Data on the diversity of diatom species from the Danube Delta – part II[1]

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Introduction

The present paper represents an updated comprehensive checklist of the available information on diatoms from the Danube Delta Biosphere Reserve. The study not refers to the species identified within the Razim-Sinoe Lake Complex.

Methods

The data analyses were carried out by checking the information available in the works published in various periodical and in the grey literature, e.g. official reports prepared for environmental authorities (TARAVSCHI *et alii*, 1956; MORUZI, 1963, 1968; ; POPESCU – MARINESCU *et alii*, 1967; OLTEAN, 1968, 1969; GODEANU *et alii*, 1973; OLTEAN *et alii*, 1989; NICOLESCU, 1992; STANCU – STOIANOVICI, 1992; Contract MCT 1992, 1993; TÖRÖK, 1997A, 1997B, 1999, 2001, 2004; TUDOR *et alii*, 1998; CĂRĂUŞ, 2002; CREMER *et alii*, 2004).

Results and discussions

The recent trend of taxonomical classification due to the new microscopic technique gives the scientist the opportunity for describing new generic taxa: *Aulacoseira, Brachysira, Craticula, Cyclostephanos, Encyonema, Encyoneopsis, Fallacia, Geissleria, Gomphocymbella, Hippodonta, Karayevia, Kolbesia, Parlibellus, Planothidium, Placoneis, Psammothidium, Pseudostaurosira, Simonsenia, Sellaphora, Staurosirella, Staurosira, Ulnaria*. As result, a large number of species originally assigned in one genus due to their morphological and ultrastructural features were included in other genera.

Finally, the separation of one species in different varieties was also re-evaluated (COX, 1979, 1987, 1988, 1993; LANGE-BERTALOT, 1979; POULIN *et alii*, 1986; WILLIAMS, 1986; WILLIAMS *et alii*, 1986, 1987; MANN *et alii*, 1991; KOCIOLEK *et alii*, 1993; LANGE-BERTALOT *et alii*, 1996; HAKANSSON, 2002).

From the aquatic ecosystem of the Danube Delta a total number of 603 diatom taxa were listed according to literature and official reports prepared for environmental authorities.

[1] Part I is published in the "Studii şi cercetări de biologie", S.N., vol. IX, Universitatea Bacău, p. 7-8.

Delta Dunării III , Tulcea, 2006, p. 85 - 108

The presence of 71 recorded genera is justified through the new micromorphological, physiological and molecular investigation that split up almost all diatom genera.

The references on diatoms reveal that 469 species out of which 72 present varieties. The highest number of varieties was recorded in case of:

- *Ulnaria ulna* (nine varieties), followed by *Cocconeis placentula*, *Cymatopleura solea*, *Diatoma vulgare* and *Gyrosigma accuminatum* with four varieties in case of each species;
- *Amphora ovalis*, *Nitzschia tryblionella*, *Placoneis placentula*, *Fragilaria parasitica*, *Rhopalodia gibba*, *Hantzschia amphioxys*, *Neidium iridis* and *Sellaphora pupula* with three varieties in case of each species.

The checklist of diatom species and its synonyms is presented in Table 1 according to curent texonomical literature and the references were it was mentioned.

Table 1

No.	SPECIES AND SYNONYMS	REFERENCES*
1	*Achanthidium exiguum* (Grunow) Czarnecki (*Achnanthes exigua* Grunow)	7, 19, 26, 27, 28
2	*Achanthidium minutissimum* (Kützing) Czarnecki (*Achnanthes minutissima* Kützing)	1, 7, 16, 19, 22, 24, 25, 26, 27, 28
3	*Achnanthes affinis* Grunow	1
4	*Achnanthes brevipes* Agardh	28
5	*Achnanthes biasolettiana* Kutzing	19
6	*Achnanthes conspicua* Mayer	1, 7, 25, 28
7	*Achnanthes delicatula* (Kützing) Grunow	19, 27, 28
8	*Achnanthes delicatissima* Simonsen	25
9	*Achnanthes dispar* Cleve	22,
10	*Achnanthes distincta* Messikommer	27, 28
11	*Achnanthes exilis* Kützing	17, 19, 27
12	*Achnanthes flexella* (Kutzing) Brun	19
13	*Achnanthes inflata* (Kützing) Grunow	19
14	*Achnanthes hungarica* Grunow	24, 27, 28
15	*Achnanthes linearis* (Smith) Grunow	19
16	*Achnathes lacunarum* Hustedt	24
17	*Achnanthes laevis* Oestrup	24, 27, 28
18	*Achnanthes montana* Krasske	27
19	*Achnanthes nodosa* Cleve	28
20	*Achnanthes pericava* Carter	28

* The numbers represent the order number of the bibliography references.

No.	SPECIES AND SYNONYMS	REFERENCES
21	*Achnanthes rupestoides* Hohn	7
22	*Achnanthes* sp. (cf. *Achnanthes saccula*) Carter	28
23	*Achnanthes* sp. (cf. *Achnanthes kryophila*) Petersen	28
24	*Achnanthes* sp. (cf. *Achnanthes crutissima*) Carter	28
25	*Achnanthes* sp. (cf. *Achnanthes johncarteri* Lange-Bertalot et Krammer)	7
26	*Actinocyclus normanii* (Gregory) Hustedt	28
27	*Amphipleura pellucida* Kützing	17, 18, 19
28	*Amphora aequalis* Krammer	28
29	*Amphora commutata* Grunow	7, 14, 15, 17, 19
30	*Amphora copulata* (Kützing) Schoemann et Archibald (*Amphora lybica* Ehrenberg)	7, 28
31	*Amphora coffeaeformis* Ag.	19
32	*Amphora inariensis* Krammer	7, 28
33	*Amphora lineolata* Ehrenberg	18,19
34	*Amphora normanii* Rabenh	19
35	*Amphora ovalis* (Kützing) Kützing	1, 7, 14, 15, 16, 17, 18, 19, 20, 24, 25, 26, 27, 28
36	*Amphora pediculus* (Kützing) Grunow	7, 27, 28
37	*Amphora perpusilla* Grunow	19
38	*Amphora robusta* Gregory	19
39	*Amphora* sp. (cf *Amphora delicatissima*) Krasske	17, 18, 28,
40	*Amphora veneta* Kützing	7, 24, 27, 28
41	*Anomoeoneis costata* (Kutz.) Hust.	18,
42	*Anomoeoneis sphaerophora* (Ehrenberg) Pfitzer	7, 17, 18, 19, 28
43	*Asterionella gracillima* (Hantzsch.) Heiberg	1, 14, 19,
44	*Asterionella formosa* Hassal	7, 14, 17, 18, 19, 20, 24, 25, 26, 27, 28
45	*Attheya zachariasii* (Brun) (*Acanthoceras zachariasii* (Brun) Simonsen)	1,17, 19, 27, 28
46	*Aulacoseira ambigua* (Grunow) Simonsen (*Melosira ambigua* (Grunow))	1, 7, 18, 19, 28
47	*Aulacoseira crenulata* (Ehrenberg) Thwaites	7
48	*Aulacoseira distans* (Ehrenberg) Simonsen (*Melosira distans* (Kützing))	1,17, 19, 28
49	*Aulacoseira granulata* (Ehrenberg) Simonsen (*Melosira granulata* (Ehrenberg) Ralfs)	1, 7, 8, 15, 16, 17, 18, 19, 20, 24, 26, 27, 28
50	*Aulacoseira italica* (Ehrenberg) Simonsen (*Melosira italica* (Kützing))	7, 15, 17, 19, 20, 22, 28
51	*Aulacoseira muzzanensis* (Meister) Krammer (*Melosira granulata* var. *muzzanensis* Bethge)	7, 28

