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Ring Test Bulletin – RTB#41

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RING TEST DETAILS

Ring Test #41

Type/Contents – General

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Number of Subscribing Laboratories – 23

Number of Participating Laboratories – 23

Number of Results Received – 28*

*** multiple data entries per laboratory permitted**

Summary of differences

Specimen	Genus	Species	Total differences for 28 returns	
			Genus	Species
RT4101	*Apseudes*	*talpa*	1	2
RT4102	*Hyala*	*vitrea*	4	4
RT4103	*Ditrupa*	*arietina*	7	7
RT4104	*Nucula*	*nitidosa*	0	4
RT4105	*Echinocyamus*	*pusillus*	4	4
RT4106	*Scalibregma*	*inflatum*	0	0
RT4107	*Nucula*	*nitidosa*	1	3
RT4108	*Marenzelleria*	*neglecta*	7	25
RT4109	*Ampelisca*	*tenuicornis*	1	5
RT4110	*Musculus*	*subpictus*	0	11
RT4111	*Gibbula*	*umbilicalis*	0	9
RT4112	*Pisione*	*remota*	2	2
RT4113	*Nucula*	*nucleus*	0	11
RT4114	*Branchiostoma*	*lanceolatum*	2	2
RT4115	*Polygordius*	*lacteus*	2	5
RT4116	*Ampelisca*	*brevicornis*	0	1
RT4117	*Rissoa*	*parva*	3	4
RT4118	*Ophelia*	*rathkei***	4	21
RT4119	*Gammarus*	*oceanicus*	0	13
RT4120	*Littorina*	*saxatilis*	0	4
RT4121	*Nannastacus*	*unguiculatus*	3	5
RT4122	*Hesiospina*	*similis*	14	14
RT4123	*Amphipholis*	*squamata*	1	1
RT4124	*Gammarus*	*pulex*	1	15
RT4125	*Austrosyrrhoe*	*fimbriatus*	3	3
		Total differences	60	175
		Average diff. / data return	2.1	6.3

** Identification not fully resolved; additional taxonomic research ongoing

Table 1. The identification of fauna made by participating laboratories for RT41 (arranged by specimen). Names are given only where different from the AQC identification.

	RT4101	RT4102	RT4103	RT4104	RT4105	RT4106	RT4107
Taxon	*Apseudes talpa*	*Hyala vitrea*	*Ditrupa arietina*	*Nucula nitidosa*	*Echinocyamus pusillus*	*Scalibregma inflatum*	*Nucula nitidosa*
LB1802	[Aspeudes] -	Evalea diaphana	Antalis vulgare	- -	- -	- -	- -
LB1803	- -	- -	- -	- hanleyi	- -	- -	- -
LB1804	- -	- -	Antalis entalis	- -	- -	- -	- -
LB1805	- latreillii	0 0	Antalis entalis	- hanleyi	0 0	- -	0 0
LB1806	- -	Ceratia proxima	- -	- sulcata	- -	- -	- -
LB1807	- -	- -	- -	- -	- -	- -	- -
LB1808a	- -	- -	- -	- -	- -	- -	- -
LB1808b	- -	- -	- -	- -	- -	- -	- -
LB1808c	- -	- -	- [arientina]	- -	- -	- -	- -
LB1808d	- -	- -	- [arientina]	- -	- -	- -	- hanleyi
LB1809	- -	- -	- -	- -	- -	- -	- -
LB1810	- -	- -	Antalis entalis	- sp.	- -	- -	- -
LB1811	- -	Ondina diaphana	- -	- -	- -	- -	- -
LB1812	Apseudopsis latreillii	- -	- -	- -	Psammechinus miliaris	- -	- -
LB1813	- -	- -	Antalis agilis	- -	- -	- -	- -
LB1814	- -	- -	- -	- -	- -	- -	- -
LB1815	- -	- -	Antalis entalis	- -	- -	- -	- -
LB1816	- -	- -	- -	- -	- -	- -	- -
LB1817	- -	- -	- -	- -	- -	- -	- -
LB1819	- -	- -	- -	- -	Psammechinus miliaris	- -	- -
LB1820	- -	- -	- -	- -	- -	- -	- -
LB1821	- -	- -	Antalis entalis	- -	- -	- -	- -
LB1822	- -	- -	- -	- -	- -	- -	- -
LB1823a	- -	- -	- -	- -	- -	- -	- -
LB1823b	- -	- -	- -	- -	[Echinocyammus] -	- -	- -
LB1824	- -	- -	- -	- -	Psammechinus miliaris	- -	- -
LB1825a	- -	- -	- -	- -	- -	- -	- -
LB1825b	- -	- -	- -	- -	- -	- -	- sulcata

Table 1. The identification of fauna made by participating laboratories for RT41 (arranged by specimen). Names are given only where different from the AQC identification.

	RT4108	RT4109	RT4110	RT4111	RT4112	RT4113
Taxon	*Marenzelleria neglecta*	*Ampelisca tenuicornis*	*Musculus subpicta*	*Gibbula umbilicalis*	*Pisione remota*	*Nucula nucleus*
LB1802	[Marenzellaria] viridis	- -	[Modiolarca] [tumida]	- -	Poecilochaetus serpens	- sulcata
LB1803	- viridis	- -	- discors	- cineraria	- -	- -
LB1804	Malacoceros fuliginosus	- -	- discors	- -	- -	- -
LB1805	0 0	0 0	[Modiolarca] [tumida]	- -	0 0	- -
LB1806	Malacoceros fuliginosus	- -	[Modiolarca] -	- tumida	- -	- -
LB1807	- -	- -	[Modiolarca] -	- -	- -	- -
LB1808a	[Marenzellaria] viridis	- -	[Modiolarca] [tumida]	- cineraria	- -	- -
LB1808b	- viridis	- -	- discors	- ciniraria	- -	- -
LB1808c	- viridis	- -	- discors	- cineraria	- -	- -
LB1808d	- viridis	- -	- discors	- cineraria	- -	- -
LB1809	- -	- -	[Modiolarca] -	- -	- -	- hanleyi
LB1810	- viridis	- -	[Modiolarca] -	- -	- -	- -
LB1811	Malacoceros fuliginosus	- -	[Modiolarca] [tumida]	- -	- -	- hanleyi
LB1812	- viridis	- -	[Modiolarca] -	- cineraria	- -	- hanleyi
LB1813	- viridis	- typica	[Modiolarca] [tumida]	- -	- -	- hanleyi
LB1814	- bastropi	- -	[Modiolarca] [tumida]	- -	- -	- hanleyi
LB1815	Malacoceros fuliginosus	- -	[Modiolarca] -	- -	- -	- sulcata
LB1816	- viridis	- -	[Modiolarca] -	- cineraria	- -	- -
LB1817	- -	- -	[Modiolarca] -	- -	- -	- -
LB1819	- viridis	- -	- costulatus	- -	- -	- hanleyi
LB1820	- wireni	- toulemonti	[Modiolarca] -	- -	- -	- -
LB1821	- viridis	- macrocephala	- costulatus	- -	- -	- -
LB1822	- viridis	- -	- discors	- -	- -	- -
LB1823a	- viridis	- -	- costulatus	- -	- -	- hanleyi
LB1823b	- viridis	- -	- costulatus	- umbilicaris	- -	- sulcata
LB1824	- viridis	- -	[Modiolarca] -	- -	- -	- -
LB1825a	Malacoceros 0	- -	[Modiolarca] -	- -	- -	- -
LB1825b	Spio multioculata	- typica	- costulatus	- -	- -	- nitidosa

Table 1. The identification of fauna made by participating laboratories for RT41 (arranged by specimen). Names are given only where different from the AQC identification.

