

## CHECKLIST OF THE SHALLOW-WATER MARINE MOLLUSCS OF THE AZORES: 1 – PICO, FAIAL, FLORES AND CORVO

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### ABSTRACT

An up-to-date commented check-list of the shallow-water marine molluscs of Pico, Faial, Flores and Corvo islands (Azores, Portugal) is provided, based on literature records, on material deposited at the Department of Biology of the University of the Azores (DBUA) as a result of the scientific expeditions "Flores/89", "Açores/89" and "Pico/91", and on photographic material at the Department of Oceanography and Fisheries/University of the Azores (DOP/UA). 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 mollusc collection deposited at DOP/UA were surveyed and the results are included in this report.

Two hundred and fifty five taxa of shallow-water molluscs are reported to Pico, Faial, Flores and Corvo Islands (196 Gastropoda, 50 Bivalvia and 9 Cephalopoda). Of these, 32 are dubious records (23 Gastropoda, 8 Bivalvia and 1 Cephalopoda), there remaining 197 confirmed species to these islands. A total of 26 taxa were identified only down to the genus level (25 Gastropoda and 1 Bivalvia).

### RESUMO

Fornece-se a lista actualizada dos moluscos marinhos de águas costeiras recolhidos nas ilhas do Pico, Faial, Flores e Corvo, com base na bibliografia e nas amostras colhidas aquando das expedições científicas "Flores/89", "Açores/89" e "Pico/91". As fotografias submarinas de moluscos tiradas pelos biólogos marinhos do DOP/UA - Departamento de Oceanografia e Pescas/Universidade dos Açores (pólo da Horta, Faial), como parte do projecto "Roteiro para o turismo sub-aquático dos Açores" foram também utilizadas neste trabalho.

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 a colecção de moluscos existente no Departamento de Oceanografia e Pescas da Universidade dos Açores, DOP/UA foram também revistas e os resultados são aqui incluídos.

Duzentas e cinquenta e cinco taxa de moluscos litorais estão dados para as ilhas do Pico, Faial, Flores e Corvo (196 Gastropoda, 50 Bivalvia e 9 Cephalopoda). Destes, 32 são registos duvidosos (23 Gastropoda, 8 Bivalvia e 1 Cephalopoda), existindo portanto 197 espécies confirmadas. Um total de 26 taxa foram identificados somente até ao género (25 Gastropoda e 1 Bivalvia).

## INTRODUCTION

Pico and Faial are two of the nine islands of the Azorean archipelago and are located in the Central group just five miles apart. The channel between the two islands is shallow, with a maximum depth of about 75 m. Flores and Corvo are the Western Group of islands of the Azores, separated 234 km from the former and 24 km from each other.

Few works have been published about the shallow-water marine molluscs of these islands (Mac Andrew, 1856; Drouët, 1858; Morelet, 1889; Dautzenberg, 1889; Dautzenberg & Fisher, 1897; Nobre, 1924, 1930; Nordsieck, 1972; Azevedo, 1990; Ávila, 1996; Ávila & Azevedo, 1996, 1997).

In spite of that, Faial is one of the malacologically best known islands of the Azores. The first work dealing with the marine molluscs of Faial Island was that by Drouët (1858), who assigned a total of 12 species to this island. Simroth (1888) added *Mitra cornicula* (Linnaeus, 1758) and Dautzenberg (1889) added 50 species, thus elevating the total to 63. Dautzenberg & Fisher (1897) and Nobre (1924) added 2 and 1 new records, respectively. Nobre, in 1930, gave a total of 24 species to Faial, 10 of which being new records. After him, only sparse studies have been made by Chapman (1955), Backhuys (1975, including remarks on the Azorean Ellobiidae), Arruda & Gordo (1984), Burnay & Martins (1988), Gofas (1989, 1990), Gonçalves

(1991, a detailed check-list on the Cephalopoda of the Azores), Menezes (1991), Gonçalves & Martins (1993), Wirtz & Martins (1993) and Morton (1995). All these authors increase the species list of Faial in 21 new records. As a result of the "Açores 89" scientific expedition, held by the Department of Oceanography and Fisheries of the University of the Azores (DOP/UA), 52 species of shallow-water marine molluscs were found at the Faial island, thus adding 22 new records. Between May 1996 and October 1997, the project *ImagDOP* has contributed to increase this checklist, especially on what respects the Opisthobranchia.

On what concerns the Western islands, only a handful of authors have published about the shallow-water marine molluscs of Flores (Mac Andrew, 1856; Drouët, 1858; Dautzenberg, 1889; Nobre, 1924, 1930; Azevedo & Gofas, 1990).

## METHODOLOGY

An exhaustive review of the literature was made. In this paper, we have also included the shallow-water species that are cited to the Azores, without further information (island and location) (e.g. Mac Andrew, 1856; Jeffreys, 1879, 1881a, 1881b, 1882, 1883, 1884a, 1884b, 1885), whenever these records were confirmed by other authors. We have considered only primary sources, so papers where species are mentioned based only on bibliography were not taken in account (e.g. Tebble, 1976;

Nordsieck & Talavera, 1979; Poppe & Goto, 1991, 1993; Macedo, 1996).

During "Açores 89" and "Pico 91" scientific expeditions, a total of 43 and 16 samples, respectively, were collected at Pico island, from the intertidal zone to a depth of 28m. Adding the samples collected by the first author at several places on the littoral of Pico, a total of 76 samples from this island were worked. During "Açores 89" scientific expedition, a total of 67 samples were collected at Faial island, from the intertidal zone to a depth of 30m. Recently, more samples were collected at Faial by the first author, thus making a total of 151 samples sorted at these two islands. During the scientific expedition "Flores 1989" and also from 27-29 October 1990, a total of 173 samples were collected around the island of Flores, from the intertidal zone to a depth of 20m (Table 1).

All molluscs were preserved in 70% alcohol and those collected during "Açores 89" scientific expedition were sorted from algal material at the laboratories of the DOP/UA (Horta, Faial). They were later identified at the Marine Biology laboratories of the Universidade dos Açores (Ponta Delgada, São Miguel). The material collected in these scientific expeditions is deposited at the Department of Biology of the University of the Azores (DBUA) under the Reference Collection numbers DBUA 178-286, DBUA 368-500, DBUA 517-580, DBUA 665-672, DBUA 674, DBUA 677, DBUA 678, DBUA 714 and DBUA

726. The samples DBUA 389, 406, 413, 419 and 432 were lost (Table 1).

Between May 1996 and October 1997, as a part of the project "Roteiro para o Turismo Sub-Aquático dos Açores", several photos of marine molluscs, especially of Opisthobranchia, were taken by the Marine Biology Team of the DOP/UA and have contributed to increase this check-list. All slides were digitized, a data bank was created at DOP/UA and the images stored in the image bank *ImagDOP*. Posteriorly, they were identified and labeled (Table 2). During a short visit to Faial in October 1998, the first author revised the marine molluscs that were stored at DOP/UA and the malacological reference collection was started. The identified species were also included here, under the item DOP/ML (reference collection of the marine molluscs deposited at DOP) (Table 3).

The molluscs collection of the Museu de Zoologia - Museu de História Natural da Faculdade de Ciências e Tecnologia da Universidade de Coimbra, MZ/MHN-FCTUC, and of the Museu Carlos Machado (História Natural), located at Ponta Delgada, MCM-HN, were surveyed and the results were also included in this work.

Species determination and the ordination of families follows the Check List of European Marine Mollusca (CLEMAM) database. The synonymy of the old citations was updated with the help of this database. Specialized works were used for the Patellidae (Titselaar,

1998), Littorinidae (Backeljau & Warmoes, 1992), Triphoridae (Graham, 1988, with corrections extracted from CLEMAM), Turridae (Nordsieck, 1977), Rissoidae (Gofas, 1990; Moolenbeek & Hoenselaar, 1987) and Ellobiidae (Martins, 1996).

The Polyplacophora are still under study and were not referred to in this paper.

## RESULTS

A total of 255 species of shallow-water molluscs are reported to the islands of Pico, Faial, Flores and Corvo (196 Gastropoda, 50 Bivalvia and 9 Cephalopoda). Of these, 31 are dubious records (22 Gastropoda, 8 Bivalvia and 1 Cephalopoda) so there are 198 confirmed species to these islands. A total of 26 taxa were identified only down to the genus level (25 Gastropoda and 1 Bivalvia).

## TAXONOMIC LIST

### Phylum MOLLUSCA

#### Class GASTROPODA

#### Subclass PROSOBRANCHIA

#### Order ARCHAEOGASTROPODA

#### Family Patellidae

- Patella gomesi* Drouët, 1858  
*Patella vulgata* (Linnaeus, 1766). Azores, at the shore (Mac Andrew, 1856: 118, 146) (misidentification). Pico (Nobre, 1924: 83; 1930: 60) (misidentification).  
*Patella crenata* Gmelin, 1790. Pico (Drouët, 1858: 40) (misidentification).  
*Patella gomesii* Drouët, 1858. On the rocks, near the surface of the water at Pico (Drouët, 1858: 39). DBUA 234, 667, 668.

- Patella moreleti* Drouët, 1858. Over rocks on the littoral of Faial (Drouët, 1858: 42).  
*Patella caerulea* (Linnaeus, 1758). Cais do Pico (Nobre, 1924: 83; 1930: 60) (misidentification). Flores (Nobre, 1924: 83; 1930: 60) (misidentification).  
*Patella vulgata* Linnaeus, 1758. Laginha, Faial (mediolittoral) (Arruda & Gordo, 1984: 27) (misidentification).  
*Patella* aff. *candei* d'Orbigny, 1838. Santa Cruz, Flores, at mediolittoral (Azevedo & Gofas, 1990: 83) (misidentification).  
*Patella candei gomesii* (Drouët, 1858). Santo Amaro, Pico (Morton *et al.*, 1998: 61). Santa Cruz harbor, Flores (Morton *et al.*, 1998: 119).

*Remarks:* the synonymy of the *Patella* of the Azores is quite complex. For further details, see Christiaens (1973), Hawkins *et al.* (1990) and especially Titselaar (1998).

- Patella ulyssiponensis* Gmelin, 1791  
*Patella lowei* d'Orbigny, 1839. Littoral of Pico (Drouët, 1858: 40).  
*Patella spectabilis* Dunker, 1853. Shores of Pico (Drouët, 1858: 40).  
*Patella nigro-squamosa* Dunker, 1853. Nearby Horta (Dunker, 1853: 41 *vide* Drouët, 1858: 41) (misidentification).  
*Patella baudonii* Drouët, 1858. On the rocks, near the surface of the water, at Pico (Drouët, 1858: 41).  
*Patella caerulea* var. *aspera* Lamarck, 1819. Horta, over rocks of the littoral (Stn. 104, "Hirondelle", 1887) (Dautzenberg, 1889: 67).  
*Patella aspera* Lamarck, 1819. Pico and Horta, Faial and Flores (Nobre, 1924: 83; 1930: 60). Laginha, Faial (upper part of the infralittoral) (Arruda & Gordo, 1984: 27). Santa Cruz, Flores (mediolittoral) (Azevedo & Gofas, 1990: 83).  
*Patella caerulea* (Linnaeus, 1758). Horta (Nobre, 1924: 83; 1930: 60) (misidentification).  
*Patella ulyssiponensis aspera* Röding, 1798. Reserva do Monte da Guia, Faial (Gonçalves & Martins, 1993: 32). Santo Amaro, Pico (Morton *et al.*, 1998: 61). *ImagDOP* s122-17.  
*Patella ulyssiponensis* Gmelin, 1791.

DBUA 179, 190, 240, 264, 265, 271, 458, 496, 499, 554, 562, 579, 669, 670, 672, 677, 714.

#### Family Acmaeidae

*Acmaea virginea* (O.F. Müller, 1776)

*Tectura virginea* Müller, 1776. Azores (Jeffreys, 1882: 671).

*Lottia virginea* Müller, 1776. Between Areia Larga and Madalena (Drouët, 1858: 43).

*Acmaea virginea* (Müller, 1776). Horta (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 67). Pico (Nobre, 1924: 82; 1930: 60). Santa Cruz (Azevedo & Gofas, 1990: 83). Azores (Morton *et al.*, 1998: 139).

*Acmaea virginea* (O.F. Müller, 1776). DBUA 182, 197, 240, 274, 278, 398, 410, 420, 433, 434, 457, 558, 560, 561, 562, 570, 666, 667, 668, 670, 672, 677, 726.

#### Family Scissurellidae

*Anatoma crispata* Fleming, 1828

*Scissurella crispata* Fleming, 1828. Azores (Jeffreys, 1883: 88).

*Remarks:* there are recent records of this species to São Miguel island.

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

*Schismope fayalensis* Dautzenberg, 1889. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 63). Santa Cruz, Flores (Azevedo & Gofas, 1990: 83). Pico (Ávila & Azevedo, 1996: 106). Azores (Morton *et al.*, 1998: 88, 89).

*Sinezona cingulata* (O.G. Costa, 1861). DBUA 204, 268, 274, 276, 277, 446, 465, 466, 467, 468, 470, 471, 472, 475, 481, 492, 493, 496, 499, 500, 545, 564, 662, 663, 669.

#### Family Haliotidae

*Haliotis coccinea* Reeve, 1846

*Haliotis coccinea* Reeve; 1846. Littoral of Pico and Faial (Drouët, 1858: 38). Faial (MZ/MHN-FCTUC 1109) (erroneously labeled as *Haliotis stomatiaeformis* Reeve, 1846).

*Haliotis cf. coccinea* Reeve, 1843. Santa Cruz, Flores (Azevedo & Gofas, 1990: 83).

*Remarks:* Nobre (1930) had doubts about the specimens of *Haliotis coccinea* listed to the Azores. We also consider this a

dubious record because, from hundreds of living specimens and shells that we have seen from almost all the islands, none seemed to us like *Haliotis coccinea*.

*Haliotis tuberculata tuberculata* Linnaeus, 1758

*Haliotis tuberculata* Linnaeus, 1758. Azores, at shore (Mac Andrew, 1856: 119). Shores of Pico and Faial (Drouët, 1858: 37). Pico and Horta, Faial (Nobre, 1924: 82; 1930: 59-60). Reserva do Monte da Guia (Gonçalves & Martins, 1993: 32). Faial (Wirtz, 1995: 137). Santa Cruz, Flores (Morton *et al.*, 1998: 78).

*Haliotis tuberculata tuberculata* Linnaeus, 1758. *ImagDOP* s140-16, s240-09. *DOP/ML* 0003. DBUA 193, 197, 233, 240, 263, 392, 433, 460, 496, 498, 499, 565, 566, 662, 668, 670, 672, 677, 726.

#### Family Trochidae

*Clanculus bertheloti* (d'Orbigny, 1840)

*Clanculus bertheloti* (d'Orbigny, 1834). Azores, at shore (Mac Andrew, 1856: 121, 147).

*Remarks:* this record needs to be confirmed.

*Jujubinus exasperatus* (Pennant, 1777)

*Calliostoma (Jujubinus) exasperatus* (Linnaeus, 1766). Azores (Mac Andrew, 1856: 147).

*Trochus exasperatus* Pennant, 1777. Azores (Jeffreys, 1883: 105).

*Trochus (Ziziphinus) exasperatus* (Pennant, 1777). Off Faial (-80 to -150 m, Stn. 75, "Challenger", 1873) (Watson, 1886: 696).

*Calliostoma (Jujubinus) exasperatus* (Pennant, 1777). Horta (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 63).

*Calliostoma exasperatus* (Pennant, 1777). Cais do Pico (Nobre, 1924: 82; 1930: 59). Horta (Nobre, 1924: 82; 1930: 59).

*Jujubinus exasperatus* (Pennant, 1777). Lajes do Pico (Azevedo, 1990: 59). DBUA 371, 372, 378, 388, 394, 395, 396, 400, 405, 415, 418, 421, 422, 424, 429, 432, 438, 486, 555, 558, 560, 561, 565, 567, 568, 569, 579, 671, 672, 726.

*Jujubinus exasperatus* form *tricolor* (Pennant, 1777). Pico (Ávila & Azevedo, 1996: 106).

*Jujubinus pseudogravinae* Nordsieck,  
1973

*Jujubinus pseudogravinae* Nordsieck,  
1973. Santa Cruz, Flores (Azevedo &  
Gofas, 1990: 84). Pico (Ávila & Azevedo,  
1996: 106). DBUA 195, 267, 274, 278, 281,  
378, 387, 390, 394, 395, 396, 400, 405, 407,  
408, 432, 441, 462, 500, 556, 563, 574, 576,  
660, 661, 662, 669, 672, 726.

