

NMBAQC

NE Atlantic Marine Biological Analytical Quality Control Scheme

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Ring Test Bulletin – RTB#50



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NMBAQC RTB#50

RING TEST DETAILS

Ring Test #50

Type/Contents – General

Circulated – 14/10/15

Results deadline – 18/12/15

Final results received date – 5/1/16

Number of Subscribing Laboratories – 22

Number of Participating Laboratories – 20

Number of Results Received – 21*

*multiple data entries per laboratory permitted

Summary of differences

Specimen	Genus	Species	Total differences for 21 returns	
			Genus	Species
RT5001	Ampelisca	diadema	0	8
RT5002	Pseudoprotella	phasma	1	1
RT5003	Gammaropsis	maculata	5	5
RT5004	Socarnes	erythrophthalmus	4	6
RT5005	Stenothoe	marina	1	1
RT5006	Abludomelita	obtusata	4	5
RT5007	Gammarus	crinicornis	0	5
RT5008	Unciola	crenatipalma	3	3
RT5009	Leptocheirus	tricristatus	1	1
RT5010	Harpinia	crenulata	2	2
RT5011	Parametaphoxus	fultoni	2	2
RT5012	Melita	hergensis	0	1
RT5013	Caprella	mutica	0	13
RT5014	Corophium	volutator	0	3
RT5015	Parajassa	pelagica	3	3
RT5016	Stenothoe	monoculoides	4	4
RT5017	Dexamine	thea	4	10
RT5018	Dexamine	thea	3	6
RT5019	Aora	gracilis	0	4
RT5020	Crassikorophium	crassicorne	2	3
RT5021	Talitrus	saltator	5*	5*
RT5022	Nototropis	swammerdamei	0	1
RT5023	Gammarus	tigrinus	1	14
RT5024	Gammarus	finmarchicus	2	5
RT5025	Melita	hergensis	0	4
Total differences			47	115
Average differences /lab.			2.2	5.5

*A mixture of *Talitrus saltator* and *Deshayesorchestia deshayesii* was sent out in error. Specimens have been checked prior to this report being issued and labs marked correct. Please see RT5021 below for details.

Figure 1. The number of differences from the AQC identification of specimens distributed in RT50 for each of the participating laboratories. Arranged in order of increasing number of differences.

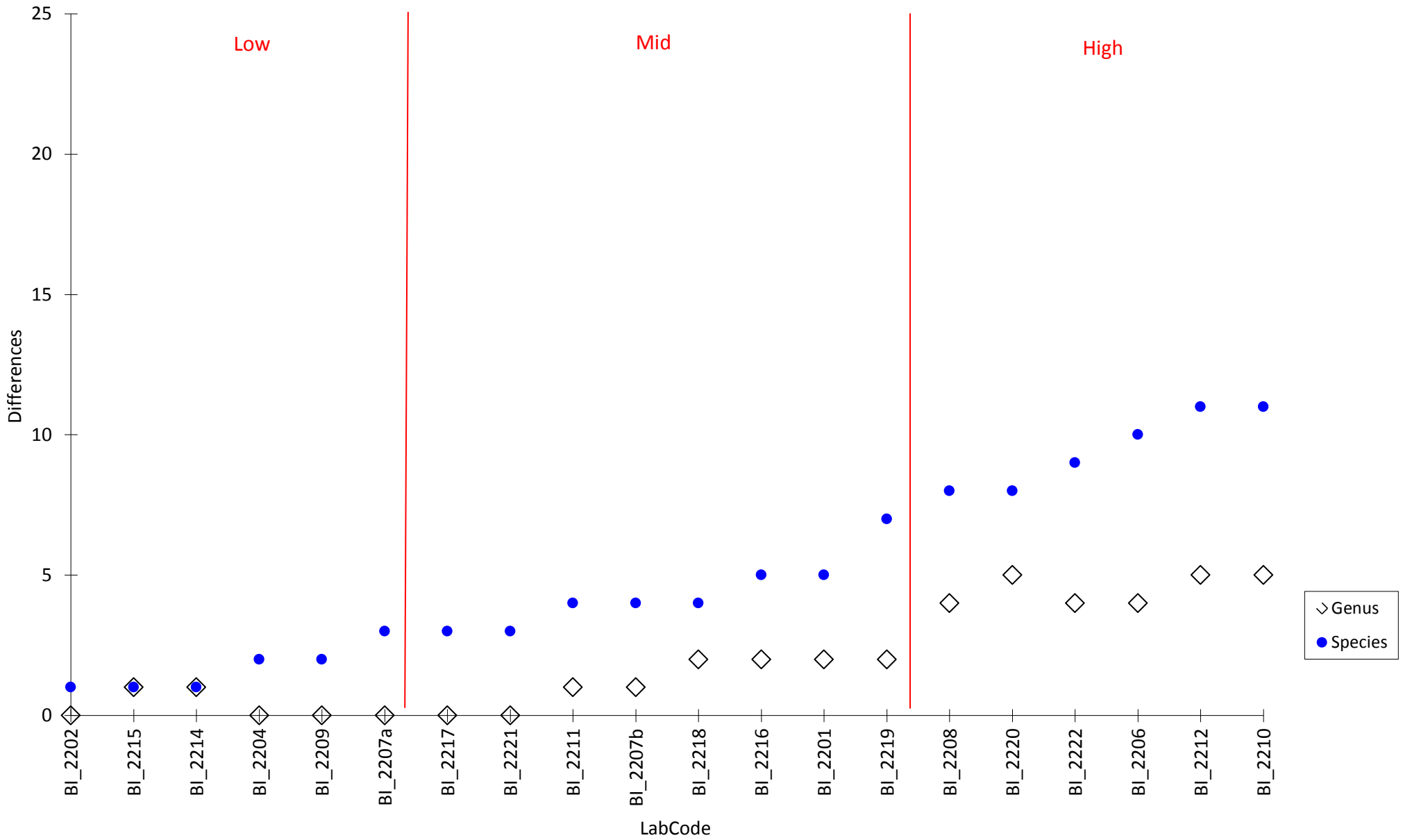


Table 1. The identification of fauna made by participating laboratories for RT50 (arranged by specimen). Names are given only where different from the AQC identification.

