Acta Adriat., 31 (1/2): 183—274 (1990)

YU ISSN: 0001-5113
AADRAY

UDC 595.3 (262.3)
Original scientific paper

CHECK-LIST OF THE ADRIATIC DECAPOD CRUSTACEA

KATALOG JADRANSKIH DEKAPODNIH RAKOVA

Z. Števčić

Ruđer Bošković Institute, Center for Marine Research, Rovinj, Yugoslavia

The present check-list represents a general faunistic survey of the Adriatic decapod Crustacea. Basic data from numerous literature issues, concerning 210 species, recorded in the area since 1763, are compiled. For each species the valid name, synonyms (including authors reporting them), general and Adriatic distribution and remarks comprising data on habitat, depth, abundance and evantually commercial value and systematic problems are given.

INTRODUCTION

The investigations of the decapod Crustacea of the Adriatic Sea has a ong tradition extending back as far as the XVI century, and many publica- ions on the subject have appeared. The bibliography of the Adriatic deca- ods comprises about 180 publications in Latin, Italian, German, French, nglish, Croatian and Hungarian languages. Among the most important are hose of Olivi (1792), Heller (1863), Nardo (1847, 1869), Stalio 1877), Graeffe (1902) and Pesta (1918), which make a very conside- able contribution to knowledge not only to the decapod Crustacea in the drіatic Sea and the Mediterranean but also in general. In addition to the trictly systematic works there are many others, especially those in the field f ecology, biogeography and fisheries, which contain important information n the presence, distribution and habitats of many species. Of special im- ortance are numerous faunistic and biocoenological works of Vatova, amulin-Brida and Zavodnik.

The present check-list aims to give a general survey of the decapod pecies occurring in the Adriatic Sea and to provide the minimum basic nformation relevant to their distribution, habitat and abundance. In elabo- ation of the check-list I strictly followed the recommendations of the Co- rdinative Committee of the Flora and Fauna of the Adriatic Sea and it ontains for each species the following information: valid name, synonyms, eneral geographic distribution, distribution in the Adriatic Sea and general

comments. This final section (Remarks) contains data on habitat (type of substrate), bathymetric distribution, abundance and in some cases habits commercial value and eventually some taxonomic remarks. Information concerning habitat, depth and abundance is given where it is known from the literature and/or from my personal experience. In the check-list the higher taxa are listed according to the phylogenenetic arrangement from shrimps to crabs. As the basis for a classification of the higher taxa I used the system ning habitat, depth and abundance is given where it is known from the literaproposed mostly by Zariquiey Alvarez (1968), whereas for the Penaeidea I adopted the system by Holthuis (1980), and the crabs were classified mostly according to the system proposed by Guinot (1978). The genera within the families resp. subfamilies and species within the genera are arranged alphabetically. The fresh-water decapods were not included in the check-list.

Specific scientific names are judged valid in accordance with the International Code of Zoological Nomenclature (1964). The synonyms are cited in the check-list as are their authors. So, for instance, as the name *Cancer maja* is older than *Maja squinado* it is cited before it. Plucar (1846) first used the scientific name *Maja squinado* and therefore heads the authors citing this name. The scientific names of decapod taxa are spelled as in the orginal publication (if not later corrected), because their authors bear responsibility for generic and specific names, for instance *Gonoplax* or *Goneplax, Maia* or *Maja, Pinnoteres* or *Pinnotheres.* Only in the cases where spelling is clearly erroneuos or there is an obvious misprint (lapsus calami) is such spelling remarked in the text with words »error for«, »erron.« and so on. For all synonyms the specific (second) name of the binomen is printed in lower case without regard to the original form, for instance *Eupagurus Prideauxii* (Heller, 1864) is written here as *Eupagurus prideauxii.* Beacuse of the very complete synonymy the check-list documents at the same time the history of the investigations and the degree of knowledge of each species which becomes evident from the frequency of its citations, so that the gaps in knowledge become visible.

Of the large quantity of the literature on the Adriatic decapods only papers of systematic, faunistic and biocoenological importance are selected. Publications on an exclusive ecological, morphological or physiological importance are not cited. The choice has been limited in historical time: literature before 1758 (i. e. of appearance of the 10th edition of the Linnean »Systema naturae«) is neglected. It is not numerous and refers only to a few common species, and is, moreover, extremely difficult to find and interpret. Some older papers were unobtainable and have had to be cited without being checked. The specific decapod names of old authors were decifered according to works of Nardo (1847, 1869), Giordani Soika (1943, 1946, 1948), Pesta (1918) and Holthuis (1977). The exception of the rule that only printed works may be cited is the reference to Chiereghin, whose work is known in manuscript and which year is therefore cited in parantheses (1818). This exception is made because this work is of great importance in the development of Adriatic carcinology, and as well known to some earlier

authors such as Nardo (1847, 1869) and Giordani Soika (1946). The literature references are arranged in two parts. In the first part are cited the works dealing with Adriatic decapods, in the second one, works concerning the taxonomy and/or nomenclature such as: Al-Adhub and Williamson (1975), Bouvier (1940), Casanova (1977), Garcia Raso (1987), Guinot (1967, 1978), Ingle (1983, 1985), Lewinsohn and Holthuis (1986), Manning and Holthuis (1981), Rice and de Saint Laurent (1986), de Saint Laurent (1968, 1973, 1979) and Zariquiey Alvarez (1968) or geographic distribution in: a) Mediterranean (with the Black Sea): Băcescu (1967), Forest (1965), Garcia Raso (1984), Holthuis and Gottlieb (1958), Lewinsohn and Holthuis (1986), Ramadan and Dowidar (1972) and Zariquiey Alvarez (1968); b) northern distribution of some species: Allen (1967), Christiansen (1969, 1982) and Ingle (1983) and c) southern distribution of some species in the Atlantic and Pacific Oceans: Anadón (1981), Beaubrun (1978), Crosnier and Forest (1973), Forest (1961), Forest and Guinot (1966), Guinot and Ribeiro (1962), Kensley (1981), Lagardère (1971), Macpherson (1983), Manning and Holthuis (1981) and Türkay (1976a, 1976b, 1982).

Adriatic carcinology did not developed uniformly. Sometimes it led, sometimes it fell behind the rest of the world. It was retarded in the period between the two world wars and immediatelly after the second one. Now endeavours are made being to raise the level of investigations on decapods on both Yugoslav and Italian Adriatic coasts to that prevailing elswhere. Adriatic carcinology has developed rapidly in recent years. For illustration can be mentioned that Olivi (1792) listed about 37 species, Pesta (1918) 143 species, Ševčić (1969) 169 species and 209 species are listed in this check-list. This number of species cannot be considered as final and future investigations will doubtless add still more new species for the area.

The biology of species is not uniformly known, numerous genera and species are in need of detailed taxonomic and ecological reinvestigation. The habitats and habits of most species are insufficiently known in the area, but some species such as *Nephrops norvegicus, Maja squinado* and *Palinurus elephas* have been intensively studied. In lesser degree are studied *Upogebia pusilla, Paguristes eremita, Pilumnus spinifer, Xantho poressa,* and others. This incompleteness of knowledge of the biology of many species is reflected in the check-list where in some cases one has to write »Insufficiently known« or »No data beyond record of presence«. At the same time the decapods of the Northern Adriatic (Gulf of Venice, western Istrian coast) have been most investigated, but the southern Dalmatian coast, islands and middle part of the area in particular the estuaries and deep waters of the Southern Adriatic were poorly known. For this reason the present list does not give a complete picture of the Adriatic decapod fauna and it is to be expected that future investigations will produce many corrections and additions.

This check-list has been compiled with some difficulties. It is true that there have been surveys of previous investigations (Heller, 1863, 1864; Stossich, 1880; Carus, 1885 etc.) of which the monograph of Pesta (1918) is the most important, but in all the citations and the literature were

incomplete. I have endeavoured to include the references overlooked by Pesta and to check all previous literature. Ii is also true that much information collected by some earlier authors was confusing and often contradictory. Descriptions of species were so imperfect and incomplete, that even after many attempts to decipher their meaning the list of synonyms had to contain many question marks. Inadequate description by some previous authors often made identification of the species dubious. It is noteworthy that the contribution of non-systematists to general knowledge is considerable, but many species, in particular the »difficult« ones remained incompletely identified. Only specialists in the groups are able to distinguish the very minute differences e.g. species of the genera *Processa* or *Anapagurus*. Moreover these mentioned genera were known as monotypic for the Adriatic Sea and many data recorded for *Anapagurus laevis* or *Processa canaliculata* might in fact refer to any of at least five closely related species. In addition to the difficulties with species identification are those with geographic distribution (Števčić, 1983) in particular the southern limits of the area because the zoogeographical data are sometimes incomplete and vague. Further difficulties arise in the nomenclature of substrate types, because each author used often only the most general expressions such as »sand« »mud« without further characterization of the basic types of bottom. Sometimes the communities in which species under consideration live are mentioned e. g. »*Nephrops norvegicus* — *Thenea muricata*« community. Because of the difficulties involved the check-list is not as exact and complete as might be desired.

At the end I use this opportunity to express my sincere gratitude to all people who helped me in elaboration of this work. I am very grateful to Dr. A. Giordani Soika (Venice, Italy), Prof. L. B. Holthuis (Leiden, The Nederlands), Dr. G. Pretzmann (Vienna, Austria), Dr. M. Türkay (Frankfurt, W. Germany) and Dr. M. Pastore (Taranto, Italy) for the old literature and other usufeul information. A the same time I am sincerely gratefult for the kindness of Prof. M. Gilmartin (Orono, U. S. A.), Prof. T. E. Thompson (Bristol, England) and Prof. J. Ebling (Sheffield, England) who helped me to improve the English draft of the manuscript. Finally I thank to the Self-Management Comunity of Interest for Scientific Research of S. R. Croatia (Zagreb) for financial support.

PENAEIDEA Rafinesque, 1815

ARISTEIDAE Wood-Mason, 1891

Aristaeomorpha Wood-Mason, 1891

Aristaeomorpha foliacea (Risso, 1827)

Aristaeomorpha foliacea: Kurian, 1956; Karlovac, 1959; Grubišić, 1967, 1982; Števčić, 1969a, 1982; Merker-Poček, 1970b, 1971, 1973a, b; Froglia, 1972b; Bombace & Froglia, 1973.

General distribution: Indo-West-Pacific from South Africa to Japan and Fiji, Atlantic from Bahamas to South America and from Bay of Biscay to Western Sahara (Rio de Oro). Mediterranean.

Adriatic: Recorded in the central part of the mid and southern area.

Remarks: The giant red shrimp is known from the depths between 278 and 750 m. It occurs on bathyal muddy bottom. Edible, but of little commercial importance. Very rare.

Aristeus Duvernoy, 1840

Aristeus antennatus (Risso, 1816)

Aristeus antennatus: Merker-Poček, 1972, 1973a, b; Ševčić, 1972, 1982.

General distribution: Indian Ocean: from Madagascar to Maldives, E. Atlantic from Portugal to the Cape Verde Islands. Mediterranean.

Adriatic: Sampled only in the southern deep basin.

Remarks: The red shrimp occurs on bathyal mud between 300 and 500 m. Rare.

Gennadas Bate, 1881

Gennadas elegans (S. I. Smith, 1882)

Amalopenaeus elegans: Pesta, 1913b, 1915, 1918; Szütz, 1915a, b; Stephensen, 1923; Riedl, 1969, 1970; Marcuzzi, 1970.
Gennadas elegans: Kurian, 1956; Ševčić, 1969a; Froglia & Giannini, 1984.

General distribution: Atlantic from Iceland to Cape Verde and from Greenland to Florida and Sargasso Sea. Mediterranean.

Adriatic: Known only from the southern part of the area.

Remarks: A bathypelagic species living at depths between 250 and 1000 m. Only larvae occur near the surface. Very rarely reported, but probably not very rare in the area.

PENAEIDAE Rafinesque, 1815

Penaeus Fabricius, 1798

Penaeus japonicus Bate, 1888

Penaeus japonicus: Lumare & Casolino, 1986.

General distribution: Indo-West Pacific. During a few last decades it has become wide spread in the eastern Mediterranean.

Adriatic: Reported only once from southern Italian coast near Termoli.

Remarks. Despite the fact that only one specimen has been sampled, it may be nevertheless included in the Adriatic fauna, since it is already well known in neighbouring seas.

Penaeus kerathurus (Forskal, 1775)

Penaeus caramote: Heller, 1862a, 1863; Stalio, 1877; Carus, 1885; Sucker, 1895; Zimmermann, 1906; Brusina, 1907; Paolucci, 1909; Ninni, 1930.

Penaeus caramota: Marchesetti, 1882.

Penaeus trisulcatus: Pesta, 1912a, 1915, 1918; Vatova, 1928; Giordani Soika, 1948; Zei, 1949; Županović & Grubišić, 1958; Gamulin-Brida, 1962, 1965; Riedl, 1963, 1970; Karaman & Gamulin-Brida, 1970; Jardas, 1979; Stjepčević & Parenzan, 1980.

Penaeus kerathurus: Kurian, 1956; Grubišić, 1967, 1982; Karlovac, 1969; Števčić, 1969a, 1982; Merker-Poček, 1970b, 1973a, b; Gamulin-Brida, 1973, 1974.

General distribution: E. Atlantic from England and Ireland to Angola. Mediterranean.

Adriatic: Known from the entire area but more frequent from the southern part.

Remarks: This species occurs at depths from a few metres to about 360 m., but usually near the coast between 10 and 70 m on mud and sandy mud The larvae prefer the brackish water whereas the adults the salt one. It is the most frequent near Neretva mouth. On other parts is fairly rare. Edible, but of little commercial importance.

Parapenaeus S. I. Smith, 1855

Parapenaeus longirostris (H. Lucas, 1846)

Penaeus membranaceus: Pesta, 1912a.

Parapenaeus longirostris: Pesta, 1913b. 1915, 1918; Karlovac, 1936, 1948-49, 1959. 1969; Zei, 1949; Županović&Grubišić, 1958; Gamulin-Brida, 1962, 1973, 1974; Števčić, 1969a, 1982; Županović, 1969; 1976; Crnković, 1970; Merker-Poček, 1970a, b, 1973a, b; Froglia, 1972a, b; Jardas, 1972a; Bombace&Froglia, 1973; Jukić, 1975; Radić, 1982.

General distribution: Atlantic from Portugal to Namibia and from Masachusetts to Venezuela. Mediterranean.

Adriatic: Reported from the entire area except the northern part (i.e.. off western Istrian coast, Gulf of Venice).

Remarks: *Parapenaeus longirostris* occurs in bathyal communities (*»Nephrops norvegicus — Thenea muricata«* and *»Turritella profunda«*) at depths ranging from 60 to 750 m. Edible, but of little commercial importance. Only locally frequent.

SOLENOCERIDAE Wood-Mason, 1891

Solenocera H. Lucas, 1849

Solenocera membranacea (Risso, 1816)

Penaeus membranaceus: Stalio, 1877; Stossich, 1880; Carus, 1885; Paolucci, 1909; Ninni, 1930.
Penaeus siphonoceros: Stossich, 1882.
Solenocera siphonoceros: Carus, 1885; Adensamer, 1898; Pesta, 1912a.
Solenocera membranacea: Pesta, 1913b, 1915, 1918; Vatova, 1949; Kurian, 1956; Županović & Grubišić, 1958; Karlovac, 1959, 1969; Gamulin-Brida, 1965, 1973, 1974; Ševčić, 1969a, 1982; Županović, 1969; Marker-Poček, 1970b, 1971, 1973a, b; Froglia, 1972a, b; Jardas, 1972a, 1979; Marcuzzi, 1972; Bombace & Froglia, 1973; Froglia & Gramitto, 1981.

General distribution: E. Atlantic from Irish Sea to Western Sahara. Mediterranean.

Adriatic: Reported from many localities over the entire area, except only the northern part (Gulf of Venice).

Remarks: This mud shrimp occurs on sand, mud, muddy sand and in particular in »*Nephrops norvegicus — Thenea muricata*« community at depths between 50 and 800 m. Only locally frequent.

SICYONIIDAE Ortmann, 1898

Sicyonia H. Milne Edwards, 1830

Sicyonia carinata (Brünnich, 1768)

Cancer carinatus: Brünnich, 1768; Olivi, 1792.
Carinatus: Tilesius, 1796.
Astacus carinatus: v. Martens, 1824, 1838.
Sicyonia sculpta: Nardo, 1847; Heller, 1863; Lorenz, 1863; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Carus, 1885; Car, 1901; Graeffe, 1902; Ninni, 1930.
Sicyonia carinata: Grube, 1864a; Brusina, 1907; Pesta, 1912a, 1915, 1918; Vatova, 1928, 1932, 1935, 1949; Kurian, 1956; Riedl, 1963, 1970; Karlovac, 1969; Ševčić, 1969a, 1971, 1982; Zavodnik, 1971; Marcuzzi, 1972; Gamulin-Brida, 1973, 1974; Stjepčević & Parenzan, 1980 (erron. as *Sycionia c.);* Manning & Ševčić, 1982; Radić, 1982; Avčin & Vrišer, 1983.
Eusicyonia carinata: Giordani Soika, 1946, 1948.

General distribution: E. Atlantic from Portugal to Congo. Mediterranean.

Adriatic: Reported from the entire area in particular from the eastern (Yugoslav) side.

Remarks: *Sicyonia carinata* occurs in shallow inshore waters between 2 and 20 m on various types of bottom in particular on bottoms covered with algae and sea grass. Fairly frequent.

SERGESTIDAE Dana, 1852

Sergestes H. Milne Edwards, 1830

Sergestes arcticus Krøyer, 1855

Sergestes arcticus: Pesta, 1913b, 1914b, 1915, 1916, 1918; Kurian, 1956; Števčić, 1969a; Froglia, 1972a; Marcuzzi, 1972; Bombace & Froglia, 1973; Froglia & Giannini 1984.

General distribution: Atlantic from Iceland to South Africa and Greenland to the Straits of Magellan, Pacific (Australian waters, but this record needs confirmation). W. Mediterranean.

Adriatic: Recorded from the middle (Jabuka pit) and southern parts of the area.

Remarks: This bathypelagic shrimp lives at all depths to 1250 m. The adults occur at depth, but the larvae are found near the surface. Probably not very rare.

Sergestes corniculum Krøyer, 1855

Sergestes rubroguttatus: Pesta, 1913, b, c, 1914b, 1915, 1918; Marcuzzi, 1972.

Sergestes corniculum: Kurian, 1956; Števčić, 1969a; Froglia, 1972b; Bombace & Froglia, 1973; Froglia & Giannini, 1984.

General distrbution: Atlantic (temperate and tropical waters) from Portugal to South Africa, south west Indian Ocean (off South Africa). Mediterranean.

Adriatic: Recorded in the the southern part.

Remarks: A bathypelagic shrimp living offshore at all depths to 900 m, but in particular between 300 and 750 m. It probably exhibits a diurnal vertical migration. Very rarely captured, but probably not extremely rare.

Sergestes robustus S. I. Smith, 1882

Sergestes robustus: Pesta, 1913a, b, 1914b, 1915, 1918; Kurian, 1956; Števčić, 1969a; Marcuzzi, 1972.

Sergia robusta: Froglia & Giannini, 1984

General distribution: Major part of the Atlantic from the Faeroe Islands to Namibia and in Caribbean Sea. Mediterranean.

Adriatic: Recorded only in southern part of the area.

Remarks: Pelagic species living in the deep sea between 0 and 1050 m. Very rarely reported, but probably not very rare.

Sergestes sargassi Ortmann, 1893

Sergestes sargassi: Kurian, 1956; Ševčić, 1969a; Froglia & Giannini, 1984.

General distribution: Atlantic off Madeira, Azores and the Canary Islands, off South Africa, Caribbean and Sargasso Seas, Mediterranean.

Adriatic: Recorded in the southern part of the area.

Remarks: *Sergestes sargassi* is recorded in the southern Adriatic in the depths from 0—600 m. Extremely rare.

Sergestes vigilax Stimpson, 1860

Sergestes vigilax: Pesta, 1913b, 1914b, 1915, 1916, 1918; Kurian, 1956; Riedl, 1963, 1970; Ševčić, 1969a, Marcuzzi, 1972; Jukić, 1972; Froglia & Giannini, 1984.

General distribution: E. Atlantic from Gibraltar to Cape Bojador. Mediterranean .Its presence in other seas needs confirmation.

Adriatic: Recorded in the southern part of the area.

Remarks. Bathypelagic species living in depths from 0 to 900 m. Probably not very rare, but captured only occasionally.

LUCIFERIDAE Dana, 1852

Lucifer Thompson, 1830

Lucifer typus H. Milne Edwards, 1837

Lucifer acestra: Pesta, 1914b, 1915, 1916, 1918; Marcuzzi, 1972.
Lucifer typus: Kurian, 1956; Ševčić, 1969a; Gamulin, 1979; Froglia & Giannini, 1984.

General distribution: Indo-Pacific, Atlantic from Bay of Biscay to South Africa and to Brazil.

Adriatic: Known only from the central and southern parts of the area.

Remarks: This pelagic shrimp usually occurs off the coast between the surface and 100 m depth. Fairly frequent.

CARIDEA Dana, 1852

PASIPHAEIDAE Dana, 1852

Pasiphaea Savigni, 1816

Pasiphaea multidentata Esmark, 1866

Pasiphaea sivado (erron.): Adensamer, 1898; Pesta, 1912a.
Pasiphaea tarda: Pesta, 1914b, 1916.
Pasiphaea principalis: Pesta, 1918; Marcuzzi, 1972.

Pasiphaë multidentata: Stephensen, 1923.
Pasiphaea multidentata: Števčić, 1969a, Froglia & Giannini, 1984.

General distribution: Atlantic from Greenland to Massachusetts and from Iceland to Western Sahara. Mediterranean.

Adriatic: Recorded only in a few specimens in the middle part of the southern deep basin.

Remarks: *Pasiphaea multidentata* is extremely rare species ranging from 300 to 1125 m.

Pasiphaea sivado (Risso, 1816)

Pasiphaea sivado: Pesta, 1913b, 1914b, 1918; Riedl, 1963, 1970; Števčić, 1969a; Marcuzzi, 1972; Froglia, 1972b; Bombace & Froglia, 1973; Froglia & Giannini, 1984.
Pasiphäe sivado: Stephensen, 1923.

General distribution: Indo-Pacific (Japan, India, Red Sea), E. Atlantic from Norway to South Africa. Mediterranean.

Adriatic: Known from central and southern parts.

Remarks Bathypelagic species living above bathyal mud at a depths between 0 and 1125 m, most frequently between 200 and 260 m (Jabuka pit). Edible, but not fished commercially. Fairly rare.

OPLOPHORIDAE Dana, 1852

Acanthephyra A. Milne Edwards, 1881

Acanthephyra pelagica (Risso, 1816)

Acanthephyra purpurea: Pesta, 1912b, 1913a, b, 1916, 1918. Szütz, 1915a, b (as *A. p. multispina);* Kurian, 1956; Riedl, 1963, 1970; Marcuzzi, 1972.
Acanthephyra pelagica: Števčić, 1969a; Froglia & Giannini, 1984.

General distribution: Indo-Pacific, Atlantic from Greenland to Bermudas and from Iceland to South Africa.

Adriatic: Found only in the southern part.

Remarks: Bathypelagic species ranging from 100 to 1250 m. Larger specimens in the depth more than 400 m. Very rare.

PANDALIDAE Haworth, 1825

Chlorotocus A. Milne Edwards, 1882

Chlorotocus crassicornis (Costa, 1871)

Chlorotocus crassicornis: Pesta, 1913b, 1918; Vatova, 1949; Županović & Grubišić, 1958; Karlovac, 1959; Gamulin-Brida,

1965, 1973, 1974; Števčić, 1969a, 1982; Merker-Poček, 1970b, 1971, 1973a, b; Jardas, 1972a, 1979; Froglia, 1972a; Bombace & Froglia, 1973; Gamulin, 1979.

Chlorotocus spinosus: Županović, 1969.

General distribution: Indo-Pacific, E. Atlantic from the Bay of Biscay to South Africa (The records from Indo-Pacific and South Africa need confirmation). Mediterranean.

Adriatic: Recorded in middle and southern parts.

Remarks: *Chlorotocus crassicornis* lives on fine sandy mud and bathyal mud between 70 and 750 m, in particular in the »*Nephrops norvegicus* — *Thenea muricata*« and »*Turritella profunda*« communities. Not uncommon.

Pandalina Calman, 1899

Pandalina brevirostris (Rathke, 1843)

Pandalus rathkii: Heller, 1862a.

Pandalus brevirostris: Heller, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Adensamer, 1898; Pesta, 1912a; Ninni, 1930.

Pandalina brevirostris: Pesta, 1918; Giordani Soika, 1948; Karlovac, 1959; Riedl, 1963, 1970; Števčić, 1969a, 1971; Jardas, 1972a.

General distribution: E. Atlantic from Norway to South Africa. Mediterranean.

Adriatic: Found at Venice, Rovinj, Hvar, Vis and Palagruža.

Remarks: Rarely reported, but probably not very rare. Found at depths from 30 to 193 m. It occurs on detritic, sandy and muddy bottoms.

Pandalina profunda Holthuis, 1946

Pandalina profunda: Froglia, 1979.

General distribution: E. Atlantic from Barents Sea and Norway to Senegal. Mediterranean.

Adriatic: Central part of the middle Adriatic.

Remarks: *Pandalina profunda* was found on muddy bottom at a depth of about 220 m. Probably a very rare species.

Parapandalus Borradaile, 1899

Parapandalus narval (Fabricius, 1787)

Alpheus? narval: Germar, 1817.

Pandalus pristis: Stossich, 1878, 1880; Carus, 1885; Pesta, 1912a.

Parapandalus pristis: Pesta, 1918; Karlovac, 1959.

Parapandalus narval: Števčić, 1969a; Merker-Poček, 1973a, b.

General distribution: E. Atlantic from Morocco to Angola. Red Sea. Mediterranean.

Adriatic: Known only from the southern part of the area.

Remarks: The narval shrimp inhabits deeper waters of about 300 m. Sometimes found in caves. Rare.

Plesionika Bate, 1888

Plesionika acanthonotus (S. I. Smith, 1882)

Plesionika acanthonotus: Karlovac, 1959; Ševčić, 1969a, 1982; Froglia, 1972b; Bombace & Froglia, 1973.

General distribution: Atlantic from Biscay to South Africa and from South Carolina to Brazil.

Adriatic: Recorded only in the southern part of the area.

Remarks: This species lives on the muddy bottom betwen 278 and 750 m. Rare.

Plesionika antigai Zariquiey Alverez, 1955

Plesionika antigai: Froglia, 1972b; Ševčić, 1972b.

General distribution: E. Atlantic, off western coast of Africa (Morocco). W. Mediterranean.

Adriatic: Recorded only in southern part.

Remarks: A very rare species occurring on sandy mud at depths between 300 and 750 m.

Plesionika edwardsii (Brandt, 1851)

Plesionika edwardsii: Merker-Poček, 1970b (as *P. edwardii*), 1971 (as *P. edvardii*), 1973, Ševčić, 1972a.
Plesionika edwardsi: Ševčić, 1982.

General distribution: Atlantic from Spain to Senegal and from South Carolina to Gulf of Mexico. Mediterranean.

Adriatic: Recorded only in the southern deep basin.

Remarks: *Plesionika edwardsii* occurs on muddy bottom between 100 and 500 m. Rare. Edible, but not fished commercially.

Plesionika heterocarpus (Costa, 1871)

Plesionika heterocarpus: Merker-Poček, 1970a, b, 1971, 173a, b; Jardas, 1972a; Froglia, 1972b; Ševčić, 1972b, 1982.
Plesionika eterocarpus: Froglia, 1972a.

General distribution: E. Atlantic from Portugal to Namibia. Mediterranean.

Adriatic: Found only in the middle and southern parts of the area.

Remarks: Occurs on fine bathyal mud, but also on sandy mud. Range: 100——500 m. Edible, but of little commercial importance. Locally frequent.

Plesionika martia (A. Milne Edwards, 1883)

Plesionika martia: Karlovac, 1959; Števčić, 1969a, 1982; Merker-Poček, 1970b, 1971, 1973a, b; Froglia, 1972b; Bombace & Froglia, 1973.

General distribution: Atlantic from Ireland to the Cape of Good Hope and from South Carolina to Brazil. Found also at a few localities in the Indo-Pacific region. Mediterranean.

Adriatic: Reported only from the middle and southern parts.

Remarks: This shrimp lives on muddy bottom between 100 and 750 m. Edible and of potential commercial importance. Locally frequent.

ALPHEIDAE Rafinesque, 1815

Alpheus Fabricius, 1798

Alpheus dentipes Guérin, 1832

Alpheus dentipes: Grube, 1861, 1864a, b; Heller, 1862a, b, 1863; Lorenz, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Car, 1901; Graeffe, 1902; Zimmermann, 1906; Brusina, 1907; Pesta, 1912a, 1918; Sendler, 1912; Vatova, 1928; Ninni, 1930; Arndt, 1933; Zalokar, 1942; Zei, 1949; Riedl, 1963, 1970; Zavodnik, 1967c, 1971, 1981; Karlovac, 1969a, 1971; Števčić, 1969; Marcuzzi, 1972; Gamulin-Brida, 1973, 1974; Valentinčič, 1975; Pastore & Vaccarella, 1977; Stjepčević & Parenzan, 1980; Manning & Števčić, 1982.
? *Hippolyte variegatus:* Vatova, 1928.

General distribution: E. Atlantic from Portugal to Guinea. Mediterranean.

Adriatic: Recorded from many localities throughout the area, in particular from the eastern (Yugoslar) side.

Remarks: This snapping shrimp is frequent in the shallow sublittoral (between 0 and 31 m) where it occurs endolithic in the holes of *Lithophaga lithophaga* and endobiotic in the holes of some sponges as well as algae and *Posidonia* meadows.

