

Table 10. Diatom taxa observed in surface sediment samples taken from deepest part of 38 Adirondack lakes, their frequency of occurrence and pH preference categories¹, and average² and ranges of pH, alkalinity, total phosphorus, and chlorophyll a for lakes in which they occurred. Averages are weighted by percentage of each count made up by the taxon. Bog lakes were excluded in determination of average and range of total phosphorus and chlorophyll a concentrations³.

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll <u>a</u> $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>Achnanthes clevei</u> Grun.	2	.012	ALKF	7.4	7.0-7.8	222	77 to 366	10.1	7.0-13.2	4.4	2.2-6.6
<u>A. didyma</u> Hust.	5	.062	ACF	7.1	6.8-7.3	111	77 to 154	9.0	4.2-18.1	3.3	1.5-7.7
<u>A. exigua</u> var. <u>heterovalva</u> Krasske	6	.087	ALKF	7.6	7.2-7.8	320	129 to 408	11.1	7.3-18.1	3.4	1.8-7.7
<u>A. lanceolata</u> (Bréb.) Grun.	4	.155	ALKF	7.3	6.8-7.3	174	62 to 250	16.5	7.2-18.1	6.8	1.8-7.7
<u>A. lanceolata</u> var. <u>dubia</u> Grun.	5	.056	ALKF	7.5	6.8-7.8	291	62 to 408	11.1	7.2-18.1	4.3	1.8-7.7
<u>A. lanceolata</u> var. <u>haynaldii</u> (Istv.-Schaarsch.) Cl.	2	.019	ALKF	7.4	7.3-7.5	190	158 to 253	11.1	10.0-13.4	2.0	1.8-2.2
<u>A. cf. laterostrata</u> Hust.	3	.037	IND	7.3	7.3-7.5	187	154 to 253	17.2	13.4-18.1	6.5	1.8-7.7
<u>A. levanderi</u> Hust.	7	.267	IND	7.0	6.4-7.3	96	27 to 350	7.6	2.4-14.8	2.4	0.6-6.8
<u>A. linearis</u> (W. Sm.) Grun.	8	.217	IND	7.4	5.7-7.8	225	20 to 408	10.8	4.6-18.1	2.9	0.9-7.7

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll <u>a</u> $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>A. linearis</u> f. <u>curta</u> H.L. Sm.	6	.149		7.2	6.8-7.5	151	62 to 253	10.2	7.2-13.4	2.6	1.8-3.9
<u>A. marginulata</u> Grun.	23	1.553	ACF	5.4	4.6-7.3	14	~31 to 250	4.5	2.4-10.1	1.1	0.3-3.9
<u>A. microcephala</u> (Kütz.) Grun.	2	.050	IND	7.3	7.3-7.3	157	154 to 158	13.1	10.0-18.1	4.3	2.2-7.7
<u>A. minutissima</u> Kütz.	20	1.168	IND	7.2	5.5-7.8	160	4 to 408	9.0	2.4-14.8	2.3	0.3-6.8
<u>A. suchlandti</u> Hust.	4	.043	IND	7.2	7.0-7.3	153	77 to 250	14.7	7.0-18.1	6.0	2.2-7.7
<u>A. spp.</u>	18	.696		6.8	4.7-7.8	108	~16 to 392	10.0	3.4-21.6	3.1	0.3-8.4
<u>Actinella punctata</u> Lewis	11	.162	ACB	5.1	4.6-6.8	~1	~31 to 79	4.8	2.7-13.9	1.8	0.4-6.0
<u>Amphipleura pellucida</u> Kütz.	1	.006	ALKF	7.8	7.8-7.8	366	366 to 366	13.2	13.2-13.2	6.6	6.6-6.6
<u>Amphora ovalis</u> (Kütz.) Kütz.	1	.006	ALKF	7.3	7.3-7.3	158	158 to 158	10.0	10.0-10.0	2.2	2.2-2.2
<u>A. ovalis</u> var. <u>affinis</u> (Kütz.)	3	.019	ALKF	7.3	7.2-7.5	176	118 to 253	9.2	4.2-13.4	1.8	1.5-2.2
V.H. <u>ex</u> DeT.											
<u>Anomoeoneis follis</u> (Ehr.) Cl.	1	.006	IND	6.2	6.2-6.2	11	11 to 11	8.7	8.7-8.7	2.5	2.5-2.5
<u>A. seriens</u> (Bréb. <u>ex</u> Kütz.) Cl.	5	.068	ACB	4.9	4.7-5.5	~10	~18 to 4	3.6	2.7-4.2	1.4	0.3-3.0
<u>A. seriens</u> var. <u>brachysira</u>	28	1.131	ACF	5.9	4.6-7.8	29	~31 to 208	6.4	2.4-18.1	2.0	0.3-7.7
(Breb. <u>ex</u> Kütz.) Hust.											

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll <u>a</u> $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>A. vitrea</u> (Grun.) Ross	22	.571	IND	6.9	5.2-7.8	112	0 to 408	8.8	2.4-18.1	2.4	0.3-7.7
<u>Asterionella formosa</u> Hass.	15	2.149	ALKF	7.4	6.4-7.8	238	27 to 408	10.4	2.4-18.1	4.3	0.6-7.7
<u>A. ralfsii</u> var. <u>americana</u> Korn.	11	5.609	ACF	5.1	4.5-7.3	-5	-26 to 154	6.7	3.1-21.6	2.1	1.1-8.4
<u>Caloneis ventricosa</u> var. <u>truncatula</u> (Grun.) Meist.	2	.019	ALKF	6.9	6.8-7.0	66	62 to 69	6.6	6.3-7.2	1.6	1.5-1.8
<u>C. sp.</u>	1	.006		7.5	7.5-7.5	253	253 to 253	13.4	13.4-13.4	1.8	1.8-1.8
<u>Cocconeis placentula</u> var. <u>lineata</u> (Ehr.) V.H.	4	.025	ALKF	6.9	4.7-7.8	252	-18 to 408	9.3	3.1-13.4	3.3	1.6-6.6
<u>Coscinodiscus sp.</u> , <u>cf.</u>	2	.019		6.6	6.4-6.8	62	27 to 79	5.6	2.4-7.2	1.7	0.6-2.3
<u>Cyclotella compta</u> (Ehr.) Kütz.	18	2.211	ALKF	7.2	6.0-7.8	165	23 to 408	9.6	2.4-18.1	3.8	0.6-7.7
<u>C. kuetzingiana</u> var. <u>radiosa</u> Fricke	3	.130	IND	7.3	7.2-7.3	146	118 to 154	15.0	4.2-18.1	6.3	1.5-7.7
<u>C. michiganiana</u> Skv.	8	1.006		7.6	6.0-7.8	353	23 to 408	9.2	4.2-18.1	3.6	1.5-7.7
<u>C. stelligera</u> Cl. <u>et</u> Grun.	24	12.367	IND	6.8	5.1-7.8	84	-5 to 408	7.2	2.4-18.1	2.3	0.6-7.7