	RT5001	RT5002	RT5003	RT5004	RT5005
Taxon	<i>Ampelisca diadema</i>	<i>Pseudoprotella phasma</i>	<i>Gammaropsis maculata</i>	<i>Socarnes erythrophthalmus</i>	<i>Stenothoe marina</i>
BI_2201	- spinipes	--	--	Lysianassa ceratina	--
BI_2202	--	--	--	--	--
BI_2203	--	--	Isoetes montagui	Lysianassa ceratina	--
BI_2204	--	--	--	--	--
BI_2206	- spinipes	--	--	Tryphosella sarsi	--
BI_2207a	--	--	--	--	--
BI_2207b	--	--	Elasmopus rapax	- crenulatus	--
BI_2208	--	--	--	--	--
BI_2209	--	--	--	--	--
BI_2210	- eschrichtii	Caprella mutica	Gammarus finmarchicus	--	[Sthenothoe] [marina marina?]
BI_2211	--	--	Elasmopus rapax	--	--
BI_2212	- tenuicornis	--	--	Lysianassa ceratina	--
BI_2214	--	--	--	--	--
BI_2215	--	--	--	- [erythrophthalmus]	--
BI_2216	- spinipes	--	--	--	--
BI_2217	--	--	--	- [erythroptalmus]	--
BI_2218	- spinipes	--	--	--	--
BI_2219	- armoricana	--	--	--	--
BI_2220	--	--	--	- filicornis	--
BI_2221	--	--	--	--	--
BI_2222	- tenuicornis	--	Parajassa pelagica	--	Stenula rubrovittata

Table 1. The identification of fauna made by participating laboratories for RT50 (arranged by specimen). Names are given only where different from the AQC identification.

	RT5006	RT5007	RT5008	RT5009	RT5010
Taxon	<i>Abludomelita obtusata</i>	<i>Gammarus crinicornis</i>	<i>Unciola crenatipalma</i>	<i>Leptocheirus tricristatus</i>	<i>Harpinia crenulata</i>
BI_2201	--	--	--	--	--
BI_2202	--	--	--	--	--
BI_2203	--	- tigrinus	Parajassa pelagica	--	--
BI_2204	--	--	--	--	--
BI_2206	--	- salinus	Ampithoe rubricata	--	--
BI_2207a	--	--	--	--	--
BI_2207b	--	--	--	--	--
BI_2208	--	--	--	--	--
BI_2209	--	--	--	--	--
BI_2210	Melita dentata	- insensibilis	Metopa alderi	--	Phoxocephalus holboli
BI_2211	--	- insensibilis	--	--	--
BI_2212	Melita dentata	--	--	--	--
BI_2214	--	--	--	--	--
BI_2215	--	--	--	--	--
BI_2216	Melita hergensis	--	--	--	--
BI_2217	--	--	--	--	--
BI_2218	[Melita] -	- oceanicus	- [crenatipalmata]	--	--
BI_2219	--	--	--	Protomeдея fasciata	--
BI_2220	Melita dentata	--	--	--	Phoxocephalus holbolli
BI_2221	--	--	--	--	--
BI_2222	- gladiosa	--	--	--	[Harpina] -

Table 1. The identification of fauna made by participating laboratories for RT50 (arranged by specimen). Names are given only where different from the AQC identification.

	RT5011	RT5012	RT5013	RT5014	RT5015
Taxon	<i>Parametaphoxus fultoni</i>	<i>Melita hergensis</i>	<i>Caprella mutica</i>	<i>Corophium volutator</i>	<i>Parajassa pelagica</i>
BI_2201	[Metaphoxus] -	--	--	--	--
BI_2202	[Metaphoxus] -	--	--	--	--
BI_2203	Cheirocratus assimilis	--	- linearis	--	Colomastix pusilla
BI_2204	[Metaphoxus] -	--	- septentrionalis	--	--
BI_2206	[Metaphoxus] -	--	- septentrionalis	--	--
BI_2207a	[Metaphoxus] -	--	- septentrionalis	--	--
BI_2207b	[Metaphoxus] -	--	- acanthifera	--	--
BI_2208	[Metaphoxus] -	- palmata	- acanthifera	--	Jassa falcata
BI_2209	[Metaphoxus] -	--	- septentrionalis	--	--
BI_2210	[Metaphoxus] -	--	- linearis	--	--
BI_2211	[Metaphoxus] -	--	- linearis	--	--
BI_2212	Eusirus longipes	--	- linearis	--	--
BI_2214	--	--	--	--	--
BI_2215	[Metaphoxus] -	--	--	--	--
BI_2216	[Metaphoxus] -	--	- acanthifera	--	--
BI_2217	[Metaphoxus] -	--	--	- arenarium	--
BI_2218	[Metaphoxus] [futoni]	--	--	- [volutator]	--
BI_2219	[Metaphoxus] -	--	--	--	--
BI_2220	[Metaphoxus] -	--	--	- multisetosum	--
BI_2221	[Metaphoxus] -	--	- septentrionalis	--	--
BI_2222	[Metaphoxus] -	- [hergensis]	- septentrionalis	- arenarium	Jassa falcata

Table 1. The identification of fauna made by participating laboratories for RT50 (arranged by specimen). Names are given only where different from the AQC identification.

