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Artículo de investigación

Annotated checklist of Recent marine Bryozoa from continental Portugal

Inventario comentado de los Briozoos marinos actuales del Portugal continental

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Abstract

We present here a checklist of recent marine bryozoans collected from continental Portugal, compiled from the literature, together with unplublished data. The total number of species recorded is 237, 75 of those are from deep waters and 171 from shallow waters. The most diverse group is the order Cheilostomata with 186 species, followed by the order Ctenostomata, with 26 species, and the order Cyclostomata, with 25 species. The bryozoan species richness known currently represents between 57% and 68% of the total estimated. The 135 localities studied were grouped in five areas from North to South along the Portuguese coast, and divided into shallow water and deep water. The best known localities nowadays in Portugal are Armaçao de Pêra, with 82 species, and the Coast of Arrábida, with 71 species, while the Southwest coast is nearly unstudied. Most of the deep water species are considered endemic to the Lusitanian region, while in shallow waters most of them are widely distruibuted in the Atlantic-Mediterranean region. Both in deep and shallow waters there is a reduction of the proportion of boreal species from the north to the south, while with regards to Mediterranean species it is just upside down. Macaronesian species are present only in the south of Portugal.

Keywords: marine fauna, species richness, biogeography, Iberian Peninsula, NE Atlantic

Resumen

Presentamos un inventario de los Briozoos marinos actuales presentes en el Portugal continental, recopilados de la literatura previa así como de datos inéditos. El número total de especies se eleva a 237, 75 de aguas profundas y 171 de aguas superficiales. El grupo más diverso es el Orden Cheilostomata, con 186 especies, seguido del Orden Ctenostomata, con 26 especies, y el Orden Cyclostomata, con 25. La riqueza específica conocida hoy día representa entre el 57% y el 68% del número total de especies estimado. Las 135 localidades estudiadas fueron agrupadas en cinco áreas de norte a sur a lo largo de la costa portuguesa, y divididas a su vez en aguas profundas y superficiales. Las localidades mejor conocidas hoy día son Armaçao de Pêra, con 82 especies, y la Costa da Arrábida, con 71 especies, mientras que todo el suroeste es prácticamente desconocido. La mayor parte de las especies de aguas profundas son consideradas endémicas de la provincia lusitánica, mientras que en aguas superficiales la mayoría de las especies se distribuyen en la región atlanto-mediterránea. Tanto en aguas profundas como superficiales hay una reducción del procentaje de especies boreales desde el norte hacia el sur, mientras que en el caso de las especies mediterráneas es justo al contrario. Las especies macaronésicas están presentes solamente en el sur de Portugal.

Palabras clave: fauna marina, riqueza específica, biogeografía, Peninsula ibérica, Atlántico nororiental

INTRODUCTION

While the Bryozoan fauna in the Iberian Peninsula as a whole is relatively well known, the knowledge of the Portuguese fauna is still scarce and fragmentary, and not well documented. We are now carrying out a research project on the Iberian Bryozoan fauna; among other works, we have compiled the previous data referring to the Bryozoan species reported in continental Portugal. A plot showing the cumulative numbers of species newly recorded from Portugal in previous works (Fig. 1) indicates that the list of known species is far from reflecting the true bryozoan species richness.

The first known Bryozoan in Portuguese waters, in fact one of the first records in the Iberian Peninsula as a whole, was collected by the *Challenger* expedition at nearly 3000 m depth off southwest of Cape St. Vincent. This colony, the type specimen of *Kinetoskias cyathus*, was reported by Wyville Thomson (1877) and by Busk (1884), and is today conserved in the Natural History Museum of London.

Soon after, the *Travailleur* expedition collected material mainly in deep waters in the north of Portugal and in some southern localities. The results of this work were published by Jullien (1882, 1883). These data were compiled and completed with the results of the *Talisman* sampling survey in the south of Portugal, and published by Calvet (1907).

In the meanwhile, the first records of littoral species were made by the Portuguese naturalist

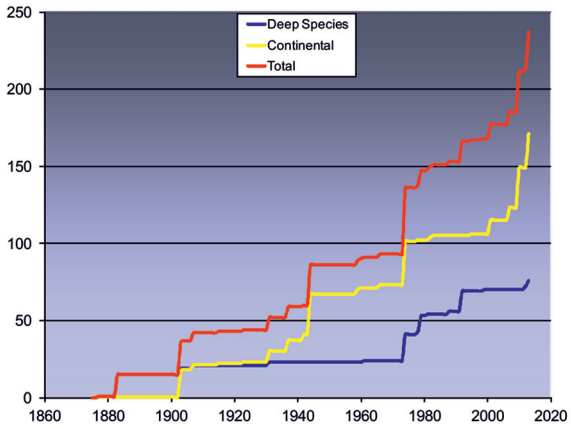

Figure 1. Plot showing the cumulative numbers of Bryozoan species newly recorded from Portugal in works from the late 19th to early 21th centuries.

Nobre (1903 a, b, 1904) at the turn of the twentieth century, from several localities in the northern coast of Portugal.

Later on, the sampling survey by Prince Albert I^{er} of Monaco on board of the *Princesse Alice*, made some sampling in Portuguese waters, whose results were published by Calvet (1931).

Again Nobre (1937, 1942), made important contributions to the knowledge of the Portuguese fauna, but perhaps the most important work at that time was the compilation made by Rosas (1944), of the previous littoral data; this author also added many species to the Portuguese check-list.

In the following decade, the French sampling survey *Faial* collected samples on the southwest of Portugal. The results were published by Pérès (1959), although few species of Bryozoans were reported.

The study of deep water species was taken up again during the *Thalassa* expedition to the Bay of Biscay and the north of Portugal. These results were published by d'Hondt (1974) and by Hayward (1979).

At that time Saldanha (1974, 1980) made important contributions to the knowledge of the coastal fauna but from a small number of localities.

The deep waters near Portugal were again studied during the *Balgim* expedition to the area of the Strait of Gibraltar and the Gulf of Cádiz. These results were published by Harmelin & d'Hondt (1992 a, b).

In the last twenty years several authors have made important contributions in number of species, but from relatively few localities. Among them we must point out those by Reverter-Gil & Fernández-Pulpeiro (1999 a), Boury-Esnault *et al*. (2001), Marchini *et al*. (2007), Souto *et al*. (2010 b, 2011 b) and Souto (2011).

Recently, we have published a large compilation of Bryozoan records from several localities all along the Portuguese coast, together with a revision of material conserved in different museum (Souto *et al*., 2014). This work yields 21 new records for Portuguese waters, besides 12 other species that were previously recorded only once.

In general, studies in Portugal have been irregular and somewhat vague, as few areas have

been uniformly studied. Most works, especially in the littoral zone, are old and lack descriptions or figures, and reference material does not seem to exist. On the contrary, works on deep species do have descriptions, figures, and reference material is held in different museums.

In the present work we have compiled records of marine Bryozoa only from continental Portugal. Additionally, unpublished data of 56 species collected in localities along the Portuguese coast are included here, but none of them corresponds to newly cited species. The fauna of the two Portuguese archipelagos, Azores and Madeira, deserves a separate treatment, due to their geographical situation in a different region, and their specific richness (see e.g. Berning, 2012).

MATERIAL AND METHODS

The available literature citing bryozoan species collected in Portuguese waters has been revised. The longitudes of the sampling stations of the *Talisman* and *Travailleur* cruises, published by Jullien (1882, 1883) and Calvet (1907) were initially measured with reference to the Paris meridian. They have been here corrected to the Greenwich meridian (see Ryland, 1969: 238).

Some material collected in Portugal, and held in different institutions, was revised: Muséum National d'Histoire Naturelle, Paris (MNHN), the Museu Nacional de História Natural e da Ciência, Lisbon (MB), and the Natural History Museum, London (NHMUK). Most of it was already cited by us in different previous works; a small part was unpublished to date and will be referred in the text as "present work" together with the registration number of the sample revised. It must be stated, however, that the search of material was not exhaustive, and there may be more preserved specimens in different collections (e.g. MNHN, NHMUK, Musée Océanographique de Monaco). On the other hand, the material cited by Portuguese authors (Bethencourt Ferreira, Nobre, Rosas and Saldanha) seems to have been lost, but this assumption must still be confirmed definitively. Finally, in the remarks of some species we have also included some registration numbers of material referred by other authors in different papers.

Table I. Localities where new unpublished data are reported in the present work (HBD: H. De Blauwe; JS: J. Souto; MB: Museu Nacional de História Natural e da Ciência, Lisbon; MNHN: Muséum National d'Histoire Naturelle, Paris; NHMUK: Natural History Museum, London).

Locality	N	W	Depth (m)	Date	Collector
Beach Carreço, Viana do Castelo	41º44'36''	08º52'38''	Intertidal	20/09/1982	MB
Beach Areosa, Viana do Castelo	41º43'00''	08º51'53''	Intertidal	21/09/1982	MB
Leça de Palmeira	41º12'33''	08º42'53''	Intertidal	11/06/2010	JS
Buarcos	40º10'43''	08º54'20''	Intertidal	11/06/2010	JS/MB
Vale Furado	39º41'06''	09º03'26''	Intertidal	12/06/2010	JS
Beach of Baleal	39º22'19''	09º19'57''	Intertidal	14/06/2010	JS
Beach of Galé	38º43'29''	09º28'33''	Intertidal	13/06/2010	JS
Boca do Inferno	38º41'34''	09º26'02''	0-7	13/06/2010	JS
Beach Avencas, Parede	38º41'00''	09º21'30''	Intertidal	09/02/1982	MB
Beach El-Rei, Carcavelos	38º41'00''	09º20'30''	Intertidal	08/02/1982	MB
Beach of São Torpes, Sines	37º55'06''	08º48'15''	Intertidal	21/08/1978 15/10/1981	MB
Beach da Ilha, Sines	37º50'00''	08º47'30''	Intertidal	14/10/1981	MB
Sagres	37°00'23''	08°56'21''	Intertidal	22/03/2004	HDB
Armaçao de Pêra	37°06'00"	08°21'24"	0-?	00/03/2004	JS/HDB
Beach Olhos d'Água, Albufeira	37º05'00''	08º11'00''	Intertidal	27/03/1979	MB
Marina of Olhao	37º01'22''	07º50'23''	Intertidal	00/03/2004	HDB
"Poseidon" st. 2	41°09.3'	09°20'	800-900	20/11/1984	MB
"Poseidon" st. 13	40°09.1'	09°49.9'	35-930	21/11/1984	MB
C.E. Charcot St. 1	40°01'	09°44'	130	3/12/1968	MNHN
Off Sado River	No data	No data	No data	No data	NHMUK
Balgim DR06	36º42.2'	09º26.8'	1114	05/1984	MNHN

Unpublished data of material collected by us, as well as by H. De Blauwe (who has sent us material and unpublished data), were also compiled in the present work (see Table I). Samples were collected in different localities along the Portuguese coast mainly in the intertidal, but also by SCUBA diving. In the Algarve samples were taken also in the intertidal as well as in fishing nets; anyway, although the depths are not known, the boats were small enough as to assure that material was collected in shallow waters near the coastline. All these unpublished records are referred in the text as "present paper" or "H. De Blauwe". Reference material, now in our collection, will be sent in the future to the Museo Nacional de Ciencias Naturales, Madrid (MNCN).

Altogether, we have studied or compiled data from 135 localities. A complete list can be found in the Appendix at the end of this paper. To make easier the management and interpretation of data, the localities have been ordered, to the possible extent, from North to South along the Portuguese coast. They were also grouped in five geographic areas (Fig. 2); such divisions are, however, entirely arbitrary and bear no relation to ecology or oceanography. In each one we have considered two groups depending on depth: shallow waters localities, between the coastline and the limit of the continental shelf, about 200 m depth; and deep waters localities, those that are below this depth.

A complete matrix of presence/absence of species per localities was prepared. The Sobs, representing the number of species observed in all pooled samples, and Chao1, first-order Jacknife (Jack1) and second-order Jacknife (Jack2) were used to estimate the theoretical number of expected species in Portuguese waters. The software PRIMER 6 (Clarke & Gorley, 2006) was used to these analyses.

RESULTS

Phylum BRYOZOA Ehrenberg, 1831
Class STENOLAEMATA Borg, 1926
Order CYCLOSTOMATA Busk, 1852
Suborder TUBULIPORINA Milne Edwards, 1838

Family STOMATOPORIDAE Pergens & Meunier, 1886
Genus ***Stomatopora*** Bronn, 1825

Stomatopora gingrina Jullien, 1882

41º43'00''N, 09º19'26''W: *Travailleur* 1881, D.2 (1st ser.), some colonies collected at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883; Calvet, 1907; Harmelin, 1974, 1976).

Reference material: According to Tricart & d'Hondt (2009), the holotype of this species is the sample MNHN 7711, coming from north Portugal.

Genus ***Jullienipora*** Reverter-Gil & Fernández-Pulpeiro, 2005

Jullienipora calypsoides (Jullien, 1882)

41º43'00''N, 09º19'26''W: *Travailleur* 1881, D.2 (1st ser.), some colonies collected at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883, as *Stomatopora calypsoides*; Calvet, 1907, as *Stomatopora calypsoides*; Reverter-Gil & Fernández-Pulpeiro, 2001, as *"Stomatopora" calypsoides*; 2005: MNHN 2799, MNHN 3749, MNHN 3752, MNHN 3900).

Reference material revised: MNHN 2799: *Travailleur*, 1881, D.2 (1st ser.) 1068 m, 14/6/1881, holotype. MNHN 3749 (with more species), MNHN 3752 (with more species), MNHN 3900 (with more species): same locality as holotype.

Family ONCOUSOECIIDAE Canu, 1918
Genus ***Oncousoecia*** Canu, 1918

Oncousoecia dilatans (Johnston, 1847)

Cascais and Portinho da Arrábida, on shells (Rosas, 1944, as *Stomatopora dilatans*).

Genus ***Microeciella*** Taylor & Sequeiros, 1982

Microeciella suborbicularis (Hincks, 1880)

41º22.8'N, 09º08.2'W: *Thalassa* Y390, at 140 m depth (d'Hondt, 1974, as *Diastopora suborbicularis*).

Family TUBULIPORIDAE Johnston, 1838
Genus ***Tubulipora*** Lamarck, 1816

Tubulipora* cf. *plumosa Harmer, 1898
Costa da Arrábida (Saldanha, 1974)

Tubulipora flabellaris (Fabricius, 1780)
Cascais and Portinho da Arrábida, intertidal on seaweeds (Rosas, 1944). Estoril (Nobre, 1903 b). Estoril and Parede (Nobre, 1904). Faro (Nobre, 1937).

Tubulipora phalangea Couch, 1844
36º31'N 11º33'45''W: *Princesse Alice* st. 467, some colonies on seaweed at 60 m depth on bottoms of sand, shells and stones (Calvet, 1931).

Genus ***Exidmonea*** David, Mongereau & Pouyet, 1972

Exidmonea atlantica (Forbes in Johnston, 1847)
Povoa de Varzim, on corals in fishing nets from deep waters (Nobre, 1903 a, 1904, as *Idmonea atlantica*). West Magoita (between Cape Carvoeiro and Raso), at 120 m depth (Nobre, 1942, as *Idmonea atlantica*). Unrecorded locality (Bethencourt Ferreira, 1923, as *Idmonea atlantica*).

Remarks: Bethencourt Ferreira (1923) reported *Idmonea atlantica* Hincks var. *lusitanica* n. var., and said that descriptions of new species would be published in a future work, but it was not possible to find further data.

Family PLAGIOECIIDAE Canu, 1918
Genus ***Plagioecia*** Canu, 1918

Plagioecia patina (Lamarck, 1816)
Póvoa de Varzim (Nobre, 1904, as *Diastopora patina*). 40º45.8'N, 09º17.5'W: *Thalassa* Y399, at 330 m depth (d'Hondt, 1974). Cape Carvoeiro (Costa de Peniche) intertidal (Marques *et al*., 1982, as *Plagioecia patina* ?). Portinho da Arrábida, on seaweeds washed upon the beach (Rosas, 1944, as *Diastopora patina*).

Plagioecia sarniensis (Norman, 1864)
Armaçao de Pêra: several colonies on *Myriapora truncata* (Pallas, 1766) and stones collected in fishing boats on the beach (Souto *et al*., 2014).

Plagioecia inoedificata (Jullien, 1882)
41º43'00''N, 09º19'26''W: *Travailleur* 1881, D.2 (1st ser.), two colonies collected at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883, as *Diastopora inoedificata*; Calvet, 1907, as *Diastopora inoedificata*; Harmelin, 1976).

Reference material: According to Tricart & d'Hondt (2009), the types of this species are samples MNHN 82 and MNHN 2465, coming from north Portugal.

Genus ***Entalophoroecia*** Harmelin, 1976

Entalophoroecia deflexa (Couch, 1842)
41º18.6'N, 09º13.8'W: *Thalassa* Y394, at 410 m depth; 40º34.4'N, 09º22.1'W: *Thalassa* Y410, at 360 m depth (d'Hondt, 1974, as *Stomatopora granulata* (Milne-Edwards, 1838)). Povoa de Varzim, on corals from deep waters (Nobre, 1903 a, as *Entalophora clavata* (Busk); Nobre, 1904, as *Entalophora clavata* (Busk)). Foz do Douro, on a coral (Rosas, 1944, as *Entalophora clavata* (Busk) and as *Stomatopora johnsoni* (Heller)). 36º31'N 11º33'45''W: *Princesse Alice* st. 467, some colonies on seaweeds at 60 m depth on bottoms of sand, shells and stones (Calvet 1931, as *Entalophora clavata* (Busk); Harmelin, 1976). 36º32'N, 11º38'30''W: *Princesse Alice* st. 2731, one sample at 65-90 m depth (Calvet, 1931, as *Entalophora deflexa* (Heller); Harmelin, 1976).

Remarks: The records made by Calvet (1931), which have been revised by Harmelin (1976), correspond without any doubt to *E. deflexa*. The material reported by d'Hondt (1974) must be revised, while the records by Nobre (1903 a, 1904) and Rosas (1944) could not been checked as the original material is presumably lost.

Entalophoroecia gracilis Harmelin, 1976
36º36.5'N, 07º24.0'W: *Balgim* CP21, at 485 m depth (Harmelin & d'Hondt, 1992 b).

Genus ***Diplosolen*** Canu, 1918

Diplosolen obelia (Johnston, 1838)

Póvoa de Varzim, on corals, in fishing nets (Nobre, 1903 a, as *Diastopora obelia*). Armaçao de Pêra: several colonies on stones collected in fishing boats on the beach (Souto *et al*., 2014).

Family TERVIIDAE Canu & Bassler, 1920
Genus ***Tervia*** Jullien, 1882

Tervia irregularis (Meneghini, 1844)

41º22.2'N, 09º09.8'W: *Thalassa* Y425, at 430 m depth; 41º21.5'N, 09º10.7'W: *Thalassa* Y422, at 520 m depth; 40º45.8'N, 09º17.5'W: *Thalassa* Y399, at 330 m depth; 40º45.6'N, 09º19'W: *Thalassa* Y400, at 800 m depth on muddy bottom; 40º34.3'N, 09º22.6'W: *Thalassa* Y415, at 450 m depth (d'Hondt, 1974).

Family FRONDIPORIDAE Busk, 1875
Genus ***Frondipora*** Link, 1807

Frondipora verrucosa (Lamouroux, 1821)

Armaçao de Pêra: one colonie with gonozooids, collected in fishing boats on the beach (Souto *et al*., 2014).

Suborder ARTICULATA Busk, 1859
Family CRISIIDAE Johnston, 1838
Genus ***Crisia*** Lamouroux, 1812

Crisia eburnea (Linnaeus, 1758)

Póvoa de Varzim, on corals in fishing nets (Nobre, 1903 a, 1904). Foz de Douro, Cascais and Portinho da Arrábida, on seaweeds in the intertidal zone and on corals (Rosas, 1944). Berlenga (Nobre & Braga, 1942; Girard *in* Rosas, 1944). Costa da Arrábida (Saldanha, 1974). Unrecorded locality, on seaweeds in the intertidal zone (Saldanha, 1980).

Crisia denticulata (Lamarck, 1816)

Berlengas, Sesimbra, Setúbal and Monte Gordo (Nobre, 1937). Berlenga (Nobre & Braga, 1942). Cascais, intertidal on seaweeds (Rosas, 1944).

Crisia tenella Calvet, 1906

36º35.9'N, 07º24.5'W: *Balgim* DW20, at 452 m depth; 36º19.8'N, 07º40.6'W: *Balgim* CP155, at 903 m depth (Harmelin & d'Hondt, 1992 b).

Crisia cf. ***ramosa*** Harmer, 1891

Costa da Arrábida (Saldanha 1974).

Genus ***Filicrisia*** d'Orbigny, 1853

Filicrisia geniculata (Milne Edwards, 1838)

Beach of Baleal: abundant, with gonozooids; Boca do Inferno (intertidal): several colonies (Souto *et al*., 2014). Costa da Arrábida (Saldanha, 1974). Unrecorded locality, on seaweeds in the intertidal zone (Saldanha, 1980).

Genus ***Crisidia*** Milne Edwards, 1838

Crisidia cornuta (Linnaeus, 1758)

Foz do Douro (Nobre, 1903 a, 1904, as *Crisia cornuta*). Foz de Douro, Cascais and Portinho da Arrábida, on seaweeds and Porifera in the intertidal zone (Rosas, 1944, as *Crisia cornuta*). Berlengas (Nobre, 1937, as *Crisia cornuta*).

Suborder RECTANGULATA Waters, 1887
Family LICHENOPORIDAE Smitt, 1867
Genus ***Disporella*** Gray, 1848

Disporella hispida (Fleming, 1828)

Povoa de Varzim, on corals in deep waters (Nobre, 1903 a, 1904, 1942, as *Lichenopora hispida*). Foz do Douro, on a coral (Rosas, 1944, as *Lichenopora hispida*). West Magoita (between Cape Carvoeiro and Raso), at 120 m depth; Northwest Facho (between Cape Carvoeiro and Raso), at 82 m depth (Nobre, 1942, as *Lichenophora hispida*). Armaçao de Pêra, on stones collected in fishing boats on the beach (H. De Blauwe).

Remarks: Some species of the genus *Disporella* were described by Álvarez (1992). For instance, *D. zurigneae* is present in the northwest of the Iberian Peninsula, and *D. alboranensis* in the southeast. It is not possible to judge, without

seeing the original material, if the previous records of *D. hispida* in Portugal really correspond to this or to other related species.

Genus ***Patinella*** Gray, 1848

Patinella spp.

36º36.5'N, 07º24.0'W: *Balgim* CP21, at 485 m depth (Harmelin & d'Hondt, 1992 b, as *Lichenopora* spp.)

Remarks: Living species previously included in *Lichenopora* Defrance, 1823 has been transferred to the genus *Patinella* (see Gordon & Taylor, 2001).

Incertae sedis

"Idmonea" insolita Jullien, 1882

41º43'00''N, 09º19'26''W: *Travailleur* 1881, D.2 (1st ser.), some colonies collected at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883; Calvet, 1907).

Remarks: According to Tricart & d'Hondt (2009), the type specimen of this species is the sample MNHN 1308. *"Idmonea" insolita* needs to be redescribed.

Class GYMNOLAEMATA Allman, 1856
Order CTENOSTOMATA Busk, 1852
Superfamily ALCYONIDIOIDEA Johnston, 1838
Family ALCYONIDIIDAE Johnston, 1838
Genus ***Alcyonidium*** Lamouroux, 1813

****Alcyonidium*** spp.

Leixões, intertidal on stones (Rosas, 1944, as *Alcyonidium mytili* Dalyell, 1848). Olhao [Nobre, 1937, as *Alcyonidium gelatinosum* (Linnaeus)].

Remarks: The identity and distribution of *A. gelatinosum* (Linnaeus, 1761) has been subject of discussion until its recent redescription by Ryland & Porter (2003). Many of the previous records of this species have been made as *A. mytili*, but not all the records of the later species really correspond to *A. gelatinosum*. Therefore, as the original papers by Nobre (1937) and Rosas (1944) do not include figures or descriptions and the original material no longer exist, it is not posible to check the real identity of those records.

Family PACHYZOONTIDAE d'Hondt, 1983
Genus ***Pachyzoon*** d'Hondt, 1983

Pachyzoon atlanticum d'Hondt, 1983

40º33.1'N, 09º26.5'W: *Thalassa* Y405, at 1170 m depth (d'Hondt & Hayward, 1981, as *Pachyzoon atlanticum* d'Hondt, in press). 36º21.0'N, 07º55.8'W: *Balgim* DW157, at 1108 m depth (Souto *et al*., 2014: MNHN 15895).

Reference material revised: MNHN 15895: *Balgim* DW157, 1108 m.

Family CLAVOPORIDAE Soule *in* Osburn & Soule, 1953
Genus ***Ascorhiza*** Fewkes, 1889

Ascorhiza mawatarii d'Hondt, 1983

36º35.4'N, 07º23.6'W: *Balgim* DR22, at 466 m depth (Harmelin & d'Hondt, 1992 b).

Genus ***Metalcyonidium*** d'Hondt, 1975

Metalcyonidium gautieri d'Hondt, 1975

41º30.7'N, 09º19.9'W: *Thalassa* Y374, at 1250 m depth on muddy bottom; 40º36.8'N, 09º21.5'W: *Thalassa* Y401, at 1040 m depth on muddy bottom; 40º33.5'N, 09º24'W: *Thalassa* Y407, at 740 m depth on muddy and sandy bottom; 40º33.1'N, 09º26.5'W: *Thalassa* Y405, at 1170 m depth on muddy bottom (Hayward, 1979: NHMUK 1984.2.19.1, MNHN 8415). 36º50.4'N, 09º14.9'W: *Balgim* CP03, at 681 m depth; 36º46.1'N, 09º27.0'W: *Balgim* DW07, at 1141 m depth; 36º45.8'N, 09º29.4'W: *Balgim* DW16, at 1283 m depth; 36º19.8'N, 07º40.6'W: *Balgim* CP155, at 903 m depth (marked with "?"); 36º35.9'N, 07º24.5'W: *Balgim* DW20, at 452 m depth (Harmelin & d'Hondt, 1992 b: MNHN 14935, MNHN 15495).