	RT4114	RT4115	RT4116	RT4117	RT4118	RT4119
Taxon	*Branchiostoma lanceolatum*	*Polygordius lacteus*	*Ampelisca brevicornis*	*Rissoa parva*	*Ophelia rathkei*	*Gammarus oceanicus*
LB1802	- -	[Polygordious] -	- -	- -	- -	- -
LB1803	- -	- -	- -	- -	- -	- insensibilis
LB1804	- -	- -	- diadema	- [interrupta]	Armandia cirrhosa	- zaddachi
LB1805	Ophelina acuminata	0 0	- -	Alvania semistriata	Arenicola marina	- locusta
LB1806	- -	- -	- -	- [parva var. interrupta]	- -	- insensibilis
LB1807	- -	- -	- -	- -	- bicornis	- -
LB1808a	[Brachiostoma] -	- -	- -	- [parva var interrupta]	- laubieri	- setosus
LB1808b	- -	- -	- -	- [parva var. Interrupta]	- laubieri	- insensibilis
LB1808c	- -	- -	- -	- -	- laubieri	- setosus
LB1808d	- -	- -	- -	- [parva var. interrupta]	- laubieri	- setosus
LB1809	- -	- -	- -	- [parva var. interrupta]	- -	- -
LB1810	- -	- appendiculatus	- -	- [parva-interrupta]	- borealis	- -
LB1811	- -	- -	- -	- -	- laubieri	- chevreuxi
LB1812	- -	- -	- -	- [interrupta]	- bicornis	- locusta
LB1813	Petromyzon marinus	- -	- -	- [interrupta]	- bicornis	- insensibilis
LB1814	- -	- -	- -	- [interrupta]	- laubieri	- -
LB1815	- -	- -	- -	- membranacea	Travisia forbesii	- -
LB1816	- -	- appendiculatus	- -	- -	- borealis	- -
LB1817	- -	- -	- -	- [interrupta]	- celtica	- -
LB1819	- -	- -	- -	- [parva (var interrupta)]	- -	- -
LB1820	- -	- -	- -	- -	- -	- -
LB1821	- -	- -	- -	- -	- -	- -
LB1822	- -	Micrura scotica	- -	- [interrupta]	- bicornis	- salinus
LB1823a	- -	- -	- -	- [parva (var. interrupta)]	Travisia forbesii	- -
LB1823b	- -	- -	- -	Crisilla semistriata	- laubieri	- -
LB1824	- -	- appendiculatus	- -	- -	- celtica	- -
LB1825a	- -	- -	- -	- -	- bicornis	- -
LB1825b	- -	- -	- -	Crisilla semistriata	- borealis	- locusta

Table 1. The identification of fauna made by participating laboratories for RT41 (arranged by specimen). Names are given only where different from the AQC identification.

	RT4120	RT4121	RT4122	RT4123	RT4124
Taxon	*Littorina saxatilis*	*Nannastacus unguiculatus*	*Hesiospina similis*	*Amphipholis squamata*	*Gammarus pulex*
LB1802	- littorea	- -	Psamathe fusca	- -	[Gammurus] salinus
LB1803	- -	- brevicaudatus	Nereimyra punctata	- -	- finmarchicus
LB1804	- -	- -	Kefersteinia cirrata	- -	- -
LB1805	- -	0 0	0 0	[Amphiphalis] -	- -
LB1806	- littorea	- -	- -	- -	- chevreuxi
LB1807	- -	- -	- -	- -	- duebeni
LB1808a	- -	- -	- -	[Amphilpholis] -	- -
LB1808b	- -	- -	- -	- -	- -
LB1808c	- littorea	- -	- -	- -	- -
LB1808d	- -	- -	- -	- -	- -
LB1809	- -	- -	- -	- -	- -
LB1810	- -	Campylaspis glabra	Syllidia armata	- -	- chevreuxi
LB1811	- -	- -	Psamathe fusca	- -	- -
LB1812	- -	- -	- -	- -	- duebeni
LB1813	- -	- -	Kefersteinia cirrata	- -	- finmarchicus
LB1814	- -	- -	- -	- -	- lacustris
LB1815	- [saxatilis s.l.]	- brevicaudatus	Kefersteinia cirrata	Amphiura 0	- -
LB1816	- -	- -	- -	- -	- -
LB1817	- [saxatilis (var rudis)]	- -	- -	[Amphipholus] -	- -
LB1819	- -	- -	Psamathe fusca	- -	- duebeni
LB1820	- -	- -	- -	- -	- duebeni
LB1821	[Littornia] -	- -	Kefersteinia cirrata	- -	- duebeni
LB1822	- littorea	- -	Syllidia armata	- -	- -
LB1823a	- -	- -	Podarkeopsis capensis	- -	- duebeni
LB1823b	- -	Eudorella truncatula	Dalhousiella carpenteri	- -	- duebeni
LB1824	- -	- -	- -	- -	- -
LB1825a	- -	- -	- -	- -	- lacustris
LB1825b	- -	- -	Psamathe fusca	- -	Allomelita pellucida

Table 1. The identification of fauna made by participating laboratories for RT41 (arranged by specimen). Names are given only where different from the AQC identification.

	RT4125
Taxon	*Austrosyrrhoe fimbriatus*
LB1802	- -
LB1803	- -
LB1804	- -
LB1805	0 0
LB1806	- -
LB1807	- -
LB1808a	[Autosyrrhoe] -
LB1808b	[Autosyrrhoe] -
LB1808c	- -
LB1808d	- -
LB1809	- -
LB1810	- -
LB1811	- -
LB1812	- -
LB1813	- -
LB1814	- -
LB1815	- -
LB1816	- -
LB1817	- -
LB1819	- -
LB1820	- -
LB1821	Lysianassidae spp
LB1822	- -
LB1823a	- -
LB1823b	- -
LB1824	- -
LB1825a	- -
LB1825b	0 0

Table 2. The identification of fauna made by participating laboratories for RT41 (arranged by participant). Names are given only where different from the AQC identifcation.

