

**CHECKLIST OF MARINE AMPHIPODA (CRUSTACEA,
MALACOSTRACA) FROM THE BULGARIAN BLACK SEA AREA**

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**СПИСЪК НА МОРСКИТЕ АМФИПОДИ (CRUSTACEA, MALACOSTRACA) ОТ
БЪЛГАРСКИЯ СЕКТОР НА ЧЕРНО МОРЕ**

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Резюме: В настоящата публикация е обобщена наличната информация за морски видове от Разред Amphipoda (Crustacea, Malacostraca) от българския сектор на Черно море. Съобщени са общо 55 вида морски амфиподи, принадлежащи към 26 семейства от разред Amphipoda.

Ключови думи: Amphipoda, Crustacea, Black Sea, checklist.

Introduction

First information about Amphipoda from the Bulgarian Black Sea area is available in CHICHKOFF [9] and CASPERS [8]. VALKANOV [47] created the first catalogue of the Black Sea fauna from Bulgarian coastal area. Later on KUNEVA-ABADJIEVA [15] reported 46 amphipod species for the Bulgarian waters and the region of Bosphorus. In 1968 KUNEVA-ABADJIEVA [17] described for first time the species *Cheirocratus sundevalli* (RATHKE, 1843) for the Black Sea. VALKANOV&MARINOV [44] added new 9 amphipod species. Several works on amphipod distribution and ecology were published by KUNEVA-ABADJIEVA [13, 14, 16, 18, 19], KUNEVA-ABADJIEVA & MARINOV [21,22], MARINOV & KUNEVA-ABADJIEVA [25], MARINOV et al. [26], MARINOV&STOYKOV [27] and UZUNOVA [36,37,38,39]. MARINOV [23] summarized the number of amphipod species to 62, brackish water ones included. UZUNOVA [39] reported total of 46 species from the sublittoral and mediolittoral zone. More recent information about the distribution of amphipoda in the upper sublittoral and *Zostera* beds is found in UZUNOVA [40, 41].

The aim of the present paper is to update the information for the marine Amphipoda from the Bulgaria Black Sea area, according to the recent taxonomic advances.

Material and Methods

The present paper is based on the available literature records and own materials, collected until 2003 under several projects of Institute of Fishing Resources, Agricultural Academy. For the higher taxa is used the classification of MARTIN & DAVIS [20]. The identification of the materials is according "The Amphipoda of the Mediterranean", [3,4,12,33] BARNARD & BARNARD [1], BARNARD & KARAMAN [2], BOUSFIELD E. & P. HOOVER [7], BOUSFIELD E. & J. KENDALL [5], RUFFO & VADER [33]. The taxonomic position of species is in accordance with BELLAN-SANTINI; COSTELLO [6] and the taxonomic database of the marine biodiversity of Europe and adjacent areas <http://www.marbef.org/data/ermsearch.php>) and World Register of Marine species (WoRMS): <http://www.marinespecies.org/>.

Results and discussion

Total of 55 marine species from 25 amphipod families were establishes for the Bulgarian Black Sea area. Two of them only are Ponto-Caspian relicts, namely *Cardiophilus baeri* G.O.Sars 1896 and *Pontogammarus maeoticus*. The second group of species belongs to the species penetrated in Black Sea 5000-7000 years ago from Mediterranean Sea, according Zaitsev [44].

Some species in the list have not contemporary records and are considered very rare or extinct, i.e. *Pseudoprotella phasma* Montagu 1804, *Megamphopus cornutus* Norman 1869, *Microdeutopus anomalus* (Rathke 1843), *Microdeutopus stationis* Della Valle 1893 and *Cheirocratus sundevalii* (RATHKE 1843). These species are included in the list after KUNEVA-ABADJIEVA & MARINOV [20];

KUNEVA-ABADJEVA [15]; KUNEVA-ABADJEVA [17]; KUNEVA-ABADJEVA & MARINOV [21]; MARINOV & GOLEMANSKI [24].

Recently UZUNOVA [40,41] reported for first time for the Bulgarian Black Sea coast the species: *Echinogammarus foxi* (Schellenberg 1928) and *Monocorophium insidiosum* (Crawford 1937), collected in 2002 from Sozopol Bay, *Hyale crassipes* (Heller, 1866) - from *Mytilus* overgrowths, abundant in all samples from 1999-2000 and *Gammarus crinicornis* Stock 1966 from Varna Bay in 1999.

Superorder Peracarida CALMAN 1904
Order Amphipoda LATREILLE 1816

Family Microprotopidae Myers & Lowry 2003

Microprotopus longimanus CHEVREUX 1887

Microprotopus maculatus NORMAN, 1867

Parvorder Caprellidira LOWRY&MYERS 2013

Superfamily Capreloidea LEACH 1814

Family Caprellidae LEACH 1814

Subfamily Caprellinae LEACH 1814

Caprella acanthifera LEACH 1814

Caprella danilevskii CZERNIAVSKII, 1868

Pseudoprotella phasma MONTAGU 1804

Subfamily Phtisicinae VASSILENKO 1968

Phtisica marina SLABBER 1769

Family Photidae Boeck, 1871

Megamphopus cornutus NORMAN 1869

Suborder Senticaudata LOWRY&MYERS 2013

Infraorder Corophiida LOWRY&MYERS 2013

Parvorder Corophiidira LOWRY&MYERS 2013

Superfamily Aoroidea Stebbing 1899

Family Aoridae WALKER,1908

Microdeutopus anomalus (RATHKE 1843)

