 10 9 4 4 0 5 9 0 1 2 4 3
Coscinodiscus apiculatus Ehr. var. **ambiguus** Grun.
2 2 2 2 3 3 1 1 1 1 1 1 2 1 3
Coscinodiscus argus Ehr.
4 2 2 2 3 3 1 1 1 1 1 0 2 1 2
Coscinodiscus asteromphalus Ehr.
4 2 2 2 3 3 1 1 1 1 1 0 2 1 3
Coscinodiscus centralis Ehr.
2 2 2 2 3 3 1 1 1 1 1 1 2 1 3
Coscinodiscus curvatulus Grun.
4 2 2 2 2 4 1 1 1 1 1 0 2 1 3
Coscinodiscus decrescens Grun.
2 2 2 2 0 4 1 1 1 1 1 1 2 1 2
Coscinodiscus fimbriatus Ehr.
2 2 2 2 0 0 1 1 1 1 1 1 2 1 3
Coscinodiscus granii Gough
2 2 2 2 3 3 1 1 1 1 1 1 2 1 3
Coscinodiscus granulosus Grun.
3 3 2 2 5 2 1 1 1 1 1 5 2 1 3

Coscinodiscus marginatus Ehr.
2 2 2 2 0 3 1 1 1 1 1 1 2 1 2
Coscinodiscus obscurus A. Schmidt
2 2 2 2 2 4 1 1 1 1 1 1 2 1 2
Coscinodiscus oculus-iridis Ehr.
4 2 2 2 5 2 1 1 1 1 1 0 2 1 2
Coscinodiscus perforatus Ehr.
2 2 2 2 3 3 1 1 1 1 1 1 2 1 2
Coscinodiscus perforatus var. **cellulosus** Grun.
2 2 2 2 3 3 1 1 1 1 1 1 2 1 2
Coscinodiscus perforatus var. **pavillardii** (Forti) Hust.
2 2 2 2 3 3 1 1 1 1 1 1 2 1 2
Coscinodiscus radiatus Ehr.
4 3 3 3 5 2 1 1 1 1 1 0 2 1 2
Coscinodiscus rothii (Ehr.) Grun.
2 8 4 3 5 2 1 1 1 1 1 1 2 1 3
Cyclostephanos dubius (Fricke) Round
2 10 12 7 9 3 4 2 5 4 0 1 2 5 3
Cyclotella atomus Hust.
2 11 12 7 10 2 6 0 5 0 3 1 2 4 4
Cyclotella caspia Grun.
2 8 6 4 5 2 1 1 1 1 1 1 2 1 3
Cyclotella iris Brun & Hérib.
4 0 11 6 0 3 4 0 5 0 0 1 2 4 3
Cyclotella kuetzingiana Thwaites (**C. krammeri** Häkansson)
4 13 14 9 9 4 4 9 5 6 0 1 2 4 3
Cyclotella kuetzingiana var. **planetophora** Fricke
4 13 14 9 11 3 4 0 5 0 0 1 2 4 3
Cyclotella meneghiniana Kütz.
4 10 9 5 7 2 4 2 3 4 3 1 3 4 3
Cyclotella ocellata Pant.
4 14 14 9 0 0 4 6 5 0 0 1 2 4 3
Cyclotella radiosa (Grun.) Lemmerman
2 12 14 9 9 3 4 10 5 6 0 1 2 4 3
Cyclotella stelligera (Cl. & Grun.) V. H.
4 12 14 9 9 3 6 9 5 9 0 1 2 4 3
Cyclotella stelligera var. **pseudostelligera** (Hust.) Haworth & Hurley
4 11 14 9 0 2 6 2 5 6 3 1 2 4 4
Cyclotella striata (Kütz.) Grun. + var. **ambigua** (Grun.) Grun.
4 8 7 4 7 2 4 0 5 0 3 4 3 4 3
Cyclotella striata var. **bipunctata** Fricke
4 8 7 4 7 2 4 0 5 0 3 4 2 4 3
Cyclotella striata var. **subsalina** Grun.
4 8 7 4 7 2 4 0 5 0 3 4 2 4 3
Cyclotella stylorum Brightw.
2 5 3 3 0 2 1 1 1 1 1 0 2 1 3
Cymatopleura elliptica (Bréb.) W. Sm.
8 12 14 9 10 3 4 2 5 6 0 1 2 4 2
Cymatopleura elliptica var. **hibernica** (W. Sm.) V.H.
8 12 14 9 10 3 4 2 5 0 0 1 2 4 2
Cymatopleura librile (Ehr.) Pant.
8 12 14 9 10 3 4 2 5 4 3 1 2 4 3
Cymatosira belgica Grun.
4 2 2 2 3 3 1 1 1 1 1 4 2 1 3
Cymbella affinis Kütz.
6 13 14 9 9 4 4 2 5 6 0 1 3 4 3
Cymbella amphicephala Naeg.
6 13 14 9 9 4 6 6 5 6 2 1 3 4 3
Cymbella amphicephala var. **hercynica** (A. Schmidt) Cl.
6 12 14 9 9 4 4 0 5 0 2 1 2 0 3
Cymbella aspera (Ehr.) H. Perag.
6 12 14 9 10 3 4 2 5 6 2 1 3 4 2
Cymbella caespitosa (Kütz.) Brun
7 12 14 9 0 3 4 9 5 3 0 1 2 0 3

Cymbella cistula (Ehr.) Kirchner
6 12 14 9 9 3 4 3 5 6 2 1 3 4 2
Cymbella cuspidata Kütz.
6 12 14 9 9 4 5 4 5 8 0 1 2 4 2
Cymbella cymbiformis Ag.
6 13 14 9 9 4 4 5 5 6 2 1 2 5 2
Cymbella delicatula Kütz.
6 13 14 9 9 4 5 6 5 9 0 1 3 0 3
Cymbella ehrenbergii Kütz.
6 12 14 9 9 4 4 9 5 6 0 1 2 5 2
Cymbella elginensis Krammer
7 12 14 9 9 4 0 5 5 0 2 1 2 0 3
Cymbella gracilis (Ehr.) Kütz.
7 14 16 11 12 4 7 6 5 8 2 1 3 4 3
Cymbella helvetica Kütz.
6 12 14 9 9 4 4 3 5 6 0 1 2 5 2
Cymbella lanceolata (Ehr.) Kirchner
6 12 14 9 10 3 4 3 5 6 0 1 2 5 2
Cymbella leptoceros (Ehr.) Kütz.
6 14 14 9 9 4 4 5 5 9 0 1 4 5 3
Cymbella microcephala Grun.
6 13 14 9 11 2 4 9 5 6 2 1 4 4 3
Cymbella mesiana Cholnoky
6 12 14 9 0 0 0 0 5 0 0 1 2 1 2
Cymbella minuta Hilse
7 13 14 9 9 4 6 5 5 6 0 1 3 4 3
Cymbella naviculiformis Auersw.
6 12 14 9 9 4 11 9 5 6 2 1 3 4 3
Cymbella prostrata (Berkeley) Brun
6 12 14 9 10 3 4 3 5 6 2 1 3 3 2
Cymbella pusilla Grun.
6 8 5 4 7 2 5 2 5 0 0 0 3 0 3
Cymbella silesiaca Bleisch
7 12 14 9 10 3 6 9 5 4 2 1 3 4 3
Cymbella sinuata Greg.
7 12 14 9 9 4 6 9 5 6 2 1 3 4 3
Cymbella subaequalis Grun.
6 13 14 9 9 4 5 9 5 9 2 1 3 4 3
Cymbella tumida (Bréb.) V.H.
6 12 14 9 9 4 4 3 5 6 0 1 2 4 2
Cymbella tumidula Grun.
6 12 14 9 9 4 4 0 5 9 0 1 2 0 3
Cymbella ventricosa Kütz. (**minuta** + **silesiaca**)
7 12 14 9 10 3 5 9 5 4 2 1 3 4 3
Delphineis surirella (Ehr.) Andrews
6 4 2 2 3 2 1 1 1 1 1 2 2 1 3
Denticula inflata W. Sm.
7 12 14 9 8 2 4 0 5 6 2 1 3 4 3
Denticula subtilis Grun.
6 8 5 4 7 2 4 2 5 0 2 4 3 0 3
Denticula tenuis Kütz.
6 13 14 9 9 4 4 0 5 0 0 1 3 4 3
Diatoma tenue Ag.
3 10 12 7 0 2 5 3 5 0 2 1 2 4 4
Diatoma tenue var. **elongatum** Lyngb.
3 10 12 7 8 2 5 3 5 4 2 1 3 4 4
Diatoma vulgare Bory
6 12 14 9 10 3 5 3 5 6 2 1 3 3 4
Dimeregramma fulvum (Greg.) Ralfs
6 2 2 2 3 3 1 1 1 1 1 6 2 1 2
Dimeregramma hyalinum Hust.
6 0 2 2 0 0 1 1 1 1 1 0 2 1 4
Dimeregramma marinum (Greg.) Ralfs
6 2 2 2 3 3 1 1 1 1 1 0 2 1 2

Dimeregramma minor (Greg.) Ralfs
6 3 2 2 4 2 1 1 1 1 1 4 2 1 2
Dimeregramma minor var. **nanum** (Greg.) V. H.
6 3 2 2 4 2 1 1 1 1 1 4 2 1 3
Diploneis aestiva (Donk.) Cl. var. **fusca** (Greg.) Ross
8 3 2 2 3 3 1 1 1 1 1 4 2 1 2
Diploneis aestuari Hust.
7 6 5 4 6 2 1 1 1 1 1 4 2 1 3
Diploneis bombus (Ehr.) Ehr.
7 4 3 3 4 2 1 1 1 1 1 4 2 1 2
Diploneis campylodiscus (Grun.) Cl.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 2
Diploneis coffeiformis (A. Schmidt) Cl.
8 3 2 2 3 2 1 1 1 1 1 3 2 1 3
Diploneis constricta (Grun.) Cl.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 2
Diploneis crabro (Ehr.) Ehr.
6 2 2 2 3 3 1 1 1 1 1 0 2 1 2
Diploneis crabro var. **gloriosa** (Brun.) Cl.
6 2 2 2 3 3 1 1 1 1 1 0 2 1 2
Diploneis didyma (Ehr.) Cl.
8 5 5 4 6 2 1 1 1 1 1 4 2 1 2
Diploneis elliptica (Kütz.) Cl.
8 12 14 9 11 2 4 9 5 9 0 1 4 5 2
Diploneis eudoxia (A. Schmidt) Jørg.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 2
Diploneis incurvata (Greg.) Cl.
8 2 2 2 3 3 1 1 1 1 1 4 2 1 2
Diploneis interrupta (Kütz.) Cl.
8 8 5 4 7 2 4 2 5 0 0 4 3 0 2
Diploneis lineata (Donk.) Cl.
8 2 2 2 0 0 1 1 1 1 1 0 2 1 2
Diploneis litoralis (Donk.) Cl.
8 2 2 2 3 3 1 1 1 1 1 4 2 1 3
Diploneis litoralis var. **clathrata** (Østr.) Cl.
8 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Diploneis marginestriata Hust.
8 12 14 9 9 4 6 0 5 8 0 1 3 4 3
Diploneis mediterranea (Grun.) Cl.
8 2 2 2 0 0 1 1 1 1 1 0 2 1 2
Diploneis nitescens (Greg.) Cl.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Diploneis notabilis (Grev.) Cl.
8 3 2 2 3 3 1 1 1 1 1 4 2 1 2
Diploneis notabilis var. **oblonga** Heiden
8 3 2 2 3 3 1 1 1 1 1 4 2 1 2
Diploneis oblongella (Naeg.) Cl.-E.
8 12 14 9 10 3 4 3 5 8 2 1 4 4 3
Diploneis oculata (Bréb.) Cl.
8 13 14 9 9 4 5 4 5 6 0 1 4 4 3
Diploneis ovalis (Hilse) Cl.
8 11 12 8 11 2 4 9 5 6 0 1 4 4 2
Diploneis papula (A. Schmidt) Cl.
8 3 2 2 4 2 1 1 1 1 1 3 2 1 3
Diploneis pseudovalis Hust.
8 8 5 4 6 2 4 2 5 0 0 0 3 0 3
Diploneis puella (Schum.) Cl.
8 12 14 9 9 4 5 9 5 8 0 1 3 4 3
Diploneis smithii (Bréb.) Cl. + var. **rhombica** Mereschk.
8 5 4 3 5 2 1 1 1 1 1 4 2 1 3
Diploneis smithii var. **pumila** (Grun.) Hust.
8 0 5 4 6 2 1 1 1 1 1 0 2 0 3
Diploneis stroemii Hust.
8 4 3 3 4 2 1 1 1 1 1 4 2 1 2

