

CHECKLIST OF THE SHALLOW-WATER MARINE MOLLUSCS OF THE AZORES:
2 - SÃO MIGUEL ISLAND

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ABSTRACT

This paper provides an updated checklist of the shallow-water marine molluscs of São Miguel island, based on the data from the bibliography and in the species collected from 1989 on by the Marine Biology teams of the University of the Azores (Ponta Delgada) and of the Department of Oceanography and Fisheries (Horta).

The collections of the Museu Carlos Machado – História Natural (MCM-HN), of the Museu de Zoologia - Museu de História Natural da Faculdade de Ciências e Tecnologia da Universidade de Coimbra (MZ/MHN-FCTUC) and the image bank of DOP/UA, Department of Oceanography and Fisheries of the University of the Azores (*ImagDOP*), were also surveyed and the results are here reported.

A total of 235 taxa of shallow water marine molluscs are reported to São Miguel island (4 Polyplacophora, 167 Gastropoda, 61 Bivalvia and 3 Cephalopoda). Of these, 10 are dubious records (7 Gastropoda and 3 Bivalvia), there remaining 225 confirmed taxa in this island. A total of 18 taxa were identified only down to the genus level (17 Gastropoda and 1 Bivalvia).

Fifteen species are cited for the first time to the Azores: *Dikoleps* cf. *cutleriana* (Clark, 1848), *Similiphora similior* (Bouchet & Guillemot, 1978), *Cirsotrema cochlea* (Sowerby G.B. II, 1844), *Opalia bellenica* (Forbes, 1844), *Bela laevigata* (Philippi, 1836), *Odostomia nitens* Jeffreys, 1870, *Gregariella semigranata* (Reeve, 1858), *Modiolus adriaticus* (Lamarck, 1819), *Rhomboidella prideauxi* (Leach, 1815), *Lima lima* (Linnaeus, 1758), *Kellia* cf. *suborbicularis* (Montagu, 1803), *Astarte* cf. *sulcata* (da Costa, 1778), *Tellina pygmaea* Lóven, 1846, *Venus nux* Gmelin, 1791 and *Thracia papyracea* (Poli, 1791).

RESUMO

Fornece-se a lista actualizada dos moluscos marinhos de águas costeiras recolhidos na ilha de São Miguel, com base na bibliografia, nas amostras colhidas pelas equipas de Biologia Marinha da Universidade dos Açores (Ponta Delgada) e do Departamento de Oceanografia e Pescas (Horta) a partir de 1989.

As colecções do Museu Carlos Machado – História Natural (MCM-HN), do Museu de Zoologia - Museu de História Natural da Faculdade de Ciências e Tecnologia da Universidade de Coimbra (MZ/MHN-FCTUC) e o banco de imagens do DOP/UA, Departamento de Oceanografia e Pescas da Universidade dos Açores (*ImagDOP*), foram também revistas e os resultados são aqui incluídos.

O número total de moluscos marinhos dados para esta ilha perfaz actualmente 235 taxa (4 Polyplacophora, 167 Gastropoda, 61 Bivalvia e 3 Cephalopoda). Destes, 10 são registos duvidosos (7 Gastropoda e 3 Bivalvia), existindo assim 225 taxa confirmados em São Miguel. Um total de 18 taxa foram identificados somente até ao género (17 Gastropoda and 1 Bivalvia).

São citados 15 novos registos para os Açores: *Dikoleps* cf. *cutleriana* (Clark, 1848), *Similiphora similior* (Bouchet & Guillemot, 1978), *Cirsotrema cochlea* (Sowerby G.B. II, 1844), *Opalia bellenica* (Forbes, 1844), *Bela laevigata* (Philippi, 1836), *Odostomia nitens* Jeffreys, 1870, *Gregariella semigranata* (Reeve, 1858), *Modiolus adriaticus* (Lamarck, 1819), *Rhomboidella prideauxi* (Leach, 1815), *Lima lima* (Linnaeus, 1758), *Kellia* cf. *suborbicularis* (Montagu, 1803), *Astarte* cf. *sulcata* (da Costa, 1778), *Tellina pygmaea* Lóven, 1846, *Venus nux* Gmelin, 1791 e *Thracia papyracea* (Poli, 1791).

INTRODUCTION

The first papers dedicated to the marine molluscs of the Azores dealt with their taxonomy and systematics. Among these, the most important are the works of Mac Andrew (1856), Drouët (1858), Morelet (1860), Römer (1871) and Simroth (1888). The results of the "Lightning" and "Porcupine" scientific expeditions (1868-1870) were published by Jeffreys in a series of papers (1879; 1881a; 1881b; 1882; 1883; 1884a; 1884b; 1885) while those of the "Challenger" (1873-1876) were published by Smith (1885) and Watson (1886). Most of these works do not specifically refer to São Miguel island, but are here reported because of its importance. The results of the "Hirondelle" expedition to the Azores in 1887 and the specimens collected at São Miguel by Henrique Maria d'Aguiar, were published by Dautzenberg (1889) on what is commonly considered to be the most comprehensive and detailed paper on the marine molluscs of the Azores during the 19th century.

On this century, most of the papers related with São Miguel marine molluscs were still mainly systematic studies (Nobre, 1924, 1930; Martins, 1976 [1980], 1995, 1996; Burnay & Martins, 1988; Gofas, 1989a, 1989b, 1990; Gosliner, 1990; Houbrick, 1990; Morton, 1990a, 1990b; Azevedo, 1991; Bieler, 1995; Jensen, 1995; Mikkelsen, 1995; Reid, 1996; Wirtz, 1998; Hoenselaar & Goud, 1998; Salas & Gofas,

1998). Ecological studies of the marine molluscs were scarce, when compared to taxonomic ones. The first author doing such an approach was Chapman (1955), followed by Martins (1976 [1980]), Bullock *et al.* (1990), Hawkins *et al.* (1990), Azevedo (1991, 1992), Bullock (1995), Morton (1995), Morton *et al.* (1998) and Costa & Ávila (*in press*).

This paper increases the total number of species given to the Azores by 15 new records: *Dikoleps* cf. *cutleriana* (Clark, 1848), *Similiphora similior* (Bouchet & Guillemot, 1978), *Cirsotrema cochlea* (Sowerby G.B. II, 1844), *Opalia hellenica* (Forbes, 1844), *Bela laevigata* (Philippi, 1836), *Odostomia nitens* Jeffreys, 1870, *Gregariella semigranata* (Reeve, 1858), *Modiolus adriaticus* (Lamarck, 1819), *Rhomboidella prideauxi* (Leach, 1815), *Lima lima* (Linnaeus, 1758), *Kellia* cf. *suborbicularis* (Montagu, 1803), *Astarte* cf. *sulcata* (da Costa, 1778), *Tellina pygmaea* Lóven, 1846, *Venus nux* Gmelin, 1791 and *Tbracia papyracea* (Poli, 1791).

MATERIAL AND METHODS

An exhaustive review of the literature was made. For a detailed list of the species that are cited to the Azores without accurate location see Ávila *et al.* (1998). As far as possible, we have tried to report only on primary sources.

A total of 252 samples collected around São Miguel island shores were surveyed: 243 samples at DBUA collec-

tion (Table 1) and 9 samples at *ImagDOP* collection (Table 2) from the intertidal zone to a depth of 30m. Twelve dredging were also performed in the littoral of this island, from 40 to 100m depth (DBUA 604-608, 611, 613-614, 616-618, 620). The molluscs were preserved in alcohol (70%) and sorted from algal material at the Marine Biology Laboratories of the University of the Azores (Ponta Delgada). All the material is deposited at the Department of Biology of the University of the Azores (DBUA) under the Reference Collection numbers DBUA 002-007, 009, 017-018, 021, 026, 029, 033, 115-130, 132-136, 141-151, 153-177, 604-658, 673, 675-676, 679-680, 682-713, 715-724, 727-794, 802, 806, 809.

The image bank of the Department of Oceanography and Fisheries of the University of the Azores, located at Horta (*ImagDOP*), the mollusc collection of the Museu de Zoologia - Museu de História Natural da Faculdade de Ciências e Tecnologia da Universidade de Coimbra (MZ/MHN-FCTUC), of the Museu Carlos Machado (História Natural), located at Ponta Delgada (MCM-HN), as well as the personal collection of Mr. Duarte Oliveira, were surveyed and the results were also included in this work.

Species determination, synonymy and the ordination of families follows the CLEMAM database. Specialized works were used for the Littorinidae (Backeljau & Warmer, 1992; Reid, 1996),

Triphoridae (Bouchet, 1984; Graham, 1988) and Ellobiidae (Martins, 1995, 1996).

ABBREVIATIONS USED IN TEXT

DBUA -Department of Biology of the University of the Azores, Ponta Delgada.

ImagDOP - image bank of the Department of Oceanography and Fisheries, University of the Azores, Horta.

MZ/MHN-FCTUC -Museu de Zoologia-Museu de História Natural da Faculdade de Ciências e Tecnologia da Universidade de Coimbra.

MCM(HN) -Museu Carlos Machado /História Natural, Ponta Delgada, Azores.

DO -personal collection of Mr. Duarte Oliveira.

TAXONOMIC LIST

Phylum MOLLUSCA
Class POLYPLACOPHORA
Order LEPIDOPLEURIDA

Ischnochitonidae

Lepidochitona piceola (Shuttleworth, 1853)

Lepidochitona piceola (Shuttleworth, 1853). São Miguel (intertidal) (Kaas & Van Belle, 1981: 23; 1985b: 89-91).

Lepidochitona simrothi (Thiele, 1902)

Lepidochitona simrothi (Thiele, 1902). Azores (Van Belle, 1984: 224-226). São Miguel (Kaas & Van Belle, 1981: 27-29; 1985b: 93-95). São Miguel (Bullock, 1995: 16). Azores (Morton *et al.*, 1998: 57). DBUA 625, 715, 732, 740, 741, 743, 744, 745, 746, 747, 785, 793.

Lepidochitona sp. Azores (Macedo *et al.*, 1998: 75).

Remarks: specimens recorded by Hawkins *et al.* (1990: 27-28) and Azevedo (1991: 29) probably belong to this species but were not identified at species level. These specimens were not present

in the DBUA collection, therefore could not be examined by us.

Acanthochitonidae

Acanthochitona discrepans (Brown, 1827)

Anisochiton discrepans Brown, 1827. Azores (Mac Andrew, 1856: 145). São Miguel (Dautzenberg, 1889: 72).

Chiton discrepans (Brown, 1827). São Miguel (Ponta Delgada) (Nobre, 1924: 84; 1930: 61).

Acanthochitona fascicularis (Linnaeus, 1767)

Anisochiton fascicularis Linnaeus, 1766. Azores (Mac Andrew, 1856: 145).

Acanthochitona communis (Risso, 1826). Azores (Van Belle, 1984: 227).

Acanthochitona fascicularis (Linnaeus, 1767). Azores (Poppe & Goto, 1991: 61). DBUA 176, 637, 683, 700, 708/F, 719, 721, 730, 731, 732, 733, 748, 751, 752, 767, 794, 806.

Class GASTROPODA

Subclass PROSOBRANCHIA

Order ARCHAEOGASTROPODA

Patellidae

Patella candei d'Orbigny, 1840

Patella candei (Drouët, 1858). Ponta da Galera (Hawkins *et al.*, 1990: 26).

Patella candei gomesii (Drouët, 1858). Pópulo, Ponta de São Pedro-Vila Franca, Atalhada-Lagoa (Martins, 1980: 12-18). Ponta da Ferraria (Vedel & Depledge, 1995:115; Morton *et al.*, 1998: 69). Água d'Alto (Morton *et al.*, 1998: 97). Caloura (Morton *et al.*, 1998: 55). Ilhéu de Vila Franca (Morton *et al.*, 1998: 64). Ponta Delgada harbor (Morton *et al.*, 1998: 115). Ribeira Quente (Morton *et al.*, 1998: 100).

Patella candei d'Orbigny, 1840. DBUA 638, 647, 713, 715, 717, 750.

Patella ulyssiponensis Gmelin, 1791

Patella caerulea (Linnaeus, 1758). Ponta Delgada, Ribeira Grande and Ferraria (Nobre, 1924: 83; 1930: 60). Ilhéu de Vila Franca (Morton, 1990a: 11).

Patella aspera Lamarck, 1819. Ponta Delgada, Vila Franca, Rosto do Cão (Simroth, 1888). Ponta Delgada, Ribeira Grande Ferraria and Vila Franca do Campo (Nobre, 1924: 83; 1930: 60). Ilhéu de Vila Franca (Morton, 1990a: 11). Ponta da Galera (Hawkins *et al.*, 1990: 26).

Patella ulyssiponensis aspera Röding, 1798. Caloura (Morton *et al.*, 1998: 55). Ilhéu de Vila Franca (Morton *et al.*, 1998: 64).

Patella ulyssiponensis Gmelin, 1791. DBUA 638, 678, 713, 715, 717, 740, 743.

Remarks: the synonymy of *Patella* spp. of the Azores is quite complicated. For further details, see Christiaens (1973) and Hawkins *et al.* (1990). Ávila (2000) reports two species as occurring in the Azores, *Patella candei* d'Orbigny, 1840 and *Patella ulyssiponensis* Gmelin, 1791. However, Koupanou *et al.* (1999), based on partial sequences of the 12S and 16S mitochondrial genes, suggest that the Atlantic island and European mainland forms of *P. aspera* s.l. (= *P. ulyssiponensis*) may be separate species. According to these authors, *P. ulyssiponensis* should be applied to the European species, whereas all the *Patella* in the Azores belong to a single species, *P. aspera* s. s. An integration of the morphological and genetical data is needed prior to a taxonomical decision is made.

Acmaciidae

Acmaea virginea (O. F. Müller, 1776)

Acmaea virginea (O. F. Müller, 1776). São Miguel (Dautzenberg, 1889: 67). Ponta Delgada (Nobre, 1924: 82; 1930: 60). Caloura (Azevedo, 1991: 19). DBUA 609, 616, 626, 687, 695, 709, 713, 715, 717, 718, 719, 730, 732, 733, 739, 742, 748, 753, 755, 766, 769, 781, 785, 788, 791.

Scissurellidae

Anatoma crispata Fleming, 1828

Scissurella crispata Fleming, 1828. Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca; Porto do Ilhéu, Vila Franca (Bullock *et al.*, 1990: 45).

***Sinezona cingulata* (Costa O. G., 1861)**

Schismope fayalensis Dautzenberg, 1889. Caloura and Ribeirinha (Azevedo, 1991: 19). Ilhéu de Vila Franca (Bullock, 1995: 16).