	Taxon	LB1802	LB1803	LB1804	LB1805	LB1806
RT4101	*Apseudes talpa*	[Aspeudes] -	- -	- -	- latreillii	- -
RT4102	*Hyala vitrea*	Evalea diaphana	- -	- -	0 0	Ceratia proxima
RT4103	*Ditrupa arietina*	Antalis vulgare	- -	Antalis entalis	Antalis entalis	- -
RT4104	*Nucula nitidosa*	- -	- hanleyi	- -	- hanleyi	- sulcata
RT4105	*Echinocyamus pusillus*	- -	- -	- -	0 0	- -
RT4106	*Scalibregma inflatum*	- -	- -	- -	- -	- -
RT4107	*Nucula nitidosa*	- -	- -	- -	0 0	- -
RT4108	*Marenzelleria neglecta*	[Marenzellaria] viridis	- viridis	Malacoceros fuliginosus	0 0	Malacoceros fuliginosus
RT4109	*Ampelisca tenuicornis*	- -	- -	- -	0 0	- -
RT4110	*Musculus subpicta*	[Modiolarca] [tumida]	- discors	- discors	[Modiolarca] [tumida]	[Modiolarca] -
RT4111	*Gibbula umbilicalis*	- -	- cineraria	- -	- -	- tumida
RT4112	*Pisione remota*	Poecilochaetus serpens	- -	- -	0 0	- -
RT4113	*Nucula nucleus*	- sulcata	- -	- -	- -	- -
RT4114	*Branchiostoma lanceolatum*	- -	- -	- -	Ophelina acuminata	- -
RT4115	*Polygordius lacteus*	[Polygordious] -	- -	- -	0 0	- -
RT4116	*Ampelisca brevicornis*	- -	- -	- diadema	- -	- -
RT4117	*Rissoa parva*	- -	- -	- [interrupta]	Alvania semistriata	- [parva var. interrupta]
RT4118	*Ophelia rathkei*	- -	- -	Armandia cirrhosa	Arenicola marina	- -
RT4119	*Gammarus oceanicus*	- -	- insensibilis	- zaddachi	- locusta	- insensibilis
RT4120	*Littorina saxatilis*	- littorea	- -	- -	- -	- littorea
RT4121	*Nannastacus unguiculatus*	- -	- brevicaudatus	- -	0 0	- -
RT4122	*Hesiospina similis*	Psamathe fusca	Nereimyra punctata	Kefersteinia cirrata	0 0	- -
RT4123	*Amphipholis squamata*	- -	- -	- -	[Amphiphalis] -	- -
RT4124	*Gammarus pulex*	[Gammurus] salinus	- finmarchicus	- -	- -	- chevreuxi
RT4125	*Austrosyrrhoe fimbriatus*	- -	- -	- -	0 0	- -

Table 2. The identification of fauna made by participating laboratories for RT41 (arranged by participant). Names are given only where different from the AQC identifcation.

	Taxon	LB1807	LB1808a	LB1808b	LB1808c	LB1808d	LB1809
RT4101	*Apseudes talpa*	- -	- -	- -	- -	- -	- -
RT4102	*Hyala vitrea*	- -	- -	- -	- -	- -	- -
RT4103	*Ditrupa arietina*	- -	- -	- -	- [arientina]	- [arientina]	- -
RT4104	*Nucula nitidosa*	- -	- -	- -	- -	- -	- -
RT4105	*Echinocyamus pusillus*	- -	- -	- -	- -	- -	- -
RT4106	*Scalibregma inflatum*	- -	- -	- -	- -	- -	- -
RT4107	*Nucula nitidosa*	- -	- -	- -	- -	- hanleyi	- -
RT4108	*Marenzelleria neglecta*	- -	[Marenzellaria] viridis	- viridis	- viridis	- viridis	- -
RT4109	*Ampelisca tenuicornis*	- -	- -	- -	- -	- -	- -
RT4110	*Musculus subpicta*	[Modiolarca] -	[Modiolarca] [tumida]	- discors	- discors	- discors	[Modiolarca] -
RT4111	*Gibbula umbilicalis*	- -	- cineraria	- ciniraria	- cineraria	- cineraria	- -
RT4112	*Pisione remota*	- -	- -	- -	- -	- -	- -
RT4113	*Nucula nucleus*	- -	- -	- -	- -	- -	- hanleyi
RT4114	*Branchiostoma lanceolatum*	- -	[Brachiostoma] -	- -	- -	- -	- -
RT4115	*Polygordius lacteus*	- -	- -	- -	- -	- -	- -
RT4116	*Ampelisca brevicornis*	- -	- -	- -	- -	- -	- -
RT4117	*Rissoa parva*	- -	- [parva var interrupta]	- [parva var. Interrupta]	- -	- [parva var. interrupta]	- [parva var. interrupta]
RT4118	*Ophelia rathkei*	- bicornis	- laubieri	- laubieri	- laubieri	- laubieri	- -
RT4119	*Gammarus oceanicus*	- -	- setosus	- insensibilis	- setosus	- setosus	- -
RT4120	*Littorina saxatilis*	- -	- -	- -	- littorea	- -	- -
RT4121	*Nannastacus unguiculatus*	- -	- -	- -	- -	- -	- -
RT4122	*Hesiospina similis*	- -	- -	- -	- -	- -	- -
RT4123	*Amphipholis squamata*	- -	[Amphilpholis] -	- -	- -	- -	- -
RT4124	*Gammarus pulex*	- duebeni	- -	- -	- -	- -	- -
RT4125	*Austrosyrrhoe fimbriatus*	- -	[Autosyrrhoe] -	[Autosyrrhoe] -	- -	- -	- -

Table 2. The identification of fauna made by participating laboratories for RT41 (arranged by participant). Names are given only where different from the AQC identifcation.

	Taxon	LB1810	LB1811	LB1812	LB1813	LB1814
RT4101	*Apseudes talpa*	- -	- -	Apseudopsis latreillii	- -	- -
RT4102	*Hyala vitrea*	- -	Ondina diaphana	- -	- -	- -
RT4103	*Ditrupa arietina*	Antalis entalis	- -	- -	Antalis agilis	- -
RT4104	*Nucula nitidosa*	- sp.	- -	- -	- -	- -
RT4105	*Echinocyamus pusillus*	- -	- -	Psammechinus miliaris	- -	- -
RT4106	*Scalibregma inflatum*	- -	- -	- -	- -	- -
RT4107	*Nucula nitidosa*	- -	- -	- -	- -	- -
RT4108	*Marenzelleria neglecta*	- viridis	Malacoceros fuliginosus	- viridis	- viridis	- bastropi
RT4109	*Ampelisca tenuicornis*	- -	- -	- -	- typica	- -
RT4110	*Musculus subpicta*	[Modiolarca] -	[Modiolarca] [tumida]	[Modiolarca] -	[Modiolarca] [tumida]	[Modiolarca] [tumida]
RT4111	*Gibbula umbilicalis*	- -	- -	- cineraria	- -	- -
RT4112	*Pisione remota*	- -	- -	- -	- -	- -
RT4113	*Nucula nucleus*	- -	- hanleyi	- hanleyi	- hanleyi	- hanleyi
RT4114	*Branchiostoma lanceolatum*	- -	- -	- -	Petromyzon marinus	- -
RT4115	*Polygordius lacteus*	- appendiculatus	- -	- -	- -	- -
RT4116	*Ampelisca brevicornis*	- -	- -	- -	- -	- -
RT4117	*Rissoa parva*	- [parva-interrupta]	- -	- [interrupta]	- [interrupta]	- [interrupta]
RT4118	*Ophelia rathkei*	- borealis	- laubieri	- bicornis	- bicornis	- laubieri
RT4119	*Gammarus oceanicus*	- -	- chevreuxi	- locusta	- insensibilis	- -
RT4120	*Littorina saxatilis*	- -	- -	- -	- -	- -
RT4121	*Nannastacus unguiculatus*	Campylaspis glabra	- -	- -	- -	- -
RT4122	*Hesiospina similis*	Syllidia armata	Psamathe fusca	- -	Kefersteinia cirrata	- -
RT4123	*Amphipholis squamata*	- -	- -	- -	- -	- -
RT4124	*Gammarus pulex*	- chevreuxi	- -	- duebeni	- finmarchicus	- lacustris
RT4125	*Austrosyrrhoe fimbriatus*	- -	- -	- -	- -	- -