Diploneis subadvena Hust.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Diploneis subcincta (A. Schmidt) Cl.
8 2 2 2 3 3 1 1 1 1 1 6 2 1 2
Diploneis suborbicularis (Greg.) Cl.
7 2 2 2 3 3 1 1 1 1 1 6 2 1 2
Diploneis subovalis Cl.
8 12 13 8 10 3 4 0 5 0 0 1 3 0 3
Diploneis vacillans (A. Schmidt) Cl.
8 4 3 3 3 2 1 1 1 1 1 0 2 1 3
Diploneis vetula (A. Schmidt) Cl.
8 2 2 2 0 0 1 1 1 1 1 0 2 1 2
Diploneis vetula var. **americana** Hust. + f. **minutissima** Hust.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Diploneis weissflogii (A. Schmidt) Cl.
8 2 2 2 3 3 1 1 1 1 1 4 2 1 2
Ellerbeckia arenaria (Moore) Crawford
4 12 14 9 9 3 4 9 5 8 2 1 3 4 2
Entomoneis alata (Ehr.) Ehr.
8 4 6 4 7 2 1 1 1 1 1 4 2 1 3
Epithemia adnata (Kütz.) Bréb.
6 12 14 9 10 3 3 3 5 6 0 1 3 4 2
Epithemia frickei Krammer
6 12 14 9 10 3 4 2 5 0 0 1 2 5 2
Epithemia goeppertiana Hilse
6 14 14 9 9 4 4 6 5 0 0 1 2 5 2
Epithemia hyndmanii W. Sm.
6 12 14 9 9 4 4 2 5 0 0 1 3 5 2
Epithemia sorex Kütz.
6 11 13 8 11 2 3 2 5 6 2 1 3 4 3
Epithemia turgida (Ehr.) Kütz.
6 12 13 8 11 2 3 3 5 6 0 1 3 4 2
Eunotia arcus Ehr.
6 14 16 11 12 4 7 6 5 9 0 1 3 4 3
Eunotia arcus var. **fallax** Hust.
6 14 16 11 12 4 7 6 5 0 0 1 3 4 3
Eunotia bilunaris (Ehr.) Mills
6 12 14 9 9 4 7 5 5 6 0 1 3 4 3
Eunotia crista-galli Cl.
6 14 16 11 12 4 8 6 5 0 0 1 3 0 3
Eunotia diodon Ehr.
6 14 16 11 12 4 8 6 5 0 0 1 4 4 3
Eunotia exigua (Bréb.) Rabenh.
6 14 16 11 12 4 10 7 5 8 0 1 4 4 4
Eunotia exigua var. **undulata** Magdeburg
6 14 16 11 12 4 8 7 5 8 0 1 4 4 4
Eunotia fallax A. Cl. var. **gracillima** Krasske
6 14 16 11 12 4 8 6 5 0 0 1 5 0 3
Eunotia maior (W. Sm.) Rabenh.
6 14 16 11 12 4 8 6 5 8 0 1 3 4 2
Eunotia monodon Ehr.
6 14 16 11 12 4 8 6 5 9 0 1 3 5 2
Eunotia nodosa Ehr.
6 12 14 9 9 4 6 5 5 8 0 1 3 5 2
Eunotia parallela Ehr.
6 14 16 11 12 4 8 7 5 0 0 1 3 0 3
Eunotia pectinalis (Müll.) Rabenh. + var. **minor** (Kütz.) Rabenh.
6 13 15 10 9 4 8 5 5 8 2 1 4 4 3
Eunotia pectinalis f. **impressa** (Ehr.) Hust.
6 13 15 10 9 4 7 5 5 8 0 1 3 4 3
Eunotia pectinalis var. **ventricosa** Grun.
6 13 15 10 9 4 7 5 5 8 0 1 3 4 3
Eunotia praerupta Ehr.
6 14 16 11 12 4 7 5 5 7 0 1 4 4 2

Eunotia praerupta var. **bidens** (Ehr.) Grun.
6 14 14 11 12 4 7 5 5 7 0 1 4 4 2
Eunotia sudetica Müll.
6 14 16 11 12 4 7 6 5 8 0 1 3 4 3
Eunotia sudetica var. **bidens** Hust.
6 14 16 11 12 4 7 6 5 8 0 1 3 0 3
Eunotia tenella (Grun.) Cl.
6 13 15 10 9 4 8 5 5 9 0 1 4 4 3
Eunotia tibia Cl.-E. var. **bidens** (W. Sm.) Cl.-E.
6 14 16 11 12 4 8 6 5 9 0 1 3 5 2
Eunotia valida Hust.
6 14 16 11 12 4 8 6 5 8 0 1 3 0 3
Eunotia vanheurckii Patr.
6 14 16 11 12 4 8 7 5 8 0 1 3 4 3
Eunotogramma dubium Hust.
7 3 2 2 3 2 1 1 1 1 1 4 2 1 4
Eunotogramma marinum (W. Sm.) H. & M. Perag.
7 2 2 2 3 2 1 1 1 1 1 0 2 1 3
Eunotogramma rectum Salah
7 0 0 4 0 2 1 1 1 1 1 0 2 1 4
Fragilaria atomus Hust.
3 9 9 5 10 3 4 2 5 0 0 0 2 0 4
Fragilaria bicapitata Mayer
6 13 14 9 9 4 6 4 5 6 2 1 2 4 3
Fragilaria bidens Heiberg
3 12 14 9 9 4 4 2 5 8 0 1 2 0 3
Fragilaria brevistriata Grun.
7 12 14 9 5 2 4 3 5 8 2 1 3 4 3
Fragilaria capucina Desm.
3 12 14 9 10 3 5 3 5 6 2 1 3 4 3
Fragilaria capucina var. **mesolepta** (Rabenh.) Rabenh.
3 12 14 9 10 3 4 3 5 0 2 1 3 4 3
Fragilaria construens (Ehr.) Grun.
3 12 14 9 10 2 4 3 5 6 2 1 3 4 3
Fragilaria construens var. **binodis** (Ehr.) Grun.
3 12 14 9 10 2 4 3 5 6 2 1 3 4 3
Fragilaria construens var. **subsalina** Hust.
3 10 12 7 11 2 4 2 5 0 0 1 3 0 3
Fragilaria construens var. **venter** (Ehr.) Grun.
3 12 14 9 11 2 4 3 5 6 2 1 3 4 3
Fragilaria famelica (Kütz.) Lange-Bertalot
6 12 14 9 10 3 5 9 5 0 0 1 3 4 3
Fragilaria heidenii Østr.
6 11 13 8 10 3 4 2 5 0 0 1 3 0 3
Fragilaria istvanffyi Pant.
6 12 14 9 9 4 4 0 5 0 0 1 2 0 3
Fragilaria lapponica Grun.
3 14 14 9 9 4 5 3 5 0 2 1 3 5 3
Fragilaria leptostauron (Ehr.) Hust.
3 14 14 9 10 3 4 5 5 8 2 1 3 4 2
Fragilaria pinnata Ehr.
7 12 14 9 8 2 5 2 5 6 2 1 4 4 3
Fragilaria striatula Lyngb.
3 3 2 2 3 2 1 1 1 1 1 0 2 1 4
Fragilaria vaucheriae (Kütz.) Petersen
6 12 14 9 10 3 4 3 5 4 4 1 4 4 3
Fragilaria virescens Ralfs var. **subsalina** Grun.
6 10 12 7 8 2 5 9 5 0 0 1 3 0 4
Frustulia creuzburgensis (Krasske) Hust.
7 8 5 4 6 2 4 2 5 8 3 4 3 4 3
Frustulia linkei Hust.
8 6 3 3 4 2 1 1 1 1 1 0 2 1 3
Frustulia rhomboides (Ehr.) De Toni var. **saxonica** (Rabenh.) De Toni
8 14 16 11 12 4 8 7 5 9 0 1 4 4 3

Frustulia vulgaris (Thwaites) De Toni
8 12 14 9 10 3 4 10 5 4 2 1 3 4 3
Glyphodesmis distans (Greg.) Grun.
6 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Glyphodesmis williamsonii (W. Sm.) Grun.
6 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Gomphonema acuminatum Ehr.
6 12 14 9 9 4 5 9 5 6 0 1 3 4 3
Gomphonema affine Kütz.
6 12 14 9 9 4 5 9 5 0 0 1 3 4 3
Gomphonema angustatum (Kütz.) Rabenh.
6 12 14 9 11 2 5 4 5 6 2 1 3 4 3
Gomphonema angustum Ag.
6 12 14 9 11 2 11 9 5 6 2 1 3 4 3
Gomphonema augur Ehr.
6 12 14 9 10 2 5 4 5 4 0 1 2 4 3
Gomphonema augur var. **turris** (Ehr.) Lange-Bertalot
6 12 14 9 9 4 5 0 5 0 0 1 2 0 3
Gomphonema clavatum Ehr.
6 12 14 9 9 4 11 9 5 8 3 1 3 4 3
Gomphonema exiguum Kütz.
6 0 4 3 5 2 1 1 1 1 1 0 2 1 3
Gomphonema gracile Ehr.
6 12 14 9 11 2 11 6 5 6 0 1 3 4 3
Gomphonema grovei M. Schmidt var. **lingulatum** (Hust.) Lange-Bertalot
6 12 14 9 9 4 6 3 5 5 0 1 2 0 3
Gomphonema insigne Greg.
6 12 14 9 10 3 5 3 5 0 0 1 2 4 3
Gomphonema lagerheimii Cl.
6 13 14 9 9 4 6 6 5 0 0 1 2 0 3
Gomphonema littorale Hendey
6 3 3 3 0 2 1 1 1 1 1 0 2 1 3
Gomphonema olivaceum (Hornemann) Bréb.
6 11 13 8 11 2 4 9 5 5 0 1 3 4 3
Gomphonema olivaceum var. **calcareum** (Cl.) Cl.
6 11 13 8 10 2 3 0 5 6 0 1 3 4 3
Gomphonema olivaceum var. **minutissima** Hust.
6 12 14 9 9 4 5 0 5 0 2 1 2 0 3
Gomphonema parvulum (Kütz.) Kütz.
6 12 14 9 11 2 5 3 3 2 4 1 3 4 3
Gomphonema parvulum var. **micropus** (Kütz.) Cl. sensu Hustedt (1930)
6 12 14 9 11 2 5 2 0 0 0 1 3 0 3
Gomphonema subtile Ehr.
6 13 15 10 12 4 6 6 5 8 2 1 2 4 3
Gomphonema tackei Hust.
6 12 14 9 9 4 0 0 5 0 0 1 4 0 4
Gomphonema truncatum Ehr.
6 12 14 9 10 3 4 9 5 6 0 1 2 4 3
Grammatophora angulosa Ehr.
6 2 2 2 3 3 1 1 1 1 1 6 2 1 3
Grammatophora angulosa var. **islandica** (Ehr.) Grun.
6 2 2 2 3 3 1 1 1 1 1 6 2 1 2
Grammatophora marina (Lyngb.) Kütz.
6 2 2 2 4 2 1 1 1 1 1 4 2 1 3
Grammatophora oceanica Ehr.
6 2 2 2 4 2 1 1 1 1 1 4 2 1 3
Grammatophora oceanica var. **macilenta** (W. Sm.) Grun.
6 2 2 2 4 2 1 1 1 1 1 4 2 1 3
Grammatophora serpentina Ehr.
6 2 2 2 3 2 1 1 1 1 1 4 2 1 2
Grammatophora undulata Ehr.
6 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Gyrosigma acuminatum (Kütz.) Rabenh.
8 12 14 9 10 3 4 2 5 4 0 1 3 4 3

