

Supplementary Information for tables S1 – S3:

**Multi-marker metabarcoding approach to study mesozooplankton at basin scale**

Sergio Stefanni<sup>a\*</sup>, David Stanković<sup>b, c</sup>, Diego Borme<sup>d</sup>, Alessandra de Olazabal<sup>d</sup>, Tea Juretić<sup>d, e</sup>,  
Alberto Pallavicini<sup>b</sup>, Valentina Tirelli<sup>d</sup>.

**Affiliations:** <sup>a</sup>Stazione Zoologica Anton Dohrn, Villa Comunale, Naples, Italy; <sup>b</sup>Department of Life Sciences, University of Trieste, Via Licio Giorgieri 5, Trieste, Italy; <sup>c</sup>National Institute of Biology, Marine Biology Station, Fornače 41, Piran, Slovenia; <sup>d</sup>Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS), Via A. Piccard 54, Trieste, Italy; <sup>e</sup>Institute of Oceanography and Fisheries, Šetalište I. Meštrovića 63, Split, Croatia.

\*corresponding author

E-mail: [sergio.stefanni@szn.it](mailto:sergio.stefanni@szn.it)

Phylum	Order	Family	0_NCBI TAXONOMY	COI 90%	COI 95%	COI 97%	18S 95%	18S 97%	18S 99%	Notes (WoRMS, WRIMS, Razouls, FISHbase, literature, personal knowledge)	
Chaetognatha	Aphragmophora	Sagittidae	<i>Flaccisagitta enflata</i>	X	X	X	X	X	X		
			<i>Parasagitta</i>				X	X	X	18S identified it as either P.elegans or P.megalopthalma, of which neither is present in the Mediterranean	
			<i>Parasagitta setosa</i>	X	X	X					
			<i>Aidanosagitta crassa</i>				X				
			<i>Aidanosagitta neglecta</i>				X	X	X	NIS	
			<i>Decipisagitta decipiens</i>					X	+		
		Krohnittidae	<i>Krohnitta pacifica</i>				X	X	+	not in Med	
	Elopiformes	Megalopidae	<i>Megalops atlanticus</i>				X	X	+		
Chordata	Anguilliformes	Congridae	<i>Bathyrcoconger parvibranchialis</i>	X							Western Central Pacific
			<i>Trachurus mediterraneus</i>	X	X	X					
	Carangiformes	Carangidae	<i>Trachurus mediterraneus</i>	X	X	X					
			<i>Rhombosolea tapirina</i>					X			-
	Pleuronectiformes	Soleidae	<i>Pegusa impar</i>	X	X	X					
			<i>Buglossidium luteum</i>		X	X					
			<i>Cepola macrophthalmalma</i>	X	X	X					
	Perciformes	Cepolidae	<i>Trichopodus trichopterus</i>				X				Asian freshwater
			<i>Antennarius pictus</i>	X							Indo-Pacific
		Serranidae	<i>Serranus hepatus</i>	X	X	X					
			<i>Acanthopagrus butcheri</i>				X	X	X		
		Centracanthidae	<i>Spicara</i>	X	X	X					
	Gobiiformes	Gobiidae	<i>Aphia minuta</i>	X	X	X					
			<i>Gobius niger</i>	X	X	X					
	Atheriniformes	Atherinopsidae	<i>Atherinella</i> sp. BOLD:AAZ7636	X							not in Med
Beloniformes	Belonidae	<i>Belone belone</i>	X	X	X						
Syngnathiformes	Mullidae	<i>Mullus barbatus</i>	X	X	X						
Clupeiformes	Clupeidae	<i>Sardina pilchardus</i>	X	X				X			
		<i>Potamalosa richmondia</i>						X		-	not in Med (Australia)
	Engraulidae	<i>Anchoa hepsetus</i>	X								Central America
		<i>Engraulis encrasicolus</i>	X	X	X	X	X	X			
		<i>Engraulis australis</i>		X							they might appear due to the highintraspecific variability of COI for Engraulis
			<i>Engraulis japonicus</i>		X						they might appear due to the highintraspecific variability of COI for Engraulis
			<i>Engraulidae</i> sp. BOLD:AAG4822	X							
		<i>Styela</i>					X				
Tunicata	Stolidobranchia	Styelidae	<i>Styela plicata</i>	X	X	X			+	NIS potential for Adriatic (Venice Lagoon)	
Salpida	Salpidae	<i>Thalia democratica</i>				X	X				
		<i>Brooksia lacromae</i>	X			X	X				
		<i>Ritteriella retracta</i>				X					
		<i>Salpa maxima</i>				X	X				
Copelata	Oikopleuridae	<i>Oikopleura dioica</i>				X	X	X			
		<i>Megalocercus huxleyi</i>				X	X			not in Med	
Doliolida	Doliolidae	<i>Dolioletta gegenbauri</i>				X					
		<i>Doliolum denticulatum</i>				X	X				
		<i>Doliolum nationalis</i>				X	X				
		<i>Gorgonocephalus eucnemis</i>									not in Med
Echinodermata	Euryalida	Gorgonocephalidae	<i>Gorgonocephalus eucnemis</i>								not in Med
			<i>Ophiothrix fragilis</i>	X	X	X	X	X			
	Ophiotrichidae	<i>Ophiothrix oerstedii</i>				X	X			-	not in Med (Gulf of Mexico)
		<i>Ophiocoma echinata</i>				X	X			-	not in Med (Gulf of Mexico)
	Ophiocomidae	<i>Ophiopsammus angusta</i>	X								New Zealand
		<i>Ophiocten sericeum</i>	X								not in Med. (Arctic Ocean, North Atlantic Ocean, Canada, West Coast of England)
	Ophiuridae	<i>Ophioderma longicauda</i>			X						
		<i>Ophiomyxa</i>				X					
	Ophiomyxidae	<i>Ophiocanops fugiens</i>									
		<i>Amphipholis squamata</i>				X	X				
Amphiuridae	<i>Amphiura abyssorum</i>				X	X			+	Most likely A.filiformis	
	<i>Amphiura filiformis</i>	X	X	X							
Paxillosida	Astropectinidae	<i>Astropecten irregularis</i>	X	X	X						
Clypeasteroidea	Echinocyamidae	<i>Echinocyamus pusillus</i>				X	X	X			
		<i>Brissopsis lyrifera</i>	X	X	X						
Spatangoida	Eurypatagidae	<i>Paramaretia multituberculata</i>	X								not in Med (Australia)
		<i>Echinocardium cordatum</i>	X	X	X				+		
Camarodonta	Parechinidae	<i>Paracentrotus lividus</i>	X	X	X	X	X				According to 18S this species is either P.lividus or Sterechinus neumayeri, however S.neumayeri is not Present in the Mediterranean

