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MEDITERRANEAN OPISTHBRANCH MOLLUSCS: A
ZOOGEOGRAPHIC APPROACH***

Riassunto

La zoogeografia dei Molluschi Opisthobranchi mediterranei è ancora assai poco conosciuta. Questa fauna, con oltre 400 specie, appare il complesso risultato di successive colonizzazioni avvenute in differenti periodi climatici.

I taxa più importanti sono i Doridina (126 specie), i Bullomorpha (89) e gli Aeolidiina (71). Le famiglie più importanti, ciascuna con almeno 10 specie, sono i Retusidae, Atyidae, Philinidae, Hermaeidae, Polyceridae, Goniodorididae, Chromodorididae, Discodorididae, Dotidae, Facelinidae and Tergipedidae. Queste famiglie abbracciano solo il 40% dell'intera fauna dei molluschi opisthobranchi del Mediterraneo.

Lo studio zoogeografico, condotto anche con l'analisi delle corrispondenze, rivela che gli endemismi mediterranei (110 specie) sono la categoria più importante, seguita da vicino da quelle Atlantico-Mediterranea e Boreale con 96 specie ciascuna. 27 specie presentano un'affinità Atlantico subtropicale, mentre 14 specie tendono ad avere una distribuzione Circum-tropicale. Alcuni generi presenti in Mediterraneo (*Chelidonura*, *Petalifera*, *Kaloplocamus*, *Madrella*) possono considerarsi relitti della Tetide. Questi non debbono essere confusi con i recenti migranti lessepsiani, come *Melibe fimbriata*, *Hypselodoris infucata* ecc.

Altri opisthobranchi ad affinità Indopacifica tuttavia, come *Bursatella leachi* e *Discodoris fragilis*, potrebbero essere entrati nel Mediterraneo non attraverso il Canale di Suez, ma via Capo di Buona Speranza, dallo Stretto di Gibilterra.

Summary

The opisthobranch fauna of the Mediterranean Sea consists of approximately 400 species in 72 families, and is an amalgam of different colonizations which happened in different climatic periods. The most important major groups are the Doridina (126 species), Bullomorpha (89) and Aeolidiina (71). The most important families, each with at least 10 species, are Retusidae, Atyidae, Philinidae, Hermaeidae, Polyceridae, Goniodorididae, Chromodorididae, Discodorididae, Dotidae, Facelinidae and Tergipedidae.

These families hold 40% of the entire opisthobranch fauna of the Mediterranean.

Zoogeographic analyses revealed that the largest opisthobranch category was Mediterranean endemic (110 species), followed by Atlantic-Mediterranean (96) and Boreal (96). 27 species had a Subtropical Atlantic affinity, compared with 14 species having a Circumtropical affinity. A number of genera present in Mediterranean (*Chelidonura*, *Petalifera*, *Kaloplocamus*, *Madrella*) are relics of the early tethyan fauna. These should not be confused with recent Lessepsian immigrants from the Red Sea, such as *Melibe fimbriata*, *Hypselodoris infucata* and others. Certain other Indo-Pacific opisthobranchs, such as *Bursatella leachi* and *Discodoris fragilis*, may have entered the Mediterranean in recent times, not through the Suez Canal, but via the Cape of Good Hope, the tropical eastern Atlantic and the Gibraltar Strait.

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Introduction

The Mediterranean Sea is an important area for zoogeographic study because of its connection with the Atlantic Ocean, its recent union with the Red Sea, its relative isolation and because of the complex geological, climatic and ecological changes which have occurred during its history.

Moreover the Mediterranean presents features which are significantly different from other seas placed in the same latitudes (30°-45° N), such as higher water temperature in the Mediterranean winter, and higher salinity year-round.

The zoogeography of the opisthobranchs of the Mediterranean has been neglected compared with that of the northwest Atlantic (FRANZ, 1970; 1975), the northeast Atlantic (LEMICHE, 1938) or southern Africa (GOSLINER, 1987).

Good taxonomy is basic to successful zoogeographical comparison, and much progress has been made, building on the encyclopaedic *Faune de France* volume of PRUVOT-FOL (1954). As table 1 shows, the number of species recorded from the Mediterranean area since 1954 has increased by 90%, according to recent check-lists (BRUSCHI *et al.*, 1985, CATTANEO & BARLETTA, 1984; CERVERA *et al.*, 1988; TEMPLADO *et al.*, in press).

An appendix to the present paper gives an up-to-date check-list, based upon the published literature and our own expeditions.

Table 1. Mediterranean Opisthobranchia: recent growth in number of species recorded.

PF: number of species according to PRUVOT-FOL (1954) (excluding «incertae sedis»).

PP: number of species according to the present paper

	PF	PP	% increase
Bullomorpha (= Cephalaspidea)	46	89	93.4
Aplysiomorpha	6	13	116.0
Runcinacea	2	8	300.0
Acochlidia	6	10	66.6
Philinoglossacea	1	4	300.0
Pleurobranchomorpha (= Notaspidea)	12	13	8.3
Sacoglossa (= Ascoglossa)	22	32	45.4
Doridina			
Anadoridoidea	14	32	128.0
Eudoridoidea	35	67	91.4
Polyceratoidea	6	12	100.0
Porodoridoidea	11	15	36.3
Dendronotina	18	33	83.3
Arminina	8	10	25.0
Aeolidiina	28	71	153.0
Opisthobranchia	215	409	90.2

Material and methods

The bulk of data have been abstracted from key papers (PRUVOT-FOL, 1954; THOMPSON, 1976; MARCUS, 1977; BARASH & DANIN, 1982; SCHMEKEL & PORTMANN, 1982; THOMPSON & BROWN, 1984; BRUSCHI *et al.*, 1985; CATTANEO & BARLETTA, 1984; HOISAETER, 1986; EDMUNDS, 1977; CERVERA, *et al.*, THOMPSON, 1988; TEMPLADO *et al.* in press).

Each species listed in the Appendix was placed in a zoogeographic category. The categories were defined so as to be mutually exclusive. The data were processed using correspondence analysis (BENZECRI *et al.*, 1973).

The terminology and boundaries of the geographic areas were defined as follows (adapted from BRIGGS, 1974; FREDJ, 1974 and VERMEIJ, 1980):

- E** - Mediterranean sub-province, including Gibraltar and the Gulf of Cadiz,
- AM** - Atlantic-Mediterranean Region, from Cape Verde Islands to the Channel, including Mediterranean and Black Seas.
- B** - Boreal region,
- AT** - Subtropical Atlantic region,
- IP** - Indo-Pacific region,
- CT** - Circumtropical region,
- C** - Cosmopolitan (present in at least two oceans, and having a wide latitudinal distribution).
- ?** - Doubtful species, recorded only once in the Mediterranean Sea. These have not been included in the analyses.

At the present time there are insufficient data to permit a useful comparison between different sub-areas of the Mediterranean (Alboran, Adriatic, Tyrrhenian, Aegean, Black Seas etc.).

Results

To date, approximately 400 valid species of benthic opisthobranch molluscs (i.e., excluding the gymnosome and thecosome «pteropods») have been recorded from the Mediterranean Sea (see Appendix). The most important subgroups are the Doridina (126 species), Bullomorpha (= Cephalaspidea) (89 species) and Aeolidiina (71 species). About 30 species belong to the Dendronotina and a similar number to the Sacoglossa.

The Aplysiomorpha, Arminina and Pleurobranchomorpha (= Notaspidea) present few species (about 10 in each), while Runcinacea and Acochliacea are too little known to be useful in zoogeographical considerations.

Table 2 presents an analysis of the taxa.

The largest category is Mediterranean endemic (110 species, > 26%), followed by Atlantic-Mediterranean (96 species, > 23%), and Boreal (96 > 23%). This last category embraces also those Arctic species whose presence in the Mediterranean has been claimed but remains unconfirmed: *Ancula gibbosa*, *Adalaria proxima*, *Acanthodoris pilosa*, *Cadlina laevis*.

Tab. 2 Mediterranean Opisthobranchs: presence of species in zoogeographic categories.

	Tot	E	AM	B	AT	CT	IP	C	?
Bullomorpha	89	24	19	27	7	0	3	1	8
Aplysiomorpha	13	1	2	2	0	4	3	0	1
Runcinacea	8	4	2	2	0	0	0	0	0
Acochliidae	10	5	2	1	1	0	0	0	1
Philinoglossacea	4	0	0	3	0	0	0	0	1
Sacoglossa	32	11	9	3	4	1	1	1	2
Pleurobranchomorpha	13	1	3	2	2	3	1	0	1
Anadoridoidea	32	6	9	11	1	0	2	1	2
Eudoridoidea	67	18	27	7	2	1	3	0	9
Polyceratoidea	12	4	0	4	2	2	0	0	0
Porodoridoidea	15	2	7	0	1	0	1	0	4
Dendronotina	33	10	5	8	3	1	1	1	4
Arminina	10	2	3	2	0	0	1	0	2
Aeolidiina	71	22	8	24	4	2	1	2	8
OPISTHOBRANCHIA	409	110	96	96	27	14	17	6	43

Percent value of zoogeographic categories.