Gyrosigma acuminatum var. **gallica** Grun.
8 11 13 8 10 3 4 2 5 4 0 1 3 4 3
Gyrosigma attenuatum (Kütz.) Rabenh.
8 12 14 9 10 3 2 2 5 6 0 1 3 4 3
Gyrosigma balticum (Ehr.) Rabenh.
8 8 5 4 7 2 2 2 5 0 4 2 3 0 2
Gyrosigma distortum (W. Sm.) Griffith & Henfrey
8 9 5 4 6 2 4 2 5 0 0 0 3 0 3
Gyrosigma eximium (Thwaites) Boyer
7 10 9 5 7 2 2 2 5 0 0 4 3 0 3
Gyrosigma fasciola (Ehr.) Griffith & Henfrey
8 6 6 4 7 2 1 1 1 1 1 4 2 1 4
Gyrosigma hippocampus (Ehr.) Hass.
8 6 6 4 7 2 1 1 1 1 1 0 2 1 3
Gyrosigma littorale (W. Sm.) Griffith & Henfrey
8 2 2 2 4 2 1 1 1 1 1 0 2 1 3
Gyrosigma macrum (W. Sm.) Griffith & Henfrey
4 5 5 4 6 2 1 1 1 1 1 0 2 1 4
Gyrosigma nodiferum (Grun.) Reimer
8 11 12 7 11 2 2 0 5 6 0 1 2 4 3
Gyrosigma obscurum (W. Sm.) Griffith & Henfrey
8 0 3 3 4 2 1 1 1 1 1 0 2 1 3
Gyrosigma parkeri (Harrison) Elmore
8 9 7 4 6 2 4 2 5 8 0 0 3 0 3
Gyrosigma peisonis (Grun.) Hust.
8 10 5 4 7 2 4 2 5 8 0 4 3 0 3
Gyrosigma scalproides (Rabenh.) Cl.
8 10 12 7 8 2 4 0 5 8 0 4 3 3 3
Gyrosigma spenceri (Quek.) Griffith & Henfrey
8 7 5 4 7 2 1 1 1 1 1 2 2 1 3
Gyrosigma strigilis (W. Sm.) Griffith & Henfrey
8 8 5 4 7 2 2 2 5 0 0 0 3 0 3
Gyrosigma wansbeckii (Donk.) Cl.
8 8 5 4 6 2 2 2 5 0 0 0 3 0 3
Hannaea arcus (Ehr.) Patr.
7 14 14 9 9 4 6 5 5 8 2 1 3 3 3
Hantzschia amphioxys (Ehr.) Grun.
8 12 14 9 10 3 11 9 5 4 0 1 5 4 3
Hantzschia amphioxys var. **major** Grun.
8 12 14 9 10 3 6 0 5 0 0 1 4 4 2
Hantzschia amphioxys var. **vivax** (Hantzsch) Grun.
8 12 14 9 0 0 6 0 5 0 0 1 4 0 2
Hantzschia marina (Donk.) Grun.
8 4 3 3 3 2 1 1 1 1 1 4 2 1 3
Hantzschia spectabilis (Ehr.) Hust.
8 9 9 5 11 2 4 2 5 8 0 1 3 0 2
Hantzschia virgata (Roper) Grun.
8 6 5 4 7 2 1 1 1 1 1 4 2 1 3
Hantzschia virgata var. **gracilis** Hust.
8 6 5 4 7 2 1 1 1 1 1 4 2 1 3
Hantzschia virgata var. **leptocephala** Østr.
8 6 5 4 7 2 1 1 1 1 1 4 2 1 3
Hemiaulus polymorphus Grun. var. **frigida** Grun.
2 2 2 2 0 0 1 1 1 1 1 1 2 1 2
Huttoniella reichardtii (Grun.) Hust.
7 2 2 2 0 0 1 1 1 1 1 0 2 1 2
Hyalodiscus scoticus (Kütz.) Grun.
3 5 3 3 4 2 1 1 1 1 1 4 2 1 3
Isthmia obliquata (Sm.) Ag.
3 2 2 2 2 3 1 1 1 1 1 6 2 1 2
Leyanella arenaria Hasle, von Stosch & Syvertsen
4 2 2 2 0 0 1 1 1 1 1 0 2 1 4
Lithodesmium undulatum Ehr.
2 2 2 2 3 3 1 1 1 1 1 1 2 1 3

Mastogloia braunii Grun.
6 8 5 4 7 2 4 0 5 0 0 0 3 0 3
Mastogloia elliptica (Ag.) Cl.
7 8 5 4 6 2 4 0 5 0 0 4 3 0 3
Mastogloia exigua Lewis
6 7 6 3 7 2 1 1 1 1 1 4 2 1 3
Mastogloia gilbertii A. Schmidt
6 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Mastogloia pumila (Grun.) Cl.
6 4 3 3 5 2 1 1 1 1 1 4 2 1 3
Mastogloia pusilla Grun.
7 3 3 3 5 2 1 1 1 1 1 4 2 1 3
Mastogloia smithii Thwaites
7 9 9 5 8 2 4 0 5 6 0 1 3 4 3
Mastogloia smithii var. **lacustris** Grun.
7 11 13 8 8 2 4 2 5 6 0 1 3 4 3
Mastogloia splendida (Greg.) Cl.
6 2 2 2 2 4 1 1 1 1 1 0 2 1 2
Melosira lineata (Dillw.) Ag.
3 8 7 4 7 2 4 2 5 6 0 0 3 1 2
Melosira moniliformis (Müll.) Ag.
3 6 6 4 5 2 1 1 1 1 1 4 2 1 2
Melosira nummuloides Ag.
3 6 5 4 4 2 1 1 1 1 1 4 2 1 3
Melosira varians Ag.
3 12 13 8 10 2 4 2 3 4 3 1 3 4 2
Meridion circulare (Grev.) Ag.
6 12 14 9 11 2 5 4 5 6 2 1 3 3 3
Navicula abrupta (Greg.) Donk.
8 4 2 2 3 2 1 1 1 1 1 4 2 1 3
Navicula abscondita Hust.
8 4 2 2 0 0 1 1 1 1 1 0 2 1 4
Navicula absoluta Hust.
8 12 14 9 9 4 7 5 5 0 0 1 3 1 3
Navicula abunda Hust.
8 5 3 3 4 2 1 1 1 1 1 0 2 1 3
Navicula aequorea Hust.
8 4 2 2 0 0 1 1 1 1 1 0 2 1 4
Navicula agnita Hust.
8 4 3 2 4 2 1 1 1 1 1 0 2 1 3
Navicula americana Ehr.
8 12 14 9 9 4 5 6 5 0 0 1 2 5 2
Navicula ammophila Grun.
8 5 3 3 4 2 1 1 1 1 1 0 2 1 3
Navicula amphibola Cl.
8 12 14 9 10 3 5 4 5 9 0 1 4 4 3
Navicula amphipleuroides Hust.
8 6 6 4 4 2 1 1 1 1 1 0 2 1 4
Navicula angusta Grun.
8 13 15 10 12 4 7 6 5 9 0 1 3 4 3
Navicula annexa Hust.
8 12 14 9 0 0 0 0 0 0 0 1 2 0 3
Navicula apiculata Grun.
8 2 2 2 3 3 1 1 1 1 1 0 2 1 3
Navicula arenaria Donk.
8 4 3 3 3 2 1 1 1 1 1 0 2 1 3
Navicula arenaria var. **rostellata** Lange-Bertalot
8 7 6 4 5 2 1 1 1 1 1 0 2 1 3
Navicula asellus Weinhold
8 12 14 9 9 4 5 0 5 0 0 1 5 0 4
Navicula atlantica (A. Schmidt) H. & M. Perag.
8 4 2 2 4 2 1 1 1 1 1 0 2 1 2
Navicula atomus (Kütz.) Grun.
8 12 14 9 9 4 5 2 4 2 0 1 5 4 4

Navicula atomus var. **excelsa** (Krasske) Lange-Bertalot
8 12 14 9 9 4 6 2 0 2 0 1 4 0 4
Navicula bacillum Ehr.
8 12 14 9 9 4 4 3 5 6 0 1 3 4 3
Navicula begeri Krasske
8 12 14 9 9 4 6 0 5 0 0 1 4 0 3
Navicula bottnica Grun.
7 8 5 4 6 2 4 2 5 0 0 0 3 1 3
Navicula brekkaensis Petersen
8 13 15 10 12 4 8 6 5 0 2 1 4 4 4
Navicula bremensis Hust.
8 12 14 9 9 4 8 0 5 0 0 1 4 0 3
Navicula britannica Hust. & Aleem
8 4 2 2 3 3 1 1 1 1 1 0 2 1 3
Navicula brockmannii Hust.
8 12 14 9 9 4 6 0 5 8 0 1 4 0 4
Navicula bryophila Petersen
8 13 15 10 12 4 7 5 5 8 2 1 4 0 4
Navicula cancellata Donk.
8 3 2 2 4 2 1 1 1 1 1 4 2 1 3
Navicula capitata Ehr.
8 12 14 9 10 3 4 2 5 4 3 1 3 4 3
Navicula capitata var. **hungarica** (Grun.) Ross
8 11 14 9 10 3 4 2 5 4 3 1 3 4 3
Navicula capitata var. **linearis** Østrup
8 10 12 7 10 3 4 2 0 4 3 1 3 4 3
Navicula capitata var. **luneburgensis** (Grun.) Patr.
8 12 14 9 10 3 4 2 5 4 3 1 3 4 3
Navicula capitatoradiata Germain
8 11 13 8 10 3 4 2 5 4 0 1 3 4 3
Navicula cari Ehr.
8 12 14 9 9 4 4 9 5 4 0 1 3 4 3
Navicula cincta (Ehr.) Ralfs
8 11 12 7 8 2 4 9 5 4 0 1 5 4 3
Navicula circumtexta Meist.
8 6 5 4 6 2 1 1 1 1 1 0 2 1 3
Navicula clamans Hust.
8 4 3 3 3 2 1 1 1 1 1 4 2 1 3
Navicula clementioides Hust.
8 12 14 9 10 3 4 6 5 0 0 1 2 0 3
Navicula clementis Grun.
8 11 13 8 11 2 4 0 5 0 0 1 3 0 3
Navicula cluthensoides Hust.
8 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Navicula cocconeiformis Greg.
8 14 16 11 12 4 7 6 5 0 2 1 3 4 3
Navicula cohnii (Hilse) Lange-Bertalot
8 12 14 9 10 3 5 0 5 4 2 1 4 4 3
Navicula complanata (Grun.) Grun.
8 2 2 2 3 2 1 1 1 1 1 0 2 1 4
Navicula complanatoides Hust.
8 2 2 2 3 3 1 1 1 1 1 0 2 1 4
Navicula concentrica Carter
8 12 14 9 10 3 4 6 5 0 0 1 2 4 3
Navicula consentanea Hust.
8 6 5 4 5 2 1 1 1 1 1 0 2 1 4
Navicula contenta Grun.
8 13 14 9 8 2 7 6 5 0 2 1 5 4 4
Navicula corymbosa (Ag.) Cl.
6 4 2 2 4 2 1 1 1 1 1 0 2 1 3
Navicula costulata Grun.
8 12 13 8 10 3 4 2 5 0 0 1 2 4 3
Navicula crucicula (W. Sm.) Donk.
8 6 6 4 6 2 1 1 1 1 1 4 2 1 3

