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Supplementary Material

Table S1. Accession numbers, names of strains and the respective clades found in Figure 2.

Accesion number/Strain	Clade
MZ677387 *Scytonema hyalinum* MAR1201	*S. hyalinum* cluster II
MZ677388 *Scytonema hyalinum* MAR1204	*S. hyalinum* cluster II
MG641904 *Scytonema hyalinum* CAU6	*S. hyalinum* cluster II
MZ677381 *Scytonema hyalinum* MAS 1227	*S. hyalinum* cluster II
KY365453 *Scytonema hyalinum* WJT9NPBG6BPS4C	*S. hyalinum* cluster II
KY365472 *Scytonema hyalinum* ACOI2287	*S. hyalinum* cluster II
MZ677379 *Scytonema hyalinum* MAS821	*S. hyalinum* cluster II
MZ677384 *Scytonema hyalinum* MAR434	*S. hyalinum* cluster II
MZ677378 *Scytonema hyalinum* MAS496	*S. hyalinum* cluster II
MK478706 *Scytonema hyalinum* Mon63C	*S. hyalinum* cluster II
MK478705 *Scytonema hyalinum* Mon63A	*S. hyalinum* cluster II
KF934172 *Scytonema* sp. WJT9NPBG6BPS4Ats	*S. hyalinum* cluster II
KF934174 *Scytonema* sp. CXA1085BZ5BZ	*S. hyalinum* cluster II
KY365465 *Scytonema hyalinum* PT10MK841A	*S. hyalinum* cluster II
MK247989 *Scytonema hyalinum* ATE7045	*S. hyalinum* cluster II
KY365455 *Scytonema hyalinum* CMT1SWINNPC17	*S. hyalinum* cluster II
KF934171 *Scytonema* sp. WJT9NPG6APS3Ats	*S. hyalinum* cluster II
KY365451 *Scytonema hyalinum* WJT9NPBG6Ats	*S. hyalinum* cluster II
KY365442 *Scytonema hyalinum* FI5JRJ0317	*S. hyalinum* cluster II
MZ677385 *Scytonema hyalinum* MAR601	*S. hyalinum* cluster II
KY365460 *Scytonema hyalinum* DV1KK48ts	*S. hyalinum* cluster II
KY365459 *Scytonema hyalinum* DV1KK456ts	*S. hyalinum* cluster II
KY365458 *Scytonema hyalinum* DV1KK434	*S. hyalinum* cluster II
KY365457 *Scytonema hyalinum* DV1KK417	*S. hyalinum* cluster II
KY365456 *Scytonema hyalinum* DV1KK3ts	*S. hyalinum* cluster II
KY365452 *Scytonema hyalinum* WJT9NPBG6Bts	*S. hyalinum* cluster II
KY365445 *Scytonema hyalinum* EM3Z1c0217	*S. hyalinum* cluster II
KY365444 *Scytonema hyalinum* EM3Z1c0214	*S. hyalinum* cluster II
KY365443 *Scytonema hyalinum* EM3HA25T2	*S. hyalinum* cluster II
KY365440 *Scytonema hyalinum* FI5JRJ0314	*S. hyalinum* cluster II
KY365478 *Scytonema hyalinum* CMT1BRINNPC39	*S. hyalinum* cluster II
KY365477 *Scytonema hyalinum* CMT1BRINNPC31	*S. hyalinum* cluster II
KY365476 *Scytonema hyalinum* CMT1BRINNPC30	*S. hyalinum* cluster II
KY365475 *Scytonema hyalinum* EM3HA15	*S. hyalinum* cluster II
KY365474 *Scytonema hyalinum* EM3HA19	*S. hyalinum* cluster II
KY365473 *Scytonema hyalinum* EM3HA20	*S. hyalinum* cluster II
KY365450 *Scytonema hyalinum* WJT4NPBG1	*S. hyalinum* cluster II

Suppl 2. Cont.