Alpheus glaber (Olivi, 1792)

Cancer glaber: Olivi, 1792.
Glaber: Tilesius, 1796.
Cancer cyneus: Chiereghin, (1818)
Astacus glaber: v. Martens, 1824, 1838.
? *Phleusa cynea:* Nardo, 1847, 1869.
Alpheus ruber: Grube, 1861, 1864b; Heller, 1862a, b, 1863; Lorenz, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Adensamer, 1898; Graeffe, 1902; Paolucci, 1909; Cori, 1912; Pesta, 1912a, 1913b, 1918; Vatova, 1928, 1935, 1946, 1949; Ninni, 1930; Zei, 1949; Kurian, 1956; Županović & Grubišić, 1958;

Riedl, 1963, 1970; Gamulin-Brida, 1965, 1974; Gamulin-Brida et al. 1968; Jukić, 1972; Marcuzzi, 1972; Avčin & Vrišer, 1983.

? Autonomea olivii: Nardo, 1869.

Cryptophthalmus ruber: Sucker, 1895.

Alpheus glaber: Giordani Soika, 1943, 1948; Števčić, 1969a, 1971; Jardas, 1972a, b, 1979; Froglia, 1972b; Gamulin-Brida, 1973; Stjepčević & Parenzan, 1980; Manning & Števčić, 1982.

General distribution: E. Atlantic from Scotland and Ireland to Morocco, Mediterranean.

Adriatic: Reported from many localities throughout the entire area.

Remarks: Red snapping shrimp occurs on various types of bottom (detritus, sand, mud, sea weeds), but chiefly on coastal terrigenous mud between 3 and 265 m. Not very rare.

Alpheus macrocheles (Hailstone, 1835)

Cancer gambarellus: Chiereghin, (1818).

Alpheus gambarellus: Nardo, 1847, 1869.

Alpheus (Athanasus) edwardsi: Grube, 1861b.

Alpheus platyrhynchus: Heller, 1862a, b, 1863; Lorenz, 1863; Grube, 1864a, b; Pesta, 1912a; Ninni, 1930.

Alpheus megacheles: Carus, 1885; Brusina, 1907; Pesta, 1918; Arndt, 1933; Riedl, 1963, 1970; Marcuzzi, 1972.

Alpheus macrocheles: Adensamer, 1898; Gamulin-Brida, 1965, 1973, 1974; Karlovac, 1969; Števčić, 1969a, 1971; Velentinčič, 1975; Manning & Števčić, 1982.

General distribution: Atlantic from southern coasts of England to Angola. West Indies, Mediterranean.

Adriatic: Reported from the entire area in particular from the eastern side.

Remarks: This snapping shrimp lives on the rocky bottom sometimes in the holes of the sponges *Ircinia variabilis* and *Mycale syrinx*, in *Posidonia* meadows and on fine sand bottom. Very rare.

Athanas Leach, 1814

Athanas nitescens (Leach, 1814)

Cancer listellus: Chiereghin, (1818).

Alpheus? vittatus: Nardo, 1847, 1869.

Arete diocletiana: Heller, 1862b.

Athanas nitescens: Heller, 1862a, 1863, 1864; Stalio, 1877; Stossich, 1880; Carus, 1885; Car, 1901; Graeffe, 1902; Brusina, 1907; Pesta, 1912a, 1918; Vatova, 1928, 1932, 1949; Ninni, 1930; Giordani Soika, 1946, 1948; Kurian, 1956; Riedl, 1963, 1970; Gamulin-Brida et al. 1968; Števčić, 1969a, 1971; Zavodnik, 1969, 1971; Froglia, 1975; Valentinčič, 1975; Pastore &

Vaccarella, 9177; Zavodnik et al. 1981; Manning & Ševčić, 1982; Avčin & Vrišer, 1983; Jardas & Županović, 1983.

Athanas laevirhincus: Karlovac, 1969.

General distrbution: E. Atlantic from Norway to South Africa (Natal). Mediterranean.

Adriatic: Listed from the entire area.

Remarks: This species lives on the rocky, sandy, muddy and coastal detritic bottoms from tidal pools and tidal flats to about 90 m. Common.

Automate de Man, 1888

Automate branchialis Holthuis & Gottlieb, 1958

Automate branchialis: Froglia, 1975.

General distribution: Mediterranean.

Adriatic: off the Gulf of Manfredonia.

Remarks: Only one specime has been captured on sandy mud with *Posidonia* roots at a depth of 18 m.

Synalpheus Bate, 1888

Synalpheus gambarelloides (Nardo, 1847)

Cancer gambarelloides: Chiereghin (1818).
Alpheus gambarelloides: Nardo, 1847, 1869.
Alpheus laevimanus: Heller, 1862a, b, 1863; Stalio, 1877; Stossich, 1878, 1880; Carus, 1885; Graeffe, 1902; Pesta, 1912a; Sendler, 1912.
Alpheus costae: Brusina, 1907.
Synalpheus laevimanus: Pesta, 1918; Vatova, 1928, 1932, 1935; Arndt, 1933; Riedl, 1963, 1970.
Synalpheus gambarelloides: Ševčić, 1969a, 1971; Karlovac, 1969; Valentinčič, 1975; Manning & Ševčić, 1982.

General distribution: Mediterranean.

Adriatic: Known from the entire area in particular from eastern side.

Remarks: *Synalpheus gambarelloides* is found on various types of bottom (such as detritus mud and rock) sometimes occurs in holes of sponges *Cacospongia cavernosa* and *Ircinia muscarum* and also in caves at depths from 10 to 30 m. Fairly rare.

HIPPOLYTIDAE Bate, 1888

Caridion Goës, 1863

Caridion steveni Lebour, 1930

Caridion steveni: Kurian, 1956; Ševčić, 1969a.

General distribution: North Atlantic.

Adriatic: Captured only twice in the southern part (Mljet Island).

Remarks: Since only larval stages have been identified (Kurian; Lučić, pers. comm.) its presence in the Adriatic Sea needs confirmation).

Eualus Thallwitz, 1892

Eualus occultus (Lebour, 1936)

Hippolyte cranchii: Heller, 1863 (according to Lagardère, 1971).
Eualus occultus: Türkay (pers. comm.).

General distribution: E. Atlantic from England to Morocco. Mediterranean.

Adriatic: Vis, Hvar, Rovinj.

Remarks: This species has previously been confused with *Thoralus cranchii.* The single specimen captured near Rovinj is found on detritic bottom with Bryozoa at a depth of about 35 m.

Hippolyte Leach, 1814

Hippolyte holthuisi Zariquiey Alvarez, 1953

Virbius varians: Heller, 1862a, 1863; Carus, 1885; Graeffe, 1902; Pesta, 1912a.
Hippolyte varians: Pest, 1918; Riedl, 1963, 1970; Zavodnik, 1967c.
Hippolyte holthuisi: Števčić, 1969a, 1971; Karlovac, 1969; Manning & Števčić, 1982.

General distribution: Mediterranean.

Adriatic: Found near Trieste, Piran, Rovinj, Split and Hvar.

Remarks: Recorded from shallow waters on bottoms covered with sea-grass and with algae at a depth of about 20 m. Fairly rare.

Hippolyte inermis Leach, 1815

Virbius viridis: Heller, 1862a, 1863, 1864; Grube, 1864a; Carus, 1885; Car, 1901; Pesta, 1912a.
Hippolyte viridis: Lorenz, 1863; Stalio, 1877; Stossich, 1880.
Hippolyte prideauxiana: Pesta, 1918; Vatova, 1928; Giordani Soika, 1948; Riedl, 1963, 1970; Zavodnik, 1967b, c, 1969, 1971.
Hippolyte inermis: Števčić, 1969a, 1971; Karlovac, 1969; Valentinčič, 1975; Manning & Števčić, 1982.

General distribution: E. Atlantic from England and Ireland Morocco. Mediterranean.

Adriatic: Reported only from the northern and eastern sides coasts of the area (Venece, Piran, Rovinj, Kvarner, Split).

Remarks: Inhabits the shallow littoral zone and occurs in particular in algae and sea-grass communities, seldom being found down to 60 m. Abundant.

Hippolyte leptocerus (Heller, 1863)

Hippolyte leptocerus: Giordani Soika, 1948; Ševčić, 1969a; Manning & Ševčić, 1982.

General distribution: E. Atlantic from Normandy to Morocco. Mediterranean.

Adriatic: Found only at Venice and Piran.

Remarks: Occurs in sea-grass *(Zostera)* and sea weeds *(Cystoseira)* meadows in shallow water and in tide pools. Very rare.

Hippolyte longirostris (Czerniavsky, 1868)

Virbius gracilis: Heller, 1862a, b, 1863; Stossich, 1880; Carus 1885; Graeffe, 1902; Pesta, 1912a.

Hippolyte gracilis: Stalio, 1877; Pesta, 1918; Vatova, 1928; Giordani Soika, 1948; Riedl, 1963, 1970; Zavodnik, 1967b, c; Marcuzzi, 1972.

Hippolyte longirostris: Ševčić, 1969a; Gamulin-Brida, 1973, 1974; Valentinčič, 1975; Manning & Ševčić, 1982; Radić, 1982; Avčin & Vrišer, 1983.

General distribution: E. Atlantic from England to Morocco. Mediterranean.

Adriatic: Recorded at Venice, Trieste, Piran, Rovinj, Rijeka, Rab and Hvar.

Remarks: *Hippolyte longirostris* occurs on sandy, detritic and rocky bottoms, in particular in algae and sea-grass meadows from tidal pools and tidal flatsto a depth of about 28 m. Fairly frequent.

Lysmata Risso, 1816

Lysmata nilita Dohrn & Holthuis, 1950

Lysmata nihilita: Froglia, 1979.

General distribution: Mediterranean.

Adriatic: Moščenička Draga (eastern Istrian coast).

Remarks: *Lysmata nilita* has been captured only once from the shallow water about 0.5 m in the Moščenička Draga harbour in the red calcareous algae *(Corallina* sp.).

Lysmata seticaudata (Risso, 1816)

Lysmata seticaudata: Heller, 1862a, 1863; Grube, 1864a, b; Stalio, 1877; Stossich, 1880; Carus, 1885; Paolucci, 1909; Pesta, 1912a, 1918; Ninni, 1930; Giordani Soika, 1948; Vatova, 1949; Kurian, 1956; Riedl, 1963, 1970; Karlovac, 1969; Ševčić, 1969a, 1970, 1982; Zavodnik, 1970; Marcuzzi, 1972; Froglia, 1979.

General distribution: E. Atlantic from the Channel Islands to Morocco. Mediterranean.

Adriatic: Recorded throughout the area.

Remarks: This species mostly occurs near the low tide mark on rocky substrate covered with algae, beneath stones and in caves in shallow water. Only Vatova (1949) has reported the occurrence of this species from as much as 95 m. depth, on mud and sandy mud, but his identification was probably incorrect. Rarely reported, but probably not very rare species.

Thoralus Holthuis, 1947

Thoralus cranchii (Leach, 1817)

Cancer dorsiocullatus: Chiereghin, (1818).
Vianellia dorsiocullata: Nardo, 1847, 1869; Carus, 1885.
Hippolyte cranchii: Heller, 1862a, 1863, 1864; Grube, 1864a, b; Graeffe, 1902; Brusina, 1907; Pesta, 1912a.
Spirontocaris cranchi: Pesta, 1918; Vatova, 1928, 1932, 1935; Giordani Soika, 1946, 1948; Kurian, 1956; Riedl, 1963, 1970; Zavodnik, 1967c, 1969; Marcuzzi, 1972; Valentinčič, 1975.
Thoralus cranchii: Števčić, 1969a, 1971; Zavodnik, 1971, 1981; Froglia, 1975; Pastore & Vaccarella, 1977; Manning & Števčić, 1982; Avčin & Vrišer, 1983.

General distribution: E. Atlantic from Norway to the Gulf of Guinea. Mediterranean.

Adriatic: Listed from several localities throughout the entire area.

Remarks: *Thoralus cranchii* occurs on various types of bottom (sand, mud, coastal detritus and rock) in particular on those covered with algae from tide pools down to about 100 m. Fairly frequent.

PALAEMONIDAE Rafinesque, 1815

PALAEMONINAE Rafinesque, 1815

Palaemon Weber, 1795

Palaemon adspersus Rathke, 1837

Palaemon rectirostris: Heller, 1863; Lorenz, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Carus, 1885; Car, 1901; Graeffe, 1902; Paolucci, 1909; Ninni, 1930.
Leander adspersus: Pesta, 1912a; Riedl, 1963, 1970; Zavodnik, 1967c.
Leander adspersus: var. *fabricii:* Pesta, 1918; Giordani Soika, 1946, 1948; Zolezzi, 1946.
Palaemon squilla: Karlovac, 1969.
Palaemon adspersus: Števčić, 1969a, 1982; Valentinčič, 1975; Stjepčević & Parenzan, 1980; Manning & Števčić, 1982.

General distribution: E. Atlantic from Norway and the North Sea to Morocco. Mediterranean.

Adriatic: Known throughout the entire area.

Remarks: This prown occurs in inshore shallow waters from tidal flats to a few metres depth chiefly in North Adriatic lagoons, where it is very abundant, southwards scarce. It is euryhaline, inhabits various types of bottom, in particular those covered with vegetation. Edible and of some commercial importance.

Palaemon elegans Rathke, 1837

Cancer squilla: Scopoli, 1763; Wulfen, 1791; Olivi, 1792; Chiereghin, (1818).
Squilla: Tilesius, 1796.
Palaemon squilla: Germar, 1817; Plucar, 1846; Nardo, 1847, 1869; Grube, 1861, 1864a; Heller, 1862, 1863, 1864; Lorenz, 1863; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Faber, 1883; Carus, 1885 Sucker, 1895; Car, 1901; Graeffe, 1902; Lorini, 1903; Zimmermann, 1906; Ninni, 1930.
Astacus squilla: v. Martens, 1824, 1836.
Leander squilla: Brusina, 1907; Pesta, 1912a, 1914; Sendler, 1912; Riedl, 1963, 1970; Zavodnik, 1967c; Gamulin-Brida et al. 1968; Radić, 1982.
Leander squilla var. *elegans:* de Man, 1915; Pesta, 1918; Vatova, 1928, 1932; Giordani Soika, 1946, 1948; Marcuzzi, 1972.
Palaemon elegans: Karlovac, 1969; Števčić, 1969a, 1971, 1982; Pastore & Vacarella, 1977; Froglia, 1979; Manning & Števčić, 1982.

General distribution: E. Atlantic from Norway to Namibia, Indo-Pacific (Red Sea). Mediterranean.

Adriatic: Reported from a great number of localities throughout the entire area.

Remarks: Rockpool prawn is very common in the area. It lives mainly in shallow inshore waters from the intertidal zone (rockpools, tidal flats) to a few meters, but occasionally down to 60 m. It inhabits various types of bottom in particular rock covered with algae. Euryhaline. Edible, but of little commercial value.

Palaemon serratus (Pannant, 1777)

Cancer captivus: Chiereghin, (1818).
Palaemon serratus: Nardo, 1847; Karlovac, 1969; Števčić, 1969a, 1971, 1982; Merker Poček, 1977; Froglia, 1979; Stjepčević & Parenzan, 1890.
Palaemon treillianus: Heller, 1863; Grube, 1864a; Nardo, 1869; Stalio, 1877; Stossich, 1880; Carus, 1885; Car, 1901; Graeffe, 1902; Babić & Rössler, 1912; Ninni, 1930.
Leander treillianus: Brusina, 1907; Pesta, 1912a.
Leander serratus var. *treillianus:* de Man, 1915; Vatova, 1928; Giordani Soika, 1948.
Leander serratus: Kurian, 1956; Riedl, 1963, 1970; Zavodnik, 1967c.

General distribution: E. Atlantic from the North Sea and Denmark to Western Sahara. Mediterranean.

Adriatic: Reported from many localities over the entire area.

Remarks: *Palaemon serratus* occurs on hard bottoms ranging from rocky shores to *Zostera* meadows in the shallow water. Edible. Fairly scarce, but more frequent in lagoons.

Palaemon xiphias Risso, 1816

Palaemon xiphias: Heller, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Car, 1901; Graeffe, 1902; Ninni, 1930; Karlovac, 1969; Števčić, 1969a, 1971, 1982; Gamulin-Brida, 1973, 1974; Valentinčič, 1975; Manning & Števčić, 1982; Radić, 1982.
Leander xiphias: Brusina, 1907; Pesta, 1912a, 1918; de Man, 1915; Vatova, 1928; Riedl, 1963, 1970; Marcuzzi, 1972.

General distribution: E. Atlantic (Morocco and the Canary Islands). W. Mediterranean.

Adriatic: Known chiefly from the northern and eastern parts of the area.

Remarks: Occurs in shallow water (from 1 to 6 m) mostly on the bottoms covered with vegetation, sometimes enters the brachish waters. Locally frequent.

PONTONIINAE Kingsley, 1878

Balssia Kemp, 1922

Balssia gasti (Balss, 1921)

Balssia gasti: Števčić, 1969.

General distribution: E. Atlantic from Morocco to Guinea. Mediterranean.

Adriatic: Captured only once in the area (*Holthuis*, pers. comm.)

Remarks: No data beyond the record of presence.

Periclimenes Costa, 1844

Periclimenes amethysteus (Risso, 1827)

Anchistia amethystea: Heller, 1863; Stossich, 1880; Carus, 1885; Ninni, 1930.
Periclimenes amethysteus: Pesta, 1912a, 1918; Števčić, 1969a; Svoboda, A. & B. Svoboda, 1975.

General distribution: W. Mediterranean.

Adriatic: Found only at Rovinj and Vis.

Remarks: This very rare anemone shrimp occurs chiefly on the tentacles and column of the sea anemone *Anemonia sulcata*, more rarely in algae and eel-grass meadows and also in narrow fissures in rock.

Periclimenes sagittifer (Norman, 1861)

Periclimenes sagittifer: Ševčić, 1972a; Svoboda, A. & B. Svoboda, 1975.

General distribution: E. Atlantic from Channel Islands to Spain. W. Mediterranean.

Adriatic: Found only at Rovinj.

Remarks: *Periclimenes sagittifer* is associated with sea anemones, mostly with *Condylactis aurantiaca* and more rarely with *Anemonia sulcata*. Sometimes it could be found in algae around its hosts. Very rare.

Periclimenes scriptus (Risso, 1822)

Pelias scriptus: Heller, 1862a, b.
Anchistia scripta: Heller, 1863, 1864; Stalio, 1877; Stossich, 1880; Carus, 1885; Graeffe, 1902; Ninni, 1930.
? *Pelias elongatus:* Lorenz, 1863.
Anchistia amethystea: Paolucci, 1909.
Periclimenes scriptus: Pesta, 1912a, 1918; Vatova, 1928; Riedl, 1963, 1970; Karlovac, 1969; Ševčić, 1969a, 1971. Zavodnik, 1971; Svoboda, A. & B. Svoboda, 1975; Manning & Ševčić, 1982

General distribution: E. Atlantic from Portugal to Angola. Mediterranean.

Adriatic: Reported from a few localities throughout the entire area.

Remarks: This anemone shrimp lives associated with sea anemone *Condylactis aurantiaca* but it is also found on bottoms covered with vegetation especially in *Zostera* meadows. It is found at depths between 2 and 40 m. Rare.

Pontonia Latreille, 1829

Pontonia flavomaculata Heller, 1864.

Pontonia flavomaculata: Heller, 1864; Stossich, 1880; Pesta, 1912a, 1918; Karlovac, 1969; Ševčić, 1969a.

General distribution: E. Atlantic from Morocco to Guinea. W. Mediterranean.

Adriatic: Recorded only at Split. Locality by Korčula is not certain.

Remarks: *Pontonia flavomaculata* lives usually in the gill cavities of ascidians such as *Phallusia mammilata* at depths to about 50 m. Extremely rare and poorly known.

Pontonia pinnophylax (Otto, 1821)

Pontonia tyrrhena: Heller, 1862a, 1863, 1864; Stalio, 1877; Stossich, 1880; Brusina, 1907; Ninni, 1930.
Pontonia custos: Carus, 1885; Car, 1901; Pesta, 1912a, 1918; Giordani Soika, 1948; Riedl, 1963, 1970; Gamulin-Brida, 1962, Valentinčič, 1975.

Pontonia pinnophylax: Karlovac, 1969; Števčić, 1969a.

General distribution: E. Atlantic from the Azores to Angola. Mediterranean.

Adriatic: Recorded only from a few localities throughout the entire area.

Remarks: This species lives endobiontic associated with sponges, mussels *(Pinna)* and ascidians at depths about 30—40 m. Rare.

Typton Costa, 1844

Typton spongicola Costa, 1844

Typton pulsator: Chiereghin, (1818),

Cancer pulsator: Chiereghin, (1818).

Pontonia pulsatrix: Nardo, 1847.

Pontonella glabra: Heller, 1856.

Typton spongicola: Grube, 1861, 1864b; Heller, 1862a, 1863, 1864; Lorenz, 1863; Nardo, 1969; Stalio, 1877; Stossich, 1880; Carus, 1885; Graeffe, 1902; Brusina, 1907; Pesta, 1912a, 1918; Sendler, 1912; Santucci, 1922; Vatova, 1928, 1935, 1949; Ninni, 1930; Arndt, 1933; Giordani Soika, 1943, 1946; Županović & Grubišić, 1958; Gamulin-Brida, 1962; Riedl, 1963, 1970; Gamulin-Brida et al. 1968; Karlovac, 1969; Števčić, 1969a, 1971; Marcuzzi, 1972; Merker-Poček, 1973a, b, 1977.

General distribution: E. Atlantic from England to the Cape Verde Islands and Senegal. Mediterranean.

Adriatic: Recorded from the entire area, in particular from the northern and eastern sides.

Remarks: *Typton spongicola* lives endobiontic in some sponges, in particular *Geodia cydonium*, between 20 and 50 m, but occasionally found down to 300 m. Rare.

PROCESSIDAE Ortmann, 1896

Processa Leach, 1815

Processa acutirostris Nouvel & Holthuis, 1957

Processa acutirostris: Holthuis, 1961; Števčić, 1969a, 1971.

General distribution: W. Mediterranean.

Adriatic: Found only at Jadranovo and Rovinj.

Remarks: This species occurs in *Zostera* and *Cymodocea* meadows between intertidal zone and about 10 m. Locally abundant and probably wide-spread in the area.

Processa canaliculata Leach, 1815

Processa mediterranea: Froglia, 1972a; Števčić, 1972.

General distribution: E. Atlantic from Scotland and Irish Sea to Spain W. Mediterranean.

Adriatic: Recorded in the middle and southern parts.

Remarks: As all specimens of *Processa* have, since the work of Pesta (1918), been identified as *Processa canaliculata* it is not clear which of the numerous citations (see: *P. nouveli)* actually refer to the species. This species occurs offshore on muddy bottoms between 70 and 260 m. Probably fairly rare.

Processa edulis (Risso, 1816)

? *Cancer longipes:* Chiereghin, (1818).
? *Nika ? longipes:* Nardo, 1847.
? *Nika edulis:* Nardo, 1847.
Nika edulis: Heller, 1862a, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1880; Marchesetti, 1883; Carus, 1885; Sucker, 1895; Adensamer, 1898; Car, 1901; Graeffe, 1902, Brusina, 1907; Jardas & Županović, 1983.
? *Nika longipes:* Nardo, 1869.
Processa edulis: Pesta, 1912a, 1913b; Števčić, 1982; Avčin & Vrišer, 1983.
Processa edulis edulis: Holthuis, 1961; Števčić, 1969a; Manning & Števčić, 1982.

General distribution: Mediterranean.

Adriatic: Known with certainty only form the Piran Gulf, Medulin and Jadranovo.

Remarks: Since most authors before Pesta (1918) have identified all *Processa* specimens as *Nika edulis* and after them as *Processa canaliculata* it is impossible to establish which data refer to true *Processa edulis.* This species occurs on detritic bottom and often in sea grass meadows between 2 and 22 m. Probably fairly rare.

Processa macrophthalma Nouvel & Holthuis, 1957

Processa macrophthalma: Števčić, 1969a, 1971, 1979a, Zavodnik, 1981; Zavodnik & Vidaković, 1982.

General distribution: Mediterranean.

Adriatic: To present time captured only near Rovinj and island Krk.

Remarks: This species has been found a few times on detritic and sandy gravel bottoms between 20 and 45 m. Very rare.

Processa modica Williamson & Rochanaburanon, 1979

? *Latreutes* sp.: Kurian, 1956.
Processa parva: Števčić, 1969a, 1971; Zavodnik, 1981; Zavodnik & Vidaković, 1982.

Processa modica caroli: Ševčić, 1979; Manning & Ševčić, 1982.

General distribution: E. Atlantic, coast of south-west Spain. Mediterranean

Adriatic: To present time found only near Piran, Portorož, Rovinj and island Krk.

Remarks: Occurs in beds of sea grass *(Zostera, Cymodocea)* between 1 and 42 m .Probably not very rare.

Processa nouveli Al-Adhub & Williamson, 1975

Processa canaliculata: Pesta, 1918; Vatova, 1928, 1949; Giordani Soika, 1946, 1948; Kurian, 1956; Riedl, 1963, 1970; Zavodnik, 1967a, 1971; Karlovac, 1969; Ševčić, 1969a, 1971; Merker-Poček, 1970b, 1973a, b; Jardas, 1972a, 1979; Jukić, 1972; Froglia, 1972b, Marcuzzi, 1972; Avčin et al. 1975; Valentinčič, 1975; Avčin & Vrišer, 1983.

Processa nouveli: Ševčić, 1979a, 1982; Zavodnik & Vidaković, 1982.

General distribution: Mediterranean.

Adriatic: Known with certainty only from Rovinj, Krk, between islands Krk and Pag and from Jabuka pit.

Remarks: Occurs on various types of sedimentary bottoms, in particular on more softer ones (cleyey silt) from 30 to 93 m. Probably fairly rare.

Processa robusta Nouvel & Holthuis, 1957

Processa robusta: Ševčić, 1969a (according to Holthuis pers comm.).

General distibution: Mediterranean.

Adriatic: Found only near Split and Dubrovnik.

Remarks: No data beyond record of presence.

GNATHOPHYLLIDAE Dana, 1852

Gnathophyllum Latreille, 1819

Gnathophyllum elegans (Risso, 1816)

Gnathophyllum elegans: Heller, 1862a, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Car, 1901; Brusina, 1907; Pesta, 1912a; Ševčić, 1969a, 1971; Zavodnik, 1971.

Drimo elegans: Pesta, 1918; Riedl, 1963, 1970.

General distribution: E. Atlantic (Morocco, Madeira, the Azores, the Canary Islands). Mediterranean.

Adriatic: Recorded only at Rovinj, Zadar, Starigrad, Split and Hvar.

Remarks: The ecology of this species in the Adriatic is insufficiently known It is found near Rovinj on detritic bottoms (with *Lima)* at a depth of about 30—35 m. Very rare.

CRANGONIDAE Haworth, 1825

Crangon Fabricius, 1798

Crangon crangon (Linnaeus, 1758)

Cancer crangon: Olivi, 1792.
Crangen: Tilesius, 1796.
? *Cancer schillinus:* Chiereghin (1818).
Astacus crangon: v. Martens, 1824, 1838.
? *Crangon schillinus:* Nardo, 1847, 1869.
Crangon vulgaris: Plucar, 1846; Nardo, 1847; Heller, 1862a, 1863; Grube, 1864a; Stalio, 1877 Stossich, 1880; Marchesetti, Faber, 1883; Carus, 1885; Sucker, 1895; Car, 1901; Graeffe, 1902; Lorini, 1903; Brusina, 1907; Pesta, 1912a; Ninni, 1930; Zolezzi, 1946 *(Grangon).*
Crangon crangon: Pesta, 1918; Giordani Soika, 1946, 1948; Gamulin-Brida, 1962; Riedl, 1963, 1970; Gamulin-Brida et al. 1968; Ševčić, 1969a, 1971, 1982; Karlovac, 1969; Jukić, 1972; Valentinčič, 1975; Manning&Ševčić, 1982; Radić, 1982.

General distribution: E. Atlantic from the White and Baltic Seas to Morocco. Mediterranean.

Adriatic: Recorded from the northern and eastern parts from Venice to Hvar and Vis.

Remarks: Common shrimp occurs on sediment substrates (mud, sand, detritus or mixtures) at depths of 22 to 100 m. Common in some regions (Northern Adriatic), but elswhere rare.

Philocheras Stebbing, 1900

Philocheras bispinosus (Hailstone, 1835)

Pontophilus sp.: Pesta, 1918.
Philocheras bispinosus: Kurian, 1956; Ševčić, 1969a, 1971; Zavodnik, 1971.

General distribution: E. Atlantic from Iceland and Norway to Azores, Mediterranean.

Adriatic: Found near Rovinj, Rab, and Mljet.

Remarks: This species lives on sandy bottom more or less mixed with mud and in sea grass meadows from 2 to 37 m. Probably rare.

Philocheras echinulatus (M. Sars, 1861)

Philocheras echinulatus: Froglia, 1972b; Jardas, 1972a; Ševčić, 1972; Bombace&Froglia, 1973.

General distribution: E. Atlantic from Norway to Marocco, Mediterranean.

Adriatic: Recorded only from the central part of the middle and southern areas.

Remarks: A deep sea species living between 200 and 750 m on bathyal muddy substrate in the »*Nephrops norvegicus* — *Thenea muricata*« comunity. Rare.

Philocheras fasciatus (Risso, 1816)

Crangon fasciatus: Heller, 1862a, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Graeffe, 1902; Ninni, 1830.
Aegon fasciatus: Pesta, 1912a.
Pontophilus fasciatus: Pesta, 1918; Vatova, 1928; Riedl, 1963, 1970; Marcuzzi, 1972; Valentinčič, 1975; Manning&Števčić, 1982.
Philocheras fasciatus: Stevčić, 1969a, 1971.

General distribution: E. Atlantic from Iceland and Norway to the Azores. Mediterranean.

Adriatic: Reported only from Triest, Rovinj, Brioni, Rab and Vis.

Remarks: Occurs on bottoms covered by vegetation and on sand in shallow water between 4 and 22 m. Fairly rare.