	RT5016	RT5017	RT5018	RT5019	RT5020
Taxon	<i>Stenothoe monoculoides</i>	<i>Dexamine thea</i>	<i>Dexamine thea</i>	<i>Aora gracillis</i>	<i>Crassikorophium crassicorne</i>
BI_2201	Metopa pusilla	--	- spinosa	--	--
BI_2202	--	--	--	--	--
BI_2203	--	Epimeria cornigera	Apherusa cirrus	--	Apocorophium acutum
BI_2204	--	--	--	--	--
BI_2206	Hardametopa nasuta	- spinosa	Apherusa cirrus	- typica	--
BI_2207a	--	--	--	--	--
BI_2207b	--	--	--	--	--
BI_2208	--	Nototropis falcatus	--	--	- bonellii
BI_2209	--	--	--	--	--
BI_2210	--	- spinosa	--	- spinicornis	--
BI_2211	--	--	--	- typica	--
BI_2212	Hardametopa nasuta	- spinosa	- spinosa	- typica	--
BI_2214	--	--	--	--	--
BI_2215	--	--	--	--	--
BI_2216	[Stenothoe] -	--	--	--	--
BI_2217	--	- spinosa	--	--	--
BI_2218	--	Apherusa cirrus	Apherusa cirrus	--	[Corophium] -
BI_2219	--	- spinosa	--	--	--
BI_2220	--	Apherusa cirrus	--	--	Corophium volutator
BI_2221	--	- spinosa	--	--	--
BI_2222	Apolochus neapolitanus	[Dexamina] -	[Dexamina] spinoza	--	--

Table 1. The identification of fauna made by participating laboratories for RT50 (arranged by specimen). Names are given only where different from the AQC identification.

	RT5021	RT5022	RT5023	RT5024	RT5025
Taxon	<i>Talitrus saltator</i>	<i>Nototropis swammerdamei</i>	<i>Gammarus tigrinus</i>	<i>Gammarus finmarchicus</i>	<i>Melita hergensis</i>
BI_2201	--	--	--	- crinicornis	--
BI_2202	--	--	- zaddachi	--	--
BI_2203	--	- guttatus	- duebeni	--	- palmata
BI_2204	--	--	- zaddachi	--	--
BI_2206	--	--	- zaddachi	--	--
BI_2207a	--	--	- chevreuxi	--	- palmata
BI_2207b	--	--	- salinus	--	--
BI_2208	Orchestia gammarellus	--	- oceanicus	Echinogammarus marinus	--
BI_2209	Deshayesorchestia deshayesii	--	- chevreuxi	--	--
BI_2210	--	[Nototropis] -	- salinus	--	--
BI_2211	--	--	--	--	--
BI_2212	--	--	- zaddachi	Echinogammarus pirloti	--
BI_2214	Britorchestia brito	--	--	--	--
BI_2215	Britorchestia brito	--	--	--	--
BI_2216	Britorchestia brito	- [swammerdami]	- chevreuxi	--	--
BI_2217	--	--	--	- 0	--
BI_2218	--	[Atylus] [swammerdami]	--	--	--
BI_2219	Britorchestia brito	--	- salinus	- oceanicus	- palmata
BI_2220	--	--	Echinogammarus pirloti	- [finmarchius]	- palmata
BI_2221	Deshayesorchestia deshayesii	--	- insensibilis	--	--
BI_2222	--	[Nototropis] -	--	--	--

Table 2. The identification of fauna made by participating laboratories for RT50 (arranged by participant). Names are given only where different from the AQC identification.

	Taxon	BI_2201	BI_2202	BI_2203	BI_2204	BI_2206	BI_2207a
RT5001	<i>Ampelisca diadema</i>	- spinipes	--	--	--	- spinipes	--
RT5002	<i>Pseudoprotella phasma</i>	--	--	--	--	--	--
RT5003	<i>Gammaropsis maculata</i>	--	--	Isaea montagui	--	--	--
RT5004	<i>Socarnes erythropthalmus</i>	Lysianassa ceratina	--	Lysianassa ceratina	--	Tryphosella sarsi	--
RT5005	<i>Stenothoe marina</i>	--	--	--	--	--	--
RT5006	<i>Abludomelita obtusata</i>	--	--	--	--	--	--
RT5007	<i>Gammarus crinicornis</i>	--	--	- tigrinus	--	- salinus	--
RT5008	<i>Unciola crenatipalma</i>	--	--	Parajassa pelagica	--	Ampithoe rubricata	--
RT5009	<i>Leptocheirus tricristatus</i>	--	--	--	--	--	--
RT5010	<i>Harpinia crenulata</i>	--	--	--	--	--	--
RT5011	<i>Parametaphoxus fultoni</i>	[Metaphoxus] -	[Metaphoxus] -	Cheirocratus assimilis	[Metaphoxus] -	[Metaphoxus] -	[Metaphoxus] -
RT5012	<i>Melita hergensis</i>	--	--	--	--	--	--
RT5013	<i>Caprella mutica</i>	--	--	- linearis	- septentrionalis	- septentrionalis	- septentrionalis
RT5014	<i>Corophium volutator</i>	--	--	--	--	--	--
RT5015	<i>Parajassa pelagica</i>	--	--	Colomastix pusilla	--	--	--
RT5016	<i>Stenothoe monoculoides</i>	Metopa pusilla	--	--	--	Hardametopa nasuta	--
RT5017	<i>Dexamine thea</i>	--	--	Epimeria cornigera	--	- spinosa	--
RT5018	<i>Dexamine thea</i>	- spinosa	--	Apherusa cirrus	--	Apherusa cirrus	--
RT5019	<i>Aora gracilis</i>	--	--	--	--	- typica	--
RT5020	<i>Crassikorophium crassicorne</i>	--	--	Apocorophium acutum	--	--	--
RT5021	<i>Talitrus saltator</i>	--	--	--	--	--	--
RT5022	<i>Nototropis swammerdamei</i>	--	--	- guttatus	--	--	--
RT5023	<i>Gammarus tigrinus</i>	--	- zaddachi	- duebeni	- zaddachi	- zaddachi	- chevreuxi
RT5024	<i>Gammarus finmarchicus</i>	- crinicornis	--	--	--	--	--
RT5025	<i>Melita hergensis</i>	--	--	- palmata	--	--	- palmata

Table 2. The identification of fauna made by participating laboratories for RT50 (arranged by participant). Names are given only where different from the AQC identification.

