

## Supplementary Material

### **A molecular assessment of species boundaries and relationships in the Australian brine shrimp *Parartemia* (Anostraca: Parartemiidae)**

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**Table S1.** *Parartemia* specimens used for sequence data in this study with GenBank accession numbers.

SL	Morphospecies name	Site ID (WAM sample registration number)	Latitude and longitude	Individual ID (WAM individual registration number)	GenBank Accession Number			
					<i>COI</i>	<i>16S</i>	<i>28S</i>	
1	<i>P. acidiphila</i>	Esperance 16 (C84797)	-33.136987, 121.965285	Esp-16.1 (C84868)	OR828050	OR833948	×	
				Esp-16.3 (C84869)	OR828050	×	×	
2		Esperance 24 (C84798)	-33.438657, 122.392712	Esp-24.1 (C84870)	OR828050	OR833949	OR834040	
				Esp-24.2 (C84871)	OR828050	×	×	
3		Esperance 32 (C84799)	-33.508967, 122.410974	Esp-32.1 (C84872)	OR828051	OR833950	OR834040	
				Esp-32.2 (C84873)	OR828051	×	×	
4		Esperance 34 (C84800)	-33.471019, 122.382336	Esp-34.1 (C84874)	OR828052	OR833951	×	
				Esp-34.2 (C84875)	OR828050	×	×	
1	<i>P. bicorna</i>	Lake Carey <sup>E</sup>	-29.311261, 122.573451	LN9634.2	OR828053	OR833952	OR834041	
				LN9634.3	OR828054	×	×	
				LN9634.4	OR828053	×	×	
				-28.845632, 122.283433	LN31213.1	OR828053	OR833952	OR834041
					LN31213.3	OR828053	×	×
					LN31213.6	OR828055	×	×
				-28.866558, 122.331809	LN10215.1	OR828056	OR833952	×
					LN10215.5	OR828053	×	×
					LN30046.1	×	OR833952	×
				1	<i>P. boomeranga</i>	Near Wongan Hills-2 (C84841)	-29.246474, 122.411221 -30.511172, 116.711515	nWH-2.1 (C84876)
nWH-2.2 (C84877)	OR828058	OR833953	OR834042					
nWH-2.3 (C84878)	OR828059	×	×					
-30.333737, 117.492973	Moo-1.1 (C84879)	OR828060	×					×
	Moo-1.2 (C84880)	OR828061	OR833954					OR834042
3		Marchagee 3 (C84843)	-30.119139, 116.222031	Moo-1.3 (C84881)	OR828062	×	×	
				Mar-3.1 (C84882)	OR828063	×	×	
4		Marchagee 4	-30.119420, 116.213778	Mar-3.2 (C84883)	OR828064	OR833955	OR834042	
				Mar-4.1 (C84884)	OR828065	×	×	
5		Marchagee 5 (C84844)	-30.117236, 116.201455	Mar-4.2 (C84885)	OR828066	OR833956	OR834051	
				Mar-5.1 (C84886)	OR828067	OR833957	×	
				Mar-5.2 (C84887)	OR828068	×	×	
				Mar-5.3 (C84888)	OR828064	×	×	
				Mar-5.5 (C84889)	×	×	OR834051	
1	<i>P. contracta</i>	Kondinin 5 (C84801)	-32.581316, 118.431073	Kondi-5.1 (C84890)	×	OR833958	×	
				Kondi-5.2 (C84891)	OR828069	OR833959	OR834043	
				Kondi-5.3 (C84892)	OR828070	×	×	

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					<i>COI</i>	<i>16S</i>	<i>28S</i>
2		Jilakin 1 (C84802)	-32.676675, 118.355247	Kondi-5.4 (C84893)	OR828071	×	×
				Jila-1.3 (C84894)	OR828072	×	×
				Jila-1.4 (C84895)	OR828073	×	×
				Jila-1.5 (C84896)	OR828072	OR833960	×
3	Hyden 4 (C84803)	-32.355594, 119.134036	Hy-4.3 (C84897)	OR828074	×	×	
			Hy-4.4 (C84898)	OR828075	×	×	
			Hy-4.5 (C84899)	OR828076	OR833961	×	
4	Cowcowing 3 (C84804)	-30.735187, 117.337013	Cow-3.1 (C84900)	OR828077	×	×	
			Cow-3.2 (C84901)	OR828078	OR833962	OR834043	
			Cow-3.3 (C84902)	OR828078	×	×	
5		AF209048 <sup>A</sup>	-	-	×	AF209048	×
6		AY014786 <sup>A</sup>	-	-	×	AY014786	×
7		AF209059 <sup>A</sup>	-	-	AF209059	×	×
1	<i>P. extracta</i>	Green Head 1 (C84815)	-29.974886, 114.980817	Green-1.2 (C84903)	OR828079	OR833963	×
				Green-1.3 (C84904)	OR828079	×	×
				Green-1.4 (C84905)	OR828079	×	×
				Green-1.5 (C84906)	OR828080	×	×
				Green-2.2 (C84907)	OR828081	OR833964	OR834044
2	Green Head 2 (C84814)	-29.987320, 114.986895	Green-2.3 (C84908)	OR828082	×	×	
			Mix-1.1 (C84909)	×	OR833965	×	
			Mix-1.2 (C84910)	OR828082	×	×	
3	Dowerin 1 (C84816)	-31.253627, 117.060872	Dow-1.1 (C84911)	OR828083	×	×	
			Dow-1.3 (C84912)	OR828084	OR833966	OR834045	
			Dow-1.4 (C84913)	OR828085	×	×	
4	Lake Ninan 1	-30.953402, 116.654574	Nin-1.1 (C84914)	OR828086	OR833967	×	
			Nin-1.3 (C84915)	OR828087	×	×	
			Nin-1.4 (C84916)	OR828088	×	×	
5	Jurien Bay 4 (C84817)	-30.206705, 115.038112	Juri-4.1 (C84917)	OR828080	×	×	
			Juri-4.2 (C84918)	OR828080	OR833968	×	
6		Cowcowing 2	-30.922094, 117.363814	Mix-1.8 (C84919)	OR828089	OR833969	×
7		Wyola 2 (C84818)	-31.626042, 117.358562	Wy-2.1 (C84920)	OR828090	OR833970	OR834045
8		AF308948 <sup>A</sup>	-	-	×	AF308948	×
9		AY014787 <sup>A</sup>	-	-	×	AY014787	×
1	<i>P. cylindrifera</i>	Esperance 17 (C84811)	-33.252057, 121.931928	Esp-17.1 (C84921)	OR828091	×	×
				Sty-2.1 (C84922)	OR828107	OR833976	×

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					<i>COI</i>	<i>16S</i>	<i>28S</i>
				Sty-2.2 (C84923)	OR828107	×	×
				Sty-2.3 (C84924)	OR828108	×	×
2		Esperance 20 (C84805)	-33.393300, 122.046633	Esp-20.1 (C84925)	OR828092	×	×
3		Esperance 21 (C84806)	-33.455407, 122.016637	Esp-21.1 (C84926)	OR828093	OR833971	OR834046
				Esp-21.3 (C84927)	OR828094	×	×
4		Esperance 30 (C84813)	-33.543448, 122.432428	Esp-30.1 (C84928)	OR828095	×	×
				Esp-30.2 (C84929)	OR828095	×	×
5		Esperance 33	-33.508491, 122.409129	Esp-33.1 (C84930)	OR828096	×	×
				Esp-33.2 (C84931)	OR828097	OR833972	×
6		Lake Varley 2 (C84810)	-32.704707, 119.358251	Var-2.1 (C84932)	OR828098	×	×
				Var-2.2 (C84933)	OR828099	×	×
7		Lake Varley 3 (C84807)	-32.708471, 119.359619	Var-3.1 (C84934)	OR828100	×	×
				Var-3.2 (C84935)	OR828100	OR833973	×
				Var-3.3 (C84936)	OR828101	×	×
8		Frankland 1 (C84808)	-34.416769, 117.252365	Frank-1.1 (C84937)	OR828102	×	×
				Frank-1.2 (C84938)	OR828103	OR833974	OR834047
9		Ravensthorpe 1 (C84809)	-33.315098, 119.814935	Rav-1.1 (C84939)	OR828104	×	×
				Rav-1.2 (C84940)	OR828105	OR833975	OR834046
				Rav-1.3 (C84941)	OR828106	×	×
10		Pingrup (C84812)	-33.670854, 118.564158	Pin-1.1 (C84942)	OR828109	OR833977	OR834048
				Pin-1.3 (C84943)	OR828110	×	×
11		Elliston	-33.632156, 134.872246	Elli-1.1 (C84944)	OR828111	OR833978	×
				Elli-1.2 (C84945)	OR828111	×	×
12		Lake Tungketta	-33.762754, 135.098527	Tung-1.1 (C84946)	OR828112	×	×
				Tung-1.2 (C84947)	OR828113	×	×
				Tung-1.3 (C84948)	OR828113	×	×
13		AF209050 <sup>A</sup>	-	-	×	AF209050	×
		AF308954 <sup>A</sup>	-	-	AF308954	×	×
1	<i>P. informis</i>	Cowcowing 2	-30.922094, 117.363814	Mix-1.7 (C84949)	OR828114	OR833979	×
2		Morawa 1 (C84819)	-29.448866, 115.879115	Mor-1.1 (C84950)	OR828115	×	×
				Mor-1.2 (C84951)	OR828115	OR833980	OR834049
3		Morawa 4 (C84820)	-29.184522, 116.086731	Mor-4.1 (C84952)	OR828116	OR833981	×
				Mor-4.2 (C84953)	OR828115	×	×
4		Wongan Hills 2, Lake 6 (C84821)	-30.510341, 116.709957	WH.L-6.1 (C84954)	OR828117	OR833982	×
				WH.L-6.3 (C84955)	OR828118	×	×

