



Checklist of the marine malacofauna of Culuccia Peninsula (NW Sardinia, Italy), with notes on relevant species

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Abstract

Background

Culuccia is a small peninsula of about 3 km² placed in north-western Sardinia (Italy) at the margin of the Maddalena Archipelago. The marine area surrounding this Peninsula is a Special Area of Conservation, included in the European Natura 2000 Ecological Network of protected areas, but until now, no information on biodiversity of this area is available. In 2021, a research project to study both terrestrial and marine biodiversity of Culuccia has started in order to fill this gap of knowledge.

New information

This work provides the first inventory of the marine malacofauna of the coast of Culuccia. Fifteen sites were sampled seasonally for one-year by using different sampling methods and the present study shows the results from approximately 50 scientific SCUBA and free

dive surveys, carried out in all main marine habitats of the studied area. In total, 259 species of molluscs were recorded along the coasts of the Culuccia Peninsula (0-25 m depth), belonging to the classes Bivalvia, Gastropoda, Polyplacopora and Scaphopoda. Amongst the four classes recorded, gastropods were the most represented (68.83%; 173 species), followed by bivalves (25.91%; 73 species), polyplacophorans (4.86%; 12 species) and scaphopods (0.40%; 1 species). Notes about distribution, conservation status and ecology for some valuable species are provided, together with images of representative species, consisting mainly of *in situ* photographs. Additionally, the present investigation recorded the presence of four alien species, whose Mediterranean distribution was extended to north-western Sardinia.

Keywords

Catalogue, Mollusca, Bivalvia, Gastropoda, Polyplacophora, Scaphopoda

Introduction

Baseline studies of the marine molluscan fauna are essential steps to describe the biodiversity occurring along the Mediterranean coasts and to monitor the possible presence of alien species, especially nowadays when the marine biodiversity alteration in the Mediterranean Sea is a major concern. This marine basin, one of the world's most biodiverse, faces major threats, such as overexploitation of resources, pollution and the current climate change. Albeit the Mediterranean Sea is characterised by a high degree of endemism and specific communities, it is also the sea receiving the highest number of alien species (Galil et al. 2018). In the Mediterranean Sea, molluscan communities play a crucial role in the dynamics of the benthic ecosystems and are amongst the dominant and most important components of the benthic macrofauna (Barnes 1980, Guelorget and Perthuisot 1992). Culuccia is a small peninsula of about 3 km² placed in north-western Sardinia (Italy) at the margin of the Maddalena Archipelago, between Santa Teresa di Gallura and Palau (Fig. 1). The marine area surrounding this Peninsula is a Special Area of Conservation (SAC), included in the European Natura 2000 Ecological Network of protected areas, but so far, no information on the biodiversity of this area is available. In 2021, a research project to study both terrestrial and marine biodiversity of Culuccia has started in order to fill this gap of knowledge. This study presents the checklist of the molluscs observed in their habitats from the intertidal to the shallow sublittoral waters surrounding the coastline of the Peninsula. The lower depth coverage was limited to 25 m. The research was carried out by SCUBA diving and free-diving survey over 1 year (from July 2022 to July 2023), at 15 sampling sites (SS). The molluscan classes taken into account were Polyplacophora, Gastropoda, Scaphopoda and Bivalvia. For some species, *in situ* photographs are provided together with relative notes. Furthermore, we also report the records of four Non-Indigenous Species (NIS) from in this marine spot, which widen their Mediterranean distributions to north-western Sardinia.

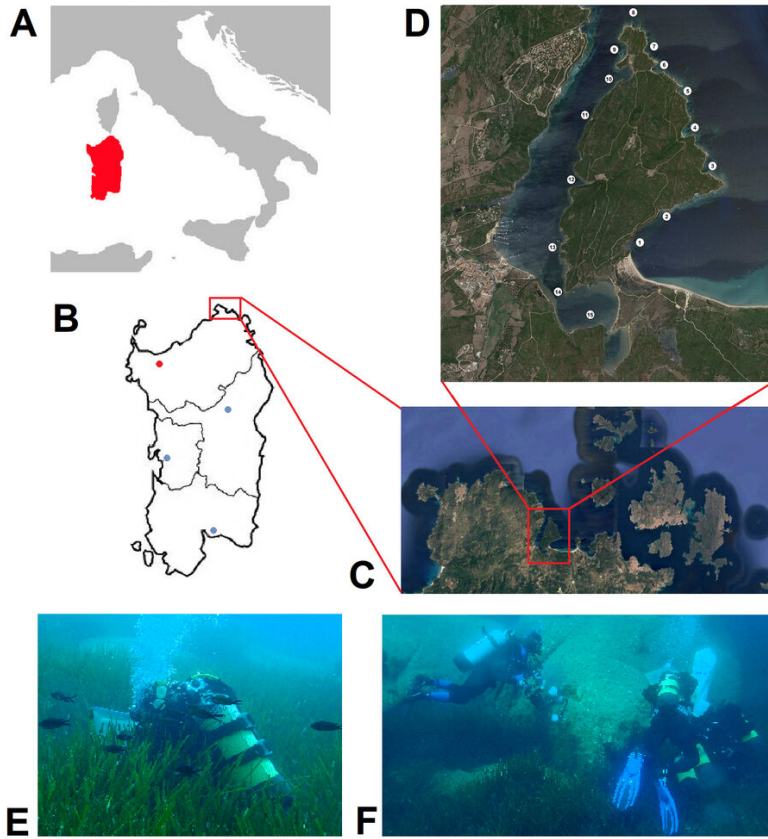


Figure 1. [doi](#)

Geographic map of the Culuccia Peninsula and localisation of the sampling sites with illustration of field collecting methods. **A-D** Different geographic scales indicating the position of the Culuccia Peninsula and distribution of sampling sites; **E-F** Scuba divers sampling on *Posidonia oceanica* meadow and rocky substrate.

Materials and methods

Study area

The Culuccia Peninsula is located in north-western Sardinia, within the Santa Teresa di Gallura territory, facing the Conca Verde at the west and the Isola dei Gabbiani at the east (Fig. 1A-C). It is characterised mainly by rocky coasts and a few sandy beaches; relatively quiet weather conditions are met during the Summer, whereas strong currents and high-energy waves feature the Winter season. The western and eastern coasts of Culuccia are different. The western coast faces a narrow fjord, which hosts a small touristic harbour (Porto Pozzo, with a small Marina), minor stream mouths and a suspended aquaculture

farm rearing the oyster *Magallana gigas* (Thunberg, 1793). The southernmost part of this fjord encloses a small shallow water brackish lagoon, which is connected to internal salt marshes. The north-eastern side faces the open sea; the south-eastern coast forms, together with the Isola dei Gabbiani, a small bay where the Liscia River flows. Due to the different marine conditions and habitats of the shores around the Peninsula, 15 sampling sites (SS) regularly spaced were selected (Fig. 1). Habitat descriptions, geographic coordinates and depth range of the SS are provided in Table 1.