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			<i>Psammechinus miliaris</i>	X	X	X				not in Med
		Trigonocidaridae	<i>Genocidaris maculata</i>	X	X	X				
		Strongylocentrotidae	<i>Strongylocentrotus purpuratus</i>							not in Mediterranean
	Aspidochirotida	Holothuriidae	<i>Holothuria</i>	X	X	X	X	X	X	
	Arbacioida	Arbaciidae	<i>Arbacia lixula</i>		X	X	X	X	X	
			<i>Tetrapygus niger</i>	X						not in Med (South Africa)
Hemichordata	Enteropneusta	Ptychoderidae	<i>Tergivelum</i>							
Platyhelminthes	Polycladida	Euryleptidae	<i>Prostheceraeus vittatus</i>				X	X		
Arthropoda	Pantopoda	Nymphonidae	<i>Nymphon australe</i>				X	X	+	not in Med (South Pacific)
		Pallenopsidae	<i>Pallenopsis macneilli</i>	X						not in Med (Australia)
	Diplostraca	Sididae	<i>Penilia avirostris</i>	X	X	X	X	X		
		Podonidae	<i>Evadne spinifera</i>	X	X	X	X	X		
			<i>Evadne nordmanni</i>							
			<i>Pleopis</i>	X	X	X				The MOTU is recognized as either P.polyphemoides or as P.sp. BOLD:AAI2700
			<i>Pseudevadne tergestina</i>	X	X	X				
			<i>Podon intermedius</i>	X	X	X	X	X	+	
	Decapoda	Penaeidae	<i>Melicertus kerathurus</i>	X	X	X				
			<i>Parapenaeus longirostris</i>	X	X	X				
			<i>Penaeus japonicus</i>				X			
		Sicyoniidae	<i>Sicyonia laevigata</i>				X	X	+	not in Med (Gulf of Mexico). Possibly S. carinata
			<i>Solenocera membranacea</i>	X	X	X				
		Aegliidae	<i>Aegla itacolomiensis</i>	X						Brazil freshwater
		Galatheididae	<i>Galathea acis</i>	X	X	X				not in Med
		Munididae	<i>Munida rutilanti</i>	X	X	X	X	X	+	
		Lithodidae	<i>Paralithodes camtschaticus</i>	X						not in Med
		Paguridae	<i>Paguridae</i> sp. BOLD:ABW1528	X	X					
		Dorippoidea	<i>Medorippe lanata</i>		X	X				
		Goneplacidae	<i>Goneplax rhomboides</i>	X	X					
		Calappidae	<i>Calappa granulata</i>	X	X	X				
			<i>Calappa gallus</i>				X			not in Med
			<i>Cycloes granulosa</i>							not in Med
			<i>Hepatus epheliticus</i>				X	X	-	not in Med
		Leucosiidae	<i>Ebalia cranchii</i>	X	X	X				
		Epiplatidae	<i>Taliepus dentatus</i>	X						not in Med
		Inachidae	<i>Inachus dorsettensis</i>	X	X	X				
		Parthenopidae	<i>Parthenopoides massena</i>	X	X	X				
			<i>Enoplolambrus validus</i>							not in Med (China)
			<i>Derilambrus angulifrons</i>	X	X	X				
		Majidae	<i>Maja crispata</i>							
		Pilumnidae	<i>Pilumnus hirtellus</i>	X	X	X				
		Polybiidae	<i>Liocarcinus depurator</i>	X	X	X	X	X	X	
			<i>Liocarcinus maculatus</i>	X	X	X	X	X	X	
			<i>Liocarcinus marmoreus</i>	X	X					not in Med
			<i>Liocarcinus pusillus</i>	X						
		Portunidae	<i>Charybdis variegata</i>				X	X	-	not in Med (Subtropical. Indo-West Pacific: China, Taiwan and Japan)
		Xanthidae	<i>Xantho pilipes</i>	X	X	X				
			<i>Ladomedaeus serratus</i>				X			
			<i>Micropanope pusilla</i>					X	-	Gulf OF mexico; in MED M. Rufopunctata
		Erphioidea	<i>Eriphides hispida</i>					X	-	not in Med
			<i>Cyclograpsus cinereus</i>					X	-	not in Med (Pacific)
		Varunidae	<i>Gaetice depressus</i>				X	X	-	not in Med (Pacific)
			<i>Hemigrapsus</i>				X	X		According to 18S this species is either H.penicillatus or H.takanoi, but neither is present in Med. However, H.sanguineus is a NIB confirmed in the Adriatic (Schubart, 2003) and its 18S sequence is missing in the NCBI database.
			<i>Paragrapsus laevis</i>				X	X		
		Macrophthalmidae	<i>Macrophthalmus japonicus</i>				X	X	-	not in Med (Pacific)
		Ocypodidae	<i>Ocypode quadrata</i>				X	X	-	not in Med
		Alpheidae	<i>Alpheus</i>	X	X	X				COI recognize this MOTU as A.glaber, while 18S recognized both as A.lobidens and A.dentipes or just as Alpheus; A.glaber and A.dentipes are reported from the Adriatic, while A.lobidens from the Levantine coast. The NCBI database holds records of other species for both genes.
			<i>Athanas nitescens</i>	X	X	X	X	X		