Sinezona cingulata (Costa O. G., 1861). DBUA 144, 745, 772, 781, 787.

Haliotidae

***Haliotis tuberculata coccinea* Reeve, 1846**

Haliotis tuberculata Linnaeus, 1758. São Miguel (Drouët, 1858, : 37). Ponta Delgada (Nobre, 1924, : 82; 1930: 59). Ribeirinha (Azevedo, 1991: 19).

Haliotis coccinea Reeve, 1846. São Miguel (Drouët, 1858: 38).

Haliotis tuberculata coccinea Reeve, 1846. DO 56. *ImagDOP* 14, 15, 18. DBUA 621, 696, 713, 717, 719, 724, 730, 733, 738, 756, 760, 766, 781, 807.

Remarks: according to Geiger (1999), *Haliotis tuberculata coccinea* is restricted to the Azores, Madeira, Canary Islands and Cape Vert, whereas *Haliotis tuberculata tuberculata* is mainly a Mediterranean species, although its range extends also from the Atlantic coasts of France (Roscoff) down to Portugal south shores (Algarve) and also in the north of Africa (Marrocos).

Trochidae

***Jujubinus exasperatus* (Pennant, 1777)**

Trochus erythroleucos Gmelin, 1791. São Miguel (Drouët, 1858: 29).

Calliostoma (Jujubinus) exasperatus (Pennant, 1777). (Dautzenberg, 1889: 63). Ponta Delgada (Nobre, 1924: 82; Nobre, 1930: 59).

Calliostoma exasperatus (Montagu, 1803). Off Vila Franca do Campo (Morton & Britton, 1995: 70) (misidentification).

Jujubinus exasperatus (Pennant, 1777). Caloura and Ribeirinha (Azevedo, 1991: 20). Caloura (Morton *et al.*, 1998: 55).

***Jujubinus pseudogravinae* Nordsieck, 1973.**

Jujubinus pseudogravinae Nordsieck, 1973. DO 63. DBUA 125, 605, 608, 624, 626, 673, 675, 687,

695, 709, 715, 719, 721, 728, 730, 731, 732, 733, 735, 739, 742, 746, 748, 749, 754, 755, 762, 764, 766, 767, 768, 769, 771, 772, 773, 774, 776, 777, 779, 780, 781, 783, 785, 787, 788, 789, 790, 791.

Remarks: the Trochidae of the Azores are under revision by Sérgio Ávila and José Pedro Borges.

***Gibbula magus* (Linnaeus, 1758)**

Trochus magus Linnaeus, 1767. Rosto do Cão (Drouët, 1858: 29).

Gibbula magus (Linnaeus, 1767). Rosto do Cão (Dautzenberg, 1889: 63). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca (Bullock *et al.*, 1990: 45). Off Vila Franca do Campo (Morton & Britton, 1995: 70).

Gibbula magus (Linnaeus, 1758). DO 70. DBUA 021, 117, 170, 604, 605, 607, 608, 609, 614, 616, 618, 621, 624, 655, 676, 696, 709, 717, 719, 731, 732, 734, 737, 739, 784, 807.

***Gibbula umbilicalis* (da Costa, 1778)**

Gibbula umbilicalis (da Costa, 1778). DO 68, 69.

Remarks: the two specimens in Duarte Oliveira's collection are empty shells, so this should be considered a dubious record.

***Gibbula delgadensis* Nordsieck, 1982**

Gibbula delgadensis Nordsieck, 1982. DBUA 766, 769, 772, 781, 782, 784, 785, 787, 788, 789, 791.

***Calliostoma* sp.**

Calliostoma sp. DO 16. DBUA 605, 634, 651, 657, 675, 676, 712, 719, 755, 758, 766, 767, 773, 776, 777, 779, 780, 781, 782, 783, 785, 787, 789.

Remarks: this species will be dealt in the revision of the Trochidae of the Azores, by Sérgio Ávila and José Pedro Borges.

***Calliostoma cf. conulus* (Linnaeus, 1758)**

Trochus conulus Linnaeus, 1766. São Miguel (Drouët, 1858: 29).

Trochus dubius Philippi, 1844. Ponta Delgada (Simroth, 1888).

***Calliostoma zizyphinum* (Linnaeus, 1758)**

Calliostoma conuloides Lamarck, 1822. (Dautzenberg, 1889: 62). Ponta Delgada (Nobre, 1924: 82; 1930: 59).

Calliostoma zizyphinum (Linnaeus, 1758). Ribeirinha (Azevedo, 1991: 20).

Skeneidae

***Dikoleps cf. cutleriana* (Clark, 1848)**

Dikoleps cf. cutleriana (Clark, 1848). DBUA 687.

Remarks: this is the first record to the Azores.

Tricolliidae

***Tricolia pullus azorica* Dautzenberg, 1889**

Phasianella pulla (Linnaeus, 1758). Ponta Delgada and Rosto do Cão (Nobre, 1924: 82; 1930: 59).

Phasianella azorica Dautzenberg, 1889. São Miguel (Dautzenberg, 1889: 62).

Tricolia pullus (Linnaeus, 1758). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca; Porto do Ilhéu, Vila Franca (Bullock *et al.*, 1990: 45). Caloura and Ribeirinha (Azevedo, 1991: 20). Ilhéu de Vila Franca (Bullock, 1995: 16). Off Vila Franca do Campo (Morton & Britton, 1995: 70). Harbor of Vila Franca (Knudsen, 1995: 136-137).

Tricolia pullus azorica Dautzenberg, 1889. DBUA 127, 145, 168, 173, 176, 609, 614, 626, 636, 676, 695, 696, 709, 713, 715, 719, 728, 730, 731, 732, 733, 735, 740, 741, 742, 743, 744, 745, 746, 748, 750, 754, 755, 760, 762, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 779, 780, 781, 782, 783, 784, 785, 787, 788, 789, 790, 791, 806.

Order APOGASTROPODA

Cerithiidae

***Bittium* sp.**

Cerithium zebrum Kiener, 1842. Rosto do Cão (Drouët, 1858: 30) (misidentification?).

Bittium reticulatum (da Costa, 1778). São Miguel (Dautzenberg, 1889: 41). Ponta Delgada and Rosto do Cão (Nobre, 1924: 79; 1930: 55).

Ilhéu de Vila Franca (Morton, 1990a: 12). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca; Porto do Ilhéu, Vila Franca (Bullock *et al.*, 1990: 45). Caloura and Ribeirinha (Azevedo, 1991: 23). Ilhéu de Vila Franca (Bullock, 1995: 16). Off Vila Franca do Campo (Morton & Britton, 1995: 70). Ilhéu de Vila Franca (Morton *et al.*, 1998: 64). Água d'Alto (Morton *et al.*, 1998: 97).

Bittium sp. MCM(HN) 71. DBUA 167, 169, 173, 176, 605, 608, 609, 610, 614, 621, 623, 624, 626, 631, 657, 658, 675, 676, 678, 695, 696, 709, 715, 716, 717, 719, 721, 727, 728, 730, 731, 732, 733, 735, 736, 737, 739, 742, 744, 748, 750, 753, 755, 758, 760, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 806, 807.

Remarks: the specific status of this species is being studied by Diego Moreno. For further information about this species see Ávila & Azevedo (1997). *Cerithium zebrum* Kiener, 1842, reported to the Galapagos Islands by Reeve (1866), was probably misidentified as the Azorean *Bittium* by Drouët (1858).

Fossaridae

***Fossarus ambiguus* (Linnaeus, 1758)**

Fossarus ambiguus (Linnaeus, 1758). São Miguel (Dautzenberg, 1889: 45). Ponta Delgada (Nobre, 1924: 80; 1930: 56). Pópolo; Ponta de São Pedro, Vila Franca; Atalhada, Lagoa (Martins, 1980: 14-18). Ponta da Pirâmide (Houbrick, 1990: 61). Caloura and Ribeirinha (Azevedo, 1991: 23). Ilhéu de Vila Franca (Bullock, 1995: 17; Knudsen, 1995: 147). Água d'Alto (Morton *et al.*, 1998: 97). DBUA 136, 614, 658, 695, 727, 728, 743, 750.

Triphoridae

***Cheirodonta pallescens* (Jeffreys, 1867)**

Cheirodonta pallescens (Jeffreys, 1867). DBUA 722, 769, 781, 784.

***Marshallora adversa* (Montagu, 1803)**

Triphora perversa (Linnaeus, 1758). São Miguel (Nobre, 1924: 79; 1930: 55).

Triphora perversa Linnaeus, 1758 var. *adversa* Montagu. São Miguel (Dautzenberg, 1889: 42).

(?) *Triphora perversa* (Linnaeus, 1758). Off Vila Franca do Campo (Morton & Britton, 1995: 70).

Marshallora adversa (Montagu, 1803). DBUA 116, 675, 715, 722, 765, 768, 770, 771, 773, 774, 775, 776, 777, 778, 781, 787, 789, 790, 791.

***Monophorus erythrosoma* (Bouchet & Guillemot, 1978)**

Monophorus erythrosoma (Bouchet & Guillemot, 1978). DBUA 722, 727, 762, 767, 768, 773, 774, 778, 782, 789, 790.

***Monophorus thiriota* Bouchet, 1984**

Monophorus thiriota Bouchet, 1984. DBUA 768.

***Similiphora similior* (Bouchet & Guillemot, 1978)**

Similiphora similior (Bouchet & Guillemot, 1978). DBUA 727, 730, 732, 767, 787, 788.

Remarks: this is the first record to the Azores.

Cerithiopsidae

***Cerithiopsis jeffreysi* Watson, 1885**

Cerithiopsis jeffreysi Watson, 1885. DBUA 695, 731.

***Cerithiopsis minima* (Brusina, 1865)**

Cerithiopsis minima (Brusina, 1865). DBUA 150, 695, 777.

***Cerithiopsis tubercularis* (Montagu, 1803)**

Cerithiopsis tubercularis Montagu, 1803 var. *pallida*. São Miguel (Dautzenberg, 1889: 42).

Cerithiopsis tubercularis (Montagu, 1803). Caloura and Ribeirinha (Azevedo, 1991: 25).

Off Vila Franca do Campo (Morton & Britton, 1995: 70). DBUA 742.

Janthinidae

***Janthina exigua* Lamarck, 1816**

Janthina exigua Lamarck, 1816. Ponta Delgada and Rosto do Cão beach (Nobre, 1924: 81; 1930: 58).

***Janthina janthina* (Linnaeus, 1758)**

Janthina communis Lamarck, 1816. Azores (Mac Andrew, 1856: 119, 147). Ponta Delgada (Nobre, 1924: 81; 1930: 58).

Janthina balteata Reeve, 1858. Azores (Simroth, 1888).

Janthina janthina (Linnaeus, 1758). DO 40. DBUA 638, 680, 720.

***Janthina pallida* Thompson, 1840**

Janthina pallida Thompson, 1840. DBUA 720.

Epitoniidae

***Epitonium clathratulum* (Kanmacher, 1798)**

Epitonium clathratulum (Kanmacher, 1798). DBUA 614, 715.

***Cirsotrema cochlea* (Sowerby G.B. II, 1844)**

Cirsotrema cochlea (Sowerby G.B. II, 1844). DBUA 738.

Remarks: this is the first record to the Azores.

***Gyroskala lamellosa* (Lamarck, 1822)**

Scalaria pseudoscalaris Risso, 1826. São Miguel (Drouët, 1858: 30).

Scalaria commutata Monterosato, 1877. São Miguel (Dautzenberg, 1889: 56). Ponta Delgada (Nobre, 1924: 81; 1930: 58).

Cirsotrema commutatatum (Monterosato, 1877). Ribeirinha (Azevedo, 1991: 25).

Gyroskala lamellosa (Lamarck, 1822). DO 67. DBUA 695, 777.

***Opalia crenata* (Linnaeus, 1758)**

Scalaria crenata (Linnaeus, 1758). Ponta Delgada (Nobre, 1924: 81; 1930: 58).

***Opalia hellenica* (Forbes, 1844)**

Opalia hellenica (Forbes, 1844). DBUA 614.

Remarks: this is a new record to the Azores.

Eulimidae

***Melanella* sp.**

Melanella sp. DBUA 139.

***Parvioris ibizencus* (Nordsieck, 1968)**

Eulima microstoma Brusina, 1869. São Miguel (Dautzenberg, 1889: 58).

***Vitreolina incurva* (Bucquoy, Dautzenberg & Dollfus, 1883)**

Eulima incurva B.D.D., 1883. São Miguel (Dautzenberg, 1889: 57). Ferraria (Nobre, 1924: 81; 1930: 58). Ilhéu de Vila Franca (Morton *et al.*, 1998: 151).

Vitreolina incurva (Bucquoy, Dautzenberg & Dollfus, 1883). DBUA 115, 133, 134.

Littorinidae

***Melarhaphe neritoides* (Linnaeus, 1758)**

Littorina neritoides (Linnaeus, 1758). São Miguel (Dautzenberg, 1889: 44). Ponta Delgada, Ferraria, Vila Franca do Campo and Ribeira Grande (Nobre, 1924: 79-80; 1930: 55-56). Canto do Areal Grande, Água d'Alto; Portinho, Queimada, Água d'Alto; Pópulo; Ponta de São Pedro, Vila Franca; Atalhada, Lagoa (Martins, 1980: 12-18).

Melaraphe neritoides (Linnaeus, 1758). Ilhéu de Vila Franca (Morton, 1990a: 8;). Ponta da Galera (Hawkins *et al.*, 1990: 26). Caloura and Ribeirinha (Azevedo, 1991: 20).

Melarhaphe neritoides (Linnaeus, 1758). Ilhéu de Vila Franca (Vedel & Depledge, 1995: 115; Morton *et al.*, 1998: 64). Água d'Alto (Morton *et al.*, 1998: 96). Caloura (Morton *et al.*, 1998: 55). Ferraria (Morton *et al.*, 1998: 69). Ponta Delgada harbor (Morton *et al.*, 1998: 115). DO 71. DBUA 149, 171, 713, 727, 739, 781, 806.

***Littorina saxatilis* (Olivi, 1792)**

Littorina saxatilis (Olivi, 1792). Azores (Reid, 1996: 327). Água d'Alto (Morton *et al.*, 1998: 97). Ilhéu de Vila Franca (Morton *et al.*, 1998: 64). DBUA 626, 629, 743.