Navicula crucicula var. **cruciculoides** (Brockmann) Lange-Bertalot
8 7 6 4 7 2 1 1 1 1 4 2 1 3
Navicula crucigera (W. Sm.) Cl.
6 5 6 4 6 2 1 1 1 1 4 2 1 3
Navicula cryptocephala Kütz.
8 12 14 9 8 2 4 9 5 4 4 1 4 4 3
Navicula cryptolyra Brockmann
8 6 5 4 6 2 1 1 1 1 1 4 2 1 4
Navicula cryptotenella Lange-Bertalot
8 12 14 9 11 2 5 4 5 6 0 1 3 4 3
Navicula cuspidata Kütz.
8 12 14 9 10 3 4 3 5 4 4 1 3 4 2
Navicula delognei (V. H.) Cox
6 3 2 2 3 3 1 1 1 1 1 6 2 1 3
Navicula digitoradiata (Greg.) Ralfs
8 7 6 4 6 2 1 1 1 1 1 4 2 1 2
Navicula digitoradiata var. **minima** Cl.-E.
8 7 6 4 6 2 1 1 1 1 1 4 2 1 3
Navicula digitoradiata var. **rostrata** Hust.
8 8 7 4 6 2 1 1 1 1 1 4 2 1 3
Navicula dilucida Hust.
8 4 2 2 3 2 1 1 1 1 1 0 2 1 3
Navicula diploneoides Hust.
8 2 2 2 0 2 1 1 1 1 1 0 2 1 3
Navicula directa (W. Sm.) Ralfs
6 3 2 2 3 2 1 1 1 1 1 6 2 1 3
Navicula directa var. **remota** Grun.
6 3 2 2 3 2 1 1 1 1 1 6 2 1 3
Navicula disjuncta Hust. + f. **anglica** Hust.
8 12 14 9 9 4 5 0 5 8 0 1 3 0 4
Navicula distans (W. Sm.) Ralfs
8 2 2 2 2 4 1 1 1 1 1 5 2 1 2
Navicula dithmarsica König
8 5 3 3 3 2 1 1 1 1 1 0 2 1 3
Navicula eidrigiana Carter
8 11 12 7 10 3 4 0 5 0 0 1 3 0 3
Navicula elegans W. Sm.
8 8 5 4 7 2 4 2 5 0 0 0 3 0 3
Navicula elginensis (Greg.) Ralfs
8 12 14 9 10 3 4 9 5 6 0 1 3 4 3
Navicula erifuga Lange-Bertalot
8 11 12 7 11 2 4 2 5 0 0 1 3 4 3
Navicula fenestrella Hust.
8 4 2 2 3 3 1 1 1 1 1 0 2 1 4
Navicula finmarchica (Cl. & Grun.) Cl.
8 4 2 2 3 3 1 1 1 1 1 4 2 1 3
Navicula flanatica Grun.
8 4 3 3 4 2 1 1 1 1 1 4 2 1 3
Navicula florinae Möller
8 4 3 3 4 2 1 1 1 1 1 4 2 1 4
Navicula forcipata Grev. + var. **densestriata** A. Schmidt
8 4 3 3 4 2 1 1 1 1 1 4 2 1 3
Navicula fossalis Krasske
8 12 14 9 9 4 7 0 5 0 0 1 5 0 4
Navicula fossalis var. **obsidialis** (Hust.) Lange-Bertalot
8 12 14 9 0 0 0 0 5 0 0 1 4 0 4
Navicula fromenterae Cl.
8 4 2 2 0 3 1 1 1 1 1 0 2 1 3
Navicula gallica (W. Sm.) Lagerst.
8 12 14 9 9 4 6 0 0 0 0 1 5 4 4
Navicula gallica var. **laevissima** (Cl.) Lange-Bertalot
8 12 14 9 9 4 11 0 5 0 0 1 5 0 4
Navicula gallica var. **perpusilla** (Grun.) Lange-Bertalot
8 12 14 9 9 4 7 7 5 8 2 1 5 4 4

Navicula gastrum (Ehr.) Kütz.
8 12 14 9 9 4 5 9 5 7 0 1 2 5 3
Navicula gastrum var. **signata** Hust.
8 12 14 9 9 4 5 9 5 7 0 1 2 5 3
Navicula gemmifera Simonsen
8 4 3 3 5 2 1 1 1 1 1 0 2 1 4
Navicula genustriata Hust.
8 11 12 7 9 3 4 2 5 0 0 1 3 0 3
Navicula gibbula Cl.
8 12 14 9 9 4 6 0 5 8 0 1 5 4 3
Navicula goeppertiana (Bleisch) H.L. Smith
8 12 14 9 9 4 6 2 3 2 4 1 4 0 3
Navicula gottlandica Grun.
8 12 14 9 9 4 4 4 5 0 0 1 2 0 3
Navicula granulata Bail.
8 3 2 2 3 3 1 1 1 1 1 4 2 1 2
Navicula gregaria Donk.
8 8 5 4 7 2 4 2 3 4 4 4 3 4 3
Navicula groschopfii Hust.
8 4 2 2 3 3 1 1 1 1 1 0 2 1 4
Navicula halophila (Grun.) Cl.
8 8 5 4 7 2 4 2 5 4 0 0 3 0 3
Navicula harderii Hust.
8 13 14 9 9 4 0 0 0 0 0 1 5 0 4
Navicula helensis Schulz
8 12 14 9 9 4 4 0 5 8 0 1 3 0 4
Navicula hennedyi W. Sm.
8 3 2 2 3 3 1 1 1 1 1 5 2 1 2
Navicula humerosa Bréb.
8 4 3 3 4 2 1 1 1 1 1 4 2 1 3
Navicula hustedtiana Simonsen
8 4 2 2 3 2 1 1 1 1 1 0 2 1 3
Navicula hyalinula De Toni
8 7 4 3 4 2 1 1 1 1 1 4 2 1 3
Navicula ignota Krasske var. **palustris** (Hust.) Lund
8 12 14 9 9 4 6 0 5 8 0 1 4 4 3
Navicula impercepta Hust.
8 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Navicula incertata Lange-Bertalot
7 6 5 4 6 2 1 1 1 1 1 0 2 1 3
Navicula insociabilis Krasske
8 12 14 9 9 4 4 0 5 8 0 1 5 4 4
Navicula integra (W. Sm.) Ralfs
8 9 12 7 10 3 4 2 5 4 3 1 2 1 3
Navicula justa Hust.
8 7 5 4 6 2 1 1 1 1 1 0 2 1 4
Navicula joubaudii Germain
8 14 14 9 9 4 0 0 5 6 0 1 3 0 4
Navicula kotschyi Grun.
8 12 13 8 10 3 4 0 5 0 3 1 4 0 3
Navicula laevissima Kütz.
8 13 15 10 9 4 5 6 5 9 0 1 3 4 3
Navicula lanceolata (Ag.) Ehr.
7 9 9 5 11 2 4 2 5 4 0 1 3 4 3
Navicula lapidosa Krasske
8 14 16 11 12 4 7 0 5 0 2 1 4 4 4
Navicula lesmonensis Hust.
8 10 12 7 10 3 5 0 5 8 0 1 3 0 3
Navicula libonensis Schoemann
8 12 14 9 9 4 4 0 5 0 0 1 2 0 3
Navicula litoricola Hust.
8 4 2 2 3 2 1 1 1 1 1 0 2 1 3
Navicula lubetii König
8 5 5 4 6 2 1 1 1 1 1 0 2 1 4

Navicula lucens Hust.
8 4 2 2 0 2 1 1 1 1 1 0 2 1 3
Navicula lyra Ehr.
8 2 2 2 3 3 1 1 1 1 1 4 2 1 2
Navicula lyroides Hendey
8 2 2 2 3 3 1 1 1 1 1 0 2 1 2
Navicula maculosa Donk.
8 3 2 2 3 3 1 1 1 1 1 0 2 1 3
Navicula margalithii Lange-Bertalot
8 0 0 0 0 2 0 0 0 0 0 0 2 0 3
Navicula marina Ralfs
8 4 3 3 3 2 1 1 1 1 1 0 2 1 3
Navicula medioconvexa Hust.
8 13 14 9 9 4 7 0 5 0 0 1 4 0 4
Navicula menisculus Schum.
8 11 13 8 11 2 4 2 5 4 0 1 3 4 3
Navicula meniscus Schum.
8 10 12 7 10 2 4 2 5 8 0 1 3 0 3
Navicula minima Grun.
8 12 14 9 11 2 5 2 0 2 4 1 4 4 4
Navicula monilifera Cl.
8 2 2 2 0 0 1 1 1 1 1 0 2 1 2
Navicula monoculata Hust.
8 12 14 9 0 0 4 0 5 4 0 1 3 0 4
Navicula monoculata var. **omissa** (Hust.) Lange-Bertalot
8 12 14 9 0 0 4 0 5 4 0 1 3 0 4
Navicula mutica Kütz.
8 10 12 7 11 2 5 2 5 4 3 1 5 4 3
Navicula mutica f. **intermedia** Hust.
8 10 12 7 11 2 5 2 5 0 3 1 5 4 3
Navicula mutica f. **producta** Grun.
8 10 12 7 11 2 5 2 5 0 3 1 5 4 3
Navicula mutica var. **ventricosa** (Kütz.) Cl.
8 11 13 8 10 3 5 2 5 4 2 1 5 4 3
Navicula nitrophila Petersen
8 12 14 9 9 4 0 2 0 0 0 1 3 0 4
Navicula nivalis Ehr.
8 11 13 8 10 3 5 2 5 0 0 1 5 4 3
Navicula nolens Simonsen
8 6 5 4 6 2 1 1 1 1 1 0 2 1 4
Navicula normalis Hust.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Navicula normaloides Cholnoky
8 0 3 3 0 2 1 1 1 1 1 0 2 1 3
Navicula notanda Østr.
8 12 14 9 0 3 4 3 5 0 0 1 2 0 3
Navicula oblonga (Kütz.) Kütz.
8 12 14 9 11 2 4 2 5 6 4 1 2 4 2
Navicula occulta Krasske
8 12 14 9 9 2 0 0 5 0 0 1 3 0 4
Navicula oculiformis Hust.
8 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Navicula ordinaria Hust.
8 10 12 7 0 0 4 0 5 6 0 1 2 0 3
Navicula palpebralis Bréb.
8 4 2 2 3 2 1 1 1 1 1 4 2 1 3
Navicula parva (Menegh.) Cl.
6 6 6 4 6 2 1 1 1 1 1 0 2 1 4
Navicula pavillardii Hust.
7 3 2 2 3 2 1 1 1 1 1 0 2 1 3
Navicula pellicola Brockmann
8 2 2 2 0 2 1 1 1 1 1 0 2 1 4
Navicula pelliculosa (Bréb.) Hilse
8 12 14 9 11 2 4 2 3 6 0 1 5 1 4

