



Marine molluscs from Cyprus: new data and checklist

Bilal Öztürk, Giovanni Buzzurro & H. Avni Benli

KEY WORDS: Mollusca, Recent, Checklist, Cyprus, Mediterranean Sea.

ABSTRACT

This study has been carried out along the North Cypriot coasts on May 10th-19th 1997 and July 12th-21st 1998. As a result of the sampling in the shore region and in deep-water, depths ranging from 0 to 600 m, 304 species, for a total number of 4786 individuals, included in the classes of Polyplacophora, Gastropoda, Bivalvia and Scaphopoda have been identified. Among the 304 taxa examined, 18 species from Cyprus Island are here reported for the first time. In particular, 16 Gastropoda: *Nodilittorina (Echinolittorina) punctata* (Gmelin, 1791), *Rissoa splendida* Eichwald, 1830, *Alvania fractospira* Oberling, 1970, *Alvania testae* (Aradas & Maggiore, 1844), *Hydrobia acuta* (Draparnaud, 1805), *Protatlanta souleyeti* (Smith E. A., 1888), *Cerithiopsis scalaris* Locard, 1892, ex Monterosato ms., *Nassarius circumcinctus* (Adams A., 1852), *Granulina boucheti* Gofas, 1992, *Gymnobela subaraneosa* (Dautzenberg & Fischer H., 1896), *Teretia teres* (Reeve, 1844), *Chrysallida juliae* (de Folin, 1872), *Folinella ghisottii* Aartsen, 1984, *Tragula fenestrata* (Jeffreys, 1848), *Eulimella bogii* Aartsen, 1994, *Turbonilla acutissima* Monterosato, 1884, and 2 Bivalvia: *Limaria losombi* (Sowerby G. B. I., 1823), *Kelliella abyssicola* (Forbes, 1844). Furthermore, six species are reported for the Eastern basin for the first time. All the species reported for the first time from Cyprus in this paper are figured and discussed. A total amount of 696 species is here reported in a newly formed checklist of Molluscs of Cyprus, considering all the previous works concerned about the malacological fauna occurring in the area under investigation and the additional species we have identified. Furthermore, the list, which is taking into account the many nomenclatural changes recently introduced in the class Mollusca, also deals with alien species.

RIASSUNTO

Questo studio è stato condotto lungo le coste della parte Nord dell'isola di Cipro tra il 10 e il 19 Maggio del 1997 e il 12 e il 21 Luglio del 1998. Sono stati raccolti campioni fino alla profondità massima di 600 m, individuando 4786 esemplari distribuiti tra 304 specie appartenenti alle classi Poliplacophora, Gastropoda, Bivalvia e Scaphopoda. Di queste 304 specie 18 risultano inedite per Cipro, 16 Gastropoda: *Nodilittorina (Echinolittorina) punctata* (Gmelin, 1791), *Rissoa splendida* Eichwald, 1830, *Alvania fractospira* Oberling, 1970, *Alvania testae* (Aradas & Maggiore, 1844), *Hydrobia acuta* (Draparnaud, 1805), *Protatlanta souleyeti* (Smith E. A., 1888), *Cerithiopsis scalaris* Locard, 1892, ex Monterosato ms., *Nassarius circumcinctus* (Adams A., 1852), *Granulina boucheti* Gofas, 1992, *Gymnobela subaraneosa* (Dautzenberg & Fischer H., 1896), *Teretia teres* (Reeve, 1844), *Chrysallida juliae* (de Folin, 1872), *Folinella ghisottii* Aartsen, 1984, *Tragula fenestrata* (Jeffreys, 1848), *Eulimella bogii* Aartsen, 1994, *Turbonilla acutissima* Monterosato, 1884 e 2 Bivalvia: *Limaria losombi* (Sowerby G. B. I., 1823), *Kelliella abyssicola* (Forbes, 1844). Tra queste, 6 specie sono inedite per il bacino orientale del Mar Mediterraneo. Di tutte le specie trattate si dà anche una rappresentazione iconografica. Viene presentata inoltre una nuova lista aggiornata comprendente tutte le specie precedentemente segnalate in Letteratura e quelle ulteriormente identificate da noi, per un totale di 696 taxa. Questa lista, corredata da relative note integrative ed in accordo con gli ultimi aggiornamenti tassonomici, evidenzia anche le specie di provenienza indopacifica.

B. ÖZTÜRK, Ege University, Faculty of Fisheries, Department of Hydrobiology, 35100 Bornova (Izmir), Turkey, E-mail: Ozturk@sufak.ege.edu.tr
G. BUZZURRO, Via Locatelli 44, Biassono (Mi), Italy, E-mail: giobuz@libero.it
H. A. BENLI, Dokuz Eylül University, Institute of Marine Science and Technology, Inciraltı (Izmir), Turkey, E-mail: benli@neptune.imst.deu.edu.tr

INTRODUCTION

The island of Cyprus has special ecological characteristics due to its narrow sublittoral and littoral but wide bathyal zones. This island, with a coastline of 750 km in length, is an important biogeographical spot in the Levantine basin where Red Sea originated Lessepsian migrants establish. There are many studies so far carried out by different scientists on the biological diversity Cyprus' bottoms. The first report on the Mollusca from the coasts of this island was by MONTEROSATO (1899). Thereafter, many works were carried out especially in the second half of century. Among the others, we cite TSURNAMAL (1969), DEMETROPOULOS (1969, 1971), BARASH & LEWINSOHN (1971), DEMETROPOULOS & HADJICHRISTOPHOROU (1976), STAVRINOS (1984), TORNARITIS (1987), BARASH & DANIN (1989), BOGI *et al.* (1989), FISCHER (1993a, b; 1994), CECALUPO & QUADRI (1994, 1995, 1996) and HADJICHRISTOPHOROU *et al.* (1997). As a result of these studies, 585 Mollusca species have been reported from Cyprus (CECALUPO & QUADRI, 1996). More recently, BUZZURRO & GREPPI (1997) and SALMAN *et al.* (1998) have reported 42 and 10 additional species, respectively. Several checklists of the molluscan fauna of Cyprus have been published in the past by different Authors (DEMETROPOULOS, 1971; BOGI *et al.*, 1989; FISCHER, 1994 and CECALUPO & QUADRI, 1996). However, some of these early reports suffered

the complicated taxonomy of some groups, and several species were listed as separate taxa in spite of being synonyms according to the latest taxonomy. In this paper we present an up to date checklist of Mollusca species occurring in the Island of Cyprus. With this report, the total number of Mollusca occurring along the Cyprus coasts has been enriched with 16 Gastropoda and 2 Bivalvia species.

MATERIAL AND METHODS

Specimens and shells identified in this study were collected during the expeditions along Northern Cyprus coasts on the dates of May 10th-19th, 1997 and July 12nd-21st, 1998 by R/V "K. Piri Reis". Samples were taken from a depth ranging from 0 to 10 m along the shore region and from 20 to 600 m offshore (Fig.1). Sampling have been randomly selected in the coastal regions having both sandy and rocky habitat and in the substrates consisting of algae (*Padina pavonica* (L) Thivy, 1960, *Cystoseira crinita* (Desf.) Bory, 1846, *Cystoseira* sp., *Sargassum vulgare* C. Agardh, 1821, *Udotea petiolata* (Turra) Boerg, 1915, *Caulerpa prolifera* (Forsk.) Lamaroux, 1809, *Caulerpa racemosa* (Forsk.) J. Agardh), phanerogam (*Posidonia oceanica* (L.) Delile, 1813) and sponge (*Sarcotragus* sp.) (Table 1). Samples were collected directly by hand. A total of 70 samplings were carried out at 12 stations. Furthermore, in the open sea, trawl-



ing and dredging have been utilized. Samples were sieved with 0.5 mm mesh size.

Systematics of the identified species are according to SABELLI *et al.* (1990-1992). Moreover, species names reported in the past by several Authors have been reconsidered according to SABELLI *et al.* (1990-1992) during the preparation of this new checklist. Thus, the list was cleaned up of synonym species. The many

changes occurred in the nomenclature of Mollusca after 1990 have been also considered. Furthermore, systematic information about some species was adopted by visiting the web-site Check List of European Marine Mollusca (CLEMAM: home page, <http://www.mnhn.fr/base/malaco/html>).

The materials collected were deposited in the Department of Hydrobiology, Ege University (Izmir, Turkey).



Fig. 1. Map of studied area with locations of shallow water stations.

Fig. 1. Cartina dell'area studiata con l'indicazione delle stazioni di acque poco profonde.

Table 1. Coordinates, localities, depths, dates and biotop characterizations of the samples.

St.	Date	Coordinates or Localities Start / Finish	BOTTOM-TRAWL	
			Depth (m)	Biotopes
T1	10.5.97	35°21'7"N-33°07'5"E / 35°23'9"N-33°09'0"E	560-576	Mud
T2	10.5.97	35°22'7"N-33°02'6"E / 35°22'7"N-33°04'2"E	33-35	Hard substratum and <i>Sarcotragus</i> sp.
T3	11.5.97	35°20'58"N-33°23'4"E / 35°20'7"N-33°22'5"E	40-46	<i>Posidonia oceanica</i>
T4	12.5.97	35°20'7"N-33°28'6"E / 35°20'6"N-33°27'5"E	28-38	<i>Posidonia oceanica</i>
T5	12.5.97	35°22'9"N-33°41'0"E / 35°22'4"N-33°39'3"E	38-45	<i>Posidonia oceanica</i> and <i>Caulerpa prolifera</i>
T7	13.5.97	35°19'2"N-32°54'6"E / 35°17'7"N-32°54'4"E	28-45	<i>Posidonia oceanica</i>
T9	13.5.97	35°12'5"N-32°52'3"E / 35°11'2"N-32°51'8"E	75-85	Muddy sand with <i>Caulerpa racemosa</i>
T10	16.5.97	35°40'3"N-34°39'1"E / 35°39'7"N-34°37'8"E	275-337	Mud
T11	16.5.97	35°40'9"N-34°35'4"E / 35°40'6"N-34°35'3"E	27-45	<i>Posidonia oceanica</i>
T12	17.5.97	35°26'7"N-34°10'4"E / 35°25'0"N-34°08'4"E	32-95	<i>Posidonia oceanica</i>
T13	17.5.97	35°25'1"N-34°11'1"E / 35°26'3"N-34°11'7"E	37-69	<i>Posidonia oceanica</i>
T14	17.5.97	35°21'5"N-34°10'4"E / 35°21'9"N-34°08'9"E	187-155	Mud
T17	18.5.97	35°13'9"N-33°56'9"E / 35°15'2"N-33°57'0"E	100-145	Hard substratum
T18	18.5.97	35°13'6"N-33°56'0"E / 35°15'0"N-33°55'8"E	62-70	Muddy sand with <i>Caulerpa racemosa</i>
T19	18.5.97	35°12'0"N-33°55'6"E / 35°13'3"N-33°55'1"E	37-38	Muddy-sand with <i>Caulerpa racemosa</i> and <i>Udotea petiolata</i>
T20	19.5.97	35°11'1"N-33°56'7"E / 35°10'3"N-33°55'9"E	50-100	Mud and <i>Sarcotragus</i> sp.
T21	19.5.97	35°11'1"N-33°58'0"E / 35°10'0"N-33°57'0"E	66-150	Muddy sand with <i>Caulerpa racemosa</i> and <i>Udotea petiolata</i>
T22	14.7.98	35°19'1"N-32°49'0"E / 35°18'6"N-32°49'9"E	223-227	Mud
T23	17.7.98	35°47'7"N-34°43'8"E / 35°47'9"N-34°44'1"E	113-114	Mud
T24	19.7.98	35°06'4"N-34°00'5"E / 35°07'6"N-33°59'6"E	90-89	Mud
T25	19.7.98	35°09'4"N-33°59'1"E / 35°10'4"N-33°58'5"E	105-131	Mud with shell fragments
T26	19.7.98	35°11'8"N-33°56'3"E / 35°10'6"N-33°57'2"E	59-70	Mud



DREDJ				
St.	Date	Coordinates or Localities Start / Finish	Depth (m)	Biotopes
D1	10.5.97	35°29'1"N-33°58'0"E	50	Hard substratum
D2	12.5.97	35°22'4"N-33°39'9"E	35	Sandy mud with shell fragments
D3	12.5.97	35°20'7"N-33°28'3"E	35	Sandy mud with shell fragments
D4	15.5.97	35°37'8"N-34°21'1"E	35	Sand with <i>Brachiostoma lanceolatum</i> and <i>Posidonia oceanica</i>
D7	16.5.97	35°35'7"N-34°27'4"E	70	Mud with <i>Ascidia</i> sp.
D8	16.5.97	35°34'8"N-34°25'9"E	35	<i>Posidonia oceanica</i>
D9	16.5.97	35°34'4"N-34°26'9"E	140	Mud
D10	16.5.97	35°34'8"N-34°28'3"E	210	Mud
D11	19.5.97	35°10'0"N-33°59'4"E	25	<i>Posidonia oceanica</i>
D13	19.5.97	35°08'7"N-33°57'6"E	92	Hard substratum with <i>Sargassum vulgare</i>
D14	12.7.98	35°30'0"N-33°09'9"E	600	Mud
D15	14.7.98	35°10'0"N-32°50'0"E	69	Sandy mud with shell fragments
D16	14.7.98	35°19'9"N-32°50'1"E	210	Mud
D17	16.7.98	35°43'8"N-34°37'3"E	250-300	Mud with shell fragments
D18	16.7.98	35°33'8"N-34°13'0"E	32	<i>Posidonia oceanica</i>
D19	17.7.98	35°24'8"N-34°10'1"E	50	Muddy sand with <i>Caulerpa racemosa</i>
D20	18.7.98	35°08'7"N-34°00'1"E	120	Mud
D21	19.7.98	35°09'0"N-33°57'0"E	20	<i>Posidonia oceanica</i>

DIVING				
St.	Date	Coordinates or Localities Start / Finish	Depth (m)	Biotopes
C1	14.7.98	Guzelyurt Bay	0-10	<i>Cystoseira crinita</i> , <i>Posidonia oceanica</i> , rocks and sand
C2	14.7.98	Guzelyurt Bay	0-10	<i>Cystoseira crinita</i> and sand
C3	18.7.98	Karpas Cape	0-10	<i>Cystoseira crinita</i> , <i>Posidonia oceanica</i> and rocks
C4	18.7.98	Famagusta Bay	0-10	<i>Posidonia oceanica</i> and rocks
C5	19.7.98	Karpas Cape	0-10	<i>Cystoseira</i> sp., <i>Posidonia oceanica</i> and rocks
C6	19.7.98	Karpas Cape	0-10	<i>Padina pavonica</i> , <i>Posidonia oceanica</i> and rocks
C7	19.7.98	Karpas Cape	0-10	<i>Cystoseira</i> sp. and rocks
C8	21.7.98	Girne	0-10	<i>Cystoseira crinita</i> , <i>Posidonia oceanica</i> and rocks
C9	21.7.98	Malazgirt	0-10	<i>Padina pavonica</i> , <i>Cystoseira crinita</i> , <i>Posidonia oceanica</i> and rocks
C10	21.7.98	Kormakiti Cape	0-10	<i>Cystoseira crinita</i> , <i>Posidonia oceanica</i> and sand
C11	21.7.98	Famagusta Harbour	0-3	Rocks with <i>Cystoseira crinita</i>
C12	13.7.98	Girne Harbour	0-1	<i>Padina pavonica</i>

RESULTS

During the study carried out in the Northern Cypriot coasts, 4786 specimens were collected. As a result of evaluation of this sampling, 9 Polyplacophora, 183 Gastropoda, 110 Bivalvia and 2 Scaphopoda species were identified (Table 2).

Out of 304 species identified during this study, 18 species are here reported for the first time from Cyprus (Table 3).

According to the literature so far analyzed, 6 of these 18 species have never been reported before for the entire Levantine basin, i.e.: *Rissoa splendida* Eichwald, 1830, *Protatlanta souleyeti* (Smith E. A., 1888), *Cerithiopsis scalaris* Locard, 1892, ex Monterosato ms., *Granulina boucheti* Gofas, 1992, *Teretia teres* (Reeve, 1844) and *Turbonilla acutissima* (Monterosato, 1884).

Table 2: Taxonomical distribution of the species examined.

Classis	Ordo	Familia	Genus	Species
Polyplacophora	1	4	6	9
Gastropoda	12	59	109	183
Bivalvia	10	38	83	110
Scaphopoda	-	2	2	2
Total	23	103	200	304

**Table 3:** Molluscs species known from the Cyprus Island (examined material and literature).L: literature (**Lx** : Authors from the literature); **FR**: first record for the area; **N**: notes (*indopacific origin); **R**: findings from our material; **Z**: figures.