No.	SPECIES AND SYNONYMS	REFERENCES
52	*Aulacoseira* sp. (cf. *Aulacoseira laevissima* (Grunow) Krammer)	7
53	*Aulacoseira* sp. (cf. *Aulacoseira pfaffiana* (Reinsch) Krammer)	7
54	*Aulacoseira subartica* (Müller) Harworth	7
55	*Bacillaria paradoxa* Gmelin	15, 17, 19, 20, 27, 28
56	*Brachysira styriaca* (Grunow) Ross (*Anomoeoneis styriaca* (Grunow) Hustedt)	7
57	*Brachysira vitrea* (Grunow) Ross (*Anomoeoneis vitrea* (Grunow) Ross)	7
58	*Caloneis amphisbaena* (Bory) Cleve	7, 18, 19, 20, 22, 27, 28
59	*Caloneis bacillum* (Grunow) Cleve	7,19, 27, 28
60	*Caloneis formosa* (GregryCleve	19
61	*Caloneis schumanniana* (Grunow) Cleve	19
62	*Caloneis silicula* (Ehrenberg) Cleve	1, 7, 17,18, 19, 27, 28
63	*Caloneis zachariasii* Reich	1
64	*Campylodiscus clipeus* Ehrenberg	17, 18, 19, 20, 28
65	*Campylodiscus echeneis* Ehrenberg	18, 19.
66	*Campylodiscus noricus* Ehrenberg	1, 19
67	*Ceratoneis arcus* (Ehrenberg) Kützing	19, 20
68	*Chaetoceros wighamii* Brightw.	19
69	*Cocconeis neothumensis* Krammer	7
70	*Cocconeis pediculus* Ehrenberg	7, 8, 14, 15, 17, 18, 19, 28
71	*Cocconeis placentula* Ehrenberg	1, 16, 17, 18, 19, 20, 22, 24, 25, 27
72	*Coscinodiscus kützingiana* Thwaites	14, 19
73	*Craticula cuspidata* (Kützing) Mann (*Navicula cuspidata* (Kützing) Kützing)	1, 7, 17, 18, 19,24, 27, 28
74	*Cyclostephanos dubius* (Fricke) Round (*Stephanodiscus dubius* (Fricke)	7, 28
75	*Cyclostephanos invisitatus* (Hohn et Hellerman) Theriot, Stoermer et Håkansson	7
76	*Cyclotella areolata* Hustedt	27
77	*Cyclotella atomus* Hustedt	7, 28
78	*Cyclotella bodanica* Eulenst.	1, 19
79	*Cyclotella chaetoceros* Lemm.	1, 16, 19, 20, 22, 27
80	*Cyclotella distinguenda* Hustedt	27
81	*Cyclotella krammeri* Hakansson	7
82	*Cyclotella kutzingiana* Thwaites	1, 8, 14, 16, 17, 19, 22, 28
83	*Cyclotella meneghiniana* Kützing	1, 7, 15, 16, 17,18, 19, 20, 22, 24, 27, 28

No.	SPECIES AND SYNONYMS	REFERENCES
84	*Cyclotella melosiroides* (Kirchn.) Lemmerman	19
85	*Cyclotella ocellata* Pantocsek	1, 7, 18, 19, 28
86	*Cyclotella pseudostelligerra* Hestedt	7
87	*Cyclotella planctonica* Brunnthaler	1, 19
88	*Cyclotella schumannii* (Grunow) Hakansson	7, 28
89	*Cyclotella steliggera* Cleve et Grunow	1, 7, 19, 27, 28
90	*Cymatopleura solea* (Brebisson) W. Smith	1, 7, 14, 17,18, 19, 20, 24, 25, 27, 28
91	*Cymatopleura eliptica* (Brebisson) W. Smith	17, 18, 19, 25, 27, 28
92	*Cymatopleura braunii* Petit	19
93	*Cymbella affinis* Kützing	7, 14, 17, 18, 19, 27, 28
94	*Cymbella amphicephala* Naegeli	7
95	*Cymbella aspera* (Ehrenberg) Cleve	1, 15, 17,18,19, 24, 27
96	*Cymbella cistula* (Ehrenberg) Kirchner	1, 7, 15,16, 17,18,19, 20, 27, 28
97	*Cymbella cuspidata* (Kützing)	7,19
98	*Cymbella cymbiformis* (Ag., Kutz.) V.H.	14, 17,18, 19, 25, 27
99	*Cymbella deltaica* n. sp.	15,19
100	*Cymbella gracilis* (Rebenh.) Cleve	19
101	*Cymbella ehrenbergii* Kützing	7, 17,18, 19,25, 28
102	*Cymbella helvetica* Kutz.	7, 14, 17,18, 19
103	*Cymbella hustedtii* Krasske	7
104	*Cymbella lanceolata* (Ehrenberg) van Heurck	1, 14, 15, 17,18, 19, 20
105	*Cymbella lata* Grunow	17
106	*Cymbella leptoceros* (Ehrenberg) Kutzing	7
107	*Cymbella minuta* Hilse ex Rabenhorst	27, 28
108	*Cymbella naviculiformis* Auerswald	17, 18, 19.
109	*Cymbella parva* (Smith) Cleve	17,18, 19, 20
110	*Cymbella reihardtii* Grunow	28
111	*Cymbella sinuata* Gregory	1
112	*Cymbella tumida* (Brebisson) Van Heurck	14, 15, 17, 18, 28
113	*Cymbella tumidula* Grunow	17, 19, 28
114	*Cymbella turgida* (Gregory) Cleve	18, 19, 20
115	*Cymbella ventricosa* Kützing	17, 18, 19, 24, 28
116	*Denticula elegans* Kutzing	19
117	*Denticula kuetzingii* Grunow	7
118	*Diatoma anceps* Ehrenberg	8, 19
119	*Diatoma ehrenbergii* Kützing	28
120	*Diatoma elongatum* (Lyngb.) Agardh.	14, 15, 16, 17, 18,19, 20

