

The National Marine Biological
Analytical Quality Control Scheme
www.nmqcs.org

Ring Test Bulletin – RTB#34

David Hall
Tim Worsfold
Unicomarine Ltd.
April 2008
E-mail: davidhall@unicomarine.com



RING TEST DETAILS

Ring Test #34

Type/Contents – Targeted; ‘Bivalves’

Circulated – 01/02/2008

Completion Date – 20/03/2008

Number of Subscribing Laboratories – 23

Number of Participating Laboratories – 20

Number of Results Received – 25*

*multiple data entries per laboratory permitted

Summary of differences

Specimen	Genus	Species	Total differences for (25) participants	
			Genus	Species
RT3401	<i>Abra</i>	<i>tenuis</i>	3	3
RT3402	<i>Gari</i>	<i>tellinella</i>	4	5
RT3403	<i>Nucula</i>	<i>nucleus</i>	0	10
RT3404	<i>Goodallia</i>	<i>triangularis</i>	10	10
RT3405	<i>Fabulina</i>	<i>fabula</i>	8	8
RT3406	<i>Nucula</i>	<i>nitidosa</i>	0	2
RT3407	<i>Timoclea</i>	<i>ovata</i>	6	6
RT3408	<i>Mytilus</i>	<i>edulis</i>	12	12
RT3409	<i>Saxicavella</i>	<i>jeffreysi</i>	4	4
RT3410	<i>Thyasira</i>	<i>flexuosa</i>	0	2
RT3411	<i>Corbula</i>	<i>gibba</i>	1	1
RT3412	<i>Crenella</i>	<i>decussata</i>	3	3
RT3413	<i>Mysella</i>	<i>bidentata</i>	1	1
RT3414	<i>Moerella</i>	<i>pygmaea</i>	4	5
RT3415	<i>Phaxas</i>	<i>pellucidus</i>	1	1
RT3416	<i>Abra</i>	<i>alba</i>	1	3
RT3417	<i>Spisula</i>	<i>subtruncata</i>	2	2
RT3418	<i>Glycymeris</i>	<i>glycymeris</i>	0	0
RT3419	<i>Nucula</i>	<i>nucleus</i>	0	7
RT3420	<i>Hiatella</i>	<i>arctica</i>	3	3
RT3421	<i>Parvicardium</i>	<i>scabrum</i>	1	15
RT3422	<i>Adontorhina</i>	<i>similis</i>	25	25
RT3423	<i>Thyasira</i>	<i>sarsi</i>	5	10
RT3424	<i>Mya</i>	<i>arenaria</i>	0	4
RT3425	<i>Mendicula</i>	<i>ferruginosa</i>	1	1
Total differences			95	143
Average differences /lab.			3.8	5.7

Table 1. The identification of fauna made by participating laboratories for RT34 (arranged by specimen). Names are given only where different from the AQC identification.

	RT3401	RT3402	RT3403	RT3404	RT3405
Taxon	<i>Abra tenuis</i>	<i>Gari tellinella</i>	<i>Nucula nucleus</i>	<i>Goodallia triangularis</i>	<i>Fabulina fabula</i>
LB1401a	--	[Gari (Psammobella)] -	--	Tridonta borealis	--
LB1402a	--	--	- hanleyi	[Goodillia] -	--
LB1403a	--	--	- hanleyi	Arctica islandica	Moerella pygmaea
LB1404a	Scrobicularia plana	--	--	--	--
LB1405a	--	--	--	--	--
LB1405b	--	--	--	--	Abra prismatica
LB1406a	--	--	--	--	--
LB1407a	Montacuta ferruginosa	0 0	--	0 0	0 0
LB1409a	--	--	--	Tridonta elliptica	--
LB1410a	--	--	--	[Goodalia] -	--
LB1411a	--	--	--	--	--
LB1411b	--	--	--	--	--
LB1411c	--	- costulata	--	--	--
LB1413a	Thracia phaseolina	--	--	--	Angulus tenuis
LB1414a	--	--	- hanleyi	Gouldia minima	--
LB1415a	--	--	--	Tridonta montagui	--
LB1417a	--	Scrobicularia plana	- hanleyi	--	--
LB1417b	--	Abra prismatica	- hanleyi	--	Abra alba
LB1418a	--	--	- hanleyi	--	Angulus tenuis
LB1419a	--	--	--	--	--
LB1420a	--	Donax varigatus	- hanleyi	Lucinoma borealis	Abra nitida
LB1421a	--	--	- [nuculeus]	Tridonta montagui	Tellina tenuis
LB1430a	--	--	- hanleyi	--	--
LB1431a	--	--	- hanleyi	Tridonta montagui	--
LB1431b	--	--	- hanleyi	Tridonta montagui	--

Table 1. The identification of fauna made by participating laboratories for RT34 (arranged by specimen). Names are given only where different from the AQC identification.

	RT3406	RT3407	RT3408	RT3409	RT3410
Taxon	<i>Nucula nitidosa</i>	<i>Timoclea ovata</i>	<i>Mytilus edulis</i>	<i>Saxicavella jeffreysi</i>	<i>Thyasira flexuosa</i>
LB1401a	--	--	--	--	--
LB1402a	--	--	--	--	--
LB1403a	--	--	Modiolula phaseolina	--	--
LB1404a	--	--	--	--	--
LB1405a	--	--	[Mytilis] -	--	--
LB1405b	--	Parvicardium ovale	--	- [jeffreysi]	--
LB1406a	--	--	Modiolula phaseolina	--	--
LB1407a	- hanleyi	0 0	Modiolus barbatus	Mya truncata	- ferruginea
LB1409a	--	--	--	--	--
LB1410a	--	--	--	--	--
LB1411a	--	--	Modiolus modiolus	--	--
LB1411b	--	--	Modiolula phaesolina	--	--
LB1411c	--	--	Modiolus modiolus	--	--
LB1413a	- sulcata	--	Modiolus modiolus	Mya truncata	--
LB1414a	--	--	--	- [jeffreysi]	--
LB1415a	--	--	Modiolus modiolus	Lutraria angustior	--
LB1417a	--	? ?	--	- [jeffreysi]	- gouldi
LB1417b	--	Parvicardium scabrum	--	--	--
LB1418a	--	--	--	--	--
LB1419a	--	--	--	--	--
LB1420a	- [turgida]	--	--	Mya truncatula	--
LB1421a	--	Gouldia minima	Modiolus modidus	--	- [flexuosa juv.]
LB1430a	--	--	Modiolus modiolus	--	--
LB1431a	--	Laevicardium crassum	Modiolus modiolus	--	--
LB1431b	--	--	Modiolus modiolus	--	--

Table 1. The identification of fauna made by participating laboratories for RT34 (arranged by specimen). Names are given only where different from the AQC identification.

	RT3411	RT3412	RT3413	RT3414	RT3415
Taxon	<i>Corbula gibba</i>	<i>Crenella decussata</i>	<i>Mysella bidentata</i>	<i>Moerella pygmaea</i>	<i>Phaxas pellucidus</i>
LB1401a	--	--	--	--	--
LB1402a	--	--	--	- donacina	--
LB1403a	--	--	--	--	--
LB1404a	--	--	--	--	--
LB1405a	--	--	--	--	--
LB1405b	--	--	--	--	--
LB1406a	--	--	--	--	--
LB1407a	--	Parvicardium minimum	0 0	Myrtea spinifera	Ensis ensis
LB1409a	--	Laevicardium crassum	--	--	--
LB1410a	--	Laevicardium crassum	--	--	--
LB1411a	--	--	--	--	--
LB1411b	--	--	--	--	--
LB1411c	--	--	--	--	--
LB1413a	--	--	--	--	--
LB1414a	--	--	--	--	--
LB1415a	--	--	--	--	--
LB1417a	--	--	--	??	--
LB1417b	Mya arenaria	--	--	Fabulina fabula	--
LB1418a	--	--	--	Tellimya ferruginosa	[Phaxus] -
LB1419a	--	--	--	--	--
LB1420a	--	--	--	[Tellina] -	--
LB1421a	--	--	--	--	--
LB1430a	--	--	--	--	--
LB1431a	--	--	--	--	--
LB1431b	--	--	--	--	--

Table 1. The identification of fauna made by participating laboratories for RT34 (arranged by specimen). Names are given only where different from the AQC identification.

	RT3416	RT3417	RT3418	RT3419	RT3420
Taxon	<i>Abra alba</i>	<i>Spisula subtruncata</i>	<i>Glycymeris glycymeris</i>	<i>Nucula nucleus</i>	<i>Hiatella arctica</i>
LB1401a	--	--	--	--	--
LB1402a	- nitida	--	--	--	--
LB1403a	--	--	--	--	--
LB1404a	--	--	--	--	--
LB1405a	--	--	--	- hanleyi	--
LB1405b	--	--	--	- hanleyi	--
LB1406a	--	--	--	- sulcata	--
LB1407a	0 0	<i>Abra longicallus</i>	--	- sulcata	<i>Sphenia binghami</i>
LB1409a	--	--	[<i>Glycymeris</i>] [<i>glycymeris</i>]	--	--
LB1410a	--	--	--	--	--
LB1411a	--	--	--	--	--
LB1411b	--	--	--	--	--
LB1411c	--	--	--	--	--
LB1413a	--	--	--	- sulcata	--
LB1414a	--	--	--	--	--
LB1415a	--	--	--	--	<i>Sphenia binghami</i>
LB1417a	--	--	--	- sulcata	<i>Petricola pholadiformis</i>
LB1417b	--	<i>Thracia phaseolina</i>	--	--	--
LB1418a	--	--	--	--	--
LB1419a	--	--	--	--	--
LB1420a	--	--	--	--	[<i>Hyatella</i>] -
LB1421a	- nitida	--	[<i>Glycymeris</i>] [<i>glycymeris</i>]	- sulcata	--
LB1430a	--	--	--	--	--
LB1431a	--	--	--	--	- [<i>atctica</i>]
LB1431b	--	--	--	--	- [<i>atctica</i>]

Table 1. The identification of fauna made by participating laboratories for RT34 (arranged by specimen). Names are given only where different from the AQC identification.