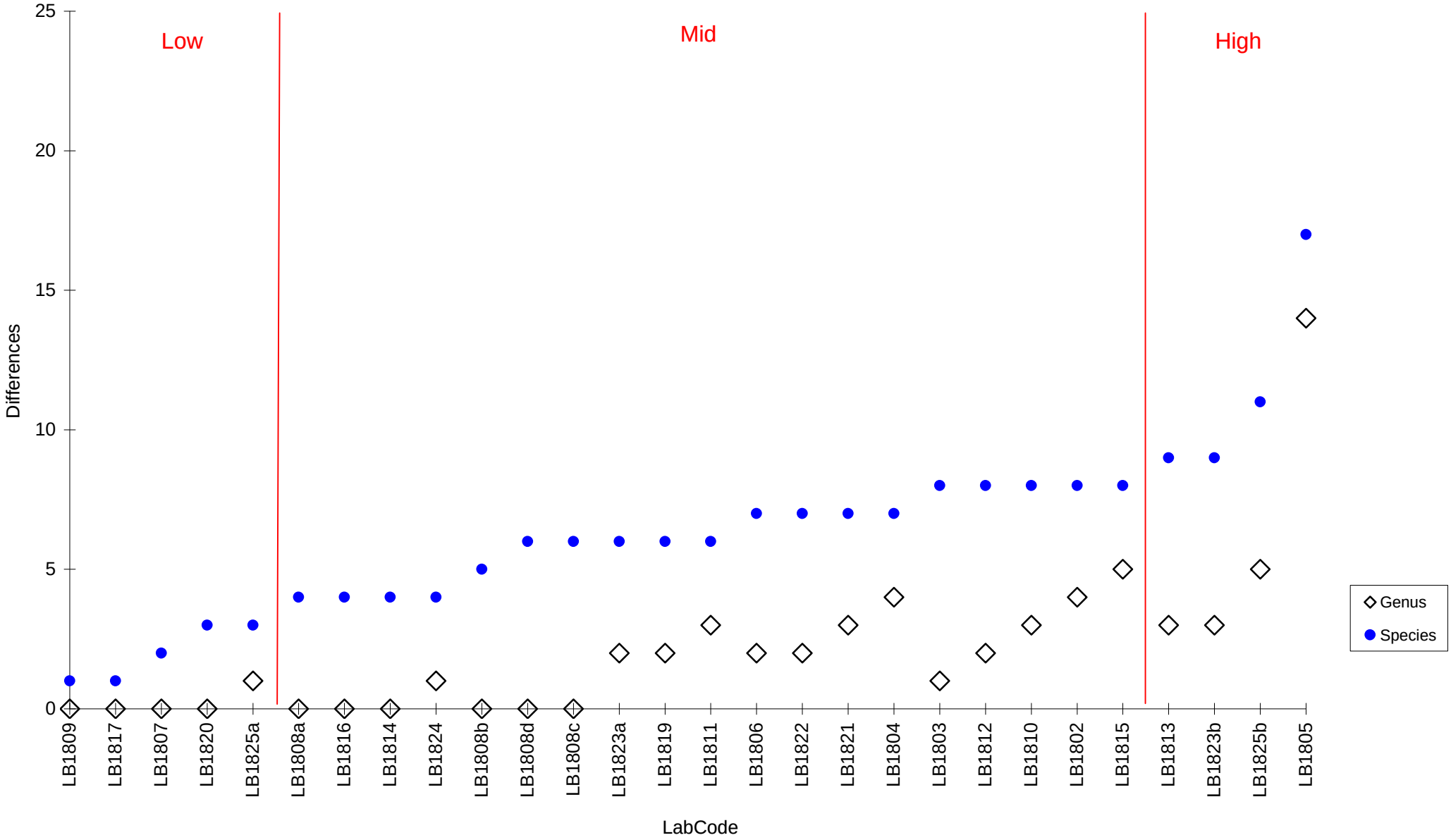
Table 2. The identification of fauna made by participating laboratories for RT41 (arranged by participant). Names are given only where different from the AQC identifcation.

	Taxon	LB1815	LB1816	LB1817	LB1819	LB1820	LB1821
RT4101	*Apseudes talpa*	- -	- -	- -	- -	- -	- -
RT4102	*Hyala vitrea*	- -	- -	- -	- -	- -	- -
RT4103	*Ditrupa arietina*	Antalis entalis	- -	- -	- -	- -	Antalis entalis
RT4104	*Nucula nitidosa*	- -	- -	- -	- -	- -	- -
RT4105	*Echinocyamus pusillus*	- -	- -	- -	Psammechinus miliaris	- -	- -
RT4106	*Scalibregma inflatum*	- -	- -	- -	- -	- -	- -
RT4107	*Nucula nitidosa*	- -	- -	- -	- -	- -	- -
RT4108	*Marenzelleria neglecta*	Malacoceros fuliginosus	- viridis	- -	- viridis	- wireni	- viridis
RT4109	*Ampelisca tenuicornis*	- -	- -	- -	- -	- toulemonti	- macrocephala
RT4110	*Musculus subpicta*	[Modiolarca] -	[Modiolarca] -	[Modiolarca] -	- costulatus	[Modiolarca] -	- costulatus
RT4111	*Gibbula umbilicalis*	- -	- cineraria	- -	- -	- -	- -
RT4112	*Pisione remota*	- -	- -	- -	- -	- -	- -
RT4113	*Nucula nucleus*	- sulcata	- -	- -	- hanleyi	- -	- -
RT4114	*Branchiostoma lanceolatum*	- -	- -	- -	- -	- -	- -
RT4115	*Polygordius lacteus*	- -	- appendiculatus	- -	- -	- -	- -
RT4116	*Ampelisca brevicornis*	- -	- -	- -	- -	- -	- -
RT4117	*Rissoa parva*	- membranacea	- -	- [interrupta]	- [parva (var interrupta)]	- -	- -
RT4118	*Ophelia rathkei*	Travisia forbesii	- borealis	- celtica	- -	- -	- -
RT4119	*Gammarus oceanicus*	- -	- -	- -	- -	- -	- -
RT4120	*Littorina saxatilis*	- [saxatilis s.l.]	- -	- [saxatilis (var rudis)]	- -	- -	[Littornia] -
RT4121	*Nannastacus unguiculatus*	- brevicaudatus	- -	- -	- -	- -	- -
RT4122	*Hesiospina similis*	Kefersteinia cirrata	- -	- -	Psamathe fusca	- -	Kefersteinia cirrata
RT4123	*Amphipholis squamata*	Amphiura 0	- -	[Amphipholus] -	- -	- -	- -
RT4124	*Gammarus pulex*	- -	- -	- -	- duebeni	- duebeni	- duebeni
RT4125	*Austrosyrrhoe fimbriatus*	- -	- -	- -	- -	- -	Lysianassidae spp

Table 2. The identification of fauna made by participating laboratories for RT41 (arranged by participant). Names are given only where different from the AQC identifcation.