Remarks: there is a population of this species at São Miguel island (Porto Formoso) (S. Ávila, *pers. obs.*) and there are specimens at MCM(HN) which were collected by A. M. Frias Martins at Ilhéu de Vila Franca in 28/06/1967. Thierry Backeljau also collected a few specimens at Ilhéu de Vila Franca in 1991, but since then no more specimens were found at this site.

***Littorina striata* (King, 1832)**

Littorina striata (King, 1832). Very common in the shores of São Miguel (Drouët, 1858: 26). Ponta Delgada and Vila Franca do Campo (Nobre, 1924: 79; 1930: 55). Canto do Areal Grande, Água d'Alto; Portinho, Queimada, Água d'Alto; Pópulo; Ponta de São Pedro, Vila Franca; Atalhada, Lagoa (Martins, 1980: 12-18). Ilhéu de Vila Franca (Morton, 1990a: 8). Ponta da Galera (Hawkins *et al.*, 1990: 26). Caloura and Ribeirinha (Azevedo, 1991: 19). Ilhéu de Vila Franca (Bullock, 1995: 16; Vedel & Depledge, 1995: 115; Morton *et al.*, 1998: 64). Caloura (Vedel & Depledge, 1995: 115). Água d'Alto (Morton *et al.*, 1998: 96). Caloura (Morton *et al.*, 1998: 55). Ferraria (Morton *et al.*, 1998: 69). Ponta Delgada harbor (Morton *et al.*, 1998: 115). Ribeira Quente (Morton *et al.*, 1998: 100). DBUA 163, 713, 727, 728, 743.

Skeneopsidae

***Skeneopsis planorbis* (O. Fabricius, 1780)**

Skeneia planorbis O. Fabricius, 1780. São Miguel (Dautzenberg, 1889: 46).

Skeneopsis planorbis (Fabricius, 1780). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca; Porto do Ilhéu, Vila Franca (Bullock *et al.*, 1990: 45). Caloura and Ribeirinha (Azevedo, 1991: 23). Ilhéu de Vila Franca (Bullock, 1995: 16; Knudsen, 1995: 146-147). *Skeneopsis planorbis* (O. Fabricius, 1780). DBUA 009, 117, 173, 632, 719, 735, 743, 744, 768.

Rissoidae

***Rissoa guernei* Dautzenberg, 1889**

Rissoa guernei Dautzenberg, 1889. São Miguel (Dautzenberg, 1889: 48). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca; Porto do Ilhéu, Vila Franca (Bullock *et al.*, 1990: 45). Vila Franca ("Biaçores" 1971 expedition); Ponta Delgada; (-10 to -20m); Ponta da Galera (intertidal); Capelas (intertidal); Vila Franca (0-5m); Ilhéu de Vila Franca (0-

1m); Calheta, Ponta Delgada (intertidal); Ponta da Pirâmide (-13m) (Gofas, 1990: 100). Caloura and Ribeirinha (Azevedo, 1991: 21). Ilhéu de Vila Franca (Bullock, 1995: 16; Knudsen, 1995: 140). DBUA 132, 632, 695, 719, 735, 736, 741, 746, 748, 755, 764, 766, 781, 785.

***Setia pulcherrima* (Jeffreys, 1848)**

Cingula pulcherrima (Jeffreys, 1848). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca; Porto do Ilhéu, Vila Franca (Bullock *et al.*, 1990: 45). Ilhéu de Vila Franca (Knudsen, 1995: 143).

Remarks: dubious record. Although there are recent records, the authors have probably misidentified this species with *Setia subvaricosa* Gofas, 1990.

***Setia quisquiliarum* (Watson, 1886)**

Setia quisquiliarum (Watson, 1886). São Miguel (Dautzenberg, 1889: 53).

***Setia* sp.**

Setia sp. DBUA 764, 781, 784, 787, 789.

***Setia subvaricosa* Gofas, 1990**

Setia subvaricosa Gofas, 1990. Capelas (intertidal); Feteiras (-15m); Lagoa (-10 to -22m); Ponta da Galera (intertidal); Ilhéu de Vila Franca (intertidal); Ponta da Pirâmide (-13m); Calheta, Ponta Delgada (intertidal) (Gofas, 1990: 102-103). DBUA 121, 176, 730, 731, 733, 735, 741, 742, 744, 745, 746, 754, 755, 764, 766, 773, 781, 782, 784, 785, 788.

***Alvania abstersa* Van der Linden & Van Aartsen, 1994**

Alvania obsoleta Van der Linden, 1993: 79-82. São Miguel (Lagoa and Mosteiros) (Van der Linden, 1993: 80).

Alvania abstersa Van der Linden & Van Aartsen, 1994: 2. Azores (CANCAP expeditions) (Hoenselaar & Goud, 1998: 71).

***Alvania angioyi* van Aartsen, 1982**

Alvania (Alvinia) watsoni Schwartz, in Watson, 1873. São Miguel (Dautzenberg, 1889: 51) (misidentification).

Alvania watsoni (Schwartz MS) Watson, 1873. Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca (Bullock *et al.*, 1990: 45) (misidentification).

Alvania angioyi van Aartsen, 1982. Vila Franca (-24m) and Morro das Capelas ("Biaçores" 1971 expedition); Lagoa (-10 to -22m); Feteiras (-15 to -22m); Ponta da Galera (intertidal and -13 to -18m); Ponta Delgada; Capelas (intertidal); Ilhéu de Vila Franca; Ponta da Pirâmide (-13m) (Gofas, 1990: 112). Caloura and Ribeirinha (Azevedo, 1991: 22). Ilhéu de Vila Franca (Bullock, 1995: 16; Knudsen, 1995: 140). MCM(HN) 7, 9. DBUA 119, 173, 675, 687, 695, 709, 715, 719, 727, 730, 731, 732, 733, 735, 736, 741, 742, 748, 753, 764, 766, 767, 768, 769, 772, 773, 781, 785, 787, 788, 789.

***Alvania beani* (Hanley in Thorpe, 1844)**

Alvania (Turbona) reticulata (Montagu, 1803). São Miguel (Ponta Delgada) (Simroth, 1888).

Remarks: this record needs to be confirmed.

***Alvania cancellata* (da Costa, 1778)**

Alvania cancellata (da Costa, 1778). São Miguel (Dautzenberg, 1889: 49). Very common in all the islands (Nobre, 1924: 80; 1930: 57). Ponta Delgada; Vila Franca (-24m); Morro das Capelas ("Biaçores" 1971 expedition); Feteiras (-15 to -22m); Ponta da Galera (-20m); Lagoa (-10 to -22m); Vila Franca (-10m); Ponta da Pirâmide (-13m); Ponta da Galera (-13 to -18m) (Gofas, 1990: 104). Ribeirinha (Azevedo, 1991: 21). Ilhéu de Vila Franca (Knudsen, 1995: 141). DBUA 127, 168, 173, 176, 605, 608, 609, 614, 621, 626, 658, 675, 676, 687, 695, 696, 697, 709, 719, 727, 731, 732, 733, 735, 740, 742, 760, 767, 773, 789, 806.

***Alvania mediolittoralis* Gofas, 1989**

Alvania (Turbona) reticulata (Montagu, 1803): Martins, 1980: 17 (misidentification, A.M.F. Martins, pers. com.).

Alvania mariae (d'Orbigny). São Miguel (Dautzenberg, 1889:49). *Rissoa (Alvania) reticulata* Montagu var. *mariae* d'Orbigny. Ponta Delgada and Rosto do Cão beach (Nobre, 1924: 81; 1930: 57).

Alvania mediolittoralis Gofas, 1989. Caloura (-4m) and Vila Franca (-24m) ("Biaçores" 1971 expedition); Ponta da Galera (intertidal); Ponta Delgada; Capelas (intertidal); Água d'Alto (intertidal); Calheta, Ponta Delgada (intertidal) (Gofas, 1989: 39; Gofas, 1990: 110). Caloura and Ribeirinha (Azevedo, 1991: 21). Ilhéu de Vila Franca (Bullock, 1995: 16). Água d'Alto (Morton *et al.*, 1998: 97): DBUA 124, 614, 632, 715, 719, 727.

***Alvania poucheti* Dautzenberg, 1889**

Alvania poucheti Dautzenberg, 1889 var. *cingulifera*. São Miguel (Dautzenberg, 1889: 50).

Alvania poucheti Dautzenberg, 1889. São Miguel (Dautzenberg, 1889: 49-50). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Ilhéu de Vila Franca (Bullock *et al.*, 1990: 45). Capelas (-24m) ("Biaçores" 1971 expedition); Feteiras (-15 to -22m); Ponta Delgada (-10 to -20m); Lagoa; Ilhéu de Vila Franca (-1m); Ponta da Pirâmide (-13m); Calheta, Ponta Delgada; Ponta da Galera (-13 to -18m) (Gofas, 1990: 108). Off Vila Franca do Campo (Morton & Britton, 1995: 70). Ilhéu de Vila Franca (Knudsen, 1995: 141). MCM(HN) 3, 11, 107, 108. DBUA 004, 119, 143, 173, 631, 687, 695, 709, 748, 767, 773, 781, 785, 787, 788, 790, 806.

***Alvania sleursi* (Amati, 1987)**

Manzonionia sleursi Amati, 1987. São Miguel (Amati, 1987: 25-30).

Alvania sleursi (Amati, 1987). Ponta da Galera (-7 to -20m); Vila Franca (-24m); Morro das Capelas (-15 to -20m); Lagoa (-10 to -22m);

Feteiras (-15 to -22m); Ponta da Pirâmide (-13m); Ilhéu de Vila Franca (-1m); (Gofas, 1990: 107). Ilhéu de Vila Franca (Knudsen, 1995: 142). MCM(HN) 40. DBUA 173, 626, 687, 695, 709, 719, 727, 731, 735, 746, 748, 750, 755, 766, 767, 769, 772, 773, 780, 781, 785, 786, 787, 788, 789, 790, 791, 806.

***Cingula trifasciata* (J. Adams, 1800)**

Cingula cingillus (Montagu, 1803). São Miguel (Dautzenberg, 1889: 52). Ponta Delgada (Nobre, 1924: 80; 1930: 57). Ilhéu de Vila Franca (Knudsen, 1995: 143).

Cingula trifasciata (J. Adams, 1800). Ponta da Galera (intertidal); Água d'Alto (intertidal) (Gofas, 1990: 119). Ilhéu de Vila Franca (Bullock, 1995: 16). Água d'Alto (Morton *et al.*, 1998: 97). DBUA 128, 632, 695, 696, 732, 744, 750, 755, 806.

***Crisilla postrema* (Gofas, 1990)**

Setia abjecta (Watson, 1873). São Miguel (Dautzenberg, 1889: 52).

Setia picta (Jeffreys, 1867). São Miguel (Dautzenberg, 1889: 53).

Alvania postrema Gofas, 1990. Capelas (-12m), Ilhéu dos Mosteiros (-3 to -5m) and Morro das Capelas (-29m) ("Biaçores" 1971 expedition); Morro das Capelas (intertidal); Ponta da Galera (intertidal and -13 to -18m); Ponta Delgada (-10 to -22m); Ilhéu de Vila Franca; Ponta da Pirâmide (-13m); Calheta, Ponta Delgada (Gofas, 1990: 114-115). Caloura and Ribeirinha (Azevedo, 1991: 22). Ilhéu de Vila Franca (Bullock, 1995: 16).

Crisilla postrema (Gofas, 1990). DBUA 121, 173, 632, 730, 731, 733, 741, 745, 746, 768, 781.

***Manzonionia unifasciata* Dautzenberg, 1889**

Manzonionia costata J. Adams, 1797. São Miguel (Dautzenberg, 1889: 51). Ponta Delgada (Nobre, 1924: 80; 1930: 56).

Manzonionia costata J. Adams, 1797 var. *ex colore: unifasciata*. São Miguel (Dautzenberg, 1889: 51).

Manzonina costata J. Adams, 1797 var. ex colore: *bifasciata*. São Miguel (Dautzenberg, 1889: 51).

Manzonina costata (J. Adams, 1797) var. ex colore: *luteola*. São Miguel (Dautzenberg, 1889: 51).

Manzonina aurantiaca (Watson, 1873). São Miguel (Dautzenberg, 1889: 52).

Manzonina crassa (Kanmacher, 1798) (misidentification?). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca (Bullock *et al.*, 1990: 45). Ilhéu de Vila Franca (Bullock, 1995: 16).

Alvania crassa (Kanmacher, 1798) (misidentification?). Ilhéu de Vila Franca (Knudsen, 1995: 141).

Manzonina unifasciata Dautzenberg, 1889. Caloura (-4m), Vila Franca (-24m) and Morro das Capelas (-29m) ("Biaçores" 1971 expedition); Capelas (intertidal); Lagoa (intertidal); Ilhéu de Vila Franca; Calheta, Ponta Delgada (0 to -1m); Ponta da Galera (-13 to -18m) (Gofas, 1990: 116). Caloura and Ribeirinha (Azevedo, 1991: 22). Ilhéu de Vila Franca (Knudsen, 1995: 142). Água d'Alto (Morton *et al.*, 1998: 97). MCM(HN) 1, 75. DBUA 129, 173, 657, 687, 695, 697, 709, 715, 719, 727, 728, 730, 731, 733, 748, 755, 766, 767, 773, 781, 785, 787, 789, 806.

Remarks: Bullock *et al.* (1990; 1995) state the existence of *Manzonina crassa* at São Miguel. Knudsen (1995) quotes the works of Bullock *et al.* but also says that Dautzenberg (1889) gives this species to the Azores, which he does not. I believe that Bullock *et al.* (1990; 1995) misidentified *Manzonina unifasciata* for *Manzonina crassa*.

***Onoba moreleti* Dautzenberg, 1889**

Onoba moreleti Dautzenberg, 1889. DBUA 748.

Remarks: this is the first record for this species in the eastern islands of the Azores, thus expanding towards east the known distribution of this species, so far known only from the western and central groups (Gofas, 1990).

***Botryphallus ovummuscae* (Gofas, 1990)**

Peringiella nitida (Brusina mss.) Monterosato. São Miguel (Dautzenberg, 1889: 53).

Peringiella ovummuscae Gofas, 1990. Ponta da Galera (intertidal); Calheta, Ponta Delgada (Gofas, 1990: 120). Água d'Alto (Morton *et al.*, 1998: 97).

Botryphallus ovummuscae (Gofas, 1990). DBUA 715, 750.