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll a $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>Cymbella amphicephala</u> Naeg. <u>ex</u> Kütz.	5	.056	IND	6.5	4.6-7.2	74	-31 to 126	6.4	3.5-8.9	1.9	0.4-3.2
<u>C. angustata</u> (W. Sm.) Cl.	6	.087	IND	6.4	4.9-7.7	138	-2 to 392	7.5	3.1-14.8	2.1	0.8-6.8
<u>C. cesatii</u> (Rabh.) Grun. <u>ex</u> A.S.	6	.162	IND	7.1	5.7-7.7	162	20 to 392	8.7	4.6-11.6	2.2	0.9-2.9
<u>C. cistula</u> (Ehr.) Kirchn.	3	.019	ALKF	7.6	7.2-7.8	294	126 to 392	11.2	8.9-13.2	3.9	2.1-6.6
<u>C. cuspidata</u> Kütz.	5	.037	IND	6.7	5.7-7.5	84	20 to 253	7.4	2.4-13.4	1.4	0.6-3.3
<u>C. gaeumannii</u> Meist.	10	.329	ACF	5.3	4.6-7.0	4	-31 to 77	4.8	2.7-13.9	1.5	0.3-6.0
<u>C. hebridica</u> Grun. <u>ex</u> Cl.	13	.907	ACF	5.1	4.6-7.0	-3	-31 to 77	3.6	2.7-7.0	1.9	0.3-3.2
<u>C. lunata</u> W. Sm.	17	.379	IND	6.5	4.9-7.8	62	-5 to 366	7.7	4.4-18.1	2.4	0.8-7.7
<u>C. microcephala</u> Grun.	14	.280	ALKF	7.2	5.7-7.8	176	20 to 408	10.7	4.6-18.1	3.1	0.8-7.7
<u>C. minuta</u> Hilse <u>ex</u> Rabh.	11	.205	IND	6.7	4.9-7.7	119	-5 to 392	7.7	4.2-13.9	2.2	0.8-6.0
<u>C. naviculiformis</u> Auersw. <u>ex</u> Heib.	2	.031	IND	7.1	6.8-7.2	100	62 to 126	8.2	7.2-8.9	2.4	1.8-2.9
<u>C. spp.</u>	13	.180		5.9	4.6-7.7	72	-31 to 392	7.4	2.4-21.6	2.2	0.3-8.4

Taxon	No. of lakes in which taxon was ob- served	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity µeq/L		Total phosphorus µg/L		Chlorophyll <u>a</u> µg/L	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>Diatoma anceps</u> (Ehr.) Kirchn.	2	.019	IND	6.9	6.4-7.2	93	27 to 126	6.7	2.4-8.9	2.1	0.6-2.9
<u>D. hiemale</u> var. <u>mesodon</u> Ehr. Grun.	3	.037	ALKF	7.3	7.2-7.5	152	126 to 253	9.8	8.9-13.4	2.6	1.8-2.9
<u>D. spp.</u>	1	.006		7.5	7.5-7.5	253	253 to 253	13.4	13.4-13.4	1.8	1.8-1.8
<u>Diploneis elliptica</u> (Kütz.) Cl.	3	.019	ALKF	7.2	7.1-7.3	140	126 to 158	9.7	8.9-10.1	2.8	2.2-3.3
<u>D. oblongella</u> (Naeg. <u>ex</u> Kütz.) Ross	1	.012	ALKF	7.2	7.2-7.2	118	118 to 118	4.2	4.2-4.2	1.5	1.5-1.5
<u>D. cf. oculata</u> (Breb.) Cl.	2	.019	IND	7.4	7.0-7.5	189	59 to 253	10.4	4.6-13.4	1.4	0.8-1.8
<u>Epithemia argus</u> <u>cf.</u> var. <u>protracta</u> A. Mayer	1	.006		7.8	7.8-7.8	366	366 to 366	13.2	13.2-13.2	6.6	6.6-6.6
<u>Eunotia arcus</u> Ehr.	3	.043	IND	5.4	4.8-6.6	7	~13 to 40	4.2	3.1-5.8	1.6	0.9-2.9
<u>E. bactriana</u> Ehr.	4	.056	ACF	5.0	4.8-5.2	~5	~13 to 0	4.1	3.1-5.8	1.3	0.9-3.2
<u>E. bidentula</u> W. Sm.	7	.335	ACF	5.1	4.5-7.0	~3	~27 to 69	7.6	3.1-13.9	2.7	0.9-6.0
<u>E. bigibba</u> Kütz.	4	.205	ACF	4.9	4.6-5.0	~7	~31 to ~3.9	4.1	2.7-4.4	1.4	0.4-3.0