Table 1.

Number of the sampling locality (SS), geographic coordinates, depth range and habitat.

Sampling Site	Latitude - Longitude	Depth range (m)	Habitat
SS1	"41 11 46.79N 9 17 20.34E"	0-10	rocks-pebbles-gravel-sand-mud- <i>Posidonia</i> meadow
SS2	"41 11 56.04N 9 17 33.63E"	0-10	rocks-pebbles-gravel-sand- <i>Posidonia</i> meadow
SS3	"41 12 13.88N 9 17 56.14E" "	0-15	rocks-pebbles-gravel- <i>Posidonia</i> meadow
SS4	"41 12 28.07N 9 17 47.62E" "	0-15	rocks-pebbles-gravel- <i>Posidonia</i> meadow
SS5	"41 12 42.40N 9 17 45.35E" "	0-15	rocks-pebbles-gravel- <i>Posidonia</i> meadow
SS6	"41 12 51.58N 9 17 31.46E" "	0-10	rocks-pebbles-gravel- <i>Posidonia</i> meadow
SS7	"41 12 58.68N 9 17 26.51E" "	0-15	rocks-pebbles-gravel- <i>Posidonia</i> meadow
SS8	"41 13 17.70N 9 17 21.41E" "	0-20	rocks-pebbles-gravel- <i>Posidonia</i> meadow
SS9	"41 12 58.16N 9 17 09.66E" "	0-10	rocks-pebbles-gravel- <i>Posidonia</i> meadow
SS10	"41 12 47.63N 9 17 08.68E" "	0-10	rocks-pebbles-gravels- <i>Posidonia</i> meadow
SS11	"41 12 32.26N 9 16 52.46E" "	0-10	rocks-pebbles-gravel-sand
SS12	"41 12 09.61N 9 16 43.24E" "	0-5	rocks-pebbles-gravel-sand-mud
SS13	"41 11 46.14N 9 16 40.60E"	0-5	rocks-pebbles-gravel-sand-mud
SS14	"41 11 28.32N 9 16 44.50E"	0-5	rocks-pebbles-gravel-sand-mud
SS15	"41 11 22.14N 9 16 59.05E"	0-5	rocks-pebbles-gravel-sand-mud

Field sampling

Specimens were collected either by direct hand or using an air-lift suction sampler during diving (SCUBA and free diving, depending on the depth) in benthic environments, on both

rocky and soft substrates, particularly on/under rocks, rubble, amidst algae and in *Posidonia oceanica* L. (Delile) meadows. A total of 50 SCUBA dives (1 hour each) were performed by five divers down to 25 m depth, during about one-year monitoring (2022-2023). An ethical approach in this research was carried out by complying with the restrictions in term of collected specimen size, environmental survey of the collection sites, as well as complying with local, regional, national and international rules and regulations for access to biodiversity, sustainable use and benefit sharing (Convention on Biological Diversity and its Nagoya Protocol, national regulations). Species identification was initially made by each collector, but all specimens were then cross-checked by all authors who are experienced malacological taxonomists. Live animals were photographed *in situ* or in the Coluccia's laboratory (Osservatorio Naturalistico) with the digital cameras Canon Powershot G11 and Olympus TG-6, equipped with housing for marine photographs. Specimens of particular interest were anaesthetised with 7.5% magnesium chloride ($MgCl_2$) and preserved in 95% ethanol as reference material and for future molecular studies. All sampled material was deposited in the Malacology Collection of the Department of Biology and Biotechnologies Charles Darwin, Sapienza University of Rome (Rome, Italy).

Morphological analyses

Sorting and identifications of the material was performed by using stereomicroscopes. Representative specimens were photographed by using a ZEISS Axio Zoom.V16 stereomicroscope, equipped with a ZEISS AxioCam 503 camera. For Scanning Electron Microscopy (SEM) analyses, dried shells were mounted on aluminium stubs using self-adhesive carbon discs, sputtered with gold (Emitech k550 Sputter Coater) and analysed by a Zeiss Gemini 300 SEM at L.I.M.E. (Laboratorio Interdipartimentale di Microscopia Elettronica, Roma Tre University, Rome, Italy) laboratory.

Class Polyplacophora

Order Callochitonida

Family Callochitonidae

Callochiton septemvalvis (Montagu, 1803)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: E24EB0B4-A1D4-5584-A897-5A55F3234FED

Notes: Alive, Fig. 2; new record.



Figure 2. [doi](#)

Callochiton septemvalvis (Montagu, 1803). On the left, *in situ* photograph of specimen A; on the right, optical and SEM photographs of specimen B.

Order Chitonida

Family Acanthochitonidae

Acantochitona crinita (Pennant, 1777)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 2B675D4D-88D7-57E6-8673-F00D43749A0D

Notes: Shell.

Acantochitona fascicularis (Linnaeus, 1767)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 3645FE7E-0B64-5BEB-9D30-E20FE6C7D812

- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 6E230691-029A-5558-ADE0-D415D931EAF2
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 62159682-4B11-5EF7-9B71-060E5B457A7F
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 3C9201F6-6D66-5ECD-85B9-1382F0A819D7

Notes: Alive, Fig. 3.



Figure 3. [doi](#)

Acanthochitona fascicularis (Linnaeus, 1767). *In situ* photograph.

Family Chitonidae

Rhyssoplax olivacea Spengler, 1798

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 12EFA212-6483-5315-9EA4-D6D43B1423E9

- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: FF2D7939-7798-5218-8B86-A7CE2E12AC32
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 2D214B34-D5B7-549C-B433-91F9BAA41750
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: 1CF96E6D-BF23-5813-BE90-7293DFE29CD4

Notes: Alive, Fig. 4.



Figure 4. [doi](#)

Rhyssoplax olivacea Spengler, 1797. *In situ* photograph.

Family Ischnochitonidae

Ischnochiton rissoi (Payraudeau, 1826)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: E7E2F4ED-8A95-5795-A9B6-225F9069D1B1
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: A631A64A-4343-557D-91D1-DF926295387B

Notes: Alive, Fig. 5.