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			<i>Synalpheus tjou</i>	X						not in Med (Australia)
	Hippolytidae		<i>Eualus cranchii</i>	X	X	X	X	X		
	Acanthephyridae		<i>Ephyrina figueirai</i>					X	-	
	Pandalidae		<i>Pandalus montagui</i>					X		not in Med (sub Arctic)
	Crangonidae		<i>Philocheirus bispinosus</i>	X	X	X				
			<i>Crangonidae</i> sp. BOLD:ACR5265				X			
	Palaemonidae		<i>Palaemon</i>	X						
	Processidae		<i>Nikoides</i>	X			X	X	+	potential NIS: Genus not present in the MED; N. sibogae is ALIEN in the E. MED (Israel, 2014), where it was introduced from the Red Sea. The reference database is lacking both COI and 18S sequences from N. sibogae
			<i>Processa modica</i>	X	X	X				
			<i>Processa novveli</i>	X	X	X				
	Laomedidae		<i>Jaxea nocturna</i>	X	X	X		X		
	Upogebiidae		<i>Upogebia acanthura</i>				X			not in Med
			<i>Upogebia affinis</i>				X			
			<i>Upogebia deltaura</i>	X	X	X				
Euphausiacea	Euphausiidae		<i>Nematoscelis megalops</i>	X	X	X				
			<i>Nyctiphanes australis</i>	X	X					not in Med
			<i>Nyctiphanes simplex</i>	X						
			<i>Thysanoessa</i>				X	X		
			<i>Thysanopoda aequalis</i>				X	X		
Stomatopoda	Squillidae		<i>Squilla mantis</i>	X	X	X	X	X	X	18S could not distinguish between S.mantis, S.empusa and Kempella mikado, however only S.mantis is Present in the Med
Amphipoda	Hyperiidae		<i>Themisto japonica</i>	X						
			<i>Themisto</i>				X	X	X	
			<i>Themisto abyssorum</i>					X		
			<i>Themisto gaudichaudii</i>	X						
			<i>Themisto libellula</i>	X					X	not in Med
	Phronimidae		<i>Phronima bucephala</i>	X			X	X	+	
	Caprellidae		<i>Pseudoprotella phasma</i>							
	Oxycephalidae		<i>Cranoecephalus scleroticus</i>							
			<i>Streetsia challengeri</i>							
	Aoridae		<i>Aora gracilis</i>				X	X		
Mysida	Mysidae		<i>Anchialina agilis</i>				X	X		
			<i>Gastrosaccus spinifer</i>				X	X		
			<i>Haplostylus dispar</i>							
			<i>Erythroops</i>				X	X	-	
			<i>Acanthomysis longicornis</i>				X	X		
			<i>Diamysis mesohalobia</i>				X	X	+	
			<i>Siriella</i>							
			<i>Paramysis</i>				X	X	+	
			<i>Bowmaniella</i> sp. EC1				X	X	-	not in Med
Calanoida	Acartiidae		<i>Acartia (Acartiura) clausi</i>	X	X	X	X	X		
			<i>Acartia tonsa</i>	X	X	X				
	Aetideidae		<i>Pseudochirella obtusa</i>	X						
	Calanidae		<i>Calanus helgolandicus</i>	X	X	X	X	X		
			<i>Calanus euxinus</i>			X				
			<i>Calanus finmarchicus</i>				X	X	+	
			<i>Calanus jashnovi</i>				X	X	+	
			<i>Calanus sinicus</i>					X	-	
			<i>Ctenocalanus vanus</i>	X	X	X				
			<i>Mesocalanus tenuicornis</i>	X	X	X		X	+	
			<i>Nannocalanus minor</i>	X	X	X				
	Calocalanidae		<i>Calocalanus contractus</i>	X	X	X				
			<i>Calocalanus</i> sp. 2 AC-2013	X						
			<i>Calocalanus</i> sp. 1 AC-2013	X						
	Candaciidae		<i>Candacia armata</i>				X	X		
	Centropagidae		<i>Centropages</i>				X	X	X	18S cannot distinguish between C.typicus, C.hamatus and C.abdominalis in all reads. While the first two Are present in the Med C.abdominalis is not.
			<i>Isias clavipes</i>				X	X		
	Clausocalanidae		<i>Clausocalanus arcuicornis</i>	X	X	X				