Anabathridae

***Pisinna glabatra* (von Mühlfeldt, 1824)**

Pisinna punctulum (Philippi, 1836). São Miguel (Dautzenberg, 1889: 53). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca; Porto do Ilhéu, Vila Franca (Bullock *et al.*, 1990: 45). Ponta da Galera (intertidal); Calheta, Ponta Delgada (intertidal); Ilhéu de Vila Franca (0 to -1m) (Gofas, 1990: 122). Caloura and Ribeirinha (Azevedo, 1991: 22). Ilhéu de Vila Franca (Bullock, 1995: 16).

Pisinna glabatra (von Mühlfeldt, 1824). DBUA 727, 743, 744, 755.

Caecidae

***Caecum* sp.**

Caecum sp. Ilhéu de Vila Franca (Bullock, 1995: 16).

***Caecum vitreum* Carpenter, 1859**

Caecum vitreum Carpenter, 1858. São Miguel (Dautzenberg, 1889: 43).

Vermetidae

***Thylaeodius rugulosus* Monterosato, 1878**

Thylaeodius cf. *rugulosus* Monterosato, 1878. Vila Franca (Bieler, 1995: 175).

Thylaeodius rugulosus Monterosato, 1878. Água d'Alto (Morton *et al.*, 1998: 97).

***Vermetus* cf. *triquetrus* Bivona-Bernardi, 1832**

Vermetus triquetus Bivona, 1832. São Miguel (Drouët, 1858: 26).

Vermetus cristatus Biondi, 1859. São Miguel (Dautzenberg, 1889: 43).

Vermetus cf. *triquetrus* Bivona-Bernardi, 1832.
Vila Franca (Bieler, 1995: 175).

Lamellariidae

***Lamellaria perspicua* (Linnaeus, 1758)**

Lamellaria perspicua Linnaeus, 1766 var. *lata*
Jeffreys. São Miguel (Dautzenberg, 1889: 54).

Lamellaria perspicua (Linnaeus, 1758). DBUA
029, 842.

Triviidae

***Trivia candidula* (Gaskoin, 1835)**

Cypraea producta Gaskoin, 1835. Rosto do Cão
(Drouët, 1858: 37).

Trivia producta Gaskoin, 1835. Rosto do Cão
(Dautzenberg, 1889: 40).

Trivia candidula (Gaskoin, 1835). São Miguel
(Dautzenberg, 1889: 40). Ponta Delgada (Nobre,
1924: 79; 1930: 54). Off Vila Franca do Campo
(Morton & Britton, 1995: 70). DO 73. DBUA
006, 624, 696, 717, 721, 732, 737, 739, 750, 835.

? *Trivia monacha* (da Costa, 1778)

Trivia pediculus Linnaeus, 1766. Meridian littoral
of São Miguel (Dautzenberg, 1889: 40).

Remarks: dubious record. This species was intro-
duced conditionally as «*Cypraea pediculus* seu
monacha» (see CLEMAM database). We did not
find any other species described as “*pediculus*”, so
we believe Dautzenberg referred to *Trivia monacha*.

***Trivia pulex* (Solander in Gray, 1827)**

Cypraea pulex Solander in Gray, 1828. São
Miguel (Drouët, 1858: 36).

Trivia pulex (Solander in Gray, 1827). São
Miguel (Dautzenberg, 1889: 40). Ponta
Delgada (Nobre, 1924: 79; 1930: 55). DO 72.
DBUA 033, 169, 608, 609, 610, 614, 620, 649,
651, 696, 715, 730, 733, 739, 758, 760, 837.

Trivia pulex Solander var. *minor*. São Miguel
(Dautzenberg, 1889: 40).

Cypraeidae

***Luria lurida* (Linnaeus, 1758)**

Cypraea lurida Linnaeus, 1758. Ilhéu de Vila Franca
(Knudsen, 1995: 147-148; Morton *et al.*, 1998: 151).

Luria lurida (Linnaeus, 1758). *ImagDOP* 17.
DBUA 649, 696, 715, 810, 835.

Naticidae

***Natica adansonii* de Blainville, 1825**

Natica variabilis Récluz in Reeve, 1855. São Miguel
(Dautzenberg, 1889: 54). Off Vila Franca do
Campo (Morton & Britton, 1995: 70).

Natica adansonii de Blainville, 1825. DBUA 002,
605, 621, 676, 697, 717, 721, 724, 734, 757,
804, 807, 835, 837.

***Natica dillwynii* Payraudeau, 1826**

Naticarius dillwyni Payraudeau, 1826. Vila
Franca (Simroth, 1888).

Remarks: we consider this a dubious record.

***Payraudeautia intricata* (Donovan, 1804)**

Natica intricata Donovan, 1804. Ilhéu de Vila
Franca (Morton, 1990a: 17; Morton, 1990b:
81).

Cassidae

***Phalium granulatum* (Born, 1778)**

Phalium granulatum (Born, 1778). DBUA 719,
807.

Remarks: *Phalium undulatum* (Gmelin, 1791) is a
junior synonym.

Ranellidae

***Ranella olearia* (Linnaeus, 1758)**

Ranella olearia (Linnaeus, 1758). DO 01, 15.

***Charonia lampas lampas* (Linnaeus, 1758)**

Triton nodiferus Lamarck, 1822. Azores, shore
to -7m (Mac Andrew, 1856: 132, 154). Ponta
Delgada (Nobre, 1924: 78; Nobre, 1930: 53-
54).

Tritonium nodiferum Lamarck, 1822. Rosto do
Cão (Drouët, 1858: 34).

Charonia lampas lampas (Linnaeus, 1758).
ImagDOP 15, 16, 17, 18, 19, 20, 21. DBUA
648, 685.

***Cymatium corrugatum* (Lamarck, 1816)**

Tritonium corrugatum Lamarck, 1816. Ponta
Delgada (Simroth, 1888).

- Cymatium corrugatum* (Lamarck, 1816). DO 12, 31. DBUA 652, 738, 807.
- Cymatium parthenopeum* (von Salis, 1793)**
Triton partenopeum von Salis, 1793. Ponta Delgada (Nobre, 1924: 78; Nobre, 1930: 54).
Cymatium parthenopeum (von Salis, 1793). DO 04. DBUA 612, 639, 652, 653, 654, 676, 758.
- Bursidae
- Bursa scrobiculator* (Linnaeus, 1758)**
Triton scrobiculatus Lamarck, 1822. Azores at shore (dead) (Mac Andrew, 1856: 132, 154).
Ranella scrobiculator (Linnaeus, 1758). Ponta Delgada (Nobre, 1924: 78; Nobre, 1930: 54).
Bursa scrobiculator (Linnaeus, 1758). DO 13. DBUA 639, 643, 719, 721, 758.
- Muricidae
- Hexaplex trunculus* (Linnaeus, 1758)**
Murex trunculus Linnaeus, 1758. Ponta Delgada, dredged inside the harbor (Nobre, 1924: 77; 1930: 53).
Hexaplex trunculus (Linnaeus, 1758). DO 05. DBUA 645, 646, 649, 652, 656, 676, 758, 760.
- Ocenebra chavesi* Houart, 1996**
Ocenebra chavesi Houart, 1996. Ponta Delgada (-10 to -20m) and Ponta da Pirâmide (-13m) (Houart, 1996: 62). DBUA 676, 724, 760, 761, 807.
- Ocenebra erinacea* (Linnaeus, 1758)**
Murex erinaceus Linnaeus, 1758. Ponta Delgada (Simroth, 1888).
Ocenebra erinacea (Linnaeus, 1758). DBUA 123, 645, 651, 652, 657, 676, 695, 719, 754, 760, 807.
- Ocenebrina aciculata* (Lamarck, 1822)**
Fusus corallinus Scacchi, 1836. São Miguel (Drouët, 1858: 35).
Murex aciculatus Lamarck, 1822. Ponta Delgada (Nobre, 1924: 78; Nobre, 1930: 53).
Ocenebra (Ocenebrina) aciculata Lamarck, 1822. São Miguel (Dautzenberg, 1889: 37).
Ocenebrina aciculata (Lamarck, 1822). Ribeirinha (Azevedo, 1991: 24). Off Vila Franca do Campo (Morton & Britton, 1995: 70). DBUA 123, 167, 168, 173, 176, 605, 608, 612, 614, 616, 618, 621, 626, 675, 676, 695, 696, 709, 719, 721, 730, 731, 732, 733, 742, 754, 760, 761, 764, 765, 766, 767, 770, 772, 773, 774, 776, 778, 779, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 807, 837.
- Ocenebrina edwardsi* (Payraudeau, 1826)**
Ocenebrina edwardsi (Payraudeau, 1826). DBUA 646, 693.
- Trophon muricatus* (Montagu, 1803)**
Trophon muricatus (Montagu, 1803). DBUA 151, 605, 608, 616.
- Stramonita haemastoma* (Linnaeus, 1766)**
Purpura haemastoma Linnaeus, 1767. São Miguel (Drouët, 1858: 32). São Miguel (Dautzenberg, 1889: 38). Ponta Delgada and Ferraria (Nobre, 1924: 78; Nobre, 1930: 53).
Thais haemastoma (Linnaeus, 1767). Ilhéu de Vila Franca (Morton, 1990a: 11). Ponta da Galera (Hawkins *et al.*, 1990: 27). Ribeirinha (Azevedo, 1991: 23).
Thais haemastoma floridana (Conrad, 1837). Ilhéu de Vila Franca (Knudsen, 1995: 148-149).
Stramonita haemastoma (Linnaeus, 1766). Caloura (Morton *et al.*, 1998: 55). Ferraria (Morton *et al.*, 1998: 69). Ilhéu de Vila Franca (Morton *et al.*, 1998: 64). *ImagDOP* 17. DBUA 018, 174, 609, 644, 650, 657, 676, 696, 717, 719, 729, 731, 733, 737, 759, 760, 761, 764, 766, 767, 787, 807, 835.
- Orania fusulus* (Brocchi, 1814)**
Orania fusulus (Brocchi, 1814). Azores (Poppe & Goto, 1991: 140). DBUA 612.
- Coralliophilidae
- Coralliophila meyerdorffi* (Calcara, 1845)**
Coralliophila meyerdorffi (Calcara, 1845). Ponta Delgada (Nobre, 1924: 78; Nobre, 1930: 53). DO 62. DBUA 695, 728.

***Latiaxis sentix* (Bayer, 1971)**

Pleurotomoides obliquispira Nordsieck, 1977. Ponta Delgada, -30m (Nordsieck, 1977: 62, 115).

Remarks: this record needs to be confirmed.

Fasciolariiidae

***Trophon muricatus* (Montagu, 1803)**

Trophon muricatus (Montagu, 1803). DBUA 151, 167, 614.

Buccinidae

***Pollia dorbignyi* (Payraudeau, 1826)**

Engina turbinella (Kiener, 1835). Ponta Delgada (Morton *et al.*, 1998: 196) (misidentification).

Pollia dorbignyi (Payraudeau, 1826). DBUA 175, 627, 657, 676, 721, 731, 733, 738, 754, 767, 807, 835.

Remarks: *Engina turbinella* (Kiener, 1835) is an eastern Atlantic species, whereas its similar *Pollia dorbignyi* (Payraudeau, 1826) is an European (western Atlantic) species; Ávila and José Pedro Borges have compared the Azorean specimens with specimens of *Pollia dorbignyi* and of *Engina turbinella* and they proved to belong to the first species.

Nassariidae

***Nassarius corniculum* (Olivi, 1792)**

Nassa corniculum (Olivi, 1792). Ponta Delgada, dredged inside the harbor (Nobre, 1924: 77; Nobre, 1930: 52).

Amyclina corniculum (Olivi, 1792). Calheta, Ponta Delgada (Martins, 1976 [1980]: 5, 13).

Nassarius (Gussonea) corniculum (Olivi, 1792). Ilhéu de Vila Franca (Knudsen, 1995: 152).

***Nassarius cuvieri* (Payraudeau, 1826)**

Nassa costulata Brochi, 1814. (Nobre, 1924: 77; 1930: 52).

Nassarius cuvieri (Payraudeau, 1826). DBUA 673, 676, 730, 731, 732, 734, 735, 736, 807.

***Nassarius incrassatus* (Strøm, 1768)**

(?) *Nassa asperula* Brocchi, 1814. São Miguel (Drouët, 1858: 32).

Nassa ascanias Bruguère, 1789. São Miguel (Drouët, 1858: 32). Ponta Delgada (Nobre, 1930: 52).

Nassa deshayesii Drouët, 1858. São Miguel (Drouët, 1858: 32-33).

Nassa incrassata Müller, 1776. São Miguel (Dautzenberg, 1889: 34). Very common in all the islands (Nobre, 1924: 77; 1930: 52).

Nassa incrassata Müller, 1776 var. *Deshayesii* Drouët. São Miguel (Dautzenberg, 1889: 34).

Hinia incrassata (Strøm, 1768). Ribeirinha (Azevedo, 1991: 24).

Nassarius incrassatus (Müller, 1776). Off Vila Franca do Campo (Morton & Britton, 1995: 70).

Nassarius incrassatus (Strøm, 1768). DO 80. DBUA 164, 167, 169, 176, 612, 614, 616, 621, 624, 646, 657, 675, 676, 696, 704/A, 709, 717, 719, 721, 729, 730, 731, 732, 733, 734, 735, 737, 738, 758, 760, 761, 764, 766, 767, 768, 769, 772, 773, 774, 776, 777, 779, 780, 781, 782, 784, 785, 786, 787, 788, 789, 790, 791, 807, 835, 837.

Columbellidae

***Columbella adansoni* Menke, 1853**

Columbella rustica (Linnaeus, 1758) var. *azorica* Drouët, 1858. São Miguel (Drouët, 1858: 34).

São Miguel (Dautzenberg, 1889: 35). Ponta Delgada (Nobre, 1924: 77; Nobre, 1930: 52). Ponta da Galera (Hawkins *et al.*, 1990: 26). Off Vila Franca (Morton & Britton, 1995: 70).

Columbella adansoni Menke, 1853. Ilhéu de Vila Franca (Knudsen, 1995: 150-151). Caloura (Morton *et al.*, 1998: 55). DO 79. DBUA 166, 176, 621, 646, 658, 676, 696, 709, 713, 715, 719, 721, 727, 728, 729, 731, 733, 738, 758, 759, 760, 761, 766, 773, 776, 778, 783, 785, 787, 791, 807, 835, 837.

Columbella pulchella (de Blainville, 1826). São Miguel (Dautzenberg, 1889: 36) (misidentification?).

Remarks: for further information about this species see Ávila *et al.* (1998: 501).

Cystiscidae

***Gibberula* sp.**

Gibberula sp. DBUA 709.

Mitridae

***Mitra cornea* Lamarck, 1811**

Mitra loricea sensu Drouët, 1858 non Lamarck in Drouët, 1858. São Miguel (Drouët, 1858: 35).