	RT3421	RT3422	RT3423	RT3424	RT3425
Taxon	<i>Parvicardium scabrum</i>	<i>Adontorhina similis</i>	<i>Thyasira sarsi</i>	<i>Mya arenaria</i>	<i>Mendicula ferruginosa</i>
LB1401a	--	Mendicula pygmaea	--	[Mya (Arenomya)] -	--
LB1402a	- ovale	Mendicula pygmaea	--	--	--
LB1403a	- ovale	Macoma balthica	--	- truncata	[Thyasira] [ferruginea]
LB1404a	--	Thyasira cf. flexuosa	Thracia convexa	- truncata	[Thyasira] [ferruginea]
LB1405a	- ovale	Lasaea adansoni	--	--	[Thyasira] [ferruginea]
LB1405b	--	Mendicula pygmaea	--	--	- [ferruginea]
LB1406a	--	Thyasira pygmaea	--	--	[Thyasira] [ferruginea]
LB1407a	- ovale	0 0	0 0	--	[Thyasira] [ferruginea]
LB1409a	- ovale	Mendicula pygmaea	--	--	- [ferruginea]
LB1410a	- ovale	Mendicula pygmaea	--	--	--
LB1411a	--	Mendicula pygmaea	Axinulus croulinensis	--	--
LB1411b	- ovale	Mendicula pygmaea	Axinulus croulinensis	--	--
LB1411c	--	Mendicula pygmaea	Axinulus croulinensis	--	--
LB1413a	- ovale	Mendicula pygmaea	--	--	--
LB1414a	--	Mendicula pygmaea	--	--	--
LB1415a	- ovale	Mendicula pygmaea	--	--	[Mendicula] [ferruginea]
LB1417a	- ovale	Thyasira ?	- gouldi	--	[Thyasira] [ferruginea]
LB1417b	Cerastoderma edule	Thyasira ferruginea	- flexuosa	--	[Thyasira] [ferruginea]
LB1418a	- ovale	Lasaea adansoni	--	--	Kellia suborbicularis
LB1419a	--	Mendicula pygmaea	--	--	--
LB1420a	- ovale	0 0	--	--	[Thyasira] [ferruginea]
LB1421a	--	Tellimya ferruginosa	- flexuosa	--	[Thyasira] [ferruginea]
LB1430a	--	Kellia suborbicularis	--	--	--
LB1431a	[Pavicardium] ovale	Kellia suborbicularis	- flexuosa	- truncata	[Thyasira] [ferruginea]
LB1431b	[Pavicardium] ovale	Kellia suborbicularis	- flexuosa	- truncata	[Thyasira] [ferruginea]

Table 2. The identification of fauna made by participating laboratories for RT34 (arranged by participant). Names are given only where different from the AQC identification.

RT34	Taxon	LB1401a	LB1402a	LB1403a	LB1404a	LB1405a
RT3401	<i>Abra tenuis</i>	--	--	--	Scrobicularia plana	--
RT3402	<i>Gari tellinella</i>	[Gari (Psammobella)] -	--	--	--	--
RT3403	<i>Nucula nucleus</i>	--	- hanleyi	- hanleyi	--	--
RT3404	<i>Goodallia triangularis</i>	Tridonta borealis	[Goodillia] -	Arctica islandica	--	--
RT3405	<i>Fabulina fabula</i>	--	--	Moerella pygmaea	--	--
RT3406	<i>Nucula nitidosa</i>	--	--	--	--	--
RT3407	<i>Timoclea ovata</i>	--	--	--	--	--
RT3408	<i>Mytilus edulis</i>	--	--	Modiolula phaseolina	--	[Mytilis] -
RT3409	<i>Saxicavella jeffreysi</i>	--	--	--	--	--
RT3410	<i>Thyasira flexuosa</i>	--	--	--	--	--
RT3411	<i>Corbula gibba</i>	--	--	--	--	--
RT3412	<i>Crenella decussata</i>	--	--	--	--	--
RT3413	<i>Mysella bidentata</i>	--	--	--	--	--
RT3414	<i>Moerella pygmaea</i>	--	- donacina	--	--	--
RT3415	<i>Phaxas pellucidus</i>	--	--	--	--	--
RT3416	<i>Abra alba</i>	--	- nitida	--	--	--
RT3417	<i>Spisula subtruncata</i>	--	--	--	--	--
RT3418	<i>Glycymeris glycymeris</i>	--	--	--	--	--
RT3419	<i>Nucula nucleus</i>	--	--	--	--	- hanleyi
RT3420	<i>Hiatella arctica</i>	--	--	--	--	--
RT3421	<i>Parvicardium scabrum</i>	--	- ovale	- ovale	--	- ovale
RT3422	<i>Adontorhina similis</i>	Mendicula pygmaea	Mendicula pygmaea	Macoma balthica	Thyasira cf. flexuosa	Lasaea adansoni
RT3423	<i>Thyasira sarsi</i>	--	--	--	Thracia convexa	--
RT3424	<i>Mya arenaria</i>	[Mya (Arenomya)] -	--	- truncata	- truncata	--
RT3425	<i>Mendicula ferruginosa</i>	--	--	[Thyasira] [ferruginea]	[Thyasira] [ferruginea]	[Thyasira] [ferruginea]

Table 2. The identification of fauna made by participating laboratories for RT34 (arranged by participant). Names are given only where different from the AQC identification.

RT34	Taxon	LB1405b	LB1406a	LB1407a	LB1409a	LB1410a
RT3401	<i>Abra tenuis</i>	--	--	Montacuta ferruginosa	--	--
RT3402	<i>Gari tellinella</i>	--	--	0 0	--	--
RT3403	<i>Nucula nucleus</i>	--	--	--	--	--
RT3404	<i>Goodallia triangularis</i>	--	--	0 0	Tridonta elliptica	[Goodalia] -
RT3405	<i>Fabulina fabula</i>	Abra prismatica	--	0 0	--	--
RT3406	<i>Nucula nitidosa</i>	--	--	- hanleyi	--	--
RT3407	<i>Timoclea ovata</i>	Parvicardium ovale	--	0 0	--	--
RT3408	<i>Mytilus edulis</i>	--	Modiolula phaseolina	Modiolus barbatus	--	--
RT3409	<i>Saxicavella jeffreysi</i>	- [jeffreysi]	--	Mya truncata	--	--
RT3410	<i>Thyasira flexuosa</i>	--	--	- ferruginea	--	--
RT3411	<i>Corbula gibba</i>	--	--	--	--	--
RT3412	<i>Crenella decussata</i>	--	--	Parvicardium minimum	Laevicardium crassum	Laevicardium crassum
RT3413	<i>Mysella bidentata</i>	--	--	0 0	--	--
RT3414	<i>Moerella pygmaea</i>	--	--	Myrtea spinifera	--	--
RT3415	<i>Phaxas pellucidus</i>	--	--	Ensis ensis	--	--
RT3416	<i>Abra alba</i>	--	--	0 0	--	--
RT3417	<i>Spisula subtruncata</i>	--	--	Abra longicallus	--	--
RT3418	<i>Glycymeris glycymeris</i>	--	--	--	[Glycymeris] [glycymeris]	--
RT3419	<i>Nucula nucleus</i>	- hanleyi	- sulcata	- sulcata	--	--
RT3420	<i>Hiatella arctica</i>	--	--	Sphenia binghami	--	--
RT3421	<i>Parvicardium scabrum</i>	--	--	- ovale	- ovale	- ovale
RT3422	<i>Adontorhina similis</i>	Mendicula pygmaea	Thyasira pygmaea	0 0	Mendicula pygmaea	Mendicula pygmaea
RT3423	<i>Thyasira sarsi</i>	--	--	0 0	--	--
RT3424	<i>Mya arenaria</i>	--	--	--	--	--
RT3425	<i>Mendicula ferruginosa</i>	- [ferruginea]	[Thyasira] [ferruginea]	[Thyasira] [ferruginea]	- [ferruginea]	--

Table 2. The identification of fauna made by participating laboratories for RT34 (arranged by participant). Names are given only where different from the AQC identification.

