

Supplementary Material

Phylogeny of the asexual lineage Murrayidae (Macrobioidea, Eutardigrada) with the description of *Paramurrayon* gen. nov. and *Paramurrayon meieri* sp. nov.

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Table S1. GenBank accession numbers of the sequences produced in this study (in bold) and of the Macrobiotidae sequences used in phylogenetic analyses.

Species	Country	GenBank Accessions			
		<i>18S</i>	<i>28S</i>	<i>ITS2</i>	<i>cox1</i>
<i>Ramazzottius varieornatus</i>	Japan	BDGG01000030	BDGG01000030		
Murrayidae					
<i>Murrayon pullari</i>	Italy	HQ604983	OP380724		
<i>Murrayon pullari</i>	Italy	HQ604984	OP380725		
<i>Murrayon pullari</i>	Italy				AY598772
<i>Murrayon cf. pullari</i>	Italy	MT812477	MT812465	MT812603	MT808080
<i>Murrayon cf. pullari</i>	Scotland	OP379713	OP380728	OP390263	OP379720
<i>Murrayon cf. pullari</i>	Scotland	OP379714	OP380729	OP390264	OP379721
<i>Murrayon pullari</i>	Greenland	GQ849026	MH079499		
<i>Murrayon dianeae</i>	Italy	HQ604981	OP380726		
<i>Murrayon dianeae</i>	Italy	HQ604982	OP380727		
<i>Murrayon cf. dianeae</i>	Spain	FJ435737	FJ435762		FJ435801
<i>Paramurrayon meieri</i>	Norway				OP379722
<i>Paramurrayon meieri</i>	Norway	OP380715	OP380730	OP390265	OP379723
<i>Paramurrayon meieri</i>	Norway	OP380716	OP380731	OP390266	OP379724
<i>Paramurrayon meieri</i>	Norway	OP380717	OP380732	OP390267	OP379725
<i>Paramurrayon meieri</i>	Norway	OP380718	OP380733	OP390268	OP379726
<i>Paramurrayon meieri</i>	Norway				OP379727
<i>Paramurrayon meieri</i>	Norway				OP379728
<i>Dactylobiotus ovimutans</i>	Antarctica	MT136805	MT136807		MT132333
<i>Dactylobiotus ovimutans</i>	Antarctica				MT132332
<i>Dactylobiotus ambiguus</i>		GQ925676	MH079500		
<i>Dactylobiotus ambiguus</i>		GQ925677			
<i>Dactylobiotus ambiguus</i>		GQ925680			
<i>Dactylobiotus ambiguus</i>		GQ925681			
<i>Dactylobiotus octavi</i>	Greenland	GQ849025	GQ849049		
<i>Dactylobiotus selenicus</i>	Finland	MT812476	MT812466	MT812602	MT808076
<i>Dactylobiotus parthenogeneticus</i>	Poland	MT373695	MT373701	MT374192	MT373805
<i>Dactylobiotus parthenogeneticus</i>	Poland				MT373806
<i>Dactylobiotus parthenogeneticus</i>	France	MT373694	MT373700	MT374191	MT373804
<i>Dactylobiotus parthenogeneticus</i>	UK	MT373693	MT373699	MT374190	MT373803
<i>Dactylobiotus parthenogeneticus</i>	Italy				AY598771
<i>Dactylobiotus parthenogeneticus</i>	Italy	OP380708	OP380720	OP390258	OP379716
<i>Dactylobiotus parthenogeneticus</i>	Italy	OP380709	OP380721	OP390259	
<i>Dactylobiotus parthenogeneticus</i>	Italy	OP380710		OP390260	OP379717
<i>Dactylobiotus grandipes</i>	USA	OP380711	OP380722	OP390261	OP379718
<i>Dactylobiotus grandipes</i>	USA	OP380712	OP380723	OP390262	OP379719
<i>Dactylobiotus sp.</i>	Antarctica				EF632523
<i>Dactylobiotus sp.</i>	Antarctica				EF632524
<i>Dactylobiotus sp.</i>	Antarctica				EF632525
<i>Dactylobiotus sp.</i>	Antarctica				EF632526
<i>Dactylobiotus sp.</i>	Antarctica				EF632527
<i>Dactylobiotus sp.</i>	Antarctica				EF632528
Adorybiotidae					
<i>Adorybiotus granulatus</i>	Norway	HQ604961			

