

**Supplementary Material S1A.** Species recorded in this study in El Limón during 2018, 2019 and 2020.

Cyanobacteria	<i>Closterium</i> sp	<i>Staurostrum</i> sp
<i>Anabaenopsis ambigua</i>	<i>Coelastrum indicum</i>	<i>Staurodesmus</i> sp
<i>Anabaenopsis elenkinii</i>	<i>Coelastrum microporum</i>	<i>Tetraëdron minimum</i>
<i>Aphanizomenon gracile</i>	<i>Coelastrum reticulatum</i>	<i>Tetraëdron regulare</i>
<i>Aphanocapsa delicatissima</i>	<i>Coenocystis planctonica</i>	<i>Tetrastrum triangulare</i>
<i>Chroococcus dispersus</i>	<i>Comasiella arcuata</i>	<i>Willea irregularis</i>
<i>Chroococcus minimus</i>	<i>Cosmarium</i> sp	<i>Bacillariophyceae</i>
<i>Chroococcus turgidus</i>	<i>Cosmarium exigum</i>	<i>Achnantidium minutissima</i>
<i>Coelomoron pusillum</i>	<i>Crucigenia lauterbonii</i>	<i>Anomoneis</i> sp
<i>Coelomoron tropicale</i>	<i>Crucigenia tetrapedia</i>	<i>Aulacoseria granulata</i>
<i>Cyanodictyon intermedium</i>	<i>Desmodesmus brasiliensis</i>	<i>Cyclotella meneghiniana</i>
<i>Cylindrospermopsis raciborskii</i>	<i>Desmodesmus spinosus</i>	<i>Cyclotella stelligera</i>
<i>Dolichospermum</i> sp	<i>Dictyosphaerium</i>	<i>Cymbella affinis</i>
<i>Glaucospira agilissima</i>	<i>tetractomum</i>	<i>Fragilaria tenera</i>
<i>Glaucospira laxissima</i>	<i>Dimorphococcus lunatus</i>	<i>Navicula salinarum</i>
<i>Leptolyngbya fragilis</i>	<i>Gonatozygon pilosum</i>	<i>Nitzschia palea</i>
<i>Limnithrix redekei</i>	<i>Kirchneriella operta</i>	<i>Nitzschia paleaformis</i>
<i>Merismopedia convoluta</i>	<i>Monoraphidium arcuatum</i>	<i>Planothidium</i> sp
<i>Merismopedia elegans</i>	<i>Monoraphidium contortum</i>	<i>Psammothidium</i> sp
<i>Merismopedia punctata</i>	<i>Monoraphidium griffithii</i>	<i>Ulnaria ulna</i>
<i>Merismopedia tenuissima</i>	<i>Monoraphidium komarkovae</i>	<i>Dinophyta (Miozoa)</i>
<i>Microcystis aeruginosa</i>	<i>Monoraphidium minutum</i>	<i>Ceratium hirundinella</i>
<i>Planktolyngbya limnetica</i>	<i>Nephrocystium</i> sp	<i>Gymnodinium</i> sp
<i>Pseudanabaena catenata</i>	<i>Oocystidium</i> sp	<i>Peridinium umbonatum</i>
<i>Pseudanabaena limnetica</i>	<i>Oocystis solitaria</i>	<i>Euglenophyta (Euglenozoa)</i>
<i>Radiocystis geminata</i>	<i>Pandorina morum</i>	<i>Euglena polymorpha</i>
<i>Raphidiopsis curvata</i>	<i>Pediastrum duplex</i>	<i>Lepocinclis ovum</i>
<i>Raphidiopsis mediterranea</i>	<i>Planktosphaeria</i> sp	<i>Lepocinclis texta</i>
<i>Snowella litoralis</i>	<i>Pseudodidymocystis fina</i>	<i>Trachelomonas planctonica</i>
<i>Synechococcus elongatus</i>	<i>Raphidocelis contorta</i>	<i>Cryptophyta (Cryptista)</i>
<i>Synechocystis aquatilis</i>	<i>Scenedesmus acunae</i>	<i>Chylomonas</i> sp
<i>Trichodesmium</i>	<i>Scenedesmus alternans</i>	<i>Cryptomonas erosa</i>
<i>Woronichinia compacta</i>	<i>Scenedesmus arcuatus</i>	<i>Cryptomonas pyrenoidifera</i>
<i>Woronichinia ruzickae</i>	<i>Scenedesmus disciformis</i>	<i>Rhodomonas lacustris</i>
Chlorophyta	<i>Scenedesmus ecornis</i>	<i>Ochrophyta</i>
<i>Ankistrodesmus falcatus</i>	<i>Scenedesmus spinosus</i>	<i>Ochromonas</i> sp
<i>Ankistrodesmus stipitatus</i>	<i>Schroederia setigera</i>	<i>Xanthophyta</i>
<i>Carteria multifilis</i>	<i>Sphaerocystis schroeteri</i>	<i>Isthmochloron lobulatum</i>
<i>Chlamydomonas globosa</i>		
<i>Chlorococcum</i> sp		
<i>Chorella</i> sp		