	Taxon	BI_2207b	BI_2208	BI_2209	BI_2210	BI_2211
RT5001	<i>Ampelisca diadema</i>	--	--	--	- eschrichtii	--
RT5002	<i>Pseudoprotella phasma</i>	--	--	--	Caprella mutica	--
RT5003	<i>Gammaropsis maculata</i>	Elasmopus rapax	--	--	Gammarus finmarchicus	Elasmopus rapax
RT5004	<i>Socarnes erythrophthalmus</i>	- crenulatus	--	--	--	--
RT5005	<i>Stenothoe marina</i>	--	--	--	[Stenothoe] [marina marina?]	--
RT5006	<i>Abludomelita obtusata</i>	--	--	--	Melita dentata	--
RT5007	<i>Gammarus crinicornis</i>	--	--	--	- insensibilis	- insensibilis
RT5008	<i>Unciola crenatipalma</i>	--	--	--	Metopa alderi	--
RT5009	<i>Leptocheirus tricristatus</i>	--	--	--	--	--
RT5010	<i>Harpinia crenulata</i>	--	--	--	Phoxocephalus holboli	--
RT5011	<i>Parametaphoxus fultoni</i>	[Metaphoxus] -	[Metaphoxus] -	[Metaphoxus] -	[Metaphoxus] -	[Metaphoxus] -
RT5012	<i>Melita hergensis</i>	--	- palmata	--	--	--
RT5013	<i>Caprella mutica</i>	- acanthifera	- acanthifera	- septentrionalis	- linearis	- linearis
RT5014	<i>Corophium volutator</i>	--	--	--	--	--
RT5015	<i>Parajassa pelagica</i>	--	Jassa falcata	--	--	--
RT5016	<i>Stenothoe monoculoides</i>	--	--	--	--	--
RT5017	<i>Dexamine thea</i>	--	Nototropis falcatus	--	- spinosa	--
RT5018	<i>Dexamine thea</i>	--	--	--	--	--
RT5019	<i>Aora gracilis</i>	--	--	--	- spinicornis	- typica
RT5020	<i>Crassikorophium crassicorne</i>	--	- bonellii	--	--	--
RT5021	<i>Talitrus saltator</i>	--	Orchestia gammarellus	--	--	--
RT5022	<i>Nototropis swammerdamei</i>	--	--	--	[Nototropus] -	--
RT5023	<i>Gammarus tigrinus</i>	- salinus	- oceanicus	- chevreuxi	- salinus	--
RT5024	<i>Gammarus finmarchicus</i>	--	Echinogammarus marinus	--	--	--
RT5025	<i>Melita hergensis</i>	--	--	--	--	--

Table 2. The identification of fauna made by participating laboratories for RT50 (arranged by participant). Names are given only where different from the AQC identification.

	Taxon	BI 2212	BI 2214	BI 2215	BI 2216	BI 2217	BI 2218
RT5001	<i>Ampelisca diadema</i>	- tenuicornis	--	--	- spinipes	--	- spinipes
RT5002	<i>Pseudoprotella phasma</i>	--	--	--	--	--	--
RT5003	<i>Gammaropsis maculata</i>	--	--	--	--	--	--
RT5004	<i>Socarnes erythropthalmus</i>	Lysianassa ceratina	--	- [erythropthalmus]	--	- [erythropthalmus]	--
RT5005	<i>Stenothoe marina</i>	--	--	--	--	--	--
RT5006	<i>Abludomelita obtusata</i>	Melita dentata	--	--	Melita hergensis	--	[Melita] -
RT5007	<i>Gammarus crinicornis</i>	--	--	--	--	--	- oceanicus
RT5008	<i>Unciola crenatipalma</i>	--	--	--	--	--	- [crenatipalmata]
RT5009	<i>Leptocheirus tricristatus</i>	--	--	--	--	--	--
RT5010	<i>Harpinia crenulata</i>	--	--	--	--	--	--
RT5011	<i>Parametaphoxus fultoni</i>	Eusirus longipes	--	[Metaphoxus] -	[Metaphoxus] -	[Metaphoxus] -	[Metaphoxus] [futoni]
RT5012	<i>Melita hergensis</i>	--	--	--	--	--	--
RT5013	<i>Caprella mutica</i>	- linearis	--	--	- acanthifera	--	--
RT5014	<i>Corophium volutator</i>	--	--	--	--	- arenarium	- [volutator]
RT5015	<i>Parajassa pelagica</i>	--	--	--	--	--	--
RT5016	<i>Stenothoe monoculoides</i>	Hardametopa nasuta	--	--	[Stenothoe] -	--	--
RT5017	<i>Dexamine thea</i>	- spinosa	--	--	--	- spinosa	Apherusa cirrus
RT5018	<i>Dexamine thea</i>	- spinosa	--	--	--	--	Apherusa cirrus
RT5019	<i>Aora gracilis</i>	- typica	--	--	--	--	--
RT5020	<i>Crassikorophium crassicorne</i>	--	--	--	--	--	[Corophium] -
RT5021	<i>Talitrus saltator</i>	--	Britorchestia brito	Britorchestia brito	Britorchestia brito	--	--
RT5022	<i>Nototropis swammerdamei</i>	--	--	--	- [swammerdami]	--	[Atylus] [swammerdami]
RT5023	<i>Gammarus tigrinus</i>	- zaddachi	--	--	- chevreuxi	--	--
RT5024	<i>Gammarus finmarchicus</i>	Echinogammarus pirloti	--	--	--	- 0	--
RT5025	<i>Melita hergensis</i>	--	--	--	--	--	--

Table 2. The identification of fauna made by participating laboratories for RT50 (arranged by participant). Names are given only where different from the AQC identification.