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>E. curvata</u> (Kütz.) Lagerst.	27	2.149	ACF	5.0	4.5-7.8	0	-31 to 408	11.9	2.4-21.6	4.5	0.3-8.4
<u>E. diodon</u> Ehr.	1	.006	ACF	4.8	4.8-4.8	-13	-13 to -13	4.2	4.2-4.2	1.0	1.0-1.0
<u>E. elegans</u> Østr.	2	.062	ACF	4.9	4.8-4.9	-3	-13 to -2	3.2	3.1-4.2	1.2	0.9-1.2
<u>E. exigua</u> (Bréb. <u>ex</u> Kütz.) Rabh.	15	1.031	ACB	5.2	4.6-7.3	1	-31 to 154	4.7	2.4-18.1	1.9	0.3-7.7
<u>E. exigua</u> var. <u>bidens</u> Hust.	2	.043	ACF	4.8	4.6-4.9	-9	-31 to -5	4.3	3.5-4.4	1.1	0.4-1.2
<u>E. exigua</u> var. <u>tridentula</u> Østr.	1	.019	ACF	4.9	4.9-4.9	-5	-5 to -5	4.4	4.4-4.4	1.2	1.2-1.2
<u>E. fallax</u> A. Cl.	4	.143	ACF	4.9	4.8-5.0	-5	-13 to -2	3.8	2.7-4.4	1.4	0.9-3.0
<u>E. flexuosa</u> Breb. <u>ex</u> Kütz.	16	.186	ACF	6.0	4.5-7.8	52	-27 to 408	7.2	3.1-13.9	2.2	0.8-6.6
<u>E. gibbosa</u> Grun.	1	.006	ACF	5.5	5.5-5.5	4	4 to 4	3.4	3.4-3.4	0.3	0.3-0.3
<u>E. hexaglyphis</u> Erh.	1	.006	ACF	6.9	6.8-6.8	62	62 to 62	7.2	7.2-7.2	1.8	1.8-1.8
<u>E. incisa</u> W. Sm. <u>ex</u> Greg.	10	.267	ACF	5.0	4.5-7.0	-4	-31 to 77	4.3	3.1-13.9	1.5	0.4-6.0
<u>E. kocheliensis</u> O. Müll.	1	.019	ACF	5.0	4.9-4.9	-2	-2 to -2	3.1	3.1-3.1	1.2	1.2-1.2
<u>E. lapponica</u> Grun. <u>ex</u> A. Cl.	2	.050	ACF	5.0	4.7-7.3	15	-18 to 250	3.1	3.1-3.1	1.7	1.7-1.7

Taxon	No. of lakes in which taxon was ob- served	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity µeq/L		Total phosphorus µg/L		Chlorophyll <u>a</u> µg/L	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>E. major</u> (W. Sm.) Rabh.	1	.006	ACF	7.5	7.5~7.5	253	253 to 253	13.4	13.4~13.4	1.8	1.8~1.8
<u>E. meisteri</u> Hust.	11	.205	ACF	5.7	4.5~7.2	22	~31 to 126	5.6	3.1~8.9	2.2	0.4~3.2
<u>E. microcephala</u> Krasske <u>ex</u> Hust.	3	.025	ACF	5.9	4.5~7.0	32	~26 to 77	6.6	5.8~7.0	2.5	2.2~3.2
<u>E. microcephala</u> var. <u>tridentata</u> (A. Mayer) Hust.	5	.037	ACF	5.1	4.7~6.4	~1	~18 to 27	4.1	2.4~5.8	1.5	0.6~3.2
<u>E. naegelii</u> Migula	6	.304	ACF	4.8	4.5~6.0	~13	~27 to 23	13.0	2.7~21.6	4.9	0.9~8.4
<u>E. parallela</u> Ehr.	1	.006	ACF	5.2	5.2~5.2	0	0 to 0	5.8	5.8~5.8	3.2	3.2~3.2
<u>E. pectinalis</u> (O.F. Müll.?) Rabh.	6	.081	ACF	6.4	4.8~7.3	83	~13 to 158	7.5	3.1~10.0	1.8	0.9~3.9
<u>E. pectinalis</u> var. <u>minor</u> (Kütz.) Rabh.	15	.398	ACF	5.2	4.5~7.2	4	~31 to 135	11.0	2.7~21.6	4.0	0.4~8.4
<u>E. pectinalis</u> var. <u>ventricosa</u> Grun.	2	.012	ACF	6.8	6.8~6.8	70	62 to 79	7.2	7.2~7.2	2.0	1.8~2.3

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll a $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>E. perpusilla</u> Grun.	3	.056	ACF	5.3	4.9-7.2	15	-2 to 126	4.9	3.1-13.9	2.0	1.2-6.0
<u>E. praerupta</u> Ehr.	4	.056	ACF	6.3	4.9-7.0	38	-2 to 69	4.6	2.4-6.3	1.5	0.6-2.9
<u>E. rhomboidea</u> Hust.	1	.031		5.0	5.0-5.0	-2	-2 to -2	3.1	3.1-3.1	1.2	1.2-1.2
<u>E. septentrionalis</u> Østr.	13	.205	ACF	5.9	4.5-7.5	54	-27 to 253	6.3	2.7-13.4	2.0	0.8-3.0
<u>E. serra</u> Ehr.	6	.118	ACF	4.9	4.5-6.6	15	-31 to 77	5.8	3.5-13.9	2.1	0.4-6.0
<u>E. cf. soleirolii</u> (Kütz.) Rabh.	1	.012		5.0	5.0-5.0	-2	-2 to -2	3.1	3.1-3.1	1.2	1.2-1.2
<u>E. sudetica</u> O. Müll.	6	.211	ACF	4.8	4.5-6.6	-14	-27 to 42	5.4	3.1-13.9	1.9	0.8-6.0
<u>E. tenella</u> (Grun.) Cl.	18	1.509	ACF	5.1	4.5-7.0	-6	-31 to 77	6.9	2.7-21.6	2.6	0.3-8.4
<u>E. triodon</u> Ehr.	2	.043	ACF	4.8	4.8-5.0	11	-13 to -4	4.0	2.7-4.2	1.2	0.9-3.0
<u>E. valida</u> Hust.	3	.025		5.3	4.6-7.0	0	-31 to 69	4.4	3.5-6.3	0.9	0.4-1.5
<u>E. vanheurckii</u> Patr.	3	.019	ACF	6.3	5.7-7.0	33	11 to 69	6.5	4.6-8.7	1.6	0.9-2.5
<u>E. vanheurckii</u> var. <u>intermedia</u> (Krasske <u>ex</u> Hust.) Patr.	13	.255	ACF	5.2	4.5-7.3	5	-27 to 250	12.0	2.7-21.6	4.6	0.9-8.4
<u>E. sp.</u>	28	2.528		5.3	4.5-7.8	14	-31 to 408	6.7	2.7-21.6	2.8	0.3-8.4
<u>Fragilaria bicapitata</u> A. Mayer	2	.143		5.7	5.5-7.5	26	4 to 253	4.3	3.4-13.4	0.5	0.3-1.8