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					<i>COI</i>	<i>16S</i>	<i>28S</i>
5		Hut Lagoon 1 (C84822)	-28.207383, 114.287526	WHL-6.6 (C84956)	OR828119	×	×
				Hut-1.1 (C84957)	OR828120	OR833983	×
				Hut-1.2 (C84958)	OR828121	×	×
				Hut-1.3 (C84959)	OR828122	×	×
6	Maxine's Pond (C84823)	-30.367059, 117.190395	Max-1.5 (C84960)	OR828123	OR833984	×	
			Max-1.6 (C84961)	OR828124	×	×	
7	Lake Monger's 2 (C84824)	-29.542408, 116.709323	Mong-1.1 (C84962)	OR828125	OR833985	OR834049	
			Mong-1.3 (C84963)	OR828126	×	×	
8	Kalannie 2 (C84825)	-30.281587, 117.072370	Deca-1.1 (C84964)	OR828127	OR833986	OR834050	
9	Three Springs 7 (C84826)	-29.577527, 115.821453	TS-7.1 (C84965)	OR828115	OR833980	×	
10	Latham 4 (C84827)	-29.737895, 116.358878	Lath-4.1 (C84966)	OR828128	OR833987	×	
			Lath-4.3 (C84967)	OR828129	×	×	
11	Burra Lake <sup>E</sup>	-28.808827, 116.313526 -28.804976, 116.321268	LN30648.1	OR828130	OR833988	×	
			LN31270.2	OR828115	OR833980	×	
			LN31270.3	OR828115	×	×	
			LN30133.1	OR828115	×	×	
			-28.808827, 116.313526	LN30126.2	OR828115	×	×
			LN30126.3	OR828115	×	×	
12	Lake Austin <sup>E</sup>	-27.609441, 117.889275	LN3108.1	OR828131	OR833989	×	
			LN3108.2	OR828132	×	×	
			LN3108.3	OR828131	×	×	
			-27.510674, 117.810955	LN4793.1	OR828132	×	×
1	<i>P. laticaudata</i>	Lake Carey <sup>E</sup>	-29.235278, 122.408054	LN30050.1	OR828133	×	×
			LN30050.2	OR828134	OR833990	×	
			LN30050.3	OR828133	×	×	
			LN30050.4	OR828133	×	×	
			LN9202.1	OR828133	×	×	
			LN9202.2	OR828133	OR833991	×	
			LN9202.5	OR828133	×	×	
			-23.127919, 113.786264	Bay-1.1 (C84968)	OR828135	OR833992	×
2	Coral Bay (C84828)	-23.127919, 113.786264	Bay-1.2 (C84969)	OR828135	×	×	
			Bay-1.3 (C84970)	OR828135	×	×	
			Bay-1.3 (C84970)	OR828135	×	×	
1	<i>P. longicaudata</i>	Camel Lake	-34.306644, 118.027642	Mix-1.4 (C84971)	OR828136	OR833993	OR834051
			Mix-1.5 (C84972)	OR828136	×	×	

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					<i>COI</i>	<i>16S</i>	<i>28S</i>
2		Cairolcup 1 (C84829)	-33.707084, 118.687531	Mix-1.6 (C84973)	OR828137	×	×
				Cup-1.1 (C84974)	OR828138	×	×
				Cup-1.2 (C84975)	OR828139	OR833994	×
				Cup-1.4 (C84976)	OR828140	OR833995	OR834051
3	Lake King-2 (C84830)	-33.090770, 119.540744	King-2.1 (C84977)	OR828141	OR833996	OR834052	
			King-2.2 (C84978)	OR828142	×	×	
4	Hyden 6 (C84831)	-32.454396, 119.091053	Hy-6.1 (C84979)	OR828143	OR833997	×	
			Hy-6.2 (C84980)	OR828144	×	×	
5	Pink Lake (C84832)	-33.838279, 121.833288	Pink-1.1 (C84981)	OR828145	OR833996	×	
			Pink-1.2 (C84982)	OR828145	×	×	
			Pink-1.3 (C84983)	OR828145	OR833996	×	
6	Esperance 28 (C84833)	-33.514871, 121.869683	Esp-28.1 (C84984)	OR828145	OR833998	OR834053	
			Esp-28.2 (C84985)	OR828145	×	×	
7	Abrolhos Island (C84834)	-28.295996, 113.594432	Abro-1.1 (C84986)	OR828146	×	×	
			Abro-1.2 (C84987)	OR828147	OR833999	×	
			Abro-1.3 (C84988)	OR828148	×	×	
8	Ravensthorpe 5 (C84835)	-33.313882, 119.812912	Rav-5.1 (C84989)	OR828149	×	×	
			Rav-5.2 (C84990)	OR828149	×	×	
			King-3.1 (C84991)	OR828150	OR834000	OR834052	
9	Three Springs 5 (C84836)	-29.783126, 115.871530	TS-5.1 (C84992)	OR828151	×	×	
			TS-5.2 (C84993)	OR828152	OR834001	OR834054	
10	Lake Magenta 1 (C84837)	-33.577858, 119.229112	Mag-1.1 (C84994)	OR828153	OR834002	OR834051	
11	Lake Magenta 4	-33.585244, 119.199468	Mag-1.2 (C84995)	OR828153	×	×	
			Mag-4.1 (C84996)	OR828153	OR834003	OR834055	
12	Lake Magenta 7	-33.196573, 119.075532	Mag-4.2 (C84997)	OR828153	×	×	
			Mag-7.1 (C84998)	OR828154	OR834004	×	
13	Lake Grace 2 (C84838)	-32.955887, 118.505980	Mag-7.2 (C84999)	OR828155	×	×	
			Grace-2.1 (C85000)	OR828154	OR834004	OR834052	
14	Lake Grace 1 (C84839)	-33.107453, 118.377491	Grace-2.2 (C85001)	OR828156	×	×	
			Grace-1.1 (C85002)	OR828157	OR834005	OR834051	
15	Bendering Road 1 (C84840)	-32.380481, 118.157547	Grace-1.2 (C85003)	OR828158	×	×	
			Ben-1.1 (C85004)	OR828155	OR834004	×	
			Ben-1.2 (C85005)	OR828154	×	×	
16	<i>P. minuta</i>	AF209049 <sup>A</sup> EF189613 <sup>A</sup>	Ben-1.3 (C85006)	OR828159	×	×	
			—	×	AF209049	×	
1			—	×	EF189613	×	

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					<i>COI</i>	<i>16S</i>	<i>28S</i>
		EF189656 <sup>A</sup>	–	–	×	×	EF189656
2		AF308949 <sup>A</sup>	–	–	×	AF308949	×
1	<i>P. mouritzi</i>	Hyden 9 (C84845)	–32.462249, 119.174969	Hy-9.1 (C85007)	OR828160	OR834006	OR834056
				Hy-9.2 (C85008)	OR828160	OR834007	×
				Hy-9.3 (C85009)	OR828160	×	×
1	<i>P. purpurea</i>	Esperance 1	–33.318431, 121.927802	Esp-1.1 (C85010)	OR828161	OR834008	OR834057
2		Esperance 4	–33.516317, 121.876323	Esp-4.1 (C85011)	OR828162	OR834009	OR834057
3		Esperance 7 (C84846)	–33.539844, 122.430503	Esp-7.1 (C85012)	OR828163	×	×
				Esp-7.3 (C85013)	OR828164	OR834010	OR834058
4		Esperance 19 (C84850)	–33.390527, 122.044960	Esp-19.1 (C85014)	OR828165	OR834011	OR834059
				Esp-19.2 (C85015)	OR828166	×	×
5		Esperance 9 (C84849)	–33.455955, 122.608653	Esp-9.3 (C85016)	OR828167	OR834012	OR834060
				Esp-9.4 (C85017)	OR828168	OR834013	×
				Esp-9.5 (C85018)	OR828168	×	×
6		Esperance 3 (C84851)	–33.481497, 121.696884	Esp-3.2 (C85019)	OR828169	OR834014	OR834057
				Esp-3.4 (C85020)	OR828170	×	×
7		Esperance 29 (C84847)	–33.446943, 122.197356	Esp-29.1 (C85021)	OR828171	×	×
				Esp-29.3 (C85022)	OR828172	OR834015	OR834061
8		Esperance 31 (C84848)	–33.531295, 122.426558	Esp-31.1 (C85023)	OR828173	OR834016	OR834057
				Esp-31.2 (C85024)	OR828173	×	×
				Esp-31.4 (C85025)	OR828174	×	×
9		Esperance 36 (C84852)	–33.482778, 122.010556	Esp-36.1 (C85026)	OR828175	OR834017	OR834062
				Esp-36.3 (C85027)	OR828176	×	×
1	<i>P. serventyi</i>	Lake Varley 4 (C84853)	–32.765616, 119.398004	Var-4.1 (C85028)	OR828177	OR834018	×
				Var-4.2 (C85029)	OR828178	×	×
				Var-4.3 (C85030)	OR828177	×	×
2		Corrigin 1 (C84854)	–32.08701, 118.144322	Com-1.1 (C85031)	OR828179	OR834019	×
				Com-1.2 (C85032)	OR828180	×	×
				Com-1.3 (C85033)	OR828181	×	×
3		Yerding 1 (C84855)	–31.92715, 117.979964	Yerd-1.1 (C85034)	OR828181	OR834020	×
				Yerd-1.2 (C85035)	OR828181	×	×
				Yerd-1.3 (C85036)	OR828182	×	×
4		Hyden 3 (C84856)	–32.415574, 119.085077	Hy-3.1 (C85037)	OR828183	OR834021	×
				Hy-3.2 (C85038)	OR828183	×	×
				Hy-3.3 (C85039)	OR828184	×	×
5		Esperance Pond A	–33.081987, 121.685399	Pond-A.1 (C85040)	OR828185	OR834022	×

