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Bryozoan diversity in the Mediterranean Sea: an update

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Abstract

This paper provides a current view of the bryozoan diversity of the Mediterranean Sea updating the checklist by Rosso (2003). Bryozoans presently living in the Mediterranean increase to 556 species, 212 genera and 93 families. Cheilostomes largely prevail (424 species, 159 genera and 64 families) followed by cyclostomes (75 species, 26 genera and 11 families) and ctenostomes (57 species, 27 genera and 18 families). Few families and genera make the bulk of this biodiversity whereas one third of families are monospecific. The number of species-rank taxa has increased by 81 in the last dozen years but most of these additions relate to the revision of material from old collections and to the introduction of non-indigenous species. Most of the bryozoan diversity is distributed in the coralligenous and dark and semi-dark cave biocoenoses followed by detritic bottoms. Diversity lowers in shallow-water vegetated bottoms and in bathyal habitats. A further increase in diversity is expected from investigation of still poorly known areas and habitats and the need for rapid assessment is remarked on in view of the management of Mediterranean habitats through the EU Marine Strategy Directive.

Keywords: Bryozoa, Mediterranean, updated checklist, SEM taxonomy, environmental change, human impact, non-indigenous species.

Introduction

"In knowledge of biodiversity lie both clues to our past and our best hopes for the future". This sentence from Wheeler *et al.* (2012) epitomizes the feeling of the participants in a discussion about the importance of assessing the present state of global species biodiversity. A comprehensive knowledge of biodiversity is especially relevant nowadays when sudden environmental changes, largely induced or exacerbated by human activities, pose a threat to habitats and the species living in them. Current European regulations include the protection of habitats in order to protect their biodiversity (Boero & Bonsdorff, 2007). An effort is needed to achieve a more comprehensive knowledge of the distribution of global biodiversity in order to understand its origin and evolution (through phylogeny), to protect it against climatic changes and deal with the ever-increasing introduction of non-indigenous species, as well as for recreational and other practical reasons (exploration for new substances, process understanding, etc.). Bryozoans are a target group to address many of the above-mentioned points, as they are significant components of the fossil record because of their calcium carbonate skeletons, and a major component of biodiversity in the modern ocean from shallow-water habitats to the deep-sea. Some species may have roles in structuring habitats, some are the source of pharmacologically exploited compounds, and some develop large and colourful colonies attractive to scuba divers.

In this context, the present work aims to explore present-day Mediterranean bryozoan diversity. Since the last checklist of Rosso was published in 2003, an update and revisions are necessary because of the large number of taxonomic papers published, either introducing new species based on the study of museum collections as well as new sampling, or solving taxonomic puzzles.

Materials and Methods

The present compilation derives from the revision and updating of the Mediterranean bryozoan checklist of Rosso (2003). New data come from: 1) a checklist of bryozoans from Italian Seas (Rosso *et al*., 2010a); 2) 'old' papers previously unavailable; 3) surveys including lists of bryozoan species from specific habitats and/or geographical areas, especially neglected sectors such as northern Africa and the Aegean-Levantine seas; 4) recent taxonomic papers, including revisions and new reports from the Mediterranean and beyond; 5) taxonomic papers introducing new genera and families which better accommodate existing Mediterranean taxa; 6) papers on Cenozoic faunas with notes on Recent species; and 7) papers on non-indigenous species. Additional information comes from personal unpublished data and on-going research in the Sicily Channel and Sardinia (AR & EDM) and selected Aegean sites (Gerovasileiou & Rosso, in

prep.). The complete list of checked references not directly cited in the text is given in Appendix 1.

Bryozoan species present in the Mediterranean Sea are listed in Table 1 using the systematic order of families proposed by Bock & Gordon (2013), integrated with the listing of genera in the Bryozoa Homepage edited by Bock (bryozoa.net) and WoRMS (World Register of Marine Species) compiled by Bock & Gordon (2016) (http://www.catalogueoflife.org/col/details/database/id/81).

All changes made to the species list of Rosso (2003) are indicated in Table 1, including: 1) newly added species, genera and families; 2) names derived from new combinations; 3) addition of species following the splitting of species complexes; and 4) the status of non-indigenous bryozoans (NIB) in the Mediterranean Sea. Further remarks, numbered from 1 to 140 in Table 1 and included in Appendix 2, complement the species entry. Comments were omitted for all the entries previously discussed in Rosso *et al.* (2010a). In cases where the genus is stipulated but the species is undetermined (e.g., *Annectocyma* sp.) the taxon is listed only if it is the unique occurrence of the genus, or if it is clearly distinct from established species, thoroughly described and figured (e.g., *Stomatopora* sp. *sensu* Harmelin, 1976).

Table 2 summarizes the relationships among taxa within the groups. Tables 3 and 4 are lists of species erected in old papers and lacking a comprehensive description and illustrations, subsequently reported only in reviews and checklists from the Adriatic Sea (Heller, 1867; Hincks, 1886; Novosel & Požar-Domac, 2001, and references therein), the Aegean-Black Sea (Koçak & Aydin Önen, 2014, and references therein) and the NW African area (Canu & Bassler, 1930; d'Hondt & Mascarell, 2004; Ayari & Taylor, 2014). These species were not included in Table 1 because revision of the original material is needed to ascertain their validity. Table 5 lists the species present in Rosso (2003) but missing in the current compilation, with comments and references supporting their exclusion. To compare previous and current estimates of Mediterranean bryodiversity, the figures reported in Rosso (2003) were corrected, adding overlooked species and removing others because they were mistakenly believed to live in the Mediterranean. Figures were also corrected to consider subspecies as distinct taxa. A further comparison was made with data available from the literature for well-investigated geographical areas and the global ocean. The diversity of bryozoans in selected Mediterranean habitats is also shown using plots.

Results

Present-day bryodiversity in the Mediterranean Sea

The present-day Mediterranean bryozoan fauna numbers 556 species in 212 genera and 93 families (Tabs 1, 2). They mostly belong to Gymnolaemata, comprising 481 species (86.5%), 186 genera (87.7%) and 82 families (88.2%). Cheilostomatida account for the greater part of this diversity, dominating at species level with 424 species (76.3%) (Figs 1, 2). This figure is slightly lower at genus level (159 genera, 75.0%) and especially at family level (64 families, 68.8%). Cheilostomatida outnumbers both Cyclostomatida (unique living representatives of the Stenolaemata), which include 75 species (13.5%), 26 genera (12.3%) and 11 families (11.8%), and Ctenostomatida with only 57 species (10.2%), 27 genera (12.7%) and 18 families (19.4%).

Table 2 and Figure 3 show that most of the bryodiversity is contained within a few families, whereas 28 families, corresponding to 30% of the total, are represented by a single genus and a single species. This figure is particularly marked for cheilostomes (31% of families), but slightly lowers for cyclostomes and ctenostomes (nearly 27% and 28% of families, respectively). Two exceptionally species-rich cheilostome families (Phidoloporidae and Celleporidae), with 71 species, correspond to 12.8% of the total species diversity. These along with another four families – the cheilostome Bitectiporidae (29 spp.), Cribrilinidae (25 spp.), Calloporidae (23 spp.) and Smittinidae (22 spp.) – represent 6.5% of the families but more than the 30.6% of the species. Four further families – the cyclostome Crisiidae (19 spp.) and the cheilostome Bugulidae (19 spp.), Romancheinidae (19 spp.) and Candidae (18 spp.) – raise this figure to 10.8% of families and 44% of species.

The above-mentioned families also include the greatest number of genera (Tabs 1, 2). It is well known, for instance, that Calloporidae, one of the largest families with respect to generic diversity, is considered as a waste-bin for basal, paraphyletic neocheilostomes (Di Martino & Taylor, 2012). With 66 species, calloporids are also the most speciose family in the New Zealand Exclusive Economic Zone (Gordon *et al*., 2009). Mediterranean Calloporidae include 12 genera with 1–2 species each, exceptionally 4 (*Copidozoum*) or 5 (*Callopora*), totalling 23 species. Phidoloporidae and Celleporidae also have a high generic diversity, comprising 11 and 9 genera respectively, several of which are monospecific, while a few are exceptionally rich, such as the phidoloporid genera *Reteporella* (15 spp.), *Rhynchozoon* (7 spp.) and *Schizoretepora* (5 spp.), and the celleporid genera *Celleporina* (10 spp.) and *Turbicellepora* (10 spp.).

The other species-rich families include some of the most species-rich genera: Bitectiporidae with *Schizomavella* (22 spp.), Cribrilinidae with *Puellina* (18 spp.), Smittinidae with *Parasmittina* (8 spp.) and *Smittina* (7 spp.), and Crisiidae with *Crisia* (15 spp.) accounting for most of their diversity. Additional species-rich genera are *Disporella* (9 spp.), *Alcyonidium* (8 spp.), *Schizoporella* (10 spp.), *Escharella* (9 spp.) and *Microporella* (8 spp.). All of these genera are well known to be species-rich both in the Mediterranean (Rosso, 2003) and worldwide

Table 1. List of bryozoan species known living in the Mediterranean Sea to date. For each species the following information is reported (related columns are marked with a star): A = new additions after Rosso (2003); B = new taxonomic combinations; C = dismantling of species complexes or newly proposed synonymies; NIB = status of Non-Indigenous Bryozoan. For some taxa, the numbers reported in 'Remarks' refer to the notes listed in Appendix 2.

Mediterranean Bryozoa	A	B	C	NIB	R
Stenolaemata Borg, 1941					
Cyclostomatida Busk, 1852					
Stomatoporidae Pergens & Meunier, 1886					
Stomatopora Bronn, 1825					
Stomatopora gingrina Jullien, 1882					
Stomatopora sp. *sensu* Harmelin, 1979					
Oncousoeciidae Canu, 1918					
Anguisia Jullien, 1882					
Anguisia verrucosa Jullien, 1882					
Filisparsa d'Orbigny, 1853					
Filisparsa profunda Harmelin & d'Hondt, 1982					
'Microecia' Canu, 1918					
'Microecia' corrugata (Harmelin, 1979)					
'Microecia' occulta (Harmelin, 1976)					
'*Microecia suborbicularis*' *sensu* Harmelin, 1976					
Microeciella Taylor & Sequeiros, 1982					
Microeciella suborbicularis (Hincks, 1880)					
Proboscina Audouin, 1826	*				
?*Proboscina boryi* (Audouin, 1826)	*			*?	1
Tubuliporidae Johnston, 1838					
Idmidronea Canu & Bassler, 1920					
Idmidronea triforis (Heller, 1867)					
Idmidronea coerulea Harmelin, 1976					
Idmidronea flexuosa (Pourtalès, 1867)					
Platonea Canu & Bassler, 1920					
Platonea stoechas Harmelin, 1976					
Tubulipora Lamarck, 1816					
Tubulipora aperta Harmer, 1898					
Tubulipora hemiphragmata Harmelin, 1976					
Tubulipora liliacea (Pallas, 1766)					
Tubulipora notomale (Busk, 1875)					
Tubulipora plumosa Harmer, 1898					
Tubulipora ziczac Harmelin, 1976					
Plagioeciidae Canu, 1918					
Cardioecia Canu & Bassler, 1922					
"Cardioecia" watersi (O'Donoghue & de Watteville, 1939)					
Desmeplagioecia Canu & Bassler, 1920					
Desmeplagioecia amphorae Harmelin, 1976					
Desmeplagioecia violacea Harmelin, 1976					
Diplosolen Canu, 1918					
Diplosolen obelius (Johnston, 1838)					2
Plagioecia Canu, 1918					
Plagioecia dorsalis (Waters, 1879)					3
Plagioecia inoedificata (Jullien, 1882)					
Plagioecia patina (Lamarck, 1816)					
Plagioecia platydiscus Harmelin, 1976					
Plagioecia sarniensis (Norman, 1864)					
Terviidae Canu & Bassler, 1920					
Tervia Jullien, 1882					
Tervia irregularis (Meneghini, 1844)					
Annectocymidae Hayward & Ryland, 1985					
Annectocyma Hayward & Ryland, 1985					

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Annectocyma arcuata (Harmelin, 1976)					
Annectocyma major (Johnston, 1847)					
Annectocyma tubulosa (Busk, 1875)					
Entalophoroecia Harmelin, 1976					
Entalophoroecia balgimae Harmelin & d'Hondt, 1992					
Entalophoroecia deflexa Couch, 1844					
Entalophoroecia elegans (Norman, 1909)					
Entalophoroecia gracilis Harmelin, 1976					
Entalophoroecia robusta Harmelin, 1976					
Harmelinopora Brood, 1976	*				4
Harmelinopora indistincta (Canu & Bassler, 1929)		*			
Entalophoridae Reuss, 1869					
Mecynoecia Canu, 1918					
Mecynoecia delicatula (Busk, 1875)					
Frondiporidae Busk, 1875					
Frondipora Link, 1807					
Frondipora verrucosa (Lamouroux, 1821)					5
Crisiidae Johnston, 1838					
Bicrisia d'Orbigny, 1853					
Bicrisia gibraltarensis Harmelin, 1990					
Crisia Lamouroux, 1812					
Crisia aculeata Hassall, 1841					
Crisia cuneata Maplestone, 1905					
Crisia calyptostoma Hayward & Ryland, 1978	*				6
Crisia denticulata (Lamarck, 1816)					
Crisia eburnea (Linnaeus, 1758)					
Crisia eburnea harmelini d'Hondt, 1988					7
Crisia elongata (Milne-Edwards, 1867)					
Crisia fistulosa Heller, 1867					
Crisia oranensis Waters, 1916					
Crisia pyrula Harmelin, 1990					
Crisia ramosa Harmer, 1891					
Crisia recurva Heller, 1867					
Crisia sigmoidea Waters, 1916					
Crisia tenella tenella Calvet, 1906					
Crisia tenella longinodata Rosso, 1998	*				8
Crisidia Milne-Edwards, 1838					
Crisidia cornuta (Linnaeus, 1758)					
Filicrisia d'Orbigny, 1853					
Filicrisia geniculata (Milne-Edwards, 1838)					
Filicrisia sp. *sensu* Harmelin & d'Hondt, 1982					
Horneridae Smitt, 1867					
Hornera Lamouroux, 1821					
Hornera frondiculata Lamouroux, 1821					
"*Hornera lichenoides*" Auctt. not (Linnaeus, 1758)					9
Lichenoporidae Smitt, 1867					10
Disporella Gray, 1848					11
Disporella alboranensis Alvarez, 1992	*				
Disporella borgi Alvarez, 1995	*				
Disporella boutani Alvarez, 1995	*				
Disporella fimbriata (Busk, 1875)					
Disporella harmeri (Neviani, 1939)	*				
Disporella hispida (Fleming, 1828)					12
Disporella piramidata Alvarez, 1992	*				
Disporella robusta Alvarez, 1992	*				
Disporella smitti (Calvet, 1906)	*				

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Patinella Gray, 1848					13
Patinella aztiensis (Alvarez, 1994)	*				14
Patinella flosculus (Hincks, 1862)	*				14
Patinella mediterranea (de Blainville, 1834)					
Patinella radiata (Audouin, 1826)					
Patinella verrucaria (Fabricius, 1780)					
Gymnolaemata Allman, 1856					
Ctenostomatida Busk, 1852					
Benedeniporidae Delage & Hérouard, 1897					
Benedenipora Pergens, 1889					
Benedenipora catenata Pergens, 1889					
Benedenipora delicatula d'Hondt & Geraci, 1975					
Alcyonidiidae Johnston, 1838					
Alcyonidioides d'Hondt, 2001	*				15
Alcyonidioides mytili (Dalyell, 1848)					
Alcyonidium Lamouroux, 1813					16
Alcyonidium albidum Alder, 1857					
Alcyonidium cellarioides (Calvet, 1900)					
Alcyonidium duplex Prohuo, 1892					
Alcyonidium gelatinosum (Linnaeus, 1761)					
Alcyonidium mamillatum Alder, 1857					
Alcyonidium polyoum (Hassall, 1841)					
Alcyonidium variegatum Prohuo, 1892					
Alcyonidium vicarians d'Hondt & Chimenz Gusso, 2006	*				
Lobiancopora Pergens, 1889					
Lobiancopora hyalina Pergens, 1889					
Clavoporidae Osburn & Soule, 1953					
Clavopora Busk, 1874					
Clavopora hystricis Busk, 1874					
Clavopora sp. *sensu* Gautier, 1954	*				17
Metalcyonidium d'Hondt, 1975					
Metalcyonidium gautieri d'Hondt, 1975					
Pherusellidae Osburn & Soule, 1953					
Pherusella Soule, 1951					
Pherusella brevituba Soule, 1951				*	
Pherusella tubulosa (Ellis & Solander, 1786)					
Victorellidae Hincks, 1880					
Bulbella Braem, 1951	*				
Bulbella abscondita Braem, 1951	*				
Tanganella Braem, 1951	*				
Tanganella muelleri (Kraepelin, 1887)	*				
Victorella Saville Kent, 1870					
Victorella pavida Saville Kent, 1870					
Nolellidae Harmer, 1915					
Nolella Gosse, 1855					
Nolella dilatata (Hincks, 1860)					
Nolella stipata Gosse, 1855					
Immergentiidae Silén, 1846					
Immergentia Silén, 1846					
Immergentia orbignyana (Fischer, 1866)		*			
Vesiculariidae Hincks, 1880					
Amathia Lamouroux, 1812					18
Amathia delicatula Souto, Fernández-Pulpeiro & Reverter-Gil, 2010	*				
Amathia distans Busk, 1886					
Amathia gracilis (Leidy, 1855)		*			
Amathia gracillima (Hincks, 1877)		*		*	

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Amathia imbricata (Adams, 1798)		*			
Amathia lendigera (Linnaeus, 1761)					
Amathia minoricensis Souto, Fernández-Pulpeiro & Reverter-Gil, 2010	*				
Amathia pruvoti (Calvet, 1911)					
Amathia pustulosa (Ellis & Solander, 1786)		*			
Amathia semiconvoluta (Lamoroux, 1824)					
Amatia tortuosa Tenison-Woods, 1880					
Amathia verticillata (Delle Chiaje, 1822)		*		*	19
Amathia vidovici (Heller, 1867)					
Vesicularia Thompson, 1830					
Vesicularia spinosa (Linnaeus, 1767)					
Buskiidae Hincks, 1880					
Buskia Alder, 1857					
Buskia nitens Alder, 1857					
Buskia socialis Hincks, 1887					
Triticellidae Sars, 1873					
Triticella Dalyell, 1848					
Triticella flava Dalyell, 1848					
Triticella pedicellata (Alder, 1857)					
Triticellopsis Gautier, 1961					
Triticellopsis tissieri Gautier, 1961					
Aeverrilliidae Jebram, 1973	*				20
Aeverrillia Marcus, 1941	*				21
Aeverrillia setigera (Hincks, 1887)	*			*	22
Farrellidae d'Hondt, 1983	*				
Farrella Ehrenberg, 1838					
Farrella repens (Farre, 1837)					
Walkeriidae Hincks, 1880					
Walkeria Fleming, 1823					
Walkeria atlantica (Busk, 1886)					
Walkeria tuberosa (Heller, 1867)					
Walkeria uva (Linnaeus, 1758)					
Mimosellidae Hincks, 1877					
Bantariella Jebram, 1973					
Bantariella verticillata (Heller, 1867)		*			
Mimosella Hincks, 1851					
Mimosella crosslandi d'Hondt, 1983					
Mimosella gracilis Hincks, 1851					
Hypophorellidae Prenant & Bobin, 1956					
Hypophorella Ehlers, 1876					
Hypophorella expansa Ehlers, 1876					
Arachnidiidae Hincks, 1880					
Arachnidium Hincks, 1859					
Arachnidium hippothooides Hincks, 1862					
Arachnoidella d'Hondt, 1983	*				23
Arachnoidella annosciae d'Hondt & Geraci, 1976		*			
Arachnoidella protecta (Harmer, 1915)		*		*	24
Spathiporidae Pohowsky, 1978					
Spathipora Fischer, 1866					
Spathipora comma (Soule, 1950)					
Spathipora sertum Fischer, 1860					
Penetrantiidae Silén, 1946					
Penetrantia Silén, 1946					
Penetrantia brevis Silén, 1946					
Cheilostomatida Busk, 1852					
Aeteidae Smitt, 1868					

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Aetea Lamouroux, 1812					
Aetea anguina (Linnaeus, 1758)					
Aetea lepadiformis Waters, 1906					
Aetea longicollis Jullien & Calvet, 1903					
Aetea sica (Couch, 1844)					
Aetea truncata (Landsborough, 1852)					
Scruparіidae Busk, 1852					
Scruparia Oken, 1815					
Scruparia ambigua (d'Orbigny, 1841)					
Scruparia chelata (Linnaeus, 1758)					
Eucrateidae Johnston, 1847					
Eucratea Lamouroux, 1812					
Eucratea loricata (Linnaeus, 1758)					
Membraniporidae Busk, 1852					
Acanthodesia Canu & Bassler, 1919					25
Acanthodesia savartii (Audouin, 1826)		*			26
Membranipora de Blainville, 1830					
Membranipora membranacea (Linnaeus, 1767)					
Membranipora tenuis Desor, 1848					27
Electridae d'Orbigny, 1851					
Arbopercula Nikulina, 2010	*				28
Arbopercula tenella (Hincks, 1880)				*	28
Conopeum Gray, 1848					
Conopeum ponticum Hayward, 2001	*			*	29
Conopeum reticulum (Linnaeus, 1767)					
Conopeum seurati (Canu, 1928)					30
Einhornia Nikulina, 2007	*				31
Einhornia crustulenta (Pallas, 1766)		*			
Electra Lamouroux, 1816					
Electra monostachys (Busk, 1854)					
Electra pilosa (Linnaeus, 1767)					
Electra posidoniae Gautier, 1954					
Electra repiachovi Ostroumoff, 1886					32
Electra verticillata (Ellis & Solander, 1786)					
Pyripora d'Orbigny, 1852					
Pyripora catenularia (Fleming, 1828)					
Pyripora sp. *sensu* Hayward & McKinney, 2002					33
Tendridae Vigneaux, 1949					
Tendra Nordman, 1839					
Tendra zostericola Nordman, 1839					
Thalamoporellidae Levinsen, 1902					
Thalamoporella Hincks, 1887					34
Thalamoporella gothica (Busk, 1856)				*?	
Thalamoporella harmelini Soule, Soule & Chaney, 1999				*?	34
Thalamoporella rozieri (Audouin, 1826)				*?	
Thalamoporella sp. *sensu* Sokolover, Taylor & Ilan, 2016	*			*?	35
Calloporidae Norman, 1903					
Alderina Norman, 1903					
Alderina imbellis (Hincks, 1860)					
Allantopora Lang, 1914					36
Allantopora minuta (Harmelin, 1973)		*			36
Amphiblestrum Gray, 1848					
Amphiblestrum lyrulatum (Calvet, 1907)					
Amphiblestrum (Aviculamphiblestrum) ruggeroi Rosso, 1999					
Aplousina Canu & Bassler, 1927					
Aplousina capriensis (Waters, 1898)					

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Aplousina filum (Jullien & Calvet, 1903)					
Barrosia Souto, Reverter-Gil & Fernández-Pulpeiro, 2010	*				
Barrosia balearica Souto, Reverter-Gil & Fernández-Pulpeiro, 2010	*				
Callopora Gray, 1848					
Callopora depressa Cook, 1968					
Callopora dumerilii dumerilii (Audouin, 1826)					
Callopora dumerilii pouilleti (Alder, 1857)					
Callopora lineata (Linnaeus, 1767)					
Callopora rylandi Bobin & Prenant, 1965					
Copidozoum Harmer, 1926					
Copidozoum balgimae Reverter-Gil & Fernández-Pulpeiro, 1999					
Copidozoum exiguum (Barroso, 1920)					
Copidozoum planum (Hincks, 1880)					
Copidozoum tenuirostre (Hincks, 1880)					
Corbulella Gordon, 1984	*				37
Corbulella maderensis (Waters, 1898)		*			37
Crassimarginatella Canu, 1900					
Crassimarginatella crassimarginata (Hincks, 1880)					
Crassimarginatella solidula (Hincks, 1860)					
Ellisina Norman, 1903					
Ellisina gautieri Fernández Pulpeiro & Reverter Gil, 1993					
Parellisina Osburn, 1940					
Parellisina curvirostris curvirostris (Hincks, 1862)					
Parellisina curvirostris raibauti Ben Ismail, Ben Hassine, Mascarell & d'Hondt, 2010	*				
Retevirgula Brown, 1948					
Retevirgula akdenizae Chimenz, Nicoletti & Lippi Boncambi, 1997					
Antroporidae Vigneaux, 1949					
Rosseliana Jullien, 1888					
Rosseliana rosselii (Audouin, 1826)					
Akatopora Davis, 1934	*				
Akatopora leucocypha (Marcus, 1937)	*			*	38
Cymuloporidae Winston & Vieira, 2013	*				39
Crepis Jullien, 1882					
Crepis harmelini Reverter-Gil, Souto & Fernández-Pulpeiro, 2011			*		40
Chaperiidae Jullien, 1888					
Chaperiopsis Uttley, 1949					
Chaperiopsis annulus (Manzoni, 1870)					
Chaperiopsis hirsuta Reverter-Gil, Souto & Fernández-Pulpeiro, 2009	*				41
Heliodomidae Vigneaux, 1949					
Setosellina Calvet, 1906					
Setosellina capriensis (Waters, 1926)					
Setosellina roulei Calvet, 1906					
Cupuladriidae Lagaaij, 1952					
Cupuladria Canu & Bassler, 1919					
Cupuladria biporosa (Canu & Bassler, 1923)					
Cupuladria canariensis (Busk, 1859)					
Reussirella Baluk & Radwanski, 1984					
Reussirella doma (d'Orbigny, 1853)					
Reussirella multispinata (Canu & Bassler, 1923)					42
Flustridae Fleming, 1828					
Chartella Gray, 1848					
Chartella papyracea (Ellis & Solander, 1786)					
Chartella papyrea (Pallas, 1766)					
Chartella tenella (Hincks, 1887)					
Gregarinidra Barroso, 1949					
Gregarinidra gregaria (Heller, 1867)					