<i>Adorybiotus granulatus</i>	Norway	HQ604962	
<i>Adorybiotus cf. granulatus</i>	Japan	MT812475	MT812464
<i>Crenubiotus crenulatus</i>	Norway	MT812474	
<i>Crenubiotus ruhesteini</i>	Germany	MW074384	MW074390
<i>Crenubiotus ruhesteini</i>	Germany	MW074385	MW074391
<i>Crenubiotus ruhesteini</i>	Germany	MW074386	MW074392
<i>Crenubiotus ruhesteini</i>	Germany	MW074387	MW074393
<i>Crenubiotus ruhesteini</i>	Germany	MW074388	MW074394
<i>Crenubiotus ruhesteini</i>	Germany	MW074389	MW074395
<i>Crenubiotus sp.</i>	Scotland	MT812473	
<i>Crenubiotus sp.</i>	Greenland	OM179850	
<i>Crenubiotus sp.</i>	Greenland	OM179851	
Richtersiusidae			
<i>Diaforobiotus islandicus</i>	Norway	HQ604972	KT778704
<i>Diaforobiotus islandicus</i>	Norway	HQ604973	KT778705
<i>Diaforobiotus islandicus</i>	Iceland	MT812470	MT812461
<i>Diaforobiotus sp.</i>	Norway	MT812471	MT812463
<i>Diaforobiotus sp.</i>	Indonesia	MT812472	MT812462
<i>Diaforobiotus hyperonyx</i>	Italy	OM179852	
<i>Diaforobiotus hyperonyx</i>	Italy	OM179853	
<i>Diaforobiotus hyperonyx</i>	Italy	OM179854	
<i>Diaforobiotus hyperonyx</i>	Italy	OM179855	
<i>Richtersius coronifer</i>	Norway	MH681760	MH681757
<i>Richtersius coronifer</i>	Greenland	KT778712	KT778702
<i>Richtersius coronifer</i>	Greenland	KT778713	KT778703
<i>Richtersius coronifer</i>	Italy	HQ604987	KT778695
<i>Richtersius coronifer</i>	Italy	HQ604988	KT778696
<i>Richtersius cf. coronifer</i>	Italy	KT778706	KT778697
<i>Richtersius cf. coronifer</i>	Italy	KT778707	KT778698
<i>Richtersius cf. coronifer</i>	Mongolia	KT778708	KT778699
<i>Richtersius cf. coronifer</i>	Mongolia	KT778709	KT778700
<i>Richtersius cf. coronifer</i>	Mongolia	KT778710	KT778701
<i>Richtersius cf. coronifer</i>	Italy	KT778711	
<i>Richtersius aff. coronifer</i>	Italy	MH681761	MH681758
<i>Richtersius aff. coronifer</i>	Poland	MH681762	MH681759
<i>Richtersius aff. coronifer</i>	Greece	MK211386	MK211384
<i>Richtersius ziemowiti</i>	Nepal	MT241891	MT241895
Macrobiotidae			
<i>Macrobiotus hufelandi</i>	Greenland	GQ849024	GQ849047
<i>Macrobiotus vladimiri</i>	Spain	FJ435740	
<i>Macrobiotus vladimiri</i>	Spain	FJ435755	FJ435739
<i>Macrobiotus vladimiri</i>	Spain	FJ435738	FJ435754
<i>Macrobiotus vladimiri</i>	Finland	MN888375	MN888360
<i>Macrobiotus cf. nelsonae</i>	USA	HQ604965	
<i>Macrobiotus cf. nelsonae</i>	USA	HQ604966	
<i>Macrobiotus sapiens</i>	Croatia	DQ839601	
<i>Macrobiotus gr. sapiens</i>	Italy	HQ604971	
<i>Macrobiotus sapiens</i>	India	MK680800	
<i>Macrobiotus cf. joannae</i>	Italy	HQ604974	
<i>Macrobiotus cf. joannae</i>	Italy	HQ604975	
<i>Macrobiotus macrocalix</i>	Italy	HQ604976	
<i>Macrobiotus polonicus</i>	Poland	HM187580	

<i>Macrobiotus polonicus</i>	Austria	MN888369	MN888355
<i>Macrobiotus polonicus</i>	Slovakia	MN888370	MN888356
<i>Macrobiotus</i> aff. <i>polonicus</i>	Sweden	MW588026	MW588032
<i>Macrobiotus</i> aff. <i>polonicus</i>	Sweden	MW588027	MW588033
<i>Macrobiotus paulinae</i>	Kenya	KT935502	KT935501
<i>Macrobiotus polypiformis</i>	Ecuador	KX810008	KX810009
<i>Macrobiotus kristenseni</i>	Argentina	KC193577	
<i>Macrobiotus wumengensis</i>	China	MT872214	
<i>Macrobiotus scoticus</i>	Scotland	KY797265	KY797266
<i>Macrobiotus shonaicus</i>	Japan	MG757132	MG757133
<i>Macrobiotus hannaе</i>	Poland	MH063922	MH063924
<i>Macrobiotus papei</i>	Tanzania	MH063881	MH063880
<i>Macrobiotus canaricus</i>	Spain	MH063925	MH063934
<i>Macrobiotus caelestis</i>	Kyrgyzstan	MK737073	MK737071
<i>Macrobiotus noongaris</i>	Australia	MK737069	MK737063
<i>Macrobiotus kamilaе</i>	India	MK737070	MK737064
<i>Macrobiotus crustulus</i>	French Guiana	MT261912	MT261903
<i>Macrobiotus basiatus</i>	USA	MT498094	MT488397
<i>Macrobiotus sottilei</i>	Poland	MW247178	MW247175
<i>Macrobiotus glebkai</i>	Ukraine	MW247177	MW247176
<i>Macrobiotus pallarii</i>	Italy	MT809069	MT809081
<i>Macrobiotus pallarii</i>	Italy	MT809070	MT809082
<i>Macrobiotus pallarii</i>	Italy	MT809071	MT809083
<i>Macrobiotus pseudopallarii</i>	Montenegro	MN888365	MN888351
<i>Macrobiotus pseudopallarii</i>	Montenegro	MT809065	MT809077
<i>Macrobiotus pseudopallarii</i>	Montenegro	MT809066	MT809078
<i>Macrobiotus pseudopallarii</i>	Montenegro	MT809067	MT809079
<i>Macrobiotus pseudopallarii</i>	Montenegro	MT809068	MT809080
<i>Macrobiotus margoae</i>	USA	MN888368	MN888354
<i>Macrobiotus margoae</i>	USA	MT809072	MT809084
<i>Macrobiotus margoae</i>	USA	MT809073	MT809085
<i>Macrobiotus ripperi</i>	Finland	MN888366	MN888352
<i>Macrobiotus ripperi</i>	Poland	MN888367	MN888353
<i>Macrobiotus ripperi</i>	Poland	MT809074	MT809086
<i>Macrobiotus ripperi</i>	Finland	MT809075	MT809088
<i>Macrobiotus ripperi</i>	Finland	MT809076	MT809089
<i>Macrobiotus rybaki</i>	Greece	MW588029	MW588034
<i>Macrobiotus rybaki</i>	Greece	MW588028	MW588035
<i>Macrobiotus wandae</i>	Nepal	MN435109	MN435114
<i>Macrobiotus wandae</i>	Nepal	MN435110	MN435118
<i>Macrobiotus wandae</i>	Nepal	MN435111	MN435115
<i>Macrobiotus wandae</i>	Nepal	MN435112	MN435116
<i>Macrobiotus wandae</i>	Nepal	MN435113	MN435117
<i>Macrobiotus annewintersae</i>	USA	MW588024	MW588030
<i>Macrobiotus annewintersae</i>	USA	MW588025	MW588031
<i>Macrobiotus sandrae</i>	Germany	MW695445	
<i>Macrobiotus sandrae</i>	Germany	MW695446	
<i>Macrobiotus azzunae</i>	Tunisia	MW695447	MW695450
<i>Macrobiotus azzunae</i>	Tunisia	MW695448	MW695441
<i>Macrobiotus azzunae</i>	Tunisia	MW695449	MW695452
<i>Macrobiotus birendrai</i>	Canada	MW680641	
<i>Macrobiotus ariekammensis</i> <i>groenlandicus</i>	Greenland	MZ463662	
<i>Macrobiotus ariekammensis</i> <i>groenlandicus</i>	Greenland	MZ463663	