SPECIES	L	N	R	Z
POLYPLACOPHORA				
Leptochitonidae				
<i>Lepidopleurus cajetanus</i> (Poli, 1791)	L3		+	
<i>Lepidopleurus bedullii</i> (Dell'Angelo & Palazzi, 1986)	L23	1		
<i>Lepidopleurus cancellatus</i> (Sowerby G. B. II, 1840)	L3			
Ischnochitonidae				
<i>Ischnochiton rissoi</i> (Payraudeau, 1826)	L5		+	
<i>Callochiton septemvalvis</i> (Montagu, 1803)	L2		+	
<i>Lepidochitona cinerea</i> (Linnaeus, 1767)	L23		+	
<i>Lepidochitona caprearum</i> (Scacchi, 1836)	L5		+	
<i>Lepidochitona monterosatoi</i> Kaas & Van Belle, 1981	L11		+	
Chitonidae				
<i>Chiton corallinus</i> (Risso, 1826)	L5		+	
<i>Chiton olivaceus</i> Spengler, 1797	L2		+	
<i>Chiton phaseolinus</i> Monterosato, 1879	L23			
Acanthochitonidae				
		2		
<i>Acanthochitona crinita</i> (Pennant, 1777)	L11	3		
<i>Acanthochitona fascicularis</i> (Linnaeus, 1767)	L2		+	
GASTROPODA				
Patellidae				
<i>Patella caerulea</i> Linnaeus, 1758	L1		+	
<i>Patella rustica</i> Linnaeus, 1758	L1		+	
<i>Patella ulyssiponensis</i> Gmelin, 1791	L9		+	
Lottiidae				
<i>Tectura virginea</i> (Müller O. F., 1776)	L2			
Lepetidae				
<i>Propilidium scabrosum</i> Jeffreys, 1883	L4			
Addisoniidae				
<i>Addisonia lateralis</i> (Réquien, 1848)	L9			
Neritidae				
<i>Smaragdia souverbiana</i> (Montrouzier, 1863)	L24	*		
<i>Smaragdia viridis</i> (Linnaeus, 1758)	L2		+	
Fissurellidae				
<i>Fissurella nubecula</i> (Linnaeus, 1758)	L4			
<i>Diodora dorsata</i> (Monterosato, 1878)	L23			
<i>Diodora gibberula</i> (Lamarck, 1822)	L4		+	
<i>Diodora graeca</i> (Linnaeus, 1758)	L4		+	
<i>Diodora italica</i> (Defrance, 1820)	L2		+	
<i>Emarginula octaviana</i> Coen, 1939	L2			
<i>Emarginula sicula</i> Gray, 1825	L2			
<i>Emarginella huzardii</i> (Payraudeau, 1826)	L9		+	
Scissurellidae				
<i>Scissurella costata</i> D'Orbigny, 1824	L11		+	
<i>Anatoma crispata</i> Fleming, 1828	L24		+	
<i>Sinezona cingulata</i> (Costa O. G., 1861)	L11			
Haliotidae				
<i>Haliotis tuberculata tuberculata</i> Linnaeus, 1758	L1	4	+	
Trochidae				
<i>Trochus erythraeus</i> Brocchi, 1826	L9	*	+	
<i>Clanculus (Clanculus) corallinus</i> (Gmelin, 1791)	L2		+	
<i>Clanculus (Clanculopsis) cruciatus</i> (Linnaeus, 1758)	L3		+	



Table 3 continued

SPECIES	L	N	R	Z
<i>Clanculus (Clanculopsis) jussieui</i> (Payraudeau, 1826)	L4			
<i>Calliostoma conulus</i> (Linnaeus, 1758)	L9		+	
<i>Calliostoma laugierii laugierii</i> (Payraudeau, 1826)	L2		+	
<i>Calliostoma zizyphinum</i> (Linnaeus, 1758)	L2			
<i>Calliostoma granulatum</i> (Von Born, 1778)	L2		+	
<i>Gibbula ardens</i> (Von Salis, 1793)	L1		+	
<i>Gibbula magus</i> (Linnaeus, 1758)	L3		+	
<i>Gibbula adansonii</i> (Payraudeau, 1826)	L4		+	
<i>Gibbula turbinoides</i> (Deshayes, 1835)	L9		+	
<i>Gibbula fanulum</i> (Gmelin, 1791)	L4		+	
<i>Gibbula guttadauri</i> (Philippi, 1836)	L9			
<i>Gibbula leucophaea</i> (Philippi, 1836)	L9			
<i>Gibbula philberti</i> (Recluz, 1843)	L11			
<i>Gibbula richardi</i> (Payraudeau, 1826)	L5		+	
<i>Gibbula varia</i> (Linnaeus, 1758)	L2		+	
<i>Gibbula divaricata</i> (Linnaeus, 1758)	L4		+	
<i>Gibbula rarilineata</i> (Michaud, 1829)	L9			
<i>Gibbula umbilicaris nebulosa</i> (Philippi, 1848)	L1	5	+	
<i>Osilinus articulatus</i> Lamarck, 1822	L1		+	
<i>Osilinus mutabilis</i> (Philippi, 1846)	L10			
<i>Osilinus turbinatus</i> (Von Born, 1778)	L1		+	
<i>Clelandella miliaris</i> (Brocchi, 1814)	L24			
<i>Jujubinus exasperatus</i> (Pennant, 1777)	L2		+	
<i>Jujubinus striatus striatus</i> (Linnaeus, 1758)	L3		+	
Colloniidae				
<i>Cantrainea peloritana</i> (Cantraine, 1835)	L9			
<i>Homalopoma carmelae</i> Oliverio & Buzzurro, 1994	L19			
<i>Homalopoma sanguineum</i> (Linnaeus, 1758)	L2		+	
Tricoliidae				
<i>Tricolia pullus pullus</i> (Linnaeus, 1758)	L2		+	
<i>Tricolia speciosa</i> (Von Muehlfeldt, 1824)	L2			
<i>Tricolia tenuis</i> (Michaud, 1829)	L9		+	
Turbinidae				
<i>Bolma rugosa</i> (Linnaeus, 1758)	L7		+	
Cerithiidae				
<i>Cerithium alucaster</i> (Brocchi, 1814)	L9			
<i>Cerithium haustellum</i> Monterosato in Crema, 1903	L24			
<i>Cerithium lividulum</i> Risso, 1826	L24			
<i>Cerithium nesioticum</i> Pilsbry & Vanatta, 1906	L11	*		
<i>Cerithium protractum</i> Bivona Ant. in Bivona And., 1838	L24		+	
<i>Cerithium rupestre</i> Risso, 1826	L1		+	
<i>Cerithium scabridum</i> Philippi, 1848	L15	*	+	
<i>Cerithium vulgatum</i> Bruguière, 1792	L1		+	
<i>Bittium jadertinum</i> (Brusina, 1865)	L11		+	
<i>Bittium latreillii</i> (Payraudeau, 1826)	L9		+	
<i>Bittium reticulatum</i> (Da Costa, 1778)	L2		+	
<i>Bittium scabrum</i> (Olivi, 1792)	L23			
<i>Rhinoclavis kochi</i> (Philippi, 1848)	L4	*		
Fossaridae				
<i>Fossarus ambiguus</i> (Linnaeus, 1758)	L11			
Obtortionidae				
<i>Finella pupoides</i> Adams, A., 1860	L23	*	+	
<i>Clathrofenella fusca</i> (Adams, A., 1860)	L21	*	+	
Potamididae				



Table 3 continued

SPECIES	L	N	R	Z
<i>Pirenella conica</i> (Blainville, 1826)	L9		+	
Siliquariidae				
<i>Tenagodus obtusus</i> (Schumacher, 1817)	L3			
Turritellidae				
<i>Turritella communis</i> Risso, 1826	L2		+	
<i>Turritella turbona</i> Monterosato, 1877	L2			
Littorinidae				
<i>Melarhaphé neritoides</i> (Linnaeus, 1758)	L1	6	+	
<i>Nodilittorina (Echinolittorina) punctata</i> (Gmelin, 1791)	FR		+	2
Cingulopsidae				
<i>Eatonina fulgida</i> (Adams, J., 1797)	L11			
Rissoidae				
<i>Rissoa angustior</i> (Monterosato, 1917)	L23			
<i>Rissoa auriformis pseudomonodonta</i> Verduin, 1983	L12			
<i>Rissoa auriscalpium</i> (Linnaeus, 1758)	L9			
<i>Rissoa decorata</i> Philippi, 1846	L23			
<i>Rissoa guerinii</i> Récluz, 1843	L9		+	
<i>Rissoa italiensis</i> Verduin, 1985	L23			
<i>Rissoa labiosa</i> (Montagu, 1803)	L23			
<i>Rissoa lia</i> (Monterosato, 1884, ex Benoit ms.)	L9			
<i>Rissoa monodonta</i> Philippi, 1836	L9		+	
<i>Rissoa rodhensis</i> Verduin, 1985	L23		+	
<i>Rissoa scurra</i> (Monterosato, 1917)	L11		+	
<i>Rissoa similis</i> Scacchi, 1836	L9		+	
<i>Rissoa splendida</i> Eichwald, 1830	FR		+	3
<i>Rissoa variabilis</i> (Von Muehlfeldt, 1824)	L9		+	
<i>Rissoa ventricosa</i> Desmarest, 1814	L2		+	
<i>Rissoa violacea violacea</i> Récluz, 1843	L9		+	
<i>Alvania amatii</i> Oliverio, 1986	L11	7	+	
<i>Alvania aspera</i> (Philippi, 1844)	L9			
<i>Alvania beani</i> (Hanley in Thorpe, 1844)	L9			
<i>Alvania beniamina</i> (Monterosato, 1884)	L6			
<i>Alvania cancellata</i> (Da Costa, 1778)	L18		+	
<i>Alvania chiarellii</i> Cecalupo & Quadri, 1995	L21			
<i>Alvania cimex</i> (Linnaeus, 1758)	L1		+	
<i>Alvania colossophilus</i> Oberling, 1970	L11			
<i>Alvania datchaensis</i> Amati & Oliverio, 1987	L12			
<i>Alvania discors</i> (Allan, 1818)	L9		+	
<i>Alvania dorbignyi</i> (Audouin, 1827)	L11	8		
<i>Alvania fractospira</i> Oberling, 1970	FR		+	4
<i>Alvania geryonia</i> (Nardo, 1847, ex Chiereghini ms.)	L11		+	
<i>Alvania cf. hallgassi</i> Amati & Oliverio, 1985	L11	25		
<i>Alvania hispidula</i> (Monterosato, 1884)	L24			
<i>Alvania lactea</i> (Michaud, 1832)	L18			
<i>Alvania lanciae</i> (Calcara, 1841)	L9			
<i>Alvania lineata</i> Risso, 1826	L9		+	
<i>Alvania mamillata</i> Risso, 1826	L8			
<i>Alvania oranica</i> (Pallary, 1900)	L11			
<i>Alvania paupercula</i> (Jeffreys, 1867)	L9			
<i>Alvania rudis</i> (Philippi, 1844)	L23			
<i>Alvania scabra</i> (Philippi, 1844)	L23		+	
<i>Alvania sculptilis</i> (Monterosato, 1877)	L23			
<i>Alvania testae</i> (Aradas & Maggiore, 1844)	FR		+	5
<i>Cingula trifasciata</i> (Adams J., 1800)	L9			



Table 3 continued

SPECIES	L	N	R	Z
<i>Manzonina crassa</i> (Kanmacher, 1798)	L11		+	
<i>Manzonina weinkauffi jacobusi</i> Oliverio, Amati & Nofroni, 1986	L23			
<i>Obtusella macilenta</i> (Monterosato, 1880)	L23			
<i>Peringiella elegans</i> (Locard, 1892)	L23			
<i>Pusillina diversa</i> (Nordsieck, 1972)	L23			
<i>Pusillina inconspicua</i> (Alder, 1844)	L23			
<i>Pusillina lineolata</i> (Michaud, 1832)	L9			
<i>Pusillina margininia</i> (Nordsieck, 1972)	L23			
<i>Pusillina marginata</i> (Michaud, 1832)	L23			
<i>Pusillina munda</i> (Monterosato, 1884)	L23			
<i>Pusillina philippi</i> (Aradas & Maggioro, 1844)	L23		+	
<i>Pusillina radiata</i> (Philippi, 1836)	L11			
<i>Setia ambigua</i> (Brugnone, 1873)	L23			
<i>Setia fusca</i> (Philippi, 1841)	L23	9		
<i>Setia slikorum</i> (Verduin, 1984)	L23			
<i>Setia turriculata</i> Monterosato, 1884	L11			
<i>Rissoina bruguieri</i> (Payraudeau, 1826)	L9		+	
<i>Rissoina bertholleti</i> Issel, 1869	L11	*		
Adeorbidae				
<i>Circulus striatus</i> (Philippi, 1836)	L9			
Anabathridae				
<i>Pisinna glabrata</i> (Von Muhelfeldt, 1824)	L11			
Assimineidae				
<i>Paludinella littorina</i> (Delle Chiaje, 1828)	L11			
<i>Paludinella cf. sicana</i> (Brugnone, 1876)	L23			
Barleeidae				
<i>Barleeia unifasciata</i> (Montagu, 1803)	L9			
Caecidae				
<i>Caecum auriculatum</i> de Folin, 1868	L11		+	
<i>Caecum trachea</i> (Montagu, 1803)	L11		+	
Hydrobiidae				
<i>Hydrobia acuta</i> (Draparnaud, 1805)	FR		+	6
Tornidae				
<i>Tornus subcarinatus</i> (Montagu, 1803)	L9		+	
Truncatellidae				
<i>Truncatella subcylindrica</i> (Linnaeus, 1767)	L2		+	
Strombidae				
<i>Strombus persicus</i> Swainson, 1821	L9	*	+	
Aporrhaidae				
<i>Aporrhais pespelecani</i> (Linnaeus, 1767)	L2		+	
Crepidulidae				
<i>Crepidula unguiformis</i> Lamarck, 1822	L2	10		
Capulidae				
<i>Capulus hungaricus</i> (Linnaeus, 1758)	L2			
Vermetidae				
<i>Vermetus cristatus</i> Biondi, 1857	L9			
<i>Vermetus rugulosus</i> Monterosato 1878	L23			
<i>Vermetus triquetrus</i> Bivona Ant., 1832	L2		+	
<i>Vermetus cf. granulatus</i> (Gravenhorst, 1831)	L24			
<i>Vermetus cf. semisurrectus</i> Bivona Ant., 1832	L24			
<i>Vermetus</i> sp.	L23			
<i>Dendropoma anguliferum</i> (Monterosato, 1884)	L11			
<i>Dendropoma petraeum</i> (Monterosato, 1884)	L2			
<i>Petalconchus glomeratus</i> (Linnaeus, 1758)	L7			



Table 3 continued

SPECIES	L	N	R	Z
<i>Serpulorbis arenaria</i> (Linnaeus, 1767)	L1		+	
Cypraeidae		11		
<i>Erosaria spurca</i> (Linnaeus, 1758)	L2		+	
<i>Luria lurida</i> (Linnaeus, 1758)	L2			
Lamellariidae				
<i>Lamellaria latens</i> (Müller O. F., 1776)	L9			
<i>Lamellaria perspicua</i> (Linnaeus, 1758)	L3			
Triviidae				
<i>Trivia arctica</i> (Pulteney, 1789)	L1			
<i>Trivia levantina</i> Smriglio, Mariottini & Buzzurro, 1998	L27		+	
<i>Trivia pulex</i> (Solander in Gray, 1828)	L2			
Naticidae				
<i>Natica dillwynii</i> Payraudeau, 1826	L1		+	
<i>Natica hebraea</i> (Martyn, 1784)	L7		+	
<i>Natica stercusmuscarum</i> (Gmelin, 1791)	L7		+	
<i>Tecnonatica filosa</i> (Philippi, 1845)	L18			
<i>Tecnonatica rizzae</i> (Philippi, 1844)	L9			
<i>Euspira guillemini</i> (Payraudeau, 1826)	L18			
<i>Euspira pulchella</i> (Risso, 1826)	L7		+	
<i>Neverita josephinia</i> Risso, 1826	L7		+	
<i>Payraudeautia intricata</i> (Donovan, 1804)	L9			
Tonnidae				
<i>Tonna galea</i> (Linnaeus, 1758)	L2		+	
Cassidae				
<i>Galeodea echinophora</i> (Linnaeus 1758)	L2		+	
<i>Galeodea rugosa</i> (Linné, 1771)	L3			
<i>Phalium granulatum</i> (Von Born, 1778)	L3		+	
<i>Phalium saburon</i> (Bruguère, 1792)	L2			
Ranellidae				
<i>Ranella olearia</i> (Linnaeus, 1758)	L9			
<i>Cymatium corrugatum corrugatum</i> (Lamarck, 1816)	L2			
<i>Cymatium parthenopeum parthenopeum</i> (Von Salis, 1793)	L9			
<i>Cabestana cutacea cutacea</i> (Linnaeus, 1767)	L9			
<i>Charonia lampas lampas</i> (Linnaeus, 1758)	L3			
<i>Charonia variegata</i> (Lamarck, 1816)	L2	12	+	
Atlantidae				
<i>Atlanta peronii</i> Lesueur, 1817	L24			
<i>Oxygyrus keraudrenii</i> (Lesueur, 1817)	L24			
<i>Protatlanta souleyeti</i> (Smith E. A., 1888)	FR		+	7
Firolidae				
<i>Firoloida desmarestia</i> Lesueur, 1817	L13			
<i>Pterotrachea hippocampus</i> Philippi, 1836	L13			
<i>Pterotrachea minuta</i> Bonnevie, 1920	L13			
Triphoridae				
<i>Cheirodonta pallezens</i> (Jeffreys, 1867)	L23			
<i>Marshallora adversa</i> (Montagu 1803)	L15		+	
<i>Monophorus perversus</i> (Linnaeus, 1758)	L2		+	
<i>Similiphora similior</i> (Bouchet & Guillemot, 1978)	L23			
<i>Metaxia bacillum</i> (Issel, 1869)	L21	*		
<i>Metaxia metaxa</i> (Delle Chiaje, 1828)	L13			
Cerithiopsidae				
<i>Cerithiopsis diadema</i> Monterosato, 1864, ex Watson ms.	L24			
<i>Cerithiopsis fayalensis</i> Watson, 1886	L23			
<i>Cerithiopsis minima</i> (Brusina, 1865)	L23		+	



