

Marine molluscs from Marsa El Brega, Libya (Mollusca: Gastropoda and Bivalvia)

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HÉRA, Z. & HARIS, A.: *Marine molluscs from Marsa El Brega, Libya (Mollusca: Gastropoda and Bivalvia)*.

Abstract: Forty marine mollusc species are reported from Marsa El Brega, Libya. This is the seventh report on the marine molluscan fauna of this country. New records to the Libyan fauna are: *Phorcus turbinatus* (Born, 1780), *Erosaria spurca* (Linnaeus, 1758), *Natica maculata* Deshayes, 1838, *Venus verrucosa* Linnaeus, 1758, *Cerastoderma edule* (Linnaeus, 1758) and *Parvicardium exiguum* (Gmelin, 1791).

Keywords: Mediterranean Sea, Libya, Mollusca, Gastropoda, Bivalvia, sea snails, sea shells, new records

Introduction

According to the report of Bazari et. al, 2010, the coastal part of the Mediterranean Sea is a biological and evolutionary hot-spot. The species richness of marine gastropodes reaches the approximate 2000 species (ZENETOS et al., 2002). The proportion of the endemic species amounts 18-19 percent. According to the geographical division of the Mediterranean Sea, the investigated area is part of the Ionian and Central Mediterranean region. The average chlorophyll concentration is far the lowest here: in the coastal areas it varies between 0.1 and 0.2 mg/cubicmeter. Although the organic load of the sea-water is low here, the household and industrial solid waste extensively covers the coastal area of Marsa El Brega. The other endangering factor is the increase of introduced species. The number of exotic species in the Mediterranean Sea is currently about 1,000 and their rate of introduction is considered to be one species in each 1.5 weeks, see also GOFAS & ZENETOS 2003. Although the number of marine protected areas is high in the Mediterranean Sea, there is still no protected area in this region due to the lack of nature conservation investigations caused by the political situation and the current conflicts and instability.

Material and methods

The junior author did regular collections on the coastal area of Marsa El Brega from 2nd of January till 7th of February 2014 on daily basis between: 30°26'2.87"N, 19°38'18.47"E and 30°25'31.03"N, 19°37'51.87"E.

For the marine malacology of Lybia, the following papers, reports and data bases were consulted: GAILLARD 1987, TEMPLADO & VILLANUEVA 2010, HADDOUD & RAVAG 2013, ABUSHAALA et al., 2014, ZENETOS et al., 2005 PALOMARES & PAULI 2015.

The applied nomenclature follows the World Register of Marine Species database (WoRMS: <http://www.marinespecies.org>) (MEES et. al., 2015).

For the identification we consulted the Mediterranean Guide of COSSIGNANI & ARDOVINI (2011), the books of RIEDL 1963 and HOFRICHTER 2004 and the following sites: Hardy's Internet Guide to Marine Gastropods <http://gastropods.com/> (HARDY 2012) and the Seashells of the Adriatic and Mediterranean Seas <http://rune.gmxhome.de/index.html> (NEUHOFFER 2001).

The collected specimens are deposited in the collection of Rippl-Rónai Museum (former Somogy County Museum), Kaposvár.

Results

GASTROPODA

Patellidae Rafinesque, 1815

Patella caerulea Linnaeus, 1758 – 9 specimens

Patella rustica Linnaeus, 1758 syn.: *Patella lusitanica* Gmelin, 1791 – 9 specimens

Haliotidae Rafinesque, 1815

Haliotis tuberculata Linnaeus, 1758 – 1 specimen

Trochidae Rafinesque, 1815

Phorcus turbinatus (Born, 1780) syn.: *Monodonta turbinata* (Born, 1780) – 3 specimens, new record for Libya

Cypridae Baird, 1846

Erosaria spurca (Linnaeus, 1758) syn.: *Cypraea spurca* Linnaeus, 1758 – 5 specimens, new record for Libya

Naticidae Guilding, 1834

Natica maculata Deshayes, 1838 – 3 specimens, new record for Libya

Tonnidae Suter, 1913

Tonna galea (Linnaeus, 1758) – 4 specimens

Cassidae Latreille, 1825

Galeodea echinophora (Linnaeus, 1758) – 6 specimens

Janthinidae Lamarck, 1822

Janthina janthina (Linnaeus, 1758) – 1 specimen

Columbellidae Swainson, 1840

Columbella rustica (Linnaeus, 1758) – 1 specimen

Nassariidae Iredale, 1916 (1835)

