Inventory of inshore Polychaetes from the Romanian coast (Black Sea)

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Abstract

A survey conducted in inshore waters along the Romanian coast of the Black Sea from 1994 to 2000, yielded 24 polychaete species belonging to 10 families as follows: Polynoidae (2), Phyllodocidae (2), Syllidae (3), Nereididae (5), Spionidae (5), Capitellidae (3), Nerillidae (1), Sabellidae (1), Serpulidae (1), and Spirorbidae (1). Polydora websteri (Hartman, 1943) is a new record for the Mediterranean and Black Sea region. P. cornuta (Bose, 1802) is first recorded in the Black Sea. Additionally, two other species, namely Harmothoe imbricata (Linnaeus, 1767) and Typosyllis hyalina (Grube, 1863), are new to the Romanian fauna. The systematic position of some species is discussed. The information on geographical distribution within the Mediterranean region of species found is also provided.

Keywords: Annelida; Polychaeta; Black Sea; Romanian coast; Inventory.

Introduction


In addition, during the last three decades the zoobenthic communities of the Romanian Black Sea coast have been influenced by major anthropogenic stress, such as an increasing level of pollution and eutrophication and sediment disturbance.

The purposes of the present study, which is part of a doctoral thesis (SURUGIU, 2002), are: (1) to provide information on composition and distribution of the polychaete fauna from
the Romanian coast and (2) to elucidate the problematic taxonomic status of some species.

**Materials and Methods**

The material was collected between 1994 and 2000, from 79 stations, at 15 localities situated along the Romanian coast of the Black Sea (Fig. 1). Information on the sampling stations, such as locality, collecting date, coordinates, depth, types of substrate are listed in Table 1.

In the littoral zone samples were collected by hand. The sublittoral samples, at depths from 0.5 m to 18.5 m, were obtained by taking chunks of the substrate (pieces of rock, seaweed tufts, colonies of mussels, soft sediments, etc.) by free and SCUBA diving. Samples were screened through a 0.5 mm sieve and polychaetes retained were fixed in 10% formalin and preserved in 70% ethanol.

For the preliminary identifications the keys provided by Vinogradov & Losovskaya (1968) and Marinov (1977) have been used. Specification of the systematic status has been carried out, as far as possible, by means of recent revisions on major polychaete families (e.g. Barnich & Fiege, 2003; Pleijel & Dales, 1991; Licher, 1999; Blake, 1996; Fitzhugh, 1990, ten Hove & Weerdenburg, 1978, Rzhavsky, 1991 etc.). The taxonomic layout is based largely on systematization presented in Fauchald & Rouse (1997) and Rouse & Fauchald (1995, 1997, 1998).

For each species, selected synonyms with reference to the corresponding literature and

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*Fig. 1: Map of the Romanian littoral showing sampling stations.*

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<table>
<thead>
<tr>
<th>Station</th>
<th>Locality</th>
<th>Date</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Depth</th>
<th>Substrate</th>
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<td>Năvodari</td>
<td>12-08-1999</td>
<td>44°18'53.7&quot; N</td>
<td>28°38'01.5&quot; E</td>
<td>0.5</td>
<td>fine sand</td>
</tr>
<tr>
<td>71</td>
<td>Mamaia</td>
<td>12-08-1999</td>
<td>44°17'17.7&quot; N</td>
<td>28°37'22.7&quot; E</td>
<td>0</td>
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</tr>
<tr>
<td>72</td>
<td>Eforie Sud</td>
<td>13-08-1999</td>
<td>44°01'45.6&quot; N</td>
<td>28°39'32.0&quot; E</td>
<td>0.5</td>
<td>rock</td>
</tr>
<tr>
<td>73</td>
<td>Mangalia Bay</td>
<td>23-04-2000</td>
<td>43°48'24.5&quot; N</td>
<td>28°31'54.9&quot; E</td>
<td>0.4</td>
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<tr>
<td>74</td>
<td>Agigea harbour</td>
<td>23-04-2000</td>
<td>43°48'47.6&quot; N</td>
<td>28°31'07.9&quot; E</td>
<td>0.5</td>
<td>mud</td>
</tr>
<tr>
<td>75</td>
<td>Mangalia Bay</td>
<td>23-04-2000</td>
<td>43°48'45.1&quot; N</td>
<td>28°31'32.7&quot; E</td>
<td>0.1</td>
<td>muddy rock</td>
</tr>
<tr>
<td>76</td>
<td>Agigea</td>
<td>13-06-2000</td>
<td>44°04'56.2&quot; N</td>
<td>28°38'29.1&quot; E</td>
<td>0.5</td>
<td>limestone</td>
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<tr>
<td>77</td>
<td>Agigea harbour</td>
<td>16-09-2000</td>
<td>44°05'52.0&quot; N</td>
<td>28°38'31.0&quot; E</td>
<td>0.5</td>
<td>ship hull</td>
</tr>
</tbody>
</table>
figures are included. Additionally, the total number of individuals collected, followed by the locality name, the station number, number of specimens per station (in parenthesis), depth and substrate type are given. Geographical distribution within the Mediterranean region is also provided based on the records found in the relevant literature available. Remarks commenting on the taxonomic status of species are also included. The specimens are deposited in the Senckenberg Museum Frankfurt.

Results

Examination of 15,474 individuals collected during this study permitted us to identify only 24 species of the total of 81 polychaete species which have been reported in the Romanian Black Sea and Danube by different authors (Table 2). This small number of species found, compared to other studies in the same region, is probably due essentially to the sampling method of collecting a small amount of sediment or substrate by hand and to the fact that our research was carried at depth of less than 20 m. Taking into account the polychaete species which inhabit the depth below 20 m, this number will be greater, but will still remain smaller than some 30 years ago. Also it is related to the type of habitat sampled mostly belonging to the upper sublittoral zone and finally to the man-made impact which has increased compared to some 30 years ago (SURUGIU, 2002b).

Table 2
Check list of polychaete species reported from the Romanian coast.