Philocheras monacanthus (Holthuis, 1961)

Philocheras monacanthus: Froglia, 1976; Števčić, 1985;
Pontophilus monacanthus: Manning&Števčić, 1982.

General distribution: Mediterranean.

Adriatic: Middle part of the western side (off Ancona, Falconara and Senigalia) and north-eastern side (Piran, Rovinj).

Remarks: *Philocheras monacanthus* is recorded on the coastal well calibred sandy bottom between 2,5 and 23 m. Probably not very rare.

Philocheras sculptus (Bell, 1847)

Crangon sculptus: Heller, 1862a, Stalio, 1877; Stossich, 1880; Carus, 1885; Car, 1901; Brusina, 1907; Ninni, 1930.
Aegon sculptus: Pesta, 1912a.
Pontophilus sculptus: Pesta, 1918; Vatova, 1928; Gamulin-Brida, 1962; Riedl, 1963, 1970.
Philocheras sculptus: Kurian, 1956; Števčić, 1969a, 1971.

General distribution: E. Atlantic from England and Ireland to South Africa. Mediterranean.

Adriatic: Found only near Rovinj, Rab, Split, off Murter, Brač and Hvar, Mljet.

Remarks: Occurs on sandy bottom between 15 and 100 m. Its ecology is insufficiently known. Very rare.

Philocheras trispinosus (Hailstone, 1835)

Pontophilus trispinosus: Pesta, 1918; Gamulin-Brida, 1973, 1974.
Philocheras trispinosus: Števčić, 1969a, 1971, Zavodnik, 1971.

General distribution: E. Atlantic from the North Sea to Morocco. W. Mediterranean.

Adriatic: Reported only from a few localities: Rovinj, Premantura, Rab and Velebitski kanal (near the island Krk).

Remarks: Occurs chiefly on fine sand and mud between 2 and 63 m. Rare.

Pontocaris Bate, 1888

Pontocaris cataphractus (Olivi, 1792)

Cancer cataphractus: Olivi, 1792; Chiereghin (1818).
Cathafracktus (error for Cataphractus): Tilesius, 1796.
Astacus cataphractus: v .Martens, 1824, 1838.
Egeon loricatus: Nardo, 1847.
Crangon cataphractus: Heller, 1862a, 1863; Grube, 1864a; Stossich, 1880; Carus, 1885; Graeffe, 1902; Brusina, 1907; Paolucci, 1909; Ninni, 1930.
Aegon cataphractus: Pesta, 1913b, 1918; Vatova, 1928; Giordani Soika, 1946; Zei, 1949; Riedl, 1963, 1970; Merker-Poček, 1970b, 1971; Marcuzzi, 1972.
Pontocaris cataphracta: Števčić, 1969a, 1971, 1982: Merker-Poček, 1973a, b.
Pontocaris cataphractus: Karlovac, 1969.

General distribution: E. Atlantic from Portugal to South Africa. Indo-Pacific: Indian Ocean from Arabian Sea to Natal. Mediterranean.

Adriatic: Reported from many localities throughout the entire area.

Remarks: Occurs on sandy and muddy bottoms between 10 and 50 m. Fairly rare.

Pontocaris lacazei (Gourret, 1887)

Pontocaris lacazei: Froglia, 1972b; Merker-Poček, 1972, 1973a, b; Števčić, 1972; Bombace & Froglia, 1973.

General distribution: E. Atlantic from Ireland to South Africa. Indo-Pacific from Natal to New Zealand. W. Mediterranean.

Adriatic Reported only from the southern part.

Remarks: Hardshell shrimp occurs in deep sea water between 100 and and 750 m in depth. Very rare.

Pontophilus Leach, 1817

Pontophilus norvegicus (M. Sars, 1861)

Pontophilus norvegicus: Kurian, 1956; Števčić, 1969a, 1972.

General distribution: E. Atlantic from North Sea to Bay of Biscay. Mediterranean.

Adriaic: Recorded only in larval stage near Dubrovnik.

Remarks: The occurrence of this species in the area is not certain, but possible.

Pontophilus spinosus (Leach, 1815)

Crangon spinosus: Heller, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Car, 1901, Paolucci, 1909.

Pontophilus spinosus: Adensamer, 1898; Pesta, 1912a, 1918; Kurian, Županović&Grubišić, 1958; Gamulin-Brida, 1962, 1965; Števčić, 1969a; Županović, 1969; Merker-Poček, 1973a, b; Froglia 1972b, Jardas, 1972a; Radić, 1982.

General distribution: E. Atlantic from Iceland and Norway to Morocco. Mediterranean.

Adriatic: Reported from many localities between Kvarnerić and south part of the area.

Remarks: Spiny shrimp lives on offshore sediment substrate, mud and muddy sand, often in »*Nephrops norvegicus — Thenea muricata*« community. Only locally frequent.

REPTANTIA Boas, 1880

STENOPODIDEA Bate, 1888

STENOPODIDAE Huxley, 1879

Stenopus Latreille, 1819

Stenopus spinosus Risso, 1827

Stenopus spinosus: Karlovac, 1953a, 1969; Kurian, 1956; Števčić, 1969a.

General distribution: E. Atlantic from Morocco to Congo. Indian Ocean (Red Sea). Mediterranean.

Adriatic: Known only in the middle part of the area (Zlarin, Mljet).

Remarks: Fonud only once near rocky bottom between 19 and 25 m. Extremely rare.

ERYONIDEA de Haan, 1844

POLYCHELIDAE Wood Mason, 1875

Polycheles Heller, 1862

Polycheles typhlops Heller, 1862

Polycheles typhlops: Adensamer, 1898; Pesta, 1912a, 1918; Karlovac, 1959; Števčić, 1969a; Froglia, 1972b (errron. *tiphlops).* Bombace & Froglia, 1983; Merker-Poček, 1973a.

General distribution: E. Atlantic from Ireland to South Africa. Mediterranean.

Adriatic: Known only from the southern Adriatic.

Remarks: *Polycheles typhlops* inhabits sandy and muddy substrates between 300 and 1200 m, but only locally scarce. Edible, but not fishd commercially. Two larval specimens *(Eryoneicus)* were taken in a plankton haul off Dubrovnik.

SCYLLARIDEA Latreille, 1825

PALINURIDAE Latreille, 1803

Palinurus Weber, 1795

Palinurus elephas (Fabricius, 1787)

Cancer locusta: Wulfen, 1791.
Cancer homarus: Olivi, 1792.
Homarus: Tilesius, 1796.
Astacus quadricornis: v. Martens, 1824, 1838
Palinurus vulgaris: Nardo, 1847, (as *Palynurus* v.) Heller, 1862a, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1878, 1880; Marchesetti, 1882, Faber, 1883; Graeffe, 1902; Lorini, 1903; Babić; 1911; Babić&Rössler, 1912; Pesta, 1912a, 1918; Vatova, 1928; Ninni, 1930; Giordani Soika, 1946; 1948; Gamulin, 1955, 1979; Kurian, 1956; Riedl, 1963, 1970; Gamulin-Brida, 1965, 1973, 1974; Grubišić, 1967, 1982; Marcuzzi, 1972; Legac, 1974; Županović, 1976; Radić, 1982.
Palinurus quadricornis: Grube, 1861; Brusina, 1907.
Palinurus adriaticus: Carus, 1885; Zimmermann, 1906.
Palinurus elephas: Karlovac 1965; Ševčić, 1969a, 1982; Merker-Poček, 1973a, 1977.

General distribution: E. Atlantic from Norway to Mauritania. Mediterranean

Adriatic: Reported from the east side, especially the middle and southern areas. There are some earlier records from the northern part, but none during twenty years.

Remarks: The spiny lobster occurs on rocky bottom near coast, from a few to about 70 m. It sometimes enters caves. Common. It is of considerable commercial value.

SCYLLARIDAE Latreille, 1825

Scyllarides Gill, 1898

Scyllarides latus (Latreille, 1803)

Scyllarus latus: Heller, 1862a, 1863; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Faber, 1883; Carus, 1885; Babić, 1911; Pesta, 1912a; Ninni, 1930.

Scyllarides latus: Pesta, 1918; Vatova, 1928; Riedl, 1963, 1970; Grubišić, 1967, 1982; Ševčić, 1969a, 1982; Marcuzzi, 1972; Radić, 1982.

General distribution: E. Atlantic from Portugal to Senegal. Mediterranean

Adriatic: Recorded on the southern part of the area and occasionally on the middle one. The records from northern part are uncertain.

Remarks: *Scyllarides latus* lives in shallow water on rock covered with algae between 4 and 10 m. Scarce. Edible, but of little commercial importance.

Scyllarus Fabricius, 1775

Scyllarus arctus (Linnaeus, 1758)

Cancer arctus: Olivi, 1792; Chiereghin, (1818).
Arctus: Tilesius, 1796.
Astacus arctus: v. Martens, 1824, 1838.
Scyllarus arctus: Nardo, 1847; Heller, 1862a, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1880; Faber, 1883; Sucker, 1895; Graeffe, 1902; Pesta, 1912a, 1918; Stephensen, 1823; Vatova, 1928, 1932; Ninni, 1930; Giordani Soika, 1946, 1948; Gamulin, 1955, 1978; Kurian, 1956; Gamulin-Brida, 1962; Riedl, 1963, 1970; Grubišić, 1967, 1982; Karlovac, 1969; Ševčić, 1969a, 1971, 1982; Marcuzzi, 1972; Merker-Poček, 1973a; Legac, 1974; Radić, 1982.
Scyllarus arctos: Lorenz, 1863; Marchesetti, 1882 (as *Scillarus a.).*
Arctos ursus: Carus, 1885; Zimmermann, 1906; Brusina, 1907; Paolucci, 1909; Babić, 1911; Sendler, 1912.

General distribution: Atlantic from Scotland to the Canary Islands and from North Carolina to Brazil. Pacific (Mexico). Mediterranean.

Adriatic: Listed from the entire area.

Remarks: The locust lobster occurs on mud, sand, muddy sand and coraligenous bottoms between 4 and 100 m. Not very rare. Edible, but of little commercial importance.

Scyllarus pygmaeus (Bate, 1888)

Scyllarus pygmaeus: Froglia, 1972a; Ševčić, 1972.

General distribution: E. Atlantic (Azores, Madeira, the Canary Islands, Senegal). W .Mediterranean.

Adriatic: Found only once in the middle portion of the central part of the area.

Remarks: The single specimen is captures in the »*Nephrops norvegicus* — *Thenea muricata*« community at a depth of 70 m. Probably extremely rare.

ASTACIDEA Latreille, 1804

NEPHROPIDAE Dana, 1852

Homarus Weber, 1795

Homarus gammarus (Linnaeus, 1758)

Cancer gammarus: Scopoli, 1763; Brünnich, 1768; Wulfen, 1791; Olivi, 1792.
Gammarus: Tilesius, 1796.
Astacus marinus: Germar, 1817; Plucar, 1846.
Astacus gammarus: v. Martens, 1824, 1838; Pesta, 1912a, 1918, Vatova, 1928, 1932; Giordani Soika, 1948; Riedl, 1963, 1970; Jukić, 1972; Marcuzzi, 1972; Županović, 1976.
Homarus vulgaris: Nardo, 1847 (as *Hommarus);* Heller, 1862a, 1863; Grube, 1864a, b; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Faber, 1883; Carus, 1885; Sucker, 1895; Graeffe, 1902; Lorini, 1903; Zimmermann, 1906; Paolucci, 1909; Babić 1911; Sendler. 1912; Ninni, 1930; Giordani Soika, 1946; Gamulin, 1955, 1979; Grubišić, 1967, 1982; Gamulin-Brida, 1973, 1974; Radić, 1982.
Homarus marinus: Grube, 1861, Lorenz, 1863
Homarus gammarus: Brusina, 1907; Ševčić, 1969a, 1971, 1982; Karlovac, 1970; Legac, 1974 (as *Hommarus);* Županović, 1974; Valentinčič, 1975; Zavodnik&Vidaković, 1982; Zavodnik D. & N. Zavodnik 1982.

General distribution: E. Atlantic from Norway to Morocco, Mediterranean.

Adriatic: Recorded over the entire area.

Remarks: The lobster lives on the rocky bottom, sometimes enters caves or occurs on bottom covered with algae between 1 and 40 m. Common and of considerable commercial value.

Nephrops Leach, 1814

Nephrops norvegicus (Linnaeus, 1758)

Cancer norvegicus: Brünnich, 1768; Wulfen, 1791; Olivi, 1792; Chiereghin, (1818).
Norvegicus: Tilesius, 1796.
Astacus norvegicus: v. Martens, 1824, 1838.
Nephrops norvegicus: Nardo, 1847; Grube, 1861, 1864a, b; Heller, 1863; Lorenz, 1963; Stalio, 1877 (as *N. norwegicus),* Stossich 1880; Marchesetti, 1882; Faber, 1883; Carus, 1885 Graeffe, 1902; Lorini, 1903; Zimmermann, 1906; Brusina, 1907; Stiasny, 1908; Paolucci, 1909; Babić, 1911; Cori, 1912; Gauss-Garády, 1912; Pesta, 1912a, 1918; Sendler, 1912; Vatova, 1928; Giordani Soika, 1946, 1948; Karlovac, 1948—49, 1953b, 1959, 1970; Zei,

1949; Gamulin, 1955, 1979; Kurian, 1956; Županović & Grubišić, 1958; Gamulin-Brida, 1962, 1965, 1973, 1974; Riedl, 1963, 1970; Grubišić, 1967, 1982; Ševčić, 1969a, 1979a, 1982; Županović, 1969, 1976; Crnković, 1970; Froglia, 1972a, b, Jardas, 1972a; Marcuzzi, 1972; Bombace & Froglia, 1973; Merker-Poček, 1973a; Jukić, 1974, 1975; Valentičič, 1975; Radić, 1982; Jardas & Županović 1983.

General distribution: E. Atlantic from Norway and Iceland to Mauritania Mediterranean.

Adriatic: Found throughout the area, in particular in channels of northern and middle area and off the coast in the south. The previous records from the northern Adriatic (Gulf of Triest and Venice) are very old and uncertain.

Remarks: The Norway lobster lives in burrows in muddy bottom between 50 and 750 m in the *»Nephrops norvegicus — Thenea muricata«* community. Very common and of very considerable commercial importance.

THALASSINIDEA Latreille, 1831

AXIIDAE Huxley, 1879

Axius Leach, 1815

Axius stirhynchus Leach, 1815

Axius stirhynchus: Kurian, 1956; Ševčić, 1969a.

General distribution: E. Atlantic (north-western coast of Scotland and western ones of France). Mediterranean.

Adriatic: Found in the southern part of the area (Mljet).

Remarks: Known only in larval stage, otherwise no further data. Its presence in the Adriatic needs confirmation by adult specimens.

Calocaris Bell, 1846

Calocaris macandreae Bell, 1846

Calocaris macandreae: Adensamer, 1898; Pesta, 1912a, 1918; Vatova, 1946, 1949; Ševčić, 1969a, 1979a; Marcuzzi, 1972; Froglia, 1972b; Jardas, 1972a, 1979.

General distribution: E. Atlantic from Iceland and Norway to Gulf of Guinea. W. Mediterranean. (The records in Indian Ocean are uncertain).

Adriatic: Reported from a few offshore localities between Kvarner and South Adriatic, in particular from channels.

Remarks: *Calocaris macandreae* occurs on muddy bottom (clayey and sandy silt) in *»Turitella profunda«* community between 60 and 1189 m. Fairly common.

LAOMEDIIDAE Borradaile, 1903

Jaxea Nardo, 1847

Jaxea nocturna Nardo, 1847

Cancer nocturnum: Chiereghin, (1818)
Jaxea nocturna: Nardo, 1847, 1869; Zimmermann, 1906; Brusina, 1907; Pesta, 1918; Vatova, 1928, 1935, 1949; Giordani Soika, 1946; Kurian, 1956; Gamulin-Brida, 1962, 1963, 1974; Riedl, 1963, 1970; Ševčić, 1969a, 1971; Karlovac, 1970; Zavodnik, 1971; Marcuzzi, 1972; Jardas, 1979; Manning & Ševčić, 1982; Avčin & Vrišer, 1983; Pervesler & Dworschak, 1985.
Calliaxis adriatica: Heller, 1856, 1862a, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Graeffe, 1902; Paolucci, 1909; Pesta, 1912a.
Calliaxis mediterraneus: Cori, 1912.
Calliaxis nocturna: Ninni, 1930.

General distribution: E. Atlantic from Irish Sea to Morocco. Mediterranean.

Adriatic: Sampled over the entire area.

Remarks: This species occurs on soft mud (cleyey silt) mud and muddy sand between 15 and 100 m. Fairly frequent.

UPOGEBIIDAE Borradaile, 1903

Upogebia Leach, 1814

Upogebia deltaura (Leach, 1815)

Gebia deltura: Adensamer, 1898.
Upogebia deltura: Pesta, 1912a.
Upogebia (Gebiopsis) deltaura: Pesta, 1918.
Gebiopsis deltaura: Vatova, 1946, 1949.
Upogebia deltaura: Kurian, 1956; Ševčić, 1969a, 1971, 1979a; Marcuzzi, 1972; Stjepčević & Parenzan, 1980; Zavodnik & Vidaković, 1982.

General distribution: E. Atlantic from Norway to Togo. Mediterranean.

Adriatic: Recorded on several localities throughout the entire area with exception for the northern part (Gulf of Venice).
Remarks: Occurs in burrows in sand, mud (silt, detritic and sandy silt) in particular in »*Turritella communis*« community between 10 and 190 m, usually between 60 and 90 m. Not very rare.

Upogebia pusilla (Petagna, 1792)

Cancer scyllarus: Chiereghin, (1818).
Astacus littoralis: v. Martens, 1824, 1838.
Gebia venetiana: Nardo, 1847.
Thalassina litoralis: Grube, 1861.

Gebia littoralis: Heller, 1862a; Faber, 1883; Ninni, 1930.

Gebia litoralis: Heller, 1863; Lorenz, 1863; Grube, 1864a, b; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Carus, 1885; Sucker, 1895; Car, 1901; Graeffe, 1902; Zimmermann, 1906; Paolucci, 1909 Sendler, 1912.

Gebia venetiarum: Nardo, 1869; Ninni, 1930.

Gebia litoralis: Cori, 1912.

Upogebia litoralis: Pesta, 1912a; Vatova, 1928, 1932, 1949; Giordani Soika, 1948; Riedl, 1963; 1970; Karaman&Gamulin-Brida, 1970; Marcuzzi, 1972; Gamulin-Brida, 1973, 1974; Avčin&*al.* 1974; Jardas, 1979; Orel & Mennea, 1983.

Upogebia (Upogebia) litoralis: Pesta, 1918.

Upogebia littoralis: Zalokar, 1942; Giordani Soika, 1946; Gamulin-Brida, 1962.

Upogebia pusilla: Ševčić, 1969a, 1971, 1982; Karlovac, 1970; Merker-Poček, 1977; Stjepčević&Parenzan, 1980; Manning &Ševčić, 1982; Dworschak, 1983; Jardas&Županović, 1983; Pervesler&Dworschak, 1985.

General distribution: Indo-Pacific (Red Sea), E. Atlantic from Norway to Mauritania. Mediterranean.

Adriatic: Reported from the entire area.

Remarks: *Upogebia pusilla* lives in burrows in various types of sedimentary bottom, in particular on muddy fine sand, from tidal flats to about 150 m. Locally common. It has previously been confused with *Upogebia tipica* and therefore the localities and abundance are not known with certainty.

Upogebia typica (Nardo, 1847)

Cancer scyllarus var.: Chiereghin (1818).

Bigea typica: Nardo, 1847.

Bigea tipica: Nardo, 1869.

? *Bigea stellata:* Brusina, 1907.

? *Upogebia stellata:* Kurian, 1956.

Upogebia tipica: Ševčić, 1969a, 1979a, 1985; Stjepčević&Parenzan, 1980 (as *U. typica);* Manning&Ševčić, 1982; Zavodnik &Vidaković, 1982; Pervesler&Dworschak, 1985.

General distribution: E. Atlantic (Morocco), Mediterranean.

Adriatic: Found only at Venice, Triest, Piran, Rovinj and Kvarner (near island Krk) and Boka Kotorska.

Remarks: Occurs from the intertiodal zone to about 90 m on sedimentary bottoms (cleyey silt, detritic silt) often in sheltered bays (e. g. Limski kanal). It has previously been confused with the previous species. Locally frequent.

CALLIANASSIDAE Dana, 1852

Callianassa Leach, 1814

Callianassa candida (Olivi, 1792)

Cancer candidus: Olivi, 1792.
Candidus: Tilesius, 1796.
Callianassa laticauda: Heller, 1863
Callianassa candida: Brusina, 1907.
Callianassa (Callichirus) stebbingi: Pesta, 1918 (pro parte: fig. 63).
Callianassa pestae: de Man, 1928; Manning&Ševčić, 1982.
Callinassa pontica: Vatova, 1946, 1949.

General distribution: Mediterranean.

Adriatic: Its distribution in the area is not exactly known. Up to now with certainty known only from Venice and Piran areas.

Remarks: Because of previous confusion in species identification of the genus *Callianassa* in the Adriatic Sea (and elsewhere) the distribution and ecology of the species are not well known. It has been found in tidal flats on sandy bottom in Piran Gulf. According to Vatova (1949) it occurs on sedimentary bottoms (sand, mud) 20 to 100 m depth. Rare.

Callianassa subterranea (Montagu, 1808)

Callianassa pestae: Lutze, 1937, 1938; Vatova, 1949; Marcuzzi, 1972
Callianassa pestai: Ševčić, 1969a.
Callianassa subterranea: Nardo, 1847; Grube, 1964a Stalio, 1877; Stossich, 1880; Marchesetti, 1882 (as *Calianassa* s.); Sucker, 1895, Car, 1901; Graeffe, 1902; Zimmermann, 1906; Pesta 1912a; Ninni, 1930; Lutze 1938; Ševčić, 1979; Zavodnik, 1981; Zavodnik&Vidaković, 1982; Zavodnik D. & N. Zavodnik 1982.

General distribution: E. Atlantic from Norway to Bay of Biscay. Mediterranean.

Adriatic: Recorded throughout the entire area, in particular on channels of the middle and north Adriatic Sea.

Remarks: Extremely common offshore species living on various types of sedimentary bottoms between 30 and 500 m.

Callianassa tyrrhena (Petagna, 1792)

? *Cancer lunulatus:* Chiereghin, (1818)
Callianassa subterranea: Heller, 1863
Callianassa laticauda: Stalio, 1877; Stossich, 1880; Carus, 1895; Pesta, 1912a.
Callianassa (Callichirus) stebbingi: Pesta, 1918 (prvo parte).

Callianassa stebbingi: Vatova, 1928, 1935, 1940; Lutze, 1937, 1938; Riedl, 1963, 1970; Zavodnik, 1967a; Gamulin-Brida et al. 1968; Avčin et al. 1974; Ott et al. 1976; Avčin & Vrišer, 1983.
Callianassa candida: Giordani Soika, 1943, 1946, 1948.
Callianassa tyrrhena: Ševčić, 1969a, 1971, 1982; Zavodnik, 1971; Valentinčič, 1975; Manning & Ševčić, 1982; Pervesler & & Dworschak, 1985.

General distribution: E. Atlantic from English Channel to Mauritania.

Adriatic: Reported from many localies throughout the entire area.

Remarks: *Callianassa tyrrhena* occurs on sandy, detritic and muddy bottoms in various depths, but more frequent from intertidal zone to a few metres. Locally abundant.

Calliax de Saint Laurent, 1973

Calliax lobata (de Gaillande & Lagardère, 1966)

Calliax lobata: Ševčić, 1985.

General distribution: Mediterranean (southern French coast).

Adriatic: Found only near Rovinj.

Remarks: Found only one specimen on silty sand at a depth of 21 m.

Gourretia de Saint Laurent, 1973

Gourretia denticulata (Lutze, 1937)

Callianassa subterranea: Adensamer, 1898.
Callianassa (Cheramus) subterranea var. *minor:* Pesta, 1918.
Callianassa denticulata: Lutze, 1937, 1938; Vatova, 1949.
Callianassa minor: Ševčić, 1969a; Stjepčević & Parenzan, 1980
Gourretia minor: Ševčić, 1972, 1985; Manning & Ševčić, 1982.

General distribution: E. Atlantic (Gulf of Guinea). Mediterranean.

Adriatic: Is has been taken sporadically over the entire area, in particular on the western Istrian coast.

Remarks: *Gourretia denticulata* occurs on sedimentary bottoms in particular on muddy ones between 2,5 and 100 m. Locally fairly frequent.

ANOMURA H. Milne Edwards, 1837

DIOGENIDAE Ortmann, 1892

Dardanus Paulson, 1875

Dardanus arrosor (Herbst, 1796)

Pagurus striatus: Heller, 1862a, 1863; Grube, 1864a; Nardo, 1869; Stossich, 1880; Carus, 1885; Adensamer, 1898; Graeffe, 1902; Sendler, 1912; Ninni, 1930.

Pagurus arrosor: Brusina, 1907; Pesta, 1912a, 1918; Županović & Grubišić, 1958; Riedl, 1963, 1970; Gamulin-Brida, 1965.
Dardanus arrosor: Ševčić, 1969a; Karlovac, 1970; Froglia, 1972b; Merker-Poček, 1973a, b; Bombace & Froglia, 1973.

General distribution: Atlantic (from Portugal to South Africa coasts of north and south America) Indian and Pacific oceans. Mediterranean.

Adriatic: Known from a few localities from the middle and southern part of the area. The records of Piran and Rovinj are somewhat doubtful and require confirmation.

Remarks: This giant red hermit crab occurs on sandy and muddy bottoms at depths from 90 downwards to 750 m. It inhabits the shells of *Doliolum, Cassidaria, Cassis, Murex, Ranella* and *Tritonium.* Rare.

Dardanus calidus (Risso, 1827)

Pagurus calidus: Grube, 1861, 1864a; Heller, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Pesta, 1912a, 1918; Ninni, 1930; Riedl, 1963, 1970;
Dardanus calidus: Ševčić, 1969a; Karlovac, 1970.

General distribution: E. Atlantic from Portugal to Senegal. Mediterranean.

Adriatic: Recorded at Zadar, Primošten, Split, Hvar and Vis. A single record for Triest must be considered with reserve, since it has not been confirmed later on.

Remarks: *Dardanus calidus* occurs on a sedimentary bottoms from the shallow sublittoral zone to about 100 m depths. It inhabits shells of *Tritonium, Doliolum, Cassia* and others. Very rare.

Diogenes Dana, 1851

Diogenes pugilator (Roux, 1829)

Cancer diogenes: Scopoli, 1763; Olivi, 1792; Chiereghin, (1818).
Diogenes: Tilesius, 1796.
Astacus diogenes: v. Martens, 1824, 1838.
Diogenes varians: Heller, 1862a, 1863, 1864; Nardo, 1869; Stossich, 1880; Carus, 1885; Graeffe, 1902; Paolucci, 1909; Babić, 1911.
Pagurus varians: Stalio, 1877.
Diogenes pugilator: Pesta, 1912a, 1918; Vatova, 1928, 1940; Giordani Soika, 1948; Riedl, 1963, 1970; Gamulin-Brida et al. 1968; Ševčić, 1969a, 1971; Zavodnik, 1969, 1971; Karlovac, 1970; Merker-Poček, 1973a; Gamulin-Brida 1973, 1974; Stjepčević & Parenzan, 1980; Manning & Ševčić, 1982.
Pagurus (Diogenes) varians: Ninni, 1930.

General distribution: E. Atlantic from Norway to Angola, Indian Ocean (with Red Sea). Mediterranean.

Adriatic: Listed from many localities throughout the entire area.

Remarks: A very common inshore hermit crab occurring on a sandy bottom and in seagrass beds from tidal flats to about 20 m.

Clibanarius Dana, 1852

Clibanarius erythropus (Latreille, 1818)

Clibanarius misanthropus: Heller, 1862a, 1863, 1864; Babić & Rössler, 1912; Pesta, 1912a, 1913c, 1918; Sendler, 1912; Vatova, 1928; Ninni, 1930; Giordani Soika, 1948; Riedl, 1963, 1970; Zavodnik, 1967a; Jukić, 1972; Marcuzzi, 1972; Gamulin-Brida, 1973, 1974; Avčin et al. 1974; Radić, 1982 (erron. *Clionarius).*

Pagurus misanthropus: Grube, 1864a; Stalio, 1877; Stossich, 1880.

Pagurus hirsutus: Paolucci, 1909; Pesta, 1918.

Clibanarius erythropus: Ševčić, 1969a, 1971; Karlovac, 1970; Manning & Ševčić, 1982; Zavodnik D. & N. Zavodnik, 1982.

General distribution: E. Atlantic from the French coasts to the Azores. Mediterranean.

Adriatic: Reported from many localities throughout the entire area, in particular from the eastern side.

Remarks: *Clibanarius erythropus* is the most comon hermit crab in the area. It occurs in the intertidal zone and in shallow water (upper sub-littoral) usually on rocky bottom covered with algae on and beneath rocks in sheltered bays. It inhabits snail shells of *Pisania* (mainly females), *Monodonta* (often males) and others. It is probably that specimens identified as *Pagurus ornatus* by Grube (1864a) or *Clibanarius rouxi* by Paolucci (1909) (judging from the description of the latter author) do not refer to *Calcinus ornatus* (as I supposed earlier, Ševčić, 1969a) but to *Clibanarius erythropus. Calcinus ornatus* has not been recorded up to now in the area.

Paguristes Dana, 1852

Paguristes eremita (Linnaeus, 1767)

? *Cancer bernhardus:* Scopoli, 1763.

Cancer eremita: Wulfen, 1791.

Astacus eremita: v. Martens, 1824, 1838.

Pagurus maculatus: Nardo 1847; Grube, 1861; Heller, 1863, 1864; Stalio; 1877; Stossich, 1880; Car, 1901, Graeffe, 1902; Paolucci, 1909; Babić & Rössler, 1912, Sendler, 1912; Ninni, 1930

Paguristes maculatus: Heller, 1862a; Brusina, 1907; Babić, 1911

Pagurus oculatus: Grube, 1864a.