*Jujubinus striatus* (Linnaeus, 1758)

*Trochus striatus* Linnaeus, 1758. Azores,  
shore to -27 m (Mac Andrew, 1856: 120).  
*Remarks:* this record needs to be confirmed.

*Gibbula magus* (Linnaeus, 1758)

*Gibbula magus* (Linnaeus, 1758). Horta (-15  
to -20 m, Stn. 103, "Hirondelle", 1887)  
(Dautzenberg, 1889: 63). Pico (Ávila &  
Azevedo, 1996: 106). Azores (Morton *et al.*,  
1998: 88, 144). DBUA 410, 421, 422, 424, 661,  
670.

*Calliostoma* sp.

*Calliostoma* sp. Santa Cruz (Azevedo &  
Gofas: 84).

*Calliostoma laugier* (Payraudeau, 1826)

*Trochus laugier* (Payraudeau, 1826).  
Azores, -7 to -20m (Mac Andrew, 1856: 120, 147).  
*Remarks:* we consider this a dubious record.  
According to Poppe & Goto (1991),  
*Calliostoma laugier* is limited to the  
Mediterranean sea, although Nobre (1936)  
quotes this species to Portugal, from  
Setúbal bay south to Algarve. More  
recently, Rolan (1984) quoted this species  
to Ria de Vigo and Trigo Trigo & Otero  
Schmitt (1987) recorded it also from Ria  
de Pontevedra, Galiza (north-western Spain).

*Calliostoma zizyphinum* (Linnaeus, 1758)

*Trochus zizyphinus* Linnaeus, 1758.  
Azores (Mac Andrew, 1856: 119, 147).

*Trochus (Zizyphinus) zizyphinus* Linnaeus,  
1758. Off Faial (-80 to -150 m, Stn. 75,  
"Challenger", 1873) (Watson, 1886: 696).

*Calliostoma conuloides* Lamarck, 1822.  
Horta (-15 to -20 m, Stn. 103, "Hirondelle",  
1887) (Dautzenberg, 1889: 62).

*Calliostoma zizyphinum* (Linnaeus,  
1758). Azores (Morton *et al.*, 1998: 144).

*ImagDOP* s110-4, s225-19. DOP/ML 0003,  
0021. DBUA 557, 579, 668, 433, 670, 672.

Family Skeneidae

*Adeuomphalus ammoniformis* (Seguenza  
G., 1876)

*Homalogyra densecostata* (Jeffreys,  
1884). Horta (-15 to -20 m, Stn. 103, "Hiron-  
delle", 1887) (Dautzenberg, 1889: 46).

Family Turbinidae

*Bolma rugosa* (Linnaeus, 1767)

*Turbo rugosus* Linnaeus, 1766. Azores, -  
16 to -108m (Mac Andrew, 1856: 148).

*Remarks:* although cited to the Azores, and living  
in depths studied by us - usually it lives between  
-15 to -25m (Poppe & Goto, 1991) - we have  
never seen this species in any of the islands.

Family Tricoliidae

*Tricolia pullus azorica* Dautzenberg, 1889

*Phasianella pullus* Linnaeus, 1758. Azores,  
-5 to -9 m (Mac Andrew, 1856: 121, 148).

*Phasianella azorica* Dautzenberg, 1889.  
Horta (-15 to -20 m, Stn. 103, "Hirondelle",  
1887) (Dautzenberg, 1889: 62).

*Phasianella pulla* (Linnaeus, 1758). Cais  
do Pico e Areia Larga (Nobre, 1924: 82;  
1930: 59). Horta (Nobre, 1924: 82; 1930: 59).  
Faial (MZ/MHN-FCTUC 1002).

*Tricolia pullus* Linnaeus, 1758. Azores  
(Morton *et al.*, 1998: 88, 89, 144).

*Tricolia pullus azorica* Dautzenberg,  
1889. Santa Cruz and Fajã Grande, Flores  
(Azevedo & Gofas, 1990: 84). Lajes do Pico  
(Azevedo, 1990: 59). DBUA 188, 190, 193,  
195, 197, 208, 240, 266, 270, 274, 278, 281,  
286, 368, 374, 376, 377, 378, 380, 381, 382,  
384, 387, 388, 391, 393, 394, 395, 396, 398,  
400, 403, 405, 408, 409, 410, 428, 429, 438,  
440, 441, 452, 453, 459, 460, 462, 465, 468,  
471, 492, 493, 496, 499, 500, 545, 551, 553,  
554, 555, 556, 557, 558, 560, 561, 563, 564,  
566, 568, 569, 570, 571, 574, 575, 579, 662,  
666, 667, 668, 670, 672, 677, 726.

Order APOGASTROPODA

Family Cerithiidae

*Cerithium zebrum* Kiener, 1842

*Cerithium zebrum* Kiener, 1842. Madale-  
na, Pico (Drouët, 1858: 30).

*Remarks:* we were not able to up-date the synonymy of this species. However, Reeve (1866), gives this species to Galapagos islands, so we consider this to be a dubious record.

*Bittium* sp.

*Cerithium reticulatum* (da Costa, 1778).

Azores, shore to -115 m (Mac Andrew, 1856: 124, 150) (misidentification). Azores (Jeffreys, 1885: 56-57) (misidentification).

*Bittium reticulatum* (da Costa, 1778).

Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 41). Madalena, Areia Larga e Cais do Pico (Nobre, 1924: 79; 1930: 55). Horta, Faial (Nobre, 1924: 79; 1930: 55). Lajes do Pico (Azevedo, 1990: 59). Azores (Morton *et al.*, 1998: 88, 89) (misidentification).

*Bittium* cf. *reticulatum* (da Costa, 1778).

Santa Cruz (Azevedo & Gofas, 1990: 85) (misidentification).

*Bittium* sp. DOP/ML 0010. DBUA 181, 182,

188, 190, 193, 196, 197, 206, 240, 266, 274, 276, 278, 281, 286, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 384, 385, 386, 387, 390, 391, 393, 394, 395, 396, 397, 398, 399, 400, 403, 405, 407, 408, 409, 410, 412, 414, 415, 416, 417, 418, 422, 424, 427, 428, 430, 434, 435, 436, 437, 438, 439, 441, 442, 443, 445, 446, 447, 448, 449, 450, 452, 453, 456, 457, 458, 459, 460, 462, 463, 465, 466, 467, 468, 469, 470, 471, 472, 474, 475, 476, 478, 480, 481, 483, 486, 489, 492, 493, 496, 499, 500, 545, 546, 551, 553, 555, 556, 557, 558, 560, 561, 563, 564, 565, 567, 568, 569, 570, 571, 572, 574, 575, 576, 579, 659, 661, 662, 665, 666, 668, 670, 672, 677, 726.

*Remarks:* The protoconch is similar to that of *Bittium latreillii* (Payraudeau, 1826) - *Bittium depauperatum* Watson, 1897 (species from Madeira and Canary islands) and quite different from the protoconch of *Bittium reticulatum* (da Costa, 1778) (mainland species) (Diego Moreno, pers. comm.). For additional information about this species see Ávila & Azevedo (1997).

Family Fossaridae

*Fossarus ambiguus* (Linnaeus, 1758)

*Fossarus adansonii* Philippi, 1844. Azores, at the shore (Mac Andrew, 1856: 123, 149).

*Fossarus ambiguus* (Linnaeus, 1758).

Madalena (Stn. 109) (Dautzenberg, 1889: 45). Horta, Faial (Nobre, 1924: 80; 1930: 56). Lajes do Pico (Azevedo, 1990: 59). Santa Cruz and Fajã Grande, Flores (Azevedo & Gofas, 1990: 85). Azores (Morton *et al.*, 1998: 89). DBUA 182, 228, 286, 387, 448, 458, 459, 465, 471, 472, 475, 489, 492, 496, 500, 661, 662, 665, 666, 677.

Family Litiopidae

*Litiopa melanostoma* Rang, 1829

*Litiopa gratelupeana* Drouët, 1858.

Among the "sargasso", between the islands of Flores and Corvo (Drouët, 1858: 28-29).

*Litiopa melanostoma* Rang, 1829. Azores (Morton *et al.*, 1998: 133).

Family Triphoridae

*Cheirodonta pallescens* (Jeffreys, 1867)

*Cheirodonta pallescens* (Jeffreys, 1867).

Santa Cruz, Flores (Azevedo & Gofas, 1990: 85). DBUA 240.

*Marshallora adversa* (Montagu, 1803)

*Triforis perversa* (Montagu, 1803). Azores (Mac Andrew, 1856: 150).

*Triforis perversa* B.D.D., 1884. Pico (Nobre, 1930: 55).

*Triphora adversa* (Montagu, 1803). Santa Cruz, Flores (Azevedo & Gofas, 1990: 85). Lajes do Pico (Azevedo, 1990: 59).

*Marshallora adversa* (Montagu, 1803). DBUA 186, 193, 197, 240, 281, 373, 374, 379, 380, 407, 428, 441, 493, 560, 563, 574, 662, 665, 666, 672.

*Monophorus erythrosoma* (Bouchet & Guillemot, 1978)

*Monophorus erythrosoma* (Bouchet & Guillemot, 1978). DBUA 421, 574.

*Monophorus perversus* (Linnaeus, 1758)

*Triforis perversa* (Linnaeus, 1758). Azores (Jeffreys, 1885: 57). Pico (Nobre, 1924: 79).

Horta, Faial (Nobre, 1924: 79; 1930: 55).

*Monophorus perversus* (Linnaeus, 1758). Azores (Morton *et al.*, 1998: 144).

*Monophorus thiriota* Bouchet, 1985

*Monophorus thiriota* Bouchet, 1985. Azores (Bouchet, 1985: 24-26).

*Metaxia abrupta* (Watson, 1880)

*Metaxia abrupta* (Watson, 1880). DBUA 499.

Family Cerithiopsidae

*Cerithiopsis* sp.

*Cerithiopsis* sp. Santa Cruz, Flores (Azevedo & Gofas, 1990: 85).

*Cerithiopsis barleei* Jeffreys, 1867

*Cerithiopsis barleei* Jeffreys, 1867. DBUA 197, 240, 412, 560, 567.

*Cerithiopsis jeffreysi* Watson, 1885

*Cerithiopsis pulchella* Jeffreys, 1858. Santa Cruz (Azevedo & Gofas, 1990: 85).

*Cerithiopsis jeffreysi* Watson, 1885. DBUA 274, 574.

*Cerithiopsis minima* (Brusina, 1865)

*Cerithiopsis* cf. *minima* (Brusina, 1865). Santa Cruz (Azevedo & Gofas, 1990: 85).

*Cerithiopsis minima* (Brusina, 1865). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 43). DBUA 188, 213.

*Cerithiopsis tubercularis* (Montagu, 1803)

*Cerithium tuberculare* Montagu, 1803. Faial (Drouët, 1858: 31).

*Cerithiopsis* sp. Pico (Ávila & Azevedo, 1996: 106).

*Cerithiopsis tubercularis* (Montagu, 1803). Azores (Morton *et al.*, 1998: 144). DBUA 188, 379, 409, 660, 662, 666.

Family Janthinidae

*Janthina exigua* Lamarck, 1816

*Janthina exigua* Lamarck, 1816. Azores (Mac Andrew, 1856: 119, 147). Pico (Drouët, 1858: 27-28).

*Janthina exigua* Lamarck, 1816. Horta, Faial (Nobre, 1924: 81; 1930: 58). MZ/MHN-FCTUC 889,

*Janthina janthina* (Linnaeus, 1758)

*Janthina communis* Lamarck, 1816. Azores (Mac Andrew, 1856: 119, 147). Pico (Drouët, 1858: 27). Areia Larga, Pico (Nobre, 1924: 81; 1930: 58).

*Janthina janthina* (Linnaeus, 1758). Azores (Morton *et al.*, 1998: 133).

Remarks: in Morton *et al.* (1998: 133), the names of the *Janthina* species are switched. Thus, where it is *Janthina globosa* (Fig. 7.1-G) and *Janthina janthina* (Fig. 7.1-H), it should be *Janthina globosa* (Fig. 7.1-H) and *Janthina janthina* (Fig. 7.1-G).

*Janthina pallida* Thompson, 1840

*Janthina globosa*. Azores (Morton *et al.*, 1998: 133).

*Janthina pallida* Thompson, 1840. DBUA 666, 677.

Family Epitoniidae

*Epitonium algerianum* (Weinkauff, 1866)

*Scalaria algeriana* Weinkauff, 1866. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 56).

*Epitonium clathratulum* (Kanmacher, 1798)

*Scalaria clathratula* Montagu, 1803. Azores, -18 to -54 m (Mac Andrew, 1856: 123, 149).

*Scalaria clathratula* Adams, 1800. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 56).

*Opalia crenata* (Linnaeus, 1758)

*Scalaria crenata* (Linnaeus, 1758). Cais do Pico (Nobre, 1924: 81; 1930: 58).

Family Eulimidae

*Eulima glabra* (da Costa, 1778)

*Eulima subulata* Donovan, 1804. Azores (Jeffreys, 1884b: 365-366).

Remarks: this record needs to be confirmed.

*Parvioris* sp.

*Parvioris* sp. Santa Cruz, Flores (Azevedo & Gofas, 1990: 85).

*Vitreolina* spp.

*Vitreolina* sp. Santa Cruz, Flores (Azevedo & Gofas, 1990: 85).

*Vitreolina* sp. Pico (Ávila & Azevedo, 1996: 106). DBUA 492, 666.

Remarks: two species are given for Flores (Santa Cruz) by Azevedo & Gofas (1990).

*Vitreolina antiflexa* Monterosato, 1844

*Eulima distorta* Deshayes in DeFrance, 1823. Azores, -18 to -108 m (Mac Andrew, 1856: 125, 150).



*Eulima distorta* DeFrance, 1823. Azores (Jeffreys, 1884b: 367).

Remarks: this record needs to be confirmed.

*Vitreolina incurva* (B.D.D., 1883)

*Eulima incurva* B.D.D., 1883. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 57).

*Vitreolina incurva* (B.D.D., 1883). DBUA 379, 407.

#### Family Littorinidae

*Melarhappe neritoides* (Linnaeus, 1758)

*Littorina caerulescens* (Lamarck, 1822). Pico (Drouët, 1858: 26).

*Littorina (Melaraphe) neritoides* (Linnaeus, 1758). Madalena (Stn. 109) (Dautzenberg, 1889: 44).

*Littorina neritoides* (Linnaeus, 1758). Madalena e Cais do Pico (Nobre, 1924: 79-80; 1930: 56). Horta (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 44); (Nobre, 1924: 79-80; 1930: 55). Flores (Nobre, 1924: 79-80; 1930: 56). Laginha, Faial (supralittoral) (Arruda & Gordo, 1984: 27). Lajes do Pico (Ávila, 1996: 27).

*Melaraphe neritoides* (Linnaeus, 1758). Santa Cruz. Flores (supralittoral) (Azevedo & Gofas, 1990: 84).

*Melarhappe neritoides* (Linnaeus, 1758). Santo Amaro, Pico (Morton *et al.*, 1998: 61). Santa Cruz harbor, Flores (Morton *et al.*, 1998: 119). DBUA 215, 235, 415, 430, 438, 444, 445, 448, 452, 457, 458, 459, 460, 496, 500, 659, 660, 661, 662, 663, 665, 666, 667, 672.

*Littorina obtusata* (Linnaeus, 1758)

*Littorina (Neritoides) obtusata* (Linnaeus, 1758). Azores (Jeffreys, 1883: 112).

Remarks: we consider this a dubious record.

*Littorina saxatilis* (Olivi, 1792)

*Littorina rudis* (Maton, 1797). Azores (Jeffreys, 1883: 112-113).

*Littorina saxatilis* (Olivi, 1792). Azores (Reid, 1996: 327). Santa Cruz. Flores (Azevedo & Gofas, 1990: 84). DBUA 193.

*Littorina striata* King & Broderip, 1832

*Littorina striata* King, 1835. Azores, at

shore (Mac Andrew, 1856: 123, 149). Pico (Drouët, 1858: 26). Madalena (Stn. 109) (Dautzenberg, 1889: 44). Flores (Nobre, 1924: 79; 1930: 55).

*Littorina striata* (King, 1832). Madalena, Areia Larga e Cais do Pico (Nobre, 1924: 79; 1930: 55). Horta (Nobre, 1924: 79; 1930: 55). Laginha, Faial (supralittoral) (Arruda & Gordo, 1984: 27). Lajes do Pico (Ávila, 1996: 27).