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Hincksina Norman, 1903					
Hincksina calpensis Reverter-Gil, Souto & Fernández-Pulpeiro, 2012			*		43
Hincksina flustroides flustroides (Hincks, 1877)					
Hincksina flustroides crassispinata Gautier, 1962					
Hincksinoflustra Bobin & Prenant, 1961					
Hincksinoflustra octodon (Busk, 1852)					
Securiflustra Silén, 1941					
Securiflustra securifrons (Pallas, 1766)					
Bugulidae Gray, 1848					
Bicellariella Levinsen, 1909					
Bicellariella ciliata (Linnaeus, 1758)					
Bugula Oken, 1815					
Bugula gautieri Ryland, 1962					
Bugula neritina (Linnaeus, 1758)				*	44
Bugula robusta (MacGillivray, 1869)					
Bugulina Gray, 1848	*				45
Bugulina avicularia (Linnaeus, 1758)		*			
Bugulina calathus calathus (Norman, 1868)		*			
Bugulina calathus minor (Ryland, 1962)		*			
Bugulina flabellata (Thompson in Gray, 1848)		*			
Bugulina fulva (Ryland, 1960)		*		*?	
Bugulina simplex (Hincks, 1886)		*			
Bugulina spicata (Hincks, 1886)		*			
Bugulina stolonifera (Ryland, 1960)		*			
Bugulina turbinata (Alder, 1857)		*			
Crisularia Gray, 1848	*				45
Crisularia aperta (Hincks, 1886)		*			
Crisularia gracilis (Busk, 1858)		*			
Crisularia plumosa (Pallas, 1766)		*		*	
Crisularia serrata (Lamarck, 1816)		*	*	*	46
Kinetoskias Daniellsen, 1868					
Kinetoskias smitti Daniellsen, 1868					
Sessibugula Osburn, 1950					
Sessibugula barrosoi López de la Cuadra & Garcia-Gómez, 1994					
Beaniidae Canu & Bassler, 1927					
Beania Johnston, 1940					
Beania cylindrica (Hincks, 1886)					
Beania hirtissima (Heller, 1867)					
Beania magellanica (Busk, 1852)					
Beania mirabilis Johnston, 1840					
Epistomiidae Gregory, 1893					
Epistomia Fleming, 1828					
Epistomia bursaria (Linnaeus, 1758)					
Synnotum Pieper, 1881					
Synnotum egyptiacum (Audouin, 1826)					
Candidae d'Orbigny, 1851					
Caberea Lamouroux, 1816					
Caberea boryi (Audouin, 1826)					
Cradoscrupocellaria Vieira, Spencer Jones & Winston, 2013	*				47
Cradoscrupocellaria aegyptiana Vieira, Spencer Jones & Winston, 2013			*		48
Cradoscrupocellaria bertholleti (Audouin, 1826)		*			
Cradoscrupocellaria ellisi (Vieira & Spencer Jones, 2012)	*				
Cradoscrupocellaria gautieri Vieira, Spencer Jones & Winston, 2013	*				
Cradoscrupocellaria hirsuta (Jullien & Calvet, 1903)	*			*	49
Cradoscrupocellaria lagaaij Vieira, Spencer Jones & Winston, 2013	*				
Cradoscrupocellaria macrorhyncha (Gautier, 1962)		*			

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Licornia van Beneden, 1850	*				50
Licornia jolloisi (Audouin, 1826)		*		*	51
Licornia vierai Sokolover, Taylor & Ilan, 2016	*				
Scrupocaberea Vieira, Spencer Jones, Winston, Migotto & Marques, 2014	*				52
Scrupocaberea maderensis (Busk, 1860)		*			
Scrupocellaria van Beneden, 1845					
Scrupocellaria aegeensis Harmelin, 1969					
Scrupocellaria delilii (Audouin, 1826)					
Scrupocellaria incurvata Waters, 1896					
Scrupocellaria muricata (Lamouroux, 1816)			*		53
Scrupocellaria scrupea Busk, 1852					
Scrupocellaria scruposa (Linnaeus, 1758)				*?	54
Tricellaria Fleming, 1828					
Tricellaria inopinata d'Hondt & Occhipinti Ambrogi, 1985				*	
Microporidae Gray, 1848					
Calpensia Jullien, 1888					
Calpensia nobilis (Esper, 1796)					
Coronellina Prenant & Bobin, 1966					
Coronellina fagei (Gautier, 1962)					
Micropora Gray, 1848					
Micropora coriacea (Johnston, 1847)					
Micropora normani Levinsen, 1909					
Mollia Lamouroux, 1816					
Mollia circumcincta (Heller, 1867)					
Mollia multijuncta (Waters, 1879)					
Mollia patellaria (Moll, 1803)					
Steraechmella Lagaaij, 1952					
Steraechmella buski Lagaaij, 1952					
Setosellidae Levinsen, 1909					
Setosella Hincks, 1877					
Setosella cavernicola Harmelin, 1977					
Setosella folini Jullien, 1882					
Setosella vulnerata (Busk, 1860)					
Onychocellidae Jullien, 1882					
Onychocella Jullien, 1882					
Onychocella angulosa (Reuss, 1847)					
Onychocella marioni (Jullien, 1881)					
Onychocella vibraculifera Neviani, 1895					
Smittipora Jullien, 1882			*		55
Smittipora disjuncta (Canu & Bassler, 1930)					
Chlidoniidae Busk, 1884					
Chlidonia Lamouroux, 1824					
Chlidonia pyriformis (Bertoloni, 1810)					
Cellariidae Fleming, 1828					
Cellaria Ellis & Solander, 1786					
Cellaria fistulosa (Linnaeus, 1758)					
Cellaria normani (Hastings, 1947)					
Cellaria salicornioides Lamouroux, 1816					
Cellaria sinuosa (Hassall, 1840)					
Euginoma Jullien, 1882					
Euginoma reticulata d'Hondt, 1981					
Monoporellidae Hincks, 1882					
Monoporella Hincks, 1881					
Monoporella bouchardii (Audouin, 1826)			*		56
Cribrilinidae Hincks, 1879					
Collarina Jullien, 1886					

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Collarina balzaci (Audouin, 1826)					
Distansescharella d'Orbigny, 1853					
Distansescharella alcicornis (Jullien, 1882)		*			57
Distansescharella seguenzai (Cipolla, 1921)					
Figularia Jullien, 1886					
Figularia figularis (Johnston, 1847)					
Klugerella Moyano, 1991	*				58
Klugerella marcusi (Cook, 1967)					
Membraniporella Smitt, 1873					
Membraniporella nitida (Johnston, 1838)					
Membraniporella sp. 1 *sensu* Chimenz Gusso *et al.*, 2014	*				
Puellina Jullien, 1886					
Puellina (Cribrilaria) arrecta Bishop & Household, 1987					
Puellina (Cribrilaria) cassidainsis Harmelin, 1984					
Puellina (Cribrilaria) hincksi (Friedl, 1917)					
Puellina (Cribrilaria) innominata (Couch, 1844)					
Puellina (Cribrilaria) mikelae Harmelin, 2006					
Puellina (Cribrilaria) minima Harmelin, 1984					
Puellina (Cribrilaria) picardi Harmelin, 1988					
Puellina (Cribrilaria) pseudoradiata pseudoradiata Harmelin & Aristegui, 1988					
Puellina (Cribrilaria) radiata (Moll, 1803)					
Puellina (Cribrilaria) scripta (Reuss, 1848)					
Puellina (Cribrilaria) setiformis romana Harmelin & Aristegui, 1988					
Puellina (Cribrilaria) venusta (Canu & Bassler, 1925)					
Puellina (Glabrilaria) pedunculata (Gautier, 1956)					
Puellina (Glabrilaria) corbula Bishop & Household, 1987					
Puellina (Glabrilaria) orientalis orientalis Harmelin & Aristegui, 1988					
Puellina (Glabrilaria) orientalis lusitanica (Harmelin, 1988)					
Puellina (Puellina) gattyae (Landsborough, 1852)					
Puellina (Puellina) setosa (Waters, 1899)					
Catenicellidae Busk, 1852	*				
Catenicella de Blainville, 1830	*				
Catenicella paradoxa Rosso, 2009	*			*	
Savignyellidae Levinsen, 1909					
Savignyella Levinsen, 1909					
Savignyella lafontii (Audouin, 1826)					
Hippothoidae Busk, 1859					
Celleporella Gray, 1848					
*Celleporella carolinensi*s Ryland, 1979	*			*	
Celleporella hyalina (Linnaeus, 1767)					
Hippothoa Lamouroux, 1821					
Hippothoa divaricata Lamouroux, 1821					
Hippothoa flagellum Manzoni, 1870					
Chorizoporidae Vigneaux, 1949					
Chorizopora Hincks, 1879					
Chorizopora brongniartii (Audouin, 1826)					
Trypostegidae Gordon, Tilbrook & Winston in Winston 2005					
Trypostega Levinsen, 1909					
Trypostega claviculata (Hincks, 1884)					
Trypostega venusta (Norman, 1864)					
Haplopomidae Gordon in De Blauwe, 2009	*				
Haplopoma Levinsen, 1909					
Haplopoma bimucronatum bimucronatum (Moll, 1803)					
Haplopoma bimucronatum occiduum (Waters, 1879)					
Haplopoma graniferum graniferum (Johnston, 1847)					
Haplopoma graniferum carinatum (Calvet, 1902)					

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Haplopoma impressum (Audouin, 1826)					
Haplopoma sciaphilum Silén & Harmelin, 1976					
Pasytheidae Davis, 1934	*				
Gemellipora Smitt, 1873	*				
Gemellipora sp. cf. *eburnea* (Smitt, 1873)	*		*		59
Exechonellidae Harmer, 1957					
Exechonella Duvergier, 1924					
Exechonella antillea (Osburn, 1927)					
Adeonidae Busk, 1884					
Adeonella Busk, 1884					
Adeonella calveti Canu & Bassler, 1930					
Adeonella flabellata Rosso & Novosel, 2010	*				
Adeonella pallasii (Heller, 1867)					
Adeonella pozarae Rosso & Novosel, 2010	*				
Adeonellopsis MacGillivray, 1886					
Adeonellopsis distoma (Busk, 1858)					
Anarthropora Smitt, 1868					
Anarthropora monodon (Busk, 1860)					
Reptadeonella Busk, 1884					
Reptadeonella insidiosa (Jullien & Calvet, 1903)					
Reptadeonella violacea (Johnston, 1847)					
Lepraliellidae Vigneaux, 1949					
Celleporaria Lamouroux, 1821	*				60
Celleporaria aperta (Hincks, 1882)	*			*	61
Celleporaria brunnea (Hincks, 1884)	*			*	62
Celleporaria sp. aff. *brunnea* (Hincks, 1884)	*			*	63
Celleporaria fusca (Busk, 1854)	*			*	64
Celleporaria labelligera Harmer, 1957	*			*	65
?*Celleporaria sherryae* Winston, 2005	*			*	66
Celleporaria vermiformis (Waters, 1909)	*			*	67
Drepanophora Harmer, 1957	*				68
Drepanophora birbira Powell, 1967	*			*	68
Bryocryptellidae Vigneaux, 1949					
Bryocryptella Cossman, 1906					
Bryocryptella koehleri (Calvet, 1896)					
Bryocryptella tubulata (Busk, 1861)			*		69
Buchneria Harmer, 1957					
Buchneria fayalensis (Waters, 1888)					
Palmiskenea Bishop & Hayward, 1989					
Palmiskenea gautieri Madurell, Zabala, Domínguez-Carrió & Gili, 2013	*				70
Palmiskenea skenei (Ellis & Solander, 1786)					
Porella Gray, 1848					
Porella concinna concinna (Busk, 1854)					
Porella concinna tubulata Calvet, 1927					
Porella laevis (Fleming, 1828)		*			71
Porella minuta (Norman, 1868)					
Romancheinidae Jullien, 1888	*				72
Escharella Gray, 1848					
Escharella acuta Zabala, Maluquer & Harmelin, 1993					
Escharella immersa (Fleming, 1828)					
Escharella longicollis (Jullien, 1882)					
Escharella octodentata (Hincks, 1880)					
Escharella prealta (Calvet, 1907)					
Escharella quadrata López de la Cuadra & Garcia-Gómez, 2001	*				
Escharella rylandi Geraci, 1974					
Escharella variolosa (Johnston, 1838)					

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Escharella ventricosa (Hassall, 1842)					
Escharoides Milne-Edwards, 1836					
Escharoides coccinea (Abildgaard, 1806)					
Escharoides mamillata (Wood, 1844)					
Escharoides megarostris (Canu & Bassler, 1928)					
Hemicyclopora Norman, 1894					
Hemicyclopora collarina Canu & Lecointre, 1930	*				73
Hemicyclopora dentata López de la Cuadra & Garcia-Gómez, 1991					
Hemicyclopora discrepans (Jullien & Calvet, 1903)					
Hemicyclopora multispinata (Busk, 1861)					
Hippopleurifera Canu & Bassler, 1925					
Hippopleurifera pulchra (Manzoni, 1870)					
Neolagenipora Vigneaux, 1949					
Neolagenipora collaris (Norman, 1967)	*				74
Neolagenipora eximia (Hincks, 1860)					
Umbonulidae Canu, 1904					
Umbonula Hincks, 1880					
Umbonula ovicellata Hastings, 1944					
Tessaradomidae Jullien & Calvet, 1903					
Tessaradoma Norman, 1869					
Tessaradoma boreale (Busk, 1860)					
Jaculinidae Zabala, 1986					
Jaculina Jullien & Calvet, 1903					
Jaculina blanchardi Jullien & Calvet, 1903					
Jaculina parallelata (Waters, 1895)					
Jaculina tessellata Hayward, 1979					
Smittinidae Levinsen, 1909					
Parasmittina Osburn, 1952					
Parasmittina aegyptiaca (Waters, 1909)	*			*	75
Parasmittina parsevalii (Audouin, 1826)	*			*	76
Parasmittina protecta (Thornely, 1905)	*			*	77
Parasmittina raigii (Audouin, 1826)				*	78
Parasmittina rouvillei (Calvet, 1902)					
Parasmittina serruloides Harmelin, Bitar & Zibrowius, 2009	*			*	79
Parasmittina spondylicula Harmelin, Bitar & Zibrowius, 2009	*			*	79
Parasmittina trispinosa (Johnston, 1838)					80
Phylactella Hincks, 1879					
Phylactella mediterranea Rosso, 2004					
Prenantia Gautier, 1962					
Prenantia cheilostoma (Manzoni, 1869)					
Prenantia inerma (Calvet, 1906)	*				81
Prenantia ligulata (Manzoni, 1870)					
Smittina Norman, 1903					
Smittina affinis (Hincks, 1862)					
Smittina cervicornis (Pallas, 1766)					
Smittina colleti (Jullien & Calvet, 1903)					
Smittina crystallina (Norman, 1867)					
Smittina landsborovii (Johnston, 1847)					
Smittina nitidissima (Hincks, 1880)			*	*	82
Smittina remotorostrata (Canu & Bassler, 1928)					
Smittoidea Osburn, 1952					
Smittoidea marmorea (Hincks, 1877)					
Smittoidea ophidiana (Waters, 1879)					
Smittoidea reticulata (MacGillivray, 1842)					
Bitectiporidae MacGillivray, 1895					
Hippoporina Neviani, 1895					

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Hippoporina lineolifera (Hincks, 1886)					
Hippoporina pertusa (Esper, 1796)					
Hippoporina teresae Souto, Reverter-Gil & Fernández-Pulpeiro, 2010	*				
Metroperiella Canu & Bassler, 1917					
Metroperiella gay Reverter-Gil, Souto & Fernández-Pulpeiro, 2009	*				83
Metroperiella lepralioides (Calvet, 1903)					
Pentapora Fischer, 1807					
Pentapora fascialis (Pallas, 1766)					
Pentapora ottomuelleriana (Moll, 1803)					
Schizomavella Canu & Bassler, 1917					84
Schizomavella adriatica Reverter-Gil, Souto, Novosel & Tilbrook, 2016	*				
Schizomavella mystacea Reverter-Gil, Souto, Novosel & Tilbrook, 2016	*				
Schizomavella rosae Reverter-Gil, Souto, Novosel & Tilbrook, 2016	*				
Schizomavella rudis (Manzoni, 1869)					85
Schizomavella stanislavi Reverter-Gil, Souto, Novosel & Tilbrook, 2016	*				
Schizomavella tubulata Reverter-Gil, Souto, Novosel & Tilbrook, 2016	*				
Schizomavella (Calvetomavella) discoidea (Busk, 1859)					86
Schizomavella (Calvetomavella) neptuni (Jullien, 1882)			*		87
Schizomavella (Schizomavella) asymetrica (Calvet, 1927)					
Schizomavella (Schizomavella) cornuta (Heller, 1867)					88
Schizomavella (Schizomavella) fischeri (Jullien, 1882)	*				89
Schizomavella (Schizomavella) gautieri Reverter-Gil & Fernández-Pulpeiro, 1997					
Schizomavella (Schizomavella) grandiporosa Canu & Bassler, 1925	*				90
Schizomavella (Schizomavella) halimedae (Gautier, 1955)	*				
Schizomavella (Schizomavella) hastata (Hincks, 1862)					91
Schizomavella (Schizomavella) hirsuta (Calvet, 1927)					
Schizomavella (Schizomavella) inordinata Canu & Bassler, 1930					
Schizomavella (Schizomavella) linearis (Hassall, 1841)					
Schizomavella (Schizomavella) mamillata (Hincks, 1880)					
Schizomavella (Schizomavella) subsolana Hayward & McKinney, 2002					
Schizomavella (Schizomavella) teresae Reverter-Gil & Fernández-Pulpeiro, 1996					
Schizomavella (Schizomavella) triangularis Reverter-Gil & Fernández-Pulpeiro, 1997					
Lanceoporidae Harmer, 1957					
Calyptotheca Harmer, 1957					
Calyptotheca obscura Harmelin, López de la Cuadra & Garcia-Gómez, 1989					
Calyptotheca rugosa Hayward, 1974					
Stephanotheca Reverter-Gil, Souto & Fernández-Pulpeiro, 2012	*				92
Stephanotheca arrogata (Waters, 1879)		*			
Stephanotheca barrosoi Reverter-Gil, Souto & Fernández-Pulpeiro, 2012	*				
Stephanotheca monoecensis (Calvet, 1927)					
Stephanotheca perforata Reverter-Gil, Souto & Fernández-Pulpeiro, 2012	*				
Stephanotheca triangulata Reverter-Gil, Souto & Fernández-Pulpeiro, 2012	*				
Stephanotheca watersi Reverter-Gil, Souto & Fernández-Pulpeiro, 2012	*				
Watersiporidae Vigneaux, 1949					
Watersipora Neviani, 1896					
Watersipora arcuata Banta, 1969	*			*	93
Watersipora complanata (Norman, 1864)					94
Watersipora cucullata (Busk, 1854)					
Watersipora souleorum Vieira, Spencer Jones & Taylor, 2014	*				95
Watersipora subtorquata (d'Orbigny, 1852)				*	96
Schizoporellidae Jullien, 1882					
Schizobrachiella Canu & Bassler, 1920					
Schizobrachiella sanguinea (Norman, 1868)					
Schizoporella Hincks, 1877					
Schizoporella dunkeri (Reuss, 1848)					
Schizoporella errata (Waters, 1878)					97

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Schizoporella magnifica (Hincks, 1886)					
Schizoporella mutabilis Calvet, 1927					
Schizoporella patula Hayward & Ryland, 1995	*			*?	98
Schizoporella tetragona (Reuss, 1848)					
Schizoporella unicornis (Johnston, 1844)					
Schizoporella sp. 1 *sensu* Chimenz Gusso *et al.*, 2014	*				99
Schizoporella sp. 2 *sensu* Chimenz Gusso *et al.*, 2014	*				100
Schizoporella sp. 3 *sensu* Chimenz Gusso *et al.,* 2014	*				101
Stylopoma Levinsen, 1909					102
Stylopoma inchoans Tilbrook, 2000				*?	102
Margarettidae Harmer, 1957					
Margaretta Gray, 1843					
Margaretta cereoides (Ellis & Solander, 1786)					
Myriaporidae Gray, 1841					
Myriapora de Blainville, 1830					
Myriapora truncata (Pallas, 1766)					
Hippopodinidae Levinsen, 1909					
Hippopodina Levinsen, 1909					
Hippopodina ambita (Hayward, 1974)					103
Hippopodina feegeensis (Busk, 1884)				*	104
Hippopodina iririkiensis Tilbrook, 1999				*	105
Escharinidae Tilbrook, 2006	*				106
Escharina Milne-Edwards, 1836					
Escharina dutertrei protecta Zabala, Maluquer & Harmelin, 1993					
Escharina johnstoni (Quelch, 1884)					
Escharina vulgaris (Moll, 1803)					
Herentia Gray, 1848	*				
Herentia hyndmanni (Johnston, 1847)		*			
Hippomenella Canu & Bassler, 1917					
Hippomenella mucronelliformis (Waters, 1899)					
Therenia David & Pouyet, 1978					
Therenia rosei Berning, Tilbrook & Rosso, 2008			*		
Therenia majae Berning, Tilbrook & Rosso, 2008	*				
Cryptosulidae Vigneaux, 1949					
Cryptosula Canu & Bassler, 1925					
Cryptosula pallasiana (Moll, 1803)					
Cheiloporinidae Bassler, 1936					
Cheiloporina Canu & Bassler, 1923					
"Cheiloporina" circumcincta (Neviani, 1896)					
Teuchoporidae Neviani, 1895					
Theuchopora Neviani, 1895					
Theuchopora edwardsi (Jullien, 1882)					
Phoceanidae Vigneaux, 1949					
Phoceana Jullien & Calvet, 1903					
Phoceana columnaris Jullien & Calvet, 1903					
Phoceana tubulifera (Heller, 1867)					
Sertulipora Harmelin & d'Hondt, 1992	*				
Sertulipora guttata Harmelin & d'Hondt, 1992	*				107
Hippaliosinidae Winston, 2005	*				108
Hippaliosina Canu, 1918					
Hippaliosina acutirostris Canu & Bassler, 1929	*			*	109
Hippaliosina depressa (Busk, 1854)					
Microporellidae Hincks, 1879					
Calloporina Neviani, 1895					
Calloporina decorata (Reuss, 1847)					110
Diporula Hincks, 1879					

