



NMQC

NE Atlantic Marine Biological Analytical Quality Control Scheme

Laboratory Reference Module Summary Report

Benthic Invertebrate Component - 2020/21

LR25

29 June 2021

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MODULE / EXERCISE DETAILS

Module:	Laboratory Reference (LR)
Exercises:	LR25
Data/Sample Request Circulated:	29th October 2020
Sample Submission Deadline:	29th January 2021
Number of Subscribing Laboratories:	6
Number of LR Received:	4

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Table 1. Summary of mis-identified taxa in the Laboratory Reference Module (LR25) (erroneous identifications in brackets).

LabCode	Taxonomic Edits	Major Taxonomic Group				
		Polychaeta	Oligochaeta	Crustacea	Mollusca	Other
BI_2702	7	<i>Ophelia borealis</i> (<i>Ophelia bicornis</i>)	-	<i>Urothoe elegans</i> (<i>Paraphoxus oculata</i>)	-	-
		<i>Eteone longa</i> agg. (<i>Eteone suecica</i>)	-	-	-	-
		<i>Phyllodoce rosea</i> (<i>Phyllodoce longipes</i>)	-	-	-	-
		<i>Eusyllis blomstrandii</i> (<i>Odontosyllis fulgarens</i>)	-	-	-	-
		<i>Malmgrenia arenicolae</i> (<i>Malmgreniella marphysae</i>)	-	-	-	-
		<i>Malmgrenia ljungmani</i> (<i>Malmgreniella mcintoshii</i>) - in mixture	-	-	-	-
BI_2705	7	<i>Tharyx</i> species A (<i>Aphelochaeta</i>)	-	<i>Lepas anatifera</i> (<i>Lepas hilli</i>)	-	-
		<i>Tharyx</i> species A (<i>Aphelochaeta</i>)	-	-	-	-
		<i>Harmothoe glabra</i> (<i>Malmgrenia arenicolae</i>)	-	-	-	-
		<i>Ampharete baltica</i> (<i>Ampharete lindstroemi</i>)	-	-	-	-
		<i>Harmothoe glabra</i> (<i>Malmgrenia bicki</i>)	-	-	-	-
		<i>Malmgrenia arenicolae</i> (<i>Malmgrenia darbouxi</i>)	-	-	-	-
BI_2706	0	-	-	-	-	-
BI_2707	8	<i>Owenia borealis</i> (<i>Owenia fusiformis</i>)	-	-	<i>Thracia convexa</i> juv. (<i>Thracia myopsis</i>)	<i>Leptosynapta bergensis</i> (<i>Leptosynapta inhaerens</i>)
		<i>Aricidea catherinae</i> (<i>Aricidea (Strelzovia) suecica</i>)	-	-	-	-
		<i>Dipolydora Species B / saintjosephi</i> (<i>Dipolydora coeca</i>)	-	-	-	-
		<i>Rullierinereis ancornunezi</i> (<i>Ceratocephale loveni</i>)	-	-	-	-
		<i>Malacoceros girardi</i> (<i>Malacoceros vulgaris</i>)	-	-	-	-
		<i>Spio symphyta</i> (<i>Spio filicornis</i>)	-	-	-	-
TOTAL	22	18	0	2	1	1
% Error	16	82	0	9	5	5

NB: % errors for taxonomic groups are percentages of the total errors generated by each taxon (not percentages of errors within each taxon)

Table 2. Summary of identification policy differences in the Laboratory Reference Module (LR25) (original identifications in brackets).