No.	SPECIES AND SYNONYMS	REFERENCES
121	*Diatoma hiemale* (Lyngb.)Heib.	1, 19
122	*Diatoma tenuis* Agardh	7,19, 24, 25, 27, 28
123	*Diatoma vulgare* Bory	7, 17, 19, 24, 27, 28
124	*Diploneis didyma* Ehrenberg	19, 27
125	*Diploneis elliptica* (Kützing) Cleve	7, 28
126	*Diploneis interrupta* (Kützing) Cleve	27
127	*Diploneis marginestiata* Hustedt	7
128	*Diploneis ovalis* (Hilse) Cleve	1, 7, 17,18, 19, 20, 27, 28
129	*Diploneis puella* (Schum.) Cleve	19
130	*Ellerbeckia arenaria* (Moore) Crawford (*Melosira arenaria* Moore)	7, 17, 18,19, 20, 27, 28
131	*Encyonema caespitosum* Kützing (*Cymbella caespitosa* (Kützing) Brun)	7, 28
132	*Encyonema minutum* (Hilse) Mann	7
133	*Encyonema prostrata* (Berkeley) Cleve (*Cymbella prostrata*)	7, 14, 17, 18, 19, 25, 28
134	*Encyonema silesiacum* (Bleisch) Mann (*Cymbella silesiaca* Bleisch)	7, 28
135	*Encyonopsis cesatii* (Rabenhorst)Krammer (*Cymbella cesatii* (Rabenhorst) Grunow)	7
136	*Encyonopsis microcephala* (Grunow)Krammer (*Cymbella microcephala* Grunow)	7, 19
137	*Entomoneis alata* Ehrenberg	27
138	*Entomoneis paludosa* (W.Smith)	27
139	*Epithemia adnata* (Kützing) Brebisson	7, 24, 27, 28
140	*Epithemia argus* Kutz.	7, 15, 17, 18, 19
141	*Epithemia frickei* Krammer	7
142	*Epithemia intermeda* Fricke	19
143	*Epithemia muelleri* Fricke	15, 19
144	*Epithemia ocellata* Kutzing	19
145	*Epithemia smithii* Carruthers	7
146	Epithemia sorex Kützing	7, 15, 18,19, 27, 28
147	*Epithemia turgida* (Ehrenberg Kutz.	7, 14, 15, 17, 18, 19, 20, 28
148	*Epithemia zebra* (Ehrenberg) Kutz.	1, 15, 17, 18 ,19, 20, 22, 27
149	*Eunotia arcus* Ehrenberg	1, 7, 17, 19
150	*Eunotia bilunaris* (Ehrenberg) Mills	7, 27, 28
151	*Eunotia exigua* (Brebisson) Rabenhorst	1, 7, 28
152	*Eunotia diodon* Ehrenberg	19
153	*Eunotia formica* Ehrenberg	7, 17, 19
154	*Eunotia gracilis* (Ehrenberg) Rabenh.	17, 18, 19

No.	SPECIES AND SYNONYMS	REFERENCES
155	*Eunotia lunaris* (Ehrenberg) Grun.	1, 15, 17, 18, 19, 20
156	*Eunotia monodon* Ehrenberg	19
157	*Eunotia parallela* Ehrenberg	17, 19
158	*Eunotia pectinalis* (Kützing) Rabenhorst	17, 18, 19
159	*Eunotia* sp.(cf. *Eunotia glacialis* Meister)	7
160	*Eunotia* sp.(cf. *Eunotia implicata* Norpel)	7
161	*Eunotia tenella* Grunow (Hustedt)	19
162	*Fallacia pygmaea* (*Navicula pygmaea* Kützing)	1, 7, 18,19, 24, 25, 27, 28
163	*Fallacia subhamulata* (Grunow) Mann (*Navicula subhamulata* Grunow)	7, 19
164	*Fragilaria bidens* Heiberg	27, 28
165	*Fragilaria bicapitata* Mayer	19
166	*Fragilaria capitata* (Ehrenberg) Lange-Bertalot (*Synedra capitata* Ehrenberg)	14, 15, 17, 18, 19, 20, 28
167	*Fragilaria capucina* Desmazieres	7, 17,18,19, 24, 27, 28
168	*Fragilaria constricta* Ehrenberg	28
169	*Fragilaria crotonensis* Kitton.	1, 7, 14, 15, 17, 18, 19, 20, 24, 25, 27, 28
170	*Fragilaria dilatata* (Brebisson) Lange-Bertalot	7, 28
171	*Fragilaria fasciculata* (Agardh) Lange-Bertalot	7, 25, 27, 28
172	*Fragilaria intermedia* Grunow	1, 14, 17, 18, 19, 24, 28
173	*Fragilaria lapponica* Grunow	17,19
174	*Fragilaria nanana* Lange-Bertalot (*Synedra nana* Meister)	1, 7, 19,27, 28
175	*Fragilaria parasitica* (*Synedra parasitica*) (Smith) Grunow	1
176	*Fragilaria pulchella* (Ralfs ex Kützing) Lange-Bertalot (*Synedra pulchella* Kützing)	14, 19, 27, 28
177	*Fragilaria vaucheriae* (Kützing) Petersen (*F. capucina* var. *vaucherie* (Kützing) Lange-Bertalot/*Synedra vaucheriae* Kutzing)	1, 7, 19, 24, 27, 28
178	*Fragilaria virescens* Ralfs	15, 17
179	*Frustulia rhomboides* (Ehrenberg)	17, 18, 27
180	*Geissleria decussis* (Ostrup) Lange-Bertalot et Metzeltin (*Navicula decussis* Ostrup)	7, 28
181	*Geissleria schoenfeldii* (Hustedt) Lange-Bertalot et Metzeltin (*Navicula schoenfeldii* Hustedt)	7, 28
182	*Gomphonema acuminatum* Ehrenberg	1, 14, 15, 17, 18, 19, 20, 27
183	*Gomphonema amoenum* Lange-Bertalot	7
184	*Gomphonema angustatum* (Kützing) Rabenhorst	1, 7, 28
185	*Gomphonema augur* Ehrenberg	7, 18, 19, 27, 28

No.	SPECIES AND SYNONYMS	REFERENCES
186	*Gomphonema clavatum* Ehrenberg	7
187	*Gomphonema constrictum* Ehrenberg	1, 14, 17, 18, 19, 20
188	*Gomphonema dichotomum* Kützing	7
189	*Gomphonema gracile* Ehrenberg	7, 17, 27, 28
190	*Gomphonema grovei* (Hustedt) Lange-Bertalot	7
191	*Gomphonema intricatum* Kützing	18, 19, 25
192	*Gomphonema lanceolatum* Ehrenberg	19
193	*Gomphonema longiceps* Ehrenberg	17
194	*Gomphonema minutum* Agardh	7
195	*Gomphonema olivaceum* (Hornemann) Brebisson	1, 7, 17, 18, 19, 22, 24, 25, 27, 28
196	*Gomphonema parvulum* (Kützing) Kützing	7, 24, 27, 28
197	*Gomphonema quadripunctatum* (Oestrup) Wisl.	19
198	*Gomphonema subtile* Ehrenberg	19
199	*Gomphonema tergestinum* (Grunow) Fricke	1
200	*Gomphonema truncatum* Ehrenberg	7, 27, 28
201	*Gomphonema ventricosum* Gregory	14, 16, 17, 19, 22, 27
202	*Gyrosigma acuminatum* (Kützing) Rabenhorst	1, 7, 14, 15, 17, 19, 27, 28
203	*Gyrosigma attenuatum* (Kützing) Rabenhorst	7, 14, 17, 18, 19, 20, 25, 27, 28
204	*Gyrosigma distortum* (Smith) Cleve	18, 20
205	*Gyrosigma kutzingii* (Grunow) Cleve	14, 19
206	*Gyrosigma macrum* (Smith) Cleve	19, 20, 27
207	*Gyrosigma nodigerum* (Grunow) Reimer	7
208	*Gyrosigma parkerii* (Harrison) Elmore	7, 28
209	*Gyrosigma scalproides* (Rabenhorst) Cleve	17, 19, 27
210	*Gyrosigma spencerii* (Smith) Cleve	1
211	*Gyrosigma tenuissimum* (Smith) Cleve	19
212	*Hannaea arcus* (Ehrenberg) Patrick	7
213	*Hantzschia amphioxys* (Ehrenberg) W. Smith	7, 18, 19, 20, 28
214	*Hantzschia elongata* (Hantzsch) Grunow	19
215	*Hippodonta capitata* (Ehrenberg) Lange-Bertalot, Metzeltin et Witkowski (*Navicula capitata* Ehrenberg)	7, 18, 19, 27, 28
216	*Hippodonta hungarica* (Ehrenberg) Lange-Bertalot, Metzeltin et Witkowski (*Navicula capitata* var. *hungarica* (Grunow) Ross)	15, 19, 20, 28
217	*Hippodonta subcostulata* (Hustedt) Lange-Bertalot, Metzeltin et Witkowski	7
218	*Hippodonta costulata* (Grunow) Lange-Bertalot, Metzeltin et Witkowski	7