<table>
<thead>
<tr>
<th>Order</th>
<th>Species</th>
<th>Author and Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scolecidida</td>
<td>Arenicolidae</td>
<td>Johnston, 1835</td>
</tr>
<tr>
<td></td>
<td>Arenicola marina</td>
<td>Linnaeus, 1758</td>
</tr>
<tr>
<td></td>
<td>Arenicola branchialis</td>
<td>Audouin &amp; M.-Edwards, 1833</td>
</tr>
<tr>
<td></td>
<td>Arenicolides branchialis</td>
<td>Audouin &amp; M.-Edwards, 1833</td>
</tr>
<tr>
<td></td>
<td>Capitellidae</td>
<td>Grube, 1862</td>
</tr>
<tr>
<td></td>
<td>Capitella capitata</td>
<td>Fabricius, 1780</td>
</tr>
<tr>
<td></td>
<td>Capitella minima</td>
<td>Langerhans, 1880</td>
</tr>
<tr>
<td></td>
<td>Heteromastus filiformis</td>
<td>Claparède, 1864</td>
</tr>
<tr>
<td></td>
<td>Notomastus profundus</td>
<td>Eisig, 1887</td>
</tr>
<tr>
<td></td>
<td>Maldanidae</td>
<td>Malmgren, 1867</td>
</tr>
<tr>
<td></td>
<td>Leiochone clypeata</td>
<td>Saint-Joseph, 1894</td>
</tr>
<tr>
<td></td>
<td>Ophelidae</td>
<td>Malmgren, 1867</td>
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<tr>
<td></td>
<td>Ophelia bicornis</td>
<td>Savigny, 1818</td>
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<tr>
<td></td>
<td>Ophelia limacina</td>
<td>Rathke, 1843</td>
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<tr>
<td></td>
<td>Paraonidae</td>
<td>Cerruti, 1909a</td>
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<tr>
<td></td>
<td>Aricidae claudiae</td>
<td>Laubier, 1967</td>
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<tr>
<td>Palpata, Aciculata, Phyllodocida, Aphroditiformia</td>
<td>Aphroditoidae</td>
<td>Malgren, 1867</td>
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<tr>
<td></td>
<td>Harmothoe extenuata</td>
<td>Grube, 1840</td>
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<tr>
<td></td>
<td>Harmothoe imbricata</td>
<td>Linnaeus, 1767</td>
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<tr>
<td></td>
<td>Harmothoe impar</td>
<td>Johnston, 1839</td>
</tr>
<tr>
<td></td>
<td>Pholoidae</td>
<td>Kinberg, 1858</td>
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<td></td>
<td>Pholoe synopthalmatica</td>
<td>Claparède, 1868</td>
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<td></td>
<td>Sigalionidae</td>
<td>Kinberg, 1856</td>
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<td></td>
<td>Sthenelasis boa</td>
<td>Johnston, 1833</td>
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<td></td>
<td>Pisionidae Ehlers, 1901</td>
<td>Pisone remota</td>
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<td>Palpata, Aciculata, Phyllodocida, Nereidiformia</td>
<td>Nereididae</td>
<td>Johnston, 1865</td>
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<tr>
<td></td>
<td>Namancereis littoralis</td>
<td>Grube, 1872</td>
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<td></td>
<td>Nereis zonata</td>
<td>Malmgren, 1867</td>
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<tr>
<td></td>
<td>Hediste diversicolor</td>
<td>(O.F. Müller, 1776)</td>
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<td></td>
<td>Neanthesis succinea</td>
<td>(Frey &amp; Leuckart, 1847)</td>
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<td>Perinereis cultrifera</td>
<td>Grube, 1840</td>
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<td>Platynereis dumerillii</td>
<td>Audouin &amp; M.-Edwards, 1833</td>
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<td>Syllidae</td>
<td>Grube, 1850</td>
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<td>Syllis gracilis</td>
<td>Grube, 1840</td>
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<td>Syllis hyalinus</td>
<td>Grube, 1863</td>
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<td>Syllis longicirratus</td>
<td>Oersted, 1845</td>
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<td></td>
<td>Trypanosyllis zebra</td>
<td>Grube, 1860</td>
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<td>Pseudobrania clavata</td>
<td>Claparède, 1863</td>
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<td></td>
<td>Exogone naidina</td>
<td>Oersted, 1845</td>
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<td></td>
<td>Sphaerosyllis bulbosa</td>
<td>Southern, 1914</td>
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<td></td>
<td>Nereidiformia incerta sedis</td>
<td>Microphthalmus fragilis</td>
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<td></td>
<td>Microphthalmus szczelkowi</td>
<td>Mecznikow, 1865</td>
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<tr>
<td></td>
<td>Microphthalmus similis</td>
<td>Bobretzky, 1870</td>
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<table>
<thead>
<tr>
<th>Palpata, Aciculata, Phyllodocida unplaced</th>
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<tbody>
<tr>
<td>Glyceriformia Fauchald, 1977</td>
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<tr>
<td>Glycera alba (O.F. Müller, 1776)</td>
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<td>Glycera tridactyla Schmarda, 1861</td>
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<tr>
<td>Nephtyidae Grube, 1850</td>
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<tr>
<td>Nephtys cirrosa Ehlers, 1868</td>
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<tr>
<td>Nephtys hombergii Savigny, 1818</td>
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<tr>
<td>Micronephthys stammeri (Augener, 1932)</td>
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<tr>
<td>Phyllodocidae Öersted, 1843a</td>
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<tr>
<td>Phyllodoce maculata (Linnaeus, 1767)</td>
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<tr>
<td>Nereiphylla paretti Blainville, 1828</td>
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<td>Nereiphylla rubiginosa (Saint-Joseph, 1888)</td>
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<td>Eteone picta Quatrefages, 1865</td>
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<td>Eumida sanguinea (Öersted, 1843)</td>
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<td>Pterocirrus macroceros (Grube, 1860)</td>
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<td>Palpata, Aciculata, Eunicida</td>
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<td>Dorvilleidae Chamberlin, 1919</td>
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<td>Protodorvillea kefersteini (McIntosh, 1869)</td>
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<td>Palpata, Aciculata unplaced</td>
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<td>Nerillidae Levinsen, 1883</td>
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<td>Nerilla antennata O. Schmidt, 1848</td>
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<td>Palpata, Canali palpata, Sabellida</td>
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<td>Sabellaridae Johnston, 1865</td>
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<td>Sabellaria tauroica (Rathke, 1837)</td>
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<td>Sabellidae Malmgren, 1867</td>
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<td>Fabricia stellaris (Müller, 1774)</td>
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<td>Manayunkia caspica Annenkova, 1929</td>
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<td>Oriapis armandi (Claparède, 1864)</td>
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<td>Serpulidae Johnston, 1865</td>
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<td>Ficopomatus enigmaticus (Fauvel, 1923)</td>
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<td>Janua pagastecheri (Quatrefages, 1865)</td>
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<td>Pileolaria militaris (Claparède, 1868)</td>
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<td>Pomatoceros triqueter (Linnaeus, 1767)</td>
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<td>Serpula vermicularis Linnaeus, 1767</td>
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<td>Vermilopsis infundibulum (Philippi, 1844)</td>
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<td>Ctenodrilus serratus (Schmidt, 1857)</td>
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<td>Ampharetidae Malmgren, 1867</td>
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<td>Hynania invalida (Grube, 1860)</td>
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<td>Hynaniola kowalewskii (Grimm, 1877)</td>
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<td>Melimna palmata Grube, 1870</td>
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<td>Pectinariidae Quatrefages, 1865</td>
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<td>Pectinaria koreni (Malmgren, 1866)</td>
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<td>Terebellidae Grube, 1850</td>
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<td>Polycirrus jubatus Bobretzky in Annenklova, 1924</td>
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<td>Terebellides stromi M. Sars, 1835</td>
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<td>Magelona Müller, 1858</td>
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<td>Magelona mirabilis (Johnston, 1865)</td>
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<td>Magelona minuta Eliasson, 1907</td>
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<td>Aonides oxycephala (M. Sars, 1872)</td>
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<td>Aonides paucibranchiata Southern, 1914</td>
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<td>Malacocerus tetracerus (Schmarda, 1861)</td>
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<td>Polydora ciliata (Johnston, 1838)</td>
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<td>Polydora cornuta Bosc, 1802</td>
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<td>Polydora limicola Annenkova, 1934</td>
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<td>Polydora websteri Hartman, 1943</td>
</tr>
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<td>Prionospio stenstrupi Malmgren, 1867</td>
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<td>Prionospio cirrifer Wirén, 1883</td>
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<td>Pygospio elegans Claparède, 1863</td>
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<td>Scoloplos cirratulus (Delle Chiave, 1828)</td>
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<td>Pseudomalacoceros cantabræ (Rioja, 1918)</td>
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<td>Spiro decoratus Bobretzky, 1871</td>
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<td>Streblospio benedicti Webster, 1879</td>
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<td>Palpata, Canali palpata unplaced</td>
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<td>Polygordiiidae Czerniavsky, 1881a</td>
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<td>Polygordius neapolitanus Fraipont, 1882</td>
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<td>Protodrilida Pettibone, 1982</td>
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<tr>
<td>Protodrilus flavocapitatus (Uljanin, 1877)</td>
</tr>
<tr>
<td>Saccocirrus papillo cercus Bobretzky, 1871</td>
</tr>
</tbody>
</table>
Scolecida
Capitellidae Grube, 1862