	E	AM	B	AT	CT	IP	C	?
Bullomorpha	27.0	21.3	30.3	7.9	0.0	3.4	1.1	9.0
Aplysiomorpha	7.7	15.4	15.4	0.0	30.8	23.1	0.0	7.7
Runcinacea	50.0	25.0	25.0	0.0	0.0	0.0	0.0	0.0
Acochliidae	50.0	20.0	10.0	10.0	0.0	0.0	0.0	10.0
Philinoglossacea	0.0	0.0	75.0	0.0	0.0	0.0	0.0	25.0
Sacoglossa	34.4	28.1	9.4	12.5	3.1	3.1	3.1	6.3
Pleurobranchomorpha	7.7	23.1	15.4	15.4	23.1	7.7	0.0	7.7
Anadoridoidea	18.8	28.1	34.3	3.1	0.0	6.3	3.1	6.3
Eudoridoidea	26.9	40.3	10.4	3.0	1.5	4.5	0.0	13.4
Polyceratoidea	33.3	0.0	33.3	16.7	16.7	0.0	0.0	0.0
Porodoridoidea	13.3	46.7	0.0	6.7	0.0	6.7	0.0	26.7
Dendronotina	30.3	15.2	24.2	9.1	3.0	3.0	3.0	12.1
Arminina	20.0	30.0	20.0	0.0	0.0	10.0	0.0	20.0
Aeolidiina	31.0	11.3	33.8	5.6	2.8	1.4	2.8	11.3
OPISTHOBRANCHIA	26.9	23.5	23.5	6.6	3.4	4.2	1.5	10.5

The table includes 27 species (> 6%) with a subtropical Atlantic affinity, compared with 14 species (> 3%) having a Circumtropical affinity. Only 17 species (4.2%) present an Indo-Pacific affinity and a mere 6 species (1.5%) can be considered cosmopolitan.

There is an urgent need for more faunistic recording in the Mediterranean, because the list contains a significantly large number of doubtful species (approximately 10%) recorded no more than once.

Fig. 1 gives the results of a correspondence analysis based upon orders or suborders, expressing the number % of species belonging to each zoogeographic category. The smallest taxa (Runcinacea, Acochliidae, Philinoglossacea) are omitted from consideration.

This shows a number of interesting features:

1. Mediterranean pleurobranchomorphs and aplysiomorphs have a distinct Circum-tropical and Indo-Pacific affinity.
2. Porodorids, arminaceans and eudorids are predominantly Atlantic-Mediterranean components.
3. Polycerids and eolids show a strong Boreal affinity.
4. Within the bullomorphs, pseudodorids and dendronotaceans some genera (*Philine*, *Diaphana*, *Okenia*, *Tritonia* and *Doto*) are associated with cool waters, whereas others (*Bulla*, *Haminoea*, *Trapania*, *Aegires*, *Marionia* and *Tethys*) are linked to warmer waters.
5. Many sacoglossans fall into the Mediterranean- endemic category; a few (*Elysia* and *Hermaea*) are linked to warm waters.
6. There was no positive correlation between the Cosmopolitan and Tropical Atlantic categories and any particular super-specific taxa.

Fig. 2 expresses the correspondence analysis applied to families of opisthobranch molluscs.

General speaking, the relationships are less clear than in Fig. 1. We can, however, distinguish two major groupings of families, with cool water and warm water affinity, respectively.

Certain other trends can be recognized:

1. The families Philinidae, Retusidae, Dotidae, Tritoniidae, Facelinidae and Eubranthidae exhibit good Boreal affinity, whereas the Hermaeidae, Pleurobranchidae, Chromodorididae and Discodorididae show more affinity to the Atlantic-Mediterranean group.
2. The Bullidae and certain families of sacoglossans (Bosellidae and Polybranchiidae) have affinity with the Subtropical Atlantic area, while Dolabriferidae, Dendrodorididae and Tethyidae have their roots in the Indo-Pacific.
3. The Elysiidae, Aplysiidae and Phylliroidae are Circumtropical families.

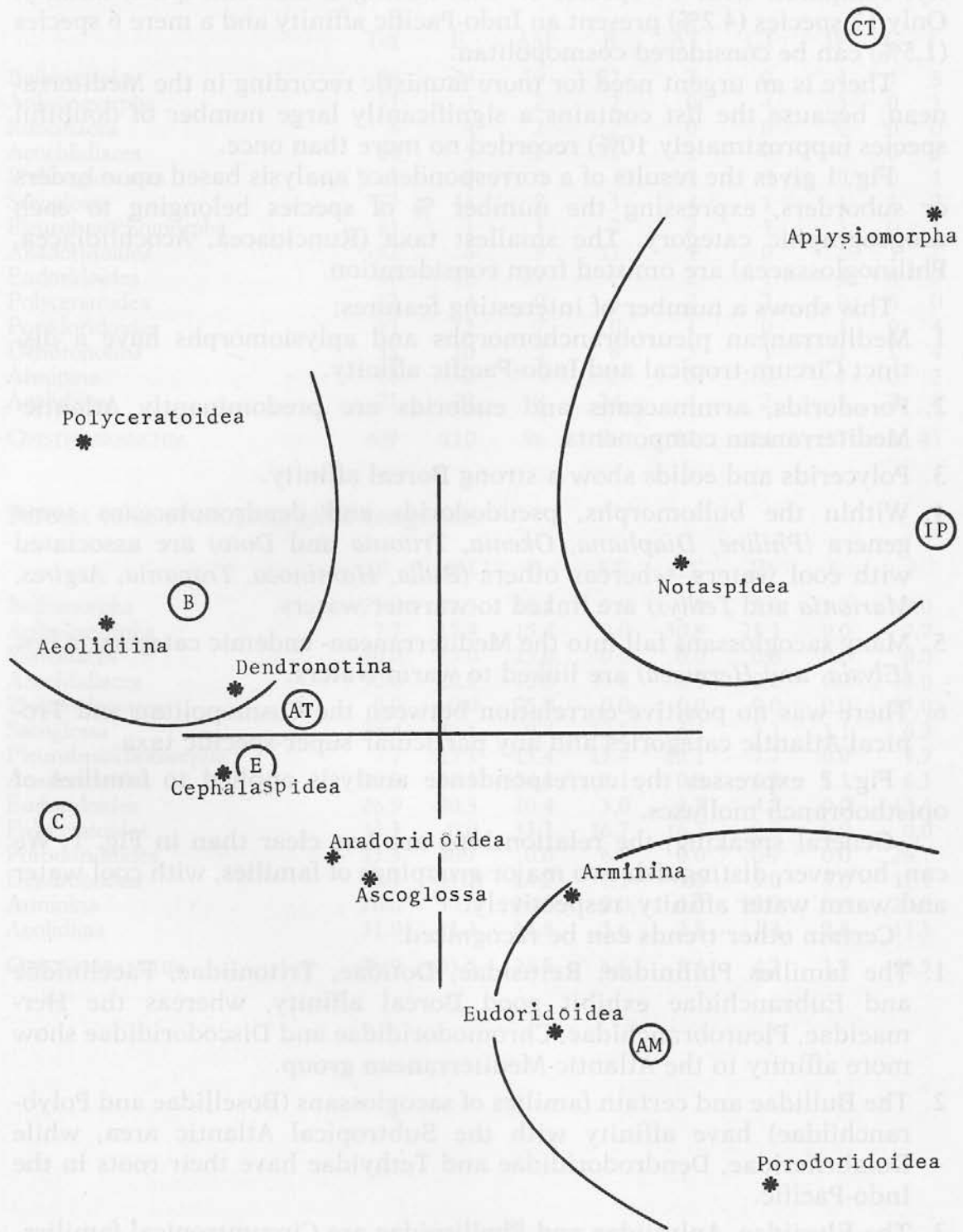


Fig. 1. Diagram showing ordination models obtained using correspondence analysis between zoogeographical categories and Mediterranean opisthobranch order or suborder. The data employed were number % of species belonging to each zoogeographic category. Certain small taxa were omitted.

