

TABLE S1. *Aphanizomenon*, *Anabaena* and *Anabaenopsis* strains from different freshwater lakes evaluated in this study, ELISA and LC-MS/MS results and genetic properties. - = not detected.

Species/strain	Lake	ELISA CYN	LC- MS/MS CYN	ELISA PSP	LC- MS/MS PSP	LC- MS/MS ATX	Accession number <i>sxtA</i>	PC-IGS
<i>Aphanizomenon</i>								
<i>A. gracile</i>								
AB2008/06	Langer	-	-	-	-	-	-	FN552292
AB2002/10	Langer	-	-	-	-	-	-	FN552293
AB2008/14	Langer	-	-	-	-	-	-	FN552294
AB2008/15	Langer	-	-	-	-	-	-	FN552295
AB2008/25	Melang	-	-	-	-	-	-	FN552301
AB2008/26	Melang	-	-	-	-	-	-	FN552302
AB2008/27	Melang	-	-	-	-	-	-	FN552303
AB2008/32	Melang	-	-	-	-	-	-	FN552306
AB2008/34	Scharmützel	-	-	-	-	-	-	FN552307
AB2008/35	Scharmützel	-	-	-	-	-	-	FN552308
AB2008/36	Langer	-	-	-	-	-	-	FN552309
AB2008/39	Langer	-	-	-	-	-	-	FN552310
AB2008/41	Langer	-	-	-	-	-	-	FN552311
AB2008/53	Langer	-	-	-	-	-	-	FN552317
AB2008/62	Langer	-	-	-	-	-	-	FN552319
AB2008/66	Melang	-	-	-	-	-	-	FN552321
AB2008/67	Langer	-	-	-	-	-	-	FN552322
AB2008/73	Langer	-	-	-	-	-	-	FN552323
AB2008/82	Langer	-	-	-	-	-	-	FN552324
AB2008/105	Melang	-	-	-	-	-	-	FN552325
<i>A. flos-aquae</i>								
AB2008/70	Scharmützel	-	-	-	-	-	-	FN552369
AB2008/89	Stechlin	-	-	-	-	-	-	FN552367
AB2008/98	Langer	-	-	-	-	-	-	FN552368
ST43	Stechlin	-	-	-	-	-	-	FN552353
ST44	Stechlin	-	-	-	-	-	-	FN552354
ST53	Stechlin	-	-	-	-	-	-	FN552355
ST72	Stechlin	-	-	-	-	-	-	FN552356
ST84	Stechlin	-	-	-	-	-	-	FN552357
ST86	Stechlin	-	-	-	-	-	-	FN552358
ST97	Stechlin	-	-	-	-	-	-	FN552349
ST98	Stechlin	-	-	-	-	-	-	FN552359
ST115	Stechlin	-	-	-	-	-	-	FN552360

ST134	Stechlin	-	-	-	-	-	-	FN552364
ST147	Stechlin	-	-	-	-	-	-	FN552365
<i>A. issatschenkoi</i>								
AB2008/05	Langer	-	-	-	-	-	-	FN552373
AB2008/12	Langer	-	-	-	-	-	-	FN552377
AB2008/76	Langer	-	-	-	-	-	-	FN552378
<i>Anabaena</i>								
<i>A. bergii</i>								
AB2008/43	Melang	-	-	-	-	-	-	FN552379
AB2008/44	Melang	-	-	-	-	-	-	FN552380
AB2008/45	Melang	-	-	-	-	-	-	FN552381
<i>A. crassa</i>								
AB2008/56	Nehmitz	-	-	-	-	-	-	FN552341
<i>A. flos-aquae</i>								
AB2008/17	Scharmützel	-	-	-	-	-	-	FN552350
AB2008/22	Scharmützel	-	-	-	-	-	-	FN552351
<i>A. lemmermanii</i>								
AB2008/85	Nehmitz	-	-	-	-	-	-	FN552370
AB2008/86	Nehmitz	-	-	-	-	-	-	FN552371
AB2008/87	Nehmitz	-	-	-	-	-	-	FN552372
<i>A. planktonica</i>								
AB2008/01	Stechlin	-	-	-	-	-	-	FN552333
AB2008/03	Stechlin	-	-	-	-	-	-	FN552334
AB2008/04	Stechlin	-	-	-	-	-	-	FN552335
AB2008/20	Stechlin	-	-	-	-	-	-	FN552336
AB2008/24	Scharmützel	-	-	-	-	-	-	FN552337
AB2008/30	Scharmützel	-	-	-	-	-	-	FN552338
AB2008/33	Langer	-	-	-	-	-	-	FN552346
AB2008/38	Stechlin	-	-	-	-	-	-	FN552339
AB2008/46	Stechlin	-	-	-	-	-	-	FN552340
AB2008/57	Stechlin	-	-	-	-	-	-	FN552342
AB2008/68	Langer	-	-	-	-	-	-	FN552347
AB2008/74	Langer	-	-	-	-	-	-	FN552343
AB2008/90	Langer	-	-	-	-	-	-	FN552348
AB2008/92	Langer	-	-	-	-	-	-	FN552344
AB2008/95	Langer	-	-	-	-	-	-	FN552345
ST91	Stechlin	-	-	-	-	-	-	FN552327
ST190	Stechlin	-	-	-	-	-	-	FN552329
ST191	Stechlin	-	-	-	-	-	-	FN552330
ST196	Stechlin	-	-	-	-	-	-	FN552332
<i>Anabaena sp.</i>								
AB2008/64	Stechlin	-	-	-	-	-	-	FN552352
<i>Anabaenopsis</i>								

A. elenkinii

AB2008/69

Langer

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FN552383