Navicula pennata A. Schmidt
7 0 3 3 0 2 1 1 1 1 1 0 2 1 3
Navicula peregrina (Ehr.) Kütz.
8 8 7 4 7 2 4 2 5 0 0 4 3 0 2
Navicula peregrina var. **kefvingensis** (Ehr.) Cl.
8 8 7 4 7 2 4 2 5 0 0 4 3 0 3
Navicula perminuta Grun.
7 7 5 4 6 2 1 1 1 1 1 4 2 1 3
Navicula phyllepta Kütz.
8 5 6 4 7 2 1 1 1 1 1 4 2 1 3
Navicula placentula (Ehr.) Kütz.
8 12 14 9 9 4 4 0 5 8 0 1 2 4 3
Navicula plicata Donk.
8 4 6 4 6 2 1 1 1 1 1 4 2 1 3
Navicula praetexta Ehr.
8 2 2 2 3 3 1 1 1 1 1 0 2 1 2
Navicula protracta (Grun.) Cl.
8 9 9 5 8 2 5 2 5 0 3 1 3 4 3
Navicula pseudanglica Lange-Bertalot
8 12 14 9 10 3 4 9 5 6 0 1 3 4 3
Navicula pseudocomoides Hendey
6 4 2 2 3 2 1 1 1 1 1 6 2 1 3
Navicula pseudoforcipata Hust.
8 10 12 7 0 0 5 0 5 0 0 1 3 0 4
Navicula pseudoinflata Giffen
8 0 0 0 0 0 0 0 0 0 0 0 2 0 3
Navicula pseudolanceolata Lange-Bertalot
8 12 14 9 10 3 4 3 5 7 0 1 3 1 3
Navicula pseudopalpebralis Hendey
8 0 0 0 0 0 0 0 0 0 0 0 2 0 3
Navicula pseudotuscula Hust.
8 12 14 9 9 4 3 3 5 8 0 1 2 0 3
Navicula pseudoventralis Hust.
8 12 14 9 9 4 5 5 5 0 0 1 3 4 4
Navicula pupula Kütz.
8 12 14 9 10 3 5 3 5 4 3 1 3 4 3
Navicula pupula var. **mutata** (Krasske) Hust.
8 12 14 9 10 3 5 3 5 4 3 1 3 4 3
Navicula pusilla W. Sm.
8 10 12 7 10 3 5 0 5 0 2 1 4 4 3
Navicula pygmaea Kütz.
8 10 7 4 7 2 2 1 5 4 3 4 3 4 3
Navicula radiosa Kütz.
8 12 14 9 8 2 6 9 5 6 0 1 3 4 3
Navicula ramosissima (Ag.) Cl.
6 3 2 2 4 2 1 1 1 1 1 0 2 1 3
Navicula ramosissima var. **torquata** (Harv.) Ross
6 0 5 4 7 2 1 1 1 1 1 0 2 1 3
Navicula recens (Lange-Bertalot) Lange-Bertalot
8 9 9 5 11 2 4 2 5 4 0 0 3 0 3
Navicula reinhardtii Grun.
8 12 14 9 9 4 3 9 5 6 0 1 3 4 2
Navicula restituta A. Schmidt
8 0 2 2 0 2 1 1 1 1 1 0 2 1 3
Navicula rhombica Greg.
8 4 3 3 5 2 1 1 1 1 1 0 2 1 3
Navicula rhynchocephala Kütz.
8 12 14 9 10 3 4 9 5 4 3 1 3 4 3
Navicula robertsiana Grev.
8 2 2 2 0 0 1 1 1 1 1 0 2 1 2
Navicula rotunda Hust.
8 12 14 9 9 4 4 0 5 8 0 1 2 4 3
Navicula rudiformis Hust.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 3

Navicula salinarum Grun.
8 8 7 4 7 2 4 2 5 0 3 4 3 4 3
Navicula salinicola Hust.
8 4 5 4 6 2 1 1 1 1 1 0 2 1 4
Navicula schoenfeldii Hust.
8 12 14 9 9 4 4 9 5 0 0 1 2 5 3
Navicula schroeterii Meister
8 12 14 9 10 3 4 0 5 4 2 1 3 4 3
Navicula scolioplеura A. Schmidt
8 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Navicula scutelloides W. Sm.
8 12 14 9 9 4 3 2 5 6 0 1 2 5 3
Navicula semen Ehr.
8 12 14 9 9 4 6 6 5 9 0 1 3 0 2
Navicula seminulum Grun.
8 12 14 9 9 4 6 2 3 2 4 1 4 4 4
Navicula seminulum var. **intermedia** Hust.
8 12 14 9 9 4 6 0 0 0 0 1 4 0 4
Navicula slesvicensis Grun.
8 10 12 7 10 3 4 0 5 4 2 1 3 0 3
Navicula soehrensis Krasske var. **hassiaca** (Krasske) Lange-Bertalot
8 14 16 11 12 4 8 7 5 8 2 1 4 4 3
Navicula soehrensis var. **muscicola** (Petersen) Krasske
8 13 14 9 9 4 8 7 5 8 2 1 4 4 3
Navicula solutepunctata Hust.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Navicula soodensis Krasske
8 0 5 4 7 2 1 1 1 1 1 0 2 1 3
Navicula spectabilis Greg.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 2
Navicula stuxbergii Cl.
8 0 0 0 0 0 0 0 0 0 0 0 2 0 3
Navicula subapiculata (Grun.) Hust.
8 0 2 2 0 2 1 1 1 1 1 0 2 1 3
Navicula subcostulata Hust. var. **avitatta** Cholnoky
8 0 14 9 0 4 0 0 5 0 0 1 2 0 3
Navicula subforcipata Hust.
7 4 2 2 3 2 1 1 1 1 1 0 2 1 3
Navicula subinflata Grun.
8 0 5 4 6 2 1 1 1 1 1 0 2 1 3
Navicula subinflatoides Hust.
6 3 2 2 3 3 1 1 1 1 1 6 2 1 3
Navicula sublucidula Hust.
8 0 14 9 0 0 0 0 5 0 0 1 3 0 4
Navicula subminuscula Manguin
8 12 14 9 9 4 5 2 0 2 4 1 3 4 4
Navicula subnympharum Hust.
8 0 14 9 9 0 0 0 5 0 0 1 2 0 4
Navicula subrhynchocepala Hust.
8 0 14 9 0 0 4 0 5 0 0 1 2 0 3
Navicula subrotundata Hust.
8 12 14 9 9 4 5 0 5 8 0 1 2 0 4
Navicula suchlandtii Hust.
8 13 14 9 9 4 0 6 5 0 0 1 2 0 4
Navicula tenelloides Hust.
8 12 14 9 8 2 4 0 5 8 2 1 4 0 3
Navicula tenera Hust.
8 6 3 3 5 2 1 1 1 1 1 0 2 1 3
Navicula tripunctata (Müll.) Bory
7 12 14 9 11 2 4 2 3 4 0 1 3 4 3
Navicula tripunctata var. **schizonemoides** (V. H.) Patr.
6 8 5 4 7 2 4 2 0 0 0 0 3 0 3
Navicula trivialis Lange-Bertalot
8 11 14 9 10 3 4 9 5 4 3 1 3 0 3

Navicula tuscula Ehr.
8 12 14 9 10 3 3 9 5 6 0 1 2 5 3
Navicula utlandshorniensis VanLandingham
8 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Navicula variostriata Krasske
8 12 14 9 10 3 7 7 5 8 0 1 3 0 3
Navicula veneta Kütz.
8 10 9 5 7 2 4 2 5 2 0 1 4 4 3
Navicula versicolor Grun.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Navicula viminoides Giffen
8 0 0 0 0 0 1 1 1 1 1 0 2 1 3
Navicula viridula (Kütz.) Ehr.
7 12 14 9 10 3 4 2 5 4 3 1 2 4 2
Navicula viridula var. **linearis** Hust.
7 12 14 9 0 0 4 2 5 0 0 1 2 0 3
Navicula viridula var. **rostellata** (Kütz.) Cl.
8 12 14 9 10 3 4 0 5 5 4 1 2 0 3
Navicula vitabunda Hust.
8 12 14 9 9 4 4 5 5 9 0 1 3 0 3
Navicula vulpina Kütz.
8 12 14 9 9 4 4 3 5 8 0 1 2 5 2
Navicula wuestii Simonsen
8 4 2 2 4 2 1 1 1 1 1 0 2 1 4
Neidium affine (Ehr.) Pfitzer
8 12 14 9 9 4 6 9 5 8 2 1 2 4 3
Neidium affine var. **longiceps** (Greg.) Cl.
8 12 14 9 9 4 6 0 5 8 0 1 3 0 3
Neidium ampliatum (Ehr.) Krammer
8 12 14 9 9 4 7 5 5 0 0 1 3 5 2
Neidium binodeforme Krammer
7 12 14 9 9 4 0 0 5 0 0 1 2 0 3
Neidium binodis (Ehr.) Hust.
8 11 14 9 0 0 5 0 5 0 0 1 3 0 3
Neidium bisulcatum (Lagerst.) Cl.
8 13 14 9 9 4 7 6 5 8 2 1 3 4 3
Neidium iridis (Ehr.) Cl.
8 12 14 9 9 4 7 4 5 8 0 1 2 5 2
Neidium productum (W. Sm.) Cl.
8 12 14 9 9 4 8 0 5 8 0 1 3 4 3
Nitzschia acuminata (W. Sm.) Grun.
8 4 3 4 3 2 1 1 1 1 1 4 2 1 2
Nitzschia adducta Hust.
8 0 0 0 0 0 0 0 0 0 0 0 2 0 3
Nitzschia aequorea Hust.
6 6 5 4 6 2 1 1 1 1 1 0 2 1 4
Nitzschia amphibia Grun.
7 12 14 9 8 2 4 2 3 4 4 1 4 4 3
Nitzschia angularis W. Sm.
8 4 3 3 4 2 1 1 1 1 1 4 2 1 3
Nitzschia angustata (W. Sm.) Grun.
8 12 14 9 8 2 4 9 5 4 0 1 2 5 3
Nitzschia angustata var. **minuta** Krasske, **N. vexans** Grun. sensu Hustedt (1957)
8 10 12 7 10 3 4 2 5 0 0 1 2 0 3
Nitzschia angusteforaminata Lange-Bertalot
8 12 14 9 0 0 0 2 0 2 0 1 2 0 4
Nitzschia apiculata (Greg.) Grun.
8 8 5 4 7 2 4 2 0 4 3 4 3 4 3
Nitzschia bilobata W. Sm.
8 8 5 4 6 2 4 2 0 0 0 0 3 0 2
Nitzschia brevissima Grun.
8 10 9 6 10 2 5 2 0 6 3 1 3 4 3
Nitzschia brittonii Hagelstein
6 2 2 2 3 3 1 1 1 1 1 0 2 1 3