Variance percentages yielded by x: 41.0%
 Variance percentages yielded by y: 36.6%

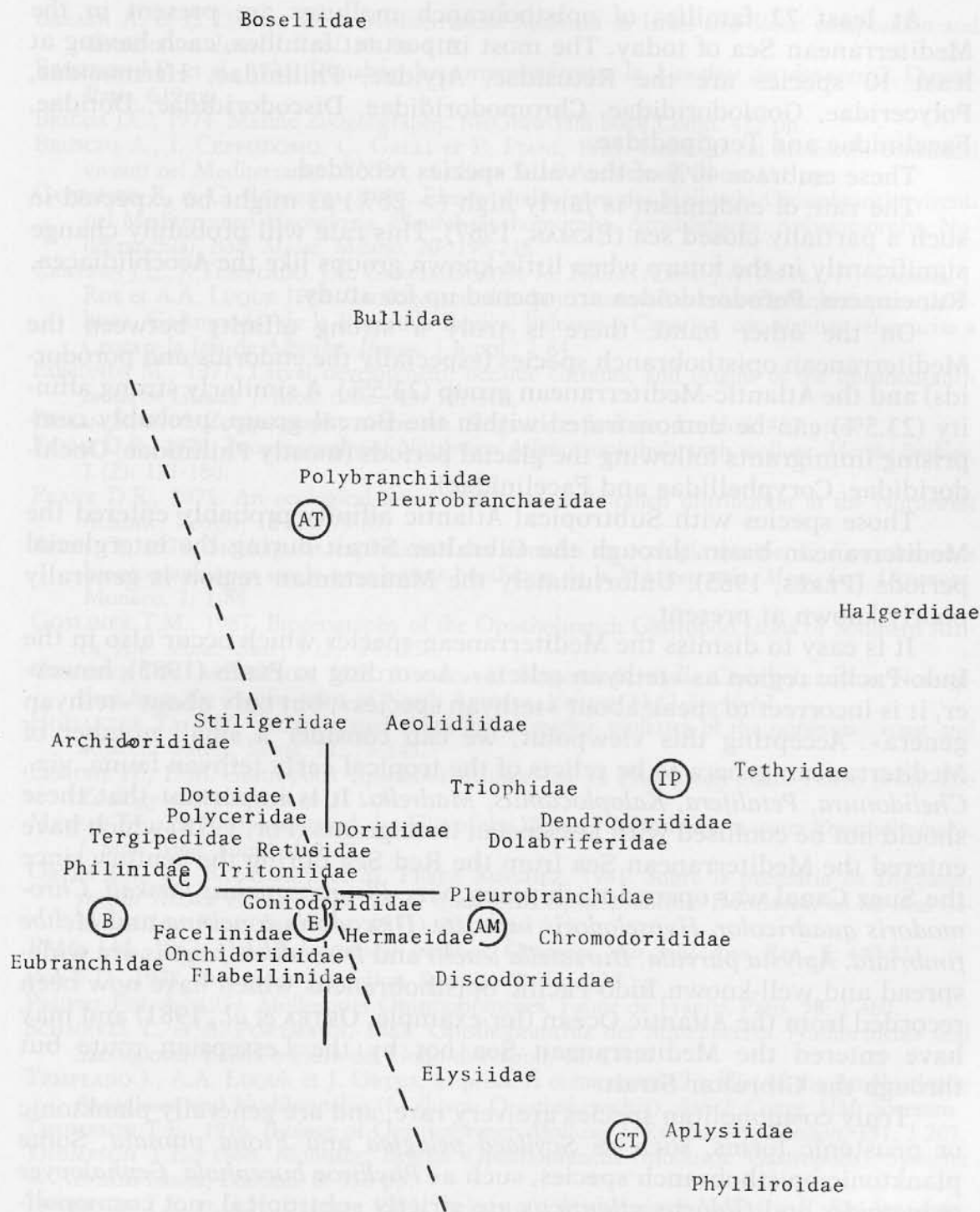


Fig. 2. Diagram showing ordination models obtained using correspondence analysis between zoogeographical categories and Mediterranean opisthobranch families. Certain small families were omitted. The dashed line divides the «cold» from the «warm» affinity families.

Variance percentages yielded by x: 25.5%
 Variance percentages yielded by y: 13.6%

Discussion

At least 72 families of opisthobranch molluscs are present in the Mediterranean Sea of today. The most important families, each having at least 10 species are the Retusidae, Atyidae, Philinidae, Hermaeidae, Polyceridae, Goniodorididae, Chromodorididae, Discodorididae, Dotidae, Facelinidae and Tergipedidae.

These embrace 40% of the valid species recorded.

The rate of endemism is fairly high (> 26%) as might be expected in such a partially closed sea (EKMAN, 1967). This rate will probably change significantly in the future when little-known groups like the Acochliidae, Runcinacea, Porodoridoidea are opened up for study.

On the other hand, there is truly a strong affinity between the Mediterranean opisthobranch species (especially the eudorids and porodorids) and the Atlantic-Mediterranean group (23.5%). A similarly strong affinity (23.5%) can be demonstrated within the Boreal group, probably comprising immigrants following the glacial periods (mostly Philinidae, Onchidorididae, Coryphellidae and Facelinidae).

Those species with Subtropical Atlantic affinity probably entered the Mediterranean basin through the Gibraltar Strait during the interglacial periods (PÉRÈS, 1985). Unfortunately the Mauretanian region is generally poorly known at present.

It is easy to dismiss the Mediterranean species which occur also in the Indo-Pacific region as «tethyan relicts». According to PÉRÈS (1985), however, it is incorrect to speak about «tethyan species», but only about «tethyan genera». Accepting this viewpoint, we can consider a small number of Mediterranean genera to be relicts of the tropical early tethyan fauna, viz., *Chelidonura*, *Petalifera*, *Kaloplocamus*, *Madrella*. It is important that these should not be confused with Lessepsian immigrants (Por, 1978) which have entered the Mediterranean Sea from the Red Sea during the century since the Suez Canal was opened to shipping, viz., *Pleurobranchus forskali*, *Chromodoris quadricolor*, *Hypselodoris infucata*, *Discodoris concinna* and *Melibe fimbriata*. *Aplysia parvula*, *Bursatella leachi* and *Discodoris fragilis* are widespread and well-known Indo-Pacific opisthobranchs which have now been recorded from the Atlantic Ocean (for example, ORTEA *et al.*, 1981) and may have entered the Mediterranean Sea not by the Lessepsian route but through the Gibraltar Strait.

Truly cosmopolitan species are very rare, and are generally planktonic or neustonic forms, such as *Scyllaea pelagica* and *Fiona pinnata*. Some planktonic opisthobranch species, such as *Phylliroe bucephala*, *Cephalopyge trematoides* and *Glaucus atlanticus* are strictly subtropical, not cosmopolitan. A similar stricture applies to the benthic *Berthella stellata* (GOSLINER & BERTSCH, 1988).

BIBLIOGRAPHY

- BARASH A. et Z. DANIN, 1982. Mediterranean Mollusca of Israel and Sinai: composition and distribution. *Israel J. Zool.* **31**: 86-118.
- BENZECRI J.P. et al., 1973. L'analyse des correspondences. In *L'analyse des données*. 2. Dunod, Paris, 619 pp.
- BRIGGS J.C., 1974. Marine Zoogeography. McGraw-Hill book Comp. 475 pp.
- BRUSCHI A., I. CEPPODOMO, C. GALLI et P. PIANI, 1985. Catalogo dei Molluschi conchiferi viventi nel Mediterraneo. ENEA - Collana Studi Ambientali, Roma 111 pp.
- CATTANEO R. et G. BARLETTA, 1984. Elenco preliminare dei Molluschi Opisthobranchi viventi nel Mediterraneo (Sacoglossa, Pleurobranchomorpha, Acochliidae, Aplysiomorpha, Nudibranchia). *Boll. Malac.* Milano, **20**: 195-218.
- CERVERA J.L., J. TEMPLADO, J.C. GARCIA-GOMEZ, M. BALLESTEROS, J.A. ORTEA, F.J. GARCIA, J. ROS et A.A. LUQUE 1988. Catalogo actualizado y comentado de los Opisthobranchios (Mollusca, Gastropoda) de la Peninsula Iberica, Baleares y Canarias, con algunas referencias a Ceuta y la Isla de Alboran. *Iberus*, 1 suppl.: 1-84.
- EDMUNDS M., 1977. Larval development, oceanic currents, and origins of the opisthobranch fauna of Ghana. *J. Moll. Stud.*, **43**: 301-308.
- EKMANN S., 1967. Zoogeography of the sea. Sidgwick et Jackson, London. 417 pp.
- FRANZ D.R., 1970. Zoogeography of Northwest Atlantic opisthobranch mollusc. *Marine Biology*, **7** (2): 171-180.
- FRANZ D.R., 1975. An ecological interpretation of nudibranch distribution in the Northwest Atlantic. *Veliger*, **18** (1): 79-83.
- FREDJ G., 1974. Stockage et exploitation des données en écologie marine. C. Considerations biogéographiques sur le peuplement benthique de la Méditerranée. *Mem. Inst. Oceanogr.* Monaco, **7**: 1-88.
- GOSLINER T.M., 1987. Biogeography of the Opisthobranch Gastropod fauna of Southern Africa. *Am. Malac. Bull.*, **5** (2): 243-258.
- GOSLINER T.M. & BERTSCH, 1988. A review of the genus *Berthella* (Opisthobranchia: Notaspidea) from the Pacific coast of North America. *Veliger*, **31** (1-2): 46-67.
- HOISAETER T., 1986. An annotated check-list of marine molluscs of the norwegian coast and adjacent waters. *Sarsia*, **71**: 73-145.
- LEMICHE H., 1938. Gastropoda Opisthobranchiata - In: A. Frioriksson e S.L. Tuxen (Eds). The Zoology of Iceland, **4** (61): 1-54.
- MARCUS Ev., 1977. An annotated checklist of the Western Atlantic warm water Opisthobranchs. *J. Moll. Stud.* Suppl. **4**: 1-22.
- ORTEA J.A., J.J. BACALLADO et M. PEREZ SANCHEZ, 1981. Sobre la presencia de *Discodoris fragilis* ALDER et HANCOCK (1864) (Mollusca: Opisthobranchia: Doridacea) en las islas Canarias. *Inv. Pesq., Barcelona*, **45** (1): 231-236.
- PÉRÈS J.M., 1967. The Mediterranean benthos. *Oceanogr. mar. biol. Ann. Rev.*, **5**: 449-533.
- POR F.D., 1978. Lessepsian Migration. Springer-Verlag. 228 pp.
- PRUVOT-FOL A., 1954. Mollusques Opisthobranches. Faune de France, Paris, **58**: 1-460.
- SCHMEKEL L. et A. PORTMANN, 1982. Opisthobranchia des Mittelmeeres. Nudibranchia und Saccoglossa. Fauna e Flora del Golfo di Napoli, **40**: 1-410.
- TEMPLADO J., A.A. LUQUE et J. ORTEA, in press. A commented Checklist of the Amphiatlantic Ascoglossa and Nudibranchia (Mollusca: Opisthobranchia). *Atti 2° Congr. SIM*, Sorrento.
- THOMPSON T.E., 1976. Biology of Opisthobranch Mollusc. *I. Ray Society*, London, **151**: 1-207.
- THOMPSON T.E., 1988. Molluscs: Benthic Opisthobranchs (Mollusca: Gastropoda). *Synopses British Fauna*, London, **8**: 356 pp.
- THOMPSON T.E. et G.H. BROWN, 1984. Biology of Opisthobranch Molluscs. *II. Ray Soc.*, London, **156**: 1-229.
- VERMEIJ G.J., 1980. Biogeography and adaptation. Patterns of marine life. Harvard Univ. Press., Cambridge, Massachusetts. 332 pp.