<i>Macrobiotus ariekammensis groenlandicus</i>	Greenland	MZ463664	
<i>Macrobiotus ariekammensis ariekammensis</i>	Norway	MZ463668	
<i>Macrobiotus ariekammensis ariekammensis</i>	Norway	MZ463669	
<i>Macrobiotus ariekammensis ariekammensis</i>	Norway	MZ463670	
<i>Macrobiotus kirghizicus</i>	Kyrgyzstan	MZ463665	
<i>Macrobiotus kirghizicus</i>	Kyrgyzstan	MZ463666	
<i>Macrobiotus kirghizicus</i>	Kyrgyzstan	MZ463667	
<i>Macrobiotus</i> sp.		EF632478	
<i>Macrobiotus</i> sp.		EF632479	
<i>Macrobiotus</i> sp.		EF632480	
<i>Macrobiotus</i> gr. <i>hufelandi</i>		EF632481	
<i>Macrobiotus</i> gr. <i>hufelandi</i>		EF632482	
<i>Macrobiotus</i> gr. <i>hufelandi</i>		EF632483	
<i>Macrobiotus</i> gr. <i>hufelandi</i>		EF632484	
<i>Macrobiotus</i> gr. <i>hufelandi</i>		EF632485	
<i>Macrobiotus</i> gr. <i>hufelandi</i>		EF632486	
<i>Macrobiotus</i> gr. <i>hufelandi</i>		EF632487	
<i>Macrobiotus</i> gr. <i>hufelandi</i>		EF632488	
<i>Macrobiotus</i> gr. <i>hufelandi</i>		EF632489	
<i>Macrobiotus</i> gr. <i>hufelandi</i>		EF632490	
<i>Macrobiotus</i> gr. <i>hufelandi</i>		EF632491	
<i>Macrobiotus</i> sp.		EU266935	
<i>Macrobiotus</i> sp.		EU266936	
<i>Macrobiotus</i> sp.		EU266937	
<i>Macrobiotus</i> sp.		EU266938	
<i>Macrobiotus</i> sp.		U49912	
<i>Macrobiotus</i> sp.	Austria	MN927135	
<i>Xerobiotus pseudohufelandi</i>	Italy	HQ604989	
<i>Xerobiotus pseudohufelandi</i>	Italy	HQ604990	
<i>Xerobiotus gretae</i>	Sweden	MW588434	MW588438
<i>Xerobiotus gretae</i>	Sweden	MW588435	MW588439
<i>Xerobiotus gretae</i>	Sweden	MW588436	MW588440
<i>Xerobiotus gretae</i>	Sweden	MW588437	MW588441
<i>Xerobiotus</i> sp.	Poland	MN888373	MN888358
<i>Xerobiotus</i> sp.	South Africa	MN888374	MN888359
<i>Sisubiotus spectabilis</i>	Finland	MN888371	MN888357
<i>Sisubiotus spectabilis</i>	Norway	MN888372	MN888364
<i>Tenuibiotus voronkovi</i>	Arctic	KX810045	KX810049
<i>Tenuibiotus zandrae</i>	Greenland	MN443040	MN443035
<i>Tenuibiotus</i> cf. <i>ciprianoi</i>	Spain	MN888376	MN888361
<i>Tenuibiotus danilovi</i>	Kyrgyzistan	MN888377	MN888362
<i>Tenuibiotus tenuiformis</i>	Kyrgyzistan	MN888378	MN888363
<i>Mesobiotus hilariae</i>	Antarctica	KT226068	
<i>Mesobiotus hilariae</i>	Antarctica	KT226069	
<i>Mesobiotus hilariae</i>	Antarctica	KT226070	KT226079
<i>Mesobiotus hilariae</i>	Antarctica	KT226071	
<i>Mesobiotus</i> cf. <i>mottai</i>	Antarctica	KT226072	KT226080
<i>Mesobiotus polaris</i>	Antarctica	KT226077	KT226087