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll <u>a</u> $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>F. brevistriata</u> Grun.	9	1.708	ALKF	7.2	5.2-7.5	149	0 to 253	12.2	4.2-18.1	4.2	1.5-7.7
<u>F. constricta</u> Ehr.	7	.298	ACF	5.2	4.6-7.0	-4	-31 to 69	4.1	3.4-6.3	0.8	0.3-3.2
<u>F. constricta</u> f. <u>stricta</u> (A. Cl.) Hust.	5	.441	ACF	5.5	4.6-6.8	3	-31 to 79	3.6	3.1-7.2	0.4	0.3-2.3
<u>F. constricta</u> var. <u>trinodis</u> Hust.	1	.006		5.7	5.7-5.7	20	20 to 20	4.6	4.6-4.6	0.9	0.9-0.9
<u>F. construens</u> (Ehr.) Grun.	10	.926		7.4	5.1-7.8	216	-5 to 408	10.4	2.4-18.1	2.3	0.6-7.7
<u>F. construens</u> var. <u>binodis</u> (Ehr.) Grun.	4	.155	ALKF	7.1	6.8-7.3	113	62 to 154	10.1	7.2-18.1	3.6	1.8-7.7
<u>F. construens</u> var. <u>pumila</u> Grun.	4	.416		7.3	6.6-7.5	192	33 to 253	13.1	7.0-18.1	2.9	0.9-7.7
<u>F. construens</u> var. <u>venter</u> (Ehr.) Grun.	22	4.721	ALKF	7.3	5.1-7.8	200	-5 to 408	10.4	4.2-18.1	2.6	0.8-7.7
<u>F. crotonensis</u> Kitton	2	1.236	ALKF	7.5	7.3-7.8	312	250 to 408	7.4	7.4-7.4	3.2	3.2-3.2
<u>F. leptostauron</u> (Ehr.) Hust.	2	.012	ALKF	7.5	7.3-7.8	329	250 to 408	7.4	7.4-7.4	3.2	3.2-3.2
<u>F. pinnata</u> Ehr.	13	2.155	ALKF	7.3	6.9-7.8	200	59 to 408	11.6	4.2-18.1	3.9	0.8-7.7

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll <u>a</u> $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>F. vaucheriae</u> (Kütz.) Peters.	3	.025	ALKF	7.4	7.2-7.7	224	126 to 392	10.7	8.9-13.4	2.4	1.8-2.9
<u>F. virescens</u> Ralfs	17	.938	IND	6.8	5.5-7.5	88	4 to 253	8.3	2.4-18.1	2.5	0.3-7.7
<u>F. virescens</u> var. 1	7	2.876	ACB	4.8	4.6-5.5	-13	-31 to 4	3.3	2.7-4.4	1.5	0.3-3.0
<u>F. spp.</u>	15	1.503		7.1	4.9-7.8	200	-2 to 408	8.8	3.1-18.1	3.3	0.8-7.7
<u>Frustulia rhomboides</u> (Ehr.) DeT.	8	.062	ACF	5.5	4.6-6.8	9	-31 to 79	5.6	2.4-13.9	1.6	0.4-6.0
<u>F. rhomboides</u> var. <u>capitata</u> (A. Mayer) Patr.	10	.578	ACF	5.4	4.7-7.0	7	-18 to 126	6.8	3.1-13.9	2.8	0.3-6.0
<u>F. rhomboides</u> var. <u>crassinervia</u> (Bréb. ex W. Sm.) Ross	5	.050	ACF	6.4	4.7-7.2	52	-31 to 135	7.3	3.1-13.9	2.9	0.8-6.0
<u>F. rhomboides</u> var. <u>saxonica</u> (Rabh.) DeT.	26	1.280	ACF	5.2	4.5-7.2	1	-2 to 69	9.6	2.7-21.6	3.3	0.3-8.4
<u>F. rhomboides</u> vars.	3	.050		5.5	5.0-7.0	16	-2 to 69	4.6	3.1-6.3	1.8	1.2-3.2
<u>Gomphonema acuminatum</u> Ehr.	1	.006	ALKF	7.8	7.8-7.8	366	366 to 366	13.2	13.2-13.2	6.6	6.6-6.6
<u>G. affine</u> Kütz.	1	.012		5.1	5.1-5.1	-5	-5 to -5	5.2	5.2-5.2	0.9	0.9-0.9