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Diporula verrucosa (Peach, 1868)					
Fenestrulina Jullien, 1888					
Fenestrulina barrosoi Alvarez, 1993	*				111
Fenestrulina joannae (Calvet, 1902)					
Fenestrulina juani Souto, Reverter-Gil & Fernández-Pulpeiro, 2010	*				
Fenestrulina malusii (Audouin, 1826)					
Microporella Hincks, 1877					
Microporella appendiculata (Heller, 1867)					
Microporella browni Harmelin, Ostrowsky, Cáceres-Chamizo & Sanner, 2011	*			*	112
Microporella gr. *ciliata* (Pallas, 1766)					113
Microporella coronata (Audouin, 1826)			*	*	114
Microporella genisii (Audouin, 1826)	*			*	115
Microporella harmeri Hayward, 1988	*			*	116
Microporella marsupiata (Busk, 1860)					
Microporella orientalis Harmer, 1957					117
Robertsonidridae Rosso, 2010	*				
Bertorsonidra Rosso, 2010	*				
Bertorsonidra prenanti (Gautier, 1955)			*		
Petraliellidae Harmer, 1957	*				118
Mucropetraliella Stach, 1936	*				118
Mucropetraliella thenardii (Audouin, 1826)	*			*	118
Lacernidae Jullien, 1888					
Arthropoma Levinsen, 1909					
Arthropoma cecilii (Audouin, 1826)					
Cribellopora Gautier, 1957					
Cribellopora simplex Gautier, 1957	*				119
Cribellopora trichotoma (Waters, 1918)					
Crepidacanthidae Levinsen, 1909					
Crepidacantha Levinsen, 1909					
Crepidacantha poissonii (Audouin, 1826)				*	
Cleidochasmatidae Cheetham & Sandberg, 1964					
Cleidochasmidra Ünsal & d'Hondt, 1979					
Cleidochasmidra portisi (Neviani, 1895)			*		120
Characodoma Maplestone, 1900					
Characodoma mamillatum (Seguenza, 1879)					
Characodoma oranense (Waters, 1918)					
Colatooeciidae Winston, 2005	*				
Trematooecia Osburn, 1940					
Trematooecia ligulata Ayari & Taylor, 2008			*		
Trematooecia mikeli Sokolover, Taylor & Ilan, 2016	*			*	121
Celleporidae Johnston, 1838					
Buffonellaria Canu & Bassler, 1917					122
Buffonellaria antoniettae Berning & Kuklinski, 2008	*		*P		
Buffonellaria harmelini Berning & Kuklinski, 2008	*		*P		
Buffonellaria muriella Berning & Kuklinski, 2008	*		*P		
Buffonellaria sp. 1 Berning & Kuklinski, 2008	*		*P		
Buskea Heller, 1867					
Buskea dichotoma (Hincks, 1862)					
Buskea nitida Heller, 1867					
Cellepora Linnaeus, 1767					
Cellepora adriatica Hayward & McKinney, 2002					
Cellepora posidoniae (Hayward, 1975)					
Cellepora pumicosa (Pallas, 1766)			*		123
Celleporina Gray, 1848					
Celleporina bitari Harmelin, 2014	*			*	124
Celleporina caminata (Waters, 1879)			*		125

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Celleporina canariensis Aristegui, 1989					
Celleporina decipiens Hayward, 1976					
Celleporina hassalli (Johnston, 1847)					
Celleporina lucida (Hincks, 1880)					
Celleporina mediterranea Souto, Reverter-Gil & De Blauwe, 2014	*				
Celleporina siphuncula Hayward & McKinney, 2002					
Celleporina truncatorostris (Canu & Bassler, 1930)	*				126
Celleporina tubulosa (Hincks, 1880)					
Lagenipora Hincks, 1877					
Lagenipora lepralioides (Norman, 1868)					
Lagenipora sp. *sensu* Zabala & Maluquer, 1988					
Omalosecosa Canu & Bassler, 1925					
Omalosecosa ramulosa (Linnaeus, 1767)					
Palmicellaria Alder, 1864					
Palmicellaria elegans Alder, 1864					
Predanophora Tilbrook, 2006	*				127
Predanophora longiuscula (Harmer, 1957)	*			*	127
Turbicellepora Ryland, 1963					
Turbicellepora avicularis (Hincks, 1860)					
Turbicellepora camera Hayward, 1978					
Turbicellepora cantabra (Barroso,1919)					
Turbicellepora coronopus (Wood, 1844)					
Turbicellepora coronopusoida (Calvet, 1931)					
Turbicellepora crenulata Hayward, 1978					
Turbicellepora magnicostata (Barroso, 1919)					
Turbicellepora robusta (Barroso, 1921)	*				128
Turbicellepora torquata Hayward, 1978					
Turbicellepora tubigera (Busk, 1859)					
Hippoporidridae Vigneaux, 1949					
Hagiosynodos Bishop & Hayward, 1989					129
Hagiosynodos hadros Hayward & McKinney, 2002					
Hagiosynodos latus (Busk, 1856)					
Hagiosynodos strophiae (Canu & Bassler, 1930)	*				130
Hippoporidra Canu & Bassler, 1927					
Hippoporidra picardi Gautier, 1962					
Scorpiodinipora Balavoine, 1959	*				131
Scorpiodinipora costulata (Canu & Bassler, 1929)	*			*	131
Phidoloporidae Gabb & Horn, 1862					
Crenulatella Sokolover, Taylor & Ilan, 2016	*				
Crenulatella levantinensis Sokolover, Taylor & Ilan, 2016	*			*?	
Dentiporella Barroso, 1926					
Dentiporella sardonica (Waters, 1879)					132
Hippellozoon Canu & Bassler, 1917					
Hippellozoon mediterraneum (Waters, 1895)					
Plesiocleidochasma Soule, Soule & Chaney, 1991					133
Plesiocleidochasma mediterraneum Chimenz Gusso & Soule, 2003					134
Plesiocleidochasma porcellaniforme (Soule, Soule & Chaney, 1991)		*			135
Reteporellina Harmer, 1933					
Reteporellina delicatula Hayward, 1974					
Reteporella Busk, 1884					
Reteporella aporosa (Waters, 1894)					
Reteporella beaniana (King, 1846)					
Reteporella complanata (Waters, 1894)					
Reteporella couchii couchii (Hincks, 1878)					
Reteporella couchii biaviculata (Waters, 1894)					
Reteporella elegans Harmelin, 1976					

(continued)

Table 1 *(continued)*

Mediterranean Bryozoa	A	B	C	NIB	R
Reteporella feuerborni Hass, 1948					
Reteporella grimaldii (Jullien & Calvet, 1903)					
Reteporella harmeri Hass, 1948					
Reteporella jermanensis (Waters, 1909)				*	136
Reteporella mediterranea Hass, 1948					
Reteporella pelecanus López de la Cuadra & Garcia-Gómez, 2001	*				
Reteporella soudbournensis (Gautier, 1962)					
Reteporella sparteli (Calvet, 1906)					
Reteporella sp. *sensu* Sokolover, Taylor & Ilan, 2016	*				137
Rhynchozoon Hincks, 1895					
Rhynchozoon bispinosum (Johnston, 1847)					
Rhynchozoon digitatum (Waters, 1879)					
Rhynchozoon larreyi (Audouin, 1826)				*	138
Rhynchozoon neapolitanum Gautier, 1962					
Rhynchozoon pseudodigitatum Zabala & Maluquer, 1988					
Rhynchozoon quadrispinatum Zabala & Maluquer, 1988					
Rhynchozoon sp.1 *sensu* Hayward, 1974					
Schizoretepora Gregory, 1893					
Schizoretepora hassi Harmelin, Bitar & Zibrowius, 2007	*			*	139
Schizoretepora imperati (Busk, 1884)					140
Schizoretepora longisetae (Canu & Bassler, 1928)					
Schizoretepora serratimargo (Hincks, 1886)		*			
Schizoretepora solanderia (Risso, 1826)					
Schizotheca Hincks, 1877					
Schizotheca fissa (Busk, 1856)					
Schizotheca tuberigera (Jullien & Calvet, 1903)					
Stephanollona Duvergier, 1920					
Stephanollona armata (Hincks, 1861)					
Triphyllozoon Canu & Bassler, 1917					
Triphyllozoon hirsutum (Busk, 1884)					

(e.g., Taylor & Mawatari, 2005; Tilbrook, 2006; bryozoa.net, accessed 16.2.2016).

A high generic diversity characterises also the ctenostome genus *Amathia*, presently including 13 species from the Mediterranean, contrasting with the 6 species reported by Rosso (2003). This remarkable increase derives from the inclusion of species previously assigned to *Bowerbankia* and *Zoobotryon* (see Tab. 1, Appendix 2) in *Amathia* (Waeschenbach *et al*., 2015). Conversely, the revisions of *Scrupocellaria* by Vieira & Spencer Jones (2012) and Vieira *et al*. (2013a, 2013b, 2014a) have lowered the number of Mediterranean species assigned to the genus to 6, compared with the 11 reported by Rosso (2003). This is due to the resurrection of *Licornia* and the creation of two new genera, *Cradoscrupocellaria* and *Scrupocaberea*, into which respectively 2, 7 and 1 species from the Mediterranean have been transferred. A similar trend characterises *Bugula*, which declines from 16 to 3 species following the transfer of most of its Mediterranean species into *Bugulina* (9 spp.) and *Crisularia* (4 spp.) by Fehlauer-Ale *et al.* (2015).

Celleporaria, absent in Rosso (2003), is now represented by 7 species all considered as non-indigenous. Ten genera, namely *Tubulipora* (6 spp.), *Plagioecia* (6 spp.), *Haplopoma* (6 spp.), *Stephanotheca* (6 spp.), *Entalophoroecia* (5 spp.), *Patinella* (5 spp.), *Electra* (5 spp.), *Aetea* (5 spp.), *Callopora* (5 spp.) and *Watersipora* (5 spp.), have intermediate diversities.

Nearly 50% of the genera found in the Mediterranean are monospecific, with the highest percentage for ctenostomes (56%), while cyclostomes and cheilostomes share similar values slightly over 46%.

Current versus previous estimates of Mediterranean bryodiversity

Compared to the previous compilation of Rosso (2003), the total number of species has increased from 475 to 556. The 81 new entries mostly consist of newly erected species or derive from the revision of the material housed in the collections of the Natural History Museum, London and the Muséum National d'Histoire Naturelle, Paris, which has led to the identification of new species in some genera, as well as to the erection of new genera and the transfer of existing species to them. This is the case for the bitectiporid genus *Schizomavella* with the newly erected subgenus, *Calvetomavella*, and the mor-

Table 2. Bryozoan diversity in the Mediterranean Sea. For each family the number of genera and species is reported. Total values for orders, classes and the phylum are given in bold.

	F	G	Sp
BRYOZOA	**93**	**212**	**556**
STENOLAEMATA	**11**	**26**	**75**
Cyclostomatida	**11**	**26**	**75**
Stomatoporidae		1	2
Oncousoeciidae		5	7
Tubuliporidae		3	10
Plagioeciidae		4	9
Terviidae		1	1
Annectocymidae		3	9
Entalophoridae		1	1
Frondiporidae		1	1
Crisiidae		4	19
Horneridae		1	2
Lichenoporidae		2	14
GYMNOLAEMATA	**82**	**186**	**481**
Ctenostomatida	**18**	**27**	**57**
Benedeniporidae		1	2
Alcyonidiidae		3	10
Clavoporidae		2	3
Pherusellidae		1	2
Victorellidae		3	3
Nolellidae		1	2
Immergentiidae		1	1
Vesiculariidae		2	14
Buskiidae		1	2
Triticellidae		2	3
Aeverrilliidae		1	1
Farrellidae		1	1
Walkeriidae		1	3
Mimosellidae		2	3
Hypophorellidae		1	1
Arachnidiidae		2	3
Spathiporidae		1	2
Penetrantiidae		1	1
Cheilostomatida	**64**	**159**	**424**
Aeteidae		1	5
Scrupariidae		1	2
Eucrateidae		1	1
Membraniporidae		2	3
Electridae		5	12
Tendridae		1	1
Thalamoporellidae		1	4
Calloporidae		12	23
Antroporidae		2	2
Cymuloporidae		1	1
Chaperiidae		1	2
Heliodomidae		1	2
Cupuladriidae		2	4
Flustridae		5	9
Bugulidae		6	19

	F	G	Sp
Cheilostomatida			
Beaniidae		1	4
Epistomiidae		2	2
Candidae		6	18
Microporidae		5	8
Setosellidae		1	3
Onychocellidae		2	4
Chlidoniidae		1	1
Cellariidae		2	5
Monoporellidae		1	1
Cribrilinidae		6	25
Catenicellidae		1	1
Savignyellidae		1	1
Hippothoidae		2	4
Chorizoporidae		1	1
Trypostegidae		1	2
Haplopomidae		1	6
Pasytheidae		1	1
Exechonellidae		1	1
Adeonidae		4	8
Lepraliellidae		2	8
Bryocryptellidae		4	9
Romancheinidae		5	19
Umbonulidae		1	1
Tessaradomidae		1	1
Jaculinidae		1	3
Smittinidae		5	22
Bitectiporidae		4	29
Lanceoporidae		2	8
Watersiporidae		1	5
Schizoporellidae		3	12
Margarettidae		1	1
Myriaporidae		1	1
Hippopodinidae		1	3
Escharinidae		4	7
Cryptosulidae		1	1
Cheiloporinidae		1	1
Teuchoporidae		1	1
Phoceanidae		2	3
Hippaliosinidae		1	2
Microporellidae		4	14
Robertsonidridae		1	1
Petraliellidae		1	1
Lacernidae		2	3
Crepidacanthidae		1	1
Cleidochasmatidae		2	3
Colatooeciidae		1	2
Celleporidae		9	34
Hippoporidridae		3	5
Phidoloporidae		11	37

phologically similar lanceoporid genus *Stephanotheca* (Reverter-Gil *et al.,* 2012a, 2015). Nine new species were described as thriving exclusively in the Mediterranean or having a wider distribution including this basin (Tab. 1, Appendix 2). A large impact has been caused within the Candidae by the revision of *Scrupocellaria* (see above) and the description of four new species living in the Mediterranean. The same is true for *Buffonellaria* (Berning & Kukliński, 2008), *Therenia* (Berning *et al.*, 2008) and *Adeonella* (Rosso & Novosel, 2010). These revisions have led to the erection of new species and to the recognition of others still undescribed, as well

Table 3. List of equivocal reports of bryozoan species from the Mediterranean requiring a revision of the type material to ascertain their validity. A. Species erected by Heller (1867) and only occasionally subsequently reported, but considered as unidentifiable in the checklist for the Adriatic Sea by Novosel & Požar-Domac (2001). Brusina (1907) and Friedl (1918), *fide* Novosel & Požar-Domac (2001). B. Species erected by Canu & Bassler (1930) from off Tunisia. C. Species erected by O'Donoghue & de Watteville (1939) from off Alexandria (Egypt).

A. Species erected by Heller (1867)	
Alecto johnstoni	also in Brusina (1907)
Alecto parasitica	
Cellepora corticalis	also in Friedl (1918)
Cellepora hincksii	
Discosparsa annularis	also in Brusina (1907)
Escharina vulgaris var. *botterii*	also in Friedl (1918)
Escharina vulgaris var. *stossichi*	also in Friedl (1918)
Lepralia foraminifera	
Lepralia perugiana	
Lepralia stossici	
Membranipora rostrata	
B. Species erected by Canu & Bassler (1930)	
Schizellozoon granulosum	Never reported after its introduction, it is considered as an invalid species in Bryozone (accessed 12.2.2016).
Schizopodrella elliptica	This species has been allocated in *Schizoporella* by Gautier (1962) and in *Schizomavella* by Ayari & Taylor (2014). Zabala (1986) stated that this species and the following two might be synonyms with other species.
Schizopodrella erectorostris	Reported in Bock (www.bryozoa.net) and WoRMS as *Schizoporella erectorostris* (accessed 12.2.2016).
Schizopodrella grandicella	Reported in Bock (www.bryozoa.net) and WoRMS as *Schizoporella grandicella* (accessed 12.2.2016).
Schismopora truncatorostris	Reported exclusively by Ayari & Taylor (2014) within the genus *Celleporina* although usually allocated in *Turbicellepora* in Bock (www.bryozoa.net) and WoRMS (accessed 12.2.2016).
C. Species erected by O'Donoghue & de Watteville (1939)	
Vibracellina mediterranea	Both are considered as valid species, but the descriptions and drawings provided by the authors are insufficient to discriminate these species from similar ones. The revision of the type material is critical to ascertain their current validity.
Schizomavella alexandriae	

as to questioning the presence of some species. Species new to science are also recognised in *Schizoporella* (Chimenz Gusso *et al*., 2014), *Microporella* (AR & EDM, unpublished data), and other taxa left in open nomenclature (see Tab. 1). A single species was also described for *Celleporina* (Souto *et al*., 2015) and *Watersipora* (Vieira *et al*., 2014b). These species, although representing new entries for the present compilation, were all present in the Mediterranean at least since the time of their collection, often dating back to the beginning of the 20th century or even the second half of the 19th century.

New collections, essentially made during the last decade, have added mainly non-indigenous species (Tab. 1, Fig. 4, Appendix 2). Sampling efforts in the Levantine Sea have allowed the assessment of biodiversity along the coasts of Israel and Lebanon (Harmelin, 2014; Harmelin *et al.,* 2016; Sokolover *et al.,* 2016), establishing the first Mediterranean records for several species known from the Red Sea and the Indian Ocean and subordinately from other regions. Interestingly, most of the non-indigenous species belong to a few genera. With seven species, *Celleporaria* is the most diverse, followed by *Parasmittina* (3 spp.), *Microporella* (2 spp.), and *Proboscina*, *Conopeum*, *Akatopora, Smittina, Scorpionidipora, Mucropetraliella* and *Predanophora* with one species each (Harmelin, 2014; Harmelin *et al.*, 2016; Sokolover *et al.*, 2016). Mostly localised in the eastern sector (Koçak, 2007; Zenetos *et al*., 2012; Harmelin, 2014; Harmelin *et al.*, 2016), a few species have wider distributions throughout the Mediterranean, such as *Celleporaria brunnea* (see Lodola *et al*., 2015) and *Smittina nitidissima* (see Rosso *et al.,* in press). In contrast, single species, such as *Watersipora arcuata*, have been reported as non-indigenous bryozoans (NIBs) exclusively from other Mediterranean regions (Ferrario *et al*., 2015). Subordinate, but numerous, are NIB additions consisting of new species erected for specimens from the Mediterranean but considered native to other seas. Almost all NIBs are from the Levantine Sea and include *Parasmittina serruloides* and *P. spondylicola*, *Celleporina bitari, Microporella browni, Trematooecia mikeli* and *Schizoretepora hassi* among others (Harmelin *et al.*, 2007, 2009, 2011, 2016; Harme-

Table 4. List of questionable reports of bryozoan species from the Mediterranean in 'old' papers and subsequently in modern compilations. The validity of all these species and/or their presence in the Mediterranean needs verification. A. Species listed in Novosel & Požar-Domac (2001) from the Adriatic Sea based on records from taxonomists and ecologists working between the second part of the 19th and the first part of the 20th centuries. Some of these species were erected based on Eocene material and have already been considered as unidentifiable by Novosel & Požar-Domac (2001). Grube (1861), Lorenz (1863), Brusina (1907), Friedl (1918), Vatova (1928), Kolosvári (1943), Gamulin-Brida *et al*. (1968), Zavodnik & Zavodnik (1982; 1984) and Seneš (1988a; 1988; 1989) *fide* Novosel & Požar-Domac (2001). B. Species reported in Koçak & Ayden Önen (2014) for seas around Turkey. Their known distribution outside the Mediterranean may point to potential misidentification. Alternatively, the Mediterranean occurrences if proven, may be interpreted as the result of human-mediated introductions. Ostroumoff (1896) and Pinar (1974), *fide* Koçak & Ayden Önen (2014).

A. Species reported by Novosel & Požar-Domac (2001)	
Adeonella lichenoides (Lamarck, 1816)	in Heller (1867) and Friedl (1918)
Aetea truncata forma *pygmaea* Hincks, 1886	in Friedl (1918)
Amphiblestrum solidum (Packard, 1863)	in Friedl (1918)
Bowerbankia pustulosa var. *biserialis* (Hincks, 1887)	in Friedl (1918)
Carbasea pusilla (Hincks, 1887)	in Friedl (1918) and Vatova (1928)
Cellaria avicularia Pallas, 1766	in Grube (1861)
Chorizopora brongniartii var. *punctata* Friedl, 1917	in Friedl (1918) and Vatova (1928)
Cribrilina annulata (O. Fabricius, 1870)	in Heller (1867)
Cribrilina cribrosa var. *perforata* Friedl, 1917	in Friedl (1918) and Vatova (1928)
Crisiella producta (Smitt, 1865)	in Kolosvári (1943) and Brusina (1907)
Cycloporella costata (MacGillivray, 1869)	in Brusina (1907)
Dendrobeania murrayana (Bean, in Johnston, 1847)	in Friedl (1918)
Discopora verrucosa Esper, 1794	in Friedl (1918) and Vatova (1928)
Escharoides alvarezi (d'Orbigny, 1851)	in Friedl (1918)
Idmonea tubulipora Meneghini, 1844	in Heller (1867), Friedl (1918) and Vatova (1928)
Lepralia alata Busk, 1854	in Heller (1867)
Lepralia annulatipora Manzoni, 1871	in Friedl (1918)
Lichenopora cristata Busk, 1875	in Brusina (1907)
Lichenopora pustulosa d'Orbigny, 1850	in Brusina (1907)
Microporella heckelii (Reuss, 1848)	in Kolosvári (1943)
Oochilina tenuirostris (Hincks, 1880)	in Friedl (1918) and Vatova (1928)
Polytrema corallina d'Orbigny, 1850	in Heller (1867)
Reteporella beaniana (King, 1846)	in Gamulin-Brida *et al.* (1968), Zavodnik & Zavodnik (1982, 1984) and Seneš (1988a, b, 1989)
Schizoporella atrofusca (Busk, 1856)	in Hincks (1886)
Siniopelta costata (MacGillivray, 1868)	in Friedl (1918)
Stomatopora repens (Wood, 1844)	in Brusina (1907)
Tubulipora foraminulata Lamarck, 1816	in Lorenz (1863)
B. Species reported by Koçak & Ayden Önen (2014)	
Amathia citrina (Hincks, 1877)	in Ünsal (1975), known from the N Atlantic and the North Sea
Aplousina gigantea Canu & Bassler, 1927	in Pinar (1974), known from the W Atlantic, Florida (Winston, 2005) and the Gulf of Mexico (Winston & Maturo, 2009)
Buskea billardi (Calvet, 1906)	in Ünsal & d'Hondt (1978–79), Atlantic deep-water species (Harmelin & d'Hondt, 1992)
Cellepora birostrata Canu & Bassler, 1928	in Ünsal (1975)
Celleporina costata (MacGillivray, 1869)	in Ostroumoff (1896), reported from SE Australia (e.g., Gordon *et al.*, 2009)
Corbulipora tubulifera (Hincks, 1881)	in Ostroumoff (1896), species known from SE Australia (Bock & Cook, 2001)
Idmidronea bidenkapi (Kluge, 1955)	in Aslan Cihangir (2007)
Mecynoecia proboscidea (Milne-Edwards, 1838)	in Ostroumoff (1896)
Margaretta buski Harmer, 1957	in Ünsal (1975), species known from the W Atlantic, Florida (Winston, 2005) and Gulf of Mexico (Winston & Maturo, 2009)
Onychocella antiqua (Busk, 1858)	in Ünsal (1975), reported from Madeira (Norman, 1909)
Stomacrustula sinuosa (Busk, 1860)	in Ünsal (1975)
Tubulipora biserialis Canu & Bassler, 1925	in Ünsal (1975), species with a boreo-arctic distribution (e.g., Winston & Hayward, 2012)
Tubulipora flabellaris (O.Fabricius, 1780)	in Ünsal (1975), species with a northern distribution (Harmelin, 1976)

Table 5. List of bryozoan species reported in Rosso (2003) but removed from the present compilation with comments.