Reference material revised: NHMUK 1984.2.19.1: *Thalassa* 1972, Y407, 740 m. MNHN 8415 (with more species): *Thalassa* 1972, Y405. MNHN 14935 (with more species): *Balgim* 1984, DW16, 30/V/72, 1280-1285 m.

MNHN 15495: *Balgim* 1984, DW20, 31/V/72, 454-450 m.

Genus ***Pseudalcyonidium*** d'Hondt, 1975

Pseudalcyonidium bobinae d'Hondt, 1975

36º45.8'N, 09º29.4'W: *Balgim* DW16, at 1283 m depth; 36º46.1'N, 09º27.0'W: *Balgim* DW07, at 1141 m depth; 36º10.8'N, 08º06.2'W: *Balgim* CP108, at 1527 m depth; 36º14.9'N, 08º02.5'W: *Balgim* DW159, at 1360 m depth (Harmelin & d'Hondt, 1992 b: MNHN 14935).

Reference material revised: MNHN 14935 (with more species): *Balgim* 1984, DW16, 30/V/72, 1280-1285 m.

Family PHERUSELLIDAE Soule *in* Osburn & Soule, 1953
Genus ***Pherusella*** Soule, 1951

Pherusella tubulosa (Ellis & Solander, 1786)

Estoril (Nobre, 1903 b, 1904, as *Pherusa tubulosa*). Costa da Arrábida (Saldanha, 1974).

Superfamily ARACHNIDIOIDEA Hincks, 1880
Family NOLELLIDAE Harmer, 1915
Genus ***Nolella*** Gosse, 1851

Nollela gigantea (Busk, 1856)

Beach of Baleal: abundant (Souto *et al*., 2014). Costa da Arrábida (Saldanha, 1974). Unrecorded locality, on seaweeds at circalitoral (Saldanha, 1980).

Nolella dilatata (Hincks, 1860)

Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra, at 19-21 m depth, on maërl beds (Souto *et al*., 2010 b).

Genus ***Anguinella*** van Beneden, 1845

Anguinella palmata van Beneden, 1845

Beach of Baleal: several small colonies in a rocky exposed shore (Souto *et al*., 2014).

Superfamily WALKERIOIDEA Hincks, 1880
Family WALKERIIDAE Hincks, 1880
Genus ***Walkeria*** Fleming, 1823

Walkeria uva (Linnaeus, 1758)

Leixões and Foz do Douro, intertidal on *Chartella papyracea* (Ellis & Solander, 1786) (Rosas, 1944, as *Valkeria uva*). Costa da Arrábida (Saldanha, 1974).

Family MIMOSELLIDAE Hincks, 1877
Genus ***Mimosella*** Hincks, 1851

Mimosella gracilis (Hincks, 1851)

Foz do Douro, on *Laminaria* (Nobre, 1903 a, 1904).

Prenant & Bobin (1956) reported that this species is "*largement répandue*" in British, Spanish and Portuguese waters.

Genus ***Bantariella*** Jebram, 1973

Bantariella verticillata (Heller, 1867)

Beach of Baleal: several colonies on different substrates (Souto *et al*., 2014). Costa da Arrábida (Saldanha, 1974, as *Mimosella verticillata*).

Family FARRELLIDAE d'Hondt, 1983
Genus ***Farrella*** Ehrenberg, 1838

Farrella repens (Farre, 1837)

Costa da Arrábida (Saldanha, 1974).

Family TRITICELLIDAE Sars, 1874
Genus ***Triticella*** Dalyell, 1848

Triticella flava Dalyell, 1848

Off Cape Sagres, 82 m depth, on the crab *Gonoplax rhomboides* L. (= *Gonoplax angulata* Fabricius) (Harmer, 1915, as *Triticella boeckii*). Unrecorded locality (Prenant & Bobin, 1956, as *Triticella korenii*).

Genus ***Triticellopsis*** Gautier, 1961

Triticellopsis tissieri Gautier, 1961

36°42.7'N–36°41.0'N, 07°39.1'W–07°31.3'W: two colonies collected SE Faro, at 580-630 m depth (Gautier, 1961; d'Hondt, 1983).

Superfamily VESICULARIOIDEA Johnston, 1838
Family VESICULARIIDAE Johnston, 1838
Genus ***Amathia*** Lamouroux, 1812

Amathia lendigera (Linnaeus, 1758)

Foz do Douro, intertidal on seaweeds (Rosas, 1944). Berlenga (Nobre & Braga, 1942; Girard *in* Rosas, 1944). Costa da Arrábida (Saldanha, 1974). Beach dos Olhos d'Água, Albufeira (present paper: MB37-000023). Unrecorded locality (Saldanha, 1980).

Reference material revised: MB37-000023: Praia dos Olhos d'Água, Albufeira. Infralitoral. 27/03/1979. Explorações Museu Bocage.

Amathia semiconvoluta Lamouroux, 1824

Arrábida and Algarve (d'Hondt, 1983; Souto *et al*., 2010 a: MNHN 8164: Algarve. NHMUK 1872.2.3.147 & 150).

Reference material revised: MNHN 8164: Algarve. NHMUK 1872.2.3.147 & 150: W Coast Spain & Portugal. Norna Exp. S. Kent Coll.

Genus ***Bowerbankia*** Farre, 1837

Bowerbankia imbricata (Adams, 1798)

Foz do Douro, intertidal on seaweeds (Rosas, 1944).

Bowerbankia gracilis Leidy, 1855

Ria de Aveiro (Marchini *et al*., 2007). Costa da Arrábida (Saldanha, 1974).

Bowerbankia gracillima (Hincks, 1877)

Ria de Aveiro (Marchini *et al.*, 2007). Leça de Palmeira: some colonies on *Balanus*; Buarcos: several colonies; beach of Baleal: several colonies; Boca do Inferno (7 m depth): abundant on Serpulid and *Chartella papyracea* (Ellis & Solander, 1786) (present paper). Costa da Arrábida (Saldanha, 1974). Beach dos Olhos d'Água, Albufeira (present paper: MB37-000024).

Reference material revised: MB37-000024: Praia dos Olhos d'Água, Albufeira. Infralitoral. 27/03/1979. Explorações Museu Bocage.

Bowerbankia pustulosa (Ellis & Solander, 1786)

Berlengas and Olhao (Nobre, 1937). Berlenga (Nobre & Braga, 1942).

Bowerbankia citrina (Hincks, 1877)

Ria de Aveiro (Marchini *et al.*, 2007). Peniche, intertidal, two colonies (Souto *et al*., 2011 a).

Genus ***Zoobotryon*** Ehrenberg, 1829

Zoobotryon verticillatum (Della Chiaje, 1822)

Berlengas and Olhão (Nobre, 1937, as *Zoobotryon pellucidum*). Berlengas and Faro, common (Nobre & Braga, 1942).

Family BUSKIIDAE Hincks, 1880
Genus ***Buskia*** Alder, 1857

Buskia nitens Alder, 1857

Ria de Aveiro (Marchini *et al.*, 2007).

Buskia socialis Hincks, 1887

Ria de Aveiro (Marchini *et al.*, 2007).

Superfamily PENETRANTIOIDEA Silén, 1946
Family PENETRANTIIDAE Silén, 1946
Genus ***Penetrantia*** Silén, 1946

Penetrantia sp.

Armaçao de Pêra, at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b).

Order CHEILOSTOMATA Busk, 1852
Suborder INOVICELLINA Jullien, 1888
Superfamily AETEOIDEA Smitt, 1868
Family AETEIDAE Smitt, 1868
Genus ***Aetea*** Lamouroux, 1812

Aetea anguina (Linnaeus, 1758)

Molêdo do Minho, Foz do Douro and Estoril, common on seaweeds (Nobre, 1903, a, b, 1904).

Beach of Areosa (Viana do Castelo) (present paper: MB37-000026). Berlengas and Balieira, very common on seaweeds (Nobre, 1937). Foz do Douro, Cascais and Portinho da Arrábida, on seaweeds in the intertidal zone (Rosas, 1944). Berlengas (Nobre & Braga, 1942). Ponta do Baleal (Costa de Peniche) intertidal (Marques *et al*., 1982). Leça de Palmeira, intertidal on seaweeds; Vale Furado, intertidal; beach of Baleal, intertidal, on different substrates; beach of Galé, intertidal, on different substrates; Boca do Inferno, 0-7 m depth, on Porifera and Hydroids (present paper). Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra, at 19-21 m depth (Souto *et al*., 2010 b). Armaçao de Pêra: on *Turbicellepora* spp. collected in fishing boats (H. De Blauwe). Unrecorded localities, intertidal and infralitoral, on seaweeds (Saldanha, 1980).

Reference material revised: MB37-000026: Praia da Areosa, Viana do Castelo. 21/09/1982. Explorações Museu Bocage.

Aetea sica (Couch, 1844)

Berlengas (Nobre, 1937, as *Aetea recta*; Nobre & Braga, 1942, as *Aetea recta*). Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b). Armaçao de Pêra: on a stone collected in fishing boats (H. De Blauwe).

Aetea truncata (Landsborough, 1852)

Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra, at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b).

Suborder SCRUPARIINA Silén, 1941
Superfamily SCRUPARIOIDEA Gray, 1848
Family SCRUPARIIDAE Gray, 1848
Genus ***Scruparia*** Oken, 1815

Scruparia chelata (Linnaeus, 1758)

Foz do Douro, Cascais and Portinho da Arrábida, on seaweeds and Bryozoans in the *Laminaria* zone (Rosas, 1944, as *Eucratea chelata*). Foz do Douro, on *Laminaria* (Nobre, 1903 a, 1904, as *Eucratea chelata*). Ria de Aveiro (Marchini *et al.*, 2007). Berlengas, Sines and Faro (Nobre, 1937, as *Eucratea chelata*). Vale Furado, some colonies; beach of Baleal, abundant on different substrates; Boca do Inferno, on Porifera at tide pools and at 7 m depth on different substrates (present paper). Costa da Arrábida (Saldanha, 1974). Unrecorded localities, intertidal and infralitoral, on seaweeds and *Mytilus* (Saldanha, 1980).

Remarks: *Scruparia ambigua* and *Scruparia chelata* (Linnaeus, 1758) were frequently mistaken until their redescription by Hastings (1941). Previous records of *S. chelata* in Portugal, made by Nobre (1903 a, 1904, 1937, as *Eucratea chelata*) and even by Rosas (1944, as *Eucratea chelata*) may actually correspond to any of both species.

Scruparia ambigua (d'Orbigny, 1841)

Ria de Aveiro (Marchini *et al.*, 2007). Beach of Baleal: several colonies on red algae; Boca do Inferno, at 7 m depth: some colonies on algae (present paper). Costa da Arrábida (Saldanha, 1974).

Suborder MALACOSTEGINA Levinsen, 1902
Superfamily MEMBRANIPOROIDEA Busk, 1852
Family MEMBRANIPORIDAE Busk, 1852
Genus ***Membranipora*** de Blainville, 1830

Membranipora membranacea (Linnaeus, 1767)

All along the coast, on Laminariacea, in the intertidal zone (Rosas, 1944). Foz do Douro and Porto de Leixões, on *Laminaria* (Nobre, 1903 a, 1904). Berlengas, Sesimbra and Sines (Nobre, 1937). Berlenga, on *Laminaria* (Nobre & Braga, 1942). Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra, in fishing boats on the beach (H. De Blauwe). Unrecorded locality, infralittoral, on *Saccorhiza polyschides* (Saldanha, 1980).

Genus ***Biflustra*** d'Orbigny, 1852

Biflustra arborescens (Canu & Bassler, 1928)

Several colonies and fragments collected in the harbour of Ferragudo (Portimão) (Souto *et al*., 2014).

Family ELECTRIDAE Stach, 1937
Genus ***Electra*** Lamouroux, 1816

Electra verticillata (Ellis & Solander, 1786)

Foz de Douro at 10 fathoms, and very common washed upon the beach (Nobre, 1903 a, 1904). Viana do Castelo, S. Pedro de Moel, Berlengas and Sines (Nobre, 1937). Vale Furado, abundant, and beach de Buarcos (Figueira da Foz) (present paper: MB37-000008). Berlenga (Nobre & Braga, 1942). Leça de Palmeira (Nobre, 1904). Matosinhos, Oporto, Figueira da Foz, Nazaré and Albufeira (Nikulina *et al*., 2013). Estoril, washed upon the beach (Nobre, 1903 b, 1904). From an unrecorded locality in the Algarve (H. De Blauwe). In several localities along the coast (Rosas, 1944).

Reference material revised: NHMUK 1897.5.1.486: Portugal, not specified. NHMUK 1897.5.1.485: Oporto. MB37-000008: Praia de Buarcos, Figueira da Foz. 12/12/1981. Explorações Museu Bocage.

Remarks: *Electra verticillata* and the erect form of *E. pilosa* have been frequently mistaken, as the former was considered by many authors as a growth form of the later species. Recently, Nikulina *et al*. (2013) have demonstrated that both are different species, although it is not impossible to confuse them in a superficial examination. Therefore, we cannot assure that all the ancient records included here and in *E. pilosa* were correct, although it seems clear that both species are frequent all along the coast.

Electra pilosa (Linnaeus, 1767)

All along the coast, on seaweeds in the intertidal zone (Nobre, 1903 a, b, 1904; Rosas, 1944, as *Membranipora pilosa*). Viana, Póvoa, Farilhoes and Berlengas (Nobre, 1937, as *Membranipora pilosa*). Ria de Aveiro (Marchini *et al.*, 2007). Berlenga and Farilhão Grande, on seaweeds (Nobre & Braga, 1942, as *Membranipora pilosa*). Ponta do Surdão (Costa de Peniche) intertidal (Marques *et al*., 1982). Beach Carreço and beach Areosa, Viana do Castelo; Leça de Palmeira, intertidal; beach Buarcos, Figueira da Foz; Vale Furado, intertidal; beach Avencas, Parede; beach El-Rei, Carcavelos (present paper: MB37-000006, MB37-000010, MB37-000011, MB37-000012, MB37-000027). Costa da Arrábida (Saldanha, 1974). Beach São Torpes and beach da Ilha, Sines (present paper: MB37-000021, MB37-000005). Cape Saint Vincent (37º01'N, 08º59.8'W) at 21-23 m depth, on *Gelidium corneum* (Pérès, 1959). From an unrecorded locality in the Algarve (H. De Blauwe). Unrecorded localities, infralittoral, on seaweeds (Saldanha, 1980).

Reference material revised: MB37-000005: Praia da Ilha, Sines. 14/10/1981. Explorações Museu Bocage. MB37-000006: Praia de Buarcos, Figueira da Foz. 11/12/1981. Explorações Museu Bocage. MB37-000010: Praia de El-Rei, Carcavelos. 08/02/1982. Explorações Museu Bocage. MB37-000011: Praia das Avencas, Parede. 09/02/1982. Explorações Museu Bocage. MB37-000012: Praia do Carreço, Viana do Castelo. 20/09/1982. Explorações Museu Bocage. MB37-000021: Praia de São Torpes, Sines. 21/08/1978. Explorações Museu Bocage. MB37-000027: Praia da Areosa, Viana do Castelo. 21/09/1982. Explorações Museu Bocage.

Electra monostachys (Busk, 1854)

Ria de Aveiro (Marchini *et al.*, 2007). Costa da Arrábida (Saldanha, 1974, as *Electra hastingsae* Marcus, 1938).

Genus ***Conopeum*** Gray, 1848

Conopeum reticulum (Linnaeus, 1767)

Leixões, intertidal under stones (Rosas, 1944, as *Membranipora Lacroixii*). Ria de Aveiro (Marchini *et al.*, 2007). Leça de Palmeira: some colonies on *Sabellaria*; Buarcos: many colonies on *Mytilus* and *Balanus* (present paper).

Conopeum seurati (Canu, 1928)

Ria de Aveiro (Marchini *et al.*, 2007).

Suborder NEOCHEILOSTOMINA d'Hondt, 1985
Infraorder FLUSTRINA Smitt, 1868
Superfamily CALLOPOROIDEA Norman, 1903
Family CALLOPORIDAE Norman, 1903
Genus ***Callopora*** Gray, 1848

Callopora lineata (Linnaeus, 1767)

Mindelo, on *Laminaria* in the intertidal zone (Rosas, 1944, as *Membranipora lineata*).

Callopora dumerilii (Audouin, 1826)

Vale Furado, one colony (with embryos) (present paper). Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra at 19-21 m depth, on maërl beds (Souto *et al*., 2010 b). Armaçao de Pêra: on a stone collected in fishing boats (H. De Blauwe).

Genus ***Crassimarginatella*** Canu, 1900

Crassimarginatella crassimarginata (Hincks, 1880)

Caves at Sagres (Boury-Esnault *et al*., 2001).

Genus ***Corbulella*** Gordon, 1984

Corbulella maderensis (Waters, 1898)

Caves at Sagres (Boury-Esnault *et al*., 2001, as *Crassimarginatella maderensis*).

Genus ***Alderina*** Norman, 1903

Alderina imbellis (Hincks, 1860)

40°08.2'N, 09°50.5'W: *Poseidon* st. 12, at 1050 m, one ovicellate colony on a stone (Souto *et al*., 2014: MB37-000032).

Reference material revised: MB37-000032: "Poseidon" st. 12, 40°08.2'N, 09°50.5'W, 1050 m, 21/11/1984.

Genus ***Ellisina*** Norman, 1903

Ellisina gautieri Fernández Pulpeiro & Reverter Gil, 1993

Caves at Sagres (Boury-Esnault *et al*., 2001).

Genus ***Copidozoum*** Harmer, 1926

Copidozoum planum (Hincks, 1880)

Armaçao de Pêra, one ovicellate colony on a stone collected in fishing boats on the beach (Souto *et al*., 2014).

Copidozoum tenuirostre (Hincks, 1880)

Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b).

Copidozoum exiguum (Barroso, 1920)

36º36.5'N, 07º24.0'W: *Balgim* CP21, at 485 m depth (Harmelin & d'Hondt, 1992 a).

Genus ***Clavodesia*** Harmelin & d'Hondt, 1992

Clavodesia clavula (Hayward, 1978)

36º44.2'N, 09º31.4'W: *Balgim* DW11, at 1523 m depth; 36º10.8'N, 8º06.2'W: *Balgim* CP108, at 1527 m depth; 35º30.5'N, 07º46.1'W: *Balgim* DW64, at 1530 m depth (Harmelin & d'Hondt, 1992 a, as *Clavodesia biradiculata*; Reverter-Gil *et al*., 2012: MNHN 15493).

Reference material revised: MNHN 15493 (with more species): *Balgim* DW11, 1505-1540 m, 29/5/19, lectotype of *Clavodesia biradiculata*.

Family CYMULOPORIDAE Winston & Vieira, 2013

Genus ***Crepis*** Jullien, 1882

Crepis longipes Jullien, 1882

41º43'00''N, 09º19'26''W: *Travailleur*, Dr. 2 (1st ser.), at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883; Calvet, 1907; Reverter-Gil & Fernández-Pulpeiro, 2001; Reverter-Gil *et al*., 2011: MNHN 1995, MNHN 3783, MNHN 3900). 41°09.3'N, 09°20'W: *Poseidon* st. 2, at 800-900 m (Souto *et al*., 2014: MB37-000033).

Reference material revised: MNHN 1995: *Travailleur* D. 2 (1st ser.), 1068 m, lectotype. MNHN 3783 (with more species), MNHN 3900 (with more species), same locality as lectotype. MB37-000033: "Poseidon" st. 2, 41°09.3'N, 09°20'W, 800-900 m, 20/11/1984.

Family ANTROPORIDAE Vigneaux, 1949

Genus ***Rosseliana*** Jullien, 1888

Rosseliana rosselii (Audouin, 1826)

Costa da Arrábida (Saldanha, 1974).

Family HELIODOMIDAE Vigneaux, 1949

Genus ***Setosellina*** Calvet, 1906

Setosellina roulei Calvet, 1906

36º10.8'N, 08º06.2'W: *Balgim* CP108, at 1527 m depth; 35º11.9'N, 07º52.6'W: *Balgim* CP68, at 2035 m depth; 35º30.5'N, 07º46.1'W: *Balgim*

DW64, at 1530 m depth; 35º31.3'N, 07º25.6'W: *Balgim* DW61, at 1222 m depth (Harmelin & d'Hondt, 1992 a; Reverter-Gil & Fernández-Pulpeiro, 2001: MNHN 19803, MNHN 19954).

Reference material revised: MNHN 19803 (with more species): *Balgim* DW61, 1222 m. MNHN 19954 (with more species): *Balgim* DW64, 1530 m.

Family CUPULADRIIDAE Lagaaij, 1952
Genus ***Cupuladria*** Canu & Bassler, 1919

Cupuladria canariensis (Busk, 1859)

Cape Sagres (Prenant & Bobin, 1966).

Genus ***Reussirella*** Baluk & Radwanski, 1984

Reussirella multispinata (Canu & Bassler, 1923)

Cape Sagres (Prenant & Bobin, 1966, as *Cupuladria multispinata*).

Superfamily FLUSTROIDEA Fleming, 1828
Family FLUSTRIDAE Fleming, 1828
Genus ***Flustra*** Linnaeus, 1761

Flustra foliacea (Linnaeus, 1758)

41º28'N, 09º16.7'W: *Thalassa* Y379, at 1150 m depth on muddy bottom (Hayward, 1979: MNHN 8381).

Reference material revised: MNHN 8381: *Thalassa* 1972, Y379, 1150 m.

Genus ***Chartella*** Gray, 1848

Chartella papyracea (Ellis & Solander, 1786)

Foz do Douro and Porto de Leixões, on rocks (Nobre, 1903 a, 1904, as *Flustra papyracea*). Foz do Douro, Cascais and Portinho da Arrábida, under stones in the intertidal zone (Rosas, 1944, as *Flustra papyracea*). Buarcos, a small ovicellate colony; beach of Baleal, abundant; Boca do Inferno, at 7 m depth, abundant, with ovicells and embryos (present paper). Estoril, on stones (Nobre, 1903 b, 1904, as *Flustra papyracea*). Costa da Arrábida (Saldanha, 1974, as *Carbasea papyracea*). Dense populations in vertical walls in caves of Sagres (Boury-Esnault *et al*., 2001). Beach Olhos d'Água, Albufeira (present paper: MB37-000003). Unrecorded locality in the Algarve (H. De Blauwe). Unrecorded localities, intertidal and infralittoral, in caves (Saldanha, 1980).

Reference material revised: MB37-000003: Beach Olhos d'Água, Albufeira. Infralitoral. 27/03/1979. Explorações Museu Bocage.

Genus ***Securiflustra*** Silén, 1941

Securiflustra securifrons (Pallas, 1766)

Berlengas (Nobre, 1937, as *Flustra securifrons*; Nobre & Braga, 1942, as *Flustra securifrons*).

Genus ***Hincksina*** Norman, 1903

***Hincksina* sp.**

Armaçao de Pêra: several ovicellate colonies on stones collected in fishing boats on the beach (Souto *et al*., 2014).

Superfamily BUGULOIDEA Gray, 1848
Family BUGULIDAE Gray, 1848
Genus ***Bugula*** Oken, 1815

Bugula neritina (Linnaeus, 1758)

Ria de Aveiro (Marchini *et al.*, 2007). Vila Praia de Âncora, Nazaré Marina, Peniche Marina, Cascais, Oeiras Marina, Sines Marina, Albufeira Marina and unrecorded locality in Algarve (Ryland *et al*., 2011). Off Sado River: two colonies on seaweed (present paper: NHMUK 1872.2.3.137 C). Armaçao de Pêra: many colonies on fish traps (present paper).

Reference material revised: NHMUK 1872.2.3.137 C: Off Sado River, Portugal, S. Kent Coll.

Bugula calathus Ryland, 1962

Off coast of Portugal (no additional data, NHMUK 1899.7.1.4595); Armaçao de Pêra: on *Celleporina caminata* (Waters, 1879) collected from fishing nets (Souto *et al*., 2014).

Reference material revised: NHMUK 1899.7.1.4595: off coast of Portugal, HMS Porcupine, Busk Coll.

Bugula fulva Ryland, 1960

Beach of Baleal: several ovicellate colonies; Boca do Inferno (intertidal and 7 m depth): abundant on different substrates (with embryos) (present paper). Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b). Armaçao de Pêra: in fishing nets, on *Celleporina caminata* (Waters, 1879); Marina of Olhao (H. De Blauwe). Unrecorded localities, infra and circalittoral (Ryland, 1960; Prenant & Bobin, 1966; Saldanha, 1980).

Bugula turbinata Alder, 1857

Cascais, on seaweeds in the intertidal zone (Rosas, 1944). Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra at 19-20 m depth, on maërl beds with stones (Souto *et al*., 2010 b). Unrecorded locality in the Algarve (H. De Blauwe). Unrecorded localities, intertidal and infralittoral (Saldanha, 1980).

Bugula plumosa (Pallas, 1766)

Setúbal (Nobre, 1937). Costa da Arrábida (Saldanha, 1974).

Bugula stolonifera Ryland, 1960

Ria de Aveiro (Marchini *et al.*, 2007).

Bugula flabellata (Thompson *in* Gray, 1848)

Costa da Arrábida (Saldanha, 1974). Off Sado River; west coast Spain & Portugal (no additional data); Armaçao de Pêra, on *Pentapora foliacea* (Ellis & Solander, 1786) from fishing nets (Souto *et al*., 2014: NHMUK 1872.2.3.137 B, NHMUK 1872.2.3.146 B). Unrecorded localities (Rosas, 1944; Ryland, 1960).