Figure 5. [doi](#)

Ischnochiton rissoi (Payraudeau, 1826). On the left, *in situ* photograph; on the right, optical photograph.

Family Tonicellidae

Lepidochitona cinerea (Linnaeus, 1767)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 081E996A-451B-5861-B3E8-10448CBD689B

Notes: Alive, Fig. 6.

Lepidochitona caprearum (Scacchi, 1836)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: B8EE8D4F-E71E-56D0-9AB2-5E4E06141F9B

Notes: Shell.



Figure 6. [doi](#)

Lepidochitona cinerea (Linnaeus, 1767). *In situ* photograph.

***Lepidopleurus cajetanus* (Poli, 1791)**

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: FF837056-CFE8-57C0-9B37-9A979F28B6EF
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 88A5990B-51DA-5B82-B571-26EF82390AF3
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 83D0E679-75C5-5AC0-9E23-6D6C91D47F62
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 39147A89-3A3B-5EA5-870E-5993D9705005

Notes: Alive, Fig. 7.

***Leptochiton algesirensis* (Capellini, 1859)**

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 958F57ED-EE8B-599C-9932-5E912FFF06E9

Notes: Alive, Fig. 8.



Figure 7. [doi](#)

Lepidopleurus cajetanus (Poli, 1791). *In situ* photograph.



Figure 8. [doi](#)

Leptochiton algesirensis (Capellini, 1859). *In situ* photograph.

Leptochiton asellus* (Gmelin, 1791)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 4CD88992-ABCB-53AE-8DFA-B614B8CE719B

Notes: Shell; new record.

Leptochiton cancellatus* (Sowerby, 1840)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: A123168F-DD22-5021-98B9-F4FA43BE355C

Notes: Shell.

Leptochiton scabridus* (Jeffreys, 1880)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 07B29370-EF6A-5F39-AF4B-740E7AE489E9

Notes: Shell.

Class Gastropoda**Subclass Patellagastropoda****Family Patellidae*****Patella caerulea* Linnaeus, 1758****Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: DCDDCA70-2EC5-5386-8885-7AEFD6FAB598
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 77DE7AF3-3FD3-56A9-9AC1-6DB09CB9F254

- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: A3793666-7794-5FF2-90CE-478ECD363BCE
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 74E1CD41-7AD3-528F-A41B-EBE1AC89FA49
- e. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: F23EF0B5-6888-59C6-B05E-4B9BD485BE61
- f. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.68N; verbatimLongitude: 9 17 26.51E; geodeticDatum: WGS84; occurrenceID: CB36A960-13D2-5F9C-BA2D-34B71E4A15B2
- g. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: E94F9EB8-99AD-5F79-AD3C-722027184953

Notes: Alive, Fig. 9.



Figure 9. [doi](#)

Patella caerulea Linnaeus, 1758. *In situ* photograph.

Patella ferruginea Gmelin, 1791

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 6FF8E588-4680-5E71-8317-B0C1570F01E1

- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 1ECFA020-9E1D-515D-ADB9-1B763AF7B90D
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: EF11FC30-9FD4-5A85-938C-DB9BD94AC97A

Notes: Alive, Fig. 10.

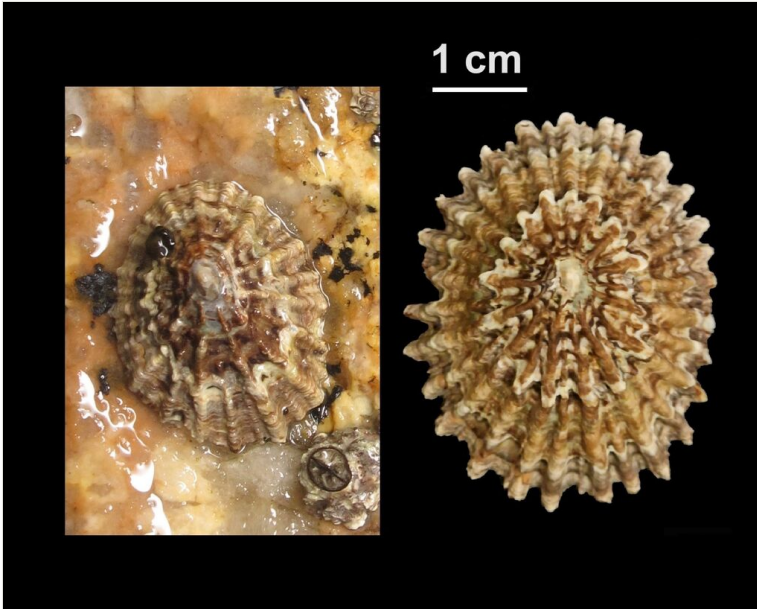


Figure 10. [doi](#)

Patella ferruginea Gmelin, 1791. On the left, *in situ* photograph; on the right, optical photograph of a shell.

Patella rustica Linnaeus, 1758

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 4CCC358A-B1DD-53BC-90CE-D649EBC71E49
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 13077043-2A0C-5DED-81B2-F65F0EBFD61E
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: A24FA4FA-8315-55A4-BCDE-6492B384604E
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 892D82A6-79F9-561E-B8AF-B934F6270F37

- e. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: F30CCC81-2F52-5A3F-8EE2-FE21AC9285F9
- f. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.68N; verbatimLongitude: 9 17 26.51E; geodeticDatum: WGS84; occurrenceID: 8EF2B546-2B57-58E8-819C-71543D0B686E
- g. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: 79128D5F-D7D5-5493-A697-D41C7A8263AC

Notes: Alive, Fig. 11.



Figure 11. [doi](#)

Patella rustica Linnaeus, 1758. In situ photograph.

***Patella ulyssiponensis* Gmelin, 1791**

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 273CC16C-ECA9-516E-9DF8-E4B5A2BAF1C9
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 0B9BC4BB-8A02-52DA-8E23-29D1BECA3690
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: 541A7598-7150-58E4-A575-2A94DD3F97A1

- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: F0C1C0F9-99A6-57C0-A8AE-7705BE804BFA
- e. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 61BBDD56-C49D-5936-804C-6648AF9AC63F
- f. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.68N; verbatimLongitude: 9 17 26.51E; geodeticDatum: WGS84; occurrenceID: A8434292-583D-5CB3-9908-B9C3BC8E9C15
- g. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: D6BB67E2-0B63-5D20-882F-ECC50050EB32

Notes: Alive, Fig. 12.