	Taxon	BI 2219	BI 2220	BI 2221	BI 2222
RT5001	<i>Ampelisca diadema</i>	- armoricana	--	--	- tenuicornis
RT5002	<i>Pseudoprotella phasma</i>	--	--	--	--
RT5003	<i>Gammaropsis maculata</i>	--	--	--	Parajassa pelagica
RT5004	<i>Socarnes erythrophthalmus</i>	--	- filicornis	--	--
RT5005	<i>Stenothoe marina</i>	--	--	--	Stenula rubrovittata
RT5006	<i>Abludomelita obtusata</i>	--	Melita dentata	--	- gladiosa
RT5007	<i>Gammarus crinicornis</i>	--	--	--	--
RT5008	<i>Unciola crenatipalma</i>	--	--	--	--
RT5009	<i>Leptocheirus tricristatus</i>	Protomedeia fasciata	--	--	--
RT5010	<i>Harpinia crenulata</i>	--	Phoxocephalus holbolli	--	[Harpina] -
RT5011	<i>Parametaphoxus fultoni</i>	[Metaphoxus] -	[Metaphoxus] -	[Metaphoxus] -	[Metaphoxus] -
RT5012	<i>Melita hergensis</i>	--	--	--	- [hergensis]
RT5013	<i>Caprella mutica</i>	--	--	- septentrionalis	- septentrionalis
RT5014	<i>Corophium volutator</i>	--	- multisetosum	--	- araenarium
RT5015	<i>Parajassa pelagica</i>	--	--	--	Jassa falcata
RT5016	<i>Stenothoe monoculoides</i>	--	--	--	Apolochus neapolitanus
RT5017	<i>Dexamine thea</i>	- spinosa	Apherusa cirrus	- spinosa	[Dexamina] -
RT5018	<i>Dexamine thea</i>	--	--	--	[Dexamina] spinoza
RT5019	<i>Aora gracilis</i>	--	--	--	--
RT5020	<i>Crassikorophium crassicorne</i>	--	Corophium volutator	--	--
RT5021	<i>Talitrus saltator</i>	Britorchestia brito	--	--	--
RT5022	<i>Nototropis swammerdamei</i>	--	--	--	[Nototropis] -
RT5023	<i>Gammarus tigrinus</i>	- salinus	Echinogammarus pirloti	- insensibilis	--
RT5024	<i>Gammarus finmarchicus</i>	- oceanicus	- [finmarchius]	--	--
RT5025	<i>Melita hergensis</i>	- palmata	- palmata	--	--

Specimen Images and Detailed Breakdown of Identifications

LabCodes are abbreviated in this report to exclude the Scheme year, *i.e.* BI_2201 = Lab 01. 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 APEM Ltd.

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

RT5001 – *Ampelisca diadema* (Figure 1a)

Substratum: Diamicton. Salinity: Full (Euhaline). Depth: Infralittoral. Geography: Western Scotland. Condition: Good, Medium (4mm).



Fig. 1a. *Ampelisca diadema* (RT5001) – L



Fig. 1b. *Ampelisca spinipes* (9947) – L



No generic and eight specific errors: Labs 01, 06, 16 and 18 identified as *A. spinipes* (Figure 1b) (which has a sinuous basis to the postero-proximal margin of pereopod 7); Lab 10 identified as *A. eschrichtii* (Figure 1c) (which has long spines on uropod 2); Labs 12 and 22 identified as *A. tenuicornis* (Figure 1d) (which has a diagonal line of setae on the inner face of coxal plate 1); Lab 19 identified as *A. americana* (no image available) (which has a distinct tooth on epimeral plate 2).



Fig. 1c. *Ampelisca eschrichtii* (3582) – L

Fig. 1d. *Ampelisca tenuicornis* (10805) – L

RT5002 – *Pseudoprotella phasma* (Figure 2a)

Substratum: Diamicton. Salinity: Full (Euhaline). Depth: Circalittoral (Upper Shelf). Geography: Southeast England. Condition: Good, Large (6-7mm).



Fig. 2a. *Pseudoprotella phasma* (RT5002) – L

One generic and one specific error: Labs 10 identified as *Caprella mutica* (Figure 13a) (which lacks projections on the head and pereonite 1).

RT5003 – *Gammaropsis maculata* (Figure 3a)

Substratum: Diamicton. Salinity: Full (Euhaline). Depth: Circalittoral (Upper Shelf). Geography: Southeast England. Condition: Fair, Medium (6-7mm).



Fig. 3a. *Gammaropsis maculata* (RT5003) - L

Five generic and five specific differences: Lab 03 identified as *Isaea montagui* (Figure 3b) (which has weakly subchelate pereopods 3-7); Labs 7b and 11 identified as *Elasmopus rapax* (no image available) and Lab 10 identified as *Gammarus finmarchicus* (Figure 24a) (which both have a cleft telson); Lab 22 identified as *Parajassa pelagica* (Figure 15a) (which has rami on uropod 3 shorter than the peduncle).



Fig. 3b. *Isaea montagui* (4742) - L

RT5004 – *Socarnes erythrophthalmus* (Figure 4a)

Substratum: Diamicton. Salinity: Full (Euhaline). Depth: Circalittoral (Upper Shelf). Geography: Southeast England. Condition: Good, Medium (3mm).



Fig. 4a. *Socarnes erythrophthalmus* (RT5004) -

L



Fig. 4b. *Lysianassa ceratina* (7094) - L



Fig. 4c. *Tryphosella sarsi* (6052) - L



Fig. 4d. *Socarnes filicornis* (9966) - L

Four generic and six specific differences: Labs 01, 03 and 12 identified as *Lysianassa ceratina* (Figure 4b) (which has an entire telson); Lab 06 identified as *Tryphosella sarsi* (Figure 4c) (which has a subchelate gnathopod 1); Labs 7b and 20 identified as *Socarnes filicornis* (Lab 20 used the old nomenclature of *S. crenulatus*) (Figure 4d) (which has a telson that does not reach to the end of the peduncle on uropod 3).

Labs 15 and 17 incorrectly spelled the species.

RT5005 – Stenothoe marina (Figure 5a)

Substratum: Diamicton. Salinity: Full (Euhaline). Depth: Circalittoral (Upper Shelf). Geography: Southeast England. Condition: Good, Medium (2-3mm).



Fig. 5a. *Stenothoe marina* (RT5005) – L

One generic and one specific difference: Lab 22 identified as *Stenula rubrovittata* (Figure 5b) (which has a mandible palp).