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll <u>a</u> $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>G. angustatum</u> (Kütz.) Rabh.	6	.087	ALKF	6.6	6.0-7.8	79	23 to 408	9.2	6.3-13.9	3.1	0.8-6.0
<u>G. gracile</u> Ehr. <u>emend.</u> V.H.	1	.006	IND	7.2	7.2-7.2	126	126 to 126	8.9	8.9-8.9	2.9	2.9-2.9
<u>G. parvulum</u> (Kütz.)	2	.012	IND	5.7	4.8-6.6	14	-13 to 40	5.0	4.2-5.8	1.9	0.9-2.9
<u>B. sp.</u>	13	.373		6.9	5.7-7.8	155	11 to 408	9.8	2.4-13.9	3.7	0.6-6.6
<u>Melosira ambigua</u> (Grun.) Müller	17	1.950		7.1	6.4-7.8	146	27 to 408	6.7	2.7-14.1	2.1	0.6-6.6
<u>M. distans</u> (Ehr.) Kütz.	30	5.062	ACF	5.9	4.5-7.8	36	-31 to 408	5.5	2.4-18.1	1.4	0.3-7.7
<u>M. distans</u> var. <u>africana</u> Müller	9	.416	ACF	6.3	4.6-7.2	55	-31 to 135	6.7	3.1-10.1	1.8	0.4-3.3
<u>M. distans</u> var. <u>alpigena</u> Grun.	2	.099	IND	6.9	6.2-7.0	65	11 to 69	6.5	6.3-8.7	1.6	1.5-2.5
<u>M. distans</u> var. <u>lirata</u> (Ehr.)	10	.808	ACF	6.5	5.1-7.3	49	-5 to 154	6.0	2.4-18.1	1.6	0.6-7.7
Bethge											
<u>M. distans</u> var. <u>lirata</u> f. <u>seriata</u> Müller	8	.373	ACF	6.1	4.6-7.3	51	-31 to 158	6.2	3.5-10.0	1.4	0.4-2.9
<u>M. italica</u> subsp. <u>subarctica</u> Müller	4	0.223	ALKF	7.3	7.1-7.5	217	126 to 253	11.9	9.5-14.1	2.7	1.8-3.3

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll a $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>M. spp.</u>	7	.398		5.8	4.7-7.8	46	-18 to 408	6.7	3.1-13.9	3.0	1.5-6.0
<u>Meridion circulare</u> (Grev.) Ag.	1	.081	ALKF	7.8	7.8-7.8	408	408 to 408	7.4	7.4-7.4	3.2	3.2-3.2
<u>M. circulare</u> var. <u>constrictum</u> (Ralfs) V.H.	1	.012	ALKF	7.5	7.5-7.5	253	253 to 253	13.4	13.4-13.4	1.8	1.8-1.8
<u>Navicula angusta</u> Grun.	1	.006		6.6	6.6-6.6	40	40 to 40	5.8	5.8-5.8	2.9	2.9-2.9
<u>N. cf. arvensis</u> Hust.	6	.261		6.4	4.7-7.3	73	-16 to 154	13.4	4.2-21.6	5.1	0.8-8.4
<u>N. cocconeiformis</u> Greg. <u>ex</u> Grev.	10	.093	IND	6.9	6.0-7.5	97	23 to 253	8.3	4.2-13.9	2.2	0.8-6.0
<u>N. contenta</u> var. <u>biceps</u> (Arn.) V.H.	1	.006		5.0	5.0-5.0	-4	-4 to -4	2.7	2.7-2.7	3.0	3.0-3.0
<u>N. cryptocephala</u> Kütz.	3	.143	ALKF	7.6	7.2-7.7	310	118 to 392	10.6	4.2-11.6	2.3	1.5-2.9
<u>N. explanata</u> Hust.	1	.006	IND	7.2	7.2-7.2	118	118 to 118	4.2	4.2-4.2	1.5	1.5-1.5
<u>N. gysingensis</u> Foged	6	.050	ACF	7.0	6.8-7.3	128	62 to 250	7.5	6.3-10.0	2.0	1.5-2.3
<u>N. laevis</u> Kütz.	7	.118	IND	6.6	5.7-7.3	78	20 to 154	8.6	4.2-18.1	2.9	0.8-7.7
<u>N. lanceolata</u> (Ag.) Kütz.	1	.006	ALKF	7.0	7.0-7.0	69	69 to 69	6.3	6.3-6.3	1.5	1.5-1.5

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll <u>a</u> $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>N. mediocris</u> Krasske	11	.224	IND	5.4	4.6-7.5	11	-31 to 253	4.3	2.7-13.4	1.1	0.4-3.0
<u>N. minima</u> Grun.	20	.832	ALKF	7.0	5.1-7.8	112	-5 to 408	9.2	4.2-18.1	2.9	0.8-7.7
<u>N. cf. mouri</u> Patr.	2	.019		7.6	7.3-7.7	313	154 to 392	13.8	11.6-18.1	4.0	2.1-7.7
<u>N. notha</u> Wallace	21	.578	IND	6.0	4.6-7.8	59	-31 to 408	6.8	2.7-21.6	2.3	0.3-8.4
<u>N. pseudoscutiformis</u> Hust.	12	.168	IND	6.7	6.2-7.3	62	11 to 250	7.2	2.4-9.7	2.2	0.6-3.9
<u>N. pupula</u> Kütz.	13	.193	IND	6.9	5.4-7.8	147	6 to 392	8.6	4.2-13.4	2.4	0.8-6.6
<u>N. radiosa</u> Kütz.	4	.062	IND	7.1	5.7-7.7	159	20 to 392	7.9	4.6-11.6	1.7	0.9-2.1
<u>N. radiosa</u> var. <u>parva</u> Wallace	6	.099		6.2	5.4-7.2	37	6 to 118	9.2	4.2-13.9	3.4	0.9-6.0
<u>N. seminulum</u> Grun.	9	.460	IND	6.7	6.2-7.8	66	11 to 366	8.6	4.2-13.4	2.5	0.8-6.6
<u>N. subatomoides</u> Hust.	1	.012	ACF	6.9	6.9-6.9	62	62 to 62	7.2	7.2-7.2	1.8	1.8-1.8
<u>N. subtilissima</u> Cl.	21	1.851	ACB	5.1	4.6-7.0	-4	-31 to 79	9.0	2.4-21.6	3.4	0.3-8.4
<u>N. tridentula</u> Krasske	1	.006		7.7	7.7-7.7	392	392 to 392	11.7	11.7-11.7	2.1	2.1-2.1
<u>N. cf. vanheurckii</u> Patr.	1	.031	ALKF	5.0	5.0-5.0	-2	-2 to -2	3.1	3.1-3.1	1.2	1.2-1.2
<u>N. spp.</u>	30	1.528		6.9	4.5-7.8	134	-31 to 408	9.1	2.4-18.1	2.9	0.4-7.7

