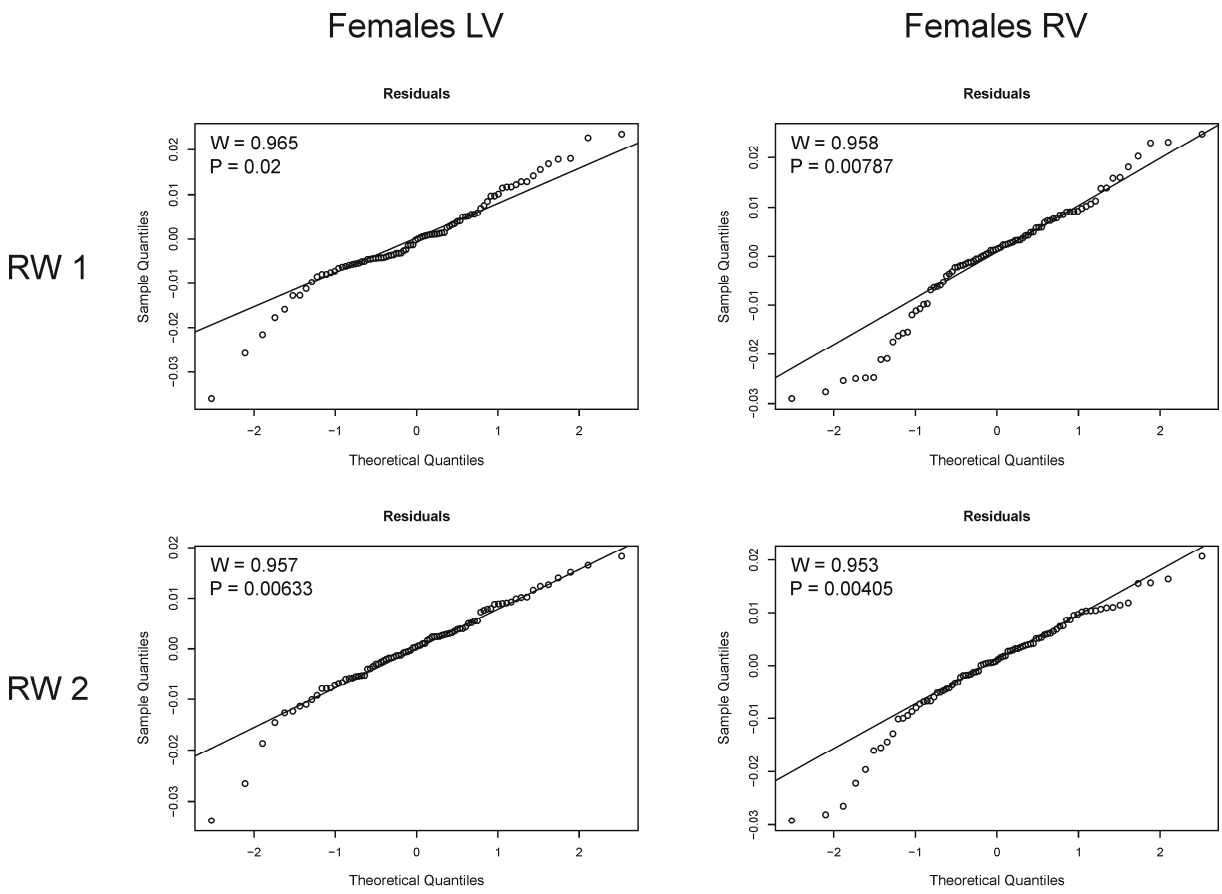
S 1: Overview about sample localities

Sample	Locality	Date	Country	N (S)	E (W)	Habitat	conduct	temp	pH	Na	K	Mg	Ca	Cl	SO4	HCO3_mval	WVP_avg	WVP_min	WVP_max	bio_1	bio_2	bio_4	bio_5	bio_6	bio_12	bio_13	bio_14	bio_15
BR CU 1 15	Custódia Lago	04.09.2015	Brazil	30°02'15.2''	050°10'20.2''	lagoon	161.5	19.1	6.5	21.61983	1.42701271	2.49927267	3.21601418	33.7336075	7.84033022	0.29	14743.3333	7492	22248	18.8	7.6	320.7	27.3	10.4	1491	145	107	9
BR PL 1 15	Passos da Lag	03.09.2015	Brazil	29°51'16.1''	050°06'57.9''	littoral of a lake, dense macrophytes																					
BR ITA 4 15	Lagoa Itapeva	06.09.2015	Brazil	29°22'32.6''	049°47'39.2''	lagoon, next t	61.5	20.4	6.34	6.90962875	0.6374742	1.16491449	1.5017064	9.2724971	2.1862678	0.17	14199	7904	20773	18.8	7.1	280.7	26.7	11.4	1416	138	90	11
BR EM 3 15	Emboaba Lag	03.09.2015	Brazil	29°57'52.8''	050°13'27.4''	lagoon with temporary conection to the ocean	49.3	20.2	6.8	3.77756351	0.88543433	0.85974994	1.72632165	5.2367169	2.54951407	0.15	14199	7904	20773	18.8	7.1	280.7	26.7	11.4	1416	138	90	11
BR PTO 4 15	Laguna Passo	07.09.2015	Brazil	29°18'39.6''	049°42'32.8''	lagoon, floating plants	279	19.6	6.84	43.5443465	2.50245999	5.3455762	5.97852135	73.898834	11.0391314	0.43	14376.75	7973	21141	18.8	7.3	278.5	26.8	11.3	1396	137	87	12
FL PG 3 13	Shell Creek, P	28.11.2013	Florida, US	26°58'26.99''	81°53'21.8''	littoral of an a	938	20.3	7.9	71.8836762	5.10821989	13.349619	103.133237	144.984638	59.8316693	4.22	17518	11119	23207	22.7	12.2	403.8	33.2	10.2	1275	213	40	61
FL BiC 1 13	Big Cypris Nat	29.11.2013	Florida, US	25°53'29.53''	81°16'14.52''	swamp root zone	586	20.8	7.6	32.7754452	1.55399847	6.19941682	87.2612442	56.8777324	4.75	4.5	17668.9167	11533	23123	23.3	10.8	353.4	32.5	12.1	1341	248	37	68
FL LX 1 14	Loxahatchee I	31.07.2014	Florida, US	26° 56'03.0''	80°10'36.4''	littoral of a river	363	30.6	7.3	22.8178449	1.38172017	2.64498791	50.0881115	35.8362943	6.63825849	2.47	17499.5833	10960	23175	23.3	10.4	353.9	32.6	12.3	1430	201	60	42
FL LX 2 14	Loxahatchee I	31.07.2014	Florida, US	26° 56'32.5''	80°10'19.2''	littoral of a riv	375	30.5	7.2	22.9563901	1.35633002	2.61639423	51.7261005	36.2562345	7.35767321	2.53	17474.5833	10957	23175	23.3	10.4	350.3	32.6	12.4	1428	201	60	41