Lab 10 incorected spelled the genus and used the WoRMS nomenclature of *S. marina marina*.



Fig. 5b. *Stenula rubrovittata* (5947) – L

RT5006 – Abludomelita obtusata (Figure 6a)

Substratum: Diamicton. Salinity: Full (Euhaline). Depth: Circalittoral (Upper Shelf). Geography: Southeast England. Condition: Good, Medium (Females, 2-4mm).



Fig. 6a. *Abludomelita obtusata* (RT5006) – L

Four generic and five specific differences: Labs 10, 11, and 20 identified as *Melita dentata* (no image available) (which has a setae on the dactylus of gnathopod 2 and outer ramus of uropod 3 with a single segment); Lab 16 identified as *Melita hergensis* (Figure 12a) (which lacks teeth on the pleosome segments); Lab 22 identified as *Abludomelita gladiosa* (Figure 6b) (which has a serrated posterodistal tooth on epimeral plate 3).

Lab 18 used old nomenclature of *Melita obtusata*.



Fig. 6b. *Abludomelita gladiosa* (11306) - L

RT5007 – *Gammarus crinicornis* (Figure 7a)

Substratum: Sand. Salinity: Full (Euhaline). Depth: Intertidal. Geography: Wales. Condition: Good, Medium (Males, 4-8mm).



Fig. 7a. *Gammarus crinicornis* (RT5007) – L

No generic and five specific differences. Lab 03 identified as *G. tigrinus* (Figure 23a) and Lab 06 identified as *G. salinus* (Figure 7b) (which both have irregular ventral setae on mandible palp article 3); Labs 10 and 11 identified as *G. insensibilis* (Figure 7c) (which has a basis on pereopod 7 which is at least 1.5 times longer than wide); Lab 18 identified as *G. oceanicus* (no image available) (which has ungraduated setae on mandible palp article 3).



Fig. 7b. *Gammarus salinus* (410857) - L



Fig. 7c. *Gammarus insensibilis* (55786) - L

RT5008 – *Unciola crenatipalma* (Figure 8a)

Substratum: Diamicton. Salinity: Full (Euhaline). Depth: Infralittoral. Geography: Western Scotland. Condition: Good, Medium (5-7mm).



Fig. 8a. *Unciola crenatipalma* (RT5008) – L

Three generic and three specific differences: Lab 03 identified as *Parajassa pelagica* (Figure 15a), Lab 06 identified as *Ampithoe rubricata* (Figure 8b) and Lab 10 identified as *Metopa alderi* (Figure 8c) (which all lack a dorsoventrally depressed urosome).

Lab 18 incorrectly spelled the species.



Fig. 8b. *Ampithoe rubricata* (6919) – L



Fig. 8c. *Metopa alderi* (8384) – L

RT5009 – *Leptocheirus tricristatus* (Figure 9a)

Substratum: Sand. Salinity: Full (Euhaline). Depth: Circalittoral (Lower Shelf). Geography: North Sea. Condition: Good, Medium (3-5mm).



Fig. 9a. *Leptocheirus tricristatus* (RT5009) – L

One generic and one specific differences: Lab 19 identified as *Protomedea fasciata* (Figure 4b) (which has gnathopod 2 larger than 1).



Fig. 9b. *Protomeia fasciata* (11269) – L

RT5010 – *Harpinia crenulata* (Figure 10a)

Substratum: Mud. Salinity: Full (Euhaline). Depth: Circalittoral (Upper Shelf). Geography: North of Ireland. Condition: Good, Medium (2mm).



Fig. 10a. *Harpinia crenulata* (RT5010) – L

Two generic and two specific differences: Labs 10 and 20 identified as *Phoxocephalus holbolli* (Figure 10b) (which has a broad basis on pereopod 5).

Lab 22 incorrectly spelled the genus.



Fig. 10b. *Phoxocephalus holbolli* (56900) – L

RT5011 – *Metaphoxus fultoni* (Figure 11a)

Substratum: Mud. Salinity: Full (Euhaline). Depth: Circalittoral (Upper shelf). Geography: North of Ireland. Condition: Fair, Medium (2mm).



Fig. 11a. *Metaphoxus fultoni* (RT5011) – L

Two generic and two specific differences: Lab 03 and identified as *Cheirocratus assimilis* (Figure 11b) and Lab 12 identified as *Eusirus longipes* (Figure 11c) (which both lack a hooded rostrum).

Nomenclature was updated in January 2016, as a consequence Labs 01, 02, 04, 06, 07, 08, 09, 10, 11, 15, 16, 17, 18, 19, 20, 21 and 22 used the old genus nomenclature of *Metaphoxus*. Lab 18 incorrectly spelled the species.

Lab 14 used the genus name *Parametaphoxus* based on a recent update to WoRMS (January 2016). We believe this updated to be incorrect (see references) and have written to the WoRMS editor regarding this.



Fig. 11b. *Cheirocratus assimilis* (8367) – L



Fig. 11c. *Eusirus longipes* (8330) – L

RT5012 – *Melita hergensis* (Figure 12a)

Substratum: Diamicton. Salinity: Full (Euhaline). Depth: Infralittoral. Geography: Southeast England. Condition: Fair, Medium (females, 4-6mm, complete).



Fig. 12a. *Melita hergensis* (RT5012) – L



Fig. 12b. *Melita palmata* (55801) – L

No generic and one specific difference: Lab 08 identified as *Melita palmata* (Figure 12b) (which has a distinct cleft between the lateral lobe and the post-antennal angle).

Lab 22 incorrectly spelled the species.

RT5013 – *Caprella mutica* (Figure 13a)

Substratum: Hard substrata. Salinity: Full (Euhaline). Depth: Infralittoral. Geography: Northern Scotland. Condition: Good, Medium (4-5mm).