No.	SPECIES AND SYNONYMS	REFERENCES
219	*Karayevia clevei* (Grunow) Round er Bukhtiyarova (*Achnanthes clevei* Grunow)	7, 16, 19, 22, 24, 25, 28
220	*Karayevia laterostrata* (Hustedt) Kingston (Achnanthes laterostrata Hustedt)	7, 28
221	*Kolbesia nitidiformis* Lange-Bertalot (Achnanthes nitidiformis Lange-Bertalot)	7
222	*Kolbesia ploenensis* (Hustedt) Kingston (Achnanthes ploenensis Hustedt)	7
223	*Mastogloia brauni* Grunow	19, 27
224	*Mastogloia elliptica* Agardh	7, 19
225	*Mastogloia smithii* Thwaites	7, 19, 28
226	*Melosira binderana* Kützing	19
227	*Melosira varians* Agardh	1, 7, 8, 14, 15, 17, 18, 19, 28
228	*Melosira moniliformis* (Müller) Agardh	24, 27
229	*Meridion circulare* (Greville) Agardh	7, 8, 17, 19, 28
230	*Navicula acicullaris*	22
231	*Navicula anglica* Ralfs	17, 28
232	*Navicula americana* Ehrenberg	19
233	*Navicula bacilliformis* Grunow	19
234	*Navicula capitatoradiata* Germain	7, 27, 28
235	*Navicula cari* Ehrenberg	7, 17,19, 27, 28
236	*Navicula cincta* (Ehrenberg) Ralfs	7, 18, 19, 27, 28
237	*Navicula clementioides* Hustedt	28
238	*Navicula clementis* Grunow	27
239	*Navicula coconeiformis* Gregory	19
240	*Navicula concentrica* Carter	7
241	*Navicula crucicula* (Smith) Donkin	18, 19, 28
242	*Navicula crucigera* Smith	14, 19
243	*Navicula cryptocephala* Kützing	7, 16, 17,18, 19, 22, 24, 25, 27, 28
244	*Navicula cryptotenella* Lange-Bertalot	7, 28,
245	*Navicula dicephala* (Ehrenberg) Smith	18, 19, 22
246	*Navicula exigua* (Gregory) Grunow	1, 18, 19, 28
247	*Navicula falaisensis* Grunow	14, 19
248	*Navicula gracilis* Ehrenberg	1, 18, 19, 20
249	*Navicula graciloides* Mayer	7
250	*Navicula gregaria* Donkin	7, 25, 27, 28
251	*Navicula grimmei* Krasske	1, 28
252	*Navicula halophila* (Grunow) Cleve	27, 28

No.	SPECIES AND SYNONYMS	REFERENCES
253	*Navicula hasta* Pantocsek	27
254	*Navicula humerosa* Brebisson	27
255	*Navicula menisculus* Schumann	7, 18, 19, 24, 25, 27, 28
256	*Navicula meniscus* Schumann	7
257	*Navicula microcephala* Grunow	19
258	*Navicula minima* Grunow	19
259	*Navicula minuscula* Grunow	19
260	*Navicula mutica* Kützing	18, 19
261	*Navicula oblonga* (Kützing) Kützing	7, 14, 15, 17, 18, 19, 20, 27, 28
262	*Navicula peliculosa* (Breb.) Hilse	19
263	*Navicula peregrina* (Ehrenberg) Kützing	1, 8, 17, 19, 20
264	*Navicula perminuta* Grunow	7
265	*Navicula platystoma* Ehrenberg	1
266	*Navicula protracta* (Grunow) Cleve	28
267	*Navicula pseudolanceolata*	27
268	*Navicula pseudoventralis* Hustedt	7
269	*Navicula pusilla* Smith	19
270	*Navicula radiosa* Kützing	1, 7, 15, 17, 18, 19, 20, 27, 28
271	*Navicula reinhardithii* Grunow	7, 18, 28
272	*Navicula rhynchocephala* Kützing	7, 18, 19, 27, 28
273	*Navicula rothaeana* (Rabenhorst) Grunow	1
274	*Navicula rostellata* Kutzing	19
275	*Navicula salinarum* Grunow	22, 27, 28
276	*Navicula slesvicensis* Grunow	7
277	*Navicula* sp. (cf. Navicula praeterita Hustedt)	7
278	*Navicula* sp. (cf. Navicula angusta) Grunow	7, 24, 28
279	*Navicula* sp. (cf. Navicula constans Hustedt)	7
280	*Navicula* sp.(cf Navicula explanata) Hustedt	24, 28
281	*Navicula subrhyncocephala* Hustedt	27
282	*Navicula subtilissima* Cleve	19
283	*Navicula tenelloides* Hustedt	7, 28
284	*Navicula tripunctata* (Müller) Bory	7, 27, 28
285	*Navicula trivialis* Lange-Bertalot (*Navicula lanceolata* Kutz.)	1, 7, 15, 17, 19, 24, 27, 28
286	*Navicula tuscula* Ehrenberg	17, 18, 19, 28
287	*Navicula veneta* Kützing	27, 28
288	*Navicula viridula* (Kützing) Ehrenberg	7, 18, 19, 27, 28
289	*Neidium affine* (Ehrenberg) Cleve	19

No.	SPECIES AND SYNONYMS	REFERENCES
290	*Neidium ampliatum* (Ehrenberg) Krammer	7
291	*Neidium binodis* (Ehrenberg) Hustedt	7, 28
292	*Neidium dubium* (Ehrenberg) Cleve	17, 18, 19, 27, 28
293	*Neidium iridis* (Ehrenberg) Cleve	7, 17,18, 19, 20, 27, 28
294	*Neidium productum* (W. Smith) Cleve	19, 27
295	*Nitzschia acicularis* (Kützing) W. Smith	1, 16, 17, 19, 24, 25, 27, 28
296	*Nitzschia actinastroides* (Lemm.) Van Goor	1, 17, 18,19, 20, 22, 27
297	*Nitzschia acuminata* (Smith) Grun.	7, 15, 19
298	*Nitzschia acuta* Hantzsch	1, 14, 17, 18, 19
299	*Nitzschia amphibia* Grunow	1, 7, 24, 25, 27, 28
300	*Nitzschia angustata* (W. Smith) Grunow	1, 7, 18, 19, 27, 28
301	*Nitzschia angustatula* Lange-Bertalot	7
302	*Nitzschia apiculata* (Greg.) Grunow	19
303	*Nitzchia aurariae* Cholnoky	27
304	*Nitzschia brevissima* Grunow	28
305	*Nitzschia calida* Grunow	28
306	*Nitzschia capitellata* Hustedt	1, 7, 19, 24, 27, 28
307	*Nitzschia circumsuta* (Bailey) Grunow	17, 18, 19
308	*Nitzschia commutata* Grunow	25, 28
309	*Nitzschia compressa* (Bailey) Boyer	25, 28
310	*Nitzschia comutatoides* Lange-Bertalot	28
311	*Nitzschia constricta* (Gregory) Grunow	7, 27, 28
312	*Nitzschia denticula* Grun.	17, 19
313	*Nitzschia dissipata* (Kützing) Grunow	1, 7, 17, 18, 19, 24, 27, 28
314	*Nitzschia dubia* W. Smith	7, 19, 25, 28
315	*Nitzschia epithemioides* Grunow	19
316	*Nitzchia fasciculata* Grunow	27
317	*Nitzchia filiformis* (Smith) Hustedt	19
318	*Nitzchia flexa* Schumann	19
319	*Nitzschia fonticola* Grunow	7, 24, 27, 28
320	*Nitzschia frustulum* (Kützing) Grunow	1, 7, 22, 25, 27, 28
321	*Nitzschia fruticosa* (Hustedt)	25
322	*Nitzschia graciliformis* Lange-Bertalot et Simonsen	7
323	*Nitzschia gracilis* Hantzsch	1, 17, 19, 24, 25, 27, 28
324	*Nitzschia hantzschiana* Rabenhorst	19, 22, 28,
325	*Nitzschia heufleriana* Grunow	1, 7, 17, 19, 28
326	*Nitzschia hungarica* Grunow	1, 7, 27, 28
327	*Nitzschia intermedia* Hantzsch	1, 25, 27, 28
328	*Nitzschia ignorata* Krasske	19