1. Capitella capitata
(Fabricius, 1780)


Material examined. – 49 ind.: Navodari, sta. 57(1), Mamaia, sta. 58(1), Agigea, sta. 12(1), Eforie Nord, sta. 30(13), Eforie Sud, sta. 26(2), 53(11), 72(1), Vama Veche, sta. 69(19), 0.5-5 m, sandy and hard substrata.


2. Capitella minima
Langerhans, 1880

Capitomastus minimus.--Băcescu et al., 1957: 336, fig. 9, B.--Marinov, 1977: 185, pl. XXVI, fig. 4.--Vinogradov & Losovskaya, 1968: 312, pl. VII, fig. 3.

Capitella minima.--Hartmann-Schröder, 1996: 439-441, fig. 216.

Material examined. – 595 ind.: Periboina, sta. 6(5), 7(54), 8(4), 9(17), 10(48), Navodari, sta. 57(9), 70(3), Mamaia, sta. 58(7), Agigea, sta. 37(7), 65(1), Eforie Nord, sta. 31(54), 38(25), 39(37), 47(186), 51(7), Eforie Sud, sta. 25(4), 26(7), 32(1), 33(51), 40(3), 41(25), 52(4), 53(16), Tuzla, sta. 42(2), 55(1), 23 August, sta. 50(14), Mangalia, sta. 68(3), 0.3-18.5 m, hard, sandy and muddy substrata.


3. Heteromastus filiformis
(Claparède, 1864)


Heteromastus filiformis.--Vinogradov, 1931: 18-19, fig. 9.–Uschakov, 1955: 327, fig. 121, E.–Marinov, 1977: 183-184, pl. XXVI, fig. 3.–Vinogradov & Losovskaya, 1968: 311, pl. XVI, fig. 6.–Hartmann-Schröder, 1996: 441-443, fig. 217.

Material examined. – 76 ind.: Agigea, sta. 37(1), 56(1), Eforie Nord, sta. 31(2), 39(1), 47(3), Eforie Sud, sta. 40(34), 41(22), 52(2), Tuzla, sta. 34(9), Vama Veche, sta. 69(1), 7-18.5 m, hard, sandy and muddy substrata.