APPENDIX - CHECK LIST OF THE MEDITERRANEAN OPISTHOBRANCHS

On left column, the zoogeographic category for each species is reported.

E: endemic Mediterranean; **AM:** Atlantic-Mediterranean region; **B:** Boreal region; **AT:** Subtropical Atlantic region; **IP:** Indo-Pacific region; **CT:** Circumtropical region; **C:** Cosmopolitan species; **??:** doubtful species

Ordo **BULLOMORPHA** (= **CEPHALASPIDEA**)

Familia **Acteonidae** D'ORBIGNY, 1835

- B *Acteon tornatilis* (L. 1758) [*Voluta*]
 ? = *A. luteo-fasciatus* (MUEHLFELDT, 1829) [*Voluta*]
 E *Acteon monterosatoi* DAUTZENBERG, 1889
 E *Bullinopersilia sphaeroides* NORDSIECK, 1972
 AT *Crenilabium exile* (FORBES in JEFFREYS, 1870) [*Acteon*]
 AM *Japonacteon pusillus* (FORBES, 1844) [*Acteon*]
 AM *Liocarenus globulinus* (FORBES, 1844) [*Tornatella*]
 E *Pupa candidula* (MONTEROSATO, 1923) [*Acteon*]

Familia **Diaphanidae** ODHNER, 1914

- B *Diaphana minuta* BROWN, 1827
 E *Diaphana cretica* (FORBES, 1844) [*Bulla*]
 B *Diaphana expansa* (JEFFREYS, 1864) [*Amphispyra*]
 ? *Diaphana ventrosa* (JEFFREYS, 1867)
 E *Diaphana quadrata* (MONTEROSATO, 1874) [*Amphispyra*]
 B *Diaphana lactea* (JEFFREYS, 1877) [*Utriculo*]
 = *D. jonica* DI GERONIMO, 1974
 AM *Colobocephalus striatulus* (MONTEROSATO, 1874)

Familia **Retusidae** THIELE, 1926

- B *Retusa truncatula* (BRUGUIÈRE, 1792) [*Bulla*]
 B *Retusa obtusa* (MONTAGU, 1803) [*Bulla*]
 B *Retusa umbilicata* (MONTAGU, 1803) [*Bulla*]
 = *Cylichnina subcylindrica* (BROWN, 1844)
 = *Cylichnina nitidula* (LOVEN, 1846) [*Cylichna*]
 IP *Retusa fourierii* (AUDOUIN, 1826) [*Bulla*]
 AM *Retusa semisulcata* (PHILIPPI, 1836)
 AT *Retusa leptoeleinema* (BRUSINA, 1866) [*Cylichna*]
 B *Retusa pellucida* G.O. SARS, 1878
 E *Retusa piriformis* (MONTEROSATO, 1878)
 AM *Retusa truncatella* (LOCARD, 1883)
 ? *Retusa candidula* (LOCARD, 1892)
 B *Rhizorus acuminatus* BRUGUIÈRE, 1792
 IP *Cylichnina girardi* (AUDOUIN, 1826) [*Bulla*]
 E *Cylichnina laevisculpta* (GRANATA, 1877) [*Cylichna*]
 E *Cylichnina crebrisculpta* (MONTEROSATO, 1844)
 ? *Cylichnina multiquadrata* (OBERLING, 1970)
 B *Mamilloretusa mamillata* (PHILIPPI, 1836) [*Bulla*]
 B *Pyrunculus ovatus* (JEFFREYS, 1871)
 E *Pyrunculus minutissimus* (MONTEROSATO, 1878)

Familia **Ringiculidae** PHILIPPI, 1853

- AM *Ringicula auriculata* (MÉNARD de la GROYE, 1811)
= *R. terquemi* MORLET, 1882
- B *Ringicula buccinea* (BROCCHI, 1814) [*Voluta*]
- B *Ringicula* (*Ringiculina*) *nitida* VERRILL, 1873
= *R. leptocheila* BRUGNONE, 1873
= *R. pulchella* JEFFREYS in MORLET, 1880
- AM *Ringicula conformis* MONTEROSATO, 1877
? = *R. minutula* LOCARD, 1897
= *R. admirabilis* MORLET, 1882
= *R. barashi* DI GERONIMO, 1975
= *R. schlumbergeri* MORLET, 1882
- ? *Ringicula abyssorum* MORLET, 1882
- ? *Ringicula* (*Ringiculina*) *blanchardi* DAUTZENBERG & H. FISCHER, 1896

Familia **Bullidae** LAMARCK, 1801

- AT *Bulla striata* BRUGUIÈRE, 1789
- AT *Bulla amygdala* DILLWYN, 1817
- AM *Bulla pinguicola* G. SEGUENZA, 1879
- ? *Bulla roperiana* PILSBRY, 1893
= *B. subrotunda* JEFFREYS, 1873

Familia **Haminocidae** PILSBRY, 1895

- AM *Haminoea hydatis* (L. 1758) [*Bulla*]
? = *Haminoea elegans* LEACH, 1852
? = *H. cymoelium* MONTEROSATO, 1923
- AM *Haminoea navicula* (COSTA, 1778) [*Bulla*]
- AT *Haminoea orbignyana* (FERUSSAC, 1822)
- E *Haminoea ortei* TALAVERA, MURILLO & TEMPLADO, 1987
- E *Atys blainvilliana* (RÉCLUZ, 1843) [*Bulla*]
- E *Atys brocchii* (MICHELOTTI, 1847) [*Bulla*]
- E *Atys jeffreysi* (WEINKAUFF, 1866) [*Cylichna*]
- E *Atys globulinus* NORDSIECK, 1972
- E *Smaragdinella algirae* (HANLEY, 1856)
- AM *Weinkauffia semistriata* (RÉQUIEN, 1848) [*Bulla*]
= *W. diaphana* (ARADAS & MAGGIORE, 1839) non MONTAGU, 1803
- AM *Weinkauffia turgidula* (FORBES, 1844) [*Bulla*]

Familia **Philinidae** ASCANIUS, 1772

- C *Philine aperta* (L., 1767) [*Bulla*]
= *P. quadripartita* ASCANIUS, 1772
- B *Philine scabra* (MUELLER, 1776) [*Bulla*]
- B *Philine denticulata* (J. ADAMS, 1800) [*Bulla*]
= *P. nitida* JEFFREYS, 1867
- B *Philine punctata* (J. ADAMS, 1800) [*Bulla*]
- B *Philine catena* (MONTAGU, 1803) [*Bulla*]
- B *Philine lima* (BROWN, 1827) [*Utriculus*]
- AT *Philine quadrata* (S. WOOD, 1839) [*Bulla*]
- E *Philine intricata* MONTEROSATO, 1875)
- AM *Philine monterosatoi* (VAYSSIÈRE, 1885)
- B *Philinorbis sinuata* (STIMPSON, 1851)
- B *Philinorbis angulata* (JEFFREYS, 1867) [*Ossiania*]
- E *Philinorbis vitrea* (MONTEROSATO, 1875) [*Philine*]
- E *Johania retifera* (FORBES, 1844) [*Bulla*]
= *Bulla vestita* PHILIPPI, 1844
- B *Laona flexuosa* M. SARS, 1870
= *L. membranacea* MONTEROSATO, 1880
- B *Laona pruinosa* (CLARK, 1827) [*Bullaea*]
? = *Philine flexuosa* SARS