Figure 12. [doi](#)

Patella ulyssiponensis Gmelin, 1791. Dorsal and internal views. Optical photograph.

Family Lottiidae

Tectura virginea (Mueller O.F., 1776)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: B691C5C2-8796-5770-B100-B8CABEEAFFD5

Notes: Shell.

Order Lepetellida

Family Scissurellidae

Scissurella costata d'Orbigny, 1824

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 28423D17-A2C2-5959-B4E6-E00C62CA603F

Notes: Shell.

Family Haliotidae

Haliotis tuberculata Linnaeus, 1758

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 48D02B05-9C2B-5409-95BC-612437AABD82
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 89801DAB-3F87-5F0E-B6C4-4BA0712B517A
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: 3CDA66B2-C3BE-5484-9333-2CC3787B1FDE

Notes: Alive, Fig. 13, Suppl. material 1.

Family Fissurellidae

Emarginula adriatica OG Costa, 1830

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 40AF59ED-C9E8-5596-9A67-DD2E6F684E60

Notes: Shell.



Figure 13. [doi](#)

Haliotis tuberculata Linnaeus, 1758. *In situ* photograph.



Figure 14. [doi](#)

Emarginula huzardii Payraudeau, 1826. *In situ* photograph.

Emarginula huzardii* Payraudeau, 1826*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: 7B0969F8-7CF6-5974-B523-BE03C6D11801

Notes: Alive, Fig. 14.

Emarginula pustula* Thiele in Küster, 1913*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: E2AC86C9-86BB-5734-8C82-478B00CD5CAC

Notes: Shell.

Emarginula sicula* JE Gray, 1825*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 59E1F24F-A85D-5590-996F-46D7BC314C65

Notes: Shell.

Diodora gibberula* (Lamarck, 1822)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: C0A5E9E5-34FA-59F9-8418-338246B51682

Notes: Shell.

Diodora graeca* (Linnaeus, 1758)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: A636B918-A321-57C8-8AD6-5920EFF8E812

Notes: Alive, Fig. 15.



Figure 15. [doi](#)

Diodora graeca O.G. Costa 1830. *In situ* photograph.

Order Trochida

Family Trochidae

Phorcus articulatus (Lamarck, 1822)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: CDA1CE24-9744-5701-A11B-E6A88AB96564

Notes: Alive.

Phorcus turbinatus (Born, 1778)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: 1B256C8F-3A08-576D-8089-70E8B29CEDA3
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 498ECD2B-45EE-5B42-A98D-839317EC43CB
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: C99EC1D7-AC10-5E37-A002-9232A30075A3

- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: B2C0FA2F-C03C-5B6A-9C8C-FB016F4B410C

Notes: Alive, Fig. 16.



Figure 16. [doi](#)

Phorcus turbinatus (Born, 1778). *In situ* photograph.

***Gibbula ardens* (Salis Marschlins, 1793)**

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 6CD18459-CD5A-5174-9FFC-3D01B791083A

Notes: Shell.

***Gibbula fanulum* (Gmelin, 1791)**

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: A8C4E7A7-6390-54BB-8753-A1F79A9B800D

Notes: Alive, Fig. 17.

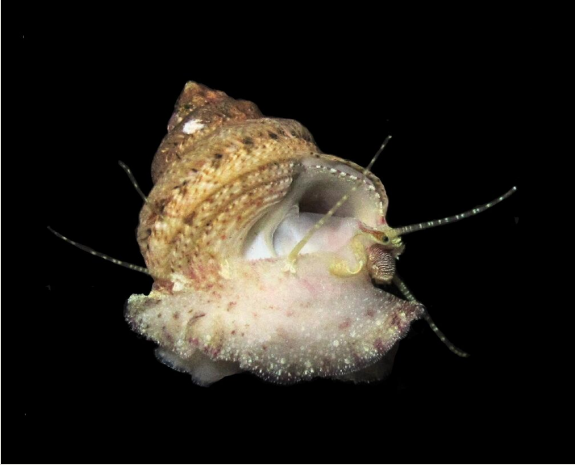


Figure 17. [doi](#)

Gibbula fanulum (Gmelin, 1791). Optical photograph.

Gibbula guttadauri (Philippi, 1836)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: B2B83D7A-4152-5FD7-9BC0-2774BDA1B33E

Notes: Shell.

Gibbula turbinoides (Deshayes, 1835)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 113C7973-39A1-5E22-8617-8C91189BD140

Notes: Shell.

Gibbula umbilicaris (Linnaeus, 1758)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: AF7C9E69-1623-5D06-A73C-DFA0B9FB17C5
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 67E1EAD0-7680-5F77-AD71-656B6E777714

- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 6A68A9C5-CC3F-54BB-B43F-AF99527AA896
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 45C6942A-1089-57AC-84C0-64FBD8CE1B2B

Notes: Alive, Fig. 18.



Figure 18. [doi](#)

Gibbula umbilicaris (Linnaeus, 1758). *In situ* photograph.

Jujubinus baudoni (Monterosato, 1891)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: DA6867DF-624B-5472-843E-74AA113753DC

Notes: Shell.

Jujubinus depictus (Deshayes, 1835)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 4563CE2A-E293-59DA-B2C1-B8CDC367CCF0

Notes: Shell.

Jujubinus corallinus* (Monterosato, 1884)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: ADCE7E2B-040B-5291-AC57-267B17590093

Notes: Shell.

Jujubinus striatus* (Linnaeus, 1758)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 1DDE695A-65E3-5E21-AB29-1ED7D7B3405C

Notes: Shell.

Jujubinus exasperatus* (Pennant, 1777)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 6ABA169B-6BDE-56D2-BBBC-5FC1B977C5C4

Notes: Alive, Fig. 19.

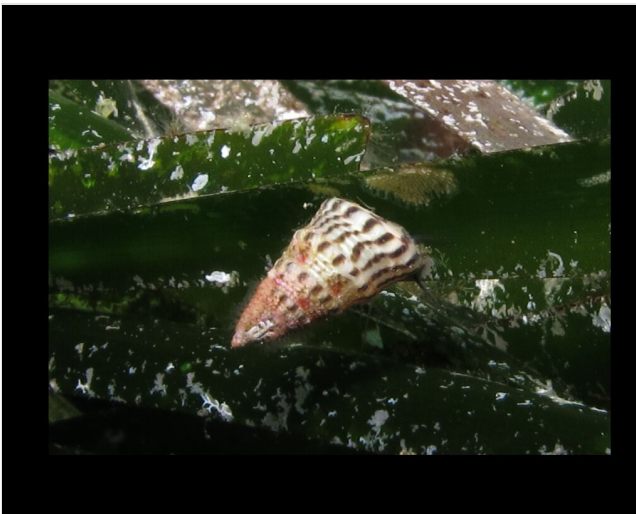


Figure 19. [doi](#)

Jujubinus exasperatus (Pennant, 1777). In situ photograph.