	Taxon	LB1822	LB1823a	LB1823b	LB1824	LB1825a	LB1825b
RT4101	*Apseudes talpa*	- -	- -	- -	- -	- -	- -
RT4102	*Hyala vitrea*	- -	- -	- -	- -	- -	- -
RT4103	*Ditrupa arietina*	- -	- -	- -	- -	- -	- -
RT4104	*Nucula nitidosa*	- -	- -	- -	- -	- -	- -
RT4105	*Echinocyamus pusillus*	- -	- -	[Echinocyammus] -	Psammechinus miliaris	- -	- -
RT4106	*Scalibregma inflatum*	- -	- -	- -	- -	- -	- -
RT4107	*Nucula nitidosa*	- -	- -	- -	- -	- -	- sulcata
RT4108	*Marenzelleria neglecta*	- viridis	- viridis	- viridis	- viridis	Malacoceros 0	Spio multioculata
RT4109	*Ampelisca tenuicornis*	- -	- -	- -	- -	- -	- typica
RT4110	*Musculus subpicta*	- discors	- costulatus	- costulatus	[Modiolarca] -	[Modiolarca] -	- costulatus
RT4111	*Gibbula umbilicalis*	- -	- -	- umbilicaris	- -	- -	- -
RT4112	*Pisione remota*	- -	- -	- -	- -	- -	- -
RT4113	*Nucula nucleus*	- -	- hanleyi	- sulcata	- -	- -	- nitidosa
RT4114	*Branchiostoma lanceolatum*	- -	- -	- -	- -	- -	- -
RT4115	*Polygordius lacteus*	Micrura scotica	- -	- -	- appendiculatus	- -	- -
RT4116	*Ampelisca brevicornis*	- -	- -	- -	- -	- -	- -
RT4117	*Rissoa parva*	- [interrupta]	- [parva (var. interrupta)]	Crisilla semistriata	- -	- -	Crisilla semistriata
RT4118	*Ophelia rathkei*	- bicornis	Travisia forbesii	- laubieri	- celtica	- bicornis	- borealis
RT4119	*Gammarus oceanicus*	- salinus	- -	- -	- -	- -	- locusta
RT4120	*Littorina saxatilis*	- littorea	- -	- -	- -	- -	- -
RT4121	*Nannastacus unguiculatus*	- -	- -	Eudorella truncatula	- -	- -	- -
RT4122	*Hesiospina similis*	Syllidia armata	Podarkeopsis capensis	Dalhousiella carpenteri	- -	- -	Psamathe fusca
RT4123	*Amphipholis squamata*	- -	- -	- -	- -	- -	- -
RT4124	*Gammarus pulex*	- -	- duebeni	- duebeni	- -	- lacustris	Allomelita pellucida
RT4125	*Austrosyrrhoe fimbriatus*	- -	- -	- -	- -	- -	0 0

Figure 1. The number of differences from the AQC identification of specimens distributed in RT41 for each of the participating laboratories. Arranged in order of increasing number of differences.



Specimen Images and Detailed Breakdown of Identifications

LabCodes are abbreviated in this report to exclude the Scheme year, *i.e.* LB1801a = Lab 01a. An additional terminal character has been added within each LabCode (small case sequential letters) to permit multiple data entries from each laboratory, *i.e.* two participants from laboratory 01 would be coded as Lab 01a & Lab 01b. For details of your LabCode please contact your Scheme representative or Thomson Unicomarine Ltd.

(Figure codes: A=anterior; P=posterior; L=lateral; D=dorsal; V=ventral)

RT4101 – *Apseudes talpa* (Figure 1a).

Substratum: Mixed. Salinity: Full. Depth: Infralittoral. Geography: S. England. Condition: Good, Large.

Fig. 1a. *Apseudes talpa* (RT4101) – DL

Fig. 1b. *Apseudopsis latreillii* (28183) – D

One generic and two specific differences: Labs 05 and 12 identified as *Apseudopsis latreillii*, or the synonym *Apseudes latreillii* (Figure 1b) (which has a spiniform rostrum and lacks an epistomal spine).

Lab 02 incorrectly spelt the genus.

RT4102 – *Hyala vitrea* (Figure 2a).

Substratum: Mud. Salinity: Full. Depth: Circalittoral. Geography: S.W. England. Condition: Good, Small (3mm).

Fig. 2a. *Hyala vitrea* (RT4102) – L

Four generic and four specific errors: Labs 02 and 11 identified as *Ondina diaphana,* or the synonym *Evalea diaphana* (Figure 2b)(which has spiral sculpture, an intucked protoconch and a tooth on the columella); Lab 06 identified as *Ceratia proxima* (Figure 2c)(which has distinct spiral ridges).

Lab 05 did not submit data for this specimen (identification is required to species for RT exercises).

Fig. 2b. *Ondina diaphana* (45821) – L

Fig. 2c. *Ceratia proxima* (12947) – L

RT4103 – *Ditrupa arietina* (Figure 3a).

Substratum: Muddy Sand. Salinity: Full. Depth: Circalittoral. Geography: N. North Sea. Condition: Good, Large.

Fig. 3a. *Ditrupa arietina* (RT4103) - L

Seven generic and seven specific differences: Labs 04, 05, 10, 15, and 21 identified as *Antalis entalis* (Figure 3b); Lab 02 identified as *Antalis vulgare,* a synonym of *A. vulgaris* (Figure 3c); Lab 13 identified as *Antalis agilis* (no material available)(all of which lack chaetae and constricted anterior shell apertures).

Labs 08c and 08d incorrectly spelt the species.

Fig. 3b. *Antalis entalis* (47559) – L

Fig. 3c. *Antalis vulgaris* (28183) – L

RT4104 – *Nucula nitidosa* (Figure 4a).

Substratum: Mud. Salinity: Full. Depth: Infralittoral. Geography: S.E. England. Condition: Good, Large (8mm).

Fig. 4a. *Nucula nitidosa* (RT4104) - L

Four specific differences: Labs 03 and 05 identified as *Nucula hanleyi* (Figure 4b)(which has a more elongate shell with a more convex lunule); Lab 06 identified as *Nucula sulcata* (Figure 4c)(which has a more strongly sculptured shell); Lab 10 identified as *Nucula* sp. (identification is required to species for RT excercises).

Fig. 4b. *Nucula hanleyi* (41765) - L

Fig. 4c. *Nucula sulcata* (18354) - L

RT4105 – *Echinocyamus pusillus* (Figure 5a).

Substratum: Mixed. Salinity: Full. Depth: Circalittoral. Geography: S.W. England. Condition: Good, Small.

Fig. 5a. *Echinocyamus pusillus* juv.(RT4105) – D

Four generic and four specific differences: Labs 12, 19, and 24 identified as *Psammechinus miliaris* (Figure 5b)(which has a circular outline in dorsal view and a dorsal anus).

Lab 23b incorrectly spelt the genus; Lab 05 did not submit data for this specimen (identification is required to species for RT exercises).