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll <u>a</u> $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>Neidium affine</u> (Ehr.) Pfitz.	20	.845	IND	5.1	4.5-7.8	4	~31 to 366	4.5	3.1-13.9	1.4	0.4-6.6
<u>N. affine</u> var. <u>amphirhynchus</u> (Ehr.) Cl.	2	.019	IND	6.3	6.0-7.0	35	23 to 59	10.8	4.6-13.9	4.3	0.8-6.0
<u>N. affine</u> var. <u>longiceps</u> (Greg.) Cl.	13	.143	ACF	6.1	4.9-7.5	36	~5 to 253	6.7	3.1-13.9	1.6	0.8-6.0
<u>N. bisulcatum</u> (Lagerst.) Cl.	7	.292	IND	5.2	4.9-7.0	2	~5 to 77	4.4	3.1-7.2	1.2	0.8-2.9
<u>N. boyeri</u> Reim.	1	.006		6.6	6.6-6.6	40	40 to 40	5.8	5.8-5.8	2.9	2.9-2.9
<u>N. iridis</u> (Ehr.) Cl.	3	.068	IND	5.1	4.7-7.5	18	~18 to 253	4.0	3.1-13.4	1.4	1.2-1.8
<u>N. iridis</u> var. <u>amphigomphus</u> (Ehr.) A Mayer	10	.118	IND	5.1	4.5-6.6	~6	~31 to 40	4.4	2.7-5.8	1.5	0.3-3.2
<u>N. iridis</u> var. <u>ampliatum</u> (Ehr.) Cl.	1	.012	IND	5.2	5.2-5.2	0	0 to 0	5.8	5.8-5.8	3.2	3.2-3.2
<u>N. ladogense</u> var. <u>densestriatum</u> (Østr.) Foged	1	.012		4.9	4.9-4.9	~5	~5 to ~5	4.4	4.4-4.4	1.2	1.2-1.2
<u>N. maximum</u> (Cl.) Meist.	2	.012		7.1	7.0-7.2	98	77 to 118	5.6	4.2-7.0	1.8	1.5-2.2

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll <u>a</u> $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>N. saccoense</u> Reim.	1	.012		5.4	5.4-5.4	6	6 to 618	--	--	--	--
<u>N. spp.</u>	5	.068		5.2	4.6-6.0	-3	-31 to 23	10.5	3.1-21.6	4.0	0.4-8.4
<u>Nitzschia acuta</u> Hantz.	10	.106	ALKF	6.9	6.0-7.5	106	23 to 253	10.3	4.6-18.1	3.2	0.8-7.7
<u>N. denticula</u> Grun.	3	.236	ALKF	7.7	7.2-7.7	372	129 to 392	11.7	10.0-14.8	2.3	2.1-6.8
<u>N. cf. dissipata</u> (Kütz.) Grun.	2	.031	ALKF	6.4	6.0-6.5	38	23 to 42	8.0	6.6-13.9	1.9	0.8-6.0
<u>N. cf. fonticola</u> Grun.	8	.242		6.9	6.0-7.7	160	11 to 392	10.0	6.3-14.8	2.7	0.8-6.8
<u>N. gracilis</u> Hantz.	11	.180	ALKF	6.7	5.1-7.8	116	-5 to 392	8.4	5.2-14.8	2.2	0.8-6.8
<u>N. cf. hantzschiana</u> Rabh.	3	.019		6.3	5.2-7.0	43	0 to 69	6.4	5.8-7.2	2.1	1.5-3.2
<u>N. cf. inconspicua</u> Grun.	2	.025		7.0	7.0-7.0	64	59 to 69	5.4	4.6-6.3	1.1	0.8-1.5
<u>N. linearis</u> W. Sm.	2	.019	ALKF	5.8	4.8-7.8	128	-13 to 408	5.3	4.2-7.3	1.7	0.9-3.2
<u>N. microcephala</u> Grun.	2	.037	ALKF	7.1	7.0-7.2	110	77 to 126	8.2	7.0-8.9	2.6	2.2-2.9
<u>N. palea</u> (Kütz.) W. Sm.	20	.714	IND	6.3	4.5-7.8	50	-26 to 366	8.4	4.2-21.6	2.6	0.8-8.4
<u>N. paleacea</u> Grun.	11	.230		6.5	5.7-7.8	123	20 to 408	7.3	2.4-14.8	2.3	0.6-6.8
<u>N. subtilis</u> (Kütz.) Grun.	1	.006		6.9	6.9-6.9	62	62 to 62	7.2	7.2-7.2	1.8	1.8-1.8

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll <u>a</u> $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>N. spp.</u>	13	.385		6.9	4.7-7.8	138	-18 to 408	8.7	3.1-14.8	2.3	0.8-6.8
<u>Peronia fibula</u> (Breb. <u>ex</u> Kütz.) Ross	4	.043	ACF	5.0	4.8-5.1	-5	-13 to -2	4.0	3.1-5.2	1.1	0.9-1.2
<u>Pinnularia abaujensis</u> (Pant.) Ross	6	.429	ACF	4.5	4.5-6.0	-24	-31 to 23	5.7	3.5-13.9	1.6	0.4-6.0
<u>P. cf. abaujensis</u> var. <u>rostrata</u> (Patr.) Patr.	1	.031	ACF	6.6	6.6-6.6	33	33 to 33	7.0	7.0-7.0	0.9	0.9-0.9
<u>P. abaujensis</u> var. <u>subundulata</u> (A. Mayer <u>ex</u> Hust.) Patr.	12	.112	ACF	5.9	4.5-7.2	37	-27 to 129	6.7	2.7-14.8	2.9	0.9-6.8
<u>P. biceps</u> Greg.	18	2.348	ACF	5.6	4.5-7.2	9	-27 to 129	8.8	3.4-21.6	2.9	0.3-8.4
<u>P. biceps</u> f. <u>petersenii</u> Ross	6	.062	IND	6.3	5.1-7.2	36	-5 to 126	9.3	5.2-13.9	3.0	0.8-6.0
<u>P. borealis</u> Ehr.	2	.019	IND	5.2	4.5-6.5	-4	-27 to 42	6.6	6.6-6.6	0.8	0.8-0.8
<u>P. braunii</u> (Grun.) Cl.	4	.230	ACF	6.2	5.7-7.2	51	20 to 126	6.0	4.6-8.9	1.4	0.9-2.9
<u>P. cf. caudata</u> (Boyer) Patr.	2	.031		5.3	4.9-6.6	7	-2 to 40	3.6	3.1-5.8	1.6	1.2-2.9
<u>P. divergentissima</u> (Grun.) Cl.	4	.056	ACF	6.3	6.0-6.6	24	11 to 42	9.1	5.8-13.9	2.9	0.8-6.0