*Littorina striata* King & Broderip, 1832. Santa Cruz, supralittoral (Azevedo & Gofas, 1990: 84). Santa Cruz (Backeljau *et al.*, 1995: 160). Azores (Reid, 1996: 48). Santo Amaro, Pico (Morton *et al.*, 1998: 61, 89). Santa Cruz harbor, Flores (Morton *et al.*, 1998: 119). Poça da Barra, Lajes do Pico (Morton *et al.*, 1998: 157). DOP/ML 0012. DBUA 215, 221, 282, 438, 471, 661, 662, 663, 665, 667, 668.

#### Family Skeneopsidae

*Skeneopsis planorbis* (O. Fabricius, 1780)

*Skeneia planorbis* Fabricius, 1780. Cais do Pico (Nobre, 1924: 80; 1930: 56).

*Skeneopsis* aff. *planorbis* (Fabricius, 1780). Santa Cruz (Azevedo & Gofas, 1990: 84).

*Skeneopsis planorbis* (Fabricius, 1780). Horta (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 46). Feteira, Faial (intertidal) (Chapman, 1955: 803). Lajes do Pico (Ávila, 1996: 27). Azores (Morton *et al.*, 1998: 88, 89, 144).

*Skeneopsis planorbis* (O. Fabricius, 1780). DBUA 188, 189, 194, 195, 196, 217, 268, 269, 272, 274, 277, 280, 281, 442, 444, 446, 449, 452, 456, 460, 462, 466, 467, 468, 469, 471, 475, 477, 478, 492, 493, 496, 499, 500, 564, 661, 662, 663, 674, 726.

#### Family Rissoidae

*Rissoa guerinii* Récluz, 1843

*Cingula costulata* Alder, 1844. Feteira, Faial (mid tide) (Chapman, 1955: 803).

Remarks: dubious record. This species has not been ever since cited to the Azores, although its distribution ranges from the British isles to the Canaries (Poppe & Goto, 1991). Probably Chapman misidentified the specimens with *Rissoa guernei* Dautzenberg, 1889.

*Rissoa guernei* Dautzenberg, 1889

*Rissoa guernei* Dautzenberg, 1889. Horta, Faial (-15 to -20m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 48). Lajes do Pico (Azevedo, 1990: 59). Santa Cruz, Flores (intertidal pool) (Gofas, 1990: 100). Santa Cruz and Fajã Grande, Flores (Azevedo & Gofas, 1990: 85). Pico (Ávila & Azevedo, 1996: 106). Azores (Morton *et al.*, 1998: 88, 89). DBUA 188, 190, 193, 195, 220, 240, 274, 281, 372, 381, 382, 387, 397, 398, 400, 442, 443, 448, 451, 452, 459, 460, 462, 468, 470, 471, 472, 473, 475, 492, 493, 496, 499, 500, 551, 554, 556, 565, 566, 568, 570, 571, 574, 579, 661, 662, 666, 667, 726.

*Setia* sp.

*Setia* sp. Santa Cruz, -20 m (Azevedo & Gofas, 1990: 85). DBUA 274, 276, 277, 281, 446, 449, 457, 478, 496, 499, 662.

*Setia pulcherrima* (Jeffreys, 1848)

*Cingula pulcherrima* (Jeffreys, 1848). Azores (Knudsen, 1995: 143-144).

*Remarks:* this record needs to be confirmed.

*Setia subvaricosa* Gofas, 1990

*Setia subvaricosa* Gofas, 1990. Santa Cruz, Flores (-20 m) (Gofas, 1990: 103). Pico (Ávila & Azevedo, 1996: 106). Azores (Morton *et al.*, 1998: 144). DBUA 188, 193, 195, 223, 274, 281, 410, 447, 451, 462, 465, 467, 471, 481, 496, 499, 500, 545, 557, 564, 571, 574, 660, 662, 666.

*Alvania abstersa* van der Linden & van Aartsen, 1993

*Alvania obsoleta* van der Linden, 1993. Lajes do Pico harbor (van der Linden, 1993: 80). Azores (Hoenselaar & Gould, 1998: 71).

*Alvania abstersa* van der Linden & van Aartsen, 1993. DBUA 726.

*Alvania angioyi* van Aartsen, 1982

*Alvania watsoni* Schwartz. Horta, Faial (-15 to -20m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 51).

*Alvania angioyi* van Aartsen, 1982. Horta (-3 m; -7 m) and Monte da Guia, Faial (-20 m) ("Biaçores", 1971) (Gofas, 1990: 112). Santa Cruz, Flores (-20 m, "Flores 1989") (Gofas,

1990: 112). Santa Cruz, Flores, -20 m (Azevedo & Gofas, 1990: 85). Pico (Ávila & Azevedo, 1996: 106). Azores (Morton *et al.*, 1998: 88, 89). DBUA 188, 227, 274, 277, 281, 372, 374, 379, 394, 398, 400, 407, 410, 412, 462, 493, 496, 499, 556, 560, 564, 568, 571, 574, 579, 666.

*Alvania beani* (Hanley in Thorpe, 1844)

*Rissoa calathus* Forbes & Hanley, 1858. Azores, -10 to -90 m (Mac Andrew, 1856: 121).

*Remarks:* this record needs to be confirmed.

*Alvania cancellata* (da Costa, 1778)

*Rissoa crenulata* (Michaud, 1832). Azores, shore to -90 m (Mac Andrew, 1856: 121, 148).

*Alvania cancellata* (da Costa, 1778). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 49). Common on all the islands (Nobre, 1924: 80; 1930: 57). Lajes do Pico (Azevedo, 1990: 59). Santa Cruz, Flores (intertidal pool and at -20 m, "Flores 1989") (Gofas, 1990: 104). Santa Cruz, Flores (Azevedo & Gofas, 1990: 85). Azores (Morton *et al.*, 1998: 144). DBUA 197, 240, 274, 281, 379, 394, 395, 405, 408, 410, 411, 415, 421, 422, 438, 441, 446, 448, 459, 489, 493, 496, 499, 500, 555, 558, 561, 569, 570, 574, 579, 659, 660, 661, 662, 665, 666, 667, 670, 672, 677, 726.

*Alvania cimex* (Linnaeus, 1758)

*Rissoa granulata* Philippi, 1836. Azores, at shore (dead) (Mac Andrew, 1856: 121).

*Remarks:* Dautzenberg (1889) stated his doubts about the specific status of the specimen(s) identified by Mac Andrew. We agree with him and consider, too, that this record needs to be confirmed.

*Alvania mediolittoralis* Gofas, 1989

*Alvania mariae* (d'Orbigny). Pico (Nobre, 1924: 81; 1930: 57).

*Alvania mediolittoralis* Gofas, 1989. Horta, Faial (-7 m, "Biaçores", 1971) (Gofas, 1989: 39; 1990: 110). Lajes do Pico (Azevedo, 1990: 59). Santa Cruz, Flores (intertidal pools and boulders) (Gofas, 1990: 110). Santa Cruz, Flores (Azevedo & Gofas, 1990: 85). Azores (Morton *et al.*, 1998: 88,

89). DBUA 188, 193, 197, 229, 240, 274, 409, 410, 411, 421, 428, 434, 438, 441, 442, 444, 445, 446, 448, 449, 450, 451, 452, 453, 455, 456, 457, 458, 459, 460, 461, 462, 471, 473, 474, 475, 476, 483, 486, 489, 490, 492, 493, 496, 499, 500, 551, 553, 558, 560, 561, 564, 565, 566, 568, 570, 571, 574, 579, 659, 661, 662, 663, 665, 666, 667.

*Alvania poucheti* Dautzenberg, 1889

*Alvania poucheti* Dautzenberg, 1889. Horta (-17 m, "Biaçores", 1971) (Gofas, 1990: 108). Pico (Ávila & Azevedo, 1996: 106). DBUA 240, 368, 369, 370, 371, 372, 373, 377, 378, 379, 380, 384, 387, 393, 394, 395, 397, 398, 400, 405, 407, 409, 410, 411, 427, 447, 457, 465, 493, 499, 500, 556, 563, 570, 666.

*Alvania sleursi* (Amati, 1987)

*Manzonina sleursi* Amati, 1987. Bay of Horta, Faial (-20 m, "Hirondelle" Stn. 193, 1888) (Amati, 1987: 25-30).

*Alvania sleursi* (Amati, 1987). Bay of Horta, Faial (-20 m, "Hirondelle" Stn. 193, 1888) (Gofas, 1990: 107). Santa Cruz, Flores (Gofas, 1990: 107). Pico (Ávila & Azevedo, 1996: 106). DBUA 410, 411, 446, 448, 457, 458, 459, 493, 496, 499, 500, 666, 667, 726.

*Cingula ordinaria* Smith

*Cingula ordinaria* Smith. Feteira, mid-tide (Chapman, 1955: 803).

Remarks: probably this species is *Cingula trifasciata* (J. Adams, 1798).

*Cingula trifasciata* (J. Adams, 1798)

*Rissoa cingillus* (Montagu, 1803). Azores, at shore (Mac Andrew, 1856: 122, 148).

*Cingula cingillus* (Montagu, 1803). Pico (Nobre, 1924: 80; 1930: 57). Horta (Nobre, 1924: 80; 1930: 57).

*Cingula trifasciata* (Adams, 1798). Santa Cruz, Flores (among boulders, high in the intertidal, "Flores, 1989") (Gofas, 1990: 119). Santa Cruz, Flores (mediolittoral) (Azevedo & Gofas, 1990: 85). Lajes do Pico (Ávila, 1996: 27). Fajã Grande, Flores (Morton *et al.*, 1998: 103). Poça da Barra, Lajes do Pico (Morton *et al.*, 1998: 157).

*Cingula trifasciata* (J. Adams, 1798). DBUA 205, 240, 442, 445, 448, 449, 457, 460,

461, 470, 474, 475, 489, 490, 496, 499, 500, 659, 660, 661, 662, 663, 665, 666, 667, 726.

*Crisilla postrema* (Gofas, 1990)

*Setia abjecta* (Watson, 1873). Horta (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 52).

*Setia picta* (Jeffreys, 1867). Horta (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 53).

(?) *Alvania (Crisilla)* sp. Santa Cruz (Azevedo & Gofas, 1990: 85).

*Alvania (Crisilla) postrema* Gofas, 1990. Horta, Faial (-3 m, -7 m, -17 m, "Biaçores", 1971) (Gofas, 1990: 115). Santa Cruz, Flores (intertidal pool) (Gofas, 1990: 115). Pico (Ávila & Azevedo, 1996: 106). Azores (Morton *et al.*, 1998: 88, 89).

*Crisilla postrema* (Gofas, 1990). DBUA 188, 198, 274, 277, 379, 384, 398, 405, 412, 447, 462, 465, 470, 472, 492, 496, 499, 500, 545, 564, 670.

*Manzonina crassa* (Kanmacher, 1798)

*Manzonina crassa* (Kanmacher, 1798). Azores (Morton *et al.*, 1998: 88, 89).

Remarks: we have doubts about this record. Although some shells at first sight do resemble *Manzonina crassa*, several were photographed and all showed the typical characters (protoconch, microsculpture of the body whorl) of *Manzonina unifasciata*.

*Manzonina unifasciata* Dautzenberg, 1889

*Manzonina costata* (J. Adams, 1797). Horta, Faial (-15 to -20m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 51; Nobre, 1924: 80; 1930: 56). Pico (Nobre, 1924: 80; 1930: 56).

*Manzonina unifasciata* Dautzenberg, 1889. Horta, Faial (-20m, "Hirondelle", Stn. 193, 1888); Horta, Faial (-3m, "Biaçores, 1981) (Gofas, 1990: 116). Santa Cruz, Flores (intertidal pools, "Flores, 1989") (Gofas, 1990: 116). Santa Cruz, Flores (Azevedo & Gofas, 1990: 85). Poça da Barra, Lajes do Pico (Morton *et al.*, 1998: 157). DBUA 188, 266, 273, 274, 281, 380, 381, 395, 397, 398, 403, 409, 410, 442, 443, 445, 446, 449, 451, 452, 462, 470, 471, 475, 476, 486, 492, 493, 496, 499, 500, 556, 571, 574, 579, 660, 661, 662, 665, 666, 667, 670, 726.

*Onoba moreleti* Dautzenberg, 1889

*Onoba moreleti* Dautzenberg, 1889. Horta bay, Faial (Stn. 193) (-20 m) (Moolenbeek & Hoenselaar, 1987: 154). DBUA 181, 410, 500, 556, 666, 726.

*Botryphallus ovummuscae* (Gofas, 1990)

*Peringiella nitida* (Brusina mss.). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 53).

"*Peringiella*" sp. Santa Cruz, Flores (mediolittoral) (Azevedo & Gofas, 1990: 85).

*Peringiella ovummuscae* Gofas, 1990. Santa Cruz, Flores (among boulders, high in the intertidal, "Flores, 1989") (Gofas, 1990: 120).

Fajã Grande, Flores (Morton *et al.*, 1998: 103).

"*Peringiella*" *ovummuscae* Gofas, 1990. Pico (Ávila & Azevedo, 1996: 106).

*Botryphallus ovummuscae* (Gofas, 1990).

DBUA 209, 493, 499, 500, 659, 661, 662, 665, 666.

#### Family Anabathridae

*Pisinna glabatra* (von Mühlfeldt, 1824)

*Pisinna punctulum* (Philippi, 1836). Santa Cruz, Flores (intertidal pools, among algae) (Gofas, 1990: 122). Santa Cruz, Flores (Azevedo & Gofas, 1990: 85). Lajes do Pico (Ávila, 1996: 27). Azores (Morton *et al.*, 1998: 88, 89).

*Pisinna glabatra* (von Mühlfeldt, 1824).

DBUA 187, 189, 194, 195, 269, 272, 277, 280, 442, 443, 444, 446, 447, 448, 449, 450, 451, 452, 456, 457, 458, 459, 460, 462, 465, 466, 467, 468, 469, 470, 471, 472, 474, 475, 476, 478, 480, 481, 492, 493, 496, 499, 500, 554, 661, 662, 663, 665, 666, 669, 726.

#### Family Assimineidae

*Assiminea eliae* Paladilhe, 1875

*Assiminea eliae* Paladilhe, 1875. Pico (Ávila & Azevedo, 1996: 106). DBUA 449, 466, 470, 660, 661, 665, 666, 726.

*Paludinella littorina* (delle Chiaje, 1828)

*Paludinella littorina* (delle Chiaje, 1828). Santa Cruz harbor, Flores (Morton *et al.*, 1998: 117).

#### Family Caecidae

*Caecum* sp.

*Caecum* sp. Santa Cruz, Flores (mediolittoral) (Azevedo & Gofas, 1990: 85). DBUA 212,

236, 276, 468, 470, 471, 475, 492, 493, 496, 499, 500, 662, 665, 666.

*Caecum armoricum* de Folin, 1869

*Caecum armoricum* de Folin, 1869. Lajes do Pico (Hoeksema & Segers, 1993: 86).

*Caecum* cf. *clarkii* Carpenter, 1859

*Caecum* cf. *clarkii* Carpenter, 1859. Pico (Ávila & Azevedo, 1996: 106).

#### *Caecum glabellum*

*Caecum glabellum*. Azores (Morton *et al.*, 1998: 89).

Remarks: we could not find this species on the CLEMAM data-base.

*Caecum vitreum* Carpenter, 1859

*Caecum vitreum* Carpenter, 1859. Horta (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 43).

#### Family Vermetidae

*Vermetus cristatus* Biondi, 1857

*Vermetus cristatus* Biondi, 1859. Lajes do Pico (Stn. 108) (Dautzenberg, 1889: 43).

*Vermetus triquetrus* Ant. Bivona, 1832

*Vermetus* sp. Santa Cruz, Flores (Azevedo & Gofas, 1990: 85).

*Vermetus triquetrus* Bivona-Bernardi, 1832. Pico (Ávila & Azevedo, 1996: 106). Santa Cruz harbor, Flores (Morton *et al.*, 1998: 119).

*Vermetus triquetrus* Ant. Bivona, 1832.

DBUA 214, 445, 456, 470, 474, 674.

#### Family Lamellariidae

*Lamellaria latens* (O.F. Müller, 1776)

*Lamellaria latens* (O.F. Müller, 1776). DBUA 410, 666.

#### Family Triviidae

*Trivia candidula* (Gaskoin, 1835)

*Cypraea (Trivia) candidula* (Gaskoin, 1835). Off Faial (-80 to -150 m, Stn. 75, "Challenger", 1873) (Watson, 1886: 696).

*Cypraea producta* Gaskoin, 1835. MZ/MHN-FCTUC 766.

*Trivia candidula* (Gaskoin, 1835). Horta, Faial (Nobre, 1924: 79; 1930: 54). DBUA 668, 677.