Reference material revised: NHMUK 1872.2.3.137 B: Off Sado River Portugal, Saville-Kent Coll. NHMUK 1872.2.3.146 B: Norna Exp. 1870, west coast Spain and Portugal, S. Kent Coll.

****Bugula purpurotincta*** Norman, 1868

Cape Santa María (Nobre, 1937).

Remarks: According to Hayward & Ryland (1998) *B. purpurotincta* is a boreal-artic species, found in northern coast of the North Sea. As the work by Nobre (1937) does not include figures or descriptions, and the original material seems to be lost, we consider the present record as doubtful.

Genus ***Kinetoskias*** Daniellsen, 1868

Kinetoskias cyathus (Wyville Thomson, 1877)

36º23'N, 11º18'W: *Challenger* st. VI, at 2789 m depth (Wyville Thomson, 1877, as *Naresia cyathus*; Busk, 1884; NHMUK 1897.5.1.380, NHMUK 1899.7.1, NHMUK 1899.7.1.289, NHMUK 1899.7.1.289a, NHMUK 1919.6.24.10, NHMUK 1944.1.8.114, NHMUK 1963.8.18.19-21).

Reference material revised: NHMUK 1897.5.1.380, NHMUK 1899.7.1, NHMUK 1899.7.1.289, NHMUK 1899.7.1.289a, NHMUK 1919.6.24.10, NHMUK 1944.1.8.114, NHMUK 1963.8.18.19-21. All material from the type locality.

Genus ***Bicellariella*** Levinsen, 1909

Bicellariella ciliata (Linnaeus, 1758)

Molêdo do Minho on algae washed upon the beach, and in Leixões (Nobre, 1903 a, 1904, as *Bicellaria ciliata*). Foz do Douro, on seaweeds in the intertidal zone (Rosas, 1944, as *Bicellaria ciliata*). Vale Furado: some colonies mixed up with *Scrupocellaria scruposa* (Linnaeus, 1758); beach of Baleal: some ovicellate colonies (with embryos); beach of Galé: a small colony on seaweed (present paper). Armaçao de Pêra: in fishing nets (H. De Blauwe).

Genus ***Bugulella*** Verrill, 1879

Bugulella elegans Hayward, 1978

36º05.0'N, 08º05.6'W: *Balgim* DW107, at 1917 m depth (Harmelin & d'Hondt, 1992 a: MNHN 14925).

Reference material revised: MNHN 14925 (with more species): *Balgim* 84, DW107, 1909-1926 m, 10/VI/1984, a single zooid.

Genus ***Dendrobeania*** Levinsen, 1909

Dendrobeania sessilis (d'Hondt, 1974)

41º22.2'N, 09º09.8'W: *Thalassa* Y425, at 430 m depth (d'Hondt, 1974, as *Bugula neritina* subsp. *sessilis* n. subsp.: MNHN 7213).

Reference material revised: MNHN 7213: *Thalassa* Y425, 430 m, Paratype.

Genus ***Bugulopsis*** Verrill, 1880

Bugulopsis peachi (Busk, 1851)

Portinho da Arrábida, washed upon the beach (Rosas, 1944, as *Cellularia Peachii*).

Genus ***Sessibugula*** Osburn, 1950

Sessibugula barrosoi López de la Cuadra & García-Gómez, 1994

Armaçao de Pêra, on a stone collected from fishing nets (Souto *et al*., 2014).

Family BEANIIDAE Canu & Bassler, 1927

Genus ***Beania*** Johnston, 1840

Beania mirabilis (Johnston, 1840)

Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra at 19-21 m depth, on maërl beds (Souto *et al*., 2010 b). Unrecorded localities, intertidal and infralittoral (Saldanha, 1980).

Beania hirtissima (Heller, 1867)

Costa da Arrábida (Saldanha, 1974, as *Beania robusta* (Hincks, 1881) and *Beania hirtissima* (Heller, 1867)). Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b).

Remarks: According to Hayward & McKinney (2002) *B. hirtissima* and *B. robusta* are synonymes.

Family CANDIDAE d'Orbigny, 1851

Genus ***Canda*** Lamouroux, 1816

Canda ligata (Jullien, 1882)

40º34.4'N, 09º22.6'W: *Thalassa* Y415, at 450 m depth (d'Hondt, 1974, as *Caberea ligata*; Souto *et al*., 2011 b: MNHN 7200, 7207).

Reference material revised: MNHN 7200, 7207: *Thalassa* Y415, 450 m.

Genus ***Caberea*** Lamouroux, 1816

Caberea boryi (Audouin, 1826)

Costa da Arrábida (Saldanha, 1974). Cape Espichel (38º24.3'N 09º13.9'W) at 27-36 m depth (Pérès, 1959). Armaçao de Pêra at 19-20 m depth, on maërl beds with stones (Souto *et al*., 2010 b).

Genus ***Notoplites*** Harmer, 1923

Notoplites evocatus (Jullien, 1882)

41º43''00''N, 09º19''26''W: *Travailleur* 1881, Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Calvet, 1907, as *Bicellaria evocata*; Souto *et al*., 2011 b: MNHN 18323).

Reference material revised: MNHN 18323: *Travailleur* Dr. 2, 1068 m, 14/6/1881.

Genus ***Scrupocellaria*** van Beneden, 1845

Remarks: This genus is currently under revision (L.M. Vieira, pers. comm.). Previous records from Portuguese waters are pending on future revision.

Scrupocellaria scruposa (Linnaeus, 1758)

Foz do Douro and Cascais, on seaweeds and bryozoans in the intertidal zone (Rosas, 1944). Buarcos, on *Mytilus*; Vale Furado, some ovicellate colonies; beach of Baleal, many ovicellate colonies; Boca do Inferno (0-7 m depth), some colonies on *Chartella papyracea* (present paper). Ponta do Baleal (Costa de Peniche) intertidal (Marques *et al*., 1982). Costa da Arrábida (Saldanha, 1974). 36º53'00''N, 08º31'46''W: *Talisman* 1883, D. 2, some branches collected at 99 m depth (Calvet, 1907). Albufeira, some colonies (present paper).

Scrupocellaria scrupea Busk, 1852

Cascais, intertidal on seaweeds (Rosas, 1944). Costa da Arrábida (Saldanha, 1974). Cape Roca (38º46.5'N 09º34.4'W) at 80 m depth (Pérès, 1959). Armaçao de Pêra at 19 m depth, on maërl bottom with stones (Souto *et al*., 2010 b).

Scrupocellaria incurvata Waters, 1896

41º18.6'N, 09º13.8'W: *Thalassa* Y394, at 410 m depth, on sandy bottom; 40º45.6'N, 09º19'W: *Thalassa* Y400, at 800 m depth on muddy bottom (Hayward, 1979: MNHN 18363). 40º34.2'N, 09º22.4'W: *Thalassa* Y409, at 405 m depth (d'Hondt, 1974). 35º30.5'N, 07º46.1'W: *Balgim*

DW64, at 1530 m depth (Harmelin & d'Hondt, 1992 a).

Reference material revised: MNHN 18363: *Thalassa* 1972, Y394.

Scrupocellaria delilii (Audouin, 1826)
Costa da Arrábida (Saldanha, 1974).

Genus ***Cradoscrupocellaria*** Vieira, Spencer Jones & Winston, 2013

****Cradoscrupocellaria reptans*** (Linnaeus, 1758)

Mindelo, Foz do Douro, Cascais and Portinho da Arrábida, on seaweeds in the intertidal zone (Rosas, 1944, as *Scrupocellaria reptans*). Foz do Douro, on *Laminaria* (Nobre, 1903 a, 1904, as *Scrupocellaria reptans*). Berlengas, Sesimbra and Lagos (Nobre, 1937, as *Scrupocellaria Eeptans* [sic]). Berlenga (Nobre & Braga 1942, as *Scrupocellaria reptans*). Estoril, on seaweeds (Nobre, 1903 b, 1904, as *Scrupocellaria reptans*). Costa da Arrábida (Saldanha, 1974, as *Scrupocellaria reptans*). Cape Espichel (38º24.3'N 09º13.9'W) at 27-36 m depth (Pérès, 1959, as *Scrupocellaria reptans*). Unrecorded localities, infralittoral, on seaweeds and *Mytilus* (Saldanha, 1980, as *Scrupocellaria reptans*).

Remarks: *Sertularia reptans* has been recently redescribed by Vieira & Spencer Jones (2012) and many of its previous records have been transferred to other, newly described species (see Vieira *et al*., 2013). Records of *C. reptans* in Portugal are then uncertain, but as original material no longer exists, it will be necessary to collect new material to confirm or not the presence of this species in Portuguese waters.

Genus ***Tricellaria*** Fleming, 1828

Tricellaria inopinata d'Hondt & Occhipinti Ambrogi, 1985
Ria de Aveiro (Marchini *et al.*, 2007).

Superfamily MICROPOROIDEA Gray, 1848
Family MICROPORIDAE Gray, 1848
Genus ***Micropora*** Gray, 1848

****Micropora coriacea*** (Johnston, 1847)

Foz do Douro, on corals (Rosas, 1944, as *Micropora coriacea* Esper).

Remarks: *Micropora coriacea* and *Micropora normani* Levinsen, 1909 have been frequently mistaken, so we cannot be sure about the present identification.

Genus ***Mollia*** Lamouroux, 1821

Mollia patellaria (Moll, 1803)
Costa da Arrábida (Saldanha, 1974).

Mollia cristinae Souto, Reverter-Gil & Fernández-Pulpeiro, 2010

Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b: MNCN 25.03/3775, MNCN 25.03/3776-3777). Armaçao de Pera on stones collected in fishing boats (present paper).

Reference material revised: MNCN 25.03/3775: 37º01'14.8''N, 08º11'11.6''W, 19 m, holotype. MNCN 25.03/3776-3777: paratypes, same locality as holotype.

Family SETOSELLIDAE Levinsen, 1909
Genus ***Setosella*** Hincks, 1877

Setosella vulnerata (Busk, 1860)

41º43'00''N, 09º19'26''W: *Travailleur* 1881 Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883; Calvet, 1907; Reverter-Gil & Fernández-Pulpeiro, 2001; Reverter-Gil *et al*., 2012: MNHN 1982). 40º45.6'N, 09º19'W: *Thalassa* Y400, at 800 m depth on muddy bottom; 40º33.1'N, 09º26.5'W: *Thalassa* Y405, at 1170 m depth on muddy bottom (Hayward, 1979; Reverter-Gil *et al*., 2012: MNHN 8414, MNHN 8415). 36º35.9'N, 07º24.5'W: *Balgim* DW20, at 452 m depth (Harmelin & d'Hondt, 1992 a). 36°46.2'N 09°26.8'W: *Balgim* DR06, at 1114 m depth on shells bottom (present paper: MNHN 19806).

Reference material revised: MNHN 1982: *Travailleur*, 1881, D. 2 (1ere sér.), 1068 m, Coll. Calvet. MNHN 8414 (with more species): *Thalassa* 1972 Y400. MNHN 8415 (with more species): *Thalassa* 1972 Y405. MNHN 19806 (with more species): *Balgim* DR06, 29/5/84. 1112-1114 m.

***Setosella* sp**.

36º46.1'N 09º27.0'W: *Balgim* DW07, one colony on grain of sand at 1139-1144 m depth

(Harmelin & d'Hondt, 1992 a, as *Setosella vulnerata*; Reverter-Gil *et al.*, 2012: MNHN 15487).

Reference material revised: MNHN 15487: *Balgim* 84. DW07, 29/5, 1139-1144 m.

Setosella folini Jullien, 1882

38º06'00''N, 09º10'46''W: *Travailleur* Dr. 25, three zooids collected at 460 m depth (Souto *et al*., 2011 b: MNHN 484). 36º46.1'N 09º27.0'W: *Balgim* DW07, at 1139-1144 m depth; 36º46.4'N 09º30.1'W: *Balgim* KR15, at 1305 m depth (Harmelin & d'Hondt, 1992 a; Souto *et al*., 2011 b: MNHN 15487, MNHN 15492). 36º44.2'N, 09º31.4'W: *Balgim* DW11, at 1523 m depth; 36º45.8'N, 09º29.4'W: *Balgim* DW16, at 1283 m depth (Harmelin & d'Hondt, 1992 a).

Reference material revised: MNHN 484: *Travailleur* Dr. 25, 460 m. MNHN 15487 (with more species): *Balgim* DW07, 1139-1144 m. MNHN 15492: *Balgim* KR15, 1305 m.

Superfamily CELLARIOIDEA Fleming, 1828
Family CELLARIIDAE Fleming, 1828
Genus ***Cellaria*** Ellis & Solander, 1786

Cellaria sinuosa (Hassall, 1841)

41º30.7'N, 09º19.9'W: *Thalassa* Y374, at 1250 m depth on muddy bottom (Hayward, 1979). Costa da Arrábida (Saldanha, 1974).

Cellaria fistulosa (Linnaeus, 1758)

Peniche (Nobre, 1937). Berlenga (Nobre & Braga, 1942). Estoril and Setúbal, washed upon the beach (Nobre, 1903 b, 1904). Costa da Arrábida (Saldanha, 1974, as *Cellaria salicornia* (Pallas 1766)). Unrecorded localities, infralittoral and circalittoral (Bethencourt-Ferreira, 1923, as *Salicornaria farciminoides* Johnston; Saldanha, 1980, as *Cellaria salicornia* (Pallas, 1766)).

Cellaria salicornioides Lamouroux, 1816

36º32'N, 11º38'30''W: *Princesse Alice* st. 2731, some colonies collected at 65-90 m depth; 36º31'30''N, 11º34'W: *Princesse Alice* st. 1664, some colonies collected at 116 m depth, on pebbles bottom (Calvet, 1931).

Cellaria cf. ***salicornioides*** Lamouroux, 1816

41°12.2'N, 09°21.4'W: *Poseidon* st. 3, at 850-1000 m depth (Souto *et al*., 2014: MB37-000017).

Reference material revised: MB37-000017: "Poseidon" st. 3, 41°12.2'N, 09°21.4'W, 850-1000 m, 20/11/1984.

Genus ***Euginoma*** Jullien, 1882

Euginoma vermiformis Jullien, 1882

41º30.7'N, 09º19.9'W: *Thalassa* Y374, at 1250 m depth on muddy bottom; 40º36.8'N, 09º21.5'W: *Thalassa* Y401, at 1040 m depth on muddy bottom; 40º33.5'N, 09º24'W: *Thalassa* Y407, at 740 m depth on muddy and sandy bottom (Hayward, 1979). 40º33.1'N, 09º26.5'W: *Thalassa* Y405, at 1170 m depth on muddy bottom (Hayward, 1979; Souto *et al*. 2011b: MNHN 8415). 36º44.2'N, 09º31.4'W: *Balgim* DW11, at 1523 m depth; 36º46.1'N, 09º27.0'W: *Balgim* DW07, at 1141 m depth; 36º05.0'N, 08º05.6'W: *Balgim* DW107, at 1917 m depth (Harmelin & d'Hondt, 1992 a; Souto *et al*., 2011 b: MNHN 14925, MNHN 15487, MNHN 15493). 36º45.8'N, 09º29.4'W: *Balgim* DW16, at 1283 m depth; 36º44.1'N, 09º27.6'W: *Balgim* CP14, at 1318 m depth; 36º10.8'N, 08º06.2'W: *Balgim* CP108, at 1527 m depth; 36º19.8'N, 07º40.6'W: *Balgim* CP155, at 903 m depth (Harmelin & d'Hondt, 1992 a). 36°46.2'N, 09°26.8'W: *Balgim* DR06, at 1114 m depth on shells bottom (present paper: MNHN 19806).

Reference material revised: MNHN 8415 (with more species): *Thalassa* Y405, 1170 m. MNHN 14925 (with more species): *Balgim* DW107, 1909-1926 m. MNHN 15487 (with more species): *Balgim* DW07, 1139-1144 m. MNHN 15493 (with more species): *Balgim* DW11, 1505-1540 m. MNHN 19806 (with more species): *Balgim* DR06, 29/5/84, 1112-1114 m.

Euginoma reticulata d'Hondt, 1981

36º44.2'N, 09º31.4'W: *Balgim* DW11, at 1523 m depth (Harmelin & d'Hondt, 1992 a: MNHN 15493).

Reference material revised: MNHN 15493 (with more species): *Balgim* DW11, 1505-1540 m.

Superfamily *Incertae Sedis*
Family JUBELLIDAE Reverter-Gil & Fernández-Pulpeiro, 2001
Genus ***Jubella*** Jullien, 1882

Jubella enucleata Jullien, 1882

41º18.6'N, 09º13.8'W: *Thalassa* Y394, at 410 m depth on pebbles and muddy bottom (Hayward, 1979; Souto *et al*., 2011 b: MNHN 8453). 40º34.3'N, 09º22.6'W: *Thalassa* Y415, at 450 m depth (d'Hondt, 1974; Souto *et al*., 2011 b: MNHN 7204).

Reference material revised: MNHN 7204: *Thalassa* Y415, 450 m. MNHN 8453: *Thalassa* Y394, 410 m.

Infraorder ASCOPHORA Levinsen, 1909
"Grade" ACANTHOSTEGA Levinsen, 1902
Superfamily CRIBRILINOIDEA Hincks, 1879
Family CRIBRILINIDAE Hincks, 1879
Genus ***Membraniporella*** Smitt, 1873

Membraniporella nitida (Johnston, 1838)

Foz do Douro, on stones in the intertidal zone (Rosas, 1944). Boca do Inferno at 7 m depth, several ovicellate colonies on *Balanus*, seaweeds and Porifera (present paper). Costa da Arrábida (Saldanha, 1974). Cave at Sagres (Harmelin, 2001). Armaçao de Pêra at 19-21 m depth (Souto *et al.*, 2010 b). Armaçao de Pêra, several colonies on stones collected in fishing boats (H. De Blauwe).

Genus ***Distansescharella*** d'Orbigny, 1853

Distansescharella alcicornis (Jullien, 1882)

41º43'00''N, 09º19'26''W: *Travailleur* 1881, Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883, as *Cribrilina alcicornis*; Calvet, 1907, as *Cribrilina alcicornis*; Reverter-Gil & Fernández-Pulpeiro, 2001, as *Cribrilina alcicornis*: MNHN 418). 41º19.4'N, 09º14.4'W: *Thalassa* Y395, at 810 m depth; 40º34.4'N, 09º22.1'W: *Thalassa* Y410, at 360 m depth (d'Hondt, 1974, as *Cribrilina alcicornis*). 41°09.3'N, 09°20'W: *Poseidon* st. 2, at 800-900 m depth (present paper: MB37-000034).

Reference material revised: MNHN 418: *Travailleur*, 1881, D. 2, 1068 m, type. MB37-000034: "Poseidon" st. 2, 41°09.3'N, 09°20'W, 800-900 m, 20/11/1984, rede arrasto.

Genus ***Collarina*** Jullien, 1886

Collarina balzaci (Audouin, 1826)

Armaçao de Pêra at 21 m depth, on maërl beds (Souto *et al*., 2010b).

Genus ***Puellina*** Jullien, 1886

Puellina (Puellina) setosa (Waters, 1899)

Abundant in dark zones in caves at Sagres (Boury-Esnault *et al*., 2001; Harmelin, 2001).

Puellina (Cribrilaria) venusta Canu & Bassler, 1925

41º22.8'N, 09º08.2'W: *Thalassa* Y390, at 140 m depth (d'Hondt, 1974, as *Cribrilaria radiata* (Moll); Reverter-Gil & Fernández-Pulpeiro, 2001; MNHN 7184). 40º01'N, 9º44'W: *C.E. Charcot* St. 1, at 130 m depth (Souto *et al.*, 2014: MNHN 6769). 38º16.8'N 08º56.4'W: *Faial 1957*, at 250-300 m depth, on *Coenocyathus*; 37º14.7'N 09º01.5'W: at 114-117 m depth, on *Dendrophyllia* (Harmelin, 1978, as *Cribrilaria venusta*). Armaçao de Pêra: several ovicellate colonies on stones collected from fishing nets (Souto *et al*., 2014).

Reference material revised: MNHN 6769 (with more species): 40°01'N 9°44'W, 130 m, C.E. Charcot, 3-12-1968, St.1, dét. d'Hondt, 1970. MNHN 7184: St. Y390, Bry-THE2-Y390, 140 m, 41°22.8'N et 09°08.2'W.

Remarks. Rosas (1944) reported *Cibrilina radiata* (Moll, 1803) from Foz do Douro, on stones and shells in the intertidal. However, *Puellina radiata* is considered a Mediterranean species, and its previous records from the Atlantic may belong to different species (see Bishop & Household, 1987, Reverter & Fernández, 1996). Therefore, it is impossible to know the validity of that record without revising the original material.

Puellina (Cribrilaria) scripta (Reuss, 1848)

36º36.5'N, 07º24.0'W: *Balgim* CP21, at 485 m depth (Harmelin & Arístegui, 1988; Harmelin & d'Hondt, 1992 a).

Puellina (Cribrilaria) innominata (Couch, 1844)

Armaçao de Pêra, at 19-21 m depth, on maërl beds (Souto *et al*., 2010 b).

Puellina (Cribrilaria) hincksi (Friedl, 1917)

Cave at Sagres (Harmelin, 2001). Armaçao de Pêra: one large ovicellate colony from fishing nets, on a stone (Souto *et al*., 2014).

Puellina (Cribrilaria) arrecta Bishop & Household, 1987

Armaçao de Pêra, at 21 m depth on maërl beds (Souto *et al*., 2010 b).

Puellina (Glabrilaria) orientalis lusitanica Harmelin, 1988

38º16.8'N 08º56.4'W: *Faial 1957*, st. SME 1192, at 250-300 m depth (Harmelin, 1988).

Puellina (Glabrilaria) pedunculata Gautier, 1956

38º16.8'N 08º56.4'W: *Faial 1957*, at 250-300 m depth, on *Coenocyathus* (Harmelin, 1978, as *Cribrilaria pedunculata*).

Puellina saldanhai Harmelin, 2001

Caves at Sagres (Harmelin, 2001).

Reference material: According to Tricart & d'Hondt (2009), the sample MNHN 20209 is the holotype of the species, and MNHN 20210 is the paratype, both coming from Sagres.

Genus ***Figularia*** Jullien, 1886

Figularia figularis (Johnston, 1847)

Armaçao de Pêra: one ovicellate colony on a stone collected from fishing nets (Souto *et al*., 2014).

Superfamily CATENICELLOIDEA Busk, 1852
Family SAVIGNYELLIDAE Vigneaux, 1949
Genus ***Savignyella*** Levinsen, 1909

Savignyella lafontii (Audouin, 1826)

Costa da Arrábida (Saldanha, 1974).

"Grade" HIPPOTHOOMORPHA Gordon, 1989
Superfamily HIPPOTHOOIDEA Busk, 1859
Family HIPPOTHOIDAE Busk, 1859
Genus ***Hippothoa*** Lamouroux, 1821

Hippothoa divaricata Lamouroux, 1821

Costa da Arrábida (Saldanha, 1974, as *Hippotoa divaricata*). Portinho da Arrábida, on shells (Rosas, 1944). Armaçao de Pêra, at 19-21 m depth, on maërl beds (Souto *et al*., 2010 b).

Hippothoa flagellum Manzoni, 1870

Foz do Douro, on shells (Rosas, 1944). 36º21.0'N, 07º55.8'W: *Balgim* DW157, at 1108 m depth (Harmelin & d'Hondt, 1992 a).

Genus ***Plesiothoa*** Gordon & Hastings, 1979

Plesiothoa gigerium (Ryland & Gordon, 1977)

Ponta do Baleal (Costa de Peniche) intertidal (Marques *et al*., 1982).

Genus ***Celleporella*** Gray, 1848

Celleporella hyalina (Linnaeus, 1767)

Foz do Douro, on *Laminaria* and red algae (Nobre, 1903 a, 1904, as *Schizoporella hyalina*). Foz do Douro, Cascais and Portinho da Arrábida (Rosas, 1944, as *Schizoporella hyalina*). Ponta do Surdão (Costa de Peniche) intertidal (Marques *et al*., 1982). Leça de Palmeira, some small colonies on seaweed, with embryos; Buarcos, some ovicellate colonies on *Mytilus*, with embryos; Vale Furado, some ovicellate colonies on *Mytilus*; beach of Baleal, on seaweeds, with embryos; Boca do Inferno (0-7 m), several ovicellate colonies on seaweeds, with embryos (Souto *et al*., 2014). Estoril, on seaweeds (Nobre, 1903 b, 1904, as *Schizoporella hyalina*). Costa da Arrábida (Saldanha, 1974). Unrecorded locality, infralittoral (Saldanha, 1980).

Remarks: *Celleporella hyalina* and *Celleporella angusta* Álvarez are two closely related species with overlapping distributions. As the later species was described some 20 years ago, previous records of *C. hyalina* from Portugal, made by Nobre (1903 a, b, 1904), Rosas (1944), Saldanha (1974) and Marques *et al*. (1982), may actually correspond to any of both species.

Celleporella angusta Álvarez, 1991

Vale Furado: several ovicellate colonies (with embryos) on the alga *Hypnea* sp. (Souto *et al.*, 2014).

Family HAPLOPOMIDAE Gordon *in* De Blauwe, 2009
Genus ***Haplopoma*** Levinsen, 1909

Haplopoma impressum (Audouin, 1826)

Cape Papoa (Costa de Peniche) intertidal (Marques *et al*., 1982). Estoril, on seaweeds (Nobre, 1903 b, 1904, as *Microporella impressa*). Cascais and Portinho da Arrábida, on seaweeds in the intertidal zone (Rosas, 1944, as *Microporella impressa*). Costa da Arrábida (Saldanha, 1974). Balieira (Nobre, 1937, as *Microporella impressa*).