Nitzschia capitellata Hust. + **N. tubicola** Grun.
7 9 9 5 11 2 5 2 2 2 0 1 3 0 3
Nitzschia capitellata var. **tenuirostris** / **N. subcapitellata** Hust.
8 8 5 0 7 2 4 0 0 2 0 0 3 0 3
Nitzschia circumsuta (Bailey) Grun.
8 8 5 4 6 2 4 2 0 0 0 0 3 0 2
Nitzschia clausii Hantzsch
8 8 5 4 6 2 4 2 0 4 2 0 3 0 3
Nitzschia coarctata Grun.
8 5 3 3 3 2 1 1 1 1 1 0 2 1 3
Nitzschia communis Rabenh.
7 12 14 9 10 3 4 0 2 2 3 1 4 4 4
Nitzschia commutata Grun.
8 8 7 4 6 2 5 2 0 6 3 0 3 4 3
Nitzschia compressa (Bailey) Boyer
8 6 5 4 7 2 1 1 1 1 1 4 2 1 2
Nitzschia constricta (Greg.) Grun.
8 5 3 3 4 2 1 1 1 1 1 4 2 1 3
Nitzschia creticola Østr.
8 10 9 5 10 3 4 0 5 0 2 1 3 0 3
Nitzschia cucumis König
8 0 0 0 0 0 0 0 0 0 0 0 2 0 3
Nitzschia cylindrus (Grun.) Hasle
3 2 2 2 4 2 1 1 1 1 1 0 2 1 3
Nitzschia debilis (Arnott) Grun.
8 10 12 7 10 3 4 2 5 0 0 1 5 4 4
Nitzschia disputata Carter
8 13 15 10 9 4 7 0 5 0 0 1 3 0 4
Nitzschia dissipata (Kütz.) Grun.
8 12 14 9 10 3 4 3 5 5 2 1 3 4 3
Nitzschia dissipatoides Archibald
8 0 3 3 3 2 1 1 1 1 1 0 2 1 4
Nitzschia distans Greg.
8 2 2 2 3 3 1 1 1 1 1 4 2 1 3
Nitzschia dubia W. Sm.
8 9 9 5 11 2 5 2 0 2 3 0 3 4 3
Nitzschia dubia var. **latestriata** Østrup
8 10 12 7 0 0 0 2 0 0 0 1 3 0 3
Nitzschia elegantula Grun.
7 9 9 5 6 2 5 0 0 0 0 0 3 0 3
Nitzschia epithemioides Grun.
8 6 5 4 7 2 1 1 1 1 1 0 2 1 4
Nitzschia fasciculata (Grun.) Grun.
8 7 6 4 6 2 1 1 1 1 1 0 2 1 3
Nitzschia filiformis (W. Sm.) V. H.
7 8 5 4 6 2 4 2 3 4 4 0 3 0 3
Nitzschia fonticola Grun.
8 12 14 9 9 4 4 2 0 6 3 1 3 4 3
Nitzschia frustulum (Kütz.) Grun.
7 9 12 7 8 2 4 2 2 6 4 1 4 4 3
Nitzschia fruticosa Hust.
2 12 14 9 9 4 6 2 0 5 3 1 2 0 4
Nitzschia gracilis Hantzsch
3 13 14 9 11 2 11 9 0 6 2 1 2 4 3
Nitzschia granulata Grun.
8 5 5 4 7 2 1 1 1 1 1 0 2 1 2
Nitzschia grunowii (Cl.) Hasle
2 2 2 2 0 0 1 1 1 1 1 1 2 1 4
Nitzschia hantzschiana Rabenh.
8 14 15 10 9 4 7 0 0 6 2 1 3 4 3
Nitzschia heufleriana Grun.
8 12 14 9 9 4 4 2 0 6 0 1 2 3 3
Nitzschia hierosolymitana D.G. Mann
8 12 14 9 0 0 0 0 5 0 0 1 5 0 4

Nitzschia homburgiensis Lange-Bertalot
8 13 15 10 9 4 6 4 5 6 0 1 2 0 3
Nitzschia hungarica Grun.
8 9 5 4 7 2 4 2 0 4 4 1 3 4 3
Nitzschia hustedtiana Salah
8 7 5 4 6 2 1 1 1 1 1 0 2 1 3
Nitzschia hybrida Grun.
8 6 5 4 6 2 1 1 1 1 1 0 2 1 3
Nitzschia incrustans Grun.
8 0 3 3 0 2 1 1 1 1 1 0 2 1 3
Nitzschia incurva Grun.
8 7 5 4 6 2 1 1 1 1 1 0 2 1 3
Nitzschia incurva var. **lorenziana** (Grun.) Ross
8 7 5 4 7 2 1 1 1 1 1 0 2 1 3
Nitzschia intermedia Hantzsch
5 12 14 9 9 4 5 2 2 5 0 1 2 0 3
Nitzschia kerguelensis (O'Meara) Hasle
2 2 2 2 0 0 1 1 1 1 1 1 2 1 3
Nitzschia laevis Hust.
8 8 5 4 7 2 4 2 0 0 0 0 3 0 4
Nitzschia lanceolata W. Sm.
7 8 5 4 7 2 4 2 0 0 0 0 3 0 3
Nitzschia levidensis (W. Sm.) Grun.
8 10 9 5 10 2 5 2 5 4 3 1 3 4 3
Nitzschia levidensis var. **vicoriae** (Grun.) Cholnoky
8 10 12 7 10 2 4 2 5 4 0 1 3 0 2
Nitzschia linearis (Ag.) W. Sm.
8 13 14 9 10 4 5 3 5 5 2 1 3 3 3
Nitzschia linkei Hust.
8 6 6 4 6 2 1 1 1 1 1 0 2 1 3
Nitzschia littoralis Grun.
8 9 9 5 6 2 4 2 5 0 3 0 3 0 3
Nitzschia littoralis var. **tergestina** Grun.
8 9 9 5 6 2 4 2 5 0 0 0 3 0 2
Nitzschia microcephala Grun.
8 10 12 7 11 2 3 2 2 4 3 1 3 4 4
Nitzschia nana Grun.
8 10 9 5 6 2 5 0 0 6 0 0 4 0 3
Nitzschia navicularis (Bréb.) Grun.
8 7 5 4 6 2 1 1 1 1 1 4 2 1 3
Nitzschia normannii Grun.
8 0 3 3 0 2 1 1 1 1 1 0 2 1 3
Nitzschia obtusa W. Sm.
8 8 5 4 6 2 4 2 5 0 0 0 3 0 3
Nitzschia palea (Kütz.) W. Sm.
7 12 14 9 8 2 5 2 2 2 3 1 4 4 3
Nitzschia palea var. **debilis** (Kütz.) Grun.
7 12 14 9 8 2 0 0 0 0 0 1 3 0 4
Nitzschia palea var. **tenuirostris** sensu Lange-Bertalot (1977)
7 12 14 9 0 0 5 2 2 0 0 1 2 0 3
Nitzschia paleacea (Grun.) Grun.
7 12 14 9 10 3 5 3 0 3 3 1 3 4 4
Nitzschia palustris Hust.
8 14 14 9 9 4 7 0 5 8 0 1 4 0 3
Nitzschia panduriformis Greg.
8 3 2 2 4 2 1 1 1 1 1 4 2 1 3
Nitzschia pellucida Grun.
8 0 3 3 0 2 1 1 1 1 1 0 2 1 3
Nitzschia perversa Grun.
8 6 6 4 6 2 1 1 1 1 1 0 2 1 3
Nitzschia recta Hantzsch
7 13 14 9 9 4 4 9 5 6 2 1 2 4 3
Nitzschia rosenstockii Lange-Bertalot
8 9 9 5 0 2 0 0 0 0 0 1 2 0 4

Nitzschia ruda Cholnoky
8 0 0 0 0 0 0 0 0 0 0 0 2 0 4
Nitzschia scalaris (Ehr.) W. Sm.
8 9 5 4 6 2 4 2 0 0 0 1 2 0 2
Nitzschia scalpelliformis (Grun.) Grun.
8 7 5 4 7 2 1 1 1 1 1 0 2 1 3
Nitzschia sigma (Kütz.) W. Sm.
8 7 5 4 7 2 4 2 0 4 3 4 3 0 3
Nitzschia sigma var. **sigmatella** Grun.
8 0 5 4 6 2 4 2 0 0 0 0 3 0 3
Nitzschia sigmoidea (Nitzsch) W. Sm.
8 12 14 9 10 3 4 3 5 5 4 1 3 4 2
Nitzschia silicula Hust.
8 0 0 0 0 0 0 0 0 0 0 0 2 0 3
Nitzschia sinuata (Thwaites) Grun.
7 12 14 9 9 4 4 0 5 5 2 1 3 4 3
Nitzschia sinuata var. **delognei** (Grun.) Lange-Bertalot
8 12 14 9 9 4 4 0 5 5 0 1 3 3 3
Nitzschia socialis Greg.
6 2 2 2 3 2 1 1 1 1 1 0 2 1 3
Nitzschia spathulata Bréb.
8 3 2 2 3 2 1 1 1 1 1 4 2 1 3
Nitzschia steenbergensis Giffen
8 0 0 0 0 0 0 0 0 0 0 0 2 0 3
Nitzschia supralitorea Lange-Bertalot
8 12 14 9 9 4 2 0 0 4 0 1 3 0 3
Nitzschia terrestris (Petersen) Hust.
8 12 14 9 9 4 6 0 5 0 2 1 4 0 3
Nitzschia thermaloides Hust.
8 8 5 4 0 2 4 2 0 0 0 0 3 0 3
Nitzschia tryblionella Hantzsch
8 10 9 5 11 2 4 2 5 4 3 4 3 4 2
Nitzschia umbonata (Ehr.) Lange-Bertalot
8 11 13 8 10 3 5 2 2 2 4 1 3 5 3
Nitzschia vermicularis (Kütz.) Hantzsch
8 12 14 9 9 4 4 3 5 6 0 1 3 4 3
Nitzschia vitrea Norman
8 8 5 4 7 2 4 2 5 0 0 0 3 5 3
Nitzschia vitrea var. **salinarum** Grun.
8 8 5 4 7 2 4 2 5 0 0 0 4 0 3
Nitzschia vitrea var. **scaphiformis** Wisl. & Poretz.
8 8 5 4 7 2 4 2 5 0 0 0 3 0 3
Odontella aurita (Lyngb.) Ag.
5 2 2 2 3 2 1 1 1 1 1 4 2 1 3
Odontella granulata (Roper) Ross
3 2 2 2 3 3 1 1 1 1 1 0 2 1 2
Odontella mobiliensis (Bailey) Grun.
3 2 2 2 3 2 1 1 1 1 1 0 2 1 3
Odontella obtusa Kütz.
3 2 2 2 3 2 1 1 1 1 1 4 2 1 3
Odontella regia (Schultze) Simonsen
2 2 2 2 4 2 1 1 1 1 1 1 2 1 3
Odontella rhombus (Ehr.) Kütz.
3 2 2 2 4 2 1 1 1 1 1 4 2 1 2
Oestrupia zachariasii (Reichelt) Hust.
8 12 14 9 9 4 4 0 5 0 0 1 2 0 3
Opephora marina (Greg.) Petit + var. **minuta** Cl.-E. + **O. pacifica** (Grun.) Petit
6 4 2 2 5 2 1 1 1 1 1 4 2 1 3
Opephora martyi Hérib.
6 12 14 9 0 0 4 3 5 8 0 1 2 5 3
Opephora olsenii Möller
6 7 5 4 6 2 1 1 1 1 1 0 2 1 3
Opephora parva (Grun.) Krasske
6 5 3 3 4 2 1 1 1 1 1 0 2 1 3