Clanculus corallinus* (Gmelin, 1791)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 755CB4CD-55F9-5E57-AD4B-99BA30F61896

Notes: Shell.

Clanculus cruciatus* (Linnaeus, 1758)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: A97C22A1-71CD-52D4-8BB1-34C1497D6986

Notes: Alive, Fig. 20.



Figure 20. [doi](#)

Clanculus cruciatus (Linnaeus, 1758). *In situ* photograph.

Clanculus jussieui* (Payraudeau, 1826)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 7B076390-BFEB-576A-B83A-0665C1D96A29

Notes: Alive.

Family Calliostomatidae

Calliostoma laugier (Payraudeau, 1826)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 2A1D8E9B-16C9-5F3A-B0F1-BBC5DB8A0027

Notes: Alive, Fig. 21.



Figure 21. [doi](#)

Calliostoma laugier (Payraudeau, 1826). *In situ* photograph.

Family Skeneidae

Skenea serpuloides (Montagu, 1808)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 39262B2D-4681-5D26-BD26-FEE1CBCDDE76

Notes: Shell.

Family Turbinidae

Bolma rugosa (Linnaeus 1767)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: 232513C8-B0DE-5FD2-B38A-5816A3A9FE1C
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 6F453133-DE4F-50F7-875B-79D953841A10

Notes: Alive, Fig. 22.

Homalopoma sanguineum (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 788C7F83-FA45-5CD0-BAAD-EC14F01DB3F7

Notes: Shell.

Family Phasianellidae

Tricolia pullus (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 941BD127-FFAD-5A93-8D03-36E39F5A9BA1

Notes: Shell.

Tricolia speciosa (Von Muhelfeldt, 1824)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: B26B3726-9A25-51F9-A662-25B3C2F3306B

Notes: Alive.



Figure 22. [doi](#)

Bolma rugosa (Linnaeus 1767). *In situ* photograph.

Order Cycloneritida

Family Neritidae

Smaragdia viridis (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: A6253ABF-7D3B-50E3-B3C0-B20BA2B36ACB

Notes: Alive.

Order Caenogastropoda*

Family Cerithiidae

Bittium reticulatum (da Costa, 1778)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: F3C5EC89-2A33-577C-B6A0-217C23D11BC1

- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 0E8E3303-FAB8-5B0F-80FE-08C77E5EC238
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: ECD22F81-5F65-5FAF-BCD2-57F3DA15C7FE

Notes: Alive.



Figure 23. [doi](#)

Cerithium renovatum Monterosato, 1884. *In situ* photograph.

Cerithium renovatum Monterosato, 1884

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: E05E1A58-CCFC-525F-B7AB-143B5E67209A
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 23455B65-B58B-578A-8228-190B69675816
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: DEAA48DC-96E8-5C6F-9AFA-1A73F55B182D

Notes: Alive, Fig. 23.

Cerithium vulgatum Bruguiere, 1792

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 4AD3AF18-CA81-5F1C-BCDD-D803E4898173
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: D2577C4E-87C9-59EA-82FF-0739AB8CAA74
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 239FC8DB-F4A0-504C-994C-C1A733733273

Notes: Alive, Fig. 24.



Figure 24. [doi](#)

Cerithium vulgatum Bruguiere, 1792. In situ photograph.

Family Potamididae

Pirenella conica (Blainville, 1826)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 53F9AAFE-5BF5-5C7C-A45E-22CF97FB5FC3

Notes: Alive.

Family Turritellidae

Turritella turbona Monterosato, 1887

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: CB0CA8B0-2686-52D5-822A-F4EAFE429437

Notes: Shell.

Family Triphoridae

Metaxia metaxa (Delle Chiaje, 1828)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: B455DD48-E160-546E-A146-01176992A758

Notes: Shell.

Monophorus perversus (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 18EA033A-22C9-55E1-B454-36D4B7444217

Notes: Shell.

Marshallora adversa (Montagu, 1803)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: FE9E4FED-1FAA-5B91-B095-F2FCFD07D274

Notes: Shell.

Family Cerithiopsidae

Cerithiopsis tubercularis (Montagu, 1803)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D3F5ED9C-94EE-56C5-9ED0-56CE0AEF353E

Notes: Shell.

Family Epitoniidae

Epitonium clathrus (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 7E463BB1-80B6-5FCE-A079-78CD9C6A54EE

Notes: Shell.

Order Littorinimorpha

Family Eulimidae

Eulima glabra (da Costa, 1778)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: F8A9561A-7EDC-5527-BF35-B9FDD23D6F82

Notes: Shell.

Eulima sp.

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 865263BF-3A0C-5EAB-8C68-2394D185A178

Notes: Shell.

Melanella polita* (Linnaeus, 1758)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: B8557482-350D-51B8-AAD8-34156E0A0413

Notes: Shell.

Parvioris ibizenca* (F. Nordsieck, 1968)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 29FEFC07-3C2A-5BF6-9D2F-7C6284877927

Notes: Shell.

Family Vanikoridae***Megalomphalus azonus* (Brusina, 1865)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 15359214-B528-540C-94BB-52B7BF63F877

Notes: Shell.

Family Rissoidae***Pusillina inconspicua* (Alder, 1844)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 13A23877-2AD0-5BD9-8AB8-50C01CC5E2AF

Notes: Shell.

Pusillina marginata* (Michaud, 1830)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 27BB286A-9F81-5D6A-A0C1-22E8CC112C73

Notes: Shell.

Pusillina radiata* (Philippi, 1836)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 559673D2-16B3-5A26-9D84-E3F93A46AECA

Notes: Shell.

Rissoa aartseni* Verduin, 1985*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 2347D1FD-FA48-5CA3-BA7A-2239441303D3

Notes: Shell; new record.

Rissoa auriscalpium* (Linnaeus, 1758)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D64D816D-8751-5AB5-9D16-9F5049BFEFCB

Notes: Alive.