LabCode	Number of differences	Identification policy difference explanations (participant original identifications in brackets)
BI_2702	13	<i>Cochlodesma pratenu</i> juv. (<i>Cochlodesma pratenu</i>) - Recording policy difference
		<i>Tmetonyx</i> (<i>Tmatonyx cicada</i>) - Taxonomic resolution reduced; Spelling error
		<i>Abludomelita obtusata</i> (<i>Melita obtusata</i>) - Nomenclature update
		<i>Apherusa clevei</i> (Amphipoda unident) - Taxonomic resolution increased
		<i>Ebalia</i> juv. (<i>Ebalia tuberosa</i>) - Taxonomic resolution reduced
		<i>Scolelepis</i> juv. (<i>Scolelepis squamata</i>) - Taxonomic resolution reduced
		<i>Maetra stultorum</i> juv. (<i>Maetra stultorum</i>) - - Recording policy difference
		<i>Ampharete</i> c.f. <i>acutifrons</i> (<i>Ampharete acutifrons</i>) - Recording policy difference
		<i>Harmothoe impar</i> agg. (<i>Harmothoe clavigera</i>) - Taxonomic resolution reduced
		<i>Dyopedos monacanthus</i> (<i>Dyopedos monacantha</i>) - Nomenclature update
		<i>Tryphosa nana</i> (<i>Orchomenella nana</i>) - Nomenclature update
		Naididae (<i>Psammoryctides barbatus</i>) - Taxonomic resolution reduced
		<i>Sertularia</i> (<i>Sertularia cupressina</i>) - Taxonomic resolution reduced
BI_2705	6	<i>Malacoceros</i> (<i>Malacoceros tetracerus</i>) - Taxonomic resolution reduced
		<i>Aphelochaeta</i> (<i>Aphelochaeta multibranchis</i>) - Taxonomic resolution reduced
		<i>Owenia</i> (<i>Owenia borealis</i>) - Taxonomic resolution reduced
		<i>Owenia</i> (<i>Owenia fusiformis</i>) - Taxonomic resolution reduced
		<i>Caulleriella</i> (<i>Caulleriella alata</i>) - Taxonomic resolution reduced
		<i>Leucosolenia</i> (<i>Leucosolenia botryoides</i>) - Taxonomic resolution reduced
BI_2706	9	<i>Aphelochaeta marioni sensu MarLIN</i> (Cirratulidae) - Taxonomic resolution increased
		<i>Petricolaria pholadiformis</i> juv. (<i>Petricolaria pholadiformis</i>) - Recording policy difference
		<i>Marphysa sanguinea</i> (<i>Marphysa</i>) - Taxonomic resolution increased
		<i>Eumida sanguinea</i> agg. (<i>Eumida</i>) - Taxonomic resolution increased
		<i>Musculus subpictus</i> (<i>Musculus</i>) - Taxonomic resolution increased
		<i>Tharyx</i> sp. A (Cirratulidae) - Taxonomic resolution increased
		Carabidae (<i>Cillenus lateralis</i>) - Taxonomic resolution reduced
		<i>Eteone</i> sp. A (<i>Hypereteone</i>) - Recording policy difference
		Enteropneusta (<i>Saccoglossus</i>) - Taxonomic resolution reduced
BI_2707	2	<i>Ophryotrocha</i> (<i>Ophryotrocha hartmanni</i>) - Taxonomic resolution reduced
		<i>Spisula elliptica</i> juv. (<i>Spisula elliptica</i>) - Recording policy difference