Table 3 continued

SPECIES	L	N	R	Z
<i>Cerithiopsis nana</i> Jeffreys, 1867	L23			
<i>Cerithiopsis pulvis</i> (Issel, 1869)	L11	*		
<i>Cerithiopsis scalaris</i> Locard, 1892, ex Monterosato ms.	FR		+	8
<i>Cerithiopsis tenthrenois</i> (Melvill, 1869)	L24	*		
<i>Cerithiopsis tubercularis</i> (Montagu, 1803)	L11		+	
<i>Krachia tiara</i> Monterosato, 1874, ex Watson ms.	L23			
<i>Dizoniopsis bilineata</i> (Hörnes, 1848)	L11			
<i>Dizoniopsis coppolae</i> (Aradas, 1870)	L23			
<i>Seila trilineata</i> (Philippi, 1836)	L9			
Janthinidae				
<i>Janthina janthina</i> (Linnaeus, 1758)	L9			
<i>Janthina nitens</i> Menke, 1828	L2			
Cimidae				
<i>Cima cylindrica</i> (Jeffreys, 1858)	L11			
Epitoniidae				
<i>Epitonium algerianum</i> (Weinkauff, 1866)	L23			
<i>Epitonium clathratulum</i> (Kanmacher, 1798)	L3			
<i>Epitonium commune</i> (Lamarck, 1822)	L9		+	
<i>Epitonium turtoni</i> (Turton, 1819)	L4			
<i>Cycloscala hyalina</i> (Sowerby G. B. II, 1844)	L17	*		
<i>Gyroscala lamellosa</i> (Lamarck, 1822)	L2			
<i>Opalia hellenica</i> (Forbes, 1844)	L23		+	
Eulimidae				
<i>Crinophtheiros comatulicola</i> (Graff, 1875)	L11			
<i>Ersilia mediterranea</i> (Monterosato, 1869)	L11			
<i>Eulima bilineata</i> Alder, 1848	L25		+	
<i>Eulima glabra</i> (Da Costa, 1778)	L2		+	
<i>Melanella boscii</i> (Payraudeau, 1827)	L23			
<i>Melanella monterosatoi</i> (Monterosato, 1890, ex De Boury ms.)	L23			
<i>Melanella polita</i> Linnaeus, 1758)	L11			
<i>Parvioris ibizenca</i> (Nordsieck, 1968)	L23			
<i>Nanobalcis nana</i> (Monterosato, 1878)	L24			
<i>Sabinella piriformis</i> Brugnone, 1873	L24			
<i>Sticticulima lentiginosa</i> (Adams A., 1861)	L24	*		
<i>Sticticulima jeffreysiana</i> (Brusina, 1869)	L23			
<i>Vitreolina curva</i> (Monterosato, 1874, ex Jeffreys ms.)	L9		+	
<i>Vitreolina devians</i> Monterosato, 1875	L24			
<i>Vitreolina incurva</i> (B. D. D., 1883)	L11			
<i>Vitreolina levantina</i> Oliverio, Buzzurro & Villa, 1994	L20			
<i>Vitreolina perminima</i> (Jeffreys, 1883)	L9			
<i>Vitreolina philippi</i> (Rayneval & Ponzi, 1854)	L9		+	
Muricidae				
<i>Aspella anceps</i> (Lamarck, 1822)	L4	*		
<i>Bolinus brandaris</i> (Linnaeus, 1758)	L2		+	
<i>Dermomurex scalaroides</i> (Blainville, 1829)	L23			
<i>Hadriana oretea</i> (De Gregorio, 1885)	L4			
<i>Hexaplex trunculus</i> (Linnaeus, 1758)	L2		+	
<i>Murexsul aradasii</i> (Poirier, 1883, ex Monterosato ms.)	L9			
? <i>Muricopsis cevikeri</i> Houart, 2000	L28			
<i>Muricopsis cristata</i> (Brocchi, 1814)	L2		+	
<i>Ocenebra erinaceus</i> (Linnaeus, 1758)	L4		+	
<i>Ocenebrina aciculata</i> (Lamarck, 1822)	L3		+	
<i>Ocenebrina edwardsii</i> (Payraudeau, 1826)	L4		+	
<i>Ocenebrina hispidula</i> (Pallary, 1904)	L23			



Table 3 continued

SPECIES	L	N	R	Z
<i>Ocenebrina hybrida</i> (Aradas & Benoit, 1876)	L11			
<i>Typhinellus sowerbyi</i> (Broderip, 1833)	L4			
<i>Ergalatax obscura</i> Houart, 1996	L24	*		
<i>Thais lacera</i> (Born, 1778)	L28	*		
<i>Stramonita haemastoma</i> (Linnaeus, 1766)	L2		+	
<i>Coralliophila meyendorffii</i> (Calcara, 1845)	L4			
<i>Hirtomurex squamosa</i> (Bivona And., 1838)	L9			
<i>Babelomurex babelis</i> (Requién, 1848)	L3			
Buccinidae				
<i>Buccinum corneum</i> (Linnaeus, 1758)	L2		+	
<i>Chauvetia candidissima</i> (Philippi, 1836)	L18			
<i>Chauvetia recondita</i> (Brugnone, 1873)	L23			
<i>Engina leucozona</i> (Philippi, 1843)	L4		+	
<i>Pisania striata</i> (Gmelin, 1791)	L2		+	
<i>Pollia dorbignyi</i> (Payraudeau, 1826)	L7		+	
<i>Pollia scabra</i> Locard, 1886	L9			
<i>Pollia scacchiana</i> (Philippi, 1844)	L9		+	
<i>Colubraria reticulata</i> (Blainville, 1826)	L3			
Columbellidae				
<i>Columbella rustica</i> (Linnaeus, 1758)	L1		+	
<i>Anachis savignyi</i> (Moazzo, 1939, ex Jousseume ms.)	L24	*	+	
<i>Anachis troglodytes</i> (Sowerbie G. B. I & Montrouzier, 1866)	L23	*		
<i>Mitrella</i> cf. <i>bruggeni</i> Aartsen, Menkhorst & Gittenberg, 1984	L23			
<i>Mitrella gervillii</i> (Payraudeau, 1826)	L9		+	
<i>Mitrella minor</i> (Scacchi, 1836)	L11			
<i>Mitrella scripta</i> (Linnaeus, 1758)	L2		+	
Nassariidae				
<i>Nassarius corniculus</i> (Olivi, 1792)	L2			
<i>Nassarius incrassatus</i> (Stroem, 1768)	L7		+	
<i>Nassarius reticulatus</i> (Linnaeus, 1758)	L2			
<i>Nassarius circumcinctus</i> (Adams A., 1852)	FR		+	9
<i>Nassarius gibbosulus</i> (Linnaeus, 1758)	L2		+	
<i>Nassarius mutabilis</i> (Linnaeus, 1758)	L2		+	
<i>Nassarius cuvierii</i> (Payraudeau, 1826)	L9		+	
<i>Nassarius louisi</i> (Pallary, 1912)	L9		+	
<i>Nassarius lima</i> (Dillwyn, 1817)	L9			
<i>Cyclope neritea</i> (Linnaeus, 1758)	L2		+	
Fascioliariidae				
<i>Fasciolaria lignaria</i> (Linnaeus, 1758)	L2		+	
<i>Fusinus sanctaeluciae</i> (Von Salis, 1793)	L2		+	
<i>Fusinus rudis</i> (Philippi, 1844)	L9			
<i>Fusinus syracusanus</i> (Linnaeus, 1758)	L2		+	
Costellariidae				
		13		
<i>Vexillum ebenus</i> (Lamarck, 1811)	L2		+	
<i>Vexillum littorale</i> (Forbes, 1844)	L9		+	
<i>Vexillum savignyi</i> (Payraudeau, 1826)	L9			
<i>Vexillum tricolor</i> (Gmelin, 1790)	L3		+	
Marginellidae				
<i>Volvarina mitrella</i> (Risso, 1826)	L4		+	
Cystiscidae				
<i>Gibberula miliaria</i> (Linnaeus, 1758)	L2		+	
<i>Gibberula philippii</i> (Monterosato, 1878)	L11		+	
<i>Granulina boucheti</i> Gofas, 1992	FR		+	10
<i>Granulina marginata</i> (Bivona, 1832)	L23	14		



Table 3 continued

SPECIES	L	N	R	Z
<i>Granulina occulta</i> (Monterosato, 1869)	L11			
Mitridae				
<i>Mitra cornicula</i> (Linnaeus, 1758)	L2		+	
<i>Mitra zonata</i> Marryat, 1818	L9			
Cancellariidae				
<i>Cancellaria cancellata</i> (Linnaeus, 1767)	L4			
Turridae				
<i>Haedropleura septangularis</i> (Montagu, 1803)	L18			
Conidae				
<i>Conus mediterraneus</i> Hwass in Bruguière, 1792	L1		+	
<i>Bela</i> cf. <i>cycladensis</i> (Reeve, 1845)	L24			
<i>Bela laevigata</i> (Philippi, 1836)	L15		+	
<i>Bela menkhorsti</i> Aartsen, 1988	L15			
<i>Bela nebula</i> (Montagu, 1803)	L3		+	
<i>Bela ornata</i> (Locard, 1897)	L23			
<i>Bela taprurenensis</i> (Pallary, 1904)	L11		+	
<i>Clathromangelia granum</i> (Philippi, 1844)	L9	15		
<i>Gymnobela subaraneosa</i> (Dautzenberg & Fischer H. , 1896)	FR		+	11
<i>Mangelia attenuata</i> (Montagu, 1803)	L3		+	
<i>Mangelia barashi</i> (Aartsen & Fehr de Wal, 1978)	L11		+	
<i>Mangelia bertrandii</i> (Payraudeau, 1826)	L11			
<i>Mangelia costulata</i> (Blainville, 1829)	L3			
<i>Mangelia fieldeni</i> (Aartsen & Fehr de Wal, 1978, ex Mont. ms.)	L11	16	+	
<i>Mangelia</i> cf. <i>pallary</i> (Nordsieck, 1977)	L11			
<i>Mangelia sandrii</i> (Brusina, 1865)	L23			
<i>Mangelia secreta</i> (Aartsen & Fehr de Wal, 1978, ex Mont. ms.)	L23			
<i>Mangelia sicula</i> Reeve, 1846	L23			
<i>Mangelia taeniata</i> (Deshayes, 1835)	L3		+	
<i>Mangelia unifasciata</i> (Deshayes, 1835)	L7		+	
<i>Mangelia vauquelini</i> (Payraudeau, 1826)	L9			
<i>Taranis moerchi</i> (Malm, 1863)	L24			
<i>Mitrolumna olivoidea</i> (Cantraine, 1835)	L3		+	
<i>Raphitoma alternans</i> (Monterosato, 1884)	L24			
<i>Raphitoma</i> cf. <i>atropurpurea</i> (Locard & Caziot, 1900, ex Mont. ms.)	L24			
<i>Raphitoma bicolor</i> (Risso, 1826)	L7			
<i>Raphitoma concinna</i> (Scacchi, 1836)	L9			
<i>Raphitoma cordieri</i> (Payraudeau, 1826)	L24			
<i>Raphitoma echinata</i> (Brocchi, 1814)	L9			
<i>Raphitoma laviae</i> (Philippi, 1844)	L23		+	
<i>Raphitoma linearis</i> (Montagu, 1803)	L9		+	
<i>Raphitoma papillosa</i> (Pallary, 1904)	L24			
<i>Raphitoma philberti</i> (Michaud, 1829)	L11		+	
<i>Raphitoma pruinosa</i> (Pallary, 1906)	L24			
<i>Raphitoma pupoides</i> (Monterosato, 1884)	L23			
<i>Leufroya leufroyi</i> (Michaud, 1828)	L11			
<i>Comarmondia gracilis</i> (Montagu, 1803)	L13		+	
<i>Teretia teres</i> (Reeve, 1844)	FR		+	12
Drilliidae				
<i>Crassopleura incrassata</i> (Dujardin, 1837)	L9		+	
Mathildidae				
<i>Mathilda gemmulata</i> Semper, 1865	L9			
Rissoellidae				
<i>Rissoella inflata</i> Locard, 1892	L11			
Omalogyridae				



Table 3 continued

SPECIES	L	N	R	Z
<i>Omalogyra atomus</i> (Philippi, 1841)	L11			
<i>Ammonicera fischeriana</i> (Monterosato, 1869)	L11		+	
Pyramidellidae				
<i>Chrysallida clathrata</i> (Jeffreys, 1848)	L9			
<i>Chrysallida decorata</i> (Philippi, 1849)	L24	*17		
<i>Chrysallida decussata</i> (Montagu, 1803)	L24			
<i>Chrysallida emaciata</i> (Brusina, 1866)	L24			
<i>Chrysallida indistincta</i> (Montagu, 1808)	L11		+	
<i>Chrysallida intermixta</i> (Monterosato, 1884)	L11			
<i>Chrysallida jeffreysiana</i> (Monterosato, 1884, ex Seguenza G. ms.)	L11			
<i>Chrysallida juliae</i> (de Folin, 1872)	FR		+	13
<i>Chrysallida limitum</i> (Brusina, 1876)	L23			
<i>Chrysallida obtusa</i> (Brown T., 1827)	L11		+	
<i>Chrysallida</i> sp. B	L14			
<i>Chrysallida suturalis</i> (Philippi, 1844)	L23			
<i>Chrysallida terebellum</i> (Philippi, 1844)	L14			
<i>Clathrella clathrata</i> (Philippi, 1844)	L18			
<i>Euparthenia bulinea</i> (Lowe, 1841)	L9			
<i>Euparthenia humboldti</i> (Risso, 1826)	L11		+	
<i>Folinella excavata</i> (Philippi, 1836)	L9		+	
<i>Folinella ghisottii</i> Aartsen, 1984	FR		+	14
<i>Odostomella doliolum</i> (Philippi, 1844)	L9			
<i>Tragula fenestrata</i> (Jeffreys, 1848)	FR		+	15
<i>Adelactaeon amoenus</i> (Adams A., 1851)	L23	*		
<i>Eulimella acicula</i> (Philippi, 1836)	L23		+	
<i>Eulimella bogii</i> Aartsen, 1984	FR		+	16
<i>Eulimella cerullii</i> (Cossmann, 1915)	L15			
<i>Eulimella ventricosa</i> (Forbes, 1844)	L24			
" <i>Syrnola</i> " <i>fasciata</i> Jickeli, 1882	L22	*		
<i>Odostomia carrozzai</i> Aartsen, 1987	L11			
<i>Odostomia erjaveciana</i> Brusina, 1869	L23			
<i>Odostomia imponderabilior</i> Oberling, 1970	L23		+	
<i>Odostomia lukisii</i> Jeffreys, 1859	L11			
<i>Odostomia nofronii</i> Buzzurro, 2002	L29		+	
<i>Odostomia plicata</i> (Montagu, 1803)	L11			
<i>Odostomia scalaris</i> Mac Gillivray, 1843	L23			
<i>Odostomia striolata</i> Forbes & Hanley, 1850	L23			
<i>Odostomia turriculata</i> Monterosato, 1869	L23			
<i>Odostomia turrita</i> Hanley, 1844	L11			
<i>Odostomia unidentata</i> (Montagu, 1803)	L11		+	
<i>Megastomia conoidea</i> (Brocchi, 1814)	L9	18	+	
<i>Megastomia sicala</i> Philippi, 1851	L23	18		
<i>Liostronomia clavula</i> (Lovén, 1846)	L11			
<i>Ondina crystallina</i> Locard, 1892	L23			
<i>Ondina vitrea</i> (Brusina, 1866)	L23			
<i>Ondina warreni</i> (Thompson, 1845)	L11			
<i>Turbonilla acuta</i> (Donovan, 1804)	L24			
<i>Turbonilla acutissima</i> Monterosato, 1884	FR		+	17
<i>Turbonilla delicata</i> Monterosato, 1874	L10			
<i>Turbonilla edgari</i> (Melvill, 1896)	L23	*		
<i>Turbonilla gradata</i> B. D. D., 1883	L23			
<i>Turbonilla lactea</i> (Linnaeus, 1758)	L2			
<i>Turbonilla pumila</i> Seguenza, G., 1876	L23			
<i>Turbonilla pusilla</i> (Philippi, 1844)	L10			



Table 3 continued

SPECIES	L	N	R	Z
<i>Turbonilla</i> cf. <i>rosewateri</i> Corgan & Aartsen, 1993	L11			
<i>Turbonilla rufa</i> (Philippi, 1836)	L9		+	
<i>Turbonilla sinuosa</i> (Jeffreys, 1884)	L15			
<i>Turbonilla striatula</i> (Linnaeus, 1758)	L10		+	
<i>Turbonilla</i> cf. <i>syrtsensis</i> Aartsen, 1981	L11			
Anisocyclidae				
<i>Anisocycla folini</i> (Fischer P. in de Folin, 1869)	L11	19		
<i>Anisocycla nitidissima</i> (Montagu, 1803)	L24			
<i>Anisocycla pointeli</i> (de Folin, 1867)	L11			
Acteonidae				
<i>Acteon tornatilis</i> (Linnaeus, 1758)	L2		+	
<i>Crenilabium exile</i> (Jeffreys, 1870, ex Forbes ms.)	L18	20		
Retusidae				
<i>Pyrrunculus fourierii</i> (Audouin, 1826)	L23	*		
<i>Retusa leptoneilema</i> (Brusina, 1866)	L11			
<i>Retusa mammillata</i> (Philippi, 1836)	L15			
<i>Retusa truncatula</i> (Bruguière, 1792)	L3		+	
<i>Ventomnestia girardi</i> (Audouin, 1826)	L23	*		
<i>Cylichnina crebrisculpta</i> Monterosato, 1884	L23			
<i>Cylichnina laevisculpta</i> (Granata-Grillo, 1877)	L23			
<i>Cylichnina multiquadrata</i> (Oberling, 1970)	L24	21		
<i>Cylichnina umbilicata</i> (Montagu, 1803)	L2			
<i>Volvulella acuminata</i> (Bruguière, 1792)	L9			
Ringiculidae				
<i>Ringicula auriculata</i> (Ménard de la Groye, 1811)	L9			
<i>Ringicula conformis</i> Monterosato, 1877	L4		+	
Bullidae				
<i>Bulla striata</i> Bruguière, 1792	L2		+	
Haminoeidae				
<i>Haminoea hydatis</i> (Linnaeus, 1758)	L2			
<i>Haminoea navicula</i> (Da Costa, 1778)	L9			
<i>Haminoea orbignyana</i> (Férussac, 1822)	L11			
<i>Atys jeffreysi</i> (Weinkauff, 1868)	L23		+	
<i>Weinkauffia turgidula</i> (Forbes, 1844)	L11		+	
Smaragdinellidae				
<i>Smaragdinella algirae</i> (Adams A. in Sowerby G. B. II, 1850)	L23			
Philinidae				
<i>Philine aperta</i> (Linnaeus, 1767)	L2		+	
<i>Philine catena</i> (Montagu, 1803)	L11			
<i>Philine punctata</i> (Adams J., 1800)	L10			
Aglajidae				
<i>Philinopsis depicta</i> (Renier, 1804)	L10			
Akeridae				
<i>Akera bullata</i> Müller O. F., 1776	L4			
Cylichnidae				
<i>Cylichna crossei</i> B. D. D., 1886	L10			
<i>Cylichna cylindracea</i> (Pennant, 1777)	L9		+	
<i>Acteocina mucronata</i> (Philippi, 1849)	L17	*		
<i>Roxania utriculus</i> (Brocchi, 1814)	L10			
<i>Scaphander lignarius</i> (Linnaeus, 1758)	L25		+	
Gastropteridae				
<i>Gastropteron meckeli</i> Kosse, 1813	L3			
Cavolinidae				
<i>Cavolinia gibbosa gibbosa</i> (D' Orbigny, 1835, ex Rang ms.)	L13			