Rissoa lia* (Monterosato, 1884)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 2392023A-D8A5-5269-AE3D-52A2211B3FBB

Notes: Shell.

Rissoa membranacea* (J. Adams, 1800)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: B6CDE519-4121-565F-9FA6-F99E8AE826B4
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: D0679C77-68CA-59D7-ADA3-F8E0B71AFBCB

Notes: Shell.

Rissoa* sp.*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 4F09EA95-DF48-5B41-8E6E-ADDDA1506DB7

Notes: Shell.

Rissoa variabilis* (Megerle von Mühlfeld, 1824)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: E70CC4E6-486A-5BAE-AA01-3A1715E57760

Notes: Shell.

Rissoa ventricosa* Desmarest, 1814*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: A1B8C923-2710-5990-9EAC-CC4010C392AA

Notes: Shell.

Rissoa violacea* Desmarest, 1814*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 655A929F-B1E0-59AF-B749-5A05E436F46E

Notes: Shell.

***Alvania beanii* (Hanley, 1844)**

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D262DFA3-9783-53E1-B5A4-FD7EAB8E054D

Notes: Shell, Fig. 25.

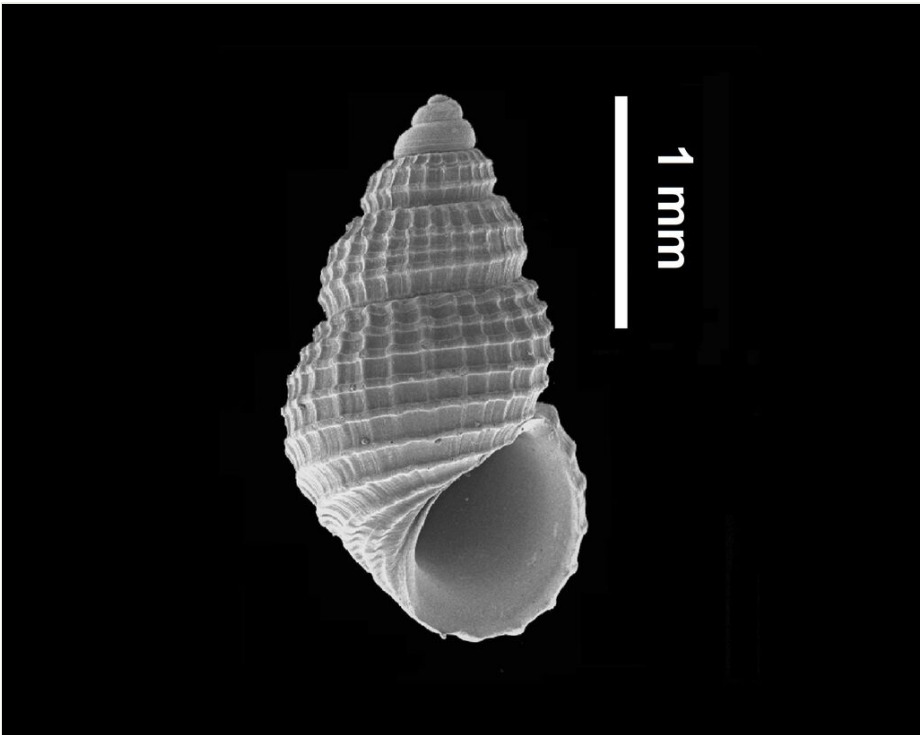


Figure 25. [doi](#)

Alvania beanii (Hanley, 1844). SEM photograph.

***Alvania carinata* (da Costa, 1778)**

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D0993C33-DBAB-50C1-9F58-7EDD89BCA3DC

Notes: Shell.

Alvania lactea* (Michaud, 1830)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 2D439D13-3F2B-50CC-9D00-C40728E6DB15

Notes: Shell.

Alvania lineata* Risso, 1826*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 4A9E0933-A974-5B6F-B083-A8D1C08FDD68

Notes: Shell.

Alvania mamillata* Risso, 1826*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: BF21DF0C-52DD-5B48-B797-534C91F95872

Notes: Shell.

Alvania scabra* (Philippi, 1844)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 8081AAAC-EB13-579D-8D3B-F39D054C566F

Notes: Shell.

Rissoina bruguieri* (Payraudeau, 1826)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 4719A908-B1A0-5AC4-8169-B320FDE4D6E2

Notes: Shell.

Crisilla semistriata* (Montagu, 1808)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: C1CC44A2-C159-5AAE-A14D-77CF965D4F32

Notes: Shell; new record.

Manzonina crassa* (Kanmacher, 1798)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: F53E6B40-231A-5D22-B6D3-515559EC04DA

Notes: Shell; new record.

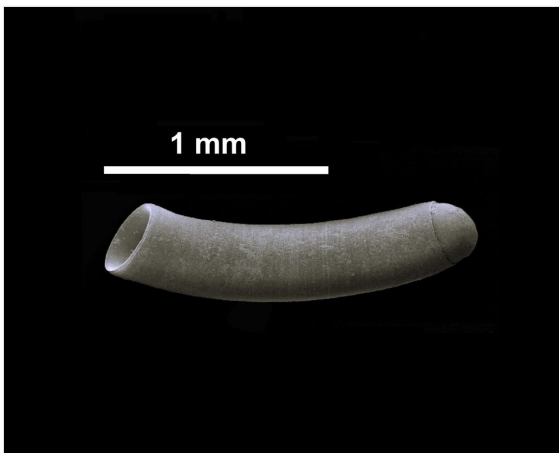


Figure 26. [doi](#)

Caecum subannulatum de Folin, 1870. SEM photograph.

Family Caecidae***Caecum subannulatum* de Folin, 1870****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D53FD71F-78DE-53E6-984A-8D000D4E39D2

Notes: Shell, Fig. 26.

Caecum trachea* (Montagu, 1803)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 22DF3666-A051-52F8-9664-A4593F5E19D6

Notes: Shell.

Family Truncartellidae***Truncatella subcylindrica* (Linnaeus, 1767)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: B7BE9276-2C2C-5F52-99DF-85D1C311F083

Notes: Shell.

Family Calyptraeidae***Calyptraea chinensis* (Linnaeus, 1758)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: E6549B97-46C5-5640-917A-0B0CFD8813AE

Notes: Shell.

Crepidula unguiformis* Lamarck, 1822*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 6611CD81-DF3B-5575-A0BE-1DAB89CFBA93

Notes: Shell.