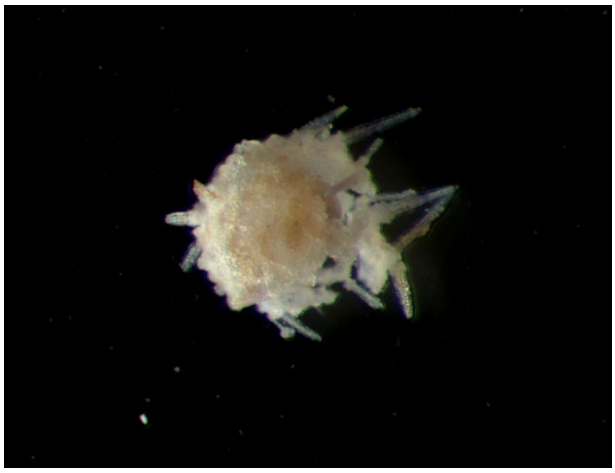


Fig. 5b. *Psammechinus miliaris* juv.(16754) – D

RT4106 – *Scalibregma inflatum* (Figure 6a).

Substratum: Mud. Salinity: Full. Depth: Infralittoral. Geography: S.E. England. Condition: Good, Large.

Fig. 6a. *Scalibregma inflatum* (RT4106) – L

No generic or specific differences.

RT4107 – *Nucula nitidosa* (Figure 7a).

Substratum: Mud. Salinity: Full. Depth: Infalittoral. Geography: S.E. England. Condition: Good, Small (2-3mm).

One generic and three specific differences: Lab 08d identified as *Nucula hanleyi* (Figure 7b)(which has a less glossy, more elongate shell with a more convex lunule); Lab 25b identified as *Nucula sulcata* (Figure 7c)(which has a more strongly sculptured shell).

Lab 05 did not submit data for this specimen (identification is required to species for RT exercises).

Fig. 7a. *Nucula nitidosa* (RT4107) – L

Fig. 7b. *Nucula hanleyi* (41765) – L

Fig. 7c. *Nucula sulcata* (18354) – L

RT4108 – *Marenzelleria neglecta* (Figure 8a).

Substratum: Mixed. Salinity: Low. Depth: Infralittoral. Geography: S.E. England. Condition: Fair, Medium. Note: specimens verified by Dr Vasily Radashevsy.

Fig. 8a. *Marenzelleria neglecta* (RT4108) – AL

Seven generic and twelve specific differences: Labs 07, 09 and 17 identified as *Marenzelleria viridis* (Figure 8b)(which has a nuchal organ not extending beyond mid chaetiger 2) ; Lab 14 identified as *Marenzelleria bastropi* (no material available)(which has a nuchal organ not extending beyond mid chaeitiger 3 and lacks branchiae decreasing in size in mid / anterior chaetigers); Lab 20 identified as *Marenzelleria wireni* (no material available) (which has a nuchal organ extending at least to chaetiger 4 and had branchiae on all chetigers); Lab 25b identified as *Spio multioculata* (Figure 8c, shows *S. armata* agg.)(which lacks notopodial hooks and longer chaetae in chaetigers 1-2); Labs 04, 06, 11 and 15 identified as *Malacoceros fuliginosus* (Figure 8d)(which has a distinct T-shaped prostomium); Labs 02, 08a and 25a identified as *Marenzelleria* sp. (identification is required to species for RT excercises).

Lab 05 did not submit data for this specimen (identification is required to species for RT exercises).

Labs 02 and 08a incorrectly spelt the genus.

Literature: Bick 2005.

Fig. 8c. *Marenzelleria viridis* (RT3704) – AD

Fig. 8c. *Spio armata* agg. (9841) – AL

Fig. 8d. *Malacoceros fuliginosus* (41879) – L

RT4109 – *Ampelisca tenuicornis* (Figure 9a).

Substratum: Muddy Sand. Salinity: Full. Depth: Infralittoral. Geography: S.E. England. Condition: Fair, Medium.

Fig. 9a. *Ampelisca tenuicornis* (RT4109) –L

One generic and five specific differences: Labs 13 and 25b identified as *Ampelisca typica* (Figure 9b)(which has a larger and more angular urosomal keel); Lab 20 identified as *Ampelisca toulemonti* (Figure 9c)(which has a transverse rather than a diagonal line of setae on the inner face of coxal plate 1); Lab 21 identified as *Ampelisca macrocephala* (Figure 9d)(which has a very large tooth on epimeral plate 3).

Lab 05 did not submit data for this specimen (identification is required to species for RT exercises).

Fig. 9b. *Ampelisca typica* (39644) – L

Fig. 9c. *Ampelisca toulemonti*? (12278) – L

Fig. 9d. *Ampelisca macrocephala* (37528) – L

RT4110 – *Musculus subpictus* (Figure 10a).

Substratum: Mixed. Salinity: Full. Depth: Infralittoral. Geography: N. Ireland. Condition: Fair, Medium (2-3mm).

Fig. 10a. *Musculus subpicta* (RT4110) – L

Eleven specific differences: Labs 03, 04, 08b, 08c, 08d, and 22 identified as *Musculus discors* (Figure 10b); Labs 19, 21, 23a, 23b, and 25b identified as *Musculus costulatus* (Figure 10c)(both of which have an ovoid, rather than rhomboidal outline).

Labs 06, 07, 09, 10, 12, 15, 16, 17, 20, 24 and 25a recorded the synonym *Modiolarca subpicta*; Labs 02, 05, 08a, 11, 13, and 14 recorded the synonym *Modiolarca tumida*.

Fig. 10b. *Musculus discors* (10633) – L

Fig. 10c. *Musculus costulatus* (TW_Brittany) – L

RT4111 – *Gibbula umbilicalis* (Figure 11a).

Substratum: Rock. Salinity: Full. Depth: Intertidal. Geography: Wales. Condition: Good, Large (~16mm).

Fig. 11a. *Gibbula umbilicalis* (RT4111) – D

Nine specific differences: Labs 03, 08a, 08b, 08c, 08d, 12, and 16 identified as *Gibbula cineraria* (Figure 11b)(which has more axial colour bands and spiral ridges per whorl); Lab 06 identified as *Gibbula tumida* (Figure 11c)(which has less distinct axial colour bands and a subsutural shelf); Lab 23b identified as *Gibbula umbilicaris* (no material available)(which has a higher periphery to the bodywhorl and a larger umbilicus; it is not known from the area).

Fig. 11b. *Gibbula cineraria* (34754) – D

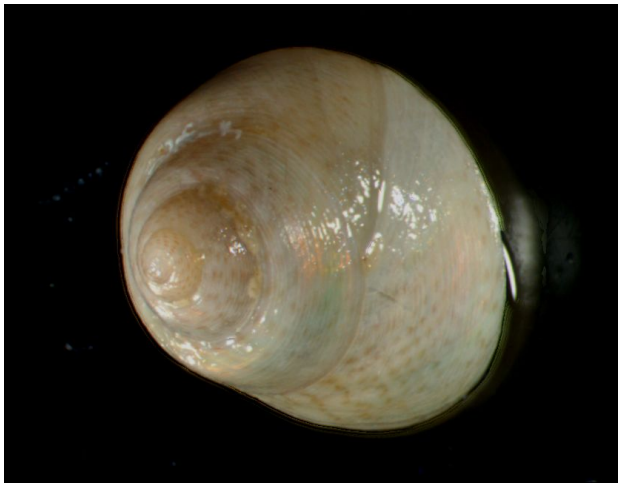


Fig. 11c. *Gibbula tumida* (36799) – D

RT4112 – *Pisione remota* (Figure 12a).

Substratum: Sand. Salinity: Full. Depth: Circalittoral. Geography: C. North Sea. Condition: Fair, Medium.