Table 3 continued

SPECIES	L	N	R	Z
<i>Cavolinia tridentata</i> (Niebuhr, 1775, ex Forskål ms.)	L9		+	
<i>Clio cuspidata</i> (Bosc, 1802)	L9			
<i>Clio pyramidata lanceolata</i> (Leseur, 1813)	L9			
<i>Creseis acicula</i> Rang, 1828	L13			
<i>Hyalocylis striata</i> (Rang, 1828)	L13			
<i>Styliola subula</i> (Quoy & Gaimard, 1827)	L10			
Limacinidae				
<i>Limacina trochiformis</i> (D' Orbigny, 1836)	L11			
<i>Limacina inflata</i> (D' Orbigny, 1836)	L11		+	
Oxynoidae				
<i>Oxynoe olivacea</i> Rafinesque, 1814	L4			
<i>Lobiger serradifalci</i> (Calcara, 1840)	L25			
Volvatellidae				
<i>Ascobulla fragilis</i> (Jeffreys, 1856)	L24			
Elyssidae				
<i>Elysia timida</i> (Risso, 1818)	L10			
<i>Thuridilla hopei</i> (Vérany, 1853)	L4			
Umbraculidae				
<i>Umbraculum umbraculum</i> (Röding, 1798)	L2		+	
Tylodiniidae				
<i>Tylodina perversa</i> (Gmelin, 1791)	L23			
Pleurobranchidae				
<i>Pleurobranchus membranaceus</i> (Montagu, 1815)	L9			
<i>Berthella ocellata</i> (Delle Chiaje, 1830)	L10			
<i>Berthellina citrina</i> (Rueppell & Leuckart, 1830)	L11			
<i>Berthellina engeli</i> Gardiner, 1936	L10			
<i>Pleurobranchaea meckelii</i> Meckel in Leue, 1813	L2			
<i>Pleurobranchus testudinarius</i> Cantraine, 1835	L10			
Aplysidae				
<i>Aplysia depilans</i> Gmelin, 1791	L2		+	
<i>Aplysia parvula</i> Guilding in Mörch, 1863	L10			
<i>Aplysia punctata</i> (Cuvier, 1803)	L11			
<i>Aplysia fasciata</i> Poiret, 1789	L4			
Dolabriferidae				
<i>Petalifera gravieri</i> (Vayssière, 1906)	L23			
<i>Notarchus punctatus</i> Philippi, 1836	L10			
Aegiretidae				
<i>Aegires punctilucens</i> (D' Orbigny, 1837)	L10			
Triophidae				
<i>Kaloplocamus ramosus</i> (Cantraine, 1835)	L10			
Chromodorididae				
<i>Hypselodoris tricolor</i> (Cantraine, 1835)	L4			
<i>Hypselodoris villafranca</i> (Risso, 1818)	L4			
Discodorididae				
<i>Discodoris atromaculata</i> (Bergh, 1880)	L2			
Dendrodorididae				
<i>Dendrodoris grandiflora</i> (Rapp, 1827)	L4			
<i>Doriopsilla areolata</i> Bergh, 1880	L10			
Tethyidae				
<i>Tethys fimbria</i> Linnaeus, 1767	L10			
Zephyrinidae				
<i>Janolus cristatus</i> (Delle Chiaje, 1841)	L4			
Flabellinidae				



Table 3 continued

SPECIES	L	N	R	Z
<i>Flabellina affinis</i> (Gmelin, 1791)	L4			
Siphonariidae				
<i>Siphonaria pectinata</i> (Linnaeus, 1758)	L9			
<i>Williamia gussonii</i> (Costa O. G., 1829)	L11		+	
Trimusculidae				
<i>Trimusculus mammillaris</i> (Linnaeus, 1758)	L9			
Melampidae				
<i>Auriculinella erosa</i> (Jeffreys, 1830)	L18			
<i>Ovatella firminii</i> (Payraudeau, 1826)	L11		+	
<i>Ovatella denticulata</i> (Montagu, 1803)	L23			
<i>Ovatella myosotis</i> (Draparnaud, 1801)	L2			
BIVALVIA				
Solemyidae				
<i>Solemya togata</i> (Poli, 1791)	L9		+	
Nuculidae				
<i>Nucula nitidosa</i> Winckworth, 1931	L11		+	
<i>Nucula nucleus</i> (Linnaeus, 1758)	L3		+	
<i>Nucula sulcata</i> Bronn, 1831	L4		+	
<i>Nuculoma tenuis</i> (Montagu, 1808)	L11			
Nuculanidae				
<i>Lembulus pellus</i> (Linnaeus, 1758)	L3		+	
<i>Saccella commutata</i> (Philippi, 1844)	L3		+	
Arcidae				
<i>Arca noae</i> Linnaeus, 1758	L1		+	
<i>Arca tetragona</i> Poli, 1795	L9			
<i>Barbatia barbata</i> (Linnaeus, 1758)	L1		+	
<i>Acar plicata</i> (Dillwyn, 1817)	L18			
<i>Anadara corbuloides</i> (Monterosato, 1878)	L9			
<i>Anadara polii</i> (Mayer, 1868)	L3			
<i>Bathyarca pectunculoides</i> (Scacchi, 1834)	L24			
<i>Striarca lactea</i> (Linnaeus, 1758)	L3		+	
Glycymerididae				
<i>Glycymeris bimaculata</i> (Poli, 1795)	L9		+	
<i>Glycymeris glycymeris</i> (Linnaeus, 1758)	L3		+	
<i>Glycymeris insubrica</i> (Brocchi, 1814)	L3		+	
Mytilidae				
<i>Mytilus galloprovincialis</i> Lamarck, 1819	L3		+	
<i>Brachidontes pharaonis</i> (Fischer P., 1870)	L9	*	+	
<i>Mytilaster minimus</i> (Poli, 1795)	L11		+	
<i>Crenella arenaria</i> Monterosato, 1875, ex Martin H. ms.	L11		+	
<i>Gregariella petagnae</i> (Scacchi, 1832)	L9		+	
<i>Modiolarca subpicta</i> (Cantraine, 1835)	L4		+	
<i>Musculus costulatus</i> (Risso, 1826)	L4		+	
<i>Lithophaga lithophaga</i> (Linnaeus, 1758)	L3		+	
<i>Modiolus barbatus</i> (Linnaeus, 1758)	L3		+	
<i>Modiolus adriaticus</i> (Lamarck, 1819)	L3		+	
<i>Modiolula phaseolina</i> (Philippi, 1844)	L20		+	
Pinnidae				
<i>Pinna nobilis</i> Linnaeus, 1758	L3		+	
Pteriidae				
<i>Pteria hirundo</i> (Linnaeus, 1758)	L4		+	
<i>Pinctada radiata</i> (Leach, 1814)	L3	*	+	
Malleidae				
<i>Malleus regula</i> (Forskål, 1775)	L3	*22	+	



Table 3 continued

SPECIES	L	N	R	Z
<i>Malleus</i> sp.	L23	*		
Pectinidae				
<i>Pecten jacobaeus</i> (Linnaeus, 1758)	L3		+	
<i>Aequipecten opercularis</i> (Linnaeus, 1758)	L7		+	
<i>Pseudamussium septemradiatum</i> (Müller O. F., 1776)	L3			
<i>Pseudamussium clavatum</i> (Poli, 1795)	L9		+	
<i>Similpecten similis</i> (Laskey, 1811)	L13			
<i>Palliolum incomparabile</i> (Risso, 1826)	L9		+	
<i>Crassadoma multistriata</i> (Poli, 1795)	L9			
<i>Mimachlamys varia</i> (Linnaeus, 1758)	L3		+	
<i>Manupecten pesfelis</i> (Linnaeus, 1758)	L3			
<i>Flexopecten flexuosus</i> (Poli, 1795)	L3		+	
<i>Flexopecten glaber</i> (Linnaeus, 1758)	L9		+	
<i>Lissopecten hyalinus</i> (Poli, 1795)	L3			
Spondylidae				
<i>Spondylus gaederopus</i> Linnaeus, 1758	L3		+	
Anomiidae				
<i>Anomia ephippium</i> Linnaeus, 1758	L3		+	
Limidae				
<i>Lima lima</i> (Linnaeus, 1758)	L3		+	
<i>Limaria hians</i> (Gmelin, 1791)	L3		+	
<i>Limaria loscombi</i> (Sowerby G. B. I, 1823)	FR		+	18
<i>Limaria tuberculata</i> (Olivi, 1792)	L23			
<i>Limatula gwyni</i> (Sykes, 1903)	L9			
<i>Limatula subauriculata</i> (Montagu, 1808)	L18			
Ostreidae				
<i>Ostrea edulis</i> Linnaeus, 1758	L3		+	
<i>Ostreola stentina</i> (Payraudeau, 1826)	L24			
Gryphaeidae				
<i>Neopycnodonte cochlear</i> (Poli, 1795)	L9			
Lucinidae				
<i>Ctena decussata</i> (Costa O. G., 1829)	L4		+	
<i>Loripes lucinalis</i> (Lamarck, 1818)	L3		+	
<i>Megaxinus unguiculinus</i> Pallary, 1904	L12			
<i>Divaricella angulifera</i> Von Martens, 1880	L16			
<i>Lucinella divaricata</i> (Linnaeus, 1758)	L9		+	
<i>Anadontia fragilis</i> (Philippi, 1836)	L9		+	
<i>Myrtea spinifera</i> (Montagu, 1803)	L3		+	
Thyasiridae				
<i>Thyasira biplicata</i> (Philippi, 1836)	L3		+	
<i>Thyasira planata</i> (Jeffreys, 1882)	L25			
<i>Axinulus croulinensis</i> (Jeffreys, 1847)	L25			
<i>Axinulus cycladius</i> (Wood S., 1848)	L9			
<i>Leptaxinus</i> cf. <i>subovatus</i> (Jeffreys, 1881)	L24			
Ungulinidae				
<i>Diplodonta apicalis</i> Philippi, 1836	L23			
Chamidae				
<i>Chama gryphoides</i> Linnaeus, 1758	L3		+	
<i>Pseudochama corbieri</i> (Jonas, 1846)	L3	*		
<i>Pseudochama gryphina</i> (Lamarck, 1819)	L9		+	
Kelliidae				
<i>Bornia sebetia</i> (Costa O. G., 1829)	L9			
Montacutidae				
<i>Tellimyia ferruginosa</i> (Montagu, 1808)	L25			



Table 3 continued

SPECIES	L	N	R	Z
Carditidae				
<i>Cardita calyculata</i> (Linnaeus, 1758)	L3		+	
<i>Glans trapezia</i> (Linnaeus, 1767)	L3		+	
<i>Glans elegans</i> (Réquien, 1848)	L4		+	
<i>Pteromeris jozinae</i> Aartsen, 1984	L11			
<i>Pteromeris minuta</i> (Scacchi, 1836)	L23			
<i>Cardites antiquatus</i> (Linnaeus, 1758)	L3		+	
Astartidae				
<i>Astarte fusca</i> (Poli, 1791)	L3		+	
<i>Astarte sulcata</i> (Da Costa, 1778)	L9			
Cardiidae				
<i>Acanthocardia aculeata</i> (Linnaeus, 1758)	L4		+	
<i>Acanthocardia echinata</i> (Linnaeus, 1758)	L3		+	
<i>Acanthocardia paucicostata</i> (Sowerby G. B. II, 1834)	L1		+	
<i>Acanthocardia tuberculata</i> (Linnaeus, 1758)	L1		+	
<i>Parvicardium exiguum</i> (Gmelin, 1791)	L4		+	
<i>Parvicardium ovale</i> (Sowerby G. B. II, 1840)	L3			
<i>Parvicardium scabrum</i> (Philippi, 1844)	L18			
<i>Parvicardium scriptum</i> (B. D. D., 1892)	L11			
<i>Parvicardium trapezium</i> Cecalupo & Quadri, 1996	L23			
<i>Plagiocardium papillosum</i> (Poli, 1791)	L3		+	
<i>Laevicardium crassum</i> (Gmelin, 1791)	L9			
<i>Laevicardium oblongum</i> (Gmelin, 1791)	L3		+	
<i>Cerastoderma edule</i> (Linnaeus, 1758)	L3		+	
<i>Cerastoderma glaucum</i> (Poiret, 1789)	L3			
<i>Fulvia fragilis</i> (Forskål in Niebuhr, 1775)	L16	*		
Mactridae				
<i>Mactra stultorum</i> (Linnaeus, 1758)	L3		+	
Mesodesmatidae				
<i>Donacilla cornea</i> (Poli, 1791)	L7		+	
Solenidae				
<i>Solen marginatus</i> Pulteney, 1799	L3		+	
Pharidae				
<i>Ensis arcuatus</i> (Jeffreys, 1865)	L18			
<i>Ensis ensis</i> (Linnaeus, 1758)	L3		+	
<i>Ensis minor</i> (Chenu, 1843)	L9		+	
<i>Phaxas adriaticus</i> (Coen, 1933)	L25			
<i>Phaxas pellucidus</i> (Pennant, 1777)	L25			
Tellinidae				
<i>Tellina compressa</i> Brocchi, 1814	L23			
<i>Tellina distorta</i> Poli, 1791	L25			
<i>Tellina donacina</i> Linnaeus, 1758	L3		+	
<i>Tellina fabula</i> Gmelin, 1791	L9			
<i>Tellina incarnata</i> Linnaeus, 1758	L3		+	
<i>Tellina nitida</i> Poli, 1791	L3		+	
<i>Tellina pygmaea</i> Lovén, 1846	L25			
<i>Tellina planata</i> Linnaeus, 1758	L7		+	
<i>Tellina pulchella</i> Lamarck, 1818	L3		+	
<i>Tellina serrata</i> Brocchi, 1814	L13		+	
<i>Tellina tenuis</i> Da Costa, 1778	L9			
<i>Arcopagia balaustina</i> (Linnaeus, 1758)	L3		+	
<i>Macoma</i> cf. <i>balthica</i> (Linnaeus, 1758)	L24	23		
<i>Gastrana fragilis</i> (Linnaeus, 1758)	L3		+	
Donacidae				



Table 3 continued

SPECIES	L	N	R	Z
<i>Donax semistriatus</i> Poli, 1795	L3		+	
<i>Donax venustus</i> Poli, 1795	L3			
<i>Donax trunculus</i> Linnaeus, 1758	L3			
Psammobiidae				
<i>Gari depressa</i> (Pennant, 1777)	L7		+	
Semelidae				
<i>Abra nitida</i> (Müller O. F., 1776)	L18			
<i>Abra prismatica</i> (Montagu, 1808)	L25			
<i>Abra segmentum</i> (Récluz, 1843)	L25			
<i>Abra tenuis</i> (Montagu, 1803)	L3		+	
<i>Abra alba</i> (Wood W., 1802)	L9		+	
<i>Abra longicallus</i> (Scacchi, 1834)	L25			
Solecurtidae				
<i>Solecurtus strigilatus</i> (Linnaeus, 1758)	L3		+	
<i>Azorinus chamasolen</i> (Da Costa, 1778)	L3		+	
Kelliellidae				
<i>Kelliella abyssicola</i> (Forbes, 1844)	FR		+	19
Glossidae				
<i>Glossus humanus</i> (Linnaeus, 1758)	L3		+	
Veneridae				
<i>Venus verrucosa</i> Linnaeus, 1758	L3		+	
<i>Venus casina</i> Linnaeus, 1758	L9		+	
<i>Globivenus effosa</i> (Philippi, 1836, ex Bivona ms.)	L25			
<i>Chamelea gallina</i> (Linnaeus, 1758)	L3		+	
<i>Clausinella fasciata</i> (Da Costa, 1778)	L9		+	
<i>Timoclea ovata</i> (Pennant, 1777)	L3		+	
<i>Gouldia minima</i> (Montagu, 1803)	L3		+	
<i>Dosinia lupinus</i> (Linnaeus, 1758)	L3		+	
<i>Dosinia exoleta</i> (Linnaeus, 1758)	L9		+	
<i>Pitar rudis</i> (Poli, 1795)	L9		+	
<i>Callista chione</i> (Linnaeus, 1758)	L3		+	
<i>Ruditapes decussatus</i> (Linnaeus, 1758)	L1	24	+	
<i>Irus irus</i> (Linnaeus, 1758)	L3		+	
<i>Paphia aurea</i> (Gmelin, 1791)	L1		+	
<i>Paphia lucens</i> (Locard, 1886)	L1		+	
<i>Paphia rhomboides</i> (Pennant, 1777)	L9		+	
<i>Venerupis senegalensis</i> (Gmelin, 1791)	L3		+	
Petricolidae				
<i>Petricola lithophaga</i> (Retzius, 1786)	L3		+	
<i>Petricola substriata</i> (Montagu, 1808)	L9			
<i>Petricola lajonkairii</i> (Payraudeau, 1826)	L9		+	
<i>Mysia undata</i> (Pennant, 1777)	L9		+	
Corbulidae				
<i>Corbula gibba</i> (Olivi, 1792)	L7		+	
Gastrochaenidae				
<i>Gastrochaena dubia</i> (Pennant, 1777)	L7		+	
Hiatellidae				
<i>Hiatella arctica</i> (Linnaeus, 1767)	L9		+	
Pholadidae				
<i>Pholas dactylus</i> Linnaeus, 1758	L4		+	
<i>Barnea candida</i> (Linnaeus, 1758)	L3		+	
Teredinidae				
<i>Teredo navalis</i> Linnaeus, 1758	L9			
<i>Teredo utriculus</i> Gmelin, 1791	L3			