Family Triviidae

Trivia arctica (Pulteney, 1799)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: EE7E528B-E744-577D-AC13-DAA4673C4C22

Notes: Shell.

Trivia pulex (Pulteney, 1799)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 8A6C1933-FB5A-5A7A-ACF3-55306E5C6A0D

Notes: Alive, Fig. 27.



Figure 27. [doi](#)

Trivia mediterranea (Risso, 1826). *In situ* photograph.

Family Vermetidae

Vermetus granulatus (Gravenhorst, 1831)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: FDC25DD6-A7F8-5E99-BFE9-074F22D5802A
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: 7DA5436D-6DE9-55E1-A61E-E664905B60BE
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 98A13A30-BD3A-5E7C-BC4E-48D15AFBEB95
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: D1C21F8A-A5C1-5AB7-B629-65EF7EA56F21
- e. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: C2650E29-6138-5C00-99C8-8D15BC9D232A

Notes: Alive, Fig. 28.



Figure 28. [doi](#)

Vermetus granulatus (Gravenhorst, 1831). *In situ* photograph.

Family Cypreidae

Luria lurida (Linnaeus, 1758)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 25BC7385-2AA3-5FCC-98E0-507D8ACC997B
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 4CDA040B-15A6-5252-A0EA-08A146F26C7F

Notes: Alive, Fig. 29.



Figure 29. [doi](#)

Luria lurida (Linnaeus, 1758). *In situ* photograph.

Naria spurca (Linnaeus, 1758)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 46708C9F-EDFB-57D5-8D54-5358951EDA56

- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: F6AF4EEE-F860-57B2-838D-86EDB9131560

Notes: Alive, Fig. 30.

Family Naticidae

Euspira nitida (Donovan, 1803)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 9665B106-D8E4-543B-A677-E9A0C78BD854

Notes: Shell.



Figure 30. [doi](#)

Naria spurca (Linnaeus, 1758). *In situ* photograph.

Payraudeautia intricata (Donovan, 1804)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 231A2095-2872-5F48-ABDF-95BA42B51A22

Notes: Shell.

Naticarius hebraeus (Martyn, 1786)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: C619E69D-4B74-5B5C-A418-2A829F9DB6F6

Notes: Shell.



Figure 31. [doi](#)

Phalium granulatum (Born, 1778). Optical photograph.

Neverita josephinia Risso, 1826

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 62BDF85F-5842-5A00-9D3C-93606B6167B3
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: B91D8D20-637F-5E0C-A35F-2A11CE8CF3A4

Notes: Shell.

Family Cassidae

Phalium granulatum (Born, 1778)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 909BA5C0-EFCC-5BFA-B731-89DE5C25F1D2

Notes: Alive, Fig. 31.

Family Bursidae

Talisman scrobilator (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 83D49A74-F4CE-5516-862A-2D1AA816E4A3

Notes: Shell.



Figure 32. [doi](#)

Hexaplex trunculus (Linnaeus, 1758). On the left, *in situ* photograph specimen A; on the right optical photograph specimen B.

Order Neogastropoda

Family Muricidae

Hexaplex trunculus (Linnaeus, 1758)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: A690240D-407E-570B-B021-97A10AAE9546
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: 38E7F6C5-73B0-5AE4-B0CA-25EF126AEB5F
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: A9B7AC66-4D5A-5A73-B10C-754BF84FEDAD

Notes: Alive, Fig. 32.

Bolinus brandaris (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: EE9AB88B-2B4E-528D-ACED-70F6589B9B81

Notes: Alive.

Dermomurex scalaroides (de Blainville, 1829)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: E8B8281C-336F-52DC-A6A7-98B498B3B90D

Notes: Shell.

Typhinellus labiatus (de Cristofori & Jan, 1832)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 33A17A5F-CC8F-59EB-9FCA-7C3BC0F099D4

Notes: Shell.

Ocenebra edwardsii* (Payraudeau, 1826)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 3763CD0A-26FB-5A10-874B-77B4B0C4C212
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: 2C194CBF-7FB8-542E-B36C-C3387DAC0B9E

Notes: Shell.

Ocinebrina corallina* Scacchi, 1836*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 68F3918D-2022-5FED-988E-2635956EF303

Notes: Shell.



Figure 33. [doi](#)

Muricopsis cristata (Brocchi, 1814). *In situ* photograph.

Muricopsis cristata* (Brocchi, 1814)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 3CF77047-4FD1-5D13-BFB8-B07FC37F141D

- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.14N; verbatimLongitude: 9 16 40.60E; geodeticDatum: WGS84; occurrenceID: AD0D3B11-3096-55C4-B7C4-AECD622D1B38
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: BBCBA8E4-39CD-5108-BEB8-1AB738003CCE
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D1B7486B-4A9C-55D9-B80E-D060A4B41960

Notes: Alive, Fig. 33.

Stramonita haemastoma (Linnaeus, 1767)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 15B98263-4A45-5FE0-8930-6A1CC9A4264C
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 1CA4EDCF-0925-55F0-B484-3AA20FE1DEF2
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: BA06F2DA-3819-50F6-BBC5-56E474A43BB8

Notes: Alive, Fig. 34.



Figure 34. [doi](#)

Stramonita haemastoma (Linnaeus, 1767). *In situ* photograph.

Coralliophila meyendorffii* (Calcara, 1845)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 181BAAAA-C3D7-57AB-9DCE-0888FEB7A465
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: 769593F3-8D00-5459-A1F9-9C05F94AC08F

Notes: Alive, Fig. 35.



Figure 35. [doi](#)

Coralliophila meyendorffii (Calcara, 1845). *In situ* photograph.

Family Cystiscidae***Granulina marginata* (Bivona, 1832)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: B920D843-1C7E-5C18-9DCA-E7EB33407237

Notes: Shell.

Family Marginellidae

Gibberula caelata (Monterosato, 1877)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D37A71A5-3DD8-54E4-B627-D716A8DBAB50

Notes: Shell; new record.

Gibberula miliaria (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 2E70238A-804C-5621-A412-5061CB622253

Notes: Shell.

Gibberula philippii (Monterosato, 1878)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 2F139A7B-735F-5DF7-A65B-4A61C83972C1

Notes: Shell.



Figure 36. [doi](#)

Pusia ebenus (Lamark, 1811). Optical photograph.

Family Costellaridae

Pusia ebenus (Lamark, 1811)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: 200ADA67-E6BC-5A65-940E-E657F7D86F0E
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: AC353E8E-C584-5D4E-937F-4520C35C8995

Notes: Alive, Fig. 36.