Pagurites maculatus: Nardo, 1869.

Paguristes oculatus: Pesta, 1912a, 1913c, 1918; Santucci, 1922; Vatova, 1928, 1932, 1935, 1949; Giordani Soika, 1946, 1948; Holthuis, 1961; Gamulin-Brida, 1962, 1965, 1973, 1974; Riedl, 1963, 1970;

Zavodnik, 1967a, 1969, 1971; Orel&Mannea, 1969; Ševčić, 1969a, 1971, 1979a, 1986; Jukić, 1972; Marcuzzi, 1972; Froglia, 1975; Valentinčič, 1975; Gamulin-Brida et al. 1980; Stjepčević&Parenzan, 1980; Zavodnik et al. 1981; Manning& Ševčić, 1982; Zavodnik D.&N. Zavodnik, 1982; Zavodnik &Vidaković, 1982; Radić, 1982; Avčin&Vrišer, 1983.

General distribution: E. Atlantic from Cap Finistère to Gibraltar. Mediterranean.

Adriatic: Frequently reported over the entire area.

Remarks: A very common hermit crab occuring in the middle depth between 2 and 50 m occasionally extending to 130 m. It inhabits various gastropod shells in particular of *Murex* to which sea anemones, chiefly *Calliactis parasitica* and some *Epizoanthus* species are attaced as well as in ball-like sponge *Suberites domuncula*. It occurs on various sedimentary substrates muddy sand, coastal detritus, sea grass meadows and others).

PAGURIDAE Latreille, 1803

Anapagurus Henderson, 1888

Anapagurus bicorniger A. Milne Edwards & Bouvier, 1892.

Anapagurus bicorniger: Ševčić, 1969a (according to Holthuis pers. comm.), 1979; Stjepčević&Parenzan, 1980; Manning&Ševčić, 1982.

General distribution: E. Atlantic (near Gibraltar). Mediterranean.

Adriatic: Recorded by Piran, Kvarner, Split, Boka Kotorska..

Remarks: Occurs on muddy bottoms between 12 and 20 or more metres. Very rare.

Anapagurus breviaculeatus Fenizia, 1937

Anapagurus breviaculeatus: Ševčić, 1972, Gamulin-Brida, 1974; Stjepčević&Parenzan, 1980; Radić, 1982.

General distribution: Mediterranean.

Adriatic: Rovinj, Makarska, Boka Kotorska.

Remarks: Occurs on various types of bottom (detritic mud, rock covered with algae) between 5—15 m in depths. Very rare.

Anapagurus brevicarpus A. Milne Edwards & Bouvier, 1892

Anapagurus brevicarpus: Ševčić, 1979a; Zavodnik, 1981; Zavodnik et al. 1981.

General distribution: E. Atlantic from the Bay of Biscay to Western Sahara. Mediterranean.

Adriatic: Recorded from Rovinj, Krk (east side) and Virsko more.

Remarks: This hermit crab occurs on various types of bottom mostly that covered by vegetation. Rare. Its identity with *A. chiroacanthus* needs confirmation.

Anapagurus chiroacanthus (Lilljeborg, 1856)

Anapagurus chiroacanthus: Kurian, 1956; Ševčić, 1969a.

General distribution: E. Atlantic from Norway to Senegal. Mediterranean.

Adriatic: Reported only from the southern part of the area.

Remarks: Known only in larval stage. Beyond record of presence no further data. Probably identical with the previous species.

Anapagurus leavis (Bell, 1846)

Eupagurus prideauxii: Adensamer, 1898.
Anapagurus laevis: Pesta, 1916, 1918; Vatova, 1928, 1932, 1935, 1949; Riedl, 1963, 1970; Gamulin-Brida et al. 1968; Ševčić, 1969a. 1971; Karlovac, 1970; Zavodnik, 1971; Marcuzzi, 1972; Merker-Poček, 1973a; Valentinčič, 1975; Gamulin-Brida, 1980; Jardas & Županović, 1983.

General distribution: E. Atlantic from Norway to Gaboon. Mediterranean.

Adriatic: It is known with certainty only from Piran, Rovinj, Cres and southern Adriatic.

Remarks: Since all *Anapagurus* specimens have previously been identified as *A. laevis* it is impossible to know which records in the literature refer to *A. laevis* and which to other *Anapagurus* species. It is found near Rovinj on sedimentary bottom, in particular in sheltered bays. Fairly rare.

Anapagurus petiti Dechancé & Forest, 1962

Anapagurus petiti: Ševčić, 1972; Zavodnik & Vidaković, 1982.

General distribution: Mediterranean.

Adriatic: Rovinj, Rabac.

Remarks: Very rare and insufficiently known species.

Cestopagurus Bouvier, 1987

Cestopagurus timidus (Roux, 1830)

Eupagurus timidus: Heller, 1862a, 1863; Carus, 1885; Pesta, 1912a.
Pagurus timidus: Stalio, 1877; Stossich, 1880.
Catapaguroides timidus: Pesta, 1918; Vatova, 1928; Riedl, 1963, 1970; Gamulin-Brida, 1967, 1973, 1974; Zavodnik, 1969a, 1971; Ševčić, 1969a, 1971; Radić, 1982.

Cestopagurus timidus: Pastore & Vaccarella, 1977: Zavodnik & al. 1981; Manning & Števčić, 1982.

General distribution: E. Atlantic from the French coast to Morocco. Mediterranean.

Adriatic: This species has been recorded from a few localities throughout the entire area.

Remarks: *Cestopagurus timidus* is probably not rare, but because of its small size it is rarely captured. It occurs in sea grass meadows and algae in shallow water (1—30 m), usually between 3 and 5 m.

Pagurus Fabricius, 1775

Pagurus alatus Fabricius, 1775

Eupagurus excavatus: Adensamer, 1898.
Eupagurus variabilis: Pesta, 1918.
Pagurus variabilis: Števčić, 1969a; Froglia, 1972b; Merker-Poček 1973a; Bombace & Froglia, 1973.

General distribution: E. Atlantic from Norway to Western Sahara. Mediterranean.

Adriatic: Reported only from the southern deep sea basin.

Remarks: Occurs on sandy mud and bathyal mud and has been reported from depths between 117 and 750 m. Only locally frequent, otherwise rare.

Pagurus anachoretus Risso, 1827

Eupagurus anachoretus: Heller, 1862a, 1863; Car, 1901; Graeffe, 1902; Brusina, 1907; Paolucci, 1909; Babić, 1911; Pesta, 1912a, 1913c, 1918; Sendler, 1912; Santucci, 1922; Vatova, 1928, 1935; Giordani Soika, 1948; Riedl, 1963, 1970; Zavodnik, 1976a, c; Jukić, 1972: Gamulin-Brida et al. 1980.
Pagurus anachoretus: Grube, 1864a; Stalio, 1877; Stossich, 1880; Ninni, 1930; Holthuis, 1961. Števčić, 1969a, 1971; Karlovac, 1970; Zavodnik, 1971; Valentinčič, 1975; Pastore & Vaccarella, 1977; Zavodnik et al. 1981; Manning & Števčić, 1982.

General distribution: E. Atlantic (coast of Portugal). Mediterranean.

Adriatic: Known from the entire area but it is more frequent along the eastern coast.

Remarks: It occurs on various types of bottom (mud, rock covered with algae, sand) chiefly in shallow water from 2 to 20 m, but occasionally downwards to 100 m (what needs confirmation). Scarce.

Pagurus cuanensis Bell, 1845

? *Cancer eremita:* Olivi, 1792; Chiereghin, (1818).
? *Eremita:* Tilesius, 1796.
? *Pagurus chiereghini:* Nardo, 1847; Stalio, 1877; Stossich, 1880.

Eupagurus lucasi: Heller, 1863, 1864; Car, 1901; Brusina, 1907; Babić & Rössler, 1912.
Pagurus lucasi: Grube, 1864b; Stalio, 1877; Stossich, 1880; Ninni, 1930.
? *Eupagurus chiereghini:* Nardo, 1869; Giordani Soika, 1948.
Eupagurus cuanensis: Carus, 1885; Pesta, 1912a, 1913c, 1918; Vatova, 1928, 1932; Giordani Soika, 1946; Riedl, 1963, 1970; Zavodnik 1969; Valentinčič, 1975.
Pagurus cuanensis: Ševčić, 1969a, 1971; Zavodnik, 1971; Stjepčević & Parenzan, 1980; Zavodnik et al. 1981; Manning & Ševčić, 1982; Zavodnik & Vidaković, 1982.

General distribution: E. Atlantic from Norway to South Africa. Mediterranean.

Adriatic: Reported from the eastern and northern sides of the area.

Remarks: This hermit crab occurs in the sublittoral zone on the coastal detritus and mud at depth between 2 and 20 m but occasionally to 80 m Fairly frequent.

Pagurus excavatus (Herbst, 1791)

Eupagurus angulatus: Heller, 1862a, 1863; Nardo, 1869, Paolucci, 1909.
Eupagurus meticulosus: Heller, 1863.
Pagurus meticulosus: Lorenz, 1963; Stalio, 1877; Stossich, 1880.
Pagurus angulatus: Grube, 1864a, b; Stalio, 1877; Stossich, 1880; Ninni, 1930.
Eupagurus excavatus: Carus, 1885; Graeffe, 1902; Pesta, 1912a, 1913a, b, c, 1918; Vatova, 1928, 1932, 1949; Županović & Grubišić, 1958; Gamulin-Brida, 1962, 1965; Riedl, 1963, 1970; Gamulin-Brida et al. 1968; Jukić, 1972; Marcuzzi, 1972.
Pagurus alatus: Ševčić, 1969a, 1971; Karlovac, 1970; Merker-Poček, 1973a; Stjepčević & Parenzan, 1980.

General distribution: E. Atlantic from Norway to Ivory Coast. Mediterranean.

Adriatic: Known throughout the entire area.

Remarks: This hermit crab occurs on various types of sedimentary bottom (sand, detritus, mud) between 10 and 265 m, usually between 10 and 30 m. Fairly rare.

Pagurus prideaux Leach, 1815

Cancer bernhardus: Wulfen, 1791; Olivi, 1792; Chiereghin, (1818).
Bernhardus: Tilesius: 1796.
Pagurus bernhardus: Germar, 1817; Faber, 1883.
Astacus bernhardus: v. Martens, 1824, 1838.
Pagurus prideauxi: Nardo, 1847; Ševčić, 1969a, 1971; Karlovac, 1970; Merker-Poček, 1973a, 1977; Zavodnik et al., 1981.

Eupagurus prideauxii: Heller, 1862a, 1863, 1864; Carus, 1885; Sucker, 1895; Car, 1901; Graeffe, 1902; Zimmermann, 1906; Brusina, 1907; Babić, 1911; Sendler, 1912.
Pagurus prideauxii: Nardo, 1869; Grube, 1864a, b; Stalio, 1877; Stossich, 1880;
Eupagurus prideauxi: Pesta, 1912a, 1913b, c (pro parte), 1918; Vatova, 1928, 1932, 1935; Ninni, 1930; Gamulin-Brida, 1962, 1965, 1967 1973, 1974; Riedl, 1963, 1970; Gamulin-Brida et al., 1968; Jukić, 1972; Marcuzzi, 1972.
Pagurus prideaux: Ševčić, 1979a; Manning & Ševčić, 1982.

General distribution: E. Atlantic from Norway to Guinea Bissau. Mediterranean.

Adriatic: Recorded from the entire area, in particular from the north-eastern part.

Remarks: This hermit crab occurs on detritic, muddy detritic and sandy gravel substrates at depths between 10 and 100 m, especially where *Ophiothrix quinquemaculata* is abundant. It inhabits shells of *Turbo, Murex, Natica, Fusus* and other gastropods. It is always associated with sea anemone *Adamsia paliata.* Locally frequent.

Pagurus sculptimanus Lucas, 1846

Eupagurus sculptimanus: Heller, 1862a, 1863, 1864; Carus, 1885; Pesta 1912a, 1913c, 1918; Vatova, 1928; Giordani Soika, 1948; Riedl, 1963, 1970.
Pagurus sculptimanus: Grube, 1864b; Stalio, 1877; Stossich, 1880; Ševčić, 1969a, 1971; Zavodnik, 1971; Merker-Poček, 1973a

General distribution: E. Atlantic from the English Channel to Senegal. Mediterranean.

Adriatic: Reported from the entire area, in particular from the eastern side.

Remarks: A very rarely observed hermit crab occurring inshore in shallow waters between 6 and 60 m.

GALATHEIDAE Samouelle, 1819

Galathea Fabricius, 1793

Galathea bolivari Zariquiey Alvarez, 1950

Galathea bolivari: Karaman, 1962, Ševčić, 1969a; Zavodnik et al. 1981; Manning & Ševčić, 1982; Zavodnik D. & N. Zavodnik, 1982.

General distribution: Mediterranean.

Adriatic: Piran, Jurjevo, Split, Krk, Premuda and Susak.

Remarks: This species has not previously been separated from *G. intermedia* so it is uncertain which data from the literature refer to each species It occurs on sedimentary substrates between 2 and 40 m. Probably scarce.

Galathea cenarroi Zariquiey Alvarez, 1968

Galathea cenarroi: Zavodnik et al. 1981; Manning&Števčić, 1982.

General distribution: W. Mediterranean.

Adriatic: Found near Piran, Rovinj, Krk (Butinj) and Susak.

Remarks: In common with previous species, not previously separated from *G. intermedia.* It occurs on sedimentary bottoms covered with vegetation between 2 and 40 m. Locally fairly frequent.

Galathea dispersa Bate, 1859

Galathea dispersa: Kurian, 1956; Gamulin-Brida et al. 1968. Števčić, 1969a, 1971; Županović, 1969; Merker-Poček, 1973a, Stjepčević&Parenzan, 1980.

General distribution. E. Atlantic from Norway to South Africa.
Indian Ocean: South Africa — Mozambique. Mediterranean.

Adriatic: Recorded on faw localities throughout the entire area.

Remarks: Because this species has previously been confused with *G. nexa* it is impossible to know which recorded data belong to *G. nexa* and which to *G. dispersa.* It occurs on variety of sedimentary bottoms between 30 and 226 m. Fairly scarce.

Galathea intermedia Lilljeborg, 1851

? *Cancer scamparellus:* Chiereghin (1818).
? *Galathea scamparellus:* Nardo, 1847.
? *Galathea scamparella:* Faber, 1883
Galathea intermedia: Pesta, 1914c, 1916, 1918; Vatova, 1928, 1932; Giordani Soika, 1946; Kurian, 1956; Karaman, 1962; Riedl, 1963, 1970; Gamulin-Brida, 1965; Zavodnik, 1967c, 1971; Gamulin-Brida et al., 1968, 1980; Orel & Mennea, 1969; Števčić, 1969a, 1971, 1979; Karlovac, 1970; Karaman&Gamulin-Brida, 1970; Merker-Poček, 1973a, 977; Valentinčič, 1975; Stjepčević&Parenzan, 1980; Manning&Števčić, 1982; Avčin & Vrišer, 1983.

General distribution: E. Atlantic from Norway to South Africa. Indian Ocean from Natal to Mozambique. Mediterranean.

Adriatic: Recorded throughout the entire area.

Remarks: Occurs on various types of bottom (sedimentary, detritic, in concretions, in sea grass, and Bryozoa communities) from shallow water (cca 2 m) to about 45 m. Frequent.

Galathea nexa Embleton, 1834

Galathea nexa: Heller, 1862a, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Adensamer, 1898; Graeffe, 1902; Pesta, 1912a, 1914, 1918; Sendler, 1912; Vatova, 1928; Kurian, 1956; Karaman, 1962; Riedl, 1963, 1970; Gamulin-Brida, 1965; Gamulin-Brida et al., 1968; Ševčić, 1969a, 1971; Karlovac, 1970; Karaman & Gamulin-Brida, 1970; Marcuzzi, 1972; Merker-Poček, 1973a, 1977; Stjepčević & Parenzan, 1980.

General distribution: E. Atlantic from Norway to the Canary Islands. Mediterranean.

Adriatic: Recorded throughout the entire area.

Remarks: Occurs on sediment bottom, chiefly sandy one, from 10 to 100 m. Very rare.

Galathea squamifera Leach, 1814

Galathea squamifera: Grube, 1861; Heller, 1862a, 1863; Lorenz, 1863; Stalio, 1877; Stossich, 1880; Carus, 1855; Car, 1901; Graeffe, 1902; Zimmermann, 1906; Pesta, 1912a, 1913c, 1914c, 1918; Sendler, 1912; Santucci, 1922; Vatova, 1928, 1932; Ninni, 1930; Giordani Soika, 1948; Riedl, 1963, 1970; Gamulin-Brida, 1965; Ševčić, 1969a, 1971; Karlovac, 1970; Karaman & Gamulin-Brida, 1970; Zavodnik, 1971; Marcuzzi, 1972; Merker-Poček, 1973a; Valentinčič, 1975; Stjepčević & Parenzan, 1980; Zavodnik et al,. 1981; Manning & Ševčić, 1982; Radić, 1982.
Galathea fabricii: Brusina, 1907.

General distribution: E. Atlantic to the Cape Verd Islands. Mediterranean.

Adriatic: Reported from many localties throughout the entire area in particular from north-eastern and eastern sides.

Remarks: This squat lobster lives on various types of bottom (sand, rock, sea weeds, Bryozoa) at depths between 2 and 45 m. Locally frequent.

Galathea strigosa (Linnaeus, 1761)

Cancer strigosus: Olivi, 1792; Chiereghin, (1818).
Strigosus: Tilesius, 1796.
Astacus strigosus: Martens, 1824, 1938.
Galathea strigosa: Nardo, 1847; Heller, 1862, 1863; Lorenz, 1863; Grube, 1864a, b; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Faber, 1883; Carus, 1885; Sucker, 1895; Graeffe, 1902; Zimmermann, 1906; Brusina, 1907; Paolucci, 1909; Pesta, 1912a, 1914c, 1918; Sendler, 1912; Vatova, 1928, 1932; Ninni, 1930; Giordani Soika, 1946 (erron. *G. stringosa);* Kurian, 1956; Riedl, 1963, 1970; Gamulin-Brida, 1965; Ševčić, 1969a, 1971; Karlovac, 1970; Jukić, 1972; Marcuzzi, 1972; Merker-Poček, 1973a; Valentinčič, 1975; Zavodnik, et al. 1981; Manning & Ševčić, 1982; Radić, 1982.

General distribution: E. Atlantic from Norway (North Cape) to Morocco. Indian Ocean (Red Sea). Mediterranean.

Adriatic: It is mostly recorded along the eastern coastal line, but there are few records from the western one.

Remarks: *Galathea strigosa* occurs on a variety of bottoms (soft mud, muddy sand, sand, rock and on bottoms covered by sea weeds and sea grass) between 15 and 180 m. Not uncommon.

Munida Leach, 1820

Munida intermedia A. Milne Edwards & Bouvier, 1899

Munida intermedia: Froglia, 1972a; Ševčić, 1972.
Munida bamffica: Pesta, 1918 (pro parte?).

General distribution: E. Atlantic from Morocco to Senegal. Mediterranean.

Adriatic: Recorded only in the middle portion of the central part of the area.

Remarks: *Munida intermedia* is found in the »*Nephrops norvegicus* — *Thenea muricata*« community at a depth of about 220 m.

Munida rugosa (Fabricius, 1775)

Cancer scampoides: Chiereghin, (1818).
Galathea rugosa: Nardo, 1847; Faber, 1883.
Munida rugosa: Heller, 1862a, 1863; Lorenz, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1880; Marchesetti, 1882 (erron.: *Numida* r.); Carus, 1885; Graeffe, 1902; Ninni, 1930; Ševčić, 1969a; Froglia, 1972a; Merker-Poček, 1973a.
Munida bamffica: Adensamer, 1898 (pro parte); Brusina, 1907; Leidenfrost, 1909; Pesta, 1912a, 1918; Vatova, 1928, 1932; Giordani Soika, 1946; Zei, 1949; Kurian, 1956; Riedl, 1963, 1970; Karlovac, 1970; Jardas, 1972a; Marcuzzi, 1972.
Munida bamffia: Gamulin-Brida, 1962, 1965, 1967, 1973, 1974; Županović, 1969; Crnković, 1970; Jardas, 1979.
Munida bamfia: Županović & Grubišić, 1958.

General distribution: E. Atlantic from Norway to Morocco. Mediterranean.

Adriatic: Recorded only from the middle and southern parts of the area. Its occurrence in northern part of the North Adriatic is doubtful and needs confirmation.

Remarks: A very common offshore species occurring on sedimentary bottoms (fine mud, detritus, sandy mud) in particular in the »*Nephrops norvegicus* — *Thenea muricata*« community, ranging from 50 to 265 m. Edible, but not used for food in the area.

Munida tenuimana G. O. Sars, 1872

Munida bamffica (pro parte): Adensamer, 1898.
Munida tenuimana: Pesta, 1916, 1918; Riedl, 1963, 1970.
Munida perarmata: Ševčić, 1969a; Merker-Poček, 1973a.

General distribution: E. Atlantic from the Bay of Biscay to Portugal. W. Mediterranean.

Adriatic: Found only in the southern deep sea basin.

Remarks: A very rarely reported deep sea species which ecology and distribution in the area are insufficiently known.

PORCELLANIDAE Haworth, 1825

Pisidia Leach, 1820

Pisidia bluteli (Risso, 1816)

Astacus bluteli: v. Martens. 1824, 1838.
Pisidia bluteli: Holthuis, 1961; Števčić, 1969a; Pastore & Vaccarella, 1977; Stjepčević & Parenzan, 1980; Zavodnik & al. 1981; Manning & Števčić, 1982.

General distribution: Mediterranean.

Adriatic: Found on a few localties: Piran, Rovinj, Jadranovo, Boka Kotorska, Bari.

Remarks: *Pisidia bluteli:* lives in shallow water on hard bottom. It has previously been confused with other species of the genus *Pisidia* and therefore its distribution and ecology in the area are poorly known. Probably not rare.

Pisidia longicornis (Linnaeus, 1767)

Cancer longicornis: Wulfen, 1791.
? *Cancer exos* (♂) + *Cancer mutus* (♀): Chiereghin, (1818).
Astacus longicornis: v. Martens, 1824, 1938.
? *Porcellana exos* (♂) + *Porcellana longicornis* (♀)?: Nardo, 1847.
Porcellana longicornis: Heller, 1862, 1863; Lorenz, 1863; Grube, 1863a, b; Stalio, 1877; Stossich, 1880; Faber, 1883; Carus, 1885; Graeffe, 1902; Zimmermann, 1906; Brusina, 1907; Paolucci, 1909; Pesta, 1912a, 1818; Santucci, 1922; Vatova, 1928, 1932, 1949; Ninni, 1930; Zalokar, 1942; Giordani Soika, 1946, 1948; Kurian, 1956; Gamulin-Brida, 1962, 1967; Riedl, 1963, 1970; Zavodnik, 1967a, 1969; Karlovac, 1970; Karaman & Gamulin-Brida, 1970; Valentinčič, 1975; Radić, 1982.
? *Porcellana esox* (♂) + *Porcellana longicornis* (♀): Nardo, 1869.
Pisidia longicornis: Števčić, 1969a, 1971; Zavodnik, 1971, Merker-Poček, 1793a; Pastore & Vaccarella, 1977.

General distribution: E. Atlantic from Norway to Angola. Mediterranean.

Adriatic: Listed from many localities throughout the entire area.

Remarks: Since all three Adriatic species of the genus *Pisidia* have previously been identifed as *Porcellana longicornis* it is impossible to know which of the data refer indeed to this species. Moreover the limits between

these three species are not always distinct their re-examination is badly needed in the area.

Pisidia longimana (Risso, 1816)

Pisidia longimana Števčić, 1969a, 1971, 1979; Froglia, 1975; Pastore & Vaccarella, 1977; Stjepčević & Parenzan, 1980; Zavodnik et al. 1981; Manning & Števčić, 1982; Zavodnik & Zavodnik, 1982; Avčin & Vrišer, 1983.

General distribution: Mediterranean.

Adriatic: Recorded at Piran, Rovinj, Split, Mljet (larvae), Ston, Boka Kotorska, Kvarner, Bari.

Remarks: This half crab occurs ussually on hard bottoms (rock) in mussels and oyster beds and on detritic bottom from the intertidal zone (tide pools) to about 45 m. Locally very abundant. According to recent investigations of Garcia Raso (1987) *P. longimana* is only an ecophenotype of *P. longicornis*.

Porcellana Lamarck, 1801

Porcellana platycheles (Pennant, 1777)

Cancer platycheles: Germar, 1817.
Porcellana platycheles: Grube, 1861; Heller, 1862a, 1863, 1864; Stalio, 1877; Stossich, 1880; Carus, 1885; Car, 1901; Graeffe, 1902; Zimmermann, 1906; Brusina, 1907; Pesta, 1912a, 1918; Sendler, 1912; Vatova, 1928; Ninni, 1930; Zalokar, 1942; Giordani Soika, 1948; Riedl, 1963, 1970; Števčić, 1969a, 1971; Karlovac, 1970; Marcuzzi, 1972; Legac, 1974; Valentinčič, 1975; Gamulin-Brida et al. 1980; Zavodnik et al. 1981; Manning & Števčić, 1982; Radić, 1982 (as *P. platyocheles).*

General distribution: E. Atlantic from Shetland Islands and the Nederlands to Western Sahara and the Canary Islands.

Adriatic: Known from northern and eastern coasts from Venice to Makarska.

Remarks: This porcelain crab occurs under boulders in the intertidal zone and in very shallow water. Very abundant.

BRACHYURA Latreille, 1803

DROMIACEA de Haan, 1833

HOMOLIDAE de Haan, 1839

Homola Leach, 1815

Homola barbata (Fabricius, 1793)

Homola spinifrons: Heller, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1880; Carus, 1885; Ninni, 1930.
Homola barbata: Pesta, 1912a, 1918; Riedl, 1963, 1970; Županović &

Grubišić, 1958; Števčić, 1969a; Merker-Poček, 1973a, 1977; Valentinčič, 1975.

General distribution: Indian Ocean (western off South Africa). Atlantic from Portugal to South Africa and from Massachusetts to Brazil. Mediterranian.

Adriatic: Piran, Zadar, Hvar, Southern Adriatic.

Remarks: Recorded on various types of sedimentary bottom between 50 and 100 m. Very rare.

LATREILLIIDAE

Latreillia Roux, 1830

Latreillia elegans Roux, 1830

Latreillia elegans: Karlovac, 1952; Županović & Grubišić, 1958; Gamulin-Brida, 1962, 1965, 1973, 1974; Števčić, 1969a; Županović, 1969; Merker-Poček, 1973a.

General distribution: Atlantic from Portugal to Cape Verde and from Massachusetts to the Antiles.

Adriatic: Middle and southern parts of the area.

Remarks: Recorded on muddy bottom sometimes mixed with sand or detritus between 90 and 270 m. Extremley rare.

DROMIIDAE de Haan, 1833

Dromia Weber, 1895

Dromia personata (Linnaeus, 1758)

Cancer personatus: Wulfen, 1791
Cancer dormia: Olivi, 1792; Chiereghin (1818), v. Martens, 1824, 1838.
Dormia: Tilesius, 1796.
Dromia vulgaris: Nardo, 1847; Heller, 1862a, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Carus, 1885; Sucker, 1895; Car, 1901; Graeffe, 1902; Zimmermann, 1906; Paolucci, 1909; Pesta, 1912a, 1918; Sendler, 1912; Vatova, 1928, 1932; Ninni, 1930; Zalokar, 1942; Giordani Soika, 1946, 1948; Zei, 1949; Kurian, 1956; Gamulin-Brida, 1962, 1967, 1973, 1974; Riedl, 1963, 1970; Gamulin-Brida et al. 1968; Marcuzzi, 1972; Radić, 1982.
Dromia rumphii: Grube, 1864a; Faber, 1883.
Dromia dormia: Brusina, 1907.
Dromia personata: Števčić, 1969a, 1971, 1982; Karlovac, 1970; Froglia, 1972a; Merker-Poček, 1973a; Valentinčić, 1975; Manning & Števčić, 1982.

General distribution: E. Atlantic from the southern English coast to Western Sahara. Mediterranean.

Adriatic: Known over the entire area.

Remarks: *Dromia personata* lives on various types of bottom (sandy, muddy, rocky ones) at depths from 0.5 to 30 m rarely down to 100 m. Sometimes is found in caves near surface. It is normaly camouflaged by *Aplidium conicum* (Northern Adriatic) and by *Tuberella* and *Ircinia* (Middle Adriatic). Frequent.

BRACHYURA GENUINA Boas, 1880

ATELECYCLIDAE Ortmann, 1893

Atelecyclus Leach, 1814

Atelecyclus rotundatus (Olivi, 1792)

Cancer rotundatus: Olivi, 1792; Chiereghin (1818); v. Martens, 1824, 1838.

Rotundatus: Tilesius, 1796.

Atelocyclus rotundatus: Nardo, 1847, 1869.

Atelecyclus heterodon: Grube, 1861, 1964a; Heller, 1862a, 1863; Lorenz, 1863; Stalio, 1877 Stossich, 1880; Carus, 1885; Ninni, 1930.

Atelecyclus septemdentatus: Pesta, 1912a; Kurian, 1956.

Atelecyclus rotundatus: Pesta, 1918; Vatova, 1928; Giordani Soika, 1946, 1948; Riedl, 1963, 1970; Ševčić, 1969a, 1971; Zavodnik, 1971.

General distribution: E. Atlantic from Norway to South Africa. Mediterranean.

Adriatic: Reported from several localities on the eastern side from Venice to Dubrovnik.

Remarks: This species occurs in burrows on sandy and detrict bottom at depths between 25 and 100 m. Rare.

Atelecyclus undecimdentatus (Herbst, 1783)

Atelecyclus cruentatus: Heller, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Pesta, 1918; Ninni, 1930.

Atelecyclus rotundatus: Pesta, 1912a.

Ateleciclus undecimdentatus Ševčić, 1969a.