Haplopoma graniferum (Johnston, 1847)

Ria de Aveiro (Marchini *et al.*, 2007). Ponta do Surdão and Cape Papoa (Costa de Peniche) intertidal (Marques *et al*., 1982). Leça de Palmeira: some ovicellate colonies on *Mytilus* and *Balanus*; Buarcos: abundant on *Mytilus* (with embryos); Vale Furado: some ovicellate colonies; beach of Baleal: abundant on *Mytilus* (with embryos); beach of Galé: on *Mytilus* and *Balanus* (with embryos) (present paper). Sagres, intertidal (H. De Blauwe).

Haplopoma bimucronatum (Moll, 1803)

Ponta do Baleal (Costa de Peniche) intertidal (Marques *et al*., 1982). Costa da Arrábida (Saldanha, 1974). Albufeira, intertidal, one colony on alga (present paper). Unrecorded locality, infra and circalittoral (Saldanha, 1980).

Haplopoma sciaphilum Silén & Harmelin, 1976

Caves at Sagres (Boury-Esnault *et al*., 2001).

Family CHORIZOPORIDAE Vigneaux, 1949
Genus ***Chorizopora*** Hincks, 1879

Chorizopora brongniartii (Audouin, 1826)

Boca do Inferno, a young colony on seaweed (present paper). Cascais and Portinho da Arrábida, on seaweeds in the intertidal zone (Rosas, 1944). Costa da Arrábida (Saldanha, 1974). 36º31'N 11º33'45''W: *Princesse Alice* st. 467, at 60 m depth on sand, shells and stones bottom (Calvet, 1931). Abundant in dark zones in caves at Sagres (Boury-Esnault *et al*., 2001). Sagres, intertidal (H. De Blauwe). Armaçao de Pêra, at 19-21 m depth, on maërl beds (Souto *et al*., 2010 b). Armaçao de Pêra, several colonies on stones collected in fishing boats (H. De Blauwe).

Family TRYPOSTEGIDAE Gordon, Tilbrook & Winston *in* Winston, 2005
Genus ***Trypostega*** Levinsen, 1909

Trypostega venusta (Norman, 1864)

Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b).

Family PASYTHEIDAE Davis, 1934
Genus ***Gemellipora*** Smitt, 1873

Gemellipora eburnea Smitt, 1873

40º05'N, 09º54'W: *Princesse Alice* st. 2743, at 1241 m depth (Calvet, 1931, as *Pasythea eburnea*). 36º21.0'N, 07º55.8'W: *Balgim* DW157, at 1108 m depth (Harmelin & d'Hondt, 1992 a).

"Grade" UMBONULOMORPHA Gordon, 1989
Superfamily ADEONOIDEA Busk, 1884
Family ADEONIDAE Busk, 1884
Genus ***Adeonellopsis*** MacGillivray, 1886

Adeonellopsis distoma (Busk, 1858)

36º31'30''N, 11º34'W: *Princesse Alice* st. 1664, a fragment collected at 116 m depth, on pebbles bottom; 36º08'N, 08º02'45''W: *Princesse Alice* st. 1248, several branches collected at 1500 m depth on muddy bottom (Calvet, 1931).

Genus ***Reptadeonella*** Busk, 1884

Reptadeonella violacea (Johnston, 1847)

Portinho da Arrábida, on a shell washed upon the beach (Rosas, 1944, as *Microporella violacea*).

Superfamily LEPRALIELLOIDEA Vigneaux, 1949

Family LEPRALIELLIDAE Vigneaux, 1949

Genus ***Celleporaria*** Lamouroux, 1821

Celleporaria brunnea (Hincks, 1884)

Cascais, on PVC plates (Canning-Clode *et al*., in press).

Family BRYOCRYPTELLIDAE Vigneaux, 1949

Genus ***Porella*** Gray, 1848

Porella compressa (J. Sowerby, 1805)

Parede, on *Haliotis tuberculata*, and Setúbal, on *Murex trunculus* (Nobre, 1903 b, 1904). Cape Roca (38º46.3'N 09º32'W) at 52 m depth; Malhada (38º16'N 08º49.2'W) at 43 m depth; Cape Saint Vincent (37º01.3'N 09º00.8'W) at 49 m depth; Sagres (36º58'N 08º55.6'W) at 65 m depth (Pérès, 1959).

Genus ***Porelloides*** Hayward, 1979

Porelloides laevis (Fleming, 1828)

41º34.6'N, 09º15.2'W: *Thalassa* Y375, at 460 m depth; 41º22.8'N, 09º08.2'W: *Thalassa* Y390 at 140 m depth; 41º22.2'N, 09º09.8'W: *Thalassa* Y425, at 430 m depth; 41º21.9'N, 09º10.3'W: *Thalassa* Y389, at 570 m depth; 40º45.8'N, 09º17.5'W: *Thalassa* Y399, at 330 m depth; 40º34.3'N, 09º22.6'W: *Thalassa* Y415, at 450 m depth (d'Hondt, 1974, as *Porella laevis*). Unrecorded locality (Bethencourt Ferreira, 1923, as *Porella laevis*).

Genus ***Palmiskenea*** Bishop & Hayward, 1989

Palmiskenea skenei (Ellis & Solander, 1786)

41º20.6'N, 09º10.8'W: *Thalassa* Y393, at 820 m depth on muddy bottom (Hayward, 1979, as *Palmicellaria skenei*).

Palmiskenea tenuis (Calvet, 1906)

41º21.5'N, 09º10.7'W: *Thalassa* Y422, at 520 m depth (d'Hondt, 1974, as *Palmicellaria tenuis*).

Incertae Sedis

"***Palmicellaria" inermis*** Jullien, 1882

40º45.6'N, 09º19'W: *Thalassa* Y400, at 800 m depth on muddy bottom (Hayward, 1979). 40º34.3'N, 09º22.6'W: *Thalassa* Y415, at 450 m depth (d'Hondt, 1974, as *Marguetta pulchra* Jullien, 1903; d'Hondt, 1974, as *Palmicellaria inermis*; Reverter-Gil & Fernández-Pulpeiro, 2001: MNHN 7208).

Reference material revised: MNHN 7208: *Thalassa* Y415, 450 m.

Remarks: This species needs to be redescribed.

Genus ***Marguetta*** Jullien *in* Jullien & Calvet, 1903

Marguetta lorea (Alder, 1864)

40º45.6'N, 9º19'W: *Thalassa* Y400, at 800 m depth on muddy bottom (Hayward, 1979, as *Palmicellaria lorea*).

Family ROMANCHEINIDAE Jullien, 1888

Genus ***Escharoides*** Edwards, 1836

Escharoides coccinea (Abildgaard, 1806)

Cascais, on seaweeds in the intertidal zone (Rosas, 1944, as *Mucronella coccinea*). Costa da Arrábida (Saldanha, 1974). Caves at Sagres (Boury-Esnault *et al*., 2001). Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b). Armaçao de Pêra, several colonies on stones collected in fishing boats (H. De Blauwe).

Genus ***Escharella*** Gray, 1848

Escharella immersa (Fleming, 1828)

Buarcos and Sagres (Nobre, 1937, as *Mucronella Peachii*). 36º53'00''N, 08º31'46''W: *Talisman* Dr. 2, at 99 m depth, on sandy and shells bottom (Calvet, 1907, as *Smittia Peachi* (Johnston)).

Escharella ventricosa (Hassall, 1842)

Foz do Douro, on a coral (Rosas, 1944, as *Mucronella ventricosa*). Armaçao de Pêra: one colony on a stone collected in fishing boats on the beach (Souto *et al*., 2014).

Escharella variolosa (Johnston, 1838)

Costa da Arrábida (Saldanha, 1974 marked with "?"). Armaçao de Pêra: several ovicellate colonies on stones, collected in fishing boats on the beach (Souto *et al*., 2014).

Escharella longicollis (Jullien, 1882)

41º43'00''N, 09º19'26''W: *Travailleur* Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883, as *Mucronella longicollis*; Calvet, 1907, as *Smittia longicollis*; Reverter-Gil & Fernández-Pulpeiro, 1999 b, 2001: MNHN 261, MNHN 1676, MNHN 3749, MNHN 3750, MNHN 3752, MNHN 4096). 41°09.3'N, 09°20'W: *Poseidon* st. 2, at 800-900 m depth (present paper: MB37-000036). 40º34.4'N, 09º22.1'W: *Thalassa* Y410, at 360 m depth (d'Hondt, 1974, as *Escharella microstoma* (Osburn); Reverter-Gil & Fernández-Pulpeiro, 1999 b, 2001: MNHN 7199). 36º21.0'N, 07º55.8'W: *Balgim* DW157 at 1108 m depth (Harmelin & d'Hondt, 1992 a).

Reference material revised: MNHN 261, MNHN 1676 (type), MNHN 3749 (with more species), MNHN 3750 (type), MNHN 3752 (with more species; type), MNHN 4096 (type): *Travailleur* D.2, 1068 m, 14/6/1881. MNHN 7199: *Thalassa* Y410, 360 m. MB37-000036: "Poseidon" st. 2, 41°09.3'N, 09°20'W, 800-900 m, 20/11/1984, rede arrasto.

****Escharella abyssicola*** (Norman, 1868)

41º43'00''N, 09º19'26''W: *Travailleur* Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Calvet, 1907, as *Mucronella abyssicola*).

Remarks: Calvet (1907) stated that this species was reported at this station by Milne-Edwards, but the original material no longer existed and was not revised. *Escharella abyssicola* is a boreal-arctic species that reaches the Bay of Biscay in deep, cold water (Hayward & Ryland, 1999). A previous record of this species made by d'Hondt (1973) from the NW of the Iberian Peninsula really corresponds to *E. longicollis* (see Reverter-Gil & Fernández-Pulpeiro, 1999 b), a species also present in the same locality where *E. abyssicola* was reported (see above). Therefore, although the presence of *E. abyssicola* in Iberian deep waters is not imposible, we consider the present record as doubtful.

Genus ***Temachia*** Jullien, 1882

Temachia opulenta Jullien, 1882

41º43'00''N, 09º19'26''W: *Travailleur* Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883; Calvet, 1907; Reverter-Gil & Fernández-Pulpeiro, 1999 a, 2001: MNHN 1065, MNHN 2799, MNHN 2979).

Reference material revised: MNHN 1065: *Travailleur* D.2, 1068 m, 14/6/1881, lectotype. MNHN 2799 (with more species), MNHN 2979 (paralectoype): same locality as lectotype.

Genus ***Hemicyclopora*** Norman, 1894

***Hemicyclopora* sp**.

41°09.3'N, 09°20'W: *Poseidon* st. 2, at 800-900 m depth, two ovicellate colonies and a young colony with ancestrula; Ferragudo (Portimão): two colonies on stone and shell, collected from fishing nets (Souto *et al*., 2014: MB37-000035).

Reference material revised: MB37-000035: Poseidon st. 2, 41°09.3'N, 09°20'W, 800-900 m, 20/11/1984.

Family UMBONULIDAE Canu, 1904

Genus ***Umbonula*** Hincks, 1880

Umbonula ovicellata Hastings, 1944

Cascais, on PVC plates (Canning-Clode *et al*., in press). Armaçao de Pêra, a small colony on a stone collected in fishing boats (Souto *et al*., 2014).

Remarks: In Portugal there may have been a single previous record from Portinho da Arrábida, reported as *Umbonula verrucosa* by Rosas (1944) but we cannot comment on the true identity of that material.

Family TESSARADOMIDAE Jullien & Calvet, 1903

Genus ***Tessaradoma*** Norman, 1869

Tessaradoma boreale (Busk, 1860)

40º45.6'N, 09º19'W: *Thalassa* Y400, at 800 m depth on muddy bottom (Hayward, 1979: MNHN 8414).

Reference material revised: MNHN 8414 (with more species): *Thalassa* 1972, Y400.

Tessaradoma gracile (Sars, 1850)

40º45.8'N, 09º17.5'W: *Thalassa* Y399, at 330 m depth (d'Hondt, 1974).

"Grade" LEPRALIOMORPHA Gordon, 1989

Superfamily SMITTINOIDEA Levinsen, 1909

Family SMITTINIDAE Levinsen, 1909

Genus ***Smittina*** Norman, 1903

Smittina landsborovii (Johnston, 1847)

Foz do Douro and Cascais, on stones in the intertidal zone, and on corals (Rosas, 1944, as *Smittia Landsborovii*). Boca do Inferno at 7 m depth, several colonies with ovicells and embryos, on *Sabellaria* (present paper). Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra at 19-20 m depth, on maërl beds (Souto *et al*., 2010 b). Armaçao de Pêra: several colonies on coralline red algae collected in fishing boats (H. De Blauwe).

Smittina crystallina (Norman, 1867)

40º45.6'N, 9º19'W: *Thalassa* Y400 at 800 m depth on muddy bottom (Hayward, 1979). 36º36.5'N, 07º24.0'W: *Balgim* CP21, at 485 m depth (Harmelin & d'Hondt, 1992 a).

Smittina cervicornis (Pallas, 1766)

37º40.8'N, 08º50.7'W: at 54 m depth (Pérès, 1959, as *Porella cervicornis*). Ferragudo (Portimão): in fishing boats (Souto *et al*., 2014).

Smittina affinis (Hincks, 1862)

Armaçao de Pêra: some ovicellate colonies on stones collected in fishing nets (Souto *et al*., 2014).

Smittina jordii Reverter-Gil & Fernández-Pulpeiro, 1999

40°08.2'N, 09°50.5'W: *Poseidon* st. 12, at 1050 m depth; 39°12.1'N, 10°09.2'W: *Poseidon* st. 15, at 450-520 m depth (Souto *et al*., 2014: MB37-000018, MB37-000019).

Reference material revised: MB37-000018: "Poseidon" st. 12, 40°08.2'N, 09°50.5'W, 1050 m, 21/11/1984. MB37-000019: "Poseidon" st. 15, 39°12.1'N, 10°09.2'W, 450-520 m, 22/11/1984.

Genus ***Prenantia*** Gautier, 1962

Prenantia cheilostoma (Manzoni, 1869)

Armaçao de Pêra, at 20 m depth (Souto *et al*., 2010 b).

Prenantia spectrum (Jullien, 1882)

41º43'00''N, 09º19'26''W: *Travailleur* Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Reverter-Gil & Fernández-Pulpeiro, 1999 a, 2001: MNHN 3900).

Reference material revised: MNHN 3900 (with more species): *Travailleur* 1883, D.2, 1068 m, 14/6/1881.

Genus ***Smittoidea*** Osburn, 1952

Smittoidea reticulata (MacGillivray, 1842)

Foz do Douro, on a coral (Rosas, 1944, as *Smittia reticulata*). Armaçao de Pêra at 21 m depth, on maërl beds (Souto *et al*., 2010 b). Armaçao de Pera, on *Pentapora* collected in fishing boats (H. De Blauwe).

Genus ***Pseudoflustra*** Bidenkap, 1897

Pseudoflustra perrieri (Jullien, 1882)

40º45.6'N, 09º19'W: *Thalassa* Y400, at 800 m depth on muddy bottom (Hayward, 1979, as *Smittoidea perrieri*; Kuklinski *et al*., 2013; MNHN 8414).

Reference material revised: MNHN 8414 (with more species): *Thalassa* 1972, stn. Y400, 800 m.

Pseudoflustra radeki Kuklinski *et al*., 2013

40º34.3'N, 09º22.6'W: *Thalassa* Y415, at 450 m depth (d'Hondt, 1974, as *Pseudoflustra aviculata* (Calvet, 1906); Kuklinski *et al*., 2013).

Reference material: According to Kuklinski *et al*. (2013), MNHN 7206 is the holotype of the species, and MNHN 7209 is the paratype, both coming from *Thalassa* Y415.

Family BITECTIPORIDAE MacGillivray, 1895

Genus ***Hippoporina*** Neviani, 1895

Hippoporina polygonia (Jullien, 1882)

41º43'00''N, 09º19'26''W: *Travailleur* Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883, as *Lepralia polygonia*; Calvet, 1907, as *Lepralia polygonia*; Reverter-Gil & Fernández-Pulpeiro, 1999 a; 2001: MNHN 2417, MNHN 2424, MNHN 3900). 41º22.4'N, 09º11.4'W: *Thalassa* Y426, at 600 m depth (d'Hondt, 1974, as *Dakaria polygonia*)).

Reference material revised: MNHN 2417: *Travailleur* D. 2, 1068 m, 14/6/1881, lectotype. MNHN 2424, 3900 (with more species): same locality as lectotype.

Hippoporina teresae Souto, Reverter-Gil & Fernández-Pulpeiro, 2010

Armaçao de Pêra, at 19-21 m depth, on maërl beds (Souto *et al.*, 2010 b: MNCN 25.03/3778, MNCN 25.03/3779, MNCN 25.03/3780).

Reference material revised: MNCN 25.03/3778: 37º00'59.3''N, 08º11'25.4''W, 21 m, holotype. MNCN 25.03/3779: paratype, same locality as holotype. MNCN 25.03/3780: 37º01'14.8''N, 08º11'11.6''W, 19 m, paratype.

***Hippoporina* sp**.

40º36.8'N, 09º21.5'W: *Thalassa* Y401, at 1040 m depth (d'Hondt, 1974: MNHN 7194).

Reference material revised: MNHN 7194: *Thalassa* Y401, 1040 m.

Remarks: The present record corresponds to a new genus and species, still unpublished (B. Berning, personal communication).

Genus ***Pentapora*** Fischer, 1807

Pentapora fascialis (Pallas, 1766)

Portinho da Arrábida, several fragments on the beach (Rosas, 1944, as *Lepralia foliacea*). Costa da Arrábida (Saldanha, 1974, as *Pentapora foliacea*). Cape Roca (38º46.3'N 09º32'W) at 52 m depth; Cape Espichel (38º24.3'N 09º13.9'W) at 27-36 m depth; (37º01.3'N 09º00.8'W) at 49 m depth; Lagos (Pérès, 1959, as *Hippodiplosia foliacea*). Caves at Sagres, large colonies up to 50 cm diameter, at 15-20 m depth (Boury-Esnault *et al*., 2001, as *Pentapora foliacea*). Armaçao de Pêra at 21 m depth, on maërl beds (Souto *et al*., 2010 b). Armaçao de Pêra: several colonies on stones collected in fishing boats (H. De Blauwe). Unrecorded locality, circalitoral (Saldanha, 1980, as *Pentapora foliacea*).

Pérès (1959) has also cited, as *Hippodiplosia*, material coming from several stations: Cape Espichel (38º24.1' N 09º14.1'W) at 50 m depth; Malhada (38º16'N 08º49.2'W) at 43 m depth; Cape S. Vicente (37º01.3'N 09º00.8'W) at 49 m depth; Sagres (36º59'N 08º56'W) at 38 m depth.

Pentapora ottomuelleriana (Moll, 1803)

Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra: a small colony on *Myriapora truncata* collected in fishing boats (Souto *et al*., 2014).

Genus ***Schizomavella*** Canu & Bassler, 1917

Schizomavella auriculata (Hassall, 1842)

40º01'N, 09º44'W: *C.E. Charcot* St. 1, at 130 m depth (Reverter-Gil & Fernández-Pulpeiro, 1996: MNHN 6710). Armaçao de Pêra, at 20 m depth (Souto *et al*., 2010 b). Armaçao de Pêra, on coralline red algae collected in fishing boats (present paper).

Reference material revised: MNHN 6710: 40º01'N, 09º44'W: C.E. Charcot St. 1, 130 m, 3-12-1968.

Remarks: *Schizomavella auriculata* was reported by Rosas (1944, as *Schizoporella auriculata*) from Foz do Douro and by Pérès (1959, as *Schizoporella auriculata* (?)) at Cape Roca at 52 m depth. However, the identity of this species was unclear until its redescription by Hayward & Thorpe (1995). Its previous records frequently belongs to *Schizomavella cornuta* (Heller, 1867), but also sometimes to *S. auriculata* or even to other species of the genus (see Reverter-Gil & Fernández-Pulpeiro, 1996). Therefore, whi-

tout seeing the original material is impossible to check those records.

Schizomavella cornuta (Heller, 1867)

Armaçao de Pêra at 20 m depth (Souto *et al*., 2010 b). Unrecorded localities, intertidal and infralittoral (?Saldanha, 1980, as *Schizomavella auriculata* (Hassall)).

Schizomavella sarniensis Hayward & Thorpe, 1995

Armaçao de Pêra, at 19-21 m depth (Souto *et al*., 2010 b, 2013).

Schizomavella grandiporosa Canu & Bassler, 1925

Vale Furado: some ovicellate colonies; beach of Baleal: some young colonies on *Sabellaria* (Souto *et al*., 2014).

Schizomavella hastata (Hincks, 1862)

Boca do Inferno (at 7 m depth): some ovicellate colonies on Serpulids (present paper). Cascais, on stones in the intertidal zone (Rosas, 1944, as *Schizoporella linearis* var. *hastata* Hincks). Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra at 19-20 m depth, on maërl beds with stones (Souto *et al*., 2010 b). Unrecorded locality in the Algarve (H. De Blauwe).

Remarks: The identity of *S. hastata* was uncertain until its redescription by Hayward & Thorpe (1995). Therefore, records previous to that work (Rosas, 1944 and Saldanha, 1974) must be considered cautiously due to frequent mistakes with other species of the genus.

Schizomavella linearis (Hassall, 1841)

Foz do Douro, on a coral (Rosas, 1944, as *Schizoporella linearis*). 41º22.8'N, 09º08.2'W: *Thalassa* Y390, at 140 m depth (d'Hondt, 1974, as *Schizoporella linearis*; Reverter Gil, 1995; Reverter-Gil & Fernández-Pulpeiro, 1996: MNHN 7182). Vale Furado, some ovicellate colonies on *Sabellaria*; beach of Baleal, on *Sabellaria*; beach of Galé, ovicellate colonies on *Balanus*; Boca do Inferno, at 7 m depth, some ovicellate colonies (present paper). Costa da Arrábida (Saldanha, 1974). 36º32'N, 11º38'30''W: *Princesse Alice* st. 2731, one colony collected at 65-90 m depth (Calvet, 1931). Sagres, intertidal on stones (H. De Blauwe). Armaçao de Pêra, at 19-21 m depth (Souto *et al*., 2010 b). Armaçao de Pêra: several colonies on stones collected in fishing boats (H. De Blauwe). Unrecorded localities, infra and circalittoral (Saldanha, 1980).

Reference material revised: MNHN 7182: 41°22'8N 09°08'2W, 140 m, *Thalassa* Y390, 29/8/1972.

Schizomavella linearis profunda Harmelin & d'Hondt, 1992

40°09.1'N, 09°49.9'W: *Poseidon* st. 13, at 35-930 m depth, one colony on *Reteporella* sp. (Souto *et al*., 2014: MB37-000028).

Reference material revised: MB37-000028: "Poseidon" st. 13, 40°09.1'N, 09°49.9'W, 35-930 m, 21/11/1984.

Schizomavella fischeri (Jullien, 1882)

41º43'00''N, 09º19'26''W: *Travailleur* Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883, as *Schizoporella Fischeri*; Calvet, 1907, as *Schizoporella Fischeri*; Reverter-Gil & Fernández-Pulpeiro, 2001; MNHN 2966, MNHN 3783). 41º18.6'N, 09º13.8'W: *Thalassa* Y394, at 410 m depth (d'Hondt, 1974). 41°09.3'N, 09°20'W: *Poseidon* st. 2, at 800-900 m depth (present paper: MB37-000038). 36º36.5'N, 07º24.0'W: *Balgim* CP21, at 485 m depth on *Lophelia pertusa* (Harmelin & d'Hondt, 1992 a).

Reference material revised: MNHN 2966: *Travailleur*, 14.6.1881, D. 2. 1068 m, Coll. Jullien. type. MNHN 3783 (with more species): *Travailleur*, 1881, D. 2 (1ere sér.) 1068 m, Coll. Calvet. MB37-000038: "Poseidon" st. 2, 41°09.3'N, 09°20'W, 800-900 m, 20/11/1984, rede arrasto.

Schizomavella neptuni (Jullien, 1882)

41º43'00''N, 09º19'26''W: *Travailleur* Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883, as *Schizoporella Neptuni*; Calvet, 1907, as *Schizoporella Neptuni*; Reverter-Gil & Fernández-Pulpeiro, 2001; MNHN 2342). 41º22.2'N, 09º09.8'W: *Thalassa* Y425, at 430 m depth; 41º18.6'N, 09º13.8'W: *Thalassa* Y394, at 410

m depth (d'Hondt, 1974, as *Schizoporella neptuni*). 40°09.1'N, 09°49.9'W: *Poseidon* st. 13, at 35-930 m depth; 41°09.3'N, 09°20'W: *Poseidon* st. 2, at 800-900 m depth (present paper: MB37-000030, MB37-000037).

Reference material revised: MNHN 2342: *Travailleur*, 1881, D. 2 (1e sér.) 1068 m, Coll. Calvet, type. MB37-000030: "Poseidon" st. 13, 40°09.1'N, 09°49.9'W, 35-930 m. 21/11/1984, draga. MB37-000037: "Poseidon" st. 2, 41°09.3'N, 09°20'W, 800-900 m, 20/11/1984, rede arrasto.

Schizomavella mamillata (Hincks, 1880)

Foz do Douro, on stones in the intertidal zone (Rosas, 1944, as *Schizoporella linearis* var. *mamillata* Hincks). Armaçao de Pêra, at 20-21 m depth, on maërl beds (Souto *et al*., 2010 b). Armaçao de Pêra, on stones collected in fishing boats (present paper).

Family WATERSIPORIDAE Vigneaux, 1949
Genus ***Watersipora*** Neviani, 1895

Watersipora subtorquata (d'Orbigny, 1852)

Cascais, on PVC plates (Canning-Clode *et al*., in press). Cascais: on a hull; Ferragudo (Portimão); Marina of Portimão: on *Mytilus*; Laguna of Faro: on a bivalve shell (Souto *et al*., 2014).

Watersipora complanata (Norman, 1864)

Portinho da Arrábida, on shells (Rosas, 1944, as *Micropora complanata*). Unrecorded locality (Bethencourt Ferreira, 1923, as *Micropora complanata*).