Opephora schwartzii (Grun.) Petit
6 2 2 2 4 2 1 1 1 1 1 0 2 1 2
Opephora schulzii (Brockmann) Simonsen
6 7 5 4 6 2 1 1 1 1 1 4 2 1 3
Orthosira epidendron (Ehr.) Round, Crawford & Mann
8 12 14 9 0 3 5 0 5 8 2 1 5 4 3
Paralia ornata Grun.
0 2 2 2 0 0 1 1 1 1 1 0 2 0 2
Paralia sulcata (Ehr.) Cl.
5 3 2 2 4 2 1 1 1 1 1 4 2 1 2
Peronia fibula (Bréb.) Ross
6 14 16 11 12 4 8 6 5 9 2 1 3 0 3
Pinnularia acoricola Hust.
8 12 14 9 9 4 8 0 5 8 4 1 4 4 3
Pinnularia acrosphaeria Rabenh.
8 13 14 9 9 4 6 7 5 8 3 1 3 4 2
Pinnularia aestuarii Cl.
8 9 9 5 0 0 4 0 5 0 0 1 2 0 2
Pinnularia ambigua Cl.
8 4 2 2 4 2 1 1 1 1 1 4 2 1 3
Pinnularia appendiculata (Ag.) Cl.
8 14 16 11 12 4 7 6 5 8 4 1 4 4 3
Pinnularia appendiculata 'var.' **irrorata** Grun.
8 13 15 10 12 4 8 7 5 9 2 1 5 4 3
Pinnularia borealis Ehr.
8 12 14 9 9 4 8 4 5 8 0 1 5 4 3
Pinnularia brauniana (Grun.) Cl.
8 13 15 10 12 4 8 7 5 8 0 1 2 4 3
Pinnularia brauniana var. **amphicephala** (Mayer) Hust.
8 13 15 10 12 4 7 7 5 8 0 1 2 4 3
Pinnularia brevicostata Cl.
8 13 15 10 12 4 7 7 5 8 0 1 3 4 3
Pinnularia cardinalis (Ehr.) W. Sm.
8 13 15 10 12 4 8 7 5 8 0 1 2 0 2
Pinnularia cruciformis (Donk.) Cl.
8 3 2 2 3 2 1 1 1 1 1 4 2 1 3
Pinnularia dactylus Ehr.
8 13 15 10 9 4 7 6 5 0 4 1 2 0 2
Pinnularia divergens W. Sm.
8 14 16 11 12 4 7 6 5 9 0 1 3 0 2
Pinnularia divergentissima (Grun.) Cl.
8 14 16 11 12 4 8 6 5 0 0 1 4 0 3
Pinnularia ergadensis Greg.
8 2 2 2 3 3 1 1 1 1 1 0 2 1 2
Pinnularia gentilis (Donk.) Cl.
8 13 14 9 9 4 7 6 5 8 0 1 3 5 2
Pinnularia gibba Ehr.
8 13 14 9 9 4 7 9 5 4 4 1 3 4 3
Pinnularia gibba var. **linearis** Hust.
8 13 14 9 9 4 7 10 5 4 4 1 3 4 3
Pinnularia gibba var. **mesongyla** (Ehr.) Hust.
8 13 14 9 9 4 7 9 5 0 4 1 3 0 3
Pinnularia globiceps Greg.
8 11 13 8 10 3 4 0 5 0 0 1 3 0 3
Pinnularia hemiptera (Kütz.) Rabenh.
8 13 15 10 12 4 7 6 5 9 2 1 4 0 2
Pinnularia intermedia (Lagerst.) Cl.
8 14 15 10 12 4 7 9 5 9 0 1 5 4 3
Pinnularia interrupta W. Sm.
8 12 14 9 9 4 7 6 5 8 3 1 4 4 3
Pinnularia krockii (Grun.) Cl.
8 10 12 7 10 2 4 0 5 8 0 1 3 0 3
Pinnularia lagerstedtii (Cl.) Cl.-E.
8 13 15 10 12 4 6 6 5 9 0 1 4 0 3

Pinnularia lata (Bréb.) W. Sm.
8 14 16 11 12 4 8 6 5 9 2 1 5 0 2
Pinnularia legumen (Ehr.) Ehr. + **P. subsolaris** (Grun.) Cl.
8 14 15 10 12 4 7 6 5 9 0 1 3 0 2
Pinnularia lundii Hust.
8 11 13 8 10 3 5 0 5 0 0 1 2 0 3
Pinnularia major (Kütz.) W. Sm.
8 12 14 9 9 3 7 10 5 6 2 1 3 4 2
Pinnularia microstauron (Ehr.) Cl.
8 13 14 9 9 4 7 6 5 8 3 1 4 4 3
Pinnularia microstauron var. **brebissonii** (Kütz.) Mayer
8 12 14 9 9 4 6 0 5 3 3 1 4 4 3
Pinnularia nobilis (Ehr.) Ehr.
8 14 15 10 12 4 8 7 5 8 0 1 3 4 2
Pinnularia nodosa (Ehr.) W. Sm.
8 14 15 10 12 4 7 7 5 8 0 1 3 4 3
Pinnularia obscura Krasske
8 13 14 9 9 4 7 0 5 7 2 1 5 4 3
Pinnularia pulchra Østr.
8 14 14 9 9 4 7 6 5 0 0 1 3 0 3
Pinnularia pulchra var. **angusta** (Cl.) Krammer
8 14 15 10 12 4 7 6 5 0 0 1 3 4 3
Pinnularia rectangulata (Greg.) Rabenh.
8 2 2 2 3 3 1 1 1 1 1 4 2 1 2
Pinnularia schroederii (Hust.) Cholnoky
8 12 14 9 9 3 11 0 5 8 0 1 4 4 3
Pinnularia similis Hust.
8 14 15 10 12 4 7 6 5 0 0 1 4 0 3
Pinnularia stauntonii (Grun.) Cl.
8 2 2 2 0 0 1 1 1 1 1 0 2 1 2
Pinnularia stomatophora (Grun.) Cl.
8 14 16 11 12 4 7 6 5 9 2 1 3 4 2
Pinnularia streptoraphe Cl. var. **minor** (Cl.) Cl.
8 14 16 11 12 4 8 7 5 9 0 1 3 0 2
Pinnularia subcapitata Greg.
8 14 14 9 9 4 8 7 5 8 3 1 4 4 3
Pinnularia subcapitata var. **hilseana** (Janisch) Müll.
8 14 16 11 12 4 8 7 5 8 3 1 4 4 3
Pinnularia subrostrata (Cl.) Cl.-E.
8 14 16 11 12 4 8 7 5 9 0 1 3 0 3
Pinnularia sudetica (Hilse) M. Perag.
8 14 14 9 9 4 7 6 5 8 0 1 4 4 3
Pinnularia trevelyana (Donk.) Rabenh.
8 2 2 2 3 3 1 1 1 1 1 4 2 1 2
Pinnularia viridis (Nitzsch) Ehr.
8 12 14 9 10 3 6 4 5 4 3 1 4 4 2
Plagiogramma laeve (Greg.) Ralfs
6 2 2 2 3 3 1 1 1 1 1 0 2 1 4
Plagiogramma minimum Salah
6 0 5 4 0 2 1 1 1 1 1 0 2 1 4
Plagiogramma parallelum Salah
6 0 5 4 0 2 1 1 1 1 1 0 2 1 4
Plagiogramma pygmaeum Grev.
6 2 2 2 0 0 1 1 1 1 1 0 2 1 2
Plagiogramma sigmoideum Salah
6 0 5 4 0 2 1 1 1 1 1 0 2 1 4
Plagiogramma staurophorum (Greg.) Heiberg
6 3 2 2 3 2 1 1 1 1 1 4 2 1 2
Plagiogrammopsis vanheurckii (Grun.) Hasle, von Stosch & Syvertsen
3 2 2 2 0 0 1 1 1 1 1 0 2 1 4
Pleurosigma aestuarii (Bréb.) W. Sm.
8 4 5 5 4 2 1 1 1 1 1 2 2 1 4
Pleurosigma angulatum (Quekett) W. Sm.
8 4 2 2 5 2 1 1 1 1 1 2 2 1 4

Pleurosigma clevei Grun.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 4
Pleurosigma elongatum W. Sm.
4 7 5 4 7 2 1 1 1 1 1 0 2 1 4
Pleurosigma formosum W. Sm.
8 2 2 2 3 3 1 1 1 1 1 0 2 1 3
Pleurosigma marinum Donk.
8 2 2 2 3 3 1 1 1 1 1 4 2 1 3
Pleurosigma normanii Ralfs
8 2 2 2 3 2 1 1 1 1 1 4 2 1 3
Pleurosira laevis (Ehr.) Compère
3 9 7 4 7 2 2 2 5 8 0 1 3 0 3
Pleurosira laevis f. polymorpha Compère
3 4 3 3 3 2 1 1 1 1 1 0 2 1 3
Podosira hormoides (Mont.) Kütz.
3 3 2 2 3 2 1 1 1 1 1 4 2 1 3
Podosira montagnei Kütz.
3 4 2 2 3 2 1 1 1 1 1 4 2 1 2
Podosira stelligera (Bailey) A. Mann
3 2 2 2 4 2 1 1 1 1 1 4 2 1 2
Progonoia musca (Greg.) Schrader
8 2 2 2 0 0 1 1 1 1 1 0 2 1 2
Psammodiscus nitidus (Greg.) Round & Mann
3 2 2 2 3 2 1 1 1 1 1 0 2 1 3
Pseudopodosira westii (W. Sm.) Sheshukova-Poretzskaya
4 3 3 3 5 2 1 1 1 1 1 0 2 1 2
Rhabdonema adriaticum Kütz.
6 2 2 2 3 3 1 1 1 1 1 6 2 1 2
Rhabdonema arcuatum (Lyngb.) Kütz.
6 2 2 2 4 2 1 1 1 1 1 4 2 1 2
Rhabdonema crassum Hendey
6 2 2 2 0 0 1 1 1 1 1 0 2 1 3
Rhabdonema minutum Kütz.
6 2 2 2 3 2 1 1 1 1 1 4 2 1 2
Rhaphoneis amphiceros Ehr.
6 4 2 2 3 2 1 1 1 1 1 2 2 1 3
Rhaphoneis minutissima Hust.
6 4 2 2 3 2 1 1 1 1 1 0 2 1 3
Rhaphoneis nitida (Greg.) Grun.
6 2 2 2 3 3 1 1 1 1 1 0 2 1 2
Rhizosolenia calcar-avis Schultze
2 2 2 2 0 0 1 1 1 1 1 1 2 1 2
Rhizosolenia hebetata Bailey f. **hiemalis** Gran
2 2 2 2 3 3 1 1 1 1 1 1 2 1 3
Rhizosolenia hebetata f. semispina (Hensen) Gran
2 2 2 2 3 3 1 1 1 1 1 1 2 1 3
Rhizosolenia imbricata Brightw.
2 2 2 2 0 0 1 1 1 1 1 1 2 1 3
Rhizosolenia setigera Brightw.
2 2 2 2 3 2 1 1 1 1 1 1 2 1 3
Rhizosolenia shrubsolei Cl.
2 2 2 2 4 2 1 1 1 1 1 1 2 1 3
Rhoicosphenia abbreviata (Ag.) Lange-Bertalot
6 11 13 8 8 2 4 2 5 4 2 1 3 3 3
Rhoicosphenia marina M. Schmidt
6 4 2 2 3 3 1 1 1 1 1 4 2 1 3
Rhoicosphenia pullus M. Schmidt
6 4 2 2 3 3 1 1 1 1 1 0 2 1 3
Rhopalodia acuminata Krammer
6 8 5 4 7 2 2 2 5 0 0 4 2 0 3
Rhopalodia brebissonii Krammer
6 9 8 5 7 2 4 0 5 0 0 0 3 0 3
Rhopalodia constricta Krammer
6 8 5 4 6 2 4 2 5 0 4 4 2 0 3