Mitra cornicula (Linnaeus, 1758). São Miguel (Dautzenberg, 1889: 31) (misidentified). Ponta Delgada (Nobre, 1924: 77; 1930: 51) (misidentified).

Mitra nigra (Gmelin, 1791). Ilhéu de Vila Franca (Morton, 1990a: 12) (misidentification). Ponta da Galera (Hawkins *et al.*, 1990: 26) (misidentification). Ribeirinha (Azevedo, 1991: 24) (misidentification). Off Vila Franca (Morton & Britton, 1995: 70) (misidentification). Ilhéu de Vila Franca (Knudsen, 1995: 153-153) (misidentification). Caloura (Morton *et al.*, 1998: 55) (misidentification). Ilhéu de Vila Franca (Morton *et al.*, 1998: 64) (misidentification).

Mitra cornea Lamarck, 1811. DO 66. DBUA 172, 612, 624, 696, 715, 717, 719, 727, 729, 733, 738, 740, 741, 759, 761, 763, 765, 767, 781, 786, 835.

Remarks: *Mitra corniculum* (= *M. cornicula*) has frequently been misidentified with small specimens of *Mitra cornea*, but it is easy to identify both species (*M. cornea* has a white body with a yellow border along the superior margin of the foot and in the tentacles, whereas the body of *M. corniculum* is entirely white) (see Moran *et al.*, 1989; Rolan *et al.*, 1997). *Mitra corniculum* is restricted to the Mediterranean and *Mitra nigra* (Gmelin, 1791) is a species that extends from Cape Verde Islands to Angola, being present also at São Tomé (Rolan *et al.*, 1997). Besides this, *Mitra cornea* has a planktotrophic type of development, whereas *M. corniculum* has a non planktotrophic type of development (Rolan *et al.*, 1997).

***Mitra zonata* Marryat, 1818**

Mitra zonata Marryat, 1818. DBUA 724.

Drilliidae

***Crassopleura maravignae* (Bivona Ant. in Bivona And., 1838)**

Crassopleura maravignae (Bivona Ant. in Bivona

And., 1838). DBUA 154, 169, 608, 614, 616, 696.

Remarks: on the CLEMAM database, this is a dubious synonym of *Crassopleura incrassata* (Dujardin, 1837). The shells of *Crassopleura maravignae* are red brown to dun, whereas the shells collected at the Azores are consistently cream with a darker band near the suture.

Turridae

***Haedropleura septangularis* (Montagu, 1803)**

Haedropleura septangularis (Montagu, 1803). DBUA 605, 682, 683, 675, 695, 696, 704/A, 709.

Conidae

***Anachis avaroides* Nordsieck, 1975**

Anachis sp. Caloura and Ribeirinha (Azevedo, 1991: 24). Ilhéu de Vila Franca (Bullock, 1995: 17). Off Vila Franca do Campo (Morton & Britton, 1995: 70).

Anachis avaroides Nordsieck, 1975. DBUA 155, 168, 173, 176, 614, 621, 626, 675, 676, 695, 696, 707, 709, 715, 719, 727, 732, 733, 739, 741, 742, 745, 748, 764, 766, 767, 768, 772, 773, 775, 777, 779, 781, 783, 784, 785, 787, 788, 789, 790, 791, 807.

Remarks: this species occurs also at Madeira (E. Rolán, *pers. obs.*) and at Canary Islands, from where it was described. It was formerly misidentified with *Raphitoma carnosula* (Jeffreys, 1869) (see Ávila *et al.*, 1998).

***Mitromorpha crenipicta* Dautzenberg, 1889**

Mitrolumna olivoidea crenipicta Dautzenberg, 1889. São Miguel (Dautzenberg, 1889: 31).

Mitromorpha crenipicta Dautzenberg, 1889. DBUA 695, 696, 732, 733, 780.

***Mitromorpha azorensis* Mifsud, 2001**

Mitrolumna cf. *olivoidea* (Cantraine, 1835). Ponta Delgada (Nobre, 1924: 77; 1930: 51) (misidentification). Ribeirinha (Azevedo, 1991: 24) (misidentification). Ilhéu de Vila Franca (Bullock, 1995: 17) (misidentification).

- Mitrolumnium olivoidea* (Cantraine, 1835). Off Vila Franca do Campo (Morton & Britton, 1995: 70) (misidentification).
- Mitromorpha azorensis* Mifsud, 2001. Azores (Mifsud, 2001). DBUA 003, 168, 176, 626, 675, 702/D (paratype), 709, 715, 719, 755, 766, 767, 773, 776, 780, 781, 785, 787, 789.
- Remarks:* *Mitromorpha olivoidea* is restricted to the Mediterranean (Mifsud, 2001).
- Bela laevigata* (Philippi, 1836)**
Bela laevigata (Philippi, 1836). DBUA 169.
Remarks: this is the first record to the Azores. *Mangelia ponisiana* (Dautzenberg, 1887) is a synonym.
- Bela nebula* (Montagu, 1803)**
Mangelia nebula (Montagu, 1803). Rosto do Cão (Simroth, 1888). Off Vila Franca do Campo (Morton & Britton, 1995: 70).
Bela nebula (Montagu, 1803). DBUA 135, 167, 169, 605, 608, 614, 616, 676, 739, 807.
- Raphitoma leufroyi* (Michaud, 1838)**
Raphitoma leufroyi (Michaud, 1838). DBUA 614, 698.
- Raphitoma linearis* (Montagu, 1803)**
Clathurella linearis Montagu, 1803. São Miguel (Dautzenberg, 1889: 29).
Raphitoma linearis (Montagu, 1803). DBUA 122, 176, 624, 626, 675, 695, 696, 721, 732, 764, 767, 770, 773, 774, 775, 781, 787, 789.
- Raphitoma* aff. *linearis* (Montagu, 1803)**
Raphitoma aff. *linearis* (Montagu, 1803). DBUA 609.
- Raphitoma purpurea* (Montagu, 1803)**
Clathurella purpurea (Montagu, 1803). São Miguel (Dautzenberg, 1889: 28). Ponta Delgada (Nobre, 1924: 76; Nobre, 1930: 51).
Raphitoma purpurea (Montagu, 1803). Ribeirinha (Azevedo, 1991: 24). DBUA 702/H, 762, 785.
- Raphitoma* sp.**
Raphitoma sp. DBUA 605.
Remarks: the shell is very similar to *Raphitoma concinna* (Scacchi, 1836), but the protoconch of *Raphitoma concinna* is dark violet, whereas that of *Raphitoma* sp. is cream.
- Order HETEROSTROPHA
 Architectonicidae
- Pseudotorinia* cf. *architae* (O. G. Costa, 1867)**
Pseudotorinia cf. *architae* (O. G. Costa, 1867). DBUA 605.
Remarks: Poppe & Goto (1991: 185) report it to the Mediterranean as *Heliacus architae* (O. G. Costa, 1867).
- Philippia hybrida* (Linnaeus, 1758)**
 (?) *Solarium luteum* Lamarck, 1822. São Miguel (Drouët, 1858: 30).
Solarium hybridum (Linnaeus, 1758). Ponta Delgada (Nobre, 1924: 80; Nobre, 1930: 56).
Philippia hybrida (Linnaeus, 1758). DO 65. DBUA 017.
- Rissoellidae
- Rissoella* cf. *diaphana* (Alder, 1848)**
Rissoella cf. *diaphana* (Alder, 1848). Caloura and Ribeirinha (Azevedo, 1991: 22).
- Rissoella* sp.**
Rissoella sp. Ilhéu de Vila Franca (Bullock, 1995: 16).
- Omalogyridae
- Omalogyra atomus* (Philippi, 1841)**
Omalogyra atomus (Philippi, 1841). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca; Porto do Ilhéu, Vila Franca (Bullock *et al.*, 1990: 45). Caloura and Ribeirinha (Azevedo, 1991: 22). Ilhéu de Vila Franca (Bullock, 1995: 17; Knudsen, 1995: 144). Caloura (Morton *et al.*, 1998: 55). DBUA 118, 173, 614, 631, 632, 715, 730, 731, 755, 768, 773, 781.
- Ammonicera fischeriana* (Monterosato, 1869)**
Ammonicera fischeriana (Monterosato, 1869). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca; Porto do Ilhéu, Vila Franca

(Bullock *et al.*, 1990: 45). Caloura and Ribeirinha (Azevedo, 1991: 23). Ilhéu de Vila Franca (Bullock, 1995: 16). DBUA 118.

***Ammonicera rota* (Forbes & Hanley, 1850)**

Ammonicera rota (Forbes & Hanley, 1850). Ilhéu de Vila Franca (Knudsen, 1995: 144-145).

Remarks: although some authors (e.g.: Fretter & Graham, 1978; Poppe & Goto, 1991) believe that *Ammonicera fischeriana* and *A. rota* are the same species, at CLEMAM they are listed as different species.

Cimidae

***Cima cf. minima* (Jeffreys, 1858)**

Cima cf. minima (Jeffreys, 1858). DBUA 147.

Pyramidellidae

***Odostomella doliolum* (Philippi, 1844)**

Odostomia (Odostomiella) doliolum Philippi, 1844. São Miguel (Dautzenberg, 1889: 59).

Odostomiella doliolum (Philippi, 1844). Caloura (Azevedo, 1991: 26).

Odostomella doliolum (Philippi, 1844). DBUA 005, 687, 695, 709, 755, 767.

***Odostomia* sp.**

Odostomia sp. DBUA 120, 126, 141, 142, 148, 153, 173, 682, 781, 789, 806.

***Odostomia conoidea* (Brocchi, 1814)**

Odostomia conoidea (Brocchi, 1814). DBUA 146, 169, 605, 608, 609, 614.

***Odostomia nitens* Jeffreys, 1870**

Odostomia nitens Jeffreys, 1870. DBUA 007.

Remarks: this is the first record to the Azores.

***Odostomia scalaris* Macgillivray, 1843**

Odostomia rissoides Hanley, 1844 var. *alba* Jeffreys, 1848. São Miguel (Dautzenberg, 1889: 59).

***Odostomia unidentata* (Montagu, 1803)**

Odostomia unidentata (Montagu, 1803). São Miguel (Dautzenberg, 1889: 59).

***Ondina diaphana* (Jeffreys, 1848)**

Ondina diaphana (Jeffreys, 1848). DBUA 719.

***Turbonilla lactea* (Linnaeus, 1758)**

Turbonilla lactea (Linnaeus, 1758). São Miguel (Dautzenberg, 1889: 60). Ponta Delgada and Rosto do Cão beach (Nobre, 1924: 82; 1930: 58-59). Ribeirinha (Azevedo, 1991: 26). DBUA 130, 695, 709, 727, 728, 730, 731, 735.

Subclass OPISTHOBRANCHIA

Order CEPHALASPIDEA

Acteonidae

***Acteon* sp.**

Acteon sp. DBUA 755.

Retusidae

***Retusa multiquadrata* Oberling, 1970**

Retusa multiquadrata Oberling, 1970. Mosteiros and Ponta da Pirâmide (-14m) (Mikkelsen, 1995: 205). DBUA 733.

***Retusa truncatula* (Bruguière, 1792)**

Tornatina truncatula (Bruguière, 1792). São Miguel (Dautzenberg, 1889: 21).

Tornatina mariei (Dautzenberg, 1889). São Miguel (Dautzenberg, 1889: 21-22).

Retusa truncatula (Bruguière, 1792). Caloura and Ribeirinha (Azevedo, 1991: 26). Ilhéu de Vila Franca, Ponta da Pirâmide (-20m) and Queimada, Água d'Alto (Mikkelsen, 1995: 206). DBUA 731, 746.

Runcinidae

***Runcina adriatica* Thompson, 1980**

Runcina adriatica Thompson, 1980. Ponta da Pirâmide (intertidal to -3m); Caloura (-12 to -18m) (Gosliner, 1990: 141).

***Runcina aurata* Garcia-Gomez, Lopez, Luque & Cervera, 1986**

Runcina aurata Garcia-Gomez, Lopez, Luque & Cervera, 1986. Ilhéu de Vila Franca (-1 to -3m); Ponta Delgada harbor (-1 to -3m)

(Gosliner, 1990: 138). Azores (Morton *et al.*, 1998: 88).

Runcina sp.

Runcina sp. Ilhéu de Vila Franca to Ponta da Galera (intertidal to -20m); Ponta Delgada harbor (-2m) (Gosliner, 1990: 143).

Haminocidae

***Haminoea ortei* Talavera, Murillo & Templado, 1987**

Haminoea cf. *ortei* Talavera, Murillo & Templado, 1987. Ilhéu de Vila Franca, Mosteiros and Água d'Alto (Mikkelsen, 1995: 201).

Haminoea ortei Talavera, Murillo & Templado, 1987. DBUA 738.

***Atys macandrewii* E.A. Smith, 1872**

Atys macandrewii E.A. Smith, 1872. Ilhéu de Vila Franca and Ponta da Pirâmide (Mikkelsen, 1995: 200). DBUA 738.

Order THECOSOMATA

Cavolinidae

***Diacria trispinosa* (Lesueur, 1821)**

Diacria trispinosa (Lesueur, 1821). DBUA 607, 614, 753.

Order SACCOGLOSSA

Elysiidae

***Elysia viridis* (Montagu, 1804)**

Elysia viridis (Montagu, 1804). Ribeirinha (Azevedo, 1991: 27). DBUA 729.

Hermacidae

***Aplysiopsis formosa* Pruvot-Fol, 1953**

Aplysiopsis formosa Pruvot-Fol, 1953. Mosteiros and Ponta da Pirâmide (Jensen, 1995: 218). Água d'Alto (Morton *et al.*, 1998: 97).

Order NOTASPIDEA=PLEUROBRANCO-MORPHA

Umbraculidae

***Umbraculum umbraculum* (Röding, 1798)**

Umbraculum mediterraneum (Lamarck, 1819). Maia (intertidal) (Menezes, 1991: 101). Água

d'Alto (Morton *et al.*, 1998: 97).

Umbraculum umbraculum (Röding, 1798). DBUA 638, 753, 760.

Tylodiniidae

***Tylodina perversa* (Gmelin, 1791)**

Tylodina citrina de Joannis, 1853. São Miguel (Dautzenberg, 1889: 25).

Pleurobranchidae

***Pleurobranchus testudinarius* Cantraine, 1835**

Pleurobranchus testudinarius Cantraine, 1835. DBUA 759, 761 (both laying of eggs).