APPENDIX

LR25 individual summary reports for participating laboratories



NMBQC Scheme Laboratory Reference Interim Results

Laboratory reference: LR25

Audit Completion Date: 15th February 2021

Date received: 26th January 2021

Auditor (lead): Tim Worsfold

Laboratory Code: BI_2702

Auditor (review): Nicola Pennisi, David Hall



Key: Blue text = no change, Green text = change

No.	Original Data (OD) Identification	Edited Data (ED) Identification	Comment	WoRMS List Reference (15/02/2021)
1	Ophelia bicornis	Ophelia borealis	Taxonomic edit	Ophelia borealis Quatrefages, 1866
2	Cochlodesma pratense	Cochlodesma pratense juv.	Recording policy difference	Cochlodesma praetense (Pulteney, 1799)
3	Tmatonyx cicada	Tmetonyx	Taxonomic resolution reduced; Spelling error	Tmetonyx Stebbing, 1906
4	Melita obtusata	Abludomelita obtusata	Nomeclature update	Abludomelita obtusata (Montagu, 1813)
5	Amphipoda unident	Apherusa clevei	Taxonomic resolution increased	Apherusa clevei G.O. Sars, 1904
6	Megamphopus cornutus	Megamphopus cornutus		Megamphopus cornutus Norman, 1869
7	Eteone suecica	Eteone longa agg.	Taxonomic edit; probably E. flava	Eteone longa (Fabricius, 1780)
8	Ebalia tuberosa	Ebalia juv.	Taxonomic resolution reduced	Ebalia Leach, 1817 [in Leach, 1815-1875]
9	Scolecopsis squamata	Scolecopsis juv.	Taxonomic resolution reduced	Scolecopsis Blainville, 1828
10	Mactra stultorum	Mactra stultorum juv.	Recording policy difference	Mactra stultorum (Linnaeus, 1758)
11	Paraphoxus oculata	Urothoe elegans	Taxonomic edit	Urothoe elegans Spence Bate, 1857
12	Phyllodoce longipes	Phyllodoce rosea	Taxonomic edit	Phyllodoce rosea (McIntosh, 1877)
13	Ampharete acutifrons	Ampharete c.f. acutifrons	Recording policy difference	Ampharete acutifrons (Grube, 1860)
14	Harmothoe clavigera	Harmothoe impar agg.	Taxonomic resolution reduced	Harmothoe impar (Johnston, 1839)
15	Odontosyllis fulgarens	Eusyllis blomstrandii	Taxonomic edit	Eusyllis blomstrandii Malmgren, 1867
16	Harpinia pectinata	Harpinia pectinata		Harpinia pectinata Sars, 1891
17	Dyopetos monacantha	Dyopetos monacanthus	Nomenclature update	Dyopetos monacanthus (Metzger, 1875)
18	Malmgreniella marphysae	Malmgrenia arenicolae	Taxonomic edit; Nomenclature update	Malmgrenia arenicolae (Saint-Joseph, 1888)
19.1	Malmgreniella mcintoshii	Malmgrenia mcintoshii	Mixture; see below	Malmgrenia mcintoshii (Tebble & Chambers, 1982)
19.2		Malmgrenia ljunghmani	Taxonomic edit; Nomenclature update	Malmgrenia ljunghmani (Malmgren, 1867)
20	Metaphoxus fultoni	Metaphoxus fultoni		Metaphoxus fultoni (Scott, 1890)
21	Orchomenella nana	Tryphosa nana	Nomeclature update	Tryphosa nana (Krøyer, 1846)
22	Psammoryctides barbatus	Naididae	Taxonomic resolution reduced	Naididae Ehrenberg, 1828
23	Sertularia cupressina	Sertularia	Taxonomic resolution reduced	Sertularia Linnaeus, 1758
24	Malacobdella grossa	Malacobdella grossa		Malacobdella grossa (Müller, 1776)
25	Priapulus caudatus	Priapulus caudatus		Priapulus caudatus Lamarck, 1816



NMBQC Scheme Laboratory Reference Interim Results



Laboratory reference: LR25

Audit Completion Date: 10 June 2021

Date received: 09 April 2021

Auditor (lead): Tim Worsfold

Laboratory Code: BI_2705

Auditor (review): David Hall

Key: Blue text = no change, Green text = change

No.	Original Data (OD) Identification	Edited Data (ED) Identification	Comment	WoRMS List Reference (08/06/2021)
1	Abra tenuis	Abra tenuis		Abra tenuis (Montagu, 1803)
2	Eteone longa	Eteone longa		Eteone longa (Fabricius, 1780)
3	Eteone longa	Eteone longa		Eteone longa (Fabricius, 1780)
4	Aphelochaeta spec.	Tharyx species A	Taxonomic edit	Tharyx Webster & Benedict, 1887
5	Aphelochaeta spec.	Tharyx species A	Taxonomic edit	Tharyx Webster & Benedict, 1887
6	Marenzelleria viridis	Marenzelleria viridis		Marenzelleria viridis (Verrill, 1873)
7	Malacoceros tetracerus	Malacoceros	Taxonomic resolution decreased	Malacoceros Quatrefages, 1843
8	unkown	Annelida	fragment	Annelida Lamarck, 1802 [as Annelides]
9	Aphelochaeta multibranchis	Aphelochaeta	Taxonomic resolution decreased	Aphelochaeta Blake, 1991
10	Malmgrenia arenicolae	Malmgrenia arenicolae		Malmgrenia arenicolae (Saint-Joseph, 1888)
11	Malmgrenia arenicolae	Harmothoe glabra	Taxonomic edit	Harmothoe glabra (Malmgren, 1865)
12	Owenia borealis	Owenia	Taxonomic resolution decreased	Owenia Delle Chiaje, 1844
13	Owenia fusiformis	Owenia	Taxonomic resolution decreased	Owenia Delle Chiaje, 1844
14	Ampharete lindstroemi	Ampharete baltica	Taxonomic edit	Ampharete baltica Eliason, 1955
15	Caulleriella alata	Caulleriella	Taxonomic resolution decreased	Caulleriella Chamberlin, 1919
16	Jassa slatteryi	Jassa slatteryi		Jassa slatteryi Conlan, 1990
17	Schizoporella unicornis	Schizoporella unicornis		Schizoporella unicornis (Johnston in Wood, 1844)
18	Schizoporella unicornis	Schizoporella unicornis		Schizoporella unicornis (Johnston in Wood, 1844)
19	Leucosolenia botryoides	Leucosolenia	Taxonomic resolution decreased	Leucosolenia Bowerbank, 1864
20	Stenothoe tergestina	Stenothoe tergestina		Stenothoe tergestina (Nebeski, 1881)
21	Caprella equilibra	Caprella equilibra		Caprella equilibra Say, 1818
22	Zeuxo holdichi	Zeuxo holdichi		Zeuxo holdichi Bamber, 1990
23	Malmgrenia bicki	Harmothoe glabra	Taxonomic edit	Harmothoe glabra (Malmgren, 1865)
24	Malmgrenia darbouxi	Malmgrenia arenicolae	Taxonomic edit	Malmgrenia arenicolae (Saint-Joseph, 1888)
25	Lepas hilli	Lepas anatifera	Taxonomic edit; also 4 Jassa	Lepas (Anatifa) anatifera Linnaeus, 1758