Table 3 continued

SPECIES	L	N	R	Z
<i>Lyrodus pedicellatus</i> (Quatrefages, 1849)	L13			
<i>Nototeredo norvegica</i> (Spengler, 1792)	L18			
Thraciidae				
<i>Thracia papyracea</i> (Poli, 1791)	L9			
<i>Thracia pubescens</i> (Pulteney, 1799)	L3			
Clavagellidae				
<i>Clavagella melitensis</i> Broderip, 1835	L9			
Pandoridae				
<i>Pandora inaequalvis</i> (Linnaeus, 1758)	L9			
Lyonsiidae				
<i>Lyonsia norvegica</i> (Gmelin, 1791)	L25			
Cuspidariidae				
<i>Cuspidaria cuspidata</i> (Olivi, 1792)	L3		+	
<i>Cuspidaria rostrata</i> (Spengler, 1793)	L3		+	
<i>Cardiomya costellata</i> (Deshayes, 1835)	L3		+	
SCAPHOPODA				
Dentaliidae				
<i>Antalis dentalis</i> (Linnaeus, 1758)	L3			
<i>Antalis entalis</i> (Linnaeus, 1758)	L23			
<i>Antalis panorma</i> (Chenu, 1842)	L4			
<i>Antalis rossati</i> (Caprotti, 1966)	L13			
<i>Antalis vulgaris</i> (Da Costa, 1778)	L2		+	
Fustiariidae				
<i>Fustiaria rubescens</i> (Deshayes, 1826)	L2		+	
Gadilidae				
<i>Dischides politus</i> (Wood S., 1842)	L18			
Entalinidae				
<i>Entalina tetragona</i> (Brocchi, 1814)	L13			
CEPHALOPODA				
Sepiidae				
<i>Sepia elegans</i> Blainville 1827	L2			
<i>Sepia officinalis</i> Linnaeus, 1758	L2			
<i>Sepia orbignyana</i> Ferrussac in D' Orbigny, 1826	L26			
Sepiolidae				
<i>Sepioloa robusta</i> Naef, 1912	L26			
<i>Sepioloa rondeleti</i> Leach, 1817	L2			
<i>Sepioloa steenstrupiana</i> Levy, 1912	L26			
<i>Sepietta oweniana</i> (D' Orbigny, 1840)	L26			
<i>Sepietta neglecta</i> Naef, 1916	L26			
Loliginidae				
<i>Loligo forbesii</i> Steenstrup, 1856	L26			
<i>Loligo vulgaris</i> Lamarck, 1798	L2			
<i>Alloteuthis media</i> (Linnaeus, 1758)	L26			
Ommastrephidae				
<i>Illex coindetii</i> (Vérany 1839)	L4			
<i>Todaropsis eblanae</i> (Ball, 1841)	L26			
<i>Todarodes sagittatus</i> (Lamarck, 1798)	L2			
Octopodidae				
<i>Octopus macropus</i> Risso, 1826	L2			
<i>Octopus salutii</i> Vérany, 1839	L26			
<i>Octopus vulgaris</i> Cuvier, 1798	L2			
<i>Scaevurus unicolor</i> (Delle Chiaje in Ferrussac & D' Orbigny, 1840)	L26			



Table 3 continued

SPECIES	L	N	R	Z
<i>Eledone moschata</i> (Lamarck, 1798)	L2			
Argonautidae				
<i>Argonauta argo</i> Linnaeus, 1758	L2			

Literatur: L1: MONTEROSATO, 1899; L2: DEMETROPOULOS, 1969; L3: DEMETROPOULOS, 1971; L4: DEMETROPOULOS & HADJICHRISTOPHOROU, 1976; L5: BARASH & DANIN, 1977; L6: VERDUIN, 1984; L7: STAVRINOS, 1984; L8: VERDUIN, 1986; L9: TORNARITIS, 1987; L10: BARASH & DANIN, 1989; L11: BOGI *et al.*, 1989; L12: AARTSEN & KINZELBACH, 1990; L13: BARASH & DANIN, 1992; L14: LINDEN & EIKENBOOM, 1992; L15: FISCHER, 1993a; L16: FISCHER, 1993b; L17: CECALUPO & QUADRI, 1994; L18: FISCHER, 1994; L19: OLIVERIO & BUZZURRO, 1994; L20: OLIVERIO *et al.*, 1994; L21: CECALUPO & QUADRI, 1995; L22: NOFRONI & TRINGALI, 1995; L23: CECALUPO & QUADRI, 1996; L24: BUZZURRO & GREPPI, 1997; L25: HADJICHRISTOPHOROU *et al.*, 1997; L26: SALMAN *et al.*, 1998; L27: SMRIGLIO *et al.*, 1998; L28: HOUART, 2001; L29: BUZZURRO, 2002.

NOTES

1: *Lepidopleurus boettgeri* Sulc., 1934 for the claimed synonymy with *L. bedulli* (Dell'Angelo & Palazzi, 1986), reported by CECALUPO & QUADRI (1996), see DELL'ANGELO & SMRIGLIO (1999).

2: *Acanthochitona aeneus* (Risso, 1826), reported by BOGI *et al.* (1989) is hard to consider, since the species belonging to this genus are only two according to DELL'ANGELO & SMRIGLIO (1999) and are already present in the checklist, so we prefer not to report it.

3: *Acanthochitona crinita oblonga* Leloup, 1981 reported by CECALUPO & QUADRI (1996) has been excluded: see DELL'ANGELO & SMRIGLIO (1999).

4: this is the correct name considering that *Haliotis lamellosa* Lamarck, 1822 is a synonym of *H. tuberculata*: see GEIGER (1998).

5: several Authors have reported this species, while others have identified it as *Gibbula umbilicaris* (Linnaeus, 1758). Anatomical studies are needed to definitively solve this taxonomical problem. Due to the lack of data, we are conservatively in line with the interpretation of MONTEROSATO (1899: 398), who wrote: "Forme peu commune, voisine du *G. umbilicaris* Linné, dont elle diffère par sa forme conique, par ses taches suturales blanches et son ombilic plus étroit".

6: following REID (1996) we use *Melarhapha* for *neritoides* (Linnaeus, 1758), the type and only living member of this genus.

7: BOGI *et al.* (1989) reported a record of this species by TORNARITIS (1987), who has nevertheless not reported it in his work.

8: the origin of *Alvania dorbigny* (Audouin, 1827) is still debated by nowadays Authors: we actually follow the opinion of MIENIS (1985) considering this species as non lessepsian.

9: GIANNUZZI-SAVELLI *et al.* (1997: 15) ascribed this species to the genus *Rudolphosetia* Monterosato, 1917: we follow PONDER (1985: 34) in considering *Rudolphosetia* as a junior synonym of *Setia* (H. & A. Adams, 1852).

10: according to ABBOTT (1974: 139) Calyptraeidae de Blainville, 1824 is a junior synonym of Crepulidae Fleming, 1822.

11: *Erronea caurica* (Linnaeus, 1758) reported by GIANNUZZI-SAVELLI *et al.* (1997) has been excluded: see BUZZURRO & GREP-

PI (1997).

12: BEU (1998) has demonstrated that the Mediterranean form related to *Charonia tritonis* represents a distinct species instead of a subspecies.

13: *Vexillum hypatiae* (Pallary, 1912), reported by CECALUPO & QUADRI (1996) is not listed according to TRINGALI & VILLA (1991).

14: for the claimed synonymy reported by CECALUPO & QUADRI (1996) with *Granulina clandestina* (Brocchi, 1814) see GOFAS (1992).

15: in the past it has been identified by many Authors as *Clathromangelia quadrillum* (Dujardin, 1837), but this is a fossil species (OLIVERIO, 1995).

16: *Mangelia fieldeni* (Aartsen & Fehr de Wal, 1978) = *M. angelinae* (Cecalupo & Quadri, 1996): see BUZZURRO & GREPPI (1997).

17: *Chrysallida decorata* (Philippi, 1849) is the correct name for the taxon commonly reported by several Authors as *Chrysallida maiae* (Hornung & Mermod, 1924) (BUZZURRO & GREPPI, unpublished data).

18: the genus has been assigned following SCHANDER & SUNDBERG (1997).

19: probably the record referred to *Anisocyclus nitidissima* (Montagu, 1803).

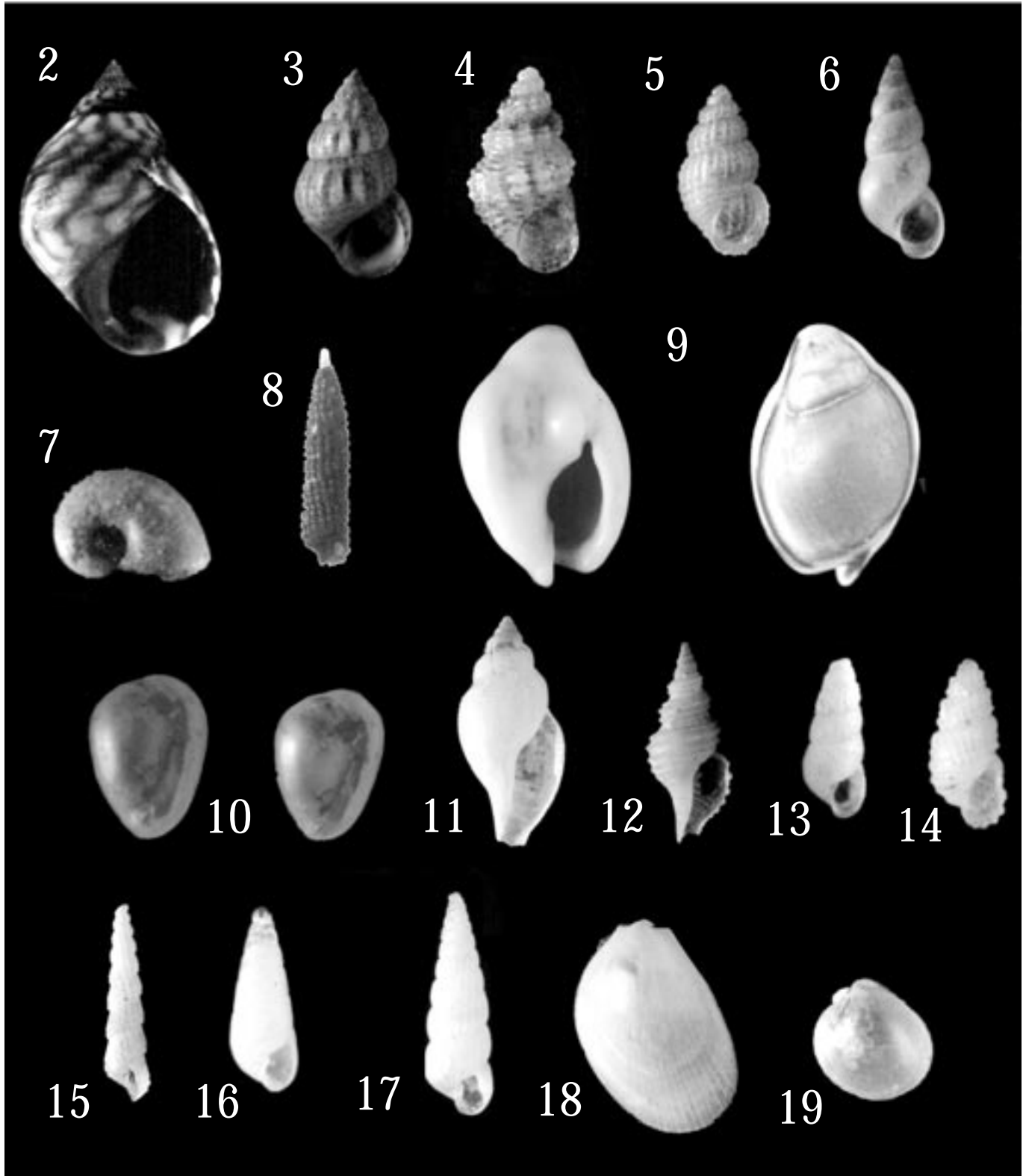
20: reported by FISCHER (1994) from shallow water of the littoral zone, this is the only record of this deep-sea species, probably it is a case of misidentification with *Caeciliana acicula* Müller, 1774, a terrestrial species commonly found in our samples: see GAGLINI (1982).

21: for the putative finding of *Cylichnina* cf. *mongii* (Audouin, 1827) reported by CECALUPO & QUADRI (1996) see BUZZURRO & GREPPI (1997).

22: the name of this species comes from the Latin word regula(-ae) = a ruler [and not from regulus(-i) = a small king!].

23: for the presence of *Macoma balthica* (Linnaeus, 1758) in the Eastern Mediterranean Sea we refer to BUZZURRO (unpublished data).

24: European Authors traditionally refer *decussatus* to *Tapes*, whereas they currently use *Ruditapes* for the Japanese carpet shell (*R. philippinarum* (Adams & Reeve, 1850), which has been imported for aquaculture since a number of years. Both species



Figs 2-19. Gastropods and bivalves from Cyprus. 2: *Nodilittorina (Echinolittorina) punctata* (Gmelin, 1791) mm 6.6: St. C7. 3: *Rissoa splendida* Eichwald, 1830 mm 4.8: St. C8. 4: *Alvania fractospira* Oberling, 1970 mm 2.5: St. C10. 5: *Alvania testae* (Aradas & Maggiore, 1844) mm 2.1: St. D10. 6: *Hydrobia acuta* (Draparnaud, 1805) mm 3.2: St. C11. 7: *Protatlanta souleyeti* (Smith E. A., 1888) mm 2.1: St. D17. 8: *Cerithiopsis scalaris* Locard, 1892, ex Monterosato ms. mm 4.2: St. C8. 9: *Nassarius circumcinctus* (Adams A., 1852) mm 15: St. C10. 10: *Granulina boucheti* Gofas, 1992 mm 2.2: St. C8. 11: *Gymnobela subaraneosa* (Dautzenberg & Fischer H., 1896) mm 5.4: St. D17. 12: *Teretia teras* (Reeve, 1844) mm 4.3: St. D17. 13: *Chrysallida juliae* (de Folin, 1872) mm 1.9: St. C8. 14: *Folinella ghisottii* Aartsen, 1984 mm 2.5: St. C8. 15: *Tragula fenestrata* (Jeffreys, 1848) mm 3.1: St. C8. 16: *Eulimella bogii* Aartsen, 1994 mm 1.9: St. C8. 17: *Turbonilla acutissima* Monterosato, 1884 mm 5.3: St. D21. 18: *Limaria loscombi* (Sowerby G. B. I, 1823) mm 8.9: St. C10. 19: *Kelliella abyssicola* (Forbes, 1844) mm 1.6: St. D16



belong to *Ruditapes*, as proposed by FISCHER-PIETTE & MÉTIVER (1971) and MATSUKUMA (1986); in particular, the last author excludes *Ruditapes* from *Tapes*.

25: *Alvania* sp., under study.

New records of the molluscs fauna of Cyprus

LITTORINIDAE

Nodilittorina (Echinolittorina) punctata (Gmelin, 1791)

(Fig. 2)

Turbo punctatus Gmelin, 1791: 3597

Littorina syriaca Philippi, 1847: 165 (23), pl. 3, figs 21-22

Turbo siculus Chiareghin in NARDO, 1847: 78, sp. 20, figs 909-910

Turbo siculus Brugnone in MONTEROSATO, 1872: 33 (*nomen nudum*)

Littorina punctata, Gmelin in MONTEROSATO, 1872: 33

Littorina (Melaraphe) punctata (Gmelin, 1791) in PRIOLO, 1953: 124

Littorina punctata (Gmelin, 1791) = *Tricolia draparnaudii* Audouin, 1826 = *Littorina pulchella* Dunker, 1853 = *Littorina syriaca* Philippi, 1847 = *Littorina guttata* Reeve, 1858 = *Littorina perplexa* Turton, 1932 in ROSEWATER, 1970: 474

Nodilittorina (Echinolittorina) punctata (Gmelin, 1791) in REID, 1996: 99.

Remarks: The allocation in the genus *Nodilittorina* von Martens, 1897 recently proposed by REID (1996) for this species is surprising because *Nodilittorina*, type species *L. pyramidalis* Quoy & Gaimard, 1833, which is characterised by a strong ribbed sculpture with nodules, includes mainly Indo-pacific species with very different shell. The modern systematics of the family Littorinidae is primarily based on anatomical characters of the penis, pallial oviduct, radula, sperm nurse cells or spawn. See REID (1986, 1989, 1996).

Material: St. C7, C12, 19 specimens, Supralittoral Zone, rocky habitats.

Distribution: Discontinuous distribution in Mediterranean basin, Portugal and African coasts of Atlantic Ocean.

RISSOIDAE

Rissoa splendida Eichwald, 1830

(Fig. 3)

Rissoa splendida Eichwald, 1830: 219

Rissoa violaestoma Krynický, 1837 *vide* CLEMAM

Remarks: *Rissoa splendida* Eichwald, 1830 figured by GIANNUZZI-SAVELLI *et al.*, 1997: 74, figs 203-204.

Material: St. C8, 1 specimen, *Cystoseira* sp., 2-3 m and St. C10, 1 shell, grit near *Posidonia oceanica*, 4 m.

Distribution: Aegean Sea, Central Mediterranean Sea, Adriatic Sea, the Marmara Sea and Black Sea. This species is here reported for the first time from the Levantine Basin.

Alvania fractospira Oberling, 1970

(Fig. 4)

Alvania fractospira Oberling, 1970: 3

Alvania monterosatoi sensu BOGI *et al.*, 1989: 194, fig. 7 (not FIS-

CHER P., 1877)

Remarks: *Alvania fractospira* Oberling, 1970 in MOOLENBEEK *et al.*, 1991: 113, fig. 16 (the lectotype is selected) and in OLIVERIO, 1993: 33 (restored as a valid name).

Material: St. C1, 3 specimens, *Posidonia oceanica*, 5 m; St. C8, 2 shells in grit near *Posidonia oceanica*, 4 m and St. C10, 2 specimens, *Cystoseira* sp., 1-2 m.

Distribution: Eastern Mediterranean Sea and Adriatic Sea (GIANNUZZI-SAVELLI *et al.*, 1997).

Alvania testae (Aradas & Maggiore, 1844)

(Fig. 5)

Rissoa reticulata Philippi, 1836: 156, tav. 10, fig. 14 (not *T. reticulata* Montagu, 1803)

Rissoa testae Aradas & Maggiore, 1844: 135

Rissoa abyssicola Forbes in FORBES & HANLEY, 1850: 86

Rissoa partschii Hörnes, 1857: 573 (fossil)

Rissoa (Alvania) testae (Aradas & Maggiore, 1844) in ARADAS & BENOIT, 1870a: 199

Rissoa abyssicola var. *conformis* Jeffreys, 1870: 77

Rissoa (Actonia) testae Aradas & Maggiore in CARUS, 1889: 336

Actonia testae (Aradas & Maggiore, 1844) in MONTEROSATO, 1890: 147

Alvania testae (Aradas & Maggiore, 1844) in LOCARD, 1892: 161

Alvania (Actonia) testae (Aradas & Maggiore) in THIELE, 1931: 163

Turbona testae (Aradas & Maggiore, 1844) in NORDSIECK, 1972: 186

Remarks: *Alvania testae* (Aradas & Maggiore, 1844) in BOUCHET & WARÉN, 1993: 628, figs 1386-1387, 1400-1405 and in OLIVERIO *et al.*, 1992: 251 (*A. testae* complex is here analyzed and discussed).

Material: St. D10 (35°34'8"N-34°28'3"E), 3 shells, muddy habitats, 210 m, dredged.

Distribution: Eastern Mediterranean Sea (Aegean Sea), Western Mediterranean Sea and coastal line of the Eastern Atlantic Ocean from Morocco to Norway.