Distribution – Cosmopolitan species (Hartmann-Schröder, 1996), occurring on Atlantic and Pacific coasts of North America, Gulf of Mexico (Hartman, 1951), Far Eastern seas (Uschakov, 1955), North Sea (Hartmann-Schröder, 1996), English Channel, Western Mediterranean (Bellan, 1964, Castelli et al., 1995), Eastern Mediterranean (Fauvel, 1937), Aegean Sea (Arvanitidis, 2000, Simboura & Nicolaidou, 2001), Marmara Sea (Rullier,


Remarks – Perejaslavzeva (1891) described the species Capitella multioculata from the Bay of Sevastopol. Vinogradov (1949), and later Marinov (1977), assigned this record to Heteromastus filiformis without examining the material identified by Perejaslavzeva. However, the original description of Perejaslavzeva is very brief and incomplete and does not permit even a generic assignment and type material is probably lost. Consequently, Capitella multioculata must be left as a nomen dubium.

Palpata, Aciculata, Phyllodocida, Aphroditiformia
Aphroditioidea Malmgren, 1867

4. Harmothoe imbricata (Linnaeus, 1767)

Polynoe granulosa.—Bobretzky, 1870: 192 [partim].
Polynoe incerta.—Bobretzky, 1881: 5-7, fig. 1.

Material examined. – 2 ind.: Agigea, sta. 56(1), Vama Veche, sta. 69(1), 5-7 m, on hard substrate among mussels’ byssuses.


In the Black Sea this species has been reported on the Georgian coast (Komakhidze & Mazmanidi, 1998), Karadag region (Vinogradov, 1949), Bay of Sevastopol (Bobretzky, 1881; Jakubova, 1930), north-western part of the Black Sea (Borcea, 1931; Losovskaya, 1956, 1978, 1988; Vinogradov & Losovskaya, 1963) and Bulgarian coast (Marinov, 1964; Muller, 1971). First record on the Romanian coast.

Remarks – Specimens from the Bosphorus strait found by La Greca (1949) and designated as Harmothoe imbricata incerta differ from H. imbricata by lack of macrotubercles and by different pigmentation of the elytra. However, our material presents a row of drop-like pointed macrotubercles near the posterior margin of the elytra.

5. Harmothoe impar (Johnston, 1839)

Polynoe granulosa.—Bobretzky, 1870: 189-193, figs. 1-4 [partim].
Polynoe reticulata.—Bobretzky, 1881: 3-5.
Harmothoe reticulata.—La Greca, 1949: 156-157.—Marinov, 1977: 870-878, pl. VI, fig. 4.—Vinogradov & Losovskaya, 1968: 264, pl. III, fig. 2.—Manoleli, 1995: 183, fig. 25.3 A,B.
Harmothoe impar.—Rasmussen, 1973: 63-64.—Hartmann-Schröder, 1996: 48-50, fig. 13.—Chambers & Muir, 1997:
Material examined. – 132 ind.: Agigea, sta. 37(12), 49(15), 56(3), Eforie Nord, sta. 24(2), 39(5), Eforie Sud, sta. 32(8), 33(35), 40(14), 41(9), 54(3), Tuzla, sta. 34(10), 42(4), 55(5), 23 August, sta. 50(3), Vama Veche, sta. 69(3), 4-18.5 m, in the detritus and mud deposited in the interstices of the mussel colonies.


Remarks – Authors working in the Black Sea with the exception of Bobretzky (1870, 1881), recorded this species under the name of H. reticulata. Since Rasumnussen (1973) synonymised H. reticulata with H. impar, it must be referred to as H. impar.

According to Barnich & Fiege (2003) due to the confusion of H. impar with other species of Harmothoe all literature records of these species in the Mediterranean and the North East Atlantic are doubtful.

Borcea (1931a, 1937) have cited the species Harmothoe (Polyne) incesta in the Phyllophora fields without giving any taxonomic details. As Vinogradov et al. (1967) mentioned that H. reticulata from ‘Zernov’s Phyllophora field’ matches a homochromic colouration, brownish-red, similar with that of the algae, we tentatively consider specimens referred to Harmothoe (Polyne) incesta to be H. impar.

Palpata, Aciculata, Phyllocodiacea, Nereidiformia

Nereididae Johnston, 1865

6. Nereis zonata Malmgren, 1867


Material examined. – 25 ind.: Agigea, sta. 14(3), 18(4), 35(2), 49(1), Eforie Nord, sta. 22(2), 24(1), Eforie Sud, sta. 25(1), 40(8), Tuzla, sta. 27(1), 42(1), 23 August, sta. 50(1), 1-17 m, on hard substrate.


In the Black Sea it is known on the Georgian coast (Komakhidze & Mazmanidi, 1998), Karadag region (Vinogradov, 1949), Bay of Sevastopol (Jakubova, 1930), north-western part (Losovskaya, 1956; Vinogradov & Losovskaya, 1963), Romanian (Dumitrescu, 1957, 1962, 1973; Gomoiu & Müller, 1962; Bașescu et al., 1963, 1965b, 1967a; Manoleli, 1967, 1969; Müller et al., 1969; Tigańuș, 1991/1992; Surugiu...
7. *Neanthes succinea* (Frey & Leuckart, 1847)

*Nereis (Neanthes) succinea*.–Annenkova, 1929b: 139.–La Greca, 1949: 205-206, fig. 1, 2.–Manoleli, 1995: 185, fig. 25.9 A, B.

**Material examined.** – 3301 ind.: Periboina, sta. 6(14), 7(32), 8(31), 9(56), 10(8), *Návodari*, sta. 57(63), 70(1), *Mamaia* 58(27), 71(1), Constanța, sta. 59(56), Danube – Black Sea Canal, sta. 5(36), 66(90), Agigea harbour, sta. 2(82), 67(348), Agigea, sta. 1(3), 3(17), 4(52), 12(8), 16(6), 20(3), 21(14), 35(43), 37(96), 49(13), 50(219), 60(1), 65(92), Eforie Nord, sta. 22(6), 24(5), 31(17), 38(7), 39(19), 47(154), 51(73); Eforie Sud, sta. 32(29), 33(63), 40(174), 41(41), 52(27), 53(89), 72(10), *Tuza*, sta. 27(6), 34(158), 42(85), 55(173); *Mangalia*, sta. 68(7), *Mangalia Bay*, sta. M1(1), M2(35), M3(235), M4(97), M5(2), *Vama Veche*, sta. 69(36), at all depths investigated (0-18.5 m), on all types of substrata, preferably in soft detrital sediments (mud, muddy sand and muddy shell gravel).