Microdeutopus algicola DELLA VALLE, 1893

Microdeutopus gryllotalpa COSTA 1853

Microdeutopus stationis DELLA VALLE 1893

Microdeutopus versiculatus (BATE 1856)

Superfamily COROPHIOIDEA LEACH, 1814

Family Ampithoidae Stebbing 1899

Ampithoe helleri KARAMAN 1975
Ampithoe ramondi AUDOUIN 1826
Cymadusa crassicornis (COSTA 1853)

Family Corophiidae LEACH 1814**Subfamily Corophiinae BOUSFIELD & HOOVER 1997****Tribe Corophiini LEACH 1814**

Medicorophium runcicorne (DELLA VALLE, 1893)
Monocorophium acherusicum (COSTA 1853)
Monocorophium insidiosum (CRAWFORD 1937)

Tribe Haplocheirini Myers & Lowry, 2003

Leptocheirus pilosus ZADDACH 1884

Superfamily Photoidea Boeck 1881**Family Ischiroceridae STEBBING 1899****Subfamily Ischirocerinae STEBBING 1899****Tribe Ischyrocerini STEBBING 1899**

Jassa ocia (BATE 1862)

Tribe Siphonoecetini Just, 1983

Erichthonius difformis MILNE-EDWARDS 1830

Infraorder Hadziida S. Karaman 1943**Parvorder Hadziidira G. O. Sars 1895****Parvorder Hadziidira S. Karaman 1932****Family Caliopiidae G. O. Sars 1895**

Apherusa bispinosa (BATE 1857)

Family Cheirocratidae Ren, 2006

Cheirocratus sundevalii (RATHKE 1843)

Family Melitidae BOUSFIELD 1973

Melita palmata (MONTAGU 1804)

Infraorder Gammarida LATREILLE 1802**Parvorder Gammaridira LATREILLE 1802****Superfamily Gammaroidea LATREILLE 1802**

Family Bathyporeiidae DANA 1853*Bathyporeia guilliamsoniana* (BATE 1857)**Family Behningiellidae Kamaltynov 2001***Cardiophilus baeri* G.O.SARS 1896**Family Gammarellidae BOUSFIELD 1977***Gammarellus angulosus* (RATHKE 1843)**Family Gammaridae LATREILLE 1802***Echinogammarus olivii* (H.MILNE-EDWARDS 1830)*Echinogammarus foxi* (SCHELLENBERG 1928)*Gammarus insensibilis* STOCK 1966*Gammarus aequicauda* (MARTYNOV 1931)*Gammarus subtypicus* STOCK 1966*Gammarus crinicornis* STOCK 1966**Family Pontogammaridae BOUSFIELD 1977***Euxinia maeoticus* (SOVINSKY 1894)**Suborder Gammaridea LATREILLE 1802****Family Ampeliscidae COSTA 1857***Ampelisca diadema* (A. COSTA 1853)**Family Atylidae Lilljeborg, 1865****Subfamily Atylinae Lilljeborg, 1865***Atylus aff. guttatus* (COSTA, 1851)

REMARK: PETRESCU (1998) [33] established that Black Sea *A. guttatus* is very similar to *A. massilensis*, the same was observed too for the Bulgarian Black sea region specimens and for this reason is accepted the definition *Atylus aff. guttatus*.

Family Dexaminidae LEACH 1814**Subfamily Dexamininae Barnard & KARAMAN (1991)***Dexamine spinosa* (MONTAGU 1813)**Superfamily Lysianassoidea DANA 1849****Family Lysianassidae DANA 1849****Subfamily Tryphosine Lowry & Stoddart, 1997***Orchomene humilis* (A. COSTA 1853)**Family Megalurupidae THOMAS & BARNARD 1986***Megaluropus massilensis* LEDOYER 1976

Family Oedicerotidae LILJEBORG 1865

Deflexilodes gibbosus (CHEVREUX 1888)
Perioculodes longimanus (BATE & WESTWOOD 1868)
Synchelidium maculatum STEBBING, 1906

Family Stenothoidae BOECK 1871

Stenothoe monoculoides (MONTAGU 1815)

Superfamily Eusiroidea Bousfield, 1979**Family Calliopiidae G.O. Sars, 1895**

Apherusa bispinosa (BATE, 1857)

Infraorder Tallitrida Rafinesque 1815**Parvorder Talitridira Rafinesque 1815****Superfamily Biancolinoidea J. L. BARNARD 1972****Family Biancolinidae J. L. BARNARD 1972**

Biancolina algicola DELLA VALLE 1893

Superfamily Tallitroidea Rafinesque 1815**Family Hyalidae BULYCHEVA 1957****Subfamily Hyaline BULYCHEVA 1957**

Hyale pontica RATHKE 1847
Hyale perieri (LUCAS 1846)
Hyale crassipes (HELLER, 1866)
Apohyale prevostii (MILNE-EDWARDS, 1830)

Family Tallitride Rafinesque, 1815

Orchestia gammarellus (PALLAS, 1766)
Orchestia montagui AUDOUIN, 1826
Orchestia cavimana HELLER (1865)
Deshayesorchestia deshayesii (AUDOUIN, 1826)
Pseudorchestoidea britto (STEBBING, 1891)
Tallitrus saltator (MONTAGU, 1808)

The total amphipods included in the present list consist 62% of the reported by Greze [10] and Sezgin&Katağan [34] amphipod taxa for the Black Sea. One of the reasons is the significant decrease of the salinity gradient from South to the North and the other is high level of eutrophication, which caused considerable loss of species in the past century.

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