Accesion number/Strain	Clade
MZ677383 *Scytonema hyalinum* MAR431	*S. hyalinum* cluster II
MZ677380 *Scytonema hyalinum* MAS931	*S. hyalinum* cluster II
MZ677377 *Scytonema hyalinum* MAS482	*S. hyalinum* cluster II
MW403970 *Scytonema hyalinum* MAR431	*S. hyalinum* cluster II
MK478708 *Scytonema hyalinum* Mon66C	*S. hyalinum* cluster II
MK478707 *Scytonema hyalinum* Mon66A	*S. hyalinum* cluster II
MK247993 *Scytonema hyalinum* ATE7143	*S. hyalinum* cluster II
MK247987 *Scytonema hyalinum* ATE7041	*S. hyalinum* cluster II
MG641905 *Scytonema hyalinum* AM54A	*S. hyalinum* cluster II
MG641903 *Scytonema hyalinum* CAU4	*S. hyalinum* cluster II
MZ677386 *Scytonema hyalinum* MAR913	*S. hyalinum* cluster II
KY365464 *Scytonema hyalinum* PT10MK841B	*S. hyalinum* cluster II
MZ677382 *Scytonema hyalinum* MAS1228	*S. hyalinum* cluster II
KY365441 *Scytonema hyalinum* FI5JRJ0313	*S. hyalinum* cluster II
KF934173 *Scytonema* sp. CMT1BRINNPC32NCP9A	*S. hyalinum* cluster II
KY365454 *Scytonema hyalinum* CMT1BRINNPC32T2	*S. hyalinum* cluster II
AF334699 *Scytonema hyalinum* 1443B+1593	*S. hyalinum* cluster II
AF334698 *Scytonema hyalinum*	*S. hyalinum* cluster II
AF334700 *Scytonema hyalinum* 1443C+1593	*S. hyalinum* cluster II
KF932316Uncultured *Scytonema* sp. T1c	*S. hyalinum* cluster II
MK247988 *Scytonema hyalinum* ATE7044	*S. hyalinum* cluster II
KY365470 *Scytonema hyalinum* CNP2Z1c011	*S. hyalinum* cluster II
KY365471 *Scytonema hyalinum* CNP2Z1c012ts	*S. hyalinum* cluster II
AB694934 *Scytonema* sp. HK05for	*S. hyalinum* cluster II
KY365468 *Scytonema hyalinum* ETH22M10	*S. hyalinum* cluster II
KY365461 *Scytonema hyalinum* BRAZIL74LC	*S. hyalinum* cluster II
KY365467 *Scytonema hyalinum* F10MK28ts	*S. hyalinum* cluster II
KY365469 *Scytonema hyalinum* ETH22M101	*S. hyalinum* cluster II
MK704403 *Scytonema* sp. PCC10023	*S. hyalinum* cluster II
KY365438 *Scytonema hyalinum* HTTUKK4T2	*S. hyalinum* cluster II
KY365439 *Scytonema hyalinum* HTTUKK4PH14B	*S. hyalinum* cluster II
KY365463 *Scytonema* arcangeliiTH02NP	*S. hyalinum* cluster II
KY365466 *Scytonema* arcangeliiM09	*S. hyalinum* cluster II
KC682101 *Scytonema* arcangeliCCIBt3134	*S. hyalinum* cluster II
AB694929 *Scytonema* sp. YK02for	*S. hyalinum* cluster II
KY365462 *Scytonema* arcangeliiTHH60ts	*S. hyalinum* cluster II
KF554453 *Scytonema* sp. Vallede Zapotitlan	*S. hyalinum* cluster II
KY365480 *Scytonema* arcangeliiFL17MK96T2	*S. hyalinum* cluster II
KY365446 *Scytonema* arcangeliiMX1	*S. hyalinum* cluster II
KY365447 *Scytonema hyalinum* HAF2B2C1	*S. hyalinum* cluster II

Suppl 2. Cont.