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			<i>Clausocalanus furcatus</i>	X	X	X				
			<i>Clausocalanus jobei</i>	X	X	X				
			<i>Clausocalanus parapergens</i>	X	X					
			<i>Clausocalanus paululus</i>	X	X	X				
			<i>Clausocalanus pergens</i>	X	X	X				
			<i>Pseudocalanus minutus</i>	X						not in Med
			<i>Pseudocalanus elongatus</i>	X	X	X		X		
			<i>Pseudocalanus moultoni</i>				X	X	+	not in Med
			<i>Microcalanus</i> sp. AC-2010				X	X	-	
	Diaixidae		<i>Diaixis hibernica</i>	X	X	X				
	Euchaetidae		<i>Paraeuchaeta hebes</i>	X	X	X				
	Metridinidae		<i>Pleuromamma gracilis</i>	X	X	X				
			<i>Pleuromamma robusta</i>				X	X	X	
	Paracalanidae		<i>Paracalanus aculeatus</i>	X						
			<i>Paracalanus aff. indicus</i> AC-2013	X	X	X				
			<i>Paracalanus nanus</i>	X	X	X				
			<i>Paracalanus indicus</i>		X	X				
			<i>Paracalanus parvus</i>	X	X	X	X	X		
			<i>Paracalanus quasimodo</i>	X	X	X				
	Pontellidae		<i>Pontella</i>				X	X	+	
			<i>Anomalocera patersoni</i>				X			
	Pseudodiaptomidae		<i>Pseudodiaptomus marinus</i>	X	X	X	X	X	+	NIS
	Lucicutiidae		<i>Lucicutia flavicornis</i>	X	X	X				
	Temoridae		<i>Temora</i>				X	X	X	
			<i>Temora longicornis</i>	X	X	X				
			<i>Temora stylifera</i>	X	X	X				
	Ridgewayiidae		<i>Exumella mediterranea</i>							
	Cyclopoida	Cyclopidae	<i>Tritia</i>	X	X	X				
			<i>Diacyclops bisetosus</i>							
	Oithonidae		<i>Oithona similis</i>	X	X	X	X	X		
			<i>Oithona nana</i>				X	X		
			<i>Oithona davisae</i>		X	X				
			<i>Oithona simplex</i>							
			<i>Oithona</i> sp. 1 New Caledonia-RJH-2001							
			<i>Oithona</i> sp. 2 New Caledonia-RJH-2004				X			
			<i>Dioithona oculata</i>				X			
	Harpacticoida	Euterpinidae	<i>Euterpina acutifrons</i>	X	X	X	X	X		
		Ectinosomatidae	<i>Bradya</i> sp. Greenland-RJH-2004							
		Canuellidae	<i>Canuella perplexa</i>				X	X	+	Transition waters
		Peltidiidae	<i>Peltidium</i> sp. New Caledonia-RJH-2007							
	Poecilostomatoida	Oncaeidae	<i>Goniopsyllus rostratus</i>	X	X	X				
			<i>Oncaea cf. mediterranea</i> 'broad form'	X	X					
			<i>Oncaea scottodicaloi</i>	X	X	X				
			<i>Oncaea venusta</i>	X	X	X		X		
			<i>Oncaea waldemari</i>	X	X	X				
			<i>Oncaea</i> sp. MVZ-2013				X	X	+	
			<i>Triconia elongata</i>	X	X	X				
			<i>Triconia umerus</i>	X	X	X				
		Corycaeidae	<i>Ditrichocorycaeus anglicus</i>	X	X	X				
	Siphonostomatoida	Pennellidae	<i>Lernaeocera branchialis</i>				X			
	Sessilia	Balanidae	<i>Amphibalanus amphitrite</i>	X	X	X				
			<i>Amphibalanus improvisus</i>	X	X	X				
			<i>Amphibalanus</i> sp. OPC-2014	X	X	X				not in Med
			<i>Balanus trigonus</i>	X	X	X				
		Chthamalidae	<i>Chthamalus stellatus</i>	X	X	X				
		Coronulidae	<i>Chelonibia testudinaria</i>	X	X	X				
		Pyrgomatidae	<i>Ceratoconcha domingensis</i>	X						not in Med
	Halocyprida	Halocyprididae	<i>Conchoecia</i> sp. SN008				X			not in Med
			<i>Conchoecia</i> sp. OC-2001				X			
			<i>Archiconchoecia striata</i>	X	X	X				

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			<i>Metaconchecia skogsbergi</i>	X						
			<i>Porroecia spinirostris</i>	X	X	X				not in Med
			<i>Procerocacia microprocera</i>	X	X	X				not in Med
Annelida	Diptera	Chironomidae	<i>Chironomus salinarius</i>	X	X	X				Ali et al. 1985 (J Am Mosq Control Asso)
	Eunicida	Eunicidae	<i>Eunice roussaei</i>	X	X	X				
			<i>Marphysa sanguinea</i>	X						
	Amphinomida	Euphosinidae	<i>Euphosine armadillo</i>					X		-
	Phyllococida	Phyllococidae	<i>Alitta succinea</i>				X			
			<i>Phyllococidae sp. BMOO-13076</i>	X						not in Med
			<i>Phyllodoce groenlandica</i>				X	X		
			<i>Phyllodoce longipes</i>					X		+
			<i>Pseudomystides bathysiphonicola</i>					X		Not reported from Med.
			<i>Glycera</i>				X			
			<i>Glycera alba</i>					X		
			<i>Eteone longa</i>				X			
	Lopadorrhynchida	Lopadorrhynchidae	<i>Pelagobia cf. longicirrata OK-2012</i>					X		-
		Pilargidae	<i>Ancistrosyllis sp. AAN-2002</i>				X			not in Med (California)
			<i>Sigambra sp. BC-2003</i>				X	X		
		Nereididae	<i>Hediste diversicolor</i>	X	X	X				
		Polynoidae	<i>Austrolaenilla pelagica</i>	X						not in Med
			<i>Lepidonotus</i>					X	X	
		Tomopteridae	<i>Tomopteris</i>	X			X			
		Sigalionidae	<i>Sigalion spinosus</i>				X	X		+
	Sabellida	Sabellidae	<i>Amphicorina</i>				X			
		Oweniidae	<i>Owenia fusiformis</i>	X	X	X	X	X		
		Sabellariidae	<i>Sabellaria alveolata</i>				X	X		+
			<i>Sabellaria spinulosa</i>	X	X	X				
	Spionida	Spionidae	<i>Polydora cornuta</i>	X	X	X	X	X	X	According to 18S this is <i>P.brevipalpa</i> , while it is either <i>P.haswelli</i> (95%) or <i>P.comuta</i> (95%, 97%) according to COI. While all the species are not native in the Med, only <i>P.cornuta</i> is reported as a NIS here (including Adriatic).
			<i>Prionospio dubia</i>				X	X		-
			<i>Spio sp. LK-2011-1</i>				X	X		+
			<i>Spionidae sp. BMOO-13880</i>	X						
			<i>Spiophanes</i>							
			<i>Spiophanes kroyeri</i>					X		
			<i>Spiophanes bombyx</i>				X			
			<i>Boccardiella ligerica</i>							
			<i>Aurospio dibranchiata</i>					X		-
	Magelonidae		<i>Magelona sp VR-2004</i>				X	X		+
	Poecilochaetidae		<i>Poecilochaetus serpens</i>	X	X	X	X	X	X	
			<i>Poecilochaetus sp. VR-2006</i>				X	X		
	Ophelida	Ophelidae	<i>Ophelina/Armandia</i>				X	X	X	
			<i>Polyophthalmus pictus</i>				X	X	X	
	Capitellida	Capitellidae	<i>Capitella capitata CMC02</i>	X						
		Maldanidae	<i>Asychis disparidentata</i>				X			not in Med
		Chaetopteridae	<i>Mesochaetopterus taylori</i>							
			<i>Chaetopterus cf. luteus KJO-2005</i>				X	X		-
			<i>Telepsavus sp. BVB-2002</i>				X	X		+
	Terbellida	Terbelidae	<i>Lanice conchilega</i>				X	X		
		Cirratulidae	<i>Tharyx sp. THS-2012</i>					X		-
Brachipoda	Golfingiida	Sipunculidae	<i>Sipunculus nudus</i>	X	X	X	X	X		
			<i>Phoronis hippocrepeia</i>				X	X		
			<i>Phoronis muelleri</i>				X	X		
Bryozoa	Ctenostomatidae	Flustrellidridae	<i>Flustrellidra armata</i>	X						doubt in Med
Mollusca	Anomalodesmata	Cupispidariidae	<i>Cupispidaria cupispidata</i>	X	X	X				
		Corbulidae	<i>Corbula gibba</i>	X	X	X				
	Myida	Hiatellidae	<i>Hiatella</i>				X	X		+
			<i>Hiatella sp. D HML-2015</i>	X	X	X				
		Placunidae	<i>Placuna placenta</i>				X	X		
		Teredinidae	<i>Lyrodus/Bankia</i>				X	X	X	According to 18S this MOTU is either <i>Lyrodus pedicellatus</i> or <i>Bankia carinata</i> . However, NCBI Database also holds COI sequences for both species.