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					<i>COI</i>	<i>16S</i>	<i>28S</i>
		(C84857)		Pond-A.2 (C85041)	OR828185	×	×
				Pond-A.3 (C85042)	OR828185	×	×
6		Lake Varley 5 (C84858)	-32.810349, 119.424893	Var-5.1 (C85043)	OR828186	OR834023	OR834063
				Var-5.2 (C85044)	OR828186	×	×
				Var-5.3 (C85045)	OR828186	×	×
7		Hyden 7 (C84859)	-32.462961, 119.160903	Hy-7.1 (C85046)	OR828187	×	×
				Hy-7.2 (C85047)	OR828188	OR834024	×
8		Pontifex Road 2 (C84860)	-31.587377, 117.967899	Ponti-2.3 (C85048)	OR828189	OR834025	OR834064
				Ponti-2.4 (C85049)	OR828190	×	×
9		Hines Hill 1 (C84861)	-31.517009, 118.062735	Hines-1.3 (C85050)	OR828191	×	×
				Hines-1.4 (C85051)	OR828192	OR834026	OR834064
10		Lake Magenta 5 (C84862)	-33.442913, 119.266142	Mag-5.1 (C85052)	OR828193	×	×
				Mag-5.2 (C85053)	OR828194	OR834027	OR834065
11		Mount Stirling (C84863)	-31.823409, 117.592579	MS-1.2 (C85054)	OR828179	OR834019	×
12		Hyden 2 (C84864)	-32.415375, 119.0866	Hy-2.1 (C85055)	OR828183	OR834028	×
13		Lake Lefroy <sup>E</sup>	-31.472584, 121.758688	LN31044.2	OR828195	OR834029	×
				LN31044.3	OR828196	×	×
			-31.469333, 121.755552	AQ16001.1	OR828197	×	×
				AQ16001.2	OR828198	OR834030	×
1	<i>P. triquetra</i>	C77314 <sup>D</sup>	-28.019722, 129.026944	C77314.1	×	OR834031	×
1	<i>P. veronicae</i>	C77310 and C77311 <sup>D</sup>	-32.069444, 122.137222	C77310.1	×	OR834032	×
				C77311.1	×	OR834033	×
2		ADS029 <sup>C</sup>	-31.110000, 122.344722	ADS29.1	OR828199	×	OR834066
1	<i>P. zietziana</i>	G5291 <sup>B</sup>	-42.1468, 147.4283	G5291.1	OR828200	OR834034	OR834067
				G5291.2	OR828201	OR834035	×
				TAS-1.3	OR828200	×	×
2		Lake Hamilton	-34.022875, 135.281496	Hami-1.1 (C85056)	OR828202	OR834036	×
				Hami-1.2 (C85057)	OR828203	×	×
				Hami-1.3 (C85058)	OR828202	×	×
1	<i>Parartemia</i> sp. 'y'	Esperance 22 (C84866)	-33.473564, 122.355036	Esp-22.1 (C85059)	OR828204	OR834037	OR834068
				Esp-22.2 (C85060)	OR828205	×	×
				Esp-22.3 (C85061)	OR828206	×	×
2		Esperance 25 (C84865)	-33.486080, 122.636330	Esp-25.1 (C85062)	×	OR834038	×
				Esp-25.2 (C85063)	OR828207	OR834038	×



SL	Morphospecies name	Site ID (WAM sample registration number)	Latitude and longitude	Individual ID (WAM individual registration number)	GenBank Accession Number		
					<i>COI</i>	<i>16S</i>	<i>28S</i>
1	<i>Parartemia</i> sp. 'z'	Esperance 23 (C84867)	-33.473025, 122.353382	Esp-25.3 (C85064)	OR828207	OR834038	×
				Esp-25.4 (C85065)	OR828207	×	×
				Esp-23.1 (C85066)	OR828208	OR834039	OR834069
				Esp-23.3 (C85067)	OR828208	×	×
				Esp-23.5 (C85068)	OR828208	OR834039	×

Specimens that we collected have been lodged with the Western Australian Museum (WAM). The remains of specimens that were used for DNA extractions have been given individual registration numbers (WAM individual registration number), other specimens collected from the same site have been given sample registration numbers (WAM sample registration number).

<sup>A</sup>Sequences obtained from GenBank.

<sup>B</sup>Specimens provided by the Tasmanian Museum and Art Gallery (TMAG).

<sup>C</sup>Specimens provided by the Department of Biodiversity, Conservation and Attractions (DBCA).

<sup>D</sup>Specimens provided by the Western Australian Museum (WAM).

<sup>E</sup>Specimens provided by Stantec Australia Pty Ltd.

**Table S2.** Species-specific primers used for amplifying the 28S genetic region in *Parartemia*.

<b>Morphospecies</b>	<b>Forward primer</b>	<b>Reverse primer</b>
<i>Parartemia acidiphila</i>	28S71	28S32
<i>Parartemia bicorna</i>	28S71	28S32
<i>Parartemia boomeranga</i>	28S11	28S32
<i>Parartemia contracta</i>	28S71	28S32
<i>Parartemia extracta</i>	28S11	28S32
<i>Parartemia cylindrifera</i>	28S11	28S32
<i>Parartemia informis</i>	28S11	28S32
<i>Parartemia longicaudata</i>	28S11	28S32
<i>Parartemia mouritzi</i>	28S71	28S32
<i>Parartemia purpurea</i>	28S71	28S32
<i>Parartemia serventyi</i>	28S71	28S32
<i>Parartemia veronicae</i>	28S11	28S32
<i>Parartemia zietziana</i>	28S71	28S32
<i>Parartemia</i> sp. 'y'	28S71	28S32
<i>Parartemia</i> sp. 'z'	28S11	28S32

Primer sequences are in Table 1.

**Table S3.** Species-specific primers used for amplifying the *COI* genetic region in *Parartemia*.

<b>Morphospecies</b>	<b>Forward primer</b>	<b>Reverse primer</b>
<i>Parartemia acidiphila</i>	COI101	HCO2198
	Facid-1	HCO2198
<i>Parartemia bicorna</i>	LCO1490	HCO2198
<i>Parartemia boomeranga</i>	COI101	COI102
	Fboom-2	Rboom-2
	Flong-2	Rlong-1
<i>Parartemia contracta</i>	LCO1490	HCO2198
<i>Parartemia extracta</i>	LCO1490	HCO2198
	LCOPara	HCO2198
	LCOPara	COI102
	COI101	HCO2198
	COI101	HCOPara
	Fext-2	Rinfo-1
<i>Parartemia cylindrifera</i>	LCO1490	HCO2198
<i>Parartemia informis</i>	LCO1490	HCO2198
	LCOPara	HCOPara
	LCOPara	COI102
	Fext-2	Rinfo-2
	Finfo-1	Rinfo-1
<i>Parartemia laticaudata</i>	LCO1490	HCO2198
<i>Parartemia longicaudata</i>	COI101	COI102
	COI101	HCOPara
	Flong-1	Rlong-1
	Flong-2	Rlong-1
<i>Parartemia mouritzi</i>	Finfo-1	HCO2198
<i>Parartemia purpurea</i>	LCO1490	HCO2198
	Finfo-3	HCO2198
	Flong-2	Rlong-1
	Fser-1	HCO2198
	LCO1490	HCO2198
<i>Parartemia serventyi</i>	COI101	HCO2198
	Finfo-3	HCO2198
	Fser-1	HCO2198
	Finfo-1	HCO2198
<i>Parartemia zietziana</i>	LCO1490	HCO2198
<i>Parartemia</i> sp. 'y'	LCO1490	HCO2198
<i>Parartemia</i> sp. 'z'	COI101	COI102

Primer sequences are in Table 1.