Accesion number/Strain	Clade
JQ083659 *Scytonema* sp. HAF2B2c1p11C	*S. hyalinum* cluster II
LC325257 *Scytonema* sp. Ryu111	*S. hyalinum* cluster II
MK247981 *Scytonema hyalinum* ACT6951	*S. hyalinum* cluster II
KY365449 *Scytonema hyalinum* HA4185MV1PH13D	*S. hyalinum* cluster II
KY365479 *Scytonema hyalinum* ATASALRM1	*S. hyalinum* cluster II
KY365448 *Scytonema hyalinum* HA4185MV1T2	*S. hyalinum* cluster II
MK247983 *Scytonema hyalinum* ACT6991	*S. hyalinum* cluster II
MK247984 *Scytonema hyalinum* ACT6992	*S. hyalinum* cluster II
MK247980 *Scytonema hyalinum* ACT6941	*S. hyalinum* cluster II
OL310660 *Scytonema hyalinum* TAUMAC0218	*S. hyalinum* cluster II
AJ5440841 *Symphyonema* sp. 1517	
AJ5440831 *Symphyonema* sp. 12691	
MK247982 *Scytonema hyalinum* ACT6981	"*Scytonema*"
MF002055 *Scytonema* sp. AR82	"*Scytonema*"
MF002052 *Scytonema* sp. AR71	"*Scytonema*"
MF002054 *Scytonema* sp. AR81	"*Scytonema*"
MF002053 *Scytonema* sp. AR72	"*Scytonema*"
KC682103 *Scytonema* sp. CCIBt3569	*"S. mirabile"*
MH341436 *Scytonema* sp. 8SS	*"S. mirabile"*
MG970546 *Scytonema cf. mirabile* ER051501	*"S. mirabile"*
MT350508 *Scytonema* sp. TPJ3	*"S. mirabile"*
MN823176 *Scytonema* sp. PMC10698	*"S. mirabile"*
MN823177 *Scytonema* sp. PMC10708	*"S. mirabile"*
KC682102 *Scytonema* sp. CCIBt3568	*Scytonema schmidtii*
AJ5440851 *Symphyonemopsis* sp. VAPOR1	
HM7483171 *Iphinoe spelaeobios* LO2B1	
KY365502 *Brasilonema* sp. BZHDL0071ts	*Brasilonema*
KY365504 *Brasilonema* sp. CR65ACT47c2	*Brasilonema*
KY365506 *Brasilonema* sp. KENMK501	*Brasilonema*
KY365503 *Brasilonema* sp. CR64BCT45c2ts	*Brasilonema*
MK209099 *Scytonema* sp. CHAB3651	*Brasilonema*
KY365505 *Brasilonema* sp. CR65ACT47c22	*Brasilonema*
KM019951 *Scytonema* sp. SAG6781	*Brasilonema*
KY365511 *Brasilonema* sp. TH04Ema2	*Brasilonema*
KY365512 *Brasilonema* sp. TH04Ema	*Brasilonema*
KC854780 *Scytonema* sp. 00557000010557N1	*Brasilonema*
KY365508 *Brasilonema* sp. P09MK131ts	*Brasilonema*
EF1172461 *Brasilonema* sp. CENA114	*Brasilonema*
DQ4860551 *Brasilonema bromeliae* sp. C951	*Brasilonema*
KY365507 *Brasilonema* sp. M31F20B31cII	*Brasilonema*

Suppl 2. Cont.