<i>Mesobiotus polaris</i>	Antarctica	KT226078	
<i>Mesobiotus polaris</i>	Antarctica	KT226075	
<i>Mesobiotus polaris</i>	Antarctica	KT226076	
<i>Mesobiotus gr. harmsworthi</i>	Italy	KT226073	KT226083
<i>Mesobiotus gr. harmsworthi</i>	Italy	KT226074	KT226084
<i>Mesobiotus gr. harmsworthi</i>	Italy	HQ604967	HQ604981
<i>Mesobiotus gr. harmsworthi</i>	Italy	HQ604968	HQ604982
<i>Mesobiotus gr. harmsworthi</i>	Italy	HQ604969	HQ604985
<i>Mesobiotus gr. harmsworthi</i>	Italy	HQ604970	HQ604986
<i>Mesobiotus furciger</i>	Antarctica	EU266927	
<i>Mesobiotus furciger</i>	Antarctica	EU266928	
<i>Mesobiotus furciger</i>	Antarctica	EU266929	
<i>Mesobiotus sp.</i>	Antarctica	EU266926	
<i>Mesobiotus cf. furciger</i>	Antarctica	EF632476	
<i>Mesobiotus cf. furciger</i>	Antarctica	EF632475	
<i>Mesobiotus cf. furciger</i>	Antarctica	EF632474	
<i>Mesobiotus cf. furciger</i>	Antarctica	EF632473	
<i>Mesobiotus cf. furciger</i>	Antarctica	EF632472	
<i>Mesobiotus cf. furciger</i>	Antarctica	EF632471	
<i>Mesobiotus cf. furciger</i>	Antarctica	EF632470	
<i>Mesobiotus cf. furciger</i>	Antarctica	EF632469	
<i>Mesobiotus sp.</i>	Antarctica	JX296277	
<i>Mesobiotus sp.</i>	Antarctica	JX296278	
<i>Mesobiotus sp.</i>	Antarctica	JX296279	
<i>Mesobiotus sp.</i>	Antarctica	JX296280	
<i>Mesobiotus sp.</i>	Antarctica	JX296281	
<i>Mesobiotus sp.</i>	Antarctica	JX296282	
<i>Mesobiotus sp.</i>	Antarctica	JX296283	
<i>Mesobiotus sp.</i>	Antarctica	JX296284	
<i>Mesobiotus sp.</i>	Antarctica	JX296285	
<i>Mesobiotus sp.</i>	Antarctica	JX296287	
<i>Mesobiotus sp.</i>	Antarctica	JX296288	
<i>Mesobiotus sp.</i>	Antarctica	JX296289	
<i>Mesobiotus sp.</i>	Antarctica	JX296290	
<i>Mesobiotus sp.</i>	Antarctica	JX296334	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296329	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296328	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296327	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296326	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296324	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296323	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296321	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296317	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296316	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296315	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296314	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296312	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296311	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296309	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296308	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296307	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296306	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296305	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296303	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296302	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296300	

<i>Mesobiotus cf. furciger</i>	Antarctica	JX296299	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296298	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296297	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296296	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296295	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296292	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296291	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296289	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296288	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296287	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296338	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296337	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296336	
<i>Mesobiotus cf. furciger</i>	Antarctica	JX296335	
<i>Mesobiotus philippinicus</i>	Philippines	KX129793	KX129794
<i>Mesobiotus insanis</i>	Philippines	MF441488	MF441489
<i>Mesobiotus ethiopicus</i>	Ethiopia	MF678793	MF678792
<i>Mesobiotus romani</i>	Ecuador	MH197158	MH197151
<i>Mesobiotus fiedleri</i>	Madagascar	MH681585	MH681593
<i>Mesobiotus datanlanicus</i>	Vietnam	MK584659	MK584658
<i>Mesobiotus dilimanensis</i>	Philippines	MN257048	MN257049
<i>Mesobiotus cf. barabanovi</i>	Kyrgyzstan	MN310392	MN310388
<i>Mesobiotus anastasiae</i>	South Africa	MT903468	MT903612
<i>Mesobiotus imperialis</i>	Vietnam	OL257854	
<i>Mesobiotus imperialis</i>	Vietnam	OL257855	
<i>Mesobiotus marmoreus</i>	Vietnam	OL257856	
<i>Mesobiotus marmoreus</i>	Vietnam	OL257857	
<i>Mesobiotus marmoreus</i>	Vietnam	OL257858	
<i>Mesobiotus furciger</i>	Antarctica	MW751933	
<i>Mesobiotus furciger</i>	Antarctica	MW751934	
<i>Mesobiotus furciger</i>	Antarctica	MW751935	
<i>Mesobiotus furciger</i>	Antarctica	MW751936	
<i>Mesobiotus furciger</i>	Antarctica	MW751937	
<i>Mesobiotus furciger</i>	Antarctica	MW751938	
<i>Mesobiotus furciger</i>	Antarctica	MW751939	
<i>Mesobiotus sp.</i>	Antarctica	MW751940	
<i>Mesobiotus sp.</i>	Antarctica	MW751941	
<i>Mesobiotus sp.</i>	Antarctica	MW751942	
<i>Mesobiotus furciger</i>	Antarctica	MW751943	
<i>Mesobiotus furciger</i>	Antarctica	MW751944	
<i>Mesobiotus furciger</i>	Antarctica	MW751945	
<i>Mesobiotus furciger</i>	Antarctica	MW751946	
<i>Mesobiotus furciger</i>	Antarctica	MW751947	
<i>Mesobiotus furciger</i>	Antarctica	MW751948	
<i>Mesobiotus furciger</i>	Antarctica	MW751949	
<i>Mesobiotus furciger</i>	Antarctica	MW751950	
<i>Mesobiotus furciger</i>	Antarctica	MW751951	
<i>Mesobiotus furciger</i>	Antarctica	MW751952	
<i>Mesobiotus furciger</i>	Antarctica	MW751953	
<i>Mesobiotus furciger</i>	Antarctica	MW751954	
<i>Mesobiotus furciger</i>	Antarctica	MW751955	
<i>Mesobiotus furciger</i>	Antarctica	MW751956	
<i>Mesobiotus furciger</i>	Antarctica	MW751957	
<i>Mesobiotus furciger</i>	Antarctica	MW751958	
<i>Mesobiotus furciger</i>	Antarctica	MW751959	
<i>Mesobiotus furciger</i>	Antarctica	MW751960	