General distribution: E. Atlantic from the Bay of Biscay to Gabon. Mediteranean.

Adriatic: The localities are not known with certainty.

Remarks: Extremely rare and insufficiently known species.

CANCRIDAE Latreille, 1803

Cancer Linnaeus, 1758

Cancer pagurus Linnaeus, 1758

Cancer fimbriatus: Olivi, 1792; Chiereghin, (1818).
Fimbriatus: Tilesius, 1796.
Cancer pagurus: Germar, 1817; Plucar, 1846; Heller, 1863; Stossich, 1880; Marchesetti, 1882; Carus, 1885; Sucker, 1895; Graeffe, 1902; Pesta, 1912a, 1918; Sendler, 1912; Giordani Soika, 1946, 1948; Riedl, 1963, 1970; Števčić, 1969a, 1985; Marcuzzi, 1972; Savazzi, 1982; Števčić, 1985.
Platycarcinus pagurus Nardo, 1847 (erron. *Platicarcinus* p.) Stalio, 1877.

Genral distribution: E. Atlantic from Norway to Portugal. Mediterranean.

Adriatic: Recorded only from the northern part of the area (Venice, Triest, Rovinj).

Remarks: The edible crab is an inhabitant of shallow water where is reported from sandy and rocky bottoms between 15 and 30 m. Extremely rare. Its presence, distribution and mode of life need further confirmation. (Introduced?).

THIIDAE

Thia Leach, 1815

Thia scutellata (Fabricius, 1793)

Thia polita: Pesta, 1918; Vatova, 1946; Marcuzzi, 1972.
Thia scutellata: Števčić, 1969a, 1971.

General distribution: E. Atlantic from Sweden to Gulf of Guinea (off Sierra Leone and Sâo Tomé). Mediterranean.

Adriatic: Recorded only near Venice, Rovinj and Hvar.

Remarks: A sand bottom dweller in depths between 10 and 20 m usually in »*Branchiostoma lanceolatum*« community. Extremely rare.

CORYSTIDAE Samouelle, 1819

Corystes Latreille, 1803

Corystes cassivelaunus (Pennant, 1777)

Cancer longicornis: Wulfen, 1791; Olivi, 1792; Chiereghin, (1818).
Longicornis: Tilesius, 1796.
Astacus longicornis: v. Martens, 1824, 1838.
Corystes dentata: Nardo, 1847; Lorenz, 1863; Faber, 1883.
Corystes dentatus: Heller, 1863; Stalio, 1877; Stossich, 1880.

Corystes cassivelaunus: Carus, 1885; Brusina, 1907; Paolucci, 1909; Pesta, 1912a, 1918; Vatova, 1946, 1949; Giordani Soika, 1946, 1948; Riedl, 1963, 1970; Števčić, 1969a; Marcuzzi, 1972; Valentinčič, 1975; Savazzi, 1982.

General distribution: E. Atlantic from southern coast of Norway to Spain (Gibraltar). Mediterranean.

Adriatic: Recorded at Venice, Piran, Rovinj, Kvarner, Hvar, Ravena and Ancona.

Remarks: This species occurs on sandy bottoms, in particular in *»Branchyostoma lanceolatum«* community, where it burrows, in depths from 10 to 100 m. Rare.

PIRIMELIDAE Alcock, 1899

Pirimela Leach, 1816

Pirimela denticulata (Montagu, 1808)

Pirimela denticulata: Heller, 1863, Stalio, 1877; Stossich, 1880; Carus, 1885; Pesta, 1912a, 1918; Riedl, 1963, 1970; Zavodnik, 1967c; Števčić, 1969a, 1971.

General distribution: E. Atlantic from Norway to Senegal. Mediterranean.

Adriatic: Found only near Triest, Rovinj, Split, Hvar and Vis.

Remarks: *Pirimela denticulata* is known from sandy bottoms at depths about 20 m. Extremely rare.

Sirpus Gordon, 1953

Sirpus zariquieyi Gordon, 1953

Sirpus zariquieyi: Števčić & Forstner, 1956; Števčić, 1969a, 1971; Manning & Števčić, 1982.

General distribution: Mediterranean.

Adriatic: Known only from Piran. Rovinj and Omiš.

Remarks: A very rarely observed species which is found on sandy and muddy bottoms in shallow water between 2 and 20 m. Probably not very rare, but difficult to find.

CALAPPIDAE de Haan, 1833

Calappa Weber, 1795

Calappa granulata (Linnaeus, 1758)

Cancer granulatus: v. Martens, 1824, 1838.
Calappa granulata: Heller, 1862a, 1863, 1864; Stalio, 1877; Sttossich, 1880; Marchesetti, 1882; Sucker, 1895; Zimmermann, 1906;

Brusina, 1907; Pesta, 1912a; 1918; Ninni, 1930; Vatova, 1949; Riedl, 1963, 1970; Števčić, 1969a, 1982; Karlovac, 1970; Merker-Poček, 1977.

General distribution: E. Atlantic from Portugal to Senegal. Mediterranean

Adriatic: Recorded near: Šibenik, Split, Dubrovnik, Sestrunj, Hvar, Korčula, Vis.

Remarks: Found on sandy bottoms from 10 to 100 m. Very rare.

PILUMNIDAE Samouelle, 1819

Pilumnus Leach, 1815

Pilumnus aestuarii Nardo, 1869

Pilumnus aestuarii: Nardo, 1869; Stossich, 1880; Carus, 1885; Ninni, 1930; Števčić, 1969a; Manning & Števčić, 1982.

General distribution: Mediterranean.

Adriatic: Only north-eastern part (Venice lagoons, Piran Gulf).

Remarks: The identity of this species is somewhat doubtful because it is very similar to *P. hirtellus*. The problem whether or not *P. aestuarii* and *P. hirtellus* are distinct or identical with, requires further detailed studies.

Pilumnus hirtellus (Linnaeus, 1761)

Cancer hirtellus: Brünnich, 1768; Wulfen, 1791; Olivi, 1972; Chiereghin, (1818).

Birtellus (error for *Hirtellus):* Tilesius, 1796.

Pilumnus hirtellus: Nardo, 1847, 1869; Grube, 1861, 1864a; Heller, 1862a, 1863, 1864; Lorenz, 1863; Stalio, 1877; Stossich, 1880; Faber, 1883; Car, 1901; Graeffe, 1902; Zimmermann, 1906; Brusina, 1907; Paolucci, 1909; Pesta, 1912a, 1918; Sendler, 1912; Santucci, 1922; Vatova, 1928, 1932, 1935, 1949; Ninni, 1930; Zalokar, 1942; Giordani Soika, 1946, 1948; Županović & Grubišić, 1958; Gamulin-Brida, 1962, 1967, 1973, 1974; Riedl, 1963, 1970; Zavodnik, 1967c; Gamulin-Brida, et al. 1968; Orel & Mannea, 1969; Števčić, 1969a, 1971, 1973; Karaman & Gamulin-Brida, 1970; Karlovac, 1970; Marcuzzi, 1972; Merker-Poček, 1973a, 1977; Pastore & Vaccarella, 1977; Stjepčević & Parenzan, 1980; Zavodnik et al., 1981; Radić, 1982; Savazzi 1982.

General distribution: E. Atlantic from Norway to Morocco and Cape Verde Islands. Mediterranean.

Adriatic: Listed from many localities throughout the area.

Remarks: This hairy crab occurs on hard bottoms (rocks and mussel beds) Recorded at a depth of a few metres (0—5) Locally frequent. This spe-

cies has previously been confused with *P. spinifer* and therefore many mentioned localities are doubtful. Recorded with certainty only from Rovinj, Krk, Split,Boka Kotorska and Bari.

Pilumnus spinifer H. Milne Edwards, 1834

Pilumnus setifer: Boschma, 1961 (error for P. spinifer).
Pilumnus spinifer: Ševčić, 1969a, 1971, 1975, 1979; Zavodnik, 1971; Merker-Poček. 1973a; Froglia, 1975; Zavodnik et al. 1981. Manning&Ševčić, 1982; Avčin&Vrišer, 1983.

General distribution: E. Atlantic from Portugal to Mauritania. Mediterranean

Adriatic: Probably widespread throughout the entire area (see remarks below).

Remarks: *Pilumnus spinifer* is one of the most abundant crabs on the sedimetary bottom between several meters down to about 110 m. It occurs on various sedentary organisms and enters holes of the sponge *Geodia cydonium*. It has previously been identified as *P. hirtellus* and therefore this genus needs re-examination in all localities.

Pilumnus villosissimus (Rafinesque, 1814)

Pilumnus villosus: Carus, 1885 (pro parte); Pesta, 1912a.
Pilumnus hirtellus var. *villosus:* Pesta, 1918, Marcuzzi, 1972.
Pilumnus villosissimus: Ševčić, 1969a; Valentinčič, 1975; Pastore &Vaccarella, 1877.

General distribution: W. Mediterranean.

Adriatic: Recorded from Venice, Piran. Fažanski kanal, Susak, Kornati, Split Starigrad (Hvar), Bari.

Remarks: A very rarely observed species recorded from shallow water a few metres in depth on detritic and hard bottoms.

ERIPHIIDAE MacLeay, 1838

Eriphia Latreille, 1817

Eriphia verrucusa (Forskal, 1775)

Cancer pagurus (nec *Linnaeus):* Scopoli, 1763; Wulfen 1791; Olivi, 1792; Chiereghin, (1818).
Pagurus: Tilesius, 1796
Cancer spinifrons: v. Martens, 1824, 1938.
Eriphia spinifrons: Plucar, 1846; Grube, 1861, 1864a; Heller, 1862a, 1863; Lorenz, 1863; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Faber, 1883; Carus, 1885; Sucker, 1895; Car, 1901; Graeffe, 1902; Lorini, 1903; Brusina, 1907; Paolucci, 1909; Babić, 1911; Babić-Rössler, 1912; Cori, 1912; Pesta, 1912a, 1914, 1918; Sendler, 1912; Santucci, 1922; Vatova, 1928, 1932; Ninni, 1930;

Riedl, 1963, 1970; Grubišić, 1967, 1982; Zavodnik, 1967b, c; Marcuzzi, 1972; Gamulin-Brida, 1973, 1974; Županović 1976; Radić, 1982.

Eryphia spinifrons: Nardo, 1847; Zolezzi, 1946; Giordani Soika, 1948.

Eriphia verrucosa: Števčić, 1969a, 1971, 1982; Karlovac, 1970; Legac, 1974; Valentinčič, 1975.

General distribution: E. Atlantic from the Bay of Biscay to Mauritania, Mediterranean.

Adriatic: Recorded throughout the entire area along both sides.

Remarks: *Eriphia verrucosa* occurs mainly in rocky areas near the tideline, beneath rocks also sometimes in algae and in holes. Common, Edible and of certain economic value.

XANTHIDAE MacLeay, 1838

EUXANTHINAE Alcock, 1898

Monodaeus Guinot, 1967

Monodaeus couchii (Bell in Couch, 1851)

Xantho tuberculatus (Bell, 1852, nec Heller, 1863): Adensamer, 1898; Brusina, 1907; Pesta, 1912 a (pro parte), 1918; Ninni, 1930; Marcuzzi, 1972.

Medaeus couchi: Števčić, 1969a.

Monodaeus couchi: Pastore&Vaccarella, 1977; Jardas&Županović, 1983; Števčić, 1985.

General distribution: E. Atlantic from England to Angola, Mediterranean.

Adriatic: Collected only in the middle and southern parts.

Remarks: A very rare offshore species found at depths between 94 and 485 m.

Monodaeus guinotae Forest, 1972

Monodaeus guinotae: Pastore&Vaccarella, 1977.

General distribution: Mediterranean.

Adriatic: Harbour of Bari.

Remarks: Five specimens in juvenile stage were found. Its presence in the area need confirmation by adults.

XANTHINAE MacLeay, 1838

Xantho Leach, 1815

Xantho granulicarpus (Forest, 1953)

Xantho floridus: Grube, 1861, 1864a, b; Heller, 1862a, 1863; Lorenz 1863; Stalio, 1877; Stossich, 1880; Faber, 1883; Carus, 1885;

Pesta, 1912a, 1918; Ninni, 1930; Vatova, 1935, 1949; Riedl, 1963 1970; Gamulin-Brida, 1967; Marcuzzi, 1972.

Xantho tuberculatus (sensu Heller, 1863, nec Bell, 1852): Heller, 1863; Nardo, 1869; Stalio, 1877; Stossich, 1880; Pesta, 1912a (pro parte).

Xantho tuberculata: Carus, 1885.

Xantho incisus: Kurian, 1956.

Xantho incisus granulicarpus: Ševčić, 1969a, 1971; Karlovac, 1970; Merker-Poček, 1973a.

General distribution: Mediterranean.

Adriatic: Recorded from several localities throughout the entire area, in particular on the north eastern coast.

Remarks: This crab occurs on the sedimentary bottoms (sand, detritus at depths between 30 and 100 m. Fairly rare.

Xantho pilipes A. Milne Edwards, 1867

Xantho pilipes: Ševčić, 1969a, 1971; Karlovac,; 1970 Pastore & Vaccarella, 1977.

General distribution: E. Atlantic from Norway to Angola. Mediterranean.

Adriatic: Found only near Rovinj, Split, off Murter, Dubrovnik (Holthuis, pers. comm.) and Bari.

Remarks: Occurs usually in shallow waters to about 30 m on detritic bottom. Probably very rare.

Xantho poressa (Olivi, 1792)

Cancer poressa: Olivi, 1792; Chiereghin, (1818); v. Martens, 1824, 1938;

Poressa: Tilesius, 1796.

Xantho poressa: Nardo, 1847, 1869; Stossich, 1880; Giordani Soika, 1946, 1948 Ševčić, 1969a, 1971, 1979b, 1982; Zavodnik, 1971; Merker-Poček, 1973a, 1977; Gamulin-Brida, 1973, 1974; Pastore&Vaccarella, 1977; Stjepčević&Parenzan, 1980; Zavodnik et al. 1981; Manning&Ševčić, 1982; Zavodnik, D. &N. Zavodnik, 1982.

Xantho rivulosus: Heller, 1862a, 1863, 1864; Lorenz, 1863; Grube, 1864a, b; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Faber, 1883; (erron. X. rivolosus); Carus, 1885; Sucker, 1895; Graeffe, 1902; Pesta, 1912a; Sendler, 1912; Ninni, 1930.

Xantho rivulosa: Zimmermann, 1906; Babić, 1911.

Xantho hydrophylus: Pesta, 1918; Zalokar, 1942; Giordani Soika, 1948; Riedl, 1963, 1970; Zavodnik, 1967c; Marcuzzi, 1972; Gamulin-Brida et al. 1980; Radić, 1982.

General distribution: E. Atlantic (the Canary Islands). Mediterranean.

Adriatic: Listed from the entire area.

Remarks: The most abundant inshore crab occuring under rocks chiefly near low tide mark in the intertidal zone and in shallow sublittoral; found occasionally down to 15 m.

GERYONIDAE Colosi, 1923

Geryon Krøyer, 1837

Geryon longipes A. Milne Edwards, 1881

Geryon longipes: Adensamer, 1898; Pesta, 1912a, 1918; Števčić, 1969a; Froglia, 1972b; Bombace&Froglia, 1973.

General distribution: E. Atlantic from the Bay of Biscay to Morrocco. Mediterranean.

Adriatic: Found in the central portion of the southern part of the area.

Remarks: This species occurs on bathyal mud at a depth between 300 and 1196 m. Extremely rare.

Paragalene Kossmann, 1878

Paragalene longicrura (Nardo, 1869)

Eriphia longicrura: Nardo, 1869; Stalio, 1877; Stossich 1880; Ninni, 1930.
Paragalene longicrura: Carus, 1885; Pesta, 1912a, 1918; Števčić, 1969a.

General distribution: E. Atlantic (Madeira). Mediterranean.

Adriatic: Localities are not known with certainty.

Remarks: Extremely rare and insufficiently known.

PORTUNIDAE Rafinesque, 1815

CARCININAE MacLeay, 1838

Carcinus Leach, 1814

Carcinus aestuarii Nardo, 1847

Cancer maenas: Scopoli, 1763; Wulfen, 1791; v. Martens, 1824, 1838.
Cancer moenas: Olivi, 1792.; Chiereghin, (1818).
Moenas: Tilesius, 1796.
Carcinus moenas var. *aestuarii:* Nardo, 1847.
Carcinus maenas: Grube, 1861, 1864a; Heller, 1862a, 1863; Nardo, 1869; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Faber, 1883; Carus, 1885; Sucker, 1895; Car, 1901, Graeffe, 1902; Brusina, 1907; Paolucci, 1909; Babić, 1911; Cori, 1912; Pesta, 1912a, 1914; Vatova, 1940; Zolezzi, 1946; Giordani Soika, 1948; Kurian, 1956; Radić, 1982; Savazzi, 1982.

Carcinides maenas: Pesta, 1918; Vatova, 1928; Riedl, 1963, 1970; Gamulin-Brida et al., 1968; Karlovac, 1970; Marcuzzi, 1972; Gamulin-Brida, 1973, 1974; Avčin et al. 1974; Županović, 1976.

Carcinus moenas: Ninni, 1930; Giordani Soika, 1946.

Carcinus mediterraneus: Števčić, 1969a, 1971, 1982; Legac, 1974; Valentinčić, 1975; Pastore&Vaccarella, 1977; Stjepčević &Parenzan, 1980.

Carcinus aestuarii: Manning&Števčić, 1982.

General distribution: E. Atlantic (the Canary Islands), Mediterranean.

Adriatic: Reported from the entire area, especially from northern part.

Remarks: The shore crab is one of the most common inshore crab species ranging from the intertidal zone to about 10 m. It occurs on various types of bottom, in particular on muddy sand under rocks in sheltered bays. It enters sometimes in brackish water. Very abundant in the lagoon of Venice where it is of considerable commercial value.

Portumnus Leach, 1814

Portumnus latipes (Pennant, 1777)

Platyonichus latipes: Heller, 1863; Nardo, 1869; Stalio, 1877; Stossich, 1880; Carus, 1885.

Portumnus latipes: Pesta, 1912a, 1918; Vatova, 1928; Giordani Soika, 1948; Riedl, 1963, 1970; Forest, 1967; Števčić, 1969a, 1970.

Portunus latipes: Ninni, 1930; Marcuzzi, 1972.

General distribution: E. Atlantic from Scotland and North Sea to Mauritania. Mediterranean.

Adriatic: Recorded only from Venice, Piran, Rovinj, Korčula and Roccione

Remarks: A very rare species occurring in shallow watter on sandy bottoms.

Portumnus pestai Forest, 1967

Portumnus latipes: Pesta, 1918 (pro parte).

Portumnus pestai: Forest, 1967.

General distribution: Mediterranean.

Adriatic: Recorded only near Grado and Rab.

Remarks: This species occurs on sandy bottom in shallow water from the tidal zone to a few metres depths.

POLYBIINAE Ortmann, 1893

Bathynectes Stimpson, 1871

Bathynectes longipes (Risso, 1816)

Portunus longipes: Heller, 1862a, 1863, 1864; Lorenz, 1863; Grube, 1864a, b; Stalio, 1877; Stossich, 1880; Adensamer, 1898; Pesta, 1912a; Ninni, 1930; Gamulin-Brida, 1962; Riedl, 1963, 1970.

Bathynectes longipes: Carus, 1885; Gamulin-Brida, 1965; Ševčić, 1969a; Merker-Poček, 1973a; Radić, 1982.
Portunus (Bathynectes) longipes: Pesta, 1918.
Macropipus longipes: Gamulin-Brida, 1973.

General distribution: E. Atlantic from England to Portugal. Mediterranean.

Adriatic: Found in a few localities in the middle and southern parts.

Remarks: This swimming crab inhabits sandy mud and detritic bottoms between 40 and 226 m. Very rare.

Bathynectes maravigna (Prestandrea, 1839)

Bathynectes superbus: Froglia, 1972b, Ševčić, 1972; Bombace&Froglia, 1973.

General distribution: E. Atlantic from Norway and the Faeroes to Morocco and maybe more southwards. Mediterranean.

Adriatic: Known only from the southern part.

Remarks: An inhabitnt of deep waters from 300 to 750 m on bathyal mud. Extremely rare.

Liocarcinus Stimpson, 1871

Liocarcinus arcuatus (Leach, 1814)

Cancer depuratoides: Chiereghin, (1818).
Portunus rondeletii: Nardo, 1847, 1869; Grube, 1861; Lorenz, 1863.
Portunus arcuatus: Heller, 1862a, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1880; Marchesetti, 1882 (erron. *P. arquatus);* Carus, 1885; Car, 1901; Graeffe, 1902; Brusina, 1907; Paolucci, 1909; Pesta, 1912a, 1918; Sendler, 1912; Vatova, 1928, 1949; Giordani Soika, 1946; Riedl, 1963, 1970; Marcuzzi. 1972.
Macropipus arcuatus: Holthuis, 1961; Gamulin-Brida et al. 1968, 1980; Ševčić, 1969a, 1971, 1982; Karlovac, 1970; Zavodnik, 1971; Merker-Poček, 1973a; Gamulin-Brida, 1973, 1974; Valentinčič, 1975; Stjepčević&Parenzan, 1980; Zavodnik et al. 1981.
Liocarcinus arcuatus: Manning&Ševčić, 1982; Ševčić, 1987.

General distribution: E. Atlantic from Norway to Mauritania. Mediterranean.

Adriatic: Known from the entire area.

Remarks: *Liocarcinus arcuatus* occurs on inshore sandy or detritic sandy bottoms as well as in sea grass meadows from 0,5 to 50 m, usually in more shallow waters. Locally frequent.

Liocarcinus bolivari (Zariquiey Alvarez, 1948)

Liocarcinus bolivari: (unpublished)

General distribution: W. Mediterranean (Cadaqués, Cabo de Creus, Gulf of Neaple).

Adriatic: Rovinj.

Remarks: Sampled only one specimen near Rovinj in sea-grass meadow at the depth between 2.5 to 5 metres. Probably rare.

Liocarcinus corrugatus (Pennant, 1777)

Portunus corrugatus: Heller, 1862a, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1878; Marchesetti, 1882; Carus, 1885; Adensamer, 1898; Graeffe, 1902; Brusina, 1907; Paolucci, 1909; Babić & Rössler, 1912; Pesta, 1912a, 1918; Sendler, 1912; Vatova, 1928, 1949; Ninni, 1930; Županović & Grubišić, 1958; Riedl, 1963, 1970; Grubišić, 1967, 1982; Jukić, 1972; Radić, 1982.
Portunus corrugator: Stossich, 1880.
Macropipus corrugatus: Ševčić, 1969a, 1971, 1982; Karlovac, 1970; Merker-Poček, 1973a, 1977; Gamulin-Brida, 1973, 1974.

General distribution: E. Atlantic from the British Isles to Angola (and probably South Africa). Indo-Pacific from South Africa to Australia and New Zealand. Mediterranean.

Adriatic: Recorded throughout the entire area.

Remarks: The species occurs on muddy sand and sandy bottoms between 15 and 75 m. Scarce. Edible, but of little commercial importance.

Liocarcinus depurator (Linnaeus, 1758)

Cancer depurator: Scopoli, 1763; Brünnich, 1768; Wulfen, 1791; Olivi, 1792; Chiereghin, (1818); v. Martens, 1824, 1838.
Depurator: Tilesius, 1796.
Portunus depurator: Germar, 1817; Heller, 1862a, 1863, 1864; Grube. 1864a, b; Nardo, 1869; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Faber, 1883; Carus, 1885; Sucker, 1895; Adensamer, 1898; Car, 1901; Graeffe, 1902; Brusina, 1907; Paolucci, 1909; Pesta, 1912a, 1913b, 1918; Vatova, 1928, 1935; Ninni, 1930; Giordani Soika, 1946, 1948; Karlovac, 1948—1949; Kurian, 1956; Županović & Grubišić, 1958; Gamulin-Brida, 1962, 1965. 1967; Riedl, 1963, 1970; Marcuzzi, 1972; Radić, 1982.
Portunus marmoratus: Nardo, 1847.
Portunus plicatus: Grube, 1861; Lorenz, 1863.
Macropipus depurator: Gamulin-Brida, 1965, 1973, 1974; Gamulin-Brida et al. 1968; Ševčić, 1969a, 1971, 1979a, 1982; Županović. Karlovac, 1970; Zavodnik, 1971; Froglia, 1972a, b; Jardas, 1972a, 1979; Merker-Poček, 1973a; Valentinčič, 1975; Zavodnik et al. 1981; Jardas & Županović, 1983.
Liocarcinus depurator: Manning & Ševčić, 1982.

General distribution: E. Atlantic from Norway to Western Sahara. Mediterranean.

Adriatic: Recorded from many localities throughout the entire area.

Remarks: The species is the most common of all *Liocarcinus* ones species within the area. It is recorded on bottom of sand, mud and detritus between 5 and 256 m. Localy very abundant. Edible but rarely used as human food.

Liocarcinus maculatus (Risso, 1827)

Portunus pusillus: Heller, 1862a, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Graeffe, 1902; Brusina, 1907; Paolucci, 1909; Pesta, 1912a, 1918; Sendler, 1912; Vatova, 1928, 1935, 1949; Ninni, 1930; Giordani Soika, 1948; Riedl, 1963, 1970; Gamulin-Brida, 1967; Marcuzzi, 1972; Gamulin-Brida, 1967; Marcuzzi, 1972; Gamulin-Brida et al. 1980. Radić, 1982.
Macropipus pusillus: Gamulin-Brida et al. 1968; Ševčić, 1969a, 1971; Karaman&Gamulin-Brida, 1970; Karlovac, 1970; Merker-Poček, 1973a, 1977; Gamulin-Brida, 1973, 1974; Valentinčić, 1977; Stjepčević&Parenzan, 1980; Zavodnik et al., 1981.
Macropipus maculatus: Ševčić, 1979a.
Liocarcinus maculatus: Froglia&Maning, 1982; Manning&Ševčić, 1982.

General distribution: Mediterranean.

Adriatic: Known from the entire area.

Remarks: Fairly frequent species of swimming crabs occuring in sea meadows and on sand or sandy mud at depths from 5 to 50 m, but occasionally down to 250 m.

Liocarcinus vernalis (Risso, 1816)

Macropipus vernalis: Türkay, 1971.

General distribution: E. Atlantic from the Bay of Biscay to Western Sahara. Mediterranean.

Adriatic: Reported only for Venice area, found near Rovinj (not published). According to personal commuication of Froglia it is very common near Ancona.

Remarks: Occurs in very shallow waters on sandy bottom and in sea grass meadows.

Liocarcinus zariquieyi (Gordon, 1968)

Macropipus zariquieyi: Merker-Poček 1972, 1973a; Ševčić, 1972.
Liocarcinus zariquieyi: Froglia&Manning, 1982.

General distribution: E. Atlantic from England to the Canary Islands. Mediterranean.

Adriatic: Found only in the southern part.

Remarks: Occurs on coarse sand and gravel between 10 and 60 m. Probably very rare.

Macropipus Prestandrea, 1833

Macropipus tuberculatus (Roux, 1830)

Portunus tuberculatus: Szütz, 1915a, b; Karlovac, 1948—49; Županović & Grubišić, 1958; Gamulin-Brida, 1962.

Macropipus tuberculatus: Gamulin-Brida, 1965, 1973, 1974; Števčić, 1969a; Županović, 1969; Karlovac, 1970; Froglia, 1972a, b; Jardas, 1972a; Bombace & Froglia, 1973; Merker-Poček, 1973a.

General distribution: E .Atlantic from the Shetland Islands to Namibia. Mediterranean.

Adriatic: Found in middle and southern parts of the area.

Remarks: *Macropipus tuberculatus* occurs on sandy, muddy and detritic bttoms between 90 and 750 m. Locally scarce.

PORTUNINAE Rafinesque, 1815

Callinectes Stimpson, 1860

Callinectes sapidus Rathbun, 1896

Calinectes sapidus: Giordani Soika, 1951 (identified as *Portunus pelagicus);* Števčić, 1969a; Froglia, 1972a.

General distribution: Atlantic (originally on the E. American coast). Immigrant in European waters.

Adriatic: Recorded only from Venice and middle part of the area.

Remarks: The blue crab is an immigrant which ecology, distribution and abundance are not known in the area.

Portunus Weber, 1795

Portunus hastatus (Linnaeus, 1767)

Cancer hastatus: v. Martens, 1838

Lupa hastata: Heller, 1862a, 1963; Stalio, 1877; Stossich, 1880; Carus, 1885; Pesta, 1912a; Ninni, 1930.

Neptunus hastatus: Pesta, 1918.

Portunus hastatus: Števčić, 1969a.

General distribution: E. Atlantic from Azores to Angola. Mediterranean.

Adriatic: A single specimen recorded from Vis.

Remarks: No data beyond record of presence.

PARTHENOPIDAE MacLeay, 1838

Heterocrypta Stimpson, 1871

Heterocrypta maltzani Miers, 1881

Heterocrypta maltzani: Pesta, 1913b, 1916, 1918; Števčič, 1969a.

General distribution: E. Atlantic from the Bay of Biscay to Angola. W. Mediterranean.

Adriatic: Recorded once southwest off Budva by »Najade« Expedition.

Remarks: Since captures only once at a depth of 130 m, its ecology is insufficiently known in the area.

Parthenope Weber, 1795

Parthenope angulifrons Latreille, 1825

Cancer longimanus: Olivi, 1792; Chiereghin, (1818).
Longimanus: Tilesius, 1796.
? *Cancer macrochelos:* v. Martens, 1824, 1838.
Lambrus angulifrons: Nardo, 1847; Grube, 1861, 1864a, b; Heller, 1862a, 1863; Lorenz, 1863; Stalio, 1877; Stossich, 1880; Graeffe, 1902; Brusina, 1907; Paolucci, 1909; Pesta, 1912a, 1913b, 1918; Sendler, 1912; Vatova, 1928, 1932; Ninni, 1930; Giordani, Soika, 1946, 1948; Zei, 1949; Riedl, 1963, 1970; Gamulin-Brida, 1965, 1967, 1973, 1974; Gamulin-Brida et al. 1968, 1980; Karlovac, 1970; Jukić, 1972; Marcuzzi, 1972; Radić, 1982.
? *Lambrus miersi?:* Županović & Grubišić, 1958.
Parthenope angulifrons: Ševčić, 1969a, 1971; Zavodnik, 1971; Merker-Poček, 1973a; Zavodnik et al. 1981; Manning & Ševčić, 1982; Savazzi, 1982.
? *Parthenope miersi:* Merker-Poček, 1973a.