Accesion number/Strain	Clade
KY365509 *Brasilonema* sp. PT5MK70s1a	*Brasilonema*
KY365510 *Brasilonema* sp. PT5MK70s1b	*Brasilonema*
JN565281 *Scytonema cff.* rchiiUCFS22	*Scytonema sensu stricto*
JN565282 *Scytonema cff.* rchiiUCFS23	*Scytonema sensu stricto*
HF911525 *Scytonema javanicum* U41MK36U41MK36	*Scytonema sensu stricto*
MH2603661 *Scytonema pachmarhiense* 10A1PS	*Scytonema sensu stricto*
MH260366 *Scytonema pachmarhiense* 10A1PS	*Scytonema sensu stricto*
NR177917 *Scytonema pachmarhiense*	*Scytonema sensu stricto*
MH341427 *Scytonema* sp. 1SS	*Scytonema sensu stricto*
MH341429 *Scytonema* sp. 18SS	*Scytonema sensu stricto*
MH341438 *Scytonema* sp. 6SS	*Scytonema sensu stricto*
KU058658 *Scytonema* sp. BHUS5	*Scytonema sensu stricto*
MH780925 *Scytonema* sp. UIC10036	*Scytonema sensu stricto*
KU668901 *Scytonema* sp. 10c	*Scytonema sensu stricto*
KT222810 *Scytonema bilaspurensis* 10CPS	*Scytonema sensu stricto*
KT935473 *Scytonema singhii* 1FPS	*Scytonema sensu stricto*
NR177741 *Scytonema singhii*	*Scytonema sensu stricto*
KU668900 *Scytonema* sp. 1f	*Scytonema sensu stricto*
KY418179 *Scytonema* sp. FM05MK45	*Scytonema sensu stricto*
AM709637 *Scytonema hofmanni* PCC7110operon PCC7110	*Scytonema sensu stricto*
AF1327811 *Scytonema hofmanni* PCC7110	*Scytonema sensu stricto*
AB075996 *Scytonema hofmanni* PCC7110	*Scytonema sensu stricto*
NR112180 *Scytonema hofmanni* PCC7110	*Scytonema sensu stricto*
OR127001 *Scytonema* sp. N14MA6Bcl1	*Scytonema sensu stricto*
OR127003 *Scytonema* sp. N14MA8co2	*Scytonema sensu stricto*
MN818865 *Scytonema* sp. HKAR8	*Scytonema sensu stricto*
MT644506 *Scytonema* sp. HKAR10	*Scytonema sensu stricto*
AY069954 *Scytonema* sp. U33	*Scytonema sensu stricto*
KX951410 *Scytonema* sp. MGL002	*Scytonema sensu stricto*
MW403992 *Scytonema* sp. HKAR16	*Scytonema sensu stricto*
AB093483 *Scytonema* sp. IAMM262for	*Scytonema sensu stricto*
FJ939127 *Scytonema* sp. HKAR3	*Scytonema sensu stricto*
KM063575 *Scytonema* sp. R77DM	*Scytonema sensu stricto*
LC633743 *Scytonema foetidum* NUACC05	*Scytonema sensu stricto*
NR176513 *Scytonema foetidum* NUACC06	*Scytonema sensu stricto*
NR176512 *Scytonema foetidum* NUACC06	*Scytonema sensu stricto*
LC633742 *Scytonema foetidum* NUACC062	*Scytonema sensu stricto*
LC633740 *Scytonema foetidum* NUACC061	*Scytonema sensu stricto*
LC633741 *Scytonema foetidum* NUACC052	*Scytonema sensu stricto*
LC633739 *Scytonema foetidum*NUACC051forr	*Scytonema sensu stricto*

Suppl 2. Cont.

