

Annotated list of diatom names by Horst Lange-Bertalot and co-workers

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Abstract

Kusber, W.-H. & Jahn, R. 2002 (2. August 2002): Annotated list of diatom names by Horst Lange-Bertalot and co-workers. – Version 2.0. [http://www.algaterra.org/Names_Version2_0.pdf].

The aim of this paper is to facilitate access to new diatom names of taxa described, combined or renamed by H. Lange-Bertalot and co-workers. These genera, subgenera, species, subspecies, varieties, and formae are listed in alphabetical order. For each name the page of the protologue and the figure is cited. New combinations are followed by the basionym, substitute names by the replaced name. Comments are given in square brackets.

Introduction

Since 1976 H. Lange-Bertalot is publishing papers with new diatom names. Lange-Bertalot and his co-workers (colleagues and students) have built up a network of related diatom names and taxonomic concepts by cross-referencing comments, corrections, and emendations. This seems to be hermetical for those not familiar with the complete output of the "Lange-Bertalot-School". The aim of this paper is to facilitate access to these names.

The basis for this compilation are the two papers by Metzeltin & Kusber (2001) and Kusber & Metzeltin (2001), improved by Prof. H. Lange-Bertalot (Frankfurt, proof reading and contribution to validations) and by Prof. Dr. W. Greuter and Dr. N. Kilian (both BGBM Berlin, discussions on nomenclatural problems).

Nomenclatural comments follow the [St. Louis Code](#) (Greuter et al. 2000). Author names were standardized according to Brummitt & Powell (1992). Those authors not included in this standard list will be reported to the IPNI-database [<http://www.ipni.org/index.html>]. All data is also made available to the algae names projects at Berkeley University (Index Nominum Algarum, University Herbarium, University of California, Berkeley. Compiled by Paul Silva. Available online at [<http://ucjeps.herb.berkeley.edu/INA.html>]) and the California Academy of Science (Diatom genus project, Fourtanier & Kociolek 1999, available online at [<http://www.calacademy.org/research/diatoms/genproject/index.html>]).

Since this list is work in progress it will be maintained and successively updated at the BGBM Berlin [<http://www.bgbm.org>]. Major corrections and supplementary information will lead to new versions of this list. For special interest, older versions will be available in an electronic archive. A paper print out of each version will be deposited at the BGBM Library.

This list is part of the data services provided by AlgaTerra [<http://www.algaterra.org/default.htm>], a BMBF funded project within the [BIOLOG-Program](#). These data are evaluated in order to provide full protologue information of selected data subsets, which will be available in 2004 within the *AlgaTerra* Information System.

The version 2.0 includes about half of the data of Kusber & Metzeltin (2001), ten publications are newly evaluated (Krammer 1980, 1981, Maidana et al. 2002, Reichardt 1984, 1997, Witkowski 1991, 1993 a-c, Wydrzycka & Lange-Bertalot 2001).

In the version 2.0 several changes are made to facilitate access. Standardized phrases:

"≡" indicates that a name is a nomenclatural synonym (i.e. homotypic synonym, based on the same nomenclatural type).

"Replaced synonym" indicates that the following name is a homotypic synonym (≡), which was either published illegitimately or would have resulted in an illegitimate name in a new combination.

"Basionym" is the name bearing homotypic synonym (≡).

"[Nomenclatural synonym of ...]" refers to a later homotypic synonym of this name (≡).

"=" indicates that a name is a taxonomic synonym (i.e. heterotypic synonym, based on a different type). This subjective synonym is referenced.

"[Taxonomic synonym of ...]" refers to a later heterotypic synonym of this name (=). This subjective synonym is referenced.

"-" indicates a corresponding name, invalidly published (incl. so called "manuscript names").

To ensure data consistency, simultaneously with the version 2.0 [http://www.algaterra.org/Version2_0.pdf], a draft of version 2.0 is published on the web [http://www.algaterra.org/Version2_0_Draft.pdf]. This "draft" differs from the original version by indicating all changes in this version in different colours. Red colour: new datasets, green colour: revised datasets from Kusber & Metzeltin (2001); blue colour: changes due to editing including standardization and correction of typographical errors.

Diatom names in alphabetical order

***ACHNANTHEIOPSIS* Lange-Bert.**, Arch. Protistenk 148, p. 200-201 (1997). [Typus generis: *Achnantheiopsis lanceolata* (Bréb.) Lange-Bert., Arch. Protistenk 148, p. 207 (1997). Comment: see http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=999].

Achnantheiopsis apiculata (R.M.Patrick) Lange-Bert., Arch. Protistenk. 148, p. 206 (1997).
Basionym: *Achnanthes lanceolata* var. *apiculata* R.M. Patrick, Farlowia 2, p. 167, pl. 1: figs 4-5 (1945).
[Nomenclatural synonym of *Planothidium apiculatum* (R.M.Patrick) Lange-Bert.]

Achnantheiopsis aueri (Krasske) Lange-Bert., Arch. Protistenk. 148, p. 206 (1997).
Basionym: *Achnanthes aueri* Krasske, Ann. Acad. Scient. Fenn. Ser. A. IV. Biol. 14, p. 77, pl. 86: figs 23-32 (1949).
[Nomenclatural synonym of *Planothidium aueri* (Krasske) Lange-Bert.]

Achnantheiopsis biporoma (M.H.Hohn et Hellerman) Lange-Bert., Arch. Protistenk. 148, p. 206 (1997).
Basionym: *Achnanthes biporoma* M.H.Hohn et Hellerman, Trans. Amer. Microscop. Soc. 82, p. 273, pl. 2: figs 5-6 (1963).
[Nomenclatural synonym of *Planothidium biporomum* (M.H.Hohn et Hellerman) Lange-Bert.]
[Comment: Erroneously Trans. Amer. Microscop. Soc. "80" is cited in Arch. Protistenk. 148, p. 206 (1997).]

Achnantheiopsis borneolanceolata Lange-Bert., Arch. Protistenk 148, p. 208, (1997). [*Achnantheiopsis borneolanceolata* Lange-Bert. was already documented and described in Lange-Bertalot & Krammer (1989) Biblioth. Diatomol. 18, p. 30-31 pl. 85: figs 11-14 and pl. 91: fig. 2 as "*Achnanthes borneolanceolata* (Manuskriptname) Lange-Bert.".]
[Basionym of *Planothidium borneolanceolatum* (Lange-Bert.) Lange-Bert.]

Achnantheiopsis chilensis (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 206 (1997).
Basionym: *Achnanthes chilensis* Hust., Arch. Hydrobiol. 18, p. 238, pl. 7: figs 3-4 (1927).
[Nomenclatural synonym of *Planothidium chilense* (Hust.) Lange-Bert.]

Achnantheiopsis dauui (Foged) Lange-Bert., Arch. Protistenk. 148, p. 206 (1997).
Basionym: *Achnanthes dauui* Foged, Danmark Geol. Undersoeg. 84, p. 14, pl. 1: fig. 10 (1962).
[Nomenclatural synonym of *Planothidium dauui* (Foged) Lange-Bert.]

Achnantheiopsis delicatula (Kütz.) Lange-Bert., Arch. Protistenk. 148, p. 206 (1997).
Basionym: *Achnantheidium delicatulum* Kütz., Kieselchalige Diatomeen, p. 75, pl. 5: fig. 4 (1844).

Achnantheiopsis distincta (Messik.) Lange-Bert., Arch. Protistenk. 148, p. 206 (1997).
Basionym: *Achnanthes distincta* Messik., Hydrobiologia 6, p. 32, pl. 1: fig. 2 (1954).
[Nomenclatural synonym of *Planothidium distinctum* (Messik.) Lange-Bert.]

Achnantheiopsis dubia (Grunow) Lange-Bert., Arch. Protistenk. 148, p. 206 (1997).
Basionym: *Achnanthes lanceolata* var. *dubia* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17, p. 32, (1880).
[≡ *Achnanthes lanceolata* ssp. *dubia* (Grunow) Lange-Bert.]

Achnantheiopsis engelbrechtii (Cholnoky) Lange-Bert., Arch. Protistenk. 148, p. 206 (1997).
Basionym: *Achnanthes engelbrechtii* Cholnoky, Ber. Deutsch. Bot. Ges. 68, p. 16, pl. 16: figs 1-8 (1955).
[≡ *Achnanthes delicatula* ssp. *engelbrechtii* (Cholnoky) Lange-Bert.]

Achnantheiopsis fonticolanceolata (Lange-Bert. et Schim.) Lange-Bert., Arch. Protistenk. 148, p. 206 (1997).
Basionym: *Achnanthes fonticolanceolata* Lange-Bert. et Schim., Biblioth. Diatomol. 18, p. 57, pl. 88: figs 1-7 (1989).
[Nomenclatural synonym of *Planothidium fonticolanceolatum* (Lange-Bert. et Schim.) Lange-Bert.]

Achnantheiopsis fragilarioides (J.B.Petersen) Lange-Bert., Arch. Protistenk. 148, p. 206 (1997).
Basionym: *Achnanthes fragilarioides* J.B.Petersen, Dansk. Bot. Ark. 4, p. 18, fig. 6 (1924).

Achnantheiopsis frequentissima (Lange-Bert.) Lange-Bert. var. *frequentissima*, Arch. Protistenk. 148, p. 207 (1997).
Basionym: *Achnanthes lanceolata* ssp. *frequentissima* Lange-Bert., Biblioth. Diatomol. 27, p. 4 (1993).

Achnantheiopsis frequentissima* var. *magna (F.Straub) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).
Basionym: *Achnanthes rostrata* var. *magna* F.Straub, Bull. Soc. Neuchâteloise Soc. Nat. 108, p. 139, pl. 10: fig. 142, pl. 11:

fig. 142b (1985).

[Nomenclatural synonym of *Planothidium frequentissimum* var. *magnum* (F.Straub) Lange-Bert.]

Achnantheiopsis frequentissima* var. *minor (Schulz-Danzig) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes lanceolata* [var. *elliptica*] f. *minor* Schulz-Danzig, Bot. Arch. 13, p. 191, fig. 42 (1926).

[≡ *Achnanthes lanceolata* var. *minor* (Schulz-Danzig) Lange-Bert.]

[Nomenclatural synonym of *Planothidium frequentissimum* var. *minus* (Schulz-Danzig) Lange-Bert.]

Achnantheiopsis grana (M.H.Hohn et Hellerman) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes grana* M.H.Hohn et Hellerman, Trans. Amer. Microscop. Soc. 82, p. 274, pl. 2: figs 9-10 (1963).

[Nomenclatural synonym of *Planothidium granum* (M.H.Hohn et Hellerman) Lange-Bert.]

Achnantheiopsis hauckiana (Grunow) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes hauckiana* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17, p. 21 (1880).

[≡ *Achnanthes delicatula* ssp. *hauckiana* (Grunow) Lange-Bert. et Ruppel.]

Achnantheiopsis haynaldii (Schaarschm.) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes haynaldii* Schaarschm., Magyar. Növ. Lapok 5, p. 20 (1881).

[Nomenclatural synonym of *Planothidium haynaldii* (Schaarschm.) Lange-Bert.]

Achnantheiopsis heteromorpha (Grunow) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes heteromorpha* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17, p. 23 (1880).

[Nomenclatural synonym of *Planothidium heteromorphum* (Grunow) Lange-Bert.]

Achnantheiopsis holstii (Cleve) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes holstii* Cleve, Kongl. Svenska Vetenskapsakad. Handl. 18, p. 13, pl. 16: figs 6-7 (1881).

[Nomenclatural synonym of *Planothidium holstii* (Cleve) Lange-Bert.]

Achnantheiopsis joursacense (Héribaud) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes joursacense* Héribaud, Les Diatomées d'Auvergne, p. 89, pl. 12: fig. 20 (1903).

[Nomenclatural synonym of *Planothidium joursacense* (Héribaud) Lange-Bert.]

Achnantheiopsis lanceolata (Brébisson ex Kützinger) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnantheidium lanceolatum* Brébisson ex Kützinger, Species Algarum, Arch. Protistenk. 148, p. 54 (1849).

Achnantheiopsis lanceolatoides (Sovereign) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes lanceolatoides* Sovereign, Trans. Amer. Microscop. Soc. 77, p. 115, pl. 2: figs 18-19 (1958).

[≡ *Achnanthes lanceolata* ssp. *lanceolatoides* (Sovereign) Lange-Bert.]

[Nomenclatural synonym of *Planothidium lanceolatoides* (Sovereign) Lange-Bert.]

Achnantheiopsis linkei (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes linkei* Hust., Abh. Naturwiss. Vereine Bremen 31, p. 607, figs 28-32 (1939).

[Nomenclatural synonym of *Planothidium linkei* (Hust.) Lange-Bert.]

Achnantheiopsis magnifica (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes magnifica* Hust., Bot. Not. 4, p. 385, figs 62-65 (1952).

[≡ *Planothidium magnificum* (Hust.) Lange-Bert.]

Achnantheiopsis marina (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes marina* Hust., A. Schmidt's Atlas der Diatomaceenkunde, pl. 415: figs 1-2 (1937).

[Nomenclatural synonym of *Planothidium marinum* (Hust.) Lange-Bert.]

Achnantheiopsis minutissima (Krasske) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes lanceolata* var. *minutissima* Krasske, Arch. Hydrobiol. 33, p. 6, figs 18-22 (1938).

[Nomenclatural synonym of *Planothidium minutissimum* (Krasske) Lange-Bert.]

Achnantheiopsis miota (J.R.Carter) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes miota* J.R.Carter, Nova Hedwigia Beih. 73, p. 286, pl. 1: fig. 9 (1982).

[Nomenclatural synonym of *Planothidium miotum* (J.R.Carter) Lange-Bert.]

Achnantheiopsis oestrupii (Cleve-Euler) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes lanceolata* var. *oestrupii* Cleve-Euler, Acta Forest. Fenn. 22, p. 53, pl. 1: fig. 1 (1922).

[Nomenclatural synonym of *Planothidium oestrupii* (Cleve-Euler) Round et Bukhtiyarova ex U.Rumrich, Lange-Bert. et M.Rumrich.]

Achnantheiopsis peragalli (Brun et Hérib.) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes peragalli* Brun et Héribaud in Héribaud, Les Diatomées d'Auvergne, p. 50, pl. 1: fig. 4 (1893).

Achnantheiopsis pericava (J.R.Carter) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes pericava* J.R.Carter, Nova Hedwigia 11, p. 457, pl. 1: figs 5-8 (1966).

[Nomenclatural synonym of *Planothidium pericavum* (J.R.Carter) Lange-Bert.]

Achnantheiopsis pseudotanensis (Cleve-Euler) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes pseudotanensis* Cleve-Euler, Kongl. Svenska Vetenskapsakad. Handl. 4, p. 25, fig. 524 (1953).

[Nomenclatural synonym of *Planothidium pseudotanense* (Cleve-Euler) Lange-Bert.]

Achnantheiopsis pungens (Cleve-Euler) Lange-Bert., Arch. Protistenk. 148, p. 207 (1997).

Basionym: *Achnanthes elliptica* var. *pungens* Cleve-Euler, Soc. Scient. Fenn. Comm. Biol. 4, p. 38, fig. 40 (1934).

[Nomenclatural synonym of *Planothidium pungens* (Cleve-Euler) Lange-Bert.]

Achnantheiopsis robusta (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 208 (1997).

Basionym: *Achnanthes delicatula* var. *robusta* Hust., Verh. Vortr. Bremer Wiss. Ges. 8-9, p. 378, figs 1-2 (1934).

[Nomenclatural synonym of *Planothidium robustum* (Hust.) Lange-Bert.]

Achnantheiopsis robustior Lange-Bert., Arch. Protistenk. 148, p. 208 (1997).

Replaced synonym: *Achnanthes lanceolata* var. *robusta* Hust., Arch. Hydrobiol. Suppl. 15, p. 202, pl. 13: figs 47-49 (1934).

[≡ *Achnanthes lanceolata* ssp. *robusta* (Hust.) Lange-Bert.]

[Nomenclatural synonym of *Planothidium robustius* Lange-Bert.]

Achnantheiopsis rostrata (Østrup) Lange-Bert., Arch. Protistenk. 148, p. 208 (1997).

Basionym: *Achnanthes rostrata* Østrup, Flora of Koh Chang, Bot. Tidskr. 26, p. 253 ("1902", 1904).

[≡ *Achnanthes lanceolata* ssp. *rostrata* (Østrup) Lange-Bert.]

[Nomenclatural synonym of *Planothidium rostratum* (Østrup) Lange-Bert.]

Achnantheiopsis salvadoriana (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 208 (1997).

Basionym: *Achnanthes salvadoriana* Hust., Comun. Inst. Trop. Invest. Ci. 5-6, p. 132, fig. 1 (1953).

[Nomenclatural synonym of *Planothidium salvadorianum* (Hust.) Lange-Bert.]

Achnantheiopsis septentrionalis (Østrup) Lange-Bert., Arch. Protistenk. 148, p. 208 (1997).

Basionym: *Achnanthes septentrionalis* Østrup, Meddel. Grønland, p. 215, pl. 13: fig. 21 (1910).

[Nomenclatural synonym of *Planothidium septentrionale* (Østrup) Round et Bukhtiyarova ex U.Rumrich, Lange-Bert. et M.Rumrich.]

ACHNANTHES Bory

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=843].

Achnanthes acidoclinata Lange-Bert., Iconogr. Diatomol. 2, p. 22, pl. 21: figs 22-24c, pl. 113: figs 1-7 (1996).

[Basionym of *Psammothidium acidoclinatum* (Lange-Bert.) Lange-Bert.]

Achnanthes alpestris (Brun) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 24 (1996).

Basionym: *Achnanthes flexella* var. *alpestris* Brun, Diatomées des Alpes et du Jura et de la Région Suisse et Française des Environs de Genève, p. 30, fig. 26 (1880).

[Nomenclatural synonym of *Eucoconeis alpestris* (Brun) Lange-Bert.]

Achnanthes alteragracillima Lange-Bert., Biblioth. Diatomol. 27, p. 2 (1993).

Replaced synonym: *Microneis gracillima* F.Meister, Kieselalgen der Schweiz, p. 97, pl. 12: figs 21-22 (1912).

Achnanthes archibaldiana Lange-Bert., Biblioth. Diatomol. 18, p. 23, pl. 64: figs 7-16, pl. 66: figs 8-11 (1989).

[Basionym of *Achnanthidium archibaldianum* (Lange-Bert.) Lange-Bert.]

Achnanthes biasoletiana* var. *subatomus Lange-Bert., Biblioth. Diatomol. 18, p. 28, pl. 57: fig. 8, pl. 59: figs 1-11' (1989).

Achnanthes borneolanceolata Lange-Bert., nom. inval., Biblioth. Diatomol. 18, p. 30-31 pl. 85: figs 11-14 and pl. 91: fig. 2 (1989). [Comment: *Achnanthes borneolanceolata* is lacking a Latin diagnosis and a type, hence it is invalidly published. Validation within the genus *Achnantheiopsis* Lange-Bert. as *Achnantheiopsis borneolanceolata* Lange-Bert., a synonym of *Planothidium borneolanceolatum* (Lange-Bert.) Lange-Bert.]

Achnanthes boudoui Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 18, pl. 69: figs 9-14, pl. 70: figs 1, 4 (1998).

Achnanthes bremeyeri Lange-Bert., Biblioth. Diatomol. 18, p. 31-32, pl. 76: figs 11-12 (1989).

[Basionym of *Astartiella bremeyeri* (Lange-Bert.) Witkowski et Lange-Bert.]

Achnanthes butterfassiana Lange-Bert., Biblioth. Diatomol. 18, p. 34-35, pl. 71: figs 15-29, pl. 72: figs 2-5 (1989).

[Basionym of *Nupela butterfassiana* (Lange-Bert.) Lange-Bert.]

- Achnanthes carissima*** Lange-Bert., Biblioth. Diatomol. 18, p. 36, pl. 28: fig. 1, pl. 36: figs 32-34, pl. 38: figs 1-4 (1989).
[Comment: *Achnanthes carissima* is only the valve on the right hand side on pl. 28: fig. 1.]
- Achnanthes contrarea*** Lange-Bert. et Steindorf, Biblioth. Diatomol. 32, p. 34-35, pl. 5: figs 1-19 (1995).
[Basionym of *Achnanthidium contrarea* (Lange-Bert. et Steindorf) Lange-Bert.]
- Achnanthes daonensis*** Lange-Bert., Biblioth. Diatomol. 18, p. 43, pl. 19: figs 27-32', pl. 25: figs 1-6, pl. 95: figs 1-13 (1989).
[Basionym of *Psammothidium daonense* (Lange-Bert.) Lange-Bert.]
- Achnanthes delicatula* ssp. *engelbrechtii*** (Cholnoky) Lange-Bert., Biblioth. Diatomol. 27, p. 3 (1993).
Basionym: *Achnanthes engelbrechtii* Cholnoky, Ber. Deutsch. Bot. Ges. 68, p. 16, figs 1-8 (1955).
[Nomenclatural synonym of *Achnantheiopsis engelbrechtii* (Cholnoky) Lange-Bert.]
- Achnanthes delicatula* ssp. *hauckiana*** (Grunow) Lange-Bert. et Ruppel, Algal. Stud. 26, p. 6 (1980).
Basionym: *Achnanthes hauckiana* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17 (2), p. 21 (1880).
[Nomenclatural synonym of *Achnantheiopsis hauckiana* (Grunow) Lange-Bert.]
- Achnanthes dornii*** Lange-Bert., nom. inval., Biblioth. Diatomol. 18, p. 49, pl. 38: figs 5-7, pl. 74: figs 10-12' (1989).
[Comment: lacking a type and a Latin diagnosis, this name was invalidly published.]
- Achnanthes eutrophila*** Lange-Bert., Iconogr. Diatomol. 2, p. 25, pl. 78: figs 29-38 (1996).
[Basionym of *Achnanthidium eutrophilum* (Lange-Bert.) Lange-Bert.]
- Achnanthes fonticolanceolata*** Lange-Bert. et Schim., Biblioth. Diatomol. 18, p. 57, pl. 88: figs 1-7 (1989).
[Basionym of *Achnantheiopsis fonticolanceolata* (Lange-Bert. et Schim.) Lange-Bert.]
[Basionym of *Planothidium fonticolanceolatum* (Lange-Bert. et Schim.) Lange-Bert.]
- Achnanthes frequentissima*** Lange-Bert., nom. inval., Biblioth. Diatomol. 18, p. 58, pl. 86: figs 1-15', pl. 91: figs 6-7 (1989).
[Comment: lacking a type and a Latin diagnosis, this name was invalidly published. Validly published as "*Achnanthes lanceolata* ssp. *frequentissima*" Lange-Bert.]
- Achnanthes helvetica*** (Hust.) Lange-Bert. in Jahn et al., Lange-Bertalot-Festschrift, p. 632 (2001).
Basionym: *Achnanthes austriaca* var. *helvetica* Hust., Rabenhorsts Kryptogamenflora 7 (2) 3. Lieferung, p. 385, pl. 11: figs 831 g-k (1933).
[Comment: validation of *Achnanthes helvetica* (Hust.) Lange-Bert., nom. inval., Biblioth. Diatomol. 18, p. 63 (1989).]
- Achnanthes hyperboreoides*** Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 12, pl. 50: figs 13-19, pl. 75: figs 2, 6, 8 (1996).
- Achnanthes impexa*** Lange-Bert., Biblioth. Diatomol. 18, p. 67-68, pl. 74: figs 1-6, pl. 75: ?fig. 1 (1989). [Comment: *Achnanthes impexa* on p. 316 (= caption of pl. 75: fig. 1) is cited as "*A. impexiformis*".]
- Achnanthes impexiformis*** Lange-Bert., Biblioth. Diatomol. 18, p. 68-69, pl. 74: figs 7-9, pl. 75: figs 2-4, ?1 (1989).
[Basionym of *Nupela impexiformis* (Lange-Bert.) Lange-Bert.]
- Achnanthes indicatrix*** Lange-Bert. et Steindorf, Biblioth. Diatomol. 38, p. 82-83, pl. 18: figs 10-14 (1998).
[Basionym of *Achnanthidium indicatrix* (Lange-Bert. et Steindorf) Lange-Bert.]
- Achnanthes ingratiiformis*** Lange-Bert., Biblioth. Diatomol. 18, p. 70-71, pl. 73: fig. 6, pl. 74: figs 13-18' (1989).
- Achnanthes jan-marcinii*** Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 12-13, pl. 50: figs 5-9, 22-23, pl. 75: fig. 4, 9 (1996).
[Basionym of *Planothidium jan-marcinii* (Witkowski, Metzeltin et Lange-Bert.) Witkowski, Lange-Bert. et Metzeltin.]
- Achnanthes koghisensis* f. *angustifasciata*** Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 84, pl. 19: figs 7-11 (1998).
[Basionym of *Achnanthidium koghisense* f. *angustifasciatum* (Gerd Moser, Lange-Bert. et Metzeltin) Lange-Bert.]
- Achnanthes koghisensis*** Gerd Moser, Lange-Bert. et Metzeltin f. *koghisensis*, Biblioth. Diatomol. 38, p. 84, pl. 19: figs 1-6 (1998).
[Basionym of *Achnanthidium koghisense* (Gerd Moser, Lange-Bert. et Metzeltin) Lange-Bert.]
- Achnanthes kranzii*** Lange-Bert., Biblioth. Diatomol. 18, p. 74-75, pl. 55: figs 13-21, pl. 62: figs 6-8 (1989).
- Achnanthes kuelbsii*** Lange-Bert., Biblioth. Diatomol. 18, p. 79-80, pl. 36: figs 27-31, pl. 37: figs 1-4 (1989).

Achnanthes lanceolata* ssp. *apiculata (R.M.Patrick) Lange-Bert., Biblioth. Diatomol. 27, p. 3 (1993).

Basionym: *Achnanthes lanceolata* var. *apiculata* R.M.Patrick, Farlowia 2 (2), p. 167, pl. 1: figs 4-5 (1945).

[Nomenclatural synonym of *Planothidium apiculatum* (R.M.Patrick) Lange-Bert.]

Achnanthes lanceolata* ssp. *dubia (Grunow) Lange-Bert., Biblioth. Diatomol. 27, p. 3 (1993).

Basionym: *Achnanthes lanceolata* var. *dubia* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17 (2), p. 23 (1880).

[≡ *Achnantheiopsis dubia* (Grunow) Lange-Bert.]

Achnanthes lanceolata* ssp. *frequentissima Lange-Bert., Biblioth. Diatomol. 27, p. 4 (1993). [Validation of *Achnanthes lanceolata* ssp. *frequentissima* Lange-Bert., nom. inval., Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 78, pl. 44: 1-3, 15-23, pl. 45: fig. 18 (1991). Comment: in Lange-Bertalot (1993) and in the compilation by Kusber & Metzeltin (2001) *Achnanthes lanceolata* ssp. *frequentissima* was treated as a new name and status for *Achnanthes lanceolata* var. *dubia* f. *minuta* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, Type de Synopsis, no. 236 (1880-1887).]

[Basionym of *Planothidium frequentissimum* (Lange-Bert.) Lange-Bert.]

[≡ *Achnantheiopsis frequentissima* (Lange-Bert.) Lange-Bert.]

Achnanthes lanceolata* var. *frequentissima Lange-Bert., nom. inval., Biblioth. Diatomol. 18, p. 338, 348, pl. 86: figs 1-15', pl. 91: figs 6-7 (1989).

[Comment: lacking a type and a Latin diagnosis, this name was invalidly published. Validly published as "*Achnanthes lanceolata* ssp. *frequentissima*" Lange-Bert.]

Achnanthes lanceolata* ssp. *lanceolatooides (Sovereign) Lange-Bert., Biblioth. Diatomol. 27, p. 6 (1993).

Basionym: *Achnanthes lanceolatooides* Sovereign, Trans. Amer. Microscop. Soc. 77, p. 115, pl. 2: figs 18-19 (1958).

[≡ *Achnantheiopsis lanceolatooides* (Sovereign) Lange-Bert.]

[Nomenclatural synonym of *Planothidium lanceolatooides* (Sovereign) Lange-Bert.]

Achnanthes lanceolata* ssp. *robusta (Hust.) Lange-Bert., Biblioth. Diatomol. 27, p. 6 (1993).

Basionym: *Achnanthes lanceolata* var. *robusta* Hust., Arch. Hydrobiol. Suppl. 15, p. 202, pl. 13: figs 47-49 (1937).

[≡ *Achnantheiopsis robustior* Lange-Bert.]

[Nomenclatural synonym of *Planothidium robustius* Lange-Bert.]

Achnanthes lanceolata* ssp. *rostrata (Østrup) Lange-Bert., Biblioth. Diatomol. 27, p. 6 (1993).

Basionym: *Achnanthes rostrata* Østrup, Flora of Koh Chang, Bot. Tidskr. 26, p. 253 ("1902" 1904).

[≡ *Achnantheiopsis rostrata* (Østrup) Lange-Bert.]

[Nomenclatural synonym of *Planothidium rostratum* (Østrup) Lange-Bert.]

Achnanthes lanceolata* var. *magna (F.Straub) Lange-Bert., Biblioth. Diatomol. 27, p. 5 (1993).

Basionym: *Achnanthes rostrata* var. *magna* F.Straub, Bull. Soc. Neuchâteloise Soc. Nat. 108, p. 139, pl. 10: fig. 142; pl. 11: fig. 142 b (1985).

[Nomenclatural synonym of *Planothidium frequentissimum* var. *magnum* (F.Straub) Lange-Bert.]

Achnanthes lanceolata* var. *minor (Schulz-Danzig) Lange-Bert., Biblioth. Diatomol. 27, p. 4 (1993).

Basionym: *Achnanthes lanceolata* [var. *elliptica*] f. *minor* Schulz-Danzig, Bot. Arch. 13, p. 191, fig. 42 (1926).

[≡ *Achnantheiopsis frequentissima* var. *minor* (Schulz-Danzig) Lange-Bert.]

[Nomenclatural synonym of *Planothidium frequentissimum* var. *minus* (Schulz-Danzig) Lange-Bert.]

Achnanthes lanceolata* var. *rostratiformis Lange-Bert., Biblioth. Diatomol. 27, p. 5 (1993).

Replaced synonym: *Achnanthes lanceolata* var. *rostrata* Hust., Arch. Naturwiss. Vereine Bremen 20, p. 279, pl. 3: fig. 34 (1911).

Achnanthes leonardii Witkowski et Lange-Bert., Iconogr. Diatomol. 7, p. 92, 420, pl. 50: figs 1-12 (2000).

Achnanthes lineariformis Lange-Bert., Biblioth. Diatomol. 27, p. 7 (1993). [As a part of the protologue is cited: Krammer & Lange-Bertalot (1991), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), pl. 37: figs 19-23.] [Comment: in Krammer & Lange-Bertalot (1991b) *Achnanthes lineariformis* is documented as "*Achnanthes linearis* sensu auct. nonnull. (excl. Lectotypus)".]

Achnanthes mercurii Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 13, pl. 50: figs 30-32, pl. 75: figs 1, 5, 7 (1996).

Achnanthes metakryophila Lange-Bert. et Rol.Schmidt, J. Paleolimnol. 3, p. 64, figs 6 d-i (1990).

Achnanthes minutissima* var. *jackii (Rabenh.) Lange-Bert. et Ruppel, Algol. Stud. 26, p. 18 (1980).

Basionym: *Achnanthidium jackii* Rabenh., Algen Europas No. 1033 (1861); Flora Europaea Algarum, p. 107 (1864).

Achnanthes nitidiformis Lange-Bert., Biblioth. Diatomol. 18, p. 109-110, pl. 74: figs 19-24 (1989).

- Achnanthes obscura* (Krasske) Lange-Bert. et Willmann, Iconogr. Diatomol. 3, p. 130 (1996).
Basionym: *Navicula brevicostata* var. *obscura* Krasske, Arch. Hydrobiol. 33, p. 513 (1938).
- Achnanthes parexigua* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 19, pl. 67: figs 1-11, pl. 68: figs 1-3 (1998).
- Achnanthes peridotitica* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 85-86, pl. 18: figs 1-9 (1998).
[Basionym of *Achnanthidium peridotiticum* (Gerd Moser, Lange-Bert. et Metzeltin) Lange-Bert.]
- Achnanthes perpusilla* (Østrup) Lange-Bert., Iconogr. Diatomol. 2, p. 26 (1996).
Basionym: *Pinnularia perpusilla* Østrup, Danske Diatomeer, p. 96, pl. 3: fig. 62 (1910).
[Nomenclatural synonym of *Psammothidium perpusillum* (Østrup) Lange-Bert.]
- Achnanthes pirogueana* f. *capitata* Lange-Bert. et Steindorf, Biblioth. Diatomol. 32, p. 40, pl. 2: figs 18-26 (1995).
- Achnanthes placentuloides* (Guslakov) Witkowski et Lange-Bert. Iconogr. Diatomol. 7, p. 93 (2000).
Basionym: *Cocconeis placentuloides* Guslakov in Guslakov, Zakordoniec et Gerasimuk, Atlas diatomovykh vodorosley bentosa severozapadnoy tshasti Tschernogo Morja. Nukovaya Dumka Kiev, p. 59, pl. 80: figs 1-3 (1992).
- Achnanthes praecipua* E.Reichardt in Round, Proc. Ninth Int. Diatom Symp., p. 391, figs 1-24 (1988).
[Basionym of *Nupela praecipua* (E.Reichardt) E.Reichardt.]
- Achnanthes pusilla* var. *crassa* (Hust.) Lange-Bert. et Ruppel, Algal. Stud. 26, p. 22 (1980).
Basionym: *Achnanthes crassa* Hust., Arch. Hydrobiol. Suppl. 15, p. 194, pl. 13, figs 37-40 (1937).
- Achnanthes pusilla* var. *petersenii* (Hust.) Lange-Bert. et Ruppel, Algal. Stud. 26, p. 22 (1980).
Basionym: *Achnanthes petersenii* Hust., Bot. Arch. 38, p. 179, figs 10-14 (1936).
- Achnanthes pusilla* var. *procera* (Hust.) Lange-Bert. et Ruppel, Algal. Stud. 26, p. 24 (1980).
Basionym: *Achnanthes procera* Hust., Arch. Hydrobiol. 40, p. 908, pl. 39: figs 26-31 (1945).
- Achnanthes renei* Lange-Bert. et Rol.Schmidt, J. Paleolimnol. 3, p. 64, figs 6 o-t (1990).
- Achnanthes rosenstockii* Lange-Bert., Biblioth. Diatomol. 18, p. 131-132, pl. 61: figs 1-17, pl. 63: figs 1-2, ?3-5 (1989).
[Comment: the citation of "pl. 63" missing on p. 131.]
[Basionym of *Psammothidium rosenstockii* (Lange-Bert.) Lange-Bert.]
- Achnanthes scotica* (J.R.Carter) Lange-Bert., Biblioth. Diatomol. 27, p. 8 (1993).
Basionym: *Achnanthes microcephala* f. *scotica* J.R.Carter, Nova Hedwigia 33, p. 534, pl. 1: fig. 31 (1981).
- Achnanthes silvahercynia* Lange-Bert., Biblioth. Diatomol. 18, p. 139, pl. 71: figs 30-37, pl. 73: figs 2-4 (1989).
[Basionym of *Nupela silvahercynia* (Lange-Bert.) Lange-Bert.]
- Achnanthes straubiana* Lange-Bert., Iconogr. Diatomol. 2, p. 26-27, pl. 78: fig. 21 a-b (1996). [Comment: pl. 78: figs 20, 21c is not mentioned on p. 26.] [As a part of the protologue, Krammer & Lange-Bertalot (1991), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), pl. 32: figs 53-56 is cited. Comment: in Krammer & Lange-Bertalot (1991b) *Achnanthes straubiana* is cited as "*Achnanthes minutissima* var. << Sippe mit kurzen, breitelliptischen Schalen >>".]
[Basionym of *Achnanthidium straubianum* (Lange-Bert.) Lange-Bert.]
- Achnanthes subatomoides* (Hust.) Lange-Bert. et R.E.M. Archibald, Biblioth. Diatomol. 9, p. 9, 97 (1985).
Basionym: *Navicula subatomoides* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 404: figs 33-35 (1936).
- Achnanthes thermalis* var. *rumrichiorum* Lange-Bert., Biblioth. Diatomol. 18, p. 152-153, pl. 77: figs 30-38, pl. 78: figs 2-4 (1989). [Comment: *Achnanthes thermalis* var. *rumrichiorum* on p. 152, p. 320 and p. 322 is cited as "*Achnanthes thermalis* var. *rumrichiorum*".]
- Achnanthes vistulana* Witkowski, Biblioth. Diatomol. 28, p. 90, pl. 17: figs 1-14 (1994).
- Achnanthes zieglerei* Lange-Bert., Biblioth. Diatomol. 27, p. 8, pl. 35: figs 4-7 (1993). [Comment: validation of *Achnanthes zieglerei* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 39, pl. 23: figs 33-38 (1991).]
- ACHNANTHIDIUM** Kütz.
[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=162].
- Achnanthidium archibaldianum* (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 270 (1999).
Basionym: *Achnanthes archibaldiana* Lange-Bert., Biblioth. Diatomol. 18, p. 23, pl. 64: figs 7-16, pl. 66: figs 8-11 (1989).
- Achnanthidium arcus* (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 270 (1999).
Basionym: *Achnanthes arcus* Hust., Int. Rev. Gesamten Hydrobiol. Hydrogr. 42, p. 38, figs 44-48 (1989).

- Achnanthidium biasolettianum*** (Grunow) Lange-Bert., Iconogr. Diatomol. 6, p. 270 (1999).
 Basionym: *Achnanthes biasolettiana* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17 (2), p. 22 (1880).
 [Comment: In Kusber & Metzeltin (2001), p. 621, the basionym erroneously was cited as *Achnanthes arcus* Grunow.]
- Achnanthidium contrarea*** (Lange-Bert. et Steindorf) Lange-Bert., Iconogr. Diatomol. 6, p. 271 (1999).
 Basionym: *Achnanthes contrarea* Lange-Bert. et Steindorf, Biblioth. Diatomol. 32, p. 34, pl. 5: figs 1-19 (1995).
- Achnanthidium eutrophilum*** (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 271 (1999).
 Basionym: *Achnanthes eutrophila* Lange-Bert., Iconogr. Diatomol. 2, p. 25, pl. 78: figs 29-38 (1996).
- Achnanthidium indicatrix*** (Lange-Bert. et Steindorf) Lange-Bert., Iconogr. Diatomol. 6, p. 272 (1999).
 Basionym: *Achnanthes indicatrix* Lange-Bert. et Steindorf, Biblioth. Diatomol. 38, p. 82, pl. 18: figs 10-14 (1998).
- Achnanthidium koghisenense*** (Gerd Moser, Lange-Bert. et Metzeltin) Lange-Bert. f. *koghisenense*, Iconogr. Diatomol. 6, p. 273 (1999).
 Basionym: *Achnanthes koghisensis* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 84, pl. 19: figs 1-6 (1998).
 [In Kusber & Metzeltin (2001), p. 622 the basionym authors erroneously are given as "Lange-Bert. et Steindorf".]
- Achnanthidium koghisenense* f. *angustifasciatum*** (Gerd Moser, Lange-Bert. et Metzeltin) Lange-Bert., Iconogr. Diatomol. 6, p. 273 (1999).
 Basionym: *Achnanthes koghisensis* f. *angustifasciata* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 84, pl. 19: figs 7-11 (1998).
 [In Kusber & Metzeltin (2001), p. 622 the basionym authors erroneously are given as "Lange-Bert. et Steindorf".]
- Achnanthidium peridotiticum*** (Gerd Moser, Lange-Bert. et Metzeltin) Lange-Bert., Iconogr. Diatomol. 6, p. 273 (1999).
 Basionym: *Achnanthes peridotitica* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 85, pl. 18: figs 1-9 (1998).
- Achnanthidium straubianum*** (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 273 (1999).
 Basionym: *Achnanthes straubiana* Lange-Bert., Iconogr. Diatomol. 2, p. 26, pl. 78: figs 21a, b (1996).
- Achnanthidium subatomus*** (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 273 (1999).
 Basionym: *Achnanthes subatomus* Hust., Ber. Deutsch. Bot. Ges. 56, p. 554, pl. 25: figs 1-2 (1939).
- Achnanthidium woltereckii*** (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 274 (1999).
 Basionym: *Achnanthes woltereckii* Hust., Int. Rev. Gesamten. Hydrobiol. Hydrogr. 42, p. 36, figs 34-37 (1942).
- ACTINELLA F.W.Lewis**
[\[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=827\]](http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=827).
- Actinella modesta*** Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 86-87, pl. 10: figs 5-7 (1998).
- Actinella pararobusta*** Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 41, pl. 8: figs 3-4, pl. 9: figs 8-10 (1998).
- Actinella pseudohantzschia*** Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 42, pl. 57: figs 7-10 (1998).
- ADLAFIA* Gerd Moser, Lange-Bert. et Metzeltin**, Biblioth. Diatomol. 38, p. 87-89 (1998). [Typus generis: *Adlafia muscora* (Kociolek et Reviere) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 87 (1998).
http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=997].
- Adlafia aquaeductae*** (Krasske) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 89 (1998).
 Basionym: *Navicula pseudopupula* var. *aquaeductae* Krasske, Bot. Arch. 3, p. 197, fig. 8 (1923).
 [≡ *Navicula bryophila* var. *aquaeductae* (Krasske) Lange-Bert.]
 [Comment: in Lange-Bertalot, Diatoms of Europe 2, p. 142 (2001) the authors of *Adlafia aquaeductae* are cited as "(Krasske) Lange-Bertalot in Moser et al.".]
- Adlafia bryophila*** (J.B.Petersen) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 89 (1998).
 Basionym: *Navicula bryophila* J.B.Petersen 1928, Dansk. Bot. Ark. 5, p. 388, fig. 13.
 [– *Naviculdicta bryophila* (J.B. Petersen) Lange-Bert. et Metzeltin, nom. inval., Iconogr. Diatomol. 2, p. 172 (1996).]
 [Comment: in Lange-Bertalot, Diatoms of Europe 2, p. 142 (2001) the authors of *Adlafia bryophila* are cited as "(Petersen) Lange-Bertalot in Moser et al.".]
- Adlafia coringii*** Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 20, pl. 86: figs 12-13 (1998).
- Adlafia drouetiana*** (R.M.Patrick) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 21 (1998).
 Basionym: *Navicula drouetiana* R.M.Patrick, Bol. Mus. Nac. Rio de Janeiro 2, p. 4, fig. 4 (1944).

- Adlafia minuscula*** (Grunow) Lange-Bert. var. *minuscula*, Iconogr. Diatomol. 6, p. 32 (1999).
Basionym: *Navicula minuscula* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, Atlas, pl. 14: fig. 27 (1880).
- Adlafia minuscula* var. *muralis*** (Grunow) Lange-Bert., Iconogr. Diatomol. 6, p. 32 (1999).
Basionym: *Navicula muralis* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, Atlas, pl. 14: fig. 27 (1880).
[≡ *Navicula minuscula* var. *muralis* (Grunow) Lange-Bert.]
[= *Navicula cloacina* Lange-Bert et Bonik, according to Lange-Bertalot, Diatoms of Europe 2, p. 144 (2001).]
- Adlafia parabryophila*** (Lange-Bert.) Lange-Bert., Biblioth. Diatomol. 38, p. 89 (1998).
Basionym: *Naviculadicta parabryophila* Lange-Bert., Iconogr. Diatomol. 2, p. 86, pl. 27: figs 11-15; pl. 117: figs 5-7 (1996).
- Adlafia suchlandtii*** (Hust.) Lange-Bert., Biblioth. Diatomol. 38, p. 89 (1998).
Basionym: *Navicula suchlandtii* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 399: figs 24-28 (1934).
- ALINEA** Lange-Bert. (section within the genus *NAVICULA* s. str.), Diatoms of Europe 2, p. 223, (2001). [Typus sectionis: *Navicula alinae* Lange-Bert. in Nevo & Wasser, Biodiversity of cyanoprocarvates and algae of continental Israel, p. 268, pl. 22: figs 175-178 (2000).]
- ALTERASYNEDRA** Lange-Bert. (subgenus within *FRAGILARIA*), nom. illeg., Biblioth. Diatomol. 27, p. 52 (1993).
[Typus subgeneris: *Fragilaria ungeriana* Grunow, p. 142, pl. 13: fig. 18 (1863). Comment: according to Lange-Bertalot & Compère (2001) *ALTERASYNEDRA* is a taxonomic synonym of *FRAGILARIA* subgen. *ULNARIA* Lange-Bert. et Compère, Diatom Res. 16, p. 103 (2001).]
- ALVEOALLUM** Lange-Bert. et Krammer, Diatoms of Europe 1, p. 208, 241, pl. 217: figs 1-15 (2000). [Typus generis: *Alveovallum beyensii* Lange-Bert. et Krammer, Diatoms of Europe 1, p. 208, 241 (2000). *Alveovallum* was marked as new also in Diatoms of Europe 1 (2001 "2000") p. 207, 240-241.]
- Alveovallum beyensii* Lange-Bert. et Krammer, Diatoms of Europe 1, p. 208, 241, pl. 217: figs 1-15 (2000). [*Alveovallum beyensii* is the type of the name of the genus *ALVEOALLUM* Lange-Bert. & Krammer.]
- AMICULA** Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 127, 420 (2000). [Typus generis: *Amicula speculum* (Witkowski) Witkowski, Iconogr. Diatomol. 7, p. 127 (2000).]
- Amicula speculum* (Witkowski) Witkowski, Iconogr. Diatomol. 7, p. 127 (2000).
Basionym: *Navicula speculum* Witkowski, Biblioth. Diatomol. 28, p. 159, pl. 36: figs 5-12 (1994).
- AMPHIPLEURA** Kütz.
[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=195].
- Amphipleura chiapasensis* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 21, pl. 109: figs 1-5 (1998).
- AMPHORA** Ehrenb.
[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=169].
- Amphora aequalis* Krammer, Bacillaria 3, p. 212-213, figs 25-35 (1980).
- Amphora dissimilis* Metzeltin et Krammer, Biblioth. Diatomol. 38, p. 90, pl. 43: figs 1-8 (1998).
- Amphora fagediana* Krammer, Biblioth. Diatomol. 9, p. 9, pl. 10: figs 1-3 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 150: 14-17 is cited.]
- Amphora hassatica* Krammer et S. Strecker, Biblioth. Diatomol. 37, p. 225-226, pl. 206: figs 1-8 (1997).
- Amphora inariensis* Krammer, Bacillaria 3, p. 211, figs 21-24, 36-37, 43-45 (1980).
- Amphora jostesorum* Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 141, 420, pl. 171: figs 1-9 (2000).
[Comment: on p. 141 and 784 (caption of pl. 171) the authors are cited as Witkowski, Metzeltin et Lange-Bert.]
- Amphora oligotraphenta* Lange-Bert., Iconogr. Diatomol. 2, p. 28 (1996).
Replaced synonym: *Amphora veneta* var. *capitata* Haworth, Brit. Phycol. J. 9, p. 48, fig. 6 (1974).
- Amphora streckeriae* Krammer, Biblioth. Diatomol. 37, p. 226-227, pl. 206: figs 9-11 (1997).
- Amphora subholsatica* Krammer, Biblioth. Diatomol. 37, p. 223-225, pl. 205: figs 1-10 (1997).
[– *Amphora hosatica* sensu Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 152: figs 4-5.]
- Amphora tomiakae* Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 7, p. 153, 421, pl. 169: figs 12-14 (2000).

ANALUS Ehrenb.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=470].

Anaulus simonsenii Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 7, p. 23, 421, pl.10: figs 7-12 (2000).
[Comment: on p. 23 and 462 (caption of pl. 10) the authors are cited as Witkowski et Metzeltin.]

ANEUMASTUS D.G.Mann et A.J.Stickle

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=357]

[<http://128.32.109.44/cgi-bin/porp.cgi.pl?ANEUMASTUSDGMANNAJSTICKLE1990>].

Aneumastus albanicus Lange-Bert. et Miho, Diatoms of Europe 2, p. 216, pl. 123: figs 1-10 (2001).

Aneumastus apiculatus (Østrup) Lange-Bert., Iconogr. Diatomol. 6, p. 32 (1999).

Basionym: *Navicula lacustris* var. *apiculata* Østrup, Danske Diatomeer, p. 88, pl. 3: fig. 59 (1910).

Aneumastus aratus (Grunow) Lange-Bert., Diatoms of Europe 2, p. 153, (2001).

Basionym: *Navicula arata* Grunow in Mojsisovics & Neumayr, Beitr. Kenntnis der fossilen Diatomeen Österreich-Ungarns und des Orients. 2 (4), p. 145, pl. 30: fig. 58 (1882).

Aneumastus balticus Lange-Bert., Diatoms of Europe 2, p. 216, pl. 117: figs 11-15, pl. 118: figs 7-8 (2001).

Aneumastus carolinianus (R.M.Patrick) Lange-Bert., Diatoms of Europe 2, p. 154, (2001).

Basionym: *Navicula caroliniana* R.M.Patrick, Proc. Acad. Nat. Sci. Philadelphia 111, p. 107, pl. 7: fig. 11 (1959).

Aneumastus humboldtianus Lange-Bert. et Miho, Diatoms of Europe 2, p. 217, pl. 120: figs 3-7 (2001).

Aneumastus laetus (Ant.Mayer) Lange-Bert., Iconogr. Diatomol. 2, p. 29 (1996).

Basionym: *Navicula laeta* Ant.Mayer, Kryptog. Forsch. 1, p. 204, pl. 7: fig. 59 (1919).

Aneumastus maculosus (Donkin) Lange-Bert., Diatoms of Europe 2, p. 155, (2001).

Basionym: *Navicula maculosa* Donkin, Natural Hist. Brit. Diatomaceae 2, p. 25, pl. 5: fig. 1 (1871).

Aneumastus minor (Hust.) Lange-Bert., Biblioth. Diatomol. 27, p. 9 (1993).

Basionym: *Navicula tuscula* f. *minor* Hust., Süßwasserflora Mitteleuropas 10, p. 308, fig. 553 (1930).

Aneumastus rosettae Lange-Bert. et Miho, Diatoms of Europe 2, p. 217, pl. 115: figs 1-6, pl. 116: figs 1-5 (2001).

Aneumastus rostratus (Hust.) Lange-Bert., Diatoms of Europe 2, p. 156, (2001).

Basionym: *Navicula tuscula* var. *rostrata* Hust., Abh. Naturwiss. Vereine Bremen 20, p. 287, pl. 3: fig. 22 (1911).

Aneumastus tusculus f. *angulatus* (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 33 (1999).

Basionym: *Navicula tuscula* f. *angulata* Hust., Arch. Hydrobiol. 39, p. 120, fig. 37 (1942).

ANOMOEONEIS Pfitzer

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=851].

Anomoeoneis garrensis Lange-Bert. et Krammer, Biblioth. Diatomol. 9, p. 12, pl. 1: figs 1-5 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 103a: 10-13 is cited.]

Anomoeoneis starmuehlneri R.Maillard in Gerd Moser, Lange-Bertalot et Metzeltin, Biblioth. Diatomol. 38, p. 100 (1998).

[Comment: The Holotypus is mentioned as "Neotypus".]

[– *Anomoeoneis starmuehlneri* R.Maillard, nom. inval., Cah. O.R.S.T.O.M. Sér. Hydrobiol. 12 (2), p. 154, pl. 2: fig. 7 (1978).]

[Nomenclatural synonym of *Brachysira starmuehlneri* (R.Maillard) Gerd Moser, Lange-Bert. et Metzeltin.]

ASTARTIELLA Witkowski, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 91, 357-358 (1998). [Typus generis:

Astartiella bahusiensis (Grunow) Witkowski, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 357 (1998).]

Astartiella bahusiensis (Grunow) Witkowski, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 359 (1998).

Basionym: *Navicula minuscula* var. *bahusiensis* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, Atlas, pl. 14: fig. 2 (1880).

Astartiella bahusiensoides (Foged) Witkowski, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 359 (1998).

Basionym: *Navicula bahusiensoides* Foged 1975, Biblioth. Pycol. 16, p. 36, pl. 19: figs 8-9.

Astartiella bremeyeri (Lange-Bert.) Witkowski et Lange-Bert. var. *bremeyeri*, Biblioth. Diatomol. 38, p. 359 (1998).

Basionym: *Achnanthes bremeyeri* Lange-Bert., Biblioth. Diatomol. 18, p. 31, pl. 76: figs 11-12 (1989).

- Astartiella bremeyeri* var. *rostrata* (Hust.) Witkowski et Lange-Bert., Biblioth. Diatomol. 38, p. 359 (1998).
Basionym: *Navicula bremeyeri* var. *rostrata* Hust., Abh. Naturwiss. Vereine Bremen 31, p. 624, figs 73-74 (1939).
- Astartiella glacialis* Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 100, 421-422, pl. 52: figs 5-10 (2000).
- Astartiella ignota* (Hust.) Witkowski et Lange-Bert., Biblioth. Diatomol. 38, p. 359 (1998).
Basionym: *Achnanthes ignota* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 420: figs 20-23 (1958).
- Astartiella iks* Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 100, 422, pl. 52: figs 35-39 (2000).
- Astartiella modica* (Hust.) Witkowski et Lange-Bert., Biblioth. Diatomol. 38, p. 360 (1998).
Basionym: *Achnanthes modica* Hust., Bot. Not. 4, p. 388, figs 72-75 (1952).
- Astartiella producta* Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 101, 422, pl. 52: figs 1-4 (2000).
- Astartiella punctifera* (Hust.) Witkowski et Lange-Bert., Biblioth. Diatomol. 38, p. 360 (1998).
Basionym: *Achnanthes punctifera* Hust., Bull. Mar. Sta. Duke Univ. 6, p. 18, pl. 5: figs 26-28 (1955).
- Astartiella tenuis* (Hust.) Witkowski et Lange-Bert., Biblioth. Diatomol. 38, p. 360 (1998).
Basionym: *Achnanthes tenuis* Hust., Bull. Mar. Sta. Duke Univ. 6, p. 18, pl. 5: figs 29-31 (1955).
- Astartiella wellsiae* (Reimer) Witkowski et Lange-Bert., Biblioth. Diatomol. 38, p. 360 (1998).
Basionym: *Achnanthes wellsiae* Reimer in Patrick & Reimer, Monogr. Acad. Nat. Sci. Philadelphia 1, p. 255, pl. 16: figs 15-17 (1966).
- AUSTARIELLA** Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 154, 422 (2000). [Typus generis: *Austariella admissa* (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 154 (2000).]
- Austariella admissa* (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 154 (2000).
Basionym: *Navicula admissa* Hust., Bull. Duke Univ. Mar. Sta. 6, p. 30, pl. 8: fig. 25 (1955).
- Austariella jamalinensis* (Cleve) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 155 (2000).
Basionym: *Navicula jamalinensis* Cleve, Kongl. Svenska Vetenskapsakad. Handl. 17 (2), p. 13, pl. 2: fig. 40 (1880).
- Austariella jamalinensis* var. *subcircularis* (Østrup) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 155 (2000).
Basionym: *Navicula jamalinensis* var. *subcircularis* Østrup, Danske Diatomeer, p. 206, pl. 13: fig. 2 (1910).
[Comment: In Iconogr. Diatomol. 7 (2000), p. 155 the basionym name is misspelled as *Navicula jamalinensis* var. "suborcircularis".]
- BACILLARIA** J.F. Gmelin
[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=477].
- Bacillaria paxillifer* var. *tumidula* (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 357 (2000).
Basionym: *Nitzschia paradoxa* var. *tumidula* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17 (2), p. 86 (1880).
- BIREMIS** D.G.Mann et E.J.Cox
[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=358].
- Biremis circumtexta* (F.Meister ex Hust.) Witkowski et Lange-Bert., Iconogr. Diatomol. 7, p. 158 (2000).
Basionym: *Navicula circumtexta* F.Meister ex Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 394: figs 33-35 (1934).
- Biremis kriegieriana* (Krasske) Lange-Bert., Iconogr. Diatomol. 3, p. 166-167 (1996).
Basionym: *Pinnularia kriegieriana* Krasske, Ber. Deutsch. Bot. Ges. 61, p. 86, fig. 17 (1943).
[Nomenclatural synonym of *Pulchella kriegieriana* (Krasske) Krammer.]
- Biremis solitaria* (Cleve) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 159 (2000).
Basionym: *Navicula solitaria* Cleve, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 22, p. 20, pl. 1: fig. 6 (1896).
- BRACHYSIRA** Kütz.
[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=957].
- Brachysira acutirhomboides* Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 29, p. 10, pl. 25: figs 1-4 (1994).
- Brachysira acutissima* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 91-92, pl. 39: figs 20-23 (1998).
- Brachysira amoena* Lange-Bert., Biblioth. Diatomol. 29, p. 11, pl. 37: figs 10-14 (1994).
- Brachysira archibaldii* var. *crassistriata* Lange-Bert., Biblioth. Diatomol. 29, p. 16, pl. 32: figs 15-20 (1994).