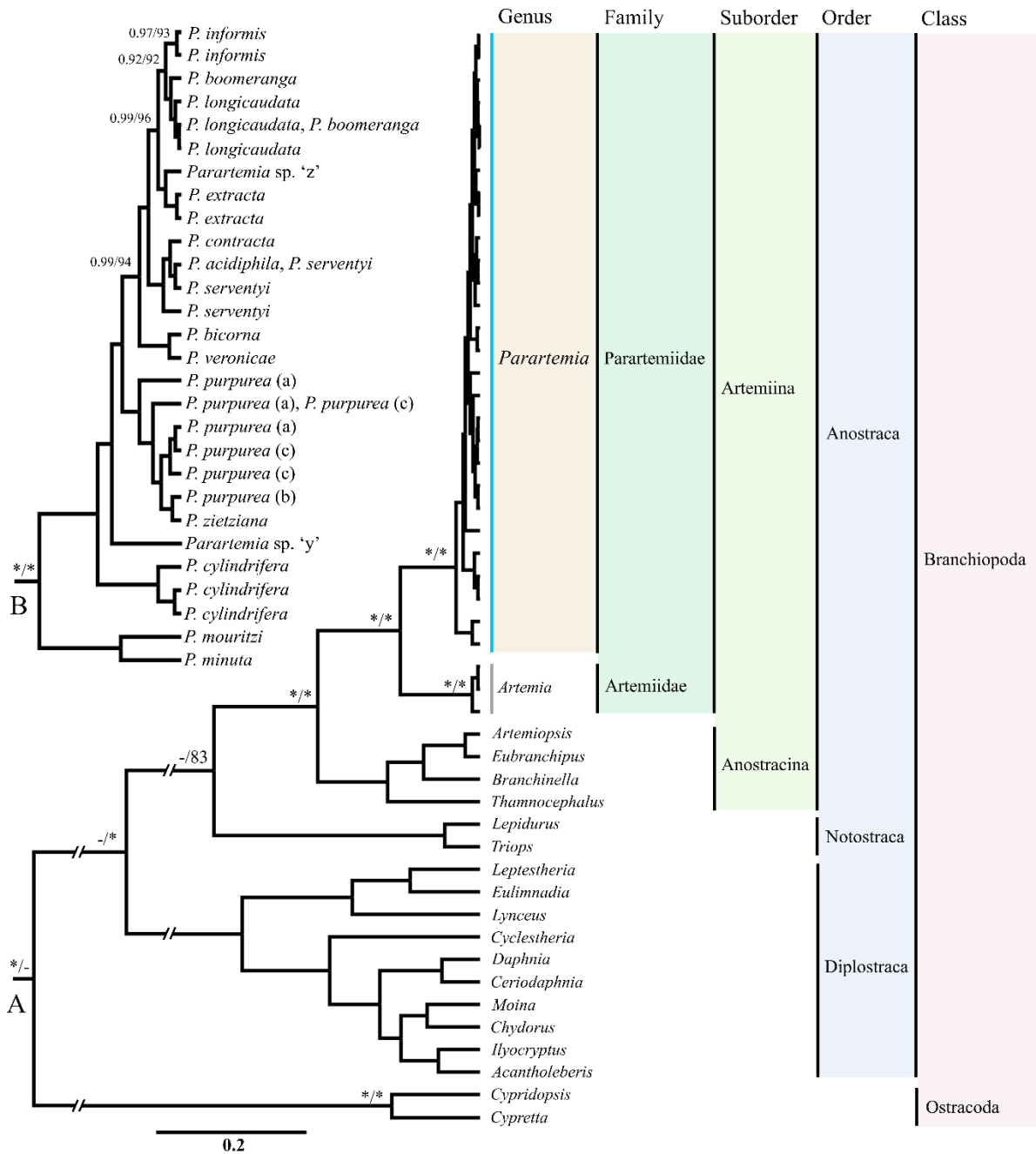
**Table S4.** Details of outgroup data used for 28S, 16S, COI and concatenated phylogenetic analyses.

<b>Taxa</b>	<b>Genetic region</b>	<b>GenBank accession number</b>
For 28S dataset		
<i>Artemia salina</i>	28S	AF169697
<i>Artemia salina</i>	28S	X90461
<i>Artemia</i> sp.	28S	AY210805
<i>Thamnocephalus platyurus</i>	28S	AF209046
<i>Branchinella occidentalis</i>	28S	AY744895
<i>Eubranchipus</i> sp.	28S	AF209044
<i>Artemiopsis stefanssoni</i>	28S	AF209045
<i>Lepidurus arcticus</i>	28S	AF209047
<i>Triops australiensis</i>	28S	EF189662
<i>Lynceus biformis</i>	28S	EF189653
<i>Eulimnadia texana</i>	28S	AY851444
<i>Leptestheria kawachiensis</i>	28S	EF189649
<i>Cyclestheria hislopi</i>	28S	AF532878
<i>Moina affinis</i>	28S	AF532882
<i>Chydorus sphaericus</i>	28S	AF532891
<i>Acantholeberis curvirostris</i>	28S	AF532890
<i>Ilyocryptus</i> sp.	28S	AF532892
<i>Ceriodaphnia</i> sp.	28S	AF532889
<i>Daphnia magna</i>	28S	EU370436
<i>Cypridopsis uenoi</i>	28S	AB674997
<i>Cypretta seurati</i>	28S	AB675000
For 16S dataset		
<i>A. franciscana</i>	16S	MF563560
<i>Artemia salina</i>	16S	FJ007838
For COI dataset		
<i>Artemia salina</i>	COI	DQ426856
<i>Artemia salina</i>	COI	DQ426858
For concatenated dataset		
<i>Artemia salina</i>	28S, 16S and COI	AF169697, FJ007838, MT495441
<i>Thamnocephalus platyurus</i>	28S, 16S and COI	AF209046, AF209057, AF209066

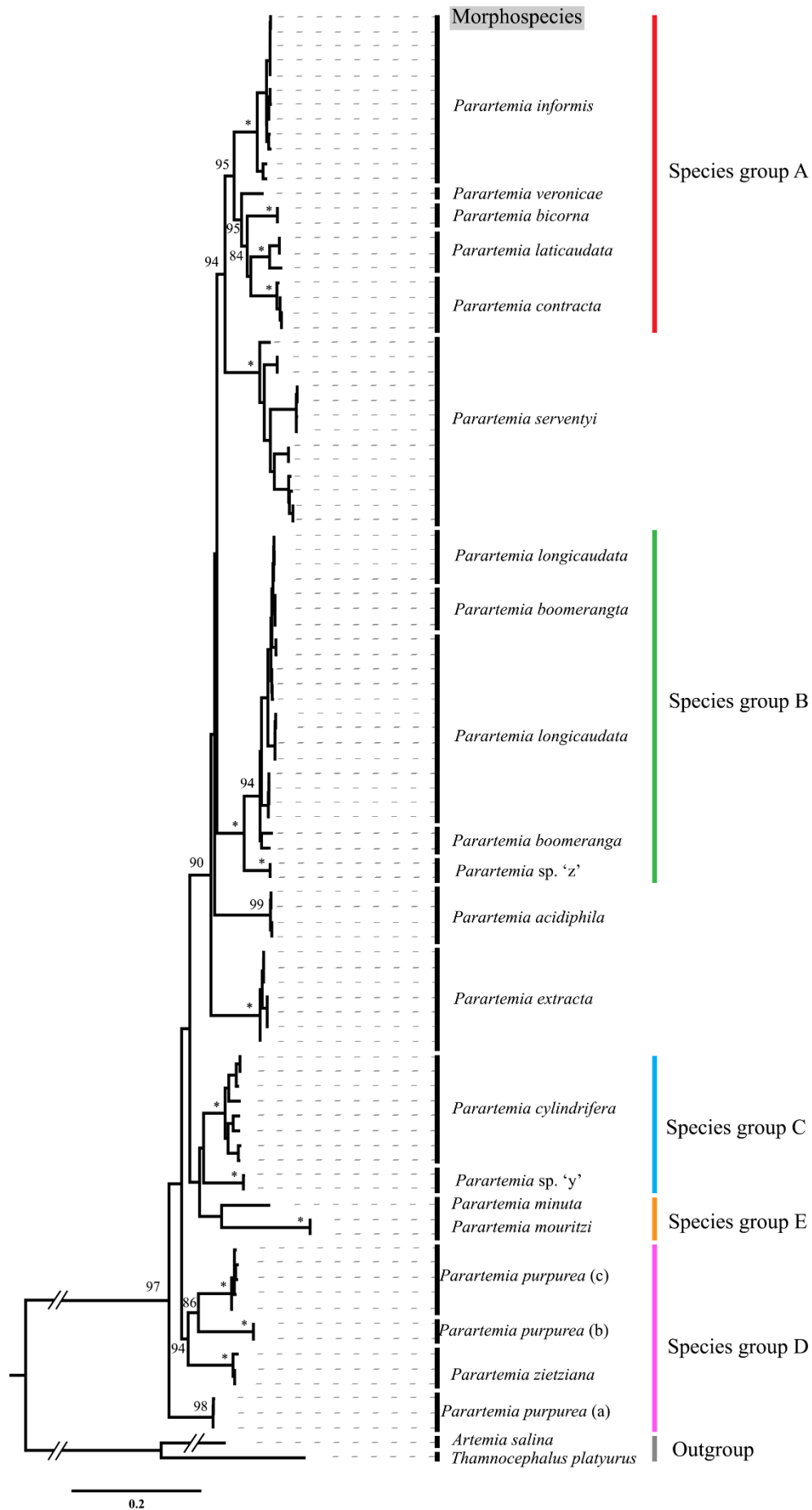
**Table S5.** Minimum and maximum pairwise 28S genetic distances (*p*-distance, %) matrix for *Parartemia* species, confirmed in this study.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	0.59															
3	0.15	0.73														
4	1.17-1.32	1.47-1.61	1.03-1.17													
5	0.59-0.73	1.17-1.32	0.73-0.88	1.17-1.61												
6	0.59-0.73	0.88-1.03	0.73-0.88	1.47-1.91	0.59-0.88											
7	0.59-0.88	1.17-1.32	0.73-1.03	1.47-1.91	0.59-1.03	0.29-0.73										
8	1.76	1.76	1.62	1.17-1.47	1.76-1.91	1.91-2.06	2.06-2.20									
9	2.21	2.06	2.21	1.62-1.77	2.51	2.65-2.80	2.51-2.80	1.91								
10	0.59-0.73	0.88-1.03	0.73-0.88	0.44-1.02	1.03-1.32	1.03-1.32	0.88-1.32	1.61-1.76	1.62-1.91							
11	1.32	1.62	1.47	0.88-1.17	1.47-1.62	1.62-1.76	1.62-1.76	2.05	2.21	0.59-1.03						
12	0.59-0.88	0.88-1.17	0.73-1.03	0.59-0.88	1.17-1.32	1.17-1.32	1.17-1.32	1.47-1.76	1.62-1.91	0.00-0.59	0.73					
13	0.00-0.15	0.59-0.73	0.15-0.29	1.17-1.47	0.59-0.88	0.59-0.88	0.59-1.03	1.76-1.91	2.21-2.36	0.59-0.88	1.32-1.47	0.59-1.03				
14	0.29	0.29	0.44	1.17-1.32	0.88-1.03	0.88-1.03	0.88-1.03	1.76	2.21	0.59-0.73	1.32	0.59-0.88	0.29-0.44			
15	0.88	1.17	1.03	0.44-0.73	1.03-1.17	1.17-1.32	1.17-1.32	1.61	1.77	0.15-0.59	0.44	0.29	0.88-1.03	0.88		
16	0.88	1.17	1.03	0.59-0.73	1.17-1.32	1.47-1.61	1.47-1.61	1.47	1.77	0.59-0.73	1.17	0.59-0.88	0.73-1.03	0.88	0.73	
17	0.29	0.88	0.44	1.17-1.47	0.29-0.44	0.29-0.44	0.29-0.59	1.76	2.51	0.73-0.88	1.32	0.88	0.29-0.44	0.59	0.88	1.17