**Distribution** – Cosmopolitan species (Hartman, 1951), mostly found in the brackish-water estuaries and lagoons from temperate and subtropical regions, both in boreal and austral hemispheres. It has been reported on the South African coast, El Salvador, Gulf of Mexico (Hartman, 1951), North Sea (Hartmann-Schröder, 1996), Baltic Sea (Rasmussen, 1973), British Channel, Atlantic Ocean (Fauvel & Rullier, 1959), Eastern Mediterranean (Fauvel, 1937), Adriatic Sea (Pozar-Domac, 1978), Aegean Sea (Marinov, 1959b; Arvanitidis, 2000; Simboura & Nicolaidou, 2001), Bosphorus (LaGreca, 1949; Rullier, 1963), Sea of Azov (Mordukhai-Boltovskoi, 1960; Stark, 1959).


**Remarks** – Fauvel (1937) and later Arvanitidis (2000) showed that in the Mediterranean under the name *Neanthes succinea*, individuals belonging to *Nereis lamellosa* Ehlers, 1868 have often been reported. The latter species closely resembles the former. As in all specimens collected by us notopodial homogomph falcigers in the posterior parapodia are missing and the pharyngeal area III is formed of a rectangular group of paragnaths disposed in 3-4 rows, they could clearly identified as *Neanthes succinea*.

8. *Hediste diversicolor* (O.F. Müller, 1776)

*Nereis falsa*.–Bobretzky, 1870: 210-211, fig. 24-25.

*Nereis (Hediste) diversicolor*.–Bobretzky, 1881: 10-11, fig. 2.

*Nereis diversicolor*.–Marinov, 1977: 110-111, pl. XIII, fig. 1.–Vinogradov & Losovsky, 1968: 262, pl. VIII, fig. 4.

**Hediste diversicolor**.–Manoleli, 1995: 185, fig. 25.9 A,B.–Hartmann-Schröder, 1996: 201-204, fig. 88.

**Material examined.** – 74 ind.: *Návodari*, sta. 44(11), 45(2), *Mamaia*, sta. 58(4), Constanța, 59(2), 63(4), Eforie Nord, sta. 47(36), 51(6), Eforie Sud, sta. 25(1), 53(7); *Mangalia*, sta. 68(7), *Mangalia Bay*, sta. M1(1), M2(35), M3(235), M4(97), M5(2), *Vama Veche*, sta. 69(36), at all depths investigated (0-18.5 m), on all types of substrata, preferably in soft detrital sediments (mud, muddy sand and muddy shell gravel).

**Distribution** – Amphiboreal species (Hartmann-Schröder, 1996), known in the North Pacific (Hartman, 1960), Scandinavian and British coasts, North Atlantic coasts of Europe (Hartmann-Schröder, 1996) and America, Western Mediterranean (Bellan, 1964), Eastern Mediterranean (Fauvel, 1937), Adriatic Sea (Pozar-Domac, 1978), Aegean Sea (Marinov, 1959b; Arvanitidis, 2000; Simboura & Nicolaidou, 2001), Bosphorus (LaGreca, 1949; Rullier, 1963), Sea of Azov (Mordukhai-Boltovskoi, 1960); introduced

In the Black Sea the species inhabits almost all coastal lagoons and bays and penetrates deeply upward into the inferior courses of the rivers. It is known in the Prebosphoric region (Rullier, 1963), Georgian coast (Komakhidze & Mazmanidi, 1998), Santa-Anna and Feodosia Bays (Vinogradov, 1949), Bay of Sevastopol (Bobretzky, 1870, 1881; Jakubova, 1930), in the north-western Black Sea (Losovskaya, 1956, 1963, 1978; Vinogradov & Losovskaya, 1963), Romanian (Borcea, 1924, 1926a, 1926b, 1931a, 1931b, 1934a, 1934b; Băcescu et al., 1957, 1965a, 1965b, 1965c; Manoleli, 1967, 1969; Müller et al., 1969; Tigașu & Manoleli, 1998/1999) and Bulgarian coasts (Marinov, 1957a).

9. **Perinereis cultrifera** (Grube, 1840)

*Nereis cultrifera*.–Bobretzky, 1870: 206-207.


**Material examined.** – 2 ind.: Vama Veche, sta. 69(2), 5 m, hard substrate.


In the Black Sea this species was recorded in the Prebosphoric region (Rullier, 1963), Karadag region (Vinogradov, 1949), Bay of Sevastopol (Marcuse, 1867; Bobretzky, 1868, 1870; Jakubova, 1930), north-western part of the Black Sea (Losovskaya, 1956, 1978; Vinogradov & Losovskaya, 1963), Romanian (Borcea, 1926b, 1931a, 1931b; Dumitrescu, 1957, 1973; Gomoiu & Müller, 1962; Băcescu et al., 1963, 1965c; Manoleli, 1967, 1969; Tigașu, 1991/1992; Surugiu & Manoleli, 1998/1999) and Bulgarian coasts (Marinov, 1957a).

10. **Platynereis dumerilii**

(Audouin & Milne-Edwards, 1833)

*Nereis dumerilii*.–Bobretzky, 1870: 201-206, figs. 26-30.


**Material examined.** – 445 ind.: Agigea, sta. 11(1), 14(7), 17(6), 18(1), 29(13), 35(27), 37(7), 49(12), 56(9), Eforie Nord, sta. 22(14), 24(6), Eforie Sud, sta. 32(2), 40(30), 41(10), 52(2), 53(30), Tuzla, sta. 27(3), 34(6), 42(20), 55(13), 23 August, sta. 50(215), Vama Veche, sta. 13(9), 69(2), 0-18.5 m, on hard substrate.