- Brachysira australofollis* Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 29, p. 17, pl. 20: fig. 4-15, pl. 21: fig. 4 (1994).
- Brachysira australofollis* var. *angustior* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 92-93, pl. 36: figs 1-4 (1998).
- Brachysira babuschka* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 93-94, pl. 39: figs 1-8 (1998).
- Brachysira bouletiana* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 94-95, pl. 35: figs 4-6 (1998).
- Brachysira brebissonii* ssp. *superba* Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 29, p. 22, pl. 24: figs 5-7 (1994).
- Brachysira calcicola* Lange-Bert., Biblioth. Diatomol. 29, p. 23, pl. 41: figs 19-33 (1994).
- Brachysira calligraphica* Lange-Bert., Biblioth. Diatomol. 29, p. 24, pl. 1: figs 1-2, pl. 37: figs 1-9 (1994). [Comment: the diagnosis was emended by Metzeltin et Lange-Bert. in Metzeltin & Lange-Bertalot, Iconogr. Diatomol. 5, p. 22-23 (1998) by excluding pl. 37: figs 6-9. According to Metzeltin & Lange-Bertalot (1998) these figures show *B. steinitziae*.]
- Brachysira coraliana* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 23, pl. 103: figs 9-14 (1998).
- Brachysira estoniarum* Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 160, 423-424, pl. 134: figs 1-4 (2000).
- Brachysira guttiformis* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 95-96, pl. 36: figs 5-7 (1998).
- Brachysira hofmanniae* Lange-Bert., Biblioth. Diatomol. 29, p. 31, pl. 8: figs 1-18, pl. 9: figs 1-3 (1994).
- Brachysira inamoena* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 24, pl. 104: figs 6-9 (1998).
- Brachysira incognita* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 96-97, pl. 39: figs 16-19 (1998). [Comment: validation of *Brachysira incognita* Gerd Moser et Lange-Bert., nom. inval., Biblioth. Diatomol. 29, p. 32, pl. 25: fig. 9 (1994).]
- Brachysira inflata* Lange-Bert., Biblioth. Diatomol. 29, p. 32-33, pl. 25: figs 5-8 (1994).
- Brachysira insolita* Lange-Bert. et Gerd Moser, nom. inval., Biblioth. Diatomol. 29, p. 33-34, pl. 29: figs 19-20 (1994). [Comment: lacking a type and a Latin diagnosis this name is invalidly published.]
- Brachysira insulsa* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 24-25, pl. 107: figs 1-4 (1998).
- Brachysira irawanoides* Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 29, p. 36, pl. 30: figs 12-16 (1994).
- Brachysira julio* Lange-Bert., Biblioth. Diatomol. 29, p. 37, pl. 40: figs 1-9 (1994).
- Brachysira krammeri* Lange-Bert., Biblioth. Diatomol. 29, p. 37-38, pl. 16: figs 8-17, pl. 22: figs 4-6 (1994).
- Brachysira kuntzei* (Reichelt) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 25 (1998).
Basionym: *Navicula kuntzei* Reichelt in Kuntze, Revisio Generum plantarum, 3 (1), p. 391, fig. 3a (1898).
- Brachysira lange-bertalotii* Metzeltin, Iconogr. Diatomol. 5, p. 25-26, pl. 103: figs 5-8, pl. 106: figs 6-7 (1998).
- Brachysira lecohui* Lange-Bert., Biblioth. Diatomol. 29, p. 39, pl. 15: figs 8-13, pl. 22: figs 2-3, pl. 40: fig. 14 [valve on the right hand side] (1994).
- Brachysira lehmanniae* Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 29, p. 40, pl. 39: figs 13-17 (1994).
- Brachysira liliana* Lange-Bert., Biblioth. Diatomol. 29, p. 41, pl. 10: figs 1-12 (1994).
- Brachysira macroserians* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 26, pl. 103: figs 1-4 (1998).
- Brachysira maillardii* Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 29, p. 43, pl. 29: figs 11-17 (1994).
- Brachysira manfredii* Lange-Bert., Biblioth. Diatomol. 29, p. 44, pl. 32: figs 6-14, pl. 48: figs 8-9 (1994).
- Brachysira metzeltinii* Lange-Bert., Biblioth. Diatomol. 29, p. 45, pl. 17: figs 1-6, pl. 18: figs 5-6, pl. 40: fig. 14 [valve on the left hand side] (1994).
- Brachysira microclava* Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 29, p. 46, pl. 30: figs 1-9 (1994).
- Brachysira microserians* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 27, pl. 102: figs 1-5, 10-11 (1998).
- Brachysira nanoclava* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 97-98, pl. 37: figs 16-22 (1998).
- Brachysira neoacuta* Lange-Bert., Biblioth. Diatomol. 29, p. 48, pl. 14: figs 9-10, pl. 15: figs 1-7, pl. 18: figs 3-4 (1994).

Brachysira neoexilis Lange-Bert., Biblioth. Diatomol. 29, p. 51-52, pl. 5: figs 1-35, pl. 6: figs 1-6, pl. 17: figs 7-11, pl. 32: figs 27-30, pl. 46: figs 19-27 (1994). [Comment: *Brachysira neoexilis* on p. 194 (= caption of pl. 46: figs 19-27) is cited as "*Brachysira neoexilis* Lange-Bert. or cf. *neoexilis*".]

[Taxonomic (i.e. heterotypic) synonym of *Brachysira microcephala* (Grunow) Compère, according to Wolfe & Kling, Lange-Bertalot-Festschrift, p. 250 (2001).]

Brachysira nubigena Lange-Bert., Biblioth. Diatomol. 29, p. 54, pl. 38: figs 1-4, pl. 39: figs 7-12 (1994).

Brachysira procera Lange-Bert. et Gerd Moser, p. 55-56, pl. 7: figs 8-26, pl. 9: figs 4-6, pl. 32: figs 21-26 (1994).

[Comment: *Brachysira procera* on p. 166 (= caption of pl. 32: figs 21-26) is cited as "*Brachysira* species cf. *procera*".]

Brachysira pseudoacuta Lange-Bert., Biblioth. Diatomol. 29, p. 57, pl. 16: figs 1-7, pl. 18: figs 1-2 (1994).

Brachysira pseudoeexilis Lange-Bert. et Gerd Moser, nom. inval., Biblioth. Diatomol. 29, p. 58, pl. 17: figs 12-26, pl. 19: figs 1-6 (1994). [Comment: lacking a type and a Latin diagnosis this name is invalidly published.]

Brachysira pulchra Lange-Bert., Biblioth. Diatomol. 29, p. 58-59, pl. 39: figs 1-6 (1994).

Brachysira pumila Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 28, pl. 102: figs 13-17 (1998).

Brachysira rostrata (Krasske) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 28 (1998).

Basionym: *Anomoeoneis serians* var. *rostrata* Krasske, Svensk Bot. Tidskr. 42, p. 427, pl. 1: figs 28-29 (1948).

Brachysira rumrichiae Lange-Bert., Biblioth. Diatomol. 29, p. 59-60, pl. 26: figs 1-7 (1994).

Brachysira ruppeliana Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 98-99, pl. 38: figs 1-3, pl. 39: figs 12-15 (1998).

Brachysira seippii Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 29, p. 60, pl. 29: figs 6-10 (1994).

Brachysira silvicola Lange-Bert., Biblioth. Diatomol. 29, p. 63, pl. 27: figs 16-23, pl. 28: figs 1-5 (1994).

Brachysira simplex Lange-Bert., Biblioth. Diatomol. 29, p. 64, pl. 40: figs 10-13 (1994).

Brachysira speluncola Lange-Bert., Biblioth. Diatomol. 29, p. 66, pl. 21: figs 5-6, pl. 22: fig. 1, pl. 23: figs 8-15 (1994).

Brachysira spicula Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 99-100, pl. 37: figs 10-15 (1998).

Brachysira starmuehlneri (R. Maillard) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 100 (1998).

Basionym: *Anomoeoneis starmuehlneri* R. Maillard in Gerd Moser, Lange-Bertalot et Metzeltin, Biblioth. Diatomol. 38, p. 100.

[– *Brachysira starmuehlneri* (R. Maillard) Gerd Moser, Steindorf et Lange-Bert., nom. inval., Biblioth. Diatomol. 32, p. 55 (1995).]

Brachysira steindorfiana Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 101, pl. 37: figs 1-4 (1998).

Brachysira steinitziae Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 29, pl. 102: figs 18-22, pl. 108: fig. 7 (1998). [Comment: see *Brachysira calligraphica*.]

Brachysira sublinearis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 29, pl. 107: fig. 15, pl. 108: figs 5-6 (1998).

Brachysira subrostrata Lange-Bert., Biblioth. Diatomol. 29, p. 68, pl. 35: figs 7-11, pl. 36: fig. 9 (1994).

Brachysira supriniana Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 103-104, pl. 39: figs 9-11, pl. 40: figs 1-5 (1998).

Brachysira tenuiserians Lange-Bert., Biblioth. Diatomol. 29, p. 69, pl. 14: figs 5-8 (1994).

Brachysira trinodis Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 29, p. 70, pl. 24: figs 1-4 (1994).

Brachysira wygaschii Lange-Bert., Biblioth. Diatomol. 29, p. 72, pl. 2: figs 3-6, pl. 13: figs 1-11 (1994).

***BREVISIRA* Krammer, Jahn et al., Lange-Bert.-Festschrift, p. 19 (2001)** [Typus generis: *Brevisira arentii* (Kolbe) Krammer in Jahn et al., Lange-Bertalot-Festschrift, p. 19 (2001).]

Brevisira arentii (Kolbe) Krammer in Jahn et al., Lange-Bertalot-Festschrift, p. 19 (2001)

Basionym: *Cyclotella arentii* Kolbe, Svensk Bot. Tidskr. 42, p. 464, figs 9-10 (1948). [*Brevisira arentii* is the type of the name of the genus *BREVISIRA*.]

***CALONEIS* Cleve**

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=171].

Caloneis arctica (Krasske) Lange-Bert., Iconogr. Diatomol. 6, p. 34 (1999).

Basionym: *Caloneis silicula* [var. *alpina*] f. *arctica* Krasske, Arch. Hydrobiol. 33, p. 526 (1938).

Caloneis constans E.Reichardt, Ber. Bayer. Bot. Ges. 64, p. 124, pl. 2: figs 1-7, pl. 4: fig. 6 (1994).

Caloneis fontinalis (Grunow) Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 2, p. 29 (1996).

Basionym: *Navicula fontinalis* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, p. 103, pl. 12: fig. 33 (1880-1885).

Caloneis hendeyi Lange-Bert., Iconogr. Diatomol. 6, p. 34 (1999).

Replaced synonym: *Stauroneis amphioxys* var. *obtusa* Hendey, Fishery Investigations Ser. IV, Part V, Bacillariophyceae, p. 220 (partim?), pl. 43: fig. 9 (7, 8?) (1964).

Caloneis intermedia (Manguin ex Kociolek et Reviers) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 26 (1998).

Basionym: *Caloneis clevei* var. *intermedia* Manguin ex Kociolek et Reviers, Cryptog. Algol. 17 (3), p. 207 (1996).

Caloneis kristinae Gerd Moser, Biblioth. Diatomol. 38, p. 105, pl. 54: figs 1-6 (1998).

Caloneis lancettula (Schulz-Danzig) Lange-Bert. et Witkowski, Iconogr. Diatomol. 2, p. 29 (1996).

Basionym: *Caloneis aemula* var. *lancettula* Schulz-Danzig, Bot. Arch. 13, p. 202, fig. 74e (1926).

Caloneis odiosa (Manguin ex Kociolek et Reviers) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 26 (1998).

Basionym: *Pinnularia odiosa* Manguin ex Kociolek et Reviers, Cryptog. Algol. 17 (3), p. 206 (1996).

Caloneis subclevei Krammer, Biblioth. Diatomol. 9, p. 21, pl. 15: figs 5-11 (1985).

Caloneis undulatiformis Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 9, p. 100 (2000).

Replaced synonym: *Caloneis clevei* var. *undulata* Krasske, Arch. Hydrobiol. 35, p. 379, pl. 11: figs 15-17 (1939).

CAMPYLODISCUS Ehrenb. ex Kütz.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=302].

Campylodiscus indianorum Lange-Bert. et Metzeltin, Nova Hedwigia Beih. 112, p. 325, fig. 13-20 (1996).

CAPARTOGRAMMA Kuff.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=412].

Capartogramma pumila Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 30-31, pl. 98: figs 6-9 (1998).

CATENULA Mereschk.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=172].

Catenula robusta Witkowski, Lange-Bert. et Metzeltin Iconogr. Diatomol. 7, p. 168, 424, pl. 170: figs 13-14 (2000).

CAVINULA D.G. Mann & A.J. Stickle

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=365].

Cavinula cocconeiformis* f. *elliptica (Hust.) Lange-Bert., Iconogr. Diatomol. 2, p. 30 (1996).

Basionym: *Navicula cocconeiformis* f. *elliptica* Hust., Arch. Hydrobiol. 48, p. 470 (1954).

Cavinula intractata (Hust.) Lange-Bert., Iconogr. Diatomol. 2, p. 30 (1996).

Basionym: *Navicula intractata* Hust., Rabenhorsts Kryptogamenflora 7 (3) 1. Lieferung, p. 136, fig. 1269 (1961).

Cavinula lapidosa (Krasske) Lange-Bert., Iconogr. Diatomol. 2, p. 30 (1996).

Basionym: *Navicula lapidosa* Krasske, Bot. Arch. 27, p. 354, fig. 7 (1929).

Cavinula mollicula (Hust.) Lange-Bert., Iconogr. Diatomol. 2, p. 31 (1996).

Basionym: *Navicula mollicula* Hust., Arch. Hydrobiol. 40, p. 917, pl. 41: figs 34-36 (1945).

Cavinula scutelloides (W.Sm.) Lange-Bert., Iconogr. Diatomol. 2, p. 31 (1996).

Basionym: *Navicula scutelloides* W.Sm., Quart. J. Microscop. Sci. 4, p. 4, pl. 1: fig. 15 (1856).

Cavinula thoroddsenii (Foged) Lange-Bert., Iconogr. Diatomol. 2, p. 31 (1996).

Basionym: *Navicula thoroddsenii* Foged, Biblioth. Phycol. 15, p. 83, pl. 16: figs 7-10 (1974).

CHAMAEPINNULARIA Lange-Bert. et Krammer, Iconogr. Diatomol. 2, p. 32 (1996). [Typus generis: *Chamaepinnularia vyvermanii* Lange-Bert. et Krammer, Iconogr. Diatomol. 2, p. 37 (1996).]

Chamaepinnularia alexandrowiczii Witkowski, Lange-Bert. et Metzeltin Iconogr. Diatomol. 7, p. 168, 423, pl. 69: figs 1-6 (2000).

[Comment: In Metzeltin & Kusber (2001), p. 579, the genus name was misspelled as "*Chameapinnularia*".]

Chamaepinnularia begeri (Krasske) Lange-Bert., Iconogr. Diatomol. 2, p. 33 (1996).

Basionym: *Navicula begeri* Krasske, Hedwigia 72, p. 113, pl. 3: fig. 16 (1932).

Chamaepinnularia brasiliana Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 31-32, pl. 86: figs 25-27 (1998).

Chamaepinnularia brasilianopsis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 32, pl. 86: figs 21-24 (1998).

Chamaepinnularia bremensis (Hust.) Lange-Bert., Iconogr. Diatomol. 2, p. 34 (1996).

Basionym: *Navicula bremensis* Hust., Abh. Naturwiss. Vereine Bremen 34, p. 284, figs 34-35 (1957).

Chamaepinnularia calida (Hendey) Lange-Bert., Iconogr. Diatomol. 6, p. 35 (1999).

Basionym: *Navicula calida* Hendey, Fishery Investigations Ser. IV, Part V, Bacillariophyceae, p. 198, pl. 43: figs 10-11 (1964).

Chamaepinnularia circumborealis Lange-Bert., Iconogr. Diatomol. 6, p. 35, pl. 45: figs 15-18, pl. 48: figs 1-5, pl. 54: fig. 9 (1999).

Chamaepinnularia clamans (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 169 (2000).

Basionym: *Navicula clamans* Hust., Abh. Naturwiss. Vereine Bremen 31, p. 624, figs 75-77 (1939).

Chamaepinnularia distantepunctata (Simonsen) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 169 (2000).

Basionym: *Navicula distantepunctata* Simonsen 1974, The Diatom Plankton of the Indian Ocean. "Meteor"

Forschungsergebnisse, D 19, p. 41, pl. 26: fig. 4.

Chamaepinnularia evanida (Hust.) Lange-Bert., Iconogr. Diatomol. 2, p. 34 (1996).

Basionym: *Navicula evanida* Hust., Ber. Deutsch. Bot. Ges. 60, p. 66, figs 20-21 (1942).

Chamaepinnularia ferrarioana Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 33, pl. 86: figs 28-31 (1998).

Chamaepinnularia gandrupii (J.B.Petersen) Lange-Bert. et Krammer var. *gandrupii*, Iconogr. Diatomol. 2, p. 34 (1996).

Basionym: *Pinnularia gandrupii* J.B.Petersen, Kongel. Danske Vidensk.-Selsk. Skr. Afd. 12, Raekke 7, p. 16, fig. 4 (1924).

[≡ *Navicula gandrupii* (J.B.Petersen) Krasske, Arch. Hydrobiol. 31, p. 528 (1938).]

Chamaepinnularia gandrupii* var. *simplex (Krasske) Lange-Bert. et Krammer, Iconogr. Diatomol. 2, p. 34 (1996).

Basionym: *Navicula gandrupii* var. *simplex* Krasske, Arch. Hydrobiol. 31, p. 528, pl. 11: figs 9-10 (1938).

Chamaepinnularia justa (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 170 (2000).

Basionym: *Navicula justa* Hust., Bull. Duke Univ. Mar. Sta. 6, p. 31, pl. 7: fig. 30 (1955).

Chamaepinnularia krasskei Lange-Bert., Iconogr. Diatomol. 6, p. 36, pl. 46: figs 1-10 (1999).

Chamaepinnularia krookiformis (Krammer) Lange-Bert. et Krammer, Iconogr. Diatomol. 6, p. 37 (1999).

Basionym: *Pinnularia krookiformis* Krammer, Biblioth. Diatomol. 26, p. 79, pl. 18: figs 14-21 (1992).

Chamaepinnularia krookii (Grunow) Lange-Bert. et Krammer, Iconogr. Diatomol. 6, p. 37 (1999).

Basionym: *Navicula krookii* Grunow in E. Mojsisovics et M. Neumayer, Beiträge z. Paläontologie Österreich-Ungarns u. des Orients 2 (4), p. 155, pl. 30: fig. 40 (1882).

Chamaepinnularia margaritacea (Hust.) Lange-Bert., Iconogr. Diatomol. 2, p. 34 (1996).

Basionym: *Navicula margaritacea* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 402: figs 61-62 (1936).

Chamaepinnularia margaritiana (Witkowski) Witkowski, Iconogr. Diatomol. 2, p. 34 (1996).

Basionym: *Navicula margaritiana* Witkowski, Biblioth. Diatomol. 28, p. 151, pl. 37: figs 1-9 (1994).

Chamaepinnularia mediocriformis (Coste et Ricard) Lange-Bert., Iconogr. Diatomol. 2, p. 34 (1996).

Basionym: *Navicula mediocriformis* Coste et Ricard, Cryptog. Algol. 3, p. 291, pl. 3: figs 21-22, pl. 6: fig. 14 (1982).

Chamaepinnularia mediocris (Krasske) Lange-Bert. var. *mediocris*, Iconogr. Diatomol. 2, p. 35 (1996).

Basionym: *Navicula mediocris* Krasske, Hedwigia 72, p. 113, pl. 3: fig. 15 (1932).

Chamaepinnularia mediocris* var. *atomus (Hust.) Lange-Bert., Iconogr. Diatomol. 2, p. 35 (1996).

Basionym: *Pinnularia atomus* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 390: figs 20-23 (1934).

Chamaepinnularia reinventa Lange-Bert. et Wydrzycka ssp. *reinventa*, Brenesia 55-56, p. 5-6, pl. 4: figs 6-7 (2001). [As a part of the protologue is cited: Lange-Bertalot & Metzeltin Iconogr. Diatomol. 2, pl. 28: figs 60-63, pl. 118: figs 6-7 (1996)]

in the Latin diagnosis. Comment: in Lange-Bertalot & Metzeltin (1996) *Chamaepinnularia reinventa* ssp. *reinventa* is cited as "*Chamaepinnularia* spec. Nr. 3 Julma Ölkky aff. *begeri*".]

Chamaepinnularia reinventa* ssp. *urtroquarea Wydrzycka et Lange-Bert., Brenesia 55-56, p. 6, pl. 4: figs 8-11 (2001).

Chamaepinnularia resolutata Lange-Bert. et Wydrzycka, Brenesia 55-56, p. 6-7, pl. 4: figs 1-5 (2001). [As a part of the protologue is cited: Lange-Bertalot & Metzeltin (1996) Iconogr. Diatomol. 2, "fig. 37-39c (nec. d et e)" i.e. pl. 28: figs 37-38, 39a-c. Comment: in Lange-Bertalot & Metzeltin (1996) *Chamaepinnularia resolutata* is cited as "*Chamaepinnularia* (?nov.) spec. Nr. 2 Julma Ölkky".]

Chamaepinnularia rhombelliptica Lange-Bert., Iconogr. Diatomol. 2, p. 35, pl. 28: figs 27-30 (1996).

Chamaepinnularia rupicola (Hust.) Lange-Bert., Iconogr. Diatomol. 2, p. 35 (1996).

Basionym: *Navicula rupicola* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 401: figs 103-105 (1936).

Chamaepinnularia schaupiana Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 36, pl. 28: figs 43-47c (1996).

Chamaepinnularia soehrensensis (Krasske) Lange-Bert. et Krammer var. *soehrensensis*, Iconogr. Diatomol. 2, p. 36 (1996).

Basionym: *Navicula soehrensensis* Krasske, Bot. Arch. 3, p. 198, fig. 2 (1923).

Chamaepinnularia soehrensensis* var. *capitata (Krasske) Lange-Bert. et Krammer, Iconogr. Diatomol. 2, p. 37 (1996).

Basionym: *Navicula soehrensensis* var. *capitata* Krasske, Abh. Ber. Vereins Naturk. Kassel, 84-89, p. 47, pl. 2: fig. 37 (1925).

Chamaepinnularia soehrensensis* var. *hassica (Krasske) Lange-Bert., Iconogr. Diatomol. 2, p. 37 (1996).

Basionym: *Navicula hassica* Krasske, Abh. Ber. Vereins Naturk. Kassel, 84-89, p. 47, pl. 2: fig. 26 (1925).

[≡ *Navicula soehrensensis* var. *hassica* (Krasske) Lange-Bert.]

Chamaepinnularia soehrensensis* var. *musciicola (J.B.Petersen) Lange-Bert. et Krammer, Iconogr. Diatomol. 2, p. 37 (1996).

Basionym: *Pinnularia musciicola* J.B.Petersen, p. 407, Botany of Iceland 2, fig. 27 (1928).

[≡ *Navicula soehrensensis* var. *musciicola* (J.B.Petersen) Krasske, Bot. Arch. 27, p. 373 (1929).]

Chamaepinnularia submusciola (Krasske) Lange-Bert., Biblioth. Diatomol. 38, p. 27 (1998).

Basionym: *Navicula submusciola* Krasske, Arch. Hydrobiol. 35, p. 385, pl. 11: fig. 32 (1939).

Chamaepinnularia tongatensis (Hust.) Lange-Bert., Iconogr. Diatomol. 2, p. 37 (1996).

Basionym: *Navicula tongatensis* Hust., Rabenhorsts Kryptogamenflora 7 (3) 2. Lieferung, p. 227, fig. 1345 (1962).

Chamaepinnularia truncata (Dieter König) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 171 (2000).

Basionym: *Caloneis truncata* Dieter König, Z. Deutsch. Geol. Ges. 111, p. 54, pl. 2: figs 11a-c, pl. 3: figs 9a-d (1959).

Chamaepinnularia vyvermanii Lange-Bert. et Krammer, Iconogr. Diatomol. 2, p. 37 (1996). [As a part of the protologue is cited: Krammer & Lange-Bertalot (1985) Biblioth. Diatomol. 9, pl. 26: figs 1-6, 22-24 is cited. Comment: in Krammer & Lange-Bertalot (1985) *Chamaepinnularia vyvermanii* is cited as "*Navicula* spec. aus Irland und Finnland". In Iconogr. Diatomol. 2 on p. 37 "Krammer" is missing.] [*Chamaepinnularia vyvermanii* is the type of the name of the genus *CHAMAEPINNULARIA* Lange-Bert. et Krammer.]

Chamaepinnularia wiktoriae (Witkowski et Lange-Bert.) Witkowski et Lange-Bert., Iconogr. Diatomol. 2, p. 38 (1996).

Basionym: *Navicula wiktoriae* Witkowski et Lange-Bert., Biblioth. Diatomol. 28, p. 162, pl. 34: figs 1-13 (1994).

[Comment: This new combination was again published as: *Chamaepinnularia wiktoriae* (Witkowski et Lange-Bert.)

Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 171 (2000).]

***COCCONEIOPSIS* Witkowski, Lange-Bert. et Metzeltin**, Iconogr. Diatomol. 7, p. 172, 424 (2000). [Typus generis:

Cocconeopsis orthoneoides (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 174 (2000).]

Cocconeopsis breviata (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 172 (2000).

Basionym: *Navicula breviata* Hust., Rabenhorsts Kryptogamenflora 7 (3) 4. Lieferung, p. 637, fig. 1635 (1966).

Cocconeopsis fraudulenta (A.W.F.Schmidt) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 173 (2000).

Basionym: *Navicula fraudulenta* A.W.F.Schmidt in A. Schmidt's Atlas der Diatomaceenkunde, pl. 70: fig. 60 (1881).

Cocconeopsis girondica (Dieter König) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 173 (2000).

Basionym: *Navicula girondica* Dieter König, Z. Deutsch. Geol. Ges. 111, p. 51, pl. 2: fig. 5, pl. 3: fig. 7 (1959).

Cocconeopsis kantsinensis (Giffen) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 173 (2000).

Basionym: *Navicula kantsinensis* Giffen, Nova Hedwigia 13, p. 269, figs 65-67 (1967).

Cocconeopsis orthoneoides (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 174 (2000).

Basionym: *Navicula orthoneoides* Hust., Duke Univ. Mar. Sta. Bull. 6, p. 31, pl. 7: fig. 14 (1955).

Cocconeopsis patrickae (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 174 (2000).

Basionym: *Navicula patrickae* Hust., Duke Univ. Mar. Sta. Bull. 6, p. 26, pl. 8: figs 15-16 (1955).

Cocconeopsis pseudoorthoneoides (Foged) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 175 (2000).

Basionym: *Navicula pseudoorthoneoides* Foged, Biblioth. Phycol. 16, p. 42, pl. 20: fig. 12 (1975).

Cocconeopsis pullus (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 175 (2000).

Basionym: *Navicula pullus* Hust., Duke Univ. Mar. Sta. Bull. 6, p. 20, pl. 7: fig. 18 (1955).

Cocconeopsis regularis (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 176 (2000).

Basionym: *Navicula regularis* Hust., Duke Univ. Mar. Sta. Bull. 6, p. 30, pl. 7: fig. 17 (1955).

Cocconeopsis wrightii (O'Meara) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 176 (2000).

Basionym: *Cocconeis wrightii* O'Meara, Quart. J. Microscop. Soc. 7, p. 246, pl. 7: fig. 6. (1876).

COCCONEIS Ehrenb.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=187].

Cocconeis capensis (Cholnoky) Witkowski, Iconogr. Diatomol. 7, p. 103 (2000).

Basionym: *Cocconeis clandestina* var. *capensis* Cholnoky, Bot. Mar. 5, p. 42, figs 6-7. (1963).

Cocconeis egregia Gerd Moser, Steindorf et Lange-Bert., Biblioth. Diatomol. 32, p. 60, pl. 13: figs 1-9 (1995).

Cocconeis hauniensis Witkowski emend. Witkowski, Iconogr. Diatomol. 7, p. 108 (2000).

Cocconeis hauniensis Witkowski, Nord. J. Bot. 13, p. 468, pl. 1: figs A-N, pl. 2: figs A-C, pl. 3: figs A-D (1993).

Cocconeis irregularis (Schulz-Danzig) Witkowski, Iconogr. Diatomol. 7, p. 109 (2000).

Basionym: *Cocconeis scutellum* var. *irregularis* Schulz-Danzig, Bot. Arch. 13, p. 193, fig. 48. (1926).

Cocconeis krammeri Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 39, pl. 19: figs 11-19 (1996). [Comment: *Cocconeis krammeri* is not documented on pl. 19: figs 20-22' as cited on p. 39.]

Cocconeis pseudothumensis E.Reichardt, Ber. Bayer. Bot. Ges. 53, p. 99, pl. 1: figs 1-5 (1982).

COSMIONEIS D.G.Mann et A.J.Stickle in F.E. Round, R.M. Crawford & D.G. Mann

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=366]

Cosmioneis eta (Cleve) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 176 (2000).

Basionym: *Navicula eta* Cleve, Diatomiste 2, p. 13, pl. 1: fig. 5 (1893).

COSTERICARDIA Lange-Bert. (subgenus within **GOMPHOSPHENIA**), Biblioth. Diatomol. 38, p. 192-193 (1998).

[Typus subgeneris: *Gomphosphenia oahuensis* (Hust.) Lange-Bert., Biblioth. Diatomol. 38, p. 193 (1998).]

COXIA Lange-Bert. et Gerd Moser, nom. illeg., Biblioth. Diatomol. 38, p. 107-110 (1998). [Comment: intended type of the name of the genus *COXIA* Lange-Bert. et Gerd Moser: *Coxia guillauminii* (Manguin [ex Kociolek et Reviers]) Lange-Bert., Biblioth. Diatomol. 38, p. 110 (1998). *COXIA* Lange-Bert. et Gerd Moser is a later homonym of *COXIA* Endlicher, hence illegitimate. For *COXIA* Endlicher see: http://www.ipni.org/ipni/IpniServlet?id=32773-1&query_type=by_id.]

Coxia guillauminii (Manguin ex Kociolek et Reviers) Lange-Bert., Biblioth. Diatomol. 38, p. 110 (1998).

Basionym: *Amphipleura guillauminii* Manguin ex Kociolek et Reviers, Cryptog. Algol. 17 (3), p. 200 (1996).

CRATICULA Grunow

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=814]

Craticula accomodiformis Lange-Bert., Biblioth. Diatomol. 27, p. 13, pl. 69: figs 6-8, 10, pl. 71: fig. 6 (1993).

Craticula acidoclinata Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 41, pl. 26: figs 1-3 (1996).

Craticula buderii (Hust.) Lange-Bert., Iconogr. Diatomol. 9, p. 101 (2000).

Basionym: *Navicula buderii* Hust., Ber. Deutsch. Bot. Ges. 67, p. 279, figs 11-15 (1954).

[Comment: Erroneously this combination again was marked as new by Lange-Bert. in E. Nevo & S.P. Wasser: Biodiversity of cyanoprocarvates and algae of continental Israel, p. 236 (2000).]

Craticula citrus (Krasske) E.Reichardt, Diatom Res. 12, p. 305 (1997).

Basionym: *Navicula citrus* Krasske, Bot. Arch. 3, p. 199, fig. 14 (1923).

Craticula dissociata (E.Reichardt) E.Reichardt, Diatom Res. 12, p. 305 (1997).

Basionym: *Navicula dissociata* E.Reichardt, Biblioth. Diatomol. 6, p. 44, pl. 11: fig. 20 (1984).

Craticula halopannonica Lange-Bert., Diatoms of Europe 2, p. 218, pl. 85: figs 1-6 (2001).

- Craticula halophilioides*** (Hust.) Lange-Bert., *Diatoms of Europe* 2, p. 114, (2001).
Basionym: *Navicula halophilioides* Hust., *Oesterr. Bot. Z.* 106, p. 402, figs 4-7 (1959).
- Craticula minusculoides*** (Hust.) Lange-Bert., *Diatoms of Europe* 2, p. 115, (2001).
Basionym: *Navicula minusculoides* Hust., *Ber. Deutsch. Bot. Ges.* 60, p. 68, fig. 5 (1942).
- Craticula molesta*** (Krasske) Lange-Bert. et Willmann, *Iconogr. Diatomol.* 3, p. 130 (1996).
Basionym: *Navicula molesta* Krasske, *Arch. Hydrobiol.* 33, p. 528, pl. 11: fig. 20 (1938).
- Craticula molestiformis*** (Hust.) Lange-Bert., *Iconogr. Diatomol.* 9, p. 101 (2000).
Basionym: *Navicula molestiformis* Hust., *Expl. Parc. Natl. Albert. Mission Damas*, p. 86, figs 5-9 (1949).
- Craticula riparia*** (Hust.) Lange-Bert. var. *riparia*, *Biblioth. Diatomol.* 27, p. 14 (1993).
Basionym: *Navicula riparia* Hust., *Int. Rev. Gesamten Hydrobiol. Hydrogr.* 42, p. 52, figs 77-78 (1942).
- Craticula riparia* var. *mollenhaueri*** Lange-Bert., *Biblioth. Diatomol.* 27, p. 14-15, pl. 70: figs 10-13 (1993).
- Craticula subhalophila*** (Hust.) Lange-Bert., *Biblioth. Diatomol.* 27, p. 16 (1993).
Basionym: *Navicula subhalophila* Hust., *Arch. Hydrobiol. Suppl.* 15, p. 229, pl. 17: fig. 1 (1937).
- Craticula submolesta*** (Hust.) Lange-Bert., *Iconogr. Diatomol.* 2, p. 42 (1996).
Basionym: *Navicula submolesta* Hust., *Mission H. Damas (1935-1936), Explor. Parc Natl. Albert.* 8, p. 86, pl. 5: figs 16-18 (1949).
- Craticula sverirschopkae*** Lange-Bert., *Diatoms of Europe* 2, p. 218, pl. 92: figs 17-19 (2001).
- Craticula vixnegligenda*** Lange-Bert., *Biblioth. Diatomol.* 27, p. 16, pl. 70: figs 15-18, pl. 72: figs 13-15 (1993).
- Craticula vixvisibilis*** (Hust.) Lange-Bert. var. *vixvisibilis*, *Biblioth. Diatomol.* 27, p. 17 (1993).
Basionym: *Navicula vixvisibilis* Hust., *Arch. Hydrobiol. Suppl.* 15, p. 230, pl. 17: fig. 2 (1937).
- Craticula vixvisibilis* var. *distinctior*** Lange-Bert., *Biblioth. Diatomol.* 27, p. 18, pl. 72: figs 1-4 (1993).
- CULTRIA* Metzeltin et Lange-Bert. (subgenus within *EUNOTIA*)** *Iconogr. Diatomol.* 5, p. 46 (1998). [Typus subgeneris: *Eunotia falcifera* Metzeltin et Lange-Bert., *Iconogr. Diatomol.* 5, p. 60 (1998).]
- CYMATONEIS* Cleve**
[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=174].
- Cymatoneis margarita*** Witkowski, *Iconogr. Diatomol.* 7, p. 179, 425, pl. 109: figs 9-17 (2000).
- CYMBELLA* C.Agardh**
[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=962].
- Cymbella affinis*** Krammer, *Diatoms of Europe* 3, p. 162, pl. 25: figs 1-8 (2002).
- Cymbella affinis* var. *procera*** Krammer, *Diatoms of Europe* 3, p. 161, pl. 22: figs 8-13 (2002).
- Cymbella alpestris*** Krammer, *Diatoms of Europe* 3, p. 163, pl. 33: figs 1-13 (2002).
- Cymbella arctissima*** Metzeltin in Krammer, *Diatoms of Europe* 3, p. 170, pl. 106: figs 1-3 (2002).
- Cymbella bengaliformis*** Krammer, *Diatoms of Europe* 3, p. 172, pl. 142: figs 8-9 (2002). [Comment: *Cymbella bengaliformis* is not documented on pl. 133: figs 1-4 as cited on p. 172.]
- Cymbella buechleri*** Krammer, *Diatoms of Europe* 3, p. 171, pl. 116: fig. 1 (2002).
- Cymbella cantonatii*** Lange-Bert., *Diatoms of Europe* 3, p. 174, pl. 172: figs 1-7 (2002).
- Cymbella cistuliformis*** Krammer, *Diatoms of Europe* 3, p. 170, pl. 101: figs 1-4, pl. 102: figs 1-5 (2002).
- Cymbella descripta*** (Hust.) Krammer et Lange-Bert., *Biblioth. Diatomol.* 9, p. 24 (1985).
Basionym: *Navicula descripta* Hust., *Int. Rev. Gesamten Hydrobiol. Hydrogr.* 43, p. 170, fig. 25 (1943).
- Cymbella diversa*** Krammer, *Diatoms of Europe* 3, p. 168, pl. 68: figs 1-9 (2002).
- Cymbella diversiformis*** Krammer, *Diatoms of Europe* 3, p. 167, pl. 67: figs 1-2 (2002).
- Cymbella diversistigmata*** Krammer, *Diatoms of Europe* 3, p. 165, pl. 40: figs 1-11 (2002).
- Cymbella dorsirostrata*** Krammer, *Diatoms of Europe* 3, p. 159, pl. 10: figs 1-9 (2002).
- Cymbella duplopunctata*** Krammer, *Diatoms of Europe* 3, p. 171, pl. 116: figs 2-6 (2002).

Cymbella elginensis Krammer, Bacillaria 4, p. 136 (1981).

Replaced synonym: *Cymbella turgida* W.Greg., Quart. J. Microsc. Sci. 4, p. 5, pl. 1: fig 18 (1856).

Cymbella elizabethana Krammer, Diatoms of Europe 3, p. 83, 168, pl. 26: figs 9-10 (2002). [Comment: on p. 242 (= caption of pl. 26: figs 9-10) the authors are cited as "Krammer et Buechler".]

Cymbella excisa var. *angusta* Krammer, Diatoms of Europe 3, p. 159, pl. 9: figs 8-13 (2002).

Cymbella excisa var. *procera* Krammer, Diatoms of Europe 3, p. 159, pl. 9: figs 1-7 (2002).

Cymbella excisa var. *subcapitata* Krammer, Diatoms of Europe 3, p. 159, pl. 10: figs 14-18 (2002).

Cymbella excisiformis Krammer var. *excisiformis*, Diatoms of Europe 3, p. 160, pl. 11: figs 9-16 (2002).

Cymbella excisiformis var. *nonprotracta* Krammer, Diatoms of Europe 3, p. 160, pl. 37: figs 8-15 (2002).

Cymbella exigua Krammer, Diatoms of Europe 3, p. 159, pl. 10: figs 19-24 (2002).

Cymbella falaisensis (Grunow) Krammer et Lange-Bert., Biblioth. Diatomol. 9, p. 26 (1985).

Basionym: *Navicula falaisensis* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, p. 108, pl. 14: fig. 5 (1880).

Cymbella geddiana Krammer et Lange-Bert., Diatoms of Europe 3, p. 62, 165, pl. 44: figs 14-18 (2002). [Comment: on p. 165 "Lange-Bert." is missing.]

Cymbella gemeinhardtii Metzeltin et Krammer, Diatoms of Europe 3, p. 172, pl. 152: figs 1-7 (2002). [Comment: *Cymbella gemeinhardtii* is not documented on pl. 146: figs 1-7 as cited on p. 172.]

Cymbella gondwana Lange-Bert., Krammer et U.Rumrich, Iconogr. Diatomol. 9, p. 101-102, pl. 119: figs 6-11, pl. 121: figs 5-6 (2000).

Cymbella graciliformis Krammer, Diatoms of Europe 3, p. 167, pl. 54: figs 12-15 (2002).

Cymbella guettingeri Krammer, Diatoms of Europe 3, p. 169, pl. 75: figs 1-9 (2002).

Cymbella halophila Krammer, Diatoms of Europe 3, p. 172, pl. 135: figs 1-7 (2002). [Comment: *Cymbella halophila* is not documented on pl. 129: figs 1-7 as cited on p. 172.]

Cymbella hantzschiana var. *borealis* Krammer, Diatoms of Europe 3, p. 162, pl. 29: figs 7-12 (2002).

Cymbella hantzschiana var. *strontiana* Krammer, Diatoms of Europe 3, p. 162, pl. 30: figs 9-14 (2002).

Cymbella hedinii Krammer, Diatoms of Europe 3, p. 159, pl. 29: figs 13-16 (2002).

Cymbella hofmanniae Lange-Bert. et Krammer, Diatoms of Europe 3, p. 164, pl. 43: figs 1-11 (2002).

Cymbella hustedtii var. *compacta* Krammer, Diatoms of Europe 3, p. 173, pl. 160: figs 19-20 (2002). [Comment: *Cymbella hustedtii* var. *compacta* is not documented on pl. 151a: figs 19-20 as cited on p. 173.]

Cymbella hustedtii var. *crassipunctata* Krammer, Diatoms of Europe 3, p. 173, pl. 160: figs 21-27 (2002). [Comment: *Cymbella hustedtii* var. *crassipunctata* is not documented on pl. 151a: figs 21-27 as cited on p. 173.]

Cymbella hustedtii var. *rhombica* Krammer, Diatoms of Europe 3, p. 173, pl. 160: figs 14-18 (2002). [Comment: *Cymbella hustedtii* var. *rhombica* is not documented on pl. 151a: figs 14-18 as cited on p. 173.]

Cymbella hybrida var. *lanceolata* Krammer, Biblioth. Diatomol. 9, p. 27, pl. 8: fig. 12 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 145: 4-5 is cited.]

Cymbella inca Lange-Bert., Krammer et U.Rumrich, Iconogr. Diatomol. 9, p. 103, pl. 118: figs 9-10 (2000).

Cymbella incerta var. *crassipunctata* Krammer, Biblioth. Diatomol. 9, p. 28, pl. 8: figs 6-7 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 136: 1-3 is cited.]

Cymbella incurvata Krammer, Diatoms of Europe 3, p. 163, pl. 35: figs 1-9 (2002).

Cymbella italica Krammer, Diatoms of Europe 3, p. 163, pl. 32: figs 1-6 (2002).

Cymbella kemiana Krammer, Diatoms of Europe 3, p. 169, pl. 115: figs 1-7 (2002).

Cymbella kolbei var. *angusta* Krammer, Diatoms of Europe 3, p. 160, pl. 14: figs 24-28 (2002).

Cymbella krasskei Krammer, Biblioth. Diatomol. 9, p. 28-29, pl. 9: figs 3-4 (1985).

Cymbella laevis var. *lata* Krammer, Diatoms of Europe 3, p. 174, pl. 192: figs 1-5 (2002). [Comment: on p. 174 the name is erroneously marked as "nov. spec.".]

Cymbella lanceolata var. *bottnica* Krammer, Diatoms of Europe 3, p. 172, pl. 148: figs 1-6 (2002). [Comment: *Cymbella lanceolata* var. *bottnica* is not documented on pl. 142: figs 1-6 as cited on p. 172.]

Cymbella lancettuliformis Krammer, Diatoms of Europe 3, p. 167, pl. 54: figs 7-11 (2002).

Cymbella lange-bertalotii Krammer, Diatoms of Europe 3, p. 174, pl. 179: figs 1-4 (2002).

Cymbella leptoceroides var. *sublanceolata* Krammer, Diatoms of Europe 3, p. 174, pl. 161: fig. 11 (2002).

Cymbella maggiana Krammer, Diatoms of Europe 3, p. 165, pl. 45: figs 6-13 (2002).

Cymbella metzeltinii Krammer, Diatoms of Europe 3, p. 166, pl. 49: figs 6-11 (2002).

Cymbella mexicana var. *lata* Krammer, Diatoms of Europe 3, p. 174, pl. 169: figs 10-13 (2002). [Comment: on p. 174 the name is erroneously marked as "nov. comb.".]

Cymbella modicepunctata Krammer, Diatoms of Europe 3, p. 171, pl. 117: figs 1-4 (2002).

Cymbella neocistula Krammer var. *neocistula*, Diatoms of Europe 3, p. 169, pl. 86: figs 1, 6-7, pl. 87: figs 1-9 (2002). [Comment: on p. 95 additional figs are given: pl. 85: figs 1-4, pl. 86: figs 2-5, 8, pl. 88: figs 1-8, pl. 90: figs 1-8, pl. 91: figs 1-6 and pl. 92: figs 1-3 (pl. 86: fig. 8 which is referred to on p. 95 shows *Bacillaria cistula* Ehrenb.).]

Cymbella neocistula var. *islandica* Krammer, Diatoms of Europe 3, p. 170, pl. 93: figs 1-5 (2002). [Comment: *Cymbella neocistula* var. *islandica* is not documented on pl. 89: figs 1-5 as cited on p. 170.]

Cymbella neocistula var. *lunata* Krammer, Diatoms of Europe 3, p. 169, pl. 89: figs 1-7 (2002).

Cymbella neoleptoceros Krammer var. *neoleptoceros*, Diatoms of Europe 3, p. 173, pl. 156: figs 1-8, pl. 157: 1-19 (2002). [Comment: *Cymbella neoleptoceros* is not documented on pl. 150: figs 1-12 as cited on p. 173.]

Cymbella neoleptoceros var. *tenuistriata* Krammer, Diatoms of Europe 3, p. 173, pl. 160: figs 1-6 (2002). [Comment: *Cymbella neoleptoceros* var. *tenuistriata* is not documented on pl. 151a: figs 1-6 as cited on p. 173.]

Cymbella neuquina var. *fastigata* (Krasske) Krammer, Maidana et Díaz Villanueva, Nova Hedwigia 74, p. 341 (2002). Basionym: *Cymbella cistula* var. *fastigata* Krasske, Ann. Acad. Sci. Fenn., Ser. A, IV, Biol., p. 86, figs 27-28 (1949).

Cymbella novazeelandiana Krammer, Diatoms of Europe 3, p. 166, pl. 47: figs 6-9 (2002).

Cymbella obtusiformis Krammer, Diatoms of Europe 3, p. 167, pl. 66: figs 1-7 (2002).

Cymbella oestrupii Lange-Bert. et Krammer, Diatoms of Europe 3, p. 163, pl. 34: figs 9-11 (2002).

Cymbella omaniana Krammer, Diatoms of Europe 3, p. 166-167, pl. 55: figs 1-6 (2002).

Cymbella pantocsekii Krammer, Diatoms of Europe 3, p. 162-163, pl. 55: figs 8-9 (2002).

Cymbella parviformis Krammer, Diatoms of Europe 3, p. 160, pl. 15: figs 8-12 (2002).

Cymbella parviformis Krammer, Diatoms of Europe 3, p. 168, pl. 69: figs 1-9 (2002).

Cymbella peraffinis R.Tynni in Krammer, Diatoms of Europe 3, p. 160, pl. 14: figs 1-7 (2002). [Comment: validation of *Cymbella peraffinis* R.Tynni, nom. inval., Geol. Surv. Finland 296, p. 37, pl. 13: figs 111a-b (1978). A contribution of R.Tynni is deduced from p. 4.]

Cymbella peraspera Krammer var. *peraspera*, Diatoms of Europe 3, p. 171, pl. 132: figs 1-6 (2002).

Cymbella peraspera var. *colombiana* Krammer et Lange-Bert., Diatoms of Europe 3, p. 172, pl. 134: figs 1-6 (2002). [Comment: *Cymbella peraspera* var. *colombiana* is not documented on pl. 128: figs 1-7 as cited on p. 172.]

Cymbella percapitata Krammer, Diatoms of Europe 3, p. 161, pl. 20: figs 1-8 (2002).

Cymbella percombiformis Krammer, Diatoms of Europe 3, p. 167, pl. 56: figs 1-7 (2002).

Cymbella perfossilis Krammer, Diatoms of Europe 3, p. 170, pl. 100: figs 1-4 (2002).

Cymbella perjaponica Krammer et Lange-Bert., Diatoms of Europe 3, p. 64, 165, pl. 46: figs 7-12 (2002). [Comment: erroneously pl. 46: fig. 6 is cited also in the protologue.]

Cymbella perparva Krammer, Diatoms of Europe 3, p. 160, pl. 18: figs 1-15 (2002).

- Cymbella pervarians* Krammer, Diatoms of Europe 3, p. 164, pl. 41: figs 7-12 (2002).
- Cymbella proxima* var. *borealis* Krammer, Diatoms of Europe 3, p. 170, pl. 111: figs 1-4 (2002).
- Cymbella proxima* var. *bottnica* Krammer, Diatoms of Europe 3, p. 171, pl. 114: figs 1-7 (2002).
- Cymbella reichardtii* Krammer, Biblioth. Diatomol. 9, p. 32, pl. 5: figs 16-25 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 119: 32-36 is cited.]
- Cymbella reviersiana* Lange-Bert. et Gerd Moser, nom. inval., Biblioth. Diatomol. 32, p. 81, pl. 20: figs 9-12. (1995). [Comment: lacking a type and a Latin diagnosis, this name was invalidly published. Validly published as *Encyonopsis reviersiana* Lange-Bert., Gerd Moser et Krammer, Biblioth. Diatomol. 37, p. 126, 201, pl. 158: figs 13-15 (1997).]
- Cymbella robertii* Krammer, Diatoms of Europe 3, p. 83, 168, pl. 25: fig. 14 (2002). [Comment: on p. 240 (= caption of pl. 25: fig. 14) the authors are cited as "Krammer et Buechler". The type is indicated on p. 83.]
- Cymbella rossii* Krammer et Lange-Bert., Nova Hedwigia Beih. 106, p. 94, figs 1-18 (1993).
- Cymbella rumrichae* Krammer, Diatoms of Europe 3, p. 166, pl. 50: figs 1-13 (2002).
- Cymbella schilleri* Krammer, Diatoms of Europe 3, p. 168, pl. 26: figs 7-8 (2002).
- Cymbella scotlandica* Krammer, Diatoms of Europe 3, p. 162, pl. 31: figs 1-7 (2002).
- Cymbella scutariana* Krammer, Diatoms of Europe 3, p. 165, pl. 45: figs 1-5 (2002).
- Cymbella simonsenii* Krammer, Biblioth. Diatomol. 9, p. 33, pl. 7: figs 1-9 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 130: 1-3, pl. 10: fig. 6 is cited.]
- Cymbella sinensis* Metzeltin et Krammer, Diatoms of Europe 3, p. 171, pl. 121: figs 1-8 (2002).
- Cymbella strontiana* Krammer, Diatoms of Europe 3, p. 162, pl. 30: figs 1-8 (2002).
- Cymbella subantarctica* Krammer, Diatoms of Europe 3, p. 168, pl. 73: figs 1-6 (2002).
- Cymbella subarctica* Krammer, Diatoms of Europe 3, p. 170, pl. 105: figs 2, 6-7 (2002).
- Cymbella subaspera* Krammer var. *subaspera*, Diatoms of Europe 3, p. 172, pl. 136: figs 1-5 (2002). [Comment: *Cymbella subaspera* var. *subaspera* is not documented on pl. 130: figs 1-5 as cited on p. 172.]
- Cymbella subaspera* var. *salina* Krammer, Diatoms of Europe 3, p. 172, pl. 137: figs 1-8 (2002). [Comment: *Cymbella subaspera* var. *salina* is not documented on pl. 131: figs 1-7 as cited on p. 172.]
- Cymbella subcistula* Krammer, Diatoms of Europe 3, p. 169, pl. 84: figs 1-9 (2002).
- Cymbella subhelvetica* Krammer, Diatoms of Europe 3, p. 174, pl. 176: figs 1-7 (2002). [Comment: *Cymbella subhelvetica* is not documented on pl. 177: figs 1-7 as cited on p. 174.]
- Cymbella subkolbei* Krammer, Diatoms of Europe 3, p. 160, pl. 15: figs 1-7 (2002).
- Cymbella subleptoceros* Krammer, Diatoms of Europe 3, p. 173, pl. 154: figs 2-17 (2002). [Comment: *Cymbella subleptoceros* is not documented on pl. 147: figs 10-17 as cited on p. 173. On p. 498 and p. 500 the authors are cited as "(Ehrenb.) Kütz.".]
- Cymbella subtruncata* Krammer var. *subtruncata*, Diatoms of Europe 3, p. 161, pl. 18: figs 16-21 (2002).
- Cymbella subtruncata* var. *similis* Krammer, Diatoms of Europe 3, p. 161, pl. 19: figs 14-19 (2002).
- Cymbella subturgidula* Krammer, Diatoms of Europe 3, p. 166, pl. 44: figs 19-21 (2002).
- Cymbella superparva* Krammer, Diatoms of Europe 3, p. 161, pl. 15: figs 13-15 (2002).
- Cymbella terrafuegiana* Krammer, Diatoms of Europe 3, p. 169, pl. 76: figs 1-3 (2002).
- Cymbella ticinensis* Krammer, Diatoms of Europe 3, p. 161, pl. 24: figs 17-19 (2002).
- Cymbella towoetensis* Krammer, Diatoms of Europe 3, p. 173-174, pl. 161: figs 13-14 (2002). [Comment: *Cymbella towoetensis* is not documented on pl. 152: figs 13-14 as cited on p. 173.]
- Cymbella transsilvanica* Krammer, Diatoms of Europe 3, p. 173, pl. 158: figs 6-11 (2002). [Comment: *Cymbella transsilvanica* is not documented on pl. 151: figs 6-11 as cited on p. 173.]

Cymbella tropica Krammer var. *tropica*, Diatoms of Europe 3, p. 164, pl. 44: figs 7-10 (2002). [Comment: on p. 278 (= caption of pl. 44) also mentioned as *Cymbella tropica* Krammer et Metzeltin.]

Cymbella tropica var. *tenuipunctata* Krammer, Diatoms of Europe 3, p. 164, pl. 49: figs 12-13 (2002).

Cymbella tsoneka Lange-Bert., Krammer et U.Rumrich, Iconogr. Diatomol. 9, p. 104, pl. 119: figs 1-4 (2000).

Cymbella tumidula var. *lancettula* Krammer, Biblioth. Diatomol. 9, p. 35, pl. 6: figs 5-8 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 127: 1-7 is cited.]

Cymbella turgidula var. *bengalensis* Krammer, Diatoms of Europe 3, p. 166, pl. 48: figs 8-11 (2002).

Cymbella turgidula var. *venezolana* Krammer, Diatoms of Europe 3, p. 166, pl. 48: figs 12-17 (2002).

Cymbella turgiduliformis Krammer, Diatoms of Europe 3, p. 165, pl. 47: figs 1-5 (2002).

Cymbella volkii U.Rumrich, Krammer et Lange-Bert., Biblioth. Diatomol. 27, p. 19, pl. 134: figs 1-10 (1993).

Cymbella vulgata Krammer var. *vulgata*, Diatoms of Europe 3, p. 163-164, pl. 36: figs 1-11 (2002).

Cymbella vulgata var. *plivicensis* Krammer, Diatoms of Europe 3, p. 164, pl. 32: figs 7-13 (2002).

Cymbella weslawskii Krammer, Diatoms of Europe 3, p. 162, pl. 27: figs 1-7 (2002).

Cymbella zambesiana Krammer, Diatoms of Europe 3, p. 164, pl. 44: figs 11-13 (2002).

CYMBELLONITZSCHIA Hust.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=36].

Cymbellonitzschia szulczewskii Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 358, 425, pl. 213: figs 1-7 (2000).

CYMBELLOPSIS Krammer, Biblioth. Diatomol. 36, p. 157, (1997). [Typus generis: *Cymbellopsis apiculata* Krammer, Biblioth. Diatomol. 36, p. 157, pl. 2: figs 2-3 (1997).]

Cymbellopsis apiculata Krammer, Biblioth. Diatomol. 36, p. 157, pl. 2: figs 2-3 (1997).

Cymbellopsis guyana Krammer, Biblioth. Diatomol. 37, p. 208-209, pl. 196: figs 1-10 (1997).

Cymbellopsis krammeri Lange-Bert. et Wydrzycka, Iconogr. Diatomol. 9, p. 105, pl. 111: figs 26-27 (2000).

Cymbellopsis lanceolata Krammer, Biblioth. Diatomol. 37, p. 208, pl. 197: figs 7-13, pl. 198: figs 1-3 (1997).

Cymbellopsis metzeltinii Krammer, Biblioth. Diatomol. 37, p. 209, pl. 197: figs 1-6, pl. 201: figs 4-8 (1997).

Cymbellopsis mirabilis Krammer, Biblioth. Diatomol. 37, p. 209-210, pl. 194: figs 6-7 (1997).

Cymbellopsis neocaledonica Krammer et Lange-Bert., Biblioth. Diatomol. 38, p. 111-112, pl. 43: figs 9-13 (1998).

Cymbellopsis pumila Lange-Bert. et Wydrzycka, Brenesia 55-56, p. 7, pl. 17: figs 10-14 (2001).

Cymbellopsis terminis Krammer, Biblioth. Diatomol. 37, p. 209, pl. 194: figs 8-9, pl. 195: figs 1-9 (1997).

CYMBOPLEURA (Krammer) Krammer, Iconogr. Diatomol. 6, p. 284 (1999).

Basionym: *CYMBELLA* subgen. *CYMBOPLEURA* Krammer in Helmcke & Krammer: Micromorphology of diatom valves 11, p. 20 (1982). [Validation of *CYMBOPLEURA* Krammer, nom. inval., Biblioth. Diatomol. 36, p. 11 (1997). Typus generis *Cymbella subaequalis* Grunow in Van Heurck, Synopsis des diatomées de Belgique, pl. 3: fig. 2.]

Cymbopleura aequistriata Krammer et Lange-Bert., nom. inval., Biblioth. Diatomol. 38, p. 112-113, pl. 44: figs 5-8 (1998). [Comment: since the genus *Cymbopleura* was not validated before 1999, this name is invalidly published.]

Cymbopleura crassinervia Lange-Bert., Metzeltin et Krammer, nom. inval., Biblioth. Diatomol. 38, p. 114-115, pl. 45: figs 1-4, pl. 46: figs 1-3 (1998). [Comment: since the genus *Cymbopleura* was not validated before 1999, this name is invalidly published.]

Cymbopleura declivis Metzeltin et Krammer, nom. inval. Iconogr. Diatomol. 5, p. 34, pl. 131: figs 1-6, pl. 141: fig. 2 (1998). [Comment: since the genus *Cymbopleura* was not validated before 1999, this name is invalidly published.]

Cymbopleura delicatula ssp. *judaica* Lange-Bert. et Krammer in Nevo & Wasser, Biodiversity of cyanoprocaryotes and algae of continental Israel, p. 242, pl. 18: figs 130-133 (2000).

Cymboppleura fluminea (R.M.Patrick et Freese) Lange-Bert. et Krammer, Iconogr. Diatomol. 6, p. 38 (1999).