<i>Mesobiotus furciger</i>	Antarctica	MW751961	
<i>Mesobiotus furciger</i>	Antarctica	MW751962	
<i>Mesobiotus furciger</i>	Antarctica	MW751963	
<i>Mesobiotus furciger</i>	Antarctica	MW751964	
<i>Mesobiotus furciger</i>	Antarctica	MW751965	
<i>Mesobiotus furciger</i>	Antarctica	MW751966	
<i>Mesobiotus furciger</i>	Antarctica	MW751967	
<i>Mesobiotus furciger</i>	Antarctica	MW751968	
<i>Mesobiotus furciger</i>	Antarctica	MW751969	
<i>Minibiotus furcatus</i>	Spain	FJ435745	FJ435759
<i>Minibiotus furcatus</i>	Spain	FJ435746	FJ435760
<i>Minibiotus furcatus</i>	Spain	FJ435747	FJ435758
<i>Minibiotus furcatus</i>	Italy	HQ604977	
<i>Minibiotus furcatus</i>	Italy	HQ604978	
<i>Minibiotus gumersindoi</i>	Spain	FJ435748	FJ435761
<i>Minibiotus gr. intermedius</i>	Italy	HQ604979	
<i>Minibiotus gr. intermedius</i>	Italy	HQ604980	
<i>Minibiotus ioculator</i>	Africa	MT023998	MT024041
<i>Minibiotus pentannulatus</i>	Tanzania	MT023999	MT024042
<i>Minibiotus sp.</i>	South Africa	EU266932	
<i>Minibiotus sp.</i>	South Africa	EU266933	
<i>Minibiotus sp.</i>	South Africa	EU266934	
<i>Paramacrobiotus areolatus</i>	Norway	MH664931	MH664948
<i>Paramacrobiotus areolatus</i>	Croatia	DQ839602	
<i>Paramacrobiotus tonollii</i>	USA	DQ839605	
<i>Paramacrobiotus tonollii</i>	USA	MH664946	MH664963
<i>Paramacrobiotus lachowskiae</i>	Colombia	MF568532	MF568533
<i>Paramacrobiotus gr. richtersi</i>	Germany	DQ839603	
<i>Paramacrobiotus kenianus</i>	Kenya	EU038080	
<i>Paramacrobiotus kenianus</i>	Kenya	EU038081	
<i>Paramacrobiotus fairbanksi</i>	USA	EU038078	
<i>Paramacrobiotus gr. richtersi</i>	Spain	FJ435743	FJ435757
<i>Paramacrobiotus gr. richtersi</i>	Spain	FJ435744	
<i>Paramacrobiotus richtersi</i>	Ireland	HQ604986	
<i>Paramacrobiotus spatialis</i>	Italy	HQ604985	
<i>Paramacrobiotus richtersi</i>	Ireland	MK041023	
<i>Paramacrobiotus spatialis</i>	Italy	MK041024	
<i>Paramacrobiotus spatialis</i>	Italy	MK041025	
<i>Paramacrobiotus aff. spatialis</i>	Italy	MK041026	
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<i>Paramacrobiotus fairbanksi</i>	Italy	MK041027	
<i>Paramacrobiotus fairbanksi</i>	Italy	MK041028	
<i>Paramacrobiotus fairbanksi</i>	Italy	MK041029	
<i>Paramacrobiotus fairbanksi</i>	Poland	MH664941	MH664950
<i>Paramacrobiotus fairbanksi</i>	Poland	MH664942	MH664959
<i>Paramacrobiotus fairbanksi</i>	Antarctica	MN960302	MN960306
<i>Paramacrobiotus fairbanksi</i>	Antarctica	MN960303	MN960307
<i>Paramacrobiotus fairbanksi</i>	Antarctica	MN960304	
<i>Paramacrobiotus depressus</i>	Italy	MK041030	
<i>Paramacrobiotus celsus</i>	Italy	MK041031	
<i>Paramacrobiotus arduus</i>	Italy	MK041032	
<i>Paramacrobiotus filipi</i>	Malaysia	MT261913	MT261904
<i>Paramacrobiotus experimentalis</i>	Madagascar	MN073467	MN073466
<i>Paramacrobiotus experimentalis</i>	Madagascar	MN073468	MN073465