Taxa removed from Rosso (2003)	
Species and subspecies	
Annectocyma sp.	In cases where the genus is stipulated but the species is undetermined, without the authors providing any formal description and/or figures, the taxon has been removed from the list (except when it is a unique occurrence of the genus).
Lichenopora sp.	
Lichenopora sp. nov.	
Eucratea sp.	
Terminoflustra sp.	
Schizomavella sp.	
Calyptotheca sp.	
Tubulipora phalangea Couch, 1844	Removed because of its boreo-arctic distribution (Hayward & Ryland, 1999). The Mediterranean *T. liliacea* develops similar characters, becoming pretty undistinguishable (Harmelin, 1976).
Crisia kerguelensis Busk, 1876	Removed because of its Indian Ocean distribution (Harmelin, 1990).
Crisia occidentalis Trask, 1857	Replaced by *Crisia eburnea harmelini* d'Hondt, 1988.
Paludicella articulata (Ehrenberg, 1831)	Removed because restricted to freshwater habitats (Hayward, 1985).
Amphiblestrum flemingi (Busk, 1854)	A northern taxon reported in Friedl (1918), Kolosváry (1943), and listed in Novosel & Požar-Domac (2001).
Ramphonotus minax (Busk, 1860)	See comments in Rosso *et al.* (2010a)
Carbasea carbasea (Ellis & Solander, 1786)	Mediterranean records often questioned (see Zabala & Maluquer, 1988).
Flustra foliacea (Linnaeus, 1758)	A northern taxon reported in Heller (1867) and listed in Novosel & Požar-Domac (2001).
Beania robusta (Hincks, 1881)	See Rosso *et al.* (2010a).
Cribrilina punctata (Hassall, 1841)	Reported dubitatively by Gautier (1962), it has a boreal geographical distribution (Hayward & Ryland, 1998). The misidentification with *Collarina balzaci* is likely, owing to their superficial similarities.
Puellina (Cribrilaria) cf. *arrecta* Bishop & Househam, 1987 in Zabala & Maluquer (1988)	A new species, *Puellina mickelae* Harmelin, 2006, has been erected for this taxon.
Adeonellopsis multiporosa Arístegui, 1985	Originally described from the Canary Islands, and later reported from off Cadiz, it is absent from the Mediterranean (Harmelin & d'Hondt, 1993).
Adeonella polystomella (Reuss, 1848))	See Rosso & Novosel (2010).
Parasmittina tropica tropica (Waters, 1909)	See Hayward & McKinney (2002).
Metroperiella lacunata Hayward & Hansen, 1999	Single record in Novosel & Požar-Domac (2001) possibly based on Heller (1867) reporting *Metroperiella galeata* (Busk, 1854), erroneously synonymized with this species.
Pentapora foliacea (Ellis & Solander, 1786)	A northern taxon (see Lombardi *et al.*, 2010).
Schizomavella leontiniensis (Waters, 1878)	See Reverter-Gil *et al.* (2015b).
Schizomavella linearis crucifera (Norman, 1869)	Single questioned record in Gautier (1962).
Schizomavella marsupifera (Busk, 1884)	The unique record in Gautier (1962) seems to refer to *Hippoporina lineolifera* (Hincks, 1886) following Hayward & McKinney (2002).
Cylindroporella tubulosa (Norman, 1868)	The unique record of this species in Laubier (1966) is questioned owing to its boreo-arctic distribution, see also Zabala & Maluquer (1988).
Stephanotheca ochracea (Hincks, 1862)	See Reverter-Gil *et al.* (2012, 2016).
Buffonellaria divergens (Smitt, 1873)	Restricted to the western Atlantic (see Berning & Kukliński, 2008), Mediterranean occurrences need revision. They may potentially belong to one of the species already described by the authors or are new to science.
Hippoporella hippopus (Smitt, 1868)	Restricted to the British Isles in the eastern Atlantic (Hayward & Ryland, 1999), and to the Gulf of Maine in the western Atlantic (Winston & Hayward, 2012). Koçak & Ayden Önen (2014) refer to the single questionable record of Ünsal (1975).
Hagiosynodos kirchenpaueri kirchenpaueri (Heller, 1867)	See comments in Rosso *et al.* (2010a).
Hagiosynodos kirchenpaueri tregoubovii Gautier, 1962	See comments in Rosso *et al.* (2010a).

(continued)

Table 5 *(continued)*

Taxa removed from Rosso (2003)	
Rhynchozoon revelatus Hayward & McKinney, 2002	Junior synonym of *Dentiporella sardonica* (Waters, 1879), see Souto *et al.* (2010b).
Genera	
Paludicella Davenport, 1891	*Paludicella articulata* removed.
Porelloides Hayward, 1979	Species now assigned to *Porella*.
Cosciniopsis Canu & Bassler, 1927	Species now assigned to *Hippopodina*.
Cylindroporella Hincks, 1877	*Cylindroporella tubulosa* (Norman, 1868) removed.
Cribrilina Gray, 1848	Species now assigned to *Distansescharella*.
Schedocleidochasma Soule, Soule & Chaney, 1991	Species now assigned to *Plesiocleidochasma*.
Families	
Diastoporidae Gregory, 1899	*Desmeplagioecia* now in Plagioeciidae.
Filisparsidae Borg, 1944	Unaccepted, junior synonym of Oncousoeciidae.
Paludicellidae Allman, 1885	*Paludicella articulata* removed.
Terebriporidae d'Orbigny, 1847	*Terebripora orbignyan*a now in *Immergentia*.
Adeonellidae Gregory, 1893	Now considered as synonymous of Adeonidae Busk, 1884.
Calescharidae Cook & Bock, 2001	Displacement of *Coronellina* in Microporidae, see Souto *et al.* (2014).
Escharellidae Levinsen, 1909 Exochellidae Bassler, 1935	Combined in the Romancheinidae.
Gigantoporidae Bassler, 1935	*Cosciniopsis* and *Cylindroporella* removed.
Lepraliellidae Vigneaux, 1949	*Hagiosynodos* now in Hippoporidridae.

lin 2014; Sokolover *et al.,* 2016). In contrast, *Catenicella paradoxa* was erected from material from the Ionian Sea (Rosso, 2009a) and later reported exclusively from this region (Rosso *et al*., in press).

Further new additions are species that were previously known from the Mediterranean basin but only as fossils. For example, the cyclostome *Crisia tenella longinodata*, a deep-water taxon erected for Pleistocene material from Southern Italy (Rosso, 1998), was later discovered in submerged Holocene assemblages from the Ionian Sea (Rosso *et al*., 2010b), and finally found alive at nearly 300 m depth in the Bari Canyon, Adriatic Sea (D'Onghia *et al.,* 2015). The cheilostome *Gemellipora* sp. cf. *eburnea* was reported (as *Gemellipora eburnea* Smitt) from Pleistocene outcrops (Rosso, 2005a) and Late Holocene submarine sediments (Di Geronimo *et al.*, 2001), while another cheilostome *Sertulipora guttata* was found in Early Pleistocene submerged sediments (Rosso, 1990, as *Cheilonella* sp.). Both of these species are alive today in the Ionian Sea (Rosso *et al.,* in prep.). Another cheilostome, *Neolagenipora collaris*, previously reported from restricted sectors of the NE Atlantic, was found in deep-water settings of the Cap de Creus shelf in the north-western Mediterranean (Madurell *et al*., 2013). The species was known as a skeletobiont in Early Pleistocene shell lags in Sicily (Rosso, 2005b; Rosso & Sanfilippo, 2005). The finding of *Hemicyclopora collarina* in French caves (Harmelin, 2003) represents the first record of this fossil species, previously known from outside the Mediterranean area.

Proportions of bryozoan higher taxa: comparisons with previous Mediterranean and global data

The proportions of the three bryozoan orders, based on the present compilation, generally fit with the figures of previous checklists (Fig. 1). Compared to Harmelin (1992), there is a slight decrease in ctenostomes (10.2% vs 11.0%), mostly counterbalanced by an increase in cyclostomes (13.5% vs 12.6%), while cheilostomes (76.3% vs 76.4%) remain more or less equal. These figures were slightly different in Rosso (2003), with cheilostomes falling around two percent (74.6%) compensated by cyclostomes (14.1%). The proportions are even more dissimilar if compared to the global figures (Bock & Gordon, 2013), with cheilostomes standing at 85.1%, followed by cyclostomes at 9.4% and ctenostomes at only 5.5% (Fig. 2). The Mediterranean bryozoan fauna represents about 9.6% of global bryozoan diversity (or slightly less, 9.4%, considering data reported in Appeltans *et al.*, 2012). The Mediterranean cheilostome fauna represents 8.6% of the global value, while Mediterranean cyclostomes represent 13.8% of global cyclostome diversity, and ctenostomes account for 17.9% of global diversity. Harmelin (1992) and later Rosso (2003) explained the high incidence of cyclostomes as probably related to the intensive investigation of the group in the Mediterranean. The same may apply for ctenostomes. It is likely that the proportions of the orders may be biased by the different research efforts in time and space, with ctenostomes and cyclostomes often less investigated than cheilostomes. Gordon *et al*. (2009), for instance, noted a significant increase in the percentage of cyclostomes when adding undescribed species to the data, rising from 6% to 18%.

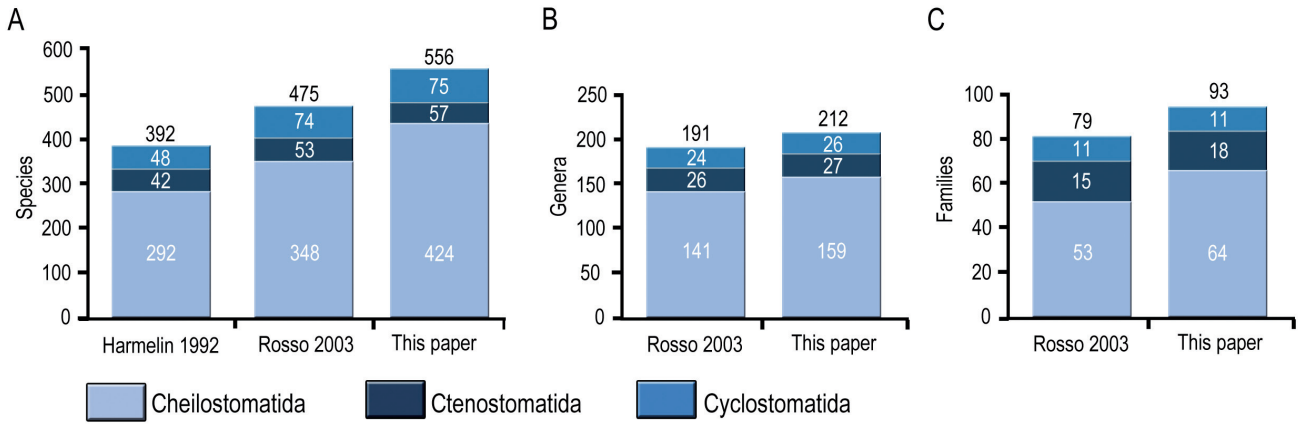

***Fig. 1**:* A. Comparison of the total number of bryozoan species in the Mediterranean (including cyclostomes, ctenostomes and cheilostomes) from Harmelin (1992), Rosso (2003) and the present paper. B and C compare data from Rosso (2003) and the present paper for genera and families, respectively.

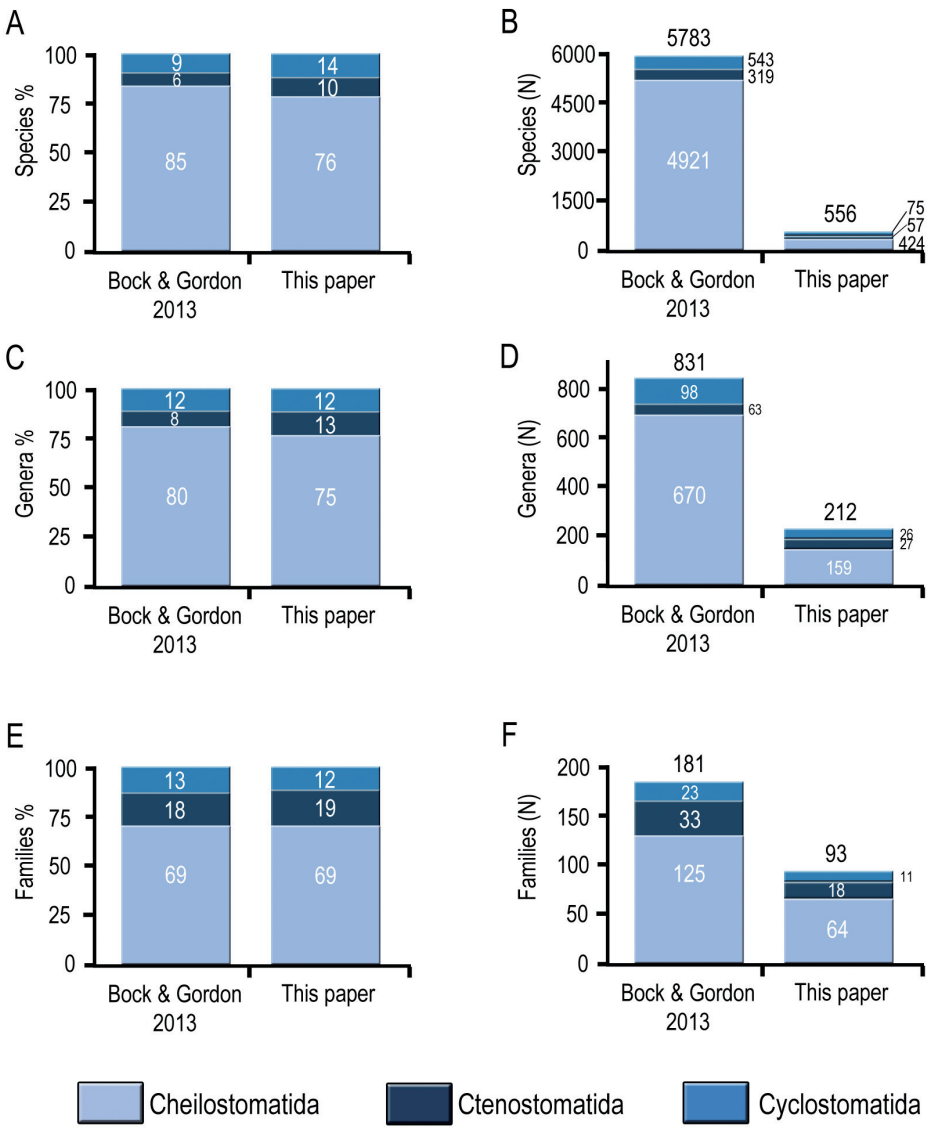

Fig. 2: Comparison of the total number of bryozoan species (A-B) genera (C-D) and families (E-F) (including cyclostomes, ctenostomes and cheilostomes), from the Mediterranean (present paper) and the global oceans as reported in Bock & Gordon (2013). Plots report percentages (left) and the total numbers of species, genera and families (right).

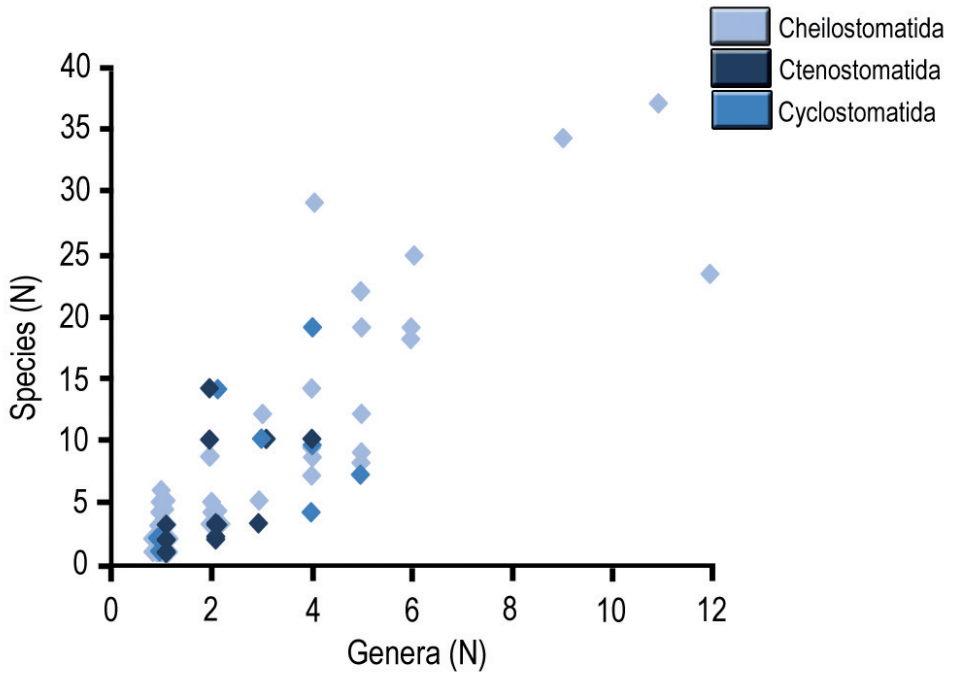

Fig. 3: Plots of Mediterranean bryozoan families (including cyclostomes, ctenostomes and cheilostomes) based on the number of genera and species they contain (from data reported in Table 2).

The proportions among orders (Fig. 2) are similar at generic level, although there is a slight increase in ctenostomes (from 10% at species level to 13% at genus level) and a decrease in cheilostomes (from nearly 76% to 75%). The proportions change more at family level with the ctenostomes exceeding 19% and the cheilostomes dropping to about 69%.

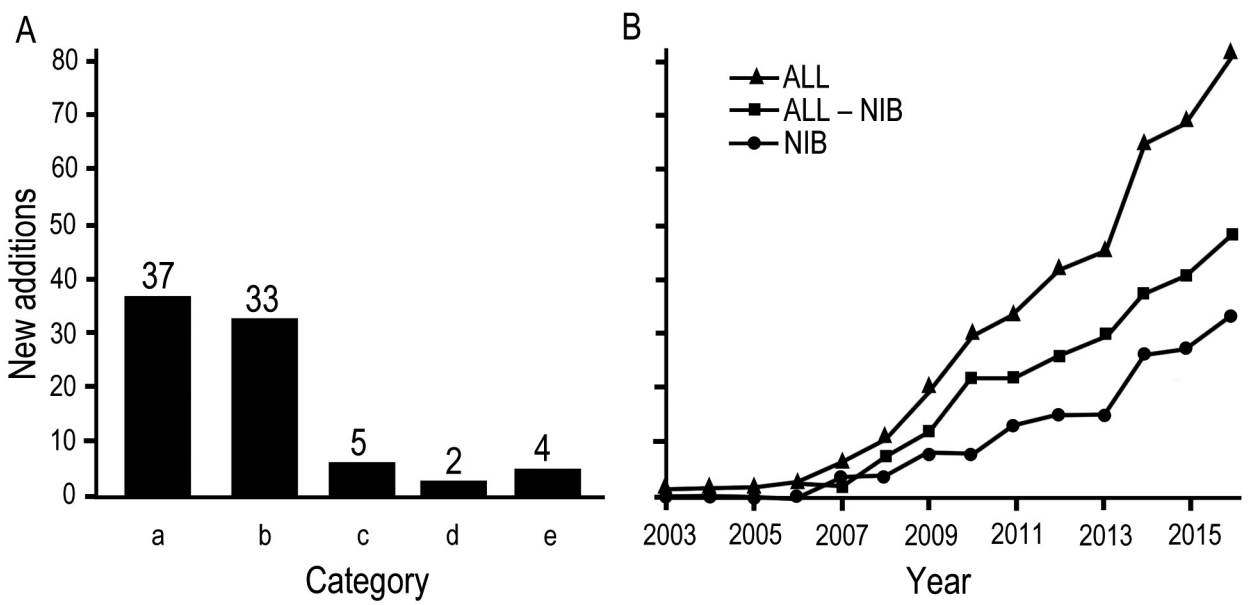

Fig. 4: A. Number of taxa considered as new additions at species level in the present compilation compared to Rosso (2003) divided into the following categories: a, newly described species; b, Non-Indigenous Bryozoan (NIB); c, first living record of a species previously known only from the fossil record; d, species previously left in open nomenclature or resurrected; e, first report after the original description. B. Cumulative curves for the total number of species added per year (since 2003) compared with the number of NIBs introduced per year.

Distribution of bryodiversity among selected bryozoan-rich habitats

Information on bryozoan diversity within habitats is scarce and scattered through a restricted number of papers that aim to characterize specific associations (e.g., Laubier, 1966; Harmelin, 1976; Rosso, 1996; Rosso *et al*., 2013a and references therein; Di Martino & Taylor, 2014 and reference therein). We combined information from general lists published in these and other papers with the preliminary data available from ongoing research projects (see Fig. 5 and references therein). The results show that the richest bryozoan diversity pertains in the Coralligenous (219 spp.) and the Dark and Semi-Dark cave (GO–GSO) (220 spp.) biocoenoses (Figs 5, 6). Both habitats are particularly suitable for bryozoans, being characterised by the availability of a permanent hard substratum to be colonised, the presence of large- to small-sized cavities and crevices offering a wide range of microhabitats and diminished light, counterbalanced by a certain degree of confinement and consequent depletion in oxygen and food, as well as sediment smothering (see Harmelin, 1986, 1997, 2000; Rosso *et al*., 2012a, 2013b). Similar microhabitats are also offered by small hard substrata on detritic bottoms (see Harmelin, 1976). Considering the soft bottoms of the outer-shelf to the upper-slope (60–300 m deep) as a whole, the bryozoan association is diverse, totalling 189 species, some of which are shared with the above-mentioned habitats while some others are adapted to colonize directly heterometric, usually bioclastic bottoms or are restricted to specific depth ranges (Harmelin, 1976; Rosso, 1996; Rosso *et al.*, 2014). Bryodiversity decreases markedly when considering only the Coastal Detritic Biocoenosis (DC), declining to 92 species, 90% of which are shared with the other detritic associations.

Intermediate levels of bryodiversity are found in the shallow-water biocoenoses of the Infralittoral Algae (134 spp.) and the *Posidonia* meadows (152 spp.). Both biocoenoses offer ephemeral, laminar-to-filamentous, highly flexible substrata consisting of plant bodies, increased shading from the illuminated leaf tips to the relative darkness of the stems, rhizoids or rhizomes, and a decreasing in the typically multidirectional hydrodynamic energy for which small encrusters and erect flexible species are specifically adapted (Rosso *et al.*, submitted), from 0 to about 30–35 m depth.

The lowest bryodiversity is associated with deep-water corals, with only 61 species, mainly represented by small-sized encrusters (Rosso *et al.*, 2010b), currently reported in the depth range of 180–750 m. This habitat is characterised by complete darkness, long-lasting hard substrata provided by exposed coral skeletons, coral rubble and occasionally by firm- and hardgrounds (Rosso *et al*., 2010b), a relatively stable temperature throughout the year, moderate siltation, locally low to moderate energy because of unidirectional currents responsible for oxygen and food supply, and possible starvation periods, with some exceptions for canyon-related sites.

Cheilostomes tend to dominate in all of these habitats (Figs 5, 6), accounting for four-fifths of each association, but they decrease to less than 74% in vegetated bottoms where a higher proportion of ctenostomes (more than the 6% and 11% of species in HP and AP, respectively) is present compared to other habitats. Lacking a mineralised skeleton, ctenostomes are particularly adapted for the colonisation of soft and flexible algal thalli and *Posidonia* leaves in high-energy environments. Some species have been described as obligate 'epiphytes' (i.e.

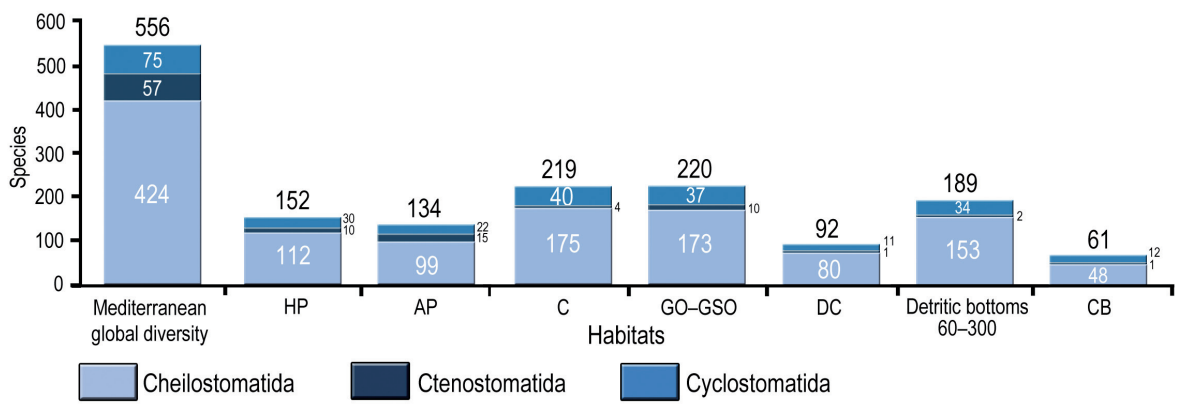

Fig. 5: Total number of cyclostomes, ctenostomes and cheilostomes in the main Mediterranean benthic habitats and bionomic associations. The same feature for the entire Mediterranean is given for comparison. AP: Biocoenosis of the Fotophilic or Infralittoral Algae; HP: Biocoenosis of the *Posidonia* seagrass; GSO–GO: cave and cryptic habitats hosting the Biocoenoses of the semi-dark and dark caves; C: Coralligenous; DC: Biocoenosis of the Coastal Detritic Bottoms; CB: Biocoenosis of the White Corals (or deep-water corals); Data are based on: HP = Di Martino & Taylor (2014); *Cystoseira* communities in the AP = Campisi (1973), Galluzzo (1993), Nicoletti *et al.* (1996), Novosel *et al*. (2004) and Rosso *et al*. (submitted); C = Rosso & Sanfilippo (2009), AR (unpublished data) and lists given by Laubier (1966) and Ballesteros (2006); DC = Rosso (1996); undifferentiated deep-water detritic associations (DDA) = Harmelin (1976), Rosso (1996), Madurell *et al.* (2013) and Rosso *et al*. (2014); CB = Zabala *et al.* (1993), Mastrototaro *et al.* (2010), D'Onghia *et al.* (2015) and Rosso *et al*. (in prep.); GSO–GO = Gerovasileiou & Rosso (in prep.).

