

Table S1. Dataset used for phylogenetic analysis. Genbank sequences include newly generated nrITS, nrLSU, nrSSU, RPB1, RPB2, TEF-1 α and β TUB amplicons relative to the novel species *Paralulworthia candida*, *P. elbensis* and *P. mediterranea* (in bold)

Species	Strain	Source	nrITS	nrSSU	nrLSU	EF-1 α	RPB1	RPB2	β TUB
<u>Lulworthiales</u>									
<u>Lulworthiaceae</u>									
<i>Halazoon mehlae</i> Abdel-Aziz, Abdel-Wahab & Nagah.	MF819 [†]	Drift stems of <i>Phragmites australis</i>	--	GU252144	GU252143	--	--	--	--
<i>H. fuscus</i> (Schmidt) Abdel-Wahab, Pang, Nagah., Abdel-Aziz & Jones	NBRC 105256	Driftwood	--	GU252148	GU252147	--	--	--	--
<i>L. medusa</i> (Ellis & Everh.) Cribb & Cribb	JK 5581 [†]	Spartina	--	AF195636	AF195637	--	--	--	--
<i>L. cf. purpurea</i> (Wilson) Johnson	FCUL170907CP5	Sea water	KT347219	KT347201	JN886824	--	--	--	--
	FCUL280207CF9	Sea water	KT347218	KT347202	JN886808	--	--	--	--
<i>Paralulworthia candida</i> sp. nov.	MUT 5430	<i>P. oceanica</i>	MZ357724	MZ357767	MZ357746	MZ407526	--	MZ357229	MZ407550
<i>Paralulworthia elbensis</i> sp. nov.	MUT 377	<i>P. oceanica</i>	MZ357710	MZ357753	MZ357732	MZ407516	MZ365271	MZ357215	MZ407536
	MUT 5422	<i>P. oceanica</i>	MZ357723	MZ357766	MZ357745	MZ407525	--	MZ357228	MZ407549
	MUT 5438	<i>P. oceanica</i>	MZ357712	MZ357755	MZ357734	MZ407518	--	MZ357217	MZ407538
	MUT 5461	<i>P. oceanica</i>	MZ357725	MZ357768	MZ357747	--	--	MZ357230	--
<i>Paralulworthia gigaspora</i> Prigione, Poli, Bovio & Varese	MUT 435 [†]	<i>P. oceanica</i>	MN649242	MN649246	MN649250	MZ407533	MZ365286	MZ357236	MZ407557
	MUT 5413	<i>P. oceanica</i>	MN649243	MN649247	MN649251	MZ407534	MZ365287	MZ357237	MZ407558
	MUT 263	Oil-contaminated Sea water	MZ357729	MZ357772	MZ357751	MZ407531	--	MZ357234	MZ407555
	MUT 465	<i>P. oceanica</i>	MZ357726	MZ357769	MZ357748	MZ407534	MZ365282	MZ357231	MZ407552
	MUT 1753	Oil-contaminated Sea water	MZ357730	MZ357773	MZ357752	MZ407532	MZ365285	MZ357235	MZ407556
	MUT 5085	<i>P. oceanica</i>	MZ357715	MZ357758	MZ357737	MZ407521	MZ365274	MZ357220	MZ407541
	MUT 5086	<i>P. oceanica</i>	MZ357716	MZ357759	MZ357738	MZ407522	MZ365275	MZ357221	MZ407542

	MUT 5093	<i>P. oceanica</i>	MZ357718	MZ357761	MZ357740	--	MZ365277	MZ357223	MZ407544
	MUT 5094	<i>P. oceanica</i>	MZ357719	MZ357762	MZ357741	MZ407524	MZ365278	MZ357224	MZ407545
<i>Paralulworthia halima</i> (Anastasiou) Gonçalves, Abreu & Alves	CMG 68	Submerged wood	MT235736	MT235712	MT235753	--	--	--	--
	CMG 69	Submerged wood	MT235737	MT235713	MT235754	--	--	--	--
	MUT 1483	Submerged wood	MZ357727	MZ357770	MZ357749	MZ407529	MZ365283	MZ357232	MZ407553
	MUT 2919	Submerged wood	MZ357713	MZ357756	MZ357735	MZ407519	MZ365272	MZ357218	MZ407539
	MUT 3347	Submerged wood	MZ357728	MZ357771	MZ357750	MZ407530	MZ365284	MZ357233	MZ407554
<i>Paralulworthia posidoniae</i> Poli, Prigione, Bovio & Varese	MUT 5261 [†]	<i>P. oceanica</i>	MN649245	MN649249	MN649253	MZ407535	--	MZ357238	MZ407559
	MUT 5092	<i>P. oceanica</i>	MZ357717	MZ357760	MZ357739	MZ407523	MZ365276	MZ357222	MZ407543
	MUT 5110	<i>P. oceanica</i>	MZ357720	MZ357763	MZ357742	--	MZ365279	MZ357225	MZ407546
	MUT 5419	<i>P. oceanica</i>	MZ357722	MZ35776	MZ357744	--	MZ365281	MZ357227	MZ407548
<i>Paralulworthia mediterranea</i> sp. nov.	MUT 654	<i>P. oceanica</i>	MZ357711	MZ357754	MZ357733	MZ407517	--	MZ357216	MZ407537
	MUT 5080	<i>P. oceanica</i>	MZ357714	MZ357757	MZ357736	MZ407520	MZ365273	MZ357219	MZ407540
	MUT 5417 [†]	<i>P. oceanica</i>	MZ357721	MZ357764	MZ357743	--	MZ365280	MZ357226	MZ407547