General distribution: Mediterranean.

Adriatic: Recorded throughout the entire area.

Remarks: Occurs on sand, sandy mud, coastal detritic and coraligenous bottoms betwenn 2 and 66 m. Scarce. The presence of *Parthenope miersi* needs confirmation.

Parthenope macrochelos (Herbst, 1790)

Lambrus mediterraneus: Faber, 1883; Radić, 1982.
Parthenope macrochelos: Froglia, 1972b; Merker-Poček, 1972, 1973a. Ševčić, 1972, Bombace & Froglia, 1973.

General distribution: E. Atlantic from Portugal to Western Sahara. Mediterranean.

Adriatic: Recorded only in southern part of the area.

Remarks: This species is known only from deeper waters between 300 and 750 m. Extremely rare.

Parthenope massena, (Roux 1830)

Lambrus massena: Heller, 1862a, 1863, 1864; Lorenz, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Adensamer, 1898; Car, 1901; Graeffe, 1902; Pesta, 1912a, 1918; Vatova, 1932; Gamulin-Brida, 1962, 1965, 1967, 1973, 1974; Riedl, 1963, 1970; Gamulin-Brida et al. 1968; Jukić, 1972; Marcuzzi, 1972; Radić, 1982.

Lambrus massenae: Grube, 1864b; Ninni, 1930.
Parthenolambrus massena: Brusina, 1907.
Parthenope massena: Števčić, 1969a, 1971, 1979a; Zavodnik, 1971; Merker-Poček, 1973a; Stjepčević & Parenzan, 1980.
Rhinolambrus massena: Karlovac, 1970.

General distribution: E. Atlantic from the Bay of Biscay to Congo, Mediterranean.

Adriatic: Reported from many localities along the Yugoslav coast and for a few localities from the Italian coast.

Remarks: Occurs chiefly on coastal detritic bottom ranging from 5 to 141 m. Scarce.

MAJIDAE Samouelle, 1819

INACHINAE MacLeay, 1838

Achaeus Leach, 1817

Achaeus cranchii Leach, 1817

Achaeus cranchii: Heller, 1862a, 1863; Stossich, 1880; Ninni, 1930; Števčić, 1969a, 1971; Merker-Poček, 1973a; Marcuzzi, 1972; Zavodnik et al. 1981; Manning & Števčić, 1982.
Achaeus cranchi: Stalio, 1877; Carus, 1885; Pesta, 1912a, 1918; Vatova, 1928, 1932; Riedl, 1963, 1970; Zavodnik, 1967c, 1971; Gamulin-Brida et al. 1968, 1980; Karlovac, 1970.

General distribution: E. Atlantic from the British Isles and Nordh Sea to Sierra Leone. Mediterranean.

Adriatic: Reported from many localities in particular from the eastern side (from Piran to Boka Kotorska).

Remarks: *Achaeus cranchii* lives on variety of bottoms covered with algae and in sea grass meadows between 1 and 30 m. Fairly scarce.

Achaeus gracilis (O. G. Costa, 1839)

Achaeus gordonae: Holthuis, 1961, Števčić, 1969a.

General distribution: Mediterranean.

Adriatic: Sampled only by Jadranovo and Rovinj.

Remarks: Since all *Achaeus* specimens have priviously been identified as *A. cranchii* its distribution is not known in the area. Moreover because of certain variability of this genus in the area its revision is needed.

Dorhynchus Thomson, 1873

Dorhynchus thomsoni Thomson, 1873

Lispognathus thomsoni: Adensamer, 1898.
Dorhynchus thomsoni: Pesta, 1912a, 1918; Števčić, 1969a.

General distribution: E. Atlantic from Iceland and the Faeroe Islands to the Cape Verde Islands. Mediterranean.

Adriatic: Found only at three localities in the southern deep basin by the »Pola« Expedition.

Remarks: An extremely rare edep sea species living between 950 and 1200 m on the sandy mud bottom.

Ergasticus Studer, 1883

Ergasticus clouei Studer, 1883

Ergasticus clouei: Merker-Poček, 1972, 1973a; Ševčić, 1972.

General distribution: E. Atlantic from the Bay of Biscay to the Cape Verde Islands. Mediterranean.

Adriatic: Found only once in the southern deep basin.

Remarks: This extremely rare species occurs on bathial mud in the deep sea.

Inachus Weber, 1795

Inachus communissimus Rizza, 1839

Inachus communissimus: Ševčić, 1971, 1972, 1979a, 1985; Merker-Poček, 1973a; Zavodnik et al., 1981; Manning & Ševčić, 1982.

General distribution: Mediterranean.

Adriatic: Recorded on several localities along the eastern coast.

Remarks: Occurs on sedimentary bottoms covered with vegetation in shallow water between 1—15 m, occasionally down to 30 m. Probably fairly frequent. This species has previously been confused with *I. dorsettensis* and therefore its distribution and abundance are not known with certainty.

Inachus dorsettensis (Pennant, 1777)

Cancer tribuloides: Wulfen, 1791.
Cancer tribulus: Olivi, 1792; Chiereghin, (1818); v. Martens, 1824, 1838.
Tribulus: Tilesius, 1796.
Inachus scorpio: Nardo, 1847; Heller, 1862a, 1863, 1864; Grube, 1864a, b; Stossich, 1878, 1880; Faber, 1883; Carus, 1885; Sucker, 1895; Car, 1901; Graeffe, 1902; Paolucci, 1909; Babić, 1911; Sendler, 1912; Santucci, 1922; Ninni, 1930.
Inachus dorsettensis: Adensamer, 1898; Brusina, 1907; Pesta, 1912a, 1913b, 1918; Vatova, 1928, 1932, 1935, 1949; Giordani Soika, 1946; Gamulin-Brida, 1962, 1965, 1967; Riedl, 1963, 1970; Gamulin-Brida et al. 1968, 1980; Ševčić, 1969a, 1971, 1979a, 1982; Županović, 1969; Marcuzzi, 1972; Merker-Poček, 1973a, b;

Valentinčič, 1975; Stjepčević & Parenzan, 1980; Manning & Števčić, 1982; Radić, 1982.

General distribution: E. Atlantic, from Norway to South Africa (Natal). Mediterranean.

Adriatic: Reported from the entire area.

Remarks: Occurs on various kinds of bottom (sand, sandy mud, mud, sandy gravel, rock, detritus, sea weed and sea grass), from 1 to 193 m, but more frequent between 15 nad 40 m. Frequent.

Inachus leptochirus Leach, 1817

Inachus leptochirus: Heller, 1862a, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Adensamer, 1898; Pesta, 1912a, 1918; Ninni, 1930; Riedl, 1963, 1970; Gamulin-Brida et al. 1968; Števčić, 1969a, 1971; Karaman & Gamulin-Brida, 1970; Karlovac, 1970; Merker-Poček, 1973a, b; Stjepčević & Parenzan, 1980.

General distribution: E. Atlantic, from the Hebrides to Mauritania. Mediterranean.

Adriatic: Recorded from many localities along the eastern coast, in particular from southern part.

Remarks: Found on sandy, muddy and detritic bottom from 30 to 141 m. Rare.

Inachus parvirostris (Risso, 1816)

Inachus parvirostris: Manning & Froglia, 1982.

General distribution: Mediterranean.

Adriatic: Sampled only in Jabučka kotlina (Jabuka pit).

Remarks: *Inachus parvirostris* is a deep sea species living below beyond 90 m. Previously confused with *I. dorsettensis.* In the area only two female specimens at a depth of 120 m were collected. Probably very rare.

Inachus phalangium (Fabricius, 1775)

Inachus dorhynchus: Heller, 1862a, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Pesta, 1912a, 1918; Ninni, 1930; Gamulin-Brida, 1865.

Inachus phalangium: Števčić, 1969a, 1971 (I. cf. ph.); Karlovac, 1970; Merker-Poček, 1973a; Radić, 1982.

General distribution: E. Atlantic from Norway to the Cape Verde Islands. Mediterranean.

Adriatic: Found in several localities on the eastern side.

Remarks: Recorded on hard and sadimentary bottoms between 1 and 130 m. Often associated with *Anemonia sulcata.* Probably not very rare.

Inachus thoracicus Roux, 1830

Inachus thoracicus: Grube, 1861, 1864a, b; Heller, 1862a, 1863, 1864; Stalio, 1877; Stossich, 1880; Carus, 1885; Car, 1901; Graeffe, 1902; Brusina, 1907; Babić, 1911; Pesta, 1912a, 1918; Sedler, 1912; Vatova, 1928, 1932; Ninni, 1930; Zalokar, 1942; Gamulin-Brida, 1962, 1965, 1967; Gamulin-Brida al., 1968, 1980; Števčić, 1969a, 1971; Karaman & Gamulin-Brida, 1970; Karlovac, 1970; Marcuzzi, 1972; Merker-Poček, 1973a, 1977; Valentinčič, 1975; Stjepčević & Parenzan, 1980; Manning & Števčić 1982.

General distribution: E. Atlantic, from Gibraltar to the Congo. Mediterranean.

Adriatic: Reported throughout the entire area, especialy the eastern and north-eastern side.

Remarks: Occurs on muddy, sandy and detritic bottoms between 10 and 130 m. Fairly scarce.

Macropodia Leach, 1814

Macropodia czernjawskii (Brandt, 1880)

Macropodia czerniavskii: Števčić, 1971; Zavodnik et al. 1981.

General distribution: Mediterranean.

Adriatic: Found only near Rovinj and in Kvarner region.

Remarks: This species innabits shallow coastal waters, in particular *Zostera* and *Cymodocea* meadows. Rarely reported, but probably not very rare.

Macropodia linaresi Forest & Zariqueiy Alvarez, 1964

Macropodia linaresi: Števčić, 1971; Pastore & Vaccarella, 1977; Manning & Števčić, 1982.

General distribution: E. Atlantic, from Bay of Biscay to Gibraltar. Mediterranean.

Adriatic: Sampled only near Piran, Rovinj, in Kvarner region and Bari.

Remarks: Only a few specimens have been found on detritic bottom between 5 and 40 m. Rare.

Macropodia longipes (A. Milne Edwards & Bouvier, 1899)

Macropodia longipes: Števčić, 1969a; Merker-Poček, 1973a.

General distribution: E. Atlantic from the Bay of Biscay to Mauritania and the Cape Verde Islands. W. Mediterranean.

Adriatic: Found near Split (Holthuis, pers. comm.) and in north Adriatic channels (Velebitski kanal and Kvarnerić).

Remarks: This species has previously been confused with *M. longirostris*. It occurs on sedimentary, chiefly muddy, bottom between 60 and 100 m. Probably frequent.

Macropodia longirostris (Fabricius, 1775)

Stenorhynchus longirostris: Heller, 1856, 1862a, 1863, 1864a, b; Lorenz, 1863; Grube, 1964; Stalio, 1877; Stossich, 1880; Carus, 1885; Adensamer, 1899; Car, 1901; Graeffe, 1902; Paolucci, 1909; Pesta, 1912a, 1913b; Ninni, 1930.

Macropodia longirostris: Brusina, 1907; Vatova, 1928, 1932; Giordani Soika, 1948; Zei, 1949; Županović & Grubišić, 1958; Holthuis, 1961; Gamulin-Brida, 1962, 1965; Riedl, 1963, 1970; Gamulin-Brida et al., 1968, 1980; Števčić, 1969a, 1971; Zavodnik, 1969; Županović, 1969; Karaman & Gamulin-Brida, 1970; Karlovac, 1970; Marcuzzi, 1972; Merker-Poček, 1973a, 1973, 1977; Avčin et al. 1974; Legac, 1974; Valentinčič, 1975; Stjepčević & Parenzan, 1980; Zavodnik et al. 1981; Manning & Števčić, 1982; Radić, 1982.

Macropodia (Stenorhynchus) longirostris: Pesta, 1918.

General distribution: E. Atlantic, from the Faeroe Islands to Senegal. Mediterranean.

Adriatic: Reported throughout the area.

Remarks: *Macropodia longirostris* occurs on various kinds of bottom (detritus, sand, rock covered with algae) between intertidal zone and 226 m, but usually at depths less than 35 m. Fairly frequent.

Macropodia rostrata (Linnaeus, 1761)

Cancer araneus: Wulfen, 1791.

Cancer rostratus: Olivi, 1792; Chiereghin, (1818); v. Martens, 1824, 1838.

Rostratus: Tilesius, 1796.

Stenorhynchus phalangium: Nardo, 1847 (erron. *Stenorynchus ph.),* Heller, 1862a, 1863; Lorenz, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1880; Faber, 1883; Car, 1901; Graeffe, 1902; Zimmermann, 1906; Ninni, 1930.

Stenorhynchus rostratus: Pesta, 1912a; Sendler, 1912.

Macropodia (Stenorhynchus) rostrata: Pesta, 1918.

Macropodia rostrata: Vatova, 1912, 1932, 1935; Giordani Soika, 1946, 1948; Holthuis, 1961; Gamulin-Brida, 1962, 1965, 1967; Riedl, 1963, 1970; Zavodnik, 1967c, 1971; Gamulin-Brida et al., 1968; Števčić, 1969a, 1971, 1979a; Karaman & Gamulin-Brida, 1970; Marcuzzi, 1972; Merker-Poček, 1973a, 1977; Valentinčič, 1975; Pastore & Vaccarella, 1977; Stjepčević & Parenzan, 1980; Ingle & Manning, 1982; Manning & Števčić, 1982; Radić, 1982; Avčin & Vrišer, 1983.

General distribution: E. Atlantic, from Barents Sea to Western Sahara. Mediterranean.

Adriatic: Recorded throughout the entire area.

Remarks: A very common spider crab, in particular during winter and spring when migrating into shallow waters. It occurs on various types of bottom (detritic, muddy, rocky covered with algae) over a wide range of depth from tidal flats to about 193 m, but more frequently observed in shallow waters.

EPIALTINAE MacLeay, 1838

Acanthonyx Latreille, 1828

Acanthonyx lunulatus (Risso, 1816)

Acanthonyx lunulatus: Grube, 1861; Heller, 1862a, 1863; Lorenz, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1880; Carus, 1885; Car, 1901; Graeffe, 1902; Zimmermann, 1906; Brusina, 1907; Paolucci, 1909; Pesta, 1912a, 1918; Ninni, 1930; Giordani Soika, 1948; Riedl, 1963; 1970; Gamulin-Brida, 1967, 1973, 1974; Zavodnik, 1967c; Ševčić, 1969a, 1971; Karlovac, 1970; Marcuzzi, 1972; Manning & Ševčić, 1982; Radić, 1982 (as *Acanthonys*, erroneous spelling).

General distribution: E. Atlantic from Portugal to Namibia. Mediterranean.

Adriatic: Reported from many localities throughout the entire area.

Remarks: This species is a seaweed dweller in shallow water between 1 and 20 m. Scarce.

PISINAE Dana, 1851

Anamathia Smith, 1885

Anamathia rissoana, (Roux, 1828)

Anamathia rissoana: Adensamer, 1898; Pesta, 1912a, 1818; Ševčić, 1969a, 1985; Merker-Poček, 1973a; Bombace & Froglia, 1973.

General distribution: E. Atlantic (Azores). Mediterranean.

Adriatic: Recorded only from a few localities near Palagruža and from the southern deep basin.

Remarks: A deep sea species occuring on bathyal mud between 179 and 730 m. Very rare.

Eurynome Leach, 1814

Eurynome aspera (Pennant, 1777)

Eurynome aspera: Heller, 1862a, 1863, 1864; Lorenz, 1863; Grube, 1864b; Stalio, 1877; Stossich, 1880; Adensammer, 1898; Graeffe, 1902; Brusina, 1907; Pesta, 1912a, 1918; Vatova, 1928, 1932,

1935, 1949; Ninni, 1930; Giordani Soika, 1948; Gamulin-Brida, 1962, 1965, 1967, 1974; Riedl, 1963, 1970; Gamulin-Brida et al., 1968; Števčić, 1969a, 1971, 1979a; Karlovac, 1970; Zavodnik, 1971; Marcuzzi, 1972; Merker-Poček, 1973a, b; Valentinčič, 1975; Stjepčević & Parenzan, 1980; Zavodnik et al., 1981; Manning & Števčić, 1982.

Eurynome scutelata: Lorenz, 1863; Grube, 1864a.

Eurinome aspera: Nardo, 1869.

General distribution: E. Atlantic from Norway to South Africa, and in Indo-Pacific off Natal. Mediterranean.

Adriatic: Reported from a great number of localities throughout the entire area, in particular on eastern side.

Remarks: *Eurynome aspera* occurs on various types of sedimentary bottom (in particular detritic) at various depths from 10 do 1216 m, but most common in depths less than 50 m. Frequent.

Herbstia H. Milne Edwards, 1834

Herbstia condyliata (Fabricius, 1787)

Herbstia condyliata: Heller, 1862a, 1863; Stalio, 1877; Stossich, 1880; Pesta, 1812a, 1918; Ninni, 1930; Giordani Soika, 1948; Števčić, 1969a, 1971; Karlovac, 1970; Marcuzzi, 1972.

General distribution: E. Atlantic from the Bay of Biscay to Ghana. W. Mediterranean.

Adriatic: Reported only from Venice, Rovinj, Split, Hvar, Vis and Korčula.

Remarks: A very rare species found on rocky bottoms betyeen 30 and 80 m.

Lissa Leach, 1815

Lissa chiragra (Fabricius, 1775)

Cancer cruentatus: Scopoli. 1763; Brünnich, 1768; Olivi, 1792; Chiereghin, (1818); v. Martens, 1824, 1838.

Cruentatus: Tilesius, 1796.

Lissa chiragra: Nardo, 1847; Heller, 1862a, 1863, 1864; Grube, 1864a, b; Stalio, 1877; Stossich, 1880; Carus, 1885; Graeffe, 1902; Brusina, 1907; Pesta, 1912a, 1914a, 1918; Sendler, 1912; Ninni, 1930; Giordani Soika, 1946, 1948; Zei, 1949; Riedl, 1963, 1970; Gamulin-Brida, 1967, 1973, 1974; Števčić, 1969a, 1971, 1979a; Karlovac, 1970; Marcuzzi, 1972; Merker-Poček, 1973a, 1977.

General distribution: Mediterranean.

Adriatic: Reported from the entire area.

Remarks: A fairly rare species occurring on coraligenous, detritic and muddy bottoms between 14 and 90 m.

Pisa Leach, 1814

Pisa armata (Latreille, 1803)

Cancer personatus: Chiereghin, (1818)
Pisa coccinea: Nardo, 1847.
Pisa gibbsii: Grube, 1864a; Car, 1901; Graeffe, 1902.
Pisa armata + *Pisa gibbsii:* Heller, 1862a, 1864; Nardo, 1869 (erron. *P. gipsii)*; Stalio, 1877; Stossich, 1880; Carus, 1885; Stiasny, 1908; Sendler, 1912; Zalokar, 1942.
Pisa armata: Sucker, 1895; Zimmermann, 1906; Pesta, 1913d, 1916, 1918; Santucci, 1922; Vatova, 1928, 1932; Riedl, 1963, 1970; Gamulin-Brida, 1967; Gamulin-Brida et al., 1968; Števčić, 1969a, 1971; Marcuzzi, 1972; Merker-Poček, 1973a, 1977.
Pisa biaculeata: Brusina, 1907.
Pisa gibbsi: Pesta, 1912a; Ninni, 1930; Karlovac, 1970; Gamulin-Brida, 1973, 1974.

General distribution: E. Atlantic from the southern North and Irish Seas to Angola. Mediterranean.

Adriatic: Listed from many localities in particular from north-eastern and eastern coasts.

Remarks: A sublittoral species living between 15 and 50 m on various types of bottom (rock covered with algae, detritic coastal mud and others). Scarce. Often camouflaged with various sessile organisms, especially sponges.

Pisa corallina (Risso, 1816)

Cancer aranea: Brünnich, 1768.
Cancer araneus (nec Linnaeus): Olivi, 1792; Chiereghin, (1818).
Arancus (error for *Araneus*): Tilesius: 1796.
Pisa intermedia: Nardo, 1847; Heller, 1862a, 1863; Stalio, 1877; Stossich, 1878, 1880; Carus, 1885; Graeffe, 1902; Brusina, 1907; Pesta, 1912a.
Pisa corallina: Grube, 1861; Sendler, 1912; Števčić, 1969a, 1971; Zavodnik et al., 1981; Manning & Števčić 1982.
Pisa corallina + *Pisa intermedia:* Nardo, 1869.

General distribution: Mediterranean.

Adriatic: Reported from Venice, Piran, Rovinj, Kvarner region, Split, Hvar, Vis.

Remarks: Occurs in shallow water in sea grass and sea weed beds, Since it has previously been confused with *P. tetraodon* its exact distribution and abundance are not known in the area. Probably very rare.

Pisa muscosa (Linnaeus, 1758)

Pisa tetraodon: Pesta, 1918 (pro parte).
Pisa muscosa: Zavodnik et al. 1981; Manning & Ševčić, 1982

General distribution: Mediterranean.

Adriatic: Known only from Piran and Krk.

Remarks: Pisa muscosa has previously been confused with *P. tetraodon* and therefore its distribution, abundance and mode of life are not precisely known.

Pisa nodipes (Leach, 1815)

Pisa armata (pro parte): Heller, 1863; Carus, 1885; Car, 1901; Pesta, 1912a.
Pisa nodipes: Nardo, 1869; Stalio, 1877; Carus, 1885 (pro parte); Pesta, 1913d, 1918; Vatova, 1928, 1932; Ninni, 1930; Giordani Soika, 1946 (pro parte); Gamulin-Brida, 1962, 1965, 1967, 1973, 1974; Riedl, 1963, 1970; Gamulin-Brida et al. 1968: Števčić, 1969a, 1971; Marcuzzi, 1972: Merker-Poček, 1973a. Zavodnik et al., 1981; Manning & Števčić, 1982; Radić, 1982.
Pisa longirostris: Brusina, 1907.

General distribution: E. Atlantic, from Morocco to Mauritania.

Adriatic: Reported from the entire area.

Remarks: This species occurs on sandy, detritic and mixed bottoms between 3 and 50 m, but occasionally down to 100 m. Fairly frequent.

Pisa tetraodon (Pennant, 1777)

Pisa tetraodon: Heller, 1862a, Lorenz, 1863; Grube, 1864b: Nardo, 1869; Stalio, 1877; Stossich, 1880; Carus, 1885; Graeffe, 1902; Zimmermann, 1906; Babić, 1911; Pesta, 1912a, 1913d, 1916, 1918 (pro parte); Ninni, 1930; Vatova, 1932, 1935; Holhuis, 1961; Gamulin-Brida, 1962, 1967, 1973; Riedl, 1963, 1970; Zavodnik, 1967b, c; Gamulin-Brida et al., 1968, 1980; Števčić, 1969a, 1971; Karlovac, 1970; Marcuzzi, 1972; Merker-Poček, 1973a, 1977; Manning & Števčić, 1982.

General distribution: E. Atlantic, from the English Channel to Mauritania. Mediterranean.

Adriatic: Reported from many localities throughout the area.

Remarks: Occurs on various types of bottom in particular in sea grass and sea weed communities) at depths between low tide mark to about 50 m. Usually camouflaged by algae. Scarce.

MAJINAE Samouelle, 1819

Maja Lamarck, 1801

Maja crispata Risso, 1827

Cancer maja più piccolo: Olivi, 1792.
Cancer majoides: Chiereghin, (1818).
Maja squinado (pullus): Nardo, 1847.
Maia verrucosa: Grube, 1861, 1864a, b; Car, 1901; Graeffe, 1902; Zim-

mermann, 1906; Pesta, 1912a, 1914, 1918; Vatova, 1928, 1932; Giordani Soika, 1948; Županović&Grubišić, 1958; Gamulan-Brida, 1962, 1967, 1973, 1974; Riedl, 1963, 1970; Zavodnik, 1974c; Gamulin-Brida et al., 1968; Karlovac, 1970; Marcuzzi, 1972; Radić, 1982; Grubišić, 1982.

Maja verrucosa: Heller, 1962a, 1963; Stossich, 1880; Marchesetti, 1882; Carus, 1885; Lorini, 1903; Brusina, 1907; Ninni, 1930; Zalokar, 1942; Giordani Soika, 1946; Števčić, 1969a, 1971, 1982; Jukić, 1972, 1974; Merker-Poček, 1973a; Legac, 1974; Valentinčič, 1975; Županović, 1976; Stjepčević&Parenzan, 1980; Zavodnik et al., 1981; Zavodnik&Vidaković, 1982; Zavodnik, D. & N. Zavodnik, 1982.

Maja squinado (pro parte): Nardo, 1869

Maja squinado var. *minor:* Paolucci, 1909.

? *Maja spinosa:* Ninni, 1924, 1930.

? *Maja lugubris:* Ninni, 1930.

Maja crispata: Manning&Števčić, 1982.

General distribution: E .Atlantic, from Portugal to Western Sahara. Mediterranean.

Adriatic: Known from the entire area.

Remarks: Very common spider crab in the sublittoral zone from 0,5 to 75 m, usually less than 30 m on various types of bottom ranging from mud to rock (migratory species). Usually camouflaged with algae. During summer in the shallow waters sometimes lives in the symbiosis with *Anemonia sulcata.*

Maja goltziana d'Oliveira, 1888

Maja erinacea: Ninni, 1924, 1930.

General distribution: E. Atlantic from Portugal to the west African coast (Congo and Principe Island). Mediterranean.

Adriatic: Venice.

Remarks: Because of a considerable variability of some morphological characters of *Maja species* and similarity to the previous one, it was confused with it so that for the area is only one record. The identity of *M. erinacea* and *M. goltziana* was confirmed by Dr. M. Türkay (pers. comm.) too.

Maja squinado (Herbst, 1788)

Cancer maja: Scopoli, 1763; Wulfen, 1791; Olivi, 1792; Cheregh in, (1818).

Maja: Tilesius, 1796.

Cancer squinado: v. Martens, 1824, 1838.

Maja squinado: Plucar, 1846; Nardo, 1847, 1869 (pro parte); Heller, 1862a, 1863; Lorenz, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Sucker, 1895; Graeffe, 1902; Lorini, 1903; Brusina, 1907;

Paolucci, 1909 (prvo parte); Babić, 1911; Cori, 1912; Sendler, 1912; Ninni, 1930; Giordani Soika, 1946; Števčić, 1969a, 1971, 1982; Karlovac, 1970; Jukić, 1972, 1974; Merker-Poček, 1973a, 1977; Valentinčič, 1975; Županović, 1976; Stjepčević & Parenzan, 1980; Zavodnik et al. 1981; Savazzi, 1982.

Maia squinado: Grube, 1863, 1864a; Marchesetti, 1882; Faber, 1883; Pesta, 1912a, 1918; Vatova, 1932; Giordani Soika, 1948; Zei, 1949; Gamulin, 1955; Kurian, 1956; Županović & Grubišić, 1958; Gamulin-Brida, 1962, 1965, 1967, 1973, 1974; Riedl, 1963, 1970; Grubišić, 1967, 1982; Karaman & Gamulin-Brida, 1970; Marcuzzi, 1972; Radić, 1982.

General distribution: E. Atlantic, from Scotland and English Channel to Namibia. Mediterranean.

Adriatic: Known throughout the entire area, in particular on the western Istrian coast.

Remarks: The spiny spider crab is a migratory species living on various types of bottom ranging from 5 to 170 m., usually less than 40 m. Common and commercially important.

DORIPPIDAE MacLeay, 1838

DORIPPINAE MacLeay, 1838

Medorippe Manning & Holthuis, 1981

Medorippe lanata (Linneaus, 1767)

Cancer lanattus: Wulfen, 1791; Olivi, 1792; Chireghin, (1818); v. Martens, 1824, 1838.

Lanatus: Tilesius, 1796.

Dorippe lanata: Nardo, 1847; Heller, 1863; Stossich, 1880; Faber, 1883; Carus, 1885; Car, 1901; Brusina, 1907, Pesta, 1912a, 1918; Giordani Soika, 1946, 1948; Zei, 1949; Gamulin-Brida, 1962, 1965, 1973, 1974; Riedl, 1963, 1970; Števčić, 1969a, 1971; Karaman & Gamulin-Brida, 1970; Karlovac, 1970; Merker-Poček, 1973a, b, 1977; Radić, 1982.

General distribution: Indian Ocean (Mozambique, Natal,), E. Atlantic, from Portugal to South Africa, Mediterranean.

Adriatic: Entire area.

Remarks: *Medorippe lanata* occurs on variety of sedimentary substrates (coastal terrigenous mud, bathial mud, mud mixed with sand) at depths between 10 and 30 m and occasionally down to 130 m. Very rare in the northern part, not uncommon in the middle and southern parts. Sometimes carries various organisms for camouflage.

ETHUSINAE Guinot, 1977

Ethusa Roux, 1830

Ethusa mascarone (Herbst, 1785)

Cancer vocans: Olivi, 1792; Chiereghin, (1818); v. Martens, 1824, 1838.
Vocans: Tilesius, 1796.
? Ethusa? pridope: Nardo, 1847.
Ethusa mascarone: Heller, 1862a, 1863, 1864; Grube, 1864a, b; Nardo, 1869 (E. m. ?); Stalio, 1877; Stossich, 1880; Graeffe, 1902; Zimmermann, 1906; Brusina, 1907; Pesta, 1912a, 1918; Sendler, 1912; Vatova, 1928, 1932, 1935, 1949; Ninni, 1930; Kurian, 1956; Gamulin-Brida, 1962, 1973, 1974; Riedl, 1963, 1970; Števčić, 1969a, 1971, 1979; Karaman&Gamulin-Brida, 1970; Karlovac, 1970; Zavodnik, 1971; Marcuzzi, 1972; Merker-Poček, 1973a, 1977; Valentinčič, 1975; Gamulin-Brida et al., 1980; Stjepčević&Parenzan, 1980; Radić, 1982.
Dorippe (Ethusa) mascarone: Lorenz, 1863.