In the Black Sea this species was recorded in the Prebosphoric region (Rullier, 1963), Karadag region (Vinogradov, 1949), Bay of Sevastopol (Marcuse, 1867; Bobretzky, 1868, 1870; Jakubova, 1930), north-western part of the Black Sea (Losovskaya, 1956, 1978; Vinogradov & Losovskaya, 1963), Romanian (Borcea, 1926b, 1931a, 1931b; Dumitrescu, 1957, 1973; Gomoiu & Müller, 1962; Băcescu et al., 1963, 1965c; Manoleli, 1967, 1969; Tigașu, 1991/1992; Surugiu & Manoleli, 1998/1999) and Bulgarian coasts (Marinov, 1957a).
Syllidae Grube, 1850

11. *Syllis gracilis* Grube, 1840
*Syllis mixtosetosa* Bobretzky 1870: 227-229, fig. 49-50.

Material examined. - 24 ind.: Eforie Sud, sta. 53(2), Tuzla, sta. 27(2), 23 August, sta. 50(1), Vama Veche, sta. 69(19), 3-5 m, epibiosis of rocks, macrophyte algae and in canals of the sponge *Dysidea fragilis*.


Cited in the Black Sea, on the Georgian coast (Komakhidze & Mazmanidi, 1998), Karadag region (Vinogradov, 1949), Bay of Sevastopol (Bobretzky, 1870, 1881; Jakubova, 1930) and Bulgarian coast (Marinov, 1966a). First record on the Romanian coast.

12. *Typosyllis hyalina* (Grube, 1863)

Material examined. – 3 ind.: 22 August, sta. 50(3), 4 m, hard substrate.

Distribution – A cosmopolitan species (Hartmann-Schröder, 1996; Licher, 1999), reported in the Philippines, Australia, Pacific coast of Mexico, Magellan Strait, Norwegian coasts, British Channel, Atlantic (Hartmann-Schröder, 1996), Western Mediterranean (Bellan, 1964), Eastern Mediterranean (Fauvel, 1937), Adriatic Sea (Pozar-Domac, 1978), Aegean and Ionian Seas (Marinov, 1959b; Arvanitidis, 2000; Simboura & Nicolaidou, 2001), Bosphorus (La Greca, 1949).

In the Black Sea it is known on the Georgian coast (Komakhidze & Mazmanidi, 1998), Karadag region (Vinogradov, 1949), Bay of Sevastopol (Bobretzky, 1870, 1881; Jakubova, 1930) and Bulgarian coast (Marinov, 1966a). First record on the Romanian coast.

13. *Grubeosyllis clavata* (Claparède, 1863)
*Brania clavata* - Manoleli, 1995: 185, fig. 25.11.
*Grubeosyllis clavata* - San Martin, 1991: 718: fig. 2a, b.

Material examined. – 1011 ind.: Constanța, sta. 59(2), Agigea, sta. 12(71), 18(129), 29(19), 35(2), 37(8), 56(1), 61(1), 65(200), Eforie Sud, sta. 26(4), 40(1), 41(9), 53(11), 57(1), 72(46), Tuzla, sta. 27(2), 23 August, sta. 50(177), Mangalia, sta. 68(51), Mangalia Bay, sta. M3(3), Vama Veche, sta. 13(12), 69(262), 0-18.5 m, in thin layer of coarse sand laid down on hard substrate.


Remarks – Two other species of the subfamily have been recorded in the Black Sea: *Grubeosyllis limbata* and *Brania tenuicirrata*. The former differs from the species recorded above in that the terminal blade is a unidentate falciger, while in *G. clavata* it is bidentate. Bellan (1964) has observed that the secondary tooth of chaeta of *G. clavata* can be strongly worn-out as a result of friction with sand grains or even to be missing completely for some setae, in rest being bidentate. However, considerable differences exist between these species, which most probably have to do with their mode of life: *G. limbata* inhabits mostly soft bottoms (sand, muddy sand), whereas *G. clavata* prefers near-shore algal epibiosis. The other species, *B. tenuicirrata*, differs from *G. clavata* by the median position of the pharyngeal tooth and by the dorsal cirri of the first segment, which are much longer than the remaining.

Palpata, Aciculata, Phyllodocida unplaced
Phyllodocidae öersted, 1843a

14. *Nereiphyla rubiginosa*
(de Saint-Joseph, 1888)


*Nereiphyla* (tuberculata).–Marinov, 1977: 60-61, pl. IV, fig. 2, pl. XXXIV, fig. 2.

*Nereiphyla rubberinosa.–Pleijel & Dales, 1991: 76-77, fig. 17A-D.

*Genetyllis* tuberculata.–Manoleli, 1995: 188, fig. 25.20.

Material examined. – 5 ind.: Agigea, sta. 14(1), Eforie Nord, sta. 24(1), 20(1), Eforie Sud, sta. 25(1), 1.5-8 m, on sandy, rocky and clay substrata.


Remarks – Jakubova (1930) and later La Greca (1949) brought attention to the resemblance between *Ph. tuberculata*, described by Bobretzky in 1868 in the Bay of Sevastopol, and *Phyllodoce rubiginosa*, described by Saint-Joseph in 1888 from the North Atlantic. Unfortunately, type material of *Ph. tuberculata* is unavailable and the original description is very brief. Nevertheless, our material is in good agreement with both descriptions of Bobretzky (1868) and Pleijel & Dales (1991). Consequently, *P. tuberculata* should be considered as a synonym of *Nereiphyla rubiginosa*. In order to avoid further nomenclatural changes, Pleijel (pers. comm.) suggests that *P. tuberculata* should be left as a nomen dubium.

15. *Eteone picta* Quatrefages, 1865

*E. striata* Bobretzky 1868: 154-155, fig. 44-46.


*Eteone picta.–Vinogradov & Losovskaya, 1968: 262-263, pl. II, fig. 5.–Pleijel & Dales, 1991: 60-61, fig. 9A-C.


*Mysta picta.–*Manoleli, 1995: 188, fig. 25.21 A,B.

Material examined. – 8 ind.: Agigea, sta. 17(1), 20(1), Eforie Nord, sta. 24(1), 30(1), 47(1), Eforie Sud, sta. 25(3), 1.5-8 m, on sandy, rocky and clay substrata.