NMBQC Scheme Laboratory Reference Interim Results



Laboratory reference: LR25

Audit Completion Date: 21st January 2021

Date received: 15th January 2021



Auditor (lead): Tim Worsfold

Laboratory Code: BI_2706

Auditor (review): Chris Ashelby; Nicola Pennisi

Key: Blue text = no change, Green text = change

No.	Original Data (OD) Identification	Edited Data (ED) Identification	Comment	WoRMS List Reference (21/01/2021)
1	Cirratulidae	Aphelochaeta marioni sensu MarLIN	Taxonomic resolution increased; probably Tharyx maryae but keeping this notation for now	Aphelochaeta marioni (Saint-Joseph, 1894)
2	Petricolaria pholadiformis	Petricolaria pholadiformis juv.	Recording policy difference	Petricolaria pholadiformis (Lamarck, 1818)
3	Marphysa	Marphysa sanguinea	Taxonomic resolution increased	Marphysa sanguinea (Montagu, 1813)
4	Glycera tridactyla	Glycera tridactyla		Glycera tridactyla Schmarda, 1861
5	Tharyx sp. A	Tharyx sp. A	probably T. robustus	Tharyx Webster & Benedict, 1887
6	Capitella	Capitella		Capitella Blainville, 1828
7	Eumida	Eumida sanguinea agg.	Taxonomic resolution increased	Eumida sanguinea (Ørsted, 1843)
8	Aricidea minuta	Aricidea minuta	eyes possibly due to reproductive phase	Aricidea (Aricidea) minuta Southward, 1956
9	Protocirrinis	Protocirrinis	probably P. pergamentorum but leaving at genus for now	Protocirrinis Czerniavsky, 1881
10	Abra tenuis	Abra tenuis	must just be an outlier	Abra tenuis (Montagu, 1803)
11	Pholoe inornata	Pholoe inornata		Pholoe inornata Johnston, 1839
12	Ianiropsis serricaudis	Ianiropsis serricaudis	though not completely certain	Ianiropsis serricaudis Gurjanova, 1936
13	Fimbristhenelais minor	Sigalionidae juv.	Taxonomic resolution reduced	Sigalionidae Kinberg, 1856
14	Musculus	Musculus subpictus	Taxonomic resolution increased	Musculus subpictus (Cantraine, 1835)
15	Lamellaria perspicua	Lamellaria perspicua	pigment limited in juveniles	Lamellaria perspicua (Linnaeus, 1758)
16	Cossura pygodactylata	Cossura pygodactylata		Cossura pygodactylata Jones, 1956
17	Cirratulidae	Tharyx sp. A	Taxonomic resolution increased; probably T. robustus	Tharyx Webster & Benedict, 1887
18	Malacoceros fuliginosus	Malacoceros fuliginosus	Name will soon change to M. vulgaris but keeping this notation for now	Malacoceros fuliginosus (Claparède, 1868)
19	Stylostomum ellipse	Stylostomum ellipse	Don't usually do these but looks right	Stylostomum ellipse (Dalyell, 1853)
20	Cillenus lateralis	Carabidae	Taxonomic resolution reduced; doesn't look quite right but not happy to suggest an alternative name	Carabidae Latreille, 1802
21	Hypereteone	Eteone sp. A	Recording policy difference; probably E. lighti (in Hypereteone, which is likely to be lumped into Eteone) but keeping this notation for now	Eteone Savigny, 1822
22	Galathowenia oculata	Galathowenia oculata		Galathowenia oculata (Zachs, 1923)
23	Philine quadripartita	Philine quadripartita		Philine quadripartita Ascanius, 1772
24	Saccoglossus	Enteropneusta	Taxonomic resolution reduced; don't usually do these but probably 2 spp. In vial	Enteropneusta Gegenbaur, 1870
25	Eteone longa	Eteone longa		Eteone longa (Fabricius, 1780)