Basionym: *Cymbella fluminea* R.M.Patrick et Freese, Proc. Acad. Nat. Sci. Philadelphia 112 (6), p. 262, pl. 4: fig. 4 (1961).

Cymboppleura heinii Lange-Bert. et Krammer, Iconogr. Diatomol. 6, p. 38-39, pl. 57: fig. 1 (1999).

Cymboppleura kanakarum Lange-Bert. et Krammer, nom. inval., Biblioth. Diatomol. 38, p. 116, pl. 44: figs 1-4 (1998).
[Comment: since the genus *Cymboppleura* was not validated before 1999, this name is invalidly published.]

Cymboppleura michelcostei Metzeltin et Krammer, nom. inval., Iconogr. Diatomol. 5, p. 35, pl. 137: figs 1-8 (1998).
[Comment: since the genus *Cymboppleura* was not validated before 1999, this name is invalidly published. On page 35 only pl. 137: figs 1-6 is referred to.]

Cymboppleura neocaledonica Lange-Bert. et Krammer, nom. inval., Biblioth. Diatomol. 38, p. 117-118, pl. 44: figs 10-12 (1998). [Comment: since the genus *Cymboppleura* was not validated before 1999, this name is invalidly published.]

Cymboppleura semigibbosa (R.M.Patrick et Freese) Lange-Bert. et Krammer, Iconogr. Diatomol. 6, p. 39 (1999).

Basionym: *Cymbella semigibbosa* R.M.Patrick et Freese, Proc. Acad. Nat. Sci. Philadelphia 112 (6), p. 265, pl. 4: fig. 6 (1961).

DECUSSATA (R.M.Patrick) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 9, p. 670, (2000).

Basionym: *DECUSSATA* R.M.Patrick [subgenus within *NAVICULA* Bory], Notul. Nat. Acad. Nat. Sci. Philadelphia 324, p. 4 (1959).

Decussata hexagona (Torka) Lange-Bert., Iconogr. Diatomol. 9, p. 671 (2000).

Basionym: *Navicula hexagona* Torka, Hedwigia 73, p. 27, fig. 2 (1933).

Decussata placenta (Ehrenb.) Lange-Bert. et Metzeltin var. *placenta*, Iconogr. Diatomol. 9, p. 671 (2000).

Basionym: *Navicula placenta* Ehrenb., Mikrogeologie, pl. 33: fig. 12/23 (1854).

Decussata placenta* var. *obtusa (F. Meister) Lange-Bert., Iconogr. Diatomol. 9, p. 671 (2000).

Basionym: *Navicula placenta* var. *obtusa* F. Meister, Kieselalgen aus Asien, p. 37: fig. 99 (1932).

DENTICULA Kütz.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=196].

Denticula creticola (Østrup) Lange-Bert., Nova Hedwigia Beih. 106, p. 127 (1993).

Basionym: *Nitzschia creticola* Østrup, Danske Diatomeer, p. 146, pl. 4: figs 98 a, b (1910).

Denticula erifuga Lange-Bert., Iconogr. Diatomol. 3, p. 66 (1996).

Replaced synonym: *Denticula elegans* f. *constricta* Krasske, Ann. Acad. Sient. Fenn. Ser. A, IV. Biol. 14, p. 87 (1949).

Denticula eximia Krammer et Lange-Bert., Biblioth. Diatomol. 15, p. 64, pl. 41: figs 2-5 (1987). [As a part of the protologue, Krammer & Lange-Bertalot (1988), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (2), pl. 100: figs 8-18 is cited.]

Denticula kuetzingii* var. *rumichiae Krammer, Biblioth. Diatomol. 15, p. 66, pl. 43: figs 11-14 (1987). [As a part of the protologue, Krammer & Lange-Bertalot (1988), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (2), pl. 100: figs 18-22 is cited. Comment: *Denticula kuetzingii* var. *rumichiae* on p. 66 and p. 232 is misspelled as "*Denticula kuetzingii* var. *rumrichae*".]

Denticula watanabei Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 132-133, pl. 60: figs 1-10 (1998).

DENTICULOIDEA Lange-Bert. (subgenus within *NITZSCHIA*), Biblioth. Diatomol. 27, p. 153 (1993). [Typus subgeneris: *Nitzschia semirobusta* Lange-Bert., Biblioth. Diatomol. 27, p. 149, pl. 120: figs 7-10 (1993).]

DIADESMIS Kütz.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=935].

DIADESMIS subgen. *PARADIADESMIS* [see *PARADIADESMIS*].

Diadasmus andegavensis (H.Germ.) Lange-Bert., Biblioth. Diatomol. 38, p. 136 (1998).

Basionym: *Navicula brekkaensis* var. *andegavensis* H.Germ., Cryptog. Algol. 1, p. 21, figs 20-34 (1980).

Diadasmus arctica Lange-Bert. et Genkal, Iconogr. Diatomol. 6, p. 40, pl. 21: figs 8-14 (1999). [Comment: *Diadasmus arctica* is not documented on pl. 21: fig. 15 as cited in the 1st edition on p. 40, reference corrected in the 2nd edition.]

Diadasmus arcuata Lange-Bert., Biblioth. Diatomol. 38, p. 136 (1998).

[Comment: According to Art. 58.1 (St. Louis Code) this binomen is not a new combination but should be treated as a new name.]

Replaced synonym: *Navicula arcuata* Heiden in: Drygalski, Deutsche Südpolar-Expedition 1901-1903, nom. illeg., Bd. 8, H. 5, p. 628, pl. 3: fig. 80 (1928); non *Navicula arcuata* Pantocsek, pl. 6: fig. 97 (1892).

Diadesmis bigibba (Hust.) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 138 (1998).

Basionym: *Navicula brekkaensis* var. *bigibba* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 402: fig. 28 (1936).

Diadesmis biscutella Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 138-139, pl. 28: figs 1-4, 10 (1998). [Comment: the authors are cited as "Lange-Bert. in Moser et al. 1998" in Lange-Bertalot & Werum (2001).]

Diadesmis brekkaensoides (W.Bock) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 139 (1998).

Basionym: *Navicula brekkaensoides* W.Bock, Nova Hedwigia 5, p. 224-225, fig. 1A, B (1963).

[≡ *Navicula brekkaensis* var. *brekkaensoides* (W.Bock) Lange-Bert.]

Diadesmis confervaceoides Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 106, pl. 81: figs 1-10 (2000).

Diadesmis corrugata Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 140-141, pl. 27: figs 1-3, 9 (1998).

[*Diadesmis corrugata* is the type of the name of the subgenus *PARADIADESMIS* Lange-Bert. et Le Cohu. Comment: the authors are cited as "Lange-Bert. in Moser et al. 1998" in Lange-Bertalot & Werum (2001).]

Diadesmis discordabilis Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 142, pl. 27: figs 4-5, 10, 12-13 (1998).

Diadesmis dissimilis Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 143, pl. 29: fig. 6 (1998).

Diadesmis elegans Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 144-145, pl. 29: figs 7-8 (1998).

Diadesmis fukushimae Lange-Bert., M.Werum et Broszinski, Diatom 17, p. 6, figs 33-38, 47-57 (2001).

Diadesmis gallica* var. *perpusilla (Grunow) Lange-Bert., Iconogr. Diatomol. 2, p. 45 (1996).

Basionym: *Navicula perpusilla* Grunow, Verh. K. K. Zool.-Bot. Ges. Wien 10, p. 552, pl. 2: fig. 7 (1860).

Diadesmis implicata Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 145-146, pl. 27: figs 6-8, 11 (1998).

Diadesmis lacunosa Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 147, pl. 29: figs 1-3 (1998). [Comment: the authors are cited as "Lange-Bert. in Moser et al. 1998" in Lange-Bertalot & Werum (2001).]

Diadesmis pantropica Lange-Bert., Iconogr. Diatomol. 9, p. 109, pl. 82: figs 1-5 (2000).

Diadesmis paracontenta Lange-Bert. et M.Werum, Iconogr. Diatomol. 6, p. 41, pl. 21: figs 2-5 (1999). [Comment: *Diadesmis paracontenta* is not documented on pl. 21: fig. 6 as cited in the 1st edition on p. 41, reference corrected in the 2nd edition. Comment: the Latin diagnosis erroneously refers to fig. 6, it should refer to fig. 5 as corrected in the 2nd edition.]

Diadesmis paracontenta* ssp. *magisconcava Lange-Bert., Diatom 17, p. 9, figs 11-14, 60-64 (2001).

Diadesmis tabellariaeformis (Krasske) Lange-Bert. et Wojtal, Iconogr. Diatomol. 9, p. 110 (2000).

Basionym: *Navicula tabellariaeformis* Krasske, Arch Hydrobiol. 35, p. 384, pl. 11: figs 48-49 (1939).

Diadesmis tahitiensis Lange-Bert. et M.Werum, Diatom 17, p. 13, figs 22-29, 78-84 (2001).

Diadesmis templiniana Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 111, pl. 82: figs 6-18 (2000).

Diadesmis virginiana Lange-Bert., Diatom 17, p. 17, figs 18-21, 100-105 (2001).

DIATOMA Bory

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=963].

Diatoma ehrenbergii* f. *capitulata (Grunow) Lange-Bert., Biblioth. Diatomol. 27, p. 22 (1993).

Basionym: *Diatoma vulgare* var. *capitulatum* Grunow, Verh. K. K. Zool.-Bot. Ges. Wien 12, p. 364 (1862).

Diatoma moniliformis* ssp. *ovalis (Fricke) Lange-Bert., U.Rumrich et G.Hofmann, Acta Biol. Benrodis 3, p. 116 (1991).

Basionym: *Diatoma ovalis* Fricke in A. Schmidt's Atlas der Diatomaceenkunde, pl. 268: figs 68-73 (1906).

Diatoma ochridana Lange-Bert. et U.Rumrich, Acta Biol. Benrodis 3, p. 118, 120, figs 19-25, 45-48 (1991).

Diatoma problematica Lange-Bert., Biblioth. Diatomol. 27, p. 23, pl. 6: figs 11-15, 21-27, pl. 7: figs 1-6, pl. 8: figs 1-5 (1993).

DIATOMELLA Grev.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=964].

Diatomella lecohui Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 148, pl. 55: figs 6-16 (1998).

DICKIEIA Berk. ex Kütz.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=541].

Dickieia resistans Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 181, 425-426, pl. 150: figs 16-20, ?21 (2000).

Dickieia soodensis (Krasske) E.Reichardt, Diatom Res. 12, p. 314 (1997).

Basionym: *Navicula soodensis* Krasske, Arch. Hydrobiol. 18, p. 272, figs 20-22 (1927).

Dickieia wajdae Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 181, 426, pl. 108: figs 19-23 (2000).

DIDYMOSPHENIA M.Schmidt

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=881].

Didymosphenia clavaherculis (Ehrenb.) Metzeltin et Lange-Bert., Nova Hedwigia 60, p. 388 (1995).

Basionym: *Diomphala clavaherculis* Ehrenb., Mikrogeologie, pl. A15: fig. 93 (1854).

[= *Diomphala clavaherculis* Ehrenb., Ber. Bekanntm. Verh. Königl. Preuss. Akad. Wiss. Berlin 1842, p. 338 (1842), according to Metzeltin & Lange-Bertalot, Nova Hedwigia 60, p. 388 (1995).]

Didymosphenia curvata (Skvortzov et D.I.Meyer 1928) Metzeltin et Lange-Bert., Nova Hedwigia 60, p. 390 (1995).

Basionym: *Diomphala geminata* var. *curvata* Skvortzov et D.I.Meyer., Proc. Sungare River. Biol. Station 1 (5), p. 31: fig. 137 (1928).

Didymosphenia pumila Metzeltin et Lange-Bert., Nova Hedwigia 60, p. 390-391, pl. 8: figs 5-6, pl. 10: figs 1-6 (1995).

DIPLONEIS (Ehrenb.) Cleve

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=184].

Diploneis caffra (Giffen) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 183 (2000).

Basionym: *Diploneis interrupta* var. *caffra* Giffen, Nova Hedwigia Beih. 31, p. 273, figs 29-30 (1970).

Diploneis chilensis (Hust.) Lange-Bert., Iconogr. Diatomol. 9, p. 112 (2000).

Basionym: *Diploneis smithii* var. *chilensis* Hust., Arch. Hydrobiol. 18, p. 242, pl. 8: fig. 9 (1927).

Diploneis kahlii Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 112-113, pl. 103: 1-9, pl. 104: figs 1-3 (2000).

Diploneis kawabatae Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 149-150, pl. 42: figs 1-7 (1998).

Diploneis krammeri Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 9, p. 652-653, pl. 4: figs 1-10, 12, pl. 5: figs 1-5, pl. 6: figs 1-5 (2000).

Diploneis ovalis ssp. *arctica* Lange-Bert., Iconogr. Diatomol. 6, p. 42-43, pl. 43: figs 1-3, pl. 44: figs 1-5 (1999). [Comment: name and diagnosis on p. 43 only in the 2nd edition.]

EHRENBERGIA Witkowski, Lange-Bert. et Metzeltin, nom. illeg., Iconogr. Diatomol. 7, p. 30, 426 (2000). [Comment: intended type: *Ehrenbergia granulosa* (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 31 (2000).

EHRENBERGIA Witkowski, Lange-Bert. et Metzeltin is a later homonym of **EHRENBERGIA** K.P.J.Sprengel, hence illegitimate. For **EHRENBERGIA** see also: http://www.ipni.org/ipni/IpniServlet?id=34541-1&query_type=by_id
http://www.ipni.org/ipni/IpniServlet?id=41709-1&query_type=by_id].

Ehrenbergia granulosa (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 31 (2000).

Basionym: *Odontodiscus granulatus* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17 (2), p. 113, pl. 7: fig. 130 (1880).

Ehrenbergia hauckii (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 31 (2000).

Basionym: *Coscinodiscus hauckii* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, Atlas, pl. 94: fig. 29 (1881).

ENCYONEMA Kütz.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=966].

Encyonema accedens Krammer et Lange-Bert., Biblioth. Diatomol. 38, p. 118-119, pl. 47: figs 1-4 (1998).

Encyonema aequilongum Lange-Bert. et Krammer, Biblioth. Diatomol. 36, p. 61, 160, pl. 98: figs 17-21 (1997).

Encyonema affine Metzeltin et Krammer, Biblioth. Diatomol. 37, p. 189, pl. 125: figs 6-8 (1997). [Comment: on p. 298 (= caption of pl. 125: figs 6-8 the authors are given as "Krammer et Metzeltin").]

Encyonema africanum Krammer, Biblioth. Diatomol. 37, p. 191, pl. 129: figs 4-18 (1997).

Encyonema alpiniforme Krammer, Biblioth. Diatomol. 37, p. 183-184, pl. 101: figs 6-14 (1997).

Encyonema altiplanense Lange-Bert., Krammer et U.Rumrich, Iconogr. Diatomol. 9, p. 114, pl. 118: figs 11-14 (2000).

- Encyonema amanianum* Krammer, Biblioth. Diatomol. 36, p. 168, pl. 46: figs 4-8 (1997).
- Encyonema ampliatus* Krammer et Lange-Bert., Biblioth. Diatomol. 36, p. 139, 177, pl. 54: figs 1-5 (1997).
- Encyonema angustecapitatum* Krammer, Biblioth. Diatomol. 37, p. 192, pl. 130: figs 8-15 (1997).
- Encyonema apiculatum* Krammer, Biblioth. Diatomol. 36, p. 176, pl. 76: figs 1-2 (1997).
- Encyonema blancheanum* var. *neocaledonicum* (Manguin ex Kociolek et Reviers) Lange-Bert. in Jahn et al., Lange-Bertalot-Festschrift, p. 632 (2001).
 Basionym: *Cymbella suburgida* var. *neocaledonica* Manguin ex Kociolek et Reviers, Cryptog. Algol. 17 (3), p. 210 (1996).
 [– *Cymbella suburgida* var. *neocaledonica* Manguin, nom. inval., Mém. Mus. Natl. Hist. Nat., Nouv. Sér. B, Bot. 12 (1), p. 28, pl. 5: figs 7a, b (1962).]
 [– *Encyonema blancheanum* var. *neocaledonicum* (Manguin ex Kociolek et Reviers) Gerd Moser, Lange-Bert. et Metzeltin, nom. inval., Biblioth. Diatomol. 38, p. 33 (1998).]
- Encyonema brehmiforme* Krammer, Biblioth. Diatomol. 37, p. 182, pl. 104: figs 4-19 (1997).
- Encyonema brevicapitatum* Krammer, Biblioth. Diatomol. 36, p. 170, pl. 34: figs 1-7 (1997).
- Encyonema canadense* Krammer et Lange-Bert., Biblioth. Diatomol. 37, p. 41, 187-188, pl. 120: figs 6-7 (1997).
 [Comment: the type of the name of the species is referred to as Präp. "Can 50LF" (p. 188) respectively "Can 49LF" (p. 41).]
- Encyonema carina* Lange-Bert. et Krammer, Biblioth. Diatomol. 36, p. 152, 179-180, pl. 86: figs 1-8 (1997).
- Encyonema caronianum* Krammer, Biblioth. Diatomol. 37, p. 189, pl. 131: figs 11-16 (1997).
- Encyonema cascadenae* Krammer, Biblioth. Diatomol. 37, p. 190, pl. 192: figs 6-12 (1997).
- Encyonema cespitosum* var. *comensis* Krammer, Biblioth. Diatomol. 36, p. 173, pl. 67: figs 1-8 (1997).
- Encyonema cespitosum* var. *maxima* Krammer, Biblioth. Diatomol. 36, p. 174, pl. 69: figs 1-8 (1997).
- Encyonema chilense* Krammer, Biblioth. Diatomol. 36, p. 169, pl. 46: figs 1-3 (1997).
- Encyonema directiforme* Krammer et Lange-Bert., Biblioth. Diatomol. 36, p. 149, 179, pl. 95: figs 6-11 (1997). [*Encyonema directiforme* Krammer et Lange-Bert. on p. 370 (caption of p. 95) is cited as "*Encyonema directiforme* Lange-Bert. et Krammer".]
- Encyonema distinctepunctatum* Krammer, Biblioth. Diatomol. 36, p. 162-163, pl. 20: figs 1-5, pl. 98: figs 1-6 (1997).
- Encyonema distinctum* Lange-Bert. et Krammer, Biblioth. Diatomol. 36, p. 56, 158-159, pl. 98: figs 13-16 (1997).
 [– "*Cymbella* nov. spec. Nr. 2 Mittersee" in Lange-Bertalot & Metzeltin (1996), Iconogr. Diatomol. 2, pl. 88: figs 21-24.]
- Encyonema donatoi* Krammer et Lange-Bert., Biblioth. Diatomol. 37, p. 52, 189, pl. 125: figs 9-10 (1997).
- Encyonema dubium* Krammer, Biblioth. Diatomol. 37, p. 186, pl. 109: figs 8-16 (1997).
- Encyonema elginense* var. *stigmaeum* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 36, pl. 133: figs 21, 24-25 (1998).
- Encyonema evergladianum* Krammer, Biblioth. Diatomol. 37, p. 193, pl. 142: figs 1-7 (1997).
- Encyonema fogedii* Krammer, Biblioth. Diatomol. 36, p. 171, pl. 26: figs 1-12, 18-28 (1997).
- Encyonema friedelhinzei* Krammer, Biblioth. Diatomol. 36, p. 180, pl. 87: figs 1-15 (1997).
- Encyonema geisslerae* Krammer, Nova Hedwigia 65, p. 141, figs 3, 6-7, 13-18 (1997).
- Encyonema graciloides* Krammer, Biblioth. Diatomol. 37, p. 194, pl. 195: figs 11-13, pl. 199: figs 5-6 (1997).
- Encyonema guatemalense* Krammer, Biblioth. Diatomol. 37, p. 193-194, pl. 142: figs 16-21 (1997). [Comment: on p. 332 (= caption of pl. 142: figs 16-21) *Encyonema guatemalense* is cited as "*Encyonema guatemalum*".]
- Encyonema guetingeri* Krammer, Biblioth. Diatomol. 37, p. 188, pl. 132: figs 1-9, 11-12, ?10 (1997).
- Encyonema hebridiforme* Krammer, Biblioth. Diatomol. 36, p. 165, pl. 11: figs 15-17 (1997).
- Encyonema hintzii* Krammer, Biblioth. Diatomol. 36, p. 168, pl. 39: figs 6-9 (1997).
- Encyonema hophense* Krammer, Biblioth. Diatomol. 36, p. 162, pl. 33: figs 6-13 (1997).
- Encyonema hungaricum* Krammer, Biblioth. Diatomol. 36, p. 167, pl. 49: figs 1-4 (1997).

- Encyonema hustedtii* Krammer, Biblioth. Diatomol. 36, p. 166-167, pl. 42: figs 6-8 (1997).
- Encyonema hustedtii* var. *neocaledonicum* Krammer et Lange-Bert., Biblioth. Diatomol. 38, p. 121, pl. 47: figs 12-14 (1998).
- Encyonema inarense* Krammer, Biblioth. Diatomol. 36, p. 173, pl. 60: figs 5-8 (1997).
- Encyonema incertum* Krammer, Biblioth. Diatomol. 37, p. 190, pl. 137: figs 10-13, pl. 140: figs 5-6 (1997).
- Encyonema incurvatum* Krammer, Biblioth. Diatomol. 36, p. 161, pl. 21: figs 21-23 (1997).
- Encyonema indistinctum* Krammer, Biblioth. Diatomol. 37, p. 187, pl. 192: figs 1-5, pl. 194: fig. 5 (1997).
- Encyonema insulsum* Krammer et Lange-Bert., Biblioth. Diatomol. 38, p. 121-122, pl. 47: figs 8-11 (1998).
- Encyonema jemtlandicum* Krammer var. *jemtlandicum*, Biblioth. Diatomol. 36, p. 166, pl. 35: figs 1-9 (1997).
- Encyonema jemtlandicum* var. *stigmaidea* Krammer, Biblioth. Diatomol. 37, p. 195, pl. 194: figs 2-4 (1997).
- Encyonema jemtlandicum* var. *venezolana* Krammer, Biblioth. Diatomol. 36, p. 166, pl. 14: figs 1-5, pl. 50: fig. 8 (1997).
- Encyonema jordaniforme* Krammer, Biblioth. Diatomol. 37, p. 191, pl. 201: figs 9-15 (1997).
- Encyonema kamtschaticum* Krammer var. *kamtschaticum*, Biblioth. Diatomol. 36, p. 175, pl. 63: figs 4-11 (1997).
- Encyonema kamtschaticum* var. *parva* Krammer, Biblioth. Diatomol. 36, p. 175, pl. 62: figs 9-13 (1997).
- Encyonema kuelbsii* Lange-Bert. et Krammer, Biblioth. Diatomol. 36, p. 55, 158, pl. 98: figs 7-12 (1997).
[– "Cymbella nov. spec. Nr. 1 Mittersee" in Lange-Bertalot & Metzeltin (1996), Iconogr. Diatomol. 2, pl. 88: figs 15-20.]
- Encyonema kukenanum* Krammer, Biblioth. Diatomol. 37, p. 184-185, pl. 106: figs 7-9 (1997).
- Encyonema lancettulum* Krammer, Biblioth. Diatomol. 36, p. 160, pl. 21: figs 9-15 (1997).
- Encyonema lange-bertalotii* Krammer var. *lange-bertalotii*, Biblioth. Diatomol. 36, p. 169-170, pl. 5: figs 1-16 (1997).
- Encyonema lange-bertalotii* var. *inarenensis* Krammer, Biblioth. Diatomol. 36, p. 170, pl. 29: fig. 14 (1997).
- Encyonema lange-bertalotii* var. *obscuriformis* Krammer, Biblioth. Diatomol. 36, p. 170, pl. 27: figs 13-16 (1997).
- Encyonema latareolatum* Krammer, Biblioth. Diatomol. 36, p. 180, pl. 96: figs 1-13 (1997).
- Encyonema latecapitatum* Krammer, Biblioth. Diatomol. 36, p. 170-171, pl. 34: figs 8-12 (1997).
- Encyonema latissimum* Krammer, Biblioth. Diatomol. 36, p. 176, pl. 80: figs 1-5, pl. 81: figs 1-3 (1997).
- Encyonema latum* Krammer, Biblioth. Diatomol. 36, p. 174, pl. 71: figs 1-6 (1997).
- Encyonema lineolatum* Krammer var. *lineolatum*, Biblioth. Diatomol. 36, p. 161, pl. 21: figs 1-8 (1997).
- Encyonema lineolatum* var. *major* Krammer, Biblioth. Diatomol. 36, p. 161-162, pl. 13: figs 1-8 (1997).
- Encyonema lunatum* var. *borealis* Krammer, Biblioth. Diatomol. 36, p. 179, pl. 93: figs 3-5 (1997).
- Encyonema magnum* Krammer, Biblioth. Diatomol. 36, p. 177, pl. 99: figs 1-2 (1997).
- Encyonema malaysianum* Krammer, Biblioth. Diatomol. 37, p. 186, pl. 109: figs 17-24 (1997).
- Encyonema marginestriatum* Krammer et Metzeltin, Biblioth. Diatomol. 37, p. 194, pl. 136: figs 15, 17; pl. 202: figs 16-18 (1997).
- Encyonema melidense* Krammer, Biblioth. Diatomol. 36, p. 168, pl. 37: figs 1-9 (1997).
- Encyonema menisculus* Lange-Bert. et Krammer, Biblioth. Diatomol. 38, p. 123, pl. 48: figs 17-20 (1998).
- Encyonema metzeltinii* Krammer, Biblioth. Diatomol. 37, p. 190, pl. 134: figs 1-6 (1997).
- Encyonema mexicanum* Krammer, Biblioth. Diatomol. 36, p. 172, pl. 61: figs 5-8 (1997).
- Encyonema minutiforme* Krammer, Biblioth. Diatomol. 36, p. 159-160, pl. 18: figs 11-15 (1997).
- Encyonema minutiforme* var. *apicodeclinatum* Krammer, Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 115, pl. 111: figs 5-6, (?) (2000).
- Encyonema neocaledonicum* var. *leve* Krammer et Lange-Bert., Biblioth. Diatomol. 38, p. 124, pl. 48: figs 21-25 (1998).

- Encyonema neogracile* Krammer var. *neogracile*, Biblioth. Diatomol. 36, p. 177-178, pl. 82: figs 1-7, 12-13 (1997).
- Encyonema neogracile* var. *tenuipunctata* Krammer, Biblioth. Diatomol. 36, p. 178, pl. 85: figs 1-6 (1997).
- Encyonema neomuelleri* Krammer, Nova Hedwigia 65, p. 142, figs 23-27 (1997).
- Encyonema norvegicum* var. *alpinum* Krammer, Biblioth. Diatomol. 37, p. 185, pl. 107: figs 12-20 (1997).
- Encyonema norvegicum* var. *capitatum* Krammer, Biblioth. Diatomol. 37, p. 185, pl. 107: figs 1-2 (1997). [Comment: on p. 185 erroneously pl. 106: figs 1-2 is given. On pl. 106: figs. 1-2 *E. distinctepunctatum* Krammer is documented. On p. 262 (= caption of pl. 107: figs 1-2) var. *capitatum* is cited as "var. *capitata*".]
- Encyonema norvegicum* var. *crassipunctatum* Krammer, Biblioth. Diatomol. 37, p. 185, pl. 108: figs 5-6 (1997).
- Encyonema obscuriforme* Krammer, Biblioth. Diatomol. 36, p. 172, pl. 30: figs 11-15 (1997).
- Encyonema obscurum* var. *alpina* Krammer, Biblioth. Diatomol. 36, p. 171, pl. 29: figs 1-11 (1997).
- Encyonema obtusum* Krammer var. *obtusum*, Biblioth. Diatomol. 37, p. 20, 184, pl. 105: figs 1-7, 11-13 (1997). [Comment: *Encyonema obtusum* var. *obtusum* is not documented on pl. 105: figs 8-10 as mentioned on p. 184, on the other hand pl. 105: fig. 13 is missing on p. 184. On pl. 105: figs 8-10 *Encyonema obtusum* var. *truncatum* Krammer, nom. inval. is documented.]
- Encyonema obtusum* var. *truncatum* Krammer, nom. inval., Biblioth. Diatomol. 37, p. 184, pl. 105: figs 8-10 (1997). [Comment: no type is given, hence this name is invalidly published.]
- Encyonema ochridanum* Krammer, Biblioth. Diatomol. 36, p. 159, pl. 31: figs 3-10 (1997).
- Encyonema oestrupii* Krammer et Lange-Bert., Biblioth. Diatomol. 37, p. 68, 191, pl. 192: figs 17-18 (1997).
- Encyonema pankowii* Lange-Bert. et Krammer, Biblioth. Diatomol. 37, p. 69, 192, pl. 142: figs 9-11 (1997).
- Encyonema parvum* Krammer, Biblioth. Diatomol. 37, p. 183, pl. 191: figs 10-15 (1997).
- Encyonema perelginense* Krammer, Biblioth. Diatomol. 36, p. 173, pl. 61: figs 1-4 (1997).
- Encyonema pergracile* Krammer, Biblioth. Diatomol. 36, p. 178, pl. 88: figs 1-8 (1997).
- Encyonema perminutum* Krammer, Biblioth. Diatomol. 36, p. 161, pl. 25: figs 20-27 (1997).
- Encyonema perpusillum* var. *chilense* Krammer, Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 115-116, pl. 111: figs 20-23 (2000).
- Encyonema persilesiacum* Krammer var. *persilesiacum*, Biblioth. Diatomol. 36, p. 165, pl. 10: figs 1-8 (1997).
- Encyonema persilesiacum* var. *ata-tau* Krammer, Biblioth. Diatomol. 36, p. 165-166, pl. 12: figs 1-5 (1997).
- Encyonema polystigmoideum* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 36, pl. 131: figs 8-11, pl. 144: figs 1-2 (1998).
- Encyonema ponteanum* Krammer, Biblioth. Diatomol. 37, p. 192, pl. 142: figs 13-15 (1997).
- Encyonema procerum* Krammer, Biblioth. Diatomol. 36, p. 169, pl. 32: figs 9-19 (1997).
- Encyonema pseudomuelleri* Krammer, Biblioth. Diatomol. 36, p. 174, pl. 43: figs 1-6, pl. 44: figs 1-4, pl. 45: figs 1-4, (1997). [Comment: *Encyonema pseudomuelleri* was the intended new name and status for *Cymbella muelleri* var. *javanica* and *Cymbella grossestriata* var. *javanica*. Krammer published a new species with a Latin description, based on the lectotype, selected by Simonsen, Atlas and catalogue of the diatom types of Friedrich Hustedt 1, p. 130 (1987) for *Cymbella grossestriata* var. *javanica* (erroneously cited for *Cymbella muelleri* var. *javanica*).] [Homotypic synonym: *Cymbella muelleri* var. *javanica* Hust., Arch. Hydrobiol., Suppl., p. 425-426, pl. 26: figs. 1-4. Comment: *Cymbella muelleri* var. *javanica* was originally published as a new combination for *Cymbella grossestriata* var. *javanica*. Since *Cymbella grossestriata* var. *javanica* was invalidly published, *Cymbella muelleri* var. *javanica* is treated as a new described variety.] [- *Cymbella grossestriata* var. *javanica* Hust., nom. inval., A. Schmidt's Atlas der Diatomaceenkunde, pl. 373: figs 8-9 (1931). Comment: *Cymbella grossestriata* var. *javanica* is lacking a diagnosis, hence it is invalidly published, the term "Nähert sich *Cymbella turgida* Greg." can not be treated as a diagnosis.]
- Encyonema rifelanum* Krammer, Biblioth. Diatomol. 37, p. 193, pl. 134: figs 7-14 (1997).
- Encyonema riotecense* Krammer, Biblioth. Diatomol. 36, p. 169, pl. 41: figs 1-6 (1997).
- Encyonema rostratum* Krammer, Biblioth. Diatomol. 37, p. 190-191, pl. 126: figs 1-14 (1997).
- Encyonema rugosiforme* Krammer, Biblioth. Diatomol. 36, p. 175-176, pl. 63: figs 1-3 (1997).

- Encyonema rumrichae* Krammer, Biblioth. Diatomol. 37, p. 184, pl. 102: figs 9-17 (1997).
- Encyonema schimanskii* Krammer, Biblioth. Diatomol. 36, p. 54, 158, pl. 14: figs 10-17 (1997). [Comment: *Encyonema schimanskii* on p. 208 (= caption of pl. 14: figs 10-17) is cited as "*Encyonema minutum* (Hilse) D.G.Mann".]
- Encyonema schneideri* Krammer, Biblioth. Diatomol. 36, p. 166, pl. 40: figs 1-4 (1997).
- Encyonema schoemaniae* Krammer, Biblioth. Diatomol. 37, p. 183, pl. 136: figs 18-19 (1997).
- Encyonema semilanceolatum* Krammer, Biblioth. Diatomol. 36, p. 172, pl. 33: figs 14-20 (1997).
- Encyonema sibericum* Krammer et Lange-Bert., Iconogr. Diatomol. 6, p. 44, pl. 59: figs 4-6, pl. 60: figs 5-7 (1999). [Comment: *Diploneis ovalis* ssp. *arctica* is not documented on pl. 59: figs 4-5, pl. 60: figs 4-6 as cited in the 1st edition, reference corrected in the 2nd edition.]
- Encyonema silesiacum* var. *altensis* Krammer, Biblioth. Diatomol. 36, p. 163, pl. 9: figs 9-19 (1997). [Comment: on p. 163 pl. 9: figs 7-8 is erroneously cited. On pl. 9: figs 7-8 *Encyonema silesiacum* var. *silesiacum* is documented.]
- Encyonema silesiacum* var. *distigmata* Krammer, Biblioth. Diatomol. 36, p. 164, pl. 8: fig. 8 (1997).
- Encyonema silesiacum* var. *distinctepunctata* Krammer, Biblioth. Diatomol. 36, p. 164, pl. 11: figs 1-11 (1997).
- Encyonema silesiacum* var. *elegans* Krammer, Biblioth. Diatomol. 36, p. 164, pl. 14: figs 6-9 (1997).
- Encyonema silesiacum* var. *excisa* Krammer, Biblioth. Diatomol. 36, p. 164, pl. 11: figs 13-14 (1997).
- Encyonema silesiacum* var. *lata* Krammer, Biblioth. Diatomol. 36, p. 164, pl. 12: figs 6-9 (1997).
- Encyonema silesiacum* var. *latarea* Krammer, Biblioth. Diatomol. 36, p. 165, pl. 13: figs 9-12 (1997).
- Encyonema silesiacum* var. *latistriata* Krammer, Biblioth. Diatomol. 36, p. 165, pl. 11: fig. 12 (1997).
- Encyonema silesiacum* var. *ventriformis* Krammer, Biblioth. Diatomol. 36, p. 164, pl. 8: figs 9-15 (1997).
- Encyonema simile* Krammer, Biblioth. Diatomol. 36, p. 160, pl. 18: figs 5-10 (1997).
- Encyonema sinicum* Krammer, Biblioth. Diatomol. 36, p. 175, pl. 72: figs 1-9 (1997).
- Encyonema sparsipunctatum* Krammer, Biblioth. Diatomol. 36, p. 179, pl. 95: figs 1-5 (1997).
- Encyonema spitsbergense* Krammer, Biblioth. Diatomol. 36, p. 163, pl. 15: figs 1-4 (1997).
- Encyonema stigmoideum* Krammer, Biblioth. Diatomol. 36, p. 163, pl. 15: figs 5-14 (1997).
- Encyonema subbrevisstriatum* Krammer, Biblioth. Diatomol. 37, p. 188-189, pl. 132: figs 17-23 (1997).
- Encyonema subelginense* Krammer, Biblioth. Diatomol. 36, p. 173, pl. 62: figs 2-8 (1997).
- Encyonema subgracile* Krammer, Biblioth. Diatomol. 36, p. 178-179, pl. 95: figs 12-19 (1997). [Comment: on p. 370 (= caption of pl. 95 the authors are cited as "Krammer et Lange-Bert.".)]
- Encyonema subjavanicum* Krammer, Biblioth. Diatomol. 37, p. 194, pl. 133: figs 13-20 (1997).
- Encyonema subkukenanum* Krammer, Biblioth. Diatomol. 37, p. 185, pl. 106: figs 10-15 (1997).
- Encyonema sublaceolatum* Krammer, Metzeltin et Lange-Bert., Biblioth. Diatomol. 37, p. 14, 183, pl. 136: fig. 16, pl. 202: figs 13-15 (1997).
- Encyonema subminutum* Krammer et Lange-Bert., Biblioth. Diatomol. 36, p. 58, 159, pl. 19: figs 17-24 (1997). [Comment: in the Latin diagnosis the author name "Lange-Bert." is missing. On p. 58 (German description) pl. 19: fig. ?25, pl. 25: figs 28-34 are also mentioned.]
- Encyonema subnorvegicum* Krammer, Biblioth. Diatomol. 37, p. 186, pl. 112: figs 1-6 (1997).
- Encyonema subobscurum* Krammer, Biblioth. Diatomol. 36, p. 171-172, pl. 27: figs 18-20 (1997).
- Encyonema subperpusillum* Krammer, Biblioth. Diatomol. 37, p. 186-187, pl. 112: figs 12-14 (1997).
- Encyonema subrostratum* Krammer, Biblioth. Diatomol. 37, p. 192-193, pl. 131: figs 1-10 (1997).
- Encyonema subtenerum* Lange-Bert. et Krammer, Biblioth. Diatomol. 38, p. 126, pl. 48: figs 10-16 (1998).
- Encyonema subtenuissimum* Krammer, Biblioth. Diatomol. 37, p. 182, pl. 128: figs 5-5a (1997).

- Encyonema subtriste* Krammer, Biblioth. Diatomol. 37, p. 188, pl. 131: figs 17-18 (1997).
- Encyonema supergracile* Krammer et Lange-Bert., Biblioth. Diatomol. 36, p. 147, 178, pl. 89: figs 4-9 (1997).
- Encyonema tapajoz* Krammer, Biblioth. Diatomol. 37, p. 188, pl. 130: figs 1-7 (1997).
- Encyonema tasmaniense* Krammer, Biblioth. Diatomol. 37, p. 187, pl. 120: figs 1-5 (1997).
- Encyonema tenerum* Krammer, Biblioth. Diatomol. 37, p. 182, pl. 151: fig. 10, pl. 192: figs 20-22 (1997).
- Encyonema tenuicephalum* Lange-Bert. et Krammer, Biblioth. Diatomol. 38, p. 128, pl. 49: figs 6-8 (1998).
- Encyonema thermale* Krammer, Biblioth. Diatomol. 37, p. 185-186, pl. 108: figs 7-10 (1997).
- Encyonema thioense* Lange-Bert. et Krammer, Biblioth. Diatomol. 38, p. 129-130, pl. 49: figs 9-14 (1998).
- Encyonema trianguliforme* Krammer, Biblioth. Diatomol. 36, p. 176, pl. 73: figs 1-5, pl. 74: figs 1-8 (1997).
- Encyonema tropicum* Metzeltin et Krammer, Biblioth. Diatomol. 37, p. 195, pl. 203: figs 1-3 (1997).
- Encyonema truncatum* Krammer, Biblioth. Diatomol. 37, p. 193, pl. 134: figs 15-18 (1997).
- Encyonema vanoyei* (Cholnoky) Krammer var. *vanoyei*, Nova Hedwigia 65, p. 139 (1997).
Basionym: *Cymbella vanoyei* Cholnoky, Oesterr. Bot. Z. 101, p. 412, figs 17-18 (1954).
- Encyonema vanoyei* var. *grande* Krammer, Biblioth. Diatomol. 36, p. 177, pl. 51: figs 1-2 (1997). [Comment: on p. 138 and 282 var. *grande* is cited as "var. *grandis*".]
- Encyonema venezolanum* Krammer var. *venezolanum*, Biblioth. Diatomol. 36, p. 162, pl. 19: figs 1-8 (1997).
- Encyonema venezolanum* var. *similis* Krammer, Biblioth. Diatomol. 36, p. 162, pl. 20: figs 6-10 (1997).
- Encyonema ventricosum* var. *angusta* Krammer, Biblioth. Diatomol. 36, p. 170, pl. 6: figs 5-7 (1997).
- Encyonema vulgare* Krammer var. *vulgare*, Biblioth. Diatomol. 36, p. 167, pl. 36: figs 4-10 (1997).
- Encyonema vulgare* var. *chilensis* Krammer, Biblioth. Diatomol. 36, p. 168, pl. 38: figs 4-5 (1997).
- Encyonema vulgare* var. *tasmanensis* Krammer, Biblioth. Diatomol. 36, p. 167, pl. 50: figs 1-2 (1997). [Comment: on p. 280 var. *tasmanensis* is cited as "var. *tasmaniensis*".]
- Encyonema wallaceanum* var. *neocaledonicum* Krammer et Lange-Bert., Biblioth. Diatomol. 38, p. 130-131, pl. 48: fig. 26 (1998).
- Encyonema wojtalae* Metzeltin, Iconogr. Diatomol. 5, p. 37, pl. 136: figs 14-19, pl. 143: figs 3-4 (1998).
- Encyonema yellowstonianum* Krammer, Biblioth. Diatomol. 36, p. 174-175, pl. 64: figs 4-6 (1997).
- Encyonema yucatanense* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 38, pl. 139: figs 15-17, 23-25 (1998).
- ENCYONOPSIS** Krammer, Biblioth. Diatomol. 36, p. 156-157, (1997). [Typus generis: *Navicula cesatii* Rabenh., Süßwasserdiatomeen, p. 39, pl. 6: fig. 89 (1853).]
- Encyonopsis alpina* Krammer et Lange-Bert., Biblioth. Diatomol. 37, p. 97-98, 196, pl. 150: figs 4, 7-10, pl. 193: figs 1 [only valve on the left hand side], 5, 7-9 (1997).
- Encyonopsis angusta* Krammer et Lange-Bert., Biblioth. Diatomol. 37, p. 98-99, 196, pl. 148: figs 5-6, pl. 150: figs 2-3, 5-6, pl. 193: figs 2-3 (1997).
- Encyonopsis blanchensis* Krammer, Biblioth. Diatomol. 37, p. 205, pl. 138: figs 1-3 (1997).
- Encyonopsis buedeliformis* Krammer, Biblioth. Diatomol. 37, p. 205, pl. 181: figs 1-7 (1997).
- Encyonopsis buedelii* Krammer, Biblioth. Diatomol. 37, p. 205, pl. 170: figs 4-11 (1997).
- Encyonopsis cesatiformis* Krammer, Biblioth. Diatomol. 37, p. 206, pl. 178: figs 7-12 (1997).
- Encyonopsis cesatii* var. *geitleri* Krammer, Biblioth. Diatomol. 37, p. 206, pl. 184: figs 4-13 (1997).
- Encyonopsis costaricana* Lange-Bert. et Wydrzycka, Brenesia 55-56, p. 7-8, pl. 17: figs 19-21 (2001).
- Encyonopsis degenerata* Gerd Moser, Biblioth. Diatomol. 43, p. 125-126, pl. 1: figs 1-11 (1999).
- Encyonopsis descripta* var. *asymmetrica* Krammer, Biblioth. Diatomol. 37, p. 200, pl. 156: figs 3-8 (1997).

- Encyonopsis difficiliformis* Krammer, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 37, p. 122-123, 200, pl. 162: figs 25-26, pl. 202: figs 7-12a (1997).
- Encyonopsis dubitabilis* Lange-Bert., Gerd Moser et Krammer, Biblioth. Diatomol. 37, p. 143, 204, pl. 140: figs 14-16 (1997). Comment: Validated name for *Encyonopsis dubitabilis* Lange-Bert. et Gerd Moser, nom. inval., Moser et al., Biblioth. Diatomol. 32, p. 71, pl. 24: figs 9-14 (1995). In Metzeltin & Kusber (2001) the authors are erroneously cited as "Lange-Bert., Krammer et Gerd Moser".]
- Encyonopsis eifelana* Krammer, Biblioth. Diatomol. 37, p. 197-198, pl. 150: figs 31-36, pl. 203: figs 7-8 (1997).
- Encyonopsis falaisensiformis* Krammer, Biblioth. Diatomol. 37, p. 199-200, pl. 181: figs 8-13 (1997).
- Encyonopsis floridana* Krammer, Biblioth. Diatomol. 37, p. 203, pl. 167: figs 1-6 (1997).
- Encyonopsis fragilis* Krammer, Biblioth. Diatomol. 37, p. 204-205, pl. 169: figs 10-12 (1997).
- Encyonopsis frequentiformis* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 39, pl. 137: figs 13-14, 16 (1998). [Comment: on page 39 erroneously figs 11-12 are referred to.]
- Encyonopsis frequentis* Krammer var. *frequentis*, Biblioth. Diatomol. 37, p. 201-202, pl. 157: figs 10-11, pl. 158: figs 1-3, pl. 202: figs 1-6 (1997).
- Encyonopsis frequentis* var. *brasiliانا* Krammer, Biblioth. Diatomol. 37, p. 202, pl. 186: figs 2-9 (1997).
- Encyonopsis frequentis* var. *fossilis* Krammer, Biblioth. Diatomol. 37, p. 202, pl. 166: fig. 3 (1997).
- Encyonopsis glacialis* Lange-Bert., Krammer et U.Rumrich, Iconogr. Diatomol. 9, p. 116, pl. 116: figs 11-12 (2000). [Comment: on p. 462 (= caption of pl. 111) the authors are cited as "Krammer, Rumrich et Lange-Bert.".]
- Encyonopsis gomphonemiformis* Krammer, Biblioth. Diatomol. 37, p. 203, pl. 183: figs 4-6 (1997).
- Encyonopsis grunowii* Krammer, Biblioth. Diatomol. 37, p. 207-208, pl. 178: figs 2-6 (1997).
- Encyonopsis kergueliformis* Krammer et Lange-Bert., Biblioth. Diatomol. 37, p. 151, 205-206, pl. 189: figs 14-20 (1997).
- Encyonopsis krammerioides* Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 117, pl. 116: figs 3-5 (2000). [Comment: *Encyonopsis krammerioides* in Metzeltin & Kusber (2001) was erroneously cited as "*Encyonopsis krammeroides*".]
- Encyonopsis krasskei* Krammer, Biblioth. Diatomol. 37, p. 207, pl. 174: figs 5-8 (1997).
- Encyonopsis kriegeri* var. *fossilis* Krammer, Biblioth. Diatomol. 37, p. 203, pl. 190: figs 8-10 (1997).
- Encyonopsis lanceo-elliptica* Krammer, Biblioth. Diatomol. 37, p. 207, pl. 189: figs 1-8 (1997).
- Encyonopsis linearis* Krammer, Biblioth. Diatomol. 37, p. 201, pl. 158: figs 4-9 (1997).
- Encyonopsis minuta* Krammer et E.Reichardt, Biblioth. Diatomol. 37, p. 195, pl. 143a: figs 1-27 (1997).
- Encyonopsis moseri* Krammer et Lange-Bert., Biblioth. Diatomol. 37, p. 104, 198, pl. 152: figs 14-18, pl. 153: figs 1-11 (1997).
- Encyonopsis namibiana* Krammer, Biblioth. Diatomol. 37, p. 206, pl. 181: figs 14-20 (1997).
- Encyonopsis neoamphioxix* Krammer, Biblioth. Diatomol. 37, p. 141-142, 203, pl. 168: figs 1-9, 11-13 (1997).
- Encyonopsis opima* (Kociolek et Reviere) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 35 (1998). Replaced synonym: *Gomphonema opimum* Kociolek et Reviere, Cryptog. Algol. 17 (3), p. 211 (1996).
- Encyonopsis orientalis* Krammer, Biblioth. Diatomol. 37, p. 199, pl. 153: figs 13-24 (1997).
- Encyonopsis patagonica* Lange-Bert., Krammer et U.Rumrich, Iconogr. Diatomol. 9, p. 118, pl. 117: figs 21-22 (2000).
- Encyonopsis perborealis* Krammer, Biblioth. Diatomol. 37, p. 198-199, pl. 154: figs 1-12 (1997).
- Encyonopsis radialis* Krammer, Biblioth. Diatomol. 37, p. 200, pl. 164: figs 14-21, pl. 175: figs 6-7 (1997).
- Encyonopsis recta* Krammer, Biblioth. Diatomol. 37, p. 202-203, pl. 165: figs 12-14 (1997).
- Encyonopsis reichardtii* Krammer, Biblioth. Diatomol. 37, p. 202, pl. 166: figs 1-2 (1997).
- Encyonopsis reviersiana* Lange-Bert., Gerd Moser et Krammer, Biblioth. Diatomol. 37, p. 126, 201, pl. 158: figs 13-15 (1997).

[Comment: validated name for *Cymbella reviersiana* Lange-Bert. et Gerd Moser, nom. inval., Biblioth. Diatomol. 32, p. 81, pl. 20: figs 9-12. (1995). On p. 366 (= caption of pl. 158) *Encyonopsis reviersiana* is cited as "*Encyonopsis reviersianum*".]

Encyonopsis rostrata Krammer, Biblioth. Diatomol. 37, p. 197, pl. 150: figs 24-30 (1997).

Encyonopsis rumrichae Krammer, Biblioth. Diatomol. 37, p. 197, pl. 148: figs 10-24 (1997).

Encyonopsis schneideri Krammer, Biblioth. Diatomol. 37, p. 207, pl. 176: figs 1-10, pl. 201: figs 1-3 (1997).

Encyonopsis speciosa Lange-Bert., Krammer et U.Rumrich, Iconogr. Diatomol. 9, p. 119, pl. 117: figs 5-7 (2000).

Encyonopsis spiculiformis Krammer, Biblioth. Diatomol. 37, p. 204, pl. 171: figs 6-9 (1997).

Encyonopsis subcapitata Krammer, Biblioth. Diatomol. 37, p. 201, pl. 180: figs 1-4 (1997).

Encyonopsis subfonticola Krammer, Biblioth. Diatomol. 37, p. 199, pl. 152: figs 7-13 (1997).

Encyonopsis subminuta Krammer et E.Reichardt, Biblioth. Diatomol. 37, p. 195-196, pl. 144: figs 6-11 (1997).

Encyonopsis subrutneri Krammer, Biblioth. Diatomol. 37, p. 198, pl. 151: figs 12-17 (1997).

Encyonopsis subspicula Krammer, Biblioth. Diatomol. 37, p. 204, pl. 168: figs 8-9 (1997).

Encyonopsis substodderi Krammer, Biblioth. Diatomol. 37, p. 206-207, pl. 172: figs 5-8 (1997).

[Comment: the holotype erroneously is cited as "Lectotypus".]

Encyonopsis symmetrica Krammer, Biblioth. Diatomol. 37, p. 208, pl. 179: figs 1-4 (1997).

Encyonopsis tavrana Krammer, Biblioth. Diatomol. 37, p. 196, pl. 148: figs 1-3 (1997).

Encyonopsis thumensis Krammer, Biblioth. Diatomol. 37, p. 198, pl. 154: figs 13-15, pl. 158: figs 16-22 (1997).

Encyonopsis tiroliana Krammer et Lange-Bert., Biblioth. Diatomol. 37, p. 102, 197, pl. 203, figs 10-12 (1997).

[Comment: *Encyonopsis tiroliana* was already documented in Lange-Bertalot & Metzeltin, Iconogr. Diatomol. 2 (1996) pl. 91: figs 18-20 as "*Cymbella* nov. spec. Nr. 10 Mittersee".]

Encyonopsis vandamii Krammer et Lange-Bert., Biblioth. Diatomol. 37, p. 109-110, 199, pl. 151: figs 21-27, pl. 187: figs 9-11 (1997).

ENTOMONEIS (Ehrenb.) Ehrenb.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=131].

Entomoneis corrugata (Giffen) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 198 (2000).

Basionym: *Amphiprora corrugata* Giffen, Nova Hedwigia 13, p. 213, figs 6-7 (1967).

Entomoneis densistriata (Krasske) Lange-Bert., Willmann et Metzeltin, Iconogr. Diatomol. 3, p. 38 (1996).

Basionym: *Amphiprora paludosa* var. *densistriata* Krasske, Beih. Großbot. Zentralbl. 60, p. 342, pl. 13: fig. 1 (1940).

Entomoneis kjellmanii var. *striolata* (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 198 (2000).

Basionym: *Amphiprora striolata* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17 (2), p. 62, pl. 4: fig. 81 (1880).

EOLIMNA Lange-Bert. et W.Schiller, Paläontol. Z. 71, p. 166, 168 (1997). [Typus generis: *Eolimna martinii* W.Schiller et Lange-Bert., Paläontol. Z. 71, p. 166, 168 (1997). Comment: in Moser et al. (1998), Biblioth. Diatomol. 38, p. 151 an additional Latin diagnosis is given.]

Eolimna adnata (Hust.) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 152 (1998).

Basionym: *Navicula adnata* Hust., Arch. Hydrobiol. Suppl. 15, p. 264 (1937).

[– *Navicula adnata* Hust., nom. inval., A. Schmidt's Atlas der Diatomaceenkunde pl. 401: figs 37-40 (1936).]

Eolimna inconspicua Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 152-153, pl. 23: figs 1-5 (1998).

Eolimna martinii W.Schiller et Lange-Bert., Paläontol. Z. 71, p. 168, figs 2, 6-12 (1997). [The fossil *Eolimna martinii* is the type of the name of the genus **EOLIMNA** Lange-Bert. et W.Schiller. Comment: in Moser et al. (1998), Biblioth. Diatomol. 38, p. 151 an additional Latin diagnosis is given.]

Eolimna minima (Grunow) Lange-Bert., Biblioth. Diatomol. 38, p. 153 (1998).

Basionym: *Navicula minima* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, p. 107, pl. 14: fig. 15 (1880-1885).

Eolimna neocaledonica (Manguin ex Kociolek et Reviers) Lange-Bert., Biblioth. Diatomol. 38, p. 35 (1998).

Basionym: *Navicula neocaledonica* Manguin ex Kociolek et Reviers, Cryptog. Algol. 17 (3), p. 203 (1996).

Eolimna rhombelliptica Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 155, pl. 24: figs 1-9 (1998).

Eolimna rhombica Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 156, pl. 23: figs 11-20 (1998).

Eolimna subadnata (Hust.) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 154 (1998).

Basionym: *Navicula subadnata* Hust., Int. Rev. Gesamten Hydrobiol. Hydrogr. 42, p. 69, figs 6-8 (1942).

Eolimna subminuscula (Manguin) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 154 (1998).

Basionym: *Navicula subminuscula* Manguin, Rev. Algol. 12, p. 139, pl. 2: fig. 39 (1941).

Eolimna thioense Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 157, pl. 23: figs 6-10 (1998).

Eolimna verecundaeformis (Manguin ex Kociolek et Reviere) Lange-Bert. in Jahn et al., Lange-Bertalot-Festschrift, p. 632 (2001).

Basionym: *Navicula verecundaeformis* Manguin ex Kociolek et Reviere, Cryptog. Algol. 17 (3), p. 204, (1996).

[– *Navicula verecundaeformis* Manguin, nom. inval., Mém. Mus. Natl. Hist. Nat., Nouv. Sér. B, Bot. 12 (1), p. 22, pl. 2: figs 21a, b (1962).]

[– *Eolimna verecundaeformis* (Manguin ex Kociolek et Reviere) Gerd Moser, Lange-Bert. et Metzeltin, nom. inval., Biblioth. Diatomol. 38, p. 35, 52 (1998).]

Eolimna zalokariae Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 39-40, pl. 167: figs 1-2 (1998).

EPHEMERA Paddock

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=888]

[<http://128.32.109.44/cgi-bin/porp.cgi.pl?EPHEMERATBBPADDock1988>].

Ephmera bjoernoeyaensis Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 14, pl. 55: figs 10-16, pl. 78: figs 1-4 (1996). [Comment: *Ephmera bjoernoeyaensis* on p. 142 (= caption of pl. 55: fig. 16) is cited as "*Proshkinia* cf. *bulnheimii* (Grunow) Karayeva".]

EPITHEMIA Kütz.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=795].

Epithemia gracilis Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 158, pl. 65: figs 1-9 (1998).

Epithemia illuminata Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 159, pl. 61: figs 1-4 (1998).

Epithemia krammeri Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 160-161, pl. 66: figs 1-7 (1998).

Epithemia miranda Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 163, pl. 62: figs 1-7, pl. 63: figs 1-6, pl. 64: figs 1-6 (1998).

EUCOCCONEIS Cleve ex F.Meister

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=551].

Eucocconeis alpestris (Brun) Lange-Bert., Iconogr. Diatomol. 6, p. 45 (1999).

Basionym: *Achnanthes flexella* var. *alpestris* Brun, Diatomées des Alpes et du Jura de la région Suisse et Française des environs de Genève, p. 30, fig. 26 (1880).

[≡ *Achnanthes alpestris* (Brun) Lange-Bert. et Metzeltin.]

Eucocconeis aretasii (Manguin) Lange-Bert., Iconogr. Diatomol. 6, p. 45 (1999).

Basionym: *Achnanthes aretasii* Manguin, Mém. Inst. Sci. Madagascar (Ser. B) 5, p. 19, pl. 2: fig. 16 a-c (1954).

Eucocconeis austriaca (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 46 (1999).

Basionym: *Achnanthes austriaca* Hust., Int. Rev. Gesamten Hydrobiol. Hydrogr. 10, p. 75, figs 6-7 (1922).

Eucocconeis depressa (Cleve) Lange-Bert., Iconogr. Diatomol. 6, p. 46 (1999).

Basionym: *Navicula depressa* Cleve, Acta Soc. Fauna Fl. Fenn. 8 (2), p. 35, pl. 2: fig. 4 (1891).

Eucocconeis diluviana (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 46 (1999).

Basionym: *Achnanthes diluviana* Hust., Abh. Naturwiss. Vereine Bremen 34, p. 451, figs 11-12 (1954).

Eucocconeis laevis (Østrup) Lange-Bert., Iconogr. Diatomol. 6, p. 46 (1999).