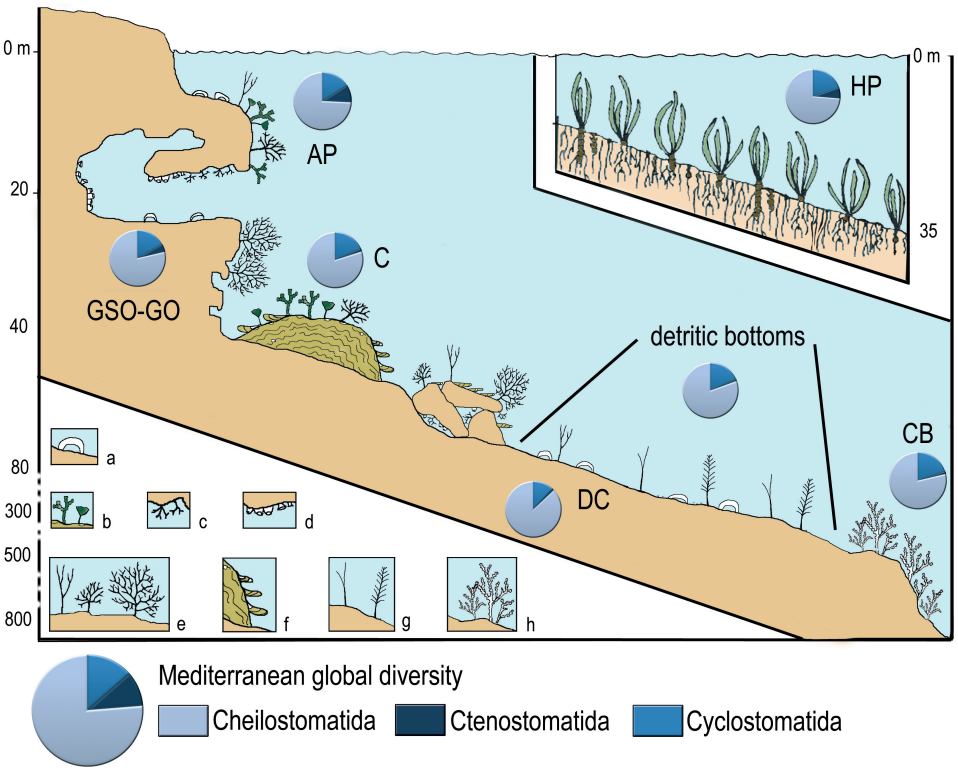

Fig. 6: Relative percentages of bryozoan species (including cyclostomes, ctenostomes and cheilostomes) in the main Mediterranean benthic habitats and bionomic associations. The proportion of the three groups for the entire Mediterranean is given for comparison. a: small objects lying on the bottom; b: the green algae Halimeda tuna and Flabellia petiolata; c: Corallium rubrum; d: sciaphilic sponges and scleractinians; e: the gorgonaceans Eunicella stricta, E. cavolinii and Paramuricea clavata; f: crustose corallinacean algae and Coralligenous concretions; g: hydrozoans and antipatarians; h: the scleractinan Ma-drepora oculata. See Fig. 5 for references and abbreviations. Scheme inspired by Harmelin (1976).

always growing on living plant substrates) by Hayward & Ryland (1999). In contrast, ctenostomes are decidedly subordinate in all other habitats, with values usually lower than the 2%, except for the GO–GSO group of biocoenoses where they reach 4.5%, possibly linked to special microenvironments offered by some sponges. Cyclostomes are present with values ranging from the 16.4% to 19.7%, except for the DC in which they account for nearly the 12%.

Non-Indigenous Bryozoans (NIBs) in the Mediterranean Sea

Ten percent of species (59 out of 556 spp.) living today in the Mediterranean Sea are considered NIBs, although some of them only tentatively (e.g., ?*Proboscina boryi*). Species that have been reported only once in past decades were omitted from the present compilation (see Appendix 2) because they are considered as accidentally present for a limited period of time. Most NIBs are cheilostomes (53 spp. in 33 genera), while only a few are ctenostomes (5 spp. in 4 genera), and a single species is a cyclostome. Some genera, among which *Celleporaria*, *Stylopoma* and *Thalamoporella*, are represented in the Mediterranean only by NIBs.

Several Mediterranean NIBs have been interpreted as cryptic species whose origin/provenance remains to be ascertained (Zenetos *et al.,* 2012). Among NIBs, some are now considered established (e.g., *Arachnoidella protecta*) and others pseudoindigenous (e.g., *Amathia verticillata* in Galil & Gevili, 2014). However, a better understanding of their taxonomic status, as well as their natural range and effect of climate change on geographical distributions (i.e. their northward shift in the northern hemisphere) is needed.

The number of NIBs has increased remarkably since the last update by Zenetos *et al.* (2012), which listed 31 species, a figure that included only three of the 27 NIBs recently reported from the Levantine Sea (Harmelin *et al.*, 2016). The introduction of NIBs into the Mediterranean is mainly linked to shipping (mostly through hull fouling and ballast waters), corridors, aquaculture, and also natural and anthropogenic drifting (Watts *et al.,* 1998; Zenetos *et al*., 2012; Harmelin, 2014; Harmelin *et al.*, 2016 and references therein). Looking at the data reported above, the importance of the Suez Canal as the main route for the so-called 'lessepsian' migrants is evident. These NIBS are native to the Indian or the Pacific oceans and are usually restricted to the Levantine coasts with a few exceptions that are more widespread in the Mediterranean. Most have not been reported from the Red Sea (see Harmelin *et al*., 2016), possibly because of

the scant information available on bryozoans from this region. Analogously, knowledge of bryozoans inhabiting shelf settings of the Atlantic off north Africa is remarkably poor.

Discussion

The increase in the Mediterranean bryozoan diversity by 81 species (accounting for about 15% of the total) since Rosso (2003) is essentially based on the revision of species complexes using Scanning Electron Microscopy (SEM). The use of the SEM as a standard tool and its even greater availability has allowed the redescription of early described species, with improved appreciation of diagnostic morphological characters, including small-scale details difficult to resolve using optical microscopy (Taylor, 1990), enabling the discrimination of cryptic species. SEM study is, for instance, necessary for all the taxa reported in Table 3 and 4, pending the localisation of the type material, in order to clarify their validity. This examination may drive a further increase in the number of species recorded in the Mediterranean.

Based on the present compilation, Mediterranean bryodiversity accounts for about 10% of global bryozoan diversity, a figure that agrees with the figure obtained for the Mediterranean biota as a whole, confirming the currently accepted idea that the Mediterranean Sea makes up a significant percentage of global biodiversity in relation to its limited surface and volume (Bianchi & Morri, 2000). The high diversity of the Mediterranean can be reasonably explained by the interplay of: 1) the deep knowledge acquired during more than two centuries of investigation, and 2) the complex geological evolution of the basin and the story of its colonisation, including exchanges with the Indo-Pacific and Atlantic realms at its eastern and western ends, respectively (Di Geronimo, 1990; Harmelin & d'Hondt, 1992; Taviani, 2002, 2003, among others). Accordingly, the present-day fauna includes: 1) endemic taxa; 2) species of tropical Indo-Pacific affinity, pointing to the origination of the Mediterranean Sea from the closure of the Mesozoic Tethys Ocean; 3) species with a wide Atlantic-Mediterranean distribution, including cold/cool or warm/temperate species introduced during Quaternary glacial and interglacial phases, respectively; 4) widespread taxa now progressively split; 5) new colonisers, largely represented by Non-Indigenous Species, introduced by human activities and, subordinately, as a consequence of the global climatic change and tropicalization of the Mediterranean that has favoured the expansion of warm-water species.

Mediterranean bryozoan diversity is high when compared with other regions of the globe, such as the south-western Atlantic (López Gappa, 2000, reporting 246 spp.), but low compared to others. Gordon *et al*. (2009), for instance, reported 953 species for New Zealand, one of the best-investigated regions in recent times. Interestingly, a relevant component of this biodiversity relates to deep-sea habitats, including seamounts and ridges, from which a large number of new species and higher taxa have been described (Gordon & Taylor, 2010; Gordon, 2014).

Although Mediterranean deep-water habitats are known as relatively depleted in macrofaunal species, new bryozoans are being discovered in these still poorly investigated habitats (D'Onghia *et al.,* 2015; Rosso *et al*., in prep.), as predicted by Rosso (2003). Danovaro *et al*. (2010) estimated that 76% of the Mediterranean macrofauna living between 200 and 4000 m is still undescribed. Extensive deep-water Mediterranean regions are still completely unexplored, or are known only for the cold-water coral communities inhabiting them (Danovaro *et al*., 2010, fig. 1; Taviani *et al*., 2011), but still unexplored for bryozoans. This is the case for the Tyrrhenian Sea and its seamounts, potentially highly suitable for bryozoan colonisation and diversification.

Further additions are expected also from specific regions, mostly from the eastern sector including the Adriatic, the Aegean and the Levantine seas, as recently shown by new species reported from restricted areas and depth horizons (see Harmelin *et al.,* 2016; Sokolover *et al.,* 2016; AR, pers. obs.). A rapid and more consistent increase in bryozoan species might be supplied by NIBs, and specifically by lessepsian migrants, entering the Mediterranean through the Suez Canal, as foreseen by Galil (2007), Zenetos *et al*. (2012) and Harmelin (2014). Their transit may be facilitated by the enlargement of the channel completed in 2015 with the consequent rise of shipping traffic, as feared by Galil *et al*. (2015) and Harmelin *et al*. (2016). Although often largely recognisable, it is expected that this component will change and impact local biodiversity to a certain extent.

Our data on Mediterranean bryozoan diversity is, however, still highly biased by the differences in knowledge among orders, regions and habitats. The awareness of these wide gaps, combined with the evidence that only 6 new species per year (including NIBs) have been documented from the basin in the last decade, raise the question about the 'real' total figure we may expect.

The expected global diversity of bryozoans, estimated after the description of 2800–5200 estimated undiscovered species based on both morphological and molecular data (Gordon & Bock in Appeltans *et al.,* 2012) ranges from 8700 to 11,100 species. Assuming a proportional contribution of the Mediterranean component to global diversity, an increase of about 280–500 species might be expected, leading to 850–1050 Mediterranean species in total. This evaluation roughly parallels >1000 bryozoan species estimated for the Japanese region by Scholz *et al.* (2007) and 1200 species for New Zealand reported by Gordon *et al*. (2009). At the present rate of description and recording of new taxa, the time needed to fill the gap is several decades. This is a challenging schedule taking into ac-

count the few taxonomists presently involved in the study of living bryozoans. An effort would be desirable from all countries bordering the Mediterranean to contribute their own data to the mapping of the biosphere in the next 50 years, as recommended by Wheeler *et al*. (2012). However, this time span far exceeds 2020, the deadline fixed by the European Union (EU) to achieve the Good Environmental Status for marine habitats. As the main goal of the habitat directive of the Marine Strategy is the conservation of biological diversity at species, habitat and ecosystem levels (see Katsanevakis *et al.,* 2011, among others), including protection against the impact of non indigenous species (see Zenetos *et al.*, 2012), a faster achievement of a fairly complete knowledge of the biodiversity, including bryozoans, will help individual countries and the EU to better organize and implement the ecosystem-based marine spatial management for the Mediterranean.

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References

Abdel-Salam, K.M., 2014. Benthic bryozoan fauna from the Northern Egyptian coast. *Egyptian Journal of Aquatic Research,* 40, 269-282.

Abelló, P., Corbera, J., 1996. Epibiont bryozoans (Bryozoa, Ctenostomatida) of the crab *Goneplax rhomboides* (Brachyura, Goneplacidae) off the Ebro delta (western Mediterranean). *Miscellània Zoològica*, 19 (2), 49-52.

Agius, C., Schembri, P.J., Jaccarini, V., 1977. A preliminary report on organisms fouling oyster cultures in Malta (Central Mediterranean). *Memorie di Biologia Marina e di Oceanografia*, 7, 51-59.

Alvarez, J.A., 1992. Sobre algunas especies de la familia Lichenoporidae Smitt, 1866 (Bryozoa, Cyclostomida) en la region Atlantico-Mediterranea. Parte I: genero *Disporella* Gray, 1848. *Cahiers de Biologie Marine*, 33, 201-243.

Alvarez, J.A., 1994. The family Lichenoporidae (Bryozoa, Cyclostomida) in the Atlantic Mediterranean and Boreal provinces. 3. Study of the collections of the National Museum of Natural History in Paris. *Cahiers de Biologie Marine*, 35, 491-509.

Alvarez, J.A., 1995. New data on the Family Lichenoporidae Smitt (Bryozoa, Cyclostomida) from the Mediterranean region. *Journal of Natural History*, 29, 1067-1079.

Appeltans, W., Ahyong, S.T., Anderson, G., Angel, M.V., Artois, T. *et al.,* 2012. The Magnitude of Global Marine Species Diversity. *Current Biology*. http://dx.doi.org/10.1016/j.cub.2012.09.036

Aslan-Cihangir, H., 2007. Bryozoa fauna of Bozcaada Island (NE Aegean Sea). *Rapports de la Commission internationale pour l'Exploration Scientifique de la mer Méditerranée*, 38, 420.

Ayari, R., Taylor, P.D., 2014. Some Bryozoa from Tunisia, Western Mediterranean Sea. In: *Bryozoan Studies* 2013, Rosso A., Wyse Jackson A.N., Porter J. (Eds). Proceedings of the *16th* IBA Conference, 2013 Catania, Italy. *Studi Trentini di Scienze Naturali*, 94, 11-20.

Ballesteros, E., 2006. Mediterranean coralligenous assemblages: a synthesis of present knowledge. *Oceanography and Marine Biology Annual Review,* 44, 123-195.

Banta, W.C., Carson, R.J.M., 1977. Bryozoa from Costa Rica. *Pacific Science*, 31 (4), 381-424.

Ben Ismail, D., 2012. Bryozoaires des côtes tunisiennes: diversité, distribution et characterisation écologique. Unpublished Ph.D. Thesis, Université El Manar, Tunis.

Ben Ismail, D., Rabaoui, L., Diawara, M., Ben Hassine, O.K., 2012. The Bryozoan assemblages and their relationship with certain environmental factors along the shallow and subtidal Tunisian coasts. *Cahiers de Biologie Marine*, 53, 231-242.

Berning, B., 2012. Taxonomic notes on some Cheilostomata (Bryozoa) from Madeira. *Zootaxa*, 3236, 36-54.

Berning, B., Kukliński P., 2008. North-east Atlantic and Mediterranean species of the genus *Buffonellaria* (Bryozoa, Cheilostomata): implications for biodiversity and biogeography. *Zoological Journal of the Linnean Society*, 152, 537-566. doi.org/10.1111/j.1096-3642.2007.00379.x

Berning, B., Tilbrook, K.J., Rosso, A., 2008. Revision of the north-eastern Atlantic and Mediterranean species of the genera *Herentia* and *Therenia* (Bryozoa: Cheilostomata). *Journal of Natural History*, 42, 1509-1547. doi:10.1080/00222930802109140.

Bianchi, N., Morri, C., 2000. Marine biodiversity of the Mediterranean Sea: Situation, problems and prospects for future research. *Marine Pollution Bulletin*, 40 (5), 367-376.

Bock, P.E., 2016. The Bryozoa Home Page. http://bryozoa.net/. Accessed several times between September 2015-February 2016.

Bock, P.E., Cook, P.L., 2001. Revision of the multiphased genus *Corbulipora* MacGillivray (Bryozoa, Cribrimorpha). *Memoirs of Museum Victoria*, 58 (2), 191-213.

Bock, P.E., Gordon, D.P., 2013. Phylum Bryozoa Ehrenberg, 1831. *Zootaxa*, 3703 (1), 67-74.

Bock, P.E., Gordon, D.P., 2016. WoRMS Bryozoa: World List of Bryozoa (version 2016-01-01). In: *Species 2000 & ITIS Catalogue of Life*, 29th January 2016. Roskov, Y., Abucay, L., Orrell, T., Nicolson, D., Kunze, T. *et al*. (Eds). Digital resource at www.catalogueoflife.org/col. Species 2000: Naturalis, Leiden, the Netherlands. ISSN 2405-8858.

Boero, F., Bonsdorff, E., 2007. A conceptual framework for marine biodiversity and ecosystem functioning. *Marine Ecology*, 28 (Suppl. 1), 134-145.

Campisi, M.R., 1973. Briozoi dell'Isola Lachea (Golfo di Catania) – Nota preliminare. *Bollettino Accademia Gioenia di Scienze Naturali, Catania, Serie 4*, 11, 135-156.

Canu, F., Bassler, R.S., 1930. Bryozoaires marins de Tunisie. *Salambô Station Oceanographique Annales*, 5, 1-91.

Chimenz Gusso C., Soule, D.F., 2003. First recognised occurrence of the genus *Plesiocleidochasma* in the Mediterranean region (Bryozoa, Cheilostomatida) with *Plesiocleido-*

chasma mediterraneum, new species. *Bollettino del Museo Civico di Storia Naturale di Verona*, 27, 279-282.

Chimenz Gusso, C., Nicoletti, L., Bondanese, C., 2014. Briozoi. *Biologia Marina Mediterranea*, 20 (Suppl. 1), 1-336.

Çinar, M.E., Bilecenoğlu, M., Ozturk, B., Katagan, T., Aysel, V., 2005. Alien species on the coasts of Turkey. *Mediterranean Marine Science*, 6, 119-146.

Cook, P.L., 1964. Polyzoa from West Africa. Notes on the genera *Hippoporina* Neviani, *Hippoporella* Canu, *Cleidochasma* Harmer and *Hippoporidra* Canu & Bassler. *Bulletin of the British Museum (Natural History), Zoology*, 12, 1-35.

Danovaro, R., Company J.B., Corinaldesi, C., D'Onghia, G., Galil, B. *et al*., 2010. Deep-Sea Biodiversity in the Mediterranean Sea: The Known, the Unknown, and the Unknowable. *PLoS ONE*, 5 (8), doi:10.1371/journal. pone.0011832

De Blauwe, H., Faasse, M.A., 2001. Extension of the ranges of the bryozoans *Tricellaria inopinata* and *Bugula simplex* in the North-East Atlantic Ocean (Bryozoa: Cheilostomatida). *Nederlandse Faunistische Mededelingen*, 14, 103-112.

Di Geronimo, I., 1990. Biogeografia dello zoobenthos del Mediterraneo: origine e problematiche. XX Congresso S.I.B.M., Vibo Valentia, 19–24 Settembre 1988. *Oebalia*, 16 (1), 31-49.

Di Geronimo, I., Rosso, A., La Perna, R., Sanfilippo, R., 2001. Deep-sea (250–1550 m) benthic thanatocoenoses from Southern Tyrrhenian Sea. In: *Mediterranean Ecosystems: Structures and Processes*. Faranda, F.M., Guglielmo, L., Spezie, G. (Eds), 36, 277-287.

Di Martino, E., Taylor, P.D., 2012. Pyrisinellidae, a new family of anascan cheilostome bryozoans. *Zootaxa*, 3534, 1-20.

Di Martino, E., Taylor, P.D., 2014. A brief review of seagrass-associated bryozoans, Recent and fossil. In: *Bryozoan Studies 2013*, Rosso A., Wyse Jackson, A.N., Porter, J. (Eds). Proceedings of the *16th* IBA Conference, 2013 Catania, Italy. *Studi Trentini di Scienze Naturali,* 94, 79-94.

D'Onghia, G., Capezzuto, F., Cardone, F., Carlucci, R., Carluccio, A. *et al.*, 2015. Macro- and megafauna recorded in the submarine Bari Canyon (southern Adriatic, Mediterranean Sea) using different tools. *Mediterranean Marine Science*, 16 (1), 180-196.

Eitan, G., 1972. Types of metamorphosis and early astogeny in *Hippopodina feegeensis* (Busk) (Bryozoa –Ascophora). *Journal of Experimental Marine Biology & Ecology*, 8 (1), 27-30.

Fehlauer-Ale, K.H., Winston, J.E., Tilbrook, K.J., Nascimento, K.B., Vieira, L.M., 2015. Identifying monophyletic groups within *Bugula* sensu lato (Bryozoa, Buguloidea). *Zoologica Scripta* (online). http://dx.doi.org/10.1111/zsc.12103

Ferrario, J., d'Hondt, J.-L., Marchini, A., Occhipinti Ambrogi, A., 2015. From the Pacific Ocean to the Mediterranean Sea: *Watersipora arcuata*, a new non-indigenous bryozoan in Europe. *Marine Biology Research* 9 (11), 090-919. doi: 10.1080/17451000.2015.1041531.

Ferrario, J., Marchini, A., Lodola, A., Occhipinti Ambrogi, A., 2014. The pseudoindigenous bryozoan *Zoobotryon verticillatum* along the Mediterranean and European Atlantic coasts. *Biologia Marina Mediterranea*, 21 (1), 117-118.

Floerl, O., Inglis, G.J., Gordon, D.P., 2009. Patterns of taxonomic diversity and relatedness among native and non-indigenous bryozoans. *Diversity Distribution*, 15, 438-449.

Galil, B., 2007. Seeing Red: Alien species along the Mediterranean coasts of Israel. *Aquatic Invasions*, 2 (4), 281-312.

Galil, B.S., Gevili, R., 2014. *Zoobotryon verticillatum* (Bryozoa, Ctenostomatida, Vesiculariidae), a new occurrence on the Mediterranean coast of Israel. *Marine Biodiversity Records*, 7, e17. doi: 10.1017/ S1755267214000086.

Galil, B., Boero, F., Fraschetti, S., Piraino, S., Campbell, M. *et al*., 2015. The Enlargement of the Suez Canal and Introduction of Non-Indigenous Species to the Mediterranean Sea. *Association for the Sciences of Limnology and Oceanography,* 4, 45-47.

Galluzzo, G., 1993. Zonazione dei Briozoi nei Cistoseireti dell'Isola di Salina (Isole Eolie). *Bollettino dell'Accademia Gioenia di Scienze Naturali, Catania*, 26 (342), 239-250.

Gautier, Y.V., 1962. Recherches Ecologiques sur les Bryozoaires Chilostomes en Méditerranée occidentale. *Recueil des Travaux de la Station Marine d'Endoume*, 38 (24), 1-435.

Gerovasileiou, V., Rosso, A., (in prep.). Bryozoan diversity in submarine Mediterranean caves.

Gordon, D.P., 1984. The marine fauna of New Zealand: Bryozoa: Gymnolaemata from the Kermadec Ridge. *New Zealand Oceanographic Institute Memoir*, 91, 1-198.

Gordon, D.P., 1986. The marine fauna of New Zealand: Bryozoa: Gymnolaemata (Ctenostomata and Cheilostomata Anasca) from the Western South Island Continental Shelf and Slope. *New Zealand Oceanographic Institute Memoir*, 95, 1-21.

Gordon, D.P., 2014. Apprehending novel biodiversity – fifteen new genera of Zealandian Bryozoa. *Journal of the Marine Biological Association of the United Kingdom*, 94 (8), 1597-1628.

Gordon, D.P. & Taylor, P.D., 2010. New seamount- and ridge-associated cyclostome Bryozoa from New Zealand. *Zootaxa*, 2533, 43-68.

Gordon, D.P., Taylor, P.D., Bigey, F., 2009. Phylum Bryozoa – moss animals, sea mats, lace corals. p. 271-297. In: *New Zealand Inventory of Biodiversity. Volume One. Animalia. Radiata, Lophotrochozoa, Deuterostomia*. Gordon, D.P. (Ed.). Canterbury University Press, Canterbury.

Harmelin, J.-G., 1969. Bryozoaires récoltés au cours de la campagne du Jean Charcot en Méditerranée Orientale (Août–Septembre 1967). Dragages. *Bulletin du Muséum National d'Histoire Naturelle*, 41, 295-311.

Harmelin, J.-G., 1976. Le sous-ordre des Tubuliporina (Bryozoaires Cyclostomes) en Méditerranée. Écologie et systématique. *Mémoires de l'Institut Océanographique*, 10, 1-326.

Harmelin, J.-G., 1986. Patterns in the distribution of bryozoans in the Mediterranean Marine Caves. *Stygologia*, 2, 10-25.

Harmelin, J.-G., 1990. Deep-water crisiids (Bryozoa: Cyclostomata) from the northeast Atlantic Ocean. *Journal of Natural History*, 24, 1597-1616.

Harmelin, J.-G., 1992. Facteurs historiques et environmentaux de la *biodiversité de* la Méditerranée: l'exemple des bryozoaires. *Review de Paléobiologie,* 11 (2), 503-511.

Harmelin, J.-G., 1997. Diversity of Bryozoans in a Mediterranean Sublittoral Cave with bathyal-like Conditions: Role of dispersal Processes and Local Factors. *Marine Ecology Progress Series*, 153, 139-152.