RT34	Taxon	LB1411a	LB1411b	LB1411c	LB1413a	LB1414a
RT3401	<i>Abra tenuis</i>	--	--	--	Thracia phaseolina	--
RT3402	<i>Gari tellinella</i>	--	--	- costulata	--	--
RT3403	<i>Nucula nucleus</i>	--	--	--	--	- hanleyi
RT3404	<i>Goodallia triangularis</i>	--	--	--	--	Gouldia minima
RT3405	<i>Fabulina fabula</i>	--	--	--	Angulus tenuis	--
RT3406	<i>Nucula nitidosa</i>	--	--	--	- sulcata	--
RT3407	<i>Timoclea ovata</i>	--	--	--	--	--
RT3408	<i>Mytilus edulis</i>	Modiolus modiolus	Modiolula phaesolina	Modiolus modiolus	Modiolus modiolus	--
RT3409	<i>Saxicavella jeffreysi</i>	--	--	--	Mya truncata	- [jeffreysi]
RT3410	<i>Thyasira flexuosa</i>	--	--	--	--	--
RT3411	<i>Corbula gibba</i>	--	--	--	--	--
RT3412	<i>Crenella decussata</i>	--	--	--	--	--
RT3413	<i>Mysella bidentata</i>	--	--	--	--	--
RT3414	<i>Moerella pygmaea</i>	--	--	--	--	--
RT3415	<i>Phaxas pellucidus</i>	--	--	--	--	--
RT3416	<i>Abra alba</i>	--	--	--	--	--
RT3417	<i>Spisula subtruncata</i>	--	--	--	--	--
RT3418	<i>Glycymeris glycymeris</i>	--	--	--	--	--
RT3419	<i>Nucula nucleus</i>	--	--	--	- sulcata	--
RT3420	<i>Hiatella arctica</i>	--	--	--	--	--
RT3421	<i>Parvicardium scabrum</i>	--	- ovale	--	- ovale	--
RT3422	<i>Adontorhina similis</i>	Mendicula pygmaea	Mendicula pygmaea	Mendicula pygmaea	Mendicula pygmaea	Mendicula pygmaea
RT3423	<i>Thyasira sarsi</i>	Axinulus croulinensis	Axinulus croulinensis	Axinulus croulinensis	--	--
RT3424	<i>Mya arenaria</i>	--	--	--	--	--
RT3425	<i>Mendicula ferruginosa</i>	--	--	--	--	--

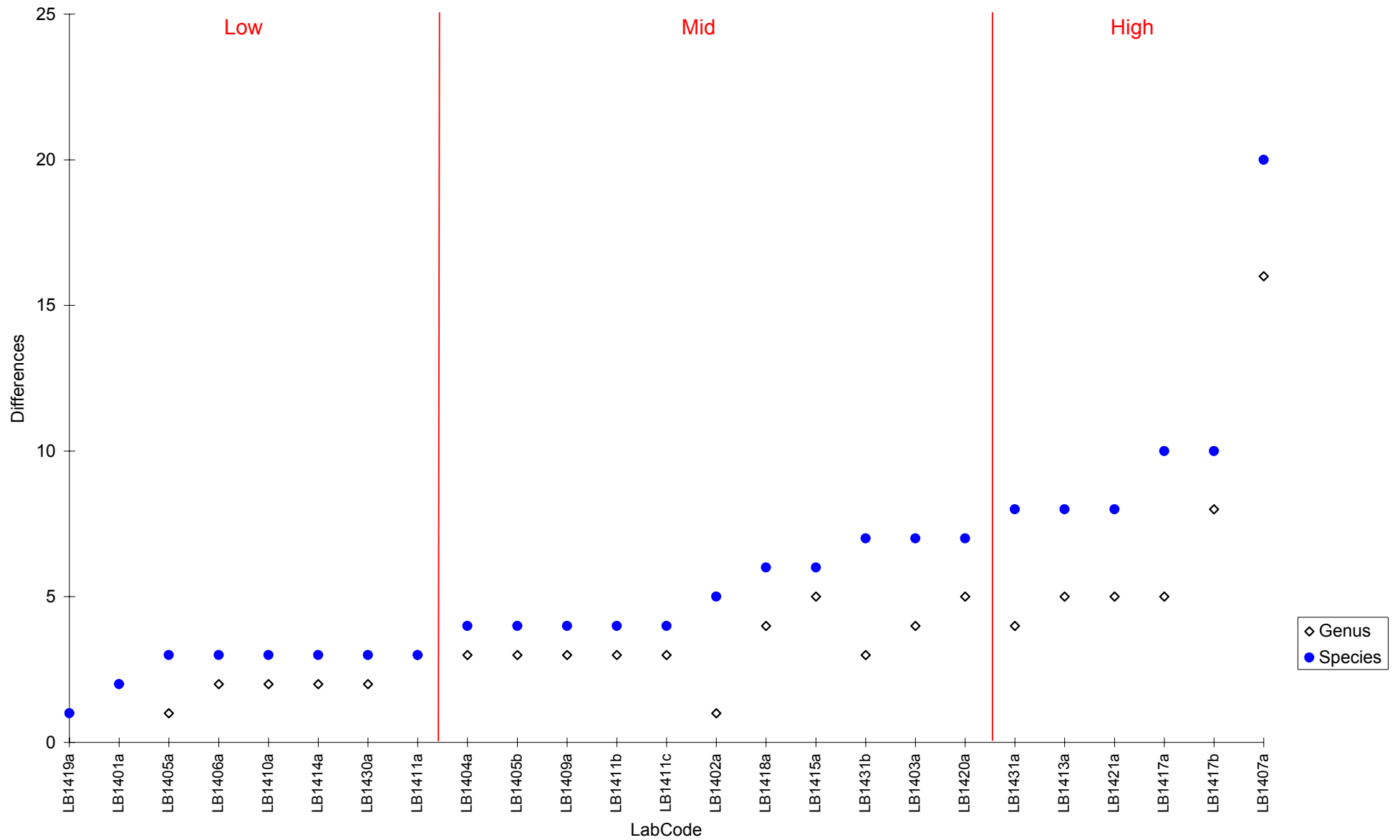
Table 2. The identification of fauna made by participating laboratories for RT34 (arranged by participant). Names are given only where different from the AQC identification.

RT34	Taxon	LB1415a	LB1417a	LB1417b	LB1418a	LB1419a
RT3401	<i>Abra tenuis</i>	--	--	--	--	--
RT3402	<i>Gari tellinella</i>	--	Scrobicularia plana	Abra prismatica	--	--
RT3403	<i>Nucula nucleus</i>	--	- hanleyi	- hanleyi	- hanleyi	--
RT3404	<i>Goodallia triangularis</i>	Tridonta montagui	--	--	--	--
RT3405	<i>Fabulina fabula</i>	--	--	Abra alba	Angulus tenuis	--
RT3406	<i>Nucula nitidosa</i>	--	--	--	--	--
RT3407	<i>Timoclea ovata</i>	--	??	Parvicardium scabrum	--	--
RT3408	<i>Mytilus edulis</i>	Modiolus modiolus	--	--	--	--
RT3409	<i>Saxicavella jeffreysi</i>	Lutraria angustior	- [jeffreysi]	--	--	--
RT3410	<i>Thyasira flexuosa</i>	--	- gouldi	--	--	--
RT3411	<i>Corbula gibba</i>	--	--	Mya arenaria	--	--
RT3412	<i>Crenella decussata</i>	--	--	--	--	--
RT3413	<i>Mysella bidentata</i>	--	--	--	--	--
RT3414	<i>Moerella pygmaea</i>	--	??	Fabulina fabula	Tellimya ferruginosa	--
RT3415	<i>Phaxas pellucidus</i>	--	--	--	[Phaxus] -	--
RT3416	<i>Abra alba</i>	--	--	--	--	--
RT3417	<i>Spisula subtruncata</i>	--	--	Thracia phaseolina	--	--
RT3418	<i>Glycymeris glycymeris</i>	--	--	--	--	--
RT3419	<i>Nucula nucleus</i>	--	- sulcata	--	--	--
RT3420	<i>Hiatella arctica</i>	Sphenia binghami	Petricola pholadiformis	--	--	--
RT3421	<i>Parvicardium scabrum</i>	- ovale	- ovale	Cerastoderma edule	- ovale	--
RT3422	<i>Adontorhina similis</i>	Mendicula pygmaea	Thyasira ?	Thyasira ferruginea	Lasaea adansoni	Mendicula pygmaea
RT3423	<i>Thyasira sarsi</i>	--	- gouldi	- flexuosa	--	--
RT3424	<i>Mya arenaria</i>	--	--	--	--	--
RT3425	<i>Mendicula ferruginosa</i>	[Mendicula] [ferruginea]	[Thyasira] [ferruginea]	[Thyasira] [ferruginea]	Kellia suborbicularis	--

Table 2. The identification of fauna made by participating laboratories for RT34 (arranged by participant). Names are given only where different from the AQC identification.

RT34	Taxon	LB1420a	LB1421a	LB1430a	LB1431a	LB1431b
RT3401	<i>Abra tenuis</i>	--	--	--	--	--
RT3402	<i>Gari tellinella</i>	Donax varigatus	--	--	--	--
RT3403	<i>Nucula nucleus</i>	- hanleyi	- [nucleus]	- hanleyi	- hanleyi	- hanleyi
RT3404	<i>Goodallia triangularis</i>	Lucinoma borealis	Tridonta montagui	--	Tridonta montagui	Tridonta montagui
RT3405	<i>Fabulina fabula</i>	Abra nitida	Tellina tenuis	--	--	--
RT3406	<i>Nucula nitidosa</i>	- [turgida]	--	--	--	--
RT3407	<i>Timoclea ovata</i>	--	Gouldia minima	--	Laevicardium crassum	--
RT3408	<i>Mytilus edulis</i>	--	Modiolus modius	Modiolus modiolus	Modiolus modiolus	Modiolus modiolus
RT3409	<i>Saxicavella jeffreysi</i>	Mya truncatula	--	--	--	--
RT3410	<i>Thyasira flexuosa</i>	--	- [flexuosa juv.]	--	--	--
RT3411	<i>Corbula gibba</i>	--	--	--	--	--
RT3412	<i>Crenella decussata</i>	--	--	--	--	--
RT3413	<i>Mysella bidentata</i>	--	--	--	--	--
RT3414	<i>Moerella pygmaea</i>	[Tellina] -	--	--	--	--
RT3415	<i>Phaxas pellucidus</i>	--	--	--	--	--
RT3416	<i>Abra alba</i>	--	- nitida	--	--	--
RT3417	<i>Spisula subtruncata</i>	--	--	--	--	--
RT3418	<i>Glycymeris glycymeris</i>	--	[Glycymeris] [glycymeris]	--	--	--
RT3419	<i>Nucula nucleus</i>	--	- sulcata	--	--	--
RT3420	<i>Hiatella arctica</i>	[Hyatella] -	--	--	- [atctica]	- [atctica]
RT3421	<i>Parvicardium scabrum</i>	- ovale	--	--	[Pavicardium] ovale	[Pavicardium] ovale
RT3422	<i>Adontorhina similis</i>	0 0	Tellimya ferruginosa	Kellia suborbicularis	Kellia suborbicularis	Kellia suborbicularis
RT3423	<i>Thyasira sarsi</i>	--	- flexuosa	--	- flexuosa	- flexuosa
RT3424	<i>Mya arenaria</i>	--	--	--	- truncata	- truncata
RT3425	<i>Mendicula ferruginosa</i>	[Thyasira] [ferruginea]	[Thyasira] [ferruginea]	--	[Thyasira] [ferruginea]	[Thyasira] [ferruginea]

Figure 1. The number of differences from the AQC identification of specimens distributed in RT34 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.* LB1401a = 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 LB 01a & LB 01b. For details of your LabCode please contact your Scheme representative or Unicomarine Ltd.