Basionym: *Achnanthes laevis* Østrup, Danske Diatomeer, p. 130, pl. 3: fig. 80 (1910).

Eucocconeis leptostriata Lange-Bert., Iconogr. Diatomol. 6, p. 46, pl. 7: figs 4-5, pl. 8: figs 1-6 (1999).

[Comment: the genus on p. 45 is erroneously not cited as *Eucocconeis* Cleve ex F.Meister, see Fourtanier & Kociolek (1999), p. 62.]

Eucocconeis nincke (Guermeur et Manguin) Lange-Bert., Iconogr. Diatomol. 6, p. 48 (1999).

Basionym: *Achnanthes nincke* Guermeur et Manguin, Oesterr. Bot. Z. 100, p. 514, pl. 1: figs 10-11 (1953).

Eucocconeis quadratarea (Østrup) Lange-Bert., Iconogr. Diatomol. 6, p. 48 (1999).

Basionym: *Cocconeis quadratarea* Østrup, Danske Diatomeer, p. 124, pl. 3: fig. 77 (1910).

***EUNOTIA* Ehrenb.**

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=175].

EUNOTIA* subgen. *CULTRIA [see *CULTRIA*].

Eunotia acicularis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 47-48, pl. 61: figs 8-9 (1998). [Comment: *Eunotia acicularis* on page 356 (= caption of pl. 61: figs 8-9) is cited as "*Eunotia* spec. Nr. 61/8, 9".]

Eunotia actuariola Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 48-49, pl. 44: figs 2-8 (1998). [Comment: *Eunotia actuariola* on page 322 (= caption of pl. 44: figs 2-8) is misspelled as "*E. acutuariola*".]

Eunotia acus Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 49, pl. 13: figs 8, 9A-C (1998). [Comment: *Eunotia acus* is not documented on pl. 12 as cited on p. 49.]

Eunotia acutinasuta Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 50, pl. 59: figs 14-17 (1998).

Eunotia anamargaritae Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 51 (1998).

Replaced synonym: *Eunotia zygodon* var. *elongata* Hust. ex Simonsen, Atlas and Catalogue of the Diatom Types of F. Hustedt 1, p. 37 (1987).

Eunotia andinofrequens Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 120, pl. 18: figs 18-24 (2000).

Eunotia arcubus Nörpel et Lange-Bert., Biblioth. Diatomol. 27, p. 24-25, pl. 16: figs 1-6, pl. 19: figs 1-10, pl. 20: figs 1-6, pl. 21: figs 1-11 (1993).

Eunotia arculus Lange-Bert. et Nörpel, Biblioth. Diatomol. 27, p. 26 (1993). [Validation of *Eunotia arculus* (Grunow) Lange-Bert. et Nörpel, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (3), p. 213, pl. 157: figs 4-12 (1991).] [- *Eunotia paludosa* var. *arculus* Grunow, nom. inval., in Van Heurck, Synopsis des Diatomées de Belgique, Type de Synopsis, no. 274 (1880-1887).]

Eunotia australminor Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 164, pl. 10: figs 8-13 (1998).

Eunotia bicornigera Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 51, pl. 28: figs 17-24, 28 (1998).

Eunotia bilunaris* var. *linearis (Okuno) Lange-Bert. et Nörpel-Schempp in Jahn et al., Lange-Bertalot-Festschrift, p. 633 (2001).

Basionym: *Eunotia flexuosa* var. *linearis* Okuno, Atlas of fossil diatoms from Japanese Diatomite deposits. Kawakita Printing Co., Kyoto, p. 31, pl. 23: fig. 18 (1952).

[- *Eunotia bilunaris* var. *linearis* (Okuno) Lange-Bert. et Nörpel, nom. inval., Süßwasserflora von Mitteleuropa 2 (3), p. 180, pl. 137: figs 13-16 (1991); Biblioth. Diatomol. 27, p. 28 (1993).]

Eunotia bilunaris* var. *mucophila Lange-Bert., Nörpel et Alles, Nova Hedwigia 53, p. 196, pl. 5: figs 12-21 (1991).

Eunotia boreoalpina Lange-Bert. et Nörpel-Schempp, Iconogr. Diatomol. 5, p. 52 (1998). [As a part of the protologue Krammer & Lange-Bertalot (1991): Süßwasserflora von Mitteleuropa 2 (3), pl. 163: figs 1-7 is cited. Comment: in Krammer & Lange-Bertalot (1991a), p. 222 and p. 163 (= caption of pl. 163: figs 1-7) *Eunotia boreoalpina* is cited as "*Eunotia incisa* <<boreoalpina>>-Sippe".]

Eunotia boreotenuis Nörpel-Schempp et Lange-Bert., Iconogr. Diatomol. 2, p. 46, pl. 9: figs 21-23 (1996).

Eunotia botellus Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 165-166, pl. 15: figs 1-4 (1998).

Eunotia botuliformis F. Wild, Nörpel et Lange-Bert., Biblioth. Diatomol. 27, p. 29, pl. 33: figs 2-15 (1993).

Eunotia brinkmannii Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 52-53, pl. 39: figs 4-6 (1998). [Comment: *Eunotia brinkmannii* on page 312 (caption of pl. 39: figs 4-6) is misspelled as "*E. brinckmannii*".]

Eunotia cameliopsis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 53-54, pl. 29: figs 13 (?14) (1998). [Comment: *Eunotia cameliopsis* is not documented on "pl. 21" as cited on p. 53.]

Eunotia chelonina Nörpel-Schempp, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 47, pl. 13: figs 14-17 (1996). [Comment: on p. 144 (caption of pl. 13) the authors are cited as "Nörpel-Schempp, Metzeltin et Lange-Bert.".]

Eunotia circumborealis Lange-Bert. et Nörpel, Biblioth. Diatomol. 27, p. 30 (1993). [Validation of *Eunotia circumborealis* Lange-Bert. et Nörpel, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (3), p. 197, pl. 143: figs 16-23 (1991).]

Eunotia coccinea Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 54, pl. 12: figs 12-15 (1998).

Eunotia coringii Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 55 (1998).

Replaced synonym: *Eunotia didyma* var. *media* Hust. ex Simonsen, Atlas and Catalogue of the Diatom Types of F. Hustedt 1, p. 30 (1987).

Eunotia costaricana Lange-Bert. et Wydrzycka, Brenesia 55-56, p. 8, pl. 2: figs 1-4 (2001).

Eunotia crassispinata Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 166-167, pl. 17: figs 1-4 (1998).

Eunotia crassula Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 55-56, pl. 59: figs 11-13 (1998).

Eunotia curta Grunow (Nörpel-Schempp et Lange-Bert., Iconogr. Diatomol. 2, p. 48 (1996).

Replaced synonym: *Eunotia praeupta* var. *curta* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 34: fig. 24 (1881).

Eunotia dacostae Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 56, pl. 50: figs 5-6 (1998).

Eunotia damasii* ssp. *melanesica Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 167-168, pl. 16: figs 9-11 (1998).

Eunotia deformis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 57, pl. 16: figs 9-11 (1998).

Eunotia disproportionata Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 58, pl. 11: figs 7-8, pl. 13: figs 2-5 (1998).

Eunotia distinguenda Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 58-59, pl. 15: figs 10-15, pl. 46: fig. 1 (1998).

Eunotia elongata (Grunow) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 59 (1998).

Basionym: *Eunotia formica* var. *elongata* Grunow in Rabenhorst, Beiträge (Leipzig), 1, p. 3, pl. 1: figs 2a, b (1865).

Eunotia eurycephala (Grunow) Nörpel-Schempp et Lange-Bert., Iconogr. Diatomol. 2, p. 48 (1996).

Basionym: *Eunotia flexuosa* var.? *eurycephala* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, Atlas, pl. 35: fig. 8 (1881).

Eunotia eurycephaloides Nörpel-Schempp et Lange-Bert., Iconogr. Diatomol. 2, p. 48-49, pl. 9: figs 18-20, pl. 112: figs 2-3 (1996).

Eunotia exsecta (Cleve-Euler) Nörpel-Schempp et Lange-Bert., Iconogr. Diatomol. 2, p. 50 (1996).

Basionym: *Eunotia veneris* var. *exsecta* Cleve-Euler, Kongl. Svenska Vetenskapsakad. Handl. 2 (2), p. 113, figs 450 c-e (1953).

Eunotia falcifera Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 60-61, pl. 12: figs 19-26 (1998). [*Eunotia falcifera* is the type of the name of the subgenus *CULTRIA* Metzeltin et Lange-Bert.]

Eunotia filum Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 168-169, pl. 15: figs 5-8 (1998).

Eunotia fukushimae Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 169-170, pl. 12: figs 1-2 (1998).

Eunotia genufalcata Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 170-171, pl. 15: figs 9-10 (1998).

Eunotia genuflexa Nörpel-Schempp, Iconogr. Diatomol. 2, p. 50, pl. 9: figs 14-17 (1996).

Eunotia georgii Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 61, pl. 41: figs 1-7, pl. 42: figs 7-8 (1998).

Eunotia glacialifalsa Lange-Bert. in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 3, 2, 2. edition, p. 594-595, pl. 151: fig. 6, pl. 151A: figs 3-6 (2000). [Comment: *Eunotia glacialifalsa* on p. 532 (= caption of pl. 151) is cited as "*Eunotia glacialis* Meister sensu stricto = *Eunotia gracilis* Ehrenberg sensu auct. nonnull.".]

Eunotia gracillima (Krasske) Nörpel-Schempp, Iconogr. Diatomol. 3, p. 70 (1996).

Basionym: *Eunotia fallax* var. *gracillima* Krasske, Bot. Arch. 27, p. 349, figs 2 a-c (1929).

Eunotia hepaticola Lange-Bert. et Wydrzycka, Brenesia 55-56, p. 8-9, pl. 1: figs 1-9 (2001).

Eunotia incisatula Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 62, pl. 59: figs 25-30 (1998).

Eunotia indigenarum Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 63 (1998).

Replaced synonym: *Eunotia zygodon* var. *lata* Hust. ex Simonsen, Atlas and Catalogue of the Diatom Types of F. Hustedt 1, p. 36 (1987).

Eunotia inflata (Grunow) Nörpel-Schempp et Lange-Bert., Iconogr. Diatomol. 2, p. 52 (1996).

Basionym: *Eunotia praerupta* var. *inflata* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 34: fig. 17 (1881).

Eunotia inspectabilis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 63-64, pl. 55: figs 8-11 (1998).

Eunotia kanakarum Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 171-172, pl. 13: figs 1-4 (1998).

Eunotia krammeri Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 64, pl. 53: figs 1-7, pl. 63: fig. 1 (1998).

Eunotia lenis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 65, pl. 60: figs 10-16, pl. 62: figs 3, 4, 5 (1998). [Comment: *Eunotia lenis* is not documented on pl. 62: fig. 6 as cited on p 65 and 354, p. 358 (caption of pl. 62) is correct.]

Eunotia limax Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 172-173, pl. 16: fig. 8 (1998).

Eunotia longicollis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 66, pl. 15: figs 6-8 (1998).

Eunotia maxima (Hust. ex Simonsen) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 66 (1998).

Basionym: *Eunotia didyma* var. *maxima* Hust. ex Simonsen Atlas and Catalogue of the Diatom Types of F. Hustedt 1, p. 30 (1987).

Eunotia melanogaster Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 173-174, pl. 12: figs 3-8 (1998).

Eunotia meridiana Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 67, pl. 59: figs 7-10 (1998).

Eunotia michaelis Metzeltin, Witkowski et Lange-Bert., Iconogr. Diatomol. 4, p. 14-15, pl. 34: figs 2-8, pl. 90: figs 5-6 (1996). [Comment: *Eunotia michaelis* is not documented on pl. 33: figs 2-8 and pl. 90: fig. 4 as cited on p. 14].

Eunotia monodontiforma Lange-Bert. et Nörpel-Schempp, Iconogr. Diatomol. 9, p. 121-122, pl. 21: figs 1-7 (2000). [Comment: validation of *Eunotia monodontiforma* Lange-Bert. et Nörpel, nom. inval., in Biblioth. Diatomol. 27, p. 37, pl. 28: figs 1-6, pl. 29: figs 4-6. (1993).]

Eunotia muscicola* var. *perminuta (Grunow) Nörpel et Lange-Bert., Biblioth. Diatomol. 27, p. 38 (1993).

Basionym: *Eunotia tridentula* var. *perminuta* Grunow in Cleve et Möller, Diatoms, collection of 324 slides, no. 186 (1879).

Eunotia muscicola* var. *tridentula Nörpel et Lange-Bert., Biblioth. Diatomol. 27, p. 39 (1993). [Validation of *Eunotia muscicola* var. *tridentula* Nörpel et Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (3), p. 217, pl. 156: figs 12-22 (1991).]

Eunotia napoleonica Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 68, pl. 49: figs 4-8 (1998).

Eunotia neofallax Nörpel-Schempp et Lange-Bert., Iconogr. Diatomol. 3, p. 73-74, pl. 58: figs 7-29 (1996).

Eunotia neomundana Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 69, pl. 19: figs 1-6 (1998). [Comment: on p. 272 (= caption of pl. 19) the newly described species is erroneously cited as "nov. stat.".]

Eunotia noerpeliana Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 70, pl. 59: figs 1-6 (1998).

Eunotia novaecaledonica Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 39 (1998).

Replaced synonym: *Eunotia monodon* var. *neocaledonica* Manguin ex Kociolek et Reviers, Cryptog. Algal. 17 (3), p. 197-198 (1996).

Eunotia odebrechtiana Metzeltin et Lange-Bert. var. *odebrechtiana*, Iconogr. Diatomol. 5, p. 71, pl. 56: figs 1-6, 13-14 (1998).

Eunotia odebrechtiana* var. *essequiboensis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 72, pl. 57: figs 1-2 (1998).

Eunotia parapectinalis Lange-Bert. et U. Rumrich, Iconogr. Diatomol. 9, p. 123, pl. 19: figs 4-8 (2000).

Eunotia parasolii Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 72-73, pl. 60: figs 17-30 (1998).

Eunotia pileus* var. *guianense (Ehrenb.) E. Reichardt, Iconogr. Diatomol. 1, p. 15 (1995).

Basionym: *Himantidium guianense* Ehrenb., Abh. Königl. Akad. Wissensch. Berlin. 1841, p. 417, pl. 2/1: fig. 4a-c (1843). [Again marked as a new combination in Iconogr. Diatomol. 1 (second edition), p. 31 (1995).]

Eunotia pirarucu Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 73, pl. 49: figs 1-3 (1998).

Eunotia ponspendens Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 174-175, pl. 14: figs 1-6 (1998).

Eunotia praeurupta* var. *papilio (Grunow) Nörpel, Biblioth. Diatomol. 27, p. 39 (1993).

Basionym: *Eunotia robusta* var. *papilio* Grunow in Van Heurck, Synopsis, Atlas pl. 33: fig. 8 (1881).

[Nomenclatural synonym of *Eunotia pseudopapilio* Lange-Bert. et Nörpel-Schempp.]

[Comment: In Iconogr. Diatomol. 5 (1998), p. 74 *Eunotia praeurupta* var. *papilio* (Grunow) Nörpel is cited as *Eunotia praeurupta* var. *papilio* (Grunow) "Nörpel ex Lange-Bertalot", Biblioth. Diatomol. 27, p. 39 (1993).]

Eunotia praestans Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 175-176, pl. 11: fig. 6, pl. 12: figs 9-11 (1998).

Eunotia pseudopapilio Lange-Bert. et Nörpel-Schempp, Iconogr. Diatomol. 5, p. 74 (1998).

Replaced name: *Eunotia robusta* var. *papilio* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, Atlas, pl. 33: fig. 8 (1881).

[≡ *Eunotia praeurupta* var. *papilio* (Grunow) Nörpel.]

Eunotia rabenhorstiana* var. *elongata (R.M.Patrick) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 76 (1998).

Basionym: *Desmogonium rabenhorstianum* var. *elongatum* R.M.Patrick, Notul. Nat. Acad. Nat. Sci. Philadelphia 59, p. 3, figs 1-3 (1940).

Eunotia reichardtii Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 76 (1998).

Replaced synonym: *Eunotia didyma* var. *recta* Hust. ex Simonsen, Atlas and Catalogue of the Diatom Types of F. Hustedt 1, p. 30 (1987).

Eunotia rhynchocephala* var. *satelles Nörpel et Lange-Bert., Biblioth. Diatomol. 27, p. 39-40 (1993).

[Validation of *Eunotia rhynchocephala* var. *satelles* Nörpel et Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (3), p. 203, pl. 154: figs 18-22 (1991).]

[Nomenclatural synonym of *Eunotia satelles* (Nörpel-Schempp et Lange-Bert.) Nörpel-Schempp et Lange-Bert.]

Eunotia satelles (Nörpel-Schempp et Lange-Bert.) Nörpel-Schempp et Lange-Bert., Iconogr. Diatomol. 2, p. 53 (1996).

Basionym: *Eunotia rhynchocephala* var. *satelles* Nörpel-Schempp et Lange-Bert., Biblioth. Diatomol. 27, p. 39 (1993).

Eunotia schneideri Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 77, pl. 15: figs 1-2 (1998).

Eunotia seminulum Nörpel-Schempp et Lange-Bert., Iconogr. Diatomol. 2, p. 53, pl. 17: figs 43-47 (1996).

Eunotia serra-australis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 78, pl. 42: figs 1-5 (1998).

Eunotia silvae Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 79, pl. 39: figs 7-10 (1998).

Eunotia silvahercynia Nörpel, Van Sull et Lange-Bert., Nova Hedwigia 53, p. 208, pl. 6: figs 22-44 (1991).

Eunotia sioliopsis Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 177, pl. 10: figs 1-4 (1998).

Eunotia soleri Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 80 (1998).

Replaced synonym: *Eunotia frickei* var. *elongata* Hust. ex Simonsen, Atlas and Catalogue of the Diatom Types of F. Hustedt 1, p. 38 (1987).

Eunotia sparsiornata Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 178, pl. 4: figs 7-11, pl. 17: figs 5-13 (1998).

Eunotia subarcuatooides Alles, Nörpel et Lange-Bert., Nova Hedwigia 53, p. 188, pl. 4: figs 1-36 (1991).

Eunotia tambaquina Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 81 (1998).

Replaced synonym: *Eunotia rabenhorstii* var. *maxima* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 285: fig. 28 (1913).

Eunotia tapacumae* var. *sphagnophila (Krasske) Nörpel-Schempp, Iconogr. Diatomol. 3, p. 79 (1996).

Basionym: *Eunotia sphagnophila* Krasske, Svensk Bot. Tidskr. 42, p. 425, pl. 1: figs 16-17 (1948).

Eunotia tapacuminor Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 81, pl. 54: fig. 2 (1998).

Eunotia tapacumopsis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 83, pl. 54: figs 6-8 (1998).

Eunotia torganiae Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 84, pl. 28: figs 25-27 (1998).

Eunotia transfuga Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 84-85, pl. 8: fig. 5, pl. 9: figs 1-3 (1998).

Eunotia ursamaioris Lange-Bert. et Nörpel-Schempp, Iconogr. Diatomol. 6, p. 48-49, pl. 4: figs 18-21 (1999).

Eunotia varioundulata Nörpel-Schempp et Lange-Bert., Iconogr. Diatomol. 3, p. 68 (1996).

Replaced synonym: *Eunotia exigua* var. *tridentula* Østrup, Danske Diatomeer, p. 172, pl. 5: fig. 106 (1910).

Eunotia ventriosa* var. *brevis (R.M.Patrick) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 86 (1998).

Basionym: *Eunotia brevis* R.M.Patrick, Notul. Nat. Acad. Nat. Sci. Philadelphia 59, p. 4, fig. 8 (1940).

Eunotia vitiosa Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 179, pl. 11: figs 1-5 (1998).

Eunotia weisingii Lange-Bert., Biblioth. Diatomol. 27, p. 40, pl. 15: figs 1-11 (1993).

Eunotia yanomami Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 86-87, pl. 34: figs 1-6, pl. 35: figs 1-6, pl. 36: figs 1-13, pl. 37: figs 7-8, pl. 45: fig. 6, pl. 63: fig. 2 (1998).

Eunotia yoshitakeae Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 180, pl. 16: figs 3-7, (1-2?) (1998).

FALLACIA A.J.Stickle et D.G.Mann

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=367]

[<http://128.32.109.44/cgi-bin/porp/cgi.pl?FALLACIAAJSTICKLEDGMANN1990>].

Fallacia balnearis (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 201 (2000).

Basionym: *Navicula pygmaea* var. *balnearis* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 10: fig. 8 (1880).

Fallacia cassubiae Witkowski, Diatom Res. 6, p. 403, figs 2-28 (1991).

Fallacia clepsidroides Witkowski, Biblioth. Diatomol. 28, p. 120, pl. 26: figs 1-12 (1994).

Fallacia costericardii Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 181, pl. 22: figs 4-6 (1998).

Fallacia cunoniae (Cholnoky) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 203 (2000).

Basionym: *Navicula cunoniae* Cholnoky, Bot. Mar. 5, p. 56, figs 46-47 (1963).

Fallacia ecuadoriana Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 125-126, pl. 69: figs 1-8 (2000).

Fallacia florinae (M.Møller) Witkowski, Diatom Res. 8, p. 215 (1993).

Basionym: *Navicula florinae* M.Møller, Folia Geogr. Danica 3, p. 204, fig. 9 (1950).

Fallacia inscriptura (Hendey) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 206 (2000).

Basionym: *Navicula inscriptura* Hendey in Simonsen, Proceedings of the Fourth Symposium on Recent and Fossil Marine Diatoms, p. 374, fig. 9 (1977).

Fallacia lange-bertalotii (E.Reichardt) E.Reichardt, Iconogr. Diatomol. 9, p. 126 (2000).

Basionym: *Navicula lange-bertalotii* E.Reichardt, Ber. Bayer. Bot. Ges. 56, p. 176, pl. 1: figs 18-28, pl. 5: figs 1-3 (1985).

Fallacia marnieri (Manguin) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 207 (2000).

Basionym: *Navicula marnieri* Manguin, Rev. Algol. N.S. 3, p. 127, fig. 35 (1957).

Fallacia melanocephala (Giffen) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 208 (2000).

Basionym: *Navicula melanocephala* Giffen, Bot. Mar. 18, p. 84, figs 78-80 (1975).

Fallacia minima (Østrup) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 208 (2000).

Basionym: *Navicula forcipata* var. *minima* Østrup, Meddel. Grønland 18, p. 436, pl. 5: fig. 57 (1895).

Fallacia nicobarica (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 208 (2000).

Basionym: *Navicula nicobarica* Grunow, Verh. K. K. Zool.-Bot. Ges. Wien 13, p. 150, pl. 5: fig. 8 (1863).

Fallacia reichardtii (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 212 (2000).

Basionym: *Navicula reichardtii* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, Atlas, pl. 10: fig. 9 (1880).

Fallacia schoemaniana (Foged) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 213 (2000).

Basionym: *Navicula schoemaniana* Foged, Biblioth. Phycol. 16, p. 43, pl. 19: figs 19-20 (1975).

Fallacia spatjata (Østrup) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 213 (2000).

Basionym: *Navicula forcipata* var. *spatjata* Østrup, Meddel. Grønland 18, p. 436, pl. 5: fig. 60 (1895).

Fallacia suspirii (Cholnoky) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 214 (2000).

Basionym: *Navicula suspirii* Cholnoky, Hydrobiologia 17, p. 312, figs 60-62 (1961).

FISTULIFERA Lange-Bert., Arch. Protistenk 148, p. 73 (1997). [Typus generis: *Fistulifera saprophila* (Lange-Bert. et Bonik) Lange-Bert., Arch. Protistenk 148, p. 73 (1997).]

Fistulifera iranensis (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 73 (1997).

Basionym: *Navicula iranensis* Hust., Rabenhorsts Kryptogamenflora 7 (3) 2. Lieferung, p. 262, fig. 1390A (1962).

Fistulifera pelliculosa (Bréb. ex Kütz.) Lange-Bert., Arch. Protistenk. 148, p. 73 (1997).

Basionym: *Frustulia pelliculosa* Bréb. ex Kütz., Species Algarum, p. 40 (1849).

Fistulifera saprophila (Lange-Bert. et Bonik) Lange-Bert., Arch. Protistenk. 148, p. 73 (1997).

Basionym: *Navicula saprophila* Lange-Bert. et Bonik, Arch. Hydrobiol. Suppl. 49 (Algol. Stud. 16), p. 312, figs 8-9, 29 (1976). [*Fistulifera saprophila* is the type of the name of the genus *FISTULIFERA*.]

***FOGEDIA* Witkowski, Lange-Bert., Metzeltin et Bafana**, Nova Hedwigia 65, p. 81 (1997). [Typus generis: *Fogedia giffeniana* (Foged) Witkowski, Lange-Bert., Metzeltin et Bafana, Nova Hedwigia 65, p. 81 (1997).]

Fogedia acuta (Salah) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 216 (2000).

Basionym: *Navicula finmarchica* var. *acuta* Salah, Hydrobiologia 7, p. 78, pl. 2: fig. 8 (1955).

Fogedia christensenii Witkowski, Metzeltin et Lange-Bert., Nova Hedwigia 65, p. 85, figs 30-45 (1997).

Fogedia finmarchia (Cleve et Grunow) Witkowski, Metzeltin et Lange-Bert., Nova Hedwigia 65, p. 87 (1997).

Basionym: *Stauroneis finmarchia* Cleve et Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17, p. 47, pl. 3: fig. 63 (1880).

Fogedia geisslerae Witkowski, Metzeltin et Lange-Bert., Nova Hedwigia 65, p. 90, figs 64-92 (1997).

Fogedia giffeniana (Foged) Witkowski, Lange-Bert., Metzeltin et Bafana var. *giffeniana*, Nova Hedwigia 65, p. 81 (1997).

Basionym: *Navicula giffeniana* Foged, Biblioth. Phycol. 16, p. 38, pl. 22: figs 16-17 (1975).

Fogedia giffeniana* var. *yemenitica Bafana, Nova Hedwigia 65, p. 82, figs 23-29 (1997).

Fogedia heterovalvata (Simonsen) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 219 (2000).

Basionym: *Navicula heterovalvata* Simonsen, Kieler Meeresforsch., p. 81, pl. 2: figs 7-12 (1959).

FRAGILARIA Lyngb.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=811].

FRAGILARIA subgen. **ULNARIA** [see *ULNARIA*].

FRAGILARIA subgen. **ALTERASYNEDRA**, nom. illeg. [see *ALTERASYNEDRA* and *ULNARIA*].

Fragilaria acidoclinata Lange-Bert. et G.Hofmann, Biblioth. Diatomol. 27, p. 41-42, pl. 14: figs 8-13 (1993). [Validation of *Fragilaria acidoclinata* Lange-Bert. et G.Hofmann, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 412, pl. 82: figs 11-13 (1991).]

Fragilaria acus (Kütz.) Lange-Bert., Süßwasserflora von Mitteleuropa. 2 (3), p. 582 (2000).

Basionym: *Synedra acus* Kütz., Kieselschalige Bacillarien, p. 68, pl. 15: fig. 7 (1844).

[≡ *Fragilaria ulna* var. *acus* (Kütz.) Lange-Bert.]

Fragilaria acutirostrata Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 89, pl. 1: figs 18-19, ?17, ?32, pl. 2: fig. 4 (1998).

Fragilaria amicorum Witkowski et Lange-Bert., Limnologica 23, p. 62, fig. 3: a-d, j-k (1993).

Fragilaria amphicephala (Kütz.) Lange-Bert., Süßwasserflora von Mitteleuropa. 2 (3), p. 581 (2000).

Basionym: *Synedra amphicephala* Kütz., Kieselschalige Bacillarien, p. 64, pl. 3: fig. 12 (1844).

[≡ *Fragilaria capucina* ssp. *amphicephala* (Kütz.) Lange-Bert.]

Fragilaria austriaca (Grunow) Lange-Bert., Süßwasserflora von Mitteleuropa. 2 (3), p. 581 (2000).

Basionym: *Synedra amphicephala* var. *austriaca* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, Atlas, pl. 39: figs 16a, b (1881).

[≡ *Fragilaria capucina* ssp. *austriaca* (Grunow) Lange-Bert.]

[≡ *Fragilaria capucina* var. *austriaca* (Grunow) Lange-Bert.]

Fragilaria barbararum Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 15, pl. 48: figs 32-35, pl. 73: figs 6, 8-9 (1996).

Fragilaria barbatula (Kütz.) Lange-Bert., Biblioth. Diatomol. 27, p. 54 (1993).

Basionym: *Synedra barbatula* Kütz., Kieselschalige Bacillarien, Biblioth. Diatomol. 27, p. 68, pl. 15: fig. 4 (1844).

Fragilaria berolinensis (Lemmerm.) Lange-Bert., Biblioth. Diatomol. 27, p. 43 (1993).

Basionym: *Synedra berolinensis* Lemmerm., Ber. Deutsch. Bot. Ges. 18, p. 31 (1900).

[Nomenclatural synonym of *Staurosira berolinensis* (Lemmerm.) Lange-Bert.]

Fragilaria biceps (Kütz.) Lange-Bert., Biblioth. Diatomol. 27, p. 43 (1993).

Basionym: *Synedra biceps* Kütz., Kieselschalige Bacillarien, p. 66, pl. 14: fig. 18; pl. 14: fig. 21 (1844).

[Nomenclatural synonym of *Ulnaria biceps* (Kütz.) Compère in Jahn et al., p. 100 (2001).]

Fragilaria bronkei Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 48, 427, pl. 12: figs 1-12 (2000).

Fragilaria canariensis Lange-Bert., Biblioth. Diatomol. 27, p. 43, pl. 14: figs 1-6 (1993).

Fragilaria capitata (Ehrenb.) Lange-Bert., nom. illeg., Nova Hedwigia 33, p. 746 (1980).

Basionym: *Synedra capitata* Ehrenb., Ann. Phys. Chem. II 38, p. 221, pl. 3: fig. 3 (1) (1836).

[Nomenclatural synonym of *Ulnaria capitata* (Ehrenb.) Compère in Jahn et al., p. 100 (2001). According to Compère not identical with *Fragilaria capitata* Ehrenb.]

Fragilaria capucina* ssp. *amphicephala (Kütz.) Lange-Bert., Biblioth. Diatomol. 27, p. 44 (1993).

Basionym: *Synedra amphicephala* Kütz., Kieselschalige Bacillarien, p. 64, pl. 3: fig. 12 (1844).

[Nomenclatural synonym of *Fragilaria amphicephala* (Kütz.) Lange-Bert.]

Fragilaria capucina* ssp. *austriaca (Grunow) Lange-Bert., Biblioth. Diatomol. 27, p. 45 (1993).

Basionym: *Synedra (amphicephala* var. ?) *austriaca* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 39: figs 16a, b (1881).

[≡ *Fragilaria capucina* var. *austriaca* (Grunow) Lange-Bert.]

[Nomenclatural synonym of *Fragilaria austriaca* (Grunow) Lange-Bert.]

Fragilaria capucina* ssp. *rumpens (Kütz.) Lange-Bert., Biblioth. Diatomol. 27, p. 45 (1993).

Basionym: *Synedra rumpens* Kütz., Kieselschalige Bacillarien, p. 69, pl. 6: fig. 45 (1844).

Fragilaria capucina* var. *austriaca (Grunow) Lange-Bert., Nova Hedwigia 33, p. 748 (1980).

Basionym: *Synedra (amphicephala* var. ?) *austriaca* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 39: fig. 16 (1881).

[≡ *Fragilaria capucina* ssp. *austriaca* (Grunow) Lange-Bert.]

[Nomenclatural synonym of *Fragilaria austriaca* (Grunow) Lange-Bert.]

Fragilaria capucina* var. *vaucheriae (Kütz.) Lange-Bert., Nova Hedwigia 33, p. 747 (1980).

Basionym: *Exilaria vaucheriae* Kütz., Linnaea 8, p. 560, pl. 15: fig. 38 (1833).

Fragilaria cassubica Witkowski et Lange-Bert., Limnologica 23, p. 65, fig. 4: a-f, n (1993).

Fragilaria costata (Rehakova) Lange-Bert., Acta Biol. Benrodis 3, p. 120 (1991).

Basionym: *Diatoma costata* Rehakova, Paleontologie 23, p. 112, pl. 13: figs 4, 9, 10 (1980).

[Taxonomic synonym: *Diatoma costata* var. *curta* Rehakova, Paleontologie 23, p. 113, pl. 13: fig. 8 (1980), according to Lange-Bertalot in Acta Biol. Benrodis 3, p. 120 (1991).]

Fragilaria crassa Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 89-90, pl. 1: figs 20-23, pl. 2: fig. 1 (1998).

Fragilaria cyclosum (Brutschy) Lange-Bert., Nova Hedwigia 33, p. 752 (1980).

Basionym: *Synedra cyclosum* Brutschy, Int. Rev. Gesamten Hydrobiol. Hydrogr. 10, p. 284, fig. 11 (1922).

Fragilaria danica (Kütz.) Lange-Bert., Iconogr. Diatomol. 2, p. 54 (1996).

Basionym: *Synedra danica* Kütz., Kieselschalige Bacillarien, p. 66, pl. 14: fig. 13 (1844).

Fragilaria delicatissima (W.Sm.) Lange-Bert. var. *delicatissima*, Nova Hedwigia 33, p. 746 (1980).

Basionym: *Synedra delicatissima* W.Sm., Synopsis British Diatomaceae 1, p. 72, pl. 12: fig. 94 (1853).

Fragilaria delicatissima* var. *angustissima (Grunow) Lange-Bert., Nova Hedwigia 33, p. 746 (1980).

Basionym: *Synedra delicatissima* var. *angustissima* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 39: fig. 10 (1881).

Fragilaria demerarae (Grunow) Lange-Bert., Nova Hedwigia 33, p. 752 (1980).

Basionym: *Synedra demararae* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 41, fig. 29 (1881).

Fragilaria dilatata (Bréb.) Lange-Bert., Biblioth. Diatomol. 27, p. 45 (1993).

Basionym: *Frustulia dilatata* Bréb., Considérations sur les Diatomées, p. 17 (1838).

Fragilaria dorsiventralis (O.Müll.) Lange-Bert., Nova Hedwigia 33, p. 746 (1980).

Basionym: *Synedra dorsiventralis* O.Müll., Bot. Jahrb. Syst. 45, p. 114, fig. 3 (1910).

Fragilaria eichhornii Witkowski et Lange-Bert., Fragm. Florist. Geobot. 40, p. 731, fig. 1-9 (1995).

Fragilaria exiguiiformis Lange-Bert., Biblioth. Diatomol. 27, p. 45 (1993).

Replaced synonym: *Fragilaria (virescens var.) exigua* Grunow in Cleve et Möller, Diatoms, collection of 324 slides, no. 144.

Fragilaria famelica (Kütz.) Lange-Bert. ssp. *famelica*, Nova Hedwigia 33, p. 749 (1980).

Basionym: *Synedra famelica* Kütz., Kieselschalige Bacillarien, p. 64, pl. 14: fig. 8 (1) (1844).

Fragilaria famelica* ssp. *littoralis (H.Germ.) Lange-Bert., Biblioth. Diatomol. 27, p. 46 (1993).

Basionym: *Fragilaria intermedia* var. *littoralis* H.Germ., Flore des Diatomées, p. 68, pl. 20: figs 11-21 (1981).

[Nomenclatural synonym of *Fragilaria henryi* Lange-Bert.]

Fragilaria fasciculata (C.Agardh) Lange-Bert., Nova Hedwigia 33, p. 750 (1980).

Basionym: *Diatoma fasciculatum* C. Agardh, Disp. Alg. Sveciae, p. 35 (1812).

Fragilaria fossilis (Pant.) Lange-Bert., Acta Biol. Benrodis 3, p. 121 (1991).

Basionym: *Diatoma fossilis* Pant., Beschreibung neuer Bacillarien Ungarns 3, Pozsony, p. 46 (1905).

Fragilaria gaillonii (Bory) Lange-Bert., Nova Hedwigia 33, p. 751 (1980).

Basionym: *Navicula gaillonii* Bory, Encyclop. Method. Hist. Nat. Zoophytes. 2, p. 564 (1824).

[Comment: The basionym author is given as "Ehrenberg" in Nova Hedwigia 33, p. 750 (1980).]

Fragilaria gedanensis Witkowski, Nova Hedwigia 56, p. 498, figs 1-18 (1993).

Fragilaria geocollegarum Witkowski et Lange-Bert., Fragm. Florist. Geobot. 40, p. 731, 734, figs 16-22 (1995). [Validation of *Fragilaria geocollegarum* Witkowski et Lange-Bert., nom. inval., Bilioth. Diatomol. 28, p. 127, pl. 6: figs 1-5, pl. 9: fig. 4 (1994).]

Fragilaria germainii E.Reichardt et Lange-Bert. in Ricard, Ouvrage dédié à la Mémoire du Prof. H. Germain, p. 204, pl. 1: figs 1-13 (1990).

Fragilaria germainii* f. *acostata Lange-Bert., Iconogr. Diatomol. 9, p. 127, pl. 5: figs 15-20, pl. 6: figs 4-6 (2000).

Fragilaria guenter-grassii Witkowski et Lange-Bert., Limnologica 23, p. 65, fig. 5: a-h (1993).

Fragilaria henryi Lange-Bert., Iconogr. Diatomol. 6, p. 50 (1999).

Replaced synonym: *Fragilaria intermedia* var. *littoralis* H.Germ., Flore des Diatomées, p. 68, pl. 20: figs 11-21 (1981).

[≡ *Fragilaria famelica* ssp. *littoralis* (H.Germ.) Lange-Bert.]

Fragilaria improbula Witkowski et Lange-Bert., Fragm. Florist. Geobot. 40, p. 734, figs 28-38 (1995).

Fragilaria incisa (C.S.Boyer) Lange-Bert., Nova Hedwigia 33, p. 748 (1980).

Basionym: *Synedra incisa* C.S.Boyer, Bull. Torrey Bot. Club 47, p. 68, pl. 2: fig. 8 (1920).

Fragilaria incognita E.Reichardt, Diatom Res. 3, p. 237-238, figs 1-10 (1988).

Fragilaria labei Witkowski et Metzeltin, Iconogr. Diatomol. 4, p. 16, pl. 49: figs 31-40, pl. 71: figs 1-2, pl. 74: figs 4-6 (1996).

Fragilaria laevigata (Grunow) Lange-Bert., Nova Hedwigia 33, p. 752 (1980).

Basionym: *Synedra laevigata* Grunow, Monthly Microscop. J. 18, p. 166, pl. 193: fig. 3 (1877).

Fragilaria lanceolata (Kütz.) E.Reichardt, Nova Hedwigia 47, p. 85 (1988).

Basionym: *Synedra lanceolata* Kütz., Kieselschalige Bacillarien, p. 66, pl. 30: fig. 31 (1844).

[Nomenclatural synonym of *Ulnaria lanceolata* (Kütz.) Compère in Jahn et al., p. 100 (2001).]

Fragilaria lenzii (Krasske) Lange-Bert. et Willmann, Iconogr. Diatomol. 3, p. 184 (1996).

Basionym: *Synedra lenzii* Krasske, Arch. Hydrobiol. 35, p. 554, figs 3-7 (1939).

Fragilaria leptostauron* var. *trigona (Krasske) Lange-Bert. et Willmann, Iconogr. Diatomol. 3, p. 83 (1996).

Basionym: *Fragilaria harrissonii* var. *trigona* Krasske, Arch. Hydrobiol. 24, p. 437, fig. 7 (1932).

[Nomenclatural synonym of *Staurosira pinnata* var. *trigona* (Krasske) Lange-Bert.]

Fragilaria loetschertii Lange-Bert., Ann. Limnol. 21, p. 214-215, figs 13-17, 30-34 (1985).

Fragilaria longiceps (Ehrenb.) Lange-Bert., Nova Hedwigia 33, p. 746 (1980).

Basionym: *Synedra longiceps* Ehrenb., Ber. Bekanntm. Verh. Königl. Preuss. Akad. Wiss. Berlin 1845, p. 81 (1845).

Fragilaria martyi (Hérub.) Lange-Bert., Biblioth. Diatomol. 27, p. 46 (1993).

Basionym: *Opephora martyi* Hérub., Les Diatomées d'Auvergne, p. 43, pl. 8: fig. 20 (1902).

[Nomenclatural synonym of *Staurosira martyi* (Hérub.) Lange-Bert.]

Fragilaria mazamaensis (Sovereign) Lange-Bert., Nova Hedwigia 33, p. 748 (1980).

Basionym: *Synedra mazamaensis* Sovereign, Trans. Amer. Microscop. Soc. 77 (2), p. 111, pl. 2: figs 10-15 (1958).

Fragilaria montana (Krasske) Lange-Bert., Nova Hedwigia 33, p. 747 (1980).

Basionym: *Synedra montana* Krasske in Hustedt, Rabenhorsts Kryptogamenflora 7 (2) 2. Lieferung, p. 204, fig. 694 (1932); Krasske, Hedwigia 72, p. 99, pl. 2: fig. 2 (1932).

Fragilaria nana (F.Meister) Lange-Bert., nom. illeg., Nova Hedwigia 33, p. 746 (1980).

Basionym: *Synedra nana* F. Meister, Kryptogamenflora der Schweiz 4, p. 76, pl. 8: fig. 9 (1912).

[Nomenclatural synonym of *Fragilaria nanana* Lange-Bert.]

Fragilaria nanana Lange-Bert., Biblioth. Diatomol. 27, p. 48 (1993).

Replaced synonym: *Synedra nana* F.Meister, Kieselalgen der Schweiz, p. 76, pl. 8: fig. 9 (1912).

[≡ *Fragilaria nana* (F.Meister) Lange-Bert., nom. illeg., Nova Hedwigia 33, p. 746 (1980).]

Fragilaria nanoides Lange-Bert., Iconogr. Diatomol. 2, p. 55, pl. 109: figs 2-6 (1996).

Fragilaria neoelliptica Witkowski, Biblioth. Diatomol. 28, p. 128-129, pl. 10: figs 1-13 (1994).

Fragilaria neoproducta Lange-Bert., Biblioth. Diatomol. 27, p. 48 (1993).

[– *Fragilaria neoproducta* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (3), p. 136, pl. 125: fig. 3, pl. 127: figs 1-5a (1991).]

Fragilaria oldenburgioides Lange-Bert., Iconogr. Diatomol. 2, p. 55-56, pl. 7: figs 42-47, pl. 111: figs 8-9 (1996).

Fragilaria opacolineata Lange-Bert., Iconogr. Diatomol. 2, p. 56, pl. 7: figs 36-41b, pl. 111: figs 2-3 (1996).

Fragilaria perminuta (Grunow) Lange-Bert., Süßwasserflora von Mitteleuropa. 2 (3), p. 581 (2000).

Basionym: *Synedra perminuta* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 40: fig. 23 (1881).

Fragilaria polonica Witak et Lange-Bert., Fragm. Florist. Geobot. 40, p. 736, figs 39-45 (1995).

Fragilaria pulchella (Ralfs ex Kütz.) Lange-Bert. var. *pulchella*, Nova Hedwigia 33, p. 749 (1980).

Basionym: *Exilaria pulchella* Ralfs ex Kütz., Kieselschalige Bacillarien, p. 68 (1844).

Fragilaria pulchella* var. *constricta (B.Liebetanz) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 53 (2000).

Basionym: (?) *Synedra pulchella* [var. *lanceolata*] f. *constricta* B.Liebetanz, Bull. Int. Acad. Polon. Sci. Letters, Classe Math.-Nat. ser. B. 1925, p. 110 (1926).

Fragilaria pulchella* var. *lanceolata (O'Meara) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 52 (2000).

Basionym: *Synedra pulchella* var. *lanceolata* O'Meara, Proc. Roy. Irish Acad. (2. Ser.) 2, p. 304, pl. 28: fig. 20 (1876).

Fragilaria quadrata (Hust.) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 57 (1996).

Basionym: *Fragilaria undata* var. *quadrata* Hust., Süßwasserflora Mitteleuropas 10, p. 144, fig. 149B (1930).

Fragilaria quebecensis (Poulin, Hudon et Cardinal) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 53 (2000).

Basionym: *Fragilaria virescens* var. *quebecensis* Poulin, Hudon et Cardinal, Naturaliste Can. (Rev. Ecol. Syst.) 109, p. 280, pl. 1a: figs 3-6 (1982).

Fragilaria radians (Kütz.) Lange-Bert., Süßwasserflora von Mitteleuropa. 2 (3), p. 581 (2000).

Basionym: *Synedra radians* Kütz., Kieselschalige Bacillarien, p. 64, pl. 14: figs 7: 1-4 (1844).

Fragilaria reicheltii (Max Voigt) Lange-Bert., p. 48.

Basionym: *Centronella reicheltii* Max Voigt, Zool. Anzeiger 24 (Nr. 640), pl. 2: fig. 10 (1902).

Fragilaria rolandschmidtii Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 90, pl. 1: figs 14-16 (1998).

Fragilaria santaremensis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 91, pl. 1: figs 24-28, ?33, pl. 2: fig. 2 (1998).

Fragilaria socia (Wallace) Lange-Bert., Nova Hedwigia 33, p. 749 (1980).

Basionym: *Synedra socia* Wallace, Notul. Nat. Acad. Nat. Sci. Philadelphia 331, p. 1, pl. 1: fig. 1 A-E (1960).

Fragilaria sopotensis Witkowski et Lange-Bert., Limnologica 23, p. 67, fig. 6: a-p (1993).

Fragilaria spinarum Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 57, pl. 7: figs 33-35 (1996). [Comment: pl. 17: figs 31-32 is not mentioned on p. 57.]

Fragilaria subsalina (Grunow) Lange-Bert., Biblioth. Diatomol. 27, p. 49 (1993).

Basionym: *Fragilaria virescens* var. *subsalina* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 44: fig. 5 (1881).

Fragilaria synegrotesca Lange-Bert., Biblioth. Diatomol. 27, p. 49-50, pl. 12: figs 1-11, pl. 13: figs 1-6 (1993).

Fragilaria tabulata (C.Agardh) Lange-Bert. var. *tabulata*, Nova Hedwigia 33, p. 750 (1980).

Basionym: *Diatoma tabulatum* C.Agardh, Conspectus Criticus Diatomacearum, p. 50 (1832).

Fragilaria tabulata* var. *australis (Manguin) Lange-Bert., Nova Hedwigia 33, p. 750 (1980).

Basionym: *Synedra tabulata* var. *australis* Manguin, Ann. Sci. Nat. Bot. 12, p. 301, pl. 13: fig. 142 (1960).

Fragilaria tabulata* var. *obtusa (Pantocsek) Lange-Bert., Nova Hedwigia 33, p. 751 (1980).

Basionym: *Synedra tabulata* var. *obtusa* Pantocsek, Beitr. zur Kenntnis der fossilen Bacillarien Ungarns Teil 2, p. 64, pl. 26: figs 377, 380 (1889).

Fragilaria tabulata* var. *tenuistriata (F.Meister) Lange-Bert., Nova Hedwigia 33, p. 751 (1980).

Basionym: *Synedra tenuistriata* F.Meister, Ber. Schweiz. Bot. Ges. 44, p. 104, fig. 95 (1935).

Fragilaria tabulata* var. *truncata (Grev.) Lange-Bert., Nova Hedwigia 33, p. 751 (1980).

Basionym: *Echinella fasciculata* var. *truncata* Grev., Scottish Cryptogam. Flora 1, p. 37, pl. 16: fig. 4 (1823).

Fragilaria tenera (W.Sm.) Lange-Bert., Nova Hedwigia 33, p. 746 (1980).

Basionym: *Synedra tenera* W.Sm., Synopsis British Diatomaceae 2, p. 98 (1856).

Fragilaria ulna (Nitzsch) Lange-Bert. var. *ulna*, Nova Hedwigia 33, p. 745 (1980).

Basionym: *Bacillaria ulna* Nitzsch, Neue Schriften Naturf. Ges. Halle 3, p. 99, pl. 5 (1817).

[Nomenclatural synonym of *Ulnaria ulna* (Nitzsch) Compère in Jahn et al., p. 100 (2001).]

Fragilaria ulna* var. *acus (Kütz.) Lange-Bert., Nova Hedwigia 33, p. 745 (1980).

Basionym: *Synedra acus* Kütz., Kieselschalige Bacillarien, p. 68, pl. 15: fig. 7 (1844).

[Nomenclatural synonym of *Fragilaria acus* (Kütz.) Lange-Bert.]

Fragilaria ulna* var. *gouldardi (Brébisson ex Cleve et Grunow) Lange-Bert., Nova Hedwigia 33, p. 745 (1980).

Basionym: *Synedra gouldardi* Brébisson ex Cleve et Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17 (2), p. 107, pl. 6: fig. 119 (1880).

Fragilaria ulna* var. *ungeriana (Grunow) Lange-Bert., Nova Hedwigia 33, p. 745 (1980).

Basionym: *Fragilaria ungeriana* Grunow, Verh. K. K. Zool.-Bot. Ges. Wien 13, p. 142, pl. 13: fig. 18 (1863).

[Nomenclatural synonym of *Ulnaria ungeriana* (Grunow) Compère in Jahn et al., p. 100 (2001).]

Fragilaria utermoehlii (Hust.) Lange-Bert., Biblioth. Diatomol. 27, p. 52 (1993).

Basionym: *Synedra utermoehlii* Hust., Rabenhorsts Kryptogamenflora 7 (2) 2. Lieferung, p. 185, fig. 687 (1932).

Fragilaria viereckiana Gerd Moser, Biblioth. Diatomol. 43, p. 127-128, pl. 2: figs 1-17, pl. 3: fig. 2 (1999).

FRAGILARIOPSIS Hust.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=822].

Fragilariopsis bjoernoeyaensis Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 16, pl. 67: figs 20-21, pl. 87: fig. 8 (1996).

Fragilariopsis humboldtianorum Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 17, pl. 67: figs 25-27, pl. 87: figs 5, 9-10 (1996).

Fragilariopsis reginae-jahniae Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 361, 427, pl. 213: figs 31-36 (2000).

FRANKOPHILA Lange-Bert., Arch. Protistenk 148, p. 66 (1997). [Typus generis: *Frankophila similioides* Lange-Bert. et U.Rumrich, Arch. Protistenk 148, p. 66 (1997).]

Frankophila horstii U.Rumrich et M.Rumrich, Iconogr. Diatomol. 9, p. 128, pl. 9: figs 1-10 (2000).

Frankophila loetschertii (Lange-Bert.) Lange-Bert., Arch. Protistenk. 148, p. 71 (1997).

Basionym: *Fragilaria loetschertii* Lange-Bert., Ann. Limnol. 21, p. 214, figs 13-17, 30-34 (1985).

Frankophila maillardii (Le Cohu) Lange-Bert., Arch. Protistenk. 148, p. 71 (1997).

Basionym: *Fragilaria maillardii* Le Cohu, Ann. Limnol. 21, p. 213, figs 1-3, 18-24 (1985).

Frankophila similioides Lange-Bert. et U.Rumrich Arch. Protistenk 148, p. 66, fig. 1-15 (1997). [*Frankophila similioides* is the type of the name of the genus *FRANKOPHILA* Lange-Bert.].

FRUSTULIA Rabenh.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=910].

Frustulia acidophilissima Wydrzycka et Lange-Bert., Brenesia 55-56, p. 9, pl. 10: figs 1-9 (2001).

Frustulia alfinitosilviae Lange-Bert., Diatoms of Europe 2, p. 219, pl. 139: figs 1-6 (2001).

Frustulia altimontana Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 93, pl. 113: figs 1-5 (1998).

Frustulia amosseana Lange-Bert., Iconogr. Diatomol. 9, p. 129 (2000).

Replaced synonym: *Berkella linearis* R.Ross et Sims, Bacillaria 1, p. 156, figs 20-27 (1978).

Frustulia angustata (Pant. et Greguss) Lange-Bert., Syst. Geogr. Pl. 70, p. 258 (2000).

Basionym: *Frustulia rhomboides* var. *angustata* Pant. et Greguss, Bot. Közlem. 12, p. 211, pl. 7: fig. 80 (1913).

Frustulia australis Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 182-183, pl. 35: figs 1-3 (1998).

Frustulia baicalensis (Skvortzov et D.I.Mey.) Lange-Bert., Syst. Geogr. Pl. 70, p. 258 (2000).

Basionym: *Frustulia rhomboides* var. *baicalensis* Skvortzov et D.I.Mey., Proc. Sungaree River Biol. Sta. 1 (5), p. 15, pl. 1: fig. 38 (1928).

Frustulia chilensis Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 131, pl. 91: figs 1-3 (2000).

Frustulia corneliae Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 131-132, pl. 100: figs 1-9 (2000).

Frustulia crassinervia (Bréb.) Lange-Bert. et Krammer, Iconogr. Diatomol. 2, p. 57 (1996).

Basionym: *Navicula crassinervia* Bréb. in W. Smith, Synopsis British Diatomaceae 1, p. 47, pl. 31: fig. 271 (1853).

Frustulia crassipunctata Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 94, pl. 112: figs 1-6 (1998).

Frustulia disjuncta Lange-Bert., Diatoms of Europe 2, p. 219, pl. 135: figs 3-7 (2001).

Frustulia ellipticoides Lange-Bert., Syst. Geogr. Pl. 70, p. 258 (2000).

Replaced synonym: *Frustulia rhomboides* var. *elliptica* Hust., Arch. Hydrobiol. Suppl. 15, p. 214, pl. 16: fig. 2 (1937).

Frustulia elongata (Willi Krieg.) Lange-Bert., Syst. Geogr. Pl. 70, p. 258 (2000).

Basionym: *Frustulia rhomboides* var. *elongata* Willi Krieg., Ber. Deutsch. Bot. Ges. 54, p. 82, pl. 10: fig. 16 (1936).

Frustulia elongatissima (Manguin) Lange-Bert. et Metzeltin, Syst. Geogr. Pl. 70, p. 258 (2000).

Basionym: *Frustulia rhomboides* var. *elongatissima* Manguin, Algues d'eau douce de la Guadeloupe, SEDES, Paris, p. 54, fig. 47 (1952).

Frustulia erifuga Lange-Bert. et Krammer, Iconogr. Diatomol. 2, p. 58 (1996).

Replaced synonym: *Frustulia rhomboides* var. *viridula* (Bréb. ex Kütz.) Cleve, Kongl. Svenska Vetenskapsakad. Handl. 26, p. 94 (1894).

[Comment: For the taxonomic concept of *Frustulia erifuga* Lange-Bert. et Krammer in Iconogr. Diatomol. 2, p. 58, pl. 39: figs 1-2 (1996) see *Frustulia hustedtii* (H.Germ.) Lange-Bert.]

Frustulia gaertnerae Lange-Bert., Iconogr. Diatomol. 2, p. 59, pl. 39: figs 7-8, pl. 119: figs 3-4 (1996). [Comment: *Frustulia gaertnerae* on p. 59, 196, and 356 is misspelled as "*Frustulia gaertneriae*".]

Frustulia guayanensis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 95, pl. 115: figs 10-11 (1998).

Frustulia guayanensis ssp. *ecuadoriana* Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 133, pl. 99: figs 9-14 (2000).

Frustulia huberi (F.Meister) Lange-Bert., Syst. Geogr. Pl. 70, p. 258 (2000).

Basionym: *Frustulia rhomboides* var. *huberi* F.Meister, Z. Bot. 23, p. 458, fig. 6 (1930).

Frustulia hustedtii (H.Germ.) Lange-Bert., Brenesia 55-56, p. 10 (2001).

Basionym: *Frustulia rhomboides* [var. *viridula*] f. *hustedtii* H.Germ., Flore des Diatomées eaux douces et saumâtres du massif Armoricaïn, p. 138-140, pl. 53: figs 1-2 (1981).

[– *Frustulia erifuga* sensu Lange-Bertalot et Krammer in Lange-Bertalot & Metzeltin, Iconogr. Diatomol. 2, p. 58, pl. 39: figs 1-2, according to Lange-Bertalot in Wydrzycka & Lange-Bertalot (2001), p. 10.]

Frustulia kosmolliana Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 133, pl. 84: fig. 5, pl. 95: figs 1-9 (2000).

Frustulia krammeri Lange-Bert. et Metzeltin, Iconogr. Diatomol. 5, p. 96 (1998). [Comment: *Frustulia krammeri* was documented already in Lange-Bertalot & Metzeltin (1996), Iconogr. Diatomol. 2, pl. 37: figs 1-3 as "*Frustulia* (?nov.) spec. Nr. 1 Julma Ölkky" and on pl. 120: fig. 4 as "*Frustulia* nov. spec. Nr. 1 Julma Ölkky".]

Frustulia lakatosii Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 96-97, pl. 115: figs 7-9 (1998).

Frustulia lange-bertalotii Metzeltin, Iconogr. Diatomol. 6, p. 51, pl. 37: fig. 8, pl. 38: figs 1-8 (1999).

Frustulia leptcephala (Østrup) Lange-Bert., Syst. Geogr. Pl. 70, p. 258 (2000).

Basionym: *Frustulia rhomboides* var. *leptcephala* Østrup, Meddel. Grønland 15, p. 257, pl. 1: fig. 1 (1897).

Frustulia longinqua Lange-Bert., Diatoms of Europe 2, p. 220, pl. 135: figs 8-10 (2001).

Frustulia magaliesmontana* ssp. *americana Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 97, pl. 116: figs 4-6 (1998).

Frustulia magna Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 98, pl. 110: figs 1-4, pl. 113: fig. 6 (1998).

Frustulia mamillaris Gerd Moser, Biblioth. Diatomol. 43, p. 129-130, pl. 4: figs 1-8, pl. 5: fig. 9 (1999).

Frustulia mediocris Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 99, pl. 117: figs 16-17 (1998).

Frustulia modesta Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 100, pl. 115: figs 1-6 (1998).

Frustulia nana Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 183-184, pl. 32: fig. 7, pl. 33: figs 6-10 (1998).