Harmelin, J.-G., 2000. Ecology of cave and cavity dwelling bryozoans. p. 38-55. In: Herrera Cubilla A., Jackson J.B.C. (Eds). Proceedings of the 11th IBA Conference, 1998, Re-

public of Panama. Smithsonian Tropical Research Institute, Balboa.

Harmelin, J.-G., 2003. Biodiversité des habitats cryptiques marins du parc national de Port-Cros (Méditerranée, France). Assemblages de bryozoaires d'une grotte sous-marine et des faces inférieures de pierres. *Scientific Reports Port-Cros National Park, France*, 19, 101-1015.

Harmelin, J.-G., 2014. Alien bryozoans in the eastern Mediterranean Sea – new records from the coast of Lebanon. *Zootaxa*, 3893 (3), 301-308.

Harmelin, J.-G., d'Hondt, J.-L., 1992. Bryozoaires des parages de Gibraltar (campagne océanographique BALGIM, 1984) 1 - Chéilostomes. *Bulletin du Muséum National d'Histoire Naturelle*, 14, 37-67.

Harmelin, J.-G., Hondt, J.-L., d', 1993. Transfers of bryozoan species between the Atlantic Ocean and the Mediterranean Sea via the Strait of Gibraltar. *Oceanologica Acta*, 16 (1), 63-72.

Harmelin, J.-G., Bitar, G., Zibrowius, H., 2007. *Schizoretepora hassi* sp. nov. (Bryozoa: Phidoloporidae) from Lebanon (Eastern Mediterranean) and reappraisal of *Schizotheca serratimargo* (Hincks, 1886). *Cahiers de Biologie Marine,* 48 (2), 179-186.

Harmelin, J.-G., Bitar, G., Zibrowius, H., 2009. Smittinidae (Bryozoa, Cheilostomata) from coastal habitats of Lebanon (Mediterranean Sea), including new and non-indigenous species. *Zoosystema,* 31 (1), 163-187.

Harmelin, J.-G., Bitar, G., Zibrowius, H., 2016. High xenodiversity *versus* low native biodiversity in the south-eastern Mediterranean: bryozoans from the coastal zone of Lebanon. *Mediterranean Marine Science*, 17 (2), 417-439. DOI: http://dx.doi.org/10.12681/mms.1429

Harmelin, J.-G., Ostrovsky, A.N., Cáceres-Chamizo, J.P., Sanner, J., 2011. Bryodiversity in the tropics: taxonomy of *Microporella* species (Bryozoa, Cheilostomata) with personate maternal zooids from Indian Ocean, Red Sea and southeast Mediterranean. *Zootaxa*, 2798, 1-30.

Harmelin, J.-G., Vieira, L., Ostrovsky, A.N., Cáceres-Chamizo, J.P., Sanner, J., 2012. *Scorpiodinipora costulata* (Canu & Bassler, 1929) (Bryozoa, Cheilostomata), a taxonomic and biogeographic dilemma: complex of cryptic species or human-mediated cosmopolitan colonizer? *Zoosystema*, 34 (1), 123-138.

Harmer, S.F., 1926. The Polyzoa of the Siboga Expedition, 2. Cheilostomata Anasca. *Siboga Expedition Reports*, 28b, 183-501.

Hastings, A.B., 1927. Zoological results of the Cambridge expedition to the Suez Canal, 1924, 20. Report on the Polyzoa. *Transactions of the Zoological Society of London*, 22, 331-353.

Hastings, A.B., 1968. Some type and other specimens involved in the problem of *Stylopoma* Levinsen (Polyzoa). *Bulletin of the British Museum (Natural History), Zoology*, 16, 355-364.

Hayward, P.J., 1974. Studies on the cheilostome bryozoan fauna of the Aegean island of Chios. *Journal of Natural History*, 8 (4), 369-402.

Hayward, P.J., 1985. *Ctenostome Bryozoans*. Synopses of the British Fauna (New Series), Kermack, D.M., Barnes, R.S.K., (Eds). Linnean Society of London, London, 33, 1-169.

Hayward, P.J., McKinney, F.K., 2002. Northern Adriatic Bryozoa from the vicinity of Rovinj, Croatia. *Bulletin of the American Museum of Natural History*, 270, 1-139.

Hayward, P.J., Ryland, J.S., 1998. *Cheilostomatous Bryozoa, Part 1. Aeteoidea-Cribrilinoidea.* Synopses of the British Fauna (New Series), Barnes, R.S.K., Crothers, J.H. (Eds). Linnean Society of London, London, 2nd ed., 10, 1-366.

Hayward, P.J., Ryland, J.S., 1999. *Cheilostomatous Bryozoa, Part 2. Hippothooidea–Celleporoidea*. Synopses of the British Fauna (New Series), Barnes, R.S.K., Crothers, J.H. (Eds). Linnean Society of London, London, 2nd ed., 14, 1-416.

Heller, C., 1867. Die Bryozoen des adriatischen Meeres. *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien*, 17, 77-136.

Hincks, T., 1886. The Polyzoa of the Adriatic: a Supplement to Prof. Heller's "Die Bryozoen des Adriatischen Meeres". *Annals and Magazine of Natural History*, 17, 254-271.

Hondt, J.-L., d', 1983. Tabular Keys for the Identification of the Recent Ctenostomatous Bryozoa. *Memoires de l'Institut Oceanographique. Fondation Albert 1er, Prince de Monaco*, 14, 1-134.

Hondt, J.-L., d', 1988. Bryozoa from the coast of Israel. *Bollettino di Zoologia, Unione Zoologica Italiana, Napoli,* 55 (3), 191-203.

Hondt, J.-L., d', 1997. Apports de Lamarck dans la connaissance des Bryozoaires. In: *Jean-Baptiste Lamarck, 1744–1829*, Laurent, G. (Ed), 287-314.

Hondt, J.-L., d', 2000. Discovery of some types of Cheilostomatous Bryozoa Described from 1812 to 1824 by J.-V.F. Lamouroux. p. 211–218. In: *Proceedings of the 11th International Bryozoology Association Conference*, Herrera Cubilla A., Jackson, J.B.C. (Eds). Smithsonian Tropical Research Institute.

Hondt, J.-L., d', Ben Ismail, D., 2008. Bryozoaires des cotes Algeriennes. Complements aux Bryozoaires de Tunisie. *Bulletin de la Société Zoologique de France*, 133, 55-71.

Hondt, J.-L., d', Mascarell, G., 2004. Les bryozoaires marins et d'eau douce de Tunisie. *Bulletin de la Société Zoologique de France*, 129 (4), 437-457.

Katsanevakis, S., Stelzenmüller, V., South, A., Sørensen, T.K., Jones, P.J.S. *et al.,* 2011. Ecosystem-based marine spatial management: Review of concepts, policies, tools, and critical issues. *Ocean & Coastal Management*, 54 (11), 807-820.

Koçak, F., 2007. A new alien bryozoan *Celleporaria brunnea* (Hincks, 1884) in the Aegean Sea (eastern Mediterranean). *Scientia Marina*, 71, 191-195.

Koçak, F., Aydin Önen, S., 2014. Checklist of Bryozoa on the coasts of Turkey. *Turkish Journal of Zoology*, 38, 880-891.

Kukliński, P., Taylor, P.D., 2008. Arctic species of the cheilostome bryozoan *Microporella*, with a redescription of the type species. *Journal of Natural History*, 42 (27-28), 1893-1906.

Laubier, L., 1966. Le coralligène des Albères: monographie biocénotique. *Annales de l'Institut Océanographyque de Monaco*, 43, 139-316.

Lodola, A., Ferrario, J., Occhipinti Ambrogi, A., 2015. Further Mediterranean expansion of the non-indigenous bryozoan *Celleporaria brunnea*: multiple records along the Italian coasts. *Scientia Marina*, 79 (2), 263-274.

Lombardi, C., Taylor, P.D., Cocito, S., 2010. Systematics of the Miocene–Recent bryozoan genus *Pentapora* (Cheilostomata). *Zoological Journal of the Linnean Society*, 160, 17-39.

López de la Cuadra, C.M., García-Gómez, J.C., 2000. The cheilostomate Bryozoa (Bryozoa: Cheilostomatida) collected by the Spanish 'Antártida 8611' Expedition to the Scotia Arc and South Shetland Islands. *Journal of Natural History,* 34, 755-772.

López-Fé, C.M., 2006. Some bathyal cheilostome Bryozoa (Bryozoa, Cheilostomata) from the Canary Islands (Spain, Eastern Atlantic), with descriptions of three new species, a new genus, and a new family. *Journal of Natural History*, 40 (29-31), 1801-1812.

López Gappa, J., 2000. Species richness of marine Bryozoa in the continental shelf and slope off Argentina (south-west Atlantic). *Diversity and Distribution*, 6, 15-27.

Madurell, T., Zabala, M., Dominguez-Carrió, C., Gili, J.M., 2013. Bryozoan faunal composition and community structure from the continental shelf off Cap de Creus (Northwestern Mediterranean*). Journal of Sea Research*, 83, 123-136.

Mastrototaro, F., D'Onghia, G., Corriero, G., Matarrese, A., Maiorano, P. *et al.*, 2010. Biodiversity of the white coral bank off Cape Santa Maria di Leuca (Mediterranean Sea): An update. *Deep Sea Research II*, 57 (5-6), 412-430.

Nicoletti, L., Galluzzo, G., Chimenz Gusso, C., 1996. Popolamenti a Bryozoa Gymnolaemata nell'isola di Vulcano (Isole Eolie – Messina). *Naturalista Siciliano, Serie 4*, 20, 227-236.

Norman, A., 1909. The Polyzoa of Madeira and neighbouring islands. *Journal of the Linnean Society (Zoology) London*, 30, 275-314.

Novosel, M., Požar-Domac, A., 2001. Checklist of Bryozoa of the Eastern Adriatic Sea. *Natura Croatica,* 10 (4), 367-421.

Novosel, M., Požar-Domac, A., Pasarić, M., 2004. Diversity and Distribution of the Bryozoa along Underwater Cliffs in the Adriatic Sea with Special Reference to Thermal Regime. *Marine Ecology*, 25 (2), 155-170.

Occhipinti Ambrogi, A., Marchini, A., Cantone, G., Castelli A., Chimenz, C. *et al.*, 2010. Alien species along the Italian coasts: an overview. *Biological Invasions*. doi: 10.1007/s10530-010-9803-y.

O'Donoghue, H., de Watteville, D., 1939. The fishery grounds near Alexandria. XX – Bryozoa. *Fouad I Institute. Hydrobiology & Fisheries, Notes & Memoirs,* 34, 1-58.

Pizzaferri, C., 2010. New specimens of *Prenantia cheilostoma* (Manzoni) from the Pliocene of Castell'Arquato area (Western Emilia Region, N Italy). *Quaderno di Studi e Notizie di Storia Naturale della Romagna,* 31, 89-117.

Poluzzi, A., 1975. I Briozoi cheilostomi del Pliocene della Val d'Arda (Piacenza, Italia). *Memorie della Società Italiana di Scienze Naturali e Museo Civico di Storia Naturale, Milano*, 21 (2), 1-77.

Prenant, M., Bobin, G., 1956. *Bryozoaires, premiere partie, Entoproctes, Phylactolèmes, Ctenostomes* Fédération Française des sociétés de sciences naturelles, Paris, 398 pp.

Powell, N.A., 1969. Indo-Pacific Bryozoa new to the Mediterranean coast of Israel. *Israel Journal of Zoology*, 18, 157-168.

Reverter-Gil, O., Souto, J., Fernández-Pulpeiro, E., 2012a. A new genus of Lanceoporidae (Bryozoa, Cheilostomata). *Zootaxa*, 3339, 1-29.

Reverter-Gil, O., Souto ,J., Fernández-Pulpeiro, E., 2012b. New and little known species of Bryozoa from Iberian Atlantic waters. *Zoosystema*, 34 (1), 157-170.

Reverter-Gil, O., Berning, B., Souto, J., 2015. Diversity and Systematics of *Schizomavella* Species (Bryozoa: Bitectiporidae) from the bathyal NE Atlantic. *PLoS ONE*, 10 (10), doi: 10.1371/journal.pone.0139084.

Reverter-Gil, O., Souto, J., Novosel, M., Tilbrook, K.J., 2016. Adriatic species of *Schizomavella* Bryozoa: Cheilostomata). *Journal of Natural History,* 50 (5), 281-321. http://dx.doi.org/10.1080/00222933.2015.1062153.

Rosso, A., 1990. Thanatocenose wurmien à Bryozoaires bathyaux en Mer Tyrrhenienne. *Rapports de la Commission internationale pour l'Exploration Scientifique de la mer Méditerranée*, 32 (1), 23.

Rosso, A., 1996. Valutazione della biodiversità in Mediterraneo: l'esempio dei popolamenti a briozoi della Biocenosi del Detritico Costiero. *Biologia Marina Mediterranea*, 3 (1), 58-65.

Rosso, A., 1998. New bryozoan species from the deep-sea Pleistocene sediments of Southern Italy. *Rivista Italiana di Paleontologia e Stratigrafia,* 104 (3), 423-430.

Rosso, A., 2003. Bryozoan diversity in the Mediterranean Sea. *Biogeographia*, 24, 219-238.

Rosso, A., 2005a. Bryozoan facies in deep-sea Pleistocene environments of southern Italy. p. 257-269. In: *Bryozoan studies 2004*. Moyano, G.H.I., Cancino, J.M., Wyse Jackson, P.N. (Eds). Proceedings of the 13th IBA Conference, 2004 Conceptión, Chile. A.A. Balkema Publishers, Leiden, London, New York, Philadelphia, Singapore.

Rosso, A., 2005b. First fossil record of *Neolagenipora* (Bryozoa Cheilostomatida) from Mediterranean Pleistocene sediments. *Bollettino Accademia Gioenia di Scienze Naturali, Catania*, 38 (365), 137-150.

Rosso, A., 2009a. The first Catenicellid (Bryozoa, Ascophora) from Mediterranean shallow-waters: a hidden resident or a new immigrant? *Journal of Natural History*. 43 (35), 2209-2226. doi: 10.1080/00222930903089977.

Rosso, A., 2009b. *Hornera* Lamouroux, 1821. p. 134-138. In: *Protected species according to the SPA/BIO Protocol (Barcelona Convention) present in Italy. Identification sheets.* Ministero dell'Ambiente e della Tutela del Territorio e del Mare, Relini, G., Tunesi, L. (Eds). *Biologia Marina Mediterranea,* 16 (Suppl. 2).

Rosso, A., Novosel, M., 2010. The genus *Adeonella* (Bryozoa, Ascophora) in the Mediterranean from Pliocene to Recent, with description of two new species. *Journal of Natural History*, 44, 1697-1727.

Rosso, A., Sanfilippo, R., 2005. Bryozoan and serpuloidean skeletobiont communities from Pleistocene of Sicily: spatial utilisation and competitive interactions. p. 115–130. In: *Giornata di Studi Paleontologici "Prof. C. Loriga Broglio"*. Fugagnoli, A., Bassi, D. (Eds). *Annali dell'Università di Ferrara. Sezione di Museologia Scientifica e Naturalistica.* Volume speciale.

Rosso, A., Sanfilippo R., 2009. The contribution of bryozoans and serpuloideans to coralligenous concretions from SE Sicily. p. 123–128. In: UNEP-MAP-RAC/SPA, *Proceedings of the First Symposium on the Coralligenous and other calcareous bio-concretions of the Mediterranean Sea* (Tabarka, 1516 January, 2009).

Rosso, A., Taylor, P.D., 2002. A new anascan cheilostome Bryozoan from Iceland deep waters and its uniserial colony growth pattern. *Sarsia*, 87, 35-46.

Rosso, A., Chimenz Gusso, C., Balduzzi, A. 2010a. Bryozoa. p. 589-615. In: *Checklist della flora e della fauna dei mari italiani* (parte II). Relini G. (Ed.). *Biologia Marina Mediterranea*, 17 (Suppl.).

Rosso, A., Vertino, A., Di Geronimo, I., Sanfilippo, R., Sciuto, F. *et al.,* 2010b. Hard and soft-bottom thanatofacies from the Santa Maria di Leuca deep-water coral province, Mediterranean. *Deep Sea Research II.* (2009), 57 (5-6), 360-379. doi 10.1016/j.dsr2.2009.08.024.

Rosso, A., Di Martino, E., Pica, D., Galanti, L., Cerrano, C. *et al*., in press. Non-indigenous bryozoan species from natural and artificial substrata of Mediterranean submarine caves. *Marine Biodiversity.*

Rosso, A., Di Martino, E., Sanfilippo, R., Di Martino, V., 2013a. Bryozoan Communities and Thanatocoenoses from Submarine Caves in the Plemmirio Marine Protected Area (SE Sicily). p. 251–269. In: *Bryozoan Studies 2010*. Ernst, A., Schäfer, P., Scholz, J. (Eds). Proceedings of the 15th IBA Conference, 2010 Kiel, Germany. Lecture Notes in Earth System Sciences, 143. Springer, Berlin, Heidelberg.

Rosso, A., Di Martino, E., Sanfilippo, R., Sciuto, F., Liow, L.H., 2015. Resurrection of an old forgotten name: the case of the Pliocene to Recent *Cleidochasmidra portisi* (Neviani, 1895) from the Mediterranean. *Bollettino Società Paleontologica Italiana*, 54 (2), 91-101.

Rosso, A., Sanfilippo, R., Sciuto, F., 2014. Open shelf soft bottom bryozoan communities from the Ciclopi Marine Protected Area (E Sicily, Mediterranean). In: *Bryozoan Studies 2013*. Rosso A., Wyse Jackson, P.N., Porter, J. (Eds). Proceedings of the 16th IBA Conference, 2013 Catania, Italy. *Studi Trentini di Scienze Naturali*, 94, 195-207.

Rosso, A., Sanfilippo, R., Taddei Ruggiero, E., Di Martino, E., 2013b. Serpuloidean, bryozoan and brachiopod faunas from submarine caves in Sicily. *Bollettino Società Paleontologica Italiana*, 52 (3), 167-176.

Rosso, A., Sanfilippo, R., Sciuto, F., Serio, D., Catra, M. *et al.,* submitted. Preliminary information about bryozoans associated with infralittoral algae from eastern Sicily (Mediterranean). *Proceedings of the 17th Conference of the International Bryozoology Association*, Melbourne, 11-15 April 2016.

Rosso, A., Taviani, M., Sanfilippo, R., Sciuto, F., in prep. Bryozoans from deep-water coral ecosystem off Malta (Mediterranean).

Ryland, J.S., Porter, J.S., 2003. The identity of *Alcyonidium gelatinosum* (Linnaeus, 1761) (Bryozoa: Ctenostomatida). *Journal of Natural History*, 37 (18), 2179-2189.

Sciberras, M., Schembri, P., 2007. A critical review of records of alien species from the Maltese Islands and surrounding waters (Central Mediterranean). *Mediterranean Marine Science*, 8 (1), 41-66.

Scholz, J., Mawatari, S.F., Hirose, M., 2007. The Bryozoan Diversity Mystery: Why Do We Have About 1000 Species in Japanese Waters? p. 129-135. In: *Origin and Evolution of Natural Diversity*, Okada, H., Mawatari, S.F., Suzuki, N., Gautam, P. (Eds). Proceedings of International Symposium "The Origin and Evolution of Natural Diversity" 1-5, October 2007, Sapporo.

Seguenza, G., 1879–1880. Le formazioni Terziarie nella Provincia di Reggio (Calabria). *Reale Accademia dei Lincei, Anno 277, S. 3a. Memorie della Classe di Scienze Fisiche Matematiche e Naturali*, 3 (6), 1-446.

Sokolover, N., Taylor, P.D., Ilan, M., 2016. Bryozoa from the Mediterranean coast of Israel: global warming and the influx of tropical species. *Mediterranean Marine Science*, 17 (2), 440-458. DOI: http://dx.doi.org/10.12681/mms.1390

Sosa-Yañez, A., Vieira, L., Solís-Marín, F.A., 2015. A new cheilostome bryozoan genus, *Abditoporella* (Hippoporidridae), from the eastern Pacific. *Zootaxa*, 3994 (2), 275-282.

Souto, J., Berning, B., Ostrovsky, A.N., 2016. Systematics and diversity of deep-water Cheilostomata (Bryozoa) from Galicia Bank (NE Atlantic). *Zootaxa*, 4067, 401-459.

Souto, J., Reverter-Gil, O., De Blauwe, H., 2015. New and little known species of *Celleporina* Gray, 1848 (Bryozoa, Cheilostomata) from the Atlantic-Mediterranean region. *Journal of the Marine Biological Association of the United Kingdom*, 95 (4), 723-724. doi: 10.1017/S0025315414001659.

Souto, J., Reverter-Gil, O., Fernández-Pulpeiro, E., 2010a. Bryozoa from detritic bottoms in the Menorca Channel (Balearics, western Mediterranean), with notes on genus *Cribellopora*. *Zootaxa*, 2536, 36-52.

Souto, J., Reverter-Gil, O., Fernández-Pulpeiro, E., 2010b. Gymnolaemate bryozoans from the Algarve (southern Portugal): new species and biogeographical considerations. *Journal of the Marine Biological Association of the United Kingdom*, 90 (7), 1417-1439. doi: 10.1017/S0025315409991640

Souto, J., Reverter-Gil, O., Fernández-Pulpeiro, E., 2013. *Schizomavella grandiporosa* and *Schizomavella sarniensis*: Two Cryptic Species. p. 357-365. In: *Bryozoan Studies 2010*. Ernst, A., Schäfer, P., Scholz, J. (Eds). Proceedings of the *15th* IBA Conference, 2010 Kiel, Germany. Lecture Notes in Earth System Sciences, 143. Springer, Berlin, Heidelberg.

Taviani, M., 2002. The Mediterranean benthos from Late Miocene up to present: ten million years of dramatic and geologic vicissitudes. *Biologia Marina Mediterranea*, 9, 445-463.

Taviani, M., 2003. Shaping the biogeography of the Mediterranean basin: one geologist's perspective. *Biogeographia*, 24, 15-22.

Taviani, M., Vertino, A., López Correa, M., Savini, A., De Mol, B., 2011. Pleistocene to Recent scleractinian deep-water corals and coral facies in the Eastern Mediterranean. *Facies*, 57, 579-603.

Taylor, P.D., 1990. The impact of the SEM in studies of living and fossil bryozoans. *Systematics Association Special Volume*, 41, 259-280.

Taylor, P.D., Mawatari, S.F., 2005. Preliminary overview of the cheilostome bryozoan *Microporella*. p. 329-339. In: *Bryozoan Studies 2004*. Moyano, G.H.I., Cancino, J.M., Wyse Jackson, P.N. (Eds). Proceedings of the *13th* IBA Conference, 2004 Conceptión, Chile. A.A. Balkema Publishers, Leiden, London, New York, Philadelphia, Singapore.

Taylor, P.D., Tan, S.H.A., 2015. Cheilostome Bryozoa from Penang and Langkawi, Malaysia. *European Journal of Taxonomy*, 149, 1-34. http://dx.doi.org/10.5852/ejt.2015.149.

Tilbrook, K.J., 1999. Description of *Hippopodina feegeensis* and three other species of *Hippopodina* Levinsen, 1909 (Bryozoa: Cheilostomatida). *Journal of Zoology, London,* 247, 449-456.

Tilbrook, K.J., 2000. First record of the bryozoan genus *Stylopoma* from the Mediterranean Sea. J*ournal of the Marine Biological Association of the United Kingdom,* 80, 949-950.

Tilbrook, K.J., 2006. Cheilostomatous Bryozoa from the Solo-

mon Islands. *Santa Barbara Museum of Natural History Monographs*, 4, 1-385.

Tilbrook, K.J., Gordon, D.P., 2015. Bryozoa from the Straits of Johor, Singapore, with the description of a new species. *Raffles Bulletin of Zoology*, 31 (Suppl.), 255-263.

Thorpe, J.P., Winston, J.E., 1984. On the identity of *Alcyonidium gelatinosum* (Linnaeus, 1761) (Bryozoa Ctenostomata). *Journal of Natural History*, 18, 853-860.

Tompsett, S., Porter, J.S., Taylor, P.D., 2009. Taxonomy of the fouling cheilostome bryozoans *Schizoporella unicornis* (Johnston) and *Schizoporella errata* (Waters). *Journal of Natural History,* 43 (35-36), 2227-2243.

Ünsal, I., 1975. Bryozaires marins de Turquie. *Istambul Üniversitesi Fen Fakültesi, Mecmuasi Seri B*, 40, 37-54.

Ünsal, I., Hondt, J.-L., d', 1978–1979. Contribution a la connaissance des bryozoaires marins de Turquie (Eurystomata et Cyclostomata). *Vie Milieu*, 28-29, 613-634.

