

**Supplementary material 2:** Diatoms species list, Author = author of species description, Code = species codes used in the CCA analysis, Mean Ind = mean number of individuals, SD = standard deviation, RL= Red List species, and distribution of species in the different lakes. RL= Red List species (Lange-Bertalot, 1996): 1 = threatened with extinction, 2 = severely endangered, 3 = endangered, V =decreasing, G = presumed endangered, R = extremely rare, D = data scarce, \* = at present not considered threatened, \*\* = surely not threatened; ° = increasing.

Taxa	Author	Code	Mean ind	SD	RL	Rosole	P1 Rosole	L1 Rosole	Manzina	L1 Pisella	L2 Pisella	Bianco	Nero
<i>Achnanthes hintzii</i>	Lange-Bertalot & Krammer	AHIN	0.1	0.17	R		x						
<i>Achnantheidium bioretii</i>	(Germain) Edlund	ABRT	0.0	0.11	V				x				
<i>Achnantheidium minutissimum</i>	(Kützing) Czarnecki	ADMI	66.7	50.00	**	x	x	x	x	x	x	x	x
<i>Aclafia minuscula</i>	(Grunow) Lange-Bertalot	ADMS	4.0	7.30	*		x	x				x	
<i>Amphora aequalis</i>	Krammer	AAEQ	0.0	0.11					x				
<i>Amphora fagediana</i>	Krammer in Krammer & Lange-Bertalot	AMFO	0.1	0.33	R							x	
<i>Amphora inariensis</i>	Krammer	AINA	0.4	0.70	3			x				x	
<i>Amphora libyca</i>	Ehrenberg	ALIB	0.1	0.22	**				x				
<i>Amphora pediculus</i>	(Kützing) Grunow	APED	0.1	0.22	**				x				
<i>Brachysira brebissonii</i>	Ross in Hartley	BBRE	0.2	0.35	*		x					x	
<i>Brachysira neoexilis</i>	Lange-Bertalot	BNEO	0.1	0.19	*				x			x	
<i>Brachysira vitrea</i>	(Grunow) Ross in Hartley	BVIT	0.5	0.71	3				x		x	x	
<i>Cavinula pusio</i>	(P.T. Cleve) Lange-Bertalot	CVPU	1.0	2.65				x					
<i>Cocconeis placentula</i>	Ehrenberg	CPLA	0.2	0.33	**	x			x				
<i>Cyclotella antiqua</i>	W. Smith	CATQ	0.3	0.66	°						x		
<i>Cyclotella gordonensis</i>	Kling & Hakansson	CGOR	0.1	0.26					x			x	
<i>Cymbella affinis</i>	Kützing	CAFF	17.1	27.01		x	x		x		x	x	
<i>Cymbella compacta</i>	Ostrup	CCMP	1.0	2.65	*					x			
<i>Cymbella rupicola</i>	(Grunow) Krammer	CRPC	0.3	0.66	R					x			
<i>Craticula halophila</i>	(Grunow ex Van Heurck) Mann	CHAL	0.9	2.32	**	x							
<i>Craticula molestiformis</i>	(Hustedt) Lange-Bertalot	CMLF	1.5	3.97	**	x							
<i>Delicata costei</i>	(Maillard) Krammer & Lange-Bertalot	DCOS	0.6	1.65					x				
<i>Denticula tenuis</i>	Kützing	DTEN	18.2	21.40	*		x		x	x	x	x	
<i>Diademsis perpusilla</i>	(Grunow) D.G. Mann in Round & al.	DPER	0.1	0.33	**					x			
<i>Diatoma mesodon</i>	(Ehrenberg) Kützing	DMES	0.0	0.11	*				x				
<i>Discostella stelligeroides</i>	(Hustedt) Houk & Klee	DSTO	0.1	0.33							x		
<i>Encyonema caespitosum</i>	Kützing	ECAE	0.3	0.66	**								x
<i>Encyonema minutum</i>	(Hilse ex Rabenhorst) D.G. Mann	ENMI	25.9	31.92	*	x	x	x	x	x	x	x	x
<i>Encyonema silesiacum</i>	(Bleisch in Rabenhorst) D.G.	ESLE	1.7	3.23	*				x	x		x	





Czarnecki & Edlund										
<i>Psammothidium marginulatum</i>	(Grunow) Bukhtiyarova & Round	PMRG	6.4	14.09	3		x	x		
<i>Psammothidium perpusillum</i>	(Oestrup) Lange-Bertalot	PPEP	0.1	0.17						x
<i>Psammothidium scoticum</i>	(Flower & Jones) Bukhtiyarova & Round	PSCT	20.1	45.53	R		x	x	x	x
<i>Psammothidium subatomoides</i>	(Hustedt) Bukhtiyarova & Round	PSAT	1.0	2.29	V	x			x	
<i>Psammothidium ventrale</i>	(Krasske) Bukhtiyarova & Round	PVEN	0.1	0.17	3					x
<i>Pseudostaurosira brevistriata</i>	(Grunow) Van Heurck Williams & Round	PSBR	3.8	7.77	**	x	x		x	
<i>Pseudostaurosira elliptica</i>	(Schumann) Edlund, Morales & Spaulding	PSSE	4.9	9.61	*	x				x
<i>Pseudostaurosira robusta</i>	(Fusey) Williams & Round	PRBS	0.0	0.11	*				x	
<i>Puncticulata radiosa</i>	(Lemmermann) Håkansson	PRAD	0.3	0.66	*				x	
<i>Rossithidium petersennii</i>	(Hustedt) Round & Bukhtiyarova	RPET	0.5	0.88	3			x	x	x
<i>Sellaphora pupula</i>	(Kützing) Mereschkowksy	SPUP	0.1	0.33	**		x			
<i>Sellaphora stroemii</i>	(Hustedt) Mann	SSTM	0.2	0.37	3				x	x
<i>Stauroneis anceps</i>	Ehrenberg	STAN	0.6	1.65	V				x	
<i>Staurosira construens</i>	Ehrenberg	SCON	0.3	0.66	**		x			
<i>Staurosira binodis</i>	Lange-Bertalot in Hofmann Werum & Lange-Bertalot	SBND	0.5	1.32	*	x				
<i>Staurosira pseudoconstruens</i>	(Marciniak) Lange-Bertalot	SPCO	0.1	0.33					x	
<i>Staurosirella pinnata</i>	(Ehrenberg) Williams & Round	SPIN	2.2	2.97	**		x		x	x
<i>Surirella minuta</i>	Brébisson ex Kützing	SUMI	0.1	0.33	**					x
<i>Surirella roba</i>	Leclercq	SRBA	1.0	2.65	*		x			
<i>Surirella tenuis</i>	Mayer	STNU	0.4	0.99	R				x	
<i>Tryblionella coarctata</i>	(Grunow in Cleve & Grunow) D.G. Mann	TCOA	0.9	2.32	*				x	