No.	SPECIES AND SYNONYMS	REFERENCES
329	*Nitzschia kützingiana* Hilse	1, 19
330	*Nitzschia levidensis* (W. Smith) Grunow	7, 25, 28
331	*Nitzschia linearis* (Agardh) W. Smith	1, 7, 8, 17, 19, 24, 25, 27, 28
332	*Nitzschia littoralis* Grunow	7
333	*Nitzschia lorenziana* Grunow	19
334	*Nitzschia minuta* Bleisch	28
335	*Nitzschia microcephala* Grunow	1, 19
336	*Nitzschia obtusa* Smith	18, 19
337	*Nitzschia palea* (Kützing) Smith	1, 7, 15, 16, 19, 24, 25, 27, 28
338	*Nitzschia paleacea* Grunow	1, 7, 24, 27, 28
339	*Nitzschia pellucida* Grunow	28
340	*Nitzschia perminuta* (Grunow) Peragallo	28
341	*Nitzschia pura* Hustedt	28
342	*Nitzschia pusilla* Grunow	27
343	*Nitzschia recta* Hantzsch	1, 7, 17, 18, 19, 27, 28
344	*Nitzschia reversa* Smith	25, 27, 28
345	*Nitzschia romana* Grunow	1, 19
346	*Nitzschia scalaris* (Ehrenberg) Smith	17, 18, 19, 25, 28
347	*Nitzschia sigmoidea* (Nitzsch) Smith	1, 7, 8, 14, 15, 17, 18, 19, 20, 24, 25, 27, 28
348	*Nitzschia* sp. (cf. *Nitzschia acidoclinata*) Lange-Bertalot	28
349	*Nitzschia* sp. (cf. *Nitzschia solita* Hustedt)	7
350	*Nitzschia* sp. (cf. *Nitzschia supralitorea* Lange-Bertalot)	7
351	*Nitzschia* sp.(cf.*Nitzschia draveillensis*) Coste et Ricard	28
352	*Nitzschia* sp.(cf. *Nitzschia subacicularis*) Hustedt	7, 28
353	*Nitzschia spectabilis* (Ehrenberg) Ralfs	19
354	*Nitzschia stagnorum* Rabhorst	15, 19
355	*Nitzschia subcapitata*	22
356	*Nitzschia subtilis* (Kützing) Grunow	1
357	*Nitzschia subliniaris* Hustedt	1
358	*Nitzschia tryblionella* Hantzsch	1, 18, 19, 20, 24, 25, 28
359	*Nitzschia thermalis* Kützing	19
360	*Nitzschia umbonata* (Ehrenberg) Lange-Bertalot	28
361	*Nitzschia vermicularis* (Kützing) Hantzsch	1, 7, 17, 18, 19, 20, 24, 27, 28
362	*Nitzschia vivax* Smith	19
363	*Orthoseira* sp. (cf. *O. roeseana* (Rabenhorst) O'Meara (*Melosira roeseana* Rabenhorst)	7, 19
364	*Peronia erinacea* Breb. et Arn.	19

No.	SPECIES AND SYNONYMS	REFERENCES
365	*Pinnularia abaujensis* (Pant.) Ross	19
366	*Pinnularia appendiculata* (Agardh) Cleve	7, 19
367	*Pinnularia borealis*	28
368	*Pinnularia brebissonii* (Kützing) Rabenh.	18, 19
369	*Pinnularia cardinalis* (Ehrenberg) Smith	19
370	*Pinnularia dactylus* Ehrenberg	19
371	*Pinnularia denbesii* Hustedt	14, 19
372	*Pinnularia divergens* Smith	7
373	*Pinnularia gentilis* (Donkin) Cleve	17, 18, 19, 20
374	*Pinnularia gibba* Ehrenberg	7, 17, 19, 20, 27, 28
375	*Pinnularia gracillima* Gregory	19
376	*Pinnularia interrupta* Smith	17, 19
377	*Pinnularia lata* (Brebissoni) Smith	19
378	*Pinnularia maior* (Kuetzing) Rabenhorst	8, 17, 18, 19, 28
379	*Pinnularia microstauron* (Ehrenberg) Cleve	8, 15, 18, 19, 20, 28
380	*Pinnularia nobilis* Ehrenberg	14, 17, 18, 19
381	*Pinnularia stomatophora* (Grunow) Cleve	19
382	*Pinnularia streptoraphe* Cleve	7
383	*Pinnularia subcapitata*	19, 22, 27
384	*Pinnularia subsolaris* (Grunow) Cleve	18, 19
385	*Pinnularia tabellaria* Ehrenberg	19
386	*Pinnularia viridis* (Nitzsch) Ehrenberg	17, 18, 19, 28
387	*Placoneis placentula* (Ehrenberg) Heinzerling (*Navicula placentula* (Ehrenberg) Grunow)	1, 7, 16, 17,19, 27, 28
388	*Placoneis gastrum* (Ehrenberg) Mereschkowsky (*Navicula gastrum* (Ehrenberg) Kützing)	7, 17, 18, 19, 20, 27, 28
389	*Placoneis pseudanglica* (Lange-Bertalot) Cox (*Navicula pseudanglica* Lange-Bertalot)	7, 28
390	*Placoneis placentula* Mayer	18, 22
391	*Planothidium lanceolatum* (Brebisson) Round et Bukhtiyarova (*Achnanthes lanceolata* (Brebisson) Grunow)	7, 19, 24, 27
392	*Planothidium frequentissimum* (Lange-Bertalot) Round et Bukhtiyarova (*A. lanceolata* ssp. *frequentissima* Lange-Bertalot)	7, 28
393	*Planothidium rostratum* (Ostrup) Round et Bukhtiyarova (*Achnanthes lanceolata* ssp. rostrata (Ostrup) Lange-Bertalot)	7
394	*Planothidium* sp. (cf. *P.oblongellum* (Ostrup) Van de Vijver) (*Achnanthes oblongella* Ostrup)	7