Fig. 12a. *Pisione remota* (RT4112) – AD

Two generic and two specific differences: Lab 02 identified as *Poecilochaetus serpens* (Figure 12b)(which has more conspicuous chaetae and anterior appendages).

Lab 05 did not submit data for this specimen (identification is required to species for RT exercises).

Fig. 12b. *Poecilochaetus serpens* (40597) – AD

RT4113 – *Nucula nucleus* (Figure 13a).

Substratum: Muddy Sand. Salinity: Full. Depth: Infralittoral. Geography: S.E. England. Condition: Good, Medium (4mm).

Fig. 13a. *Nucula nucleus* (RT4113) – L

Eleven specific differences: Labs 13, 15, and 23b identified as *Nucula sulcata* (Figure 7c)(which has a more strongly sculptured shell); Labs 09, 11, 12, 13, 14, 19, and 23a identified as *Nucula hanleyi* (Figure 7b)(which has a more elongate shell, usually with radiating colour bands); Lab 25b identified as *Nucula nitidosa* (Figure 7a)(which is more triangular in outline, more glossy and has a less prominent lunule).

RT4114 – *Branchiostoma lanceolatum* (Figure 14a).

Substratum: Sand. Salinity: Full. Depth: Circalittoral. Geography: C. North Sea. Condition: Fair/Poor, Large.

Fig. 14a. *Branchiostoma lanceolatum* (RT4114) – L

Two generic and two specific differences: Lab 05 identified as *Ophelina acuminata* (Figure 14b)(which has chaetae); Lab 13 identified as *Petromyzon marinus* (Figure 14c show a similar species, *Lampetra fluviatilis*)(which has teeth).

Lab 08a incorrectly spelt the genus.

Fig. 14b. *Ophelina acuminata* (40769) – L

Fig. 14c. *Lampetra fluviatilis* (RT3324) – L

RT4115 – *Polygordius lacteus* (Figure 15a).

Substratum: Sand. Salinity: Full. Depth: Circalittoral. Geography: C. North Sea. Condition: Fair, Medium.

Fig. 15a. *Polygordius lacteus* (RT4115) – D

Two generic and five specific differences: Labs 10, 16, and 24 identified as *Polygordius appendiculatus* (Figure 15b)(which has a pair of cirri on the pygidium); Lab 22 identified as *Micrura scotica* (Figure 15c shows an unidentified Nemertea)(which has is flattened body and lacks appendages).

Lab 02 incorrectly spelt the genus; Lab 05 did not submit data for this specimen (identification is required to species for RT exercises).

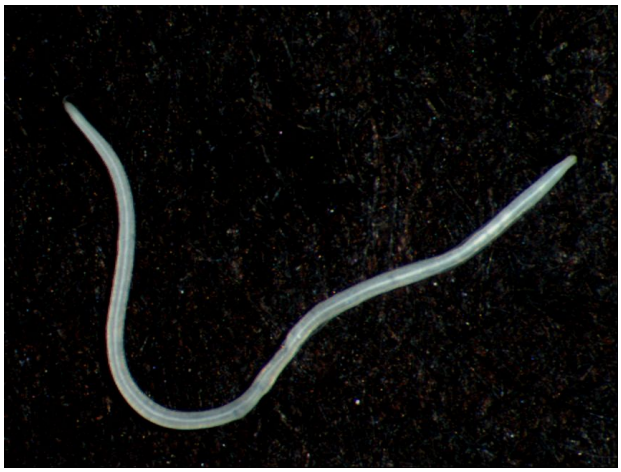


Fig. 15b. *Polygordius appendiculatus* (36814) – D

Fig. 15c. Nemertea (43870) – L

RT4116 – *Ampelisca brevicornis* (Figure 16a).

Substratum: Mixed. Salinity: Full. Depth: Circalittoral. Geography: S.E. England. Condition: Fair, Medium.

Fig. 16a. *Ampelisca brevicornis* (RT4116) – L

One specific difference: Lab 04 identified as *Ampelisca diadema* (Figure 16b)(which lacks a posterior lobe on the merus of pereopod 7 and a large tooth on epimeral plate 3).

Fig. 16b. *Ampelisca diadema* (12205) – L

RT4117 – *Rissoa parva* (Figure 17a).

Substratum: Rock. Salinity: Full. Depth: Intertidal. Geography: Wales. Condition: Fair, Medium (3mm).

Fig. 17a. *Rissoa parva* (RT4117) – L

Three generic and four specific differences: Lab 05, 23b and 25b identified as *Crisilla semistriata,* or the synonym *Alvania semistriata* (Figure 17b)(which has a broader shell with spiral sculpture); Lab 15 identified as *Rissoa membranacea* (Figure 17c)(which has a wider aperture with a columellar swelling).

Labs 04, 06, 08a, 08b, 08d, 09, 10, 12, 13, 14, 17, 19, 22, and 23a recorded the synonym *Rissoa interrupta*.

Fig. 17b. *Crisilla semistriata* (22173) – L

Fig. 17c. *Rissoa membranacea* (37148) – L

RT4118 – *Ophelia rathkei* (Figure 18a).**

Substratum: Mixed. Salinity: High. Depth: Intertidal. Geography: S.E. England. Condition: Fair/Poor, Small (Juvenile).

Fig. 18a. *Ophelia rathkei* (RT4118) – D

Four generic and twenty-one specific differences: Labs 08a, 08b, 08c, 08d, 11, 14 and 23b identified as *Ophelia laubieri* (no material available) (which lacks branchiae); Labs 07, 12, 13, 22 and 25a identified as *Ophelia bicornis* (Figure 18b) (which has 13 to 15 branchiate chaetigers); Labs 10, 16 and 25b identified as *Ophelia borealis* (Figure 18c) (which has 19/20 branchiate chaetigers); Labs 17 and 24 identified as *Ophelia celtica* (Figure 18d) (which has 16 branchiate chaetigers; offshore species); Labs 15 and 23a identified as *Travisia forbesii* (Figure 18e) (which has an inflated anterior body region); Lab 04 identified as *Armandia cirrhosa* (Figure 18f) (which has lateral eyespots); Lab 05 identified as *Arenicola marina* (Figure 18g shows a juvenile specimen) (which has defined body regions).

** Identification tentative / not fully resolved; additional taxonomic research ongoing to determine the validity of two synonyms, *O. cluthensis* and *O. remanei*.

Fig. 18b. *Ophelia bicornis* (43108) – D

Fig. 18c. *Ophelia borealis* (24822) – L

Fig. 18d. *Ophelia celtica* (13895) – D

Fig. 18e. *Travisia forbesii* (43312) – D

Fig. 18f. *Armandia cirrhosa* (37126) – D

Fig. 18g. *Arenicola marina* juv. (BB33_2) – L

RT4119 – *Gammarus oceanicus* (Figure 19a).

Substratum: Rock. Salinity: Full. Depth: Intertidal. Geography: Nova Scotia. Condition: Good, Large.

Fig. 19a. *Gammarus oceanicus* (RT4119) – L

Thirteen specific differences: Labs 03, 06, 08b, and 13 identified as *Gammarus insensibilis* (no material available); Labs 05, 12, and 25b identified as *Gammarus locusta* (Figure 19b)(both of which have graduating setae on the ventral margin of mandible palp article 3); Labs 08a, 08c, 08d, identified as *Gammarus setosus* (no material available)(which has several setal groups on antennae 1 article 1; not found in fully marine conditions); Lab 22 identified as *Gammarus salinus*, a synonym of *G. spooneri* (+)(Figure 19c); Lab 04 identified as *Gammarus zaddachi* (Figure 19d)(both of which have irregular setae on the ventral margin of mandible palp article 3); Lab 11 identified as *Gammarus chevreuxi* (Figure 19e)(which has unequal uropod rami).