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

RT3401 – *Abra tenuis* (Figures 1a & b)

Substratum: Mud. Salinity: Reduced. Depth: Intertidal. Geography: East Anglia. Condition: Good, Medium.

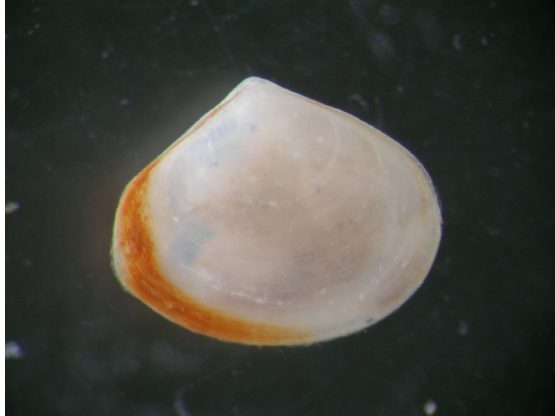


Fig. 1a. *Abra tenuis* (RT3401) - L

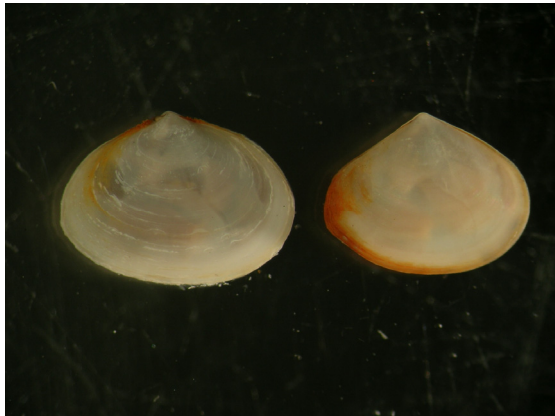


Fig. 1b. *Scrobicularia plana* (33867) & *Abra tenuis* (RT2912); left & right respectively - L

Three generic and three specific differences: Lab 04a identified as *Scrobicularia plana* (Figure 1b) (which has a more rounded shell outline); Lab 07a identified as *Montacuta ferruginosa*, a synonym of *Tellimya ferruginosa* (Figure 1c) (which is not typically estuarine or intertidal and has a more elongated, inequilateral shell); Lab 13a identified as *Thracia phaseolina* (Figure 1d) (which is not typically estuarine or intertidal is wedge-shaped and has periostracal granulations).

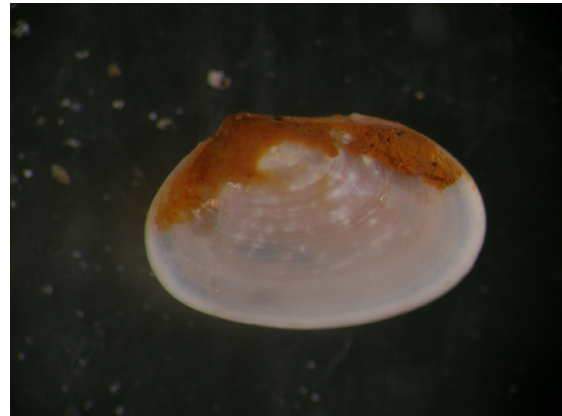


Fig. 1c. *Tellimya ferruginosa* (40389) - L



Fig. 1d. *Thracia phaseolina* (40770) - L

RT3402 – *Gari tellinella* (Figure 2a)

Substratum: Gravel. Salinity: Full. Depth: Circalittoral. Geography: S. England. Condition: Good/Fair, Small (Juvenile).

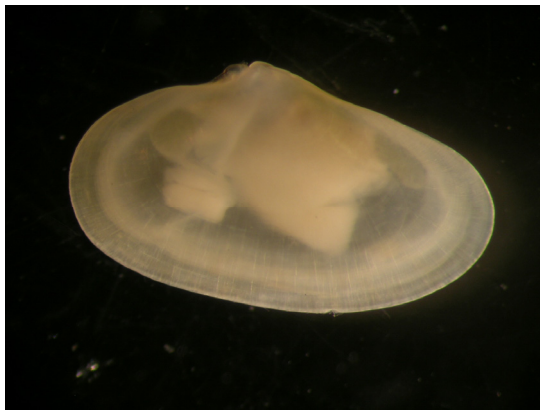


Fig. 2a. *Gari tellinella* (RT3402) - L

Four generic and five specific differences: Lab 11c identified as *Gari costulata* (Figure 2b) (which has radial sculpture); Lab 17a identified as *Scrobicularia plana* (Figure 1b) (which is typically an estuarine mud species, with a more oval equilateral shell); Lab 17b identified as *Abra prismatica* (Figure 2c) (which has a less distinct external ligament and a smoother, thinner shell); Lab 20a identified as *Donax varigatus* (No material available; Figure 2d shows *Donax vitattus*) (Donacidae have wedge-shaped, thicker shells); Lab 07a did not submit data for this taxon (ring test specimens should be identified at species level with appropriate confidence level notes).

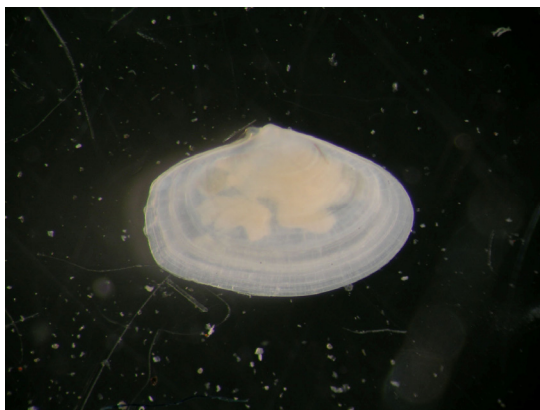


Fig. 2b. *Gari costulata* (7171) - L



Fig. 2c. *Abra prismatica* (37187) - L

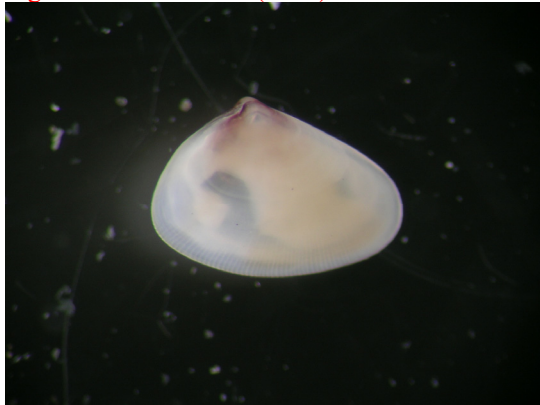


Fig. 2d. *Donax vitattus* (37210) - L

RT3403 – *Nucula nucleus* (Figure 3a)

Substratum: Gravel. Salinity: Full. Depth: Circalittoral. Geography: Eire (East Coast). Condition: Good, Small (Juvenile).



Fig. 3a. *Nucula nucleus* (RT3403) - L



Fig. 3b. *Nucula hanleyi* (41256) - L

Ten specific differences: Labs 02a, 03a, 14a, 17a, 17b, 18a, 20a, 30a, 31a and 31b identified as *Nucula hanleyi* (Figure 3b) (which has a more elongate shell, usually with radiating colour bands).

Lab 21a incorrectly spelt the species.

These specimens were selected from a single growth series with RT3419 specimens.

RT3404 – *Goodallia triangularis* (Figure 4a)

Substratum: Mixed. Salinity: Full. Depth: Circalittoral. Geography: W. Scotland. Condition: Good, Small (Juvenile).

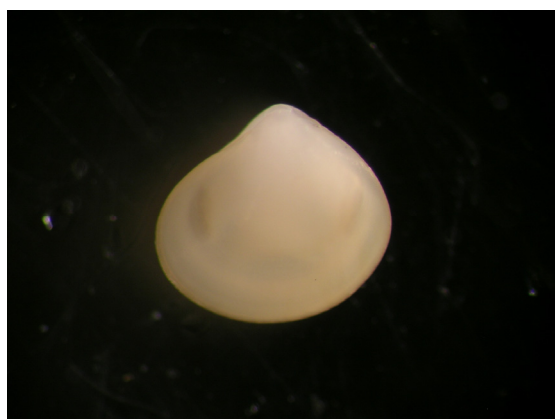


Fig. 4a. *Goodallia triangularis* (RT3404) - L

Ten generic and ten specific differences: Labs 15a, 21a, 31a and 31b identified as *Tridonta montagui* (Figure 4b); Lab 01a identified as *Tridonta borealis* (No material available); Lab 09a identified as *Tridonta elliptica* (Figure 4c shows *Astartidae* juv.) (all of the above have stronger concentric sculpture); Lab 03a identified as *Arctica islandica* (Figure 4d) (which has a thinner, more oval shell); Lab 14a identified as *Gouldia minima* (Figure 4e) (which has a more oval shell with stronger concentric sculpture); Lab 20a identified as *Lucinoma borealis* (Figure 4f) (which has a more elongate shell with stronger concentric sculpture); Lab 07a did not submit data for this taxon (ring test specimens should be identified at species level with appropriate confidence level notes).