No.	SPECIES AND SYNONYMS	REFERENCES
395	*Planothidium biporomum* (Hohn et Hellerman) Lange-Bertalot (*A. lanceolata* ssp. *biporoma* (Hohn et Hellerman) Lange-Bertalot)	7
396	*Pleurosigma angulatum* (Quekett) Smith	14, 19
397	*Pseudostaurosira brevistriata* (Grunow) Williams et Round (*Fragilaria brevistriata* Grunow)	7, 19, 28
398	*Psammothidium ventralis* (Krasske) Bukhtiyarova et Round (*Achnanthes ventralis* (Krasske) Lange-Bertalot)	7
399	*Psammothidium helveticum* (Hustedt) Bukhtiyarova et Round (*Achnanthes helvetica* (Hustedt) Lange-Bertalot)	7
400	*Psammothidium chlidanos* (Hohn et Hellerman) Lange-Bertalot (*Achnanthes chlidanos* (Hohn et Hellerman))	7
401	*Puncticulata bodanica* (Grunow in Schneider) Hakansson comb. nov (*Cyclotella bodanica* (Grunow) Cleve-Euler))	7, 28
402	*Puncticulata comta* (Ehrenberg) Hakansson comb. nov. (*Cyclotella comta* Kützing)	1, 7, 19, 28
403	*Puncticulata radiosa* (Lemmermann) Hakansson comb. nov	7, 28
404	*Reimeria sinuata* (Gregory) Kociolek et Stoermer	7
405	*Rhizosolenia longiseta* Zacharias	1, 19, 28
406	*Rhizosolenia eriensis* (Smith)	1, 19, 28
407	*Rhoicosphaenia abbreviata* (Agardh) Lange-Bertalot (*Rhoicosphaenia curvata* (Kützing.) Grunow)	7, 8, 15, 17, 18, 19, 20, 22, 24, 25, 27, 28
408	*Rhopalodia gibba* (Ehrenberg) Müller var. *ventricosa* (Ehrenberg) Grunow	15, 17, 18, 19, 20
409	*Rhopalodia gibberula* (Ehrenberg) Müller	27
410	*Rhopalodia paralella* (Grunow) Müller	19, 22
411	*Sellaphora bacillum* (Ehrenberg) Mann (*Navicula bacillum* Ehrenberg)	1, 7, 17,18, 19, 22, 28
412	*Sellaphora bacilloides* (Hustedt) Cremer comb.nov. (*Navicula bacilloides* Hustedt)	7
413	*Sellaphora pupula* (Kützing) Mereschkowski (*Navicula pupula* Kützing)	7, 18, 19, 24, 27, 28
414	*Sellaphora seminulum* (Grunow) Mann (*Navicula seminulum* Grunow)	7
415	*Skeletonema subsalsum* (Cleve-Euler) Bethge	7, 27
416	*Skeletonema costatum* Gunow	27
417	*Stauroneis acuta* Smith	17, 18, 19

No.	SPECIES AND SYNONYMS	REFERENCES
418	*Stauroneis anceps* Ehrenberg	15, 17, 18, 19, 27, 28
419	*Stauroneis phoenicenteron* (Nitzsch) Ehrenberg	7, 15, 17, 18, 19, 20
420	*Stauroneis smithii* Grunow	28
421	*Staurosira berolinensis* (Lemmermann) Lange-Bertalot (*Fragilaria beroliensis* (Lemmermann) Lange-Bertalot)	1, 7, 24, 25, 27, 28
422	*Staurosira construens* Ehrenberg (*Fragilaria construens*)	1, 14, 15, 17, 18,19, 20, 24, 27
423	*Staurosira* sp. (cf. *S. circula* Van de Vijver et Beyens)	7
424	*Staurosirella lapponica* (Grunow) Williams et Round	7
425	*Staurosirella leptostauron* Ehrennerg (*Fragilaria leptostauron* Ehrenberg)	7
426	*Staurosirella pinnata* (Ehrenberg) Williams et Round (*Fragilaria pinnata* Ehrenberg)	7,17, 18, 19, 28
427	*Stenopterobia intermedia* (Levis) Brebisson	27
428	*Stephanodiscus alpinus* Hustedt	7, 28
429	*Stephanodiscus astraea* (Ehrenberg) Grunow	1, 16, 17, 19, 27
430	*Stephanodiscus hantzschii* Grunow	1, 7, 17, 19, 24, 27, 28
431	*Stephanodiscus medius* Hakansson	7
432	*Stephanodiscus neoastrea* Hakansson	7, 28
433	*Stephanodiscus parvus* Stoermer & Hakansson	7, 28
434	*Stephanodiscus* sp. (cf. *S. bideranus* (Kützing) Krieger)	7
435	*Stephanodiscus* sp. (cf. *S. minutulus* (Kützing) Round)	7, 28
436	*Surirella angusta* Kützing	1, 17, 18, 19, 28
437	*Surirella bifrons* Ehrenberg (*S.biseriata* var. bifrons (Ehrenberg) Hust)	7, 14, 18, 19, 28
438	*Surirella biseriata* Brebisson	17, 18, 19, 28
439	*Surirella brebissoni* Krammer et Lange-Bertalot	7, 25, 27, 28
440	*Surirella capronii* Brebisson	14, 17, 19, 28
441	*Surirella delicatissima* Lewis	19
442	*Surirella elegans* Ehrenberg	14, 17, 18, 19, 28
443	*Surirella gracilis* Grunow	7, 19
444	*Surirella linearis* Smith	1, 8, 14, 17, 18, 19
445	*Surirella minuta* Brebisson	7, 27, 28
446	*Surirella ovalis* Brebisson	18, 19
447	*Surirella ovata* Kutzing	1, 17, 19
448	*Surirella robusta* Ehrenberg	14, 15, 17, 19, 25
449	*Surirella splendida* (Ehrenberg) Kützing	28
450	*Surirella spiralis* Kutzing	19

No.	SPECIES AND SYNONYMS	REFERENCES
451	*Surirella striatula* Turpin	17, 18, 19
452	*Surirella tenera* Gregory	1, 18, 19
453	*Surirella turgida* (Smith)	28
454	*Synedra affinis*	14, 16
455	*Synedra actinastroides*	1
456	*Synedra amphicephala* Kutz.	17, 18, 19, 25
457	*Synedra minuscula* Grunow	19
458	*Synedra rupens* Kutzing	19
459	*Tabelaria fenestrata* (Lyngbye) Kützing	17,18, 19, 20, 28
460	*Tabellaria floculosa* (Roth) Kutz.	17, 18, 19, 20
461	*Thalassiosira baltica* (Grunow) Ostenfeld	27
462	*Thalassiosira eccentrica* (Ehrenberg) Cleve	28
463	*Thalassiosira lacustris* (Grunow) Hasle (*Coscinodiscus lacustris* Grun.)	1, 8, 14, 17, 18, 19, 20, 28
464	*Thalassiosira weissflogii* (Grunow) Fryxell et Hasle	7
465	*Thalassiosira visurgis* Hust	7, 28
466	*Triceratium favus* Ehrenberg	19
467	*Triceratium striolatum* Ehrenberg	19
468	*Ulnaria biceps* (Kutzing) Compere (*Fragilaria biceps* (Kutzing) Lange-Bertalot)	7
469	*Ulnaria ulna* (Nitzsch) Compere (*Fragilaria ulna* var. *ulna* (Nitzsch) Lange-Bertalot)	1, 7, 8, 14, 15, 16, 18, 19, 24, 25, 26, 27, 28

Consequently, eight more species belonging to the following genera: *Achnanthes*, *Aulocoseira*, *Coscinodiscus*, *Cyclotella*, *Eunotia* and *Navicula* were mentioned in the grey literature (Contract MCT 1992, 1993).

Based on taxonomically re-evaluation and re-examination of preserved slide samples, some species from Table 1 should be eliminated from the list. We consider that in case of the following species *Melosira moniliformis* (TÖRÖK, 1997A) and *Thalassiosira baltica* (TÖRÖK, 2001) there was a mistake in determination. We discovered that instead of *Melosira moniliformis* recorded in 1996 in Nebunu Lake in the sample there was *Melosira varians* and instead of *Thalassiosira baltica* recorded in samples prelevated from Babina reconstructed area there was *Thalassiosira visurgis*.