General distribution: E. Atlantic from the Bay of Biscay to Mauritania and the Cape Verde Islands. Other records require verification. Mediterranean.

Adriatic: Listed from many localities throughout the area.

Remarks: Fairly frequent on many types of sedimentary substrates (coastal detritic mud, terrigenous coastal mud, sand). Usually camouflaged with shells. Ranging between 5 and 35 m, but sometimes down to 100 m.

PALICIDAE Rathbun, 1898

Palicus Philippi, 1838

Palicus caronii (Roux, 1830)

Cymopolia caronii: Heller, 1862a, 1963; Stalio, 1877; Stossich, 1880; Carus, 1885.
Palicus caroni: Pesta, 1912a, 1918.
Palicus caronii: Števčić, 1969a.

General distribution: E. Atlantic, from the Azores to Annobon. Mediterranean.

Adriatic: Recorded only off Hvar and Dubrovnik.

Remarks: Found only by Heller at depths between 60 and 90 m. Extremely rare.

LEUCOSIIDAE Samouelle, 1819

EBALIINAE Stimpson, 1871

Ebalia Leach, 1817

Ebalia cranchii Leach, 1817

Ebalia cranchii: Heller, 1862a, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Graeffe, 1902; Pesta, 1912a; Ninni, 1930; Kurian,

1956; Gamulin-Brida, 1962; Števčić, 1969a, 1971; Karlovac, 1970; Merker-Poček, 1973a.

Ebalia cranchi: Adensamer, 1898; Pesta, 1913b, 1918; Vatova, 1928, 1935, 1949; Riedl, 1963, 1970; Marcuzzi, 1972.

General distribution: E. Atlantic from Norway to Senegal. Mediterranean.

Adriatic: Sampled in many localities in the entire area, but more frequently on eastern coast.

Remarks: Recorded chiefly on sandy bottom, but also on detritic sand and muddy sand between 30 and 130 m. Fairly rare.

Ebalia edwardsi O. G. Costa, 1838

Ebalia brayerii: Heller, 1862a; Ninni, 1930.

Ebalia bryerii: Heller, 1863; Grube, 1864a, b; Stalio, 1877; Stossich, 1880; Carus, 1885; Car, 1901.

Ebalia edwardsii: Vatova, 1928; Gamulin-Brida et al., 1968.

Ebalia tumefacta: Brusina, 1907; Pesta, 1912a, 1918; Vatova, 1935, 1949; Riedl, 1963, 1970; Karlovac, 1970; Marcuzzi, 1972.

Ebalia edwardsi: Brusina, 1907; Števčić, 1969a, 1971; Zavodnik, 1971; Zavodnik & al., 1981; Manning & Števčić, 1982.

General distribution: Mediterranean.

Adriatic: Known only from Koper, Piran, Rovinj, Dubrovnik, Krk, Lošinj, off Murter, Hvar, Vis.

Remarks: Occurs on sand, offshore detritic and muddy sand at depths between 10 and 100 m. Very rare. This species has previously been confused with *E. tumefacta,* which occurs in the Atlantic.

Ebalia granulosa H. Milne Edwards, 1837

Ebalia costae: Heller, 1862a, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Adensamer, 1898; Graeffe, 1902; Brusina, 1907; Pesta, 1912a; Sendler, 1912, Ninni, 1930 (erron. *E. costa).*

Ebalia granulosa: Pesta, 1918; Vatova, 1928, 1935; Gamulin-Brida, 1962; Riedl, 1963, 1970; Števčić, 1969a, 1971; Karlovac, 1970; Zavodnik, 1971; Jukić, 1972; Merker-Poček, 1973a, 1977; Stjepčević & Parenzan, 1980.

General distribution: E. Atlantic, from the Irish Sea to Spain. Mediterranean.

Adriatic: Reported mainly from eastern side.

Remarks: Occurs on sand, sandy mud and detritic bottoms from 15 to about 100 m. Fairly rare.

Ebalia nux Norman in A. Milne Edwards, 1883

Ebalia nux: Adensamer, 1898; Pesta, 1912a, 1918; Riedl, 1963, 1970; Števčić, 1969a, Froglia, 1972b; Bombace & Froglia, 1973.

General distribution: E. Atlantic, from the British Isles to Cape Verde Islands. Mediterranean.

Adriatic: Reported only from a few localities: Vis, Biševo, Palagruža, Tremiti, Pianosa and the deep southern basin.

Remarks: Occurs on sand and bathyal mud between 94 to 950 m. Extremely rare.

Ebalia tuberosa (Pennant, 1877)

Ebalia pennantii: Heller, 1862a, 1863; Grube, 1864a, b; Stalio, 1877; Stossich, 1880; Carus, 1885; Ninni, 1930 (erron. *pennati).*
Ebalia tuberosa: Adensamer, 1898; Brusina, 1907; Pesta, 1912a, 1918; Vatova, 1928, 1935, 1949; Kurian, 1956; Riedl, 1963, 1970; Gamulin-Brida et al., 1968; Števčić, 1969a, 1971; Karlovac, 1970; Merker-Poček, 1973a; Gamulin-Brida, 1973, 1974; Radić, 1982.

General distribution: E. Atlantic from Norway and the Hebrides to the Canary Islands. Mediterranean.

Adriatic: Reported from several places along eastern side.

Remarks: This species is known from detritic, sandy and muddy bottoms ranging from 30 to 130 m. Rare.

Merocryptus A. Milne Edwards, 1873

Merocryptus boletifer A. Milne Edwards & Bouvier, 1894

Merocryptus boletifer: Adensamer, 1898; Pesta, 1912a, 1918; Števčić, 1969a.

General distribution: E. Atlantic, from Morocco to Angola. Mediterranean.

Adriatic: Recorded only near Palagruža (»Pola« Expedition).

Remarks: Only two specimens have been found at a depth of 128 m. Extremely rare.

ILIINAE Stimpson, 1871

Ilia Leach, 1817

Ilia nucleus (Linnaeus, 1758)

Cancer orbicularis: Olivi, 1792; Chiereghin, (1818).
Orbicularis: Tilesius, 1796.
Cancer nucleus: v. Martens, 1824, 1938.
Ilia rugulosa: Nardo, 1847.
Ilia nucleus + *Ilia rugulosa:* Heller, 1863; Carus, 1885; Sendler, 1912; Ninni, 1930.
Leucosia (Ilia) nucleus: Lorenz, 1863.
Ilia nucleus: Grube, 1864a; Nardo, 1869; Stalio, 1877; Stossich, 1880; Faber, 1883; Sucker, 1895; Car, 1901; Graeffe, 1902; Zimmermann, 1906; Brusina, 1907; Paolucci, 1909; Pesta, 1912a; Giordani Soika, 1946, 1948; Riedl, 1963, 1970; Gamulin-Bri-

da, 1967, 1973, 1974; Gamulin-Brida et al., 1968, 1980; Števčić, 1969a, 1971, 1982; Karlovac, 1970; Marcuzzi, 1972; Valentinčič, 1975; Stjepčević & Parenzan, 1980; Zavodnik et al., 1981; Manning & Števčić, 1982; Savazzi, 1982.

General distribution: E. Atlantic, from Spain to Western Sahara and the Cape Verde Islands. Mediterranean.

Adriatic: Sampled in the entire area.

Remarks: *Ilia nucleus* occurs on sedimentary bottoms (mud, sandy mud detritic and mixed) between 2 and 80 m. Scarce.

GONEPLACIDAE MacLeay, 1838

Goneplax Leach, 1814

Goneplax rhomboides (Linnaeus, 1758)

Cancer rhomboides: Brünnich, 1768; Olivi, 1792; Chiereghin, (1818); v. Martens, 1824, 1836.

Rhomboides: Tilesius, 1797.

Gonoplax rhomboides: Nardo, 1847; Lorenz, 1863; Grube, 1864a; Stossich, 1880; Faber, 1883; Graeffe, 1902; Zimmermann, 1906; Paolucci, 1909; Babić, 1911; Kurian, 1956.

Gonoplax rhomboides + *Gonoplax angulata:* Heller, 1863; Carus, 1885; Adensamer, 1898; Pesta, 1912a; Ninni, 1930.

Gonoplax angulata: Pesta, 1918; Vatova, 1928, 1949; Giordani Soika, 1946; Riedl, 1963, 1970; Karaman & Gamulin-Brida, 1970; Jardas, 1972a, 1979; Marcuzzi, 1972; Gamulin-Brida, 1973, 1974.

Gonoplax rhomboides var. *angulata:* Babić, 1910.

.*Goneplax angulata:* Županović & Grubišić, 1958; Gamulin-Brida, 1962, 1965; Karlovac, 1970; Radić, 1982.

Goneplax rhomboides: Števčić, 1962a, 1971, 1979a; Froglia, 1972a, b; Merker-Poček, 1973a, 1977; Manning & Števčić, 1982; Jardas & Županović, 1983.

General distribution: E. Atlantic from the English Channel to South Africa, enters Indo-Pacific (Natal). Mediterranean.

Adriatic: Listed from many localites throughout the entire area.

Remarks: A burrowing crab living on coastal terrigenous mud, bathial mud and sandy mud at depths between 15 and 265 m. Fairly scarce.

GRAPSIDAE MacLeay, 1838

GRAPSINAE MacLeay, 1838

Pachygrapsus Randall, 1840

Pachygrapsus marmoratus (Fabricius, 1787)

? *Cancer agils:* Wulfen, 1891.

Cancer marmoratus: Olivi, 1792; Chiereghin, (1818); v. Martens, 1824, 1838.

Marmoratus: Tilesius, 1796.
Grapsus varius: Nardo, 1847; Stalio, 1877; Faber, 1883.
Grapsus marmoratus: Grube, 1861, 1864b; Lorenz, 1863; Nardo, 1869; Faber, 1883.
Pachygrapsus marmoratus: Heller, 1862a, 1863, 1864; Grube, 1864a; Marchesetti, 1882; Carus, 1885; Sucker, 1895; Graeffe, 1902; Zimmermann, 1906; Paolucci, 1909; Babić, 1911; Babić & & Rössler, 1912; Cori, 1912; Pesta, 1912a, 1918; Santucci, 1922; Vatova, 1928, 1932, 1949; Ninni, 1930; Zalokar, 1942; Giordani Soika, 1946, 1948; Holthuis, 1961; Riedl, 1963, 1970; Števčić, 1969a, 1971, 1982; Karlovac, 1970; Marcuzzi, 1972; Gamulin-Brida, 1973, 1974; Legac, 1974; Valentinčič, 1975; Pastore & Vaccarella, 1977; Manning & Števčić, 1982; Radić, 1982; Zavodnik & Vidaković, 1982.
Pachygrapsus varius: Stossich, 1880.

General distribution: E. Atlantic from the Bay of Biscay to Morocco, Mediterranean.

Adriatic: Reported from many localities along the entire coastline.

Remarks: A very common crab species occuring at shoreline on rocky bottom in shalow water, intertidal and supralittoral zone.

Planes minutus (Linnaeus, 1758)

Nautilograpsus minutus: Heller, 1863; Stalio, 1877; Stossich, 1880; Carus, 1885; Pesta, 1912a, 1918; Ninni, 1930; Marcuzzi, 1972.
Planes minutus: Števčić, 1969a.

General distribution: Atlantic between 11° and 52° N.

Adriatic: Captured only by Hvar.

Remarks: Beyond record of presence no other data.

VARUNINAE H. Milne Edwards, 1853

Brachynotus de Haan, 1833

Brachynotus foresti Zariquiey Alvarez, 1968.

Brachynotus foresti: Froglia, 1976; Froglia & Manning, 1978.

General distribution: Mediterranean.

Adriatic: Middle part of the western side near Ancona — Falconara Maritima and Ortone.

Remarks: Found in shallow water (about 0.5 m) among the mussels and algae. Probably rare.

Brachynotus gemmellari (Rizza, 1839)

Brachynotus gemmellari: Froglia & Manning, 1978.

General distribution: Mediterranean.

Adriatic: Reported from several localities along the Italian coast.

Remarks: *Brachynotus gemmellari* is a common crab on the fishing grounds along the western side of the Adriatic. Occurs on sand, sandy mud and muddy sand at depths from 4 to 21 m.

Brachynotus sexdentatus (Risso, 1827)

Cancer minutus: Wulfen, 1791; Olivi, 1792; Germar, 1817; Chiereghin, (1818); v. Martens, 1824, 1938.
Minutus: Tilesius, 1796.
Grapsus n. sp.?: Nardo, 1847.
Heterograpsus lucasi: Heller, 1863; Stalio, 1877; Stossich, 1880; Pesta, 1912a; Ninni, 1930.
Brachynotus sexdentatus: Carus, 1885; Giordani Soika, 1946, 1948; Števčić, 1969a, 1971, 1973; Pastore & Vaccarella, 1977; Froglia & Manning, 1978; Manning & Števčić, 1982.
Brachynotus lucasi: Pesta, 1918.

General distribution: E. Atlantic (near Gibraltar), England (introduced?). Mediterranean.

Adriatic: Recorded by Venice, Piran, Rovinj, Medulin, Dugi otok, Porto Garibaldi, Manfredonia, Brindisi.

Remarks: This crab has been rarely reported although probably it is not very rare. It occurs usually beneath boulders, among mussels and fouling organisms, and sometimes it inhabits the burrows of *Upogebia pusilla* as its shelter. It is most frequent near lower tideline to 1 m depth.

PINNOTHERIDAE de Haan, 1833

Pinnotheres Bosc, 1802

Pinnotheres pinnotheres (Linnaeus, 1758)

? Cancer pisum: Chiereghin, (1818).
Pinnotheres veterum: Plucar, 1846; Nardo, 1847; Grube, 1861, 1864a; Heller, 1862a, 1863, 1864; Stalio, 1877; Stossich, 1880; Marchesetti, 1882; Carus, 1885; Sucker, 1895; Adensamer, 1897, 1898; Graeffe, 1902; Brusina, 1907; Pesta, 1912a; Sendler, 1912; Ninni, 1930.
Pinnotheres pinnotheres: Faber, 1883; Giordani Soika, 1946, 1948; Gamulin-Brida et al., 1968; Števčić, 1969a, 1971, 1982; Zavodnik, 1971; Valentinčič, 1975; Manning & Števčić, 1982.
Pinnoteres pinnoteres: Pesta, 1918; Riedl, 1963, 1970; Zavodnik, 1967a; Marcuzzi, 1972; Legac, 1974; Radić, 1982.

General distribution: E. Atlantic, from the North and Irish Seas to Gabon. Mediterranean.

Adriatic: Recorded throughout the entire littoral zone of the area.

Remarks: The pea crab lives as a commensal within the shells of living bivalve molluscs such as for example *Mytilus gallºprovincialis, Ostrea edulis,*

Pinna nobilis and also within the gill cavities of ascidians such as *Phalusia mamilata*. The hosts occur in the intertidal zone and down to about 100 m. Scarce.

Pinotheres pisum (Linnaeus, 1767)

? *Cancer nutrix:* Scopoli, 1763.
Cancer pisum: Olivi, 1792; v. Martens, 1824, 1838.
Pisum: Tilesius, 1796.
Cancer eubolinus: Chiereghin, (1818).
Pinnotheres pisum: Plucar, 1846; Nardo, 1847; Heller, 1862a, 1863; Grube, 1864a; Stalio, 1877; Stossich, 1880; Faber, 1883; Carus, 1885; Sucker, 1895; Adensamer, 1897; Car, 1901; Graeffe, 1902; Pesta, 1912a; Ninni, 1930; Vatova, 1932; Giordani Soika, 1946, 1948; Števčić, 1969a, 1971, 1982; Karlovac, 1970; Merker-Poček, 1973a; Valentinčič, 1975; Manning & Števčić, 1982.
Pinnoteres pisum: Pesta, 1918; Vatova, 1928, 1935; Riedl, 1963, 1970; Zavodnik, 1967c; Marcuzzi, 1972.

General distribution: E. Atlantic from Norway to Mauritania. Mediterranean.

Adriatic: Known from the entire area.

Remarks: Occurrence similar to the previous species, but it is more frequent. Moreover it lives endobiontic in ascidians such as *Phalusia extensa* and *Ascidia virginea*. Sometimes observed free living among algae and mussels. Range: intertidal zone down to 30 m.

REFERENCES:

a) ADRIATIC REFERENCES

Adensamer, T. 1897. Revision der Pinnotheriden in der Sammlung des k. k. naturhist. Hofmuseums in Wien. Ann. naturh. Hofmus. Wien. 12 (2): 105 pp.

Adensamer, T. 1898. Decapoden. Gesammelt auf S. M. Schiff« »Pola« in den Jahren 1890—1894. Zoologische Ergebnisse. XI. Berichte der Commission für Erforschung des östlichen Mittelmeeres. XXII. Denkschr. Akad. Wissensch. Wien. 65: 597—628.

Arndt, W. 1933. Die biologischen Beziehungen zwischen Schwämmen und Krebse. Mitt. Zool. Mus. Berlin. 19: 221—304.

Avčin, A. N. Meith-Avčin, A. Vukovič in B. Vrišer. 1974. Primerjava bentoskih združb Strunjanskega in Koprskega zaliva s ozirom na njihove polucijsko pogojene razlike. Biol. vestn., 22: 171—207.

Avčin, A. in B. Vrišer. 1983. Značilnost združb sedimentnega dna obalnega morja Slovenske Istre na primeru Piranskega zaliva. Biol. vestn. 31:129—160.

Babić, K. 1910. Prilog fauni Jadranskog mora. Rad JAZU, 183: 207—235.

Babić, K. 1911. Pogled na biologičke i bionomičke odnose u Jadranskom moru. Dionička tiskara. Zagreb, 138 pp.

Babić, K. und E. Rössler. 1912. Beobachtungen über die Fauna von Pelagosa. Verhandl. zool. botan. Ges. Wien, 62: 220—233.

Bombace, G. et C. Froglia. 1973. Premières remarques sur les peuplements de l'étage bathyal de Basse Adriatique. Rapp. Comm. int. Mer Médit., 22 (4): 93—94.

Boschma, H. 1961. Sacculinidae from Jugoslavia. Proc. Kon. Ned. Akad. Wetensch. Amsterdam, C 64: 277—291.

Brünnich, M. T. 1768. Ichthyologia Massiliensis, sistens Piscium Descriptiones eorumque apud Incolas Nomina. Accedunt Spolia Maris Adriatici. XIV + 110 pp. (not seen, cited according to Nardo, 1869).

Brusina, S. 1907. Naravoslovne crtice sa sjeveroistočne obale Jadranskog mora. IV., XVI. Prilog za fauna rakâ Dalmacije i Jadranskoga mora. Rad JAZU *171* (42): 166—182.

Car, L. 1901. Prilog za fauna Crustaceja. Glasn. hrv. naravosl. dr., 12 (4—6): 55—89.

Carus, J. V. 1885. Coelenterata, Echinodermata, Vermes, Arthropoda. Prodormus Faunae Mediterraneae sive descriptio animalium Maris Mediterranei incolarum quam comparata silva rerum quatenus innotuit adiectis locis et nominibus vulgaribus eorumque auctoribus in commodum zoologorum congessit. I: XI + + 524 pp. Schwerzerbart, Stuttgart.

Chiereghin, S. (1818, MS). Descrizione de'crostacei, de'testacei e de'pesci che abitano le lagune ed il Golfo Veneto rappresentati in figure a chiaro-scuro ed a colori. (Not seen, cited according to Nardo, 1847, 1869 and Giordani Soika, 1846).

Cori, J. C. 1912. Characteristik der Fauna der nördlichen Adria. Verhandl. VIII Intern. Zool. Kongr. Graz, 1910: 689—711.

Crnković, D. 1970. Prilog biološkoj i ekonomskoz problematici koćarenja u kanalskom području sjeveroistočnog Jadrana. Thalassia Jugosl., 6: 5—90.

Dworschak, P. C. 1983. The biology of *Upogebia pusilla* (Petagna) (Decapoda, Thalassinidea). I. The burrows. Mar. Biol. Berl, 4: 19—43.

Faber, G. L. 1883. The fisheries of the Adriatic and the fish thereof. B. Quaritch, London. XXVI + 292 pp.

Forest, J. 1967. Sur une collection de Crustacés Décapodes de la région de Porto Cesareo. Description de *Portumnus pestai* sp. nov. Thalassia salentina, 2: 3—29.

Froglia, C. 1972a. Segnalazione di alcuni crostacei nuovi o rari per Adriatico. Quad. Lab. Tecnol. Pesca., 1: 43—52.

Froglia, C. 1972b. Preliminary report on the Crustacea Decapoda of Adriatic deep waters. Thalassia Jugosl., 8: 75—79.

Froglia, C. 1975. The occurrence of *Automate branchialis* Holthuis and Gottlieb (Decapoda, Alpheidae) in the Adriatic Sea. Crustaceana, 29: 308—309.

Froglia, C. 1976. The occurrence of »*Philocheras monacanthus*« (Holthuis) and »*Brachynotus foresti*« Zariquiey Alvarez in the Adriatic Sea. Atti Mus. Stor. nat. Trieste, 29: 171—174.

Froglia, C. 1979 Segnalazione di alcuni crostacei decapodi nuovi per la fauna Adriatica. Quad. Lab. Tecnol. Pesca, 2: 191—196.

Froglia, C. and S. Giannini. 1984. Pelagic shrimps of the Adriatic Sea. Atti Soc. ital. Sci. nat., 125: 49—60.

Froglia, C. and M. E. Gramitto. 1981. Critical remarks on the supposed protandric hermaphroditism in *Solenocera membranacea* Risso (Crustacea, Penaeidea). Rapp. Comm. int. Mer Médit., 27: 211—214.

Froglia, C. and R. B. Manning. 1978. *Brachynotus gemmellari* (Rizza, 1839), the third Mediterranean species of the genus (Crustacea, Decapoda, Brachyura). Proc. Biol. Soc. Wash., 91: 291—705.

Froglia, C. and R. B. Manning. 1982. Notes on *Liocarcinus pusillus* (Leach) and related species. Quad. Lab. Tecnol. Pesca, 3 (2—5): 257—266.

Gamulin, T. 1955. Contribution à la connaissace de l'écologie de la langouste *(Palinurus vulgaris)* dans l'Adriatique. Acta Adriat., 7, 20 pp.

Gamulin, T. 1979. Zooplankton istočne obale Jadranskoga mora. Acta biologica, 8: 177—270.

Gamulin-Brida, H. 1962. Biocenoze dubljeg litorala u kanalima srednjeg Jadrana. Acta Adriat., 9: 196 pp.

Gamulin-Brida, H. 1965. Biocenoze muljevitog dna otvorenog srednjeg Jadana. Acta Adriat., 10, 27 pp.

Gamulin-Brida, H. 1967. Biocenološka istraživanja pomičnog morskog dna sjevernog Jadrana kod Rovinja. Thalassia Jugosl., 3: 23—33.

Gamulin-Brida, H. 1973. Bentoska bionomija Jadranskog mora. U: Pérès J.-M. i H. Gamulin-Brida: Biološka oceanografija. Školska knjiga, Zagreb, pp. 333—467.

Gamulin-Brida, H. 1974. Biocoenoses benthiques de la mer Adriatique. Acta Adriat., 15, 103 pp.

Gamulin-Brida, H., Z. Pavletić, D. Crnković, A. Požar-Domac, M. Legac i Ž. Žutić-Maloseja. 1980. Prilog poznavanju bentosa infera-litorala u području jugozapadne obale otoka Krka. Acta Adriat., 21: 355—267.

Gamulin-Brida, H., A. Požar, et D. Zavodnik. 1968. Contribution aux recherches sur la bionomie des fonds meubles de l'Adriatique du Nord. Biološki glasnik — Period. biol., 21: 175—201.

Gauss-Garády, V. 1912. Über die Lebensgeschichte des adriatischen Scampi (*Nephrops norvegicus* L.). Öst. Fisch Ztg., 9: 42—44, 61—63, 77—79.

Germar, E. F. 1817. Reise nach Dalmatien und in das Gebiet von Ragusa. F. A., Brockhaus, Leipzig und Altenburg (not seen except photocopies of relevant pages).

Giordani Soika, A. 1943. Su alcuni crostacei descritti nella »Zoologia Adriatica« dell'Olivi. Arch. Oceanogr. Limnol., 3: 81—86.

Giordani Soika, A. 1946. I crostacei adriatici descritti dall' abate Stefano Chiereghin. Atti Ist. veneto., 104: 927—966.

Giordani Soika, A. 1948. I Decapodi della Laguna di Venezia. Arch. Oceanogr. Limnol., 5: 1—40.

Giordani Soika, A. 1951. Il *Neptunus pelagicus* (L.) nell'Alto Adriatico. Natura, 42: 18—20 (not seen, cited according to Holthuis, 1961).

Graeffe, E. 1902. Übersicht der Fauna des Golfes von Triest. V. Crustacea. Arbeit. zool. Inst. Univ. Wien, 13: 33—80.

Grube, E. 1861. Ein Ausflug nach Triest und dem Quarnero. Nikolaische Verl., Berlin. 175 pp.

Grube, E. 1864a. Über die Crustaceenfauna des Adriatischen und Mittelmeeres. Jber. schles. Ges. vaterl. Kult., 41: 59—24.

Grube, E. 1864b. Die Insel Lussin und ihre Meeresfauna. Hirt. Breslau. 116 pp.

Grubišić, F. 1967. Ribe, rakovi, školjke Jadrana. Jugoriba, Split. 296 pp. 2. izd. 1982. Liburnija, Rijeka i Naprijed, Zagreb, 239 pp.

Heller, C. 1856. Zur Fauna der Adria. Verh. zool.-bot. Ges. Wien, 8: 717—720.

Heller, C. 1862a. Untersuchungen über die Littoralfauna des adriatischen Meeres. S. B. Akad. Wiss. Wien. Math.-Naturw. Kl., 46: 415—447.

Heller, C. 1862b. Beiträge zur näheren Kenntnis der Macrouren. S. B. Akad. Wiss. Wien. Math-Naturw. Kl., 45: 389—426.

Heller, 1863. Die Crustaceen des südlichen Europas. Crustacea Podophthalmia. Wien, XI + 336 pp.

Heller, C. 1864. Horae Dalmatiae. Bericht über eine Reise nach der Ostenküste des adriatischen Meeres. Verh. zool.-bot. Ges. Wien, 14: 17—64.

Holthuis, L. B. 1961. Report on a collection of Crustacea Decapoda and Stomatopoda from Turkey and the Balkans. Zool. Verhand. Leiden, 47: 67 pp.

Ingle, R. W. and R. B. Manning, 1982. Variation, synonymy and distribution of the spider crab, *Macropodia rostrata (Linnaeus)*. Quad. Lab. Tecnol. Pesca 3, (2—5): 271—283.

Jardas, I. 1972a. Prilog poznavanju ekologije nekih jadranskih hrskavičnjača (Chondrichthyes) s posebnim osvrtom na ishranu. Acta Adriat., 14 (7), 60 pp.

Jardas, I. 1972b. Rezultati analiza želučanih sadržaja psa kostelja *Squalus fernandinus* Molina. Acta Adriat., 14 (8), 10 pp.

Jadras, I. 1979. Morfološke, biološke i ekološke karakteristike populacije mačke bljedice *Scyliorhinus canicula* (Linnaeus, 1758) u Jadranskom moru. Izv. Rep. Rib.—biol. Eksp. »Hvar«, 1948—49, 4)2—3), 104 pp.

Jadras, I. i Š. Županović, 1983. Ishrana i neke druge karakteristike populacije lastavice, *Trigla lyra* L. 1758 (Pisces Triglidae), u području južnojadranske kotline (Crnogorsko primorje). Studia marina, 13—14: 169—187.

Jukić, S. 1972. Ishrana oslića *(Merluccius merluccius)*, bukve *(Boops boops)*, trlje *(Mullus barbatus)* i arbuna *(Pagellus erythrynus)* u Kaštelanskom zaljevu. Acta Adriat., 14 (4), 10 pp.

Jukić, S. 1974. The Yugoslav *Nephrops* fishery. Acta Adriat., 15 (8), 19 pp.

Jukić, S. 1975. Koćarska područja u srednjem Jadranu. Acta Adriat., 17 (1), 87 pp.

Karaman, M. 1922. *Galathea bolivari* Zar. novi dekapod za Jadransko more. Biol. vest., 10: 69—70.

Karaman, G. and Gamulin-Brida, H. 1970. Contribution aux recherches des biocoenoses benthiques du Golfe de Boka Kotorska. Studia Marina., 4: 3—24.

Karlovac, O. 1936. *Parapenaeus longirostris* (H. Lucas) an der Ostküste der Adria. Zool. Anz., 115: 60—62.

Karlovac, O. 1948—1949. Le *Parapenaeus longirostris* (H. Lucas) de la Haute Adriatique. Acta Adriat., 3 (12), 14 pp.

Karlovac, O. 1952. The first finding and occurrence of *Latreillia elegans*. Roux in the Adriatic. Acta Adriatic., 4: 395—404.

Karlovac, O. 1953a. Présence du *Stenopus spinosus* Risso dans l'Adriatique. Bilj. Inst. Oceanogr. Ribar., Split 5, 3 pp.

Karlovac, O. 1953b. An ecological study of *Nephrops norvegicus* (L.) of high Adriatic. Izv. Rep. Rib.-biol. Eksped. »Hvar« 1948—49, 5 (2c): 1—51.

Karlovac, O. 1959. Penaeidae et Pandalidae présentant un intérêt économique et découverte d'espèces nouvelles en Adriatique. Proc. gen. Fish Coun. Medit., 5: 299—302.

Karlovac, O. 1969. Prilog poznavanju fauna rakova desetonožaca u priobalnim vodama srednjeg Jadrana. Pomorski zbornik. I. part 7, 967—974, II part. Ibid. 1970., 8: 883—889.