***Berthellina edwardsi* (Vayssière, 1896)**

Berthellina edwardsi (Vayssière, 1896). DBUA 719, 748.

Order ANASPIDEA=APLYSIOMORPHA

Akeridae

***Akera bullata*, O.F. Müller, 1776**

Akera bullata, Müller, 1776. Ponta Delgada, living specimens dredged inside the harbor (Nobre, 1924: 77; Nobre, 1930: 51).

Aplysiidae

***Aplysia depilans* Gmelin, 1791**

Aplysia depilans Gmelin, 1791. *Imag*DOP 15, 17.

Aplysia parvula

Aplysia parvula. DBUA 704/D, 704/H, 762.

***Aplysia punctata* (Cuvier, 1803)**

Aplysia punctata Cuvier, 1803 var. *unicolor*. Ponta Delgada (Simroth, 1888).

Aplysia punctata Cuvier, 1803. Ponta Delgada (Nobre, 1924: 76; Nobre, 1930: 51).

Aplysia punctata (Cuvier, 1803). DBUA 748, 759, 766, 776, 780, 785, 788.

Order NUDIBRANCHIA

Corambidae

***Corambe obscura* (Verrill, 1870)**

Spurilla sargassicola Bergh, 1871. Ponta Delgada (Simroth, 1888).

Remarks: this record needs to be confirmed.

Aldisidae

***Aldisa binotata* Pruvot-Fol, 1953**

Aldisa binotata Pruvot-Fol, 1953. DBUA 809.

Chromodorididae

***Chromodoris britoi* Ortea & Perez, 1983**

Chromodoris clenchi (Russell, 1935). Mosteiros (-2 to -4m); Ponta da Pirâmide (intertidal); Ilhéu de Vila Franca (-3m) (Gosliner, 1990: 148). DBUA 760.

***Chromodoris krohni* (Vérany, 1846)**

Chromodoris krohni (Vérany, 1846). DBUA 722.

***Chromodoris purpurea* (Risso in Guérin, 1831)**

Chromodoris purpurea (Laurillard, 1831). Ilhéu de Vila Franca (-3m); off Caloura (-10 to -20m); Mosteiros (-3 to -4m) (Gosliner, 1990: 146-147). *Chromodoris purpurea* (Risso in Guérin, 1831). DBUA 722, 759, 760.

***Glossodoris edmundsi* Cervera, García-Gómez & Ortea, 1989**

Glossodoris edmundsi Cervera, García-Gómez & Ortea, 1989. Mosteiros (intertidal); Ilhéu de Vila Franca (-2m) (Gosliner, 1990: 159).

***Hypselodoris picta* (Schultz in Philippi, 1836)**

Hypselodoris webbi (d'Orbigny, 1839). Mosteiros (intertidal to -3m); Ponta Delgada harbor (-2 to -3m); Água d'Alto (-12 to -18m) (Gosliner, 1990: 156).

Hypselodoris picta (Schultz in Philippi, 1836).

ImagDOP 22. DBUA 685, 687, 759, 761, 809.

Remarks. *Hypselodoris picta azorica* Ortea, Valdés & García-Gomez 1996 is a junior synonym.

***Hypselodoris tricolor* (Cantraine, 1835)**

Hypselodoris midatlantica Gosliner 1990. Ilhéu de Vila Franca (-2m); Mosteiros (-2 to -4m); Ponta da Galera (-10m); Praia de Água d'Alto (intertidal) (Gosliner, 1990: 152).

Hypselodoris tricolor (Cantraine, 1835). DBUA 760.

Remarks. according to Wirtz (1998), *Hypselodoris midatlantica* Gosliner 1990 is a junior synonym of *Hypselodoris tricolor* (Cantraine, 1835).

Discodorididae

***Discodoris atromaculata* (Bergh, 1880)**

Discodoris atromaculata (Bergh, 1880). *ImagDOP* 16. DBUA 726, 761, 840.

Polyceridae

***Polycera elegans* (Bergh, 1894)**

Polycera elegans (Bergh, 1894). Ponta Delgada harbor (Morton *et al.*, 1998: 115).

***Polycera quadrilineata* (Müller, 1776)**

Polycera quadrilineata (Müller, 1776). Ponta Delgada harbor (Morton *et al.*, 1998: 115).

Dotidae

***Doto* sp.**

Doto sp. DBUA 729.

***Doto floridicola* Simroth, 1888**

Doto floridicola Simroth, 1888. Rosto do Cão (Simroth, 1888).

Subclass PULMONATA

Order BASOMMATOPHORA

Siphonariidae

***Williamia gussonii* (da Costa, 1829)**

Williamia gussonii (da Costa, 1829). São Miguel (Dautzenberg, 1889: 19). Caloura and Ribeirinha (Azevedo, 1991: 27). DBUA 609, 698.

Ellobiidae

***Pseudomelampus exiguus* (Lowe, 1831)**

Pseudomelampus exiguus (Lowe, 1831). Ilhéu de Vila Franca (Martins, 1976: 18). Canto do Areal Grande, Água d'Alto; Pópulo; Ponta de São Pedro, Vila Franca; Portinho, Queimada, Água d'Alto; Atalhada, Lagoa (Martins, 1980:12-18). Ilhéu de Vila Franca (Morton *et al.*, 1998: 64). DBUA 696, 750.

***Auriculinea bidentata* (Montagu, 1808)**

Auriculinea bidentata (Montagu, 1808). Ilhéu de Vila Franca (Martins, 1976: 27). Calheta, Ponta Delgada; Atalhada, Lagoa (Martins, 1980:12-18). Ilhéu de Vila Franca (Morton *et al.*, 1998: 64).

***Ovatella vulcani* (Morelet, 1860)**

Marrula vulcani Morelet, 1860. São Miguel (Dautzenberg, 1889: 19).

Ovatella firminii aequalis (Lowe, 1831). Ilhéu de Vila Franca (Martins, 1976: 23). Canto do Areal Grande, Água d'Alto; Calheta, Ponta Delgada; Pópulo; Ponta de São Pedro, Vila Franca; Portinho, Queimada, Água d'Alto; Atalhada, Lagoa (Martins, 1980:12-18).

Ovatella vulcani (Morelet, 1860). Calheta, Ponta Delgada (Martins, 1995: 233). Água d'Alto (Morton *et al.*, 1998: 97). Ilhéu de Vila Franca (Morton *et al.*, 1998: 64). DBUA 750.

***Myosotella myosotis* (Draparnaud, 1801)**

Ovatella myosotis (Draparnaud, 1805). Ilhéu de Vila Franca (Martins, 1976: 26). Canto do Areal Grande, Água d'Alto; Calheta, Ponta Delgada; Pópulo; Ponta de São Pedro, Vila Franca; Atalhada, Lagoa (Martins, 1980:12-18). Ilhéu de Vila Franca (Morton *et al.*, 1998: 64).

***Pedipes pedipes* (Gmelin, 1791)**

Pedipes afer (Gmelin, 1790). São Miguel (Dautzenberg, 1889: 19). Ferraria (Nobre, 1924: 76; 1930: 97). Vila Franca do Campo (Backhuys, 1975: 55). Ilhéu de Vila Franca (Morton *et al.*, 1998: 64).

Pedipes pedipes (Bruguière, 1789). Caloura and Ribeirinha (Azevedo, 1991: 27).

Pedipes afra (Gmelin, 1791). Ilhéu de Vila Franca (Martins, 1976: 20). Canto do Areal Grande, Água d'Alto; Calheta, Ponta Delgada; Pópulo; Ponta de São Pedro, Vila Franca; Portinho, Queimada, Água d'Alto; Atalhada, Lagoa (Martins, 1980:12-18).

Pedipes pedipes (Gmelin, 1791). DBUA 626, 694, 696, 743, 750.

Subclass GYMNOMORPHA

Order ONCHIDIIDA

Onchidiidae

***Onchidella celtica* (Cuvier, 1817)**

Onchidella celtica (Cuvier, 1817). Calheta, Ponta Delgada; Pópulo (Martins, 1980: 13-14). Ilhéu de Vila Franca (Bullock, 1995: 17). Água d'Alto (Morton *et al.*, 1998: 97). Ponta Delgada harbor (Morton *et al.*, 1998: 115).

Class BIVALVIA

Subclass PTEROMORPHIA

Order ARCOIDA

Arcidae

***Arca noae* Linnaeus, 1758**

Arca noae Linnaeus, 1758. Azores (Jeffreys, 1879: 571). DO 42.

***Arca tetragona* Poli, 1795**

Arca navicularis Bruguière, 1792. São Miguel (Drouët, 1858: 45) (misidentification?).

Arca tetragona Poli, 1795. Azores (Jeffreys, 1879: 571). São Miguel (Dautzenberg, 1889: 78). Ilhéu de Vila Franca (Bullock, 1995: 17). DO 47. DBUA 168, 176, 606, 609, 614, 695, 696, 709, 732, 767, 785.

Order MYTILOIDA

Mytilidae

***Gregariella semigranata* (Reeve, 1858)**

Gregariella semigranata (Reeve, 1858). DBUA 735, 789.

Remarks: this is the first record to the Azores.

***Modiolus adriaticus* (Lamarck, 1819)**

Modiolus adriaticus (Lamarck, 1819). DO 48.

Remarks: this is the first record to the Azores.

***Mytilus edulis* Linnaeus, 1758**

Mytilus edulis Linnaeus, 1758. DBUA 650.

***Rhomboidella prideauxi* (Leach, 1815)**

Rhomboidella prideauxi (Leach, 1815). DBUA 694/D, 701/B, 773, 790.

Remarks: although with a wide range in the Atlantic (from the southern coasts of the British Isles south to St. Helena, according to Poppe & Goto, 1993), as far as we know, this is the first record to the Azores.

***Trichomusculus semigranatus* (Reeve, 1858)**

Modiolus sp. Caloura (Azevedo, 1991: 28).

Trichomusculus semigranatus (Reeve, 1858). Ilhéu de Vila Franca (Bullock, 1995: 17). DBUA 122, 168, 173, 176, 605, 606, 609, 614, 623, 626, 675, 676, 695, 709, 719, 729, 730, 732, 748, 758, 760, 766, 767, 773, 774, 776, 781, 785, 787, 789, 790, 807.

Pinnidae

***Pinna rudis* Linnaeus, 1758**

Pinna rudis Linnaeus, 1758. São Miguel (Drouët, 1858: 45). São Miguel (Dautzenberg, 1889: 77). Ilhéu de Vila Franca (Morton *et al.*, 1998: 151). *ImagDOP* 14, 15, 16, 19, 21.

Order PTERIOIDA

Pteriidae

***Pinctada radiata* (Leach, 1814)**

Pinctada radiata (Leach, 1814). DO 19.

Pectinidae

***Aequipecten commutatus* (Monterosato, 1875)**

Chlamys commutata (Monterosato, 1875). Azores (Poppe & Goto, 1993).

Aequipecten commutatus (Monterosato, 1875). DBUA 604, 605, 606, 612, 614.

***Aequipecten opercularis* (Linnaeus, 1758)**

Aequipecten opercularis (Linnaeus, 1758). DBUA 614, 618.

***Nodipecten corallinoides* (d'Orbigny, 1840)**

Chlamys (*Lyropecten*) *nodosa* (Sowerby, 1842). São Miguel (Dautzenberg, 1889: 74).

Pecten nodulifer Sowerby, 1842. São Miguel (Drouët, 1858: 44).

Pecten corallinoides (d'Orbigny, 1839). Ponta Delgada and Rosto do Cão (Nobre, 1924: 84; 1930: 62).

Nodipecten corallinoides (d'Orbigny, 1840). DO 21. DBUA 604, 605, 638, 646, 649, 651, 719, 724, 837.

***Palliolulum incomparabile* (Risso, 1826)**

Palliolulum incomparabile (Risso, 1826). DO 34. DBUA 606, 612, 614, 618.

***Crassadoma multistriata* (Poli, 1795)**

Chlamys multistriata (Poli, 1795). São Miguel (Dautzenberg, 1889: 74).

Crassadoma multistriata (Poli, 1795). DBUA 604, 707/T, 767, 785, 787, 807.

***Crassadoma pusio* (Linnaeus, 1758)**

Pecten pusio Linnaeus, 1758. São Miguel (Drouët, 1858: 43).

Hinnites sinuosus (Gmelin, 1791). São Miguel (Drouët, 1858: 43). Very common in all the islands (Nobre, 1924: 84; 1930: 62).

Crassadoma pusio (Linnaeus, 1758). DBUA 609, 612, 623, 624, 638, 656, 673, 675, 678, 695, 709, 713, 715, 717, 730, 731, 735, 750, 754, 758, 807.

Remarks: *Hinnites distortus* (da Costa, 1778) is a junior synonym.

***Chlamys flexuosa* (Poli, 1795)**

Chlamys flexuosa (Poli, 1795). DBUA 604, 605.

***Chlamys islandica* (O.F. Müller, 1776)**

Chlamys islandica Chemnitz. One valve found at Rosto do Cão (Simroth, 1888).

Remarks: dubious record.

***Chlamys varia* (Linnaeus, 1758)**

Chlamys varia (Linnaeus, 1758). DO 11. DBUA 762, 764, 766, 768, 773, 776, 789.

Remarks: these records confirm the previous one of Morton (1967: 37) to Faial (Horta harbor) (Ávila *et al.*, 1998: 509).

Spondylidae

***Spondylus senegalensis* Schreibers, 1793**

Spondylus gaederopus (Linnaeus, 1758). Azores (Macedo *et al.*, 1996: 140; 1999: 396).

Remarks: according to Poppe & Goto (1993), the records from Madeira, the Canaries and the Azores relate to *Spondylus senegalensis*.

Anomiidae

Anomia ephippium Linnaeus, 1758

Anomia ephippium Linnaeus, 1758. DO 20, 25. DBUA 176, 614, 624, 638, 696, 709, 717, 719, 758, 765, 772, 774, 776, 778, 787, 807.

Limidae

Lima lima (Linnaeus, 1758)

Lima lima (Linnaeus, 1758). DO 44.

Remarks: this is the first record to the Azores.

Limaria hians (Gmelin, 1791)

Lima tenera Turton, 1825. São Miguel (Drouët, 1858:44).

Lima hians Sowerby. Rosto do Cão and Vila Franca (Simroth, 1888).

Mantellum hians Gmelin, 1791. São Miguel (Dautzenberg, 1889: 73).

Lima hians (Gmelin, 1791). Rosto do Cão (Nobre, 1924: 84; 1930: 62).