Superfamily SCHIZOPORELLOIDEA Jullien, 1882
Family SCHIZOPORELLIDAE Jullien, 1882
Genus ***Schizoporella*** Hincks, 1877

Schizoporella unicornis (Johnston in Wood, 1847)

Beach Areosa (Viana do Castelo) (present paper: MB37-000013). Foz do Douro, intertidal on stones (Rosas, 1944). Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra, several colonies in fishing boats (H. De Blauwe). Unrecorded localities, infra and circalittoral (Saldanha, 1980).

Reference material revised: MB37-000013: Praia da Areosa, Viana do Castelo, 21/09/1982, Explorações Museu Bocage.

Schizoporella cornualis Hayward & Ryland, 1995

Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b). Armaçao de Pêra, on stones collected in fishing boats (present paper).

Remarks: Saldanha (1974) reported *Schizoporella longirostris* Hincks, 1886 from the Costa da Arrábida. According to Hayward & Ryland (1995), two different species (*Schizoporella dunkeri* (Reuss) and *S. cornualis*) have been cited under that name. Without seeing the original material, it is not possible to judge to which of both species corresponds that record.

Schizoporella spinosa Souto, Reverter-Gil & Fernández-Pulpeiro, 2010

Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b: MNCN 25.03/3781, MNCN 25.03/3781-3791).

Reference material revised: MNCN 25.03/3781: 37º01'14.8''N, 08º11'11.6''W, 19 m, holotype. MNCN 25.03/3781-3791: paratypes, same locality as holotype.

****Schizoporella mutabilis*** Calvet, 1927

Costa da Arrábida (Saldanha, 1974).

Remarks: *Schizoporella mutabilis* has been reported only in a few localities in the northwestern Mediterranean. As the original material of the present record no longer exists, and taking into account the presence in Portugal of other similar species, we consider the present citation as uncertain.

Genus ***Schizobrachiella*** Canu & Bassler, 1920

Schizobrachiella sanguinea (Norman, 1868)

Costa da Arrábida (Saldanha, 1974). Armaçao de Pêra at 19-20 m depth, on maërl beds with stones (Souto *et al*., 2010 b). Unrecorded localities, infra and circalittoral (Saldanha, 1980).

Family MYRIAPORIDAE Gray, 1841
Genus ***Myriapora*** Donati, 1750

Myriapora truncata (Pallas, 1766)

Costa da Arrábida (Saldanha, 1974). Cape Espichel (38º24,3'N 09º13,9'W) at 27-36 m depth; 38º23.7'N–38º23.9'N 09º12.9'W–9º12.7'W at 70-90 m depth, many dead fragments (Pérès, 1959, as *Myriozoum truncatum*). Armaçao de Pêra, at 20 m depth (Souto *et al*., 2010 b). Armaçao de Pêra: several colonies collected in fishing boats (H. De Blauwe). Unrecorded locality, rocky circalittoral (Saldanha, 1980).

Family CHEILOPORINIDAE Bassler, 1936
Genus ***Hagiosynodos*** Bishop & Hayward, 1989

Hagiosynodos latus (Busk, 1856)

Armaçao de Pêra, at 20 m depth (Souto *et al*., 2010 b).

Family CRYPTOSULIDAE Vigneaux, 1949
Genus ***Cryptosula*** Canu & Bassler, 1925

Cryptosula pallasiana (Moll, 1803)

Foz do Douro, very abundant on stones in the intertidal zone (Rosas, 1944, as *Lepralia Pallasiana*). Ria de Aveiro (Marchini *et al.*, 2007). Leça de Palmeira: some colonies on *Sabellaria*; Buarcos: some colonies on *Sabellaria*; beach of Baleal: some colonies on stone; Boca do Inferno (7 m depth): some colonies on stones and *Sabellaria*; beach Azarujinha, São João do Estoril, on stones; beach de São Torpes, Sines; Laguna of Faro: on bivalve shells; beach of Fuseta: on bivalve shells; Santa Luzia (Tavira): on bivalve shells (Souto *et al*., 2014: MB37-000001, MB37-000002).

Reference material revised: MB37-000001: Beach Azarujinha, São João do Estoril, 23/05/1978. MB37-000002: Beach de São Torpes, Sines, 21/08/1978.

Family TEUCHOPORIDAE Neviani, 1895
Genus ***Teuchopora*** Neviani, 1895

Teuchopora edwardsi (Jullien, 1882)

41º43'00''N, 09º19'26''W: *Travailleur* 1881 Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883, as *Lagenipora Edwardsi*; Calvet, 1907 as *Lagenipora Edwardsi*; Reverter-Gil & Fernández-Pulpeiro, 2001: MNHN 3749, MNHN 3752, MNHN 3900). 41°09.3'N, 09°20'W: *Poseidon* st. 2, at 800-900 m depth (present paper: MB37-000039).

Reference material revised: MNHN 3749 (with more species): *Travailleur*, 1881, D.2 (1st ser.) 1068 m, 14/6/1881, type. MNHN 3752 (with more species): *Travailleur*, 1881, D.2 (1st ser.) 1068 m, 14/6/1881, type. MNHN 3900 (with more species): *Travailleur* 1883, D.2, 1068 m, 14/6/1881. MB37-000039: "Poseidon" Estação 2, 41°09.3'N, 09°20'W, 800-900 m, 20/11/1984, rede arrasto.

Family PHOCEANIDAE Vigneaux, 1949
Genus ***Sertulipora*** Harmelin & d'Hondt, 1992

Sertulipora guttata Harmelin & d'Hondt, 1992

36º36.5'N, 07º24.0'W: *Balgim* CP21, at 485 m depth (Harmelin & d'Hondt, 1992 a: MNHN 19790, MNHN 19791).

Reference material revised: MNHN 19791: *Balgim* CP21, 478-491 m, holotype. MNHN 19790: Paratype 1, same locality as holotype.

Family MICROPORELLIDAE Hincks, 1879
Genus ***Microporella*** Hincks, 1877

Microporella ciliata (Pallas, 1766)

Boca do Inferno, at 7 m depth, a young colony on seaweed (present paper). Cascais and Portinho da Arrábida on seaweeds in the intertidal zone (Rosas, 1944). Costa da Arrábida (Saldanha, 1974). Setúbal (Nobre, 1903 b, 1904). Armaçao de Pêra at 19-21 m depth (Souto *et al*., 2010 b). Armaçao de Pêra: several colonies on stones and algae collected in fishing boats (H. De Blauwe).

Unrecorded localities, infra and circalittoral (Bethencourt Ferreira, 1923; Saldanha, 1980).

Microporella appendiculata (Heller, 1867)

Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b). Armaçao de Pêra, on stones collected in fishing boats (present paper).

Incertae sedis

"Microporella" insperata Jullien, 1882

41º43'00''N, 09º19'26''W: *Travailleur* 1881, Dr. 2 (1ª serie) at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883; Calvet, 1907: MNHN 2552).

Reference material revised: MNHN 2552: *Travailleur* 1881, Dr. 2, 1068 m, holotype.

Remarks: The small original sample, entirely figured by Jullien (1882, 1883), does not correspond to the genus *Microporella*. A redescription of the species is needed.

Genus ***Fenestrulina*** Jullien, 1888

Fenestrulina malusii (Audouin, 1826)

Foz do Douro and Portinho da Arrábida on seaweeds in the intertidal zone (Rosas, 1944, as *Microporella Malusii*). Costa da Arrábida (Saldanha, 1974). Unrecorded localities, infra and circalittoral (Saldanha, 1980).

Fenestrulina inesae Souto, Reverter-Gil & Fernández-Pulpeiro, 2010

Armaçao de Pêra at 19-20 m depth, en maërl beds with stones (Souto *et al*., 2010 b: MNCN 25.03/3796, MNCN 25.03/3772, 3774, 3780, 3792, 3797, 3798). Armaçao de Pêra: several colonies on stones collected in fishing boats (present paper).

Reference material revised: MNCN 25.03/3796: 37º01'27.2''N, 08º11'44.7''W, 20 m, holotype. MNCN 25.03/3772, 3774, 3780, 3792, 3797, 3798: 37º01'14.8''N, 08º11'11.6''W, 19 m, paratypes.

Family LACERNIDAE Jullien, 1888
Genus ***Arthropoma*** Levinsen, 1909

Arthropoma cecilii (Audouin, 1826)

Armaçao de Pêra at 21 m depth, on maërl beds (Souto *et al*., 2010 b). Armaçao de Pêra: on a stone collected in fishing nets (H. De Blauwe).

Family ESCHARINIDAE Tilbrook, 2006
Genus ***Escharina*** Edwards, 1836

Escharina vulgaris (Moll, 1803)

40º01'N, 09º44'W: *C.E. Charcot*, st. 1, at 130 m depth (present paper: MNHN 6769). Caves at Sagres (Boury-Esnault *et al*., 2001). Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b). Armaçao de Pêra: on a stone collected in fishing nets (H. De Blauwe).

Reference material revised: MNHN 6769 (with more species): C.E. Charcot, 3-12-1968, St.1. 130 m, 03/12/1968

Escharina dutertrei protecta Zabala *et al*., 1993

Caves at Sagres (Boury-Esnault *et al*., 2001).

Genus ***Herentia*** Gray, 1848

Herentia hyndmanni (Johnston, 1847)

41º22.2'N, 09º09.8'W: *Thalassa* Y425, at 430 m depth; 40º45.8'N, 09º17.5'W: *Thalassa* Y399, at 330 m depth; 40º34.4'N, 09º22.1'W: *Thalassa* Y410, at 360 m depth (d'Hondt, 1974). Caves at Sagres (Boury-Esnault *et al*., 2001, as *Escharina hyndmanni*). 36º34.99'N, 11º38.29'W: "Jean Charcot" Stn 076, 600 m depth, two colonies on shell (d'Hondt, 1973, in part, see Berning *et al*., 2008). 36º36.5'N, 07º24.0'W: *Balgim* CP21, at 485 m depth (Harmelin & d'Hondt, 1992 a, as *Escharina hyndmanni*).

Reference material: MNHN 6764 (with more species): "Jean Charcot" cruise 1969, Stn 076, 36º34.99'N, 11º38.29'W, 600 m, off southern Portugal, two colonies on shell.

Remarks: According to Berning *et al*. (2008), *H. thalassae* had only been recorded with certitude off northwestern Spain, at 480-520 m depth. Some other material collected from the southern

Portuguese outer shelf presents a similar morphology, but with smaller zooids. *Herentia hyndmanni* has been reported in Portugal from several localities by d'Hondt (1974), Boury-Esnault *et al*. (2001) and Harmelin & d'Hondt (1992 a), but as descriptions and illustrations are not given in these articles, it is not possible to judge, without seeing the original material, if these records really correspond to *H. hyndmanni*.

Herentia thalassae David & Pouyet, 1978

41°09.3''N, 09°20'W: at 800-900 m depth, two ovicellate colonies and one young colony, on a stone (Souto *et al*., 2014: MB37-000007).

Reference material revised: MB37-000007: 41°09.3'N, 09°20'W, 800-900 m. 20/11/1984.

Superfamily MAMILLOPOROIDEA Canu & Bassler, 1927
Family CLEIDOCHASMATIDAE Cheetham & Sandberg, 1964
Genus ***Characodoma*** Mapleston, 1900

Characodoma strangulatum (Calvet, 1906)

36º46.1'N, 09º27.0'W: *Balgim* DW07, at 1141 m depth (Harmelin & d'Hondt 1992 a, as *Cleidochasma strangulatum*; Berning, 2013; MNHN 15487).

Reference material: MNHN 15487: *Balgim* DW07, 1139-1144 m.

Family ASCOSIIDAE Jullien, 1882
Genus ***Ascosia*** Jullien, 1882

Ascosia pandora Jullien, 1882

36º44.2'N, 9º31.4'W: *Balgim* DW11, at 1523 m depth; 36º45.8'N, 9º29.4'W: *Balgim* DW16, at 1283 m depth; 36º46.1'N, 9º27.0'W: *Balgim* DW07, at 1141 m depth; 36º10.8'N, 8º06.2'W: *Balgim* CP108, at 1527 m depth; 35º31.3'N, 07º25.6'W: *Balgim* DW61, at 1222 m depth (Harmelin & d'Hondt, 1992 a: MNHN 19803).

Reference material revised: MNHN 19803: *Balgim* DW61, 1222 m.

Genus ***Fedora*** Jullien, 1882

Fedora edwardsi Jullien, 1882

40º36.8'N, 9º21.5'W: *Thalassa* Y401, at 1040 m depth on muddy bottom; 40º33.1'N, 9º26.5'W: *Thalassa* Y405, at 1170 m depth on muddy bottom (Hayward, 1979; Reverter-Gil & Fernández-Pulpeiro, 2001: MNHN 9335). 36°46.2'N 09°26.8'W: *Balgim* DR06, at 1114 m depth on shells bottom (present paper: MNHN 19806). 36º45.3'N, 09º30.8'W: *Balgim* CP17, at 1470 m depth; 36º14.5'N, 07º56.4'W: *Balgim* CP109 at 1200 m depth; 35º30.5'N, 07º46.1'W: *Balgim* DW64, at 1530 m depth; 35º31.3'N, 07º26.2'W: *Balgim* CP62, at 1250 m depth (Harmelin & d'Hondt, 1992 a: MNHN 19954).

Reference material revised: MNHN 9335: *Thalassa* 1972, Y401, 1040 m. MNHN 19806 (with more species): *Balgim* DR06, 1112-1114 m. MNHN 19954: *Balgim* DW64, 1530 m.

Superfamily CELLEPOROIDEA Johnston, 1838
Family CELLEPORIDAE Johnston, 1838
Genus ***Cellepora*** Linnaeus, 1767

Cellepora pumicosa (Pallas, 1766)

Foz do Douro, on stones in the intertidal zone (Rosas, 1944). Vale Furado, several colonies; Boca do Inferno, at 7 m depth, several colonies with ovicells and embryos, on *Sabellaria* (present paper). Costa da Arrábida (Saldanha, 1974). Beach São Torpes, Sines (present paper: MB37-000025). Armaçao de Pêra at 19-21 m depth (Souto *et al*., 2010 b). Armaçao de Pêra, on stone collected in fishing nets (H. De Blauwe).

Reference material revised: MB37-000025: Praia de São Torpes, Sines. 15/10/1981. Explorações Museu Bocage.

Genus ***Celleporina*** Gray, 1848

Celleporina hassallii (Johnston, 1847)

Boca do Inferno, at 7 m depth, some young colonies on seaweed, and abundant on *Balanus*, with ovicells (present paper). Cascais and Portinho da Arrábida, on seaweeds in the intertidal zone (Rosas, 1944, as *Cellepora Costazii* (Aud.)).

Costa da Arrábida (Saldanha, 1974). 36º31'N 11º33'45''W: *Princesse Alice* st. 467, some colonies on seaweed, collected at 60 m depth (Calvet, 1931, as *Costazzia Costazzii*). Armaçao de Pêra, at 19-21 m depth (Souto *et al*., 2010 b, as *Celleporina caliciformis* (Lamarck)). Unrecorded localities, infra and circalittoral (Saldanha, 1980).

Celleporina decipiens Hayward, 1976

Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b). Armaçao de Pêra: on *Myriapora truncata* collected in fishing boats (H. De Blauwe).

Celleporina caminata (Waters, 1879)

Costa da Arrábida (Saldanha, 1974). In dark walls in caves at Sagres (Boury-Esnault *et al*., 2001). Armaçao de Pêra: several colonies on stones collected in fishing boats (H. De Blauwe).

Celleporina derungsi Souto, Reverter-Gil & Fernández-Pulpeiro, 2010

Armaçao de Pêra at 19-20 m depth, on maërl beds with stones (Souto *et al*., 2010 b: MNCN 25.03/3792, MNCN 25.03/3792, MNCN 25.03/3774, 3793-3795, MNCN 25.03/3793). Armaçao de Pêra: several colonies on stones collected in fishing boats (H. De Blauwe).

Reference material revised: MNCN 25.03/3792: 37º01'14.8''N, 08º11'11.6''W, 19 m, holotype. MNCN 25.03/3792: Paratypes, same locality as holotype. MNCN 25.03/3774, 3793-3795: paratypes, same locality as holotype. MNCN 25.03/3793: 37º01'27.2''N, 08º11'44.7''W, 20 m, paratypes.

Genus ***Turbicellepora*** Ryland, 1963

Turbicellepora avicularis (Hincks, 1860)

Sagres (36º58'N 08º55.6'W) at 65 m depth (Pérès, 1959, as *Schismopora avicularis* (Hincks)). Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b, as *Turbicellepora incrassata* (Lamarck, 1816)). Unrecorded locality in Algarve (H. De Blauwe).

Turbicellepora magnicostata (Barroso, 1919)

Beach of Baleal: several colonies on *Sabellaria* (with embryos); beach São Torpes, Sines; beach Maria Luísa, Albufeira, infralittoral; unrecorded locality in the Algarve (Souto *et al*., 2014: MB37-000004, MB37-000009).

Reference material revised: MB37-000004: Beach Maria Luísa, Albufeira. Infralitoral. 28/03/1979. MB37-000009: Beach São Torpes, Sines, 15/10/1981. MB37-000022: Beach São Torpes, Sines, 21/08/1978.

Genus ***Omalosecosa*** Canu & Bassler, 1925

Omalosecosa ramulosa (Linnaeus, 1767)

Armaçao de Pêra at 21 m depth, on maërl beds (Souto *et al*., 2010 b).

Genus ***Buskea*** Heller, 1867

Buskea billardi (Calvet, 1906)

41º43'00''N, 09º19'26''W: *Travailleur* 1881, Dr. 2 (1ª ser.) at 1068 m depth on bottoms of pebbles, sand and a little mud (Reverter-Gil & Fernández-Pulpeiro, 2001: MNHN 59). 41º32'N, 09º13.7'W: *Thalassa* Y377, at 320 m depth, on pebbles and muddy bottom; 41º19.7'N, 09º11.6'W: *Thalassa* Y392, at 550 m depth on muddy and sandy bottom; 40º45.6'N, 09º19'W: *Thalassa* Y400, at 800 m depth on muddy bottom (Hayward, 1979). 40º45.8'N, 09º17.5'W: *Thalassa* Y399, at 330 m depth (d'Hondt, 1974, as *Escharoides* (?) *billardi*). 36º10.8'N, 08º06.2'W: *Balgim* CP108, at 1527 m depth (Harmelin & d'Hondt, 1992 a).

Reference material revised: MNHN 59: *Travailleur* 1881, Dr. 1, 1068 m depth.

Buskea dichotoma (Hincks, 1862)

Sagres (36º58'N 08º55.6'W) at 65 m depth (Pérès, 1959, as *Schismopora dichotoma*). 36º53'00''N, 08º27'46''W: *Talisman* Dr. 3, at 106 m depth, on sandy and shells bottom (Calvet, 1907, as *Reteporella dichotoma*).

Family PHIDOLOPORIDAE Gabb & Horn, 1862

Genus ***Reteporella*** Busk, 1884

Remarks: Pérès (1959) has reported, as *Retepora*, material coming from ten sampling stations

in the southwest of Portugal, between 32 and 350 m depth. It will be necessary to revise the original material, if it still exists, to check the identifications.

Reteporella couchii (Hincks, 1878)

Armaçao de Pêra, one small colony on a stone collected in fishing boats (Souto *et al*., 2014).

Reteporella beaniana (King, 1846)

41º22.8'N, 09º08.2'W: *Thalassa* Y390, at 140 m depth (d'Hondt, 1974, as *Sertella beaniana*).

Reteporella aquitanica (Jullien *in* Jullien & Calvet, 1903)

41º18.6'N, 09º13.8'W: *Thalassa* Y394, at 410 m depth (Hayward, 1979, as *Sertella aquitanica*). 40º45.6'N, 09º19'W: *Thalassa* Y400, at 800 m depth on muddy bottom (Hayward, 1979, as *Sertella aquitanica*; d'Hondt, 1974, as *Sertella aquitanica*). 40º34.3'N, 09º22.6'W: *Thalassa* Y415, at 450 m depth (d'Hondt, 1974, as *Sertella aquitanica*).

Reteporella jullieni (Calvet, 1907)

40º34.3'N, 09º22.6'W: *Thalassa* Y415, at 450 m depth (d'Hondt, 1974, as *Sertella Jullieni*).

Genus ***Schizotheca*** Hincks, 1877

Schizotheca fissa (Busk, 1856)

Armaçao de Pêra at 19-21 m depth, on maërl beds (Souto *et al*., 2010 b). Armaçao de Pêra, on stones collected in fishing boats (H. De Blauwe).

Schizotheca carmenae Reverter-Gil & Fernández-Pulpeiro, 2007

Caves at Sagres (Reverter-Gil & Fernández-Pulpeiro, 2007).

Genus ***Rhynchozoon*** Hincks, 1895

Rhynchozoon bispinosum (Johnston, 1847)

Costa da Arrábida (Saldanha, 1974, as *Rhyncozoon bispinosum*). Armaçao de Pêra at 19-20 m depth, on maërl beds with stones (Souto *et al*., 2010 b). Armaçao de Pera, on stones collected in fishing boats (present paper).

Rhynchozoon celestinoi Souto, Reverter-Gil & Fernández-Pulpeiro, 2010

Armaçao de Pêra at 20 m depth (Souto *et al*., 2010 b: MNCN 25.03/3769, MNCN 25.03/3770, 3771).

Reference material revised: MNCN 25.03/3769: 37º01'27.2''N, 08º11'44.7''W, 20 m, holotype. MNCN 25.03/3770, 3771: paratypes, same locality as holotype.

Rhynchozoon rosae Souto, Reverter-Gil & Fernández-Pulpeiro, 2010

Armaçao de Pêra at 19 m depth, on maërl beds with stones (Souto *et al*., 2010 b: MNCN 25.03/3758, MNCN 25.03/3759-3768).

Reference material revised: MNCN 25.03/3758: 37º01'14.8''N, 08º11'11.6''W, 19 m, holotype. MNCN 25.03/3759-3768: paratypes, same locality as holotype.

Genus ***Dentiporella*** Barroso, 1926

Dentiporella saldanhai Souto, Reverter-Gil & Fernández-Pulpeiro, 2010

Armaçao de Pêra at 19-20 m depth, on maërl beds (Souto *et al*., 2010 b: MNCN 25.03/3772, MNCN 25.03/3773, 3774).

Reference material revised: MNCN 25.03/3772: 37º01'27.2''N, 08º11'44.7''W, 20 m, holotype. MNCN 25.03/3773, 3774: 37º01'14.8''N, 08º11'11.6''W, 19 m, paratypes.

Genus ***Stephanollona*** Duvergier, 1920

Stephanollona armata (Hincks, 1862)

Armaçao de Pêra (Algarve) at 19-20 m depth, on maërl beds with stones (Souto *et al*., 2010 b: MNCN 25.03/3791, 3792, 3793, 3794, 3780-3803). Armaçao de Pêra, on stones collected in fishing boats (H. De Blauwe).

Reference material revised: MNCN 25.03/3791, 3792: 37º01'14.8''N, 08º11'11.6''W, 19 m, six colonies. MNCN 25.03/3793, 3794, 3780-3803: 37º01'27.2''N, 08º11'44.7''W, 20 m, five colonies.

Remarks: There are two previous records which may correspond or not to the present species: from Foz do Douro, on a coral (Rosas, 1944, as *Schizoporella armata*) and from Costa

da Arrábida (Saldanha, 1974, as *Rhyncozoon armatum* (Hincks, 1861) marked with "?"). As the authors did not include descriptions or figures, and original material no longer exists, it is not possible to check their identifications.

Stephanollona contracta (Waters, 1899)

Armaçao de Pêra at 21 m depth, on maërl beds (Souto *et al.*, 2010 b: MNCN 25.03/3799).

Reference material revised: MNCN 25.03/3799: 37º00'59.3''N, 08º11'25.4''W, 21 m, one colony on a Serpulidae.

Other uncertain species

Entalophora proboscidea (Milne-Edwards)

36º31'30''N, 11º34'W: *Princesse Alice* st. 1664, three branches at 116 m depth; 36º32'N, 11º38'30''W: *Princesse Alice* st. 2731, two fragments at 65-90 m depth (Calvet, 1931).

Remarks: According to Harmelin (1976) these records may correspond to *Entalophoroecia deflexa*, *Entalophoroecia robusta* or *Annectocyma major*. Revision of original material, if it still exists, is necessary to confirm its real identity.

Filisparsa pourtalesi Smitt

Unrecorded locality (Bethencourt Ferreira, 1923).

Remarks: As the author did not include any further information and original material does not longer exist, the identity of the present record is uncertain.

Petralia souleri

Cape Espichel (38º24.3'N 09º13.9'W) at 27-36 m depth (Pérès, 1959).

Remarks: We have not found any further information about this species. As the author did not include any further information and original material does not longer exist, the identity of the present record is uncertain.

Retepora celulosa

Povoa de Varzim, on corals in fishing nets (Nobre, 1903 a, 1904). Between Cape Carvoeiro and Raso, at 9-100 m depth; SW Sines, at 87 m depth; W Pontal (between Cape Sines and Cape S. Vincent), at 564 m depth (Nobre, 1942). Unrecorded locality (Bethencourt-Ferreira, 1923).

Remarks: As the authors did not include any further information and original material does not longer exist, the identity of these records are uncertain.

Retepora decollata

SW Sines, at 87 m depth (Nobre, 1942).

Remarks: We have not found any further information about this species. As the author did not include any further information and original material does not longer exist, the identity of the present record is uncertain.

Schismopora armata (Hincks, 1880)

Costa da Arrábida (Saldanha, 1974). 36º31'N, 11º33'45''W: *Princesse Alice*, st. 467, at 60 m depth (Calvet, 1931).

Remarks: According to Hayward (1978) previous records of "*S. armata*" may correspond to several different species of *Turbicellepora*, and records should be reassigned only in those cases where the original material is available, which is not the case.