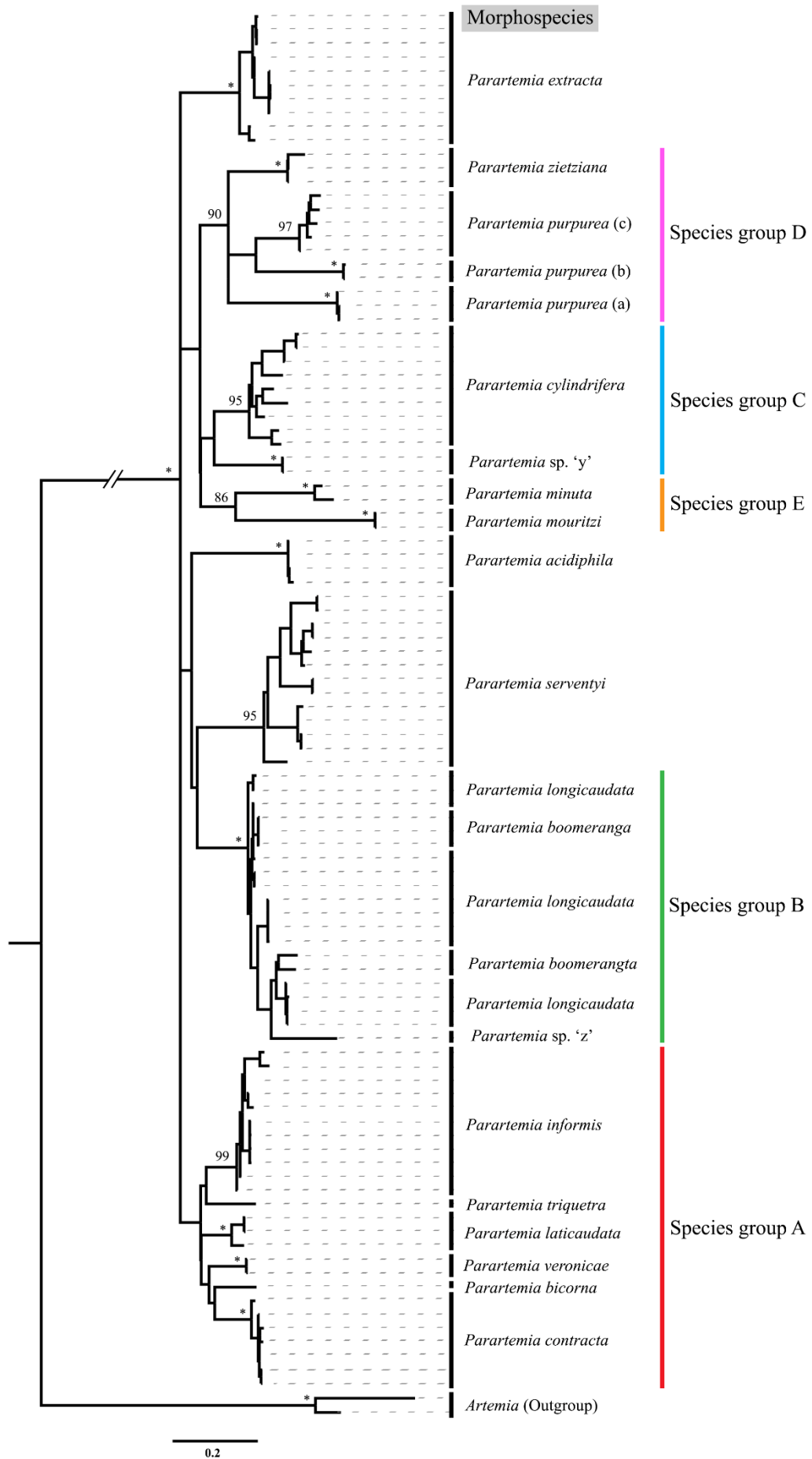
1: *P. acidiphila*, 2: *P. bicorna*, 3: *P. contracta*, 4: *P. cylindrifera*, 5: *P. extracta*, 6: *P. informis*, 7: *P. longicaudata/boomeranga*, 8: *P. minuta*, 9: *P. mouritzi*, 10: *P. purpurea* (a), 11: *P. purpurea* (b), 12: *P. purpurea* (c), 13: *P. serventyi*, 14: *P. veronicae*, 15: *P. zietziana*, 16: *Parartemia* sp. ‘y’, and 17: *Parartemia* sp. ‘z’.



**Fig. S1.** Bayesian inference (BI) phylogenetic tree of *Parartemia* 28S haplotypes. A) whole tree and B) close up of branch containing *Parartemia* haplotypes. Bayesian Posterior Probability (BPP, when  $\geq 0.80$ ) are indicated at nodes, as are the bootstrap values from maximum likelihood (ML) phylogenetic analysis (when  $\geq 80\%$ ) (BPP/bootstrap). The ML tree is not presented. For nodes where one value was above the threshold and the other was below, the latter is indicated by hyphen (-). BPP values of 1 and bootstraps of 100% are indicated by asterisks (\*). GenBank accession numbers of *Parartemia* haplotypes are in supplementary Table S1 and of other haplotypes in Table S4.

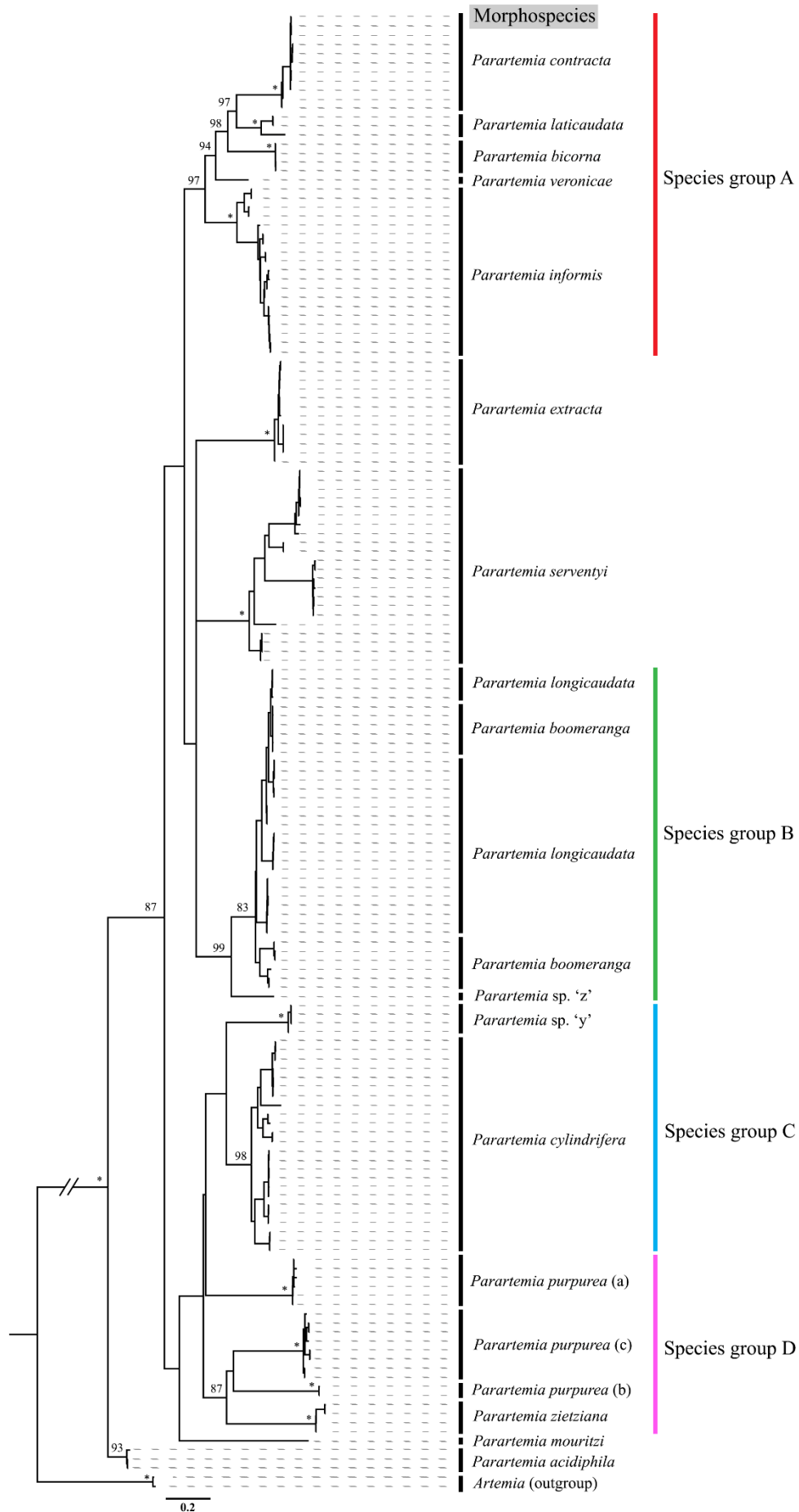


**Fig. S2.** Maximum likelihood (ML) phylogenetic tree of *Parartemia* based on the concatenated dataset (*COI*, *16S* and *28S*). Bootstrap values  $\geq 80\%$  are indicated at nodes. Nodes with 100% bootstrap support are indicated by asterisks (\*). Taxa are identified by their morphospecies names. Coloured bars to the right of the figure indicate species groups identified within *Parartemia* in this study (see text).