Limaria hians (Gmelin, 1791). Ilhéu de Vila Franca (Bullock, 1995: 17). Ponta Delgada harbor (Morton *et al.*, 1998: 115). DO 26. DBUA 177, 612, 623, 638, 678, 688, 709, 713, 717, 719, 731, 756, 758, 760, 762, 807.

Limea loscombi (G. W. Sowerby I, 1824)

Limea loscombi (G. W. Sowerby I, 1824). DBUA 675, 730, 731, 767, 773, 785, 789.

Order OSTREOIDA

Gryphaeidae

Neopycnodonte cochlear (Poli, 1795)

(?) *Ostrea cochlear* Poli, 1795. São Miguel (Dautzenberg, 1889: 72).

Neopycnodonte cochlear (Poli, 1795). DO 10, 35.

Subclass HETERODONTA

Order VENEROIDA

Lucinidae

Loripes lacteus Linnaeus, 1758

Loripes lacteus Linnaeus, 1758. DBUA 612, 807.

Remarks: *Loripes lucinalis* (Lamrck, 1818) is a junior synonym.

Lucinoma borealis (Linnaeus, 1767)

Lucina borealis (Linnaeus, 1758). Ponta Delgada and Rosto do Cão (Nobre, 1924: 86; 1930: 64).

Lucina borealis Linnaeus, 1767. Ilhéu de Vila Franca (Bullock, 1995: 17).

Lucinoma borealis (Linnaeus, 1767). DO 58.

Chamidae

Pseudochama gryphina (Lamarck, 1819)

Pseudochama gryphina (Lamarck, 1819). DO 37, 38. DBUA 612, 696, 698, 719, 807.

Kelliidae

Kellia cf. suborbicularis (Montagu, 1803)

Kellia cf. suborbicularis (Montagu, 1803). DBUA 612.

Remarks: we think this is the first record to the Azores.

Lasaeidae

Lasaea adansonii (Gmelin, 1791)

Lasaea rubra (Montagu, 1803). Vila Franca do Campo (Nobre, 1924: 85; 1930: 62-63).

Lasaea rubra (Montagu, 1803). Atalhada, Lagoa (Martins, 1980: 17).

Lasaea adansonii (Gmelin, 1791). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca; Porto do Ilhéu, Vila Franca (Bullock *et al.*, 1990: 45). Caloura and Ribeirinha (Azevedo, 1991: 28). Ilhéu de Vila Franca (Bullock, 1995: 17). Água d'Alto (Morton *et al.*, 1998: 97). DBUA 160, 612, 717, 719, 727, 730, 743, 744, 745, 755, 781, 806.

Montacutidae

Mysella bidentata (Montagu, 1803)

Mysella bidentata (Montagu, 1808). Atalhada, Lagoa (Martins, 1980: 17).

Neoleptonidae

Neolepton cancellatum Salas & Gofas, 1998

Neolepton cancellatum Salas & Gofas, 1998. São Miguel (Ponta da Pirâmide, -13m; Ilhéu de Vila Franca, 0 to -1m) (Salas & Gofas, 1998: 44-45).

Carditidae

***Cardita calyculata* (Linnaeus, 1758)**

Cardita sinuata sensu Lamarck, 1819 non Bruguière in Drouët, 1858. São Miguel (Drouët, 1858: 46).

Cardita calyculata (Linnaeus, 1758). São Miguel (Dautzenberg, 1889: 80). Ponta Delgada and Rosto do Cão (Nobre, 1924: 85; 1930: 62). Caloura and Ribeirinha (Azevedo, 1991: 28). Ilhéu de Vila Franca (Bullock, 1995: 17). Água d'Alto (Morton *et al.*, 1998: 97). DO 22. DBUA 168, 173, 176, 604, 606, 609, 621, 624, 626, 632, 658, 675, 678, 687, 695, 696, 709, 715, 719, 727, 728, 729, 730, 731, 733, 735, 740, 742, 748, 750, 753, 755, 758, 766, 767, 773, 781, 784, 785, 786, 787, 788, 789, 790, 791, 806.

Begonia (*Mytilocardita*) *calyculata* (Linnaeus, 1758). Atalhada, Lagoa (Martins, 1980: 17).

Astartidae

***Astarte cf. sulcata* (da Costa, 1778)**

Astarte cf. sulcata (da Costa, 1778). DO 24.

Remarks: this is the first record to the Azores.

Cardiidae

***Acanthocardia aculeata* (Linnaeus, 1758)**

Cardium aculeatum (Linnaeus, 1758). Ponta Delgada (Nobre, 1924: 85; 1930: 63).

***Parvicardium exiguum* (Gmelin, 1791)**

Parvicardium exiguum (Gmelin, 1791). DBUA 026, 631, 673, 735, 736.

***Parvicardium cf. minimum* (Philippi, 1836)**

Parvicardium cf. minimum (Philippi, 1836). DBUA 721.

***Parvicardium vroomi* van Aartsen, Moolenbeck and Gittenberger, 1984**

Cardium fasciatum Montagu, 1803. São Miguel, very common (Drouët, 1858: 46). São Miguel (Dautzenberg, 1889: 81).

Cardium (*Papyridea*) *transversale* Deshayes, 1854. São Miguel (Dautzenberg, 1889: 81).

Papyridea transversale (Deshayes, 1854). Ponta da Galera; Queimada, Água d'Alto; Mosteiros; Calheta, Ponta Delgada; Ilhéu de Vila Franca; Porto do Ilhéu, Vila Franca (Bullock *et al.*, 1990: 45).

Parvicardium sp. Ilhéu de Vila Franca (Bullock, 1995: 17).

Parvicardium vroomi van Aartsen, Moolenbeck and Gittenberger, 1984. DBUA 161, 621, 623, 678, 682, 687, 695, 713, 715, 719, 721, 730, 731, 732, 733, 735, 736, 741, 742, 745, 746, 748, 754, 755, 756, 760, 766, 767, 768, 769, 771, 773, 775, 781, 784, 785, 787, 788, 789, 790, 791.

***Papillicardium papillosum* (Poli, 1795)**

Cardium papillosum (Poli, 1795). Ponta Delgada, dredged inside the harbor (Nobre, 1924: 85; 1930: 63).

Papillicardium papillosum (Poli, 1795). DBUA 165, 169, 176, 604, 605, 606, 609, 612, 615, 621, 624, 626, 638, 687, 688, 689, 695, 696, 701/A, 702/D, 703/B, 704/D, 709, 715, 717, 719, 721, 724, 735, 753, 754, 760, 765, 767, 773, 789, 807.

Remarks: formerly known as *Plagiocardium papillosum* (Poli, 1795).

Mactridae

***Spisulla solida* (Linnaeus, 1758)**

Spisulla solida (Linnaeus, 1758). DBUA 638, 678.

Remarks: this should be considered a dubious record, because we have never caught a living specimen in the Azores.

Solenidae

***Solen marginatus* Pulteney, 1799**

Solen marginatus Pulteney, 1799. Shores of São Miguel (Drouët, 1858: 47).

Solen vagina Linnaeus, 1758. Azores, 0 to -18m (Jeffreys, 1881: 929).

Remarks: dubious record.

Tellinidae

***Tellina donacina* Linnaeus, 1758**

Tellina donacina Linnaeus, 1758. São Miguel (Dautzenberg, 1889: 86).

***Tellina incarnata* Linnaeus, 1758**

Tellina incarnata Linnaeus, 1758. Very abundant in the littoral of São Miguel (Drouët, 1858: 46). Ponta Delgada and Rosto do Cão (Nobre, 1924: 86; 1930: 64). DO 39. DBUA 621, 624, 638, 676, 678, 713, 717, 719, 721, 737, 753, 756, 807.

Tellina (Angulus) squalida Pulteney, 1799. São Miguel (Dautzenberg, 1889: 86).

Tellina squalida Montagu, 1803. Ilhéu de Vila Franca (Morton, 1990a: 17).

***Tellina pygmaea* Löven, 1846**

Tellina pygmaea Löven, 1846. DBUA 156, 167, 169, 604, 605, 606, 609, 614, 621, 732, 737.

Remarks: this is the first record to the Azores.

***Gastrana cf. fragilis* (Linnaeus, 1758)**

Gastrana cf. fragilis (Linnaeus, 1758). DBUA 605.

Remarks: this specimen was dredged alive between 40 to 60m depth. *Gastrana fragilis* is mainly an intertidal species but we have never collected this species in the intertidal of the Azores.

Psammobiidae

***Gari costulata* (Turton, 1822)**

Gari costulata (Turton, 1822). DO 31. DBUA 169, 604, 605, 606, 609, 621, 649, 686, 696, 709.

Semelidae

***Ervilia castanea* (Montagu, 1803)**

Ervilia castanea (Montagu, 1803). São Miguel (Drouët, 1858: 46). São Miguel (Dautzenberg, 1889: 84). Rosto do Cão, and Ponta Delgada (Nobre, 1924: 86; 1930: 64; 1936: 295). Ilhéu de Vila Franca (Morton, 1990a: 4; 1990b p. 76). Caloura and Ribeirinha (Azevedo, 1991: 28). Ilhéu de Vila Franca (Bullock, 1995: 17). Ilhéu de Vila Franca (Wells, 1995: 60; Morton *et al.*, 1998: 151). *ImagDOP* 22. DBUA 157, 167, 169, 176, 604, 605, 606, 609, 612, 616, 621, 623, 624, 638, 676, 678, 686, 695, 696, 709, 713, 715, 716, 717, 719, 721, 727, 731, 732, 733, 735, 737, 739, 742, 753, 755, 806, 807.

***Abra alba* (W. Wood, 1802)**

Abra alba (W. Wood, 1802). DBUA 735.

Trapezidae

? *Coralliophaga* sp.

? *Coralliophaga* sp. DBUA 678.

Veneridae

***Venus casina* Linnaeus, 1758**

Venus casina Linnaeus, 1758. DO 27. DBUA 167, 604, 605, 609, 695.

***Venus nux* Gmelin, 1791**

Venus nux Gmelin, 1791. DBUA 696.

Remarks: this is the first record to the Azores.

***Globivenus effossa* (Philippi, 1836)**

Venus effossa (Bivona, 1836). Açores (Nobre, 1936: 257).

Globivenus effossa (Philippi, 1836). DO 28, 29. DBUA 719.

***Timoclea ovata* (Pennant, 1777)**

Timoclea ovata (Pennant, 1777). DBUA 159, 167, 169, 604, 605, 606, 609, 612, 614, 615, 620, 624, 678, 713, 717, 750, 753.

***Goudia minima* (Montagu, 1803)**

Goudia minima (Montagu, 1803). DBUA 169, 604, 605, 606, 609, 612, 616, 682, 719, 724, 735, 760, 789.

***Pitar rudis* (Poli, 1795)**

Meretrix rudis (Poli, 1795). Ponta Delgada, valves dredged inside the harbor (Nobre, 1924: 85; 1930: 63).

***Callista chione* (Linnaeus, 1758)**

Cytherea chione Linnaeus, 1758. São Miguel (Drouët, 1858: 47).

Meretrix (Callista) chione Linnaeus, 1758. Ponta Delgada (Nobre, 1924: 85; 1930: 63).

Callista chione (Linnaeus, 1758). DO 07. DBUA 605, 612, 621, 638, 649, 676, 678, 713, 717, 719, 807.

***Paphia aurea* (Gmelin, 1791)**

Paphia aurea (Gmelin, 1791). DO 30. DBUA 711.

Order MYOIDA

Hiatellidae

***Hiatella arctica* (Linnaeus, 1767)**

Hiatella arctica (Linnaeus, 1767). Azores (Morton *et al.*, 1998: 133, 135). DO 32.

Teredinidae

***Nototeredo norvegica* (Spengler, 1792)**

Teredo norvegica Spengler, 1792. São Miguel (Dautzenberg, 1889: 85).

Xylophagidae

***Xylophaga dorsalis* (Turton, 1819)**

Xylophaga dorsalis (Turton, 1819). São Miguel (Dautzenberg, 1889: 85).

Subclass ANOMALODESMATA

Order PHOLADOMYOIDA

Thraciidae

***Thracia papyracea* (Poli, 1791)**

Thracia papyracea (Poli, 1791). DBUA 620.

Remarks: this is the first record to the Azores.

Cuspidariidae

***Cardiomya costellata* (Deshayes, 1835)**

Cardiomya costellata (Deshayes, 1835). DBUA 158, 162, 606, 614.

Class CEPHALOPODA

Subclass COLEOIDEA

Order TEUTHIDA

Loliginidae

***Loligo forbesi* Steenstrup, 1856**

Loligo forbesi Steenstrup, 1856. São Miguel (Brierley *et al.*, 1993: 66).

Remarks: one specimen was seen during a night dive inside Ponta Delgada harbor (6m depth, 14th October 1996).

Order OCTOPODA

Octopodidae

***Octopus vulgaris* Cuvier, 1797**

Octopus vulgaris Lamarck, 1799. São Miguel (Drouët, 1858: 22).

Octopus vulgaris Cuvier, 1797. Ponta Delgada (Nobre, 1924: 76; Nobre, 1930: 50). Calhetas, Rabo de Peixe; Faial da Terra; Fajã do Calhau; Vila Franca; Caloura - Água de Pau; Feteiras; Candelária (Cunha & Pereira, 1995: 299). Água d'Alto (Morton *et al.*, 1998: 96). *ImagDOP* 19, 21, 22. DBUA 685.

Tremoctopodidae

***Tremoctopus violaceus violaceus* delle Chiaje, 1830**

Tremoctopus violaceus violaceus delle Chiaje, 1830. DBUA 802.

Remarks: collected alive at Praia dos Moinhos, Porto Formoso, at surface (coll. Luis Rodrigues).

ACKNOWLEDGEMENTS

The senior author is grateful to Frias Martins (University of the Azores) for advice and to Domingos Abreu (Museu Municipal do Funchal) who helped in the identification of some species. Brian Morton (University of Hong Kong) was very helpful in the identification of some difficult taxa, especially *Bivalvia*. Thanks are also due to João Paulo Constância (MCM-HN) by the kind disposal of the collections of the museum and to Manuel Biscoito, at the Museu Municipal do Funchal (MMF), by the facilities in the library. We also thank José Pedro Borges, who has confirmed and corrected some of the identifications. The first author is also grateful to the staff at MZ/MHN-FCTUC for all the facilities both at the library and at the Museum as well as to the facilities at the library of the Biology Department of the Faculdade de Ciências

da Universidade do Porto. We thank other photographers who have contributed to *ImagDOP*: Peter Wirtz, Ricardo Serrão Santos, Robert Hofrichter and Carlos Toste. Finally, we are grateful to Robert Moolenbeek, Emilio Rolán, Riccardo Giannuzzi-Savelli and Jacobus van Aartsen, who were very helpful in some taxonomic doubts.