Familia **Doridiidae** GRAY, 1847 = **Aglajidae**, RENIER, 1807

- E *Philinopsis depicta* (RENIER, 1807) [*Aglaja*]
= *D. depictum* (RENIER, 1807)
= *D. carnosum* (CUVIER, 1810)
? *Aglaja berrieri* (DIEUZEIDE, 1935) [*Doridium*]
E *Aglaja coriacea* (MECKEL, 1809)
E *Aglaja membranacea* (MECKEL, 1809) [*Doridium*]
= *A. tricolorata* RENIER, 1807 (non val. op. 316, ICZ, 1954)
AT *Aglaja taila* (MARCUS & MARCUS, 1966) [*Doridium*]
E *Melanochlamys seurati* (VAYSSIERE, 1926) [*Doridium*]
IP *Chelidonura fulvipunctata* BABA, 1938
= *C. mediterranea* SWENNEN, 1961
E *Chelidonura italica* SORDI, 1980
= *C. africana*: SORDI, 1976

Familia **Gastropteridae** SWAINSON, 1840

- AM *Gastropterion meckeli* KOSSE, 1813

Familia **Cylichnidae** H. & A. ADAMS, 1854

- B *Cylichna cylindracea* (PENNANT, 1777) [*Bulla*]
B *Cylichna alba* (BROWN, 1827) [*Volvaria*]
AM *Cylichna striatula* (FORBES, 1844)
E *Cylichna parvula* JEFFREYS, 1883
AM *Cylichna crossei* (B.D.D., 1886)
? *Cylichna propeocylindracea* (DE GREGORIO, 1890)

Familia **Scaphandridae** G.O. SARS, 1878

- B *Scaphander lignarius* (L., 1758) [*Bulla*]
B *Scaphander punctostriatus* (MIGHELS & ADAMS, 1841) [*Bulla*]
AM *Scaphander gracilis* WATSON, 1886
B *Roxania utriculus* (BROCCHI, 1814) [*Bulla*]
AM *Roxania semilaevis* (G. SEGUENZA, 1880)
AM *Roxania monterosatoi* (DAUTZENBERG & H. FISCHER, 1896)

Ordo **PHILINOGLOSSACEA**

Fam. **Philinoglossidae** HERTLING, 1932

- B *Philinoglossa helgolandica* HERTLING, 1932
B *Philinoglossa remanei* MARCUS & MARCUS, 1958
B *Philinoglossa praelongata* SALVINI-PLAWEN, 1973
? *Abavopsis latosoleata* SALVINI-PLAWEN, 1973

Ordo **APLYSIOMORPHA** PELSENEER, 1906

Familia **Akeridae** ODHNER, 1922

- B *Akera bullata* MUELLER, 1776

Familia **Aplysiidae** LAMARCK, 1809

- AM *Aplysia (Aplysia) depilans* GMELIN in L., 1791
CT *Aplysia (Aplysia) juliana* QUOY & GAIMARD, 1832
CT *Aplysia (Pruvotaplysia) parvula* GUILDING in MÖRCH, 1863
B *Aplysia (Pruvotaplysia) punctata* CUVIER, 1803
CT *Aplysia (Varria) fasciata* POIRET, 1789
CT *Bursatella leachi leachi* BLAINVILLE, 1817
= *B. leachi savignyana* AUDOUIN, 1826

Familia **Dolabriferidae** PILSBRY, 1895

- ? *Dolabrifera holboelli* BERGH, 1872
E *Petalifera petalifera* (RANG, 1828) [*Aplysia*]
= *Aplysiella virescens* (RISSO, 1818) [*Aplysia*]
IP *Petalifera gravieri* (VAYSSIÈRE, 1906) [*Aplysiella*]
AM *Phyllaplysia depressa* (CANTRAINED, 1835) [*Aplysia*]
= *P. lafonti* (P. FISCHER, 1870) [*Dolabrifera*]
= *P. paulini* MAZZARELLI, 1895
IP *Notarchus punctatus* PHILIPPI, 1836
IP *Notarchus indicus* SCHWEIGGER, 1820

Ordo **RUNCINACEA** ODHNER, 1958

Familia **Runcinidae** H. & A. ADAMS, 1854

- B *Runcina coronata* (QUATREFAGES, 1844) [*Pelta*]
= *R. hancocki* FORBES in FORBES & HANLEY, 1850
= *R. calaritana* COLOSI, 1915
E *Runcina capreensis* (MAZZARELLI, 1894) [*Pelta*]
B *Runcina ferruginea* KRESS, 1977
AM *Runcina africana* PRUVOT-FOL, 1953
E *Runcina adriatica* THOMPSON, 1980
E *Runcina brenkoeae* THOMPSON, 1980
E *Runcina zavodniki* THOMPSON, 1980
AM *Runcina aurata* GARCIA-GOMEZ, LÒPEZ, LUQUE & CERVERA, 1986

Ordo **PLEUROBRANCHOMORPHA** (= **NOTASPIDEA** FISCHER, 1883)

Familia **Tylodinidae** GRAY, 1847

- AM *Tylodina perversa* (GMELIN in L., 1791) [*Patella*]
= *Tylodinella trinchesei* MAZZARELLI, 1897

Familia **Umbraculidae** DALL, 1889

- AM *Umbraculum mediterraneum* (LAMARCK, 1812) [*Umbrella*]

Familia **Pleurobranchidae** DESHAYES, 1830

- B *Pleurobranchus membranaceus* (MONTAGU, 1815) [*Lamellaria*]
= *Gymnotoplax barashi* EV. MARCUS, 1977
AT *Pleurobranchus testudinarius* CANTRAINED, 1835
IP *Pleurobranchus forskalii* (RUEPPELL & LEUCKART, 1830) [*Oscanius*]
B *Berthella plumula* (MONTAGU, 1803) [*Bulla*]
= *B. perforata* (PHILIPPI, 1844) [*Pleurobranchus*]
AM *Berthella aurantiaca* (RISSO, 1818) [*Pleurobranchus*]
CT *Berthella stellata* (RISSO, 1828) [*Pleurobranchus*]
E *Berthella ocellata* (DELLE CHIAJE, 1820) [*Pleurobranchus*]
? *Bertella elongata* (CANTRAINED, 1835) [*Pleurobranchus*]
CT *Berthellina citrina* (RUEPPELL & LEUCKART, 1830) [*Pleurobranchus*]

Familia **Pleurobranchaeidae** PILSBRY, 1896

- CT *Pleurobranchaea meckelii* MECKEL in LEUE, 1812
= *P. notmec* EV. MARCUS & GOSLINER, 1984
= *P. vayssièrei* EV. MARCUS & GOSLINER, 1984
AT *Pleurobranchaea inconspicua* BERGH, 1897

Ordo SACOGLOSSA VON IHERING, 1876 (= ASCOGLOSSA BERGH, 1876)

Subordo CONCHOIDINA GASCOIGNE, 1985

Familia **Volvatellidae** PILSBRY, 1895

AM *Ascobulla fragilis* (JEFFREYS, 1856) [*Cylichna*]

Familia **Oxynoidae** H. & C. ADAMS, 1854

AM *Oxynoe olivacea* RAFINESQUE, 1814

E *Lobiger serradifalci* (CALCARA, 1840) [*Bullaea*]

Subordo ACONCHOIDINA GASCOIGNE, 1985

Familia **Elysiidae** H. & A. ADAMS, 1854

CT *Elysia viridis* (MONTAGU, 1804) [*Laplysia*]

= *E. fusca* PHILIPPI, 1844

= *E. minuta* (M. SARS, 1835)

= *E. margaritae* FEZ, 1962

= *E. pagenstecheri* MARCUS, 1982

= *E. fezi* VILELLA, 1968

E *Elysia timida* (RISSO, 1818) [*Notarchus*]

AM *Elysia translucens* PRUVOT-FOL, 1957

AM *Elysia flava* VERRILL, 1901

E *Elysia gordanae* THOMPSON & JAKLIN, 1988

E *Thuridilla hopei* (VERANY, 1853) [*Acteon*]

Familia **Bosellidae** MARCUS, 1982

AT *Bosellia mimetica* TRINCHESE, 1891

Familia **Polybranchiidae** H. & A. ADAMS, 1854

= **Caliphyllidae** THIELE, 1912

AT *Caliphylla mediterranea* A. COSTA, 1869

AM *Polybranchia borgninii* (TRINCHESE, 1895/96) [*Phyllobranchus*]

AT *Cyerce cristallina* (TRINCHESE, 1881) [*Lobiancoia*]

E *Cyerce graeca* THOMPSON, 1988

Familia **Hermaeidae** H. & A. ADAMS, 1854

B *Hermaea bifida* (MONTAGU, 1815) [*Doris*]

C *Hermaea (Placida) dendritica* (ALDER & HANCOCK, 1843) [*Calliopaea*]

= *H. brevicornis* A. COSTA, 1867

E *Hermaea (Placida) viridis* (TRINCHESE, 1873) [*Laura*]