Vieira, L., Spencer Jones, M., 2012. The identity of *Sertularia reptans* Linnaeus, 1758 (Bryozoa, Candidae). *Zootaxa*, 3563, 26-42.

Vieira, L., Spencer Jones, M., Winston, J.E., 2013a. *Cradoscrupocellaria*, a new bryozoan genus for *Scrupocellaria bertholletii* (Audouin) and related species (Cheilostomata, Candidae): taxonomy, biodiversity and distribution. *Zootaxa*, 3707, 1-63.

Vieira, L., Spencer Jones, M., Winston, J.E., 2013b. Resurrection of the genus *Licornia* for *Scrupocellaria jolloisii* (Bryozoa) and related species, with documentation of *L. jolloisii* as a non-indigenous species in the western Atlantic. *Journal of the Marine Biological Association of the United Kingdom*, 93 (7), 1911-1921.

Vieira, L., Spencer Jones, M., Winston, J.E, Migotto, A.E., Marques, A.C., 2014a. Evidence for Polyphyly of the Genus *Scrupocellaria* (Bryozoa: Candidae) Based on a Phylogenetic Analysis of Morphological Characters. *PLoS ONE*, 9 (4). doi: 10.1371/journal.pone.0095296.

Vieira, L., Spencer Jones, M., Taylor, P.D., 2014b. The identity of the invasive fouling bryozoan *Watersipora subtorquata* (d'Orbigny) and some other congeneric species. *Zootaxa*, 3857 (2), 151-182.

Waeschenbach, A., Vieira, L.M., Reverter-Gil, O., Souto Derungs, J., Nascimento, K.B. *et al*., 2015. A phylogeny of Vesiculariidae (Bryozoa, Ctenostomata) supports synonymization of three genera and reveals possible cryptic diversity. *Zoologica Scripta* (online). http://dx.doi.org/10.1111/zsc.12130

Watts, P.C., Thorpe, J.P., Taylor, P.D., 1998. Natural and anthropogenic dispersal mechanisms in the marine environment: a study using cheilostome Bryozoa. *Philosophical Transactions of the Royal Society London*, *Series B*, 353, 453-464.

Wheeler, Q.D., Knapp, S., Stevenson, D.W., Stevenson, J., Blum, S.D. *et al.,* 2012. Mapping the biosphere: exploring species to understand the origin, organization and sustainability of biodiversity. *Systematics and Biodiversity*, 10 (1), 1-20.

Winston, J.E., 2005. Re-description and revision of Smitt's "Floridan Bryozoa" in the collection of the Museum of Comparative Zoology, Harvard University. *Virginia Museum of Natural History Memoir*, 7, 1-147.

Winston, J.E., Hayward, P.J., 2012. The marine bryozoans of the Northeast Coast of the United States: Maine to Virginia. *Virginia Museum of Natural History Memoir*, 11, 1-180.

Winston, J.E., Maturo, F.J., 2009. Bryozoans (Ectoprocta) of the Gulf of Mexico. p. 1147–1164. In: *Gulf of Mexico – Origins, Waters, and Biota. Biodiversity*, Felder, D.L., Camp, D.K. (Eds). Texas A & M Press, College Station, Texas.

Zabala, M., 1986. Fauna dels bryozous dels Països Catalans. Barcelona. *Institut D'estudis Catalans Secció de Ciències*, 84, 1-836.

Zabala, M., Maluquer, P., 1988. Illustrated keys for the classification of Mediterranean Bryozoa. *Treballs del Museu de Zoologia*, *Barcelona*, 4, 1-294.

Zabala, M., Maluquer, P., Harmelin, J.G., 1993. Epybiotic bryozoans on deep-water scleractinian corals from the Catalonia slope (western Mediterranean, Spain, France). *Scientia Marina*, 57 (1), 65-78.

Zenetos, A., Gofas, S., Morri, C., Rosso, A., Violanti, D. *et al*., 2012. Alien species in the Mediterranean Sea by 2012. A contribution to the application of European Union's Marine Strategy Framework Directive (MSFD). Part 2. Trends in introduction and pathway. *Mediterranean Marine Science*, 13 (2), 328-352.

Appendix 1

Additional list of references on which the present compilation is based.

Abdel-Salam, K.M., Ramadan, S.E., 2008. Fouling Bryozoa from some Alexandria harbours, Egypt. (I) Erect species. *The Mediterranean Marine Science Journal*, 9 (1), 31-47.

Abdel-Salam, K.M., Ramadan, S.E., 2008. Fouling Bryozoa from some Alexandria harbours, Egypt. (II) Encrusting species. *The Mediterranean Marine Science Journal*, 9 (2), 5-20.

Aguilar, R., Pastor, X., Garcia, S., Marin, P., Ubero, J., 2013. Importance of seamounts-like features for Mediterranean marine habitats and threatened species. *Rapports de la Commission international pour la Mer Méditerranée*, 40, 716.

Aliani, S., Molcard, A., 2003. Hitch-hiking on floating marine debris: macrobenthic species in the Western Mediterranean Sea. In: *Migrations and Dispersal of Marine Organisms*. Jones, M.B., Ingólfsson, A., Ólafsson, E., Helgason, G.V., Gunnarsson, K., Svavarsson, J. (Eds). *Hydrobiologia,* 503, 59-67.

Alvarez, J.A.,1993. Sobre algunas especies de la familia Lichenoporidae Smitt, 1866 (Bryozoa, Cyclostomida) en la región Atlántico-Mediterránea. Parte II: estudio preliminar del género *Lichenopora* Defrance, 1823. *Cahiers de Biologie Marine*, 34, 261-288.

Antoniadou, C., Chintiroglou, C., 2005. Biodiversity of zoobenthic hard-substrate sublittoral communities in the Eastern Mediterranean (North Aegean Sea). *Estuarine, Coastal and Shelf Science*, 62, 637-653.

Antoniadou, C., Voultsiadou, E., Chintiroglou, C., 2005. Sublittoral megabenthos along cliffs of different profile (Aegean Sea, Eastern Mediterranean). *Belgian Journal of Zoology,* 136 (1), 69-79.

Antoniadou, C., Voultsiadou, E., Chintiroglou, C., 2010. Benthic colonization and succession on temperate sublittoral rocky cliffs. *Journal of Experimental Marine Biology and Ecology*, 382, 145-153.

Arko-Pijevac, M., Benac, Č., Kovačič M., Kirinčič, M., 2001. A submarine cave at the Island of Krk (North Adriatic Sea). *Natura Croatica*, 10 (3), 163-184.

Ayari, R., Taylor, P.D., Afli, A., Aissa, P., 2008. A new species of the cheilostome bryozoan *Trematooecia* Osburn, 1940 from the Mediterranean Sea. *Cahiers de Biologie Marine*, 49, 261-267.

Balata, D., Nesti, U., Piazzi, U., Cinelli, F., 2007. Patterns of spatial variability of seagrass epiphytes in the north-west Mediterranean Sea. *Marine Biology*, 151, 2025-2035.

Balduzzi, A., Rosso, A., 2003. Briozoi. In: *Grotte marine: cinquant'anni di ricerca in Italia*, Cicogna, F., Bianchi N.C., Ferrari, G., Forti, P. (Eds), 195-202. CLEM-ONLUS, Ministero dell'Ambiente e della Tutela del Territorio.

Ballesteros, E. 1998. Addicions a la fauna d'invertebrats bentónics marins de l'Arxipelag de Cabrera (Illes Balears, Mediterrania Occidental). *Bolletí de la Societat d'Història Natural de les Balears,* 41, 41-48. ISSN 0212-260X. Palma de Mallorca.

Ben Ismail, D., Ben Hassine, O.K., Mascarell, G., Hondt, J.-L., d', 2009. Description d'un nouveau bryozoaire (Cheilostomes) de Méditerranée occidentale (Tunisie): *Parellisina curvirostris raibauti*, subsp. nov. *Bulletin de la Societé Zoologique de France,* 134 (3-4), 313-319.

Bitar, G., Kouli-Bitar, S., 2001. Nouvelles données sur la faune et la flore benthiques de la côte libanaise. Migration lesseptienne. *Thalassia Salentina*, 25, 71-74.

Brood, K., 1976. Cyclostomatous Bryozoa from the coastal waters of East Africa. *Zoologica Scripta*, 5 (6), 277-300.

Chimenz Gusso, C., Hondt, J.-L., d', Nicoletti, L., Galluzzo Cuscani, G., 1998. Finding of *Arachnoidea* (*Arachnoidella*) *protecta* Harmer, 1915 (Bryozoa Ctenostomatida, Arachnidiidae) in the Mediterranean Sea. *Italian Journal of Zoology*, 65, 235-238.

Cigliano, M., Cocito, S., Gambi, M.C., 2007. Epibiosis of *Calpensia nobilis* (Esper) (Bryozoa: Cheilostomida) on *Posidonia oceanica* (L.) Delile rhizomes: Effects on borer colonization and morpho-chronological features of the plant. *Aquatic Botany*, 86, 30-36.

Calvet, L., 1927a. Bryozoaires de Monaco et environs. *Bulletin de l'Institut Océanographique, Monaco*, 24, 1-46.

Calvet, L., 1927b. Nouvelle contribution à l'histoire de la faune des Bryozoaires de la Méditerranée Occidentale. *Archives de Zoologie Expérimentale et Générale*, 66 (1), 1-6.

Cocito, S., Lombardi, C., Ciuffardi, F., Gambi, M.C., 2012. Colonization of Bryozoa on seagrass *Posidonia oceanica* 'mimics': biodiversity and recruitment pattern over time. *Marine Biodiversity*, 42, 189-201.

Corriero, G., Longo, C., Mercurio, M., Marchini, A., Occhipinti Ambrogi, A., 2007. Porifera and Bryozoa on artificial hard bottoms in the Venice Lagoon: Spatial distribution and temporal changes in the northern basin. *Italian Journal of Zoology*, 74 (1), 21-29.

De Blauwe, H., 2009. *Mosdiertjes van de Zuidelijke bocht van de Noordzee: Determinatiewerk voor België en Nederland*. Vlaams Instituut voor de Zee (VLIZ), Oostende, Belgium. pp. 445.

Gerovasileiou, V., Chintiroglou, C.C., Vafidis, D., Koutsoubas, D., Sini, M., *et al*., 2015. Census of biodiversity in marine caves of the eastern Mediterranean Sea. *Mediterranean Marine Science*. DOI: http://dx.doi.org/10.12681/mms.1069

Harmelin, J.-G., 1979. Aperçu de la faune bryozoologique bathyale du détroit Siculo-Tunisien. *Rapports de la Commission internationale pour l'Exploration Scientifique de la mer Méditerranée*, 25-26, 171-172.

Harmelin, J.-G., 2003. Biodiversité des habitats cryptiques marins du parc national de Port-Cros (Méditerranée, France). Assemblages de bryozoaires d'une grotte sous-marine et des faces inférieures de pierres. *Scientific Reports Port-Cros National Park, France*, 19, 101-1015.

Harmelin, J.-G., 2006. The *Puellina flabellifera* species complex: a remarkable example of worldwide species radiation in cribrimorph bryozoans. *Courier Forschungsinstitut Senckenberg*, 73-92.

Hondt, J.-L., d', 1988. Bryozoaires marins du Guipúzcoa. *Cahiers de Biologie Marine*, 29, 513-529.

Hondt, J.-L., d', Chimenz Gusso, C., 2006. Note sur quelque Bry-

ozoaires Cténostomes des côtes Italiennes et Turques. *Bulletin de la Société zoologique de France*, 131 (2), 107-116.

Jebram, D., Pisano, E., 1980. The Occurrence of *Bulbella abscondita* (Bryozoa, Ctenostomata) in Brackish Waters of Northern Italy. *Hydrobiology*, 65 (5), 749-751.

Koçak, F., 2008. Bryozoan assemblages at some marinas in the Aegean Sea. *Marine Biodiversity Records*, 1, 1-6.

Koçak, F., Aydin Önen, S., 2014. Epiphitic bryozoans community of *Posidonia oceanica* (L.) Delile leaves in two different meadows at disturbed and control locations. *Mediterranean Marine Science*, 15, 390-397.

Lezzi, M., Pierri, C., Cardone, F., 2015. Presence of *Celleporaria brunnea* (Bryozoa: Lepraliellidae) in the Central Mediterranean: first occurrence in the Gulf of Taranto. *Marine Biodiversity Records*, 8, doi: 10.1017/S1755267215001116.

López de la Cuadra, C.M., García-Gómez, J.C., 2001. New and little-known ascophoran bryozoans from the Western Mediterranean, collected by the 'Fauna Iberica' expeditions. *Journal of Natural History*, 35 (11), 1717-1732.

Nikulina, E.A., 2007. *Einhornia*, a new genus for electrids formerly classified as the *Electra crustulenta* species group (Bryozoa, Cheilostomata). *Schriften des Naturwissenschaftlichen Vereins für Schleswig-Holstein*, 69, 29-40.

Nikulina, E.A., 2010. Three new genera of Electridae (Bryozoa): *Arbopercula*, *Osburnea*, and *Arbocuspis*. *Schriften des Naturwissenschaftlichen Vereins für Schleswig-Holstein*, 72, 25-28.

Occhipinti Ambrogi A., Hondt, J.-L., d', 1996. Introduzione di specie alloctone in laguna di Venezia: *Celleporella carolinensis* Ryland 1979 (Bryozoa: Ascophora). *Bollettino del Museo Civico di Storia Naturale di Venezia*, 46, 53-61.

Reverter-Gil, O., Souto, J., Fernández-Pulpeiro, E., 2009. Three new species of Iberian cheilostomate Bryozoa. *Journal of the Marine Biological Association of the United Kingdom*, 89 (7), 1499-1506.

Reverter-Gil, O., Souto, J., Fernández-Pulpeiro, E., 2011. Revision of the genus *Crepis* Jullien (Bryozoa: Cheilostomata) with description of a new genus and family and notes on Chlidoniidae. *Zootaxa*, 2993, 1-22.

Rosso, A., 2004. Two new species of *Phylactella* (Bryozoa Cheilostomatida) from the Mediterranean area belonging to the *P. labrosa* (Busk) complex of species. *Journal of Natural History*, 38 (20), 2655-2668.

Rosso, A., 2008. Mediterranean setoselliniforms and their exploitation of small-sized substrates. In: *Bryozoan Research 2007*, Winston, J.E., Key, M.M., Jr., Hageman, S.J., (Eds). Proceedings of the 14th IBA Conference, Boone, North Carolina, 2007, *Virginia Museum of Natural History Special Publication*, 15, 261-268.

Rosso, A., Di Martino, E., Sanfilippo, R., Fraschetti, S., 2014. Bryozoans from shallow-water submarine caves of Italian Marine Protected Areas. *Proceedings of the 1st Mediterranean Symposium on the conservation of the dark habitats*, 77-78. Portoroz, Slovenia, 31st October 2014. doi: 10.13140/2.1.4011.8724

Rosso, A, Sanfilippo, R. 2009. Ruolo di Briozoi e Serpulidi nelle biocostruzioni a coralli profondi del Mar Ionio. *Biologia Marina Mediterranea*, 16 (1), 44-45.

Rosso, A., Sanfilippo, R., Mastrototaro, F., 2014. Bryozoan and serpuloidean distribution pattern on a deep-water slab (Bari Canyon, Adriatic Sea). *Proceedings of the 1st Mediterranean Symposium on the conservation of the dark habitats*, 79-80. Portoroz, Slovenia, 31st October 2014. doi: 10.13140/2.1.4798.3042

Rosso, A., Sciuto, F., Sinagra, A., 2010. *Bertorsonidra* gen. nov. (Bryozoa, Cheilostomata) for *Tremopora prenanti* Gautier, 1955, a rare species from the Mediterranean. *Zoosystema*, 32 (3), 457-467.

Sanfilippo, R., Rosso, A., Guido, A., Mastandrea, A., Russo, F., Ryding, R., Taddei Ruggero, E., 2014. Metazooan/microbial biostalactites from modern submarine caves in the Mediterranean Sea. *Marine Ecology*, 1-17. doi: 10.1111/maec.12229.

Sanfilippo, R., Vertino, A., Rosso, A., Beuck, L., Freiwald, A., Taviani, M., 2013. *Serpula* aggregates and their role in deep-sea coral communities in the southern Adriatic Sea. *Facies*, 59, 663-677.

Souto, J., Fernández-Pulpeiro, E., Reverter-Gil, O., 2010. The genus *Amathia* Lamouroux (Bryozoa, Ctenostomata) in Iberian waters. *Cahiers de Biologie Marine*, 51, 181-195.

Souto, J., Reverter Gil, O., Ostrovsky, A.N., 2014. New species of Bryozoa from Madeira associated with rhodoliths. *Zootaxa*, 3795 (2), 135-151.

Streftaris, N., Zenetos, A., Papathanassiou, E., 2005. Globalisation in marine ecosystems: the story of non-indigenous species across European seas. Oceanogr. *Marine Biology: an Annual Review,* 43, 419-153.

Thessalou E., Aydogan, Ö., Bekas, P., Bilge, G., Boyaci, Y.Ö. *et al.*, 2012. New Mediterranean Biodiversity Records (December 2012). *Mediterranean Marine Science*, 13 (2), 312-327.

Winston, J.E., Vieira, L., 2013. Systematics of interstitial encrusting bryozoans from southeastern Brazil. *Zootaxa*, 3710 (2), 101-101.

Zabala, M., 1993. Els Briozous. In: *Història Natural de l'Arxipèlag de Cabrera*, Alcover, J.A., Ballesteros, E., Fornos, J.J. (Eds). Monografies de la Societat d'Història Natural de les Balears, 2. CSIC & Moll. Palma de Mallorca, 561-577.

Appendix 2

Remarks concerning the taxa in Table 1.

1. ?*Proboscina boryi* (Audouin, 1826): Harmelin *et al.* (2016) tentatively assigned some Lebanese colonies to this species, originally described from the Red Sea and never reported previously from the Mediterranean and considered as a potential NIB.

2. *Diplosolen obelius* (Johnston, 1838): inconsistently reported as *D. obelia* or *D. obelium* in the past literature, the genus name derives from a Greek masculine noun.

3. *Plagioecia dorsalis* (Waters, 1879): Harmelin (1976) tentatively synonymized *Diastopora rugosa* Canu & Bassler, 1930 with this species.

4. *Harmelinopora* Brood, 1976: genus erected to include the type species *H. plana* Brood, 1976 and *H. indistincta* (Canu & Bassler, 1929), even though never used for the latter species by subsequent authors. Characterised by encrusting colonies, autozooids somehow box-like shaped and inner hemisepta, this genus better fits *H. indistincta* than *Annectocyma*.

5. *Frondipora verrucosa* (Lamouroux, 1821): Harmelin (1976) tentatively synonymized *Frondipora gracilis* Canu & Bassler, 1930 with this species.

6. *Crisia calyptostoma* Hayward & Ryland, 1978: recorded in the Mediterranean by Harmelin (1990), this species was overlooked in Rosso (2003).

7. *Crisia eburnea harmelini* d'Hondt, 1988: this species replaces *C. occidentalis* Trask, 1857, a NE Pacific species.

8. *Crisia tenella longinodata* Rosso, 1998: living colonies of this subspecies, previously known only from the Pleistocene of Southern Italy, were recently found in the Bari Canyon (D'Onghia *et al.,* 2015).

9. "*Hornera lichenoides*" Auctt. not (Linnaeus, 1758): Mediterranean colonies attributed to "*Hornera lichenoides*" belong to a different undescribed species clearly distinguishable from the North Atlantic one (Rosso, 2009b; Abdel-Salam, 2014).

10. Lichenoporidae Smitt, 1867: two genera, *Disporella* Gray, 1848 and *Patinella* Gray, 1848, and several species represent this family in the Mediterranean. A revision is needed to confirm their validity (see also comments below).

11. *Disporella* Gray, 1848: Alvarez (1992, 1994, 1995) reported seven species of *Disporella* as present in the Mediterranean: *D. piramidata*, *D. robusta*, *D. alboranensis*, *D. smitti*, *D. harmeri*, *D. borgi* and *D. boutani*, which were never recorded again after their description.

12. *Disporella hispida* (Fleming, 1828): Alvarez (1994) states that *D. hispida* is absent in the Mediterranean and all the occurrences should be transferred to *D. alboranensis* Alvarez, 1992.

13. *Patinella* Gray, 1848: *Lichenopora distincta* Alvarez, 1993 is likely to be a species of *Patinella*.

14. *Patinella aztiensis* Alvarez, 1994 and *P. flosculus* (Hincks, 1862): new additions based on Ayari & Taylor (2014) and d'Hondt & Mascarell (2004).

15. *Alcyonidioides* d'Hondt, 2001: is introduced to allocate *Alcyonidium mytili* Dalyell, 1848.

16. *Alcyonidium* Lamouroux, 1813: nine species of *Alcyonidium* are reported from the Mediterranean (d'Hondt, 1983), some of them doubtfully. Ryland & Porter (2003) demonstrated the distinction of *A. polyoum* (Hassall, 1841) from *A. gelatinosum* (Linnaeus, 1761), previously synonymised (Thorpe & Winston, 1984). *A. mamillatum* Alder, 1857 is reported from the Ebro Delta on *Goneplax* (Abelló & Corbera, 1996) and the Marmara Sea (Demir, 1952-54 *fide* Koçak & Aydin Önen, 2014).

17. *Clavopora* sp. *sensu* Gautier, 1954: this species is distinguishable from *C. hystricis* Busk, 1874 in the number of the tentacles, 20-24 in *C.* sp. vs 12-14 in *C. hystricis* (Prenant & Bobin, 1956; d'Hondt, 1983).

18. *Amathia* Lamouroux, 1812: based on molecular phylogenetic analysis, Waeschenbach *et al.* (2015) suggested the synonymy of the genera *Bowerbankia* and *Zoobotryon* with *Amathia*. Mediterranean species previously placed in the latter two genera are consequently transferred to *Amathia*.

19. *Amathia verticillata* (Delle Chiaje, 1822): erroneously considered as an indigenous species, it is pseudoindigenous in the Mediterranean (Floerl *et al.*, 2009; Galil & Gevili, 2014; Ferrario *et al.*, 2014).

20. Aeverrilliidae Jebram, 1973: family added because of the insertion of *Aeverrillia setigera* (Hincks, 1887).

21. *Aeverrillia* Marcus, 1941: genus added because of the insertion of *Aeverrillia setigera* (Hincks, 1887).

22. *Aeverrillia setigera* (Hincks, 1887): first reported from the Suez Channel by Hastings (1927), this species was overlooked in Rosso (2003). Zenetos *et al.* (2012) refers to this species as a NIB for the Mediterranean.

23. *Arachnoidella* d'Hondt, 1983: initially introduced as a subgenus, Gordon (1986) proposed *Arachnoidella* be raised to generic status to include the marine species previously assigned to *Arachnoidea* (see bryozoa.net by P. Bock, accessed 13.2.2016).

24. *Arachnoidella protecta* Harmer, 1915: Occhipinti Ambrogi *et al.* (2010) and Zenetos *et al.* (2012) consider this species as established in the Mediterranean.

25. *Acanthodesia* Canu & Bassler, 1919: this genus is doubtfully placed in the family Membraniporidae (see bryozoa.net by P. Bock, accessed 13.2.2016).

26. *Acanthodesia savartii* (Audouin, 1826): this species, assigned to *Membranipora* in Rosso (2003), better fits in *Acanthodesia* based on Taylor & Tan (2015).

27. *Membranipora tenuis* Desor, 1848: this species has been reported from the costs of Tunisia as *Hemiseptella africana* by Canu & Bassler (1930) as reported in Zabala & Maluquer (1988), and subsequently listed in d'Hondt & Mascarell (2004) and Ayari & Taylor (2014).

28. *Arbopercula* Nikulina, 2010: genus introduced to include *Electra tenella* (Hincks, 1880) as suggested by Tilbrook & Gordon (2015): the authors proposed the new combination *Arbocuspis tenella* but *Arbopercula* was intended (D. Gordon,

pers. comm.). This species also includes *Electra* cf. *tenella* of Rosso (2003).

29. *Conopeum ponticum* Hayward, 2001: this species has been recorded from Israel by Sokolover *et al.* (2016), and considered as a NIB for the Mediterranean.

30. *Conopeum seurati* (Canu, 1928): *Nitscheina pulchella* Canu & Bassler (1930) from Tunisia is likely to be the same species, based on d'Hondt & Mascarell (2004).

31. *Einhornia* Nikulina, 2007: the type species of this genus is the Mediterranean *Electra crustulenta* (Pallas, 1766).

32. *Electra repiachovi* Ostroumoff, 1886: the entry of this species is based on the Turkish records of Koçak & Aydin Önen (2014) and references therein.