- Trivia pulex* (Solander in J.E. Gray, 1828)  
*Cypraea pulex* Solander in Gray, 1828.  
 Azores, shore to -43 m (Mac Andrew, 1856: 127). Pico (Drouët, 1858: 36). MZ/MHN-FCTUC 766.  
*Trivia pulex* (Gray, 1828). Horta, Faial (Nobre, 1924: 79; 1930: 55).  
*Trivia pulex* (Solander in J.E. Gray, 1828). Horta, Faial (Nobre, 1924: 79; 1930: 55).  
 DBUA 486, 666, 677, 726.

## Family Cypraeidae

*Luria lurida* (Linnaeus, 1758)

- Cypraea lurida* Linnaeus, 1766. Faial (Drouët, 1858: 36). Shores of Pico (Drouët, 1858: 36). Areia Larga (Nobre, 1924: 78; 1930: 54).  
*Luria lurida* (Linnaeus, 1758). *ImagDOP* s241-18. *DOP/ML* 0019.

## Family Naticidae

*Natica* sp.

*Natica* sp. DBUA 422.

- Natica adansonii* de Blainville, 1825  
*Natica variabilis* Récluz in Reeve, 1855.  
 Horta, Faial (-15 to -20 m, Stn. 103. "Hirondelle", 1887) (Dautzenberg, 1889: 54).  
*Natica adansonii* de Blainville, 1825.  
 DBUA 410.

*Natica canrena* "sensu auct. non Linnaeus, 1767"

*Natica canrena*. Azores (Morton *et al.*, 1998: 194).

*Remarks:* Morton *et al.* (1998) give this species as an example of a successful natural colonization of the archipelago. CLEMAM lists 3 species with the epithet *canrena*, all three "sensu auct. non Linnaeus, 1767".

*Euspira pulchella* (Risso, 1826)

*Lunatia alderi* (Forbes, 1838). Azores (Morton *et al.*, 1998: 144).

*Euspira pulchella* (Risso, 1826). *ImagDOP* s313-29.

*Payraudeautia intricata* (Donovan, 1804)

*Natica (Payraudeautia) intricata* Donovan, 1804. Azores (?), shore to -9 m (Mac Andrew, 1856: 127, 151).

*Natica intricata* Donovan, 1804. Azores (Mac Andrew, 1856 *vide* Jeffreys, 1885: 31).

*Remarks:* this record needs to be confirmed.

*Polynices lacteus* (Guilding, 1834)

*Polinices lacteus* (Guilding, 1834). Azores (Morton *et al.*, 1998: 194).

## Family Cassidac

*Phalium granulatum* (Von Born, 1778)

*Cassis sulcosa* Lamarck, 1822. West coast of Pico (Drouët, 1858: 33).

*Phalium granulatum* (Von Born, 1778). *ImagDOP* d827.

*Remarks:* on the CLEMAM database, *Phalium undulatum* (Gmelin, 1791), recorded to Banco D. João de Castro (Ávila, 1997), is considered a synonym of *Phalium granulatum*.

At the inventory of MCM-HN there is a specimen of *Phalium granulatum* (Von Born, 1778) (labelled as *Cassis sulcosa* Lamarck, 1822) collected at Horta, Faial.

## Family Ranellidae

*Charonia lampas lampas* (Linnaeus, 1758)

*Triton nodiferus* Lamarck, 1822. Azores, shore to -7 m (Mac Andrew, 1856: 132, 154).

*Tritonium nodiferum* Lamarck, 1822. Between Areia Larga and Madalena (Drouët, 1858: 34).

*Charonia lampas* (Linnaeus, 1758). Azores (Morton *et al.*, 1998: 144).

*Charonia lampus lampus* (Linnaeus, 1758). *ImagDOP* s84-19, s137-18. DBUA 668, 672.

*Cymatium corrugatum* (Lamarck, 1816)

*Cymatium corrugatum* (Lamarck, 1816). DBUA 668.

*Cymatium parthenopeum* (Von Salis, 1793)

*Cymatium parthenopeum* (Von Salis, 1793). Faial (Wirtz, 1995: 139). *ImagDOP* d947. DBUA 672.

*Triton tuberosus* Lamarck, 1822

*Triton tuberosus* Lamarck, 1822. Azores. -36 to -72 m (Mac Andrew, 1856: 132, 154).

*Remarks:* we were not able to up-date the synonymy for this species. According to Reeve (1844) two varieties were described, both asserted to the island of Annaa (Chain

island) in the Pacific Ocean, so we consider this to be a dubious record.

#### Family Bursidae

- Bursa scrobiculator* (Linnaeus, 1758)  
*Triton scrobiculatus* Lamarck, 1822.  
 Azores at shore (dead) (Mac Andrew, 1856: 132, 154).  
*Tritonium scrobiculator* Linnaeus, 1758.  
 Between Areia Larga and Madalena (Drouët, 1858: 34). Pico (Nobre 1924: 78; 1930: 54).  
*Bursa scrobiculator* (Linnaeus, 1758).  
 DOP/ML 0026. DBUA 495, 498, 672.

#### Family Muricidae

- Hexaplex trunculus* (Linnaeus, 1758)  
*Murex trunculus* Linnaeus, 1758. Azores (Morton *et al.*, 1998: 194).  
*Hexaplex trunculus* (Linnaeus, 1758).  
 ImagDOP s155-14, s364-12, d639. DBUA 425.  
*Ocenebra erinacea* (Linnaeus, 1758)  
*Murex imbricatus* Brocchi. Shores of Pico (Drouët, 1858: 33).  
*Ocenebra erinacea* (Linnaeus, 1758).  
 DBUA 424, 672.

- Ocenebrina aciculata* (Lamarck, 1822)  
*Murex corallinus* Scacchi, 1836. Azores, -7 to -54 m (Mac Andrew, 1856: 133, 154).  
*Murex aciculatus* Lamarck, 1822. Pico, dredged at -54 m (Nobre, 1924: 78; 1930: 53).  
*Ocenebrina aciculata* (Lamarck, 1822).  
 Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 37). DBUA 379, 394, 395, 400, 408, 409, 410, 411, 672, 677, 726.

- Ocenebrina edwardsi* (Payraudeau, 1826)  
*Ocenebrina edwardsi* (Payraudeau, 1826).  
 DBUA 414.

- Stramonita haemastoma* (Linnaeus, 1766)  
*Purpura haemastoma* (Linnaeus, 1767).  
 Azores, at shore (Mac Andrew, 1856: 130, 153). In all the islands of the archipelago (Drouët, 1858: 31-32). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 38). Madalena, Pico (Nobre, 1924: 78; 1930: 53).  
*Thais haemastoma* (Linnaeus, 1767).  
 Laginha, Faial (infralittoral) (Arruda &

Gordo, 1984: 27). Santa Cruz, Flores (Azevedo & Gofas, 1990: 85). Faial (Wirtz, 1995: 143).

- Stramonita haemastoma* (Linnaeus, 1767). Santa Cruz (Morton *et al.*, 1998: 78).  
 ImagDOP s123-30, s130-34, s320-22.  
 DOP/ML 0013. DBUA 193, 233, 239, 372, 410, 422, 425, 433, 487, 576, 579, 662, 666, 668, 670, 671, 672, 677.

#### Family Fascioliariidae

- Fusinus* sp.  
*Fusinus* sp. DOP/ML 28.

#### Family Buccinidae

- Engina turbinella* (Kiener, 1835)  
*Engina turbinella* (Kiener, 1835). Azores (Morton *et al.*, 1998: 194). DBUA 410.

- Pisania striata* (Gmelin, 1791)  
*Pisaniamaculosa* Lamarck, 1822. Azores, at littoral (Mac Andrew, 1856: 133).  
*Remarks:* this is a Mediterranean species (Poppe & Goto, 1991). Dubious record.

#### Family Nassariidae

- Nassarius corniculum* (Olivi, 1792)  
*Nassarius corniculum* (Olivi, 1792).  
 DBUA 418.  
*Remarks:* first recorded from São Miguel island (Calheta, Ponta Delgada) by Martins (1976 [1980]: 5, 13) as *Amyclina corniculum* (Olivi, 1792) this is the second reference to the Azores, confirming the expansion towards west of the distribution of this species, formerly known to exist only in the Mediterranean and neighboring Atlantic waters (Algarve, Portugal) (Poppe & Goto, 1991).

- Nassarius cuvieri* (Payraudeau, 1826)  
*Nassa costulata* Brocchi, 1814. Horta, Faial (Nobre, 1924: 77; 1930: 52).

- Nassarius incrassatus* (Ström, 1768)  
*Nassa incrassata* Müller, 1776. Azores, shore to -90 m (Mac Andrew, 1856: 131). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 34). Very common on all the islands (Nobre, 1924: 77; 1930: 52). MZ-MHN/FCTUC 267.

*Nassa ascanias* Bruguière, 1789. Linoral of Pico (Drouët, 1858: 32).

*Hinia incrassata* (Ström, 1768). Santa Cruz, -20 m (Azevedo & Gofas, 1990: 85). Azores (Morton et al., 1998: 144).

*Nassarius incrassatus* (Ström, 1768). DBUA 193, 201, 233, 240, 368, 414, 416, 418, 422, 424, 430, 437, 439, 553, 555, 558, 560, 563, 568, 569, 576, 578, 579, 668, 672, 677.

*Nassarius reticulatus* (Linnaeus, 1758)

*Buccinum vulgatum* Gmelin, 1791. Faial (Adanson, 1757 *vide* Drouët, 1858).

**Remarks:** according to CLEMAM, *Buccinum vulgatum* Gmelin, 1791 is a dubious synonym of *Nassarius reticulatus* (Linnaeus, 1758).

#### Family Columbellidae

*Columbella adansoni* Menke, 1853

*Columbella rustica* Linnaeus, 1767. Azores, at shore (Mac Andrew, 1856: 130) (misidentification).

*Columbella rustica* var. *azorica* (Drouët, 1858). Pico (Drouët, 1858: 34).

*Columbella mercatoria* (Linnaeus, 1758). Azores (Drouët, 1858: 35). MZ/MHN-FACTUC 439.

*Columbella rustica* (Linnaeus, 1758). Horta, Faial (-15 to -20 m, Sta. 103, "Hiron-delle", 1887) (Dautzenberg, 1889: 35). Laginha, Faial (low mediotlittoral and also among infralittoral seaweed) (Arruda & Gordo, 1984: 27) (misidentification).

(?) *Columbella pichella* (de Blainville, 1826). Horta, Faial (-15 to -20 m, Sta. 103, "Hiron-delle", 1887) (Dautzenberg, 1889: 36).

*Columbella rustica* (Linnaeus, 1767). Madalena: Cais do Pico (Nobre, 1924: 77; 1930: 52) (misidentification).

*Columbella cf. rustica* (Linnaeus, 1767). Santa Cruz, Flores (Azevedo & Gofas, 1990: 85) (misidentification).

*Columbella adansoni* Menke, 1853. Faial (Wirtz, 1995: 150). Santa Cruz, Flores (Morton et al., 1998: 78). DBUA 184, 193, 197, 233, 240, 278, 377, 404, 405, 425, 433, 553, 556, 557, 561, 563, 565, 567, 569, 570, 574, 576, 578, 579, 662, 668, 670, 671, 672, 677.

**Remarks:** according to Oliverio (1995), *Columbella adansoni* Menke, 1853 (Macaronesia) has a planktotrophic type of development in contrast with *Columbella rustica* (Linnaeus, 1758) (Mediterranean and West African Atlantic coasts south to Senegal), which has non-planktotrophic development. Genetic analysis performed by that author supports the distinction of the two species. However, as no *Columbella* from the Azores were used in his genetic studies, if in the future any differences be found, the name *Columbella azorica* Drouët, 1858 is available for the Azorean *Columbella*.

#### Family Costellariidae

*Vexillum zebrinum* (d'Orbigny, 1840)

*Mitra zebrina* d'Orbigny, 1839. Azores, at shore (Mac Andrew, 1856: 128, 152).

**Remarks:** we consider this to be a dubious record. In fact, this species was only reported by Mac Andrew, and it is referred to the shore, a well explored site where it has not been found afterwards.

#### Family Mitridae

*Mitra corniculum* (Linnaeus, 1758)

*Mitra corniculum* Linnaeus, 1758. Horta, Faial (Simroth, 1888: 214). *ImagDOP* s213-16. DBUA 400, 401, 402, 495, 662, 670, 671, 672, 674, 677.

*Mitra cornicula* (Linnaeus, 1758). Cais do Pico (Nobre, 1924: 77; 1930: 51). Horta, Faial (Nobre, 1924: 77). Laginha, Faial (pools with infralittoral characteristics) (Arruda & Gordo, 1984: 28).

*Mitra cornea* Lamarck, 1811

*Mitra fusca* Reeve, 1844. Azores, at shore (Mac Andrew, 1856: 128, 152).

*Mitra loricea* Drouët, 1858. Pico (Drouët, 1858: 35).

*Mitra nigra* (Gmelin, 1791). Santa Cruz, Flores (Azevedo & Gofas, 1990: 85; Morton et al., 1998: 78) (misidentification).

*Mitra cornea* Lamarck, 1811. *ImagDOP* s139-2. DBUA 197, 233, 378, 397, 400, 401, 402, 405, 409, 433, 573, 579.

**Remarks:** *Mitra cornea* Lamarck, 1811 was restored as valid name, distinguished from

*Volvanigra* (Gmelin, 1791) = *Mitra nigra* (Gmelin, 1791) by Rolán, Dantart & Fernandes (1997).

*Mitra zonata* Marryat, 1818

*Mitra zonata* Marryat, 1818. Horta, Faial harbor (-10 m) (Burnay & Martins, 1988). Pico (Ávila & Azevedo, 1996: 106). Faial (Wirtz, 1995: 145). DOP/ML 0025. DBUA 495.

Family Turridae

*Haedropleura septangularis* (Montagu, 1803)

*Bela septangularis* Montagu, 1803. Azores (?), shore to -14 m (Mac Andrew, 1856: 129, 152). DBUA 240.

Family Conidae

*Mitrolumna crenipicta* (Dautzenberg, 1889)

*Mitrolumna crenipicta* (Dautzenberg, 1889). DBUA 418.

*Mitrolumna olivoidea* (Cantraine, 1835)

*Mitrolumna olivoidea* (Cantraine, 1835). Lajes do Pico (Azevedo, 1990: 59). Pico (Ávila & Azevedo, 1996: 106). DBUA 368, 370, 372, 375, 376, 378, 379, 380, 382, 384, 387, 390, 393, 394, 395, 396, 397, 407, 408, 410, 430, 437, 448, 455, 458, 459, 476, 486, 488, 493, 496, 499, 500, 661, 662, 677, 726.

*Bela menckhorsti* van Aartsen, 1988

*Raphitoma turgidum* (Forbes, 1844). Horta, Faial (-15 to -20m, Stn. 103, "Hiron-delle", 1887) (Dautzenberg, 1889: 28).

Remarks: Nordsieck (1977: 45) states that *Bela turgida* [(Forbes) Reeve, 1843] (*Pleurotoma*) is a synonym of *Pleurotoma nana* Scacchi, 1836, which in turn, according to CLEMAM is a synonym of *Bela menckhorsti* van Aartsen, 1988.

*Bela nebula* (Montagu, 1803)

*Raphitoma nebula* (Montagu, 1803). Dredged at -54 m, at Cais do Pico (Nobre, 1924: 76; 1930: 51).

*Mangelia nebula* (Montagu, 1803). Azores (Morton *et al.*, 1998: 144).

→ *Raphitoma carnosula* (Jeffreys, 1869)

*Anachis* sp. Lajes do Pico (Azevedo, 1990:

*Anachis asaroides*

59) (misidentification). Santa Cruz, Flores (Azevedo & Gofas, 1990: 85) (misidentification).

*Raphitoma carnosula* (Jeffreys, 1869). DOP/ML 0011. DBUA 195, 216, 240, 274, 278, 281, 368, 372, 378, 379, 381, 387, 391, 394, 395, 397, 398, 405, 407, 408, 409, 410, 428, 438, 441, 456, 496, 553, 555, 556, 561, 565, 571, 574, 579, 662, 666, 672, 677, 726.

*Raphitoma linearis* (Montagu, 1803)

*Philbertia* cf. *linearis* (Montagu, 1803). Santa Cruz (Azevedo & Gofas, 1990: 86). *Raphitoma linearis* (Montagu, 1803). Azores (Morton *et al.*, 1998: 144). DBUA 418, 558, 574, 666.

*Raphitoma purpurea* (Montagu, 1803)

*Raphitoma purpurea* (Montagu, 1803). Azores (Morton *et al.*, 1998: 144). DBUA 410, 666, 670.