IP *Hermaea cremoniana* TRINCHESE, 1892

= *Ercolania trinchesei* PRUVOT-FOL, 1951

= *H. carminis* FEZ, 1962

AM *Hermaea paucicirra* PRUVOT-FOL, 1953

AM *Hermaea (Placida) verticillata* (ORTEA, 1981)

E *Hermaea (Placida) saronica* THOMPSON, 1988

AM *Hermaeopsis variopicta* A. COSTA, 1869

E *Aplysiopsis elegans* DESHAYES, 1839/53

E *Costasiella virescens* PRUVOT-FOL, 1951

Familia **Stiligeridae** IREDALE & O'DONOGUE, 1923

- AT *Ercolania coerulea* TRINCHESE, 1892
= *E. costai* PRUVOT-FOL, 1951
= *Stiliger cricetus* MARCUS & MARCUS, 1970
AM *Ercolania funerea* (A. COSTA, 1867) [*Embletonia*]
= *E. viridis* (A. COSTA, 1867)
= *E. siottti* TRINCHESE, 1872
B *Calliopaea bellula* D'ORBIGNY, 1837
B *Limapontia capitata* (O.F. MUELLER, 1773) [*Fasciola*]
? *Limapontia depressa* ALDER & HANCOCK, 1862

Familia **Alderiiidae**

- ? *Alderia modesta* (LOVÉN, 1844) [*Stiliger*]
E *Alderella comosa* (A. COSTA, 1867) [*Alderia*]

Subordo **PLATYHEDYLINA** RANKIN, 1979

Familia **Platyhedylidae** SALVINI-PLAWEN, 1973

- E *Platyhedyle denudata* SALVINI-PLAWEN, 1973

Ordo **ACOCHLIDIACEA** ODHNER, 1937

Familia **Hedylopsidae** ODHNER, 1952

- AM *Hedylopsis spiculifera* (KOWALEWSKY, 1901) [*Hedyle*]
B *Hedylopsis suecica* ODHNER, 1937

Familia **Asperspinidae** RANKIN, 1952

- E *Asperspina rhopalotecta* (SALVINI-PLAWEN, 1973) [*Hedylopsis*]

Familia **Microhedylidae** ODHNER, 1937

- AM *Stellaspina glandulifera* (KOWALEWSKY, 1901) [*Hedyle*]
= *Microhedyle lactea* (HERTLING, 1930)
AT *Pontobedyle milaschewitchii* (KOWALEWSKY, 1901) [*Hedyle*]
E *Microhedyle tirtowii* (KOWALEWSKY, 1901) [*Parhedyle*]
E *Microhedyle cryptopthalma* WESTHEIDE & WAWRA, 1974
E *Microhedyle odhneri* (MARCUS & MARCUS, 1955) [*Unela*]
E *Microhedyle glomerans* SALVINI-PLAWEN, 1973
? *Microhedyle neapolitana* (RANKIN, 1979)

Ordo **NUDIBRANCHIA** BLAINVILLE, 1814

Subordo **DORIDINA** ODHNER, 1934

Superfamilia **ANADORIDOIDEA** ODHNER, 1934

Familia **Goniodorididae** H. & A. ADAMS, 1854

- B *Goniodoris nodosa* (MONTAGU, 1808) [*Doris*]
C *Goniodoris castanea* ALDER & HANCOCK, 1845
? *Goniodoris barroisi* VAYSSIÈRE, 1901
B *Okenia quadricornis* (MONTAGU, 1815) [*Doris*]
B *Okenia elegans* (LEUCKART, 1828) [*Idalia*]
B *Okenia leachi* (ALDER & HANCOCK, 1854) [*Idalia*]
E *Okenia mediterranea* (VON IHERING, 1885) [*Idalia*]
AT *Okenia impexa* ER. MARCUS, 1957
B *Ancula gibbosa* (RISSO, 1818) [*Tritonia*]
AM *Trapania fusca* (LAFONT, 1874) [*Drepania*]
? = *T. graeffei* (BERGH, 1880)

- AM *Trapania tartanella* (VON IHERING, 1885) [*Drepania*]
 E *Trapania lineata* HAEFELFINGER, 1960
 AM *Trapania maculata* HAEFELFINGER, 1960
 B *Trapania pallida* KRESS, 1968
 AM *Trapania ortei* GARCIA-GOMEZ & CERVERA, 1988
 A. *Trapania hispalensis* CERVERA & GARCIA-GOMEZ, 1988

Familia **Onchidorididae** ALDER & HANCOCK, 1845

- AM *Onchidoris neapolitana* (DELLE CHIAJE, 1841) [*Idalia*]
 = *O. graeffei* (BERGH, 1890)
 ? *Onchidoris depressa* (ALDER & HANCOCK, 1842) [*Doris*]
 B *Onchidoris sparsa* (ALDER & HANCOCK, 1846) [*Doris*]
 E *Onchidoris bouvieri* (VAYSSIÈRE, 1919) [*Lamellidoris*]
 E *Onchidoris albonigra* (PRUVOT-FOL, 1951) [*Lamellidoris*]
 B *Diaphorodoris luteocincta* (M. SARS, 1870) [*Doris*]
 E *Diaphorodoris papillata* PORTMANN & SANDMEIER, 1960
 B *Acanthodoris pilosa* (ALBILDGAARD in MUELLER, 1789) [*Doris*]
 B *Adalaria proxima* (ALDER & HANCOCK, 1854) [*Doris*]

Familia **Triophidae** ODHNER, 1941

- IP *Plocamopherus ocellatus* RUEPPELL & LEUCKART, 1828
 IP *Kaloplocamus ramosus* (CANTRAINED, 1835) [*Doris*]
 E *Kaloplocamus filiosus* CATTANEO-VIETTI & SORDI, 1987
 B *Crimora papillata* ALDER & HANCOCK, 1862

Famiglia **Aegiretidae** P. FISCHER, 1883

- AM *Aegires punctilucens* (D'ORBIGNY, 1837) [*Polycera*]
 AM *Aegires leuckarti* VERANY, 1853
 AM *Aegires sublaevis* ODHNER, 1932

Superfamilia EUDORIDOIDEA ODHNER, 1934
 = CRYPTOBRANCHIA FISCHER, 1883

Familia **Dorididae** RAFINESQUE, 1815

- AT *Doris verrucosa* L., 1758
 E *Doris marmorata* RISSO, 1818
 AM *Doris bertheloti* (D'ORBIGNY, 1839) [*Doridigitata*]
 AM *Doris ocelligera* (BERGH, 1881) [*Staurodoris*]
 E *Doris bicolor* (BERGH, 1884) [*Staurodoris*]
 = *D. pulchella* ARADAS, 1847
 ? *Doris pseudoverrucosa* (VON IHERING, 1886) [*Staurodoris*]
 B *Doris sticta* (IREDALE & D'DONOGHUE, 1923) [*Doridigitata*]
 = *D. maculata* GARSTANG, 1895
 AM *Doris* (?) *alboranica* BOUCHET, 1977

Familia **Chromodorididae** BERGH, 1892

- B *Cadlina laevis* (L., 1767) [*Doris*]
 AM *Cadlina pellucida* (RISSO, 1826) [*Doris*]
 ? *Cadlina excavata* (PRUVOT-FOL, 1951) [*Echinochila*]
 ? *Chromodoris quadricolor quadricolor* (RUEPPELL & LEUCKART, 1828) [*Doris*]
 AM *Chromodoris purpurea* (RISSO in GUERIN, 1831) [*Doris*]
 E *Chromodoris elegantula* (PHILIPPI, 1844) [*Doris*]
 AM *Chromodoris krohnii* (VÈRANY, 1846) [*Doris*]
 AM *Chromodoris luteorosea* (RAPP, 1846) [*Doris*]
 AM *Chromodoris luteopunctata* (GANTÈS, 1962) [*Glossodoris*]
 AM *Chromodoris britoi* ORTEA & PEREZ, 1982
 = *C. clenchi*: MIENIS, 1983
 E *Chromodoris lilybaetana* GARCIA-GOMEZ, CATTANEO-VIETTI & CHEMELLO, in press

- AM *Hypselodoris villafranca* (Risso, 1818) [*Doris*]
 AM *Hypselodoris elegans* (CANTRAINE, 1835) [*Doris*]
 AM *Hypselodoris tricolor* (CANTRAINE, 1835) [*Doris*]
 ? *Hypselodoris coelestis* (DESHAYES, 1866) [*Goniodoris*]
 AM *Hypselodoris messinensis* (VON IHERING, 1880) [*Chromodoris*]
 IP *Hypselodoris infucata* (RUEPPELL & LEUCKART, 1831) [*Doris*]
 = *Glossodoris runcinata* (BERGH, 1877)
 ? *Hypselodoris fontandraui* (PRUVOT-FOL, 1951) [*Glossodoris*]
 AM *Hypselodoris webbi* (D'ORBIGNY, 1839) [*Polycera*]
 = *Glossodoris edenticulata* WHITE, 1952
 AM *Hypselodoris bilineata* (PRUVOT-FOL, 1953) [*Glossodoris*]
 AM *Hypselodoris cantabrica* BOUCHET & ORTEA, 1980