Smittia vaciva Jullien, 1882

41º43'00''N, 09º19'26''W: *Travailleur* 1881, D.2 (1st ser.), some colonies collected at 1068 m depth on bottoms of pebbles, sand and a little mud (Jullien, 1882, 1883; Calvet, 1907).

Remarks: The identity of this species is uncertain, as the single original colony no longer exists, according to Calvet (1907).

Tubulipora (?) reticulata (Calvet, 1902)

36º31'N 11º33'45''W: *Princesse Alice* st. 467, one colony at 60 m depth on bottoms of sand, shells and stones (Calvet, 1931).

Remarks: Calvet (1931) himself doubts about the identification of the present record, so its identity is uncertain.

Tubulipora tubulifera (Lamouroux)

Berlenga (Girard *in* Nobre & Braga, 1942).

Remarks: As the authors did not include any further information and original material does not longer exist, the identity of the present record is uncertain.

Turritigera stellata (Busk)

Unrecorded locality (Bethencourt Ferreira, 1923).

Remarks: This species is present in the southern hemisphere (South America and South Africa). As the author did not include any further information and original material does not longer exist, the identity of the present record is uncertain.

DISCUSSION

Species richness

A total of 237 Bryozoan species are known in Portugal, 171 from shallow waters (0-140 m) and 75 from deep waters (250-2789 m) (Table II). About 78% of the species are Cheilostomata, while the Ctenostomata are 12% and the Cyclostomata represent about 10%. This proportion is similar to the other areas in the world, like Brazil (Vieira *et al*., 2008), but differs from proportions at New Zealand or Italy, for instance, where Ctenostomata are less abundant (Gordon *et al*., 2009; Rosso *et al*., 2010). The relative abundances of these three groups are similar regarding only shallow waters, but in deep waters the Cyclostomata species are slightly more frequent (about 13% of the total) while the Ctenostomata species are less abundant (about 7%). In both deep and shallow waters, Lepraliomorpha species are dominant, followed by Flustrina species, both groups together representing more than a half of the reported species in Portugal.

The knowledge of the species richness is quite variable along the Portuguese waters (Fig. 2).

In the northernmost area, between the Minho River and the Douro River, there are 35 species from deep waters (from 320 to 1250 m depth) and 43 species between 0 and 140 m depth, with a total of 76 species in 29 sampling stations.

In the second area, between the Douro River and the Tagus River, there are 31 species from deep waters (330 to 1241 m depth) and 71 species between 0 and 130 m depth, with a total of 101 species in 38 sampling stations.

In the third area, between the Tagus River and the Cape St. Vincent, only 4 species from deep waters (from 250 to 460 m depth) are known, while 78 species were collected between 0 and 117 m depth, with a total of 81 species from 15 sampling stations.

Table II. Number of species of marine bryozoans reported from Portugal.

	Deep		Shallow		Total	
	Species	%	Species	%	Species	%
Cheilostomata	**60**	**80%**	**133**	**77.78%**	**186**	**78.48%**
Inovicellina	0	0%	3	1.75%	3	1.27%
Scrupariina	0	0%	2	1.17%	2	0.84%
Malacostegina	0	0%	7	4.09%	7	2.95%
Flustrina	20	26.67%	38	22.22%	56	23.63%
Acanthostega	5	6.67%	10	5.85%	14	5.91%
Hippothoomorpha	2	2.67%	11	6.43%	12	5.06%
Umbonulomorpha	12	16.00%	10	5.85%	20	8.44%
Lepraliomorpha	21	28.00%	52	30.41%	72	30.38%
Ctenostomata	**5**	**6.67%**	**21**	**12.28%**	**26**	**10.97%**
Alcyonidioidea	4	5.33%	2	1.17%	6	2.53%
Arachnidioidea	0	0%	3	1.75%	3	1.27%
Walkerioidea	1	1.33%	5	2.92%	6	2.53%
Vesicularioidea	0	0%	10	5.85%	10	4.22%
Penetrantioidea	0	0%	1	0.58%	1	0.42%
Cyclostomata	**10**	**13.33%**	**17**	**9.94%**	**25**	**10.55%**
Tubuliporina	8	10.67%	11	6.44%	17	7.18%
Articulata	1	1.33%	5	2.92%	6	2.53%
Rectangulata	1	1.33%	1	0.58%	2	0.84%
Total	**75**	**100%**	**171**	**100%**	**237**	**100%**

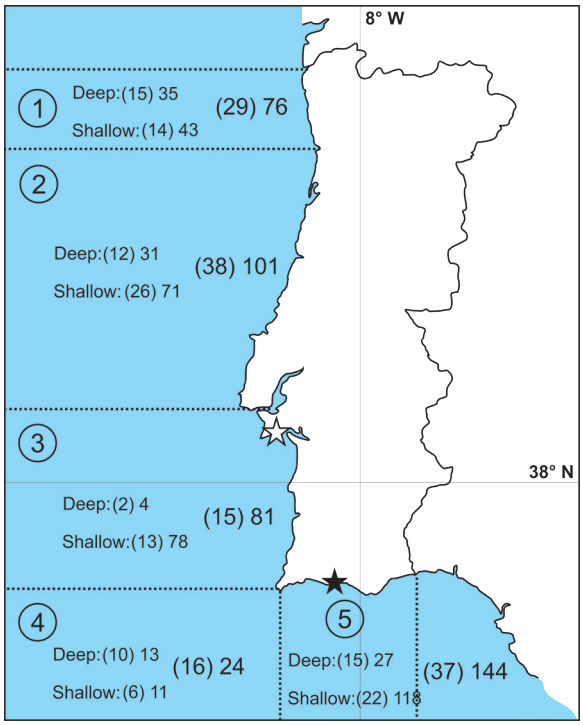

Figure 2. Number of species and sampling stations (in brackets) along the Portuguese coast. Solid star: Armaçao de Pêra; open star: Costa da Arrábida. More information in the text.

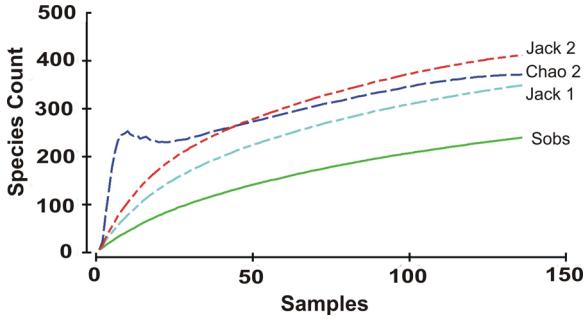

Figure 3. Species richness estimators (Chao 2, Jack 1 and Jack 2) compared with the present number of species in Portugal (Sobs) (see also Table III).

Table III. Estimation of bryozoan species richness in Portuguese waters by three non-parametric estimators (237 species observed in 135 localities).

Estimator	Richness stimate	Completness (%)
Chao 2	372	63,7
Jack 1	349	67,9
Jack 2	413	57,4

The fourth area is the southwest, with a small portion of continental shelf and includes the Gorringe Bank. There are 13 species from deep waters (from 600 to 2789 m depth) and 11 species between 21 and 116 m depth, with a total of only 24 species from 16 sampling stations.

The last area corresponds to the Algarve, with 27 species from deep waters (from 452 to 2035 m depth) and 118 species between 0 and 106 m depth, with a total of 144 species from 36 sampling stations.

The area with a higher number of species in Portugal corresponds to the southern coast, i.e. the Algarve, especially with regards to the shallow water species. The areas 1 and 2 (from the Minho River to the Tagus River) seem to be also relatively well known. There are however important gaps; the seamounts in the south of the Galicia Bank are largely unknown, and data from the continental shelf are scarce. The best known localities nowadays in Portugal are Armaçao de Pêra (Algarve) with 82 species, and the Coast of Arrábida (south Lisbon) with 71 species (Fig. 2).

On the contrary, the areas 3 and 4 are evidently poorly studied. In the area 3, although the number of species seems to be relatively high (81) there are only two sampling stations in deep waters, while most of the littoral species were reported from the Coast of Arrábida and nearby localities, but the rest of the coast is nearly unstudied. The area 4, with a similar number of localities studied, only yields 24 species.

It is interesting to note that while the first record of a Bryozoan in Portugal was made 140 years ago, the 60% of the species newly recorded were reported in the last 40 years. Moreover, in the last 12 years 70 species were reported for the first time, representing more than a quarter of all the species known in Portugal today (see Fig. 1).

The species richness estimators Chao 2, Jack 1 and Jack 2 (Fig 3, Table III) also indicate that our knowledge of the bryozoan fauna in Portugal is far from the expected value. Only one of them, the Chao2, stabilized towards asymptotic values, giving a much higher value than the actual knowledge of species (Sobs) in Portugal. The other two estimators give different values, but they do not present stabilization. The plot showing the cumulative numbers of species newly recorded from Portugal (Fig. 1) and the species

richness estimators (Fig. 3) clearly indicate that our present knowledge of the species richness in Portugal is still rather low, representing between the 57% and the 68% of the real species richness.

Distribution of species

The Portuguese continental coast is included in the southern part of the Lusitanian region, and therefore it is also influenced by the Mediterranean, and also even by north-boreal and Macaronesian waters. For this reason, it is possible to find species with different biogeographical origins, including also species with a presumably widespread distribution, or even invasive species. However, our knowledge about the biogeography and distribution of bryozoan species is actually rather scarce. In recent years, the study of bryozoan material through SEM and gene sequencing has shown that some species considered to have a wide geographic distribution, even those presumably well-known, have been misidentified or/and belong to different cryptic species with more restricted distributions. Therefore, the general distributions of species must be considered with caution. The study of the material deposited in collections is especially revealing, as on not a few occasions prior identifications have proved to be incorrect, either because of simple mistakes, or more often because the concept of a single species was not the same for different authors. For instance, there was a general tendency to report British species from different, distant regions. Many of the previous records in Portugal (e.g. works by Nobre, Rosas or Saldanha) could not be cheked, so the possibility that there have been misidentifications should not be dismissed. As a conclusion, biogeographic studies must be treated only as a provisional approximation.

When comparing the biogeographic character of deep and shallow waters species in Portugal, some important differences are found (Fig. 4, Table IV). In the deep region there is an

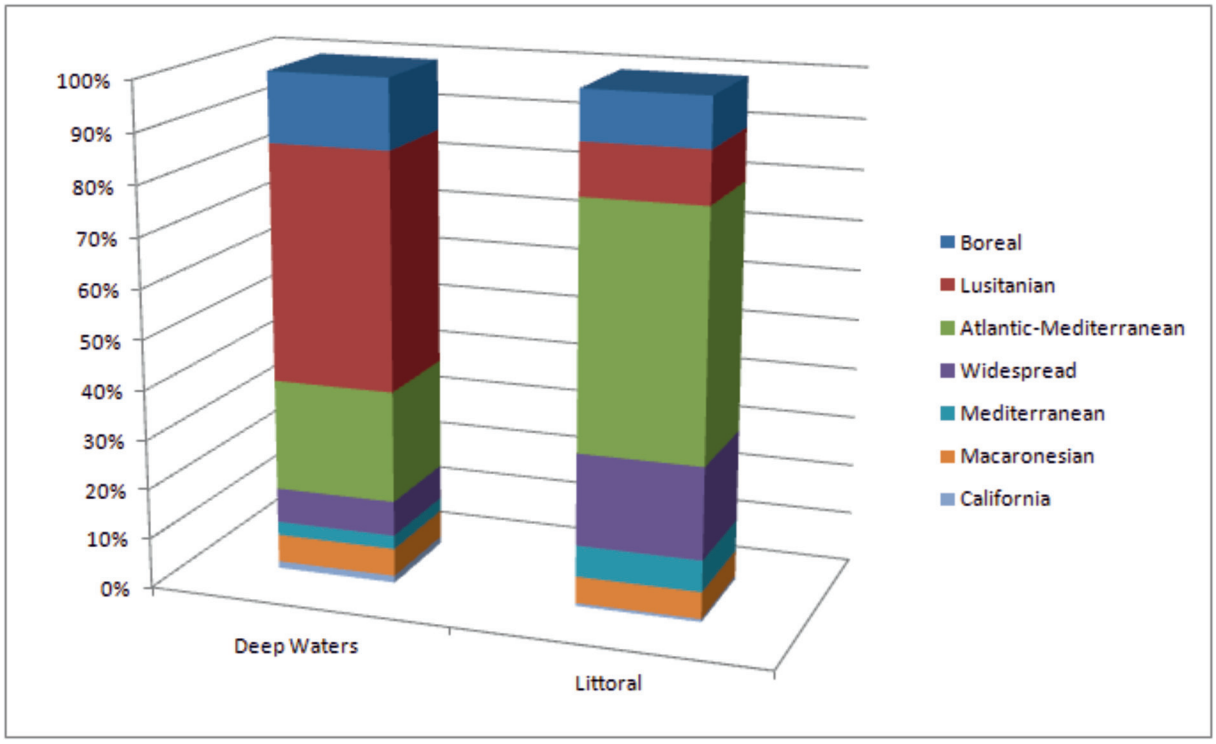

Figure 4. Biogeographic character of deep and shallow waters species in Portugal.

Table IV. Biogeographic character of deep and shallow waters species in Portugal.

	Boreal	Lusitanian	Atlantic-Mediterranean	Widespread	Mediterranean	Macaronesian	California
Deep Waters	13,89%	47,22%	22,22%	6,94%	2,78%	5,56%	1,39%
Littoral	10,12%	10,71%	51,19%	19,05%	6,55%	5,56%	0,6%

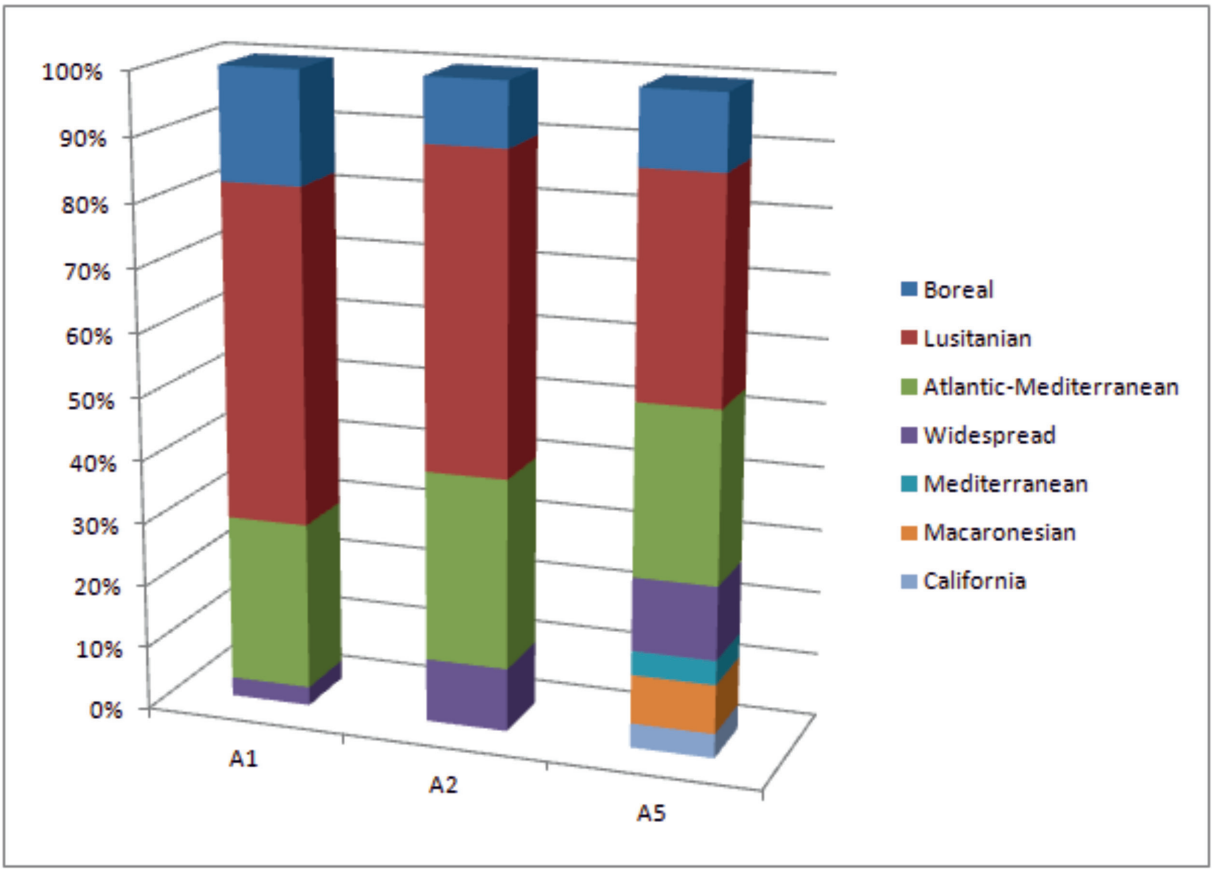

Figure 5. Biogeographic character of deep waters species along Portuguese coast (see also Fig. 2).

Table V. Biogeographic character of deep waters species along Portuguese coast.

	Boreal	Lusitanian	Atlantic-Mediterranean	Widespread	Mediterranean	Macaronesian	California
A1	17,65%	52,94%	26,47%	2,94%	0%	0%	0%
A2	10%	50%	30%	10%	0%	0%	0%
A5	11,54%	34,62%	26,92%	11,54%	3,85%	7,69%	3,85%

important proportion of Lusitanian species (nearly 50% of species). This is probably due to the fact that many of these species were originally described from this area, and have not been rediscovered, perhaps because sampling in deep waters is scarce in other nearby regions. Many of these species were only recorded in one or two stations. There is also an important proportion of species present in the Atlantic-Mediterranean region. Just these species represent more than a half in the littoral area, with also a high proportion of widespread species. On the contrary, Lusitanian species are poorly represented in shallow waters. Boreal species are more frequent in deep waters, while Mediterranean species are more abundant in shallow waters, perhaps due to the difference in water temperature. The proportion of Macaronesian species is similar in both areas. Finally, in each region there is one single Californian species. In deep waters this species is *Ascorhiza mawatarii*, originally described from NE Pacific and reported in Portugal by Harmelin & d'Hondt (1992 b). In shallow waters the Californian species is *Celleporaria brunnea*, recently introduced in panels in Cascais (Canning-Clode *et al*., in press).

The proportion of species in the different areas along the Portuguese coast (Fig. 2) is also variable. In deep waters (Fig. 5, Table V) we have only used data from areas 1, 2 and 5, as the

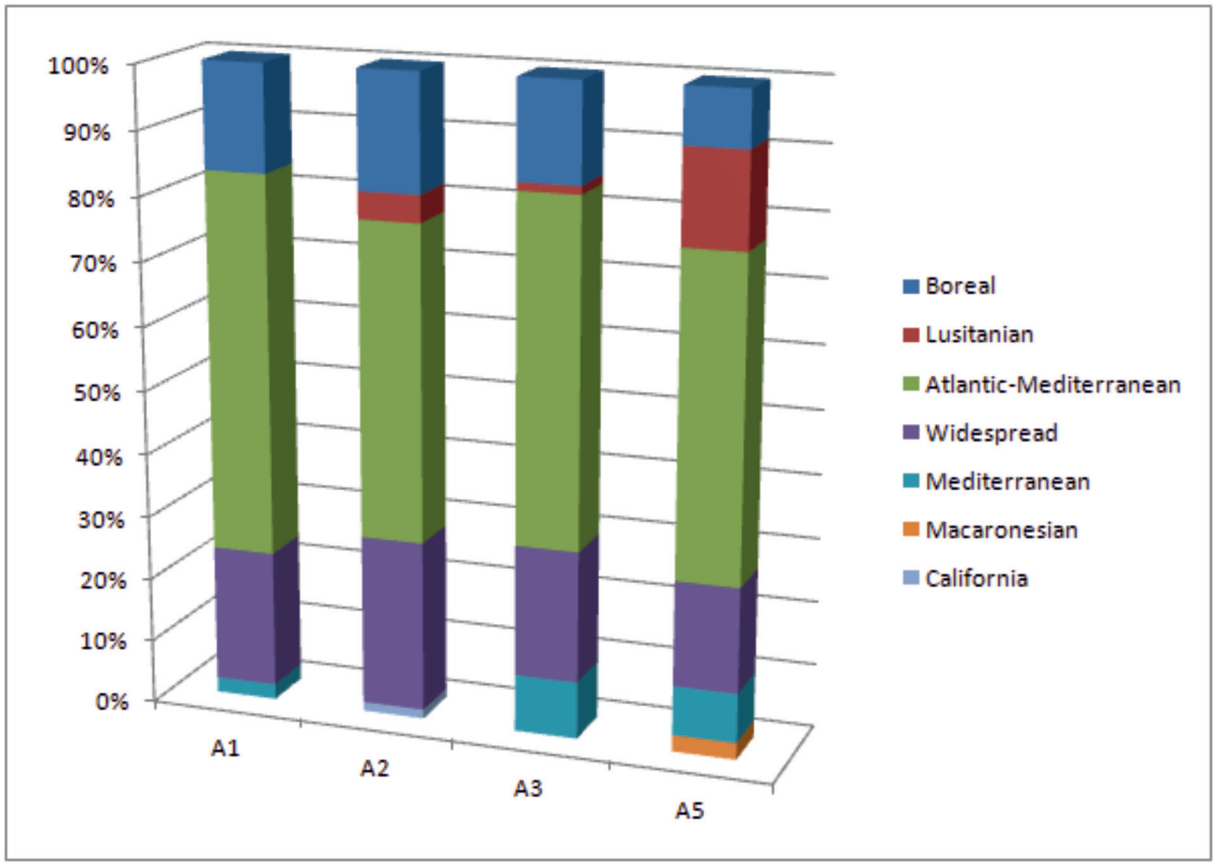

Figure 6. Biogeographic character of shallow waters species along Portuguese coast (see also Fig. 2).

Table VI. Biogeographic character of shallow waters species along Portuguese coast.

	Boreal	Lusitanian	Atlantic-Mediterranean	Widespread	Mediterranean	Macaronesian	California
A1	16,67%	0%	59,52%	21,43%	2,38%	0%	0%
A2	18,31%	4,23%	49,3%	26,76%	0%	0%	1,41%
A3	15,38%	1,28%	53,85%	20,51%	8,97%	0%	0%
A5	8,62%	14,66%	50%	16,38%	7,76%	2,59%	0%

number of species in areas 3 and 4 is quite reduced. There is a slight reduction in the presence of Lusitanian and boreal species from the north to the south. Mediterranean species are only present in the area 5, close to the Strait of Gibraltar and therefore influenced by the Mediterranean outflow. Macaronesian species are also present here, as well as in the area 4.

In shallow waters (Fig. 6, Table VI) we have excluded data from area 4 in the graphic, due to its low number of species. The proportion of Atlantic-Mediterranean species is similar in all areas, while the proportion of boreal species is slightly reduced from north to south. The high proportion of Lusitanian species in the area 5 is due to the recent description of a number of new species in recent years (e.g. Souto *et al.*, 2010 b). Mediterranean species are more abundant in the south, being absent in the area 2, while in the area 1 they are only represented by the species *Schizomavella mamillata*. Macaronesian species are only present in the area 5.

In short, both in deep and shallow waters there is a reduction of the proportion of boreal species from the north to the south, while with regards to Mediterranean species it is just upside down, as it

would be expected. Also, Macaronesian species are present only in the south of Portugal.

FURTHER WORK

As stated above, the number of Bryozoan species known nowadays in Portugal is surely far from the real species richness. Works published in the last few years (e.g. Boury-Esnault *et al*., 2001; Marchini *et al*., 2007; Souto *et al*., 2010 b, 2014) have added a large number of species to the Portuguese check-list. Therefore, it is clear that a stronger sampling effort will produce new results. For instance, at least 50 species more must be present in Portuguese waters, as they have been found in adjacent waters of the Iberian Peninsula, in most cases to the north and to the south of Portugal at the same time.

Regarding the littoral area, the southwest coast of Portugal (from Sado River to Cape S. Vincent) is nearly unstudied, as only few species were reported from Sines. On the other hand, deep waters around Portugal are still poorly known, especially also the southwest (areas 3 and 4). Most of the deep waters localities studied are placed in the north continental slope and the abyssal plane in the Gulf of Cadiz, but the continental shelf itself, the rest of the continental slope and abyssal plane are nearly unstudied. On the other hand, several seamounts are placed near the Portuguese coast (e.g. Vigo Seamount, Porto Seamount, Tore seamount or the Gorringe Bank, formed by the Ormonde and Gettysburg Seamounts); our knowledge of these areas is really low, although they are especially interesting from a taxonomic and ecological point of view.

As stated above, search of material coming from Portugal in different collections was not exhaustive. It is possible that more samples, as for instance those collected by Calvet (1931), are kept in different institutions, as the "Musée Océanographique de Monaco". On the other hand, although the material cited by Bethencourt Ferreira, Nobre, Rosas and Saldanha seems to have been lost, a definitive confirmation is still pending.

Many of the Lusitanian species present in deep waters were originally described from Portugal. Most of them are relatively little-known species that have only occasionally been reported or redescribed subsequently from non-type material; some later distributional records are in doubt and some aspects of the species have been misunderstood. Most of these species were originally described somewhat inadequately by modern standards. Correct characterization of species by the designation of types and their complete description according to current standards is therefore vital, a work that we have already started in several previous papers (Reverter-Gil & Fernández-Pulpeiro, 1999 a, 2005; Reverter-Gil *et al*., 2011; Souto *et al*., 2011 b).

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Appendix: List of localities, references and species in continental Portugal

(Area 1) North Coast: from Minho river to Douro river

Deep waters (320-1250 m)

Travailleur 1881, D. 2, 41º43'00''N, 09º19'26''W, 1068 m
(Jullien, 1882, 1883; Calvet, 1907; Harmelin, 1974, 1976; Reverter-Gil & Fernández-Pulpeiro, 1999 a, 1999 b, 2001, 2005; Reverter-Gil *et al*., 2011, 2012; Souto *et al*., 2011 b).