On the other hand we presumed that in case of *Navicula acicularis* (STANCU-STOIANOVICI, 1992) there was a typing mistake because the species is not mentioned in any book used for species determination.

Finally, there is an unconfirmed diagnosis in case of the species *Cymbella deltaica* specie nova.

In the last twenty years due to the new microscopic technique there were described 22 new generic taxa. As a results, a large number of species originally assigned in one genus due to their morphological and ultrastrucural features were included in others genera.

The checklist of species's varieties and its synonyms is present in Table 2 according to current taxonomical literature and the references where was mentioned.

Table 2

No	SPECIES AND SYNONYMS	REFERENCES*
1	*Achanthidium exiguum* (Grunow) Czarnecki (*Achnanthes exigua* Grunow var. *exigua*)	28
2	*Achanthidium minutissimum* var. *cryptocephala* Grunow	19
3	*Achnanthes brevipes* Agardh var. *intermedia* Kutzing	19
4	*Achnanthes delicatula* (Kützing) Grunow ssp. *delicatula*	28
5	*Actinocyclus normanii* f. *subsalsa* (Juhlin-Dannfelt) Hustedt	7
6	*Amphora ovalis* var. *gracilis* (Ehr.) Cleve	19
7	*Amphora ovalis* var. *libyca* (Ehr.) Cleve	17, 18, 19
8	*Amphora ovalis* var. *pediculus* (Kützing) Cleve	17, 18,19, 28
9	*Anemoeoneis sphaerophora* (Kutz.) Pfitz. var. *sculpta* (Ehr.) Müller	20, 17, 19
10	*Asterionella formosa* var. *acroides* Lemmerman	19
11	*Aulacoseira granulata* var. *angustissima* (O. Müller) Simonsen	17, 18, 19, 15, 16, 20, 22, 28
12	*Aulacoseira granulata* var. *angustissima* f. *spiralis* Müller	18, 19
13	*Aulacoseira italica* (Ehrenberg) Simonsen var. *tenuissima* (Grunow) Simonsen	15, 17, 19
14	*Caloneis amphisbaena* var. *subsalina* (Donkin) Cleve	19
15	*Caloneis bacillum* var. *lancettula* (Schultz) Hustedt	19
16	*Caloneis schumanniana* (Grun.) Cleve var. *biconstricta* Grun.	17, 18, 19
17	*Caloneis silicula* (Ehr.) Cleve var. *gibberula* (Kutz.) Grun.	17, 18
18	*Caloneis silicula* var. *tumida* Hustedt	19
19	*Campylodiscus clipeus* var. *bicostata* (Smith) Hustedt	19
20	*Campylodiscus noricus* Ehr. var. *hibernica* (Ehr.) Grun.	18, 19
21	*Cocconeis pediculus* Ehr. var. *euglypta* (Ehr.) Cleve	15
22	*Cocconeis placentula* Ehrenberg var. *placentula*	7, 28
23	*Cocconeis placentula* var. *euglypta* Ehrenberg	7
24	*Cocconeis placentula* var. *klinoraphis* Geitler	17, 19

* Numerele reprezintă numerele de ordine ale referințelor din bibliografie.

No.	SPECIES AND SYNONYMS	REFERENCES
25	*Cocconeis placentula* var. *lineata* (Ehrenberg) Van Heurck	7, 19
26	*Cyclotella* sp. (cf. *C. bodanica* var. *affinis* (Grunow) Cleve-Euler)	7
27	*Cymatopleura eliptica* var. *constricta* Grunow	19
28	*Cymatopleura solea* var. *apiculata* (W. Smith) Ralfs	7, 19, 28
29	*Cymatopleura solea* var. *gracilis* Grun.	19
30	*Cymatopleura solea* var. *regula* (Ehrenberg) Grunow	15, 20
31	*Cymatopleura solea* var. *solea* (Brebisson) W. Smith	7, 17, 18, 19, 14, 15, 20, 24, 25, 26, 28
32	*Cymbella cistula* var. *maculata* (Kutz.) V. Heurck	17
33	*Cymbella cymbiformis* var. *cymbiformis* Agardh	7, 28
34	*Cymbella cymbiformis* var. *nonpunctata* Fontell	7
35	*Denticula tenuis* var. *crassula* (Naeg.) Hustedt	19
36	*Diatoma elongatum* var. *actinastroides* Krieg.	19
37	*Diatoma elongatum* var. *tenue* (Ag.) Kutz.	17, 19
38	*Diatoma hiemale* var. *mesodon* (Ehrenberg)Grunow	19
39	*Diatoma vulgare* var. *brevis* Grunow	19
40	*Diatoma vulgare* var. *capitulata* Grunow	19
41	*Diatoma vulgare* var. *linearis* Grunow	19
42	*Diatoma vulgare* var. *producta* Grunow	19
43	*Diploneis ovalis* (Hilse) Cleve var. *oblongella* (Naeg.) Cleve	18, 19
44	*Epithemia turgida* var. *capitata* Fricke	19
45	*Epithemia turgida* (Ehr.) Kutz. var. *granulata* (Ehr.) Grun.	7, 17, 18
46	*Epithemia zebra* (Her.) Kutz. var. *porcellus* (Kutz.) Grun.	17, 18, 15, 20
47	*Epithemia zebra* (Her.) Kutz. var. *saxonica* (Kutz.) Grun.	17, 18, 19, 15
48	*Eunotia pectinalis* var. *minor* (Kutz.) Rabenh.	19, 20
49	*Eunotia pectinalis* var. *minor* (Kutz.) Rabenh. f. *impressa* (Ehrenberg) Hustedt	19
50	*Fragilaria capucina* var. *mesolepta* (Rabenhorst) Rabenhorst	7, 17, 19, 28
51	*Fragilaria capucina* var. *rumpes* (Kützing) Lange-Bertalot	28
52	*Fragilaria parasitica* (W. Smith) Grunow var. *constricta* Mayer	28
53	*Fragilaria parasitica* var. *parasitica* (W. Smith) Grunow	7, 28
54	*Fragilaria parasitica* var. *subconstricta* Grunow	7, 28
55	*Gomphonema intricatum* Kutz. var. *vibrio* (Ehr.) Cleve	18, 19,
56	*Gomphonema acuminatum* Ehr. var. *coronata* (Ehr.) Smith	7, 19, 15, 20, 22, 28
57	*Gomphonema acuminatum* var. *brebissonii* (Kutz.) Cleve	14, 17, 18, 19, 20
58	*Gomphonema acuminatum* var. *coronatum*	17, 18, 19, 8, 19
59	*Gomphonema acuminatum* var. *trigonocephala* (Ehr.) Grun.	17, 19