Frustulia neocaledonica* var. *minima Lange-Bert. et Gerd Moser, nom. inval., Biblioth. Diatomol. 32, p. 102, pl. 37: figs 5-6, pl. 40: figs 5-8, pl. 42: figs 10-11, pl. 44: fig. 7 (1995). [Comment: lacking a type and a Latin diagnosis, this name is invalidly published.]

Frustulia neofrenguelli Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 230, pl. 94: figs 1-7 (2000).

Frustulia neomundana Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 135, pl. 97: figs 1-12 (2000).

Frustulia pangaea Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 101, pl. 111: figs 1-4 (1998).

Frustulia pangaeopsis Lange-Bert., Diatoms of Europe 2, p. 220, pl. 130: figs 1-6 (2001).

Frustulia pararhomboides Metzeltin et Lange-Bert. var. *pararhomboides*, Iconogr. Diatomol. 5, p. 102, pl. 114: figs 1-9, pl. 116: figs 1-3 (1998). [Comment: *Frustulia pararhomboides* on p. 466 (caption of pl. 116: figs 1-3) is cited as "*Frustulia* aff. *pararhomboides*".]

Frustulia pararhomboides* var. *subundosa Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 103, pl. 114: figs 10-12 (1998). [Comment: on page 462 (caption of pl. 114: figs 10-12) the var. *subundosa* is misspelled as "var. *subnodosa*".]

Frustulia peridotitica Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 184-185, pl. 33: figs 1-5 (1998).

Frustulia pumilio Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 136, pl. 99: figs 1-8 (2000).

Frustulia pusilla (F.Meister) Lange-Bert., Syst. Geogr. Pl. 70, p. 258 (2000).

Basionym: *Frustulia rhomboides* var. *pusilla* F.Meister, Kieselalgen aus Asien. Bornträger, Berlin, p. 35, pl. 12: fig. 91 (1932).

Frustulia quadrisinuata Lange-Bert., Iconogr. Diatomol. 2, 59-60, pl. 38: figs 10-12, pl. 119: figs 1-2 (1996).

Frustulia quadrisinuata* ssp. *meridiana Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 104, pl. 111: figs 5-6 (1998).

Frustulia rhodesica (Cholnoky) Lange-Bert., Syst. Geogr. Pl. 70, p. 258 (2000).

Basionym: *Frustulia rhomboides* var. *rhodesica* Cholnoky, Portugal. Acta. Biol. Ser. B. 4, p. 213, pl. 3: fig. 60 (1954).

Frustulia rostratiformis Lange-Bert., Syst. Geogr. Pl. 70, p. 258 (2000).

Replaced synonym: *Frustulia rhomboides* var. *rostrata* Manguin, Travaux Algol. Sér. 1 (Rev. Algol. 13), p. 133, pl. 2: fig. 26; non *Frustulia rostrata* Hust. 1937 (1942).

Frustulia saxonica* f. *nipponica (Skvortzov) Lange-Bert., Syst. Geogr. Pl. 70, p. 258 (2000).

Basionym: *Frustulia rhomboides* var. *saxonica* f. *nipponica* Skvortzov, Philipp. J. Sci. 61, p. 265, pl. 4: fig. 14 (1936).

Frustulia septentrionalis Lange-Bert., Iconogr. Diatomol. 2, p. 61, pl. 37: figs 4-5, pl. 119: figs 5-6 (1996).

Frustulia spicula* ssp. *judaica Lange-Bert. in Nevo & Wasser, Biodiversity of cyanoprocaryotes and algae of continental Israel, p. 249, pl. 18: figs 122-129 (2000).

Frustulia stagnalis Gerd Moser, Biblioth. Diatomol. 43, p. 131, pl. 5: figs 1-6 (1999).

Frustulia tenuirostris (Cleve-Euler) Lange-Bert., Syst. Geogr. Pl. 70, p. 258 (2000).

Basionym: *Frustulia rhomboides* var. *tenuirostris* Cleve-Euler, Kongl. Svenska Vetenskapsakad. Handl. Fj. Ser. 3, p. 8, fig. 1326 b (1952).

Frustulia undosa Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 105, pl. 116: figs 14-18, pl. 117: figs 1-7 (1998).

Frustulia zizkae Lange-Bert., Iconogr. Diatomol. 5, p. 106-107, pl. 116: figs 7-13 (1998).

GEISSLERIA Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 63 [Typus generis: *Geissleria moseri* Metzeltin, Witkowski et Lange-Bert., Iconogr. Diatomol. 2, p. 66 (1996).]

Geissleria acceptata (Hust.) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 64 (1996).

Basionym: *Navicula acceptata* Hust., Arch. Hydrobiol. 43, p. 398, pl. 38: figs 66-67 (1950).

Geissleria annulata (Grunow) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 64 (1996).

Basionym: *Navicula annulata* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17, p. 37 (1880).

Geissleria arkonensis Lange-Bert., Diatoms of Europe 2, p. 220-221, pl. 96: figs 1-4 (2001).

Geissleria boreosiberica Lange-Bert., Genkal et Vekhov, Diatoms of Europe 2, p. 121, 221, pl. 96: figs 12-15 (2001).
[– *Geissleria boreosiberica* Lange-Bert., Genkal et Vekhov, nom. inval., Iconogr. Diatomol. 6, p. 28, pl. 20: figs 9-13, 14? (1999).]

[Comment: On p. 221 in Diatoms of Europe 2 the authors are missing.]

Geissleria cummerowi (L.Kalbe) Lange-Bert., Diatoms of Europe 2, p. 122, (2001).

Basionym: *Navicula cummerowii* L.Kalbe, Neue Brehm Bücherei, p. 116, pl. 19: figs 268-269 (1980).

Geissleria declivis (Hust.) Lange-Bert., Iconogr. Diatomol. 2, p. 65 (1996).

Basionym: *Navicula declivis* Hust., Abh. Vortr. Bremer Wiss. Ges. 8-9, p. 384, fig. 12 (1934).

Geissleria decussis (Østrup) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 65 (1996).

Basionym: *Navicula decussis* Østrup, Danske Diatomeer, p. 77, pl. 2: fig. 50 (1910).

Geissleria dolomitica (W.Bock) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 65 (1996).

Basionym: *Navicula dolomitica* W.Bock, Nova Hedwigia Beih. 31, p. 420, pl. 1: figs 8-10, pl. 3: figs 56-57 (1970).

Geissleria ignota (Krasske) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 65 (1996).

Basionym: *Navicula ignota* Krasske, Hedwigia 72, p. 116, pl. 3: fig. 19 (1932).

Geissleria kriegeri (Krasske) Lange-Bert., Iconogr. Diatomol. 2, p. 66 (1996).

Basionym: *Navicula kriegeri* Krasske, Ber. Deutsch. Bot. Ges. 61, p. 86, fig. 16 (1943).

[Comment: This combination was again marked as new in Iconogr. Diatomol. 5, p. 108 (1998). This superfluous data set appears in Kusber & Metzeltin (2001), p. 614 erroneously as "*Geissleria kriegeri* (Krasske) Metzeltin et Lange-Bert."]

Geissleria lange-bertalotii Metzeltin, Iconogr. Diatomol. 4, p. 236, pl. 1: figs 1-16, pl. 2: figs 19-23, pl. 3: figs 23-27 (1996).

Geissleria mirabilis (Krasske) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 108 (1998).

Basionym: *Stauroneis mirabilis* Krasske, Arch. Hydrobiol. 44, p. 649, figs 2-3 (1951).

Geissleria moseri Metzeltin, Witkowski et Lange-Bert., Iconogr. Diatomol. 2, p. 66, pl. 31: figs 1-2, 7-8, pl. 123: fig. 4 (1996). [*Geissleria moseri* is the type of the name of the genus *GEISSLERIA* Lange-Bert. et Metzeltin.]

Geissleria neotropica Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 108, pl. 75: figs 25-34 (1998).

Geissleria paludosa (Hust.) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 67 (1996).

Basionym: *Navicula lagerstedtii* var. *palustris* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 400: figs 27-29 (1934).

Geissleria perelegans (Hust.) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 109 (1998).

Basionym: *Navicula perelegans* Hust., Bot. Not. 4, p. 403, fig. 127 (1952).

Geissleria schmidiae Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 138, pl. 66: figs 1-15 (2000).

Geissleria schoenfeldii (Hust.) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 67 (1996).

Basionym: *Navicula schoenfeldii* Hust., Süßwasserflora Mitteleuropas 10, p. 301, fig. 520 (1930).

Geissleria similis (Krasske) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 68 (1996).

Basionym: *Navicula similis* Krasske, Bot. Arch. 27, p. 354, fig. 15 (1929).

Geissleria subdecussis (Hust.) Lange-Bert., *Diatoms of Europe* 2, p. 128, (2001).

Basionym: *Navicula subdecussis* Hust., *Int. Rev. Gesamten Hydrobiol.* 42, p. 74, figs 136-138 (1942).

Geissleria thingvallae (Østrup) Metzeltin et Lange-Bert., *Iconogr. Diatomol.* 2, p. 68 (1996).

Basionym: *Navicula thingvallae* Østrup, *Botany of Iceland* 2 (1) no. 5, p. 29, pl. 3: fig. 43 (1918).

GOMPHONEIS (Cleve) Lange-Bert. et E.Reichardt (subgenus within *Gomphonema* Ehrenb.), *Biblioth. Diatomol.* 27, p. 73 (1993).

Basionym: *GOMPHONEIS* Cleve, *Kongl. Svenska Vetenskapsakad. Handl. Ser. 2*, 26, p. 73 (1894) [as genus].

GOMPHONEMA Ehrenb.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=970].

GOMPHONEMA subgen. ***GOMPHONEIS*** [see *GOMPHONEIS*].

Gomphonema aequirostrum Metzeltin et Lange-Bert., *Iconogr. Diatomol.* 5, p. 110, pl. 151: figs 7-11 (1998).

Gomphonema affine* var. *rhombicum E.Reichardt, *Iconogr. Diatomol.* 8, p. 15, pl. 10: figs 1-15 (1999).

Gomphonema alineae Lange-Bert. et E.Reichardt, *Biblioth. Diatomol.* 27, p. 56, pl. 84: figs 1-7 (1993). [As a part of the protologue is cited: Krammer & Lange-Bertalot (1985) *Biblioth. Diatomol.* 9, pl. 40: figs 9-11 and Lange-Bertalot (1980) *Bot. Not.* 133, p. 4: figs A-D.] [Comment: In *Biblioth. Diatomol.* 9, *Gomphonema alineae* was documented as "*Gomphonema* spec." in *Bot. Not.* 133 as "*Gomphonema* aff. *herculeanum* aus dem See von Tiberias, Israel".]

Gomphonema americobtusatum E.Reichardt et Lange-Bert., *Iconogr. Diatomol.* 8, p. 33, pl. 34: figs 1-18, pl. 35: figs 1-7 (1999).

Gomphonema amoenum Lange-Bert., *Biblioth. Diatomol.* 9, p. 42, pl. 35: figs 1-6, pl. 42: figs 7-8 (1985). [As a part of the protologue is cited: Krammer & Lange-Bertalot (1986), *Süßwasserflora von Mitteleuropa, Bacillariophyceae* 2 (1), pl. 161: 9-11 is cited.]

Gomphonema angusticephalum E.Reichardt et Lange-Bert., *Iconogr. Diatomol.* 8, p. 49-50, pl. 55: figs 5-8, pl. 60: figs 1-26 (1999).

Gomphonema angustivalva E.Reichardt, *Nova Hedwigia* 65, p. 112, pl. 6, figs 1-29 (1997).

Gomphonema archaevibrio* f. *cuneatum Metzeltin et Lange-Bert., *Iconogr. Diatomol.* 5, p. 111, pl. 160: figs 4-7 (1998).

Gomphonema archaevibrio Lange-Bert. et E.Reichardt, *Iconogr. Diatomol.* 1, p. 15-16, pl. 26: figs 8, 9, 10-11, pl. 27: figs 1-7, pl. 28: figs 1-6 (1995). [Comment: *Gomphonema archaevibrio* on p. 46 (= caption of pl. 26: fig. 9 as "*Gomphonema vibrio* Ehrenberg". *Gomphonema archaevibrio* Lange-Bert. et E.Reichardt, *Iconogr. Diatomol.* 1 (second edition), p. 32, pl. 26: figs 8, 9, 10-11, pl. 27: figs 1-7, pl. 28: figs 1-6 (1995). *Gomphonema archaevibrio* on p. 92 (= caption of pl. 26: fig. 9 as "*Gomphonema vibrio* Ehrenberg". In the second edition *Gomphonema archaevibrio* Lange-Bert. et E.Reichardt was again marked as new.]

Gomphonema astridae E.Reichardt et Lange-Bert., *Iconogr. Diatomol.* 8, p. 29 (1999).

Replaced synonym: *Gomphonema parvulum* var. *undulatum* A. Cleve, *Bih. Kongl. Svenska Vetensk.-Akad. Handl.* 21, Afd. 3 (2), p. 21, pl. 1: fig. 18 (1895).

Gomphonema augur* var. *sphaerophorum (Ehrenb.) Lange-Bert., *Biblioth. Diatomol.* 9, p. 43 (1985).

Basionym: *Gomphonema sphaerophorum* Ehrenb., *Ber. Bekanntm. Verh. Königl. Preuss. Akad. Wiss. Berlin* 1845, p. 78 (1845).

Gomphonema augur* var. *turris (Ehrenb.) Lange-Bert., *Biblioth. Diatomol.* 9, p. 44 (1985).

Basionym: *Gomphonema turris* Ehrenb., *Abh. Königl. Akad. Wiss. Berlin* 1841, p. 416 (1843).

Gomphonema bavaricum E.Reichardt et Lange-Bert., *Nova Hedwigia* 53, p. 534, pl. 7: figs 1-12 (1991).

Gomphonema bohemicum* ssp. *angustiminus E.Reichardt, *Iconogr. Diatomol.* 8, p. 54, pl. 62: figs 1-15, 18-19, 21-25 (1999).

Gomphonema bourbonense E.Reichardt, *Nova Hedwigia* 65, p. 118, pl. 9, figs 1-15 (1997).

Gomphonema bozenae Lange-Bert. et E.Reichardt, *Iconogr. Diatomol.* 2, p. 68-69, pl. 65: figs 11-15, pl. 121: figs 4-5 (1996).

Gomphonema brasiliense* ssp. *pacificum Gerd Moser, Lange-Bert. et Metzeltin, *Biblioth. Diatomol.* 38, p. 185-186, pl. 50: figs 1-6 (1998).

Gomphonema calcifugum Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 6, p. 53 (1999).

Replaced synonym: *Gomphonema olivaceum* var. *minutissimum* Hust., Süßwasserflora von Mitteleuropa 10, p. 378, fig. 720 (1930).

Gomphonema camburnii Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 113, pl. 159: figs 16-17 (1998).

Gomphonema capitatum* var. *macilentum (Kociolek et Stoermer) E.Reichardt in Jahn et al., Lange-Bertalot-Festschrift, p. 194 (2001)

Basionym: *Gomphonema truncatum* var. *macilentum* Kociolek et Stoermer, Canad. J. Bot. 69, p. 1561, figs 40-41 (1991).

Gomphonema cathedralis Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 2, p. 69, pl. 65: figs 1-4 (1996). [Comment: on the "Errata" the name was corrected to "*Gomphonema cathedrale*".]

Gomphonema clava E.Reichardt in Jahn et al., Lange-Bertalot-Festschrift, p. 214, pl. 12: figs 1-14, pl. 13: figs 1-8 (2001).

Gomphonema clavatulum E.Reichardt, Iconogr. Diatomol. 8, p. 25, pl. 25: figs 1-23, 27-28 (1999).

Gomphonema contraturris Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 57-58, pl. 78: figs 2-9, pl. 79: figs 1-5 (1993).

Gomphonema costei Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 115, pl. 154: figs 7-12 (1998).

Gomphonema crassicingulatum Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 186-187, pl. 50: figs 7-10 (1998).

Gomphonema cuneolus E.Reichardt, Nova Hedwigia 65, p. 123, pl. 11, figs 1-18 (1997).

Gomphonema cymbelliclinum E.Reichardt et Lange-Bert., Iconogr. Diatomol. 8, p. 36, pl. 39: figs 11-14, 24-26, pl. 40: figs 1-33, pl. 41: figs 10-17 (1999).

Gomphonema daphnoides E.Reichardt, Iconogr. Diatomol. 8, p. 15-16, pl. 12: figs 1-12 (1999).

Gomphonema designatum E.Reichardt, Nova Hedwigia 65, p. 120, pl. 10, figs 1-13 (1997).

Gomphonema distans (Cleve-Euler) Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 6, p. 54 (1999).

Basionym: *Gomphonema lagerheimii* var. *distans* Cleve-Euler, Soc. Scient. Fenn., Com. Biol. 4, p. 72, pl. 5: fig. 120 (1934).

Gomphonema drutelingense E.Reichardt, Iconogr. Diatomol. 8, p. 38, pl. 39: figs 21-23, pl. 42: figs 1-18 (1999).

Gomphonema duplipunctatum Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 3, p. 88 (1996).

Replaced synonym: *Gomphonema bipunctatum* Krasske, nom. illeg., Ber. Deutsch. Bot. Ges. 61, p. 87, fig. 33 (1943); non *Gomphonema bipunctatum* Zimmermann (1915).

Gomphonema ellipsis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 116, pl. 154: figs 6, 6A (1998).

Gomphonema equadorianum Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 116 (1998).

Replaced synonym: *Gomphonema puiggarianum* var. *aequatorialis* Cleve, Kongl. Svenska Vetenskapsakad. Handl. 26 (2), p. 189 (1894). Cleve, Diatomiste 2, p. 101, pl. 7: fig. 1 (1894).

Gomphonema exiguum* var. *platypus (Østrup) Lange-Bert., Biblioth. Diatomol. 9, p. 47 (1985).

Basionym: *Gomphonema platypus* Østrup, Danske Diatomeer, p. 65, fig. 49 (1910).

Gomphonema exilissimum (Grunow) Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 2, p. 70 (1996).

Basionym: *Gomphonema parvulum* var. *exilissimum* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 25: fig. 12 (1880).

Gomphonema extantum E.Reichardt et Lange-Bert., Ber. Bayer. Bot. Ges. 64, p. 128, pl. 1: figs 16-21, pl. 5: figs 5-8 (1994).

Gomphonema frigidum Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 6, p. 54, pl. 64: figs 1-8 (1999).

Gomphonema geisslerae E.Reichardt et Lange-Bert., Nova Hedwigia 65, p. 114, pl. 8, figs 1-10 (1997).

Gomphonema genkalii Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 6, p. 55-56, pl. 65: figs 1-7 (1999).

Gomphonema grasmueckii Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 59, pl. 75: figs 1-5, pl. 77: figs 1-14 (1993).

Gomphonema grovei* var. *lingulatum (Hust.) Lange-Bert., Biblioth. Diatomol. 9, p. 47 (1985).

Basionym: *Gomphonema lingulatum* Hust., Arch. Hydrobiol. 18, p. 166, pl. 5: fig. 5 (1927).

Gomphonema halbachii Lange-Bert. et E.Reichardt in Nevo & Wasser, Biodiversity of cyanoprocaryotes and algae of continental Israel, p. 253-254, pl. 20: figs 157-160 (2000).

Gomphonema hastatum (Wislouch) Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 60 (1993).

Basionym: *Gomphonema quadripunctatum* var. *hastata* Wislouch, Ber. Deutsch. Bot. Ges. 42, p. 166, figs 5a-c (1924).

Gomphonema inkadoriae Lange-Bert. et E.Reichardt in Nevo & Wasser, Biodiversity of cyanoprocaryotes and algae of continental Israel, p. 255, pl. 21: figs 164-172 (2000).

Gomphonema innocens E.Reichardt, Iconogr. Diatomol. 8, p. 32, pl. 33: figs 1-21, 24-29, 32-34 (1999).

Gomphonema insigniforme E.Reichardt et Lange-Bert., Iconogr. Diatomol. 8, p. 10, pl. 3: figs 1-22, pl. 4: figs 1-7 (1999).

Gomphonema interpositum E.Reichardt, Iconogr. Diatomol. 8, p. 47-48, pl. 58: figs 1-8, 10-14 (1999).

Gomphonema inversum Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 187-188, pl. 51: figs 1-3 (1998).

Gomphonema jadowigiae Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 2, p. 70, pl. 98: figs 11-14 (1996).

Gomphonema kaweckana Metzeltin, E.Reichardt et Lange-Bert., Iconogr. Diatomol. 4, p. 17-18, pl. 22: figs 6-10, 12-13 (1996).

Gomphonema kobayashiae Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 117-118, pl. 154: figs 13-16 (1998).

Gomphonema lacus-vulcani E.Reichardt et Lange-Bert., Nova Hedwigia 65, p. 116, pl. 8, figs 11-33 (1997).

Gomphonema lateripunctatum E.Reichardt et Lange-Bert., Nova Hedwigia 53, p. 530, pl. 5: figs 1-19; pl. 6: figs 1-3 (1991).

Gomphonema laticollum E.Reichardt in Jahn et al., Lange-Bertalot-Festschrift, p. 199, pl. 5: figs 1-14 (2001).

Gomphonema latipes E.Reichardt in Jahn et al., Lange-Bertalot-Festschrift, p. 196, pl. 3: figs 1-13 (2001).

Gomphonema leptoproductum Lange-Bert. et Genkal, Iconogr. Diatomol. 6, p. 57, pl. 64: figs 9-15 (1999). [Comment: *Gomphonema leptoproductum* is also documented on pl. 64: fig. 15 although not cited on p. 57 in the 1st edition, reference corrected in the 2nd edition.]

Gomphonema lingulatiforme Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 60-61, pl. 83: figs 1-11 (1993).

[Validation of *Gomphonema lingulatiforme* Lange-Bert. et E.Reichardt, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 422, pl. 87: fig. 11, (1991). As a part of the protologue is cited: Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 166: figs 6-11 and pl. 167: figs 3-4.] [Comment: In Krammer & Lange-Bertalot (1986) *Gomphonema lingulatiforme* was documented as "*Gomphonema grovei* var. *lingulatum* (Hust.) Lange-Bert.".]

[Basionym of *Gomphosphenia lingulatiformis* (Lange-Bert. et E.Reichardt) Lange-Bert.]

Gomphonema lippertii E.Reichardt et Lange-Bert., Iconogr. Diatomol. 8, p. 21, pl. 21: figs 1-15 (1999).

Gomphonema longilineare E.Reichardt, Iconogr. Diatomol. 8, p. 39, pl. 43: figs 1-15, pl. 44: figs 11-13 (1999).

Gomphonema maclaughlinii E.Reichardt, Iconogr. Diatomol. 8, p. 22, pl. 22: figs 1-14 (1999).

Gomphonema makarovae Lange-Bert., Iconogr. Diatomol. 6, p. 58, pl. 63: figs 1-6 (1999).

Gomphonema malayense* var. *melanesicum Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 188-189, pl. 52: figs 1-4 (1998).

Gomphonema micropumilum E.Reichardt, Nova Hedwigia 65, p. 107, pl. 4, figs 1-19 (1997).

Gomphonema micropus* var. *aequale (W.Greg.) E.Reichardt, Iconogr. Diatomol. 8, p. 36 (1999).

Basionym: *Gomphonema aequale* W.Greg., Quart. J. Microscop. Sci. 4, p. 12, pl. 1: fig. 41 (1856).

Gomphonema minutiforme Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 61-62, pl. 83: figs 16-20 (1993). [Comment: validation of *Gomphonema minutiforme* Lange-Bert. et E.Reichardt, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 410, pl. 81: figs 20-23 (1991).]

Gomphonema minutum* f. *curtum (Hust.) Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 62 (1993).

Basionym: *Gomphonema curtum* Hust., Arch. Hydrobiol. 40, p. 939, pl. 42: figs 37-43 (1945).

Gomphonema minutum* f. *lemanense Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 63 (1993). [Comment: validation of *Gomphonema minutum* f. *lemanense* Lange-Bert. et E.Reichardt, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 410, pl. 81: figs 15-15A (1991).]

Gomphonema minutum* f. *pachypus Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 64 (1993). [Validation of *Gomphonema minutum* f. *pachypus* Lange-Bert. et E.Reichardt, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 410, pl. 81: figs 16-19 (1991).]

Gomphonema minutum* f. *syriacum Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 64 (1993). [Validation of *Gomphonema minutum* f. *syriacum* Lange-Bert. et E.Reichardt, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 410, pl. 81: figs 9-14 (1991).]

Gomphonema neoapiculatum Lange-Bert., E.Reichardt et Metzeltin, Iconogr. Diatomol. 5, p. 120, pl. 157: figs 6-9 (1998). [Comment: in Metzeltin & Kusber (2001) the authors are erroneously cited as "Metzeltin, E.Reichardt et Lange-Bert.".]

Gomphonema neobourrellyi Gerd Moser et Lange-Bert., Biblioth. Diatomol. 32, p. 110-111, pl. 45: figs 1-9 (1995).

Gomphonema neobourrellyi* ssp. *prolongatum Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 189-190, pl. 51: figs 8-10 (1998).

Gomphonema neonasutum Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 5, p. 121, pl. 156: figs 1-4 (1998). [Comment: in Metzeltin & Kusber (2001) the authors erroneously are cited as "Metzeltin et Lange-Bert".]

Gomphonema netriviale Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 190-191, pl. 52: figs 5-10 (1998).

Gomphonema occultum E.Reichardt et Lange-Bert., Nova Hedwigia 53, p. 538, pl. 10: figs 1-13 (1991).

Gomphonema okavangoanum Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 65, pl. 78: fig. 1, pl. 79A: figs 1-5 (1993).

Gomphonema olivaceum* var. *olivaceolacuum Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 67, pl. 80: figs 1-8, pl. 81: figs 3-4, pl. 82: figs 1-4 (1993). [Comment: validation of *Gomphonema olivaceum* var. *olivaceolacuum* Lange-Bert. et E.Reichardt, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 424, pl. 88: figs 14-15 (1991).]

Gomphonema ortalii Lange-Bert. et E.Reichardt in Nevo & Wasser, Biodiversity of cyanoprocaryotes and algae of continental Israel, p. 257-258, pl. 20: figs 149-156 (2000).

Gomphonema pala E.Reichardt in Jahn et al., Lange-Bertalot-Festschrift, p. 212 pl. 10: figs 1-22, pl. 11: figs 4-7 (2001).

Gomphonema paludosum E.Reichardt, Iconogr. Diatomol. 8, p. 26, pl. 26: figs 1-22, pl. 27: figs 1-9 (1999).

Gomphonema parallelistriatum Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 68, fig. 76: 11-16 (1993). [Comment: validation of *Gomphonema parallelistriatum* Lange-Bert. et E.Reichardt, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 408, pl. 80: figs 7-11 (1991).]

Gomphonema parvulus (Lange-Bert. et E.Reichardt) Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 2, p. 71 (1996).
Basionym: *Gomphonema parvulum* var. *parvulus* Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 70 (1993).

Gomphonema parvulum* f. *saprophilum Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 69 (1993). [Comment: validation of *Gomphonema parvulum* f. *saprophilum* Lange-Bert. et E.Reichardt, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 400, pl. 76: figs 8-13 (1991). The proptologue includes also Krammer & Lange-Bertalot (1991b) pl. 77: figs 5-9, originally on p. 402 documented as "(?) *Gomphonema parvulum* var. *parvulum* f. *saprophilum* Lange-Bert. & E.Reichardt, Umrißvariante (?)".]

Gomphonema parvulum* var. *parvulus Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 70 (1993). [Validation of *Gomphonema parvulum* var. *parvulus* Lange-Bert. et E.Reichardt, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 400, pl. 76: figs 22-29 (1991).]
[Basionym of *Gomphonema parvulus* (Lange-Bert. et E.Reichardt) Lange-Bert. et E.Reichardt.]

Gomphonema potaroense Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 122, pl. 146: figs 4-8, pl. 161: figs 8-10 (1998).

Gomphonema pratense Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 8, p. 18-19, pl. 15: figs 4-7, pl. 16: figs 1-9 (1999).

Gomphonema procerum E.Reichardt et Lange-Bert., Nova Hedwigia 53, p. 526, pl. 4: figs 1-12 (1991).

Gomphonema productum (Grunow) Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 71 (1993).
Basionym: *Gomphonema angustatum* var. *productum* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 24: figs 52-55 (1880).

Gomphonema pseudoaugur Lange-Bert., Arch. Hydrobiol. Suppl. 56,2 (Algol. Stud. 23), p. 213-214, figs 11-16, 79-80 (1979).

Gomphonema pseudoboheemicum Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 2, p. 71-72, pl. 66: figs 9-10 (1996). [As a part of the protologue, Krammer & Lange-Bertalot (1991), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), pl. 77: figs 16-21 is cited. Comment: in Krammer & Lange-Bertalot (1991b), p. 402, *Gomphonema pseudoboheemicum* is cited as "(?) *Gomphonema boheemicum* Reichelt et Fricke".]

Gomphonema pseudoclavatum Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 3, p. 92, pl. 40: figs 1-15 (1996).

Gomphonema pseudopusillum E.Reichardt, Iconogr. Diatomol. 8, p. 48-49, pl. 59: figs 1-15 (1999).

Gomphonema pseudotenellum Lange-Bert., Biblioth. Diatomol. 9, p. 51, pl. 35: figs 7-12 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 164: 22-24 is cited.] [Comment: the diagnosis was emended by E.Reichardt in Nova Hedwigia 65, p. 114 (1997).]

Gomphonema pumilum* var. *elegans E.Reichardt et Lange-Bert., Nova Hedwigia 65, p. 103, pl. 1, figs 1-6, pl. 2, figs 1-29, pl. 4, figs 20-23 (1997).

Gomphonema pumilum* var. *rigidum E.Reichardt et Lange-Bert., Nova Hedwigia 65, p. 105, pl. 1, fig. 7, pl. 3, figs 1-41, pl. 4, figs 24-25 (1997).

Gomphonema punae Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 140, pl. 129: figs 1-14 (2000).

Gomphonema reichardtii Lange-Bert., Iconogr. Diatomol. 2, p. 72-73, pl. 65: figs 16-19, pl. 121: figs 1-3 (1996). [As a part of the protologue, Krammer & Lange-Bertalot (1991), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), pl. 78: figs 20-23 is cited. Comment: in Krammer & Lange-Bertalot (1991b), p. 404, *Gomphonema reichardtii* is cited as "(?) *Gomphonema lagerheimii* A.Cleve-Euler (pro parte?); (?) *Gomphonema angustatum* var. *linearis* Hust.; (?) *Gomphonema angustatum* var. *cymbelloides* Fusey".]

Gomphonema rhombiciforme Lange-Bert., Iconogr. Diatomol. 5, p. 123 (1998).
Replaced synonym: *Gomphonema occidentale* var. *abbreviata* M. Schmidt in A. Schmidt's Atlas der Diatomaceenkunde, pl. 216: figs 22-23 (1899).

Gomphonema ricardii* var. *pachypus Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 32, p. 114, pl. 46: figs 11-12, ?10 (1995).

Gomphonema riotecense Lange-Bert., E.Reichardt et Metzeltin, Iconogr. Diatomol. 5, p. 123-124, pl. 149: figs 1-6, pl. 150: figs 1-5 (1998).

Gomphonema roehringeri E.Reichardt, Iconogr. Diatomol. 8, p. 55-56, pl. 66: figs 1-12 (1999).

Gomphonema rosenstockianum Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 71, pl. 76: figs 1-10 (1993).

Gomphonema salae Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 5, p. 124-125, pl. 157: figs 3-5 (1998).

Gomphonema scharfii Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 141, pl. 130: figs 1-14 (2000).

Gomphonema scoticollegarum Lange-Bert., Iconogr. Diatomol. 8, p. 12, pl. 6: figs 1-9 (1999).

Gomphonema spectabilissimum Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 127, pl. 146: figs 1-3, pl. 162: figs 3-5 (1998).

Gomphonema sphenovortex Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 2, p. 73-74, pl. 65: figs 22-23 (1996).

Gomphonema stonei E.Reichardt, Iconogr. Diatomol. 8, p. 16, pl. 13: figs 1-17 (1999).

Gomphonema subarcticum Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 6, p. 59-60, pl. 65: figs 8-20, pl. 66: figs 1-5 (1999).

Gomphonema supersedens E.Reichardt, Iconogr. Diatomol. 8, p. 54-55, pl. 63: figs 6-7, pl. 64: figs 1-8, pl. 65: figs 1-9 (1999).

Gomphonema tristigmatum Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 128, pl. 161: figs 1-7 (1998).

Gomphonema tumidum (Skvortzov) Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 73 (1993).
Basionym: *Gomphonema quadripunctatum* [var. *genuina*] f. *tumida* Skvortzov, Proc. Sungaree River Biol. Station 1, p. 27, fig. 99 (1928).

Gomphonema utae Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 8, p. 27, pl. 28: figs 1-37, pl. 29: figs 1-7 (1999).

Gomphonema variscohercynicum Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 8, p. 37 (1999).

Replaced synonym: *Gomphonema angustatum* var. *cymbelloides* Fusey, Bull. Microscop. Appl. 2. Ser., 1 (2), p. 46, pl. 2: fig. 44 (1951).

Gomphonema vibrioides E.Reichardt et Lange-Bert., Nova Hedwigia 53, p. 524, pl. 3: figs 1-9 (1991).

Gomphonema wiltschkorum Lange-Bert., Iconogr. Diatomol. 6, p. 61, pl. 67: figs 12-22 (1999). [Comment: *Gomphonema wiltschkorum* is also documented on 67: figs 12-16 although not cited in the 1st edition, reference corrected in the 2nd edition.]

Gomphonema yucatanense Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 131-132, pl. 146: figs 9-10 (1998).

Gomphonema zellense E.Reichardt, Iconogr. Diatomol. 8, p. 11, pl. 5: figs 1-11 (1999).

GOMPHONEMOPSIS Medlin

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=246].

Gomphonemopsis lindae Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 18, pl. 54: figs 36, 39-41, pl. 77: figs 9-10, pl. 79: fig. 3 (1996).

Gomphonemopsis obscura (Krasske) Lange-Bert., Iconogr. Diatomol. 3, p. 91 (1996).

Basionym: *Gomphonema obscurum* Krasske, Arch. Hydrobiol. 35, p. 406, pl. 12: figs 11-13 (1939).

GOMPHOSEPTATUM Medlin

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=247].

Gomphoseptatum pseudoseptatum (Giffen) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 222 (2000).

Basionym: *Gomphonema pseudoseptatum* Giffen, Bot. Mar. 13, p. 92, figs 29-32 (1970).

GOMPHOSPHENIA Lange-Bert., Nova Hedwigia 60, p. 242-243 (1995). [Typus generis: *Gomphosphenia lingulatiformis* (Lange-Bert. et E.Reichardt) Lange-Bert., Nova Hedwigia 60, p. 242 (1995).]

GOMPHOSPHENIA* subgen. *COSTERICARDIA [see *COSTERICARDIA*].

GOMPHOSPHENIA* subgen. *RHOICOSPHENULA [see *RHOICOSPHENULA*].

Gomphosphenia grovei (M.Schmidt) Lange-Bert. var. *grovei*, Nova Hedwigia 60, p. 243 (1995).

Basionym: *Gomphonema grovei* M.Schmidt in A. Schmidt's Atlas der Diatomaceenkunde, pl. 214: figs 13-18 (1899).

Gomphosphenia grovei* var. *lingulata (Hust.) Lange-Bert., Nova Hedwigia 60, p. 243 (1995).

Basionym: *Gomphonema ligulatum* Hust., Arch. Hydrobiol. 18, p. 166, pl. 5: fig. 5 (1927).

Gomphosphenia holmquistii (Foged) Lange-Bert., Nova Hedwigia 60, p. 244 (1995).

Basionym: *Gomphonema holmquistii* Foged, Nova Hedwigia 16, p. 8, pl. 3: fig. 3 (1968).

Gomphosphenia holmquistii* var. *alaskaensis (Foged) Lange-Bert., Nova Hedwigia 60, p. 244 (1995).

Basionym: *Gomphonema holmquistii* var. *alaskaensis* Foged, Nova Hedwigia 16, p. 9, figs 3-4 (1968).

Gomphosphenia lingulatiformis (Lange-Bert. et E.Reichardt) Lange-Bert., Nova Hedwigia 60, p. 242 (1995).

Basionym: *Gomphonema lingulatiforme* Lange-Bert. et E.Reichardt, Biblioth. Diatomol. 27, p. 60, pl. 83: figs 1-11 (1993). [*Gomphosphenia lingulatiformis* is the type of the name of the genus *GOMPHOSPHENIA*.]

Gomphosphenia paradoxa Lange-Bert., Nova Hedwigia 60, p. 246, 248, pl. 1: figs 1-18, pl. 2: figs 1-6, pl. 3: figs 1-7 (1995). [*Gomphosphenia paradoxa* is the type of the name of the subgenus *RHOICOSPHENULA* Lange-Bert.]

Gomphosphenia pfannkuchae (Cholnoky) Lange-Bert., Nova Hedwigia 60, p. 244 (1995).

Basionym: *Gomphonema pfannkuchae* Cholnoky, Nova Hedwigia Beih. 21, p. 24, figs 48-53 (1966).

Gomphosphenia reicheltii (M.Schmidt) Lange-Bert., Nova Hedwigia 60, p. 244 (1995).

Basionym: *Gomphonema reicheltii* M.Schmidt in A. Schmidt's Atlas der Diatomaceenkunde, pl. 214: figs 19-22 (1899).

Gomphosphenia tackei (Hust.) Lange-Bert., Nova Hedwigia 60, p. 244 (1995).

Basionym: *Gomphonema tackei* Hust., Abh. Naturwiss. Vereine Bremen 42, p. 205, figs 16-18 (1942).

Gomphosphenia tenerrima (Hust.) E.Reichardt, Iconogr. Diatomol. 8, p. 57 (1999).

Basionym: *Gomphonema tenerrimum* Hust., Arch. Hydrobiol. Suppl. 15, p. 444, pl. 27: figs 23-24 (1938).

[Taxonomic synonym of *Gomphosphenia tenerrima* (Hust.) E.Reichardt: *Gomphonema wulsiense* Foged, according to Reichardt, Iconogr. Diatomol. 8, p. 57 (1999).]

GRUNOWINITZSCHIA Lange-Bert. et U.Rumrich (subgenus within *NITZSCHIA*), Iconogr. Diatomol. 9, p. 191 (2000).
[Typus subgeneris: *Nitzschia andicola* Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 193 (2000).]

GYROSIGMA Hassall

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=815].

Gyrosigma gondwana Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 194-195, pl. 41: figs 1-2 (1998).

Gyrosigma moresbyana E.Reichardt, Nova Hedwigia 47, p. 92, pl. 5: figs 1-4 (1988).

HANTZSCHIA Grunow

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=911].

Hantzschia abundans Lange-Bert., Biblioth. Diatomol. 27, p. 75, pl. 85: figs 12-18, pl. 89: figs 1-6, pl. 90: figs 1-6, pl. 92: fig. 1 (1993).

Hantzschia amphilepta (Grunow) Lange-Bert., Biblioth. Diatomol. 27, p. 76 (1993).

Basionym: *Hantzschia amphioxys* var. *amphilepta* Grunow, J. Microscop. 3, p. 397, fig. 8 (1880).

Hantzschia barckhausenii Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 75, pl. 66: figs 16-18, pl. 67: figs 1-2 (1996).

Hantzschia brunneri Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 132, pl. 206: fig. 1 (1998).

Hantzschia compacta (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 62 (1999).

Basionym: *Hantzschia amphioxys* var. *compacta* Hust. in S. Hedin, Southern Tibet 6 (3) Bot. Stockholm, p. 145, fig. 42 (1922).

Hantzschia elegantula (Østrup) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 362 (2000).

Basionym: *Hantzschia amphioxys* var. *elegantula* Østrup, Danske Diatoméer, p. 143, pl. 4: fig. 94 (1910).

Hantzschia eximia Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 195-196, pl. 59: figs 3-5 (1998).

Hantzschia giessiana Lange-Bert. et U.Rumrich, Biblioth. Diatomol. 27, p. 80, pl. 94: figs 1-6, pl. 95: figs 1-6 (1993).

Hantzschia graciosa Lange-Bert., Biblioth. Diatomol. 27, p. 81, pl. 101: figs 1-5, pl. 102: figs 1-6 (1993).

Hantzschia graciosa ssp. *neotropica* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 133, pl. 206: figs 2-5 (1998).

Hantzschia hyperborea (Grunow) Lange-Bert., Biblioth. Diatomol. 27, p. 83 (1993).

Basionym: *Hantzschia amphioxys* var. *hyperborea* Grunow, Akad. Wiss. Wien, Math.-Naturwiss. Kl., Denkschr. 48, p. 99, pl. 1: fig. 59 (1884).

Hantzschia kaiseri Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 363, 427-428, pl. 175: figs 11-15; pl. 219: figs 1-5 (2000).

Hantzschia pannonica Lange-Bert., Biblioth. Diatomol. 27, p. 83-84, pl. 97: fig. 6, pl. 98: figs 1-6, pl. 99: figs 1-6, pl. 100: fig. 1 (1993).

Hantzschia subrupestris Lange-Bert., Biblioth. Diatomol. 27, p. 85 (1993).

Replaced synonym: *Hantzschia amphioxys* [var. *rupestris*] f. *capitellata* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 329: fig. 9 (1921).

Hantzschia vivacior Lange-Bert., Biblioth. Diatomol. 27, p. 86, pl. 104: figs 1-6, pl. 105: figs 1-7, pl. 106: figs 1-6 (1993).

HASLEA Simonsen

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=307].

Haslea britannica (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 223 (2000).

Basionym: *Navicula britannica* Hust. in Husted & Aleem, J. Mar. Biol. Assoc. UK. 30, p. 184, fig. 1C (1951).

Haslea spicula (Hickie) Lange-Bert., Arch. Protistenk. 148, p. 75 (1997).

Basionym: *Stauroneis spicula* Hickie, Monthly Microscop. J. 12, p. 290 (1874).

HIPPODONTA Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 249 (1996). [Typus generis: *Hippodonta lueneburgensis* (Grunow) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 262 (1996).]

Hippodonta arctica (R.M.Patrick et Freese) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 252 (1996).

Basionym: *Navicula hungarica* var. *arctica* R.M.Patrick et Freese, Proc. Acad. Nat. Sci. Philadelphia 112, p. 207, pl. 2: fig. 16 (1961).

Hippodonta arkonensis Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 252, pl. 4: figs 11-18 (1996).

- Hippodonta avittata*** (Cholnoky) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 253 (1996).
Basionym: *Navicula subcostulata* var. *avittata* Cholnoky, Oesterr. Bot. Z. 106, p. 51, figs 265-269 (1959).
- Hippodonta caotica*** Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 225, 428, pl. 131: figs 25-29 (2000).
- Hippodonta capitata*** (Ehrenb.) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 254 (1996).
Basionym: *Navicula capitata* Ehrenb., Infusionsthierchen, p. 185, pl. 13: fig. 20 (1838).
- Hippodonta costulata*** (Grunow) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 254 (1996).
Basionym: *Navicula costulata* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17 (2), p. 27 (1880).
- Hippodonta costulatiformis*** Lange-Bert., Metzeltin et Witkowski, p. 254-255, pl. 1: figs 27-28, pl. 4: figs 21-22 (1996).
- Hippodonta coxiae*** Lange-Bert., Diatoms of Europe 2, p. 221-222, pl. 76: figs 29-33, pl. 77: fig. 15 (2001).
- Hippodonta geocollegarum*** Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 255-256, pl. 4: figs 1-5 (1996).
- Hippodonta germainii*** Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 256-257, pl. 2: figs 6-11, pl. 3: fig. 6 (1996).
- Hippodonta grunowii*** Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 257-258, pl. 1: fig. 41 (1996).
- Hippodonta hungarica*** (Grunow) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 259 (1996).
Basionym: *Navicula hungarica* Grunow, Verh. K. K. Zool.-Bot. Ges. Wien 10, p. 539, pl. 1: fig. 30 (1860).
- Hippodonta kaiseri*** Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 259, pl. 2: figs 13-19, pl. 4: fig. 25 (1996).
- Hippodonta kissii*** Lange-Bert., Diatoms of Europe 2, p. 222, pl. 78: figs 1-10 (2001).
- Hippodonta kociolekii*** Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 260, pl. 3: figs 7-7b (1996).
- Hippodonta lesmonensis*** (Hust.) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 261 (1996).
Basionym: *Navicula lesmonensis* Hust., Abh. Naturwiss. Vereine Bremen 34, p. 293, figs 36-37 (1957).
- Hippodonta linearis*** (Østrup) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 261 (1996).
Basionym: *Navicula linearis* Østrup, Danske Diatomeer, p. 79, pl. 2: fig. 53 (1910).
[Comment: In Kusber & Metzeltin (2001), p. 604 the basionym was erroneously cited as "*Navicula hungarica* var. *linearis* Østrup", Danske Diatomeer, p. 79, pl. 2: fig. 53 (1910).]
- Hippodonta lueneburgensis*** (Grunow) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 249 (1996).
Basionym: *Navicula hungarica* var. *lueneburgensis* Grunow in Mojsisovics et Neumayr, Beiträge zur Paläontologie Österreich-Ungarns und des Orients Bd. 2 (4), p. 156, pl. 30: figs 43-44 (1882). [*Hippodonta lueneburgensis* is the type of the name of the genus *HIPPODONTA*.]
- Hippodonta neglecta*** Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 262, pl. 1: figs 8-15, pl. 3: fig. 2, pl. 4: fig. 10 (1996). [Comment: *Hippodonta neglecta* is not documented on pl. 2: fig. 2 as cited on p. 262]
- Hippodonta pseudacceptata*** (H.Kobayasi) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 263 (1996).
Basionym: *Navicula pseudacceptata* H.Kobayasi, Diatom 2, p. 96, figs 1-4, 7-12 (1986).
- Hippodonta pseudopinnularia*** Lange-Bert., Diatoms of Europe 2, p. 222, pl. 77: figs 1-8 (2001).
- Hippodonta rostrata*** (Hust.) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 263 (1996).
Basionym: *Navicula subcostulata* var. *rostrata* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 402: figs 65 (1936).
- Hippodonta ruthnielseniae*** Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 264, pl. 3: figs 8-15 (1996).
[Comment: *Hippodonta ruthnielseniae* on p. 272 (caption of pl. 3: figs 8-15) is misprinted as "*Hippodonta subtilissima*".]
- Hippodonta subcostulata*** (Hust.) Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 264 (1996).
Basionym: *Navicula subcostulata* Hust., Abh. Vortr. Bremer Wiss. Ges. 8-9, p. 386, fig. 13 (1934).
- Hippodonta subtilissima*** Lange-Bert., Metzeltin et Witkowski, Iconogr. Diatomol. 4, p. 265, pl. 3: figs 16-23 (1996).
[Comment: *Hippodonta subtilissima* on p. 272 (caption of pl. 3: figs 16-23) is misprinted as "*Hippodonta ruthnielseniae*".]
- HYALINELLA*** Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 60, 428 (2000). [Typus generis: *Hyalinella lateripunctata* Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 60, 429 (2000).]
- Hyalinella lateripunctata*** Witkowski, Lange-Bert. et Metzeltin Iconogr. Diatomol. 7, p. 60, 429, pl. 32: figs 6-18 (2000).
[*Hyalinella lateripunctata* is the type of the name of the genus *HYALINELLA* Witkowski, Lange-Bert. et Metzeltin.]

HYALOSIRA Kütz.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=846].

Hyalosira delicatula* var. *gibbosa (Østrup) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 61 (2000).
Basionym: *Striatella delicatula* var. *gibbosa* Østrup, Bot. Tidsskr. 26, p. 276, pl. 1: fig. 13 (1904).

HYGROPETRA Krammer et Lange-Bert., Diatoms of Europe 1, p. 206, 240 (2000). [Typus generis: *Hygropetra balfouriana* (Grunow ex Cleve) Krammer et Lange-Bert., Diatoms of Europe 1, p. 207 (2000).]

Hygropetra balfouriana (Grunow ex Cleve) Krammer et Lange-Bert., Diatoms of Europe 1, p. 207 (2000).
Basionym: *Pinnularia balfouriana* Grunow ex Cleve, Kongl. Svenska Vetenskapsakad. Handl. 26, p. 80, pl. 1: fig. 18 (1895). [*Hygropetra balfouriana* is the type of the name of the genus **HYGROPETRA**.]

Hyalosira parietina Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 62, 429, pl. 21: figs 18-20 (2000).

Hygropetra elongata Krammer et Lange-Bert., Diatoms of Europe 1, p. 207, 240, pl. 216: figs 10-13, 18 (2000). [Comment: on p. 692 (= caption of pl. 216: figs 10-13) the authors are cited as "Lange-Bert. et Krammer", *Hygropetra elongata* on p. 692 (= caption of pl. 216: fig. 18) as "*Hygropetra balfouriana* (Grunow ex Cleve) Krammer et Lange-Bert.".]

KOBAYASIA Lange-Bert., nom. illeg., Iconogr. Diatomol. 4, p. 279. [Intended type of the name of the genus: *Kobayasia bicuneus* Lange-Bert. Iconogr. Diatomol. 4, p. 279 (1996). [Comment: **KOBAYASIA** Lange-Bert. is a later homonym of **KOBAYASIA** Imai et A. Kkawamura, hence illegitimate. See: **KOBAYASIELLA** Lange-Bert. 1999.]

Kobayasia bicuneus Lange-Bert., Iconogr. Diatomol. 4, p. 280-281, pl. 1: fig. 1-10 (1996) [Comment: *Kobayasia bicuneus* was the intended type of the name of the genus **KOBAYASIA** Lange-Bert., nom. illeg., see *Kobayasiella bicuneus*.]

Kobayasia grandis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 134, pl. 94: figs 1-5 (1998).
[Basionym of *Kobayasiella grandis* (Metzeltin et Lange-Bert.) Lange-Bert.]

Kobayasia jaagii (F.Meister) Lange-Bert., Iconogr. Diatomol. 4, p. 281 (1996).
Basionym: *Navicula jaagii* F.Meister, Ber. Schweiz. Bot. Ges. 44, p. 89, fig. 9 (1935).
[Nomenclatural synonym of *Kobayasiella jaagii* (F.Meister) Lange-Bert.]

Kobayasia krasskei Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 135, pl. 94: figs 13-15 (1998).
[Basionym of *Kobayasiella krasskei* (Metzeltin et Lange-Bert.) Lange-Bert.]

Kobayasia madumensis (E.G.Jørgensen) Lange-Bert., Iconogr. Diatomol. 4, p. 282 (1996).
Basionym: *Navicula madumensis* E.G.Jørgensen, Kongel. Danske Vidensk.-Selsk. Skr. 5, p. 60, pl. 2: fig. 26 (1948).
[Nomenclatural synonym of *Kobayasiella madumensis* (E.G.Jørgensen) Lange-Bert.]

Kobayasia micropunctata (H.Germ.) Lange-Bert., Iconogr. Diatomol. 4, p. 282 (1996).
Basionym: *Navicula subtilissima* var. *micropunctata* H.Germ., Flore Diatomées eaux douces et saumâtres, Boubée, Paris, p. 234, pl. 169: figs 4-5 (1981).
[≡ *Navicula micropunctata* (H.Germ.) H.Kobayasi et Nagumo, Bot. Mag. Tokyo 101: p. 247 (1988).]
[Nomenclatural synonym of *Kobayasiella micropunctata* (H.Germ.) Lange-Bert.]

Kobayasia neocaledonica Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 196-197, pl. 29: figs 9-14 (1998).
[Basionym of *Kobayasiella neocaledonica* (Gerd Moser, Lange-Bert. et Metzeltin) Lange-Bert.]

Kobayasia okadae (Skvortzov) Lange-Bert., Iconogr. Diatomol. 4, p. 282 (1996).
Basionym: *Anomoeoneis okadae* Skvortzov, J. Jap. Bot. 14, p. 59, pl. 1: figs 37-38 (1938).
[Nomenclatural synonym of *Kobayasiella okadae* (Skvortzov) Lange-Bert.]

Kobayasia parasubtilissima (H.Kobayasi et Nagumo) Lange-Bert., Iconogr. Diatomol. 4, p. 282 (1996).
Basionym: *Navicula parasubtilissima* H.Kobayasi et Nagumo, Bot. Mag. Tokyo 101, p. 245, figs 19-37 (1988).
[Nomenclatural synonym of *Kobayasiella parasubtilissima* (H.Kobayasi et Nagumo) Lange-Bert.]

Kobayasia pseudostauron (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 4, p. 282 (1996).
Basionym: *Naviculadicta pseudostauron* Lange-Bert., Iconogr. Diatomol. 2, p. 86, pl. 35: figs 11-18; pl. 117: figs 1-2 (1996).
[Nomenclatural synonym of *Kobayasiella pseudostauron* (Lange-Bert.) Lange-Bert.]

Kobayasia saxicola (Manguin ex Kociolek et Reviers) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 42 (1998).
Basionym: *Navicula saxicola* Manguin ex Kociolek et Reviers, Cryptog. Algal. 17, p. 204 (1996).
[Nomenclatural synonym of *Kobayasiella saxicola* (Manguin ex Kociolek et Reviers) Lange-Bert.]

Kobayasia subtilissima (Cleve) Lange-Bert., Iconogr. Diatomol. 4, p. 283 (1996).

Basionym: *Navicula subtilissima* Cleve, Acta Soc. Fauna Fl. Fenn. 8, p. 37, pl. 2: fig. 35 (1891).

[Nomenclatural synonym of *Kobayasiella subtilissima* (Cleve) Lange-Bert.]

KOBAYASIELLA Lange-Bert., Iconogr. Diatomol. 6, p. 266 (1999). [Typus generis: *Kobayasiella bicuneus* (Lange-Bert.) Lange-Bert. Iconogr. Diatomol. 6, p. 266 (1999). Comment: new name for *KOBAYASIA* Lange-Bert. 1996, nom. illeg. In Iconogr. Diatomol. 6 (2nd edition) on p. 272 (1999) again marked as new.]

Kobayasiella bicuneus (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 266 (1999).

Basionym: *Kobayasia bicuneus* Lange-Bert., Iconogr. Diatomol. 4, p. 280, figs 1-10 (1996). [*Kobayasiella bicuneus* is the type of the name of the genus *KOBAYASIELLA*.]

Kobayasiella grandis (Metzeltin et Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 266 (1999).

Basionym: *Kobayasia grandis* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 134, pl. 94: figs 1-5 (1998).

Kobayasiella jaagii (F.Meister) Lange-Bert., Iconogr. Diatomol. 6, p. 266-267 (1999).

Basionym: *Navicula jaagii* F.Meister, Ber. Schweiz. Bot. Ges. 44, p. 89, fig. 9 (1935).

Kobayasiella krasskei (Metzeltin et Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 267 (1999).

Basionym: *Kobayasia krasskei* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 135, pl. 94: figs 13-15 (1998).

Kobayasiella madumensis (E.G.Jørgensen) Lange-Bert., Iconogr. Diatomol. 6, p. 267 (1999).

Basionym: *Navicula madumensis* E.G.Jørgensen, Kongel. Danske Vidensk.-Selsk. Skr. 5, p. 60, pl. 2: fig. 26 (1948).

Kobayasiella micropunctata (H.Germ.) Lange-Bert., Iconogr. Diatomol. 6, p. 267 (1999).

Basionym: *Navicula subtilissima* var. *micropunctata* H.Germ., Flore Diatomées eaux douces et saumâtres, Boubée, Paris, p. 234, pl. 169: figs 4-5 (1981).

[≡ *Navicula micropunctata* (H.Germ.) H.Kobayasi et Nagumo, Bot. Mag. Tokyo 101: p. 247 (1988).]

[Comment: In Iconogr. Diatomol. 6 (1999), p. 267 the basionym is given as "*Navicula micropunctata* H.Germ.".]

Kobayasiella neocaledonica (Gerd Moser, Lange-Bert. et Metzeltin) Lange-Bert., Iconogr. Diatomol. 6, p. 267 (1999).

Basionym: *Kobayasia neocaledonica* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 196, pl. 29: figs 9-14 (1998).

Kobayasiella okadae (Skvortzov) Lange-Bert., Iconogr. Diatomol. 6, p. 267 (1999).

Basionym: *Anomooneis okadae* Skvortzov, J. Jap. Bot. 14, p. 59, pl. 1: figs 37-38 (1938).

Kobayasiella parasubtilissima (H.Kobayasi et Nagumo) Lange-Bert., Iconogr. Diatomol. 6, p. 268 (1999).

Basionym: *Navicula parasubtilissima* H.Kobayasi et Nagumo, Bot. Mag. Tokyo 101, p. 245, figs 19-37 (1998).

Kobayasiella pseudostauron (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 268 (1999).

Basionym: *Naviculadicta pseudostauron* Lange-Bert., Iconogr. Diatomol. 2, p. 86, pl. 35: figs 11-18 (1996).

Kobayasiella pseudosubtilissima (Manguin) Lange-Bert., Iconogr. Diatomol. 6, p. 268 (1999).

Basionym: *Navicula pseudosubtilissima* Manguin in Bourrelly et Manguin, Algues de la Guadeloupe. Centre Nat. Rech. Sci. Paris, p. 64, pl. 3: fig. 71 (1952).

Kobayasiella saxicola (Manguin ex Kociolek et Reviere) Lange-Bert., Iconogr. Diatomol. 6, p. 268 (1999).

Basionym: *Navicula saxicola* Manguin ex Kociolek et Reviere, Cryptog. Algol. 17 (3), p. 204 (1996).

[≡ *Kobayasia saxicola* (Manguin ex Kociolek et Reviere) Gerd Moser, Lange-Bert. et Metzeltin.]

Kobayasiella subtilissima (Cleve) Lange-Bert., Iconogr. Diatomol. 6, p. 268 (1999).

Basionym: *Navicula subtilissima* Cleve, Acta Soc. Fauna Fl. Fenn. 8, p. 37, pl. 2: fig. 35 (1891).

KRASSKELLA R.Ross et P.A.Sims

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=230].