<i>Paramacrobiotus</i> sp.	Australia	MH664932	MH664949
<i>Paramacrobiotus</i> sp.	Tanzania	MH664933	MH664951
<i>Paramacrobiotus</i> sp.	Brazil	MH664934	MH664952
<i>Paramacrobiotus</i> sp.	French	MH664935	MH664953
<i>Paramacrobiotus</i> sp.	Hungary	MH664936	MH664954
<i>Paramacrobiotus</i> sp.	Italy	MH664937	MH664955
<i>Paramacrobiotus</i> sp.	Madagascar	MH664938	MH664956
<i>Paramacrobiotus</i> sp.	Norway	MH664939	MH664957
<i>Paramacrobiotus</i> sp.	New Zealand	MH664940	MH664958
<i>Paramacrobiotus</i> sp.	Portugal	MH664943	MH664960
<i>Paramacrobiotus</i> sp.	Portugal	MH664944	MH664961
<i>Paramacrobiotus</i> sp.	Tunisia	MH664945	MH664962
<i>Paramacrobiotus</i> sp.		EF632477	
<i>Paramacrobiotus</i> sp.		X81442	

Table S2. Uncorrected p-distances of *cox1* (682 bp) among *Murrayon* and *Paramurrayon* gen. nov. species (A) and among *Dactylobiotus* species (B), and uncorrected p-distances of *ITS2* (512 bp) among *Murrayon* and *Paramurrayon* gen. nov. species (C) and among *Dactylobiotus* species (D).

A	Specimen	1	2	3	4	5	6	7	8	9	10	11	12
1	<i>Macrobiotus macrocalix</i> Italy (FJ176211)												
2	<i>Murrayon</i> cf. <i>dianeae</i> Spain (FJ435801)	0.197											
3	<i>Murrayon pullari</i> Italy (AY598772)	0.210	0.182										
4	<i>Murrayon</i> cf. <i>pullari</i> Italy (MT808080)	0.210	0.184	0.000									
5	<i>Murrayon</i> cf. <i>pullari</i> [V1] Glendoebeg, Scotland (OP379721)	0.211	0.180	0.166	0.165								
6	<i>Murrayon</i> cf. <i>pullari</i> [US1] Oban, Scotland (OP379720)	0.219	0.178	0.128	0.130	0.163							
7	<i>Paramurrayon meieri</i> sample 282, Norway (OP379722)	0.200	0.021	0.185	0.185	0.177	0.188						
8	<i>Paramurrayon meieri</i> sample 282, Norway (OP379723)	0.198	0.018	0.185	0.185	0.178	0.185	0.003					
9	<i>Paramurrayon meieri</i> sample 282, Norway (OP379724)	0.198	0.018	0.185	0.185	0.178	0.185	0.003	0.000				
10	<i>Paramurrayon meieri</i> sample 282, Norway (OP379725)	0.198	0.002	0.184	0.185	0.178	0.179	0.020	0.017	0.017			
11	<i>Paramurrayon meieri</i> sample 282, Norway (OP379726)	0.198	0.002	0.184	0.185	0.178	0.179	0.020	0.017	0.017	0.000		
12	<i>Paramurrayon meieri</i> [V2] sample 247, Norway (OP379727)	0.185	0.018	0.190	0.193	0.182	0.186	0.013	0.010	0.010	0.015	0.015	
13	<i>Paramurrayon meieri</i> [V7] sample 247, Norway (OP379728)	0.195	0.016	0.184	0.187	0.181	0.184	0.011	0.008	0.008	0.015	0.015	0.000