HYDROBIIDAE

Hydrobia acuta (Draparnaud, 1805)

(Fig. 6)

Cyclostoma acutum Draparnaud, 1805: 40, pl. I, fig. 23

Paludestrina acuta Draparnaud in MONTEROSATO, 1878a: 86

Paludestrina glyca Servain, 1880: 151

Hydrobia acuta (Draparnaud, 1805) in GIUSTI & PEZZOLI (1984: 125, tav. 1)

Remarks: *Hydrobia acuta* (Draparnaud, 1805) figured by GIUSTI *et al.*, 1995: 116, 117, figs 39-42, 50-52. After BOETERS (1984) that designated a lectotype for this species from two syntypes, GIUSTI *et al.* (1998) demonstrated that they to belong to different species and designate a neotype "in line with the earlier and more widely accepted usage of the name" (1998: 2, figs 3-6).

Material: St. C11, 5 shells, grit, 1 m.

Distribution: Whole Mediterranean basin (BARASH & DANIN, 1992).

ATLANTIDAE

***Protatlanta souleyeti*** (Smith E. A., 1888)

(Fig. 7)

Atlanta souleyeti Smith E. A., 1888: 1-51, pl. XII, fig. 7a, b*Protatlanta souleyeti* (Smith E. A., 1888) = *Atlanta lamanonii* Souleyet, 1852 = *Protatlanta sculpta* Issel, 1911 = *Protatlanta sculpta* var. *mediterranea* Issel, 1911 = *Protatlanta mediterranea* (Issel) Di Geronimo, 1970 in VATOVA, 1975: 1Remarks: *Protatlanta souleyeti* (Smith E. A., 1888) figured by GIANNUZZI-SAVELLI *et al.*, 1997: 248, figs 921-923.

Material: St. D17 (35°43'8"N-34°37'3"E), 1 shell, 250-300 m dredged.

Distribution: It has a cosmopolitan distribution due to its pelagic life style, similar to other members of the family. Southern Aegean Sea, Central Mediterranean and Western Mediterranean Sea. It is here reported for the first time in the Levantine basin.

CERITHIOPSIDAE

Cerithiopsis scalaris Locard, 1892, ex Monterosato ms.

(Fig. 8)

Cerithiopsis scalaris Monterosato, 1878a = *C. corona* var. *scalaris* Monterosato: 99 (*nomen nudum*)*Cerithiopsis scalaris* Monterosato, 1878 in LOCARD, 1892: 118*Cerithiopsis scalaris* Coen, 1937: 31, tav. 3, fig. 26 (*nomen nudum*)*Cerithiopsis scalaris* (Monterosato, 1877) in NORDSIECK, 1976: 7; 6, fig. 10*Cerithiopsis scalaris* Monterosato, 1877 in PIANI, 1980: 136*Cerithiopsis scalaris* Monterosato, 1878 (*nomen nudum*) in GAGLINI, 1992: 148, fig. 139*Cerithiopsis scalaris* Locard, 1892, ex Monterosato ms. in TRINGALI, 1999: 129, 130: figs 1-3Remarks: *Cerithiopsis scalaris* Locard, 1892 figured by GIANNUZZI-SAVELLI *et al.*, 1999: 41, figs 60-63.Material: St. C8, 2 shells, grit near *Posidonia oceanica*, 4 m.

Distribution: Central Mediterranean Sea. It is here reported from the Eastern Mediterranean Sea for the first time.

NASSARIIDAE

Nassarius circumcinctus (Adams A., 1852)

(Fig. 9)

Nassa circumcincta Adams A., 1852: 102.*Arcularia circumcincta* Adams A. in PALLARY, 1912: 96, pl. XV (I), figg. 14-17*Nassarius (Plicarularia) circumcinctus* (A. Adams, 1851) in PIANI, 1980: 149*Nassarius (Plicarularia) circumcinctus* (Adams A., 1852) = *Naytiopsis granum flammulata* Nordsieck, 1972 in NOFRONI, 1986: 13Remarks: *Arcularia circumcincta* (Adams A., 1851) in SABELLI & SPADA, 1977: 3, figs 5a-5b and *Nassarius circumcinctus* (Adams A., 1851) in OLIVERIO & TRINGALI, 1992: 159, figs 4-8.

Material: St. C10, 2 specimens, sandy habitat, 2 m.

Distribution: Eastern Mediterranean Sea.

CYSTISCIDAE

Granulina boucheti Gofas, 1992

(Fig. 10)

Granulina boucheti Gofas, 1992: 10, fig. 9; 11, fig. 10; 24, fig. 26.

Material: St. C8, 2 specimens, alive collected in brown algae, 1 m.

Distribution: Sicily, France, Corse, Tunisie and Algeria. It is here reported from the Levantine basin for the first time.

CONIDAE

Gymnobela subaraneosa (Dautzenberg & Fischer H., 1896)

(Fig. 11)

Pleurotoma subaraneosa Dautzenberg & Fischer H., 1896: 422, pl. 16, figs 11-12*Gymnobela subaraneosa* (Dautzenberg & Fischer H., 1896) in BOUCHET & WARÉN, 1980: 58, figs 114-115*Pleurotomella subaraneosa* (Dautzenberg & Fischer H., 1896) in POWELL, 1966: 131.

Material: St. D17 (35°43'8"N-34°37'3"E), 1 shell, muddy bottoms, 250-300 m, dredged.

Distribution: Mediterranean Sea and North Eastern Atlantic Ocean. Reported once from the Eastern Mediterranean Sea (JANSSEN, 1989).

Teretia teres (Reeve, 1844)

(Fig. 12)

Pleurotoma teres Reeve, 1844: 190*Philbertia anceps* (Eichwald, 1830) (fossil): 225*Pleurotoma boreale* Phil., ms. in LOVÉN, 1846: 14*Pleurotoma fusiforme* Réquien, 1848: 101*Pleurotoma anceps* in LOCARD, 1866: 109*Raphitoma barbierii* Brusina, 1866: 33*Pleurotoma teres* Forbes in MONTEROSATO, 1870: 45*Defrancia (Pleurotoma) teres* Forbes in MONTEROSATO, 1872: 51*Pleurotoma (Defrancia) anceps* Eichwald in MONTEROSATO, 1875: 44*Clathurella anceps* V. Crs. in CARUS, 1889: 427*Teretia teres* Forbes in MONTEROSATO, 1890: 187*Teretia anceps* (Eichwald, 1830) in PIANI, 1980: 157*Teretia teres* (Reeve, 1844) in SABELLI *et al.*, 1990: 45Remarks: *Teretia teres* (Forbes, 1844) figured by BOUCHET & WARÉN, 1980: 81, fig. 168 and GIRIBET & PEÑAS, 1997: 75, fig. 69.

Material: St. D17 (35°43'8"N-34°37'3"E), 1 shell, muddy bottoms, 250-300 m, dredged.

Distribution: Coastline from Gibraltar Strait to Northern Norway, Western Mediterranean Sea, Adriatic Sea and Aegean Sea. It is here reported from the Levantine basin for the first time.

PYRAMIDELLIDAE

Chrysallida juliae (de Folin, 1872)

(Fig. 13)

Truncatella juliae de Folin, 1872: 49, pl. II, fig. 4*Odostomia (Pyrgulina) nanodea* Monterosato, 1878a: 93*Parthenina tenuistriata* Milachewitch, 1909: 314*Chrysallida sarsi* Nordsieck, 1972: 98, pl. II, fig. 4 in PEÑAS *et al.*, 1996: 24*Chrysallida juliae* (de Folin, 1872) in AARTSEN, 1977: 61, fig. 13.Remarks: *Chrysallida juliae* (de Folin, 1872) in MICALI *et al.* (1993: 150): it is there designated the lectotype. Regarding all



the synonyms listed above we are waiting for the revision of these taxa accomplished by I. Nofroni (personal communication, manuscript in preparation).

Material: St. C8, 3 shells, grit near *Posidonia oceanica*, 4 m.

Distribution: Mediterranean Sea and Atlantic Ocean including the Canary Islands.

***Folinella ghisottii* Aartsen, 1984**

(Fig. 14)

Odostomia intermedia Brusina, 1869: 237 (non Deshayes, 1861)

Odostomia (Pyrgulina) intermedia Brusina in MONTEROSATO, 1878b: 317

Folinella ghisottii Aartsen, 1984: 137.

Material: St. C8, 1 shell, grit near *Posidonia oceanica*, 4 m.

Distribution: Mediterranean Sea and Atlantic Ocean including the Cape Verde Islands.

***Tragula fenestrata* (Jeffreys, 1848)**

(Fig. 15)

Odostomia fenestrata Jeffreys, 1848: 345, pl. 6, fig. 17

Chemnitzia fenestrata Jeffreys in FORBES & HANLEY, 1853: 249

Odostomia (Pyrgulina) fenestrata, Forbes in MONTEROSATO, 1877: 35

Tragula fenestrata (Jeffreys, 1848) in MONTEROSATO, 1884: 86

Odostomia (Tragula) fenestrata Forbes in PALLARY, 1912: 132, pl. XVI (II), fig. 42

Turbonilla fenestrata (Forbes) in BABIO & THIRIOT-QUIEVREUX, 1974: 544, pl. VI, H, L

Tragula fenestrata (Forbes, 1848) in GROSSU, 1986: 24

Chrysallida fenestrata (Forbes in Jeffreys, 1848) in AARTSEN, 1981: 80, pl. 1, fig. 1

Chrysallida fenestrata (Jeffreys, 1848) in LINDEN & EIKENBOOM, 1992: 45

Remarks: *C. fenestrata* (Jeffreys, 1848) figured by PEÑAS *et al.*, 1996: 27, fig. 54.

Material: St. C8, 1 shell, grit near *Posidonia oceanica*, 4 m.

Distribution: Mediterranean Sea and Atlantic Ocean including Corimba.

***Eulimella bogii* Aartsen, 1994**

(Fig. 16)

Eulimella bogii Aartsen, 1994: 89-90, fig. 5.

Material: St. C8, 1 shell, near *Posidonia oceanica*, 4 m.

Distribution: Mediterranean Sea including the Eastern basin (NOFRONI & TRINGALI, 1995).

***Turbonilla acutissima* Monterosato, 1884**

(Fig. 17)

Turbonilla acutissima Monterosato, 1884: 92

Remarks: *Turbonilla acutissima* Monterosato, 1884 figured by AARTSEN, 1981: 85, pl. 4, fig. 24 and PEÑAS *et al.*, 1996: 69, fig. 185.

Material: St. D21(35°09'0"N-33°57'0"E), 1 shell, *Posidonia oceanica*, 20 m, dredge.

Distribution: Mediterranean Sea (POPPE & GOTO, 1990).

LIMIDAE

***Limaria loscombi* (Sowerby G. B. I, 1823)**

(Fig. 18)

Lima loscombi Sowerby G. B. I, 1823: 17, pl. 113, fig. 4

Limea loscombei Sowerby in ARADAS & BENOIT, 1870b: 94

Lima (Limatella) loscombei Leach in Sowerby in ANDERSON, 1964: 144, figs 27a-c

Lima (Limea) loscombii Sowerby G. B., 1823 in ALTENA REGTEREN *et al.*, 1969: 24 (fossil)

Lima (Mantellum) loscombi Sowerby = *Lima bullata* Turton = *Lima clausa* Danilo & Sandri in MUSETTI, 1969: 52

Limaria (Limatulella) loscombi (Sowerby G. B., 1830) in JANSSEN, 1972: 16, 74, figs 4-5 (fossil)

Limea (Limea) loscombi MacGillivray, 1843 in PIANI, 1980: 187

Limea loscombi (Sowerby G. B. I, 1823) in SABELLI *et al.*, 1990: 85

Limea (Limatulella) loscombi (Sowerby G. B. I, 1823) in ZENETOS, 1996: 88

Limaria loscombii (Sowerby G. B. I, 1823) in SALAS, 1996: 57.

Material: St. C10, 1 specimen, muddy-sandy habitats, 1.5 - 2 m.

Distribution: This species is common in muddy and muddy-sandy bottoms down to a depth of 3000 m (PARENZAN, 1974), distributed in the Aegean Sea, Adriatic Sea, Western Mediterranean Sea and the coastline of the Eastern Atlantic Ocean from Senegal and to Norway (JEFFREYS, 1879; TEBBLE, 1976; BARASH & DANIN, 1992).

KELLIELLIDAE

***Kelliella abyssicola* (Forbes, 1844)**

(Fig. 19)

Kellia abyssicola Forbes, 1844: 122

Venus miliaris Philippi, 1844: 36, pl. 14, fig. 15

Kelliella abyssicola Sars in MONTEROSATO, 1870: 39

Kelliella miliaris Philippi in SARS, 1878: 65

Kelliella miliaris Philippi in MONTEROSATO, 1880: 59

Kellyella miliaris (Phil.) in PARENZAN, 1974: 154, 265, fig. 158

Kelliella abyssicola (Forbes, 1844) in SABELLI *et al.*, 1990: 95.

Material: St. D16 (35°19'9"N-32°50'1"E), 1 specimen, muddy habitats, 210 m, dredged.

Distribution: Aegean Sea, Taranto Gulf and Northern Norway coasts (PARENZAN, 1974; POPPE & GOTO, 1993; ZENETOS, 1996). Already reported from the Eastern Mediterranean Sea by JANSSEN (1989). This species shows a vertical distribution from the continental shelf down to the abyssal zone.

DISCUSSION

There has been a significant increase in the number of molluscan species reported from Cyprus since the first study carried out by MONTEROSATO (1899). In fact, in his report, an initial amount of 29 species was listed. But the number has grown up to 696 to date. Particularly, the studies of BOGI *et al.* (1989), FISCHER (1994), CECALUPO & QUADRI (1996) and BUZZURRO & GREPPI (1997) made important contribution to such increase. BOGI *et al.* (1989), reported 221 species in total, 89 as new records from this island. Then, FISCHER (1994) gave



a list of 123 fossils and 434 living species for Cyprus. This Author, following SABELLI *et al.* (1990-1992), has reconsidered the systematic positions of several species reported by DEMETROPOULOS (1969, 1971), DEMETROPOULOS & HADJICHRISTOPHOROU (1976), STAVRINOS (1984) and TORNARITIS (1987). Since there are many different views concerning classification, at the mean time FISCHER (1994) followed his personal conception regarding some cases of synonymy, changing the taxonomical rank of some species. For example, while *Emarginula cancellata* Philippi, 1836 and *Emarginula sicula* Gray J. E., 1825 are two synonyms according to SABELLI *et al.* (1990), on the contrary FISCHER (1994: 87) reported these two *taxa* as distinct species. In our opinion the sole valid species name is *E. sicula*. Other controversial cases of synonymy that we had to face making the new checklist are discussed below. BOGI *et al.* (1989) reported *Pirenella conica* (Blainville, 1826) and *Pirenella cailliaudi* (Potiez & Michaud, 1838) as different species, while the latter should be considered just as junior synonym of the first one according to SABELLI *et al.* (1990-1992). In like man-

ner, *Lima lima* (Linnaeus, 1758) and *Lima inflata* (Chemnitz, 1784) should be thought as synonyms, taking as valid species name *L. lima*. Similarly, MICALI *et al.* (1993) considered *Chrysallida cf. delpretei* (Sullioti, 1889) as junior synonym of *Chrysallyda indistincta* (Montagu, 1808): both *taxa* are listed as separate species in BOGI *et al.* (1989). An another example of systematic confusion is the case of *Retusa semisulcata* (Philippi, 1836) and *Retusa truncatula* (Brugière, 1792), both listed in CECALUPO & QUADRI (1996), but re-discussed as synonyms by TRINGALI (1995).

Of a total of 389 species listed by CECALUPO & QUADRI (1996), 134 species were new ones for Cyprus. In their papers, BUZZURRO & GREPPI (1997) and SALMAN *et al.* (1998) have reported 42 and 10 additional new species, respectively, for the Cyprus coasts. When the lists of BOGI *et al.* (1989) and CECALUPO & QUADRI (1996) are compared, 6 and 24 species, respectively, given as new records had already been reported previously (Table 4). Additionally, *Argonauta argo* Linnaeus, 1758 reported by SALMAN *et al.* (1998) as a new record, was

Table 4. Species previously listed by BOGI *et al.* (1989) (*) and CECALUPO & QUADRI (1996) (**) as new records and the literature relevant to these species.

Species

Ischnochiton rissoi (Payraudeau, 1826) *
Lepidochitona corrugata (Reeve, 1848) *
Chiton corallinus (Risso, 1826)**
Gibbula umbilicaris (Linnaeus, 1758)**
Cerithium scabridum Philippi, 1848 **
Rissoa auriformis pseudomonodonta (Verduin, 1983)**
Alvania datchaensis Amati & Oliverio, 1987 **
Alvania mamillata Risso, 1826 **
Alvania beniamina (Monterosato, 1884) **
Strombus persicus Swainson, 1821 **
Petalochonchus glomeratus (Linnaeus, 1758) **
Vitreolina levantina Oliverio, Buzzurro & Villa, 1994 **
Vexillum littorale (Forbes, 1844) *
Bela laevigata (Philippi, 1836) **
Bela menkhorsti Aartsen, 1988 **
Bela nebula (Montagu, 1803) *
Mitrolumna olivoidea (Cantraine, 1835)*
Chrysallida terebellum (Philippi, 1844)**
Turbonilla delicata (Monterosato, 1874) **
Turbonilla striatula (Linnaeus, 1758)**
Retusa mamillata (Philippi, 1836) **
Retusa semisulcata (Philippi, 1836) **
Cylichnina umbilicata (Montagu, 1803) *
Cylichna crossei (B.D.D., 1886) **
Cavolinia tridentata (Niebuhr, 1775 ex Forskål, ms.) **
Styliola subula (Quoy & Gaimard, 1827) **
Modiolarca subpicta (Cantraine, 1835)*
Lucinella divaricata (Linnaeus, 1758) **
Cerastoderma edule (Linnaeus, 1758) **
Abra nitida (Müller O. F., 1776) **
Gastrochaena dubia (Pennant, 1777) **

Literature giving former records

BARASH & DANIN (1977: 7)
 BARASH & DANIN (1977: 9)
 BARASH & DANIN (1977: 12)
 FISCHER (1993A: 38)
 FISCHER (1993A: 39)
 AARTSEN & KINZELBACH (1990: 109)
 AARTSEN & KINZELBACH (1990: 109)
 VERDUIN (1986: 30)
 VERDUIN (1984: 49)
 FISCHER (1993A: 39)
 STAVRINOS (1984: 21)
 OLIVERIO *et al.* (1994: 214)
 TORNARITIS (1987: 103)
 FISCHER (1993A: 40)
 FISCHER (1993A: 40)
 DEMETROPOULOS (1971: 20)
 DEMETROPOULOS (1971: 16)
 LINDEN & EIKENBOOM (1992: 18)
 BARASH & DANIN (1989: 248)
 BARASH & DANIN (1989: 248)
 FISCHER (1993A: 40)
 FISCHER (1993A: 40)
 DEMETROPOULOS (1969: 13)
 BARASH & DANIN (1989: 250)
 TORNARITIS (1987: 114)
 BARASH & DANIN (1989: 253)
 DEMETROPOULOS & HADJICHRISTOPHOROU (1971: 79)
 FISCHER (1994: 93)
 DEMETROPOULOS (1971: 21)
 FISCHER (1994: 93)
 FISCHER (1994: 93)



previously reported by DEMETROPOULOS (1969). Besides that, *Anachis troglodytes* (Souverbie & Montrouzier, 1866) and *Anachis savignyi* Moazzo, 1939 ex Jousseau ms. reported as synonyms by CECALUPO & QUADRI (1996), are considered as two distinct species according to TRINGALI & VILLA (1995).