Accesion number/Strain	Clade
KC875345 *Chakia ciliosa*	
KC8753441 *Chakia ciliosa*	
AB039020 *Pseudanabaena catenata* PCC7408	
AF1327911 *Gloeobacter violaceus* sp. CC8105	
AM230683 *Sherwoodiella* BECID33	
KT336444 *Sherwoodiella* mauiensis HA4860CV1	
AM230698 *Fulbrightiella* sp. XP11C	
AM2306931 *Calothrix* sp. PCC8909	
AM2306992 *Calothrix desertica* PCC7102	
KY8635211 *DulciCalothrix necridiiformans* V13	
KR3505821 *Macrochaete psychrophila* NU16B09	
KR3505782 *Macrochaete* psychrophilaCC1092	
KF934149 *Scytonema* sp. CMT2BRINHLNPC8CGSFD17	*S. hyalinum* cluster I
KF934150 *Scytonema* sp. CMT2BRINHLNPC8CGSFD18C	*S. hyalinum* cluster I
KF934166 *Scytonema* sp. WJT73NPBGCPS12A	*S. hyalinum* cluster I
KF932315Uncultured *Scytonema* sp. Q1c	*S. hyalinum* cluster I
KF932317Uncultured *Scytonema* sp. RC1b	*S. hyalinum* cluster I
KF934164 *Scytonema* sp. WJT71NPBG27PS11A	*S. hyalinum* cluster I
KF934165 *Scytonema* sp. WJT71NPBG27PS11C	*S. hyalinum* cluster I
KF934152 *Scytonema* sp. CMT1BRINNPC30CGP14D	*S. hyalinum* cluster I
KY365492 *Scytonema hyalinum* CMT1BRINNPC30	*S. hyalinum* cluster I
KY365486 *Scytonema* arcangeliiMX1	*S. hyalinum* cluster I
KY365494 *Scytonema* arcangeliiFL17MK96T1	*S. hyalinum* cluster I
HQ847565 *Scytonema* sp. HA4185MV1p2	*S. hyalinum* cluster I
KF934169 *Scytonema* sp. ATASALRM1B	*S. hyalinum* cluster I
KF934168 *Scytonema* sp. ATASALRM1A	*S. hyalinum* cluster I
KY365490 *Scytonema hyalinum* HA4185MV1T1	*S. hyalinum* cluster I
KY365495 *Scytonema hyalinum* ATASALRM1	*S. hyalinum* cluster I
KY365498 *Scytonema hyalinum* EM3HA20	*S. hyalinum* cluster I
KY365497 *Scytonema hyalinum* EM3HA19	*S. hyalinum* cluster I
KY365496 *Scytonema hyalinum* EM3HA15	*S. hyalinum* cluster I
KY365483 *Scytonema hyalinum* EM3HA25T1	*S. hyalinum* cluster I
MK247990 *Scytonema hyalinum* ACT7063	*S. hyalinum* cluster I
MK247991 *Scytonema hyalinum* ACT7064	*S. hyalinum* cluster I
MG641906 *Scytonema hyalinum* AM54C	*S. hyalinum* cluster I
KF934157 *Scytonema* sp. CMT1BRINNPC39CGSFD2	*S. hyalinum* cluster I
KF934156 *Scytonema* sp. CMT1BRINNPC39CGSFD1	*S. hyalinum* cluster I
KY365491 *Scytonema hyalinum* CMT1BRINNPC39	*S. hyalinum* cluster I
KF934163 *Scytonema* sp. WJT9NPBG6APS3C	*S. hyalinum* cluster I
KY365499 *Scytonema hyalinum* WJT9NPBG6A	*S. hyalinum* cluster I

Suppl 2. Cont.

Accesion number/Strain	Clade
KY365488 *Scytonema hyalinum* WJT9NPBG6A	*S. hyalinum* cluster I
KY365489 *Scytonema hyalinum* WJT9NPBG6B	*S. hyalinum* cluster I
KY365493 *Scytonema hyalinum* CMT1BRINNPC31	*S. hyalinum* cluster I
KF934153 *Scytonema* sp. CMT1BRINNPC31PI1	*S. hyalinum* cluster I
KF934154 *Scytonema* sp. CMT1BRINNPC31PI2	*S. hyalinum* cluster I
KY365482 *Scytonema hyalinum* FI5JRJ03	*S. hyalinum* cluster I
KY365501 *Scytonema hyalinum* CMT1SWINNPC17	*S. hyalinum* cluster I
KF934160 *Scytonema* sp. CMT1SWINNPC17CGPNG	*S. hyalinum* cluster I
KY407663 *Scytonema hyalinum* WJT32NPBG5PS15B	*S. hyalinum* cluster I
KF934167 *Scytonema* sp. WJT73NPBGCPS12B	*S. hyalinum* cluster I
KY407662 *Scytonema hyalinum* WJT32NPBG5PS15A	*S. hyalinum* cluster I
KY365485 *Scytonema hyalinum* HAF2B2c1P11	*S. hyalinum* cluster I
MK247986 *Scytonema hyalinum* ACT7005	*S. hyalinum* cluster I
MK247985 *Scytonema hyalinum* ACT7001	*S. hyalinum* cluster I
MK247992 *Scytonema hyalinum* ACT7114	*S. hyalinum* cluster I
HQ847553 *Scytonema* sp. HAF2B2c1p11A	*S. hyalinum* cluster I
KF934155 *Scytonema* sp. CMT1BRINNPC32NCP9B	*S. hyalinum* cluster I
KY365500 *Scytonema hyalinum* CMT1BRINNPC32T1	*S. hyalinum* cluster I
HQ847552 *Scytonema* sp. HTTUKK4p6B	*S. hyalinum* cluster I
KY365481 *Scytonema hyalinum* HTTUKK4T1	*S. hyalinum* cluster I
MF574180 *Scytonema hyalinum*	*S. hyalinum* cluster I
KY365484 *Scytonema hyalinum* EM3Z1c02236	*S. hyalinum* cluster I
OP163128 *Scytonema hyalinum* 0201	*S. hyalinum* cluster I
KY365487 *Scytonema hyalinum* WJT4NPBG1	*S. hyalinum* cluster I
KF934161 *Scytonema* sp. WJT4NPBG1PS2A	*S. hyalinum* cluster I
KF934162 *Scytonema* sp. WJT4NPBG1PS2D	*S. hyalinum* cluster I
KF934159 *Scytonema* sp. CMT1FBINNPC21RTCS2P4	*S. hyalinum* cluster I
KF934158 *Scytonema* sp. CMT1FBINNPC21RTCS2P1	*S. hyalinum* cluster I
HF911526 *Scytonema crispum* U55MK38	*"S. crispum"*
KX7813141 Ewamiania thermalisTS0513	
KX7813131 Ewamiania thermalisTS0513	
KY9243221 Uncultured Geitleria sp. B	
KY9243191 Uncultured Geitleria sp. 5	
KT7311501 *Phyllonema aviceniicola* CENA330	
KT7311581 *Phyllonema aviceniicola* CENA341	
KY2966081 *Rivularia halophila* PUNANP3PCI185B	
KT9365601 *Kyrtuthrix huatulcensis* C708	
KT9365721 *Phyllonema ansata* C58M5	
KT9365671 *Rivulariaceae* cyanobacterium C694M8	
DQ4309961 *Chlorogloeopsis* sp. Greenl1	