**Palpata, Aciculata unplaced**

*Nerillidae Levinsen, 1883

16. *Nerilla antennata* O. Schmidt, 1848


**Material examined.** – 9 ind.: Eforie Sud, sta. 72(9), 0.5 m, interstitial in coarse sand.

**Distribution** – Cosmopolitan species, reported in the White Sea, Barents Sea (Khlebovich, 1961), Baltic Sea (Rasmussen, 1973), North Sea (Hartmann-Schröder, 1996), British Channel, Irish Sea, Mediterranean (Bellan, 1964, Castelli et al., 1995), south-west Africa.

Cited in the Black Sea on the Georgian coast (Komakhidze & Mazmanidi, 1998), Karadag region (Vinogradov, 1949), Romanian (Băcescu et al., 1967b; Dumitrescu, 1973) and Bulgarian coasts (Marinov, 1957b, 1971).

**Palpata, Canalipalpata, Sabellida Sabellidae Malmgren, 1867

17. *Fabricia stellaris* (O.F. Müller, 1774)


**Fabricia sabella caspica**.–Annenkova, 1929a: 17-19, pl. III, figs. 5,6, pl. IV, figs. 13-15.

**Fabricia stellaris stellaris**.–Fitzhugh, 1990: 4, fig. 1.–Hartmann-Schröder, 1996: 553-555, fig. 270.

**Material examined.** – 226 ind.: Agigea, sta. 12(21), 29(36), 65(1), Vama Veche, sta. 13(6), 23 August, sta. 50(5), Mangalia, sta. 68(157), 0.3-4 m, in thin layer of coarse sand and detritus laid down on hard substrate.


**Serpulidae Johnston, 1865

18. *Ficopomatus enigmaticus* (Fauvel, 1923)

**Mercierella enigmatica**.–Annenkova, 1929b: 139-140.–Marinov, 1960: 405-408, figs. 1, 2; 1977: 223-224, pl. XL, fig. 3.–Vinogradov & Losovskaya, 1968: 330, pl. XX, fig. 7.–Kühl, 1977: 99-103, abb. 1, 2.

**Ficopomatus enigmaticus**.–ten Hove & Weerdenburg, 1978: 114, figs. 2e-I, 3d, l-q, s, aa-bb, nn-vv, zz, 5c.–Hartmann-Schröder, 1996: 571-572, fig. 279.

**Material examined.** – 47 ind.: Danube – Black Sea Canal, sta. 66(4), Agigea harbour, sta. 74(43), Mangalia Bay, sta. M3 (empty tubes), 0-3 m, on hard substrate (ships hull, hydrotechnical constructions and mussel shells).

**Distribution** – Cosmopolitan species, known in the North Sea (Hartmann-Schröder,
1996), British Channel, Atlantic, in the Mediterranean (Fauvel, 1937; Castelli et al., 1995), Aegean (Marinov, 1959b; Arvanitidis, 2000; Simboura & Nicolaidou, 2001), Marmara Sea and Bosphorus (Rullier, 1963), Sea of Azov (Mordukhai-Boltovskoi, 1960), Caspian Sea (Bogoroditsky, 1963); also found in North and South America, Indian Ocean, South Africa, Australia, Hawaii and New Guinea.

In the Black Sea it was found in Gelendjik Bay, Lake Paleostomi and rivers flowing into it (Annenkova, 1929b), Poti harbour (Turpaeva, 1961), Constanța harbour (Dumitrescu, 1962; Petrić & Lăcătușu, 1971), Varna and Mandrenskoto lakes, Varna and Balchik bays (Marinov, 1957a, 1960).

19. Janua pagenstecheri (Quatrefages, 1865)

Spiorbis (Dexiospira) pagenstecheri. – Vinogradov & Losovskaya, 1968: 333, pl. XXI, fig. 4.


Spiorbis pusilla. – Marinov, 1964: 83; 1977: 230, pl. XI, fig. 1, pl. XXXII, fig. 2 (non Rathke, 1837).


Material examined. – 183 ind.: Agigea, sta. 17(5), sta. 18(110), Tuzla, sta. 27(1), 23 August, sta. 50(67), 0.2-4 m, on mussels shells.


In the Black Sea this species has been reported in the Karadag and Sudak regions (Vinogradov, 1931, 1949), Bay of Sevastopol (Jakubova, 1930), north-western part of the Black Sea (Losovskaya, 1956; Vinogradov & Losovskaya, 1963), on Romanian (Borcea, 1926a, 1931a, 1934b; Müller et al., 1969; Manoleli, 1973; Tiganu, 1991/1992; Surugiu & Manoleli, 1998/1999) and Bulgarian coasts (Borcea, 1937; Marinov, 1964).

Palpata, Canaliculata, Spionida
Spionidae Grube, 1850

20. Spio decoratus Bobretzky, 1871


Material examined. – 967 ind.: Periboina, sta. 6(1), Năvodari, sta. 70(24), Mamaia, sta. 58(7), Constanța, sta. 59(1), Agigea, sta. 21(10), 37(4), Eforie Nord, sta. 25(26), 30(203), 31(69), 39(9), 39(260), 47(86), Eforie Sud, sta. 25(145), 26(6), 41(87), 52(27), 54(1), Tuzla, sta. 42(1), 0.5-18.5 m, fine sand.

Distribution – Known from the French coast of the Channel (Dauvin, 1989), Western Mediterranean (Giordanella, 1969; Lardicci, 1990), Aegean Sea and Ionian Seas (Arvanitidis, 2000, Simboura & Nicolaidou, 2001), from the Black Sea (Bobretzky, 1870), Bosphorus (Rullier, 1963) and from the Sea of Azov (Mordukhai-Boltovskoi, 1960).