Familia **Aldisidae** ODHNER, 1933

- AM *Aldisa banyulensis* PRUVOT-FOL, 1951
 AM *Aldisa binotata* PRUVOT-FOL, 1953
 = ? *A. smaragdina* ORTEA, PEREZ & LLERA, 1982

Familia **Rostangidae** PRUVOT-FOL, 1951

- B *Rostanga rubra* (Risso, 1818) [*Doris*]
 = *R. perspicillata* BERGH, 1881

Fam. **Archidorididae** BERGH, 1892

- B *Archidoris pseudoargus* (RAPP, 1827) [*Doris*]
 = *A. tuberculata* (CUVIER, 1804) [*Doris*]
 AT *Atagema rugosa* PRUVOT-FOL, 1951
 B *Atagema gibba* PRUVOT-FOL, 1951
 E *Anisodoris marmorata* (BERGH, 1881) [*Archidoris*]

Familia **Halgerdidae** ODHNER, 1926

- IP *Sclerodoris* cf. *tuberculata* ELIOT, 1904

Familia **Discodorididae** BERGH, 1891

- B *Geitodoris planata* (ALDER & HANCOCK, 1846) [*Doris*]
 = *Archidoris stellifera* VAYSSIÈRE, 1904
 ? *Geitodoris joubini* (VAYSSIÈRE, 1919) [*Carryodoris*]
 E *Geitodoris portmanni* (SCHMEKEL, 1970) [*Carryodoris*]
 AM *Geitodoris bonosi* ORTEA & BALLESTEROS, 1981
 CT *Discodoris fragilis* (ALDER & HANCOCK, 1864) [*Doris*]
 AM *Discodoris maculosa* BERGH, 1884
 ? *Discodoris erubescens* BERGH, 1884
 E *Discodoris rubens*, VAYSSIÈRE, 1919
 IP *Discodoris concinna* (ALDER & HANCOCK, 1864) [*Doris*]
 AM *Discodoris rosi* ORTEA, 1979
 E *Peltodoris atromaculata* BERGH, 1880
 E *Thordisa pallida* BERGH, 1884
 E *Thordisa aurea* PRUVOT-FOL, 1951
 E *Thordisa filix* PRUVOT-FOL, 1951
 AM *Thordisa azmanii* CERVERA & GARCIA GOMEZ, in press
 E *Paradoris granulata* BERGH, 1884
 AM *Paradoris indecora* (BERGH, 1881) [*Discodoris*]
 = *Discodoris cavernae* STARMUEHLNER, 1955

Familia **Kentrodorididae** BERGH, 1892

- B *Jorunna tomentosa* (CUVIER, 1804) [*Doris*]
= *J. luisae* Ev. MARCUS, 1976
? *Jorunna* ? *atypa* BERGH, 1881
AM *Jorunna onubensis* CERVERA, GARCIA & GARCIA, 1984

Familia **Platydorididae** BERGH, 1891

- AM *Platydoris argo* (L. 1767) [*Doris*]
= *Doris infranaevata* ABRAHAM, 1877
E *Platydoris philippi* BERGH, 1877
? *Platydoris dura* PRUVOT FOL, 1951
AM *Platydoris maculata* BOUCHET, 1977
AM *Carminodoris boucheti* ORTEA, 1979
E *Taringa armata* SWENNEN, 1961
E *Taringa faba* BALLESTEROS, LLERA & ORTEA, 1982
E *Taringa oleica* ORTEA, PEREZ & LLERA, 1982
E *Taringa pinoi* PERRONE, 1985

Familia **Baptodoridae** ODHNER, 1926

- E *Baptodoris cinnabarina* BERGH, 1884
AM *Baptodoris perezii* LLERA & ORTEA, 1982

Superfamilia POLYCERATOIDEA

Familia **Polyceridae** ALDER & HANCOCK, 1845

- B *Polycera quadrilineata* (O.F. MUELLER, 1776) [*Doris*]
B *Polycera faeroensis* LEMCHE, 1929
E *Polycera maculata* PRUVOT-FOL, 1951
CT *Polycera hedgpethi* MARCUS, 1964
E *Polycera aurantiomarginata* GARCIA & BOBO, 1984
B *Greilada elegans* BERGH, 1894
B *Palio dubia* (SARS, 1829) [*Polycera*]
AT *Polycerella emertoni* VERRILL, 1881
= *P. conyna* MARCUS, 1957
= *P. recondita* SCHMEKEL, 1965
CT *Thecacera pennigera* (MONTAGU, 1815) [*Doris*]
AT *Limacia clavigera* (O.F. MUELLER, 1776) [*Doris*]

Fam. **Gymnodorididae** ODHNER, 1941

- E *Roboastra europea* GARCIA-GOMEZ, 1985
E *Tambia ceutae* GARCIA-GOMEZ & ORTEA, 1988

Superfamilia POROSTOMATA BERGH, 1892

Fam. **Phyllidiidae** RAFINESQUE, 1815

- E *Phyllidia flava* ARADAS, 1847
= *P. rolandiae* PRUVOT-FOL, 1951
= *P. aurata* PRUVOT-FOL, 1952
= *P. papillosa* ARADAS, 1847
= *P. depressa* ARADAS, 1847
= *P. pulitzeri* PRUVOT-FOL, 1962
E *Reyfriedia bayi* (BOUCHET, 1983) [*Fryeria*]

Fam. **Dendrodorididae** O'DONOGHUE, 1924

- AM *Dendrodoris limbata* (CUVIER, 1804) [*Doris*]
AM *Dendrodoris grandiflora* (RAPP, 1827) [*Doris*]
IP *Dendrodoris nigra* (STIMPSON, 1855) [*Doris*]
? *Dendrodoris inornata* (ABRAHAM, 1876) [*Doridopsis*]
? *Dendrodoris longula* PRUVOT-FOL, 1951
? *Dendrodoris racemosa* PRUVOT-FOL, 1951
AM *Dendrodoris languida* PRUVOT-FOL, 1951
? *Dendrodoris minima* PRUVOT-FOL, 1951
AM *Dendrodoris pseudorubra* PRUVOT-FOL, 1951
AM *Doriopsilla rarispina* PRUVOT-FOL, 1951
AT *Doriopsilla areolata* BERGH, 1880
AM *Doriopsilla pusilla* PRUVOT-FOL, 1951
AM *Doriopsilla evanae* BALLESTEROS & ORTEA, 1980

Subordo **DENDRONOTINA** ODHNER, 1934

Familia **Tritoniidae** H. & A. ADAMS, 1858

- B *Tritonia hombergii* CUVIER, 1803
B *Tritonia plebeia* JOHNSTON, 1828
B *Tritonia lineata* ALDER & HANCOCK, 1848
AM *Tritonia manicata* DESHAYES, 1853
E *Tritonia striata* HAEFELFINGER, 1963
AT *Tritonia nilsodhneri* EV. MARCUS, 1983
= *T. odhneri* TARDY, 1963
E *Tritoniopsis cincta* (PRUVOT-FOL, 1937) [*Tritonia*]
E *Marionia blainvillea* (RISSO, 1818) [*Tritonia*]
E *Marionia tethydea* (DELLE CHIAJE, 1828) [*Tritonia*]

Familia **Lomanotidae** BERGH, 1892

- B *Lomanotus genei* VERANY, 1846

Familia **Dotidae** GRAY, 1853

- B *Doto coronata* (GMELIN in L., 1791) [*Doris*]
? *Doto pinnatifida* (MONTAGU, 1804) [*Doris*]
? *Doto fragilis* (FORBES, 1838) [*Melibaea*]
B *Doto cuspidata* ALDER & HANCOCK, 1862
AT *Doto rosea* TRINCHESE, 1881
E *Doto paulinae* TRINCHESE, 1881
AM *Doto floridicola* SIMROTH, 1888
= *D. susanae* FEZ, 1962
E *Doto pontica* SWENNEN, 1961
AT *Doto doerga* MARCUS & MARCUS, 1963
? *Doto leopardina* VICENTE, 1967
E *Doto acuta* SCHMEKEL, & KRESS, 1977
E *Doto furva* GARCIA, & GOMEZ ORTEA RATO, 1983
B *Doto dunnei* LEMCHE, 1976
B *Doto koenneckeri* LEMCHE, 1976
E *Doto fragaria* ORTEA & BOUCHET, 1988
E *Doto cervicenigra* ORTEA & BOUCHET, 1988

Familia **Hancockiidae** PRUVOT-FOL, 1954

AM *Hancockia uncinata* (HESSE, 1872) [Doto]

Familia **Tethyidae** ALDER & HANCOCK, 1855

AM *Tethys fimbria* L., 1767

IP *Melibe fimbriata* ALDER & HANCOCK, 1864

Familia **Scyllaeidae** FISCHER, 1883

C *Scyllaea pelagica* L., 1758

Familia **Phylliroidae** FÈRUSSAC, 1821

CT *Phylliroe bucephala* PERON & LESUEUR, 1810

= *P. sanzoi* SPARTA, 1925

? *Phylliroe atlantica* BERGH, 1871

AM *Cephalopyge trematoides* CHUN, 1889

= *C. mediterranea* (PIERANTONI, 1923) [Boopsis]