Fig. 13a. *Caprella mutica* (RT5013) – L

No generic and 13 specific differences: Labs 03, 10, 11, 12 identified as *Caprella linearis* (Figure 13b), Labs 04, 06, 07a, 09, 21 and 22 identified as *Caprella septentrionalis* (Figure 13c) and Labs 07b, 08 and 16 identified as *Caprella acanthifera* (Figure 13d) (which all lack acute projections on the body).



Fig. 13b. *Caprella linearis* (11220) – L



Fig. 13c. *Caprella septentrionalis* (8416) – L



Fig. 13d. *Caprella acanthifera* (7129) – L

RT5014 – *Corophium volutator* (Figure 14a)

Substratum: Mud. Salinity: Variable (Euryhaline). Depth: Intertidal. Geography: Southeast England. Condition: Good, Medium (females, 5-7mm).



Fig. 14a. *Corophium volutator* (RT5014) – L

No generic and three specific differences: Labs 17 and 22 identified as *Corophium arenarium* (Figure 14b) (which lacks a tooth on antennae 2 peduncle article 3); Labs 20 identified as *Corophium multisetosum* (Figure 14c) (which has a large tooth on antennae 2 peduncle article 3 and a lobe on uropod 3 peduncle).

Lab 18 incorrectly spelled the species.



Fig. 14b. *Corophium arenarium* (2631) – L



Fig. 14c. *Corophium multisetosum* (RT3817) – L

RT5015 – *Parajassa pelagica* (Figure 15a)

Substratum: Hard substrata. Salinity: Full (Euhaline). Depth: Infralittoral. Geography: Northern Scotland. Condition: Good, Medium (3-4mm).



Fig. 15a. *Parajassa pelagica* (RT5015) – L

Three generic and three specific differences:
 Lab 03 identified as *Colomastix pusilla* (Figure 15b) (which has a very slender gnathopod 1);
 Labs 08 and 22 identified as *Jassa falcata* (Figure 15c) (which lacks setae on the anterior margin of gnathopod 2).



Fig. 15b. *Colomastix pusilla* (6076) – L



Fig. 15c. *Jassa falcata* (7083) – L

RT5016 – *Stenothoe monoculoides* (Figure 16a)

Substratum: Hard substrata. Salinity: Full (Euhaline). Depth: Infralittoral. Geography: Northern Scotland. Condition: Good, Small (1-2mm).



Fig. 16a. *Stenothoe monoculoides* (RT5016) – L

Four generic and four specific differences: Lab 01 identified as *Metopa pusilla* (Figure 16b) (which has a mandible palp); Labs 06 and 12 identified as *Hardametopa nasuta* (Figure 16c) (which has narrow basis segments on pereopods 6-7); Lab 22 identified as *Apolochus neapolitanus* (with incorrectly spelled genus) (Figure 16d) (which has a biramous uropod 3).

Lab 16 incorrectly spelled the genus.

Lab 22 used the old nomenclature of *Amphilocheus neapolitanus*.



Fig. 16b. *Metopa pusilla* (9544) – L

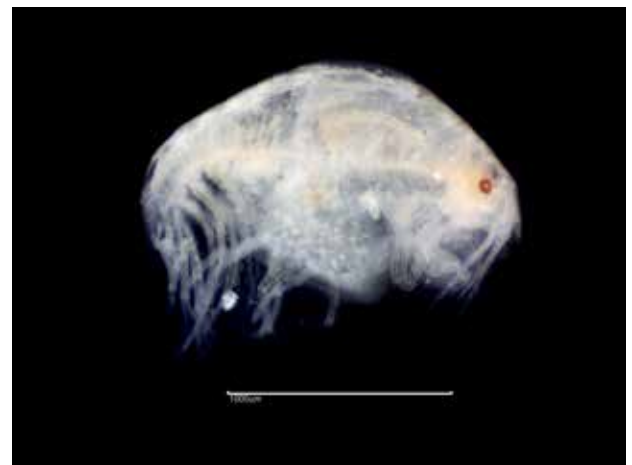


Fig. 16c. *Hardametopa nasuta* (9642) – L



Fig. 16d. *Apolochus neapolitanus* (11220) – L

RT5017 – *Dexamine thea* (Figure 17a)

Substratum: Hard substrata. Salinity: Full (Euhaline). Depth: Infralittoral. Geography: Northern Scotland. Condition: Fair, Small (1-1.5mm).



Fig. 17a. *Dexamine thea* (RT5017) – L

Four generic and ten specific differences: Lab 03 identified as *Epimeria cornigera* (Figure 17b) (which has a large rostrum); Labs 06, 10, 12, 17, 19 and 21 identified as *D. spinosa* (Figure 17c) (which has a posteriorly expanded basis on pereopod 7); Lab 08 identified as *Nototropis falcatus* (Figure 17d) (which has an enormous curved dactylus on pereopod 3); Labs 18 and 20 identified as *Apherusa cirrus* (Figure 17e) (which has a telson that is shorter than the uropod 3 peduncle).

Lab 22 incorrectly spelled the genus.



Fig. 17b. *Epimeria cornigera* (8402) - L



Fig. 17c. *Dexamine spinosa* (7066) - L



Fig. 17d. *Nototropis falcatus* (9812) – L



Fig. 17e. *Apherusa cirrus* (7086) – L

RT5018 – *Dexamine thea* (Figure 18a)

Substratum: Hard substrata. Salinity: Full (Euhaline). Depth: Infralittoral. Geography: Northern Scotland. Condition: Good, Medium (2-3mm).



Fig. 18a. *Dexamine thea* (RT5018) – L

Three generic and six specific differences: Labs 01, 12 and 22 (incorrectly spelled species) identified as *D. spinosa* (Figure 17c) (which has a posteriorly expanded basis on pereopod 7); Labs 03, 06 and 18 identified as *Apherusa cirrus* (Figure 17e) (which has a telson that is shorter than the uropod 3 peduncle).

Lab 22 incorrectly spelled the genus.

RT5019 – *Aora gracilis* (Figure 19a)

Substratum: Hard substrata. Salinity: Full (Euhaline). Depth: Infralittoral. Geography: Northern Scotland. Condition: Good, Medium (Males, 4-5mm).