**Fig. S3.** Maximum likelihood (ML) phylogenetic tree of *Parartemia* 16S haplotypes. Bootstrap values  $\geq 80\%$  are indicated at nodes. Nodes with 100% bootstrap support are indicated by asterisks (\*). Taxa are identified by their morphospecies names. Coloured bars to the right of the figure indicate species groups identified within *Parartemia* in this study (see text).





**Fig. S4.** Maximum likelihood (ML) phylogenetic tree of *Parartemia* *COI* haplotypes. Bootstrap values  $\geq 80\%$  are indicated at nodes. Nodes with 100% bootstrap support are indicated by asterisks (\*). Taxa are identified by their morphospecies names. Coloured bars to the right of the figure indicate species groups identified within *Parartemia* in this study (see text). Species group E is not shown due to the absence of *COI* data for *P. minuta*.

**Table S6.** Minimum and maximum pairwise genetic distances (*p*-distance, %) matrix between 19 species of *Parartemia* (confirmed in this study) based on *I6S* (below the diagonal) and *COI* (above the diagonal) markers.

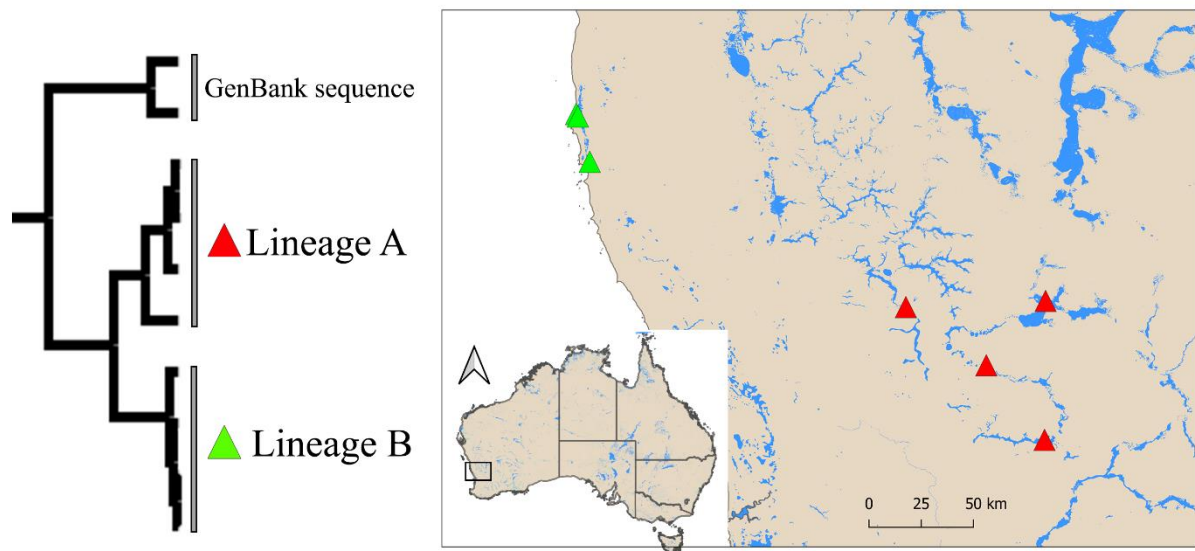
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1		19.8- 20.4	20.1- 21.1	18.5- 21.1	19.2- 20.4	18.8- 20.8	20.7- 22.0	17.3- 19.5	-	19.9- 20.4	20.2- 21.3	19.8- 20.1	19.3- 20.2	18.2- 21.3	-	18.5- 18.8	19.5- 21.9	21.1- 22.5	18.4- 18.7	
2	14.1- 14.9		16.6- 17.8	19.0- 21.6	18.5- 19.8	16.4- 18.7	16.4- 17.6	19.6- 22.0	-	21.9- 22.0	19.6- 20.1	19.5- 19.8	20.1- 21.6	17.2- 20.7	-	15.8- 16.0	19.9- 20.8	20.5- 21.4	18.1- 18.2	
3	13.6- 14.9	10.0- 11.3		19.0- 22.0	18.4- 21.0	15.8- 18.8	14.7- 16.1	18.2- 21.4	-	21.0- 22.5	21.6- 23.7	19.5- 20.4	21.1- 22.6	17.6- 22.3	-	15.7- 16.3	19.3- 21.0	20.4- 21.4	21.6- 22.3	
4	14.3- 17.8	13.4- 15.9	15.1- 18.0		18.4- 22.0	17.2- 21.7	18.4- 21.9	17.6- 22.3	-	18.8- 21.1	17.9- 21.6	17.9- 20.5	18.1- 21.1	18.2- 23.7	-	17.3- 20.7	17.6- 20.7	15.7- 17.9	19.2- 20.7	
5	15.1- 17.8	13.8- 15.1	12.8- 15.1	13.0- 18.0		17.9- 23.0	18.2- 19.9	18.2- 21.0	-	21.3- 22.2	20.1- 21.7	21.0- 22.0	19.0- 20.8	18.1- 21.0	-	18.7- 19.6	19.9- 21.7	19.8- 20.8	19.6- 20.8	
6	13.8- 15.7	10.0- 11.1	10.3- 13.0	11.5- 17.2	12.1- 14.9		15.8- 19.9	16.0- 20.7	-	20.7- 22.8	18.7- 21.1	18.7- 22.2	19.8- 22.2	16.0- 21.6	-	15.4- 17.8	19.2- 21.9	18.4- 21.1	17.8- 19.3	
7	15.1- 17.0	9.9- 10.3	11.1- 12.0	14.0- 16.5	13.0- 14.0	9.4- 11.1		17.0- 19.8	-	21.3- 21.4	21.1- 23.4	19.3- 20.2	20.8- 24.0	18.1- 22.0	-	14.4- 15.8	19.2- 19.6	20.8- 22.0	17.9- 18.5	
8	13.8- 17.0	13.8- 16.1	12.1- 15.9	12.3- 18.0	13.6- 16.7	10.7- 15.5	12.3- 14.6		-	21.1- 22.3	19.0- 21.3	18.2- 21.3	20.5- 22.8	17.3- 22.6	-	16.9- 19.6	18.4- 21.6	19.0- 21.6	14.0- 16.3	
9	16.8- 17.2	15.5- 16.3	16.3- 17.0	14.3- 16.7	15.7- 18.0	15.1- 17.2	15.7- 17.2	14.2- 17.8		-	-	-	-	-	-	-	-	-	-	-
10	18.7- 19.5	15.1- 18.0	17.2- 18.0	15.7- 19.5	17.2- 18.2	14.7- 16.4	15.1- 15.7	17.8- 19.3	16.6- 16.8		19.5- 19.9	21.4- 21.7	19.0- 20.2	19.5- 21.3	-	19.9- 20.5	20.4- 21.3	19.0- 19.5	21.0- 19.5	
11	18.7- 19.5	16.1- 16.4	16.8- 18.0	13.2- 17.2	15.5- 17.6	17.0- 19.3	17.0- 17.7	16.8- 19.7	15.9- 16.8	19.3- 19.8		20.5- 21.6	19.3- 21.4	19.9- 22.5	-	20.5- 21.0	19.6- 21.3	17.6- 19.2	20.5- 21.1	
12	17.6- 18.5	15.3- 17.0	16.1- 17.0	14.6- 16.7	16.3- 17.6	15.9- 18.2	14.9- 16.3	15.5- 17.6	15.1- 16.5	19.1- 19.5	14.3- 14.7		18.2- 19.8	21.3- 24.3	-	18.8- 19.0	18.7- 19.3	20.2- 20.8	18.2- 18.7	
13	15.9- 17.4	13.6- 14.3	13.8- 16.4	12.4- 15.1	13.8- 16.8	11.7- 14.7	12.4- 15.7	14.0- 17.6	15.5- 17.6	16.4- 17.4	14.9- 16.1	13.6- 15.1		21.3- 25.2	-	20.2- 21.7	17.8- 19.5	20.1- 21.3	21.0- 21.7	
14	14.5- 18.7	13.2- 15.5	10.5- 15.1	14.9- 18.0	14.6- 18.0	11.1- 16.5	11.1- 16.3	12.8- 17.0	15.5- 18.0	16.1- 19.5	17.4- 20.3	14.9- 17.2	14.9- 19.1		-	17.6- 20.5	18.4- 22.3	18.1- 22.0	19.0- 21.9	
15	14.7- 15.3	11.3- 10.5	9.6- 10.5	14.3- 17.4	12.8- 14.4	9.2- 10.7	10.3- 11.1	11.7- 14.0	17.6- 18.6	15.9- 18.0	18.0- 18.6	16.7- 17.2	14.1- 14.9	13.0- 15.9		-	-	-	-	
16	12.6- 13.2	9.9- 10.1	9.9- 11.7	13.4- 17.6	12.4- 14.7	8.4- 9.9	9.2- 10.3	10.7- 13.4	16.1- 16.4	14.9- 15.1	16.6- 17.0	16.1- 16.4	13.2- 14.5	12.4- 15.7	12.0- 12.2		20.2- 21.0	21.1- 21.6	19.5- 19.5	
17	13.7- 14.5	13.6- 14.6	13.2- 14.6	12.8- 17.2	14.4- 16.4	14.0- 15.1	13.8- 14.7	14.2- 16.4	15.3- 15.9	15.7- 16.4	14.3- 15.1	14.2- 16.1	12.2- 14.3	15.3- 18.9	13.0- 13.4	13.7- 14.3		19.5- 20.4	19.5- 19.9	
18	15.9- 16.6	14.2- 14.4	15.5- 16.3	12.2- 14.4	14.2- 15.7	13.4- 14.9	14.3- 15.7	14.4- 15.9	14.9- 15.3	17.0- 17.2	16.4- 16.8	15.3- 15.9	14.5- 15.7	14.7- 17.0	15.3- 15.5	14.9- 15.3	15.1- 15.7		20.1- 20.4	
19	16.8- 17.6	14.2- 14.6	13.0- 14.6	13.6- 17.4	14.2- 15.1	13.8- 15.7	15.3- 15.9	9.4- 11.5	16.3- 17.6	17.8- 18.0	17.6- 17.8	18.2- 18.0	14.9- 16.4	14.7- 16.3	14.9- 16.3	14.1- 14.3	15.1- 16.1	15.3- 15.5		

1: *P. acidiphila*, 2: *P. bicorna*, 3: *P. contracta*, 4: *P. cylindrifera*, 5: *P. extracta*, 6: *P. informis*, 7: *P. laticaudata*, 8: *P. longicaudata/boomeranga*, 9: *P. minuta*, 10: *P. mouritzi*, 11: *P. purpurea* (a), 12: *P. purpurea* (b), 13: *P. purpurea* (c), 14: *P. serventyi*, 15: *P. triquetra*, 16: *P. veronicae*, 17: *P. zietziana*, 18: *Parartemia* sp. 'y', and 19: *Parartemia* sp. 'z'.