Subordo **ARMININA** Odhner, 1934

Superfamilia **EUARMINOIDEA** ODHNER in FRANC, 1968

Familia **Arminidae** PRUVOT-FOL, 1927

AM *Armina tigrina* RAFINESQUE, 1814

AM *Armina maculata* RAFINESQUE, 1814

= *Diphyllidia verrucosa* CANTRAINE, 1841

= *Diphyllidia pustulosa* SCHULTZ, 1836

AM *Armina neapolitana* (DELLE CHIAJE, 1824) [Pleurophyllidia]

= *Pleurophyllidia lineolata* DELLE CHIAJE, 1841

E *Armina tricuspida* THOMPSON, CATTANEO-VIETTI & WONG, in press

E *Linguella elforti* BLAINVILLE, 1825

= ? *Linguella quadrilateralis* (BERGH, 1860) [Sancara]

Superfamilia **METARMINOIDEA** ODHNER in FRANC, 1968

Familia **Madrellidae** VAYSSIÈRE, 1909

IP *Madrella sanguinea* (ANGAS, 1864) [Janus]

= *M. aurantiaca* VAYSSIÈRE, 1902

? *Eliotia souleyeti* VAYSSIÈRE, 1909

Familia **Janolidae** PRUVOT-FOL, 1954

B *Janolus cristatus* (Delle Chiaje, 1841) [Eolis]

B *Janolus hyalinus* ALDER & HANCOCK, 1854) [Antiopa]

? *Proctonotus mucroniferus* (ALDER & HANCOCK, 1844) [Venilia]

Familia **Heroidae** BERGH, 1892

E *Hero blanchardi* VAYSSIÈRE, 1888

Subordo AEOLIDIINA Odhner, 1934

Familia **Flabellinidae** BERGH, 1889

- B *Coryphella pedata* (MONTAGU, 1815) [*Doris*]
? *Coryphella verrucosa* (M. SARS, 1829) [*Eolidia*]
? *Coryphella pellucida* (ALDER & HANCOCK, 1843) [*Eolis*]
B *Coryphella lineata* (LOVÈN, 1846) [*Aeolis*]
E *Calmella cavolinii* (VÉRANY, 1846) [*Eolidia*]
AM *Flabellina affinis* (GMELIN in L., 1791) [*Doris*]
E *Flabellina babai* SCHMEKEL, 1972
E *Flabellina baetica* GARCIA GOMEZ, 1984
AM *Flabellina insolita* GARCIA-GOMEZ & CERVERA, in press
E *Flabellina ischitana* HIRANO & THOMPSON, in press

Familia **Piseinotecidae** EDMUNDS, 1870

- AM *Piseinotecus sphaeriferus* (SCHMEKEL, 1965) [*Calmella*]
E *Piseinotecus gabinieri* (VICENTE, 1975) [*Facelina*]
= *P. evelinae* SCHMEKEL, 1980
E *Piseinotecus gaditanus* CERVERA, GARCIA & GARCIA, 1986

Familia **Facelinidae** BERGH, 1889

- E *Antonietta luteorufa* SCHMEKEL, 1966
? *Rolandia hispanica* PRUVOT-FOL, 1951
B *Caloria elegans* (ALDER & HANCOCK, 1845) [*Eolis*]
E *Facelinopsis marioni* (VAYSSIÈRE, 1888) [*Facelina*]
B *Facelina annulicornis* (CHAMISSO & EISENHART, 1821) [*Eolidia*]
B *Facelina bostoniensis* (COUTHOUY 1838) [*Eolis*]
= *Eolis curta* ALDER & HANCOCK, 1843
B *Facelina coronata* (FORBES & GOODSIR, 1839) [*Eolida*]
= *F. auriculata* (MUELLER, 1776) [*Doris*]
E *Facelina rubrovittata* (A. COSTA, 1866) [*Aeolis*]
? *Facelina lugubris* (BERGH, 1882) [*Acanthopsole*]
? *Facelina vicina* (BERGH, 1883) [*Acanthopsole*]
B *Facelina dubia* PRUVOT-FOL, 1948
? *Facelina rutila* PRUVOT-FOL, 1951
E *Facelina fusca* SCHMEKEL, 1966
E *Cratena peregrina* (GMELIN in L., 1791) [*Doris*]
E *Godiva banyulensis* (PORTMANN & SANDMEIER, 1960) [*Dondice*]
= *Dondice nicolae* VICENTE, 1967

Familia **Favorinidae** BERGH, 1890

- B *Favorinus branchialis* (RATHKE, 1806) [*Doris*]
AM *Favorinus vitreus* ORTEA, 1982
B *Dicata odhneri* SCHMEKEL, 1967
= *Favorinus albus*: ODHNER, 1914

Familia **Glaucidae** MENKE, 1828

- CT *Glaucus atlanticus* FORSTER, 1777

Familia **Aeolidiidae** D'ORBIGNY, 1834

- B *Aeolidiella rubra* (ALDER & HANCOCK, 1835) [*Cavolina*]
? *Aeolidiella glauca* (ALDER & HANCOCK, 1845) [*Eolis*]
B *Aeolidiella alderi* (COCKS, 1852) [*Eolis*]
IP *Aeolidiella takanosimensis* BABA, 1930
= *A. orientalis* Bergh, 1888 var. *takanosimensis*
AT *Spurilla neapolitana* (DELLE CHIAJE, 1841/44) [*Eolis*]
AM *Spurilla vayssierei* GARCIA GOMEZ & CERVERA, 1985
AM *Spurilla columbina* GARCIA GOMEZ & THOMPSON, in press
AT *Berghia coerulescens* (LAURILLARD, 1830) [*Eolidia*]
AM *Berghia verrucicornis* (A. COSTA, 1864) [*Flabellina*]
CT *Baeolidia nodosa* (HAEFELFINGER & STAMM, 1958) [*Limenandra*]

Familia **Eubranchidae** ODHNER, 1934

- ? *Eubranchus tricolor* FORBES, 1838
B *Eubranchus pallidus* (ALDER & HANCOCK, 1842) [*Eolis*]
B *Eubranchus vittatus* (ALDER & HANCOCK, 1842) [*Eolis*]
B *Eubranchus cingulatus* (ALDER & HANCOCK, 1847) [*Eolis*]
B *Eubranchus farrani* (ALDER & HANCOCK, 1847) [*Eolis*]
B *Eubranchus exiguus* (ALDER & HANCOCK, 1848) [*Eolis*]
B *Eubranchus doriae* (TRINCHESE, 1874) [*Capellinia*]

Familia **Pseudovermidae** THIELE, 1931

- E *Pseudovermis paradoxus* PERIASLAVZEY, 1891
E *Pseudovermis papillifer* KOWALEWSKY, 1901
AM *Pseudovermis schulzi* MARCUS & MARCUS, 1955
E *Pseudovermis axi* MARCUS & MARCUS, 1955
E *Pseudovermis setensis* FIZE, 1961
B *Pseudovermis boadeni* SALVINI-PLAWEN & STERRER, 1968
E *Pseudovermis kowalewskyi* SALVINI-PLAWEN & STERRER, 1968

Familia **Tergipedidae** BERGH, 1889

- AT *Tergipes tergipes* (FORSKAL, 1775) [*Limax*]
= *T. despectus* (JOHNSTON, 1838)
= *T. edwardsii* NORDMANN, 1844
B *Cuthona caerulea* (MONTAGU, 1804) [*Doris*]
B *Cuthona foliata* (FORBES & GOODSIR, 1839)
B *Cuthona amoena* (ALDER & HANCOCK, 1845) [*Eolis*]
E *Cuthona genovae* (O'DONOGHUE, 1939) [*Cratena*]
E *Cuthona granosa* (SCHMEKEL, 1966) [*Trinchesia*]
E *Cuthona ocellata* (SCHMEKEL, 1966) [*Trinchesia*]
AM *Cuthona ilonae* (SCHMEKEL, 1968) [*Trinchesia*]
E *Cuthona miniostrata* (SCHMEKEL, 1968) [*Trinchesia*]
E *Cuthona albopunctata* (SCHMEKEL, 1968) [*Trinchesia*]
B *Catriona gymnota* (COUTHOUY, 1838) [*Eolis*]
= *C. aurantia* ALDER & HANCOCK, 1842
AT *Catriona maua* MARCUS & MARCUS, 1960
C *Tenellia adpersa* (NORDMANN, 1845) [*Tergipes*]
= *T. pallida* (ALDER & HANCOCK, 1842) [*Embletonia*]

Familia **Embletoniidae** PRUVOT-FOL, 1954

- B *Embletonia pulchra* ALDER & HANCOCK, 1851

Familia **Calmidae** IREDALE & O'DONOGHUE, 1923

- B *Calma glaucoides* (ALDER & HANCOCK, 1854) [*Eolis*]

Familia **Fionidae** ALDER & HANCOCK, 1855

- C *Fiona pinnata* (ESCHSCHOLTZ, 1831) [*Eolidia*]