FL LX 3 14	Loxahatchee I	31.07.2014	Florida, US	26°56'40.28''	80°10'15.94''	littoral of a river root zone	375	31.7	7.1	23.112529	1.36282277	2.63317937	52.1272181	36.0847663	7.31994794	2.51	17474.5833	10957	23175	23.3	10.4	350.3	32.6	12.4	1428	201	60	41
FL-LX-4-15	Loxahatchee I	31.07.2014	Florida, US	26°56'46.91''	80°10'15.42''	littoral of a river	375	30.5	7.05	22.9455964	1.37743247	2.56857232	51.8120563	36.1100797	7.32620393	2.52	17474.5833	10957	23175	23.3	10.4	350.3	32.6	12.4	1428	201	60	41
FL LX 5 15	Loxahatchee I	31.07.2014	Florida, US	26°26'49.8''	80°10'12.4''	littoral of a river	375	30.4	7.1	22.7786639	1.39204218	2.50396527	51.4968944	36.1353931	7.33245992	2.53	17474.5833	10957	23175	23.3	10.4	350.3	32.6	12.4	1428	201	60	41
FL LX 6 15	Loxahatchee I	31.07.2014	Florida, US	26°56'52.5''	80°10'11.1''	stillwater area, littoral zone	375	30.4	7.1	22.7786639	1.39204218	2.50396527	51.4968944	36.1353931	7.33245992	2.53	17474.5833	10957	23175	23.3	10.4	350.3	32.6	12.4	1428	201	60	41
FL CAL 14 1	Caloosahatch	06.08.2014	Florida, US	26°43'37.9''	80°42'10.5''	littoral with cobbles and sand lenses	444	31	8.6	32.7772995	5.91975591	9.43152978	42.3071899	57.8393489	30.0622178	2.16	17466.1667	11195	23025	22.7	12	392.4	33.2	10.4	1185	194	40	56
FL CAL 14 3	Caloosahatch	06.08.2014	Florida, US	26°50'22.4''	81°04'51.8''	artifical littoral with large stones and sand lenses	238	34	6.7	51.9694283	8.88466347	13.129781	71.8717078	88.1063437	52.445	3.25	17521.0833	11224	23149	22.7	11.9	392.3	33.2	10.4	1182	193	40	56
FL CAL 14 4	Caloosahatch	06.08.2014	Florida, US	26°50'09.8''	81°05'14.4''	littoral, parts cased	724	35.5	7.5	52.2530233	8.31224945	13.1177563	77.9317115	90.4887415	57.43	3.34	17466.1667	11195	23025	22.7	12	392.4	33.2	10.4	1185	194	40	56
FL CAL 14 5	Caloosahatch	06.08.2014	Florida, US	26°47'21.7''	81°18'33.6''	stillwater area with floating macrophytes	550	34.7	7.4	25.8368593	6.2111571	7.0000713	74.7814445	45.3479938	30.7692033	3.35	17567.5833	11220	23260	22.7	12.7	398	33.4	9.8	1256	223	40	60