No.	SPECIES AND SYNONYMS	REFERENCES
60	*Gomphonema augur* var. *gautieri* V.H.	18, 19
61	*Gomphonema constrictum* Ehr. var. *capitata* (Ehr.) Cleve	19, 14, 15, 20, 27
62	*Gomphonema grovei* var. *lingulatum* (Hustedt) Lange-Bertalot	7
63	*Gomphonema longiceps* Ehr. var. *subclavata* Grun.	17, 18,19
64	*Gomphonema longiceps* Ehr. var. *subclavata* Grun. f. gracilis Hust	17, 18,19
65	*Gomphonema olivaceum* var. *salinum* Grunow	28
66	*Gomphonema olivaceum* (Lyngb.) Kutz. var. *calcarea* Cleve	19, 20
67	*Gyrosigma distortum* (W. Sm.) Cleve var. *parkeri* Harrisson	18, 20
68	*Hannaea arcus* var. *arcus* (Ehrenberg) Cleve (*Fragilaria arcus* (Ehrenberg) Cleve var. *arcus*)	27, 28
69	*Hantzschia amphioxys* (Ehr.) Grun. var. *maior* Grunow	19
70	*Hantzschia amphioxys* (Ehr.) Grun. var. *vivax* (Hantzsch) Grun.	17, 19
71	*Hantzschia amphioxys* (Ehr.) Grun. var. *minor* Grunow	19
72	*Hippodonta hungarica* (*Navicula hungarica* var. *linearis* Ostrup)	19
73	*Mastogloia smithii* Thwait. var. *lacustris* Grun.	7, 17, 18, 19, 20
74	*Mastogloia smithii* Thwaites var. *amphicephala* Grun.	18, 19
75	*Navicula cryptocephala* var. *veneta* (Kützing) Grunow	19
76	*Navicula cuspidata* var. *ambigua* (Ehr.) Cleve	17, 18, 19
77	*Navicula menisculus* var. *upsaliensis* Grunow	28
78	*Navicula oblonga* var. *subcapitata* Pantocsek	17, 19
79	*Neidium affine* (Ehr.) Cleve var. *amphirhynchus* (Ehr.) Cleve	17, 18, 20
80	*Neidium iridis* var. *ventralis* Reichelt	19
81	*Neidium iridis* (Ehr.) Cleve var. *amphigomphus* (Ehr.) V.H.	18, 19
82	*Neidium iridis* (Ehr.) Cleve var. *ampliata* (Ehr.) Cleve	15
83	*Nitzchia thermalis* Kutzing var. *intermedia* Grunow	19
84	*Nitzchia tryblionella* var. *levidensis* (Smith) Grunow	19, 27
85	*Nitzschia angustata* (W. Sm.) Grun. var. *acuta* Grun.	18, 19
86	*Nitzschia levidensis* var. *levidensis* (W. Smith) Grunow	28
87	*Nitzschia levidensis* var. *salinarum* Grunow	27, 28
88	*Nitzschia liniaris* var. *tenuis* (W. Smith) Grunow	28
89	*Nitzschia lorenziana* Grun var. *subtilis* Grun.	17, 18, 19
90	*Nitzschia tryblionella* Hantzsch var. *debilis* (Arn.) Mayer	19
91	*Nitzschia tryblionella* Hantzsch var. *victoriae* Grun.	18, 19, 20
92	*Pinnularia abaujensis* (Pant.) Ross var. *linearis* (Hustedt) Patrik	19

No.	SPECIES AND SYNONYMS	REFERENCES
93	*Pinnularia borealis* var. *rectangularis* Hustedt	28
94	*Pinnularia viridis* (Nitzsch) Ehr. var. *sudetica* (Hilse) Hust	15, 19
95	*Placoneis placentula* f. *rostrata* A. Mayer	18, 22
96	*Placoneis placentula* var. *lanceolata* (*Navicula placentula* var. *lanceolata* Grunow)	19
97	*Placoneis placentula* var. *rostrata* (*Navicula placentula* var. *rostrata* Mayer)	19
98	*Rhopalodia gibba* var. *gibba* (Ehrenberg) O. Müller	7, 8, 19, 17, 18, 19, 14, 15, 20, 22, 24, 27, 28
99	*Rhopalodia gibba* var. *minuta* Krammer	7, 28
100	*Rhopalodia gibba* var. *parallela* (Grunow) Peragallo	7
101	*Sellaphora pupula* (*Navicula pupula* var.*rectangularis* (Greg) Grun.)	18, 19
102	*Sellaphora pupula* Kutz. var. *capitata* Hust.	17, 18, 20
103	*Sellaphora pupula* Kutz. var. *mutata* (Krasske) Husdetd	19
104	*Staurosira construens* var. *binodis* (Ehrenberg) Hamilton (*Fragilaria construens* var. *binodis* (Ehrenberg) Grunow)	7, 18, 19, 28
105	*Staurosira construens* var. *construens* Ehrenberg (*Fragilaria construens* var. *construens*	7, 28
106	*Staurosira construens* var. *exigua* (Smith) Lange-Bertalot (*Fragilaria construens* var. *exigua* (Smith) Schulz)	7
107	*Staurosira construens* var. *venter* (Ehrenberg) Hamilton (*Fragilaria construens* var. *venter* (Ehrenberg) Grunow)	7, 19, 28
108	*Staurosira construens* (Ehr.) Grunow var. *subsalina* Hustedt	7
109	*Surirella biseriata* Breb. var. *constricta*	19
110	*Surirella linearis* Smith var. *constricta* (Ehrenberg) Grunow	7, 19
111	*Surirella linearis* var. *helvetica* (Brun) Meister	7
112	*Surirella ovata* Kutzing var. *pinnata* (Smith) Hustedt	19, 20,
113	*Surirella robusta* Ehr. var. *spendida* (Ehr.) v. Heurck	7, 8, 17, 18, 19, 14, 15, 20
114	*Surirella tenera* Greg. var. *nervosa* Mayer	18, 19, 28
115	*Synedra tabulata* var. *fasciculata* Kutzing (Grunow)	19
116	*Synedra tabulata* var. *obtusa* Pant	19
117	*Tabelaria fenestrata* var. *asterionelloides* Grunow	19
118	*Ulnaria ulna* (*Synedra ulna* (Nitzsch) Ehr. var. *aequalis* (Kutz.) Hust.)	15, 19
119	*Ulnaria ulna* (*Synedra ulna* var. *amphirhynchus* (Ehr.) Grun.)	8, 19, 17, 19
120	*Ulnaria ulna* (*Synedra ulna* var. *biceps* Kutz.)	17, 18, 19, 20
121	*Ulnaria ulna* (*Synedra ulna* var. *danica* (Kutz.) Grun.)	19, 20

No.	SPECIES AND SYNONYMS	REFERENCES
122	*Ulnaria ulna* (*Synedra ulna* var. *oxyrhynchus* (Ehr.) Grun.)	19
123	*Ulnaria ulna* (*Synedra ulna* var. *spathulifera* Grun.)	17, 19
124	*Ulnaria ulna* var. *acus* (Kützing) Cremer comb. Nov. (*Fragilaria ulna* var. *acus* (Kützing) Lage-Bertalot)	7, 19, 16, 27, 28
125	*Ulnaria ulna* var. acus (*Synedra acus* var. *radians* (Kutzing) Hustedt)	19
126	*Ulnaria ulna* var. *acus* (*Synedra acus* var. *angustissima* Grunow)	19

Conclusion

According to this review the author conclude that in the Danube Delta's aquatic ecosystems are known in total 473 diatoms species and 126 diatom's varieties recorded in published work and in grey literature. These algae were collected from more than 35 samples points. These include lakes, channels, and branches of the Danube River that was investigated during a very long investigation period, for more than 50 years.

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Date privind diversitatea diatomeelor în Delta Dunării

Rezumat

În urma analizei comparative a informațiilor din surse bibliografice şi a datelor rezultate din cercetările proprii, autorul prezintă o evoluție a cunoştiințelor despre diversitatea diatomeele din Delta Dunării, stabilind că până în prezent în respectiva zonă au fost identificați 603 taxoni, dintre care considerăm că există în mod real în ecosistemele acvatice ale deltei 473 de specii. Lista de specii prezentată în lucrarea de față nu include speciile semnalate în complexul lagunar Razim-Sinoe.

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