Krasskella manguinii Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 144, pl. 90: figs 4-5, ?6 (2000).

KURPISZIA Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 227, 429 (2000). [Typus generis: *Kurpiszia semiaperta* (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 228 (2000).]

Kurpiszia kryokonites (Cleve) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 227 (2000).

Basionym: *Navicula kryokonites* Cleve, Vega Expedit. Vetensk. Iakttag. 3, p. 473, pl. 37: fig. 44 (1883).

Kurpiszia semiaperta (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 228 (2000).

Basionym: *Navicula semiaperta* Hust., A. Schmidt's Atlas der Diatomaceenkunde, pl. 401: figs 14-16 (1936).

Kurpiszia subprotracta (Cleve) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 228 (2000).

Basionym: *Navicula kryokonites* var. *subprotracta* Cleve, Vega Expedit. Vetensk. Iakttag. 3, p. 473, pl. 37: fig. 46 (1883).

LECOHUIA Lange-Bert., Iconogr. Diatomol. 9, p. 146 (2000). [Typus generis: *Lecohuia riverae* Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 147 (2000).]

Lecohuia corrugata (Manguin) Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 148 (2000).

Basionym: *Navicula corrugata* Manguin, Mém. Inst. Sci. Madagascar, Ser. B 4, p. 27, pl. 3: figs 32a, b (1954).

Lecohuia geniculata (H.Germ.) Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 148 (2000).

Basionym: *Navicula geniculata* H.Germ., Bull. Soc. Française Microscopie 6, p. 13, pl. 1: fig. 9 (1937).

Lecohuia martinii (Krasske) Lange-Bert. et U. Rumrich, Iconogr. Diatomol. 9, p. 148 (2000).

Basionym: *Navicula martinii* Krasske, Arch. Hydrobiol. 35, p. 391, pl. 11: fig. 30 (1939).

Lecohuia riverae Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 147, pl. 64: figs 3-10 (2000). [*Lecohuia riverae* is the type of the name of the genus **LECOHUIA** Lange-Bert.]

LUNELLA P.Snoeijs

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=616]

[<http://128.32.109.44/cgi-bin/porp.cgi.pl?LUNELLAPSNOEIJIS1996>]

Lunella galebii Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 229, 430, pl. 163: figs 5-10 (2000).

LUTICOLA D.G.Mann

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=368]

[<http://128.32.109.44/cgi-bin/porp.cgi.pl?LUTICOLADGMANN1990>].

Luticola acidoclinata Lange-Bert., Iconogr. Diatomol. 2, p. 76, pl. 24: figs 24-26, pl. 104: figs 10-16 (1996).

Luticola clagesii Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 197-198, pl. 30: figs 5-9 (1998).

Luticola costei Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 136, pl. 87: fig. 13 (1998). [Comment: *Luticola costei* is not documented on pl. 87: fig. 12 as cited on p. 136; caption of pl. 87 on p. 408 is correct.]

Luticola dapaloides (Frenguelli) Lange-Bert., Iconogr. Diatomol. 5, p. 137 (1998).

Basionym: *Navicula dapaloides* Frenguelli, Rev. Mus. La Plata N.S. 8, p. 78, pl. 1: figs 20-21 (1953).

Luticola frenguelli Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 137, pl. 88: figs 1-6 (1998).

Luticola incoactoides Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 149, pl. 61: figs 1-4 (2000).

Luticola krauselii (Cholnoky) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 139 (1998).

Basionym: *Navicula krauselii* Cholnoky, Bot. Not., p. 284, figs 79-80 (1954).

Luticola mollis Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 149-150, pl. 61: figs 5-6 (2000).

Luticola tomesii Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 198-199, pl. 30: figs 1-4 (1998).

LYRELLA N.I.Karayeve

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=830].

Lyrella david-mannii Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 232 (2000).

Replaced synonym: *Navicula lyra* var. *elliptica* A.W.F. Schmidt in A. Schmidt's Atlas der Diatomaceenkunde, pl. 2: figs 29, 34 (January 1874); Jahresber. Komm. Unters. der Meere in Kiel 2, p. 89, pl. 1: figs 35, 38 (1874).

Lyrella fagedii Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 233, 430, pl. 99: figs 4-7, pl. 100: figs 1-3 (2000).

Lyrella opuntiioides (Simonsen) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 235 (2000).

Basionym: *Navicula opuntiioides* Simonsen, Kieler Meeresforsch. 15, p. 79, pl. 12: fig. 1 (1959).

Lyrella sulcifera (Hust.) Witkowski, Biblioth. Diatomol. 28, p. 139 (1994).

Basionym: *Navicula sulcifera* Hust., Bull. Duke Univ. Mar. Sta. 6, p. 24, pl. 8: fig. 1 (1955).

MASTOGLIOIA Thwaites

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=973].

Mastogloia rectirobusta Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 43 (1998).

Replaced name: *Mastogloia malayensis* var. *robusta* Manguin ex Kociolek et Reviere, Cryptog. Algol. 17, p. 199 (1996).

Mastogloia urveae Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 263, 431, pl. 84: figs 22-23 (2000).

MAYAMAEA Lange-Bert., Arch. Protistenk 148, p. 71 (1997). [Typus generis: *Mayamaea atomus* (Kütz.) Lange-Bert., Arch. Protistenk 148, p. 71 (1997).]

Mayamaea agrestis (Hust.) Lange-Bert., Diatoms of Europe 2, p. 134, (2001).

Basionym: *Navicula agrestis* Hust., Arch. Hydrobiol. Suppl. 15, p. 246, pl. 20: figs 21-22 (1937).

[– *Navicula agrestis* Hust., nom. inval., in A. Schmidt's Atlas der Diatomaceenkunde, pl. 401: figs 27-29 (1936).]

Mayamaea aliena (Krasske) Lange-Bert., Diatoms of Europe 2, p. 134, (2001).

Basionym: *Navicula aliena* Krasske, Arch. Hydrobiol. 33, p. 529, figs 19-20 (1938).

Mayamaea arida (W.Bock) Lange-Bert., Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Navicula arida* W.Bock, Nova Hedwigia 5, p. 223, fig. 1D (1963).

Mayamaea asellus (Weinhold) Lange-Bert., Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Navicula asellus* Weinhold ex Hust., A. Schmidt's Atlas der Diatomaceenkunde, pl. 400: figs 1-5 (1934).

Mayamaea atomus (Kütz.) Lange-Bert. var. *atomus*, Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Amphora atomus* Kützing, Kieselschalige Bacillarien, p. 108, pl. 30: fig. 70 (1844). [*Mayamaea atomus* is the type of the name of the genus **MAYAMAEA**.]

Mayamaea atomus* var. *alcimonica (E.Reichardt) E.Reichardt, Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Navicula atomus* var. *alcimonica* E.Reichardt, Biblioth. Diatomol. 6, p. 39-40, pl. 12: figs 10-14, pl. 30: figs 1-2 (1984).

Mayamaea atomus* var. *permitis (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Navicula permitis* Hust., Arch. Hydrobiol. 40, p. 919, pl. 41: figs 8-9 (1945).

[≡ *Navicula atomus* var. *permitis* (Hust.) Lange-Bert.]

Mayamaea destrica (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Navicula destrica* Hust., Ber. Deutsch. Bot. Ges. 60, p. 64, fig. 22 (1942).

Mayamaea excelsa (Krasske) Lange-Bert., Arch. Protistenk. 148, p. 72.

Basionym: *Navicula excelsa* Krasske, Bot. Arch. 3, p. 51, pl. 2: fig. 33 (1925).

[≡ *Navicula atomus* var. *excelsa* (Krasske) Lange-Bert.]

Mayamaea fossalis (Krasske) Lange-Bert. var. *fossalis*, Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Navicula fossalis* Krasske, Bot. Arch. 27, p. 354, fig. 10 (1929).

Mayamaea fossalis* var. *obsidialis (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Navicula obsidialis* Hust., Ber. Deutsch. Bot. Ges. 60, p. 68, figs 1-3 (1942).

[– *Navicula fossalis* var. *obsidialis* (Hust.) Lange-Bert., nom. inval., Biblioth. Diatomol. 9, p. 69 (1985).]

Mayamaea fossaloides (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Navicula fossaloides* Hust., Abh. Naturwiss. Vereine Bremen 34, p. 275, fig. 17 (1957).

Mayamaea lacunolaciniata (Lange-Bert. et Bonik) Lange-Bert., Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Navicula lacunolaciniata* Lange-Bert. et Bonik, Arch. Hydrobiol. Suppl. 49 (Algol. Stud. 16), p. 313, figs 12-13, 34 (1976).

Mayamaea muraliformis (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Navicula muraliformis* Hust., Arch. Mikrobiol. 14, p. 440, fig. 5 (1949).

Mayamaea nolenoides (W.Bock) Lange-Bert., Diatoms of Europe 2, p. 140, (2001).

Basionym: *Navicula nolenoides* W.Bock, Nova Hedwigia Beih. 31, p. 424, pl. 1: figs 16-17, (1970)

Mayamaea recondita (Hust.) Lange-Bert., Arch. Protistenk. 148, p. 72 (1997).

Basionym: *Navicula recondita* Hust., A. Schmidt's Atlas der Diatomaceenkunde, Atlas, pl. 400: figs 6-9 (1934).

[≡ *Navicula atomus* var. *recondita* (Hust.) Lange-Bert.]

MICROCOSTATUS J.R.Johans. et J.C.Sray

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=1026]

[<http://128.32.109.44/cgi-bin/porp.cgi.pl?MICROCOSTATUSJRJOHANSENJCSRAY1998>].

Microcostatus andinus Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 151, pl. 76: figs 1-10 (2000).

Microcostatus egregius (Hust.) Lange-Bert., Iconogr. Diatomol. 6 (2nd edition), p. 290 (1999).

Basionym: *Navicula egregia* Hust., Ber. Deutsch. Bot. Ges. 60, p. 64, fig. 26 (1942).

Microcostatus kuelbsii (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6 (2nd edition), p. 290 (1999).

Basionym: *Navicula kuelbsii* Lange-Bert., Biblioth. Diatomol. 9, p. 77, pl. 25: figs 4-7 (1985).

Microcostatus maceria (Schim.) Lange-Bert. in Jahn et al., Lange-Bertalot-Festschrift, p. 633 (2001).

Basionym: *Navicula maceria* Schim., Nova Hedwigia 30, p. 586, pl. 11: figs 2, 9 (1978).

[– *Microcostatus maceria* (Schim.) Lange-Bert., nom. inval., Iconogr. Diatomol. 6 (2nd edition), p. 290 (1999).]

Microcostatus naumannii (Hust.) Lange-Bert., Iconogr. Diatomol. 6 (2nd edition), p. 291 (1999).

Basionym: *Navicula naumannii* Hust., Arch. Hydrobiol. 39, p. 115, figs 22-24 (1942).

[Comment: Erroneously the epitheton was misspelled as "*naumanii*".]

Microcostatus ornicollegarum Lange-Bert. et Wydrzycka, Brenesia 55-56, p. 10, pl. 16: figs 8-14 (2001).

Microcostatus polonarum Lange-Bert., Brenesia 55-56, p. 11, pl. 15: figs 1-8 (2001).

Microcostatus pseudomuralis (Hust.) Lange-Bert., Iconogr. Diatomol. 6 (2nd edition), p. 291 (1999).

Basionym: *Navicula pseudomuralis* Hust., Arch. Hydrobiol. 15, p. 245, pl. 19: figs 25-27 (1937).

[– *Navicula pseudomuralis* Hust., nom. inval., A. Schmidt's Atlas der Diatomaceenkunde, pl. 401: figs 64-67 (1936).]

Microcostatus stapputana Lange-Bert. et Wydrzycka, Brenesia 55-56, p. 12, pl. 16: figs 1-7 (2001).

***MIOSIRA* Krammer, Lange-Bert. et W.Schiller**, Paläontol. Z. 71, p. 10 (1997). [Typus generis: *Miosira rhoenana* Krammer, Lange-Bert. et W.Schiller, Paläontol. Z. 71, p. 10, 17 (1997).]

Miosira rhoenana Krammer, Lange-Bert. et W.Schiller, Paläontol. Z. 71, p. 10, 17, figs 1-27, 29 (1997). [*Miosira rhoenana* is the type of the name of the genus *MIOSIRA* Krammer, Lange-Bert. et W.Schiller.]

MUELLERIA Van Heurck, nom. rej.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=825].

Muelleria islandica (Østrup) Lange-Bert., Iconogr. Diatomol. 6, p. 63 (1999).

Basionym: *Navicula islandica* Østrup, Botany of Iceland 2, part 1, no. 5, p. 26, pl. 3: fig. 36 (1918), non *Navicula islandica* Grunow in Cleve et Möller, Diatoms, collection of 324 slides, no. 262 (1881).

***NAVICELLA* Krammer**, Biblioth. Diatomol. 36, p. 157, (1997). [Typus generis: *Cymbella pusilla* Grunow, A. Schmidt's Atlas der Diatomaceenkunde, pl. 9: figs 36-37 (1875).]

***NAVICULA* Bory**

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=799].

NAVICULA* sect. *ALINEA [see *ALINEA*].

NAVICULA* subsect. *NAVISANTIQUA [see *NAVISANTIQUA*].

Navicula acidobionta Lange-Bert., nom. inval., Biblioth. Diatomol. 18, p. 160-161, pl. 98: figs 28-44, pl. 99: figs 1-10 (1989).

[Comment: lacking a type and a Latin diagnosis, *Navicula acidobionta* Lange-Bert. was not validly published. Validly published as *Stauroneis acidobionta* Lange-Bert. et Wydrzycka.]

Navicula agatkae Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 7, p. 265, 431, pl. 146: figs 1-8 (2000).

Navicula aggerica E.Reichardt, Ber. Bayer. Bot. Ges. 53, p. 101, pl. 1: figs 25-33, pl. 4: figs 9-11 (1982).

Navicula alineae Lange-Bert. in Nevo & Wasser, Biodiversity of cyanoprocaryotes and algae of continental Israel, p. 268, pl. 22: figs 175-178 (2000). [*Navicula alineae* is the type of the name of the section *ALINEA* Lange-Bert.]

Navicula altiplanensis U.Rumrich et Lange-Bert., Iconogr. Diatomol. 9, p. 152, pl. 55: figs 21-27, cf. pl. 53: figs 8-11, 13-15 (2000).

Navicula amphiceropsis Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 153, pl. 42: figs 1-12 (2000).

Navicula antonii Lange-Bert., Iconogr. Diatomol. 9, p. 155 (2000).

Replaced synonym: *Navicula menisculus* var. *grunowii* Lange-Bert., Biblioth. Diatomol. 27, p. 120, pl. 64: figs 1-11 (1993).

Navicula aquaedurae Lange-Bert., Biblioth. Diatomol. 27, p. 95, pl. 46: figs 14-19, pl. 47: figs 1-2 (1993). [Validation of *Navicula aquaedurae* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 386, pl. 69: figs 1-10 (1991).]

Navicula arctotenelloides Lange-Bert. et Metzeltin, Iconogr. Diatomol. 3, p. 97-98, pl. 9: figs 20-23 (1996). [Comment: *Navicula arctotenelloides* on p. 220 (= caption of pl. 9: figs 20-23) cited as "*Navicula tenelloides* Hustedt sensu Krasske".]

Navicula arenaria var. *rostellata* Lange-Bert., Biblioth. Diatomol. 9, p. 56, pl. 22: fig. 1 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 39: fig. 2 is cited.]

Navicula arkona Lange-Bert. et Witkowski, Diatoms of Europe 2, p. 17-18, 223, pl. 8: figs 8-11, pl. 73: fig. 5 (2001).

Navicula arkona Lange-Bert. et Witkowski, Diatoms of Europe 2, p. 17-18, 223-224, pl. 8: figs 8-11, pl. 73: fig. 5 (2001).

Navicula arvensis var. *major* Lange-Bert., Biblioth. Diatomol. 9, p. 56, pl. 25: figs 1-3 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 80: figs 21, 22, 32 is cited. Comment: "fig. 32" is erroneously cited for fig. 22'.]

[Nomenclatural synonym of *Naviculadicta cosmopolitana* Lange-Bert.]

Navicula associata Lange-Bert., Diatoms of Europe 2, p. 18, (2001).

Replaced synonym: *Navicula reichardtiana* var. *crassa* Lange-Bert. et G.Hofmann, Biblioth. Diatomol. 27, p. 133, pl. 47: figs 4-10 (1993).

Navicula athenae Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 267, 431-432, pl. 129: figs 15-16 (2000).

Navicula atomus var. *alcimonica* E.Reichardt, Biblioth. Diatomol. 6, p. 39-40, pl. 12: figs 10-14, pl. 30: figs 1-2 (1984). [Basionym of *Mayamaea atomus* var. *alcimonica* (E.Reichardt) E.Reichardt.

Navicula atomus var. *excelsa* (Krasske) Lange-Bert., Biblioth. Diatomol. 9, p. 57 (1985).

Basionym: *Navicula excelsa* Krasske, Abh. Ber. Vereins Naturk. Kassel 84-89, p. 51, pl. 2: fig. 33 (1925).

[Nomenclatural synonym of *Mayamaea excelsa* (Krasske) Lange-Bert.]

Navicula atomus var. *permitis* (Hust.) Lange-Bert., Biblioth. Diatomol. 9, p. 57 (1985).

Basionym: *Navicula permitis* Hust., Arch. Hydrobiol. 40, p. 919, pl. 41: figs 8-9 (1945).

[Nomenclatural synonym of *Mayamaea atomus* var. *permitis* (Hust.) Lange-Bert.]

Navicula atomus var. *recondita* (Hust.) Lange-Bert., Biblioth. Diatomol. 9, p. 58 (1985).

Basionym: *Navicula recondita* Hust., Ber. Deutsch Bot. Ges. 60, p. 68 (1942)

[– *Navicula recondita* Hust., nom. inval., in A. Schmidt's Atlas der Diatomaceenkunde, pl. 400: figs 6-9 (1934).]

[Comment: The term "Differentialdiagnose von Hustedt (1962, p. 164 [Rabenhorsts Kryptogamenflora 7 (3), 2. Lieferung, p. 168])" is treated as citation error for the first valid publication of *Navicula recondita*.]

[Basionym of *Mayamaea recondita* (Hust.) Lange-Bert.]

Navicula australomediocris Lange-Bert. et Rol.Schmidt, J. Paleolimnol. 3, p. 65, figs 7 i-k (1990).

Navicula austrocollegarum Lange-Bert. et R.Voigt, Diatoms of Europe 2, p. 224, pl. 9: figs 14-19, pl. 67: fig. 5 (2001).

Navicula brekkaensis var. *brekkaensoides* (W.Bock) Lange-Bert., Biblioth. Diatomol. 9, p. 59 (1985).

Basionym: *Navicula brekkaensoides* W.Bock, Nova Hedwigia 5, p. 224, pl. 2: figs 128 u. 1 A, B (1963).

[Nomenclatural synonym of *Diadesmis brekkaensoides* (W.Bock) Gerd Moser, Lange-Bert. et Metzeltin.]

Navicula bicuneolus Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 139, pl. 76: figs 12-13, pl. 77: figs 5-6 (1998).

Navicula bjoernoeyaensis Metzeltin, Witkowski et Lange-Bert., Iconogr. Diatomol. 4, p. 19, pl. 2: figs 14-18 (1996).

Navicula borowkae Witkowski, Lange-Bert. et Metzeltin Iconogr. Diatomol. 7, p. 269, 432, pl. 145: figs 1-5 (2000).

Navicula bourrellyivera Lange-Bert., Witkowski et Stachura, Cryptog. Algol. 19, p. 87, fig. 1-6 (1998).

Navicula breitenbuchii Lange-Bert., Diatoms of Europe 2, p. 224-225, pl. 37: figs 8-15 (2001).

Navicula broetzii Lange-Bert. et E.Reichardt, Iconogr. Diatomol. 2, p. 77, pl. 81: figs 1-7 (1996).

Navicula canariana Lange-Bert., Biblioth. Diatomol. 27, p. 96-97, pl. 54: figs 10-11, pl. 55: figs 1-13 (1993). [As a part of the protologue is cited: Krammer & Lange-Bertalot (1991b), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), pl. 67: figs 12-18.] [Comment: in Krammer & Lange-Bertalot (1991b) *Navicula canariana* was documented as "*Navicula* species von Tenerife aff. *radiosafallax*".]

Navicula cantonatii Lange-Bert., Diatoms of Europe 2, p. 225, pl. 19: figs 1-8 (2001).

Navicula cari var. *cincta* (Ehrenb.) Lange-Bert., Cryptog. Algol. 1, p. 37 (1980).

Basionym: *Pinnularia cincta* Ehrenb., Mikrogeologie, pl. 10 (2): fig. 6 a-e (1854).

Navicula cari var. *recens* Lange-Bert., Cryptog. Algol. 1, p. 37, pl. 6: figs 8-14 (1980).

Navicula cariocincta Lange-Bert. in Nevo & Wasser, Biodiversity of cyanoprocaryotes and algae of continental Israel, p. 271, pl. 23: figs 203-207 (2000). [Comment: Validation of *Navicula cariocincta* Lange-Bert., nom. inval., in Biblioth. Diatomol. 27, p. 97, pl. 44: figs 1-5. (1993).]

Navicula catalanogermanica Lange-Bert. et G.Hofmann, Biblioth. Diatomol. 27, p. 98, pl. 64: figs 16-20 (1993). [– *Navicula catalanogermanica* Lange-Bert. et G.Hofmann, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 370, pl. 61: figs 5-9 (1991).]

Navicula cataracta-rheni Lange-Bert., Biblioth. Diatomol. 27, p. 99-100, pl. 59: figs 13-15 (1993). [– *Navicula cataractarheni* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 390, pl. 71: figs 1-6 (1991).]

Navicula celinei Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 20, pl. 59: figs 17-22, pl. 83: fig. 1, pl. 84: figs 6, 8 (1996).

Navicula chiorae Lange-Bert. et Genkal, Iconogr. Diatomol. 6, p. 63-64, pl. 11: figs 12-15, pl. 18: figs 1-2 (1999).

Navicula chilena Lange-Bert., nom. inval., Diatom Res. 11, p. 120, figs 69-70, 160 (1996). [Comment: lacking a type and a Latin description, this name was published invalidly. Erroneously fig. 159 was cited on p. 120 and p. 139 (= caption of figs 159 and 160).]

Navicula clagesii Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 200, pl. 19: figs 17-20 (1998).

Navicula cloacina Lange-Bert. et Bonik, Arch. Hydrobiol. Suppl. 49 (Algol. Stud. 16), p. 313, 315, figs 1d, 14-15 (1976). [Taxonomic synonym of *Adlafia minuscula* var. *muralis* (Grunow) Lange-Bert., according to Lange-Bertalot, Diatoms of Europe 2, p. 144 (2001).]

Navicula cohnii (Hilse) Lange-Bert., Biblioth. Diatomol. 9, p. 61 (1985).
Basionym: *Stauroneis cohnii* Hilse, Abh. Schles. Ges. Vaterl. Cult., Abth. Naturwiss. 40, p. 83 (1860).

Navicula coralliana Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 140, pl. 76: figs 8-11 (1998).

Navicula crassulexigua E.Reichardt, Ber. Bayer. Bot. Ges. 64, p. 130, pl. 3: figs 4-11, figs 28-29 (1994).

Navicula cryptocephala Lange-Bert., Biblioth. Diatomol. 27, p. 101, pl. 60: figs 1-2, pl. 61: figs 13-14 (1993). [As a part of the protologue is cited: Krammer & Lange-Bertalot (1991b), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), pl. 64: figs 1-8.] [Comment: in Krammer & Lange-Bertalot (1991b) *Navicula cryptocephala* is documented as "*Navicula cryptocephala* Kützinger".]

Navicula cryptofallax Lange-Bert. et G.Hofmann, Biblioth. Diatomol. 27, p. 103, pl. 47: fig. 11, pl. 48: figs 1-4 (1993). [– *Navicula cryptofallax* Lange-Bert. et G.Hofmann, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 384 pl. 68: figs 5-9 (1991).]

Navicula cryptotenella Lange-Bert., Biblioth. Diatomol. 9, p. 62-63, pl. 18: figs 22-23, pl. 19: figs 1-10, pl. 27: fig. 1 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 33: figs 9-11, 13-17 is cited.]

Navicula cryptotenelloides Lange-Bert., Biblioth. Diatomol. 27, p. 105, pl. 50: figs 9-12, pl. 51: figs 1-2 (1993).

Navicula curtisterna Lange-Bert., Diatoms of Europe 2, p. 225, pl. 18: figs 1-8 (2001).

Navicula dealpina Lange-Bert., Biblioth. Diatomol. 27, p. 106, pl. 44: figs 16-19 (1993). [Comment: validation of *Navicula dealpina* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 366, pl. 59: figs 1-3 (1991). As a part of the protologue is cited: Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 27: fig. 15.] [Comment: in Krammer & Lange-Bertalot (1986) *Navicula dealpina* is documented as "*Navicula cari* Ehrenberg als *Navicula graciloides* in Coll. Hustedt".]

Navicula densilineolata (Lange-Bert.) Lange-Bert., Biblioth. Diatomol. 27, p. 107 (1993).
Basionym: *Navicula pseudolanceolata* var. *densilineolata* Lange-Bert., Biblioth. Diatomol. 9, p. 89, figs 18-20 (1985).

Navicula digitoconvergens Lange-Bert., Iconogr. Diatomol. 6, p. 64-65, pl. 15: figs 1-9, pl. 16: figs 4-5 (1999). [Comment: name and diagnosis on p. 65 only in the 2nd edition.]

Navicula dissociata E.Reichardt, Biblioth. Diatomol. 6, p. 44-45, pl. 11: figs 20-21, pl. 12: figs 17-18 (1984).
[Basionym of *Craticula dissociata* E.Reichardt, Diatom Res. 12, p. 305 (1997).]

Navicula doehleri Lange-Bert., Diatoms of Europe 2, p. 226, pl. 16: figs 35-39 (2001).

Navicula ehrlichiae Lange-Bert. et E.Reichardt in Nevo & Wasser, Biodiversity of cyanoprocaryotes and algae of continental Israel, p. 275, pl. 23: figs 191-197 (2000).

Navicula electrolytifuga Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 155-156, pl. 57: figs 1-5 (2000).

Navicula elginensis var. *cuneata* (M.Møller ex Foged) Lange-Bert., Biblioth. Diatomol. 9, p. 68 (1985).
Basionym: *Navicula dicephala* f. *cuneata* M.Møller ex Foged, Biblioth. Phycol. 34, p. 78, pl. 29: fig. 6 (1977).

Navicula exiliformis E.Reichardt, Diatom Res. 3, p. 238, figs 11-21 (1988).

Navicula germanopolonica Witkowski et Lange-Bert., Biblioth. Diatomol. 27, p. 110, pl. 45: figs 1-8 (1993).

Navicula globuliferiformis Lange-Bert. in Jahn et al., Lange-Bertalot-Festschrift, p. 633 (2001).
Replaced synonym: *Navicula globulifera* var. *robusta* Hust., Arch. Hydrobiol. Suppl. 15, p. 266, pl. 19: figs 3-4 (1937).
[– *Navicula globulifera* var. *robusta* Hust., nom. inval., A. Schmidt's Atlas der Diatomaceenkunde, pl. 405: figs 20-22 (1936).]
[– *Navicula globuliferiformis* Lange-Bert., nom. inval., Biblioth. Diatomol. 27, p. 93 (1993).]

Navicula gondwana Lange-Bert., Biblioth. Diatomol. 27, p. 111, pl. 57: figs 1-6 (1993).

Navicula grasmueckii Lange-Bert., Biblioth. Diatomol. 27, p. 112, pl. 54: figs 1-9 (1993).

Navicula halinae Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 281, 432-433, pl. 130: figs 1-4 (2000).

Navicula hamiltonii Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 282, 433, pl. 130: figs 5-11 (2000).
[Comment: *Navicula hamiltonii* is not documented on pl. 130: fig. 12 as cited on p. 282.]

Navicula hanseatica Lange-Bert. et Stachura, Cryptog. Algol. 19, p. 87-88, fig. 23-27 (1998).

Navicula hanseatica ssp. *circumartica* Lange-Bert., Iconogr. Diatomol. 7, p. 282, 433, pl. 120: figs 7-10 (2000).
[Comment: *Navicula hanseatica* ssp. *circumartica* is not documented on pl. 120: figs 1-6 as cited on p. 433.]

Navicula hastatula Lange-Bert. et Miho, Diatoms of Europe 2, p. 226, pl. 56: figs 1-8 (2001).

Navicula heimansioides Lange-Bert., Biblioth. Diatomol. 27, p. 113, pl. 62: figs 7-10 (1993). [Comment: validation of *Navicula heimansioides* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 388, pl. 70: figs 1-8 (1991). As a part of the protologue is cited: Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 29: figs 9-11.] [Comment: in Krammer & Lange-Bertalot (1986) *Navicula heimansioides* is documented as "*Navicula cari* Ehrenberg als *Navicula leptostriata* Jørgensen = *Navicula heimansii* Van Dam et Kooyman".]

Navicula herbstiae Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 141, pl. 76: figs 4-7, pl. 77: fig. 8 (1998).

Navicula hintzii Lange-Bert., Biblioth. Diatomol. 27, p. 114-115, pl. 61: figs 15-18 (1993).
[– *Navicula hintzii* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 374, pl. 63: figs 9-12 (1991).

Navicula hofmanniae Lange-Bert., Biblioth. Diatomol. 27, p. 116, pl. 48: figs 12-18, pl. 49: figs 1-2 (1993).

Navicula humboldtiana Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 156, pl. 54: figs 1-6 (2000).

Navicula incarum U.Rumrich et Lange-Bert., Iconogr. Diatomol. 9, p. 158, pl. 49: figs 7-16 (2000).
[Comment: in Metzeltin & Kusber (2001) the authors are erroneously cited as "Lange-Bert. et U.Rumrich".]

Navicula ingapirca Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 159, pl. 52: figs 3-8 (2000).

Navicula insulsa Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 142, pl. 75: figs 4-6 (1998).

Navicula irmengardis Lange-Bert., Iconogr. Diatomol. 2, p. 78, pl. 80: figs 18-23 (1996).

Navicula iserentantii Lange-Bert. et Witkowski, Iconogr. Diatomol. 7, p. 284, 433-434, pl. 115: figs 1-5 (2000).

Navicula kohlenbachii Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 160, pl. 53: figs 1-7 (2000).

Navicula kohlmaieri Lange-Bert., Iconogr. Diatomol. 6, p. 66-67, pl. 17: figs 1-6 (1999).

Navicula korzeniewskii Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 287, 434, pl. 141: figs 30-33 (2000).

Navicula krammerae Lange-Bert., Iconogr. Diatomol. 2, p. 79, pl. 80: figs 3-8 (1996). [Comment: *Navicula krammerae* on p. 79, and 278 is misspelled as "*Navicula krammeriae*".]

Navicula kuelbsii Lange-Bert., Biblioth. Diatomol. 9, p. 77, pl. 25: figs 4-7 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 78: fig. 29 and pl. 80: figs 33-35 are cited. Comment: "pl. 80: figs 33-35" is erroneously cited for pl. 80: figs 32-34.]
[Basionym of *Microcostatus kuelbsii* (Lange-Bert.) Lange-Bert.]

Navicula kuseliana Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 161, pl. 43: figs 1-8 (2000).

Navicula lacunolaciniata Lange-Bert. et Bonik, Arch. Hydrobiol. Suppl. 49 (Algol. Stud. 16), p. 313, figs 1e, 12-13 (1976).
[Basionym of *Mayamaea lacunolaciniata* (Lange-Bert. et Bonik) Lange-Bert.]

Navicula lange-bertalotii E.Reichardt, Ber. Bayer. Bot. Ges. 56, p. 176, pl. 1: figs 18-28, pl. 5: figs 1-3 (1985).
[Basionym of *Fallacia lange-bertalotii* (E.Reichardt) E.Reichardt.]

Navicula lauca U.Rumrich et Lange-Bert., Iconogr. Diatomol. 9, p. 162, pl. 51: figs 1-17, 20-23, pl. 52: figs 1-2 (2000).

Navicula leistikowii Lange-Bert., Biblioth. Diatomol. 27, p. 118, pl. 50: figs 1-8 (1993). [Comment: validation of *Navicula leistikowii* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 374, pl. 63: figs 14-20 (1991).]

Navicula lohmannii Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 163, pl. 36: figs 1-8, pl. 37: figs 1-4 (2000).

Navicula loibl-sittlerii E.Reichardt, Nova Hedwigia 47, p. 97, pl. 4: figs 21-26 (1988).

Navicula longicephala var. *vilaplanii* Lange-Bert. et Sabater, Nova Hedwigia 51, p. 180, pl. 3: figs 24-28; pl. 6: figs 7-10 (1990).
[Basionym of *Navicula vilaplanii* (Lange-Bert. et Sabater) Lange-Bert. et Sabater.]

Navicula luciae Witkowski et Lange-Bert., Iconogr. Diatomol. 6, p. 68, pl. 16: fig. 20, pl. 17: figs 7-10 (1999). [Comment: *Navicula luciae* is not documented on pl. 16: fig. 19 as cited in the 1st edition, reference corrected in the 2nd edition.]

Navicula lundii E.Reichardt, Ber. Bayer. Bot. Ges. 56, p. 180 (1985).
Replaced synonym: *Navicula cryptocephala* f. *terrestris* J.W.G.Lund, New Phytologist 45, p. 86, 87, figs 9 H-W (1946).

Navicula madeirensis Lange-Bert., Biblioth. Diatomol. 27, p. 119, pl. 52: figs 15-19 (1993). [As a part of the protologue is cited: Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), pl. 67: figs 5-10 (1991). [Comment: in Krammer & Lange-Bertalot (1991b) *Navicula madeirensis* is cited as "*Navicula* species von Madeira aff. *radiosafallax*".]

Navicula mahoodii Witkowski et E.Witon, Iconogr. Diatomol. 7, p. 289, 434-435, pl. 145: figs 23-25 (2000). [Comment: in the protologue (p. 289 and p. 434) pl. 145: figs 24-26 is erroneously referred to.]

Navicula maidanae Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 142-143, pl. 76: figs 14-15 (1998).

Navicula margalithii Lange-Bert., Biblioth. Diatomol. 9, p. 79-80, pl. 17: figs 1-3, pl. 28: figs 1-4 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 26: figs 3-4, pl. 27: 4-6 is cited.]

Navicula margaritana Witkowski, Biblioth. Diatomol. 28, p. 151, pl. 37: figs 1-9 (1994).
[Basionym of *Chamaepinnularia margaritana* (Witkowski) Witkowski.]

Navicula mediocostata E.Reichardt, Diatom Res. 3, p. 241, figs 22-29 (1988).

Navicula melanesica Lange-Bert. et Steindorf, Biblioth. Diatomol. 32, p. 119-120, pl. 61: figs 1-7, 11-13 (1995).

Navicula menisculus var. *grunowii* Lange-Bert., nom. illeg., Biblioth. Diatomol. 27, p. 120, pl. 64: figs 1-11 (1993).
[Validation of *Navicula menisculus* var. *grunowii* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 370, pl. 61: figs 10-16 (1991).]
[Nomenclatural synonym of *Navicula antonii* Lange-Bert.]

Navicula microcari Lange-Bert., Biblioth. Diatomol. 27, p. 121-122, pl. 58: figs 1-5 (1993). [Validation of *Navicula microcari* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 366, pl. 59: figs 4-7 (1991).]

Navicula microdigitradiata Lange-Bert., Biblioth. Diatomol. 27, p. 122 (1993).
Replaced synonym: *Navicula cincta* f. *minuta* Van Heurck, Type de Synopsis, Texte, p. 82 (1885).

Navicula minuscula var. *muralis* (Grunow) Lange-Bert. in Ross, Proceedings of the Sixth Symposium of Recent and Fossil Diatoms, p. 143 (1981)

Basionym: *Navicula muralis* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, pl. 14: fig. 27 (1880).
[Nomenclatural synonym of *Adlafia minuscula* var. *muralis* (Grunow) Lange-Bert.]

Navicula moenofranconica Lange-Bert., Biblioth. Diatomol. 27, p. 123-124, pl. 59: figs 9-12 (1993).
[– *Navicula moenofranconica* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 370, pl. 61: figs 1-4 (1991).]

Navicula moskalii Metzeltin, Witkowski et Lange-Bert., Iconogr. Diatomol. 4, p. 20-21, pl. 5: figs 7-11 (1996).

Navicula namibica Lange-Bert. et U.Rumrich, Biblioth. Diatomol. 27, p. 124-125, pl. 58: figs 16-24 (1993). [Comment: the authors on p. 280 (= caption of pl. 58) are cited as "Rumrich et Lange-Bert."].

Navicula nipponica (Skvortzov) Lange-Bert., Biblioth. Diatomol. 27, p. 126 (1993).
Basionym: *Navicula radiosa* f. *nipponica* Skvortzov, Philipp. J. Sci. 61, p. 273, pl. 2: fig. 2; pl. 3: fig. 20 (1936).

Navicula novaesiberica Lange-Bert., Biblioth. Diatomol. 27, p. 126-127, pl. 61: figs 1-8 (1993).
[– *Navicula novaesiberica* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 380, pl. 66: figs 5-8 (1991).]

Navicula oligotraphenta Lange-Bert. et G.Hofmann, Biblioth. Diatomol. 27, p. 128, pl. 48: figs 6-11, pl. 49: figs 3-4 (1993).
[As a part of the protologue is cited: Krammer & Lange-Bertalot (1991b), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), pl. 60: figs 16-21.] [Comment: in Krammer & Lange-Bertalot (1991b) *Navicula oligotraphenta* was documented as "*Navicula trivialis* var. *oligotraphenta* Lange-Bert. et G.Hofmann".]

Navicula paracari Lange-Bert., nom. inval., Biblioth. Diatomol. 27, p. 129, pl. 43: figs 11-24 (1993). [Comment: lacking a type and a Latin diagnosis this name is invalidly published.]

Navicula parahasta Lange-Bert. et Miho, Diatoms of Europe 2, p. 226-227, pl. 55: figs 1-9 (2001).

Navicula parinacota U.Rumrich et Lange-Bert., Iconogr. Diatomol. 9, p. 164, pl. 50: figs 1-11 (2000).

Navicula paul-schulzii Witkowski et Lange-Bert., Biblioth. Diatomol. 28, p. 154, pl. 33: figs 14-17, pl 36: figs 1, 3-4 (1994).

Navicula paupercula Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 165, pl. 55: figs 1-9 (2000).

Navicula peregrinopsis Lange-Bert. et Witkowski, Iconogr. Diatomol. 7, p. 297, 435, pl. 112: figs 5-7 (2000).

Navicula perfidissima Lange-Bert., Biblioth. Diatomol. 18, p. 162-163, pl. 70: figs 22-25', ?26-27 (1989).

Navicula phylleptosoma Lange-Bert., Iconogr. Diatomol. 6, p. 69-70, pl. 13: figs 1-5 (1999).

Navicula podzorskii Lange-Bert., Biblioth. Diatomol. 27, p. 129-130, pl. 59: figs 1-7, pl. 60: figs 3-6 (1993).

Navicula pseudanglica Lange-Bert. var. *pseudanglica*, Biblioth. Diatomol. 9, p. 86-87, pl. 23: figs 8-12 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 46: figs 13-15 is cited. Comment: "fig. 15" is cited erroneously on p. 86.]

Navicula pseudokotschyi Lange-Bert., Biblioth. Diatomol. 9, p. 88, pl. 23: figs 13-14 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), figs 16-19 is cited. Comment: This is an incomplete citation for pl. 60: figs 16-19.]

Navicula pseudolanceolata Lange-Bert., Cryptog. Algol. 1, p. 32, pl. 2: figs 1-8 (1980).

Navicula pseudolanceolata var. *densilineolata* Lange-Bert., Biblioth. Diatomol. 9, p. 89, pl. 18: figs 18-20 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 36: fig. 8' is cited.]
[Basionym of *Navicula densilineolata* (Lange-Bert.) Lange-Bert.]

Navicula pseudoppugnata Lange-Bert. et Miho, Diatoms of Europe 2, p. 227, pl. 30: figs 1-7 (2001).

Navicula quasidisjuncta Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 166, pl. 45: figs 9-13, pl. 49: figs 1-6 (2000).

Navicula quechua Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 168, pl. 46: figs 30-33 (2000).

Navicula radiosafallax Lange-Bert., Biblioth. Diatomol. 27, p. 131 (1993).
Replaced synonym: *Navicula radiosa* var. *parva* J.H.Wallace, Notul. Nat. Acad. Nat. Sci. Philadelphia 331, p. 3, pl. 1: fig. 5 (1960).

Navicula radiosiola Lange-Bert., Biblioth. Diatomol. 27, p. 132, pl. 53: figs 4-8 (1993).

- Navicula rajmundii* Witkowski, Lange-Bert. et Metzeltin, p. 300, 435-436, pl. 138: figs 16-20, pl. 139: figs 1-4 (2000).
- Navicula rakowskiae* Lange-Bert., Diatoms of Europe 2, p. 227-228, pl. 57: figs 1-6 (2001).
- Navicula recurva* (F.Meister) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 302 (2000).
Basionym: *Navicula gracilis* var. *recurva* F.Meister, Ber. Schweiz. Bot. Ges. 47, p. 262, pl. 5: fig. 6 (1937).
- Navicula reichardtiana* Lange-Bert. var. *reichardtiana*, Biblioth. Diatomol. 18, p. 163-164, pl. 98: figs 19-27 (1989).
- Navicula reichardtiana* var. *crassa* Lange-Bert. et G.Hofmann, Biblioth. Diatomol. 27, p. 133, pl. 47: figs 4-10 (1993).
[– *Navicula reichardtiana* var. *crassa* Lange-Bert. et G.Hofmann, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 384 pl. 68: figs 16-19 (1991).]
[Basionym of *Navicula associata* Lange-Bert.]
- Navicula rhynchotella* Lange-Bert., Biblioth. Diatomol. 27, p. 135, pl. 62: figs 4-6, pl. 63: figs 1-4 (1993). [Comment: validation of *Navicula rhynchotella* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 378, 380 pl. 65: figs 3-4, pl. 66: figs 3-4 (1991).]
- Navicula ricardae* Lange-Bert., Diatoms of Europe 2, p. 228, pl. 37: figs 1-7 (2001).
- Navicula riediana* Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 169, pl. 43: figs 9-14 (2000).
- Navicula riotecensis* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 143, pl. 76: figs 1-3, pl. 77: fig. 7 (1998).
- Navicula rivulorum* Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 170, pl. 55: figs 15-20 (2000).
- Navicula rolandii* Wunsam, Witkowski et Lange-Bert., Cryptog. Algol. 19, p. 88, fig. 88-93.
- Navicula saprophila* Lange-Bert. et Bonik, Arch. Hydrobiol. Suppl. 49 (Algol. Stud. 16), p. 312, figs 1c, 8-9, 29 (1976).
[Basionym of *Fistulifera saprophila* (Lange-Bert. et Bonik) Lange-Bert.]
- Navicula seibigiana* Lange-Bert., Biblioth. Diatomol. 27, p. 137, pl. 44: figs 6-15 (1993). [As a part of the protologue is cited: Krammer & Lange-Bertalot (1991b), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 374, pl. 63: figs 1-6.] [Comment: in Krammer & Lange-Bertalot (1991b) *Navicula seibigiana* was documented as "*Navicula seibigii* Lange-Bert.".]
- Navicula seibigii* Lange-Bert. nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 374, pl. 63: figs 1-6. [Comment: lacking a type and a Latin diagnosis this name was invalidly published. Later published as *Navicula seibigiana* Lange-Bert.]
- Navicula siamexilis* Lange-Bert., nom. inval., Biblioth. Diatomol. 18, p. 138, pl. 53: figs 39-42 (1989). [Comment: lacking a type and a Latin diagnosis, this name is not validly published.]
- Navicula siamlinearis* Lange-Bert., nom. inval., Biblioth. Diatomol. 18, p. 138, pl. 68: figs 39-46 (1989). [Comment: lacking a type and a Latin diagnosis, this name is not validly published.]
- Navicula sieminskiae* Lange-Bert. et Witkowski, Diatoms of Europe 2, p. 228, pl. 18: figs 8-13 (2001).
- Navicula silvahercynia* Lange-Bert., Biblioth. Diatomol. 18, p. 164-165, pl. 56: figs 11-12', pl. 98: figs 45-50 (1989).
[Comment: erroneously pl. 56: fig. 13 is cited on p. 164.]
- Navicula specululum* Witkowski, Biblioth. Diatomol. 28, p. 159, pl. 36: figs 5-12 (1994).
[Basionym of *Amicula specululum* (Witkowski) Witkowski. Type of the name of the genus *Amicula* Witkowski, Lange-Bert. et Metzeltin.]
- Navicula stachurae* Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 306, 436, pl. 142: figs 6-9 (2000).
- Navicula starmachii* Witkowski et Lange-Bert., Biblioth. Diatomol. 28, p. 160, pl. 33: figs 18-24 (1994).
- Navicula streckeriae* Lange-Bert. et Witkowski, Iconogr. Diatomol. 7, p. 307, 436-437, pl. 118: figs 8-15 (2000).
- Navicula structa* Lange-Bert. et Steindorf, Biblioth. Diatomol. 32, p. 126-127, pl. 60: figs 1-5, 7-10, pl. 62: figs 11, 27 (1995). [Comment: *Navicula structa* on p. 276 (= caption of pl. 62: fig. 7) is cited as "*Navicula spec. 10*".]
- Navicula subalpina* E.Reichardt, Diatom Res. 3, p. 241, figs 30-41 (1988).
- Navicula subconcentrica* Lange-Bert., Diatoms of Europe 2, p. 229, pl. 30: figs 8-13 (2001).
- Navicula supergregaria* Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 171, pl. 45: figs 4-8 (2000).
- Navicula suprinii* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 201, pl. 19: figs 12-16 (1998).

Navicula syvertsenii Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 21, pl. 61: figs 33-36, pl. 82: figs 5, 7 (1996). [Comment (not included in Metzeltin & Kusber (2001): pl. 61: fig. 37 is erroneously cited in the protologue. *Navicula syvertsenii* is not documented on pl. 82: fig. 6 as cited on p. 21 (see *Navicula wasmundii*).]

Navicula tectissima Lange-Bert., Iconogr. Diatomol. 3, p. 150 (1996).

Replaced synonym: *Navicula tecta* Krasske, Arch. Hydrobiol. 31, p. 41, pl. 8: figs 12-13 (1937).

Navicula tridentula var. *tenuis* (Krasske) Lange-Bert. et Willmann, Iconogr. Diatomol. 3, p. 151 (1996).

Basionym: *Navicula tenuis* Krasske, Arch. Hydrobiol. 35, p. 385, pl. 11: fig. 51 (1939).

Navicula trivialis Lange-Bert., var. *trivialis*, Cryptog. Algol. 1, p. 31, pl. 1: figs 5-9, pl. 9: figs 1-2 (1980).

Navicula trivialis var. *oligotraphenta* Lange-Bert. et G.Hofmann, nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 368, pl. 60: figs 16-21 (1991). [Comment: lacking a type and a Latin diagnosis this name was invalidly published. New name and rank as *Navicula oligotraphenta* Lange-Bert. et G.Hofmann.]

Navicula trophicatrix Lange-Bert., Iconogr. Diatomol. 2, p. 80-81, pl. 103: figs 28-31 (1996).

Navicula tropicoidea Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 22, pl. 59: figs 23-27, pl. 60: figs 6-16, pl. 83: figs 2, 4, pl. 84: figs 1-3, 5, 7 (1996). [Comment: *Navicula tropicoidea* is not documented on pl. 83: figs 1, 3, 5, 7 as cited on p. 22.]

Navicula ultratenelloides Lange-Bert., Iconogr. Diatomol. 2, p. 81-82, pl. 109: figs 12-13' (1996). [Comment: *Navicula ultratenelloides* on p. 336 (caption of pl. 109) is misspelled as "*N. subtenelloides*".]

Navicula vandamii var. *mertensiae* Lange-Bert., Iconogr. Diatomol. 7, p. 313, 437, pl. 124: figs 1-7 (2000).

Navicula vaneei Lange-Bert., Cryptog. Algol. 19, p. 89, fig. 28-32 (1998).

Navicula vekhovii Lange-Bert. et Genkal, p. 71, pl. 14: figs 1-7 (1999).

Navicula ventraloconfusa Lange-Bert., Biblioth. Diatomol. 18, p. 165, pl. 79: figs 36-39 (1989).

[Basionym of *Naviculadicta ventraloconfusa* (Lange-Bert.) Lange-Bert.]

[Basionym of *Sellaphora ventraloconfusa* (Lange-Bert.) Metzeltin et Lange-Bert.]

Navicula vilaplani (Lange-Bert. et Sabater) Lange-Bert. et Sabater, Iconogr. Diatomol. 9, p. 173 (2000).

Basionym: *Navicula longicephala* var. *vilaplani* Lange-Bert. et Sabater, Nova Hedwigia 51, p. 180, pl. 3: figs 24-28, pl. 6: figs 7-10 (1990).

Navicula viridula var. *denselineolata* E.Reichardt, Nova Hedwigia 47, p. 100, pl. 4: figs 16-18 (1988).

Navicula viridula var. *germainii* (J.H.Wallace) Lange-Bert., Biblioth. Diatomol. 27, p. 139 (1993).

Basionym: *Navicula germainii* J.H.Wallace, Notul. Nat. Acad. Nat. Sci. Philadelphia 331, p. 3, pl. 2: fig. 1 A-C (1960).

Navicula viridula var. *vulpina* (Kütz.) Lange-Bert., Cryptog. Algol. 1, p. 35 (1980).

Basionym: *Navicula vulpina* Kütz., Kieselschalige Bacillarien, p. 92, pl. 3: fig. 43 (1844).

Navicula viridulacalcis Lange-Bert. ssp. *viridulacalcis*, Iconogr. Diatomol. 9, p. 174-175, pl. 38: fig. 5 (2000). [Comment: pl. 37: figs 5-8, pl. 38: figs 1-5 are cited for *Navicula viridulacalcis* Lange-Bert. on p. 174.]

Navicula viridulacalcis ssp. *neomundana* Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 175, pl. 37: figs 5-8, pl. 38: figs 1-4 (2000). [Comment: *Navicula viridulacalcis* ssp. *neomundana* is erroneously cited on p. 314 (= caption of pl. 37: figs 5-8) as *Navicula viridulacalcis* Lange-Bert. ssp. *viridulacalcis* but the type locality for *Navicula viridulacalcis* ssp. *neomundana* Lange-Bert. et U.Rumrich is given. The author on p. 316 (= caption of pl. 38: figs 1-4) is cited as "Lange-Bert." only.]

Navicula wasmundii Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 22-23, pl. 61: figs 27-28, pl. 82: figs 4, 6 (1996). [Comment (not included in Metzeltin & Kusber (2001): *Navicula wasmundii* is not documented on pl. 82: fig. 5 as cited on p. 22 whereas pl. 82: fig. 6 is missing on p.22 (see *Navicula syvertsenii*).]

Navicula wellneri Lange-Bert., Biblioth. Diatomol. 15, p. 123-124, pl. 40: figs 28-31 (1987).

[Basionym of *Nupela wellneri* (Lange-Bert.) Lange-Bert.]

Navicula wiesneri Lange-Bert., Biblioth. Diatomol. 27, p. 140, pl. 41: figs 23-37, pl. 42: figs 3-6 (1993).

Navicula wiktoriae Witkowski et Lange-Bert., Biblioth. Diatomol. 28, p. 162-163, pl. 34: figs 1-13 (1994).

[Basionym of *Chamaepinnularia wiktoriae* (Witkowski et Lange-Bert.) Witkowski, Lange-Bert. et Metzeltin.]

Navicula wildii Lange-Bert., Biblioth. Diatomol. 27, p. 141-142, pl. 46: figs 9-13 (1993). [Validation of *Navicula wildii* Lange-Bert., nom. inval., in Krammer & Lange-Bertalot, Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (4), p. 372 pl. 62: figs 1-10 (1991).

Navicula witkowskii Lange-Bert., Iserentant et Metzeltin, Cryptog. Algol. 19, p. 89-90, fig. 7-11 (1998).

Navicula wunsamiae Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 317, 437, pl. 138: figs 9-12 (2000).

Navicula wygaschii Lange-Bert., Diatoms of Europe 2, p. 229, pl. 27: figs 1-9, pl. 69: fig. 6 (2001).

NAVICULADICTA Lange-Bert., Biblioth. Diatomol. 29, p. 83-84 (1994). [Typus generis: *Naviculadicta vaucheriae* (J.B.Petersen) Lange-Bert., Biblioth. Diatomol. 29, p. 83 (1994).]

Naviculadicta ambiguissima Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 202, pl. 20: figs 1-7 (1998).

Naviculadicta angustata (Manguin ex Kociolek et Reviere) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 52 (1998).

Basionym: *Navicula perlucida* f. *angustata* Manguin ex Kociolek et Reviere, Cryptog. Algol. 17, p. 203 (1996).

Naviculadicta bremensisformis Lange-Bert., Iconogr. Diatomol. 2, p. 82, pl. 28: figs 21-23, 24-26 (1996). [Comment: *Naviculadicta bremensisformis* on p. 174 (caption of pl. 28: figs 21-23) is cited as "*Naviculadicta* (?nov.) spec. Nr. 3 Julma Ölkky".]

Naviculadicta chilensis (Krasske) Lange-Bert., Iconogr. Diatomol. 3, p. 140 (1996).

Basionym: *Navicula ruttneri* var. *chilensis* Krasske, Arch. Hydrobiol. 35, p. 382, pl. 11: fig. 25 (1939).

Naviculadicta circumborealis Lange-Bert., Biblioth. Diatomol. 29, p. 84-85, pl. 52: figs 29-36 (1994).

Naviculadicta cosmopolitana Lange-Bert., Iconogr. Diatomol. 9, p. 177 (2000).

Replaced synonym: *Navicula arvensis* var. *major* Lange-Bert., Biblioth. Diatomol. 9, p. 56, pl. 25: figs 1-3.

Naviculadicta digituloides Lange-Bert., Iconogr. Diatomol. 2, p. 83, pl. 109: figs 8-11, pl. 115: fig. 4 (1996).

Naviculadicta digitulus (Hust.) Lange-Bert. et Metzeltin, nom. inval., Iconogr. Diatomol. 2, p. 84 (1996). [Comment: lacking a full and direct reference this name is invalidly published.]

Naviculadicta elorantana Lange-Bert., Iconogr. Diatomol. 2, p. 84, pl. 28: figs 15-20, pl. 116: figs 3-4 (1996).

Naviculadicta kaiseri Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 85, pl. 26: figs 14-18 (1996).

Naviculadicta lepida Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 203, pl. 21: figs 8-11 (1998).

Naviculadicta moratoria Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 204, pl. 22: figs 1-3 (1998).

Naviculadicta multiconfusa Lange-Bert., Biblioth. Diatomol. 29, p. 86-87, pl. 52: figs 39-43 (1994). [*Naviculadicta multiconfusa* was documented already in Lange-Bertalot & Krammer (1989), Bibl. Diatomol. 18, pl. 79: figs 36, 39 as "*Navicula ventraloconfusa* Lange-Bert.".]

Naviculadicta nagumoi Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 205, pl. 21: figs 12-15 (1998).

Naviculadicta nana (Hust.) Lange-Bert., Iconogr. Diatomol. 2, p. 85 (1996).

Basionym: *Stauroneis nana* Hust., Abh. Naturwiss. Vereine Bremen 34, p. 259, fig. 3 (1957).

Naviculadicta nanogomphonema Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 178, pl. 67: figs 1-13 (2000).

Naviculadicta obdurata (M.H.Hohn et Hellerman) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 86 (1996).

Basionym: *Navicula obdurata* M.H.Hohn et Hellerman, Trans. Amer. Microscop. Soc. 82, p. 307, pl. 4: figs 27-28 (1963).

Naviculadicta parabryophila Lange-Bert., Iconogr. Diatomol. 2, p. 86, pl. 27: figs 11-15, pl. 117: figs 5-7 (1996).

[Basionym of *Adlafia parabryophila* (Lange-Bert.) Lange-Bert.]

Naviculadicta parasemen Lange-Bert., Iconogr. Diatomol. 6, p. 72, pl. 25: figs 1-5, pl. 26: figs 1-4 (1999).

Naviculadicta pseudofallacia Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 23, pl. 50: figs 20-21, pl. 76: figs 9-12 (1996). [Comment: *Naviculadicta pseudofallacia* is not documented on pl. 76: fig. 8 as cited on p. 23. *Naviculadicta pseudofallacia* on p. 132 (caption of pl. 50: 20-21) is misprinted as "*Achnanthes* cf. *pygmaea* (Schum.) Cleve".]

Naviculadicta pseudofusticulus Lange-Bert. et Steindorf, Biblioth. Diatomol. 38, p. 205-206, pl. 21: figs 5-7 (1998). [– *Naviculadicta pseudofusticulus* Lange-Bert. et Steindorf, nom. inval., Biblioth. Diatomol. 32, p. 132, pl. 54: figs 14-15 (1995).]

Naviculadicta pseudostauron Lange-Bert., Iconogr. Diatomol. 2, p. 87, pl. 35: figs 11-18, pl. 117: figs 1-2 (1996).

[Basionym of *Kobayasia pseudostauron* (Lange-Bert.) Lange-Bert.]

[Basionym of *Kobayasiella pseudostauron* (Lange-Bert.) Lange-Bert.]

Naviculadicta raederiae Lange-Bert., Iconogr. Diatomol. 2, p. 88, pl. 83: figs 37-40, pl. 116: figs 5-6 (1996). [Comment: *Naviculadicta raederiae* on p. 88, 284, and 350 is misspelled as "*Naviculadicta raederiae*".]

Naviculadicta rionautensis U.Rumrich et Lange-Bert., Iconogr. Diatomol. 9, p. 179-180, pl. 70: 14-18; pl. 79: fig. 8 (2000).