	NMBACC Scheme Laboratory Reference Interim Results			
	Laboratory reference: LR25	Audit Completion Date: 30 April 2021		
	Date received: 19 February 2021	Auditor (lead): Tim Worsfold		
	Laboratory Code: BI_2707	Auditor (review): David Hall / Nicola Pennisi		

Key: Blue text = no change, Green text = change

No.	Original Data (OD) Identification	Edited Data (ED) Identification	Comment	WoRMS List Reference (30/04/21)
1	Owenia fusiformis	Owenia borealis	Taxonomic edit	Owenia borealis Koh, Bhaud & Jirkov, 2003
2	Protomeдея fasciata	Protomeдея fasciata		Protomeдея fasciata Krøyer, 1842
3	Leptosynapta inhaerens	Leptosynapta bergensis	Taxonomic edit	Leptosynapta bergensis (Östergren, 1905)
4	Chaetoderma nitidulum	Chaetoderma nitidulum		Chaetoderma nitidulum Lovén, 1844
5	Paradoneis eliasoni	Paradoneis eliasoni		Paradoneis eliasoni Mackie, 1991
6	Aricidea (Strelzovia) suecica	Aricidea catherinae	Taxonomic edit	Aricidea (Acmira) catherinae Laubier, 1967
7	Dipolydora coeca	Dipolydora Species B / saintjosephi	Taxonomic edit	Dipolydora saintjosephi (Eliason, 1920)
8	Syllis cornuta	Syllis cornuta		Syllis cornuta Rathke, 1843
9	Ophryotrocha hartmanni	Ophryotrocha	Taxonomic resolution reduced	Ophryotrocha Claparède & Mecznikow, 1869
10	Dosinia lupinus	Dosinia lupinus		Dosinia lupinus (Linnaeus, 1758)
11	Ceratocephale loveni	Rullierinereis ancornunezi	Taxonomic edit	Rullierinereis ancornunezi Núñez & Brito, 2006
12	Trichobranthus roseus	Trichobranthus roseus		Trichobranthus roseus (Malm, 1874)
13	Leiochone sp.	Leiochone		Leiochone Grube, 1868
14	Malacoceros vulgaris	Malacoceros girardi	Taxonomic edit	Malacoceros girardi Quatrefages, 1843
15	Spio filicornis	Spio symphyta	Taxonomic edit	Spio symphyta Meißner, Bick & Bastrop, 2011
16	Tryphosites longipes	Tryphosites longipes		Tryphosites longipes (Spence Bate & Westwood, 1861)
17	Nephtys kersivalensis	Nephtys kersivalensis		Nephtys kersivalensis McIntosh, 1908
18	Macoma calcarea	Macoma calcarea		Macoma calcarea (Gmelin, 1791)
19	Spisula elliptica	Spisula elliptica juv.	Recording policy difference	Spisula elliptica (T. Brown, 1827)
20	Glycera lapidum	Glycera lapidum		Glycera lapidum Quatrefages, 1866
21	Syllis armillaris	Syllis armillaris		Syllis armillaris (O.F. Müller, 1776)
22	Polycirrus norvegicus	Polycirrus norvegicus		Polycirrus norvegicus Wollebaek, 1912
23	Actaedrilus polyonyx	Actaedrilus polyonyx		Actaedrilus polyonyx (Eliason, 1962)
24	Macrochaeta clavicornis	Macrochaeta clavicornis		Macrochaeta clavicornis (M. Sars, 1835)
25	Thracia myopsis	Thracia convexa juv.	Taxonomic edit	Thracia convexa (W. Wood, 1815)