Subclass OPISTHOBRANCHIA

Order CEPHALASPIDEA

Family Retusidae

*Retusa multiquadrata* Oberling, 1970

*Retusa multiquadrata* Oberling, 1970. Azores (Morton *et al.*, 1998: 144).

Remarks: CLEMAM cites *Utriculus substriatus* Jeffreys, 1877 as the primary reference for this taxon. However, we follow Mikkelsen (1995: 205) to justify the present systematic position.

*Retusa truncatula* (Bruguière, 1792)

*Tornatina truncatula* (Bruguière, 1792). Horta, Faial (-15 to -20 m, Stn. 103, "Hiron-delle", 1887) (Dautzenberg, 1889: 21).

*Retusa truncatula* (Bruguière, 1792). Azores (Morton *et al.*, 1998: 144).

*Cylichnina umbilicata* (Montagu, 1803)

*Retusa umbilicata* (Montagu, 1803). Pico (Ávila & Azevedo, 1996: 106). DBUA 493, 499.

Family Runcinidae

*Runcina* spp.

*Runcina* sp. Santa Cruz, Flores (Azevedo & Gofas, 1990: 86).

Remarks: three species of *Runcina* are given to Flores (Santa Cruz), by Azevedo & Gofas (1990).



## Family Bullidae

*Bulla striata* Bruguière, 1792

*Bulla striata* Bruguière, 1792. Littoral of Faial (Drouët, 1858: 24). Littoral of Pico (Dautzenberg, 1889: 24).

## Family Haminoeidae

*Haminoea* cf. *hydatis* (Linnaeus, 1758)

*Haminoea* cf. *hydatis* (Linnaeus, 1758).  
DBUA 372.

*Haminoea ortei* Talavera, Murillo & Templado, 1987

*Haminoea ortei* Talavera, Murillo & Templado, 1987. Azores (Morton *et al.*, 1998: 144).

## Family Philinidae

*Philine quadrata* (Wood S., 1839)

*Philine quadrata* (Wood, 1839). Off Faial (-80 to -150 m, Stn. 75, "Challenger", 1873) (Watson, 1886: 696).

*Remarks:* this species was given to Azores, with doubts by Watson (1886), so we consider this a dubious record.

## Family Cylichnidae

*Cylichna alba* (Brown, 1827)

*Cylichna alba* (Brown, 1827). Azores (Sykes, 1904: 35).

*Remarks:* we consider this a dubious record.

*Cylichna cylindracea* (Pennant, 1777)

*Cylichna cylindracea* (Pennant, 1777). Azores (Pilsbry, 1895: 289-290; Sykes, 1904: 35).

*Remarks:* we consider this a dubious record.

## Order SACCOGLOSSA

(=ASCOGLOSSA)

## Family Elysiidae

*Elysia* sp.

*Elysia* sp. Santa Cruz (Azevedo & Gofas, 1990: 86).

*Elysia ornata* (Swainson, 1840)

*Elysia ornata* (Swainson, 1840). *ImagDOP* s207-26. Monte da Guia, Faial (-10 to -30 m) (Wirtz, 1995: 159; 1998: 3).

## Family Stiligeridae

*Placida* sp.

*Placida* sp. Porto do Salão, Faial (-10 m) (Wirtz, 1998: 2).

## Order NOTASPIDEA

(=PLEUROBRANCOMORPHA)

## Family Umbraculidae

*Umbraculum umbraculum* (Röding, 1798)

*Umbraculum mediterraneum* (Lamarck, 1819). Varadouro (-2 m) (Menezes, 1991: 101).

*Umbraculum umbraculum* (Röding, 1798). Seen and photographed by the first author at Poça da Baleia, south of Lajes do Pico, in a night dive, (14-08-1995) at -2 m.

## Family Tylodinidae

*Tyloдина perversa* (Gmelin, 1791)

*Tyloдина perversa* (Gmelin, 1791). Azores (Wirtz, 1998: 2). *ImagDOP* s195-11, s337-30.

## Family Pleurobranchidae

*Pleurobranchus testudinarius* Cantraine, 1835

*Pleurobranchus testudinarius* Cantraine, 1840. Horta, Faial (-15 m) (Wirtz & Martins, 1993: 56). Very common around Faial island in a depth range of (at least) 15 to 40 m (Wirtz, 1995: 161; 1998: 4).

*Pleurobranchus testudinarius* Cantraine, 1835. *ImagDOP* s128-17. DBUA 185.

*Berthellina edwardsi* (Vayssière, 1896)

*Berthellina* sp. Santa Cruz (Azevedo & Gofas, 1990: 86).

*Berthellina engeli* Gardiner, 1936. Faial (Wirtz, 1995: 163) (misidentification).

*Berthellina edwardsi* (Vayssière, 1896). Azores (up to 40m depth) (Wirtz, 1998: 4). *ImagDOP* s125-10, s138-30, s241-14.

## Order ANASPIDEA

(=APLYSIOMORPHA)

## Family Aplysiidae

*Aplysia depilans* Gmelin 1791

*Aplysia* sp. Santa Cruz, Flores (Azevedo & Gofas, 1990: 86).

*Aplysia depilans* Gmelin 1791. Faial (Wirtz, 1995: 157; 1998: 3). *ImagDOP* s139-14, s142-32, s147-30 (laying of eggs), s309-27.

*Aplysia fasciata* Poiret, 1798

*Aplysia fasciata* Poiret, 1789. Feteira (in a rock pool) (Wirtz & Martins, 1993: 56). North coast of Pico in 4 m depth (Wirtz, 1998: 4). Seen and photographed by the first author at Poça do Pano, south of Lajes do Pico in 18-08-95, at -1 m. *ImagDOP* s139-14.

*Aplysia parvula* Guilding in Mörch, 1863

*Aplysia parvula* Guilding in Mörch, 1863. Azores (Eales, 1960 *vide* Wirtz, 1998: 16).

*Aplysia punctata* (Cuvier, 1803)

*Aplysia punctata* Cuvier, 1803. Faial, from 10 to 30 m depth (Wirtz, 1998: 4). Santa Cruz, Flores (Morton *et al.*, 1998: 78).

## Order NUDIBRANCHIA

## Family Onchidorididae

*Diaphorodoris luteocincta* (M. Sars, 1870)

*Diaphorodoris luteocincta* (Sars, 1870). Horta harbor, Faial (-5 to -9 m) (Wirtz & Martins, 1993: 56). Faial (-1 to -4 m) (Wirtz, 1995: 171; 1998: 9).

## Family Triophidae

*Kaloplocamus ramosus* (Cantraine, 1835)

*Kaloplocamus ramosus* (Cantraine, 1835). Inside Horta harbor, Faial (-5 m) and on the slopes of Monte da Guia, Faial (-25 m) (Wirtz, 1998: 12). *ImagDOP* s128-19, S139-19.

## Family Dorididae

*Doris ocelligera* (Bergh, 1881)

*Doris ocelligera* (Bergh, 1881). Santa Cruz, Flores (Azevedo & Gofas, 1990: 86).

## Family Aldisidae

*Aldisa binotata* Pruvot-Fol, 1953

*Aldisa smaragdina* Ortea, Perez & Llera, 1982. Faial (down to at least 10m depth) (Wirtz, 1998: 8).

## Family Chromodorididae

*Chromodoris britoi* Ortea & Perez, 1983

*Chromodoris britoi* Ortea & Perez, 1983. Faial (Wirtz, 1995: 169). Azores (Wirtz, 1998: 8). *ImagDOP* s80-27, s186-28.

*Chromodoris krohni* (Vérany, 1846)

*Chromodoris krohni* (Vérany, 1846). Baixa Rasa do Lajedo, Flores (*ImagDOP* obs). *ImagDOP* 39.

*Chromodoris purpurea* (Risso in Guérin, 1831)

*Chromodoris purpurea* (Laurillard, 1831). Faial (Wirtz, 1995: 169). Common in the Azores, at a depth range of (at least) -4 to -20 m (Wirtz, 1998: 8).

*Chromodoris purpurea* (Risso in Guérin, 1831). Azores (Morton *et al.*, 1998: 88, 147). *ImagDOP* 42, s134-14, s198-2.

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

*Glossodoris edmundsi* Cervera, García-Gómez & Ortea, 1989. Azores (Wirtz, 1998: 8). *ImagDOP* s337-25.

*Hypselodoris fontandraui* (Pruvot-Fol, 1951)

*Hypselodoris fontandraui* (Pruvot-Fol, 1951). Faial (Wirtz, 1995: 169). Monte da Guia (-23 m) (Wirtz, 1998: 8).

*Hypselodoris picta* (Schultz in Philippi, 1836)

*Hypselodoris picta azorica* Ortea, Valdés & García-Gómez 1996. Faial (Wirtz, 1995: 167). Azores (Wirtz, 1998: 8).

*Hypselodoris picta* (Schultz in Philippi, 1836). *ImagDOP* s126-13, s331-34.

*Hypselodoris tricolor* (Cantraine, 1835)

*Hypselodoris midatlantica* (Gosliner, 1990). Azores (Morton *et al.*, 1998: 88). *Hypselodoris tricolor* (Cantraine, 1835). Faial (Wirtz, 1998: 9). *ImagDOP* s117-3.

## Family Discodorididae

*Discodoris atromaculata* (Bergh, 1880)

*Peltodoris atromaculata* Bergh, 1880. Azores (Morton *et al.*, 1998: 139).

*Discodoris atromaculata* (Bergh, 1880). Monte da Guia, Faial (-28 m) (Wirtz & Martins, 1993: 56). Faial (Wirtz, 1995: 179; 1998: 9). *ImagDOP* 39, d742. *ImagDOP* s117-7, s283-8.

*Geitodoris planata* (Alder & Hancock, 1846b)

*Geitodoris cf. planata* (Alder & Hancock, 1846). Santa Cruz, Flores (Azevedo & Gofas, 1990: 86).

*Discodoris planata* (Alder & Hancock,

1846). Inside Horta harbor, Faial, in 2 and 6 m depth (Wirtz, 1998: 9).

Family Platydorididae

*Platydoris argo* (Linnaeus, 1767)

*Platydoris argo* (Linnaeus, 1767). Monte da Guia, Faial (-10 to -25 m) (Wirtz & Martins, 1993: 56). Common in the Azores (Wirtz, 1998: 12). *ImagDOP* s139-6, s150-15.

Family Polyceridae

*Limacia clavigera* (O.F. Müller, 1776)

*Limacia clavigera* (Müller, 1776). Faial (Wirtz, 1995: 171). Azores (Wirtz, 1998: 12).

*Polycera elegans* (Bergh, 1894)

*Polycera elegans* (Bergh, 1894). Horta harbor, Faial (-5 to -25 m) (Wirtz & Martins, 1993: 56). Faial (Wirtz, 1995: 173; 1998: 12). Cabeço do Garajau. Flores (*ImagDOP* obs).

*Polycera quadrilineata* (O.F. Müller, 1776)

*Polycera quadrilineata* (Müller, 1776). Faial, in shallow water (2 to 6m depth) (Wirtz, 1995: 171; 1998: 12). Azores (Morton *et al.*, 1998: 144).

Family Gymnodorididae

*Tambja* sp.

*Roboastra europaea* García-Gómez, 1985. Faial (Wirtz, 1995: 175). *ImagDOP* s224-29 (misidentification).

*Tambja* sp. Pico and Faial (3 to 15 m depth) (Wirtz, 1998: 13).

*Remarks:* according to Wirtz (1998: 13), this is an undescribed species of the genus *Tambja*, the specimens from the Azores having been erroneously identified as *Roboastra europaea* García-Gómez, 1985.

*Tambja ceutae* García Gómez & Ortea, 1988

*Tambja ceutae* García Gómez & Ortea, 1988. Over rocks on the shores of Faial (Wirtz & Martins, 1993: 56). Common in the Azores (from 5 to 15 m depth) (Wirtz, 1998: 12). *ImagDOP* s124-28, s241-28.

Family Dendrodorididae

*Dendrodoris herytra* Valdéz & Ortea in Valdéz, Ortea, Avila & Ballesteros, 1996  
*Dendrodoris grandiflora* (Rapp, 1827). Azores (Odner, 1932) (misidentification).

*Dendrodoris herytra* Valdéz & Ortea, 1996. Azores (Valdéz *et al.*, 1996: 25). Outer wall of the harbor of Horta, Faial (Wirtz, 1998: 9).

Family Dotidae

*Doto floridicola* Simroth, 1888

*Doto floridicola* Simroth, 1888. Monte da Guia, Faial (-35 m depth) (Wirtz, 1998: 6).

Family Scyllaeidae

*Scyllaea pelagica* Linnaeus, 1758

*Scyllaea pelagica* Linnaeus, 1758. Shores of the Azores, in *Sargassum* (Morton *et al.*, 1998: 136).

Family Tritoniidae

*Marionia blainvillea* (Risso, 1818)

*Marionia blainvillea* (Risso, 1818). Reported to the Azores, in a depth range of (at least) 4 to 15 m (Wirtz, 1995: 183; 1998: 6).

Family Facelinidae

*Caloria elegans* (Alder & Hancock, 1845)

*Caloria elegans* (Alder & Hancock, 1845). Monte da Guia, Faial, in a depth range of 15 to 30 m (Wirtz, 1995: 183; 1998: 6).  
*Caloria elegans* (Alder & Hancock, 1845). *ImagDOP* s135-26, s136-26, s266-38.

Family Fionidae

*Fiona pinnata* (Eschscholtz, 1831)

*Fiona pinnata* Alder & Hancock, 1851. A cosmopolitan species; it is common around the Azores (Wirtz, 1998: 6). Azores (Morton *et al.*, 1998: 133, 194).

Family Flabellinidae

*Flabellina pedata* (Montagu, 1815)

*Flabellina pedata* (Montagu, 1815). Azores (-10 to -35m) (Wirtz, 1998: 6).

Subclass HETEROBRANCHIA

Order HETEROSTROPHA

Family Rissoellidae

*Rissoella* spp.

*Rissoella* sp. Santa Cruz, Flores (Azevedo & Gofas, 1990: 86).

*Remarks:* two species of *Rissoella* are given to Flores (Santa Cruz) by Azevedo & Gofas (1990).

*Rissoella diaphana* (Alder, 1848)

*Rissoella diaphana* (Alder, 1848). Pico (Ávila & Azevedo, 1996: 106). DBUA 466, 662, 665.

## Family Omalogyridae

*Omalogyra atomus* (Philippi, 1841)

*Homalogyra atomus* (Philippi, 1841). Horta (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 46).

*Omalogyra atomus* (Philippi, 1841). Lajes do Pico (Ávila, 1996: 27). Pico (Ávila & Azevedo, 1996: 106). Azores (Morton *et al.*, 1998: 88, 89). DBUA 188, 277, 280, 446, 449, 452, 465, 467, 468, 469, 470, 471, 474, 475, 496, 499, 564, 571, 662, 663, 665, 666, 726.

*Omalogyra ornata* (Dautzenberg, 1889)

*Homalogyra ornata* (Dautzenberg, 1889). Horta (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 46).

Remarks: not found on CLEMAM.

*Ammonicera* sp.

*Ammonicera* sp. DBUA 199.

*Ammonicera fischeriana* (Monterosato, 1869)

*Ammonicera* aff. *fischeriana* (Monterosato, 1869). Santa Cruz, Flores (Azevedo & Gofas, 1990: 84).

*Ammonicera fischeriana* (Monterosato, 1869). Pico (Ávila & Azevedo, 1996: 106). Azores (Morton *et al.*, 1998: 88, 89).

*Ammonicera rota* (Forbes & Hanley, 1850)

*Ammonicera rota* (Forbes & Hanley, 1850). Pico (Ávila & Azevedo, 1996: 106). DBUA 466, 470.

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

## Family Cimidae

*Cima* spp.

*Cima* sp. Santa Cruz, Flores (Azevedo & Gofas, 1990: 85).

Remarks: Azevedo & Gofas (1990) give two species of *Cima* to Flores (Santa Cruz).

*Graphis* sp.

*Graphis* sp. Santa Cruz, Flores (Azevedo & Gofas, 1990: 85).

## Family Pyramidellidae

*Odostomella doliolum* (Philippi, 1844)

*Odostomella doliolum* (Philippi, 1844). Santa Cruz, Flores (Azevedo & Gofas, 1990: 86). *Odostomella doliolum* (Philippi, 1844). DBUA 574.

*Odostomia* spp.

*Brachystomia* sp. Pico (Ávila & Azevedo, 1996: 106).

*Odostomia* sp. Santa Cruz, Flores (Azevedo & Gofas, 1990: 86).

Remarks: three species of *Odostomia* are given to Flores (Santa Cruz), by Azevedo & Gofas (1990).