Stomatopora gingrina Jullien, 1882
Jullienipora calypsoides (Jullien, 1882)
Plagioecia inoedificata (Jullien, 1882)
"Idmonea" insolita Jullien, 1882
Crepis longipes Jullien, 1882
Notoplites evocatus (Jullien, 1882)
Setosella vulnerata (Busk, 1860)
Distansescharella alcicornis (Jullien, 1882)
Escharella longicollis (Jullien, 1882)
**Escharella abyssicola* (Norman, 1868)
Temachia opulenta Jullien, 1882
Prenantia spectrum (Jullien, 1882)
Hippoporina polygonia (Jullien, 1882)
Schizomavella fischeri (Jullien, 1882)
Schizomavella neptuni (Jullien, 1882)
Teuchopora edwardsi (Jullien, 1882)
"Microporella" insperata Jullien, 1882
Buskea billardi (Calvet, 1906)

Thalassa Y375, 41º34.6'N, 09º15.2'W, 460 m
(d'Hondt, 1974)
Porelloides laevis (Fleming, 1828)

Thalassa Y377, 41º32'N, 09º13.7'W, 320 m
(Hayward, 1979)
Buskea billardi (Calvet, 1906)

Thalassa Y374, 41º30.7'N, 09º19.9'W, 1250 m
(Hayward, 1979)
Metalcyonidium gautieri d'Hondt, 1975
Cellaria sinuosa (Hassall, 1841)
Euginoma vermiformis Jullien, 1882

Thalassa Y379, 41º28'N, 09º16.7'W, 1150 m
(Hayward, 1979)
Flustra foliacea (Linnaeus, 1758)

Thalassa Y426, 41º22.4'N, 09º11.4'W, 600 m
(d'Hondt, 1974)
Hippoporina polygonia (Jullien, 1882)

Thalassa Y425, 41º22.2'N, 09º09.8'W, 430 m
(d'Hondt, 1974)
Tervia irregularis (Meneghini, 1844)
Dendrobeania sessilis (d'Hondt, 1974)
Porelloides laevis (Fleming, 1828)
Schizomavella neptuni (Jullien, 1882)
Herentia hyndmanni (Johnston, 1847)

Thalassa Y389, 41º21.9'N, 09º10.3'W, 570 m
(d'Hondt, 1974)
Porelloides laevis (Fleming, 1828)

Thalassa Y422, 41º21.5'N, 09º10.7'W, 520 m
(d'Hondt, 1974)
Tervia irregularis (Meneghini, 1844)
Palmiskenea tenuis (Calvet, 1906)

Thalassa Y393, 41º20.6'N, 09º10.8'W, 820 m
(Hayward, 1979)
Palmiskenea skenei (Ellis & Solander, 1786)

Thalassa Y392, 41º19.7'N, 09º11.6'W, 550 m
(Hayward, 1979)
Buskea billardi (Calvet, 1906)

Thalassa Y395, 41º19.4'N, 09º14.4'W, 810 m
(d'Hondt, 1974)
Distansescharella alcicornis (Jullien, 1882)

Thalassa Y394, 41º18.6'N, 09º13.8'W, 410 m
(d'Hondt, 1974; Hayward, 1979; Souto *et al*., 2011 b)
Entalophoroecia deflexa (Couch, 1842)
Scrupocellaria incurvata Waters, 1896
Jubella enucleata Jullien, 1882

Schizomavella fischeri (Jullien, 1882)
Schizomavella neptuni (Jullien, 1882)
Reteporella aquitanica (Jullien *in* Jullien & Calvet, 1903)

Poseidon st. 3, 41°12.2'N, 09°21.4'W, 850-1000 m
(Souto *et al*., 2014)
Cellaria cf. *salicornioides* Lamouroux, 1816

Poseidon st. 2, 41°09.3'N, 09°20'W, 800-900 m
(Souto *et al*., 2014; present paper)
Crepis longipes Jullien, 1882
Distansescharella alcicornis (Jullien, 1882)
Escharella longicollis (Jullien, 1882)
Hemicyclopora sp.
Schizomavella fischeri (Jullien, 1882)
Schizomavella neptuni (Jullien, 1882)
Teuchopora edwardsi (Jullien, 1882)
Herentia thalassae David & Pouyet, 1978

Shallow waters (0-140 m)

Vila Praia de Âncora
(Ryland *et al*., 2011)
Bugula neritina (Linnaeus, 1758)

Oeiras Marina
(Ryland *et al*., 2011)
Bugula neritina (Linnaeus, 1758)

Molêdo do Minho, 41º51'00''N, 08º52'00''W
(Nobre, 1903 a, b, 1904)
Aetea anguina (Linnaeus, 1758)
Bicellariella ciliata (Linnaeus, 1758)

Praia do Carreço (Viana do Castelo), 41º44'36''N, 08º52'38''W
(Present paper)
Electra pilosa (Linnaeus, 1767)

Praia da Areosa (Viana do Castelo), 41º43'00''N, 08º51'53''W
(Present paper)
Aetea anguina (Linnaeus, 1758)
Electra pilosa (Linnaeus, 1767)
Schizoporella unicornis (Johnston *in* Wood, 1847)

Viana do Castelo, 41º40'18''N, 08º50'00''W
(Nobre, 1937)
Electra verticillata (Ellis & Solander, 1786)
Electra pilosa (Linnaeus, 1767)

Thalassa Y390, 41º22.8'N, 09º08.2'W, 140 m
(d'Hondt, 1974; Reverter Gil, 1995; Reverter-Gil & Fernández-Pulpeiro, 1996, 2001)
Microeciella suborbicularis (Hincks, 1880)
Puellina (Cribrilaria) venusta Canu & Bassler, 1925
Porelloides laevis (Fleming, 1828)
Schizomavella linearis (Hassall, 1841)
Reteporella beaniana (King, 1846)

Póvoa de Varzim, 41º22'30''N, 08º46'00''W, 0-? m
(Nobre, 1903 a, 1904, 1937, 1942)
Exidmonea atlantica (Forbes in Johnston, 1847)
Plagioecia patina (Lamarck, 1816)
Entalophoroecia deflexa (Couch, 1842)
Diplosolen obelia (Johnston, 1838)
Crisia eburnea (Linnaeus, 1758)
Disporella hispida (Fleming, 1828)
Electra pilosa (Linnaeus, 1767)

Mindelo, 41º18'38''N, 08º44'30''W
(Rosas, 1944)
Callopora lineata (Linnaeus, 1767)
**Cradosrupocellaria reptans* (Linnaeus, 1758)

Leixões
(Nobre, 1903 a, 1904; Rosas, 1944)
**Alcyonidium* spp.
Walkeria uva (Linnaeus, 1758)
Membranipora membranacea (Linnaeus, 1767)
Conopeum reticulum (Linnaeus, 1767)
Chartella papyracea (Ellis & Solander, 1786)
Bicellariella ciliata (Linnaeus, 1758)

Leça de Palmeira, 41º12'32.9''N, 08º42'52.8''W
(Nobre, 1904; Souto *et al.*, 2014; present paper)
Bowerbankia gracillima (Hincks, 1877)
Aetea anguina (Linnaeus, 1758)
Electra verticillata (Ellis & Solander, 1786)

Electra pilosa (Linnaeus, 1767)
Conopeum reticulum (Linnaeus, 1767)
Celleporella hyalina (Linnaeus, 1767)
Haplopoma graniferum (Johnston, 1847)
Cryptosula pallasiana (Moll, 1803)

Matosinhos, 41º10'00''N, 08º41'30''W
(Nikulina *et al*., 2012)
Electra verticillata (Ellis & Solander, 1786)

Oporto
(Nikulina *et al*., 2012)
Electra verticillata (Ellis & Solander, 1786)

Foz do Douro, 41º09'00''N 08º40'30''W
(Nobre, 1903 a, b, 1904; Rosas, 1944)
Entalophoroecia deflexa (Couch, 1842)
Crisia eburnea (Linnaeus, 1758)
Crisidia cornuta (Linnaeus, 1758)
Disporella hispida (Fleming, 1828)
Walkeria uva (Linnaeus, 1758)
Mimosella gracilis (Hincks, 1851)
Amathia lendigera (Linnaeus, 1758)
Bowerbankia imbricata (Adams, 1798)
Aetea anguina (Linnaeus, 1758)
Scruparia chelata (Linnaeus, 1758)
Membranipora membranacea (Linnaeus, 1767)
Electra verticillata (Ellis & Solander, 1786)
Chartella papyracea (Ellis & Solander, 1786)
Bicellariella ciliata (Linnaeus, 1758)
Scrupocellaria scruposa (Linnaeus, 1758)
**Cradosrupocellaria reptans* (Linnaeus, 1758)
**Micropora coriacea* (Johnston, 1847)
Membraniporella nitida (Johnston, 1838)
Hippothoa flagellum Manzoni, 1870
Celleporella hyalina (Linnaeus, 1767)
Escharella ventricosa (Hassall, 1842)
Smittina landsborovii (Johnston, 1847)
Smittoidea reticulata (J. MacGillivray, 1842)
Schizomavella linearis (Hassall, 1841)
Schizomavella mamillata (Hincks, 1880)
Schizoporella unicornis (Johnston *in* Wood, 1847)
Cryptosula pallasiana (Moll, 1803)
Fenestrulina malusii (Audouin, 1826)
Cellepora pumicosa (Pallas, 1766)

(Area 2) Central Coast: from Douro river to Tagus river

Deep waters (35-1241 m)

Thalassa Y399, 40º45.8'N, 09º17.5'W, 330 m
(d'Hondt, 1974)
Plagioecia patina (Lamarck, 1816)
Tervia irregularis (Meneghini, 1844)
Porelloides laevis (Fleming, 1828)
Tessaradoma gracile (Sars, 1850)
Herentia hyndmanni (Johnston, 1847)
Buskea billardi (Calvet, 1906)

Thalassa Y400, 40º45.6'N, 09º19'W, 800 m
(d'Hondt, 1974; Hayward, 1979; Reverter-Gil *et al*., 2012; Kuklinski *et al*., 2013)
Tervia irregularis (Meneghini, 1844)
Scrupocellaria incurvata Waters, 1896
Setosella vulnerata (Busk, 1860)
"*Palmicellaria" inermis* Jullien, 1882
Marguetta lorea (Alder, 1864)
Tessaradoma boreale (Busk, 1860)
Smittina crystallina (Norman, 1867)
Pseudoflustra perrieri (Jullien, 1882)
Buskea billardi (Calvet, 1906)
Reteporella aquitanica (Jullien *in* Jullien & Calvet, 1903)

Thalassa Y401, 40º36.8'N, 09º21.5'W, 1040 m
(d'Hondt, 1974; Hayward, 1979; Reverter-Gil & Fernández-Pulpeiro, 2001)
Metalcyonidium gautieri d'Hondt, 1975
Euginoma vermiformis Jullien, 1882
Hippoporina sp.
Fedora edwardsi Jullien, 1882

Thalassa Y410, 40º34.4'N, 09º22.1'W, 360 m
(d'Hondt, 1974, Reverter-Gil & Fernández-Pulpeiro, 1999 b, 2001)
Entalophoroecia deflexa (Couch, 1842)
Distansescharella alcicornis (Jullien, 1882)
Escharella longicollis (Jullien, 1882)
Herentia hyndmanni (Johnston, 1847)

Thalassa Y415, 40º34.3'N, 09º22.6'W, 450 m
(d'Hondt, 1974; Reverter-Gil & Fernández-Pulpeiro, 2001; Souto *et al*., 2011 b; Kuklinski *et al*., 2013)

Tervia irregularis (Meneghini, 1844)
Canda ligata (Jullien, 1882)
Jubella enucleata Jullien, 1882
Porelloides laevis (Fleming, 1828)
"*Palmicellaria" inermis* Jullien, 1882
Pseudoflustra radeki Kuklinski *et al*., 2013
Reteporella aquitanica (Jullien *in* Jullien & Calvet, 1903)
Reteporella jullieni (Calvet, 1907)

Thalassa Y409, 40º34.2'N, 09º22.4'W, 405 m
(d'Hondt, 1974)
Scrupocellaria incurvata Waters, 1896

Thalassa Y407, 40º33.5'N, 09º24'W, 740 m
(Hayward, 1979)
Metalcyonidium gautieri d'Hondt, 1975
Euginoma vermiformis Jullien, 1882

Thalassa Y405, 40º33.1'N, 09º26.5'W, 1170 m
(Hayward, 1979; d'Hondt & Hayward, 1981; Reverter-Gil & Fernández-Pulpeiro, 2001; Souto *et al*., 2011b; Reverter-Gil *et al*., 2012)
Pachyzoon atlanticum d'Hondt, 1983
Metalcyonidium gautieri d'Hondt, 1975
Setosella vulnerata (Busk, 1860)
Euginoma vermiformis Jullien, 1882
Fedora edwardsi Jullien, 1882

Poseidon st. 13, 40°09.1'N, 09°49.9'W, 35-930 m
(Souto *et al*., 2014; present paper)
Schizomavella linearis profunda Harmelin & d'Hondt, 1992
Schizomavella neptuni (Jullien, 1882)

Poseidon st. 12, 40°08.2'N, 09°50.5'W, 1050 m
(Souto *et al*., 2014)
Alderina imbellis (Hincks, 1860)
Smittina jordii Reverter-Gil & Fernández-Pulpeiro, 1999

Princesse Alice st. 2743, 40º05'N, 09º54'W, 1241 m
(Calvet, 1931)
Gemellipora eburnea Smitt, 1873

Poseidon st. 15, 39°12.1'N, 10°09.2'W, 450-520 m
(Souto *et al*., 2014)
Smittina jordii Reverter-Gil & Fernández-Pulpeiro, 1999

Shallow waters (0-130 m)

Ria de Aveiro, 40º39'00''N, 08º39'00''W
(Marchini *et al*., 2007)
Bowerbankia gracilis Leidy, 1855
Bowerbankia gracillima (Hincks, 1877)
Bowerbankia citrina (Hincks, 1877)
Buskia nitens Alder, 1857
Buskia socialis Hincks, 1887
Scruparia chelata (Linnaeus, 1758)
Scruparia ambigua (d'Orbigny, 1841)
Electra pilosa (Linnaeus, 1767)
Electra monostachys (Busk, 1854)
Conopeum reticulum (Linnaeus, 1767)
Conopeum seurati (Canu, 1928)
Bugula neritina (Linnaeus, 1758)
Bugula stolonifera Ryland, 1960
Tricellaria inopinata d'Hondt & Occhipinti Ambrogi, 1985
Haplopoma graniferum (Johnston, 1847)
Cryptosula pallasiana (Moll, 1803)

Buarcos, 40º10'43.0''N, 08º54'20.1''W
(Nobre, 1937; Souto *et al*., 2014; present paper)
Bowerbankia gracillima (Hincks, 1877)
Electra verticillata (Ellis & Solander, 1786)
Electra pilosa (Linnaeus, 1767)
Conopeum reticulum (Linnaeus, 1767)
Chartella papyracea (Ellis & Solander, 1786)
Scrupocellaria scruposa (Linnaeus, 1758)
Celleporella hyalina (Linnaeus, 1767)
Haplopoma graniferum (Johnston, 1847)
Escharella immersa (Fleming, 1828)
Cryptosula pallasiana (Moll, 1803)

Figueira da Foz, 40º10'00''N, 08º53'00''W
(Nikulina *et al*., 2012)
Electra verticillata (Ellis & Solander, 1786)

C.E. Charcot St. 1, 40º01'N, 09º44'W, 130 m (Reverter-Gil & Fernández-Pulpeiro, 1996; Souto *et al*., 2014; present paper)
- *Puellina (Cribrilaria) venusta* Canu & Bassler, 1925
- *Schizomavella auriculata* (Hassall, 1842)
  - *Escharina vulgaris* (Moll, 1803)

S. Pedro de Moel, 39º45'25''N 09º02'00''W (Nobre, 1937)
- *Electra verticillata* (Ellis & Solander, 1786)

Vale Furado, 39º41'06.0''N, 09º03'25.8''W (Souto *et al*., 2014; present paper)
- *Aetea anguina* (Linnaeus, 1758)
- *Scruparia chelata* (Linnaeus, 1758)
- *Electra verticillata* (Ellis & Solander, 1786)
- *Electra pilosa* (Linnaeus, 1767)
- *Callopora dumerilii* (Audouin, 1826)
- *Bicellariella ciliata* (Linnaeus, 1758)
- *Scrupocellaria scruposa* (Linnaeus, 1758)
- *Celleporella hyalina* (Linnaeus, 1767)
- *Celleporella angusta* Álvarez, 1991
- *Haplopoma graniferum* (Johnston, 1847)
- *Schizomavella grandiporosa* Canu & Bassler, 1925
- *Schizomavella linearis* (Hassall, 1841)
- *Cellepora pumicosa* (Pallas, 1766)

Nazaré, 39º36'10''N, 09º04'50''W (Ryland *et al*., 2011; Nikulina *et al*., 2012)
- *Electra verticillata* (Ellis & Solander, 1786)
- *Bugula neritina* (Linnaeus, 1758)

Ponta do Surdão, 39º28'20''N, 09º12'20''W (Marques *et al*., 1982)
- *Electra pilosa* (Linnaeus, 1767)
- *Celleporella hyalina* (Linnaeus, 1767)
- *Haplopoma graniferum* (Johnston, 1847)

Farilhoes, 39º28'35''N, 09º32'45''W, ? m (Nobre, 1937; Nobre & Braga, 1942)
- *Electra pilosa* (Linnaeus, 1767)

Berlengas, 39º24'50''N, 09º30'30''W (Nobre, 1937; Nobre & Braga, 1942; Rosas, 1944)
- *Crisia eburnea* (Linnaeus, 1758)
- *Crisia denticulata* (Lamarck, 1816)
- *Crisidia cornuta* (Linnaeus, 1758)
- *Amathia lendigera* (Linnaeus, 1758)
- *Bowerbankia pustulosa* (Ellis & Solander, 1786)
- *Zoobotryon verticillatum* (Della Chiaje, 1822)
- *Aetea anguina* (Linnaeus, 1758)
- *Aetea sica* (Couch, 1844)
- *Scruparia chelata* (Linnaeus, 1758)
- *Membranipora membranacea* (Linnaeus, 1767)
- *Electra verticillata* (Ellis & Solander, 1786)
- *Electra pilosa* (Linnaeus, 1767)
- *Securiflustra securifrons* (Pallas, 1766)
- **Cradosrupocellaria reptans* (Linnaeus, 1758)
- *Cellaria fistulosa* (Linnaeus, 1758)

Beach of Baleal, 39º22'18.8''N, 09º19'56.8''W (Souto *et al*., 2014; present paper)
- *Filicrisia geniculata* (Milne Edwards, 1838)
- *Nollela gigantea* (Busk, 1856)
- *Anguinella palmata* van Beneden, 1845
- *Bantariella verticillata* (Heller, 1867)
- *Bowerbankia gracillima* (Hincks, 1877)
- *Aetea anguina* (Linnaeus, 1758)
- *Scruparia chelata* (Linnaeus, 1758)
- *Scruparia ambigua* (d'Orbigny, 1841)
- *Chartella papyracea* (Ellis & Solander, 1786)
- *Bugula fulva* Ryland, 1960
- *Bicellariella ciliata* (Linnaeus, 1758)
- *Scrupocellaria scruposa* (Linnaeus, 1758)
- *Celleporella hyalina* (Linnaeus, 1767)
- *Haplopoma graniferum* (Johnston, 1847)
- *Schizomavella grandiporosa* Canu & Bassler, 1925
- *Schizomavella linearis* (Hassall, 1841)
- *Cryptosula pallasiana* (Moll, 1803)
- *Turbicellepora magnicostata* (Barroso, 1919)

Ponta do Baleal, 39º22'45''N, 09º20'30''W (Marques *et al*., 1982)
- *Aetea anguina* (Linnaeus, 1758)
- *Scrupocellaria scruposa* (Linnaeus, 1758)
- *Plesiothoa gigerium* (Ryland & Gordon, 1977)
- *Haplopoma bimucronatum* (Moll, 1803)

Cape Papoa, 39º22'34''N, 09º22'44''W
(Marques *et al*., 1982)
Haplopoma impressum (Audouin, 1826)
Haplopoma graniferum (Johnston, 1847)

Cape Carvoeiro, 39º21'30''N, 09º24'30''W
(Marques *et al*., 1982)
Plagioecia patina (Lamarck, 1816)

Peniche, 39º19'30''N, 09º21'30''W
(Nobre, 1937; Ryland *et al*., 2011; Souto *et al*., 2011 a)
Bowerbankia citrina (Hincks, 1877)
Bugula neritina (Linnaeus, 1758)
Cellaria fistulosa (Linnaeus, 1758)

NW Facho (between Cabo Carvoeiro e Raso), 82 m
(Nobre, 1942)
Disporella hispida (Fleming, 1828)

W Magoita (between Cabo Carvoeiro e Raso), 120 m
(Nobre, 1942)
Exidmonea atlantica (Forbes in Johnston, 1847)
Disporella hispida (Fleming, 1828)

Beach of Galé, 38º43'28.8''N, 09º28'33.1''W
(Present paper)
Aetea anguina (Linnaeus, 1758)
Bicellariella ciliata (Linnaeus, 1758)
Haplopoma graniferum (Johnston, 1847)
Schizomavella linearis (Hassall, 1841)

Cape Roca, 38º46.5'N 09º34.4'W, 80 m
(Pérès, 1959)
Scrupocellaria scrupea Busk, 1852

Cape Roca, 38º46.3'N 09º32'W, 52 m
(Pérès, 1959)
Porella compressa (J. Sowerby, 1805)
Pentapora fascialis (Pallas, 1766)

Boca do Inferno, 38º41'33.9''N, 09º26'01.9''W, 0-7 m
(Souto *et al*., 2014; present paper)
Filicrisia geniculata (Milne Edwards, 1838)
Bowerbankia gracillima (Hincks, 1877)
Aetea anguina (Linnaeus, 1758)
Scruparia chelata (Linnaeus, 1758)
Scruparia ambigua (d'Orbigny, 1841)
Chartella papyracea (Ellis & Solander, 1786)
Bugula fulva Ryland, 1960
Scrupocellaria scruposa (Linnaeus, 1758)
Membraniporella nitida (Johnston, 1838)
Celleporella hyalina (Linnaeus, 1767)
Chorizopora brongniartii (Audouin, 1826)
Smittina landsborovii (Johnston, 1847)
Schizomavella hastata (Hincks, 1862)
Schizomavella linearis (Hassall, 1841)
Cryptosula pallasiana (Moll, 1803)
Microporella ciliata (Pallas, 1766)
Cellepora pumicosa (Pallas, 1766)
Celleporina hassallii (Johnston, 1847)

Cascais, 38º41'20''N, 09º25'20''W
(Rosas, 1944; Ryland *et al*., 2011; Canning-Clode *et al*., in press; Souto *et al*., 2014)
Oncousoecia dilatans (Johnston, 1847)
Tubulipora flabellaris (Fabricius, 1780)
Crisia eburnea (Linnaeus, 1758)
Crisia denticulata (Lamarck, 1816)
Crisidia cornuta (Linnaeus, 1758)
Aetea anguina (Linnaeus, 1758)
Scruparia chelata (Linnaeus, 1758)
Chartella papyracea (Ellis & Solander, 1786)
Bugula neritina (Linnaeus, 1758)
Bugula turbinata Alder, 1857
Scrupocellaria scruposa (Linnaeus, 1758)
Scrupocellaria scrupea Busk, 1852
**Cradosrupocellaria reptans* (Linnaeus, 1758)
Celleporella hyalina (Linnaeus, 1767)
Haplopoma impressum (Audouin, 1826)
Chorizopora brongniartii (Audouin, 1826)
*Celleporaria brunnea (*Hincks, 1884)
Escharoides coccinea (Abildgaard, 1806)
Umbonula ovicellata Hastings, 1944
Smittina landsborovii (Johnston, 1847)
Schizomavella hastata (Hincks, 1862)
Watersipora subtorquata (d'Orbigny, 1852)
Microporella ciliata (Pallas, 1766)
Celleporina hassallii (Johnston, 1847)

Estoril, 38º42’00’’N, 09º24’00’’W
(Nobre, 1903 a, b, 1904)
Tubulipora flabellaris (Fabricius, 1780)
Pherusella tubulosa (Ellis & Solander, 1786)
Aetea anguina (Linnaeus, 1758)
Electra verticillata (Ellis & Solander, 1786)
Chartella papyracea (Ellis & Solander, 1786)
**Cradosrupocellaria reptans* (Linnaeus, 1758)
Cellaria fistulosa (Linnaeus, 1758)
Celleporella hyalina (Linnaeus, 1767)
Haplopoma impressum (Audouin, 1826)

Beach Azarujinha (São João do Estoril), 38º42’00’’N, 09º23’00’’W
(Souto *et al*., 2014)
Cryptosula pallasiana (Moll, 1803)

Beach Avencas (Parede), 38º41’00’’N, 09º21’30’’W
(Present paper)
Electra pilosa (Linnaeus, 1767)

Parede, 38º41’00’’N, 09º21’00’’W
(Nobre, 1903 b, 1904)
Tubulipora flabellaris (Fabricius, 1780)
Porella compressa (J. Sowerby, 1805)

Beach El-Rei (Carcavelos), 38º41’00’’N, 09º20’30’’W
(Present paper)
Electra pilosa (Linnaeus, 1767)

(Area 3) South Coast: from Tagus river to Cape St. Vincent

Deep waters (250-460 m)

Faial 1957, st. SME 1192, 38º16.8’N 08º56.4’W, 250-300 m
(Harmelin, 1978, 1988)
Puellina (Cribrilaria) venusta Canu & Bassler, 1925
Puellina (Glabrilaria) orientalis lusitanica Harmelin, 1988
Puellina (Glabrilaria) pedunculata Gautier, 1956