Fig. 19a. *Aora gracilis* (RT5019) – L

No generic and four specific differences: Lab 06, 11 and 12 identified as *Aora typica* (no image available) (which is a Southern Hemisphere species); Lab 10 identified as *Aora spinicornis* (no image available) (which has an anterodistal brush of long setae on gnathopod 1).

RT5020 – *Crassikorophium crassicorne* (Figure 20a)

Substratum: Diamicton. Salinity: Full (Euhaline). Depth: Circalittoral (Upper Shelf). Geography: North of Ireland. Condition: Good, Medium (Males, 3-4mm, stained).



Fig. 20a. *Crassikorophium crassicorne* (RT5020)

- L



Fig. 20b. *Crassikorophium bonellii* (11237) - L

Two generic and three specific differences: Lab 03 identified as *Apocorophium acutum* (no image available) (which have weak lateral notches on the urosome); Lab 08 identified as *Crassikorophium bonellii* (Figure 20b) (which has spines on the outer margin of uropod 1); Lab 20 identified as *Corophium volutator* (Figure 14a) (which have separated urosome segments).

Lab 18 used the outdated genus nomenclature *Corophium*.

RT5021 – *Talitrus saltator* (Figure 21a)

Substratum: Sand. Salinity: Full (Euhaline). Depth: Intertidal. Geography: Western Ireland. Condition: Good, Large (Females, 8-10mm).



Fig. 21a. *Talitrus saltator* (RT5021) – L

Seven generic and seven specific differences: Lab 08 identified as *Orchestia gammarellus* (Figure 21b) (in which the female has a parachelate gnathopod 1); Lab 09 and 21 were sent *Deshayeorchestia deshayesii* (Figure 21c) in error (see below) and identified it correctly (which has a telson with an apical notch and a short uropod 3 with short apical spines); Labs 14, 15, 16 and 19 identified as *Britorchestia brito* (No image available) (which has an entire telson with sparse spines only on dorsal surface and a short uropod 3 with short apical spines).

Labs 08, 09, 10, 15, 16, 19 and 21 were all sent *Deshayeorchestia deshayesii* in error.



Fig. 21b. *Orchestia gammarellus* (56099) - L



Fig. 21c. *Deshayeorchestia deshayesii* (RT5021) – L

RT5022 – *Nototropis swammerdamei* (Figure 22a)

Substratum: Diamicton. Salinity: Full (Euhaline). Depth: Circalittoral (Upper Shelf). Geography: Eastern Scotland. Condition: Good, Medium (3-5mm).



Fig. 22a. *Nototropis swammerdamei* (RT5022)

– L



Fig. 22b. *Nototropis guttatus* (7134) – L

No generic and one specific difference: Lab 03 identified as *Nototropis guttatus* (Figure 22b) (which has backwardly directed teeth on pleon segments 1-3).

Labs 16 and 18 incorrectly spelled the species. Labs 10 and 22 incorrectly spelled the genus. Lab 18 used the outdated genus nomenclature *Atylus*.

RT5023 – *Gammarus tigrinus* (Figure 23)

Substratum: Diamicton. Salinity: Low (Oligohaline). Depth: Infralittoral. Geography: Southeast England. Condition: Fair, Medium (Females, 6-7mm).



Fig. 23a. *Gammarus tigrinus* (RT5023) – L

One generic and 14 specific differences: Labs 02, 04, 06, 12 identified as *Gammarus zaddachi* (Figure 23b) and Labs 07b, 10 and 19 identified as *G. salinus* (Figure 7c) (which have numerous ventral setal groups on antennae 1 peduncle articles); Labs 03 identified as *G. duebeni* (Figure 23c) (which has the posterodistal angle of pereopod 7 freely produced); Labs 07a, 09 and 16 identified as *G. chevreuxi* (no image available), Lab 08 identified as *G. oceanicus* (Figure 7e) and Lab 21 identified as *Gammarus insensibilis* (Figure 7d) (which have regular ventral setae on mandible palp article 3); Lab 20 identified as *Echinogammarus pirloti* (Figure 23d) (which has a larger propodus on gnathopod 2 than on gnathopod 1).



Fig. 23b. *Gammarus zaddachi* (7733) – L



Fig. 23c. *Gammarus duebeni* – L



Fig. 23d. *Echinogammarus pirloti* (7738) – L

RT5024 – *Gammarus finmarchicus* (Figure 24a)

Substratum: Diamicton. Salinity: Variable (Euryhaline). Depth: Intertidal. Geography: Southeast England. Condition: Fair, Medium (Females, 3-6mm).



Fig. 24a. *Gammarus finmarchicus* (RT5024) – L



Fig. 24b. *Echinogammarus marinus* (55764) – L

RT5025 – *Melita hergensis* (Figure 25a)

Substratum: Diamicton. Salinity: Full (Euhaline). Depth: Infralittoral. Geography: Southeast England. Condition: Fair, Medium (Males, 4-5mm, complete).



Fig. 25a. *Melita hergensis* (RT5025) – L

Two generic and five specific differences: Lab 01 identified as *Gammarus crinicornis* (Figure 7a) and Lab 19 identified as *G. oceanicus* (Figure 7e) (which lack a freely produced posterodistal angle on the basis of pereopod 7); Lab 08 identified as *Echinogammarus marinus* (Figure 24b) and Lab 12 identified as *Echinogammarus pirloti* (Figure 23e) (which have a larger propodus on gnathopod 2 than on gnathopod 1).

Lab 17 did not attempt species identification.

No generic and four specific differences: Labs 03, 07a, 19 and 20 identified as *Melita palmata* (Figure 12b) (which has a distinct cleft between the lateral lobe and the post-antennal angle).

Acknowledgements

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Ring Test Specimen Return Instructions

Please return all ring test specimens by 30th April 2016. 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, APEM Ltd., 7a Diamond Centre,
Works Road, Letchworth, Hertfordshire SG6 1LW, UK](#)