*Odostomia scalaris* MacGillivray, 1843

*Odostomia rissoides* Hanley, 1844 var. *alba* Jeffreys, 1848. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 59).

*Odostomia unidentata* (Montagu, 1803)

*Odostomia unidentata* (Montagu, 1803). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 59).

*Turbonilla lactea* (Linnaeus, 1758)

*Chemnitzia elegantissima* (Montagu, 1803). Azores, -5 to -72 m (Mac Andrew, 1856: 125, 150).

*Odostomia lactea* (Linnaeus, 1758).

Azores (0 to -91 m) (Jeffreys, 1884: 357). *Turbonilla lactea* (Linnaeus, 1758). Pico (Ávila & Azevedo, 1996: 106). DBUA 493, 499.

## Family Ebalidae

*Ebala nitidissima* (Montagu, 1803)

*Anisocycla nitidissima* (Montagu, 1803). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 56).

## Subclass GYMNOMORPHA

## Order ONCHIDIIDA

## Family Onchidiidae

*Onchidella celtica* (Cuvier, 1817)

*Onchidella celtica* (Cuvier, 1817). Lajes do Pico (Ávila, 1996: 27). Pico (Ávila &

Azevedo, 1996: 106). Poça da Barra, Lajes do Pico (Morton *et al.*, 1998: 157). DBUA 490, 491, 659, 660, 661, 665.

Subclass PULMONATA  
Order BASOMMATOPHORA  
Family Ellobiidae

*Auriculinea bidentata* (Montagu, 1808)  
*Auricula alba* (?) Jeffreys. Azores, at shore (Mac Andrew, 1856: 116).

*Leuconia bidentata* Montagu, 1808. Azores (Mac Andrew, 1856: 145).

*Auriculinea bidentata* (Montagu, 1808). Santa Cruz, Flores (mediolittoral) (Azevedo & Gofas, 1990: 86). Lajes do Pico (Ávila, 1996: 27). Fajã Grande, Flores (Morton *et al.*, 1998: 103). Santa Cruz harbor, Flores (Morton *et al.*, 1998: 119). Poça da Barra, Lajes do Pico (Morton *et al.*, 1998: 157). Poça do Cão, Lajes do Pico (Morton *et al.*, 1998: 160). DBUA 659, 660, 661, 665, 666.

*Myosotella myosotis* (Draparnaud, 1801)

*Auricula bicolor* Morelet, 1860. Pico (Morelet, 1860: 206).

*Auricula vespertina* Morelet, 1860. Pico (Morelet, 1860: 210).

*Alexia bicolor* (Morelet, 1860). Madalena and Areia Larga, Pico (Nobre, 1924: 75; 1930: 97). Horta, Faial (Nobre, 1924: 75; 1930: 97).

*Alexia gracilis* (Lowe, 1835). Madalena, Pico (Nobre, 1924: 75; 1930: 96). Horta, Faial (Nobre, 1924: 75; 1930: 96).

*Ovatella (Myosotella) myosotis* (Draparnaud, 1801). Areia Larga and Cachorro, Pico (Backhuys, 1975: 57).

*Myosotella myosotis* (Draparnaud, 1801). Pico (Ávila & Azevedo, 1996: 106). Fajã Grande, Flores (Morton *et al.*, 1998: 103). Poça da Barra, Lajes do Pico (Morton *et al.*, 1998: 157). Poça do Cão, Lajes do Pico (Morton *et al.*, 1998: 160). DBUA 490, 500.

*Ovatella vulcani* (Morelet, 1860)

*Auricula vulcani* Morelet, 1860. Pico (Morelet, 1860: 207).

*Marinula vulcani* Morelet, 1860. Madalena, Pico (Stn. 109) (Dautzenberg, 1889: 19).

*Alexia aequalis* (Lowe, 1832). Madalena, Pico (Nobre, 1924: 75; 1930: 96-97).

Lajinha, Faial (Nobre, 1924: 75). Horta, Faial (Nobre, 1924: 75; 1930: 97). Flores (Nobre, 1924: 75; 1930: 96-97) (misidentification).

*Ovatella aequalis* (Lowe, 1832). Lajes do Pico (Backhuys, 1975: 56). Lajinha, Faial (Backhuys, 1975: 56) (misidentification).

*Ovatella vulcani* (Morelet, 1860). Lajes do Pico (Ávila, 1996: 27). Fajã Grande, Flores (Morton *et al.*, 1998: 103). Santa Cruz harbor, Flores (Morton *et al.*, 1998: 119). Poça da Barra, Lajes do Pico (Morton *et al.*, 1998: 157). Poça do Cão, Lajes do Pico (Morton *et al.*, 1998: 160). DBUA 490, 659, 660, 661, 665, 666, 677, 726.

*Pedipes pedipes* (Gmelin, 1791)

*Pedipes afra* Férussac. In crevices, near the sea (Drouët, 1858: 25-26).

*Pedipes afer* Gmelin, 1790. Madalena, Pico (Stn. 109) (Dautzenberg, 1889: 19). Madalena, Pico (Nobre, 1924: 76; 1930: 97). Lajes do Pico and Areia Larga, Pico (Backhuys, 1975: 55). Horta, Faial (Nobre, 1924: 76; 1930: 97). Lajinha, Faial (Backhuys, 1975: 55). Flores (Nobre, 1930: 97).

*Pedipes pedipes* (Gmelin, 1790). Lajes do Pico (Ávila, 1996: 27). Poça da Barra, Lajes do Pico (Morton *et al.*, 1998: 157). Poça do Cão, Lajes do Pico (Morton *et al.*, 1998: 160). Fajã Grande, Flores (Morton *et al.*, 1998: 103). Santa Cruz harbor, Flores (Morton *et al.*, 1998: 119). DBUA 490, 660, 665, 677, 726.

*Pseudomelampus exiguus* (Lowe, 1831)

*Pseudomelampus exiguus* (Lowe, 1831). Lajes do Pico (Ávila, 1996: 27). Pico (Ávila & Azevedo, 1996: 106). Poça da Barra, Lajes do Pico (Morton *et al.*, 1998: 157). Poça do Cão, Lajes do Pico (Morton *et al.*, 1998: 160). Fajã Grande, Flores (Morton *et al.*, 1998: 103). DBUA 659, 661, 665, 677.

Family Siphonariidae

*Williamia gussonii* (da Costa, 1829)

*Patella gussonii* da Costa, 1829. Azores, -22 to -36 m (Mac Andrew, 1856: 118).

*Williamia gussonii* da Costa, 1829. Santa Cruz, Flores (-20 m) (Azevedo & Gofas, 1990: 86). DBUA 240, 714.

## Class BIVALVIA

## Subclass PTEROMORPHIA

## Order ARCOIDA

## Family Arcidae

*Arca noae* Linnaeus, 1758

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

*Remarks:* this record needs to be confirmed.

*Arca tetragona* Poli, 1795

*Arca navicularis* Bruguière, 1792. Pico (Drouët, 1858: 45; misidentification?).

*Arca tetragona* Poli, 1795. Azores (Jeffreys, 1879: 571; Morton *et al.*, 1998: 89). Santa Cruz, Flores (Azevedo & Gofas, 1990: 86). *ImagDOP* 39. *DOP/ML* 0030. DBUA 240, 279, 666, 672.

## Order MYTILOIDA

## Family Mytilidae

*Mytilus edulis* Linnaeus, 1758

*Mytilus edulis* Linnaeus, 1758. Azores (Morton *et al.*, 1998: 133, 194). *DOP/ML* 0031.

*Remarks:* the *Mytilus* that appear in the shores of the Azores, are always found in harbors or at marinas, and most of the specimens found were dead. This species arrives to the Azores, probably attached to the bottom of the ships and yachts, but it is not able to survive. Since there are no viable populations, we do not consider this as a species living on the shores of the Azores.

*Trichomusculus semigranatus* (Reeve, 1858)

*Musculus subclavatus* (Libassi, 1859). Santa Cruz, -20 m (Azevedo & Gofas, 1990: 86) (misidentification).

*Trichomusculus semigranatus* (Reeve, 1858). Faial (-8 m) (Morton, 1995: 282). Azores (Morton *et al.*, 1998: 89). *DOP/ML* 0017. DBUA-193, 232, 274, 281, 398, 400, 403, 412, 454, 555, 556, 570, 574, 666, 668, 670, 672, 677.

*Remarks:* although on the CLEMAM database *Trichomusculus semigranatus* (Reeve, 1858) is said to be a secondary reference of *Gregariella semigranata* (Reeve, 1858), specimens collected by the

first author at São Miguel island and so far classified as *T. semigranatus* or *G. semigranata*, being so treated as distinct species, do have external characteristics that match with the descriptions of the two taxa. Besides the consistent external differences in the shape of the shell, *T. semigranatus* has branching periostracal hairs on the shell, that do not appear in our specimens of *G. semigranata*.

## Family Pinnidae

*Pinna rudis* Linnaeus, 1758

*Pinna rudis* Linnaeus, 1758. Azores (Jeffreys, 1879: 565). Pico (Drouët, 1858: 45). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 77). Reserva do Monte da Guia, Faial (Gonçalves & Martins, 1993: 32). Santa Cruz, Flores (Azevedo & Gofas, 1990: 86). *ImagDOP* s121-18, s131-12, s140-25, s187-14. *DOP/ML* 0016. DBUA 485, 662, 671.

*Pinna nobilis* Linnaeus, 1758. Pico (Ávila & Azevedo, 1996: 106) (misidentification).

*Remarks:* at the inventory of MCM-HN it is listed the existence of a specimen of *Pinna rudis* from Faial. However, this specimen was not found by the first author.

## Order PTERIOIDA

## Family Pteriidae

*Pinctada radiata* (Leach, 1814)

*Pinctada radiata* (Leach, 1814). *ImagDOP* T319-1 to 12.

*Remarks:* first record of this species to the Azores. This is an Indo-Pacific species that has invaded the Mediterranean through the Suez Canal (Poppe & Goto, 1991). It was found attached to a ball-float, near Faial.

*Pteria hirundo* (Linnaeus, 1758)

*Avicula hirundo* (Linnaeus, 1758). Azores (Jeffreys, 1879: 565).

*Avicula tarentina* Lamarck, 1819. Shores of Faial (Drouët, 1858: 44).

*Pteria hirundo* (Linnaeus, 1758). Monte da Guia, Faial (-25 to -50 m) (Wirtz & Martins, 1993: 56). Lajes do Pico (one valve found at shore). *DOP/ML* 0024. DBUA 677.

## Family Pectinidae

- Aequipecten opercularis* (Linnaeus, 1758)  
*Pecten opercularis* (Linnaeus, 1758).  
 Azores (Jeffreys, 1879: 558).  
*Aequipecten opercularis* Linnaeus, 1758.  
 Horta harbor (Morton, 1967: 37). Azores  
 (Morton *et al.*, 1998: 144).

*Nodipecten corallinoides* (d'Orbigny,  
 1840)

*Lyropecten corallinoides* (d'Orbigny,  
 1839). Pico (Ávila & Azevedo, 1996: 106)

*Nodipecten corallinoides* (d'Orbigny,  
 1840). DOP/ML 0018. DBUA 264, 420,  
 431, 494, 672.

*Cyclopecten* cf. *hoskynsi* (Forbes, 1844)  
*Cyclopecten* cf. *hoskynsi* (Forbes, 1844).  
 DOP/ML 27.

*Crassadoma multistriata* (Poli, 1795)  
*Chlamys multistriata* (Poli, 1795). Horta,  
 Faial (-15 to -20 m, Stn. 103, "Hirondelle",  
 1887) (Dautzenberg, 1889: 74).  
*Crassadoma multistriata* (Poli, 1795).  
 ImagDOP 39. DBUA 714.

*Crassadoma pusio* (Linnaeus, 1758)  
*Pecten pusio* (Linnaeus, 1758). Azores,  
 shore to -162 m (Mac Andrew, 1856: 112,  
 143. Azores (Jeffreys, 1879: 556).

*Pecten sinuosus* (Gmelin, 1791). Pico  
 (Drouët, 1858: 43).

*Hinnites sinuosus* (Gmelin, 1791). Very  
 common in all islands (Nobre, 1924: 84;  
 1930: 62).

*Chlamys distorta* (da Costa, 1778). Horta  
 harbor (Morton, 1967: 37). Azores (Morton  
*et al.*, 1998: 139).

*Hinnites distortus* (da Costa, 1778). Santa  
 Cruz (Azevedo & Gofas, 1990: 86).

*Crassadoma pusio* (Linnaeus, 1758).  
 DBUA 193, 240, 281, 403, 570, 666, 668,  
 670, 672, 677.

*Chlamys* sp.

*Chlamys* sp. Pico (Ávila & Azevedo, 1996:  
 106). DBUA 486.

*Chlamys nodosa* (Sowerby, 1842)  
*Chlamys* (*Lyropecten*) *nodosa* (Sowerby,  
 1842). Horta, Faial (-15 to -20 m, Stn. 103,

"Hirondelle", 1887) (Dautzenberg, 1889:  
 74).

*Remarks*: we were not able to up-date the  
 name of this species.

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

*Chlamys* cf. *varia* (Linnaeus, 1758). Horta  
 harbor (Morton, 1967: 37).

*Remarks*: this record needs to be confirmed;  
 could be a misidentification of young  
 specimens of *Crassadoma pusio*.

## Family Anomiidae

*Anomia ephippium* Linnaeus, 1758

*Anomia ephippium* Linnaeus, 1758.  
 Azores (Morton *et al.*, 1998: 139). DBUA  
 666, 672.

*Heteranomia squamala* (Linnaeus, 1758)  
*Monia aculeata* (Müller, 1776). Santa Cruz,  
 Flores (Azevedo & Gofas, 1990: 86).

*Remarks*: CLEMAM database considers  
*Anomia aculeata* O.F. Müller, 1776 a  
 dubious synonym of *Heteranomia*  
*squamala* (Linnaeus, 1758).

## Family Limidae

*Limaria hians* (Gmelin, 1791)

*Lima fragilis* Scacchi. Azores, shore  
 to -54 m (Mac Andrew, 1856: 112, 143)  
 (misidentification).

*Lima hians* (Sowerby, 1820). Azores  
 (Jeffreys, 1879: 564).

*Mantellum hians* Gmelin, 1791. Horta,  
 Faial (-15 to -20 m, Stn. 103, "Hirondelle",  
 1887) (Dautzenberg, 1889: 73).

*Lima hians* (Gmelin, 1791). Porto Pim,  
 Faial (Nobre, 1924: 84; 1930: 62).

*Limaria hians* (Gmelin, 1791). Reserva do  
 Monte da Guia (Gonçalves & Martins, 1993:  
 32). Santa Cruz, Flores (Morton *et al.*, 1998:  
 78). ImagDOP 39, 42. DOP/ML 0015.  
 DBUA 403, 574, 666, 668, 670, 671, 672,  
 677, 726.

*Limea loscombii* (G.W. Sowerby I, 1824)  
*Lima loscombii* (Sowerby, 1820). Azores  
 (Jeffreys, 1879: 564).

*Limea loscombii* (G.W. Sowerby I, 1824).  
 DBUA 403.

## Order OSTREOIDA

## Family Gryphaeidae

- Neopycnodonte cochlear* (Poli, 1795)  
*Ostrea cochlear* Poli, 1795. Faial (Wirtz, 1995: 188).  
*Neopycnodonte cochlear* (Poli, 1795).  
 ImagDOP s147-27, s224-22.

## Subclass HETERODONTA

## Order VENEROIDA

## Family Lucinidae

*Loripes lacteus* (Linnaeus, 1758)

- Loripes lucinalis* (Lamarck, 1818). DBUA 420, 666, 726.

*Myrtea spinifera* (Montagu, 1803)

- Lucina (Myrtea) spinifera* (Montagu, 1803). Azores (Jeffreys, 1881a: 701).

Remarks: there are recent records of this species to São Miguel Island.

*Lucinoma borealis* (Linnaeus, 1767)

- Lucina borealis* Linnaeus, 1767. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 59).

- Lucina borealis* (Linnaeus, 1758). Cais do Pico (Nobre, 1924: 86; 1930: 64). Horta, Faial (Nobre, 1924: 86; 1930: 64).

- Lucinoma borealis* (Linnaeus, 1767). Azores (Morton *et al.*, 1998: 89).

## Family Thyasiridae

*Thyasira fluxuosa* (Montagu, 1803)

- Axinus flexuosus* Montagu, 1803. Azores (Jeffreys, 1881a: 701).

Remarks: this record needs to be confirmed.