Travailleur Dr. 25, 38º06’00’’N, 09º10’46’’W, 460 m
(Souto *et al*., 2011 b)
Setosella folini Jullien, 1882

Shallow waters (0-117 m)

Cape Espichel, 38º24.3’N, 09º13.9’W, 27-36 m
(Pérès, 1959)
Caberea boryi (Audouin, 1826)
**Cradosrupocellaria reptans* (Linnaeus, 1758)
Pentapora fascialis (Pallas, 1766)
Myriapora truncata (Pallas, 1766)

38º23.7’N, 09º12.9’W - 38º23.9’N, 09º12.7’W, 70-90 m
(Pérès, 1959)
Myriapora truncata (Pallas, 1766)

Sesimbra, 38º26’30’’N, 09º06’00’’W
(Nobre, 1937)
Crisia denticulata (Lamarck, 1816)
Membranipora membranacea (Linnaeus, 1767)
**Cradosrupocellaria reptans* (Linnaeus, 1758)

Costa da Arrábida, 38º27’30’’N, 09º00’00’’W
(Saldanha, 1974; d’Hondt, 1983; Souto *et al*., 2010 a)
Tubulipora cf. *plumosa* Harmer, 1898
Crisia eburnea (Linnaeus, 1758)
Crisia cf. *ramosa* Harmer, 1891
Filicrisia geniculata (Milne Edwards, 1838)
Pherusella tubulosa (Ellis & Solander, 1786)
Nollela gigantea (Busk, 1856)
Nolella dilatata (Hincks, 1860)
Walkeria uva (Linnaeus, 1758)
Bantariella verticillata (Heller, 1867)
Farrella repens (Farre, 1837)
Amathia lendigera (Linnaeus, 1758)
Amathia semiconvoluta Lamouroux, 1824
Bowerbankia gracilis Leidy, 1855
Bowerbankia gracillima (Hincks, 1877)
Aetea anguina (Linnaeus, 1758)
Aetea sica (Couch, 1844)
Aetea truncata (Landsborough, 1852)

Scruparia ambigua (d'Orbigny, 1841)
Scruparia chelata (Linnaeus, 1758)
Membranipora membranacea (Linnaeus, 1767)
Electra pilosa (Linnaeus, 1767)
Electra monostachys (Busk, 1854)
Callopora dumerilii (Audouin, 1826)
Rosseliana rosselii (Audouin, 1826)
Chartella papyracea (Ellis & Solander, 1786)
Bugula fulva Ryland, 1960
Bugula turbinata Alder, 1857
Bugula plumosa (Pallas, 1766)
Bugula flabellata (Thompson in Gray)
Beania mirabilis (Johnston, 1840)
Beania hirtissima (Heller, 1867)
Caberea boryi (Audouin, 1826)
Scrupocellaria scruposa (Linnaeus, 1758)
Scrupocellaria scrupea Busk, 1852
Scrupocellaria delilii (Audouin, 1826)
**Cradosrupocellaria reptans* (Linnaeus, 1758)
Mollia patellaria (Moll, 1803)
Cellaria sinuosa (Hassall, 1841)
Cellaria fistulosa (Linnaeus, 1758)
Membraniporella nitida (Johnston, 1838)
Savignyella lafontii (Audouin, 1826)
Hippothoa divaricata Lamouroux, 1821
Celleporella hyalina (Linnaeus, 1767)
Haplopoma impressum (Audouin, 1826)
Haplopoma bimucronatum (Moll, 1803)
Chorizopora brongniartii (Audouin, 1826)
Escharoides coccinea (Abildgaard, 1806)
Escharella variolosa (Johnston, 1838)
Smittina landsborovii (Johnston, 1847)
Pentapora fascialis (Pallas, 1766)
Pentapora ottomulleriana (Moll, 1803)
Schizomavella hastata (Hincks, 1862)
Schizomavella linearis (Hassall, 1841)
Schizoporella unicornis (Johnston in Wood, 1847)
**Schizoporella mutabilis* Calvet, 1927
Schizobrachiella sanguinea (Norman, 1868)
Myriapora truncata (Pallas, 1766)
Microporella ciliata (Pallas, 1766)
Fenestrulina malusii (Audouin, 1826)
Cellepora pumicosa (Pallas, 1766)
Celleporina hassallii (Johnston, 1847)
Celleporina caminata (Waters, 1879)
Rhynchozoon bispinosum (Johnston, 1847)

Portinho da Arrábida, 38º28'00''N 08º59'00''W (Rosas, 1944)
Oncousoecia dilatans (Johnston, 1847)
Tubulipora flabellaris (Fabricius, 1780)
Plagioecia patina (Lamarck, 1816)
Crisia eburnea (Linnaeus, 1758)
Crisidia cornuta (Linnaeus, 1758)
Aetea anguina (Linnaeus, 1758)
Scruparia chelata (Linnaeus, 1758)
Chartella papyracea (Ellis & Solander, 1786)
Bugulopsis peachi (Busk, 1851)
**Cradosrupocellaria reptans* (Linnaeus, 1758)
Hippothoa divaricata Lamouroux, 1821
Celleporella hyalina (Linnaeus, 1767)
Haplopoma impressum (Audouin, 1826)
Chorizopora brongniartii (Audouin, 1826)
Reptadeonella violacea (Johnston, 1847)
Pentapora fascialis (Pallas, 1766)
Watersipora complanata (Norman, 1864)
Microporella ciliata (Pallas, 1766)
Fenestrulina malusii (Audouin, 1826)
Celleporina hassallii (Johnston, 1847)

Setúbal, 38º30'00''N, 08º54'00''W (Nobre, 1903 b, 1904, 1937)
Crisia denticulata (Lamarck, 1816)
Bugula plumosa (Pallas, 1766)
Cellaria fistulosa (Linnaeus, 1758)
Porella compressa (J. Sowerby, 1805)
Microporella ciliata (Pallas, 1766)

Off Sado River, 38º25'00''N, 08º55'00''W, ? m (Souto *et al*., 2014; present paper)
Bugula neritina (Linnaeus, 1758)
Bugula flabellata (Thompson in Gray)

Malhada, 38º16'N, 08º49.2'W, 43 m (Pérès, 1959)
Porella compressa (J. Sowerby, 1805)

Sines, 37º57'30''N, 08º53'00''W (Nobre, 1937; Ryland *et al*., 2011)
Scruparia chelata (Linnaeus, 1758)
Membranipora membranacea (Linnaeus, 1767)
Electra verticillata (Ellis & Solander, 1786)
Bugula neritina (Linnaeus, 1758)

Praia de São Torpes (Sines), 37º55'00''N, 08º48'15''W
(Souto *et al*., 2014; present paper)
Electra pilosa (Linnaeus, 1767)
Cryptosula pallasiana (Moll, 1803)
Cellepora pumicosa (Pallas, 1766)
Turbicellepora magnicostata (Barroso, 1919)

Praia da Ilha (Sines), 37º50'00''N, 08º47'30''W
(Present paper)
Electra pilosa (Linnaeus, 1767)

37º40.8'N, 08º50.7'W, 54 m
(Pérès, 1959)
Smittina cervicornis (Pallas, 1766)

37º14.7'N 09º01.5'W, 114-117 m
(Harmelin, 1978)
Puellina (Cribrilaria) venusta Canu & Bassler, 1925

(Area 4) South West: Cape St. Vincent

Deep waters (600-2789 m)

Challenger st. VI, 36º23'N, 11º18'W, 2789 m
(Wyville Thomson, 1877; Busk, 1884
Kinetoskias cyathus (Wyville Thomson, 1877)

Jean Charcot Stn 076, 36º34.99'N, 11º38.29'W, 600 m
(d'Hondt 1973, part, see Berning *et al*. 2008)
Herentia hyndmanni (Johnston, 1847)

Balgim DW11, 36º44.2'N, 09º31.4'W, 1523 m
(Harmelin & d'Hondt, 1992 a; Souto *et al*., 2011 b; Reverter-Gil *et al*., 2012)
Clavodesia clavula (Hayward, 1978)
Setosella folini Jullien, 1882
Euginoma vermiformis Jullien, 1882
Euginoma reticulata d'Hondt, 1981
Ascosia pandora Jullien, 1882

Balgim KR15, 36º46.4'N 09º30.1'W, 1305 m
(Harmelin & d'Hondt, 1992 a; Souto *et al*., 2011 b)
Setosella folini Jullien, 1882

Balgim DW16, 36º45.8'N, 09º29.4'W, 1283 m
(Harmelin & d'Hondt, 1992 a, b)
Metalcyonidium gautieri d'Hondt, 1975
Pseudalcyonidium bobinae d'Hondt, 1975
Setosella folini Jullien, 1882
Euginoma vermiformis Jullien, 1882
Ascosia pandora Jullien, 1882

Balgim CP17, 36º45.3'N, 9º30.8'W, 1470 m
(Harmelin & d'Hondt, 1992 a)
Fedora edwardsi Jullien, 1882

Balgim CP14, 36º44.1'N, 09º27.6'W, 1318 m
(Harmelin & d'Hondt, 1992 a)
Euginoma vermiformis Jullien, 1882

Balgim DW07, 36º46.1'N, 09º27.0'W, 1141 m
(Harmelin & d'Hondt, 1992 a, b; Souto *et al*., 2011 b; Reverter-Gil *et al*., 2012; Berning, 2013)
Metalcyonidium gautieri d'Hondt, 1975
Pseudalcyonidium bobinae d'Hondt, 1975
Setosella folini Jullien, 1882
Setosella sp.
Euginoma vermiformis Jullien, 1882
Characodoma strangulatum (Calvet, 1906)
Ascosia pandora Jullien, 1882

Balgim DR06, 36°46.2'N 09°26.8'W, 1114 m
(Present paper)
Setosella vulnerata (Busk, 1860)
Euginoma vermiformis Jullien, 1882
Fedora edwardsi Jullien, 1882

Balgim CP03, 36º50.4'N, 09º14.9'W, 681 m
(Harmelin & d'Hondt, 1992 b)
Metalcyonidium gautieri d'Hondt, 1975

Shallow waters (21-116 m)

Cape S. Vicente, 37º01.3'N, 09º00.8'W, 49 m
(Pérès, 1959)
Porella compressa (J. Sowerby, 1805)
Pentapora fascialis (Pallas, 1766)

Cape S. Vicente, 37º01'N, 08º59.8'W, 21-23 m
(Pérès, 1959)
Electra pilosa (Linnaeus, 1767)

Princesse Alice st. 2731, 36º32'N, 11º38'30''W, 65-90 m
(Calvet, 1931, Harmelin, 1976)
Entalophoroecia deflexa (Couch, 1842)
Cellaria salicornioides Lamouroux, 1816
Schizomavella linearis (Hassall, 1841)

Princesse Alice st. 1664, 36º31'30''N, 11º34'W, 116 m
(Calvet, 1931)
Cellaria salicornioides Lamouroux, 1816
Adeonellopsis distoma (Busk, 1858)

Princesse Alice st. 467, 36º31'N, 11º33'45''W, 60 m
(Calvet 1931, Harmelin, 1976)
Tubulipora phalangea Couch, 1844
Entalophoroecia deflexa (Couch, 1842)
Chorizopora brongniartii (Audouin, 1826)
Celleporina hassallii (Johnston, 1847)

(Area 5) Algarve: from Cape St. Vincent to Guadiana river

Deep waters (452-2035 m)

Balgim CP108, 36º10.8'N, 08º06.2'W, 1527 m
(Harmelin & d'Hondt, 1992 a, b; Reverter-Gil & Fernández-Pulpeiro, 2001; Reverter-Gil *et al*., 2012)
Pseudalcyonidium bobinae d'Hondt, 1975
Clavodesia clavula (Hayward, 1978)
Setosellina roulei Calvet, 1906
Euginoma vermiformis Jullien, 1882
Ascosia pandora Jullien, 1882
Buskea billardi (Calvet, 1906)

Balgim DW107, 36º05.0'N, 08º05.6'W, 1917 m
(Harmelin & d'Hondt, 1992 a; Souto *et al*., 2011 b)
Bugulella elegans Hayward, 1978
Euginoma vermiformis Jullien, 1882

Balgim DW159, 36º14.9'N, 08º02.5'W, 1360 m
(Harmelin & d'Hondt, 1992 b)
Pseudalcyonidium bobinae d'Hondt, 1975

Princesse Alice st. 1248, 36º08'N, 08º02'45''W, 1500 m
(Calvet, 1931)
Adeonellopsis distoma (Busk, 1858)

Balgim CP109, 36º14.5'N, 07º56.4'W, 1200 m
(Harmelin & d'Hondt, 1992 a)
Fedora edwardsi Jullien, 1882

Balgim DW157, 36º21.0'N, 07º55.8'W, 1108 m
(Harmelin & d'Hondt, 1992 a; Souto *et al*., 2014)
Pachyzoon atlanticum d'Hondt, 1983
Hippothoa flagellum Manzoni, 1870
Gemellipora eburnea Smitt, 1873
Escharella longicollis (Jullien, 1882)

Balgim CP68, 35º11.9'N, 07º52.6'W, 2035 m
(Harmelin & d'Hondt, 1992 a; Reverter-Gil & Fernández-Pulpeiro, 2001)
Setosellina roulei Calvet, 1906

Balgim DW64, 35º30.5'N, 07º46.1'W, 1530 m
(Harmelin & d'Hondt, 1992 a; Reverter-Gil & Fernández-Pulpeiro, 2001; Reverter-Gil *et al*., 2012)
Scrupocellaria incurvata Waters, 1896
Clavodesia clavula (Hayward, 1978)
Setosellina roulei Calvet, 1906
Fedora edwardsi Jullien, 1882

Balgim CP155, 36º19.8'N, 07º40.6'W, 903 m
(Harmelin & d'Hondt, 1992 a, b)
Crisia tenella Calvet, 1906
Metalcyonidium gautieri d'Hondt, 1975
Euginoma vermiformis Jullien, 1882

SE Faro, 36°42.7'N, 07°39.1'W - 36°41.0'N, 07°31.3'W, 580-630 m
(Gautier, 1961; d'Hondt, 1983)
Triticellopsis tissieri Gautier, 1961

Balgim CP62, 35º31.3'N, 07º26.2'W, 1250 m
(Harmelin & d'Hondt, 1992 a)
Fedora edwardsi Jullien, 1882

Balgim DW61, 35º31.3'N, 07º25.6'W, 1222 m
(Harmelin & d'Hondt, 1992 a; Reverter-Gil & Fernández-Pulpeiro, 2001)

Setosellina roulei Calvet, 1906
Ascosia pandora Jullien, 1882

Balgim DW20, 36º35.9'N, 07º24.5'W, 452 m
(Harmelin & d'Hondt, 1992 a, b)
Metalcyonidium gautieri d'Hondt, 1975
Crisia tenella Calvet, 1906
Setosella vulnerata (Busk, 1860)

Balgim CP21, 36º36.5'N, 07º24.0'W, 485 m
(Harmelin & Arístegui, 1988; Harmelin & d'Hondt, 1992 a, b)
Entalophoroecia gracilis Harmelin, 1976
Patinella spp.
Copidozoum exiguum (Barroso, 1920)
Puellina (Cribrilaria) scripta (Reuss, 1848)
Smittina crystallina (Norman, 1867)
Schizomavella fischeri (Jullien, 1882)
Sertulipora guttata Harmelin & d'Hondt, 1992
Herentia hyndmanni (Johnston, 1847)

Balgim DR22, 36º35.4'N, 07º23.6'W, 466 m
(Harmelin & d'Hondt, 1992 b)
Ascorhiza mawatarii d'Hondt, 1983

Shallow waters (0-106 m)

Punta de Sagres, 36º58'N, 08º55.6'W, 65 m
(Pérès, 1959)
Porella compressa (J. Sowerby, 1805)
Turbicellepora avicularis (Hincks, 1860)
Buskea dichotoma (Hincks, 1862)

Off Cape Sagres, 82 m
(Harmer, 1915)
Triticella flava Dalyell, 1848

Caves at Sagres
(Boury-Esnault *et al*., 2001; Harmelin, 2001; Reverter-Gil & Fernández-Pulpeiro, 2007)
Crassimarginatella crassimarginata (Hincks, 1880)
Corbulella maderensis (Waters, 1898)
Ellisina gautieri Fernández Pulpeiro & Reverter Gil, 1993
Chartella papyracea (Ellis & Solander, 1786)
Membraniporella nitida (Johnston, 1838)
Puellina (Puellina) setosa (Waters, 1899)
Puellina (Cribrilaria) hincksi (Friedl, 1917)
Puellina saldanhai Harmelin, 2001
Haplopoma sciaphilum Silén & Harmelin, 1976
Chorizopora brongniartii (Audouin, 1826)
Escharoides coccinea (Abildgaard, 1806)
Pentapora fascialis (Pallas, 1766)
Escharina vulgaris (Moll, 1803)
Escharina dutertrei protecta Zabala *et al*., 1993
Herentia hyndmanni (Johnston, 1847)
Celleporina caminata (Waters, 1879)
Schizotheca carmenae Reverter-Gil & Fernández-Pulpeiro, 2007

Cape Sagres
(Prenant & Bobin, 1966)
Cupuladria canariensis (Busk, 1859)
Reussirella multispinata (Canu & Bassler, 1923)

Talisman 1883, D. 2, 36º53'00''N, 08º31'46''W, 99 m
(Calvet, 1907)
Scrupocellaria scruposa (Linnaeus, 1758)
Escharella immersa (Fleming, 1828)

Sagres
(Nobre, 1937; present paper)
Haplopoma graniferum (Johnston, 1847)
Chorizopora brongniartii (Audouin, 1826)
Escharella immersa (Fleming, 1828)
Schizomavella linearis (Hassall, 1841)

Balieira
(Nobre, 1937)
Aetea anguina (Linnaeus, 1758)
Haplopoma impressum (Audouin, 1826)

Algarve
(d'Hondt, 1983; Souto *et al*., 2010 a; Ryland *et al*., 2011; Souto *et al*., 2014; present paper)
Amathia semiconvoluta Lamouroux, 1824
Electra verticillata (Ellis & Solander, 1786)
Electra pilosa (Linnaeus, 1767)
Chartella papyracea (Ellis & Solander, 1786)

Bugula neritina (Linnaeus, 1758)
Bugula turbinata Alder, 1857
Schizomavella hastata (Hincks, 1862)
Turbicellepora avicularis (Hincks, 1860)
Turbicellepora magnicostata (Barroso, 1919)

Lagos, 37º05'40''N, 08º40'00''W
(Nobre, 1937; Pérès, 1959)
**Cradosrupocellaria reptans* (Linnaeus, 1758)
Pentapora fascialis (Pallas, 1766)

Marina of Portimão, 37º07'00''N, 08º32'30''W
(Souto *et al*., 2014)
Watersipora subtorquata (d'Orbigny, 1852)

Ferragudo (Portimão), 37º07'00''N 08º31'20''W
(Souto *et al*., 2014)
Biflustra arborescens (Canu & Bassler, 1928)
Hemicyclopora sp.
Smittina cervicornis (Pallas, 1766)
Watersipora subtorquata (d'Orbigny, 1852)

Armaçao de Pêra, 37º01'14.8''N, 08º11'25.4''W, 19-21 m
(Souto *et al*., 2010 b, 2013, 2014; present paper)
Plagioecia sarniensis (Norman, 1864)
Diplosolen obelia (Johnston, 1838)
Frondipora verrucosa (Lamouroux, 1821)
Disporella hispida (Fleming, 1828)
Nolella dilatata (Hincks, 1860)
Penetrantia sp.
Aetea anguina (Linnaeus, 1758)
Aetea sica (Couch, 1844)
Aetea truncata (Landsborough, 1852)
Membranipora membranacea (Linnaeus, 1767)
Callopora dumerilii (Audouin, 1826)
Copidozoum planum (Hincks, 1880)
Copidozoum tenuirostre (Hincks, 1880)
Hincksina sp.
Bugula neritina (Linnaeus, 1758)
Bugula calathus Ryland, 1962
Bugula fulva Ryland, 1960
Bugula turbinata Alder, 1857
Bugula flabellata (Thompson in Gray)
Bicellariella ciliata (Linnaeus, 1758)
Sessibugula barrosoi López de la Cuadra & García-Gómez, 1994
Beania mirabilis (Johnston, 1840)
Beania hirtissima (Heller, 1867)
Caberea boryi (Audouin, 1826)
Scrupocellaria scrupea Busk, 1852
Mollia cristinae Souto, Reverter-Gil & Fernández-Pulpeiro, 2010
Membraniporella nitida (Johnston, 1838)
Collarina balzaci (Audouin, 1826)
Puellina (Cribrilaria) venusta Canu & Bassler, 1925
Puellina (Cribrilaria) innominata (Couch, 1844)
Puellina (Cribrilaria) hincksi (Friedl, 1917)
Puellina (Cribrilaria) arrecta Bishop & Household, 1987
Figularia figularis (Johnston, 1847)
Hippothoa divaricata Lamouroux, 1821
Chorizopora brongniartii (Audouin, 1826)
Trypostega venusta (Norman, 1864)
Escharoides coccinea (Abildgaard, 1806)
Escharella ventricosa (Hassall, 1842)
Escharella variolosa (Johnston, 1838)
Umbonula ovicellata Hastings, 1944
Smittina landsborovii (Johnston, 1847)
Smittina affinis (Hincks, 1862)
Prenantia cheilostoma (Manzoni, 1869)
Smittoidea reticulata (J. MacGillivray, 1842)
Hippoporina teresae Souto, Reverter-Gil & Fernández-Pulpeiro, 2010
Pentapora fascialis (Pallas, 1766)
Pentapora ottomulleriana (Moll, 1803)
Schizomavella auriculata (Hassall, 1842)
Schizomavella cornuta (Heller, 1867)
Schizomavella sarniensis Hayward & Thorpe, 1995
Schizomavella hastata (Hincks, 1862)
Schizomavella linearis (Hassall, 1841)
Schizomavella mamillata (Hincks, 1880)
Schizoporella unicornis (Johnston in Wood, 1847)
Schizoporella cornualis Hayward & Ryland, 1995
Schizoporella spinosa Souto, Reverter-Gil & Fernández-Pulpeiro, 2010
Schizobrachiella sanguinea (Norman, 1868)
Myriapora truncata (Pallas, 1766)
Hagiosynodos latus (Busk, 1856)
Microporella ciliata (Pallas, 1766)
Microporella appendiculata (Heller, 1867)

Fenestrulina inesae Souto, Reverter-Gil & Fernández-Pulpeiro, 2010
Arthropoma cecilii (Audouin, 1826)
Escharina vulgaris (Moll, 1803)
Cellepora pumicosa (Pallas, 1766)
Celleporina hassallii (Johnston, 1847)
Celleporina decipiens Hayward, 1976
Celleporina caminata (Waters, 1879)
Celleporina derungsi Souto, Reverter-Gil & Fernández-Pulpeiro, 2010
Turbicellepora avicularis (Hincks, 1860)
Omalosecosa ramulosa (Linnaeus, 1767)
Reteporella couchii (Hincks, 1878)
Schizotheca fissa (Busk, 1856)
Rhynchozoon bispinosum (Johnston, 1847)
Rhynchozoon celestinoi Souto, Reverter-Gil & Fernández-Pulpeiro, 2010
Rhynchozoon rosae Souto, Reverter-Gil & Fernández-Pulpeiro, 2010
Dentiporella saldanhai Souto, Reverter-Gil & Fernández-Pulpeiro, 2010
Stephanollona armata (Hincks, 1862)
Stephanollona contracta (Waters, 1899)

Talisman Dr. 3, 36º53'00''N, 08º27'46''W, 106 m
(Calvet, 1907)
Buskea dichotoma (Hincks, 1862)

Albufeira, 37º05'00''N, 08º15'00''W
(Ryland *et al*., 2011; Nikulina *et al*., 2012; present paper)
Electra verticillata (Ellis & Solander, 1786)
Bugula neritina (Linnaeus, 1758)
Haplopoma bimucronatum (Moll, 1803)
Scrupocellaria scruposa (Linnaeus, 1758)

Beach Maria Luísa (Albufeira), 37º05'20''N, 08º12'00''W
(Souto *et al*., 2014)
Turbicellepora magnicostata (Barroso, 1919)

Beach Olhos d'Água (Albufeira), 37º05'00''N, 08º11'00''W
(Present paper)
Amathia lendigera (Linnaeus, 1758)
Bowerbankia gracillima (Hincks, 1877)
Chartella papyracea (Ellis & Solander, 1786)

Cabo de Santa María, 37º57'30''N 07º53'18''N
(Nobre, 1937)
**Bugula purpurotincta* (Norman)

Faro, 37º57'00''N, 07º53'00''W
(Nobre, 1937; Nobre & Braga, 1942; Souto *et al*., 2014)
Tubulipora flabellaris (Fabricius, 1780)
Zoobotryon verticillatum (Della Chiaje, 1822)
Scruparia chelata (Linnaeus, 1758)
Watersipora subtorquata (d'Orbigny, 1852)
Cryptosula pallasiana (Moll, 1803)

Olhão, 37º01'22''N, 07º50'23''W
(Nobre, 1937; present paper)
**Alcyonidium* spp.
Bowerbankia pustulosa (Ellis & Solander, 1786)
Zoobotryon verticillatum (Della Chiaje, 1822)
Bugula fulva Ryland, 1960

Beach of Fuseta, 37º02'43''N, 07º44'14''W
(Souto *et al*., 2014)
Cryptosula pallasiana (Moll, 1803)

Santa Luzia (Tavira), 37º05'18''N, 07º39'21''W
(Souto *et al*., 2014)
Cryptosula pallasiana (Moll, 1803)

Monte Gordo, 37º10'36''N, 07º27'00''W
(Nobre, 1937)
Crisia denticulata (Lamarck, 1816)