Naviculadicta sassiana Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 144-145, pl. 75: figs 9-12 (1998).

Naviculadicta schneckenburgeri Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 207, pl. 22: figs 7-11 (1998).

Naviculadicta stauroneioides Lange-Bert., Iconogr. Diatomol. 2, p. 89, pl. 109: figs 22-27 (1996).

Naviculadicta tomesii Gerd Moser, Lange-Bert. et Metzeltin var. *tomesii*, Biblioth. Diatomol. 38, p. 208, pl. 21: figs 1-2 (1998).

Naviculadicta tomesii* var. *clagesii Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 209, pl. 21: figs 3-4 (1998).

Naviculadicta vaucheriae (J.B.Petersen) Lange-Bert., Biblioth. Diatomol. 29, p. 83 (1994).

Basionym: *Navicula vaucheriae* J.B.Petersen, Kongel. Danske Vidensk.-Selsk. Skr. (Afd. 12) 7, p. 291, fig. 13 (1915).

[*Naviculadicta vaucheriae* is the type of the name of the genus *NAVICULADICTA*.]

Naviculadicta vekhovii Lange-Bert. et Genkal, Iconogr. Diatomol. 6, p. 74, pl. 20: figs 20-21 (1999).

Naviculadicta ventraloconfusa (Lange-Bert.) Lange-Bert. var. *ventraloconfusa*, Biblioth. Diatomol. 29, p. 87 (1994).

Basionym: *Navicula ventraloconfusa* Lange-Bert., partim, Biblioth. Diatomol. 18, p. 165, pl. 79: figs 37, 38, nec 36 (1989).

[Nomenclatural synonym of *Sellaphora ventraloconfusa* (Lange-Bert.) Metzeltin et Lange-Bert.]

Naviculadicta ventraloconfusa* var. *chilensis (Krasske) Lange-Bert., Iconogr. Diatomol. 3, p. 155 (1996).

Basionym: *Navicula ventralis* var. *chilensis* Krasske, Arch. Hydrobiol. 35, p. 383, pl. 11: fig. 45 (1939).

Naviculadicta witkowskii Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 89-90, pl. 28: figs 31-35, pl. 115: fig. 2 (1996).

NAVISANTIQUA Lange-Bert. (subsection within the genus *NAVICULA* s. str.), Diatoms of Europe 2, p. 223, (2001).

[Typus subsectionis: *Navicula perturbata* Jurilj, Prirodosl. Istraz. 26, p. 141, fig. 43e (1954).]

NEIDIOPSIS Lange-Bert. et Metzeltin, Diatoms of Europe 2, p. 130 (2001). [Typus generis: *Neidiopsis vekhovii* Lange-Bert. et Genkal, Diatoms of Europe 2, p. 230 (2001). Comment: the genus *NEIDIOPSIS* Lange-Bert. et Metzeltin was invalidly published in Iconogr. Diatomol. 6, p. 76. (1999), *NEIDIOPSIS* was based on *Neidium vekhovii* and *Neidiopsis vekhovii*, both names invalid at the time of publication. The genus *NEIDIOPSIS* in Iconogr. Diatomol. 6 was originally described with a Latin diagnosis. Since the genus was not intended to be monotypic, this diagnosis was not available for validating *Neidiopsis vekhovii* in 1999.]

Neidiopsis levanderi (Hust.) Lange-Bert. et Metzeltin in Jahn et al., Lange-Bertalot-Festschrift, p. 633 (2001).

Basionym: *Navicula levanderi* Hust., Int. Rev. Gesamten Hydrobiol. Hydrogr. 43, p. 174 (1943).

[≡ *Neidium levanderi* (Hust.) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 91 (1996).]

[– *Navicula levanderi* Hust., nom. inval., A. Schmidt's Atlas der Diatomaceenkunde, pl. 397: figs 30-32 (1934).]

[– *Navicula levanderi* Hust., nom. inval., Bot. Arch. 38, p. 195 (1937).]

[– *Neidiopsis levanderi* (Hust.) Lange-Bert. et Metzeltin, nom. inval., Iconogr. Diatomol. 6, p. 77 (1999).]

[– *Neidiopsis levanderi* (Hust.) Lange-Bert. et Metzeltin, nom. inval. (Art. 33.3, St. Louis Code), Diatoms of Europe 2, p. 131 (2001).]

Neidiopsis vekhovii Lange-Bert. et Genkal, Diatoms of Europe 2, p. 230, pl. 101: fig. 22, pl. 102: figs 2-8 (2001) [Comment: validation of *Neidiopsis vekhovii* Lange-Bert. et Genkal, nom. inval., Iconogr. Diatomol. 6, p. 78 (1999). *Neidiopsis vekhovii* is the type of the genus *NEIDIOPSIS* Lange-Bert. et Metzeltin. Since *Neidiopsis vekhovii* was not validly published before 2001, the genus *NEIDIOPSIS* also was not validly published before 2001.]

Neidiopsis wulffii (J.B.Petersen) Lange-Bert. in Jahn et al., Lange-Bertalot-Festschrift, p. 633 (2001).

Basionym: *Navicula wulffii* J.B. Petersen, Meddel. Grønland 64, p. 312, fig. 1 (1924).

[– *Neidiopsis wulffii* (J.B.Petersen) Lange-Bert., nom. inval., Iconogr. Diatomol. 6, p. 78 (1999).]

[– *Neidiopsis wulffii* (J.B.Petersen) Lange-Bert., nom. inval. (Art. 33.3, St. Louis Code), Diatoms of Europe 2, p. 133 (2001).]

NEIDIUM Pfitzer

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=826].

Neidium andinum Lange-Bert., Iconogr. Diatomol. 9, p. 180-181, pl. 102: figs 5-7 (2000).

Neidium binodeforme Krammer, Biblioth. Diatomol. 9, p. 102-103, pl. 5: figs 14-15, pl. 43: figs 1-5 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 100: figs 6-8 is cited. Comment: in Krammer & Lange-Bertalot (1986), p. 640 (= caption of pl. 100: figs 6-8) *Neidium binodeforme* is cited as "*Neidium binodeformis*".]

Neidium carteri Krammer, Biblioth. Diatomol. 9, p. 104, pl. 4: figs 1-8 (1985). [Comment: *Neidium carteri* on p. 104 and p. 138 misspelled as "*Neidium carterii*".]

Neidium catarinense (Krasske) Lange-Bert., Iconogr. Diatomol. 3, p. 101 (1996).

Basionym: *Navicula catarinensis* Krasske, Svensk Bot. Tidskr. 42, p. 431, pl. 2: fig. 4 (1948).

Neidium coralieae Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 145, pl. 121: figs 11-12 (1998).

Neidium cuneatum Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 146, pl. 124: fig. 6, pl. 127: fig. 2 (1998).

Neidium demerariense Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 147, pl. 120: figs 2-7 (1998).

Neidium dubiforme Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 148, pl. 124: figs 10-13 (1998).

Neidium elongatum (Hust.) Lange-Bert., Metzeltin et Krammer, Iconogr. Diatomol. 2, p. 91 (1996).

Basionym: *Neidium dubium* var. *elongata* Hust., Arch. Hydrobiol. 43, p. 448, Text-fig. 10 (1950).

Neidium essequiobanum Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 149, pl. 120: figs 13-16 (1998).

Neidium excisum Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 149-150, pl. 123: figs 5-6, 8, pl. 126: figs 5-6 (1998).

Neidium gracile f. *simplex* Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 32, p. 137, pl. 79: fig. 2 (1995).

Neidium hamatum Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 151, pl. 121: figs 1-2 (1998).

Neidium infirmum Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 152, pl. 118: figs 1-8 (1998).

Neidium latum Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 153, pl. 119: figs 1-3, pl. 126: figs 1-4 (1998).

Neidium levanderi (Hust.) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 91 (1996).

Basionym: *Navicula levanderi* Hust., Int. Rev. Gesamten Hydrobiol. Hydrogr. 43, p. 174.

[– *Navicula levanderi* Hust., nom inval., A. Schmidt's Atlas der Diatomaceenkunde, pl. 397: figs 30-32 (1934).]

[Comment: The term "descr. Hustedt 1961 p. 98, fig. 1245" is treated as citation error for the first valid publication of *Navicula levanderi*.]

[Nomenclatural synonym of *Neidiopsis levanderi* (Hust.) Lange-Bert. et Metzeltin.]

Neidium obliquum Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 154-155, pl. 124: figs 4-5, pl. 127: figs 3-4 (1998).

Neidium subamphigomphus Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 155, pl. 120: figs 10-12 (1998).

Neidium subdubium Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 156, pl. 119: figs 6-9 (1998).

NITZSCHIA Hassall

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=823].

NITZSCHIA subgen. **DENTICULOIDEA** [see **DENTICULOIDEA**].

NITZSCHIA subgen. **GRUNOWINITZSCHIA** [see **GRUNOWINITZSCHIA**].

Nitzschia acidoclinata Lange-Bert., Nova Hedwigia 28, p. 277-278, pl. 7: figs 19-21, pl. 10: figs 1-2 (1977).

Nitzschia alexandrina (Cholnoky) Lange-Bert. et Simonsen, Bacillaria 1, p. 16 (1978).

Basionym: *Nitzschia elliptica* var. *alexandrina* Cholnoky, Hydrobiologia 11, p. 258, figs 29-30 (1958).

Nitzschia alpinobacillum Lange-Bert., Biblioth. Diatomol. 27, p. 143, pl. 114: figs 2-6, pl. 115: fig. 5 (1993). [As a part of the protologue is cited: Krammer & Lange-Bertalot (1988), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (2), pl. 78: figs 10-12.] [Comment: in Krammer & Lange-Bertalot (1988) *Nitzschia alpinobacillum* was documented as "*Nitzschia bacillum* Hustedt".]

Nitzschia andicola Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 193, pl. 158: figs 3-9, pl. 159: figs 1-6 (2000). [*Nitzschia andicola* is the type of the name of the subgenus **GRUNOWINITZSCHIA** Lange-Bert. et U.Rumrich.]

- Nitzschia angustatula* Lange-Bert., Biblioth. Diatomol. 15, p. 6-7, pl. 18: figs 1-4, ?5 (1987). [As a part of the protologue, Krammer & Lange-Bertalot (1988), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (2), pl. 3: fig. 6, pl. 36: figs 6-10 is cited.]
- Nitzschia angusteforaminata* Lange-Bert., Bacillaria 3, p. 43, pl. 2: figs 44-51, pl. 9: figs 127-132 (1980).
- Nitzschia aniae* Lange-Bert., Biblioth. Diatomol. 27, p. 144, pl. 116: figs 1-10 (1993).
- Nitzschia archibaldii* Lange-Bert., Bacillaria 3, p. 44, pl. 1: figs 14-18, pl. 7: figs 115-121 (1980).
- Nitzschia blankaartensis* Denys et Lange-Bert., Nova Hedwigia 67, p. 248, 250, fig. 1-18 (1998).
- Nitzschia brevior* (Manguin ex Kociolek et Reviere) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 53 (1998).
Basionym: *Nitzschia luzonensis* f. *brevior* Manguin ex Kociolek et Reviere, Cryptog. Algol. 17 (3), p. 212 (1996).
- Nitzschia brunoi* Lange-Bert., Iconogr. Diatomol. 2, p. 92, pl. 101: figs 11-15, pl. 102: fig. 1 (1996).
- Nitzschia chungara* U.Rumrich et Lange-Bert., Iconogr. Diatomol. 9, p. 182, pl. 166: figs 1-10 (2000).
- Nitzschia commutatoidea* Lange-Bert., Biblioth. Diatomol. 15, p. 11, pl. 21: figs 5-7 (1987). [As a part of the protologue, Krammer & Lange-Bertalot (1988), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (2), pl. 34: figs 1-4 is cited. Comment: "pl. 34: figs 1-4" is erroneously cited for pl. 43: figs 1-4.]
- Nitzschia compressa* var. *pararostrata* Lange-Bert., Iconogr. Diatomol. 3, p. 164, pl. 48: figs 6, 6' (1996).
[Basionym of *Nitzschia pararostrata* (Lange-Bert.) Lange-Bert.]
- Nitzschia dealpina* Lange-Bert. et G.Hofmann, Biblioth. Diatomol. 27, p. 146, pl. 114: figs 8-13, pl. 115: figs 1-4 (1993).
- Nitzschia dissipata* ssp. *oligotraphenta* Lange-Bert., Iconogr. Diatomol. 2, p. 93, pl. 99: figs 13-16 (1996).
- Nitzschia eglei* Lange-Bert., Biblioth. Diatomol. 15, p. 15, pl. 28: figs 1-3 (1987). [As a part of the protologue, Krammer & Lange-Bertalot (1988), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (2), pl. 10: figs 6-9 is cited.]
- Nitzschia epithemiformis* Lange-Bert., Bacillaria 3, p. 45, pl. 5: figs 105-109 (1980).
- Nitzschia fibula-fissa* Lange-Bert., Bacillaria 3, p. 46-47, pl. 3: figs 63-66, pl. 12: figs 146-148 (1980).
- Nitzschia gaertnerae* Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 94, pl. 68: figs 6-11 (1996). [Comment: *Nitzschia gaertnerae* on p. 94-95 and 254 is misspelled as "*Nitzschia gaertneriae*".]
- Nitzschia gisela* Lange-Bert., Biblioth. Diatomol. 15, p. 21, pl. 20: figs 1-6 (1987). [As a part of the protologue, Krammer & Lange-Bertalot (1988), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (2), pl. 2: figs 2-3, pl. 42: figs 7-8 is cited.]
- Nitzschia graciliformis* Lange-Bert. et Simonsen, Bacillaria 1, p. 33 (1978).
Replaced synonym: *Nitzschia graciloides* Hust., nom. illeg., Veröff. Inst. Meeresforsch. Bremerhaven 6, p. 95, figs 4-5 (1959); nec *Nitzschia graciloides* Hust., Arch. Hydrobiol. 47, p. 633, figs 10-11 (1953).
- Nitzschia hamburugiensis* Lange-Bert., Nova Hedwigia 30, p. 650-651, pl. 3: figs 27-28, pl. 4: figs 40-41 (1978).
- Nitzschia intermedia* f. *actinastroides* (Lemmerm.) Lange-Bert., Bacillaria 3, p. 48 (1980).
Basionym: *Synedra actinastroides* Lemmerm., Ber. Deutsch. Bot. Ges. 18, p. 30 (1900).
- Nitzschia kahlii* Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 183, pl. 165: figs 3-10 (2000).
- Nitzschia kanakarum* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 209 (1998).
Replaced synonym: *Nitzschia sigma* var. *fonticola* Hust., Arch. Hydrobiol. Suppl. 16, p. 486, pl. 40: figs 16-17 (1938).
- Nitzschia labella* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 210, pl. 59: figs 6-11 (1998).
- Nitzschia lacuum* Lange-Bert., Bacillaria 3, p. 49, pl. 5: figs 91-97, pl. 11: figs 138-141 (1980).
- Nitzschia leistikowii* Lange-Bert., Bacillaria 3, p. 50, pl. 1: figs 19-27, pl. 8: figs 122-126 (1980).
- Nitzschia lorenziana* var. *musciicola* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 211, pl. 59: figs 1-2 (1998).
- Nitzschia macaronesica* Lange-Bert., Biblioth. Diatomol. 27, p. 148, pl. 112: figs 6-10, pl. 113: fig. 6 (1993).
- Nitzschia machardyae* Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 184, pl. 155: figs 1-3 (2000).
- Nitzschia metzeltinii* Lange-Bert., Iconogr. Diatomol. 6, p. 78-79, pl. 72: figs 1-7 (1999).

Nitzschia monachorum Lange-Bert., Biblioth. Diatomol. 15, p. 35-36, pl. 6: figs 1-6 (1987). [As a part of the protologue, Krammer & Lange-Bertalot (1988), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (2), pl. 1: figs 6-7, pl. 57: figs 5-8 is cited.]

Nitzschia neotropica Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 185, pl. 167: figs 4-8 (2000).

Nitzschia novae-guineensis E.Reichardt, Nova Hedwigia 47, p. 110, pl. 7: figs 16-22 (1988).

Nitzschia oberheimiana U.Rumrich et Lange-Bert., Iconogr. Diatomol. 9, p. 186, pl. 168: figs 1-17 (2000).

Nitzschia pararostrata (Lange-Bert.) Lange-Bert. in Nevo & Wasser, Biodiversity of cyanoprocaryotes and algae of continental Israel, p. 320 (2000).

Basionym: *Nitzschia compressa* var. *pararostrata* Lange-Bert., Iconogr. Diatomol. 3, p. 164, pl. 48: fig. 6 (1996).

Nitzschia plioveterana Lange-Bert., Iconogr. Diatomol. 7, p. 401 (2000).

Replaced synonym: *Nitzschia angustata* var. *minuta* Krasske, Arch. Hydrobiol. 24, p. 445, fig. 20 (1932).

Nitzschia quadrangula (Kütz.) Lange-Bert., Bacillaria 3, p. 53 (1980).

Basionym: *Synedra quadrangula* Kütz., Kieselschalige Bacillarien, p. 63, pl. 3: fig. 23 (1844).

Nitzschia rectirobusta Lange-Bert., Iconogr. Diatomol. 2, p. 95 (1996).

Replaced synonym: *Nitzschia recta* var. *robusta* Hust., Arch. Hydrobiol. 43, p. 403, pl. 41: figs 2-3 (1950).

Nitzschia retusa Lange-Bert. et Bonik, Arch. Hydrobiol. Suppl. 49 (Algol. Stud. 16), p. 322, figs 1n, 22-23, 30-31 (1976).

Nitzschia rosenstockii Lange-Bert., Bacillaria 3, p. 52-53, pl. 2: figs 30-33, pl. 10: figs 133-136 (1980).

Nitzschia schwabei Krasske ex Lange-Bert., K. Külbs, T. Lauser, Nörpel-Schempp et Willmann, Iconogr. Diatomol. 3, p. 164 (1996).

Replaced synonym: *Nitzschia incognita* Krasske, nom. illeg., Arch. Hydrobiol. 38, p. 276, pl. 5: figs 2-3 (1941); non Legler & Krasske, Beih. Bot. Zentralbl. 60, p. 343, figs 3a, b (1940).

Nitzschia semirobusta Lange-Bert., Biblioth. Diatomol. 27, p. 149, pl. 120: figs 3-21, pl. 122: fig. 7, pl. 123: figs 1-7 (1993). [*Nitzschia semirobusta* is the type of the name of the subgenus *DENTICULOIDEA*.]

Nitzschia serpentiraphe Lange-Bert., Biblioth. Diatomol. 27, p. 151, pl. 125: figs 2-6, pl. 126: figs 1-9, pl. 127: figs 1-6, pl. 128: figs 1-2 (1993). [Comment: *Nitzschia serpentiraphe* is not documented on pl. 125: fig. 1 and pl. 128: figs 3-6 as suggested on p. 151.]

Nitzschia spinarum Lange-Bert., Iconogr. Diatomol. 2, p. 96, pl. 70: figs 34-35 (1996).

Nitzschia strelnikovae Lange-Bert., Genkal et Vekhov, nom. inval., Iconogr. Diatomol. 6, p. 79, pl. 70: figs 6-11 (1999). [Comment: lacking a type and a Latin diagnosis, this name is invalidly published.]

Nitzschia supralitorae Lange-Bert., Arch. Hydrobiol. Suppl. 56,2 (Algol. Stud. 23), p. 215, figs 25-27, 76-78 (1979).

Nitzschia tenerifa Lange-Bert., Biblioth. Diatomol. 27, p. 153, pl. 112: figs 1-5, pl. 113: figs 1-5 (1993).

[– *Nitzschia tenerifa* Lange-Bert., nom. inval., Biblioth. Diatomol. 15, p. 55, pl. 36: figs 11-19 (1987).]

Nitzschia tsarenkoi Lange-Bert. in Nevo & Wasser, Biodiversity of cyanoprocaryotes and algae of continental Israel, p. 325, pl. 25: figs 215-217 (2000).

Nitzschia umbonata (Ehrenb.) Lange-Bert., Nova Hedwigia 30, p. 648 (1978).

Basionym: *Navicula umbonata* Ehrenb., Infusionsthierchen, p. 177 (1838).

Nitzschia valdecostata Lange-Bert. et Simonsen, Bacillaria 1, p. 58, pl. 16: figs 260-263; pl. 18: figs 269-270 (1978).

[Comment: "Simonsen" is missing in Metzeltin & Kusber (2001).]

Nitzschia vermicularoides Lange-Bert., Iconogr. Diatomol. 9, p. 187-188, pl. 157: figs 1-4 (2000).

Nitzschia vildaryana U.Rumrich et Lange-Bert., Iconogr. Diatomol. 9, p. 189, pl. 169: figs 1-9 (2000).

Nitzschia vixnegligenda Lange-Bert. et G.Hofmann, p. 190, pl. 173: figs 1-13 (2000).

Nitzschia witkowskii Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 157, pl. 206: fig. 7 (1998).

Nitzschia wuellerstorffii Lange-Bert., Biblioth. Diatomol. 15, p. 61, pl. 1: figs 1-4 (1987). [As a part of the protologue, Krammer & Lange-Bertalot (1988), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (2), pl. 4: fig. 3, pl. 6: figs 1-6 is cited.]

NUPELA Vyverman et Compère

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=976]

[<http://128.32.109.44/cgi-bin/porp.cgi.pl?NUPELAWVYVERMANPCOMPERE1991>].

Nupela astartiella Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 157-158, pl. 72: figs 46-55 (1998).

Nupela brachysirioides Lange-Bert., Biblioth. Diatomol. 27, p. 154-155, pl. 39: figs 1-5 (1993).

Nupela butterfassiana (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 274 (1999).

Basionym: *Achnanthes butterfassiana* Lange-Bert., Biblioth. Diatomol. 18, p. 34, pl. 71: figs 15-29, pl. 72: figs 2-5 (1989).

Nupela comperei Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 211-212, pl. 31: figs 1-4 (1998).

Nupela cymbelloidea Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 158, pl. 72: figs 38-41, pl. 73: fig. 5 (1998).
[Comment: *Nupela cymbelloidea* is not documented on pl. 72: figs 39-42 as cited on p. 158. *Nupela cymbelloidea* on page 380 (= caption of pl. 73: fig. 5) is cited as "*Nupela* (?nov.) spec. Nr. 72/1".]

Nupela deformis Lange-Bert., Biblioth. Diatomol. 29, p. 76, pl. 49: figs 23-24, pl. 51: fig. 6 (1994).

Nupela encyonopsis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 159, pl. 72: figs 35-37, pl. 74: figs 3-4 (1998).

Nupela gracillima (Hust.) Lange-Bert., Biblioth. Diatomol. 27, p. 158 (1993).

Basionym: *Stauroneis gracillima* Hust., Int. Rev. Gesamten Hydrobiol. Hydrogr. 43, p. 154, figs 21-23 (1943).

Nupela imperfecta (Schim.) Lange-Bert., Iconogr. Diatomol. 6, p. 80 (1999).

Basionym: *Achnanthes imperfecta* Schim., Nova Hedwigia 30, p. 564, pl. 1: figs 1-5 (1978).

Nupela impexiformis (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 274 (1999).

Basionym: *Achnanthes impexiformis* Lange-Bert., Biblioth. Diatomol. 18, p. 68, pl. 74: figs 7-9, pl. 75: figs 2-4 (1989).

Nupela jahniae-reginae Lange-Bert. et Metzeltin, Iconogr. Diatomol. 9, p. 194-195, pl. 34: figs 1-8 (2000). [Comment: the author on p. 308 (= caption of pl. 34: figs 1-8) is cited as "Lange-Bert." only.]

Nupela lapidosa (Krasske) Lange-Bert., Iconogr. Diatomol. 6, p. 274 (1999).

Basionym: *Achnanthes lapidosa* Krasske, Bot. Arch. 27, p. 350, fig. 9 (1929).

[Comment: Erroneously the basionym author was given as "Lange-Bertalot".]

Nupela lesothensis (Schoeman) Lange-Bert., Biblioth. Diatomol. 38, p. 213 (1998).

Basionym: *Rhoicosphenia lesothensis* Schoeman, A systematic and ecological study of the diatom flora of Lesotho. Nat. Inst. Water Res., Pretoria, p. 221, figs 85-91 (1973).

[Comment: This combination was again marked as new in Iconogr. Diatomol. 9, p. 195 (2000).]

Nupela neotropica Lange-Bert., Biblioth. Diatomol. 29, p. 77, pl. 49: figs 7-9, pl. 51: figs 1-3 (1994).

Nupela obliqua Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 160, pl. 72: figs 42-45, pl. 73: figs 2-4 (1998).

Nupela paludigena (Scherer) Lange-Bert., Biblioth. Diatomol. 27, p. 158 (1993).

Basionym: *Anomoeoneis paludigena* Scherer, Diatom Res. 3, p. 149, figs 42-45, 72 (1988).

Nupela praecipua (E.Reichardt) E.Reichardt, Iconogr. Diatomol. 9, p. 196 (2000).

Basionym: *Achnanthes praecipua* E.Reichardt in Round, Proc. Ninth Int. Diatom Symp. 1986, p. 391, figs 1-24 (1988).

Nupela rhetica (Wuthrich) Lange-Bert., Biblioth. Diatomol. 27, p. 155 (1993).

Basionym: *Anomoeoneis rhetica* Wuthrich, Ergebn. Wiss. Unters. Schweiz. Nationalpark 14, p. 310, pl. 15: figs 1-5 (1975).

Nupela rumrichorum Lange-Bert., Biblioth. Diatomol. 29, p. 79, pl. 49: figs 14-22, pl. 50: figs 1-6 (1994).

Nupela schoemania Lange-Bert., Biblioth. Diatomol. 27, p. 156, pl. 36: figs 1-9, pl. 37: figs 1-6 (1993).

Nupela subpallavicinii Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 161, pl. 72: figs 23-24, pl. 73: fig. 1, pl. 74: fig. 5 (1998).

Nupela silvahercynia (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 2, p. 97 (1996).

Basionym: *Achnanthes silvahercynia* Lange-Bert., Biblioth. Diatomol. 18, p. 139, pl. 71: figs 30-37, pl. 72: figs 2-4 (1989).

Nupela tenuicephala (Hust.) Lange-Bert., Biblioth. Diatomol. 27, p. 157 (1993).

Basionym: *Navicula tenuicephala* Hust., Arch. Hydrobiol. 39, p. 113, figs 16-20 (1942).

Nupela tenuistriata (Hust.) Metzeltin et Lange-Bert. in Jahn et al., Lange-Bertalot-Festschrift, p. 633 (2001).

Basionym: *Achnanthes tenuistriata* Hust., Bot. Not. 1952, p. 384, figs 57-59 (1952).

[– *Achnanthes tenuistriata* Hust., nom. inval., A. Schmidt's Atlas der Diatomaceenkunde, pl. 410: figs 8-9 (1937).]
 [– *Nupela tenuistriata* (Hust.) Metzeltin et Lange-Bert., nom. inval., Iconogr. Diatomol. 5, p. 161 (1998).]

Nupela tropica (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 274 (1999).

Basionym: *Achnanthes tropica* Hust., Arch. Hydrobiol. Suppl. 15, p. 200, pl. 13: figs 28-32 (1937).

Nupela vyvermanii Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 213, pl. 31: figs 7-10 (1998).

Nupela wellneri (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 9, p. 196 (2000).

Basionym: *Navicula wellneri* Lange-Bert., Biblioth. Diatomol. 15, p. 123, pl. 40: figs 28-31 (1987).

Nupela zizkae Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 162, pl. 71: figs 11-19 (1998).

OESTRUPIA Heiden ex Hust.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=638].

Oestrupia ergadensis (W.Greg.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 318 (2000).

Basionym: *Pinnularia ergadensis* W.Greg., On the post-tertiary diatomaceous sand of Glenshire I and II. Micr. Soc. London 4, p. 48, pl. 5: fig. 22 (1856).

OPEPHORA P.Petit

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=641].

Opephora burchardtia Witkowski, Metzeltin et Lange-Bert., Biblioth. Diatomol. 38, p. 214, 355-356, pl. 71: fig. 3, pl. 78: figs 1-13 (1998). [Comment: *Opephora burchardtia* is not documented on pl. 71: fig. 2 as cited on p. 214 and 355.]

Opephora horstiana Witkowski, Biblioth. Diatomol. 28, p. 173, pl. 12: figs 1-8 (1994).

Opephora krumbeinii Witkowski, Witak et Stachura, Iconogr. Diatomol. 6, p. 80, pl. 3: figs 1-17, pl. 4: figs 1-3 (1999).

Opephora minuta (Cleve-Euler) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 71 (2000).

Basionym: *Opephora marina* var. *minuta* Cleve-Euler, Kongl. Svenska Vetenskapsakad. Handl. Ser. 4, p. 16, fig. 314c (1951).

ORTHOSEIRA Thwaites

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=644].

Orthoseira roeseana* var. *tropica (Krasske) Lange-Bert. et Willmann, Iconogr. Diatomol. 3, p. 94 (1996).

Basionym: *Melosira roeseana* var. *tropica* Krasske, Svensk Bot. Tidskr. 42, p. 422, pl. 1: figs 1-2 (1948).

***PARADIADESMIS* Lange-Bert. et Le Cohu (subgenus within *DIADESMIS*)**, Iconogr. Diatomol. 9, p. 108 (2000). [Typus subgeneris: *Diadensis corrugata* Lange-Bert. in Biblioth. Diatomol. 38, p. 140 (1998).]

PARLIBELLUS E.J.Cox

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=672].

Parlibellus adnatus (Heiden) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 319 (2000).

Basionym: *Libellus adnatus* Heiden in Heiden & Kolbe, Die marinen Diatomeen der Deutschen Süd-polarexpedition 1901-1903. Deutsch. Südpolar-Exped. 8, Bot (5): 450-715, p. 630, pl. 4: fig. 84 (1928).

Parlibellus bennikei Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 319, 437-438, pl. 104: figs 11-15 (2000).

Parlibellus calvus Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 24, pl. 54: figs 10-14 (1996).

Parlibellus coxiae Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 4, p. 24, pl. 54: figs 27-31, pl. 79: figs 1-2 (1996).

Parlibellus crucicula (W.Sm.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 321 (2000).

Basionym: *Stauroneis crucicula* W.Sm., Synopsis British Diatomaceae 1, p. 60, pl. 19: fig. 192 (1853).

Parlibellus cruciculoides (C.Brockmann) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 321 (2000).

Basionym: *Navicula cruciculoides* C.Brockmann, Abh. Senckenb. Naturf. Ges. 478, p. 15, pl. 4: figs 5-7 (1950).

Parlibellus ellipticus (Gallik) Lange-Bert. et Witkowski in Nevo & Wasser, Biodiversity of cyanoprocaryotes and algae of continental Israel, p. 292 (2000).

Basionym: *Navicula protracta* var. *elliptica* Gallik, Pannonhalmi Szemle 10, p. 65, fig. 7 (1935).

Parlibellus hendeyi Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 323, 438, pl. 104: figs 21-23 (2000).

Parlibellus perytii Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 323, 438-439, pl. 105: figs 14-16 (2000).

Parlibellus phoebeae Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 7, p. 324, 439, pl. 105: figs 1-9 (2000).

Parlibellus protracta (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 324 (2000).

Basionym: *Navicula protracta* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17 (2), p. 140 (1880).

Parlibellus protractoides (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 325 (2000).

Basionym: *Navicula protractoides* Hust., Abh. Naturwiss. Vereine Bremen 34, p. 283, figs 32-33 (1957).

[Comment: In Iconogr. Diatomol. 9 (2000), p. 197 this combination is again marked as new. The Authors are given as "(Hust.) Witkowski et Lange-Bert."]

Parlibellus rhombicula (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 325 (2000).

Basionym: *Navicula rhombicula* Hust., Rabenhorsts Kryptogamenflora 7 (3) 2. Lieferung, p. 327, fig. 1442 (1962).

PETRONEIS A.J.Stickle et D.G.Mann in F.E. Round, R.M. Crawford & D.G. Mann

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=372]

Petroneis glacialis (Cleve) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 326 (2000).

Basionym: *Cocconeis glacialis* Cleve, Bih. Kongl. Svenska Vetensk.-Akad. Handl. 1 (13), p. 14, pl. 3: fig. 12 (1873).

Petroneis xi (Cleve) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 330 (2000).

Basionym: *Navicula xi* Cleve, Kongl. Svenska Vetenskapsakad. Handl. 26, p. 41 (1895).

PINNULARIA Ehrenb.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=790].

Pinnularia acidophila G.Hofmann et Krammer, Diatoms of Europe 1, p. 213, pl. 14: figs 1-22 (2000).

Pinnularia acorica Krammer et Metzeltin, Diatoms of Europe 1, p. 236-237, pl. 183: figs 1-2 (2000).

Pinnularia acorica* var. *elongatirhombica Wydrzycka, Lange-Bert. et Metzeltin, Brenesia 55-56, p. 13, pl. 6: figs 1-8 (2001).

Pinnularia acorica* var. *linearis Wydrzycka, Lange-Bert. et Metzeltin, Brenesia 55-56, p. 13, pl. 5: figs 13-19, pl. 6: fig. 3 (2001).

Pinnularia acorica* var. *pumilio Wydrzycka, Lange-Bert. et Metzeltin, Brenesia 55-56, p. 13-14, pl. 5: figs 29-41, pl. 6: figs 2, 4-7 (2001).

Pinnularia acrosphaeria* var. *parva Krammer, Diatoms of Europe 1, p. 213, pl. 22: figs 3-6 (2000).

Pinnularia acrosphaeria* var. *tumidula Krammer, Diatoms of Europe 1, p. 214, pl. 21: figs 8-9 (2000). [Comment: on p. 300 (= caption of pl.21: figs 8-9) *Pinnularia acrosphaeria* var. *tumidula* erroneously is cited as "*Pinnularia acrosphaeria* var. *turgidula* Grunow ex Cleve".]

Pinnularia acuminata* var. *carteri Krammer, Diatoms of Europe 1, p. 232, pl. 145: fig. 1 (2000).

Pinnularia acuminata* var. *novaezealandiae Krammer, Diatoms of Europe 1, p. 232, pl. 148: figs 1-5 (2000).

Pinnularia alabamiae Krammer, Diatoms of Europe 1, p. 239, pl. 212: figs 1-3 (2000). [Comment: on p. 239 erroneously pl. 212: figs 4-5 is cited (pl. 212: figs 4-5 shows *Pinnularia pulchella* var. *canadensis*).]

Pinnularia alta Krammer, Diatoms of Europe 1, p. 218, pl. 57: fig. 7 (2000).

Pinnularia altiplanensis Lange-Bert., Krammer et U.Rumrich, Iconogr. Diatomol. 9, p. 197, pl. 145: figs 20-26 (2000).

Pinnularia amabilis Krammer, Diatoms of Europe 1, p. 224 pl. 86: figs 1-9 (2000).

[Taxonomic comment: *Pinnularia amabilis* is discussed by Idei & Mayama (2001) with respect to *Pinnularia acidojaponica* M.Idei et H.Kobayasi in Jahn et al.: Lange-Bertalot-Festschrift, p. 266, figs 1-29 (2001).]

Pinnularia amazonica Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 163, pl. 176: figs 4-7 (1998).

Pinnularia anglica Krammer, Biblioth. Diatomol. 26, p. 171, pl. 40: figs 21-23 (1992).

Pinnularia angusta* var. *rostrata Krammer, Diatoms of Europe 1, p. 222, pl. 83: figs 21-23 (2000).

Pinnularia angustiborealis Krammer et Lange-Bert. emend. Krammer et Lange-Bert., Diatoms of Europe 3, p. 174-175 (2002). [Comment: intended validation of *Pinnularia angustiborealis* Krammer et Lange-Bert., Diatoms of Europe 1, p. 24, 209, pl. 9: figs 5-6 (2000). The Latin diagnosis is rewritten, the name is marked again as new.]

Pinnularia angustiborealis Krammer et Lange-Bert., Diatoms of Europe 1, p. 24, 209, pl. 9: figs 5-6 (2000). [Comment: emended diagnosis in: Diatoms of Europe 3, p. 174-175 (2002).]

- Pinnularia angustistriata* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 164-165, pl. 190: figs 7-9 (1998) [Comment: on p. 164 "pl. 190: figs 6-8" is erroneously cited.]
- Pinnularia angustivalva* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 164, pl. 190: figs 10-11 (1998).
- Pinnularia appendiculata* var. *amaniana* Krammer, Diatoms of Europe 1, p. 225, pl. 91: figs 10-11 (2000).
- Pinnularia appendiculata* var. *brevistriata* Krammer, Diatoms of Europe 1, p. 225, pl. 91: fig. 33 (2000).
- Pinnularia araucanensis* Lange-Bert., U.Rumrich et Krammer, Iconogr. Diatomol. 9, p. 198, pl. 150: figs 1-18 (2000).
- Pinnularia bacilliformis* Krammer, Biblioth. Diatomol. 26, p. 171, pl. 50: figs 7-12 (1992).
- Pinnularia bertrandii* Krammer var. *bertrandii*, Diatoms of Europe 1, p. 226, pl. 91: figs 22-28 (2000).
- Pinnularia bertrandii* var. *angustefasciata* Krammer, Diatoms of Europe 1, p. 226, pl. 91: figs 29-30 (2000).
- Pinnularia bertrandii* var. *orleansiana* Krammer, Diatoms of Europe 1, p. 226, pl. 91: figs 31-32, 34-35 (2000).
- Pinnularia bleischii* Krammer, Diatoms of Europe 1, p. 235, pl. 174: figs 1-5 (2000).
- Pinnularia borealis* var. *islandica* Krammer, Diatoms of Europe 1, p. 209, pl. 6: fig. 5, pl. 7: figs 1-5 (2000).
- Pinnularia borealis* var. *subislandica* Krammer, Diatoms of Europe 1, p. 209, pl. 8: figs 1-5, ?6 (2000).
- Pinnularia borealis* var. *sublinearis* Krammer, Diatoms of Europe 1, p. 210, pl. 7: figs 14-19 (2000).
- Pinnularia borealis* var. *tenuistriata* Krammer, Diatoms of Europe 1, p. 210, pl. 6: figs 7-10 (2000).
- Pinnularia boyeriformis* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 165, pl. 184: figs 4-6 (1998).
- Pinnularia brandeliformis* Krammer, Biblioth. Diatomol. 26, p. 171, pl. 21: figs 1-4 (1992).
- Pinnularia brandeliformis* var. *linearis* Krammer, Diatoms of Europe 1, p. 227, pl. 98: fig. 4 (2000).
- Pinnularia brebissonii* var. *lancarea* Krammer, Diatoms of Europe 1, p. 216, pl. 47: fig. 6 (2000).
- Pinnularia brebissonii* var. *minuta* Krammer, Diatoms of Europe 1, p. 216-217, pl. 47: figs 7-9 (2000).
- Pinnularia brebissoniiformis* Krammer, Diatoms of Europe 1, p. 217, pl. 46: figs 1-5 (2000).
- Pinnularia bullacostae* Krammer et Lange-Bert., Iconogr. Diatomol. 6, p. 82, pl. 50: figs 1-5 (1999). [Comment: *Pinnularia bullacostae* is also documented on pl. 50: fig. 5 although not cited in the 1st edition, reference corrected in the 2nd edition].
- Pinnularia canadensis* Krammer, Diatoms of Europe 1, p. 214, pl. 27: figs 3-7 (2000).
- Pinnularia carteri* Krammer, Diatoms of Europe 1, p. 213, pl. 15: figs 3-4 (2000).
- Pinnularia castraregina* Krammer, Diatoms of Europe 1, p. 211, pl. 10: figs 9-13 (2000).
- Pinnularia certa* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 166, pl. 178: figs 12-17 (1998).
- Pinnularia cherryfieldiana* Krammer, Diatoms of Europe 1, p. 237, pl. 199: figs 1-5, pl. 200: fig. 1 (2000).
- Pinnularia claviculiformis* Metzeltin et Krammer, Diatoms of Europe 1, p. 227, pl. 99: figs 1-3 (2000).
- Pinnularia clevei* var. *angusta* Krammer, Diatoms of Europe 1, p. 231, pl. 131: fig. 5 (2000).
- Pinnularia cleveiformis* Krammer, Biblioth. Diatomol. 26, p. 171, pl. 72: figs 1-2 (1992).
- Pinnularia complexa* Krammer var. *complexa*, Diatoms of Europe 1, p. 230, pl. 129: figs 1-8 (2000).
- Pinnularia complexa* var. *minor* Krammer, Diatoms of Europe 1, p. 230-231, pl. 130: figs 1-3 (2000).
- Pinnularia confirma* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 166-167, pl. 180: figs 11-13 (1998).
- Pinnularia copulata* Krammer et Lange-Bert., Iconogr. Diatomol. 6, p. 83, pl. 54: figs 1-2 (1999).
- Pinnularia cruxarea* Krammer, Diatoms of Europe 1, p. 230, pl. 123: figs 1-7 (2000).
- Pinnularia cuneatiformis* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 167, pl. 191: figs 3-4, pl. 195: fig. 3 (1998).
- Pinnularia cuneola* E.Reichardt, Nova Hedwigia 34, p. 501, pl. 2: figs 15-20, pl. 6: fig. 23 (1981).

Pinnularia curticostata Krammer et Lange-Bert., Iconogr. Diatomol. 6, p. 84 (1999).

Replaced synonym: *Navicula curtestriata* Østrup, Botany of Iceland 2 (1) no. 5, p. 25, pl. 3: fig. 32 (1920); non *Pinnularia curtistriata* Hust. nec *Navicula curtistriata* Pant.

Pinnularia curtispinulosa Lange-Bert., Krammer et U.Rumrich, Iconogr. Diatomol. 9, p. 199, pl. 146: figs 12-21, pl. 148: figs 5-7 (2000).

Pinnularia decrescens* var. *rhombarea Krammer, Diatoms of Europe 1, p. 216, pl. 39: figs 1-3 (2000).

Pinnularia denotata Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 168, pl. 190: figs 1-3, ?4, 5 (1998).

Pinnularia discrepantia Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 169, pl. 191: figs 1-2 (1998).

Pinnularia dispar Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 170, pl. 183: figs 9-10 (1998).

Pinnularia distinguenda* var. *obtusa Krammer, Diatoms of Europe 1, p. 237, pl. 193: figs 1-5 (2000).

Pinnularia divergens* var. *ignorata Krammer, Biblioth. Diatomol. 26, p. 172, pl. 28: figs 7-8 (1992).

Pinnularia divergens* var. *media Krammer, Diatoms of Europe 1, p. 215, pl. 34: figs 1-5 (2000).

Pinnularia divergens* var. *mesoleptiformis Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 170, pl. 173: figs 1-4 (1998).

Pinnularia divergens* var. *perundulata Krammer, Diatoms of Europe 1, p. 215, pl. 32: figs 2-3 (2000).

Pinnularia divergens* var. *protracta Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 171, pl. 172: figs ?1, 2-3 (1998).

Pinnularia divergens* var. *rhombica Krammer, nom. inval., Diatoms of Europe 1, p. 215, pl. 35: figs 5-8 (2000). [Comment: the var. *rhomica* is combined with *Pinnularia divergens* on p. 215 and *Pinnularia ovata* on p. 64, hence both combinations are invalidly published.]

Pinnularia divergens* var. *rhombundulata Krammer, Diatoms of Europe 1, p. 215, pl. 39: figs 4-5 (2000).

Pinnularia divergens* var. *rostrata Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 172, pl. 171: fig. 5 (1998).

Pinnularia divergens* var. *subbacillaris Krammer, Diatoms of Europe 1, p. 215, pl. 34: figs 7, 11-12 (2000).

Pinnularia divergens* var. *subcuneata Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 172, pl. 171: figs 2-4 (1998).

Pinnularia divergens* var. *sublineariformis Krammer, Diatoms of Europe 1, p. 215, pl. 34: fig. 9 (2000).

Pinnularia divergentissima* var. *ardnamurchan Krammer, Diatoms of Europe 1 (corrected issue), p. 212 pl. 11: fig. 31 (2001, "2000"). [Comment: *Pinnularia divergentissima* var. *ardnamurchan* is not documented on pl. 11: fig. 31, as cited on p. 212 in the original issue of Diatoms of Europe 1. The given figure (pl. 11: fig. 31) is published in Diatoms of Europe 1, corrected issue (2001 "2000"), as cited on p. 212 in both issues. *Pinnularia divergentissima* var. *ardnamurchan* on p. 280 (= caption of pl. 11) erroneously is cited as "*Pinnularia divergentissima* var.".]

Pinnularia divergentissima* var. *minor Krammer, Biblioth. Diatomol. 26, p. 172, pl. 12: figs 11-13 (1992).

Pinnularia divergentissima* var. *triundulata Krammer, Diatoms of Europe 1, p. 212, pl. 11: figs 26-30 (2000). [Comment: the given figures were published in Diatoms of Europe 1, corrected issue (2001 "2000").]

Pinnularia diversa* var. *subcapitata Krammer et Lange-Bert., Diatoms of Europe 1, p. 46, 212, pl. 14: fig. 27 (2000).

Pinnularia diversarea Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 173, pl. 174: figs 2-5 (1998).

Pinnularia doloma* var. *fasciata Krammer, Diatoms of Europe 1, p. 211, pl. 58: figs 13-15 (2000). [Comment: *Pinnularia doloma* var. *fasciata* is not documented on pl. 58: figs 1-3 as cited on p. 211.]

Pinnularia dornii Metzeltin, Iconogr. Diatomol. 2, p. 97, pl. 45: figs 19-21 (1996).

Pinnularia dubitabilis* var. *minor Krammer, Diatoms of Europe 1, p. 210, pl. 7: fig. 20 (2000).

Pinnularia elegans (W.Sm.) Krammer, Biblioth. Diatomol. 26, p. 73 (1992).

Basionym: *Navicula elegans* W.Sm., Synopsis Brit. Diatomaceae 1, p. 49, pl. 16: fig. 137 (1853).

[Nomenclatural synonym of *Pinnunavis elegans* (W.Sm.) Okuno.]

[For *Pinnunavis elegans* (W.Sm.) Okuno see INA: <http://128.32.109.44/images/JOB0877/004/0007/00070004.TIF>]

Pinnularia egregia Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 173, pl. 179: figs 1-8 (1998).

Pinnularia episcopalis* var. *perelliptica Krammer, Diatoms of Europe 1, p. 216, pl. 41: fig. 6 (2000).

- Pinnularia erratica* var. *fossilis* Krammer, Diatoms of Europe 1, p. 221, pl. 73: fig. 8 (2000).
- Pinnularia esoxiformis* var. *angusta* Krammer, Diatoms of Europe 1, p. 232, pl. 141: fig. 5 (2000).
- Pinnularia esoxiformis* var. *iefeliana* Krammer, Biblioth. Diatomol. 26, p. 172, pl. 58: figs 5-9 (1992).
- Pinnularia falaiseana* Krammer, Biblioth. Diatomol. 26, p. 172, pl. 41: fig. 6 (1992).
- Pinnularia ferrophila* Krammer, Diatoms of Europe 1, p. 222-223, pl. 81: figs 1-9 (2000).
- Pinnularia fossilis* Krammer, Diatoms of Europe 1, p. 231, pl. 133: fig. 9 (2000).
- Pinnularia frauenbergiana* E.Reichardt, Ber. Bayer. Bot. Ges. 56, p. 182, pl. 2: figs 5-10 (1985).
- Pinnularia frequentis* Krammer, Diatoms of Europe 1, p. 227, pl. 104: figs 1-8 (2000).
- Pinnularia genkalii* Krammer et Lange-Bert., Diatoms of Europe 1, p. 182, 238, pl. 203: figs 1-4 (2000).
- Pinnularia gibbiformis* Krammer, Biblioth. Diatomol. 26, p. 172, pl. 48: figs 1-7 (1992).
- Pinnularia gigaformis* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 175, pl. 201: figs 1-3 (1998).
- Pinnularia globiceps* var. *angustefasciata* Krammer, Diatoms of Europe 1, p. 221, pl. 74: figs 14-15 (2000).
- Pinnularia globiceps* var. *linearis* Krammer, Diatoms of Europe 1, p. 221, pl. 72: fig. 1, pl. 74: figs 10-13 (2000). [Comment: on p. 402 (= caption of p. 72: fig. 1) *Pinnularia globiceps* var. *linearis* is erroneously cited as "*Pinnularia lundii* var. *linearis*".]
- Pinnularia graciloides* var. *latecapitata* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 176, pl. 180: figs 5-8 (1998).
- Pinnularia graciloides* var. *rumrichae* Krammer, Diatoms of Europe 1, p. 226-227, pl. 99: fig. 4 (2000).
- Pinnularia grunowii* Krammer, Diatoms of Europe 1, p. 222, pl. 77: figs 7-14, pl. 81: figs 10-17, pl. 82: figs 7-8 (2000).
- Pinnularia halophila* Krammer, Biblioth. Diatomol. 26, p. 172-173, pl. 57: figs 1-2 (1992).
- Pinnularia hemiptera* var. *brevistriata* Krammer, Iconogr. Diatomol. 5, p. 176, pl. 190: figs 12-14 (1998).
- Pinnularia hemipteriformis* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 177, pl. 174: figs 6-7 (1998).
- Pinnularia humilis* Krammer et Lange-Bert., Iconogr. Diatomol. 6, p. 84-85, pl. 52b: figs 8-14 (1999).
- Pinnularia ilkaschoenfelderae* Krammer, Diatoms of Europe 1, p. 238, pl. 204: figs 2-6 (2000). [Comment: on p. 238 pl. 204: fig. 1 is cited (pl. 204: fig. 1 shows *P. genkalii*).]
- Pinnularia infirma* Krammer, Biblioth. Diatomol. 9, p. 109-110, pl. 10: figs 16-17 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 183: figs 14-17 is cited.]
- Pinnularia instabiliformis* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 177, pl. 174: figs 8-12 (1998).
- Pinnularia instabilis* (A.W.F.Schmidt) Metzeltin, Iconogr. Diatomol. 5, p. 178 (1998).
Basionym: *Navicula instabilis* A.W.F.Schmidt in A. Schmidt's Atlas der Diatomaceenkunde, pl. 43: figs 38-40, non figs 35-37 (1875).
- Pinnularia ivaloensis* Krammer, Diatoms of Europe 1, p. 229-230, pl. 121: figs 2-6 (2000).
- Pinnularia julma* Krammer et Metzeltin, Iconogr. Diatomol. 2, p. 98, pl. 45: figs 10-13 (1996).
- Pinnularia jungii* Krammer, Diatoms of Europe 1, p. 212, pl. 58: figs 18-21 (2000).
- Pinnularia kanakarum* Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 214-215, pl. 55: figs 1-5 (1998).
- Pinnularia kittelii* Krammer, Diatoms of Europe 1, p. 221, pl. 71: figs 1-6 (2000).
- Pinnularia krammeri* Metzeltin, Iconogr. Diatomol. 2, p. 98-99, pl. 57: figs 3-8 (1996).
- Pinnularia krookiformis* Krammer, Biblioth. Diatomol. 26, p. 173, pl. 18: figs 18-21 (1992).
[Basionym of *Chamaepinnularia krookiformis* (Krammer) Lange-Bert. et Krammer.]
- Pinnularia kuetzingii* Krammer, Biblioth. Diatomol. 26, p. 173, pl. 36: figs 26-35 (1992).
- Pinnularia latarea* Krammer var. *latarea*, Diatoms of Europe 1, p. 224, pl. 84: fig. 13-15 (2000). [Comment: erroneously pl. 80: figs 1-6 is cited on p. 224. These figures show *Pinnularia latarea* var. *thermophila*.]

- Pinnularia latarea* var. *thermophila* Krammer, Diatoms of Europe 1, p. 224, pl. 80: figs 1-6 (2000).
- Pinnularia laucensis* Lange-Bert., U.Rumrich et Krammer, Iconogr. Diatomol. 9, p. 200-201, pl. 145: figs 14-19 (2000).
- Pinnularia legumiformis* Krammer, Biblioth. Diatomol. 26, p. 173, pl. 29: figs 1-4 (1992).
- Pinnularia linearis* Lange-Bert., Wydrzycka et Metzeltin, Brenesia 55-56, p. 14, pl. 7: figs 12-14 (2001).
- Pinnularia lokana* Krammer, Diatoms of Europe 1, p. 221, pl. 70: figs 1-6a (2000).
- Pinnularia lunata* Krammer et Lange-Bert., Iconogr. Diatomol. 6, p. 85, pl. 52a: figs 9-13 (1999).
- Pinnularia lundii* var. *baltica* Krammer, Biblioth. Diatomol. 26, p. 173, pl. 16: figs 5-8 (1992).
- Pinnularia lundii* var. *linearis* Krammer, Diatoms of Europe 1, p. 222, pl. 75: figs 1-6 (2000).
- Pinnularia maculata* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 179, pl. 177: figs ?2, 3-5 (1998).
- Pinnularia magnacuneata* Krammer, Diatoms of Europe 1, p. 236, pl. 181: figs 3-5 (2000).
- Pinnularia marchica* Ilka Schönfelder var. *marchica*, Diatoms of Europe 1, p. 218-219, pl. 12: figs 11-17 (2000). [Comment: *Pinnularia marchica* var. *marchica* is not documented on pl. 90: figs 4-5 as cited on p. 218.]
- Pinnularia marchica* var. *subrostrata* Krammer, Diatoms of Europe 1, p. 219, pl. 90: figs 4-5 (2000). [Comment: authorship according to p. 700.]
- Pinnularia mayeri* var. *similis* Krammer, Biblioth. Diatomol. 26, p. 173, pl. 42: fig. 1 (1992).
- Pinnularia meridiana* Metzeltin et Krammer var. *meridiana*, Iconogr. Diatomol. 5, p. 180, pl. 181: figs 1-2, 4-5 (1998).
- Pinnularia meridiana* var. *concava* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 180, pl. 181: figs 6-7 (1998). [Comment: *Pinnularia meridiana* var. *concava* is not documented on pl. 18 as referred to on p. 180.]
- Pinnularia meridiana* var. *parallela* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 181, pl. 181: fig. 3 (1998).
- Pinnularia metzeltinii* Krammer, Diatoms of Europe 1, p. 219, pl. 59: figs 8-16 (2000).
- Pinnularia microstauron* var. *angusta* Krammer, Diatoms of Europe 1, p. 217, pl. 51: figs 4-7 (2000).
- Pinnularia microstauron* var. *brasiliensis* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 181, pl. 179: figs 9-15 (1998).
- Pinnularia microstauron* var. *nonfasciata* Krammer, Diatoms of Europe 1, p. 217, pl. 52: figs 1-13, pl. 55: figs 1-2 (2000).
- Pinnularia microstauron* var. *rostrata* Krammer, Diatoms of Europe 1, p. 217, pl. 51: figs 8-18 (2000).
- Pinnularia minutiformis* Krammer, Diatoms of Europe 1, p. 210, pl. 9: figs 18-19 (2000) [non *Pinnularia minutiformis* Krammer, nom. illeg., Diatoms of Europe 1, p. 29 which was renamed as *Pinnularia minoricapitata* Krammer, Diatoms of Europe 3, p. 175 (2002).]
- Pinnularia montgomeryana* Krammer, Diatoms of Europe 1, p. 228, pl. 110: figs 6-8 (2000).
- Pinnularia neglectiformis* Krammer, Diatoms of Europe 1, p. 233, pl. 158: figs 1-8 (2000).
- Pinnularia neomajor* Krammer, Biblioth. Diatomol. 26, p. 174, pl. 62: fig. 2 (1992).
- Pinnularia neomajor* var. *cuneata* Krammer, Diatoms of Europe 1, p. 234, pl. 152: figs 1-2, 6 (2000).
- Pinnularia neomajor* var. *frequentis* Krammer, Diatoms of Europe 1, p. 234, pl. 137: figs 2-5 (2000).
- Pinnularia neomajor* var. *inflata* Krammer, Diatoms of Europe 1, p. 233-234, pl. 171: figs 1-5 (2000).
- Pinnularia nitzschiophila* U.Rumrich, Metzeltin et Lange-Bert., Iconogr. Diatomol. 9, p. 201, pl. 144: figs 1-6 (2000).
- Pinnularia nobilefasciata* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 182, pl. 176: figs 8-9, 11-16 (1998).
- Pinnularia nobilis* var. *inarensis* Krammer, Diatoms of Europe 1, p. 239, pl. 170: fig. 4 (2000).
- Pinnularia nobilis* var. *regularis* Krammer, Diatoms of Europe 1, p. 239, pl. 207: figs 1-8, pl. 208: figs 1-5, pl. 209: figs 1-6 (2000).
- Pinnularia nodosa* var. *percapitata* Krammer, Diatoms of Europe 1, p. 214, pl. 26: figs 9-12, pl. 27: figs 9-10 (2000).
- Pinnularia nodosiformis* Krammer, Diatoms of Europe 1, p. 214, pl. 27: figs 1-2 (2000).
- Pinnularia normandiana* Krammer, Diatoms of Europe 1, p. 235, pl. 176: figs 1-5 (2000).