Furthermore, although CECALUPO & QUADRI (1996) discussed that some of the species which had been reported as synonyms by SABELLI *et al.* (1990) can be accepted as valid *taxa*, species such as *Emarginula crebrisculpta* (Coen, 1939), *Calliostoma alexandrinum* Pallary, 1911, *Muricopsis inermis* (Philippi, 1836), *Mangelia derelicta* Reeve, 1846, *Raphitoma intermedia* Nord-sieck, 1977 and *Raphitoma lineolata* (B.D.D., 1883) are not valid species according to the CLEMAM database.

Some of the species names found in literature referred to the Island of Cyprus have been omitted from the checklist because fossils: *Alvania monterosatoi* (Fischer P., 1876), *Granulina claudestina* (Brocchi, 1814), *Clathromangelia quadrillum* (Dujardin, 1837), *Raphitoma histrix* Bellardi, 1847, *Odostomia bismichaelis* Sacco, 1892 and *Odostomia cf. clavulina* Fischer P., 1877. Also *Hydrobia ulvae* (Pennant, 1777), most probably confused with other *Hydrobia* sp., has been deleted since we reasonably think it is not a Mediterranean species. Other cases of shell misidentification reported by TORNARITIS (1987) are: *Cerithiopsis tubercularis* (Montagu, 1803) which is *Dizoniopsis coppolae* (Aradas, 1870) (: 58, fig. 80b), *Fusinus pulchellus* (Philippi, 1844) is just a juvenile form of *F. syracusanus* (Linnaeus, 1758) (: 98, fig. 146), *Mathilda cochlaeiformis* Brugnone, 1873 which is *M. gemmulata* Semper, 1865 (:54, fig. 72); *Mytilus edulis* Linnaeus, 1758 which is *M. galloprovincialis* Lamarck, 1819, since the former is not an eastern mediterranean species. *Hinnites distorta*, to allocate within the genus *Crassadoma* according to WALLER (1993), has been reported only once by DEMETROPOULOS (1971), most probably it has been misidentified with *C. multistriata*. We remove this *taxon* from the proposed checklist of molluscs of Cyprus, since this species is mainly distributed in the Atlantic Ocean and very seldom reported from the Western Mediterranean basin. FISCHER (1994) has reported over 90 Indo-Pacific species in the Levantine basin, and 8 of them have also been recorded from the Cyprus coasts. Today, the number of the known Indo-Pacific species occurring in the Island of Cyprus increased up to 32 (Table 3). Summing up all the data coming from this investigation and those of the past, a total of 696 Molluscs species are presently known from Cyprus.

ACKNOWLEDGEMENTS

Sincere thanks are due to: Dr. P. Mariottini (Università di Roma Tre, Roma, Italy) for critical reading of the manuscript, Dr. J. M. Poutiers (MNHN) for helpful suggestions, Dr. V. Aysel (University of Canakkale, Turkey) for identifying the sampled algae, Dr. R. La Perna (Università di Bari, Italy) for helpful advises on Bivalvia Systematics, Dr. M. Bodon (Università di Siena, Italy), Dr. S. Chiarelli (Porto Garibaldi, Italy), Dr. S. Gofas (University of Malaga, Spain), Dr. A. W. Janssen (Gozo, Malta), Dr. G. Manganelli (Università di Siena, Italy), Dr. H. Mienis (University of Jerusalem, Israel), Mr. G.

Nardi (Gheddi, Italy), Dr. M. Oliverio (Università "La Sapienza", Roma, Italy), Mr. P. Russo (Venezia, Italy), Dr. M. Streitz (Valbonne, France) and Dr. A. Zenetos (National Centre for Marine Research, Hellenikon, Greece) for generously providing references. We are very indebted to Mr. A. Cecalupo (Buccinasco, Italy) for his cooperation in dealing with the many synonyms treated in the present paper and in supplying references. We are really grateful to Dr. J. J. Van Aartsen (Dieren, The Netherland) and Dr. P. Micali (Fano, Italy) for *G. subaraneosa* and *T. acutissima* identification, respectively. We are deeply indebted to Dr. S. Chiarelli (Porto Garibaldi, Italy) and Dr. E. Greppi (Castellanza, Italy) for having taken the pictures utilized in the present paper.

REFERENCES

- AARTSEN J. J. VAN, 1977. European Pyramidellidae: I *Chrysallida*. *Conchiglia*, Milano, 13 (3-4): 49-64.
- AARTSEN J. J. VAN, 1981. European Pyramidellidae: II *Turbonilla*. *Bollettino Malacologico*, Milano, 17 (5-6): 61-88.
- AARTSEN J. J. VAN, 1984. The Pyramidellid-Genera described by the Marquis L. de Folin. *Bollettino Malacologico*, Milano, 20 (5-8): 131-138.
- AARTSEN J. J. VAN, 1994. European Pyramidellidae: IV. The genera *Eulimella*, *Anisocyclus*, *Syrnola*, *Cingulina*, *Oscilla* and *Careliopsis*. *Bollettino Malacologico*, Milano, 30 (5-9): 85-110.
- AARTSEN J. J. VAN & KINZELBACH R., 1990. Marine molluscs from Iztuzu beach near Dalyan (Mediterranean coast of Turkey). *Zoology in the Middle East*, 4: 103-112.
- ADAMS A., 1852. Catalogue of the species of *Nassa*, a genus of Gasteropodous Mollusca, belonging to the family Buccinidae, in the Collection of Hugh Cuming, Esq., with the description of some new species. *Proceedings of the Zoological Society of London*, 109: 94-112.
- ABBOTT R. T., 1974. *American Seashells. The Marine Mollusca of the Atlantic and Pacific Coasts of North America*. Second Edition. Van Nostrand Reinholdt, New York, 633 pp., pl. 24.
- ALTENA REGTEREN C. O. VAN, BLOKLANDER A., POUDEROYEN L. P. & SLIK L. VAN DER, 1969. De fossiele schelpen van de Nederlandse stranden en zeegeten tweede serie, 3. *Basteria*, 33 (1-4): 11-29.
- ANDERSON H. J., 1964. Die miocene Reinbek-Stufe in Nord- und Westdeutschland und ihre Mollusken-Fauna. *Fortschr. Geol. Rheinld. Westf.*, 14: 31-368, pl. 52.
- ARADAS A. & BENOIT L., 1870a. *Conchigliologia vivente marina della Sicilia e delle isole che la circondano*. Stabilimento tipografico di C. Galatola, Catania, 324 pp., pl. I-V
- ARADAS A. & BENOIT L., 1870b. *Conchigliologia vivente marina della Sicilia e delle isole che la circondano*. *Atti dell'Accademia Gioenia di Scienze Naturali in Catania*, 6 (3): 1-113, pl. 1-2.
- ARADAS A. & MAGGIORE G., 1844. Catalogo ragionato delle conchiglie viventi e fossili di Sicilia. *Atti dell'Accademia Gioenia di Scienze Naturali in Catania*, 20: 101-142.
- BABIO C. R. & THIRIOT-QUIEVREUX C., 1974. Gastéropodes de la région de Roscoff. Etude particulière de la protoconque. *Cahiers de Biologie Marine*, Tome XV, 531-549, pl. I-V.
- BARASH A. & DANIN Z., 1977. Polyplacophora (Mollusca) from the Eastern Mediterranean. *Journal de Conchyliologie*, 114 (1-2): 3-28.
- BARASH A. & DANIN Z., 1989. Contribution to the knowledge of Opisthobranchia of Cyprus. *Bollettino Malacologico*, Milano, [1988], 24 (9-12): 243-260.



- BARASH A. & DANIN Z., 1992. Mollusca I - Annotated list of Mediterranean molluscs of Israel and Sinai. *The Israel Academy of Sciences and Humanities*, Jerusalem, 405 pp.
- BARASH A. & LEWINSOHN C., 1971, in ARON W. & POR F. D. *Report on the third Cyprus Expedition*, 1970. The Hebrew University - Smithsonian Institution Joint Project "Biota of the Red Sea and the Eastern Mediterranean". Appendix to Progress Report 1970/1971: 1-2.
- BEU A. G., 1998. Résultats des Campagnes MUSORSTOM, Volume 19. Indo-West Pacific Ranellidae, Bursidae and Personidae (Mollusca: Gastropoda). A Monograph of the New Caledonian fauna and revision of related taxa. *Mémoires du Muséum national d'Histoire naturelle*, Paris, 178: 1-255 pp.
- BOGI C., CIANFANELLI S. & TALENTI E., 1989. La Malacofauna dell'Isola di Cipro. *Atti Prima Giornata di Studi Malacologici C.I.S.M.A*, Roma, [1988], 187-214.
- BOETERS H. D., 1984. Zur Identität des *Hydrobia*-Typus (Prosobranchia: Hydrobiidae). *Heldia*, 1: 3-5.
- BOUCHET P. & WARÉN A., 1980. Revision of the North-East Atlantic bathyal and abyssal Turridae (Mollusca, Gastropoda). *Journal of Molluscan Studies*, London, Suppl. 8: 119 pp.
- BOUCHET P. & WARÉN A., 1993. Revision of the Northeast Atlantic bathyal and abyssal Mesogastropoda. *Bollettino Malacologico*, Milano, Suppl. 3: 579-840.
- BRUSINA S., 1866. Contribuzione pella fauna dei molluschi dalmati. *Verhandlungen der Kaiserlich-königlichen zoologisch-botanischen Gesellschaft in Wien*, 16: 1-134.
- BRUSINA S., 1869. Gastéropodes nouveaux de l'Adriatique. *Journal de Conchyliologie*, Paris, 17: 230-249.
- BUZZURRO G., 2002. A new species of *Odostomia* s.l. (Gastropoda, Heterobranchia, Pyramidellidae) from Cyprus. *La Conchiglia*, Roma, 2001, 33. (301): 14-16,59.
- BUZZURRO G. & GREPPI E., 1997. Note e considerazioni sui molluschi di Cipro con particolare riguardo alle specie alloctone. *La Conchiglia*, Roma, 29 (283): 21-31, 61-62.
- CARUS J. V., 1889. *Prodromus faunae mediterraneae sive descriptio animalium maris mediterranei incolarum*. Stuttgart, 2, 854 pp.
- CECALUPO A. & QUADRI P., 1994. Contributo alla conoscenza malacologica per il Nord dell'Isola di Cipro (Parte I). *Bollettino Malacologico*, Milano, 30 (1-4): 5-16.
- CECALUPO A. & QUADRI P., 1995. Contributo alla conoscenza malacologica per il Nord dell'Isola di Cipro (Parte II). *Bollettino Malacologico*, Milano, 30 (9-12): 269-276.
- CECALUPO A. & QUADRI P., 1996. Contributo alla conoscenza malacologica per il Nord dell'Isola di Cipro (Terza e ultima parte). *Bollettino Malacologico*, Milano, 31 (5-8): 95-118.
- CLEMAM. Uinitas Malacologica Check List of European Marine Mollusca. Internet site [current URL <http://www.mnhn.fr/base/malaco.html>]. Réalisé par J. LE RENARD, B.I.M.M., M.N.H.N. Paris.
- COEN G., 1937. Nuovo saggio di una Sylloge Molluscorum Adriaticorum. *Comitato Talassografico Italiano Memoria*, Venezia. CCXL, 173 pp.
- DAUTZENBERG P. & FISCHER H., 1896. Dragages effectués par l'*Hirondelle* et par la *Princesse-Alice*. 1. Mollusques Gastéropodes. *Mémoires de la Société Zoologique de France* 9: 395-498.
- DELL'ANGELO B. & SMRIGLIO C., 1999. *Chitoni viventi del Mediterraneo*. Edizioni Evolver Srl, Roma, 255 pp.
- DEMETROPOULOS A., 1969. Marine molluscs of Cyprus. Part A (Placophora, Gastropoda, Scaphopoda, Cephalopoda). *Fisheries Bulletin*, Ministry of Agriculture and Natural Resources, Fisheries Department, 2: 1-15.
- DEMETROPOULOS A., 1971. Marine molluscs of Cyprus. Part B. Bivalvia (Lamelibranchiata). *Fisheries Bulletin*, Ministry of Agriculture and Natural Resources, Fisheries Department, 3: 1-24.
- DEMETROPOULOS A. & HADJICHRISTOPHOROU M., 1976. Some additions to the knowledge of the Malacofauna of Cyprus. *Fisheries Bulletin*, Ministry of Agriculture and Natural Resources, Fisheries Department, 4: 75-83.
- DRAPARNAUD J. P. R., 1805. *Histoire naturelle des mollusques terrestres et fluviatiles de la France*. D. Colas Imprimeur-Libraire. Paris, 116 pp., 13 pl.
- EICHWALD E., 1830. *Naturhistorische Skizze von Lithauen, Volhynien und Podolien in geognostisch-mineralogischer, botanischer und zoologischer Hinsicht*. Wilna, 256 pp, 3 pl.
- FISCHER W., 1993a. Beiträge zur Kenntnis der rezenten und fossilen marinen Molluskenfauna Zyperns (I). Die Mollusken der Khrysokhou Bucht, sowie ein kleiner Beitrag zu den rezenten Foraminiferen. *Club Conchylia Information*, 15 (1): 37-46.
- FISCHER W., 1993b. Beiträge zur Kenntnis der rezenten und fossilen marinen Molluskenfauna Zyperns (II). Die Mollusken der Kap Drepanum (Peyia, Paphos). *Club Conchylia Information*, 15 (2): 147-152.
- FISCHER W., 1994. Beiträge zur Kenntnis der rezenten und fossilen marinen Molluskenfauna Zyperns (III). Aktualisierte Liste der rezenten und pleistozänen marinen Mollusken Zyperns. *Club Conchylia Information*, 16 (1): 86-96.
- FISHER-PIETTE E. & METIVER B., 1971. Révision des Tapetinae (Mollusques Bivalves). *Mémoires du Muséum national d'Histoire naturelle*, Paris, (A) 71: 1-106 pp., pl. 16.
- FOLIN L. DE, 1872. Espèces animales inédites du Golfe de Gascogne. *Les Fonds de la Mer*. Paris, 2: 45-50.
- FORBES E., 1844. Report on the Mollusca and Radiata of the Aegean Sea, and on their distribution, considered as bearing on geology. *Reports of the British Association for the Advancement of Science for 1843*: 10-193.
- FORBES E. & HANLEY S., 1850. *A history of British Mollusca and their shells*. 3 (1). J. Van Voorst, London, 320 pp.
- FORBES E. & HANLEY S., 1853. *A history of British Mollusca and their shells, including the families of Gasteropoda from Neritidae to Elysiadae*. 3. J. Van Voorst, London, 616 pp.
- GAGLINI A., 1982. Melanellidi del Mediterraneo: i generi *Strombiformis* e *Haliella* in particolare. *Notiziario C.I.S.M.A*, Roma, [1981], 3 (1-2): 45-54.
- GAGLINI A., 1992. Terze spigolature... monterosatiene. *Argonauta*, Roma, [1991], 7 (1-6): 125-180.
- GEIGER D. L., 1998. Recent Genera and Species of the Family Haliotidae Rafinesque, 1815 (Gastropoda: Vetigastropoda). *Nautilus*, 111 (3): 85-116.
- GIANNUZZI-SAVELLI R., PUSATERI F., PALMIERI A. & EBREO C., 1997. *Atlante delle conchiglie marine del Mediterraneo. Vol. 2 (Caenogastropoda parte 1: Discopoda-Heteropoda)*. Edizioni "La Conchiglia", Roma, [1996], 258 pp.
- GIANNUZZI-SAVELLI R., PUSATERI F., PALMIERI A. & EBREO C., 1999. *Atlante delle conchiglie marine del Mediterraneo. Vol. 3 (Caenogastropoda parte 2: Ptenoglossa)*. Edizioni Evolver Srl, Roma, 127 pp.
- GIRIBET G. & PEÑAS A., 1997. Fauna malacológica del litoral del Garraf (NE de la Península Ibérica). *Iberus*, 15 (1): 41-93.
- GIUSTI F. & PEZZOLI E., 1984. Notulae malacologicae, XXIX - Gli Hydrobiidae salmastri delle acque costiere italiane: primi cenni sulla sistematica del gruppo e sui caratteri distintivi delle singole morfologie. *Lavori S.I.M.*, Atti Simposio di Bologna, [1982], 21: 117-148.
- GIUSTI F., MANGANELLI G. & BODON M., 1998. A proposed neotype for *Hydro-*