Suppl 2. Cont.

Accesion number/Strain	Clade
AB0934871 *Fischerella* major NIES592	
DQ4310031 Mastigocladus laminosus Greenl8	
OP106432 *Hapalosiphon* sp. MD2411	
AY0347931 *Hapalosiphon* welwchii	
AB0934851 *Hapalosiphon* sp. IAMM264	
EU1519001 *Hapalosiphon* hibernicus BZ31	
JN3852931 *Pelatocladus* maniniholoensis HA4357MV3	
AJ544090 *Westiellopsis* 9851	
AJ5440881 *Westiellopsis* sp. 15901	
MF0669111 *Neowestiellopsis* bilateralis SA	
MF0669121 *Neowestiellopsis* persica SA33	
KF7615561 *Hapalosiphon* sp. SJRDC1	
KC8547761 *Nostochopsis* sp. 0432000003	
KC8547751 *Nostochopsis* sp. 0287600001	
KJ5669461 Uncultured *Streptostemon*	*Streptostemon*
KF359679 *Scytonema* sp.	*Streptostemon*
KF359678 *Scytonema* sp.	*Streptostemon*
KF359680 *Scytonema* sp. Coccocarpia sp. kj38 cyanobiont	*Streptostemon*
KY411153 *Scytonema stuposum* M10F15A	*"S. stuposum"*
KY411154 *Scytonema cf. chiastum* M32F26III	*"S. chiastum"*
KY411155 *Scytonema cf. chiastum* F04MK25	*"S. chiastum"*
JN565280 *Scytonema cf. chiastum* UCFS19	*"S. chiastum"*
KY411157 *Scytonema cf. chiastum* GSENOSMK1407B	*"S. chiastum"*
KX6207551 *Iningainema pulvinus* ES0614	*Iningainema*
MG970561 *Iningainema pulvinus* ES0614	*Iningainema*
NR177847 *Iningainema pulvinus*	*Iningainema*
HF911528 *Scytonema stuposum* P15MK34rrP15MK34	*Iningainema*
HF911527 *Scytonema stuposum* P13MK35P13MK35	*Iningainema*
KM982578 *Scytonema myochrous* SERB29region	*Iningainema*
KF9341781 Aetokthonos *hydrillicola* B3	
KF9341761 Aetokthonos *hydrillicola* B3	
LC700483 *Neocylindrospermum* NUACC18	
KJ6369611 *Cronbergia* siamensis NQAIF308	
MF0021291 *Cronbergia* amazonensis CMAA1598	
MK4713311 Uncultured *Stigonema* sp. JUR147	
KM0469961 *Stigonema* turfaceum CBFSA031	
KY411158 *Tolypothrix* sp. ATA21CV29	
AF3346921 *Spirirestis* rafaelensis	
KJ5669451 *Dapisostemonum apicaliramis* CCIBt3536	
KJ5669471 *Dapisostemonum apicaliramis* CCIBt3318	

Suppl 2. Cont.