Rhopalodia constricta + **R. musculus** (Kütz.) Müller
6 8 5 4 7 2 4 2 5 0 4 4 2 0 3
Rhopalodia dubia (H. & M. Perag.) Paddock & Sims
8 4 3 3 3 2 1 1 1 1 1 0 2 1 3
Rhopalodia gibba (Ehr.) Müll. + var. **ventricosa** (Kütz.) H. & M. Perag.
6 12 14 9 11 2 4 2 5 6 4 1 3 4 3
Roperia tesselata (Roper) Grun.
2 2 2 2 0 0 1 1 1 1 1 1 2 1 3
Sceptroneis caduceus Ehr.
6 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Scoliopleura brunkseiensis Hendey
8 6 5 4 6 2 1 1 1 1 1 0 2 1 3
Scoliopleura tumida (Bréb.) Rabenh.
8 6 5 4 6 2 1 1 1 1 1 2 2 1 2
Scoliotropis latestriata (Bréb.) Cl.
8 2 2 2 3 2 1 1 1 1 1 4 2 1 3
Skeletonema costatum (Grev.) Cl.
4 4 3 3 5 2 1 1 1 1 1 0 2 1 4
Stauroneis acuta W. Sm.
8 13 14 9 9 4 4 9 5 8 0 1 3 4 2
Stauroneis africana Cl.
8 7 5 4 6 2 1 1 1 1 1 0 2 1 3
Stauroneis agrestis Petersen
8 12 14 9 0 0 6 0 5 0 0 1 4 0 4
Stauroneis amphioxys Greg.
8 6 5 4 7 2 1 1 1 1 1 0 2 1 3
Stauroneis amphioxys var. **obtusa** Hendey
8 6 5 4 7 2 1 1 1 1 1 0 2 1 3
Stauroneis anceps Ehr.
8 13 14 9 9 4 6 9 5 6 3 1 4 4 3
Stauroneis anceps f. **gracilis** Rabenh.
8 13 14 9 9 4 7 9 5 0 3 1 4 4 3
Stauroneis borrichii (Petersen) Lund
8 12 14 9 9 4 6 0 5 9 2 1 5 0 3
Stauroneis dahomensis Hust.
8 13 14 9 9 4 6 0 5 8 0 1 3 0 3
Stauroneis dubitabilis Hust.
8 6 5 4 7 2 1 1 1 1 1 0 2 1 3
Stauroneis elata Hust.
8 0 5 4 0 2 1 1 1 1 1 0 2 1 4
Stauroneis lauenburgiana Hust.
8 12 14 9 0 0 4 0 5 9 0 1 2 0 3
Stauroneis legumen (Ehr.) Kütz.
8 12 14 9 10 3 5 2 5 9 0 1 3 4 3
Stauroneis lundii Hust.
8 12 14 9 9 4 6 0 5 0 2 1 4 0 3
Stauroneis muriella Lund
8 12 14 9 9 4 0 0 5 0 0 1 5 0 3
Stauroneis obtusa Lagerst.
8 13 14 9 9 4 8 0 5 0 2 1 4 4 3
Stauroneis phoenicenteron (Nitzsch) Ehr.
8 12 14 9 10 3 6 9 5 4 4 1 3 4 2
Stauroneis prominula (Grun.) Hust.
8 12 14 9 10 3 5 0 5 0 0 1 3 4 3
Stauroneis rossii Hendey
8 0 2 2 0 0 1 1 1 1 1 0 2 1 4
Stauroneis salina W. Sm.
8 5 3 3 4 2 1 1 1 1 1 4 2 1 3
Stauroneis smithii Grun.
8 12 14 9 10 3 4 2 5 0 2 1 3 4 3
Stauroneis spicula Hickie
8 6 5 4 6 2 1 1 1 1 1 0 2 1 3
Stauroneis tackei (Hust.) Krammer & Lange-Bertalot
8 12 14 9 0 0 0 0 5 0 0 1 3 0 3

Stauroneis thermicola (Petersen) Lund
8 12 14 9 9 4 7 6 5 9 2 1 5 4 3
Stauroneis wislouchii Poretz. & Anisimova
8 0 5 4 6 2 0 0 5 0 0 4 2 0 3
Stephanodiscus hantzschii Grun.
2 12 14 9 10 3 3 2 3 2 3 1 2 4 4
Stephanodiscus rotula (Kütz.) Hendey
2 12 14 9 9 3 3 2 5 6 0 1 2 4 3
Stephanodiscus rotula var. **minutula** (Kütz.) Ross & Sims
2 12 14 9 9 4 3 2 0 0 0 1 3 4 3
Stephanopyxis turris (Grev. & Arnott) Ralfs
2 2 2 2 2 4 1 1 1 1 1 1 2 1 2
Striatella delicatula (Kütz.) Grun.
6 2 2 2 3 2 1 1 1 1 1 6 2 1 4
Surirella amphioxys W. Sm.
8 9 12 7 10 3 6 2 5 6 4 1 3 4 3
Surirella angusta Kütz.
8 12 14 9 9 4 4 9 5 4 0 1 4 4 3
Surirella atomus Hust.
8 0 5 4 6 2 1 1 1 1 1 0 2 1 4
Surirella biseriata Bréb.
8 12 14 9 9 4 4 2 5 6 4 1 2 5 2
Surirella brebissonii Krammer & Lange-Bertalot var. **kuetzingii** Krammer & Lange-Bertalot
8 11 13 8 8 2 4 2 5 4 4 1 4 4 3
Surirella brightwellii W. Sm. var. **baltica** (Schumann) Krammer
8 0 7 4 0 2 4 2 5 0 0 0 3 0 3
Surirella comis A. Schmidt
8 2 2 2 0 0 1 1 1 1 1 0 2 1 2
Surirella crumena Bréb.
8 10 12 7 10 3 4 2 5 0 3 1 3 0 3
Surirella fastuosa Ehr.
8 3 3 3 3 2 1 1 1 1 1 0 2 1 2
Surirella gemma Ehr.
8 6 6 4 6 2 1 1 1 1 1 4 2 1 4
Surirella hispida Ross & Abdin
8 0 5 4 6 2 1 1 1 1 1 0 2 1 3
Surirella linearis W. Sm.
8 12 14 9 9 4 7 5 5 6 4 1 3 4 3
Surirella linearis var. **helvetica** (Brun) Meister
8 12 14 9 9 4 6 5 5 0 0 1 3 4 3
Surirella minima Ross & Abdin
8 0 5 4 6 2 1 1 1 1 1 0 2 1 4
Surirella minuta Bréb.
8 12 14 9 10 3 4 2 5 0 4 1 3 4 3
Surirella ovalis Bréb.
8 8 5 4 7 2 4 2 5 4 4 4 3 4 3
Surirella recedens A. Schmidt
8 0 3 3 0 2 1 1 1 1 1 0 2 1 3
Surirella robusta Ehr.
8 12 14 9 9 4 6 9 5 0 4 1 2 5 2
Surirella striatula Turpin
8 8 7 4 6 2 4 2 5 0 0 0 3 0 3
Surirella tenera Greg.
8 12 14 9 9 4 4 9 5 6 4 1 2 5 2
Surirella venusta Østrup
8 0 0 0 0 0 0 0 0 0 0 0 2 0 3
Synedra acus Kütz.
3 12 14 9 9 4 4 3 5 4 3 1 2 4 4
Synedra capitata Ehr.
6 12 14 9 9 4 4 3 5 6 0 1 2 5 3
Synedra crystallina (Ag.) Kütz.
6 4 3 3 4 2 1 1 1 1 1 6 2 1 3
Synedra fasciculata (Ag.) Kütz. + var. **truncata** (Grev.) Patr.
6 8 5 4 7 2 4 2 5 6 0 4 3 4 3

Synedra gaillonii (Bory) Ehr.
6 4 3 3 5 2 1 1 1 1 1 4 2 1 3
Synedra hyperborea Grun.
6 0 2 2 0 0 1 1 1 1 1 0 2 1 4
Synedra investiens W. Sm.
6 4 2 2 3 2 1 1 1 1 1 0 2 1 3
Synedra laevigata Grun. var. **hyalina** Grun.
6 0 2 2 0 2 1 1 1 1 1 0 2 1 4
Synedra parasitica (W. Sm.) Hust.
6 12 14 9 9 4 4 3 5 4 0 1 2 4 3
Synedra parasitica var. **subconstricta** (Grun.) Hust.
6 12 14 9 9 4 4 3 5 4 0 1 2 4 3
Synedra pulchella Ralfs
6 9 5 4 7 2 4 2 5 4 0 4 4 4 3
Synedra pulchella var. **naviculacea** Grun.
6 9 5 4 7 2 4 2 5 4 0 4 4 4 3
Synedra ulna (Nitzsch) Ehr. + var. **spathulifera** (Grun.) V. H.
6 12 14 9 10 3 5 2 5 4 0 1 3 4 3
Synedra ulna var. **oxyrhynchus** (Kütz.) V. H.
6 12 14 9 10 3 5 2 5 6 0 1 3 4 3
Synedra undulata Bailey
6 2 2 2 3 3 1 1 1 1 1 6 2 1 3
Tabellaria fenestrata (Lyngb.) Kütz.
3 13 14 9 9 4 6 5 5 6 0 1 3 4 3
Tabellaria flocculosa (Roth) Kütz.
3 14 16 11 12 4 8 7 5 8 0 1 3 4 3
Thalassionema nitzschioides (Grun.) Grun.
2 3 2 2 4 2 1 1 1 1 1 1 2 1 3
Thalassiosira baltica (Grun.) Ostenf.
2 8 5 4 6 2 1 1 1 1 1 1 2 1 3
Thalassiosira bramaputrae (Ehr.) Håkansson & Locker
4 10 7 4 6 2 4 9 5 6 3 0 2 4 3
Thalassiosira decipiens (Grun.) Jørgensen
3 3 3 3 4 2 1 1 1 1 1 0 2 1 3
Thalassiosira eccentrica (Ehr.) Cl.
3 4 2 2 4 2 1 1 1 1 1 0 2 1 3
Thalassiosira eccentrica var. **fasciculata** (Hust.) Nizamuddin
3 4 3 3 4 2 1 1 1 1 1 0 2 1 3
Thalassiosira gravida Cl.
2 2 2 2 4 2 1 1 1 1 1 1 2 1 3
Thalassiosira leptopa (Grun.) Hasle & Fryxell
4 2 2 2 3 3 1 1 1 1 1 0 2 1 3
Thalassiosira levanderi van Goor
3 8 7 4 0 0 4 2 5 0 0 0 2 0 4
Thalassiosira nordenskioeldii Cl.
2 2 2 2 3 3 1 1 1 1 1 1 2 1 4
Thalassiosira oestrupii (Ostenf.) Hasle
2 2 2 2 0 0 1 1 1 1 1 1 2 1 3
Thalassiosira subtilis (Ostenf.) Gran
2 2 2 2 3 3 1 1 1 1 1 1 2 1 4
Thalassiosira weissflogii (Grun.) Fryxell & Hasle
2 10 12 7 7 2 4 0 5 0 0 1 2 4 4
Thalassiothrix frauenfeldii (Grun.) Grun.
2 2 2 2 3 3 1 1 1 1 1 1 2 1 3
Trachyneis antillarum Cl.
8 2 2 2 3 2 1 1 1 1 1 0 2 1 2
Trachyneis aspera (Ehr.) Cl.
8 2 2 2 3 2 1 1 1 1 1 4 2 1 2
Trachysphenia acuminata M. Perag.
6 0 2 2 0 0 1 1 1 1 1 0 2 1 3
Trachysphenia australis Petit
6 5 3 3 4 2 1 1 1 1 1 0 2 1 3
Trachysphenia australis var. **rostellata** Hust.
6 0 3 3 0 2 1 1 1 1 1 0 2 1 3

Triceratium antediluvianum (Ehr.) Grun.
6 2 2 2 0 3 1 1 1 1 1 0 2 1 2
Triceratium favus Ehr.
4 2 2 2 0 3 1 1 1 1 1 0 2 1 2
Tropidoneis elegans (W. Sm.) Cl.
8 2 2 2 3 3 1 1 1 1 1 0 2 1 3
Tropidoneis lepidoptera (Greg.) Cl.
8 3 2 2 4 2 1 1 1 1 1 4 2 1 3
Tropidoneis pusilla (Greg.) Cl.
8 0 2 2 0 0 1 1 1 1 1 0 2 1 4

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Appendix 1: abbreviations used in parts II-VII.

-biont.: -biontic
-indif.: indifferent
-lob.: -lobous
-neut.: -neutral
-phil.: -philous
-phyt.: -phytic
-saprob.: -saprobic
-troph.: -trophic
-xen.: -xenous
Sopt.: optimal salinity (idem for pH)
Smin., Smax.,: minimal and maximal salinity (idem for pH)
AWM: abundance weighted mean
MHW: mean high water
MLW: mean low water
M, B, F: marine, brackish, fresh (cfr. halobion classification of Van der Werff)
?: indicates that the source author expresses doubt
>: more or equal
<: less or equal