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll a $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>P. formica</u> (Ehr.) Patr.	1	.025		6.2	6.2-6.2	11	11 to 11	8.7	8.7-8.7	2.5	2.5-2.5
<u>P. maior</u> (Kütz.) Rabh.	1	.012	IND	6.5	6.5-6.5	42	42 to 42	6.6	6.6-6.6	0.8	0.8-0.8
<u>P. mesolepta</u> (Ehr.) W. Sm.	2	.012	ACF	5.8	4.8-6.8	25	-13 to 62	5.7	4.2-7.2	1.4	0.9-1.8
<u>P. microstauron</u> (Ehr.) Cl.	14	.919	ACF	5.2	4.5-7.2	0	-27 to 135	4.9	2.7-10.1	1.9	0.3-3.3
<u>P. obscura</u> Krasske	1	.006		7.2	7.2-7.2	126	126 to 126	8.9	8.9-8.9	2.9	2.9-2.9
<u>P. rupestris</u> Hantz.	4	.043		5.3	4.8-5.5	0	-13 to 4	3.8	2.7-5.8	1.2	0.3-3.2
<u>P. ruttneri</u> Hust.	1	.006	ACF	7.3	7.3-7.3	154	154 to 154	18.2	18.2-18.2	7.7	7.7-7.7
<u>P. cf. subcapitata</u> Greg.	1	.081	IND	4.5	4.5-4.5	-27	-27 to -27	--	--	--	--
<u>P. cf. sublinearis</u> (Grun.) Cl.	2	.012		6.0	4.8-7.2	53	-13 to 118	4.2	4.2-4.2	1.2	0.9-1.5
<u>P. viridis</u> (Nitz.) Ehr.	4	.025	IND	7.1	6.8-7.3	107	62 to 158	8.9	7.2-10.0	2.7	1.8-3.9
<u>P. spp.</u>	27	1.646		5.6	4.5-7.8	19	-31 to 408	5.4	2.4-14.8	1.8	0.3-6.8
<u>Rhizosolenia</u> sp.	1	.006		7.8	7.8-7.8	408	408 to 408	7.4	7.4-7.4	3.2	3.2-3.2
<u>Rhopalodia gibba</u> (Ehr.) O.	1	.006	ALKF	7.3	7.3-7.3	158	158 to 158	10.0	10.0-10.0	2.2	2.2-2.2
Müll.											
<u>Semiorbis hemicyclus</u> (Ehr.) Patr.	8	.323	ACF	4.9	4.6-5.7	-8	-31 to 20	4.3	3.1-5.8	1.1	0.3-3.2

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll a $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>Stauroneis anceps</u> Ehr.	8	.149	IND	6.1	4.8-7.1	20	-13 to 135	7.2	3.1-10.1	2.1	0.8-3.3
<u>S. anceps</u> f. <u>gracilis</u> Rabh.	18	.652	ACF	6.2	4.7-7.8	44	-16 to 366	8.2	3.4-2.6	2.5	0.3-8.4
<u>S. anceps</u> f. <u>linearis</u> (Ehr.) Hust.	1	.006	IND	6.5	6.5-6.5	42	42 to 42	6.6	6.6-6.6	0.8	0.8-0.8
<u>S. dilatata</u> Ehr.	1	.006		5.1	5.1-5.1	-5	-5 to -5	5.2	5.2-5.2	0.9	0.9-0.9
<u>S. gracillima</u> Hust.	6	.379	ACB	4.8	4.6-5.2	-14	-31 to 0	3.6	3.1-5.8	1.5	0.4-3.2
<u>S. livingstonii</u> Reim.	1	.006		7.3	7.3-7.3	158	158 to 158	10.0	10.0-10.0	2.2	2.2-2.2
<u>S. nobilis</u> var. <u>baconiana</u> (Stodd.) Reim.	1	.043		7.2	7.2-7.2	126	126 to 126	8.9	8.9-8.9	2.9	2.9-2.9
<u>S. phoenicenteron</u> (Nitz.) Ehr.	2	.025	IND	6.7	6.6-6.9	51	40 to 84	6.8	5.8-9.7	3.2	2.9-3.9
<u>S. phoenicenteron</u> f. <u>gracilis</u> (Ehr.) Hust.	5	.037	IND	5.6	4.5-7.5	38	-26 to 253	7.7	5.2-13.4	1.9	0.9-3.2
<u>S. staurolineata</u> Reim.	1	.006		7.0	7.0-7.0	69	69 to 69	6.3	6.3-6.3	1.5	1.5-1.5
<u>S. stodderi</u> Lewis	2	.012		6.3	5.7-6.8	41	20 to 62	5.9	4.6-7.2	1.3	0.9-1.8
<u>S. spp.</u>	3	.019		5.7	5.2-6.6	15	0 to 40	5.8	5.8-5.8	3.0	2.9-3.2