- Pinnularia notabilis* Krammer, Biblioth. Diatomol. 9, p. 110-111, pl. 11: figs 1-5 (1985).
- Pinnularia novazealandiae* Krammer, Diatoms of Europe 1, p. 216, pl. 43: figs 3-7 (2000).
- Pinnularia obscuriformis* var. *subrostrata* Krammer, Diatoms of Europe 1, p. 213, pl. 13: fig. 37 (2000).
- Pinnularia obtusicuneata* Lange-Bert., Krammer et U.Rumrich, Iconogr. Diatomol. 9, p. 202, pl. 145: figs 9-12 (2000).
- Pinnularia oriunda* Krammer, Biblioth. Diatomol. 26, p. 174, pl. 60: figs 5-6, pl. 61: figs 1-6 (1992).
- Pinnularia oriundiformis* Krammer, Diatoms of Europe 1, p. 228, pl. 113: figs 1-4 (2000).
- Pinnularia ovata* var. *rhombica* Krammer, nom. inval., Diatoms of Europe 1, p. 64, pl. 35: figs 5-8 (2000). [Comment: the var. *rhombica* is combined with *Pinnularia ovata* on p. 64 and *Pinnularia divergens* on p. 215, hence both combinations are invalidly published.]
- Pinnularia parvulissima* Krammer, Diatoms of Europe 1, p. 220, pl. 65: figs 9-10, pl. 69: figs 7-11 (2000).
- Pinnularia patagonensis* Lange-Bert. et Metzeltin, Iconogr. Diatomol. 9, p. 203, pl. 138: figs 4-5 (2000).
- Pinnularia percuneata* Krammer var. *percuneata*, Diatoms of Europe 1, p. 232, pl. 139: figs 1-7 (2000).
- Pinnularia percuneata* var. *constricta* Krammer, Diatoms of Europe 1, p. 232, pl. 137: fig. 1 (2000).
- Pinnularia percuneata* var. *minor* Krammer, Diatoms of Europe 1, p. 232, pl. 140: figs 1-8 (2000).
- Pinnularia perinarensis* Krammer, Diatoms of Europe 1, p. 230, pl. 126: figs 4-5 (2000).
- Pinnularia perinstabilis* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 183, pl. 193: figs 1-3 (1998).
- Pinnularia perinterrupta* Krammer, Diatoms of Europe 1, p. 219, pl. 60: figs 7-14, pl. 61: fig. 7 (2000).
- Pinnularia perirrorata* Krammer, Diatoms of Europe 1, p. 211, pl. 17: figs 11-22 (2000).
- Pinnularia permontana* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 183, pl. 198: fig. 1 (1998).
- Pinnularia perspicua* Krammer, Diatoms of Europe 1, p. 229, pl. 120: figs 1-5 (2000).
- Pinnularia persudetica* Krammer var. *persudetica*, Diatoms of Europe 1, p. 227-228, pl. 108: figs 1-6, pl. 109: fig. 3 (2000).
- Pinnularia persudetica* var. *silvatica* Krammer, Diatoms of Europe 1, p. 228, pl. 109: figs 1-2, (2000). [Comment: on p. 228 pl. 109: fig. 3 is erroneously cited (pl. 109: fig. 3 shows *Pinnularia persudetica* var. *persudetica*).]
- Pinnularia petersenii* Krammer et Lange-Bert., Iconogr. Diatomol. 6, p. 86, pl. 52b: figs 4-7 (1999).
- Pinnularia pisciculus* var. *angusta* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 184, pl. 175: figs 6-12, pl. 194: figs 5-6 (1998).
- Pinnularia pluvianiformis* Krammer, Diatoms of Europe 1, p. 222, pl. 83: figs 10-12 (2000).
- Pinnularia poasana* Lange-Bert., Wydrzycka et Metzeltin, Brenesia 55-56, p. 14, pl. 8: figs 16-18 (2001).
- Pinnularia podzorskii* Krammer, Diatoms of Europe 1, p. 219-220, pl. 61: figs 1-6 (2000).
- Pinnularia polyonca* var. *stidolphii* Krammer, Diatoms of Europe 1, p. 220, pl. 95: figs 8-11 (2000).
- Pinnularia polyonca* var. *sumatrana* Krammer, Diatoms of Europe 1, p. 220, pl. 96: figs 4-7 (2000).
- Pinnularia problematica* Ant.Mayer var. *problematica*, Denkschriften Bayerischen Bot. Ges. Regensburg 22, p. 152, pl. 10: figs 4-6 (1946). [Comment: Krammer (1992) Biblioth. Diatomol. 26, p. 170, 174 intended to validate *Pinnularia problematica* Ant.Mayer. Since *Pinnularia problematica* was already validly published, Krammer typified *Pinnularia problematica* by designating a lectotype, as "holotype", documented on pl. 75: figs 1-3. A Latin diagnosis by Krammer (1992), p. 73 is treated as additional information which does not emend Mayer's German diagnosis.]
- Pinnularia problematica* var. *subundulata* Ant.Mayer, Denkschriften Bayerischen Bot. Ges. Regensburg 22, p. 152, pl. 11: fig. 1 (1946).
[Taxonomic synonym of *Pinnularia problematica* var. *problematica*, according to Krammer, Biblioth. Diatomol. 26, p. 170 (1992).]
- Pinnularia procera* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 184-185, pl. 178: figs 7-11 (1998).
- Pinnularia pseudacuminata* Metzeltin et Krammer, Iconogr. Diatomol. 2, p. 99-100, pl. 53: figs 1-4 (1996).

Pinnularia pseudocardinalis E.Reichardt, Iconogr. Diatomol. 1, p. 16-17, pl. 15: figs 1-2 (1995). [*Pinnularia pseudocardinalis* E.Reichardt, Iconogr. Diatomol. 1, (second edition), p. 33, pl. 15: figs 1-2 (1995). In the second edition *Pinnularia pseudocardinalis* E.Reichardt was again marked as new.]

Pinnularia pseudogibba Krammer var. *pseudogibba*, Biblioth. Diatomol. 26, p. 174, pl. 48: figs 8-14 (1992).

Pinnularia pseudogibba var. *rostrata* Krammer, Biblioth. Diatomol. 26, p. 174, pl. 52: fig. 1 (1992).

Pinnularia pseudoparva Krammer et Lange-Bert., Iconogr. Diatomol. 6, p. 87, pl. 54: fig. 7 (1999).

Pinnularia pseudosimilis Krammer, Biblioth. Diatomol. 26, p. 174-175, pl. 13: figs 3-5 (1992).

Pinnularia pulchella var. *canadensis* Krammer, Diatoms of Europe 1, p. 239, pl. 212: figs 4-5 (2000).

Pinnularia pulchra var. *subtilis* Schim., Biblioth. Diatomol. 9, p. 112, pl. 10: fig. 14 (1985). [As a part of the protologue, Krammer & Lange-Bertalot (1986), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (1), pl. 184: figs 7-8 is cited.]

Pinnularia rabenhorstii var. *cuneata* Krammer et Lange-Bert., Diatoms of Europe 1, p. 22, 209, pl. 5: figs 10-11 (2000).

Pinnularia rabenhorstii var. *francoia* Krammer, Diatoms of Europe 1, p. 209, pl. 5: figs 5-9, pl. 6: figs 1-4 (2000).

Pinnularia rathsbergiana Krammer, Diatoms of Europe 1, p. 235-236, pl. 1: figs 5-8, pl. 178: figs 1-6 (2000).

Pinnularia reichardtii Krammer, Diatoms of Europe 1, p. 231, pl. 130: figs 4-7 (2000).

Pinnularia renata Krammer, Biblioth. Diatomol. 26, p. 175, pl. 52: figs 2-8 (1992).

Pinnularia renatiformis Krammer, Diatoms of Europe 1, p. 218, pl. 59: fig. 25 (2000).

Pinnularia rhenohassiacae Krammer, Diatoms of Europe 1, p. 172, 236, pl. 180: figs 1-3. (2000). [Comment: *Pinnularia rhenohassiacae* is cited in the corrected issue as "*Pinnularia rhenohassiacae* Krammer et Lange-Bert.".]

Pinnularia rhenohassiacae Krammer, Diatoms of Europe 1, p. 236, pl. 180: figs 1-3 (2000).

Pinnularia rhombarea Krammer var. *rhombarea*, Iconogr. Diatomol. 5, p. 185, pl. 175: figs 1-5 (1998).

Pinnularia rhombarea var. *brevicapitata* Krammer, Diatoms of Europe 1, p. 218, pl. 56: figs 7-11 (2000).

Pinnularia rhombarea var. *halophila* Krammer, Diatoms of Europe 1, p. 217, pl. 54: figs 6-11 (2000).

Pinnularia rhombarea var. *undulata* Krammer, Diatoms of Europe 1, p. 217, pl. 56: figs 1-3 (2000).

Pinnularia rhombarea var. *variarea* Krammer, Diatoms of Europe 1, p. 218, pl. 56: figs 4-6 (2000).

Pinnularia rhomboelliptica Krammer var. *rhomboelliptica*, Diatoms of Europe 1, p. 233, pl. 149: figs 4-9, pl. 159: figs 1-5, pl. 194: fig. 2 (2000). [Comment: on p. 233 erroneously pl. 151: figs 1-3 is cited (pl. 151: figs 1-3 shows *Pinnularia rhomboelliptica* var. *rhombica*).]

Pinnularia rhomboelliptica var. *inflata* Krammer, Diatoms of Europe 1, p. 233, pl. 152: figs 3-5, pl. 153: figs 1-4 (2000). [Comment: on p. 233 erroneously pl. 159: fig. 1 is cited (pl. 159: fig. 1 shows *Pinnularia rhomboelliptica* var. *rhomboelliptica*).]

Pinnularia rhomboelliptica var. *novazealandiae* Krammer, Diatoms of Europe 1, p. 233, pl. 149: figs 1-3, pl. 150: figs 1-3 (2000). [Comment: on p. 233 the name is misspelled as "var. *novazealandia*".]

Pinnularia rhomboelliptica var. *rhombica* Krammer, nom. inval., Diatoms of Europe 1, p. 161, pl. 151: 1-3 (2000). [Comment: lacking a Latin diagnosis, the name is invalidly published.]

Pinnularia rhomboelliptica var. *zuricana* Krammer, Diatoms of Europe 1, p. 233, pl. 150: fig. 4 (2000).

Pinnularia rhombofasciata Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 174, pl. 168: figs 8-11 (1998).

Pinnularia rostratissima var. *parva* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 186, pl. 169: figs 6-9, pl. 203: figs 3, 6 (1998).

Pinnularia rostratissima var. *ventricosa* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 186-187, pl. 169: figs 1-5, pl. 203: figs 1, 4 (1998).

Pinnularia rumrichae Krammer, Diatoms of Europe 1, p. 223, pl. 84: figs 9-12 (2000).

Pinnularia rupestris var. *cuneata* Krammer, Biblioth. Diatomol. 26, p. 175, pl. 56: figs 1-3 (1992).

Pinnularia santafiorana Krammer, Diatoms of Europe 1, p. 234, pl. 169: figs 5-6 (2000).

Pinnularia saprophila Lange-Bert. et Krammer, *Diatoms of Europe* 1, p. 109, 223, pl. 85: figs 10-18 (2000). [Comment: on p. 428 (caption of pl. 85 in the original issue) the authors are cited as "Kobayashi, Lange-Bert. et Krammer", on p. 109 (corrected issue) and p. 428 (caption of pl. 85 in the corrected issue) the authors are cited as "Lange-Bert., Kobayashi et Krammer".]

[Taxonomic comment: *Pinnularia saprophila* is discussed by Idei & Mayama (2001) with respect to *Pinnularia valdetolerans* Mayama et H.Kobayasi in Jahn et al.: Lange-Bertalot-Festschrift, p. 270, figs 30-53 (2001).]

Pinnularia savona Krammer, *Diatoms of Europe* 1, p. 236, pl. 182: figs 1-4 (2000).

Pinnularia schimanskii Krammer, *Diatoms of Europe* 1, p. 210, pl. 9: figs 10-13 (2000).

Pinnularia schoenfelderi Krammer, *Biblioth. Diatomol.* 26, p. 175, pl. 15: figs 1-2, 4-9 (1992).

Pinnularia schroeterae Krammer var. *schroeterae*, *Diatoms of Europe* 1, p. 225, pl. 88: figs 1-15, 27-29; pl. 89: fig. 1 (2000). [Comment: on p. 225 erroneously all figures for *Pinnularia schroeterae* var. *schroeterae* and *Pinnularia schroeterae* var. *elliptica* are cited (pl. 88: figs 1-30, pl. 89: figs 1-6).]

Pinnularia schroeterae* var. *elliptica Krammer, *Diatoms of Europe* 1, p. 225, pl. 88: figs 16-26, 30; pl. 89: figs 2-6 (2000). [Comment: on p. 225 erroneously pl. 88: figs 27-29 is cited (pl. 88: figs 27-29 shows *Pinnularia schroeterae* var. *schroeterae*).]

Pinnularia scotica Krammer, *Diatoms of Europe* 1, p. 214-215, pl. 22: figs 7-14 (2000).

Pinnularia septentrionalis* var. *americana Krammer, *Diatoms of Europe* 1, p. 222, pl. 83: fig. 7 (2000).

Pinnularia siebenkittlii Lange-Bert. et Steindorf, *Biblioth. Diatomol.* 32, p. 142-143, pl. 69: figs 1-2 (1995).

Pinnularia similiformis Krammer, *Biblioth. Diatomol.* 26, p. 175, pl. 13: figs 9-13 (1992).

Pinnularia similiformis* var. *koreana Metzeltin et Krammer, *Diatoms of Europe* 1, p. 212-213, pl. 16: figs 3-9 (2000).

Pinnularia sinistra Krammer, *Biblioth. Diatomol.* 26, p. 175-176, pl. 37: figs 1-16 (1992).

Pinnularia spinosissima Lange-Bert., U.Rumrich et Krammer, *Iconogr. Diatomol.* 9, p. 204-205, pl. 146: figs 1-8, pl. 147: figs 1-6, pl. 148: figs 1-4 (2000).

Pinnularia staurocuneata Gerd Moser, Lange-Bert. et Metzeltin, *Biblioth. Diatomol.* 38, p. 58 (1998).
Replaced synonym: *Pinnularia subcapitata* [var. *stauroneiformis*] f. *subcuneata* Manguin ex Kociolek et Reviere, *Cryptog. Algol.* 17 (3), p. 206 (1996).

Pinnularia stidolphii Krammer, *Diatoms of Europe* 1, p. 231, pl. 134: figs 1-7, pl. 183: fig. 3 (2000).

Pinnularia stomatophora* var. *irregularis Krammer, *Diatoms of Europe* 1, p. 226, pl. 101: figs 4-10 (2000).

Pinnularia stomatophora* var. *salina Krammer, *Diatoms of Europe* 1, p. 226, pl. 99: figs 7-9 (2000).

Pinnularia streckeriae Krammer, *Diatoms of Europe* 1, p. 225, pl. 88: figs 31-41, pl. 89: figs 7-9 (2000).

Pinnularia streptoraphe* var. *parva Krammer, *Biblioth. Diatomol.* 26, p. 176, pl. 74: figs 4-5 (1992).

Pinnularia streptoraphe* var. *savona Krammer, *Diatoms of Europe* 1, p. 238, pl. 205: fig. 1 (2000).

Pinnularia subacuminata Krammer et Metzeltin, *Iconogr. Diatomol.* 5, p. 187, pl. 180: figs 9-10 (1998).

Pinnularia subacuta* var. *cuneata Metzeltin et Krammer, *Iconogr. Diatomol.* 5, p. 188, pl. 192: figs 1-2 (1998).

Pinnularia subanglica Krammer, *Diatoms of Europe* 1, p. 223, pl. 78: fig. 7, pl. 84: figs 1-7 (2000).

Pinnularia subbacillum Metzeltin et Krammer, *Iconogr. Diatomol.* 5, p. 188, pl. 180: figs 1-4 (1998).

Pinnularia subboyeri Metzeltin et Krammer, *Iconogr. Diatomol.* 5, p. 189, pl. 183: figs 11-12, pl. 199: fig. 4 (1998).
[Comment: on p. 632 (= caption of pl. 199) the authors are cited as "Krammer et Metzeltin".]

Pinnularia subcapitata* var. *elongata Krammer, *Biblioth. Diatomol.* 26, p. 108, 176, pl. 38: figs 1-11, pl. 39: figs 1-15 (1992).

Pinnularia subcapitata* var. *semicrucata Metzeltin et Krammer, *Iconogr. Diatomol.* 5, p. 190, pl. 173: figs 5-13 (1998).

Pinnularia subcapitata* var. *subrostrata Krammer, nom. inval., *Biblioth. Diatomol.* 26, p. 177, pl. 38: figs 12-18 (1992).
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Pinnularia subcommutata* var. *nonfasciata Krammer, *Diatoms of Europe* 1, p. 229, pl. 120: figs 6-11 (2000).

- Pinnularia subdivergens* Krammer, Biblioth. Diatomol. 26, p. 176, pl. 29: figs 5-7 (1992).
- Pinnularia subfalaiseana* Krammer, Diatoms of Europe 1, p. 224, pl. 78: figs 8-12 (2000).
- Pinnularia subflamma* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 190, pl. 189: figs 4-7 (1998).
- Pinnularia subgibba* Krammer var. *subgibba*, Biblioth. Diatomol. 26, p. 176, pl. 46: figs 1-4 (1992).
- Pinnularia subgibba* var. *angustarea* Krammer et Metzeltin, Iconogr. Diatomol. 5, p. 191, pl. 184: figs 1-3 (1998).
- Pinnularia subgibba* var. *capitata* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 191-192, pl. 168: fig. 7, pl. 176: figs 1-2, ?3 (1998).
- Pinnularia subgibba* var. *hustedtii* Krammer, Biblioth. Diatomol. 26, p. 177, pl. 47: fig. 1 (1992).
- Pinnularia subgibba* var. *sublinearis* Krammer, Diatoms of Europe 1, p. 220, pl. 65: fig. 14 (2000).
- Pinnularia subgibba* var. *tirolensis* Metzeltin et Krammer, Iconogr. Diatomol. 2, p. 100, pl. 86: figs 7-8 (1996).
- Pinnularia subgibba* var. *undulata* Krammer, Biblioth. Diatomol. 26, p. 176-177, pl. 46: fig. 5 (1992).
- Pinnularia subgigas* Krammer, Diatoms of Europe 1, p. 237-238, pl. 200: figs 2-5 (2000). [Comment: on p. 237 erroneously pl. 200: fig. 1 is cited (pl. 200: fig. 1 shows *Pinnularia cherryfieldiana*).]
- Pinnularia submicrostauron* S.Schroet. in Krammer, Biblioth. Diatomol. 26, p. 177, pl. 39: figs 16-25 (1992).
- Pinnularia subrhombica* Krammer var. *subrhombica*, Diatoms of Europe 1, p. 229, pl. 119: figs 8-11, pl. 154: figs 5-7 (2000).
- Pinnularia subrhombica* var. *angusta* Krammer, Diatoms of Europe 1, p. 229, pl. 119: fig. 7 (2000).
- Pinnularia subrupestris* Krammer var. *subrupestris*, Biblioth. Diatomol. 26, p. 177, pl. 53: figs 8-13 (1992).
- Pinnularia subrupestris* var. *cruciata* Krammer, Diatoms of Europe 1, p. 228, pl. 115: figs 3-5 (2000).
- Pinnularia subrupestris* var. *cuneata* Krammer, Diatoms of Europe 1, p. 228, pl. 102: figs 15-17, pl. 147: figs 6-10 (2000).
- Pinnularia subrupestris* var. *parva* Krammer, Biblioth. Diatomol. 26, p. 177, pl. 59: figs 8-9 (1992).
- Pinnularia subsilvatica* Krammer et Lange-Bert., Diatoms of Europe 1, p. 43, 212, pl. 17: figs 27-29 (2000).
- Pinnularia substreptoraphe* var. *bornholmiana* Krammer, Diatoms of Europe 1, p. 238, pl. 201: figs 1-3 (2000). [Comment: on p. 238 erroneously pl. 202: figs 1-6 is cited (pl. 202: figs 1-6 shows *Pinnularia substreptoraphe* var. *substreptoraphe*).]
- Pinnularia subumbrosa* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 192, pl. 182: figs 1-3, ?4, 5-6 (1998).
- Pinnularia tirolensis* var. *julma* Krammer, Diatoms of Europe 1, p. 220, pl. 65: figs 6, 11-13 (2000). [Comment: on p. 388 (= caption of pl. 65: figs 6, 11-13 the authors are cited as "Krammer & Metzeltin").]
- Pinnularia toscana* Krammer, Diatoms of Europe 1, p. 235, pl. 175: figs 1-4 (2000).
- Pinnularia transversiformis* Krammer, Diatoms of Europe 1, p. 237, pl. 188: figs 1-7, pl. 189: figs 1-5 (2000).
- Pinnularia tsoneka* Lange-Bert. et Metzeltin, Iconogr. Diatomol. 9, p. 205, fig. 137: 3-4, pl. 138: figs 1-3 (2000).
- Pinnularia tumescens* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 193, pl. 186: figs 1-5 (1998).
- Pinnularia tynnii* Krammer, Diatoms of Europe 1, p. 216, pl. 40: figs 4-6 (2000).
- Pinnularia umbrosa* var. *tropica* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 194, pl. 182: figs 7-9 (1998).
- Pinnularia undula* var. *mesoleptiformis* Krammer, Diatoms of Europe 1, p. 226, pl. 93: fig. 1 (2000).
- Pinnularia vaetterana* Krammer, Diatoms of Europe 1, p. 211, pl. 10: figs 6-7 (2000).
- Pinnularia vangariana* Krammer, Diatoms of Europe 1, p. 234, pl. 170: fig. 2 (2000). [On p. 600 (= caption of pl. 170: fig. 2 as "*Pinnularia* spec.", slide Zt2/64 HB is cited wheraslide Zt1/64 HB is indicated as the type.]
- Pinnularia variarea* Metzeltin et Krammer, Iconogr. Diatomol. 5, p. 194, pl. 181: figs 8-10, pl. 193: fig. 5 (1998).
- Pinnularia viridiformis* var. *minor* Krammer, Diatoms of Europe 1, p. 234, pl. 138: figs 1-5 (2000).

PINNUNAVIS Okuno

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=417].

Pinnunavis armoricana (Amossé) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 331 (2000).

Basionym: *Navicula armoricana* Amossé, Bull. Soc. Sci. Nat. Quest. 5 (2), p. 18, pl. 1: fig. 2 (1932).

[Comment: Misspelled as *Pinnuavis* in Iconogr. Diatomol. 7.]

Pinnunavis genustriata (Hust.) Lange-Bert. et Krammer, Iconogr. Diatomol. 6, p. 81 (1999).

Basionym: *Navicula genustriata* Hust., Int. Rev. Gesamten Hydrobiol. Hydrogr. 42, p. 77, figs 143-144 (1942).

[Comment: Misspelled as *Pinnuavis* in Iconogr. Diatomol. 6.]

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[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=139].

Placoneis centropunctata (Hust.) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 195 (1998).

Basionym: *Navicula centropunctata* Hust., Rabenhorsts Kryptogamenflora 7 (3) 4. Lieferung, 677, fig. 1678 (1966).

Placoneis chilensis Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 206, pl. 59: figs 8-9 (2000).

Placoneis conveniens (Hust.) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 195 (1998).

Basionym: *Navicula conveniens* Hust., Bot. Not. 105, p. 402, fig. 123 (1952).

Placoneis dacostae Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 196, pl. 77: fig. 1, pl. 90: figs 4-8 (1998). [Comment: *Placoneis dacostae* on p. 388 is misspelled as "*P. dacostei*".]

Placoneis demeraroides (Hust.) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 196 (1998).

Basionym: *Navicula demeraroides* Hust., Rabenhorsts Kryptogamenflora 7 (3) 4. Lieferung, 676, fig. 1677 (1966).

Placoneis disparilis (Hust.) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 197 (1998).

Basionym: *Navicula diparilis* Hust., Rabenhorsts Kryptogamenflora 7 (3) 4. Lieferung, p. 674, fig. 1674 (1966).

Placoneis elginensis* var. *undulata (Østrup) Lange-Bert., Iconogr. Diatomol. 3, p. 133 (1996).

Basionym: *Navicula dicephala* var. *undulata* Østrup, Botany of Iceland 2, p. 25, pl. 3: fig. 33 (1918).

[Nomenclatural synonym of *Placoneis undulata* (Østrup) Lange-Bert.]

Placoneis explanata (Hust.) Lange-Bert., Iconogr. Diatomol. 9, p. 207 (2000).

Basionym: *Navicula explanata* Hust., Schweiz. Z. Hydrol. 11, p. 202, figs 7-8 (1948).

Placoneis ignorata (Schim.) Lange-Bert., Iconogr. Diatomol. 9, p. 207 (2000).

Basionym: *Navicula ignorata* Schim., Nova Hedwigia 30, p. 585, pl. 6: figs 1-9 (1978).

Placoneis jatobensis (Krasske) Metzeltin et Lange-Bert. var. *jatobensis*, Iconogr. Diatomol. 5, p. 197 (1998).

Basionym: *Navicula jatobensis* Krasske, Arch. Hydrobiol. 44, p. 651, fig. 12 (1951).

Placoneis jatobensis* var. *capitata (Krasske) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 197 (1998).

Basionym: *Navicula jatobensis* var. *capitata* Krasske, Arch. Hydrobiol. 44, p. 651, fig. 13 (1951).

Placoneis molesta Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 197, pl. 89: figs 6-9 (1998).

Placoneis neotropica Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 198-199, pl. 89: figs 1-5 (1998).

Placoneis paraelginensis Lange-Bert., Iconogr. Diatomol. 9, p. 208, pl. 60: figs 17-20 (2000).

Placoneis pellaifu Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 210, pl. 60: figs 9-10 (2000).

Placoneis pseudodemerarae (Hust.) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 199 (1998).

Basionym: *Navicula pseudodemerarae* Hust. in A. Schmidt's Atlas der Diatomaceenkunde, pl. 370: fig. 9 (1930).

Placoneis santaremensis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 199, pl. 75: figs 18-24 (1998).

Placoneis scharfii Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 211, pl. 59: figs 5-7 (2000).

Placoneis surinamensis (Cleve) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 200 (1998).

Basionym: *Navicula surinamensis* Cleve, Kongl. Svenska Vetenskapsakad. Handl. 26, p. 9, pl. 2: fig. 1 (1895).

Placoneis tersa (Hust.) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 200 (1998).

Basionym: *Navicula tersa* Hust. in Gessner & Vareschi, Venezuela Expedition 1, p. 116, figs 38-39 (1956).

Placoneis undulata (Østrup) Lange-Bert., Iconogr. Diatomol. 9, p. 212 (2000).

Basionym: *Navicula dicephala* var. *undulata* Østrup, Botany of Island 2, p. 25, pl. 3: fig. 33 (1918).

[≡ *Placoneis elginensis* var. *undulata* (Østrup) Lange-Bert.]

Placoneis vicina (Hust.) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 201 (1998).

Basionym: *Navicula vicina* Hust., Bot. Not. 105, p. 407, fig. 128 (1952).

Placoneis zimmermannii Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 201, pl. 89: figs 10-13 (1998).

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[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=237].

Plagiogrammopsis crawfordii Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 39, 439, pl. 10: figs 37-39, pl. 12: figs 15-18 (2000).

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Planothidium apiculatum (R.M.Patrick) Lange-Bert., Iconogr. Diatomol. 6, p. 274 (1999).

Basionym: *Achnanthes lanceolata* var. *apiculata* R.M.Patrick, Farlowia 2, p. 167, pl. 1: figs 4-5 (1945).

[≡ *Achnantheiopsis apiculata* (R.M.Patrick) Lange-Bert.]

[≡ *Achnanthes lanceolata* ssp. *apiculata* (R.M.Patrick) Lange-Bert.]

Planothidium auri (Krasske) Lange-Bert., Iconogr. Diatomol. 6, p. 275 (1999).

Basionym: *Achnanthes auri* Krasske, Ann. Acad. Scient. Fenn. Ser. A. IV. Biol. 14, p. 77, pl. 86: figs 23-32 (1949).

[≡ *Achnantheiopsis auri* (Krasske) Lange-Bert.]

Planothidium biporomum (M.H.Hohn et Hellerman) Lange-Bert., Iconogr. Diatomol. 6, p. 275 (1999).

Basionym: *Achnanthes biporoma* M.H.Hohn et Hellerman, Trans. Amer. Microscop. Soc. 80, p. 273, pl. 2: figs 5-6 (1963).

[≡ *Achnantheiopsis biporoma* (M.H.Hohn et Hellerman) Lange-Bert.]

Planothidium borneolanceolatum (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 275 (1999).

Basionym: *Achnantheiopsis borneolanceolata* Lange-Bert., Arch. Protistenk. 148, p. 208, (1997).

[Comment: The date of publication is given in the 2nd edition of Iconogr. Diatomol. 6, p. 281 (1999).]

[– *Achnanthes borneolanceolata* Lange-Bert., nom. inval.]

Planothidium chilense (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 275 (1999).

Basionym: *Achnanthes chilensis* Hust., Arch. Hydrobiol. 18, p. 238, pl. 72: figs 3-4 (1927).

[≡ *Achnantheiopsis chilensis* (Hust.) Lange-Bert.]

Planothidium dauai (Foged) Lange-Bert., Iconogr. Diatomol. 6, p. 275 (1999).

Basionym: *Achnanthes dauai* Foged, Danmark Geol. Undersoeg. 84, p. 14, pl. 1: fig. 10 (1962).

[≡ *Achnantheiopsis dauai* (Foged) Lange-Bert.]

Planothidium deperditum (Giffen) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 119 (2000).

Basionym: *Cocconeis deperdita* Giffen, Bot. Mar. 18, p. 78, figs 26-28 (1975).

Planothidium diplopunctatum (Simonsen) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 119 (2000).

Basionym: *Achnanthes diplopunctata* Simonsen, Kieler Meeresforsch. 15, p. 76, pl. 10: figs 4-7 (1959).

Planothidium dispar (Cleve) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 120 (2000).

Basionym: *Achnanthes dispar* Cleve, Acta Soc. Fauna Fl. Fenn. 8 (2), p. 52, pl. 3: fig. 2 (1891).

Planothidium distinctum (Messik.) Lange-Bert., Iconogr. Diatomol. 6, p. 275 (1999).

Basionym: *Achnanthes distincta* Messik., Hydrobiologia 6, p. 32, pl. 1: fig. 2 (1954).

[≡ *Achnantheiopsis distincta* (Messik.) Lange-Bert.]

Planothidium fonticolanceolatum (Lange-Bert. et Schim.) Lange-Bert., Iconogr. Diatomol. 6, p. 275 (1999).

Basionym: *Achnanthes fonticolanceolata* Lange-Bert. et Schim., Biblioth. Diatomol. 18, p. 57, pl. 88: figs 1-7 (1989).

[≡ *Achnantheiopsis fonticolanceolata* (Lange-Bert. et Schim.) Lange-Bert.]

Planothidium frequentissimum (Lange-Bert.) Lange-Bert. var. *frequentissimum*, Iconogr. Diatomol. 6, p. 276 (1999).

Basionym: *Achnanthes lanceolata* ssp. *frequentissima* Lange-Bert., Biblioth. Diatomol. 27, p. 4 (1993).

[≡ *Achnantheiopsis frequentissima* (Lange-Bert.) Lange-Bert.]

Planothidium frequentissimum* var. *magnum (F.Straub) Lange-Bert., Iconogr. Diatomol. 6, p. 276 (1999).

Basionym: *Achnanthes rostrata* var. *magna* F.Straub, Bull. Soc. Neuchâteloise Soc. Nat. 108, p. 139, pl. 10: fig. 142, pl. 11: fig. 142b (1985).

[≡ *Achnantheiopsis frequentissima* var. *magna* (F.Straub) Lange-Bert.]

[≡ *Achnanthes lanceolata* var. *magna* (F.Straub) Lange-Bert.]

- Planothidium frequentissimum* var. *minus*** (Schulz-Danzig) Lange-Bert., Iconogr. Diatomol. 6, p. 276 (1999).
 Basionym: *Achnanthes lanceolata* [var. *elliptica*] f. *minor* Schulz-Danzig, Bot. Arch. 13, p. 191, fig. 42 (1926).
 [= *Achnanthes lanceolata* var. *minor* (Schulz-Danzig) Lange-Bert.]
 [= *Achnantheiopsis frequentissima* var. *minor* (Schulz-Danzig) Lange-Bert.]
- Planothidium granum*** (M.H.Hohn et Hellerman) Lange-Bert., Iconogr. Diatomol. 6, p. 276 (1999).
 Basionym: *Achnanthes grana* M.H.Hohn et Hellerman, Trans. Amer. Microscop. Soc. 82, p. 274, pl. 2: figs 9-10 (1963).
 [= *Achnantheiopsis grana* (M.H.Hohn et Hellerman) Lange-Bert.]
- Planothidium haynaldii*** (Schaarschm.) Lange-Bert., Iconogr. Diatomol. 6, p. 276 (1999).
 Basionym: *Achnanthes haynaldii* Schaarschm., Magyar. Növ. Lapok 5, p. 20 (1881).
 [= *Achnantheiopsis haynaldii* (Schaarschm.) Lange-Bert.]
- Planothidium heidenii*** (Schulz-Danzig) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 120 (2000).
 Basionym: *Achnanthes heidenii* Schulz-Danzig, Bot. Arch. 13, p. 190, fig. 36 (1926).
- Planothidium heteromorphum*** (Grunow) Lange-Bert., Iconogr. Diatomol. 6, p. 276 (1999).
 Basionym: *Achnanthes heteromorpha* Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17, p. 23 (1880).
 [= *Achnantheiopsis heteromorpha* (Grunow) Lange-Bert.]
- Planothidium holstii*** (Cleve) Lange-Bert., Iconogr. Diatomol. 6, p. 277 (1999).
 Basionym: *Achnanthes holstii* Cleve, Kongl. Svenska Vetenskapsakad. Handl. 18, p. 13, pl. 16: figs 6-7 (1881).
 [= *Achnantheiopsis holstii* (Cleve) Lange-Bert.]
- Planothidium infrequens*** Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 212-213, pl. 27: figs 3-9 (2000).
- Planothidium jan-marcinii*** (Witkowski, Metzeltin et Lange-Bert.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 121 (2000).
 Basionym: *Achnanthes jan-marcinii* Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 2, p. 12, pl. 50: figs 5-9 (1996).
- Planothidium joursacense*** (Héribaud) Lange-Bert., Iconogr. Diatomol. 6, p. 277 (1999).
 Basionym: *Achnanthes joursacense* Héribaud, Les Diatomées d'Auvergne, p. 89, pl. 12: fig. 20 (1903).
 [= *Achnantheiopsis joursacense* (Héribaud) Lange-Bert.]
- Planothidium lanceolatooides*** (Sovereign) Lange-Bert., Iconogr. Diatomol. 6, p. 277.
 Basionym: *Achnanthes lanceolatooides* Sovereign, Trans. Amer. Microscop. Soc. 77, p. 115, pl. 2: figs 18-19 (1958).
 [= *Achnantheiopsis lanceolatooides* (Sovereign) Lange-Bert.]
 [= *Achnanthes lanceolata* ssp. *lanceolatooides* (Sovereign) Lange-Bert.]
- Planothidium lanceolatum*** (Bréb. ex Kütz.) Lange-Bert., Iconogr. Diatomol. 6, p. 281 (1999).
 Basionym: *Achnanthes lanceolatum* Bréb. ex Kütz., Bot. Z. 4, p. 247 (1846).
- Planothidium lilljeborgei*** (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 121 (2000).
 Basionym: *Achnanthes lilljeborgei* Grunow, Bot. Zentralbl. 181, p. 68 (1881).
- Planothidium linkei*** (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 277 (1999).
 Basionym: *Achnanthes linkei* Hust., Abh. Naturwiss. Vereine Bremen 31, p. 607, figs 28-32 (1939).
 [= *Achnantheiopsis linkei* (Hust.) Lange-Bert.]
- Planothidium neglectum*** Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 213, pl. 30: figs 7-10 (2000).
- Planothidium magnificum*** (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 277 (1999).
 Basionym: *Achnanthes magnifica* Hust., Bot. Not. 4, p. 385, figs 62-65 (1952).
 [= *Achnantheiopsis magnifica* (Hust.) Lange-Bert.]
- Planothidium marinum*** (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 277 (1999).
 Basionym: *Achnanthes marina* Hust., A. Schmidt's Atlas der Diatomaceenkunde, pl. 415: figs 1-2 (1937).
 [= *Achnantheiopsis marina* (Hust.) Lange-Bert.]
- Planothidium minutissimum*** (Krasske) Lange-Bert., Iconogr. Diatomol. 6, p. 278 (1999).
 Basionym: *Achnanthes lanceolata* var. *minutissima* Krasske, Arch. Hydrobiol. 33, p. 6, figs 18-22 (1938).
 [= *Achnantheiopsis minutissima* (Krasske) Lange-Bert.]
- Planothidium miotum*** (J.R.Carter) Lange-Bert., Iconogr. Diatomol. 6, p. 278 (1999).
 Basionym: *Achnanthes miota* J.R.Carter, Nova Hedwigia Beih. 73, p. 286, pl. 1: fig. 9 (1982).
 [= *Achnantheiopsis miota* (J.R.Carter) Lange-Bert.]

Planothidium oculatum (Hust.) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 122 (2000).

Basionym: *Achnanthes oculata* Hust., Bot. Not. 1952, p. 390, figs 91-94 (1952).

Planothidium oestrupii (Cleve-Euler) Round et Bukhtiyarova ex U.Rumrich, Lange-Bert. et M.Rumrich, Iconogr. Diatomol. 9, p. 214 (2000).

Basionym: *Achnanthes lanceolata* var. *oestrupii* Cleve-Euler, Acta Forest. Fenn. 22, p. 53, pl. 1: fig. 1 (1922).

[≡ *Achnantheiopsis oestrupii* (Cleve-Euler) Lange-Bert.]

Planothidium pericavum (J.R.Carter) Lange-Bert., Iconogr. Diatomol. 6, p. 278 (1999).

Basionym: *Achnanthes pericava* J.R.Carter, Nova Hedwigia 11, p. 457, pl. 1: figs 5-8 (1966).

[≡ *Achnantheiopsis pericava* (J.R.Carter) Lange-Bert.]

Planothidium polaris (Østrup) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 123 (2000).

Basionym: *Achnanthes polaris* Østrup, Meddel. Grønland 18, p. 85, pl. 7: fig. 86 (1895).

Planothidium pseudotanense (Cleve-Euler) Lange-Bert., Iconogr. Diatomol. 6, p. 207 (1999).

Basionym: *Achnanthes pseudotanensis* Cleve-Euler, Kongl. Svenska Vetenskapsakad. Handl. 4, p. 25, fig. 524 (1953).

[≡ *Achnantheiopsis pseudotanensis* (Cleve-Euler) Lange-Bert.]

Planothidium pungens (Cleve-Euler) Lange-Bert., Iconogr. Diatomol. 6, p. 278 (1999).

Basionym: *Achnanthes elliptica* var. *pungens* Cleve-Euler, Soc. Scient. Fenn. Comm. Biol. 4, p. 38, fig. 40 (1934).

[≡ *Achnantheiopsis pungens* (Cleve-Euler) Lange-Bert.]

Planothidium quarnerensis (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 123 (2000).

Basionym: *Rhaphoneis quarnerensis* Grunow, Verh. K. K. Zool.-Bot. Ges. Wien 12, p. 381, pl. 7: fig. 24 (1862).

Planothidium rhombicuneatum Lange-Bert. et U.Rumrich, Iconogr. Diatomol. 9, p. 214-215, pl. 29: figs 1-12 (2000).

Planothidium robustius Lange-Bert., Iconogr. Diatomol. 6, p. 279 (1999).

Replaced synonym: *Achnanthes lanceolata* var. *robusta* Hust., Arch. Hydrobiol. Suppl. 15, p. 202, pl. 13: figs 47-49 (1934).

[≡ *Achnantheiopsis robustior* Lange-Bert.]

[≡ *Achnanthes lanceolata* ssp. *robusta* (Hust.) Lange-Bert.]

Planothidium robustum (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 279 (1999).

Basionym: *Achnanthes delicatula* var. *robusta* Hust., Verh. Vortr. Bremer Wiss. Ges. 8-9, p. 378, figs 1-2 (1934).

[≡ *Achnantheiopsis robusta* (Hust.) Lange-Bert.]

Planothidium rostratum (Østrup) Lange-Bert., Iconogr. Diatomol. 6, p. 279 (1999).

Basionym: *Achnanthes rostrata* Østrup, Flora of Koh Chang, Bot. Tidskr. 26, p. 253 ("1902", 1904).

[≡ *Achnantheiopsis rostrata* (Østrup) Lange-Bert.]

[≡ *Achnanthes lanceolata* ssp. *rostrata* (Østrup) Lange-Bert.]

Planothidium salvadorianum (Hust.) Lange-Bert., Iconogr. Diatomol. 6, p. 279 (1999).

Basionym: *Achnanthes salvadoriana* Hust., Com. Inst. Tropical Investig. Cient. 5-6, p. 132, fig. 1 (1953).

[≡ *Achnantheiopsis salvadoriana* (Hust.) Lange-Bert.]

Planothidium schwabei (Krasske) Lange-Bert., Iconogr. Diatomol. 9, p. 216 (2000).

Basionym: *Achnanthes schwabei* Krasske, Arch. Hydrobiol. 35, p. 371, pl. 11: figs 12-14 (1939).

Planothidium septentrionale (Østrup) Round et Bukhtiyarova ex U.Rumrich, Lange-Bert. et M.Rumrich, Iconogr. Diatomol. 9, p. 214 (2000).

Basionym: *Achnanthes septentrionalis* Østrup, Danske Diatomeer, p. 215, figs 13, 27 (1910).

[≡ *Achnantheiopsis septentrionalis* (Østrup) Lange-Bert.]

PRAVIFUSUS Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 73, 439-440 (2000). [Typus generis:

Pravifusus hyalinus Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 73, 440 (2000).]

Pravifusus hyalinus Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 73, 440, pl. 12: figs 13-14, pl. 27: figs 18-23 (2000).

[*Pravifusus hyalinus* is the type of the name of the genus *PRAVIFUSUS* Witkowski, Lange-Bert. et Metzeltin.]

PROSCHKINIA Karaeva

[<http://www.bgbm.org/scripts/asp/IAPT/ncugentry.asp?name=Proschkinia>]

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=210].

Proschkinia bulnheimii* var. *belgica (Grunow) Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 340 (2000).

Basionym: *Navicula bulnheimii* var. *belgica* Grunow in Van Heurck, Type de Synopsis, no. 113, pl. 56: fig. 10 (1885).

PSAMMOTHIDIUM Bukhtiyarova et Round

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=665].

Psammothidium acidoclinatum (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 279 (1999).

Basionym: *Achnanthes acidoclinata* Lange-Bert., Iconogr. Diatomol. 2, p. 22, pl. 21: figs 22-24, pl. 113: figs 1-7 (1996).

Psammothidium chlidanos (M.H.Hohn et Hellerman) Lange-Bert., Iconogr. Diatomol. 6, p. 279 (1999).

Basionym: *Achnanthes chlidanos* M.H.Hohn et Hellerman, Trans. Amer. Microscop. Soc. 82, p. 273, pl. 2: figs 1-2 (1963).

Psammothidium daonense (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 280 (1999).

Basionym: *Achnanthes daonensis* Lange-Bert., Biblioth. Diatomol. 18, p. 43, pl. 19: figs 27-32, pl. 25: figs 1-6 (1989).

Psammothidium perpusillum (Østrup) Lange-Bert., Iconogr. Diatomol. 6, p. 280 (1999).

Basionym: *Pinnularia perpusilla* Østrup, Danske Diatomeer, p. 96, pl. 3: fig. 62 (1910).

[≡ *Achnanthes perpusilla* (Østrup) Lange-Bert.]

Psammothidium rechtensis (Leclercq) Lange-Bert., Iconogr. Diatomol. 6, p. 280 (1999).

Basionym: *Achnanthes rechtensis* Leclercq, Bull. Jard. Bot. Nat. Belg. 53, p. 501, pl. 53: figs 1-17 (1983).

Psammothidium rosenstockii (Lange-Bert.) Lange-Bert., Iconogr. Diatomol. 6, p. 280 (1999).

Basionym: *Achnanthes rosenstockii* Lange-Bert., Biblioth. Diatomol. 18, p. 131, pl. 61: figs 1-17 (1989).

PSEUDENCYONEMA Krammer, Biblioth. Diatomol. 36, p. 156, (1997). [Typus generis: *Cymbella rossii* Krammer et Lange-Bert., Nova Hedwigia Beih. 106, p. 93-99 (1993).]

PSEUDOGOMPHONEMA Medlin

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=248].

Pseudogomphonema monicae Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 25, pl. 58: figs 11-22, pl. 80: figs 1-4, pl. 81: fig. 2 (1996).

Pseudogomphonema plinskii Witkowski, Metzeltin et Lange-Bert., Iconogr. Diatomol. 4, p. 26, pl. 58: figs 7-10, pl. 80: fig. 5, pl. 81: figs 3-6 (1996). [Comment: *Pseudogomphonema plinskii* on p. 192 (= caption of pl. 80) is cited as "(?) *Pseudogomphonema* spec.", *P. plinskii* on p. 194 (= caption of pl. 81: figs 5-6) is cited as "*Pseudogomphonema* spec."].

PULCHELLA Krammer, Diatoms of Europe 1, p. 240 (2000). [Typus generis: *Pinnularia kriegeriana* Krasske, Ber. Deutsch. Bot. Ges. 61, p. 86, fig. 17 (1943).]

Pulchella kriegeriana (Krasske) Krammer, Diatoms of Europe 1, p. 205 (2000).

Basionym: *Pinnularia kriegeriana* Krasske, Ber. Deutsch. Bot. Ges. 61, p. 86, fig. 17 (1943).

[≡ *Biremis kriegeriana* (Krasske) Lange-Bert.]

RHOICOSPHENIA Grunow

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=842]

Rhoicosphenia abbreviata (C.Agardh) Lange-Bert., Bot. Not. 133, p. 586 (1980).

Basionym: *Gomphonema abbreviatum* C.Agardh, Conspectus Criticus Diatomacearum 2, p. 34 (1831).

RHOICOSPHENULA Lange-Bert. (subgenus within GOMPHOSPHENIA), Nova Hedwigia 60, p. 244, 246, pl. 1-3. Typus subgeneris: *Gomphosphenia paradoxa* Lange-Bert., Nova Hedwigia 60, p. 246, 248 (1995).

RHOPALODIA O.Müll.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=907].

Rhopalodia brebissonii Krammer, Biblioth. Diatomol. 15, p. 76, pl. 48: figs 7-10 (1987). [As a part of the protologue, Krammer & Lange-Bertalot (1988), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (2), pl. 113: figs 7-13, pl. 113A: figs 7-12 is cited.]

Rhopalodia gibba var. *minuta* Krammer, Biblioth. Diatomol. 15, p. 79-80, pl. 45: figs 1-6 (1987). [As a part of the protologue, Krammer & Lange-Bertalot (1988), Süßwasserflora von Mitteleuropa, Bacillariophyceae 2 (2), pl. 111A: figs 2-7 is cited.]

Rhopalodia globosa (Hust.) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 215 (1998).

Basionym: *Rhopalodia gibberula* var. *globosa* Hust., Arch. Hydrobiol. Suppl. 15, p. 458, pl. 14: fig. 15 (1938).

Rhopalodia pacifica Krammer, Biblioth. Diatomol. 15, p. 82-83, pl. 61: figs 9-13 (1987).

Rhopalodia rumrichiae Krammer, Biblioth. Diatomol. 15, p. 83-84, pl. 62: figs 5-12 (1987). [Comment: on p. 83 pl. 62: fig. 5 is not referred to. *Rhopalodia rumrichiae* on p. 83 and 270 misspelled as "*Rhopalodia rumrichae*".]

Rhopalodia sculpta Krammer, Biblioth. Diatomol. 15, p. 84, pl. 62: figs 1-4 (1987).

Rhopalodia sterrenburgii Krammer, Biblioth. Diatomol. 15, p. 85, pl. 61: figs 5-8 (1987).

SELLAPHORA Mereschk.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=732].

Sellaphora alastos (M.H.Hohn et Hellerman) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 101 (1996).

Basionym: *Navicula americana* var. *alastos* M.H.Hohn et Hellerman, Trans. Amer. Microscop. Soc. 82 (3), p. 290, pl. 2: fig. 36 (1963).

Sellaphora amoena Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 202, pl. 84: fig. 4, pl. 85: figs 10-12 (1998).

Sellaphora costei Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 203, pl. 85: figs 1-3 (1998).

Sellaphora fusticulus (Østrup) Lange-Bert., Iconogr. Diatomol. 9, p. 216 (2000).

Basionym: *Navicula wittrockii* f. *fusticulus* Østrup, Danske Diatoméer, p. 36, pl. 1: fig. 19 (1910).

Sellaphora gibbula Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 204, pl. 85: figs 6-7 (1998).

Sellaphora gregoryana (Cleve et Grunow) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 204 (1998).

Basionym: *Navicula bacillum* var. *gregoryana* Cleve et Grunow, Kongl. Svenska Vetenskapsakad. Handl. 17, p. 44 (1880).

Sellaphora guyanensis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 205, pl. 100: figs 9-14, pl. 164: fig. 1 (1998).

Sellaphora illustris Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 205-206, pl. 82: figs 1-2, pl. 84: figs 5-6 (1998).

[Comment: *Sellaphora illustris* is not documented on pl. 82: figs 8-9 as cited on p. 205.]

Sellaphora lambda (Cleve) Metzeltin et Lange-Bert. var. *lambda*, Iconogr. Diatomol. 5, p. 206 (1998).

Basionym: *Navicula lambda* Cleve, Kongl. Svenska Vetenskapsakad. Handl. 26, pl. 5: fig. 19 (1894).

Sellaphora lambda var. *densistriata* Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 207, pl. 82: figs 3-4, pl. 84: fig. 7 (1998).

Sellaphora laterostellata Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 208, pl. 82: figs 5-6 (1998).

Sellaphora laterostrata Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 208-209, pl. 81: figs 21-23 (1998).

Sellaphora mutata (Krasske) Lange-Bert., Iconogr. Diatomol. 3, p. 131 (1996).

Basionym: *Navicula mutata* Krasske, Bot. Arch. 27, p. 354, fig. 16 (1929).

[– *Sellaphora mutata* (Krasske) Lange-Bert., nom. inval., Iconogr. Diatomol. 2, p. 101 (1996).]

Sellaphora parapupula Lange-Bert., Iconogr. Diatomol. 2, p. 101 (1996).

Replaced synonym: *Navicula pupula* var. *capitata* Hust., Süßwasserflora Mitteleuropas 10, p. 281, fig. 467c (1930).

Sellaphora pseudopupula (Krasske) Lange-Bert., Iconogr. Diatomol. 3, p. 138 (1996).

Basionym: *Navicula pseudopupula* Krasske, Bot. Arch. 3, p. 197, fig. 4 (1923).

Sellaphora pupula var. *densistriata* Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 102, pl. 25: fig. 9 (1996).

Sellaphora rectangularis (W.Greg.) Lange-Bert. et Metzeltin, Iconogr. Diatomol. 2, p. 102 (1996).

Basionym: *Stauroneis rectangularis* W.Greg., Quart. J. Microscop. Sci. 2, p. 99, pl. 4: fig. 17 (1854).

Sellaphora reviersii Lange-Bert. et Gerd Moser, Biblioth. Diatomol. 32, p. 135-136, pl. 63: figs 5-8 (1995).

Sellaphora riojae (Cleve) E.Reichardt, Diatom Res. 12, p. 309 (1997).

Basionym: *Navicula riojae* Cleve, Öfvers. Förh. Kongl. Svenska Vetensk.-Akad. 38 (10), p. 12, pl. 16: fig. 2 (1881).

Sellaphora subdeliberata E.Reichardt, Diatom Res. 12, p. 311 (1997).

[Comment: Intended validation of *Navicula subdeliberata* Manguin, nom. inval., and new combination with *Sellaphora*. Latin diagnosis by E.Reichardt, pl. 25: fig. 8 in Manguin, Mém. Mus. Natl. Hist. Nat., B, Bot. 12 (1964) is designated as the holotype "iconotype".]

[– *Navicula subdeliberata* Manguin, nom. inval., Mém. Mus. Natl. Hist. Nat., B, Bot. 12, p. 75, pl. 7: fig. 1, pl. 25: fig. 8 (1964).]

Sellaphora sublinearis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 209, pl. 81: figs 7-8 (1998).

Sellaphora tapajosensis Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 210, pl. 81: figs 5-6 (1998).

Sellaphora tau (Cleve) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 211 (1998).

Basionym: *Navicula tau* Cleve, Le Diatomiste 2, p. 14, pl. 1: fig. 11 (1893).

Sellaphora tenerrima Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 211, pl. 81: figs 13-15 (1998).

Sellaphora triundulata Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 212, pl. 81: figs 16-19 (1998).

Sellaphora ventraloconfusa (Lange-Bert.) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 212 (1998).

Basionym: *Navicula ventraloconfusa* Lange-Bert., Biblioth. Diatomol. 18, p. 165, pl. 79: figs 37-38 nec 36 (1989).

[≡ *Naviculadicta ventraloconfusa* (Lange-Bert.) Lange-Bert., Biblioth. Diatomol. 29, p. 87 (1994).]

Sellaphora verecundiae Lange-Bert., Biblioth. Diatomol. 29, p. 93, pl. 52: figs 19-28 (1994).

SEMINAVIS D.G.Mann

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=374]

[<http://128.32.109.44/cgi-bin/porp.cgi.pl?SEMINAVISDGMANN1990>].

Seminavis barbara Witkowski, Lange-Bert. et Metzeltin, Iconogr. Diatomol. 7, p. 348, 440, pl. 166: figs 1-4 (2000).

SIEMINSKIA Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 213-214 (1998). [Typus generis: *Sieminskia wohlenbergii* (C.Brockmann) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 215 (1998).]

Sieminskia wohlenbergii (C.Brockmann) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 215 (1998).

Basionym: *Navicula wohlenbergii* C.Brockmann, Abh. Senckenb. Naturf. Ges. 478, p. 16, pl. 4: figs 4-6 (1950).

Sieminskia zeta (Cleve) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 215 (1998).

Basionym: *Navicula zeta* Cleve, Kongl. Svenska Vetenskapsakad. Handl. 27, p. 42 (1895).

SIMONSENIA Lange-Bert., Bacillaria 2, p. 131. [Typus generis: *Simonsenia delognei* (Grunow) Lange-Bert., Bacillaria 2, p. 132 (1979).]

Simonsenia delognei (Grunow) Lange-Bert. ssp. *delognei*, Bacillaria 2, p. 132 (1979).

Basionym: *Nitzschia delognei* Grunow in Van Heurck, Synopsis des Diatomées de Belgique, Suppl. C, fig. 38 (1883).

Simonsenia delognei* ssp. *rossii Lange-Bert. et Krammer, Nova Hedwigia Beih. 106, p. 122, figs 1-10 (1993).

STAURONEIS Ehrenb.

[http://www.calacademy.org/research/diatoms/hanna_db/DtmBrwsRecs.asp?Obj=vGenRef&Atr=GenusID&Val=179].

Stauroneis acidobionta Lange-Bert. et Wydrzycka, Brenesia 55-56, p. 15, pl. 9: figs 1-10 (2001).

[– *Navicula acidobionta* Lange-Bert., nom. inval.]

Stauroneis angustilancea Metzeltin et Lange-Bert., nom. inval., Iconogr. Diatomol. 5, p. 216, pl. 98: fig. 4 (1998).

[Comment: *Stauroneis angustilancea* is lacking a type and a Latin diagnosis, hence the name is invalidly published. *Stauroneis angustilancea* was documented already in Lange-Bertalot & Metzeltin (1996), Iconogr. Diatomol. 2, p. 105 pl. 34: figs 1-3 as "*Stauroneis* (?nov.) spec. Nr. 3 Julma Ölkky".]

Stauroneis angustevittata E.Reichardt, Nova Hedwigia 47, p. 93 (1988).

Replaced synonym: *Stauroneis anceps* var. *javanica* Hust., Arch. Hydrobiol. Suppl. 14, p. 154, pl. 1: fig. 10 (1935).

Stauroneis aueri (Krasske) Lange-Bert., Iconogr. Diatomol. 3, p. 98 (1996).

Basionym: *Navicula aueri* Krasske, Ann. Acad. Sient. Fenn. Ser. A, IV. Biol. 14, p. 83, figs 8-9 (1949).

Stauroneis brevis (Dippel) Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 216 (1998).

Basionym: *Stauroneis phoenicenteron* var. *brevis* Dippel, Diatomeen der Rhein-Main-Ebene, p. 82, fig. 176 (1904).

Stauroneis cataractae Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 215-216, pl. 31: figs 11-14 (1998).

Stauroneis circumborealis Lange-Bert. et Krammer, Iconogr. Diatomol. 6, p. 90, pl. 34: figs 1-4 (1999).

Stauroneis conspicua Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 216, pl. 98: fig. 5 (1998).

Stauroneis dubitabilior Metzeltin et Lange-Bert., Iconogr. Diatomol. 5, p. 217, pl. 98: figs 16-19 (1998).

Stauroneis gracilior E.Reichardt, Iconogr. Diatomol. 1, p. 17 (1995).

Replaced synonym: *Stauroneis anceps* f. *gracilis* Rabenh., Flora europaea algarum aquae dulcis et submarinae 1, p. 247 (1864).

[Comment: in Iconogr. Diatomol. 1 (second edition) (1995), p. 34 this combination was again marked as a new.]

Stauroneis heinii Lange-Bert. et Krammer, Iconogr. Diatomol. 6, p. 91, pl. 27: figs 1-4 (1999).

Stauroneis hyperborea Lange-Bert. et Krammer, Iconogr. Diatomol. 6, p. 92 (1999).

Replaced synonym: *Stauroneis obtusa* var. *lapponica* Hust., Naturwiss. Unters. d. Sarekgebirges in Schwedisch Lappland 3 (Botanik), p. 563 (1924).

- Stauroneis koeltzii*** Metzeltin, Witkowski et Lange-Bert., Iconogr. Diatomol. 4, p. 26-27, pl. 10: figs 5-7 (1996).
- Stauroneis koniamboensis*** (Manguin ex Kociolek et Reviers) Gerd Moser, Lange-Bert. et Metzeltin, Biblioth. Diatomol. 38, p. 59 (1998).
Basionym: *Navicula koniamboensis* Manguin ex Kociolek et Reviers, Cryptog. Algol. 17 (3), p. 202 (1996).
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