**Supplementary Material S1B.** Cyanobacteria species recorded in this study in El Limón during 2018, 2019 and

2020

<b>Cyanobacteria</b>	<b>2018</b>	<b>2019-2020</b>
<i>Anabaenopsis ambigua</i>	x	x
<i>Anabaenopsis elenkinii</i>	x	
<i>Aphanizomenon gracile</i>	x	x
<i>Aphanocapsa delicatissima</i>	x	X
<i>Chroococcus dispersus</i>	x	
<i>Chroococcus minimus</i>	x	
<i>Chroococcus turgidus</i>	x	
<i>Coelomoron pusillum</i>	x	
<i>Coelomoron tropicale</i>	x	
<i>Cyanodictyon intermedium</i>	x	
<i>Cylindrospermopsis raciborskii</i>	x	X
<i>Dolichospermum sp.</i>	x	X
<i>Glaucospira agilissima</i>		X
<i>Glaucospira laxissima</i>	x	X
<i>Leptolyngbya fragilis</i>	x	X
<i>Limnothrix redekei</i>	x	
<i>Merismopedia convoluta</i>	x	
<i>Merismopedia elegans</i>	x	X
<i>Merismopedia punctata</i>	x	X
<i>Merismopedia tenuissima</i>	x	X
<i>Microcystis aeruginosa</i>	x	X
<i>Planktolyngbya limnetica</i>	x	
<i>Pseudanabaena catenata</i>		X
<i>Pseudanabaena limnetica</i>	x	X
<i>Radiocystis geminata</i>	x	
<i>Raphidiopsis curvata</i>	x	x
<i>Raphidiopsis mediterranea</i>	x	X
<i>Snowella litoralis</i>	x	X
<i>Synechococcus elongatus</i>	x	
<i>Synechocystis aquatilis</i>	x	
<i>Trichodesmium</i>	x	
<i>Woronichinia compacta</i>	x	
<i>Woronichinia ruzickae</i>	x	

**Supplementary material S2.** Morphometric variables measured for AG, AD, CYL and RM.

Specie	Variable	(2018)		(2019)		Jan-20	
		Mean	SD	Mean	SD	Mean	SD
<b><i>Aphanizomenon gracile</i> (AG)</b>	Width/Length (W/L)	32.19	9.21	36.47	14.27	34.53	12.83
	Heterocytes/ind	0.77	0.6	0.78	0.68	0.76	0.49
	Heterocytes frequency	0.03	0.02	0.03	0.02	0.03	0.02
	Akinetes frequency	0.0042	0.01	0.0037	0.01	0.037	0.01
<b><i>Aphanocapsa delicatissima</i> (AD)</b>	Minor diameter A (µm)	5.7	1.35	5.65	1.29	6.58	1.7
	Mayor diameter B (µm)	7.11	1.74	6.96	1.48	7.54	1.81
	A/B	0.81	0.12	0.82	0.12	0.88	0.13
<b><i>Cylindrospermopsis raciborskii</i> (CYL)</b>	W/L	31.4	14.95	34.89	12.73	36.83	13.68
	Heterocytes/ind	1	0	1	0	1	0
	Heterocytes frequency	0.15	0.06	0.14	0.1	0.14	0.1
<b><i>Raphidiopsis mediterranea</i> (RM)</b>	W/L	33.05	11.88	41.31	13.94	34.09	9.82

**Supplementary Material S3:** Additional information on the rigor of chamber counts according to the Utermöhl technique. \* *The maximum count error was calculated using the t-student distribution considering the number of fields per camera and the abundances of the most frequent species according to the criteria proposed by Venrick 1978.*

Sample	Abundance counted (individual)	Maximum counting error	Fields
September/18	648	6.11	38
October/18	914	4.3	54
November/18	745	8.7	48
December/18	444	1.64	31
September/19	482	6,1	27
October/19	624	6.02	24
November/19	765	3.54	24
December/19	944	0.94	19
January/20	307	13	26