Taxon	No. of lakes in which taxon was ob- served	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity µeq/L		Total phosphorus µg/L		Chlorophyll <u>a</u> µg/L	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>Stenopterobia intermedia</u> (Lewis) Fricke	18	.466	ACF	5.4	4.8-7.3	13	-13 to 158	4.6	2.4-13.9	1.6	0.3-6.0
<u>Stephanodiscus cf. niagarae</u> Ehr.	1	.006		7.3	7.3-7.3	250	250 to 250	--	--	--	--
<u>Surirella cf. angustata</u> Kütz.	1	.006	ALKF	7.2	7.2-7.2	126	126 to 126	8.9	8.9-8.9	2.9	2.9-2.9
<u>S. cf. biseriata</u> Bréb.	1	.006	IND	6.0	6.0-6.0	23	23 to 23	13.9	13.9-13.9	6.0	6.0-6.0
<u>S. cf. biseriata</u> var. <u>constricta</u> Grun.	1	.012		5.2	5.2-5.2	0	0 to 0	5.8	5.8-5.8	3.2	3.2-3.2
<u>S. delicatissima</u> Lewis	23	1.627	ACF	5.2	4.5-7.7	2	-31 to 392	4.2	2.7-13.9	1.5	0.3-6.0
<u>S. linearis</u> W. Sm.	5	.112	IND	5.2	4.6-7.2	6	-31 to 118	4.5	3.5-5.2	1.1	0.4-1.5
<u>S. linearis</u> var. <u>constricta</u> (Ehr.) Grun.	1	.012	IND	6.6	6.6-6.6	40	40 to 40	5.8	5.8-5.8	2.9	2.9-2.9
<u>S. spp.</u>	4	.056		5.7	5.0-6.8	15	-4 to 62	4.4	2.7-7.2	1.6	0.3-3.2
<u>Synedra amphicephala</u> Kütz.	2	.012		7.7	7.5-7.8	310	253 to 366	13.3	13.2-13.4	4.2	1.8-6.6
<u>S. cf. delicatissima</u> var. <u>angustissima</u> Grun.	3	.099	IND	7.4	7.2-7.5	196	126 to 253	11.3	8.9-13.4	2.1	1.8-2.9

Taxon	No. of lakes in which taxon was observed	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity $\mu\text{eq/L}$		Total phosphorus $\mu\text{g/L}$		Chlorophyll <u>a</u> $\mu\text{g/L}$	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>S. cf. filiformis</u> var. <u>exilis</u> Cl.-Eul.	5	.217		7.3	7.0-7.8	169	59 to 408	8.1	4.2-14.8	2.4	0.8-6.8
<u>S. cf. minuscula</u> Grun.	5	.255	ALKF	7.5	6.0-7.8	250	23 to 366	13.8	6.3-18.1	3.4	1.5-7.7
<u>S. cf. nana</u> Meist.	7	.379	IND	7.2	6.8-7.8	148	62 to 408	11.2	6.3-14.8	4.8	1.5-6.8
<u>S. parasitica</u> (W. Sm.) Hust.	1	.006	ALKF	7.0	7.0-7.0	77	77 to 77	7.0	7.0-7.0	2.2	2.2-2.2
<u>S. rumpens</u> Kütz.	10	.441	IND	7.1	6.5-7.5	117	33 to 253	12.3	4.2-18.1	4.6	0.8-7.7
<u>S. tabulata</u> (Ag.) Kütz.	1	.019		7.3	7.3-7.3	250	250 to 250	--	--	--	--
<u>S. tenera</u> W. Sm.	2	.087	ACF	7.2	7.2-7.3	144	126 to 250	8.9	8.9-8.9	2.9	2.9-2.9
<u>S. ulna</u> var. <u>chaseana</u> Thomas	3	.043		7.6	7.3-7.8	317	250 to 366	13.3	13.2-13.4	5.6	1.8-6.6
<u>S. ulna</u> var. <u>danica</u> (Kütz.) V.H.	2	.012	IND	7.8	7.7-7.8	400	392 to 408	9.5	7.3-11.6	2.7	2.1-3.2
<u>S. ulna</u> var. <u>oxyrhynchus</u> f. <u>mediocontracta</u> (Forti) Hust.	1	.012	ALKF	7.5	7.5-7.5	253	253 to 253	13.4	13.4-13.4	1.8	1.8-1.8
<u>S. spp.</u>	19	.758		7.2	4.5-7.8	222	-26 to 408	10.3	2.4-13.9	4.3	0.6-6.6
<u>Tabellaria binalis</u> (Ehr.?) Grun.	6	.075	ACB	5.0	4.6-5.2	-7	-31 to 0	4.4	3.1-5.8	1.4	0.4-3.2

Taxon	No. of lakes in which taxon was ob- served	% of grand total of all counts	pH pref. categ.	pH Geometric mean		Alkalinity µeq/L		Total phosphorus µg/L		Chlorophyll <u>a</u> µg/L	
				Ave.	Range	Ave.	Range	Ave.	Range	Ave.	Range
<u>T. flocculosa</u> (Roth) Kütz. var. <u>flocculosa</u> strain III <u>sensu</u> Koppen	30	2.398	ACF	6.4	4.7-7.8	94	-18 to 408	7.6	2.4-18.1	2.9	0.6-7.7
<u>T. flocculosa</u> (Roth) Kütz. var. <u>flocculosa</u> strain IV <u>sensu</u> Koppen	17	.783	ACF	6.3	4.5-7.3	63	-31 to 158	10.5	2.4-14.8	4.3	0.3-6.8
<u>T. flocculosa</u> (Roth) Kütz. var. <u>linearis</u> Koppen	22	.540	ACF	5.7	4.5-7.3	24	-31 to 250	5.6	2.4-18.1	1.5	0.4-7.7

Footnotes for Table 10

1. Preference categories are based on literature references; procedures used to assign taxa to categories are described in text. ACB = acidobiontic; ACF = acidophilic; IND = indifferent; ALKF = alkaliphilic.

2. The weighted mean of each characteristic was determined using the following formula,

$$\bar{X} = \frac{\sum_{i=1}^{38} P_i (X_i)}{\sum_{i=1}^{38} P_i} \text{ where}$$

\bar{X} = mean of the characteristic X (e.g., alkalinity).

P_i = percentage occurrence of the taxon in lake sediment sample i.

X_i = value of the lake water characteristic in lake i.

Initially, two tables were prepared, one with weighted and one with unweighted means. Comparison of the two indicated that the weighted values were more representative of the conditions under which optimal development of populations seemed to occur.

3. Bog lakes were excluded from calculation of means and ranges, because concentrations of total P and chlorophyll a were much higher than in the other lakes.