Phylum	Order	Family	0_NCBI TAXONOMY	COI 90%	COI 95%	COI 97%	18S 95%	18S 97%	18S 99%	Notes (WoRMS, WRIMS, Razouls, FISHbase, literature, personal knowledge)
Adapedonta	Pharidae		<i>Ensis magnus</i>	X						
Veneroida	Veneridae		<i>Ruditapes philippinarum</i>	X	X	X		X	+	NIS
			<i>Timoclea ovata</i>	X	X	X				
	Pharidae		<i>Phaxas pellucidus</i>			X	X			
"Imparidentia"	Montacutidae		<i>Kurtiella bidentata</i>	X		X				
	Gastrochaenidae		<i>Gastrochaena dubia</i>	X	X	X	X	X		
Cardiida	Semelidae		<i>Abra alba</i>	X		X		X	X	
	Cardiidae		<i>Vasticardium</i>			X	X	X		
			<i>Parvicardium minimum</i>			X	X	X		
	Tellinidae		<i>Iridona iridescens</i>				X	X	X	Not reported in Med
Arcida	Arcidae		<i>Anadara transversa</i>	X	X	X			+	NIS
			<i>Tegillarca nodifera</i>					X	-	
	Noetiidae		<i>Estellarca olivacea</i>					X	-	
										According to 18S this MOTU is either <i>Lasaea rubra</i> or <i>Kellia cf. jacksoniana</i> . While <i>L. rubra</i> is present in the Adriatic, the genus <i>Kellia</i> is not native in the Mediterranean; however <i>K. suborbicularis</i> is reported to be present in the Mediterranean as NIS.
"Imparidentia"	Lasaeidae/Kellidae		<i>Lasaea/Kellia</i>				X	X		
	Montacutidae		<i>Mysella vitrea</i>			X	X	X		
			<i>Tellmya ferruginosa</i>			X	X	X	X	
Limoida	Limidae		<i>Limaria hians</i>	X	X	X	X			
Mytiloidea	Mytilidae		<i>Mytilus</i>				X	X		
			<i>Arcuatula senhousia</i>					X	X	NIS
			<i>Modiolus</i>	X			X	X		According to COI this MOTU belongs to <i>M. phaesolina</i> , while 18S recognized it as either <i>M. americanus</i> , <i>M. rufus</i> or <i>M. modiolus</i> . Of these only the last species is reported for the Med and is a potential NIS.
			<i>Musculus discors / M. lateralis</i>				X	X		
			<i>Adula falcatoides</i>					X	-	not in Med (Pacific)
Ostreoida			<i>Hyotissa hyotis / H. mcgintyi</i>				X	X	+	potential NIS
	Gryphaeidae		<i>Neopycnodonte cochlear</i>	X	X	X				
	Ostreidae		<i>Crassostrea gigas</i>	X	X	X	X	X	+	NIS
			<i>Ostrea edulis</i>	X	X	X		X		
Pterioidea	Pinnidae		<i>Atrina fragilis</i>	X	X	X				
			<i>Atrina pectinata</i>	X						
Pectinida	Pectinidae		<i>Chlamys hastata</i>					X	+	
			<i>Mimachlamys varia</i>				X	X	X	
Sepiida	Sepiidae		<i>Sepia officinalis</i>	X	X	X				
Teuthida	Loliginidae		<i>Loligo vulgaris</i>	X	X	X				
"Sorbeoconcha"	Cypraeidae		<i>Cribrarula exmouthensis</i>	X						
	Dialidae		<i>Erronea rabaulensis</i>	X						
			<i>Dialidae sp. BMOO-03134</i>	X						
	Turritellidae		<i>Turritella communis</i>	X	X	X				
Littorinimorpha	Litorinidae		<i>Echinolittorina punctata</i>					X	-	NIS
	Hydrobiidae		<i>Ecrobia maritima</i>	X	X	X				
"Neogastropoda"	Pomatiopsidae		<i>Neotricula aperta</i>	X						Freshwater
	Conidae		<i>Conasprella mindana</i>	X						not in Med
			<i>Conus pertusus</i>	X						not in Med
			<i>Mangelia attenuata</i>	X						
	Muricidae		<i>Neothais harpa</i>	X						not in Med
	Mitridae		<i>Domipora filaris</i>	X						not in Med
	Fascioliariidae		<i>Amiantofusus sebalis</i>				X	X		not in Med
Cephalaspidea	Haminoeidae		<i>Haminoea oratei</i>	X	X	X				
			<i>Atys semistriata</i>					X	X	
	Retusidae		<i>Retusa umbilicata</i>	X	X	X				
	Aglajidae		<i>Chelidonura inornata</i>				X	X	-	
Thecosomata	Cavoliniidae		<i>Cavolinia inflexa</i>	X	X	X				
			<i>Creseis</i>				X	X		
			<i>Creseis clava</i>	X	X	X				
			<i>Creseis virgula</i>	X	X	X				
			<i>Diacria quadridentata</i>					X	+	not in Med
	Cuvierinidae		<i>Cuvierina columnella</i>				X	X	-	
	Limacinidae		<i>Heliconoides inflatus</i>	X	X	X				
Nudibranchia	Dendrodorididae		<i>Dendrodoris fumata</i>					X	-	NIS