B	Specimen	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	<i>Macrobiotus macrocalix</i> (FJ176211)																			
2	<i>Dactylobiotus selenicus</i> Finland (MT808076)	0.241																		
3	<i>Dactylobiotus ovimutans</i> Antarctica (MT132333)	0.207	0.175																	
4	<i>Dactylobiotus ovimutans</i> Antarctica (MT132332)	0.208	0.173	0.003																
5	<i>Dactylobiotus</i> sp. Antarctica (EF632529)	0.210	0.181	0.013	0.015															
6	<i>Dactylobiotus</i> sp. Antarctica (EF632528)	0.213	0.173	0.002	0.000	0.015														
7	<i>Dactylobiotus</i> sp. Antarctica (EF632527)	0.210	0.181	0.013	0.015	0.000	0.015													
8	<i>Dactylobiotus</i> sp. Antarctica (EF632526)	0.213	0.173	0.002	0.000	0.015	0.000	0.015												
9	<i>Dactylobiotus</i> sp. Antarctica (EF632524)	0.210	0.181	0.013	0.015	0.000	0.015	0.000	0.015											
10	<i>Dactylobiotus</i> sp. Antarctica (EF632523)	0.210	0.181	0.013	0.015	0.000	0.015	0.000	0.015	0.000										
11	<i>Dactylobiotus</i> sp. Antarctica (EF632525)	0.210	0.181	0.013	0.015	0.000	0.015	0.000	0.015	0.000	0.000									
12	<i>Dactylobiotus parthenogeneticus</i> Italy (AY598771)	0.232	0.194	0.174	0.174	0.172	0.172	0.172	0.172	0.172	0.172	0.172								
13	<i>Dactylobiotus parthenogeneticus</i> England (MT373803)	0.234	0.188	0.167	0.167	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.011							
14	<i>Dactylobiotus parthenogeneticus</i> France (MT373804)	0.234	0.192	0.172	0.172	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.005	0.014						
15	<i>Dactylobiotus parthenogeneticus</i> Poland (MT373805)	0.234	0.192	0.172	0.172	0.176	0.176	0.176	0.176	0.176	0.176	0.176	0.005	0.014	0.000					
16	<i>Dactylobiotus parthenogeneticus</i> Poland (MT373806)	0.233	0.192	0.172	0.172	0.174	0.176	0.174	0.176	0.174	0.174	0.174	0.006	0.015	0.002	0.002				
17	<i>Dactylobiotus parthenogeneticus</i> [V3] Italy (OP379716)	0.233	0.188	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.013	0.003	0.017	0.017	0.018			
18	<i>Dactylobiotus parthenogeneticus</i> [V7] Italy (OP379717)	0.231	0.188	0.171	0.169	0.170	0.170	0.170	0.170	0.170	0.170	0.170	0.010	0.002	0.013	0.013	0.015	0.000		
19	<i>Dactylobiotus grandipes</i> [V1] USA (OP379718)	0.253	0.100	0.175	0.175	0.184	0.178	0.184	0.178	0.184	0.184	0.184	0.191	0.187	0.185	0.185	0.184	0.190	0.191	
20	<i>Dactylobiotus grandipes</i> [V2]USA (OP379719)	0.252	0.102	0.176	0.176	0.185	0.180	0.185	0.180	0.185	0.185	0.185	0.193	0.188	0.187	0.187	0.185	0.191	0.192	0.003

C	Specimen	1	2	3	4	5	6	7
1	<i>Macrobiotus macrocalix</i> Poland (MH063931)							
2	<i>Paramurrayon meieri</i> sample 282, Norway (OP390265)	0.378						
3	<i>Paramurrayon meieri</i> sample 282, Norway (OP390266)	0.378	0.000					
4	<i>Paramurrayon meieri</i> sample 282, Norway (OP390267)	0.378	0.000	0.000				
5	<i>Paramurrayon meieri</i> sample 282, Norway (OP390268)	0.291	0.000	0.000	0.000			
6	<i>Murrayon cf. pullari</i> Italy (MT812603)	0.375	0.261	0.261	0.261	0.171		
7	<i>Murrayon cf. pullari</i> [US1] Oban, Scotland (OP390263)	0.366	0.161	0.161	0.161	0.113	0.210	
8	<i>Murrayon cf. pullari</i> [V1] Glendoebeg, Scotland (OP390264)	0.330	0.237	0.237	0.237	0.151	0.071	0.184

D	Specimen	1	2	3	4	5	6	7	8	9
1	<i>Macrobiotus macrocalix</i> Poland (MH063931)									
2	<i>Dactylobiotus parthenogeneticus</i> Poland (MT374192)	0.323								
3	<i>Dactylobiotus parthenogeneticus</i> France (MT374191)	0.323	0.007							
4	<i>Dactylobiotus parthenogeneticus</i> England (MT374190)	0.320	0.010	0.002						
5	<i>Dactylobiotus selenicus</i> Finland (MT812602)	0.410	0.022	0.025	0.028					
6	<i>Dactylobiotus parthenogeneticus</i> [V3] Italy (OP390258)	0.323	0.000	0.007	0.010	0.022				
7	<i>Dactylobiotus parthenogeneticus</i> [V5] Italy (OP390259)	0.323	0.000	0.007	0.010	0.022	0.000			
8	<i>Dactylobiotus parthenogeneticus</i> [V7] Italy (OP390260)	0.323	0.000	0.007	0.010	0.022	0.000	0.000		
9	<i>Dactylobiotus grandipes</i> [V1] USA (OP390261)	0.332	0.012	0.019	0.022	0.009	0.011	0.011	0.011	
10	<i>Dactylobiotus grandipes</i> [V2] USA (OP390262)	0.334	0.012	0.020	0.022	0.009	0.011	0.011	0.011	0.000

The specimens sequenced in this study are in bold. The GenBank accessions are given in parentheses. The voucher specimen IDs are given in brackets.

Table S3. Morphometric data of *Paramurrayon meieri* sp. nov.