Kurian, C. V. 1956. Larvae of decapod Crustacea from the Adriatic Sea. Acta Adriat., 6 (3), 108 pp.

Leidenfrost, G. 1909. A quarnero Munidiai Allat. Közlem. 8 (65 and 95) (not seen, cited according to Pesta, 1918).

Legac, M. 1974. Prilog poznavanju litoralne flore i faune otoka Raba. Vijesti muzealaca i konzervatora Hrvatske, 23: 75—85.

Lorenz, J. R. 1863. Physikalische Verhältnisse und Vertheilung der organismen im quarnerischen Golfe. K. u. K. Hof. und Staatsdruck. Wien, XII + 382 pp.

Lorini, P. 1903. Ribanje i ribarske sprave pri istočnim obalama Jadrana. C. K. Naklada školskih knjiga, Beč, 266 pp.

Lutze, J. 1937. Eine neue *Callianassa*-Art aus der Adria. Note Ist. Biol. mar. Rovigno, 2, 12 pp.

Lutze, J. 1938. Über Systematik, Entwicklung und Ökologie von *Callianassa*. Helgoländer wiss. Meeresunters., 1: 169—199.

Man, J. G. de 1915. On some European species of the genus *Leander* Desm., also a contribution to the fauna of Dutch waters. Tijdschr. Nederl. dierk Ver., ser. 2, 14: 115—179.

Man, J. G. de 1928. A contribution to the knowledge of twenty two species and three varieties of the genus *Callianassa* Leach. Capita Zool., 2 (5), 58 pp.

Manning, R. B. and C. Froglia, 1982. On a collection of decapod Crustacea from southern Sardinia. Quad. Lab. Tecnol. Pesca, 3 (2—5): 319—334.

Manning, R. B. and Z. Števčić, 1982. Decapod fauna of the Piran Gulf. Quad. Lab. Tecnol. Pesca, 3 (2—5): 285—304.

Marchesetti, C. de 1882. La pesca lungo la costa orientale dell' Adriatico. Herrmanstorfer. Trieste, 229 pp.

Marcuzzi, G. 1972. Le collezioni dell'ex Istituto di Biologia Marina conservate presso la Stazione Idrobiologica di Chioggia. Atti Accad. Padova, 84, II parte: 169—219.

Martens, G. v. 1824. Reise nach Venedig. Ulm (not seen, cited according to the 2nd ed. 1838) Stettin Verl. Ulm, 2, 664 pp.

Merker-Poček, B. 1970a. Doprinos poznavanju autekologije dekapodnog raka *Plesionaka heterocarpus* Costa — nove vrste za Jadransko more. Studia Marina, 4: 67—75.

Merker-Poček, B. 1970b. Situation et distribution bathymetrique de certaines espèces de Reptantia dans l'Adriatique méridionale. Studia Marina, 4: 77—84.

Merker-Poček, B. 1971. Zastupljenost i batimetrijska raspodjela nekih važnijih vrsta Natantia u Južnom Jadranu. Poljoprivreda i šumarstvo, Titograd, 17: 73—83.

Merker-Poček, B. 1972. Check list of decapod Crustacea from the Southern Adriatic Sea caught by a trawl net — a survey of the current investigations. Thalassia Jugosl., 8: p. 99.

Merker-Poček, B. 1973a. A list of decapod crabs from trawl catches in the Southern Adriatic. Glas. rep. zav. zašt. prirod. Prir. mus. Titograd, 5: 135—142.

Merker-Poček, B. 173b. Preliminarni podaci o rasprostranjenju i abundanciji dekapodnih rakova u južnojadranskoj kotlini. Studia Marina, 2: 3—12.

Merker-Poček, B. 1977. Quelques resultats de la recherches des Crustacés Décapodes dans le Golfe de Boka Kotorska. Repp. Comm. int. Mer Médit., 24 (4): 109—110.

Nardo, G. D. 1847. Sinonimia moderna della species registrate nell' opera intitolata: Descrizione de'Crostacei, de Testacei e de'Pesci che abitano le lagune e Golfo Veneto rappresentati in figure, a chiaro-scuro ed a colori dell'Abate Stefano Chiereghini Ven. Clodiense applicata per commissione governativa dal dott. Gio. Domenico Nardo. Venezia. XI + 127 pp.

Nardo, G. D. 1969. Annotazioni illustranti cinquantaquattro specie di Crostacei (Podottalmi, Stomatopodi, Edriottalmi e Succhiatori) del Mare Adriatico precedute della storia antica e recente della carcinologia Adriatica. Mem. R. Ist. veneto, 14: 127 pp.

Nardo, G. D. 1973. Sopra un granchio marino che fila una specie di seta la quale serve a mantenerlo sospeso nell'acqua alla maniera de'ragni. Atti Ist. veneto, 3 (ser. 4): 1—8.

Niezabitowski, E. de L. 1912. Materyaly do morfologii dzióba (rostrum) u *Hippolyte prideauxiana* Leach. (Wiadomość tymczasowa) — Materialen zur Morphologie des Rostrums von *Hippolyte prideauxiana* Leach. (Vorläufige Mitteilung) Bull. int. Acad. Cracovie, ser. 7 B: 959—990.

Ninni, E. 1924. Considerazioni sul genere *Maja* (Lam.) e sopra una forma di *Maja* nuova per l'Adriatico. Boll. Com. talassogr. ital., 13: 39—50.

Ninni, E. 1930. Elenco dei Crostacei (Thoradostraca) fino ad ora osservati nel Veneto. Boll. Pesca, Piscic. Idriob., 6 (3): 17 pp.

Olivi, G. 1792. Zoologia Adriatica, ossia catalogo regionato degli animali del golfo e delle lagune di Venezia; proceduto da una dissertazione sulla storia fisica e naturale del golfo; e accompagnato da memorie, ed osservazioni di fisica storia naturale ed economia. Bassano. XXXII + 334 pp.

Orel, G. e B. Mennea. 1969. I popolamenti bentonici di alcuni tipi di fondo mobile del Golfo di Trieste. Pubbl. Staz. zool Napoli, 37, (Suppl. 2): 261—276.

Ott, J. A., B. Fuchs, R. Fuchs and A. Malasek. 1976. Observations on the biology of *Callianassa stebbingi* Borradaile and *Upogebia litoralis* Risso and their effects upon sediment. Senckenberg. marit., 8 (1—3): 61—79.

Paolucci, C. 1909. I podoftalmi Decapodi del Medio Adriatico Italiano. Riv. mens. Pesca, 11: 148—159, 219—256.

Pastore, M. e Vaccarella. 1977. Crostacei Decapodi del Porto di Bari. Oebalia, 3: 33—63.

Pervesler, P. and P. C. Dworschak. 1985. Burrows of *Jaxea nocturna* Nardo in the Gulf of Trieste. Senckenberg. mart., 17: 33—53.

Pesta, O. 1912a. Die Decapodenkrebse der Adria in Bestimmungstabellen zusammengestellt. Arch. Naturgesch., 78A: 93—126.

Pesta, O. 1912b. Notiz über einen bisher aus der Adria nicht bekannten Decapodenkrebs. S. B. Wiss. Wien, 121 995—998.

Pesta, O. 1913a. Zur Kenntnis einiger Tiefsee-Decapoden der Adria. Zool. Anz., 42: 60—72.

Pesta, O. 1913b. Liste einiger Decapodengenera und Spiecies aus der Adria. Zool. Anz., 42: 404—408.

Pesta, O. 1913c. Notiz über die Fauna der Adria bei Rovigno. Zool. Anz., 43: 91—96.

Pesta, O. 1913d. Kritik adriatischer *Pisa*-Arten und dem Formenkreis *armata-gibbsi-nodipes*. S. B. Akad. Wiss. Wien, 122: 1213—1223.

Pesta, O. 1914a. Notiz zur Kenntnis der adriatischen Decapodenfauna. Verh. zool.-bot. Ges. Wien, 64: 75—76.

Pesta, O. 1914b. Die auf den Terminfahrten S. M. Schiff »Najade« erbeuteten Decapoden *Sergestes, Lucifer* und *Pasiphaea*. S. B. Akad. Wiss. Wien, 123: 189—219.

Pesta, O. 1914c. *Galathea*-Arten aus der Bucht von Rovigno. Ann. naturh. Hofmus. Wien, 28: 355—360.

Pesta, O. 1915. Die Penaeidae des Wiener Naturhistorischen Hofmuseums Arh. Naturgesch, 81a (1): 99—122.

Pesta, O. 1916. Sind die Decapoden der Adria »gut bekannt«? Ann. naturh. Hofmus. Wien, 30: 72—82.

Pesta, O. 1918. Die Decapodenfauna der Adria. Versuch einer Monographie. Deuticke, Leipzig — Wien, X + 500 pp.

Plucar, E. 1846. Der Fischplatz zu Triest. Börner. Trieste, 82 pp.

Radić, J. 1982. Contribution à la connaissance de la distribution des Mollusques (Mollusca) dans les biocoenoses benthiques du littoral de Makarska. Acta Adriat., 23: 175—195.

Riedl, R. 1963. Fauna und Flora der Adria. P. Parey, Hamburg-Berlin. Decapoda: pp. 265—296, 2nd ed. 1970, pp. 296—329.

Saint Laurent, M. de et B. Božić. 1972. Diagnoses et tableau de détermination des Callianasses de l'Atlantique nord oriental et de Méditerranée (Crustacea, Decapoda, Callianassidae). Thalassia Jugosl., 8: 15—40.

Santucci, R. 1922. La *Geodia cydonium* come centro di associazzione biologica. Mem. R. Com. talassogr. ital., 103: 1—20.

Savazzi, E. 1982. Burrowing habits and cuticular sculptures in recent sand-dwelling brachyuran decapods from the Northern Adriatic Sea (Mediterranean). Neues Jb. Geol. Paläont. Abh., 163: 369—388.

Scopoli, I. A. 1763. Entomoligia Carniolica. Vindobonae, 8 (not seen, cited according to Nardo, 1869).

Sendler, A. 1912. Ein Studienaufenthalt aus der Zoologischen Station in Rovigno. Program Nr. 574. Liebig Realschule zu Frankfurt a. M., 36 pp.

Stachowitsch, M. 1980. The epibiotic and endobiotic species associated with the gastropod shells inhabited by the hermit crabs *Paguristes oculatus* and *Pagurus cuanensis*. Mar. Ecol., 1: 73—101.

Stachowitsch, M. 1984. Mass morality in the Gulf of Trieste: The course of community destruction. Mar. Ecol., 5: 243—264.

Stalio, L. 1877. Catalogo metodico e descrittivo dei Crostacei Podottalmi ed Edriottalmi dell'Adriatico. Atti Ist. veneto, 5 (3): (not seen) (printed separately) Antonelli. Venezia. 274 pp.

Stephensen, K. 1923. Decapoda — Macrura excl. Sergestidae. Rep. Danish oceanogr. Exped. Medit., 2 (3), 85 pp.

Stiasny, G. 1908. Beobachtungen über die marine Fauna des Triester Golfes im Jahre 1907. Zool. Anz., 32: 748—752.

Stjepčević, J. e P. Parenzan. 1980. Il Golfo delle Bocche di Cattaro. Condizioni generali e biocenosi bentoniche con carta ecologica delle sue due baie interne: di Kotor (Cattaro) e di Risan (Risano). Studia Marina, 9—10: 3—146.

Stossich, M. 1878. Sulla geologia e zoologia dell'isola di Pelagosa. Boll. Soc. adriat. Sci. nat., 3: 184—271.

Stossich, M. 1880. Prospetto della fauna del Mare Adriatico. Boll. Soc. adriat. Sci. nat., 6: 179—271.

Stossich, M. 1882. Animali rari e nuovi per il mare Adriatico. Boll. Soc. adriat. Sci. nat., 7: 243—244.

Sucker, L. 1895. Die Fische nebst den essbaren wirbellosen Tieren der Adria und ihre Zubereitung. Schimpf. Trieste, VIII + 179 pp.

Svoboda, A. and B. Svoboda. 1975. The Mediterranean anemone shrimp of the genus *Periclimenes* Costa, (Decapoda: Palaemonidae). Pubbl. Staz. zool. Napoli, 39: 345—346.

Szüts, A. von 1915a. Az Adria egy érdekes és két eddig ismertlen tizlábú rákja. Allat. közlem., 14: 5—15.

Szüts, A. von 1915b. Neue und interessante Decapodenkrebse aus der Adria, Zool. Anz., 45: 433—438.

Števčić, Z. 1969a. Lista desetonožnih rakova Jadrana. Biol. vestn., 17: 125—134.

Števčić, Z. 1969b. Da li su dekapodi Jadrana dobro poznati? Thalassia Jugosl., 5: 345—351.

Števčić, Z. 1971. Beitrag zur Revision der Decapodenfauna der Umgebung von Rovinj. Thalassia Jugosl., 7: 525—531.

Števčić, Z. 1972. Révision et complément de la liste inventaire des Crustacés Décapodes adriatiques. Thalassia Jugosl., 8: 101—104.

Števčić, Z. 1973. Contribution à la connassance de la biologie du crabe *Brachynotus sexdentatus* (Risso, 1827). Rapp. Comm. int. Mer Médit., 22: 115—116.

Števčić, Z. 1974. Problemi privrednog iskorištavanja brahiurnih rakova sjevernog Jadrana. Acta Adriat., 12: 397—400.

Števčić, Z. 1975. Autecological investigation of the crab *Pilumnus spinifer* (H. Milne Edwards) in the region of Rovinj. Ekologija, 10: 183—189.

Števčić, Z. 1978. Narodni nazivi deseteronožnih rakova. Pomorski zbornik, 16: 569—584.

Števčić, Z. 1979a. Cruises of the Research Vessel »Vila Velebita« in the Kvarner Region of the Adriatic Sea. XIX. Crustacea Decapoda. Thalassia Jugosl., 15: 279—287.

Števčić, Z. 1979b. Autecological investigations of the crab *Xantho poressa* (Olivi, 1792). Biol. vestn., 27: 189—198.

Števčić, Z. 1982. Deseteronožni raci (Crustacea Decapoda) Jadrana. Značenje, iskorištavanje, zaštita i unapređenje. Acta Adriat., 23: 409—420.

Števčić, Z. 1983. Geographic distribution of the Adriatic decapod Crustacea. Thalassia Jugosl., 19: 369—375.

Števčić, Z. 1985. New annd rarely reported species of decapod Crustacea from the Adriatic Sea. Rapp. Comm. int. Mer Médit., 29 (5), 313—314.

Števčić, Z. 1986. Note on the autecology of the hermit crab *Paguristes oculatus*. Rapp. Comm. int. Mer Médit., 30 Médit., 30 (2), p. 14.

Števčić, Z. 1987. Autecological investigations of the crab *Liocarcinus arcuatus*. Inv. Pesq. 51 (Supl. 1): 375—387.

Števčić, Z. und H. Forstner, 1966. *Sirpus zariquieyi* Gordon, 1953 (Crustacea: Brachyura) — eine für die Adria neue Art. Bull. Sci. Conseil Acad. R. S. F. Yougoslavie. Sect. A. 11 (10—11): 251.

Tilesius, G. G. 1796. Verzeichnis verschiedener Fische und Krebse des Adriatischen Meerbusens nach der Zoologie des Hr. Abbé Joseph Olivi. Trieste. VIII + 189 pp.

Türkay, M. 1971. Die Portunidae des Naturhistorischen Museums Genf, mit einem Anhang über die Types von *Ovalipes ocellatus floridanus* Hay & Shore 1918 (Crustacea, Decapoda). Arch. Sc. Genève., 24: 111—143.

Valentinčić, T. 1975. Decapoda. In: Matjažič, J., Štirn, J. et al., Flora in favna severnega Jadrana, I: 43—45.

Vatova, A. 1928. Compendio della flora e fauna del Mare Adriatico presso Rovigno. Mem. R. Com. talassogr. ital., 143, 614 pp.

Vatova, A. 1935. Ricerche preliminari sulle biocenosi del Golfo di Rovigno. Thalassia, 2: p. 39.

Vatova, A. 1949. La fauna bentonica dell'Alto e Medio Adriatico. Nova Thalassia. 1 (3), 110 pp.

Wulfen, F. X. de. 1791. Descriptiones zoologicae ad Adriatici littora maris concinatae. Nova Acta physico-medica Accad. Caes. Leopold Carol, naturae curiosorum. Norimbergae. 8: 235—359.

Zalokar, M. 1942. Les associations sous-marines de la côte adriatique au-dessous de Velebit. Bull. Soc. bot. Genève, 33, 24 pp.

Zavodnik, D. 1967a. Contribution to the ecology of *Pinna nobilis* L. in the Northern Adriatic. Thalassia Jugosl., 3: 93—103.

Zavodnik, D. 1967b. The community *Fucus virsoides* (Don.) J. AG. on a rocky shore near Rovinj. Thalassia Jugosl., 3: 105—113.

Zavodnik, D. 1967c. Dinamika litoralnega fitala na zahodnoistrski obali. Razprave SAZU, 10: 5—71.

Zavodnik, D. 1969. La communauté à *Acetabularia mediterranea* Lamour. dans l'Adriatique du Nord. Int. Rev. Hydrobiol. 54: 543—551.

Zavodnik, D. 1971. Contribution to the dynamics of benthic communities in the region of Rovinj (Northern Adriatic). Thalassia Jugosl., 7: 447—514.

Zavodnik, D., A. Špan, N. Zavodnik, A. Šimunović and B. Antolić. 1981. Benthos of the western coast of the island Krk (Rijeka Bay, the North Adriatic Sea). Thalassia Jugosl., 17: 285—337.

Zavodnik, D. and J. Vidaković. 1982. Bentoske zajednice na području Rapca. Acta Adriat., 23: 243—258.

Zavodnik, D. and N. Zavodnik. 1982. Survey of benthic communities in the area of Osor (North Adriatic Sea). Acta Adriat., 23: 259—270.

Zei, M. 1949. Raziskovanje s travlom na ribolovnom področju vzhodnega Jadrana. Razprava SAZU, 4: 89—119.

Zei, M. 1955. Doprinos k ekologiji morskega litorala (s. lat.), supralitoral, litoral in zgornji infralitoral na kamniti zahodnoistrski obali. Razprave SAZU, 3: 255—300.

Zimmermann, H. 1906. Tierwelt am Strande der blauen Adria: eine naturwissenschaftliche Skizze zur Erlangung einer Übersicht der Fauna von Rovigno, sowie zur Einführung in die Sammlungstechnik. Z. naturw., 78: 293—322.

Zolezzi, G. 1946. La pesca nella provincia di Venezia. Boll. Pesca Piscic. Idrobiol., 1 (n s.): 155—231.

Županović, Š. 1969. Prilog izučavanju bentoske faune Jabučke kotline. Thalassia Jugosl., 5: 447—493.

Županović, Š. 1972. Prilog izučavanju morske faune šibenskog područja. Šibenik — spomen zbornik o 900. obljetnici. Muzej grada Šibenika, Šibenik: 545—568.

Županović, Š. i F. Grubišić. 1958. Ribolovna efektivnost vuče u eksperimentima sa strugarima. Acta Adriat., 8 (12), 27 pp.

b) OTHER REFERENCES USED

Al-Adhub, A. H. Y. and D. I. Williamson, 1975. Some European Processidae (Crustacea, Decapoda, Caridea). Journ. nat. Hist., 9: 693—703.

Allen, J. A. 1967. Crustacea: Euphausiacea and Decapoda with an illustrated key to the British species. The fauna of the Clyde Sea area. Scottish Mar. Biol. Ass. Millport, 116 pp.

Anadón, R. 1981. Crustáceos Decápodos (excl. Paguridea) recognidos durante la campana »Atlor VII« en las costas noroccidentales de Africa (Noviembre 1957). Res. Exp. Cient., 9: 151—159.

Băcescu, M. 1967. Decapoda. Fauna Republicii Socialiste România. Crustacea. 4 (9), 351 pp.

Beaubrun, P. C. 1978. Crustacés Décapodes Marcheurs des côtes marocaine (sections des Astacidea, Eryonidea, Palinura, Thalassinidea). Bull. Inst. Sci. Rabat, 3, 110 pp.

Bouvier, E.—L. 1940. Décapodes marcheurs. Faune de France, 37, 404 pp.

Casanova, J.—P. 1977. La faune pélagique profonde (zooplancton et micronecton) de la province Atlanto-Méditerranéenne. Aspects taxonomique, biologique et zoogéographique. Ph. D. thesis at Province University (Aix-Marseille, I). Marseille, 455 pp.

Christiansen, M. E. 1969. Decapoda Brachyura. Marine Invertebrates of Scandinavia, 2, 143 pp.

Christiansen, M. E. 1982. A review of the distribution of Crustacea Decapoda Brachyura in the northeast Atlantic. Quad. Lab. Tecnol. Pesca, 3 (2—5): 347—354.

Crosnier, A. et J. Forest. 1973. Les crevettes profondes de l'Atlantique oriental tropical. Faune tropicale, 19, 409 pp.

Forest, J. 1961. Paguridea de l'Afrique Occidentale. Atlantide Rep., 6: 203—250.

Forest, J. 1965. Campagne du »Professeur Lacaze-Duthiers« aux Baléares: Juin 1953 et Août 1954 Crustacés Décapodes. Vie et Milieu, 16 (1-B): 325—413.

Forest, J. 1966. Crustacés Décapodes: Paguridea. Campagne de la Calypso. VII. Ann. Inst. Océanogr. Monaco, 44, 125—172.

Forest, J. et G. Guinot. 1966. Crustacés Décapodes: Brachyoures. Campagne de la Calypso. VII. Ann. Inst. océanogr. Monaco, 44: 23—124.

Garcia-Raso, J. E. 1984. Brachyura of the coast of Southern Spain. (Crustacea, Decapoda). Spixiana, 7: 105—113.

García-Raso, J. E. 1987. Consideraciones taxonómicas sobre algunas especies de Crustáceao Decápodos de fondos de concrecionamiento calcárea y *Posidonia oceanica: Pisidia longicornis-Pisidia longimana* y *Galathea bolivari — Galathea cenarroi.* Inv. Pesq., 51: 277—292.

Guinot, D. 1967. Recherches préliminaires sur les groupements naturels chez les Crustacés Décapodes Brachyoures. II. Les anciens genres *Micropanope* Stimpson et *Medaeus* Dana. Bull. Mus. Hist. nat. Paris. 2e sér., 39: 345—374.

Guinot, D. 1978. Principes d'un classification évolutive des Crustacés Décapodes Brachyoures. Bull. biol. Fr. Belg., n. s., 112: 211—292.

Guinot, D. et A. Ribeiro. 1962. Sur une classification de Crustacés Brachyoures des Iles du Cap-Vert et de l'Angola. Mem. Junta Invest. Ultram., 2: 7—89.

Holthuis, L. B. 1977. The Mediterranean Decapod and Stomatopod Crustacea in A. Risso's published works and manuscripts. Ann. Mus. Hist. nat. Nice, 5: 37—88.

Holthuis, L. B. 1980. Shrimps and prawns of the world. An annotated catalogue of species of interest to fisheires. FAO Fisheries Synopsis, 125 (1): XVII + 271 pp.

Holthuis, L. B., and E. Gottlieb. 1958. An annotated list of the Decapod Crustacea of the eastern Mediterranean coast of Israel, with an appendix listing the Decapoda of the eastern Mediterranean. Bull. Research Council Israel., 7 (B), 126 pp.

Ingle, R. W. 1983. Shallow — water crabs. Keys and notes for the identification of the species. Synopses of the British Fauna (New Ser.) 25, 206 pp.

Ingle, R. W. 1985. The genus *Pagurus* Fabricius, 1775. Northeastern Atlantic and Mediterranean hermit crabs (Crustacea: Anomura: Paguroidea: Paguridae). I. Journ. nat. Hist. London, 19: 745—769.

International Code of Zoological Nomenclature adopted by the XV International Congress of Zoology. London. July, 1958, revised edition 1964. (cited from Mayer. E. 1969: Principles of Systematic Zoology. McGraw-Hill Inc. New York, XI + 428 pp.

Kensley, B. 1981. On the zoogeography of Southern African decapod Crustacea, with a distributional checklist of the species. Smithsonian Contrib. Zool., 338, 64 pp.

Lagardère, J.-P. 1971. Les crevettes des côtes du Maroc. Trav. Inst. scient. chérif. et de la Faculté des Science. Sér. Zool., 36, 140 pp.

Lewinsohn, Ch. and L. B. Holthus. 1986. The Crustacea Decapoda of Cyprus. Zool. Verhand., 230, 64 pp.

Macpherson, E. 1983. Crustáceos Decápodos capturados en las costas de Namibia. Res. Exp. Cient., 11: 3—79.

Manning, R. B. and L. B. Holthuis. 1981. West African Brachyuran crabs. Smithsonian Contrib. Zool., 306, XII + 379 pp.

Monod, T. 1956. Hippides et Brachyura ouest-africains. Mém. Inst. franç. Afr. noire, 45, 647 pp.

Ramadan, S. E. and N. M. Dowidar. 1972. Brachyura (Decapoda Crustacea) from the Mediterranean waters of Egypt. Thalassia Jugosl., 8: 127—139.

Rice, A. L. and M. de Saint Laurent. 1986. The nomenclature and diagnostic characters of the four north-eastern Atlantic species of the genus *Munida* Leach: *M. rugosa* (Fabricius), *M. tenuimana* G. O. Sars, *M. intermedia* A. Milne Edwards and Bouvier, and *M. sarsi* Huus (Crustacea, Decapoda, Galatheidae). Journ. nat. Hist., 20: 143—163.

Saint Laurent, M. de 1968. Révision des genres *Catapaguroides* et *Cestopagurus* et description de quatre genres nouveaux. II. *Cestopagurus* Bouvier (Crustacés Décapodes Paguridae). Bull. Mus. Hist. nat. Paris, 2e sér., 40: 539—552.

Saint Laurent, M. de 1973. Sur la systématique et la phylogénie des Thalassinidea: définition des familles des Callianassidae et des Upogebiidae et diagnose de cinq genres nouveaux (Crustacea Decapoda) C. R. Acad. Sci. Paris, 277 (Ser. D): 513—514.

Saint Laurent, M. de 1979. Vers une nouvelle classification des Crustacés Décapodes Reptantia. Bull. Off. natn. Pêche. Tunisie, 3: 15—31.

Türkay, M. 1976a. Die Madeirensischen Brachyuren des Museu Municipal do Funchal und des Forschungs-Instituts Senckenberg. I. Familien: Dromiidae, Homolidae, Calappidae, Leucosiidae, Cancridae, Portunidae, Xanthidae, Geryonidae, Goneplacidae und Palicidae (Crustacea: Decapoda). Bol. Mus. municip. Funchal, 30: 54—74.

Türkay, M. 1976b. Decapoda Reptantia von der portugiesischen und marokkanischen Küste. Auswertung der Fahrten 8, 9c (1967), 23 (1971) und 36 (1975) von F. S. »Meteor«. »Meteor«. Forsch. — Ergebnisse Reihe D, 239: 23—44.

Türkay, M. 1982. Marine Crustacea Decapoda von den Kapverdischen Inseln mit Bemerkungen zur Zoogeographie des Gebietes. Cour. Forsch. — Inst. Senckenberg, 52: 91—129.

Zariquiey Alvarez, R. 1968. Crustáceos Decápodos Ibéricos. Inv. Pesq., 32, 510 pp.

Accepted: September 8, 1989.

LISTA VRSTA JADRANSKIH DESETERONOŽNIH RAKOVA

Zdravko Ševčić

Institut »Ruđer Bošković«, Centar za istraživanje mora
Rovinj, Jugoslavija

KRATKI SADRŽAJ

Ova lista vrsta (zapravo: katalog) predstavlja opći faunistički pregled deseteronožnih rakova (Crustacea Decapoda) Jadrana. Sabrani su osnovni podaci o 210 vrsta koje su ovdje zabilježene od 1763. godine do danas. Za svaku vrstu navodi se ponaosob važeći (validni) zoološki naziv, svi sinonimi upotrijebljeni na Jadranu, uključujući autore koji su ih navodili, opću i jadransku rasprostranjenost, te primjedbe koje uključuje podatke o staništu, dubini, brojnosti te eventualno o tržišnoj vrijednosti, kao i neke sistematske probleme. U citiranoj literaturi pored relevantnih općih djela o deseteronožnim rakovima navedene su sve poznate publikacije koje sadržavaju podatke o jadranskim deseteronošcima (184 naslova). Ova lista vrsta posredno pokazuje povijesni tijek istraživanja kao i stupanj istraženosti pojedinih vrsta i time praznine koje valja popuniti idućim istraživanjima.

ADDENDUM

Since in the Italian and older German literature Italian names for our cities, islands and regions are used here are given official Croatian names as follows:

Arbe — Rab
Brazza — Brač
Bocche di Cattaro — Boka Kotorska
Bussi — Biševo
Canale della Morlacca (or Montagna) = Velebitski kanal
Canale di Leme — Limski kanal
Capocesto — Primošten
Capodistria — Kopar (Koper in Slovenian)
Cattaro — Kotor
Cazza — Sušac
Cherso — Cres
Cittanova — Novigrad
Cittavecchia — Starigrad
Curzola — Korčula
Fiume — Rijeka
Fossa di Pomo — Jabučka kotlina
Isola — Izola
Isola Lunga — Dugi otok
Ssole Incoronate (or Coronate) — Kornati
Lagosta — Lastovo
Lesina — Hvar
Lissa — Vis
Lussin — Lošinj
Meleda — Mljet
Ossero — Osor
Parenzo — Poreč
Pelagosa — Palagruža
Pirano — Piran
Pola — Pula
Pomo — Jabuka
Portoré — Kraljevica
Portorose — Portorož
Promontore — Premantura
Quarnaro (or Quarnero) — Kvarner
Quarnarolo (or Quarnerolo) — Kvarnerić
Ragusa — Dubrovnik
Risano — Risan
Rovigno — Rovinj
Salvore — Savudrija
Spalato — Split
Traù — Trogir
Umago — Umag
Veglia — Krk
Zara — Zadar