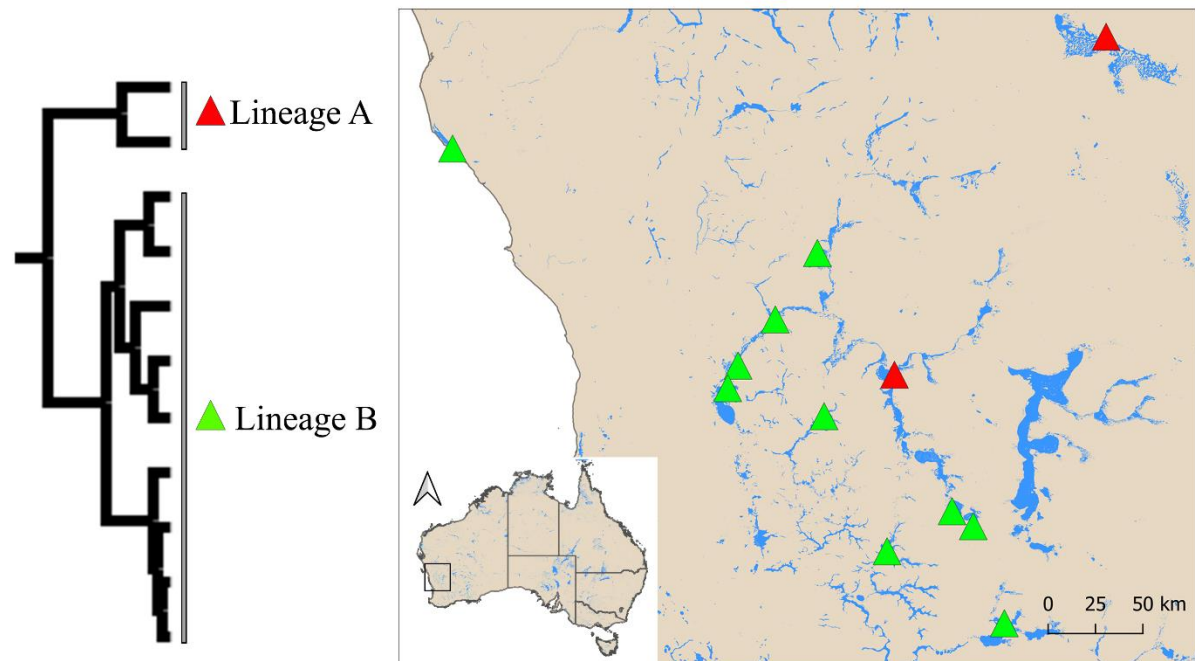
**Table S7.** Minimum and maximum pairwise genetic distances (K2P distance, %) matrix between 19 species of *Parartemia* (confirmed in this study) based on *16S* (below the diagonal) and *COI* (above the diagonal) markers.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
<b>1</b>		23.6- 24.5	24.0- 25.7	21.7- 25.6	22.7- 24.5	22.4- 25.2	25.0- 27.1	20.2- 23.2	-	23.5- 24.2	24.2- 25.8	23.3- 23.8	22.7- 24.1	21.4- 25.7	-	21.9- 22.3	22.8- 26.5	25.6- 27.7	21.6- 22.1	
<b>2</b>	15.8- 17.0		19.4- 21.1	22.3- 26.1	21.8- 23.6	19.0- 22.2	19.2- 20.9	23.3- 27.1	-	26.6- 26.8	23.3- 24.0	23.0- 23.4	23.8- 26.1	19.7- 24.7	-	18.2- 18.4	23.5- 24.9	24.4- 25.8	21.0- 21.3	
<b>3</b>	15.3- 17.0	11.0- 12.5		22.3- 26.9	21.6- 25.4	18.1- 22.5	16.9- 18.8	21.2- 26.1	-	25.1- 27.4	26.1- 29.5	22.8- 24.2	25.3- 27.6	20.6- 27.6	-	18.1- 19.0	22.6- 25.1	24.2- 25.8	26.2- 27.4	
<b>4</b>	16.0- 20.7	15.0- 18.2	17.5- 21.2		21.4- 26.8	19.9- 26.7	21.5- 26.5	20.4- 27.6	-	21.9- 25.3	21.0- 26.6	21.0- 24.7	21.2- 25.8	21.2- 29.3	-	20.0- 24.8	20.5- 24.8	17.9- 21.0	22.5- 24.8	
<b>5</b>	17.2- 20.9	15.5- 17.1	14.2- 17.2	14.5- 21.1		20.9- 28.5	21.4- 23.8	21.5- 25.5	-	25.7- 27.1	23.9- 26.4	25.3- 27.0	22.3- 25.0	21.2- 25.5	-	22.1- 23.5	23.7- 26.4	23.6- 25.2	23.7- 25.6	
<b>6</b>	15.5- 17.9	10.9- 12.1	11.2- 14.5	12.6- 19.9	13.3- 16.7		18.1- 24.0	18.4- 25.2	-	24.6- 27.9	21.9- 25.7	21.9- 27.1	23.4- 27.1	18.3- 26.4	-	17.6- 21.1	22.4- 26.5	21.4- 25.6	20.8- 23.0	
<b>7</b>	17.1- 19.7	10.7- 11.2	12.2- 13.3	15.7- 19.0	14.4- 15.7	10.1- 12.1		19.7- 23.6	-	25.6- 25.7	25.4- 28.9	22.7- 24.0	25.0- 30.0	21.3- 27.0	-	16.4- 18.2	22.5- 23.2	24.9- 26.8	21.0- 21.9	
<b>8</b>	15.4- 19.8	15.5- 18.5	13.4- 18.3	13.7- 21.0	15.2- 19.3	11.5- 17.6	13.6- 16.5		-	25.3- 27.2	22.1- 25.7	21.2- 25.7	24.4- 27.9	20.0- 28.1	-	19.4- 23.3	21.4- 26.1	22.4- 26.1	16.1- 19.2	
<b>9</b>	19.2- 19.9	17.6- 18.7	18.7- 19.6	16.0- 19.3	17.9- 21.1	17.0- 19.8	17.8- 19.8	15.9- 20.8		-	-	-	-	-	-	-	-	-	-	-
<b>10</b>	21.8- 23.1	17.0- 20.9	19.7- 23.0	17.8- 23.0	19.8- 21.2	16.4- 18.6	17.0- 17.8	20.6- 22.7	19.0- 19.3		22.9- 23.5	25.8- 26.2	22.3- 24.0	22.9- 25.6	-	23.6- 24.2	24.0- 22.9	22.3- 22.9	25.3- 25.3	
<b>11</b>	21.8- 23.1	18.4- 18.7	19.3- 21.1	14.8- 20.1	17.6- 20.4	19.5- 22.8	19.6- 20.5	19.3- 23.4	18.2- 19.4	22.8- 23.4		24.6- 26.2	22.8- 25.9	23.5- 27.4	-	24.6- 25.3	23.1- 25.6	20.4- 22.7	24.4- 25.3	
<b>12</b>	20.3- 21.4	17.4- 19.5	18.4- 19.3	16.5- 19.3	18.6- 20.3	18.1- 21.2	16.8- 18.7	17.5- 20.4	17.0- 19.0	22.4- 23.1	16.0- 16.5		21.4- 23.6	25.6- 30.4	-	22.1- 22.4	21.9- 22.8	24.1- 25.0	21.2- 21.9	
<b>13</b>	18.2- 20.3	15.3- 16.1	15.5- 18.9	13.6- 17.1	15.5- 19.3	12.8- 16.6	13.7- 18.0	15.7- 20.5	17.6- 20.5	18.6- 20.1	16.8- 18.5	15.3- 17.1		25.5- 32.0	-	24.1- 26.5	20.7- 23.1	24.0- 25.7	25.2- 26.3	
<b>14</b>	16.2- 21.9	14.8- 17.8	11.4- 17.2	16.9- 21.1	16.4- 21.0	12.0- 19.1	12.1- 18.8	14.1- 19.6	17.6- 21.1	18.4- 23.0	20.3- 24.6	16.8- 19.9	16.8- 22.6		-	20.7- 24.9	21.4- 27.2	21.1- 26.8	22.5- 27.0	
<b>15</b>	16.6- 17.4	12.3- 11.4	10.4- 20.2	16.0- 16.2	14.1- 11.6	9.9- 12.1	11.1- 15.7	12.8- 21.8	20.4- 21.8	18.0- 19.7	20.9- 19.7	19.1- 16.7	15.7- 18.2	14.4- 18.2		-	-	-	-	
<b>16</b>	14.0- 14.8	10.7- 11.0	10.8- 13.2	14.9- 20.5	13.7- 16.6	9.0- 10.7	10.0- 11.2	11.6- 15.1	18.4- 18.7	16.7- 17.0	19.0- 19.6	18.4- 18.7	14.7- 16.4	13.7- 18.0	13.3- 13.5		24.0- 25.2	25.5- 26.2	23.3- 23.3	
<b>17</b>	15.2- 16.3	15.2- 16.5	14.7- 16.6	14.2- 20.1	16.2- 18.8	15.7- 17.1	15.4- 16.5	15.9- 18.8	17.3- 18.2	17.8- 18.7	16.1- 17.2	16.0- 18.6	13.5- 16.3	17.4- 22.3	14.4- 14.9	15.3- 16.1		22.9- 24.2	22.9- 23.5	
<b>18</b>	18.2- 19.0	16.1- 16.4	17.8- 19.0	13.6- 16.4	15.9- 17.9	14.9- 16.8	16.0- 18.0	16.3- 18.3	16.8- 18.3	19.5- 19.8	18.8- 19.4	17.3- 18.2	16.3- 18.0	16.7- 19.7	17.3- 17.6	16.9- 17.5	17.1- 18.1		23.9- 24.4	
<b>19</b>	19.2- 20.4	16.1- 16.6	14.4- 20.2	15.1- 20.2	15.9- 17.0	15.4- 17.8	17.5- 18.3	10.1- 12.7	18.6- 20.4	20.6- 20.9	20.5- 20.8	21.1- 18.7	16.7- 18.7	16.7- 18.7	16.7- 16.7	15.8- 16.1	17.0- 18.5	17.4- 17.7		