Character	<i>n</i>	Range				Mean		s.d.		Holotype	
		μm		<i>pt</i>		μm	<i>pt</i>	μm	<i>pt</i>	μm	<i>pt</i>
Body length	28	137.5	– 259.9	642.6	– 889.0	198.9	755.9	27.4	64.7	215	830
Bucco-pharyngeal tube											
Buccal tube length	28	19.1	– 29.2			26.3		2.1		25.9	–
Stylet support insertion point	28	13.0	– 21.2	59.5	– 74.2	18.7	71.4	1.8	2.7	18.6	71.9
Buccal tube external width	28	2.2	– 3.5	10.2	– 12.3	2.9	11.2	0.3	0.5	2.8	10.7
Buccal tube internal width	28	1.2	– 2.3	5.5	– 8.6	1.8	6.9	0.3	0.7	1.8	7.0
Placoid lengths											
Macroplacoid 1	28	4.4	– 8.2	21.0	– 28.5	6.6	24.9	0.9	2.1	6.7	25.7
Macroplacoid 2	28	2.1	– 4.8	11.2	– 16.8	3.8	14.2	0.6	1.3	3.8	14.7
Placoid row	28	7.0	– 13.4	36.6	– 47.2	11.1	42.0	1.4	2.9	11.4	43.9
Claw 1 heights											
Primary branch	28	3.4	– 4.7	13.9	– 18.2	4.3	16.3	0.3	1.0	4.6	17.7
Secondary branch	28	2.7	– 4.2	9.1	– 16.9	3.4	13.0	0.5	1.9	3.2	12.2
Claw 2-3 heights											
Primary branch	28	3.5	– 5.1	14.3	– 20.4	4.3	16.6	0.4	1.5	4.3	16.5
Secondary branch	28	2.4	– 4.5	9.5	– 16.7	3.3	12.7	0.6	2.2	2.9	11.1
Claw 4 lengths											
Primary branch	28	3.6	– 6.0	15.3	– 21.1	4.8	18.3	0.5	1.5	5.0	19.1
Secondary branch	28	2.7	– 4.9	10.0	– 18.1	3.7	14.1	0.5	1.9	3.8	14.7

A

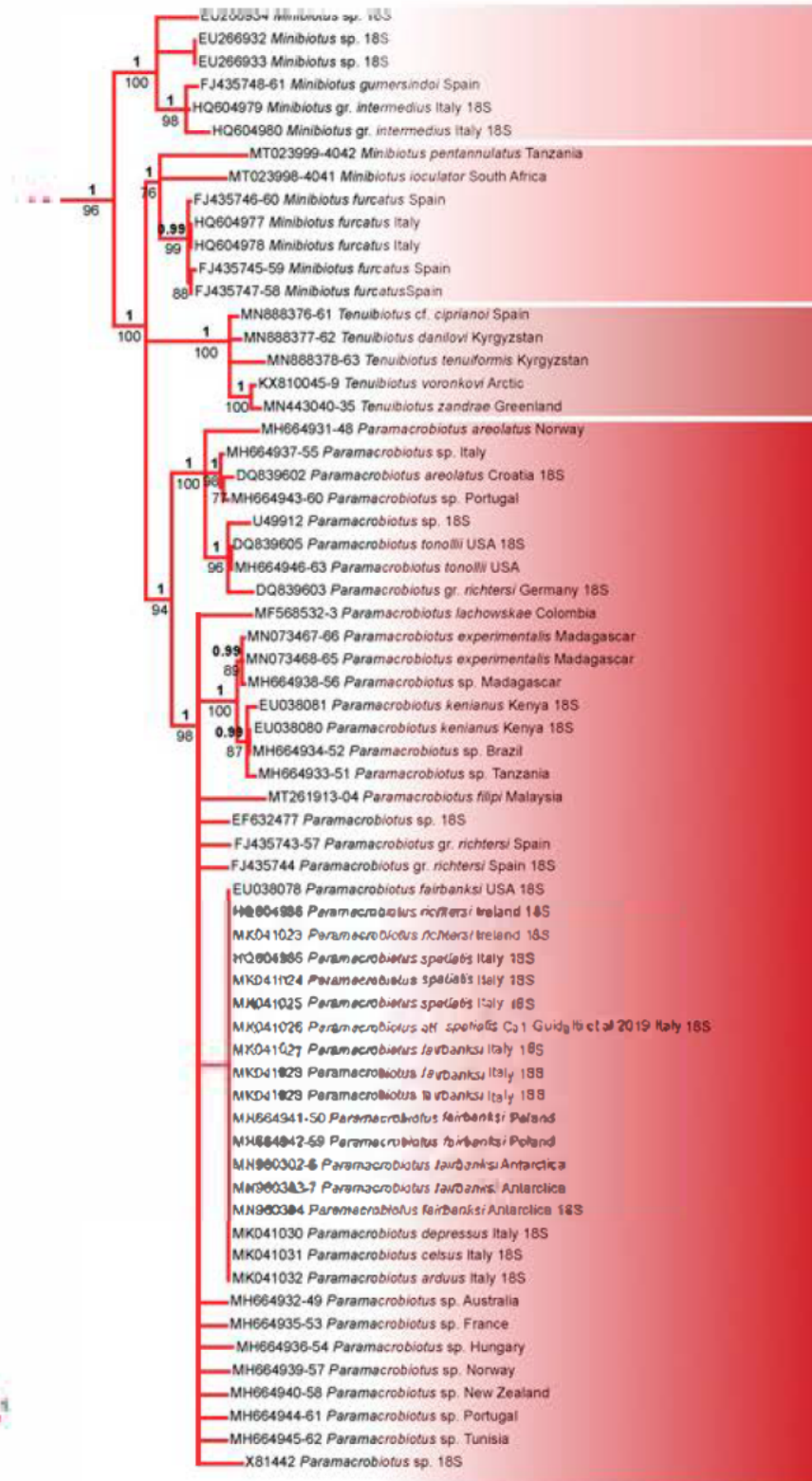


Figure S1. Phylogenetic relationships between *Minibiotus* + *Tenuibiotus* + *Paramacrobiotus* (Macrobiotidae) (A) and between *Diaforobiolus* + *Richlersius* (Richtersiusidae) (B).

B