## Family Lasaeidae

*Lasaea adansonii* (Gmelin, 1791)

- Lasaea adansonii* (Gmelin, 1791). Feteira (intertidal) (Chapman, 1955: 803). Poça da Barra, Lajes do Pico (Morton *et al.*, 1998: 157). DBUA 179, 180, 181, 182, 188, 189, 191, 192, 194, 195, 196, 197, 225, 228, 240, 267, 269, 272, 274, 280, 281, 403, 442, 443, 446, 447, 452, 453, 454, 457, 458, 459, 460, 462, 465, 466, 467, 469, 470, 471, 472, 475, 480, 481, 492, 493, 499, 500, 659, 660, 661, 662, 663, 665, 666, 726.

- Lasaea adansonii* (Montagu, 1808). Santa Cruz, Flores (-20 m); Fajã Grande and Ponta

- Delgada, Flores (mediolittoral) (Azevedo & Gofas, 1990: 87). Lajes do Pico (Ávila, 1996: 27). Pico (Ávila & Azevedo, 1996: 106).

## Family Montacutidae

*Montacuta ferruginosa* (Montagu, 1808)

- Montacuta (Tellimya) ferruginosa* Montagu, 1803. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 81).

## Family Neoleptonidae

*Neolepton cancellatum* Salas & Gofas, 1998

- Neolepton cancellatum* Salas & Gofas, 1998. Flores (Santa Cruz, -20 m) (Salas & Gofas, 1998: 44-45).

## Family Carditidae

*Cardita calyculata* (Linnaeus, 1758)

- Cardita calyculata* (Bruguière). Azores, in the littoral (Mac Andrew, 1856: 107, 140).

- Cardita sinuata* Bruguière. Between Areia Larga and Madalena (Drouët, 1858: 46).

*Cardita calyculata* (Linnaeus, 1758).

- Azores (Jeffreys, 1881a: 705). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 80). Horta, Faial (Nobre, 1924: 85; 1930: 62). Feteira, Faial (intertidal) (Chapman, 1955: 803). Reserva do Monte da Guia, Faial (Gonçalves & Martins, 1993: 32). Cais do Pico (Nobre, 1924: 85; 1930: 62). Poça da Barra, Lajes do Pico (Morton *et al.*, 1998: 157). Poça do Cão, Lajes do Pico (Morton *et al.*, 1998: 160). Santa Cruz and Fajã Grande, Flores (Azevedo & Gofas, 1990: 86). DOP/ML 0020. DBUA 181, 190, 192, 196, 240, 274, 281, 368, 380, 398, 403, 409, 414, 442, 444, 445, 446, 448, 449, 451, 452, 453, 454, 457, 458, 459, 460, 462, 466, 467, 468, 470, 471, 472, 475, 480, 483, 493, 496, 499, 500, 564, 568, 571, 574, 579, 662, 663, 666, 670, 671, 672, 677, 726.

## Family Cardiidae

(?)*Parvicardium exiguum* (Gmelin, 1791)*Cardium pygmaeum* Donovan, 1800.

- Azores, -4 to -18 m (Mac Andrew, 1856: 110).  
 Remarks: we consider this a dubious record.



*Parvicardium ovale* (G.B. Sowerby II, 1840)

*Cardium fasciatum* Montagu, 1803. Azores (Jeffreys, 1881a: 708). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 81). Reserva do Monte da Guia, Faial (Gonçalves & Martins, 1993: 32).

*Cardium (Papyridea) transversale* Deshayes, 1854. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 81). Horta harbor (Morton, 1967: 37).

*Parvicardium ovale* (Sowerby, 1840). Santa Cruz, Flores (Azevedo & Gofas, 1990: 87). Azores (Morton et al., 1998: 88, 89).

*Parvicardium ovale* (G.B. Sowerby II, 1840). DBUA 181, 193, 195, 222, 240, 274, 278, 281, 371, 377, 378, 403, 409, 420, 553, 558, 560, 568, 569, 571, 574, 666.

**Remarks:** *Parvicardium vroomi* described by van Aartsen, Moolenbeck and Gittenberger in 1984 and recorded from Formigas by Ávila & Azevedo (1997), was later considered to be the young of *Parvicardium ovale* (G.B. Sowerby II, 1840).

*Plagiocardium papillosum* (Poli, 1795)

*Cardium papillosum* (Poli, 1795). Azores (Mac Andrew, 1856: 141; Jeffreys, 1881a: 707). Azores Flores (-40 m, St. 54, "Hirondelle") (Dautzenberg & Fischer, 1897: 211). Dredged from Cais do Pico (Nobre, 1924: 85; 1930: 63). Dredged inside and outside Horta harbor, Faial (Nobre, 1924: 85; 1930: 63).

*Plagiocardium papillosum* (Poli, 1795). DOP/ML 0008. DBUA 240, 380, 403, 574, 579, 666, 668, 670, 672, 677, 726.

#### Family Solenidae

*Solen marginatus* Pulteney, 1799

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

**Remarks:** this record needs to be confirmed.

#### Family Tellinidae

*Tellina donacina* Linnaeus, 1758

*Tellina donacina* Linnaeus, 1758. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 86).

*Moerella donacina* Linnaeus, 1758. Azores (Morton et al., 1998: 144).

*Tellina incarnata* Linnaeus, 1758

*Tellina incarnata* Linnaeus, 1758. Azores (Römer, 1871: 127). Cais do Pico (Nobre, 1930: 64). Dredged at Horta harbor, Faial (Nobre, 1924: 86). DOP/ML 0022. DBUA 420, 677.

*Tellina squalida* Pulteney, 1799. Azores (Jeffreys, 1881a: 719).

*Tellina (Angulus) squalida* Pulteney, 1799. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 86).

*Tellina (Laciolina) squalida* Montagu, 1803. Horta harbor, Faial (Morton, 1967, Additions).

*Angulus squalidus* Pulteney, 1799. Azores (Morton et al., 1998: 144).

#### Family Psammobiidae

*Gari costulata* (Turton, 1822)

*Psammobia costulata* Turton, 1822. Horta bay, Faial (-20 m, Stn. 29, "Hirondelle", 1888) (Dautzenberg & Fischer, 1897: 217).

*Gari costulata* (Turton, 1822). Azores (Morton et al., 1998: 144).

#### Family Semeiidae

*Ervilia castanea* (Montagu, 1803)

*Ervilia castanea* (Montagu, 1803). Azores (Mac Andrew, 1856: 104, 138; Morton et al., 1998: 89, 144). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 84). Horta bay, Faial (-20 m, Stn. 29, "Hirondelle", 1888) (Dautzenberg & Fischer, 1897: 218). Faial (Wirtz, 1995: 187). Pico (Ávila & Azevedo, 1996: 106). *ImagDOP* s284-31. DBUA 181, 240, 403, 416, 420, 470, 499, 500, 570, 571, 574, 579, 670, 672, 714, 726.

*Abra alba* (W. Wood, 1802)

*Abra alba* (W. Wood, 1802). Azores (Morton et al., 1998: 144).

#### Family Glossidae

*Glossus humanus* (Linnaeus, 1758)

*Isocardia cor* (Linnaeus, 1758). Azores (Jeffreys, 1881a: 710).

**Remarks:** this record needs to be confirmed.

#### Family Veneridae

*Venus casina* Linnaeus, 1758

*Venus casina* Linnaeus, 1758. Azores (Jeffreys, 1884a: 145). Cais do Pico (dredged

at -54 m) (Nobre, 1924: 85; 1930: 63). Horta harbor, Faial (Morton, 1967, Additions).

*Globivenus effossa* (Philippi, 1836) ex Bivona ms.

*Venus effossa* (Bivona, 1836). Azores (Talisman Expedition) (Jeffreys, 1884a: 145; Nobre, 1936: 257).

*Globivenus effossa* (Philippi, 1836) ex Bivona ms. DOP/ML 0023.

*Timoclea ovata* (Pennant, 1777)

*Venus (Pasiphae) ovata* Pennant, 1777. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 82). Azores (Morton *et al.*, 1998: 144). DBUA 420, 714.

*Gouldia minima* (Montagu, 1803)

*Gouldia minima* (Montagu, 1803). Azores (Morton *et al.*, 1998: 144). DBUA 420, 672.

*Callista chione* (Linnaeus, 1758)

*Cytherea chione* (Linnaeus, 1758). Azores (sublittoral to -72 m) (Mac Andrew, 1856: 106, 140).

*Venus chione* (Linnaeus, 1758). Azores (0 to -219 m) (Jeffreys, 1881a: 716).

*Meretrix (Callista) chione* Linnaeus, 1758. Horta, Faial (littoral rocks) (Stn. 104, "Hirondelle", 1887) (Dautzenberg, 1889: 82). Horta, Faial (Nobre, 1924: 85; 1930: 63).

*Callista chione* (Linnaeus, 1758). Horta harbor, Faial (Morton, 1967, Additions). Azores (Morton *et al.*, 1998: 144). DBUA 420.

*Tapes decussata* (Linnaeus, 1758)

*Tapes decussatus* (Linnaeus, 1758). Horta harbor, Faial (Morton, 1967, Additions).

*Venerupis pullastra* (Montagu, 1803)

*Tapes pullastra* (Montagu, 1803). Madalena, Pico (Nobre, 1924: 85; 1930: 63-64).

#### Order MYOIDA

##### Family Hiatellidae

*Hiatella arctica* (Linnaeus, 1767)

*Hiatella arctica* (Linnaeus, 1767). Azores (Morton *et al.*, 1998: 133, 194).

##### Family Teredinidae

*Psiloteredo megotara* (Hanley in Forbes & Hanley, 1848)

*Teredo megotara* Hanley, 1848. Azores (Morton *et al.*, 1998: 133).

*Nototeredo norvegica* (Spengler, 1792)

*Teredo norvegica* Spengler, 1792. Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 85).

*Teredo norvegica* (Spengler, 1792). Cais do Pico (Nobre, 1924: 86; 1930: 64).

*Nototeredo norvegica* (Spengler, 1792). Azores (Morton *et al.*, 1998: 133).

#### Family Xylophagidae

*Xylophaga dorsalis* (Turton, 1819)

*Xylophaga dorsalis* (Turton, 1819). Horta, Faial (-15 to -20 m, Stn. 103, "Hirondelle", 1887) (Dautzenberg, 1889: 85).

#### Subclass ANOMALODESMATA

##### Order PHOLADOMYOIDA

##### Family Cuspidariidae

*Cardiomya costellata* (Deshayes, 1835)

*Cuspidaria costellata* Deshayes, 1832. Horta bay, Faial (-20 m, Stn. 29, "Hirondelle", 1888) (Dautzenberg & Fischer, 1897).

#### Class CEPHALOPODA

##### Subclass COLEOIDEA

##### Order SEPIOIDEA

##### Family Spirulidae

*Spirula spirula* (Linnaeus, 1758)

*Spirula peronii* Lamarck, 1822. Azores (Mac Andrew, 1856: 133). Pico, Areia Larga (Nobre, 1924: 76; 1930: 50).

##### Family Sepiidae

*Sepia officinalis* Linnaeus, 1758

*Sepia officinalis* Linnaeus. Pico (Drouët, 1858: 23).

Remarks: dubious record.

#### Order TEUTHIDA

##### Family Lolinidae

*Loligo forbesi* Steenstrup, 1856

*Loligo vulgaris* Lamarck. Pico (Drouët, 1858: 23) (misidentification).

*Loligo forbesi* Steenstrup, 1856. Faial (Porteiro & Martins, 1992: 119-120). Azores (Guerra, 1992: 109-111). Flores (20 m depth, Carlos Toste, pers. obs.). *Imag*DOP s137-31, s137-32, s137-33, s137-34, s137-35.

## Order OCTOPODA

## Family Octopodidae

*Octopus macropus* Risso, 1826

*Octopus macropus* Risso, 1826. Littoral of Faial (depths lower than 10 m) (Gonçalves, 1991: 79).

*Octopus salutii* Vérany, 1836

*Octopus salutii* Vérany, 1837. Horta, Faial (one specimen caught in a tide pool at night) (Gonçalves, 1991: 78).

*Octopus vulgaris* Cuvier, 1797

*Octopus vulgaris* Cuvier, 1797. Reserva do Monte da Guia (Gonçalves & Martins, 1993: 29-33). Faial (Wirtz, 1995: 187, 193). *ImagDOP* 42. DBUA 672.

## Family Tremoctopodidae

*Tremoctopus violaceus violaceus* delle Chiaje, 1830

*Tremoctopus violaceus violaceus* delle Chiaje, 1830. Horta harbor and Porto Pim beach (Gonçalves, 1991: 76).

## Family Ocythoidae

*Ocythoe tuberculata* Rafinesque, 1814

*Ocythoe tuberculata* Rafinesque, 1814. Horta harbor (Gonçalves, 1991: 76). *ImagDOP* d1092.

## Family Argonautidae

*Argonauta argo* Linnaeus, 1758

*Argonauta argo* Linnaeus, 1758. Azores, specially near Pico and Faial (Drouët, 1858: 21). Faial (Gonçalves, 1991: 76). *ImagDOP* d983.

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TABLE 1. Number of the sampling sites in the Reference Collection of the Department of Biology of the University of the Azores (DBUA), location of the sampling sites, date and depth of the samples. DBUA 178-286: samples collected during "Flores 89" scientific expedition; DBUA 368-484: samples collected during "Açores 89" scientific expedition; DBUA 485-500: samples collected during "Pico 91" scientific expedition.

DBUA	Location of the sampling sites	Date	Depth (m)
178	Piscinas, Santa Cruz - Flores	7-July-1989	20
179	Piscinas, Santa Cruz - Flores	10-July-1989	11-14
180	Piscinas, Santa Cruz - Flores	10-July-1989	8-9
181-182	Fajã Grande, Flores	10-July-1989	?
183	Piscinas, Santa Cruz - Flores	7-July-1989	20
184	Piscinas, Santa Cruz - Flores	7-July-1989	20
185	Piscinas, Santa Cruz - Flores	7-July-1989	?
186	Piscinas, Santa Cruz - Flores	7-July-1989	20
187-189	Piscinas, Santa Cruz - Flores	7-July-1989	?
190	Fajã Grande - Flores	10-July-1989	?
191	Ponta Delgada - Flores	7-July-1989	?
192-193	Piscinas, Santa Cruz - Flores	09-July-1989	?
194	Ponta Delgada - Flores	7-July-1989	?
195-197	Piscinas, Santa Cruz - Flores	09-July-1989	?
198	Piscinas, Santa Cruz - Flores	7-July-1989	20
199-200	Piscinas, Santa Cruz - Flores	7-July-1989	?
201-202	Piscinas, Santa Cruz - Flores	7-July-1989	20
203-205	Piscinas, Santa Cruz - Flores	7-July-1989	?
206-208	Piscinas, Santa Cruz - Flores	7-July-1989	20
209	Piscinas, Santa Cruz - Flores	7-July-1989	mediolitoral
210-211	Piscinas, Santa Cruz - Flores	7-July-1989	?
212-213	Piscinas, Santa Cruz - Flores	7-July-1989	20
214	Piscinas, Santa Cruz - Flores	7-July-1989	?
215	Fajã Grande - Flores	10-July-1989	?
216	Piscinas, Santa Cruz - Flores	7-July-1989	20
217-218	Piscinas, Santa Cruz - Flores	7-July-1989	?
219	Piscinas, Santa Cruz - Flores	7-July-1989	20
220-221	Piscinas, Santa Cruz - Flores	7-July-1989	?
222-225	Piscinas, Santa Cruz - Flores	7-July-1989	20
226	Piscinas, Santa Cruz - Flores	7-July-1989	?
227	Piscinas, Santa Cruz - Flores	7-July-1989	20
228	Piscinas, Santa Cruz - Flores	7-July-1989	mediolitoral
229-230	Piscinas, Santa Cruz - Flores	7-July-1989	?
231-233	Piscinas, Santa Cruz - Flores	7-July-1989	20
234	Piscinas, Santa Cruz - Flores	7-July-1989	?
235-236	Piscinas, Santa Cruz - Flores	7-July-1989	supralitoral / mediolitoral
237	Piscinas, Santa Cruz - Flores	7-July-1989	20
238-239	Piscinas, Santa Cruz - Flores	7-July-1989	?
240-262	Piscinas, Santa Cruz - Flores	7-July-1989	20
263	Piscinas, Santa Cruz - Flores	7-July-1989	?
264	Lajes - Flores	27-October-1990	6-10
265	Lajes - Flores	7-October-1990	?
266	Fajã Grande	10-July-1989	?
267	Piscinas, Santa Cruz - Flores	06-July-1989	?
268-269	Piscinas, Santa Cruz - Flores	09-July-1989	?
270	Costa do Lagoa (hydothermal vent) - Flores	10-July-1989	?
271-272	Ponta Delgada - Flores	07-July-1989	?
273	Fajã Grande - Flores	10-July-1989	?