Remarks – Careful examination of individuals, previously identified as Spio filicornis (O.F. Müller, 1776), from the Northern Aegean by Arvanitidis (1994),
showed that these individuals belong to Spio decoratus. Also Simboura & Nicolaidou (2001) for the polychaete species of Greece, mention that Spio filicornis is a boreal species probably not existing in the Mediterranean and confused with Spio decoratus or Spio martinensis Mesnil, 1896. The same observations have been made for individuals identified as Spio filicornis from other locations of the Mediterranean and from the French coasts of the Channel (Giordanella, 1969, Dauvin, 1989). Following the original description provided by Bobretzky (1871), we found that in all specimens examined the prostomium had an entire frontal edge and the neuropodial hooded hooks occurred from the 11th setiger, rarely from the 10th setiger. Also, hooded hooks were tridentate.

21. *Polydora ciliata* (Johnston, 1838)

*Polydora ciliata*.–Perejaslavzeva, 1891: 262-263 (non Bosc, 1802).


*Material examined.–* 1 ind.: 23 August, sta. 50(1), 4 m, hard substrate.


### 22. *Polydora cornuta* Bosc, 1802


*Polydora cornuta.–* Tena et al., 1991: 32, fig. 3.–Blake, 1996: 171, fig. 4.28H.

*Material examined.–* 1111 ind.: Periboina, sta. 7(2), Cape Midia, sta. 28(3), Năvodari, sta. 57(21), Constanța, sta. 59(1), Danube – Black Sea Canal, sta. 5(6), 66(11), Agigea harbour, sta. 2(1), 67(11), Agigea, sta. 12(8), 20(1), 21(49), 21(32), 30(8), 31(52), 39(12), 47(2), 51(1), Eforie Nord, sta. 22(11), 24(1), 30(8), 31(52), 39(12), 47(2), 51(1), Eforie Sud, sta. 32(1), 40(41), 41(28), 52(12), 53(12), Tulza, sta. 27(3), 34(1), 42(16), 55(12), 23 August, sta. 50(108), Mangalia, sta. 68(4), Mangalia Bay, sta. M1(95), M2(29), M3(221), M5(225), Vama Veche, sta. 69(52), 0-18.5 m, black foetid mud, muddy rock, shell debris and sand.

*Description.–* The species measures up to 20 mm long for 80 segments. Colour of living specimens pale-yellow with red blood vessels. Body without pigmentation. Tubes brownish-yellowish, made from fine sand grains and detritus, up to 20 mm long.

Prostomium anteriorly forked and flared laterally, prolonged posteriorly by a caruncle reaching the posterior end of setiger 3. Caruncle with an occipital antenna. Four oval-rounded eyes arranged more or less in a square. Palps long, when extended reaching setiger 19.

The first setiger only with capillary neurosetae. Setiger 5 somewhat larger than the adjacent segments, carrying 6-10 specialized setae and companion chaetae arranged in a single straight or slightly curved row. Major spines of setiger 5 with small distinct lateral tooth. Companion setae penicillate, closely adhering to major spines. Beginning from setiger 7 neuropodia presents 5-12 bidentate hooded hooks. Shaft of the hooks with a prominent constriction. Branchiae digitiform, long and thin, not fused with notopodial lobes, beginning from setiger 7 to the last 6-9 setigers.

The pygidium large, disk-like, with a dorsal notch.

Remarks – It is possible that polydorid specimens reported as *Polydora linicola* Annenkova, 1934 in the north-western part of the Black Sea (Losovskaya & Nesterova, 1964; Losovskaya, 1976, 1977, 1978) and on the Romanian coast (Manoleli & Nalbant, 1975; Manoleli, 1980; Tiganuș, 1982, 1986, 1988, 1992; Dumitrache, 1996/1997), are actually *P. cornuta*. Due to the impossibility of obtaining these specimens this hypothesis could not be verified for the moment.


Material examined. – 157 ind.: Agigea, sta. 12(9), 18(2), 65(40), 73(106), 0.5-1.2 m, boring in limestone.

Description – The species is small, slender, measuring up to 20 mm long for 100 segments. Living animals light tan with red branchiae, palps and blood vessels. Body unpigmented.

The burrows are U-shaped, lined by a membranous sheath which is prolonged outside the gallery by a short muff.

Prostomium with anterior margin weakly incised, bearing a caruncle which extends posteriorly to setiger 2 or 3. Four poorly developed or almost non-existent eyes. Two long caducous palps, reaching approximately to setigers 10-12.

Setiger 1 has only capillary neurosetae and postsetal neuropodial lamellae. Modified setiger 5 much broader than adjacent ones, partially covering setiger 6, with a row of 5-6 pairs of major spines, alternating with lanceolate companion setae. Major spines of setiger 5 falcate with a lateral flange. From setiger 7 neuropodia present 6-11 hooded hooks in a vertical row. Hooded hooks with a constriction on the shaft and ending in a bifid tip in which the main fang is about at right angles to the shaft. Branchiae begin on setiger 7, reaching maximum length by setiger 9-10.

The last 10-16 setigers lacking branchiae. Pygidium cup-shaped with a dorsal notch.

Distribution – Known on the Atlantic and Pacific coasts of North America, Gulf of Mexico (Hartman, 1951), Hawaii, west coast of South America, south-east Australia (Blake, 1996). New species in the Mediterranean and Black Sea region.

24. *Prionospio cirrifera* Wirén, 1883


Material examined. – 4 ind.: Eforie Nord, sta. 39(1), Eforie Sud, sta. 40(2), Tuzla, sta. 42(1), 6-10 m, hard and sandy substrata.

Distribution – Cosmopolitan species, known in the Indian Ocean, Gulf of Mexico (Hartman, 1951), North Pacific (Ushakov, 1955), Arctic waters, North Sea (Hartmann-Schröder, 1996), Atlantic coasts of Europe, Western Mediterranean (Castelli et al., 1995), Adriatic Sea (Pozar-Domac, 1978), Aegean and Ionian Seas (Arvanitidis, 2000; Simboura & Nicolaidou, 2001), Marmara Sea (Gillet & Ünsal, 2000).

Manoleli & Nalbant, 1975) and Bulgarian
coasts (Marinov, 1957a, 1959a, 1963).

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