- bia acuta* (Draparnaud, 1805). *Journal of Conchology*, **36** (3): 1-8.
- GIUSTI F., MANGANELLI G. & SCHEMBRI P. J., 1995. *The non-marine molluscs of the Maltese Islands*. Monografie XV. Museo Regionale di Scienze Naturali Torino, 607 pp.
- GMELIN J. F., 1791. *Carli Linnaei systema naturae per regna tria naturae*. Editio decimatertia, aucta, reformata, Vermes Testacea Leipzig, **1** (6): 3021-3910.
- GOFAS S., 1992. Le genre *Granulina* (Marginellidae) en Méditerranée et dans l'Atlantique orientale. *Bollettino Malacologico*, Milano, **28** (1-4): 1-26.
- GROSSU A. V., 1986. Révision de la famille des Pyramidellidae sur les côtes Roumaine de la mer Noire et description d'une nouvelle espèce (Order Entomotaeniata, Prosobranchia). *Apex*, **1** (1): 19-26.
- HADJICHRISTOPHOU M., ARGYROU M., DEMETROPOULOS A. & BIANCHI T. S., 1997. A species list of the sublittoral soft-bottom macrobenthos of Cyprus. *Acta Adriatica*, **38** (1): 3-32.
- HÖRNES E., 1857. Die Fossilen Mollusken des Tertiär-Beckens von Wien. Wien, 756 pp.
- HOUART R., 2001. *A review of the recent Mediterranean and Northeast Atlantic species of Muricidae*. Edizioni Evolver, Roma, 227 pp.
- JANSSEN A. W., 1972. Die Mollusken-Fauna der Twistringer Schichten (Miocän) von Norddeutschland. *Scripta Geologica*, Leiden, **10**: 1-95, pl. 11.
- JANSSEN R., 1989. Benthos-Mollusken aus dem Tiefwasser des östlichen Mittelmeeres, gesammelt während der "METEOR"-Fahrt 5 (1987). *Senckenbergiana marit.*, Frankfurt am Main, **20** (5-6): 265-276.
- JEFFREYS J. G., 1848. On the recent species of *Odostomia*, a genus of gastropodous mollusks inhabiting the seas of Great Britain and Ireland. *Annals and Magazine of Natural History*, **2** (2): 330-351.
- JEFFREYS J. G., 1870. Mediterranean Mollusca. *Annals and Magazine of Natural History*, **4** (6): 65-86.
- JEFFREYS J. G., 1879. On the Mollusca procured during the "Lightning" and "Porcupine" Expeditions, 1868-70. Part II. *Proceeding of the Zoological Society of London*, **17**: 29-64.
- LINDEN J. VAN DER & EIKENBOOM J. C. A., 1992. On the taxonomy of the recent species of the genus *Chrysallida* Carpenter from Europe, the Canary Islands and the Azores. *Basteria*, **56**: 3-64.
- LOCARD A., 1886. *Prodrome de Malacologie française. Catalogue général des Mollusques vivants de France. Mollusques marins*. Lyon, H. Georg and Paris, Baillière, 779 pp.
- LOCARD A., 1892. *Les coquilles marines des côtes de France. Description des Familles, Génres et Espèces*. Librairie J. B. Baillière & Fils, Paris, 384 pp.
- LOVÉN S., 1846. *Index molluscorum litora Scandinaviae occidentalia habitantium*. P.A. Norstedt et Filii, Holmiae, 50 pp. (reprint)
- MATSUKUMA A., 1986. Studies on the Kawamura Collection (Mollusca) in the National Science Museum, Tokyo. Genus *Tapes* Megerle, 1811 (Bivalvia), with Description of a New Species. *Venus*, **45** (1): 11-30.
- MICALI P., NOFRONI I. & AARTSEN J. J. VAN, 1993. Addition to the knowledge of the European *Chrysallida* species, which notes on a recent work by Van der Linden & Eikenboom (Gastropoda, Opisthobranchia). *Basteria*, **57**: 147-154.
- MIENIS H. K., 1985. Is *Alvania dorbignyi* (Audouin, 1826) a Lessepsian migrant? *Levantina*, **59**: 652-654.
- MILACHEWITZ K. O., 1909. Liste des mollusques marins collectionnés en 1908 par K. P. Jagodovsky dans la Mer Noire près des côtes du Caucase. *Annales du Museum de la Zoologique Académie des Sciences*, St. Petersburg, **14**: 310-318.
- MONTEROSATO T. DI MARIA, Marchese di, 1870. Sulla scoperta del genere *Dacrydium* nel Mediterraneo. *Bollettino Malacologico Italiano*, Pisa, **3** (2): 43-46.
- MONTEROSATO T. DI MARIA, Marchese di, 1872. *Notizie intorno alle conchiglie mediterranee*. Ufficio Tipografico di Michele Amenta, Palermo, 61 pp.
- MONTEROSATO T. DI MARIA, Marchese di, 1875. Nuova rivista delle conchiglie mediterranee. *Atti dell'Accademia Palermitana di Scienze, Lettere ed Arti*, Palermo, Sez. II, 5, 50 pp.
- MONTEROSATO T. DI MARIA, Marchese di, 1877. Catalogo delle conchiglie fossili di Monte Pellegrino e Ficarazzi presso Palermo. *Bollettino Reale Comitato Geologico d'Italia*, Roma, 1-2: 28-42.
- MONTEROSATO T. DI MARIA, Marchese di, 1878a. Enumerazione e sinonimia delle conchiglie mediterranee. *Giornale Scienze Naturali ed Economiche*, Palermo, **13**: 61-115.
- MONTEROSATO T. DI MARIA, Marchese di, 1878b. Note sur quelques coquilles provenant des côtes d'Algérie. Supplément. *Journal de Conchyliologie*, Paris, **26**: 313-321.
- MONTEROSATO T. DI MARIA, Marchese di, 1880. Conchiglie della zona degli abissi. *Bollettino della Società Italiana*, Pisa, **6**: 50-82.
- MONTEROSATO T. DI MARIA, Marchese di, 1884. *Nomenclatura generica e specifica di alcune conchiglie mediterranee*. Stab. Tipografico Virzi, Palermo, 152 pp.
- MONTEROSATO T. DI MARIA, Marchese di, 1890. Conchiglie della profondità del mare di Palermo. *Naturalista Siciliano*, Palermo, **9**(6): 140-151, (7): 157-166, (8): 181-191.
- MONTEROSATO T. DI MARIA, Marchese di, 1899. Coquilles marines de Chypre. *Journal de Conchyliologie*, Paris, **47** (4): 392-401.
- MOOLENBEEK R. G., HOENSELAAR H. J. & OLIVERIO M., 1991. The Rissoid species described by J. J. Oberling. *Bollettino Malacologico*, Milano, **27** (5-9): 107-120.
- MUSETTI A., 1969. La famiglia Limidae nel Mediterraneo. *Conchiglie*, Milano, **5** (3-4): 48-56.
- NARDO D., 1847. *Descrizione de' crostacei, de' testacei e de' pesci che abitano le lagune e golfo veneto rappresentati in figure, a chiaro-scuro ed a colori*. I. R. Priv. Stabilimento Antonelli, Venezia, 11-127.
- NOFRONI I., 1986. Tavole sinottiche di Conchiologia mediterranea ed europea. Famiglia Nassariidae. Parte II. *La Conchiglia*, Roma, **18** (210-11): 13.
- NOFRONI I. & TRINGALI L., 1995. Random notes on Eastern Atlantic, Mediterranean and Lessepsian Pyramidellidae (Gastropoda: Heterobranchia: Pyramidelloidea). *Notiziario C.I.S.Ma*, Roma, **17**: 21-49.
- NORDSIECK F., 1972. *Die europäischen Meeresschnecken (Opisthobranchia mit Pyramidellidae; Rissoacea). Vom Eismeer bis Kapverden, Mittelmeer und Schwarzes Meer*. Stuttgart, 327 pp.
- NORDSIECK F., 1976. The genus *Cerithiopsis* Forbes & Hanley, 1849 in the European seas. *La Conchiglia*, Roma, **8** (85-86): 6-7.
- OBERLING J. J., 1970. Quelques espèces nouvelles de Gastéropodes du bassin Méditerranéen. *Kleine Mitteilungen Naturhistorisches Museum Bern*, **1**: 1-7.
- OLIVERIO M., 1993. Sull'identità di *Alvania fractospira* Oberling, 1970 (Prosobranchia, Rissoidae). *Notiziario C.I.S.Ma*, Roma, [1992], **14** (5-12): 33-36.
- OLIVERIO M., 1995. The systematics of the radula-less gastropod *Clathromangelia* (Caenogastropoda, Conoidea). *Zoologica Scripta*, **24** (3): 193-205.
- OLIVERIO M. & BUZZURRO G., 1994. A new Mediterranean species of the Genus *Homalopoma*, with notes on the Genus-Group (Trochoidea, Turbinidae, Colloniinae). *Bollettino Malacologico*, Milano, **30** (5-9): 182-188.



- OLIVERIO M., AMATI B. & NOFRONI I., 1992. Revision of the *Alvania testae* group of species (Gastropoda, Prosobranchia, Truncatelloidea = Rissoidea). *Lavori S.I.M.*, Parma, [1990], **24**: 249-259.
- OLIVERIO M., BUZZURRO G. & VILLA R., 1994. A new eulimid gastropod from the Eastern Mediterranean Sea (Caenogastropoda, Ptenoglossa). *Bollettino Malacologico*, Milano, **30** (5-9): 211-215.
- OLIVERIO M. & TRINGALI L., 1992. Two sibling species of Nassariinae in the Mediterranean Sea (Prosobranchia: Muricidae, Nassariinae). *Bollettino Malacologico*, Milano, **28** (5-12): 157-160.
- PALLARY P., 1912. Catalogue des Mollusques du littoral Méditerranéen de l'Égypte. *Mémoires présentés à l'Institut Égyptien*. Librairie Dimier, Le Caire, **6** (1): 69-200, pl. XV (I)-XVIII (IV).
- PARENZAN P., 1974. *Carta d'identità delle conchiglie del Mediterraneo*. Vol. I. Bio Taras Editrice, Taranto, 283 pp.
- PEÑAS A., TEMPLADO J. & MARTINEZ J. L., 1996. Contribución al conocimiento de los Pyramidelloidea (Gastropoda: Heterostropha) del Mediterráneo español. *Iberus*, **14** (1): 82 pp.
- PHILIPPI R. A., 1836. *Enumeratio Molluscorum Siciliae cum viventium tum in tellure tertiaria fossilium*. 1. Berolini Sumptibus Simonis Schroppii et sociorum. 267 pp., Tav. 1-12.
- PHILIPPI R. A., 1844. *Enumeratio Molluscorum Siciliae cum viventium tum in tellure tertiaria fossilium*. 2. Halis Saxonum, Sumptibus Eduardi Anton. 303 pp., Tav. 13-28.
- PHILIPPI R. A., 1847. *Abbildungen und Beschreibungen neuer oder wenig gekannter Conchylien*. Bd 2, Lief. 2, T. Fischer, Cassel: 231 pp., 48 pls
- PIANI P., 1980. Catalogo dei Molluschi conchiferi viventi nel Mediterraneo. *Bollettino Malacologico*, Milano, **16** (5-6): 113-220.
- PONDER W. F., 1985. A Review of the Genera of the Rissoidae (Mollusca: Mesogastropoda: Rissoacea). *Records of the Australian Museum*, Sydney [1984]. Supplement 4: 221 pp.
- POPPE G. T. & GOTO Y., 1990. *European seashells. (Polyplacophora, Caudofoveata, Solenogastrea, Gastropoda)*. Vol. 1. Verlag Christa Hemmen, 352 pp.
- POPPE G. T. & GOTO Y., 1993. *European seashells. (Scaphopoda, Bivalvia, Cephalopoda)*. Vol. 2. Verlag Christa Hemmen, 221 pp.
- POWELL A. W. B., 1966. The Molluscan families Speightiidae and Turridae. An evaluation of the valid taxa, both Recent and fossil, with lists of characteristic species. *Bulletin of the Auckland Institute and Museum*. Unity Press Ltd. Printers, Auckland, **5**: 184 pp., 23 pl.
- PRIOLO O., 1953. Nuova revisione delle conchiglie marine di Sicilia. Memoria V. *Atti dell'Accademia Gioenia di Scienze Naturali in Catania*, Tip. Zucarello & Izzi, Catania, [1951-1952], serie sesta, **8**: 109-135.
- REEVE L. A., 1844. *Conchologia Iconica or illustrations of the shells of molluscous animals*. Vol. I. London.
- REID D. G., 1986. The littorinid molluscs of mangrove forests in the Indo-Pacific region. The genus *Littoraria*. *British Museum (Natural History)*, London, **15**: 228 pp., pl. 1.
- REID D. G., 1989. The comparative morphology, phylogeny and evolution of the gastropod family Littorinidae. *Philosophical Transactions of the royal Society of London*, (B) **324** (1220): 1-110 pp., pl. 1-2.
- REID D. G., 1996. *Systematics and evolution of Littorina*. The Ray Society, Andover, 463 pp.
- RÉQUIEN E., 1848. *Catalogue des coquilles de l'île de Corse*. Avignon, V-XII: 109 pp.
- ROSEWATER J., 1970. The family Littorinidae in the Indo-Pacific. Part I. The Subfamily Littorininae. *Indopacific Mollusca*. The Department of Mollusks Delaware Museum of Natural History, Greenville, Delaware. Vol. 2 (11): 417-506, pl. 325-387.
- SABELLI B., GIANNUZZI-SAVELLI R. & BEDULLI D., 1990. *Catalogo Annotato dei Molluschi Marini del Mediterraneo*. Vol. 1, Libreria Naturalistica Bolognese, Bologna, 348 pp.
- SABELLI B., GIANNUZZI-SAVELLI R. & BEDULLI D., 1992. *Catalogo Annotato dei Molluschi Marini del Mediterraneo*. Vol. 2, Libreria Naturalistica Bolognese, Bologna: 349-498.
- SABELLI B., GIANNUZZI-SAVELLI R. & BEDULLI D., 1992. *Catalogo Annotato dei Molluschi Marini del Mediterraneo*. Vol. 3, Libreria Naturalistica Bolognese, Bologna: 501-781 pp.
- SABELLI B. & SPADA G., 1977. Guida illustrata all'identificazione delle conchiglie del Mediterraneo. Fam. Nassariidae. I. Supplemento a *Conchiglie*, Milano, **13** (9-10): 1-3.
- SALAS C., 1996. Marine Bivalves from off Southern Iberian Peninsula collected by the Balgim and Fauna 1 expeditions. *Haliotis*, 33-100.
- SALMAN A., KATAGAN T. & BENLI H. A., 1998. On the Cephalopod fauna of Northern Cyprus. *Israel Journal of Zoology*, **44**: 47-51.
- SARS G. O., 1878. *Bidrag om kundskaben om Norges arktiske fauna. I. Mollusca regionis arcticae Norwegiae*. Christiana, A. W. Brögger, 466 pp., 15 Tav.
- SCHANDER C. & SUNDBERG P., 1997. Phylogenetic analysis of the Pyramidellidae (Mollusca) using sequences of the mitochondrial 16S gene. In C. SCHANDER: *Taxonomy and Phylogeny of the Pyramidellidae (Mollusca, Gastropoda, Heterobranchia)*, Department of Zoology, Göteborg. Part VII: 2-14.
- SERVAIN G., 1880. *Étude sur les mollusques recueillis en Espagne et en Portugal*. Saint-Germain, Imprimerie D. Bardin, 172 pp.
- SMITH E. A., 1888. Report on the Heteropoda collected by H. M. S. Challenger during the years 1873-76. *Voyage of H. M. S. Challenger, Zoology*, **23**: 1-51.
- SMRIGLIO C., MARIOTTINI P. & BUZZURRO G., 1998. The *Trivia spongicola* complex, with the description of a new species (Caenogastropoda; Triviidae). *Bollettino Malacologico*, Roma, **33** (9-12): 161-168.
- SOWERBY G. B. I., 1823. *The genera of Recent and fossil shells*. London.
- STAVRINOS G. N., 1984. *A guide to the sea shells of Cyprus*. Violaris Press, Nicosia, 79 pp.
- TEBBLE N., 1976. *British bivalve seashells*. Second Edition. Published for the Royal Scottish Museum by her Majesty's Stationery Office. Edinburgh, 212 pp.
- THIELE J., 1931. *Handbuch der systematischen Weichtierkunde. Loricata/Gastropoda. I: Prosobranchia (vorderkiemer)*. A. Asher & Co., Jena, 778 pp.
- TORNARITIS J., 1987. *Mediterranean Sea Shells Cyprus*. Prodos Print & Pub. Co. Ltd. Nicosia, 190 pp.
- TRINGALI L., 1995. Qualche considerazione su *Retusa (R.) truncatula* (Bruguière, 1792) e *R. (R.) semisulcata* (Philippi, 1836) (Gastropoda: Opisthobranchia: Cephalaspidea). *Notiziario C.I.S.Ma.*, Roma, [1994], **16**: 31-34.
- TRINGALI L., 1999. Nomenclatural notes on two Mediterranean gastropod species (Prosobranchia: Cerithiopsidae and Heterobranchia: Pyramidellidae). *Bollettino Malacologico*, Roma, [1998], **34** (9-12): 129-132.
- TRINGALI L. & VILLA R., 1991. Qualche considerazione su *Vexillum hypatiae* (Pallary, 1912). *Notiziario C.I.S.Ma.*, Roma, [1990], **13**: 41-44.
- TRINGALI L. & VILLA R., 1995. Sull'identità delle specie lessepsiane del genere *Anachis* H. & A. Adams, 1853, sottogenere *Zafra* A. Adams, 1860, rinvenute in Mar di Levante (Gastropoda: Prosobranchia: Columbellidae). *La Conchiglia*, Roma, **27** (274): 15-19.
- TSURNAMAL M., 1969. *Cyprus expedition, field notes*. The Hebrew University of Jerusalem and the Smithsonian Institution Joint Research Project.



Biota of the Red Sea and Eastern Mediterranean. Jerusalem, 160-178.

- VATOVA A., 1975. Genus *Protatlanta* Tesch, 1908. *Protatlanta souleyeti* (E. A. Smith, 1888). N. 46 delle "Schede Malacologiche del Mediterraneo", *Conchiglie*, Milano, 6 pp.
- VERDUIN A., 1984. On the taxonomie of some Recent European marine species of the genus *Cingula* s. l. (Gastropoda: Prosobranchia). *Basteria*, **48** (1-3): 37-87.
- VERDUIN A., 1986. *Alvania cimex* (L.) s. l. (Gastropoda, Prosobranchia), an aggregate species. *Basteria*, **50** (1-3): 25-32.
- WALLER T. R., 1993. The evolution of *Chlamys* (Mollusca: Bivalvia: Pectinidae) from off Somalia, and the definition of a new tribe Decatopectinini. *Nautilus*, **100** (2): 39-46.
- ZENETOS A., 1996. *The Marine Bivalvia (Mollusca) of Greece*. Fauna Graeciae. VII. Hellenic Zoological Society. Athens, 319 pp.