Nassarius gibbosulus (Linnaeus, 1758) – 5 specimens

Muricidae Rafinesque, 1815

Bolinus brandaris (Linnaeus, 1758) – 1 specimen



Fig. 1: Southern coast of the Mediterranean Sea



Fig. 2: Map of the coast of Marsa El Brega



Fig. 3: *Galeodea echinophora*



Fig. 4: *Tonna galea* and *Bolinus brandaris*

BIVALVIA**Lucinidae** Fleming, 1828

Loripes lacteus (Linnaeus, 1758) syn.: *Loripes lucinalis* (Lamarck, 1818) – 13 specimens

Veneridae Rafinesque, 1815

Dosinia lupinus Linnaeus, 1758 – 3 specimen

Chamelea gallina (Linnaeus, 1758) syn.: *Venus gallina* Linnaeus, 1758 – 8 specimens

Venus verrucosa Linnaeus, 1758 – 4 specimen, new record for Libya

Callista chione (Linnaeus, 1758) syn.: *Pitaria chione* (Linnaeus, 1758) – 4 specimens

Donacidae Fleming, 1828

Donax trunculus Linnaeus, 1758 – 13 specimen

Tellinidae Blainville, 1814

Peronaea planata (Linnaeus, 1758) syn.: *Angulus planatus* (Linnaeus, 1758) – 8 specimens

Cardiidae Lamarck, 1809

Acanthocardia echinata (Linnaeus, 1758) syn.: *Cardium echinatum* Linnaeus, 1758 – 1 specimen

Acanthocardia tuberculata (Linnaeus, 1758) syn.: *C. tuberculatum* Linnaeus, 1758 – 23 specimens

Cerastoderma edule (Linnaeus, 1758) syn.: *Cardium edule* Linnaeus, 1758 – 1 specimen, new record for Libya

Cerastoderma glaucum (Linnaeus, 1758) – 9 specimens

Parvicardium exiguum (Gmelin, 1791) syn.: *Cardium exiguum* Gmelin, 1791 – 1 specimen, new record for Libya

Cardium sp. – 1 specimen

Mactridae Lamarck, 1809

Mactra stultorum Linnaeus, 1758 – 12 specimens

Arcidae Lamarck, 1809

Arca noae Linnaeus, 1758 – 8 specimens

Barbatia barbata (Linnaeus, 1758) syn.: *Arca barbata* (Linnaeus, 1758) – 8 specimens

Limidae Rafinesque, 1815

Lima lima (Linnaeus, 1758) – 4 specimens

Lima sp. – 1 specimen

Glycymerididae Dall, 1908

Glycymeris glycymeris (Linnaeus, 1758) – 38 specimens

Glycymeris nummaria (Linnaeus, 1758) syn.: *G. violacescens* (Lamarck, 1819) – 11 specimens

Glycymeris pilosa (Linnaeus, 1767) – 32 specimens

Mytilidae Rafinesque, 1815

Modiolus barbatus (Linnaeus, 1758) – 8 specimens

Ostreidae Rafinesque, 1815

Ostrea edulis Linnaeus, 1758 – 1 specimen

Pinnidae Leach, 1819

Pinna nobilis Linnaeus, 1758 – 4 specimens

Pectinidae Wilkes, 1810

Aequipecten opercularis Linnaeus, 1758 – 1 specimen

Spondylidae Gray, 1826

Spondylus gaederopus Linnaeus, 1758 – 11 specimens

Pteriidae Gray, 1847

Pinctada radiata (Leach, 1814) syn.: *Avicula radiata* Leach, 1814 – 14 specimens

Pteria hirundo (Linnaeus, 1758) – 7 specimens

Dominant species are: *Glycymeris glycymeris* (Linnaeus, 1758) and *Glycymeris pilosa* (Linnaeus, 1767). No rare species were collected. Three species, namely *Glycymeris glycymeris* (Linnaeus, 1758), *Glycymeris pilosa* (Linnaeus, 1767) and *Acanthocardia tuberculata* (Linnaeus, 1758) amounts the 31% of the collected 297 specimens. New records to the Libyan marine mollusc fauna are *Phorcus turbinatus* (Born, 1780), *Erosaria spurca* (Linnaeus, 1758), *Natica maculata* Deshayes, 1838, *Venus verrucosa* Linnaeus, 1758, *Cerastoderma edule* (Linnaeus, 1758) and *Parvicardium exiguum* (Gmelin, 1791). The known number of marine Gastropoda and Bivalvia species of Libya is 272 (including those which are published only in internet databases) which is far beyond the actual faunistic richness (about 25-30% of the real diversity of molluscs). As comparison, we know 1065 marine mollusc species along the Turkish coasts (ÖZTÜRK et al., 2014). There is some uncertainty in the number of Libyan marine mollusc species, since numerous species are reported from the Libyan Sea which includes the west Lybian and also east Egyptian coasts.

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