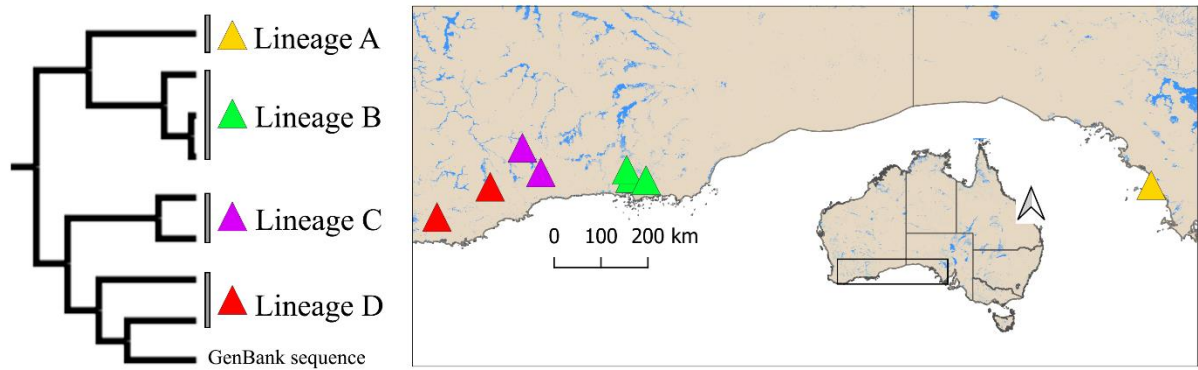
1: *P. acidiphila*, 2: *P. bicorna*, 3: *P. contracta*, 4: *P. cylindrifera*, 5: *P. extracta*, 6: *P. informis*, 7: *P. laticaudata*, 8: *P. longicaudata/boomeranga*, 9: *P. minuta*, 10: *P. mouritzi*, 11: *P. purpurea* (a), 12: *P. purpurea* (b), 13: *P. purpurea* (c), 14: *P. serventyi*, 15: *P. triquetra*, 16: *P. veronicae*, 17: *P. zietziana*, 18: *Parartemia* sp. 'y', and 19: *Parartemia* sp. 'z'.



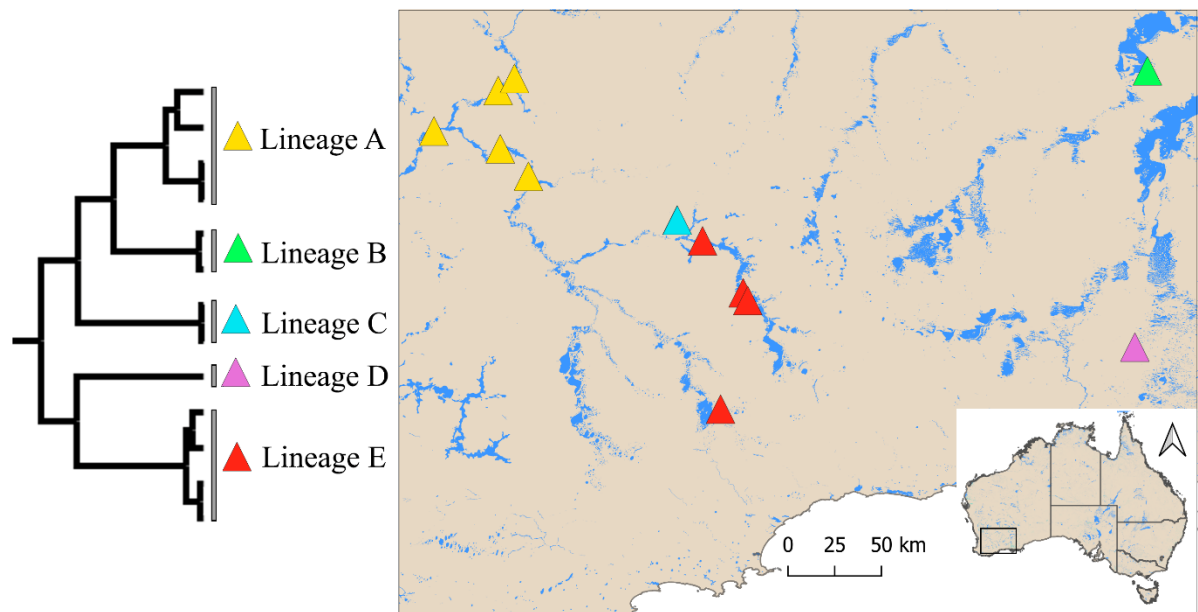
**Fig. S5.** Distributions of major *16S* genetic lineages in *P. extracta*. An excerpt from the *16S* BI tree (Fig. 3) has been included to identify the lineages. See Table S1 for site details.



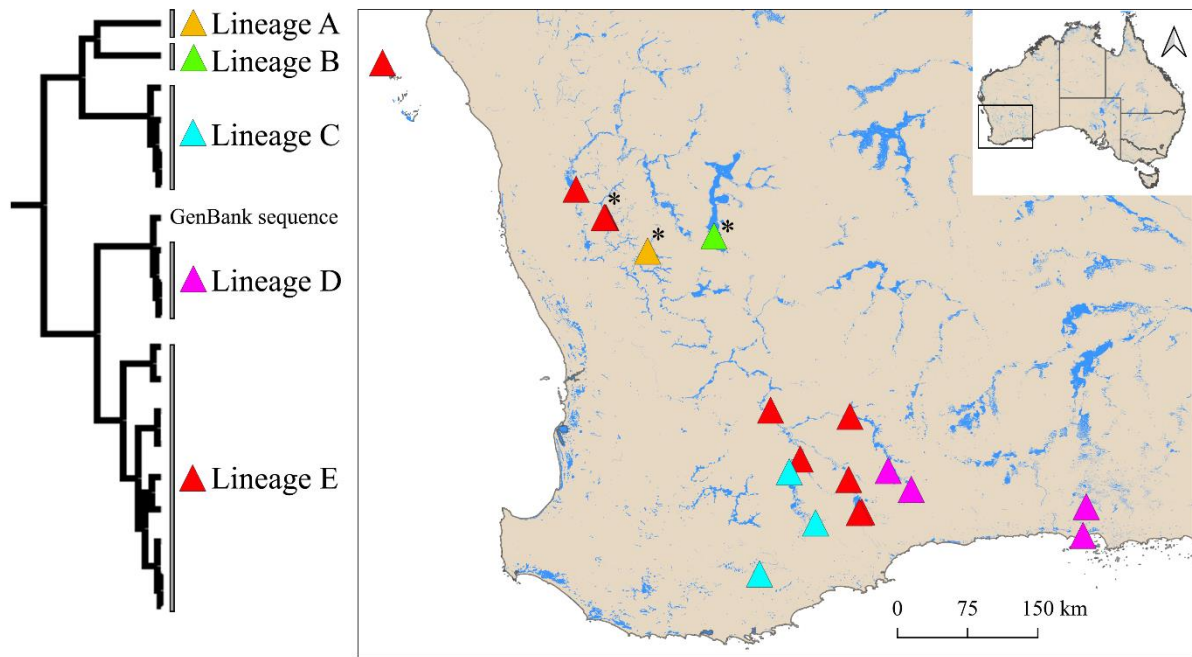
**Fig. S6.** Distributions of major *16S* genetic lineages in *P. informis*. An excerpt from the *16S* BI tree (Fig. 3) has been included to identify the lineages. See Table S1 for site details.



**Fig. S7.** Distributions of major *16S* genetic lineages in *P. cylindrifera*. An excerpt from the *16S* BI tree (Fig. 3) has been included to identify the lineages. See Table S1 for site details.



**Fig. S8.** Distributions of major *16S* genetic lineages in *P. serventyi*. An excerpt from the *16S* BI tree (Fig. 3) has been included to identify the lineages. See Table S1 for site details.



**Fig. S9.** Distributions of major *16S* genetic lineages in *P. longicaudata*. An excerpt from the *16S* BI tree (Fig. 3) has been included to identify the lineages. Sites marked with asterisks (\*) indicate the *P. boomeranga* morphotypes. See Table S1 for site details.