Labs 02a and 10a incorrectly spelt the genus.



Fig. 4b. *Tridonta montagui* (12096) - L

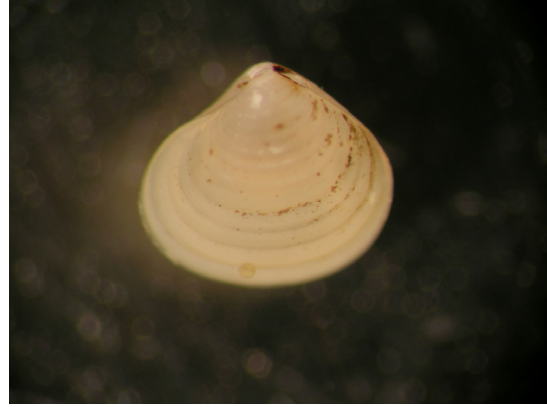


Fig. 4c. *Astartidae* juv. (41547) - L

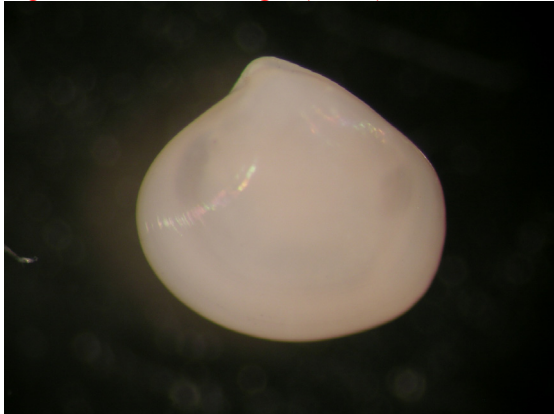


Fig. 4d. *Arctica islandica* (40390) - L



Fig. 4e. *Gouldia minima* (38779) - L



Fig. 4f. *Lucinoma borealis* (17656) - L

RT3405 – *Fabulina fabula* (Figure 5a)

Substratum: Muddy Sand. Salinity: Full. Depth: Circalittoral. Geography: N. Ireland. Condition: Poor/Fair, Small (Juvenile).



Fig. 5a. *Fabulina fabula* (RT3405) - L

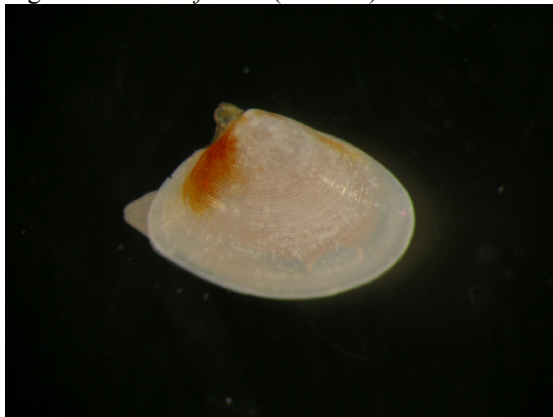


Fig. 5b. *Angulus tenuis* (11771) - L

Eight generic and eight specific differences: Labs 13a, 18a and 21a identified as *Angulus tenuis* or the synonym *Tellina tenuis* (Figure 5b) (which has a less elongated shell, without diagonal sculpture); Lab 03a identified as *Moerella pygmaea* (Figure 14a) (which is more rounded in shape); Lab 17b identified as *Abra alba* (Figure 16a); Lab 05a identified as *Abra prismatica* (Figure 2c); Lab 20a identified as *Abra nitida* (Figure 5c) (*Abra* spp. lack regular concentric grooves); Lab 07a did not submit data for this taxon (ring test specimens should be identified at species level with appropriate confidence level notes).

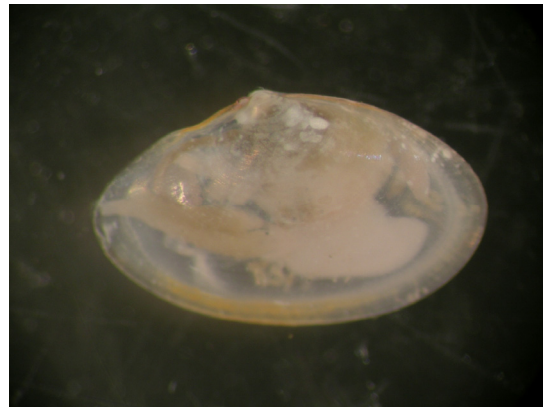


Fig. 5c. *Abra nitida* (42619) - L

RT3406 – *Nucula nitidosa* (Figure 6a)

Substratum: Mud. Salinity: Full. Depth: Circalittoral. Geography: S. E. England. Condition: Good, Medium.



Fig. 6a. *Nucula nitidosa* (RT3406) - L

Two specific differences: Lab 07a identified as *Nucula hanleyi* (Figure 3b) (which has a less glossy, more elongate shell with a more convex lunule); Lab 13a identified as *Nucula sulcata* (Figure 6b) (which has a more strongly sculptured shell).

Lab 20a recorded the synonym *Nucula turgida*.



Fig. 6b. *Nucula sulcata* (18354) - L

RT3407 – *Timoclea ovata* (Figure 7a)

Substratum: Mud. Salinity: Full. Depth: Circalittoral. Geography: W. France. England. Condition: Good, Small (Juvenile).

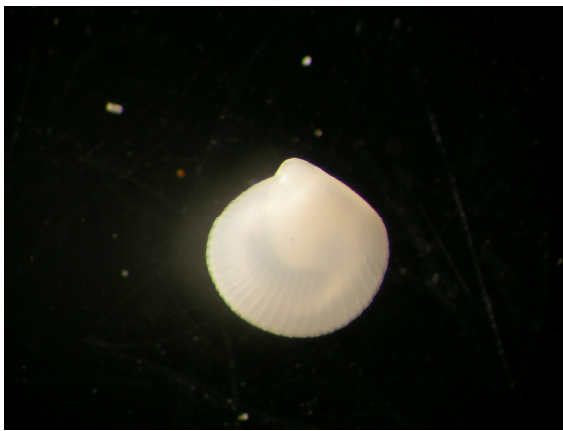


Fig. 7a. *Timoclea ovata* (RT3407) - L

Six generic and six specific differences: Lab 17b identified as *Parvicardium scabrum* (Figure 21a); Lab 05b identified as *Parvicardium ovale* (Figure 7b) (*Parvicardium* spp. have fewer and stronger radial ribs); Lab 21a identified as *Gouldia minima* (Figure 4f) (which lacks radial sculpture); Lab 31a identified as *Laevicardium crassum* (Figure 7c) (which has a thinner shell with finer sculpture); Labs 07a and 17a did not submit data for this taxon (ring test specimens should be identified at species level with appropriate confidence level notes).



Fig. 7b. *Parvicardium ovale* (39144) - L

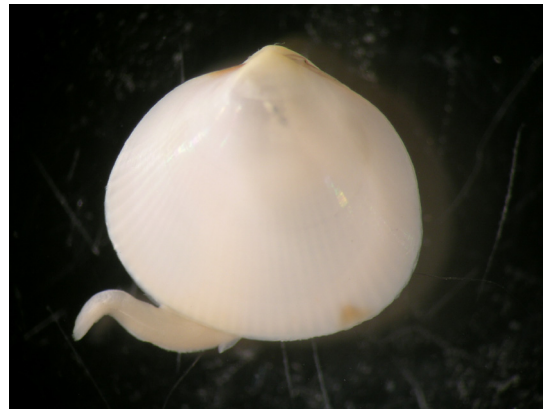


Fig. 7c. *Laevicardium crassum* (37039) – L

RT3408 – *Mytilus edulis* (Figure 8a)

Substratum: Stony Mud. Salinity: High. Depth: Circalittoral. Geography: N. Ireland. Condition: Good, Small (Juvenile).

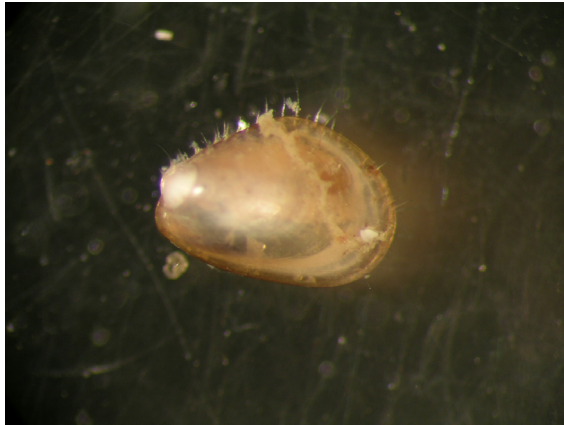


Fig. 8a. *Mytilus edulis* (RT3408) - L

Twelve generic and twelve specific differences: Labs 11a, 11c, 13a, 15a, 21a, 30a, 31a and 31b identified as *Modiolus modiolus*; Lab 07a identified as *Modiolus barbatus* (both have broader periostracal spines) (Figure 8b, shows *Modiolus sp. juv.*); Labs 03a, 06a and 11b identified as *Modiolula phaseolina* (Figure 8c) (which has a more oval shape and violet colouration).