DBUA	Location of the sampling sites	Date	Depth (m)
274-275	Piscinas, Santa Cruz - Flores	11-July-1989	20
276-277	Piscinas, Santa Cruz - Flores	09-July-1989	?
278	Piscinas, Santa Cruz - Flores	11-July-1989	20
279	Lajes das Flores harbor - Flores	7-October-1989	?
280	Piscinas, Santa Cruz - Flores	09-July-1989	?
281	Piscinas, Santa Cruz - Flores	11-July-1989	20
282	Costa do Lajeado - Flores	10-July-1989	?
283	Piscinas, Santa Cruz - Flores	06-July-1989	?
284	Piscinas, Santa Cruz - Flores	?	20
285-286	Piscinas, Santa Cruz - Flores	06-July-1989	?
368	Monte da Guia - Faial	04-July-1989	15
369	Monte da Guia - Faial	04-July-1989	10
370	Monte da Guia - Faial	03-July-1989	15
371	Monte da Guia - Faial	06-July-1989	14
372	Monte da Guia - Faial	03-July-1989	10
373	Monte da Guia - Faial	04-July-1989	19
374	Monte da Guia - Faial	04-July-1989	19
375	Monte da Guia - Faial	04-July-1989	19
376	Monte da Guia - Faial	04-July-1989	10
377	Monte da Guia - Faial	July-1989	5
378	Monte da Guia - Faial	July-1989	10
379	Monte da Guia - Faial	July-1989	20
380	Monte da Guia - Faial	04-July-1989	19
381	Monte da Guia - Faial	July-1989	8
382	Monte da Guia - Faial	July-1989	3
383	Monte da Guia - Faial	04-July-1989	19
384	Monte da Guia - Faial	July-1989	5
385	Monte da Guia - Faial	03-July-1989	10
386	Monte da Guia - Faial	04-July-1989	5
387	Monte da Guia - Faial	July-1989	10
388	Monte da Guia - Faial	July-1989	15
389	Monte da Guia - Faial	July-1989	20
390	Monte da Guia - Faial	July-1989	8
391	Monte da Guia - Faial	July-1989	5
392	Monte da Guia - Faial	03-July-1989	10
393	Monte da Guia - Faial	July-1989	5
394	Monte da Guia - Faial	12-July-1989	10
395	Monte da Guia - Faial	14-July-1989	15
396	Monte da Guia - Faial	14-July-1989	20
397	Monte da Guia - Faial	July-1989	3 to 5
398	Monte da Guia - Faial	July-1989	3
399	Monte da Guia - Faial	04-July-1989	19
400	Monte da Guia - Faial	July-1989	20
401	Monte da Guia - Faial	04-July-1989	19
402	Monte da Guia - Faial	July-1989	?
403	Ilhéu Negro - Faial	24-July-1989	10
404	Ilhéu Negro - Faial	24-July-1989	10
405	Monte da Guia - Faial	July-1989	10
406	Ilhéu Negro - Faial	24-July-1989	10
407	Monte da Guia - Faial	July-1989	20
408	Monte da Guia - Faial	14-July-1989	30
409	Monte da Guia - Faial	July-1989	5
410	Ilhéu Negro - Faial	24-July-1989	10
411	Monte da Guia - Faial	July-1989	20

DBUA	Location of the sampling sites	Date	Depth (m)
412	Monte da Guia - Faial	July-1989	10
413	Ilhéu Negro - Faial	24-July-1989	10
414	Horta harbor - Faial	24-July-1989	6
415	Monte da Guia - Faial	July-1989	20
416	Monte da Guia - Faial	July-1989	7
417	Monte da Guia - Faial	July-1989	0
418	Monte da Guia - Faial	July-1989	2 to 5
419	Marine of Horta - Faial	25-July-1989	7
420	Horta harbor - Faial	27-July-1989	7
421	Monte da Guia - Faial	July-1989	20
422	Horta harbor - Faial	July-1989	7
423	Marine of Horta - Faial	26-July-1989	6
424	Horta harbor - Faial	24-July-1989	12
425	Monte da Guia - Faial	03-July-1989	5
426	Horta harbor - Faial	July-1989	7
427	Monte da Guia - Faial	July-1989	0
428	Monte da Guia - Faial	July-1989	7
429	Monte da Guia - Faial	July-1989	20
430	Monte da Guia - Faial	July-1989	2.5
431	Ilhéu Negro - Faial	24-July-1989	7
432	Ilhéu Negro - Faial	24-July-1989	10
433	Baía de Entre-Montes - Faial	26-July-1989	7
434	Monte da Guia - Faial	July-1989	10
435	Monte da Guia - Faial	July-1989	0
436	Monte da Guia - Faial	July-1989	2.5
437	Monte da Guia - Faial	July-1989	2.5
438	Monte da Guia - Faial	July-1989	20
439	Monte da Guia - Faial	July-1989	2.5
440	Ilhéu Negro - Faial	24-July-1989	7
441	Monte da Guia - Faial	July-1989	20
442-472	Lajes do Pico - Pico	August-1989	intertidal
473	Lajes do Pico - Pico	July-1989	intertidal
474-484	Lajes do Pico - Pico	August-1989	intertidal
485	Lajes do Pico - Pico	24-April-1991	intertidal
486	Poça do Pano, Lajes do Pico - Pico	27-June-1991	2 to 4
487	Lajes do Pico - Pico	23-June-1991	intertidal
488	Lajes do Pico - Pico	27-June-1991	0 to 2
489	Lajes do Pico - Pico	June-1991	7
490	Lajes do Pico - Pico	August-1991	intertidal
491	Lajes do Pico - Pico	24-June-1991	7
492	Poça do Pano, Lajes do Pico - Pico	27-June-1991	2 to 4
493	Lagoa, Lajes do Pico - Pico	June-1991	1 to 2
494	Outside Manhêra harbor, Ponta da Ilha - Pico	26-June-1991	20
495	Lajes do Pico - Pico	24-June-1991	intertidal
496	Lajes do Pico - Pico	28-June-1991	7
497	Lajes do Pico - Pico	24-June-1991	intertidal
498	Lajes do Pico - Pico	27-June-1991	7
499	Lagoa, Lajes do Pico - Pico	27-June-1991	1 to 2
500	Poça do Pano, Lajes do Pico - Pico	27-June-1991	2 to 4
517-518	Pontinhas - Flores	29-October-1989	intertidal
519-520	Baixa da Ponta, Lajes - Flores	28-October-1989	7
521	Pontinhas - Flores	28-October-1989	intertidal
522	Porto da Baleia - Flores	29-October-1989	9
523	Ponta do Capão - Flores	28-October-1989	7

DBUA	Location of the sampling sites	Date	Depth (m)
524	Baixa da Calheta - Flores	28-October-1989	intertidal
525	Baixa do Porto, Lajes - Flores	28-October-1989	?
526	Porto da Baleia - Flores	29-October-1989	9
527	Porto da Baleia - Flores	29-October-1989	?
528	Ponta do Capitão - Flores	28-October-1989	?
529	Porto da Baleia - Flores	29-October-1989	9
530	Baixa do Porto, Lajes - Flores	29-October-1989	?
531-533	Porto da Baleia - Flores	29-October-1989	?
534	Ponta do Capitão - Flores	29-October-1989	?
535	Baixa do Porto, Lajes - Flores	27-October-1989	?
536	Baixa do Porto, Lajes - Flores	28-October-1989	?
537	Ponta do Capitão - Flores	28-October-1989	?
538	Porto da Baleia - Flores	29-October-1989	9
539	Baixa do Porto, Lajes - Flores	28-October-1989	?
540	Baixa do Porto, Lajes - Flores	27-October-1989	6-12
541	Porto da Baleia - Flores	29-October-1989	?
542	Baixa do Porto, Lajes - Flores	27-October-1989	6-12
543	Porto da Baleia - Flores	29-October-1989	6
544	Baixa do Porto, Lajes - Flores	28-October-1989	?
545	Pontinhas - Flores	28-October-1989	?
546	Baixa do Porto, Lajes - Flores	28-October-1989	?
547-548	Ponta do Capitão - Flores	28-October-1989	?
549	Baixa do Porto, Lajes - Flores	28-October-1989	?
550	Ponta do Capitão - Flores	28-October-1989	?
551	Porto da Baleia - Flores	29-October-1989	?
552	Baixa da Calheta - Flores	28-October-1989	?
553	Ponta do Capitão - Flores	28-October-1989	?
554	Pontinhas - Flores	28-October-1989	intertidal
555	Baixa do Porto, Lajes - Flores	28-October-1989	?
556	Ponta do Capitão - Flores	28-October-1989	?
557	Porto da Baleia - Flores	29-October-1989	9
558	Baixa do Porto, Lajes - Flores	28-October-1989	?
559	Pontinhas - Flores	28-October-1989	intertidal
560	Baixa do Porto, Lajes - Flores	27-October-1989	?
561	Ponta do Capitão - Flores	28-October-1989	intertidal
562	Pontinhas - Flores	28-October-1989	intertidal
563	Ponta do Capitão - Flores	28-October-1989	?
564	Porto da Baleia - Flores	29-October-1989	6
565	Porto da Baleia - Flores	29-October-1989	9
566	Porto da Baleia - Flores	29-October-1989	7
567	Porto da Baleia - Flores	29-October-1989	?
568	Ponta do Capitão - Flores	28-October-1989	?
569-570	Baixa do Porto, Lajes - Flores	28-October-1989	?
571	Ponta do Capitão - Flores	29-October-1989	?
572	Baixa da Calheta - Flores	28-October-1989	?
573	Porto da Baleia - Flores	29-October-1989	?
574	Baixa do Porto, Lajes - Flores	27-October-1989	6-12
575	Ponta do Capitão - Flores	28-October-1989	?
576	Baixa do Porto, Lajes - Flores	27-October-1989	6-12
577	Lajes - Flores	27-October-1989	0-10
578	Baixa do Porto, Lajes - Flores	28-October-1989	?
579	Baixa do Porto, Lajes - Flores	27-October-1989	6-12
580	Ponta do Capitão - Flores	29-October-1989	?
659	Paga da Baía, Lajes do Pico	18-August-1994	intertidal

DBUA	Location of the sampling sites	Date	Depth (m)
660	Poça da Barra, Lajes do Pico	19-August-1994	intertidal
661	Poça da Barra, Lajes do Pico	07-August-1995	intertidal
662	Baixa-de-fora, Lajes do Pico	07-August-1995	2
663	Between Poça do Pato and Poça da Baixa, Lajes do Pico	11-August-1995	intertidal
665	Poça da Barra, Lajes do Pico	23-August-1995	intertidal
666	Sand from Poça do Cão, Lajes do Pico	24-August-1996	0
667	Baixa-de-fora, Lajes do Pico	05-August-1996	6
668	Furna, Santo António, Cão do Pico	10-August-1996	16
669	Baixa-de-fora, Lajes do Pico	13-August-1996	4
670	Outside São João harbor - Pico	15-August-1996	28
671	Poça do Pato, Lajes do Pico	16-August-1997	intertidal
672	Outside Ribeira harbor - Pico	25-August-1997	18
674	Baixa-de-fora, Lajes do Pico	19-August-1995	0 to 2
677	Store, Lajes do Pico	01-January-1998	intertidal
678	Poça do Pato, Lajes do Pico	01-January-1998	intertidal
714	Praia da Conceição - Faial	21-April-1998	intertidal
726	Poça do Pato, Lajes do Pico	15-August-1998	0 to 4

TABLE 2. Reference number of the slides in the image bank of the Department of Oceanography and Fisheries of the University of the Azores (*ImagDOP*), location of the-sampling sites and island, date and depth range (m) of the dive.

Slide number	Location of the sampling sites - Island	Date	Depth range (m)
d393	? - Faial	?	?
d639	? - Faial	?	?
d742	? - Faial	?	?
d827	? - Faial	?	?
39	Costa S. Morre da Guia - Faial	08-08-1996	?
42	Ilhéu da Madalena - Pico	14-08-1996	?
s080-27	Monte da Guia, Morro de Castelo Branco - Faial	24-08-1996	?
s137-31/35	Pato da Casa, night dive - Corvo	14-07-1997	2-15
s198-02	? - Faial	?	?
s207-26	? - Faial	?	?
s213-16	? - Faial	7-07-1997	?
s224-22	? - Faial	7-07-1997	?
s224-29	? - Faial	7-07-1997	?
s241-14	Monte da Guia, deep cave - Faial	09-09-1997	?
s241-18	Monte da Guia, deep cave - Faial	09-09-1997	?
s241-28	Monte da Guia, deep cave - Faial	09-09-1997	?
s266-38	Faial	18-08-1997	?
s284-31	Monte da Guia - Faial	12-08-1997	?
s309-27	Faial	7-07-1997	?
s331-34	Radões, Morro da Guia - Faial	?	?
s337-25	Monte da Guia - Faial	02-10-1997	?
s337-30	Monte da Guia - Faial	02-10-1997	?
s337-03	Baixa dos Moinhos - Flores	09-07-1997	10-37
s337-07	Furna dos Embarcás - Flores	09-07-1997	10-37
s321-18	Laredo das Cruzes - Flores	10-07-1997	5-22
s322-17	Laredo das Cruzes - Flores	10-07-1997	5-22
s323-30	Laredo das Cruzes - Flores	10-07-1997	5-22
s324-28	Fajã de Lopo Vaz - Flores	11-07-1997	15-23
s325-10	Porto das Lajes - Flores	11-07-1997	0-9

Slide number	Location of the sampling sites – Island	Date	Depth range (m)
s126-13	Fajã do Lopo Vaz - Flores	11-07-1997	15-23
s128-17	Porto das Lajes - Flores	11-07-1997	0-9
s128-19	Porto das Lajes - Flores	11-07-1997	0-9
s130-34	Porto da Casa - Corvo	12-07-1997	0-12
s131-12	Porto da Casa - Corvo	12-07-1997	0-15
s134-14	Baixa dos Morros - Flores	13-07-1997	10-35
s135-26	Baixa do Moldinho - Corvo	14-07-1997	0-33
s136-26	Moldinho - Corvo	14-07-1997	7-31
s137-18	Porto da Casa - Corvo	14-07-1997	0-12
s137-33	Porto da Casa - Corvo	14-07-1997	0-12
s138-30	Porto da Casa - Corvo	14-07-97	0-10
s139-02	Porto da Casa - Corvo	14-07-1997	0-10
s139-06	Porto da Casa - Corvo	14-07-1997	0-10
s139-14	Porto da Casa - Corvo	14-07-1997	0-10
s139-19	Porto da Casa - Corvo	14-07-1997	0-10
s140-16	Ilhéu Alagado - Flores	16-07-1997	5-20
s140-25	Ilhéu Alagado - Flores	16-07-1997	5-20
s142-32	Moldinho - Corvo	15-07-1997	7-27
s147-27	Santa Cruz - Flores	18-07-1997	6-46
s147-30	? - Flores	18-07-1997	6-46
s150-15	Moledo - Flores	18-07-1997	
s186-28	Porto da Casa - Corvo	09-08-1997	0-12
s187-14	Porto do Boqueirão - Corvo	10-08-1997	10-42
s195-11	Porto do Boqueirão - Corvo	19-08-1997	10-33
s283-08	? - Corvo	?-08-1997	?

TABLE 3. Molluscs Reference Collection of the Department of Oceanography and Fisheries of the University of the Azores (DOP/ML), island, location of the sampling sites, date of the samples and depth (m). PIX – Pico island; FAI – Faial island.

DOP/ML	Island	Site	Date	Depth (m)
0003	FAI	Praia do Almoxarife	19-07-89	?
0003	FAI	Praia do Almoxarife	19-07-89	?
0008	FAI	Feteira	17-07-89	?
0010	FAI	Porto de Alcaide	28-01-78	?
0011	FAI	Porto de Alcaide	28-01-79	?
0012	FAI	Praia do Almoxarife	19-05-78	0
0013	FAI	Feteira	29-06-83	0
0015	FAI	Caldeirinhas	?-07-89	?
0016	FAI	Caldeira do Inferno	28-10-79	4
0017	FAI	Monte da Guia	?	10
0018	FAI	?	11-05-93	?
0019	FAI	?	?	?
0020	FAI	Monte da Guia	?-?-89	?
0022	FAI	Porto da Horta	21-11-89	?
0023	FAI	Monte da Guia	05-10-95	20
0024	FAI	Monte da Guia	24-08-96	40
0025	FAI	Porto da Horta	?-01-91	9
0026	PIX-FAI	Canal Pico-Faial	?	?
0030	PIX-FAI	Canal Pico-Faial	05-04-79	100
0031	FAI	Marina Horta	22-01-97	?