Phylum	Order	Family	0_NCBI TAXONOMY	COI 90%	COI 95%	COI 97%	18S 95%	18S 97%	18S 99%	Notes (WoRMS, WRIMS, Razouls, FISHbase, literature, personal knowledge)
	Pleurobranchomorpha	Pleurobranchidae	<i>Pleurobranchaea meckeli</i>	X	X	X	X	X	X	
	"Hydrophila <snail>"	Lymnaeidae	<i>Lymnea stagnalis</i>	X						Freshwater
		Planorbidae	<i>Bulinus truncatus</i>	X						Freshwater
	"Pupilloidea"	Pyramidulidae	<i>Pyramidula pusilla</i>	X						Freshwater
	Sacoglossa	Limapontiidae	<i>Aplysiopsis minor</i>				X	X	X	Not present in Med. However, <i>A.elegans</i> was recently recorded in the Adriatic (Mavrič et al., 2014); <i>A.minor</i> (18S) and <i>A.enteromorpha</i> (COI) are the only species of the genus deposited in the NCBI Database.
			<i>Ercolania viridis</i>	X	X	X				
			<i>Elysia</i> sp. 3 GC-2014	X	X	X				
			<i>Calliopaea bellula</i>				X	X	+	not in Med
	"Acteonoidea"	Acteonidae	<i>Acteon tornatilis</i>	X	X	X	X	X		
	"Vetigastropoda"	Trochidae	<i>Diloma concamerata</i>	X						not in Med
		Hubrechtidae	<i>Hubrechtella dubia</i>				X	X	X	
		Carinomidae	<i>Carinoma</i> sp. BOLD: ACM5178	X						
		Tubulanidae	<i>Tubulanus</i> sp. MCZ IZ 45559	X						
			<i>Callinera grandis</i>				X	X	+	not in Med
	Heteronemertea	Lineidae	<i>Micrura varicolor</i>	X	X	X				not in Med
			<i>Micrura</i>	X	X	X	X	X		According to COI this MOTU belongs to <i>M.varicolor</i> , while 18S recognized it as either <i>M.ignea</i> or <i>M.fasciolata</i> . Of these only the last species is reported for the Med, while other species of this Genus are also reported for the Med.
			<i>Riseriellus occultus</i>	X						
			<i>Paranemertes</i>	X						
	Monostilifera	Poseidonemertidae	<i>Poseidonemertes</i>				X	X		
		Zancleidae	<i>Zanclea</i> sp. ZX JRH-2014	X						
	Cnidaria	Anthoathecata	<i>Triactis producta</i>				X			
		Actinaria	<i>Anemonia sulcata</i>				X	X		
		Balellidae	<i>Balella mirabilis</i>	X						not in Med
		Hydractiniidae	<i>Clavactinia serrata</i>							not in Med
		Bougainvillidae	<i>Bougainvillia muscus</i>	X	X	X		X		
			<i>Garveia grisea</i>							
			<i>Lizzia blondina</i>	X	X	X	X	X		
		Halimedusidae	<i>Tiaricodon coeruleus</i>	X						not in Med
		Metridiidae	<i>Metridium senile</i>					X	X	
		Pandeidae	<i>Leuckartiara octona</i>	X	X	X		X		
			<i>Proboscidactyla ornata</i>	X						not in Med
		Porpitiidae	<i>Porpita porpita</i>				X			
		Tubulariidae	<i>Ectopleura</i>				X	X		
			<i>Ectopleura dumortierii</i>	X	X	X				
		Ratkheidae	<i>Ratkeia octopunctata</i>				X	X		
	Leptothecatae	Aequoreidae	<i>Aequorea australis</i>	X			X	X	-	not in Med
			<i>Aequorea macrodactyla</i>	X						
			<i>Aequorea conica</i>	X						
		Blackfordiidae	<i>Blackfordia virginica</i>	X			X	X		
		Campanulariidae	<i>Campanularia subantarctica</i>	X						not in Med
			<i>Clytia elsaeoswaldae</i>				X			not in Med
			<i>Clytia hemisphaerica</i>				X	X		
			<i>Clytia folleata</i>							
			<i>Clytia gracilis</i>				X	X	+	Med ?
			<i>Clytia noliformis</i>				X			
			<i>Clytia</i> sp. GL JRH-2014	X						
			<i>Clytia</i> sp. KC JRH-2012				X			
			<i>Clytia xiamenensis</i>	X						not in Med
			<i>Eucoilota maculata</i>							
			<i>Eucoilota</i> sp. JRH-2014	X						
			<i>Obelia</i>	X			X	X	X	According to 18S this MOTU belongs to either <i>O.dichotoma</i> or <i>O.geniculata</i> , while COI identified it as either <i>O.dichotoma</i> or an undescribed species of <i>Obelia</i> .
		Eirenidae	<i>Eirene ceylonensis</i>	X						not in Med
			<i>Eirene brevistylus</i>				X			not in Med
			<i>Eirene pyramidalis</i>	X						not in Med
			<i>Eirene hexamenalis</i>	X						not in Med
			<i>Eutima curva</i>				X	X	+	not in Med