FL PR 15a/b 1	Shell Creek, P	08.08.2014	Florida, US	26°58'26.99''	81°53'21.81''	littoral of an artifical slack water, with dense terrestrial macrophytes	297	31.2	7.1	105.251118	5.34836566	14.3113077	40.9919542	193.772627	34.7426585	1.57	17518	11119	23207	22.7	12.2	403.8	33.2	10.2	1275	213	40	61
FL EG 3a/b 14	Everglades	02.08.2014	Florida, US	25°26'2.0''	80°45'12.3''	marsh hardground	189	33.1	8.1	5.20334871	0.24748377	0.65481423	33.2984498	7.19904572	0.1	1.74	17694.9167	11774	22683	23.6	10.3	327.7	32.5	13	1370	236	35	63
MX CA 1 14	Cenote Azúl	12.08.2014	Mexico	18°48'43.3''	90°38'48.1''	littoral of a cenote	575	31	8	9.05229388	1.48448789	33.42	68.025916	14.7088663	15.2275609	5.6	18217.6667	13768	21082	26.1	13	217.9	35.9	15.9	1359	246	22	78
MX SiNo 1a 1	Siiji No-Ha Ce	11.08.2014	Mexico	19°28'33.5''	88°03'15.6''	littoral, cenote	1351	32.2	8	115.951485	5.87034475	53	92.2955039	174.3	293	2.83	18086.25	13772	21007	25.9	11.3	173	33.6	17.2	1277	206	39	53
MX CG 1 14	Cenote Galea	11.08.2014	Mexico	19°27'45.6''	88°1'46.3''	littoral, cenote																					
MX BC 1 14	Laguna Bacal	11.08.2014	Mexico	18°39'5.8''	88°24'33.07''	littoral of a lake, slight artificially	2360	31.2	7.5	73.16	4.92	99.16	377.883549	101.97	1142	3.6	18219.0833	14085	21104	25.7	9.5	160.6	32.4	18.2	1125	166	33	50
MX Pul 1 14	Punta Laguna	13.08.2014	Mexico	20°38'49.4''	87°38'04.1''	littoral, karstified blocks proximate to thick layer of leaf litter and reed belt	1250	32.1	8.1	141.572967	3.93	40.04	52.9021992	261.12042	35.2175901	4.05	18111	13487	21721	25.4	11.5	180	33.3	16.6	1222	179	43	52
MX LG 1 14	Lake "Las Gar	13.08.2014	Mexico	18°27'11.7''	89°00'42.0''	steep littoral, hard ground	527	31.4	7.8	69.2226704	9.92627174	7.07763352	32.6284008	50.0813904	5.86632015	3.85	18136.5833	13992	20885	25	10.8	192.5	33.2	16.3	1266	204	33	58
MX Sil 1 14	Lake Silvituc	12.08.2014	Mexico	18°38'29.8''	90°16'28.1''	littoral of a lake	205	32.5	7.8	10.8589536	3.67718191	2.63541061	28.4122266	6.76545732	4.02107968	1.92	18238.5833	13957	20984	26	12.7	220.5	35.7	15.7	1162	233	20	71
MX CT 1 14	Carillo-Tulum	11.08.2014	Mexico	19°45'38.20''	87°54'13.80''	cenote	876	32.3	7.7	66.2502509	3.28396351	25.8452114	76.29	119.09049	62.3	4	18045.25	13743	21375	26	11.6	173.7	33.7	17.1	1257	204	41	53



S 2: Data and results of RWA, PLS, MR, normality tests of females and males left and right valves.