This study was supported by PRAXIS /2/2.1/BIA/169/94. The first author was supported by grants PRAXIS XXI/BIC/2788/96 and PRAXIS XXI BM/20521/99.

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TABLE 1. Number of the sampling sites in the Reference Collection of the Department of the Biology of the University of the Azores (DBUA), location of the sampling sites, date and depth of the samples.

DBUA	Location of the sampling sites	Date	Depth (m)
002	Praia de Água d'Alto	21-September-1970	?
003	Ilhéu de Vila Franca	?-August-1970	?
004	Ilhéu de Vila Franca	25-August-1968	?
005	Ilhéu de Vila Franca	25-July-1968	?
006	Ilhéu de Vila Franca	?-August-1970	?
007	Ilhéu de Vila Franca	25-July-1968	?
009	Ilhéu de Vila Franca	28-June-1967	?
017-018	Ilhéu de Vila Franca	28-June-1967	?
021	Praia de Água d'Alto	?	?
026	Ilhéu de Vila Franca	?-August-1970	?
029	Praia de Água d'Alto	?-August-1970	?
033	Praia de Água d'Alto	?-?-1965	?
115	Ponta da Pirâmide	?-July-1988	?
116	Mosteiros	?-July-1988	?
117-118	Ponta Delgada	?-July-1988	?
119	Ponta da Pirâmide	?-July-1988	?
120	Ponta Delgada	?-July-1988	?
121-122	Ponta da Pirâmide	?-July-1988	?
123	Caloura	?-July-1988	?
124	Praia de Água d'Alto	?-July-1988	?
125-127	Ponta da Pirâmide	?-July-1988	?
128	Praia de Água d'Alto	?-July-1988	?
129	Ponta da Pirâmide	?-July-1988	?
130	Ponta Delgada	?-July-1988	?
132	Ponta Delgada	?-July-1988	?
133-134	Ponta da Pirâmide	?-July-1988	?
135	Vila Franca do Campo	?-July-1988	?
136	Praia de Água d'Alto	?-July-1988	?
141	Ponta da Pirâmide	?-July-1988	?
142	Ponta Delgada	?-July-1988	?
143	Ponta da Pirâmide	?-July-1988	?
144	Ilhéu de Vila Franca	?-July-1988	?
145	Ponta da Pirâmide	?-July-1988	?
146	Praia de Água d'Alto	?-July-1988	?
147	Ponta Delgada	?-July-1988	?
148-149	Vila Franca do Campo	?-July-1988	?
150	Ponta da Pirâmide	?-July-1988	?
151	Praia de Água d'Alto	?-July-1988	?
153	Praia de Água d'Alto	?-July-1988	?
154	Ribeira das Taínhas	?-July-1988	?
155	Ponta da Pirâmide	?-July-1988	?
156	Vila Franca do Campo	?-July-1988	?
157-158	Praia de Água d'Alto	?-July-1988	?
159	Vila Franca do Campo	?-July-1988	?
160	Caloura	?-July-1988	?
161	Ponta da Pirâmide	?-July-1988	?
162-163	Vila Franca do Campo	?-July-1988	?
164-165	Praia de Água d'Alto	?-July-1988	?
166	Caloura	?-July-1988	?
167	Ponta da Galera	?-July-1988	?

DBUA	Location of the sampling sites	Date	Depth (m)
168	Praia de Água d'Alto	?-July-1988	?
169	Ribeira das Taíñas	?-July-1988	?
170	Praia de Água d'Alto	?-July-1988	?
171	Ilhéu de Vila Franca	?-July-1988	?
172	Ponta da Pirâmide	?-July-1988	?
173	Ponta da Galera	?-July-1988	?
174	Caloura	?-July-1988	?
175	Ponta Delgada harbor	?-July-1988	?
176-177	Ponta da Pirâmide	?-July-1988	?
604	Água d'Alto	27-July-1991	45
605	Vila Franca do Campo	02-August-1991	40 - 60
606-608	Off Praia de Água d'Alto	30-July-1991	70
609	Vila Franca do Campo	03-July-1991	70 - 80
610	Ilhéu de Vila Franca	02-July-1991	?
611	Off Praia de Água d'Alto	02-July-1991	100
612	Ponta da Pirâmide	29-July-1991	14
613-614	Off Vila Franca do Campo	03-August-1991	70 - 80
615	Off Praia da Vinha da Areia	28-July-1991	25
616	Off Rosto Branco	02-August-1991	40 - 60
617	Off Praia de Água d'Alto	29-July-1991	45
618	Off Praia de Água d'Alto	30-July-1991	70
619	Off Praia da Vinha da Areia	28-July-1991	25
620	Off Vila Franca do Campo	01-August-1991	50 - 80
621	Off Praia da Vinha da Areia	29-July-1991	25
622-623	Ponta da Pirâmide	29-July-1991	14
624	Off Praia da Vinha da Areia	29-July-1991	25
625	São Roque	31-May-1991	?
626	São Miguel island	?	?
627	Pópulo	23-April-1990	intertidal
628	Pópulo	?-May-1990	?
629	São Roque	14-July-1991	?
630	Porto de Sta. Iria	30-June-1989	?
631	Ponta Delgada harbor	14-March-1990	2-3
632	Lagoa, Piscinas	12-June-1989	?
633	Caloura	?-June-1989	3
634	Ponta Delgada	?-?-1990	?
635	Off São Miguel island	15-June-1989	?
636	São Miguel island	?-March, 1990	?
637	Ponta da Galera	?-?-1989	12
638	Praia do Pópulo	?-February-1990	?
639, 641	Ponta Delgada harbor	02-June-1991	1.5
640	São Miguel island	?-April-1991	?
642-643	Cerco da Caloura	?-May-1990	18
644	São Miguel island	?-February-1991	?
645	Ponta Delgada harbor	14-March-1990	2 - 3
646	Ponta Delgada harbor	02-June-1991	15
647	Porto Formoso	04-May-1990	?
648	Cerco da Caloura	28-September-1989	10
649	Calheta, Ponta Delgada	?	10
650	Ponta Delgada harbor	?	?
651	Cerco da Caloura	26-May-1991	20
652	Ponta Delgada	06-August-1993	12 - 15
653	Cerco da Caloura	02-May-1993	25

DBUA	Location of the sampling sites	Date	Depth (m)
654	Calheta, Ponta Delgada	08-November-1993	15
655	Off Lagoa (Moaçor)	12-July-1996	11
656	Ponta Delgada marina	15-November-1996	6
657	Ilhéu do Rosto do Cão	06-February-1997	13
658	Mosteiros	23-March-1996	intertidal
673	Ponta Delgada harbor	13-October-1997	15
675	Atalhada	05-November-1997	15
676	Ponta Delgada (Dori)	18-November-1997	18
679	Praia pequena do Pópulo	12-January-1998	intertidal
680	Santa Clara	07-February-1998	intertidal
682	São Vicente Ferreira, Capelas	23-April-1996	15
683	São Vicente Ferreira, Capelas	02-July-1996	10
684	São Vicente Ferreira, Capelas	08-July-1996	intertidal
685	São Vicente Ferreira, Capelas	09-July-1996	28.1
686	São Vicente Ferreira, Capelas	15-July-1996	26.8
687	São Vicente Ferreira, Capelas	15-July-1996	29.2
688	São Vicente Ferreira, Capelas	15-July-1996	22
689-691	São Vicente Ferreira, Capelas	15-July-1996	?
692-694	São Vicente Ferreira, Capelas	16-July-1996	22
695	São Vicente Ferreira, Capelas	16-July-1996	14 - 19
696-697	São Vicente Ferreira, Capelas	16-July-1996	25
698	São Vicente Ferreira, Capelas	16-July-1996	22.5
699-700	São Vicente Ferreira, Capelas	17-July-1996	0 - 10.4
701	São Vicente Ferreira, Capelas	17-July-1996	13.6
702	São Vicente Ferreira, Capelas	17-July-1996	16.3
703	São Vicente Ferreira, Capelas	18-July-1996	8
704	São Vicente Ferreira, Capelas	18-July-1996	12
705	São Vicente Ferreira, Capelas	18-July-1996	21.4
706	São Vicente Ferreira, Capelas	18-July-1996	15.1
707	São Vicente Ferreira, Capelas	19-July-1996	3.5
708	São Vicente Ferreira, Capelas	19-July-1996	5.1
709	São Vicente Ferreira, Capelas	20-July-1996	29.7
710	São Vicente Ferreira, Capelas	20-July-1996	intertidal
711	Ponta Delgada harbor	14-October-1996	7
712	Ribeira Grande	27-October-1997	10
713	Praia de Água d'Alto	30-October-1996	intertidal
715	Cerco da Caloura	26-January-1996	intertidal
716	Baía do Rosto do Cão	11-July-1996	intertidal
717	Praia de Água d'Alto	14-June-1997	intertidal
718	Off Ponta Delgada marina	13-March-1997	15
719	Ilhéu de Vila Franca do Campo	03-March-1997	18
720	Praia grande do Pópulo	17-May-1998	intertidal
721	Ilhéu do Rosto do Cão	15-May-1998	15
722	Ilhéu do Rosto do Cão	28-May-1998	14
723	Ribeira Quente	24-June-1998	10 - 20
724	Off Ponta Delgada marina	17-June-1998	11
727-729	Praia grande do Pópulo	17-April-1987	intertidal
730	Baía de Belém, São Roque	04-July-1990	8.6
731-732	Baía da Pranchinha, São Roque	04-July-1990	13.8
733	Baía do Rosto do Cão	04-July-1990	9.5
734	Baía do Rosto do Cão	?-July-1990	16
735	Ponta Delgada harbor	03-October-1998	?
736	Off Ponta Delgada marina	03-October-1998	?

DBUA	Location of the sampling sites	Date	Depth (m)
737	Baía do Rosto do Cão	05-July-1990	15 - 20
738	Baía do Rosto do Cão	26-June-1990	?
739	Baía do Rosto do Cão	05-July-1990	15 - 20
740	Baía do Rosto do Cão	26-June-1990	intertidal
741-742	Baía do Rosto do Cão	06-July-1990	?
743-746	Baía do Rosto do Cão	?-July-1990	?
747	Baía do Rosto do Cão	10-December-1991	intertidal
748	Capelas	07-October-1996	14
749	Piscinas, Lagoa	25-July-1996	5 - 12
750	Cerco, Caloura	08-December-1995	intertidal
751	Baía do Rosto do Cão	05-May-1994	?
752	Fenais da Luz	15-April-1992	intertidal
753	Praia do Pópulo	17-March-1996	intertidal
754	Baía do Rosto do Cão	11-July-1996	10 - 15
755	Cerco, Caloura	08-December-1995	intertidal
756	Lagoa	14-July-1995	2
757	Praia de Água d'Alto	25-February-1996	intertidal
758	Ponta Delgada harbor	14-October-1996	6
759	Outside Ponta Delgada harbor	17-May-1999	3-9
760	Outside Ponta Delgada harbor	14-June-1999	4 - 12.7
761	Cerco da Caloura, cave	25-June-1999	17.8
762	São Vicente, Capelas	14-July-1997	8.7
763	São Vicente, Capelas	12-July-1997	25
764	São Vicente, Capelas	15-July-1997	8.7
765	São Vicente, Capelas	14-July-1997	30.2
766	São Vicente, Capelas	16-July-1997	4.7
767	São Vicente, Capelas	11-July-1997	20.3
768	São Vicente, Capelas	14-July-1997	12
769	São Vicente, Capelas	15-July-1997	10
770	São Vicente, Capelas	14-July-1997	30
771	São Vicente, Capelas	15-July-1997	10
772	São Vicente, Capelas	15-July-1997	8.7
773-774	São Vicente, Capelas	12-July-1997	25
775	São Vicente, Capelas	14-July-1997	30
776	São Vicente, Capelas	14-July-1997	12
777	São Vicente, Capelas	15-July-1997	10
778	São Vicente, Capelas	14-July-1997	12
779	São Vicente, Capelas	11-July-1997	15.1
780	São Vicente, Capelas	11-July-1997	20.3
781-782	São Vicente, Capelas	10-July-1997	5.7
783	São Vicente, Capelas	11-July-1997	15.1
784	São Vicente, Capelas	10-July-1997	5.7
785	São Vicente, Capelas	16-July-1997	4.7
786	São Vicente, Capelas	11-July-1997	20.3
787	São Vicente, Capelas	11-July-1997	15.1
788	São Vicente, Capelas	16-July-1997	4.7
789	São Vicente, Capelas	12-July-1997	25
790	São Vicente, Capelas	11-July-1997	20.3
791	São Vicente, Capelas	15-July-1997	10
792	São Vicente, Capelas	16-July-1997	4.7
793	São Vicente, Capelas	19-July-1997	intertidal
794	Ponta Delgada harbor	20-November-1996	?
802	Porto Formoso, Praia dos Moinhos	30-October-1999	at surface
806	Cerco da Caloura	08-December-1995	intertidal
809	Pesqueiro, Ponta Delgada	24-May-2000	0-6

TABLE 2. Number of the sampling sites in the image bank of the Department of Oceanography and Fisheries of the University of the Azores (ImagDOP), location of the sampling sites and date of the samples.

<i>ImagDOP</i>	Site	Date
14	Dori	30-06-1996
15	Ilhéu de São Roque	30-06-1997
16	Ponta da Galera	07-01-1996
17	Ponta da Fajã Grande	07-02-1996
18	Ilhéu dos Mosteiros	07-02-1996
19	Ilhéu de Vila Franca	07-03-1996
20	Gruta Ponta da Galera	07-04-1996
21	Baixa de Santa Clara	07-05-1996
22	Dori	07-06-1996

TABLE 3. Duarte Oliveira's collection (DO) and location of the sampling sites

DO	Location of the sampling sites
01	Dori, Ponta Delgada
04, 39	Ilhéu de Vila Franca do Campo
05	Ponta Delgada harbor
07, 26-30,	Ponta Garça - Farol
08	Ponta Garça
09, 11, 13, 19, 20, 32, 33,35, 38, 42, 44, 47, 48	Vila Franca do Campo
12, 22, 24, 25, 40, 56	Ribeira das Taíñas - Castelo
16	Nordeste
21, 31	Lagoa – Viteiros
37	Ribeira Quente
58	Ribeira das Taíñas - Gruta
62, 63, 65-75, 79, 80	Ribeira das Taíñas - Porto das Vacas