Tab_S1										
Phylum	Order	Family	0_NCBI TAXONOMY	COI 90%	COI 95%	COI 97%	18S 95%	18S 97%	18S 99%	Notes (WoRMS, WRIMS, Razouls, FISHbase, literature, personal knowledge)
			<i>Eutima gracilis</i>	X	X	X				
			<i>Eutonina indicans</i>							
			<i>Helgicirrha schulzii</i>	X	X	X				
		Plumulariidae	<i>Plumularia setacea</i>	X						
		Sugiuridae	<i>Sugiura chengshanense</i>	X						
Actiniaria		Actiniidae	<i>Bunodosoma granuliferum</i>					X	-	not in Med
		Diadumenidae	<i>Diadumene lineata</i>	X						
		Sagartiidae	<i>Sagartiogeton undatus</i>					X		
Siphonophora		Clausophyidae	<i>Chuniphyes multidentata</i>	X						
		Prayidae	<i>Gilia reticulata</i>				X	X		
			<i>Lilyopsis medusa</i>				X	X	+	
		Agalmatidae	<i>Marrus sp. 1 BO-2009</i>	X						not in Med
			<i>Nanomia bijuga</i>	X	X	X				
		Apolemidae	<i>Apolemia sp. 1 YPM 35035</i>	X						
		Diphyinae	<i>Muggiaea atlantica</i>	X	X	X				
			<i>Lensia campanella</i>			X				
Narcomedusae		Aeginidae	<i>Solmundella bitentaculata</i>				X	X	+	not in Med
Trachymedusae		Geryoniidae	<i>Liriope tetraphylla</i>	X			X	X		
		Rhopalonematidae	<i>Aglantha digitale</i>				X	X		
			<i>Aglaura hemistoma</i>					X	+	
			<i>Rhopalonema velatum</i>					X	X	
		Rhizostomeae	<i>Nemopilema nomurai</i>	X						
			<i>Rhizostoma pulmo</i>	X	X	X	X	X		
Limnomedusae		Olindiidae	<i>Aglauropsis aeora</i>							
		Alcyonacea	<i>Junceella fragilis</i>	X			X	X	+	not in Med
Porifera		Bubarida	<i>Scopalina ruetzleri</i>	X						
		Clionaida	<i>Spirastrella</i>				X	X	X	
		Haplosclerida	<i>Haliclona amboinensis</i>	X						
		Tethyida	<i>Axos cliftoni</i>	X						not in Med
Ctenophora		Beroidea	<i>Beroe</i>				X	X	+	
		Cyrtippida	<i>Mertensia ovum</i> /Undescribed mertensiid/ <i>Euplokamis sp.</i>				X	X	X	<i>Martensia ovum</i> is not present in the Med, while other Martensiids are known to be present here
		Mertensiidae	<i>Charistephane fugiens</i>	X						
		Lampocteridae	<i>Lampocteis cruentiventer</i>				X	X	+	not in Med (Pacific)
		Pleurobrachidae	<i>Pleurobrachia pileus</i>					X	+	
Gastrotricha	Macrodasyida	Macrodasyidae	<i>Urodasys sp. 114a</i>	X	X	X				

Table S1. Exhaustive list of taxa recovered at the minimum similarity thresholds of 90%, 95% and 97% for both genes and 99% for 18S only. A plausible misidentification is highlighted in blue, a non-indigenous species (NIS) is in red and a discarded species is in pink. Matches represented by singletons are marked in grey.

	Taxa	Morphology	Metabarcoding	COI	18S
<b>Cladocera</b>	<i>Evadne nordmanni</i>	x			
	<i>Evadne spinifera</i>	x	x	x	x
	<i>Penilia avirostris</i>	x	x	x	x
	<i>Pleopis polyphemoides</i>	x	x	x	
	<i>Podon intermedius</i>	x	x	x	
	<i>Pseudevadne tergestina</i>	x		x	
<b>Copepoda</b>	<i>Acartia (Acartiura) clausi</i>	x	x	x	x
	<i>Acartia negligens</i>	x			
	<i>Acartia longiremis</i>	x			
	<i>Calanus finmarchicus</i>		x		x
	<i>Calanus helgolandicus</i>	x	x	x	x
	<i>Calocalanus contractus</i>	x	x	x	
	<i>Calocalanus plumulosus</i>	x			
	<i>Calocalanus styliremis</i>	x			
	<i>Candacia armata</i>		x		x
	<i>Candacia giesbrechti</i>	x			
	<i>Centropages kroyeri</i>	x			
	<i>Clausocalanus arcuicornis</i>	x	x	x	
	<i>Clausocalanus furcatus</i>	x	x	x	
	<i>Clausocalanus jobei</i>	x	x	x	
	<i>Clausocalanus parapergens</i>	x		x	
	<i>Clausocalanus paululus</i>	x	x	x	
	<i>Clausocalanus pergens</i>	x	x	x	
	<i>Ctenocalanus vanus</i>	x	x	x	
	<i>Copilia quadrata</i>	x			
	<i>Diaixis hibernica</i>		x	x	
	<i>Diaixis pygmaea</i>	x			
	<i>Ditrichocorycaeus brehmi</i>	x			
	<i>Euterpina acutifrons</i>	x	x	x	x
	<i>Farranula</i>	x			
	<i>Goniopsyllus rostratus</i>	x	x	x	
	<i>Haloptilus longicornis</i>	x			
	<i>Isias clavipes</i>	x			x
	<i>Mecynocera clausi</i>	x			
	<i>Mesocalanus tenuicornis</i>	x	x	x	x
	<i>Microcalanus</i>		x	x	
	<i>Microsetella norvegica</i>	x			
	<i>Microsetella rosea</i>	x			
	<i>Nannocalanus minor</i>	x	x	x	
	<i>Neocalanus gracilis</i>	x			
	<i>Oithona nana</i>	x	x		x
	<i>Oithona plumifera</i>	x			
	<i>Oithona setigera</i>	x			
	<i>Oithona similis</i>	x	x	x	x
	<i>Oncaea curta</i>	x			
	<i>Oncaea media</i>	x			
<i>Oncaea mediterranea</i>	x	x	x		
<i>Oncaea scottodicarloi</i>		x	x		
<i>Oncaea venusta</i>	x	x	x	x	
<i>Oncaea waldemari</i>		x	x		