33. *Pyripora* sp. *sensu* Hayward & McKinney, 2002: although left in open nomenclature, the authors clearly stated the separation of this species from *P. catenularia* (Hayward & McKinney, 2002: p. 16). Adriatic specimens differ in having longer caudae and a proximolateral rather than distolateral budding, and in the absence of a well developed cryptocystal rim around the opesia.

34. *Thalamoporella* Hincks, 1887: based on the present-day warm-water distribution, all the species of this genus may be considered as NIBs in the Mediterranean, although Harmelin *et al.* (2016) considered *Thalamoporella harmelini* Soule, Soule & Chaney, 1999 as cryptogenic.

35. *Thalamoporella* sp. *sensu* Sokolover, Taylor & Ilan, 2016: this species is introduced for specimens from Lebanon similar to *T. rozieri* (Audouin, 1826) in the shape and size of the ovicell but which differs in the shape of the orifice and tubercles.

36. *Allantopora* Lang, 1914: this genus replaces *Daisyella*, erroneously reported in Rosso (2003) for *Callopora minuta* (Harmelin, 1973), following Rosso & Taylor (2002).

37. *Corbulella* Gordon, 1984: this genus is added because of the displacement of *Crassimarginatella maderensis* (Waters, 1898) in *Corbulella* as already stated in Gordon (1984).

38. *Akatopora leucocypha* (Marcus, 1937): Harmelin (2014) and Harmelin *et al.* (2016) recorded this species from Lebanon and considered it as a NIB in the Mediterranean.

39. Cymuloporidae Winston & Vieira, 2013: this family is erected to accommodate the genus *Crepis* Jullien, 1882, besides *Cymulopora* Winston & Håkansson, 1986. Both genera are distinguished from the Microporidae, in which they were previously placed, in having uniserial colonies, a cauda and an extensive cryptocyst.

40. *Crepis harmelini* Reverter-Gil, Souto & Fernández-Pulpeiro, 2011: this species was introduced for Mediterranean specimens from Gibraltar previously assigned to *Crepis longipes* Jullien, 1882.

41. *Chaperiopsis hirsuta* Reverter-Gil, Souto & Fernández-Pulpeiro, 2009: besides than the authors, also Chimenz Gusso *et al.* (2014) recorded this species.

42. *Reussirella multispinata* (Canu & Bassler, 1923): Ayari & Taylor (2014) recorded living colonies of this species.

43. *Hincksina calpensis* Reverter-Gil, Souto & Fernández-Pulpeiro, 2012: this species replaces *Hincksina sceletos* (Busk, 1858) reported in Rosso (2003), the presence of which seems to be restricted to Madeira (Reverter-Gil *et al.*, 2012b).

44. *Bugula neritina* (Linnaeus, 1758): NIB in the Mediterranean (Zenetos *et al.*, 2012; Harmelin *et al.*, 2016).

45. *Bugulina* Gray, 1848 and *Crisularia* Gray, 1848: Fehlauer-Ale *et al.* (2015) resurrected these two genera to accommodate some species previously assigned to *Bugula* Oken, 1815.

46. *Crisularia serrata* (Lamarck, 1816): based on the articulation of the outermost spine, Chimenz Gusso *et al.* (2014) disagree with the synonymy proposed by d'Hondt (1997) with *Bugula germanae* (Calvet, 1902), accepted in Rosso *et al.* (2010a).

47. *Cradoscrupocellaria* Vieira, Spencer Jones & Winston, 2013a: genus erected to accommodate some species previously assigned to *Scrupocellaria* van Beneden, 1845. After the revision of the genus by Vieira *et al.* (2014a), all the Mediterranean occurrences need to be verified.

48. *Cradoscrupocellaria aegyptiana* Vieira, Spencer Jones & Winston, 2013a: this species replaces the record of *Scrupocellaria reptans* (Linnaeus, 1767), from Alexandria of O'Donoghue & de Watteville (1939). The distribution of *Scrupocellaria reptans* (Linnaeus, 1767) seems restricted to the British Isles, northern Atlantic (Vieira *et al.*, 2013a).

49. *Cradoscrupocellaria hirsuta* (Jullien & Calvet, 1903): reported as limited to the Atlantic by Vieira *et al.* (2013a), this species is also present in several Mediterranean localities, including the Sicilian Channel, the Adriatic and Ionian Sea, and the Ibero-Provençal Basin (Rosso *et al.*, in press).

50. *Licornia* van Beneden, 1850: Vieira *et al.* (2013b) resurrected this genus to accommodate some species previously assigned to *Scrupocellaria* van Beneden, 1845.

51. *Licornia jolloisi* (Audouin, 1826): NIB in the Mediterranean (Zenetos *et al.*, 2012; Harmelin *et al.*, 2016; Sokolover *et al.*, 2016).

52. *Scrupocaberea* Vieira, Spencer Jones, Winston, Migotto & Marques, 2014: genus erected to accommodate some species previously assigned to *Scrupocellaria* van Beneden, 1845.

53. *Scrupocellaria muricata* (Lamourox, 1816): this species replaces *Scrupocellaria spatulata* (d'Orbigny, 1851) following d'Hondt (2000).

54. *Scrupocellaria scruposa* (Linnaeus, 1758): De Blauwe & Faasse (2001) indicate this species as indigenous of the Netherlands, and therefore may be considered as a NIB in the Mediterranean.

55. *Smittipora* Jullien, 1882: this genus replaces *Rectonychocella* Canu & Bassler, 1917, considered synonym of *Smittipora* since Harmer (1926), and subsequently by Harmelin (1969). See also bryozoa.net by P. Bock (accessed 8.2.2016).

56. *Monoporella bouchardii* (Audouin, 1826): this species replaces *Monoporella fimbriata carinifera* Canu & Bassler, 1927 as suggested by Harmelin (2014), Chimenz Gusso *et al.* (2014) and Harmelin *et al.* (2016).

57. *Distansescharella alcicornis* (Jullien, 1882): previously assigned to *Cribrilina* Gray, 1848, this species is now moved into *Distansescharella* d'Orbigny, 1853 following López-Fé (2006).

58. *Klugerella* Moyano, 1991: this genus is added to accommodate *Membraniporella marcusi* Cook, 1967 (López de la Cuadra & García-Gómez, 2000).

59. *Gemellipora* sp. cf. *eburnea* (Smitt, 1873): the morphological characters shown by the Mediterranean specimens differ from those of the nominal species (AR, pers. obs.).

60. *Celleporaria* Lamouroux, 1821: this genus is added following the records of several species from different sectors of the Mediterranean Sea, mostly from the Levantine Basin. All *Celleporaria* species can be considered as NIBs in the Mediterranean. A further species *C. pilaefera* (Canu & Bassler, 1929) was omitted as it was found only once off Malta (Agius *et al.*, 1977; Sciberras & Schembri, 2007).

61. *Celleporaria aperta* (Hincks, 1882): reported as a NIB in Malta (Sciberras & Schembri, 2007) and Israel (Sokolover *et al.*, 2016).

62. *Celleporaria brunnea* (Hincks, 1884): reported as a NIB from several Mediterranean localities (Koçak, 2007; Lodola *et al.*, 2015; Harmelin, 2014; Koçak & Aydin Önen, 2014; Harmelin *et al*., 2016).

63. *Celleporaria* sp. aff. *brunnea* (Hincks, 1884): reported as a NIB from Lebanon by Harmelin (2014). Specimens similar to *C. brunnea* were also collected in north-eastern Sicily (AR, unpublished data).

64. *Celleporaria fusca* (Busk, 1854): reported by d'Hondt (1988) from Haifa and listed in Koçak (2007).

65. *Celleporaria labelligera* Harmer, 1957: reported as a NIB from Lebanon by Harmelin (2014).

66. *Celleporaria sherryae* Winston, 2005: specimens tentatively assigned to this species are reported as a NIB from Lebanon by Harmelin (2014).

67. *Celleporaria vermiformis* (Waters, 1909): reported as a NIB from Lebanon by Harmelin (2014).

68. *Drepanophora* Harmer, 1957: this genus is added because of *Drepanophora birbira* Powell, 1967, reported as a NIB from Lebanon by Harmelin (2014), and from Israel by Sokolover *et al.* (2016).

69. *Bryocryptella tubulata* (Busk, 1861): *Porella tubulata* in Rosso (2003).

70. *Palmiskenea gautieri* Madurell, Zabala, Domínguez-Carrió & Gili, 2013: past occurrences of *Palmicellaria* aff. *aviculifera* Canu & Bassler, 1928 may refer to this species which, described from the western sector, may be widespread in the Mediterranean.

71. *Porella laevis* (Fleming, 1828): previously placed in *Porelloides* Hayward, 1979, genus consequently removed from the list.

72. Romancheinidae Jullien, 1888: following Gordon (2014), this family is introduced to include Exochellidae (genera *Hippopleurifera* and *Escharoides*) and Escharellidae (genera *Escharella*, *Hemicyclopora* and *Neolagenipora*) and to accommodate *Hippomenella* previously considered as incertae sedis.

73. *Hemicyclopora collarina* Canu & Lecointre, 1930: this species, described based on fossil material, was reported by Harmelin (2003) from the caves of Port Cros and Ayari & Taylor (2014) from off Tunisia.

74. *Neolagenipora collaris* (Norman, 1967): Madurell *et al.* (2013) reported this species from Cap de Creus.

75. *Parasmittina aegyptiaca* (Waters, 1909): found in Lebanon and Israel, this species is considered as a lessepsian immigrant from the Red Sea (Harmelin *et al.*, 2009; Sokolover *et al.*, 2016).

76. *Parasmittina parsevalii* (Audouin, 1826): reported only by Ayari & Taylor (2014), this species originally from the Red Sea may be considered as a NIB in the Mediterranean.

77. *Parasmittina protecta* (Thornely, 1905): species recorded from Lebanon by Harmelin *et al.* (2009) and from Israel by Sokolover *et al.* (2016).

78. *Parasmittina raigii* (Audouin, 1826): *Smittina baccata* Canu & Bassler, 1930 may be synonymized with this species based on Zabala (1986) and d'Hondt & Ben Ismail (2008). The latter authors also synonymized *Smittina porosa* Canu & Bassler, 1930.

79. *Parasmittina serruloides* and *Parasmittina spondylicula* Harmelin, Bitar & Zibrowius, 2009: found in Lebanon, these two species are considered as lessepsian immigrants from the Red Sea (Harmelin *et al*., 2009).

80. *Parasmittina trispinosa* (Johnston, 1838): presence uncertain needs to be confirmed.

81. *Prenantia inerma* (Calvet, 1906): this species first synonymised by Poluzzi (1975) with *P. lygulata* (Manzoni, 1870), is added following Pizzaferri (2010). The two species seem to differ only in the size of the zooids.

82. *Smittina nitidissima* (Hincks, 1880): this species replaces *Smittina malleolus* (Hincks, 1884). Reported from Israel and Lebanon by d'Hondt (1988) (as *S. malleolus*), and subsequently by Harmelin *et al.* (2009) and Harmelin *et al*. (2016). It was also found in Sicily (Plemmirio) by Rosso *et al.* (in press).

83. *Metroperiella gay* Reverter-Gil, Souto & Fernández-Pulpeiro, 2009: described from the Atlantic, this species is recorded in the Mediterranean by Madurell *et al.* (2013).

84. *Schizomavella* Canu & Bassler, 1917: species of *Schizomavella* are referred to the subgenera *Calvetomavella* and *Schizomavella* according to Reverter-Gil *et al.* (2015) and bryozoa.net by P. Bock and Word Register of Marine Species, accessed 8.2.2016.

85. *Schizomavella rudis* (Manzoni, 1869): Reverter-Gil *et al.* (2012a, 2016) doubted the validity of this species stating that the type material no longer exists. The authors erected instead *Stephanotheca watersi* and *Schizomavella adriatica* to accommodate Mediterranean colonies previously assigned to *S. rudis*. However, a further research of the old type material, often challenging, may be beneficial to accommodate specimens currently unassigned neither to *S. watersi* either to *S. adriatica*.

86. *Schizomavella (Calvetomavella) discoidea* (Busk, 1859): Reverter-Gil *et al.* (2015) considered this species absent from the Mediterranean. The Mediterranean colonies from deep waters belong to a very similar, undescribed species (AR, unpublished data).

87. *Schizomavella* (*Calvetomavella*) *neptuni* (Jullien, 1882): previously *Schizoporella neptuni*, Reverter-Gil *et al.* (2015) proposed the new combination.

88. *Schizomavella* (*Schizomavella*) *cornuta* (Heller, 1867): Reverter-Gil *et al.* (2016) include among the synonymies of this species *Schizomavella auriculata ornata* Canu & Bassler, 1928.

89. *Schizomavella* (*Schizomavella*) *fischeri* (Jullien, 1882): Reverter-Gil *et al.* (2015) do not corroborate the conspecifity of the Mediterranean records with the Atlantic species because no SEM images are provided in any of the related papers. However, we can confirm the occurrences associated with the deep-water corals in Mastrototaro *et al.* (2010).

90. *Schizomavella* (*Schizomavella*) *grandiporosa* Canu &

Bassler, 1925: this species is reported from the south-western Mediterranean (Souto *et al.*, 2013).

91. *Schizomavella* (*Schizomavella*) *hastata* (Hincks, 1862): Reverter-Gil *et al.* (2016) doubted about the presence of this species in the Mediterranean. All the occurrences need revision. Some may belong to *S. linearis*, as seen for certain Adriatic colonies.

92. *Stephanotheca* Reverter-Gil, Souto & Fernández-Pulpeiro, 2012a: genus erected to accommodate newly described species as well as some species previously assigned to *Schizomavella* but differing in the morphology of the orifice and ovicell.

93. *Watersipora arcuata* Banta, 1969: Ferrario *et al.* (2015) reported this species from the Ligurian Sea.

94. *Watersipora complanata* (Norman, 1864): we agree with Harmelin (2014) about the need of a better generic placement for this species.

95. *Watersipora souleorum* Vieira, Spencer Jones & Taylor, 2014: specimens of the Waters' Collection collected in the Tyrrhenian Sea, off Naples, in 1912 are assigned by the authors to this new species. However, its presence nowadays needs to be confirmed (Harmelin, 2014).

96. *Watersipora subtorquata* (d'Orbigny, 1852): NIB in the Mediterranean (Harmelin *et al.*, 2016).

97. *Schizoporella errata* (Waters, 1878): Tompsett *et al.* (2009) synonymized *Schizopodrella violacea* Canu & Bassler, 1930 with this species.

98. *Schizoporella patula* Hayward & Ryland, 1995: originally described from the north-eastern Atlantic and the North Sea, this species is listed based on the record of Ayari & Taylor (2014) along the costs of Tunisia.

99. *Schizoporella* sp. 1 *sensu* Chimenz Gusso *et al.* (2014): the authors distinguished three species of *Schizoporella* (see also comments 95 and 96 below) from other con-generics, leaving them in open nomenclature. *S.* sp. 1 shares some superficial features with *S. cornualis* Hayward & Ryland, 1995, but it differs in having a larger orifice, a shorter U-shaped sinus, shorter rounded condyles, and avicularia more proximally placed and laterally directed, with the rostrum tips ending no further than the distal margin of the orifice.

100. *Schizoporella* sp. 2 *sensu* Chimenz Gusso *et al.* (2014): the general appearance of *S.* sp. 2 is similar to *S. hesperia* Hayward & Ryland, 1995, but Mediterranean colonies differ in having a larger sinus, smaller condyles and up to four avicularia per zooid.

101. *Schizoporella* sp. 3 *sensu* Chimenz Gusso *et al.* (2014): similar to *S. patula* Hayward & Ryland, 1995, this species is distinguishable in having a larger orifice, a different shape of the sinus, shorter condyles and oral spines.

102. *Stylopoma* Levinsen, 1909: the first record of this genus in the Mediterranean is in Tilbrook (2000). The author assigned to *Stylopoma inchoans* Tilbrook, 2000 some specimens collected during the Mediterranean HMS Porcupine cruise (July-October 1870) and reported in Hastings (1968). Subsequent occurrences are from the southern sector (Ben Ismail, 2012; Ben Ismail *et al*., 2012; Ayari & Taylor, 2014). Widespread in the tropics, this genus may be considered as a NIB in the Mediterranean.

103. *Hippopodina ambita* (Hayward, 1974): previously in *Cosciniopsis* Canu & Bassler, 1927, now in *Hippopodina* as proposed by Banta & Carson (1977) and accepted by Harmelin *et al.* (2016).

104. *Hippopodina feegeensis* (Busk, 1884): Tilbrook (2006) doubted that the Mediterranean colonies reported by Powell (1969) effectively belong to this species.

105. *Hippopodina iririkiensis* Tilbrook, 1999: specimens described by Eitan (1972) are assigned by Tilbrook (1999) to his new species suggesting for it the status of NIB as also reported in Zenetos *et al.* (2012).

106. Escharinidae Tilbrook, 2006: family introduced to accommodate several genera previously considered as incertae sedis.

107. *Sertulipora guttata* Harmelin & d'Hondt, 1992: originally described from the north-eastern Atlantic, this species was reported from Mediterranean submarine fossil assemblages (Rosso, 1990; Harmelin & d'Hondt, 1992), and subsequently found alive off Malta in 2009 during the MEDCOR Cruise (Rosso *et al*., in prep.).

108. Hippaliosinidae Winston, 2005: family erected to accommodate the genus *Hippaliosina* Canu, 1918 previously considered as incertae sedis.

109. *Hippaliosina acutirostris* Canu & Bassler, 1929: overlooked in Rosso (2003). Reported by Powell (1969) is considered as a NIB (Zenetos *et al.*, 2012).

110. *Calloporina decorata* (Reuss, 1847): Berning (2012) suggested to review the conspecifity of the present-day Mediterranean specimens with the fossil ones, based on the number of oral spines in ovicellate zooids and the morphology of avicularia.

111. *Fenestrulina barrosoi* Alvarez, 1993: overlooked in Rosso (2003), this species occurs in the Alboran Sea.

112. *Microporella browni* Harmelin, Ostrowsky, Cáceres-Chamizo & Sanner, 2011: this species, considered as a native from Oman, is absent in the Red Sea and a NIB in Lebanon, possibly introduced via shipping (Harmelin *et al.*, 2011).

113. *Microporella ciliata* (Pallas, 1766): after the selection of a lectotype by Kukliński & Taylor (2008), a revision of all the Mediterranean occurrences is needed for this species complex. At least two new species are awaiting description (AR & EDM, unpublished data).

114. *Microporella coronata* (Audouin & Savigny, 1826): this species, considered as a NIB in the Mediterranean (Harmelin *et al.*, 2016), replaces *Microporella umbracula* (Audouin, 1826), following Harmelin *et al.* (2011).

115. *Microporella genisii* (Audouin, 1826): added based on the record of Harmelin *et al.* (2011) from Lebanon.

116. *Microporella harmeri* Hayward, 1988: added based on the records of Harmelin *et al.* (2011) from Lebanon and Sokolover *et al.* (2016) from Israel.

117. *Microporella orientalis* Harmer, 1957: Harmelin *et al.* (2011) reassigned some of the Mediterranean specimens attributed to *M. orientalis* to *M. harmeri* or *M. genisii*. The specimen from the Aegean Sea in Hayward (1974) doubtless belongs to *M. orientalis*. Other occurrences need to be verified.

118. Petraliellidae Harmer, 1957 and *Mucropetraliella* Stach, 1936: family and genus added because of the occurrence of *Mucropetraliella thenardii* (Audouin & Savigny, 1926) as a NIB in Lebanon (Harmelin, 2014) and Israel (Sokolover *et al*., 2016).

119. *Cribellopora simplex* Gautier, 1957: taxon resurrected by Souto *et al.* (2010a). Records of *C. trichotoma* (Waters, 1918) from the Mediterranean may belong to this species, which is doubtless present in the Sicily Channel (AR, pers. obs.).

120. *Cleidochasmidra portisi* (Neviani, 1895): taxon resurrected by Rosso *et al.* (2015), replaces *C. canakkalense* Ünsal & d'Hondt, 1989.

121. *Trematooecia mikeli* Sokolover, Taylor & Ilan, 2016: this species, as figured in Sokolover *et al.* (2016, p. 451, fig. 13), seems to fit better in *Celleporaria*. The authors suggested for it the status of NIB, which will persist in the case of its attribution to *Celleporaria* (see comment 60).

122. *Buffonellaria* Canu & Bassler, 1917: Berning & Kukliński (2008) reassigned part of the Mediterranean occurrences, previously all assigned to *Buffonellaria divergens* (Smitt, 1873), to four different species, mentioning the presence of at least two more undescribed species.

123. *Cellepora pumicosa* (Pallas, 1766): this species replaces *C. pumicosa* (Waters, 1879). The status of this species is unclear because several authors used the same name to indicate taxa with different morphological characters and size, referring confusedly or incompletely to the past literature. The revision of all the types is needed to clarify the taxonomy, and the Mediterranean occurrences should then be revised accordingly.

124. *Celleporina bitari* Harmelin, 2014: Harmelin (2014) reported this species from Lebanon as a lessepsian immigrant, possibly introduced via shipping.

125. *Celleporina caminata* (Waters, 1879): this species replaces *Celleporina globulosa* d'Orbigny, 1852.

126. *Celleporina truncatorostris* (Canu & Bassler, 1930): based on the unique record from Tunisia (Canu & Bassler, 1930; Ayari & Taylor, 2014).

127. *Predanophora* Tilbrook, 2006: genus introduced for *P. longiuscula* (Harmer, 1957) recorded by Harmelin (2014) off Lebanon and considered as a NIB in the Mediterranean.

128. *Turbicellepora robusta* (Barroso, 1921): overlooked in Rosso (2003).

129. *Hagiosynodos* Bishop & Hayward, 1989: previously placed in the family Lepraliellidae, this genus was tentatively displaced in the family Cheiloporinidae by Hayward & MacKinney (2002). Here we follow its inclusion in the family Hippoporidridae as suggested by Sosa-Yanez *et al.* (2015). A revision is needed to ascertain the validity of all the species and subspecies included in the genus.

130. *Hagiosynodos strophiae* (Canu & Bassler, 1930): based on the unique record from Tunisia (Canu & Bassler, 1930; Ayari & Taylor, 2014).

131. *Scorpiodinipora* Balavoine, 1959: genus introduced for *S. costulata* (Canu & Bassler, 1929) recorded by Harmelin *et al.* (2012) off Lebanon and considered as a lessepsian immigrant.

132. *Dentiporella sardonica* (Waters, 1879): senior synonym of *Rhynchozoon revelatus* Hayward & McKinney, 2002. *Dentiporella* is considered a valid genus by Souto *et al.* (2010b), consequently inverted commas used in Rosso (2003) have been removed.

133. *Plesiocleidochasma* Soule, Soule & Chaney, 1991: genus introduced based on the synonymy with *Schedocleidochasma* Soule, Soule & Chaney, 1991 proposed by Berning (2012).

134. *Plesiocleidochasma mediterraneum* Chimenz Gusso & Soule, 2003: Mediterranean occurrences of *Cleidochasma porcellanum* Busk, 1860 refer to *P. mediterraneum* as reported in Chimenz Gusso & Soule (2003). The same for occurences of *Hippoporina simplex* Canu & Bassler, 1930, synonymized with *C. porcellanum* by Cook (1964) and accepted by Zabala (1986) and d'Hondt & Ben Ismail (2008), but still reported as *H. simplex* in Ayari & Taylor (2014).

135. *Plesiocleidochasma porcellaniforme* (Soule, Soule & Chaney, 1991): reported as *Schedocleidochasma* in Rosso (2003).

136. *Reteporella jermanensis* (Waters, 1909): reported off Israel by d'Hondt (1988) and Galil (2007), this species is considered as a lessepsian immigrant.

137. *Reteporella* sp. *sensu* Sokolover, Taylor & Ilan, 2016: this species has some similarities with *R. beaniana* but lacks its stout oral spines.

138. *Rhynchozoon larreyi* (Audouin, 1826): reported from the eastern sector of the Mediterranean, off Turkey (Ünsal & d'Hondt, 1978-79; Çinar *et al.*, 2005), Lebanon and Israel (d'Hondt, 1988; Harmelin *et al.*, 2016).

139. *Schizoretepora hassi* Harmelin, Bitar & Zibrowius, 2007: recorded off Lebanon by Harmelin *et al.* (2007) and reported as a NIB from the Red Sea or as an endemic taxon with a very restricted distribution in the Levantine Basin. Harmelin *et al.* (2016) consider this species as cryptogenic.

140. *Schizoretepora imperati* (Busk, 1884): *Schizellozoon aviculiferum* Canu & Bassler (1930) is possibly a synonym as suggested in Zabala (1986) and d'Hondt & Ben Ismail (2008).