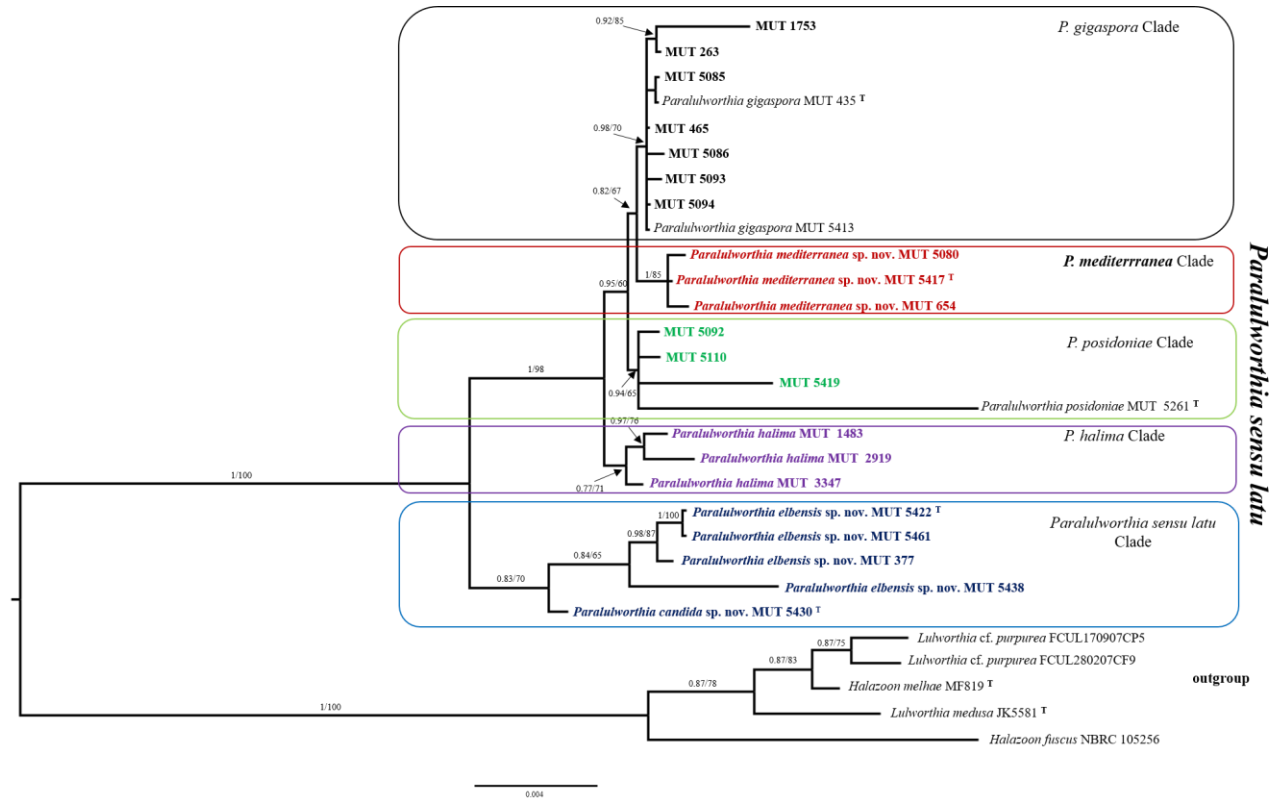


Figure S1. Phylogenetic inference based on a combined nrITS, nrSSU, nrLSU, RPB1, RPB2, TEF-1 α and β TUB dataset. Colours indicate the belonging to different groups. Branch numbers indicate BYPP and BS values; [†] = Type Strain; Bar = expected changes per site (0.004).