<b>Taxa</b>	<b>Morphology</b>	<b>Metabarcoding</b>	<b>COI</b>	<b>18S</b>
<i>Paracalanus denudatus</i>	x			
<i>Paracalanus nanus</i>	x		x	
<i>Paracalanus indicus</i>		x	x	
<i>Paracalanus parvus</i>	x	x	x	x
<i>Paracalanus quasimodo</i>		x	x	
<i>Paraeuchaeta hebes</i>	x	x	x	
<i>Pleuromamma gracilis</i>	x	x	x	
<i>Pleuromamma robusta</i>		x		x
<i>Pseudocalanus elongatus</i>		x	x	x
<i>Pseudocalanus moultoni</i>		x		x
<i>Pseudodiaptomus marinus</i>	x	x	x	x
<i>Sapphirina</i>	x			
<i>Temora longicornis</i>	x	x	x	
<i>Temora stylifera</i>	x	x	x	
<i>Triconia dentipes</i>	x			
<i>Triconia umerus</i>		x	x	
<i>Tritia</i>		x	x	

Table S2. List of taxa identified by morphological and/or DNA metabarcoding approaches (COI and 18S).

Station	cruise	Date	time	Latitude N	Longitude E	Depth
4	Echosurvey	8/27/2014	09:57	43°48.43	13°09.75	13.0
6	Echosurvey	8/27/2014	13:47	44°00.28	13°23.92	61.4
8	Echosurvey	8/27/2014	15:58	44°12.56	13°38.67	63.8
12	Echosurvey	8/29/2014	23:13	44°29.993	13°08.026	41.4
14	Echosurvey	8/30/2014	01:48	44°18.81	12°52.90	41.8
16	Echosurvey	8/30/2014	04:12	44°07.47	12°37.54	11.0
20	Echosurvey	8/30/2014	17:03	44°30.14	12°23.87	13.0
22	Echosurvey	8/30/2014	20:53	44°39.14	12°45.49	34.6
24	Echosurvey	8/30/2014	23:14	44°47.34	13°05.83	40.0
25	Echosurvey	8/31/2014	02:30	44°42.526	12°26.790	21.0
26	Echosurvey	8/31/2014	04:41	44°55.236	12°35.155	16.3
28	Echosurvey	8/31/2014	08:05	44°58.47	13°04.76	35.0
30	Echosurvey	9/1/2014	12:42	45°40.00	13°32.88	16.0
32	Echosurvey	9/1/2014	15:26	45°34.41	13°42.05	18.0
33	Echosurvey	9/1/2014	17:11	45°33.01	13°34.33	22.0
35	Echosurvey	9/1/2014	21:43	45°43.06	13°39.52	16.5
36	Echosurvey	9/2/2014	00:25	45°39.24	13°13.65	14.3
37	Echosurvey	9/2/2014	01:26	45°32.77	13°18.58	20.7
38	Echosurvey	9/2/2014	04:31	45°31.306	12°50.636	17.0
40	Echosurvey	9/4/2014	17:17	45°22.96	13°07.50	28.6
41	Echosurvey	9/4/2014	18:19	45°15.84	13°03.02	31.0
42	Echosurvey	9/4/2014	20:35	45°27.82	12°41.73	19.0
43	Echosurvey	9/4/2014	21:36	45°22.99	12°32.77	19.0
44	Echosurvey	9/5/2014	06:46	45°16.65	12°46.75	27.0
45	Echosurvey	9/5/2014	10:04	45°15.12	12°24.53	21.0
46	Echosurvey	9/5/2014	11:24	45°05.30	12°26.24	22.6
48	Echosurvey	9/5/2014	14:29	45°09.41	12°43.63	30.6
50	Echosurvey	9/5/2014	16:22	45°07.46	13°02.13	34.3
52	Echosurvey	9/7/2014	14:46	43°38.79	13°35.79	19.8
54	Echosurvey	9/7/2014	16:47	43°46.51	13°53.58	74.6
56	Echosurvey	9/7/2014	18:46	43°53.72	14°10.42	72.4
58	Echosurvey	9/8/2014	07:52	43°27.99	14°32.92	88.8
60	Echosurvey	9/8/2014	11:25	43°19.97	14°13.29	75.3
62	Echosurvey	9/8/2014	13:49	43°11.37	13°52.36	14.5
65	Echosurvey	9/9/2014	04:20	42°41.47	14°04.70	14.8
66	Echosurvey	9/9/2014	08:44	42°45.72	14°18.42	87.6
67	Echosurvey	9/9/2014	10:28	42°49.88	14°32.25	206.4
70	Echosurvey	9/9/2014	23:24	42°39.26	15°18.26	135.0
73	Echosurvey	9/10/2014	02:26	42°28.74	14°56.62	154.6
76	Echosurvey	9/10/2014	06:45	42°18.09	14°34.39	22.3
79	Echosurvey	9/10/2014	21:41	41°58.89	15°06.13	17.1
82	Echosurvey	9/11/2014	00:53	42°13.66	15°31.24	115.0
85	Echosurvey	9/11/2014	04:06	42°27.61	15°55.25	129.7
89	Echosurvey	9/13/2014	14:12	41°58.79	16°02.99	21.0
90	Echosurvey	9/13/2014	16:30	42°09.73	16°17.13	127.5
94	Echosurvey	9/16/2014	12:03	42°41.50	14°04.68	15.3

Table S3. Details of the position of the stations, date of sampling and respective depths in metres.