Lab 05a incorrectly spelt the genus.

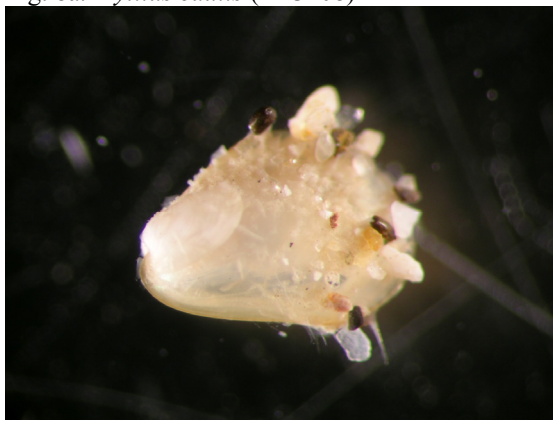


Fig. 8b. *Modiolus sp. juv.* (39130) - L

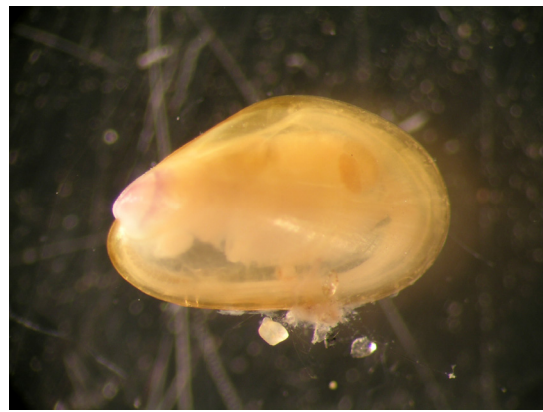


Fig. 8c. *Modiolula phaseolina* (30453) - L

RT3409 – *Saxicavella jeffreysi* (Figure 9a)

Substratum: Mud. Salinity: Full. Depth: Circalittoral. Geography: East Anglia. Condition: Good/Fair, Small/Medium.



Fig. 9a. *Saxicavella jeffreysi* (RT3409) - L

Four generic and four specific differences: Labs 07a, 13a and 20a identified as *Mya truncata* (Figure 9b); Lab 15a identified as *Lutraria angustior* (Figure 9c shows *Lutraria sp. juv.*) (all of the above lack the broad posterior expansion).

Labs 05b, 14a and 17a incorrectly spelt the species.



Fig. 9b. *Mya truncata* (RT3206) - L

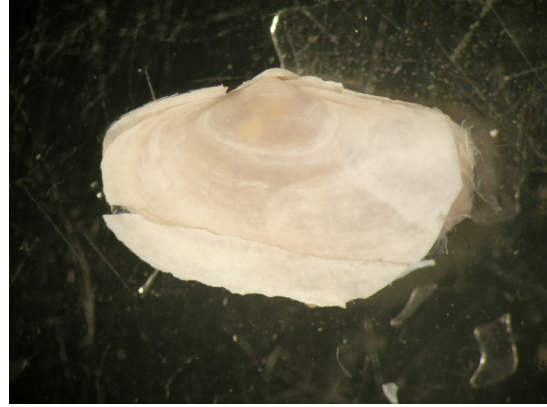


Fig. 9c. *Lutraria* sp. juv. (37967) - L

RT3410 – *Thyasira flexuosa* (Figure 10a)

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

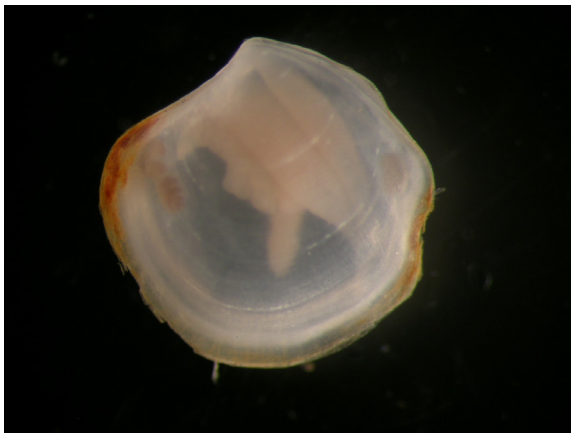


Fig. 10a. *Thyasira flexuosa* (RT3410) - L

Two specific differences: Lab 17a identified as *Thyasira gouldi* (No material available) (which has a larger prodissoconch); Lab 07a identified as *Thyasira ferruginea*, a synonym of *Mendicula ferruginosa* (Figure 25a) (which lacks a posterior sulcus).

RT3411 – *Corbula gibba* (Figure 11a)

Substratum: Mixed. Salinity: High. Depth: Infralittoral. Geography: N. Ireland. Condition: Good, Small/Medium.

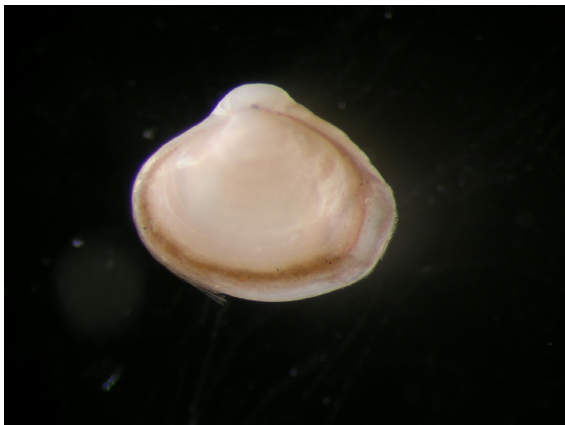


Fig. 11a. *Corbula gibba* (RT3411) - L

One generic and one specific difference: Lab 17b identified as *Mya arenaria* (Figure 24a) (which has a more elongated shell).

RT3412 – *Crenella decussata* (Figure 12a)

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

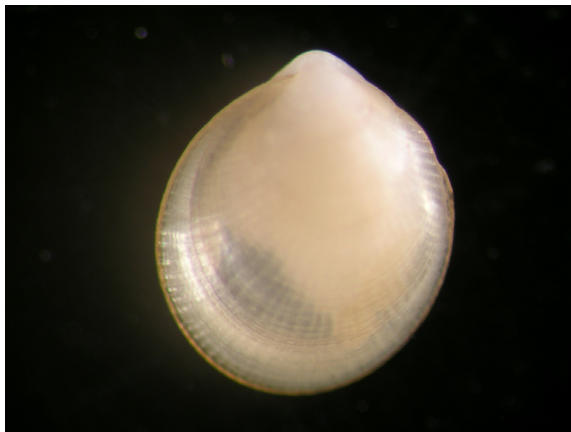


Fig. 12a. *Crenella decussata* (RT3412) - L

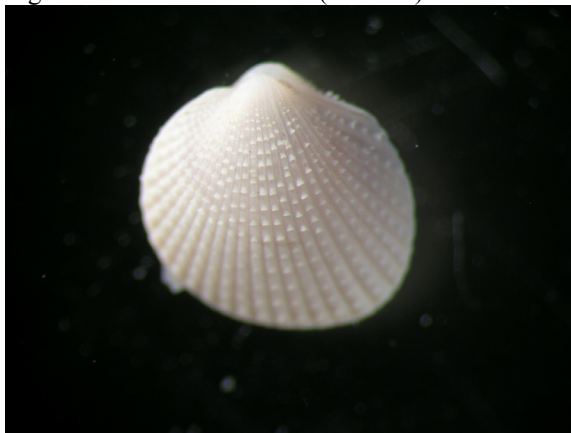


Fig. 12b. *Parvicardium minimum* (34009) - L

RT3413 – *Mysella bidentata* (Figure 13a)

Substratum: Mixed. Salinity: High. Depth: Infralittoral. Geography: N. Ireland. Condition: Good, Medium.

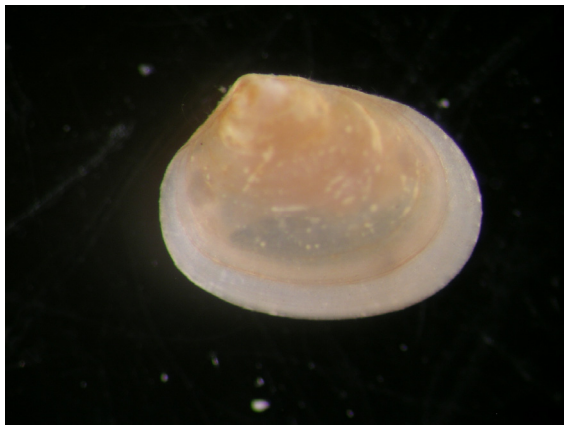


Fig. 13a. *Mysella bidentata* (RT3413) - L

Three generic and three specific differences: Labs 09a and 10a identified as *Laevicardium crassum* (Figure 7c) (which has a thinner shell with finer sculpture); Lab 07a identified as *Parvicardium minimum* (Figure 12b) (which has fewer and stronger radial ribs, with distinct scales).

One generic and one specific difference: Lab 07a did not submit data for this taxon (ring test specimens should be identified at species level with appropriate confidence level notes).