Accesion number/Strain	Clade
KF0526141 *Cylindrospermum maius* CC998operon2	
KF0526091 *Cylindrospermum* CC994	
MW326972 *Amazonocrinis* nigriterrae CENA67	
HG0045821 *Desmonostoc* sp. PCC6302	
AM7115241 *Nostoc muscorum*	
KY411152 *Scytonematopsis* sp. M07	
KY411156 *Scytonematopsis* sp. 2PNG7MK64	
MK0452951 *Minunostoc* cylindricum CHAB5844	
MK0452971 *Minunostoc cylindricum* CHAB5843	
MH0361681 *Desikacharya soli* BHU2PS	
MH0361671 *Desikacharya* nostocoides BHU1PS	
KU1616751 *Mojavia* sp. CMT3FDINNPC3	
AY5775341 *Mojavia pulchra* JT2VF2	
EU5867221 *Nostoc commune* NC3K1	
AM7115391 *Nostoc* sp. 89011	
AY5775361 *Nostoc commune* EV1KK1	
KM2688781 *Roholtiella edaphica* JOH39	
KR137578 *Atlanticothrix silvestris* CENA357	
KC6958522 *Halotia wernerae* CENA158	
KJ8433121 *Halotia branconii* CENA392	
KF9341801 *Roholtiella mojaviensis* WJT36NPBG5B	
HF9123861 *Calochaete cimrmanii* CC1012	
KM019943 *Scytonema mirabile* SAG8379	*Camptylonemopsis*
HQ8475641 *Camptylonemopsis* sp. HA4241MV5	*Camptylonemopsis*
KX6468321 *Komarekiella atlantica* HA4396MV6	
KX6384871 *Komarekiella atlantica* CCIBT3483	
MH5988431 *Compactonostoc shennongjiaensis* CHAB5781	
FR7989411 *Nostoc* sp. 207	
MT0441911 *Parakomarekiella sesnensis* COI00088998	
EU5321891 *Aulosira* sp. ISB2	
HE7977321 *Microchaete tenera* ACOI1451	
KR137590 *Dendronalium phyllosphericum* CENA369	
MN4000701 *Violetonostoc minutum* CHAB5841	
MN4000691 *Violetonostoc minutum* CHAB5840	
JN695681 *Toxopsis calypsus* LF	
JN695682 *Toxopsis calypsus* LF	
KF9341811 *Rexia erecta* CAT4SG4	
AF3347031 *Coleodesmium wrangelii*	
KY5086101 *Kryptousia macronema* CENA338	
HG9706521 *Tolypothrix distorta*	

Suppl 2. Cont.