+Literature: Karaman 1991

Fig. 19b. *Gammarus locusta* (29616) – L

Fig. 19c. *Gammarus spooneri* (31431) – L

Fig. 19d. *Gammarus zaddachi* (37692) – L

Fig. 19e. *Gammarus chevreuxi* (41805) – L

RT4120 – *Littorina saxatilis* (Figure 20a).

Substratum: Rock. Salinity: Full. Depth: Intertidal. Geography: Nova Scotia. Condition: Good, Large (8-9mm).

Fig. 20a. *Littorina saxatilis* (RT4120) – L

Fig. 20b. *Littorina littorea* (25624)– L

Four specific differences: Labs 02, 06, 08c, and 22 identified as *Littorina littorea* (Figure 20b)(which has finer spiral ridges and more flattened whorls).

Lab 15 recorded the synonym *Littorina saxatilis* s.l.; Lab 17 recorded the synonym *Littorina saxatilis* (var *rudis*); Lab 21 incorrectly spelt the genus.

RT4121 – *Nannastacus unguiculatus* (Figure 21a).

Substratum: Gravel. Salinity: Full. Depth: Infralittoral. Geography: S.W. England. Condition: Fair, Medium.

Fig. 21a. *Nannastacus unguiculatus* (RT4121) – L

Three generic and five specific differences: Labs 03 and 15 identified as *Nannastacus brevicaudatus* (Figure 21b)(which does not have uropods longer than the combined length of the last two pleonites); Lab 10 identified as *Campylaspis glabra* (Figure 21c)(which lacks a developed anterior lateral angle on the carapace); Lab 23b identified as *Eudorella truncatula* (Figure 21d)(which has a curved and toothed anterior lateral angle on the carapace).

Lab 05 did not submit data for this specimen (identification is required to species for RT exercises).

Fig. 21b. *Nannastacus brevicaudatus* (42298) – L

Fig. 21c. *Campylaspis glabra* (42616) – L

Fig. 21d. *Eudorella truncatula* (43562) – L

RT4122 – *Hesiospina similis* (Figure 22a).

Substratum: Sand. Salinity: Full. Depth: Infralittoral. Geography: S.W. England. Condition: Poor, Medium (hook(s) present).

Fig. 22a. *Hesiospina similis* (RT4122) – AD

Fourteen generic and fourteen specific differences: Labs 02, 11, 19, and 25b identified as *Psamathe fusca* (Figure 22b); Lab 03 identified as *Nereimyra punctata* (Figure 22c); Labs 04, 13, 15, and 21 identified as *Kefersteinia cirrata* (Figure 22d); Labs 10 and 22 identified as *Syllidia armata* (Figure 22e); Lab 23a identified as *Podarkeopsis capensis* (Figure 22f); Lab 23b identified as *Dalhousiella carpenteri* (no material available)(all of which lack notopodial hooks).

Lab 05 did not submit data for this specimen (identification is required to species for RT exercises).

Fig. 22b. *Psamathe fusca* (41234) – AD

Fig. 22c. *Nereimyra punctata* (11043) – AL

Fig. 22d. *Kefersteinia cirrata* (11043) – AD

Fig. 22e. *Syllidia armata* (39614) – AD

Fig. 22f. *Podarkeopsis capensis* (18219) – AD

RT4123 – *Amphipholis squamata* (Figure 23a).

Substratum: Mixed. Salinity: Full. Depth: Infralittoral. Geography: N. Ireland. Condition: Fair, Medium.

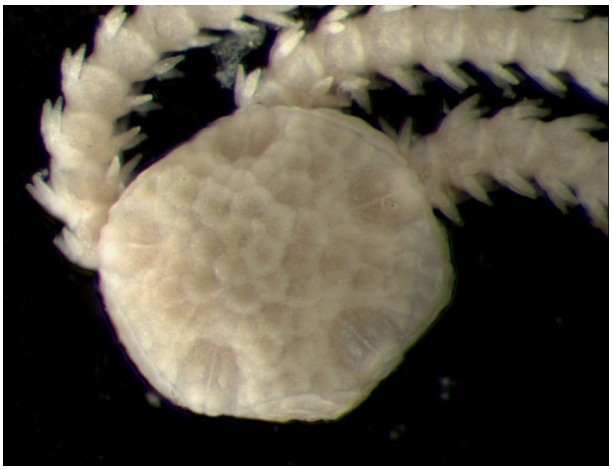


Fig. 23a. *Amphipholis squamata* (RT4123) – D

One generic and one specific difference: Lab 15 identified as *Amphiura* sp. (Figure 23b) (identification is required to species for RT exercises).

Labs 05, 08a, and 17 incorrectly spelt the genus.

RT4124 – *Gammarus pulex* (Figure 24a).

Substratum: Mixed. Salinity: Low/Freshwater. Depth: Infralittoral. Geography: S.E. England. Condition: Fair, Medium.

Fig. 24a. *Gammarus pulex* (RT4124) – L

One generic and fifteen specific differences: Labs 14 and 25a identified as *Gammarus lacustris* (no material available)(which has similar distal angles on epimeral plates 2 & 3); Labs 07, 12, 19, 20, 21, 23a, and 23b identified as *Gammarus duebeni* (Figure 24b); Labs 03 and 13 identified as *Gammarus finmarchicus* (no material available); Labs 06 and 10 identified as *Gammarus chevreuxi* (Figure 19e); Lab 02 identified as *Gammarus salinus* a synonym of *G. spooneri* (Figure 19c)(all of which have elongate eyes; they prefer higher salinity); Lab 25b identified as *Allomelita pellucida* (Figure 24c)(which has gnathopod 2 larger than gnathopod 1).

Lab 02 incorrectly spelt the genus.

Fig. 24b. *Gammarus duebeni* (20848) – L

Fig. 24c. *Allomelita pellucida* (37690) – L

RT4125 – *Austrosyrrhoe fimbriatus* (Figure 25a).

Substratum: Gravel. Salinity: Full. Depth: Infralittoral. Geography: S.W. England. Condition: Fair, Medium.

Fig. 25a. *Austrosyrrhoe fimbriatus* (RT4125) – L

Three generic and three specific differences: Lab 21 identified as *Lysianassidae* spp. ('spp' implies a mixture of species was present; only one specimen was circulated); Labs 05 and 25b did not submit data for this specimen (identification is required to species for RT exercises).

Labs 08a and 08b incorrectly spelt the genus.

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Nucula nitidosa.....4a & 7a

Nucula nucleus.....13a

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Syllidia armata.....22e

Travisia forbesii.....18e

Ring Test Specimen Return Instructions

Please return all ring test specimens by 31st August 2012. These are reference collection specimens and must be returned to our museum. Your laboratory will be ineligible for future ring tests if specimens are not returned.

Return address: David Hall, Thomson Unicomarine Ltd., 7 Diamond Centre,
Works Road, Letchworth, Hertfordshire SG6 1LW, UK