RT3414 – *Moerella pygmaea* (Figure 14a)

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

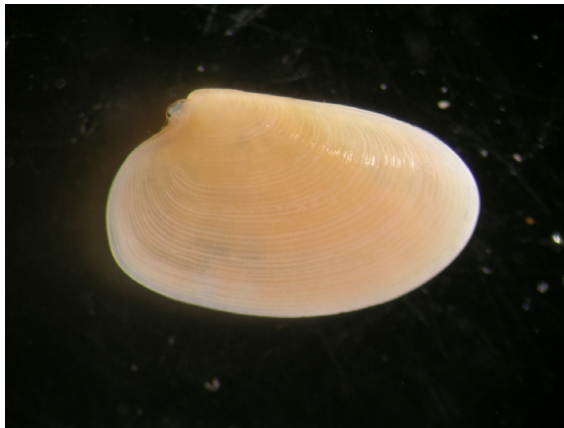


Fig. 14a. *Moerella pygmaea* (RT3414) - L

Four generic and five specific differences: Lab 02a identified as *Moerella donacina* (Figure 14b); Lab 17b identified as *Fabulina fabula* (Figure 5a) (both of which have a more angular shell); Lab 07a identified as *Myrtea spinifera* (Figure 14c) (which has stronger concentric sculpture); Lab 18a identified as *Tellimya ferruginosa* (Figure 1c) (which lacks regular concentric sculpture); Lab 17a did not submit data for this taxon (ring test specimens should be identified at species level with appropriate confidence level notes).

Lab 20a recorded the synonym *Tellina pygmaea*.



Fig. 14b. *Moerella donacina* (41839) - L



Fig. 14c. *Myrtea spinifera* (34021) - L

RT3415 – *Phaxas pellucidus* (Figure 15a)

Substratum: Mud. Salinity: Full. Depth: Circalittoral. Geography: N. Ireland. Condition: Good, Large.



Fig. 15a. *Phaxas pellucidus* (RT3415) - L

One generic and one specific difference: Lab 07a identified as *Ensis ensis* (Figure 15b) (which has a narrower, more elongated shell, with a concave dorsal surface and a truncated anterior end).

Lab 18a incorrectly spelt the genus.



Fig. 15b. *Ensis ensis* (40902) – L

RT3416 – *Abra alba* (Figure 16a)

Substratum: Mud. Salinity: Full. Depth: Circalittoral. Geography: East Anglia. Condition: Fair, Large.



Fig. 16a. *Abra alba* (RT3416) - L

One generic and three specific differences: Labs 02a and 21a identified as *Abra nitida* (Figure 5c) (which has a more elongated, equilateral and glossy shell); Lab 07a did not submit data for this taxon (ring test specimens should be identified at species level with appropriate confidence level notes).

RT3417 – *Spisula subtruncata* (Figure 17a)

Substratum: Sandy Mud. Salinity: Full. Depth: Circalittoral. Geography: N. W. England. Condition: Good, Small (Juvenile).



Fig. 17a. *Spisula subtruncata* (RT3417) - L

Two generic and two specific differences: Lab 07a identified as *Abra longicallus* (No material available; other *Abra* spp in Figures 1a, 2c, 5c & 16a) (which has a thinner, flatter shell); Lab 17b identified as *Thracia phaseolina* (Figure 1d) (which has a wedge-shaped shell, with periostracal granulations).

RT3418 – *Glycymeris glycymeris* (Figure 18a)

Substratum: Gravel. Salinity: Full. Depth: Circalittoral. Geography: S. England. Condition: Good, Medium.



Fig. 18a. *Glycymeris glycymeris* (RT3418) - L

No taxonomic differences recorded.

Labs 09a and 21a incorrectly spelt the genus and species.

RT3419 – *Nucula nucleus* (Figure 19a)

Substratum: Gravel. Salinity: Full. Depth: Circalittoral. Geography: Eire (East Coast). Condition: Good, Medium.



Fig. 19a. *Nucula nucleus* (RT3419) - L

Seven specific differences: Labs 06a, 07a, 13a, 17a and 21a identified as *Nucula sulcata* (Figure 6b) (which has a more strongly sculptured shell); Labs 05a and 05b identified as *Nucula hanleyi* (Figure 03b) (which has a more elongate shell, usually with radiating colour bands).

These specimens were selected from a single sample growth series with RT3403 specimens.

RT3420 – *Hiatella arctica* (Figure 20a)

Substratum: Gravel. Salinity: Full. Depth: Circalittoral. Geography: Eire (East Coast). Condition: Good/Fair, Medium.



Fig. 20a. *Hiattella arctica* (RT3420) - L

Three generic and three specific differences: Labs 07a and 15a identified as *Sphenia binghami* (Figure 20b) (which lacks radial sculpture and has more rounded umbones); Lab 17a identified as *Petricola pholadiformis* (Figure 20c) (which has a more regularly oval outline).

Lab 20a incorrectly spelt the genus; Labs 31a and 31b incorrectly spelt the species.

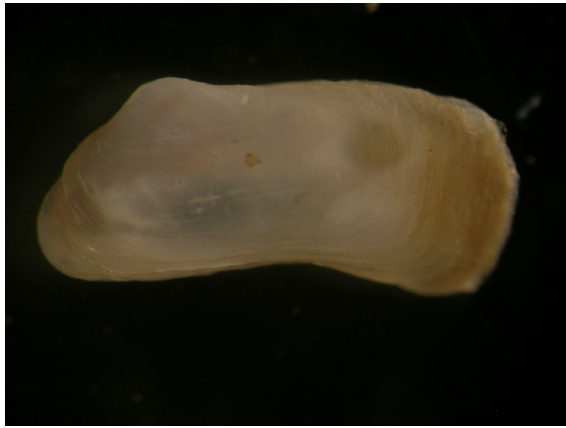


Fig. 20b. *Sphenia binghami* (34851) - L

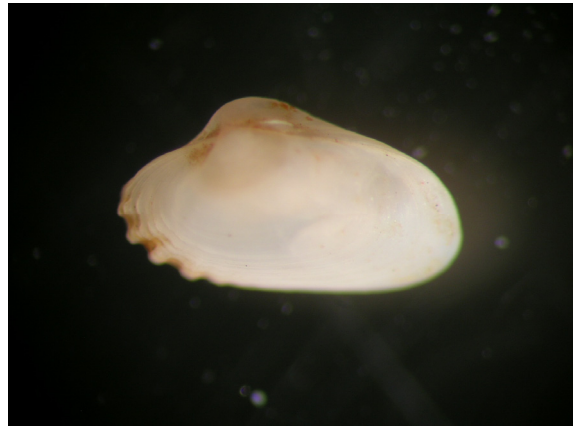


Fig. 20c. *Petricola pholadiformis* (9606) - L

RT34021 – *Parvicardium scabrum* (Figure 21a)

Substratum: Mixed. Salinity: High. Depth: Infralittoral. Geography: N. Ireland. Condition: Good/Fair, Medium.

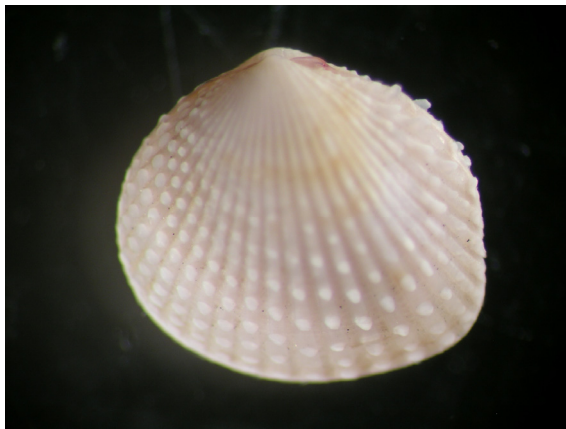


Fig. 21a. *Parvicardium scabrum* (RT3421) - L

One generic and fifteen specific differences: Labs 02a, 03a, 05a, 07a, 09a, 10a, 11b, 13a, 17a, 18a, 20a, 31a and 31b identified as *Parvicardium ovale* (Figure 7b) (which has a more angular outline, fewer ribs and rib scales that are much longer at the posterior and anterior than at the ventral margin); Lab 17b identified as *Cerastoderma edule* (Figure 21b) (which has a more rectangular outline and more evenly distributed scales).

Labs 31a and 31b incorrectly spelt the genus.

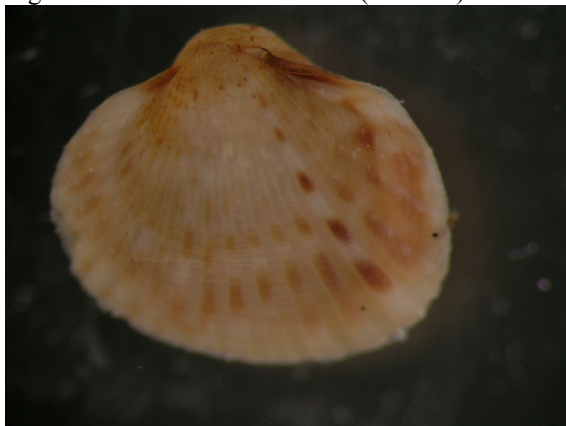


Fig. 21b. *Cerastoderma edule* (21969) - L

RT3422 – *Adontorhina similis* (Figure 22a)

Substratum: Mud. Salinity: Full. Depth: Circalittoral. Geography: N. North Sea. Condition: Good, Medium.