Accesion number/Strain	Clade
MN6266641 *Dactylothamnos antarcticus* CENA433	
KY2966061 *Cyanomargarita calcarea* GSENOS1204C	
KY2966031 *Cyanomargarita melechinii* APARS9	
JN565278 *Scytonema cf. crispum* UCFS21	*Heteroscytonema*
JN565277 *Scytonema cf. crispum* UCFS17	*Heteroscytonema*
JN565276 *Scytonema cf. crispum* UCFS16	*Heteroscytonema*
MG549309 *Scytonema* sp. Ft11	*Heteroscytonema*
HM629428 *Scytonema* sp. UCFS10	*Heteroscytonema*
HM6294281 *Scytonema* sp. UCFS10	*Heteroscytonema*
MG970552 *Heteroscytonema crispum* UTEXLB1556	*Heteroscytonema*
MG9705521 *Heteroscytonema crispum* UTEXLB1556	*Heteroscytonema*
MK247976 *Heteroscytonema crispum* ACT6852	*Heteroscytonema*
MK247977 *Heteroscytonema crispum* ACT6854	*Heteroscytonema*
MG970540 *Heteroscytonema crispum* UCFS10	*Heteroscytonema*
MG970542 *Heteroscytonema crispum* EC101403	*Heteroscytonema*
MG970536 *Heteroscytonema crispum* BRCC0217	*Heteroscytonema*
MG970544 *Heteroscytonema crispum* EC101407	*Heteroscytonema*
MH454611 *Heteroscytonema crispum* EC101403	*Heteroscytonema*
MG970549 *Heteroscytonema crispum* WC091405	*Heteroscytonema*
MG970541 *Heteroscytonema crispum* EC091403	*Heteroscytonema*
MG970543 *Heteroscytonema crispum* EC101405	*Heteroscytonema*
MG970550 *Heteroscytonema crispum* WC091406	*Heteroscytonema*
MG970539 *Heteroscytonema crispum* UCFS15	*Heteroscytonema*
MG970537 *Heteroscytonema crispum* BRCC02172	*Heteroscytonema*
MG970538 *Heteroscytonema crispum* BRSC0217	*Heteroscytonema*
MG970547 *Heteroscytonema crispum*S SC101402	*Heteroscytonema*
MG549312 *Scytonema* sp. F12	*Heteroscytonema*
JN565279 *Scytonema cf. crispum* UCFS15	*Heteroscytonema*
MG970551 *Heteroscytonema crispum* YC0316	*Heteroscytonema*
MG970548 *Heteroscytonema crispum* WC091404	*Heteroscytonema*
MG970545 *Heteroscytonema crispum* EC101409	*Heteroscytonema*
KM019923 *Scytonema bohnerii* SAG25580	*"S. bohnerii"*
JN3852891 *Goleter apudmare* HA4356MV2	
KF4174251 *Goleter apudmare* HA4340LM2	
AM2307041 *Gloeotrichia echinulata* PYH14	
KP701039 *Scytonema* sp. HAN3/2	*"Scytonema"*
MG549319 *Scytonema* sp. F18	*"Scytonema"*
KC3462661 *Hydrocoryne* sp. CENA398	
KC3462651 *Hydrocoryne* sp. CENA393	
AJ6304561 *Trichormus variabilis* HINDAK20014	

Suppl 2. Cont.

Accesion number/Strain	Clade
AJ6304571 *Trichormus variabilis* GREIFSWALD	
KJ7374281 *Cyanocohniella calida* CC1049	
AM7733071 *Anabaenopsis elenkinii* AB200620	
MH1608281 *Anabaenopsis elenkinii* CCIBt1059	
AJ1331771 *Nodularia baltica*	
AY0380341 *Nodularia* sp. PCC9350	
AB6080231 *Umezakia natans* TAC611	
JQ2377721 *Anabaena bergii* 0902	
AY1960871 *Aphanizomenon issatschenkoi* TAC419	
AJ6304461 *Aphanizomenon issatschenkoi* 0tu37s7	
AJ6304261 *Anabaena oscillarioides* BECID22	
AJ6304271 *Anabaena oscillarioides* BECID32	
AJ6304221 *Anabaena flos-aquae* 1tu30s4	
AJ630442 *Aphanizomenon* flos-aquae 1tu37s13	
FM2420881 *Anabaena flos-aquae* 0453	
AJ630441 *Aphanizomenon flos-aquae* 1tu29s19	
MN3819421 *Nostoc* cyanobacterium CHAB5880	
KY4039961 *Aliinostoc* morphoplasticum NOS	
KX4584821 Nostoc sp. CENA511	
MT000689 *Pseudoaliinostoc sejongens* ACKU594	
KT2903811 *Wollea salina* L38	
FM1613481 *Anabaena reniformis* 0601	
FM1613501 *Aphanizomenon aphanizomenoides* 0443	
FJ8906151 *Raphidiopsis mediterranea* CHAB2314	
MG921181 *Amphiheterocytum lacustre* CCIBt3622	
MG9211821 *Amphiheterocytum lacustre* CCIBt3627	