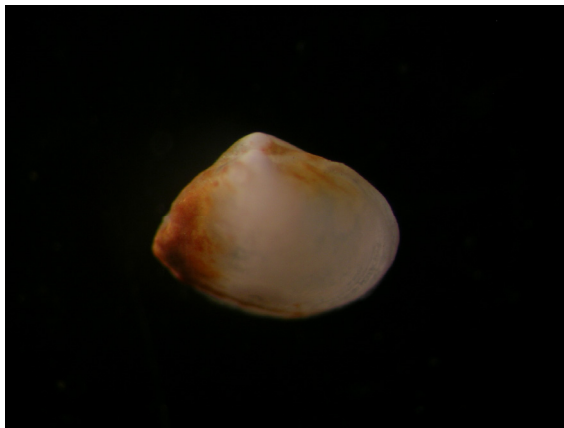


Fig. 22a. *Adontorhina similis* (RT3422) - L

Twenty-five generic and twenty-five specific differences: Labs 30a, 31a and 31b identified as *Kellia suborbicularis* (Figure 22b) Labs 05a and 18a identified as *Lasaea adansoni* (Figure 22c) (both of which have stronger umbones); Lab 17b identified as *Thyasira ferruginea*, a synonym of *Mendicula ferruginosa* (Figure 25a) (which has a more uniform rusty deposit); Lab 04a identified as *Thyasira* cf. *flexuosa* (Figures 10a & 22d, show *T. flexuosa*) (which has a posterior sulcus); Lab 21a identified as *Tellimya ferruginosa* (Figure 1c) (which has a more rounded outline); Lab 03a identified as *Macoma balthica* (Figure 22e) (which is typically an estuarine species and has a deeper shell); Lab 17a recorded *Thyasira*?; Labs 07a and 20a did not submit data for this taxon (ring test specimens should be identified at species level with appropriate confidence level notes).

Labs 01a, 02a, 05b, 06a, 09a, 10a, 11a, 11b, 11c, 13a, 14a, 15a and 19a identified as *Mendicula pygmaea* or the synonym *Thyasira pygmaea* (No material available) (this is an American species; European records were recently assigned to *A. similis* by Barry & McCormack; it lacks granulation on the hinge margin)

Additional Literature:

Barry & McCormack (2007)

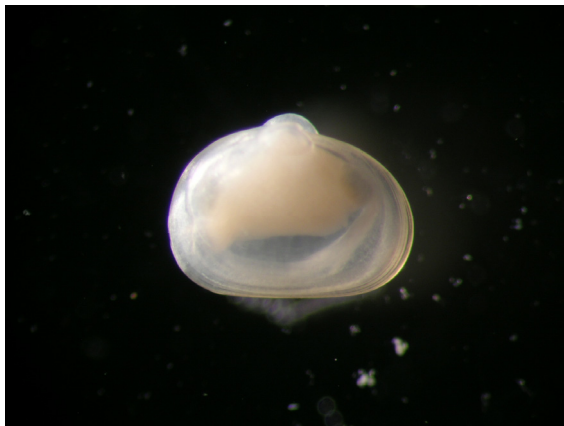


Fig. 22b. *Kellia suborbicularis* (36842) - L

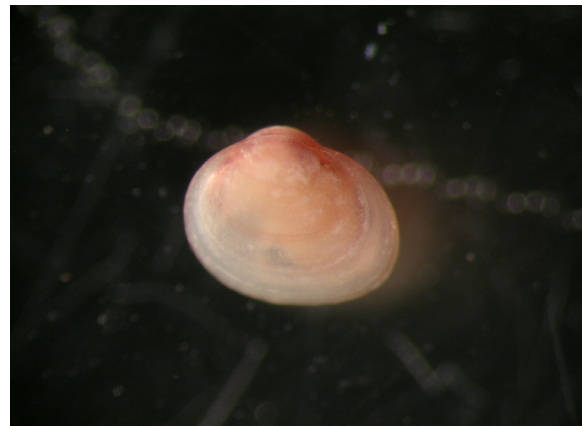


Fig. 22c. *Lasaea adansoni* (10631) - L

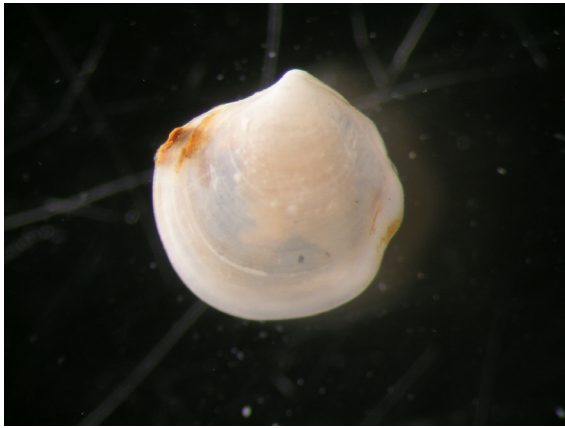


Fig. 22d. *Thyasira flexuosa* (40388) - L

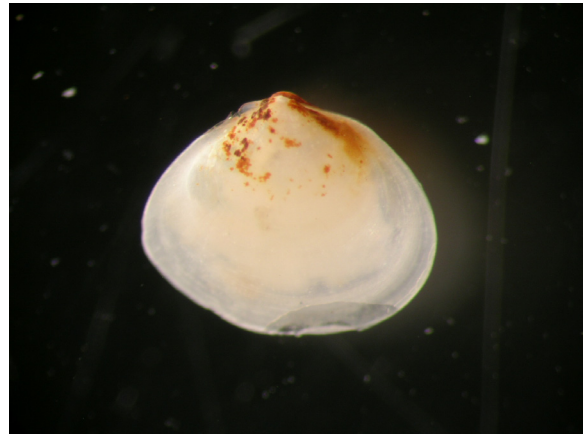


Fig. 22e. *Macoma balthica* (21552) - L

RT3423 – *Thyasira sarsi* (Figure 23a)

Substratum: Mud. Salinity: Full. Depth: Circalittoral. Geography: N. North Sea. Condition: Fair/Good, Large/Medium.



Fig. 23a. *Thyasira sarsi* (RT3423) - L

Five generic and ten specific differences: Labs 11a, 11b and 11c identified as *Axinulus croulinensis* (Figure 23b) (which has no division between the anterior and posterior gill portions, no folds to the posterior margin or prominent auricle and has a maximum size of 2.5mm); Labs 17b, 21a, 31a and 31b identified as *Thyasira flexuosa* (Figure 22d & 23d); Lab 17a identified as *Thyasira gouldi* (no material available) (both of which have more prominent posterior folds); Lab 04a identified as *Thracia convexa* (Figure 23c) (which has a wedge-shaped shell and periostracal granulations); Lab 07a did not submit data for this taxon (ring test specimens should be identified at species level with appropriate confidence level notes).



Fig. 23b. *Axinulus croulinensis* (9304/00036) - L



Fig. 23c. *Thracia convexa* (39968) - L



Fig. 23d. *Thyasira sarsi* (RT26source) & *Thyasira flexuosa* (31665) ; left & right respectively - L

RT3424 – *Mya arenaria* (Figure 24a)

Substratum: Mud. Salinity: Reduced. Depth: 0-1m Sublittoral. Geography: S. E. England. Condition: Good, Small (Juvenile).



Fig. 24a. *Mya arenaria* (RT3424) - L

Four specific differences; Labs 03a, 04a, 31a and 31b identified as *Mya truncata* (Figure 09b) (which has a less deep shell as a juvenile, with less prominent growth lines).

RT3425 – *Mendicula ferruginosa* (Figure 25a)

Substratum: Mud. Salinity: Full. Depth: Circalittoral. Geography: N. North Sea. Condition: Good, Medium.

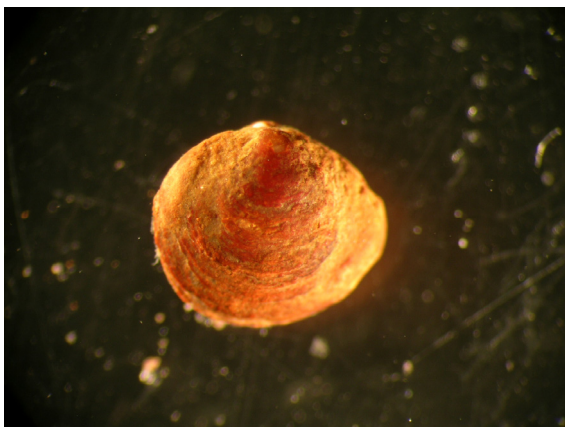


Fig. 25a. *Mendicula ferruginosa* (RT3425) - L

One generic and one specific difference; Lab 18a identified as *Kellia suborbicularis* (Figure 22b) (which has more prominent umbones and lacks a uniform rusty deposit).

Labs 03a, 04a, 05a, 05b, 06a, 07a, 09a, 15a, 17a, 17b, 20a, 21a, 31a and 31b recorded synonyms (*Thyasira ferruginea* and *Mendicula ferruginea*).

References

Barry, P.J. & McCormack, G., 2007. Two new species of *Adontorhina* Berry, 1947 (Bivalvia: Thyasiridae) from the Porcupine Bank, off the west coast of Ireland. *Zootaxa*, 1526, 37-49.

Costello, M.J., Emblow, C. & White, R., 2001. European register of marine species. A check list of the marine species in Europe and a bibliography of guides to their identification, *Patrimoines naturels* (M.N.H.N. /S.P.N.), 50: pp. 1-463.

Oliver, P.G. & Killeen, I.J., 2002. The Thyasiridae (Mollusca: Bivalvia) of the British Continental Shelf and North Sea Oil Fields. An Identification Manual. *Studies in Marine Biodiversity and Systematics from the National Museum of Wales. BIOMOR Reports*, 3: 73pp.

Ring Test Return Instructions

Please return all ring test specimens by 9th May 2008. 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, Unicmarine Ltd., Head Office, 7 Diamond Centre,
Works Road, Letchworth, Hertfordshire SG6 1LW, UK**