Pusia granum (Forbes, 1844)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 3D5632AD-75CD-558D-970A-0C66B3C91E0B

Notes: Shell, new record.

Pusia tricolor (Gmelin, 1790)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 3754D987-6AB4-5EE3-89C6-AF3AF6309A8C

Notes: Shell.

Family Chauvetiidae

Chauvetia mamillata (Risso, 1826)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 0F683C6A-C2B5-5B1C-824D-4D7434A1AD9B

Notes: Shell.

Chauvetia turritellata (Deshayes, 1835)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 3953AB13-8194-5040-8AEE-DD28DBDD2F50

Notes: Shell, Fig. 37.

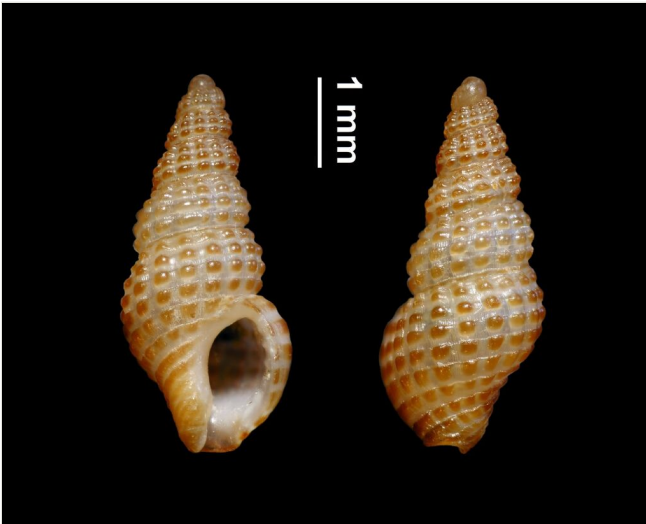


Figure 37. [doi](#)

Chauvetia turritellata (Deshayes, 1835). Optical photograph.

Family Pisaniidae

Pisania striata (Gmelin, 1791)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: C5580C8A-16F9-5481-8A3F-550095346A78
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: DBE04CF7-E085-550D-B5EF-A7030AC5C64C
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: F6AAB745-98CC-5D62-8501-018AC3660FEA
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: CF1966AD-512E-596C-83B7-F81F7FFDD407

- e. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: 7C28CF2C-DC84-51D0-B596-3975AEE9A217
- f. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 7C0BA602-2F1D-59A9-B059-49E7AF4C396A

Notes: Alive, Fig. 38.



Figure 38. [doi](#)

Pisania striata (Gmelin, 1791). *In situ* photograph.

***Aplus dorbigny* (Payraudeau, 1826)**

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 69CC39A4-2064-53B2-8603-79FB49292A17
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: 482D045F-2E20-5B45-B8A2-CB82FF1C1347
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 942E5066-C27C-5FBB-AD3F-325F7B81EA48
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: A0B49045-E53C-58BC-94FC-1422B9593274
- e. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: 141B0CAB-5C6F-5513-AC7A-5CBDA047DFBD
- f. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 9F4FC7AF-5719-5899-9042-59C0E92D8843

Notes: Alive, Fig. 39.

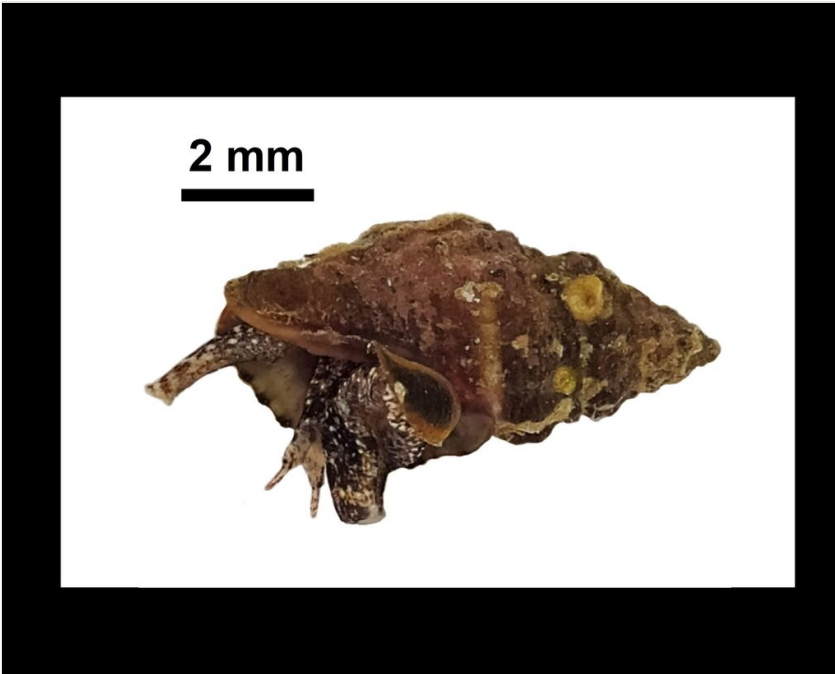


Figure 39. [doi](#)

Aplus dorbigny (Payraudeau, 1826). Optical photograph.

Aplus scaber (Locard, 1891)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 61A412E1-EAAC-5815-8FCA-4C44D87EF7C5

Notes: Shell.

Family Nassariidae

Tritia corniculum (Olivi, 1792)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: FD9B4A9B-2A8B-5492-9944-A45B80783C62

Notes: Alive, Fig. 40.



Figure 40. [doi](#)

Tritia incrassata (Strøm, 1768). *In situ* photograph.

***Tritia incrassata* (Strøm, 1768)**

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.68N; verbatimLongitude: 9 17 26.51E; geodeticDatum: WGS84; occurrenceID: CE52BC6B-8766-58C9-B109-8A76711B2EDD
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: F32B981C-6EE9-5214-90CD-7559C9616F78

Notes: Alive.

***Tritia mutabilis* (Linnaeus, 1758)**

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 363AD524-CF94-512D-A848-B8A0FA90C1EE
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 79059231-3CE8-54BE-B903-768840FE39AC

Notes: Shell.

Tritia neritea* (Linnaeus, 1758)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 26611D99-EBAB-5A3F-A7C0-32CC81A886AB

Notes: Alive.

Tritia pellucida* (Risso, 1827)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: C188067C-278F-5E19-93A3-92AB2AD3E7BF
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 81AF5D06-18B1-542D-A416-50EB9795B981

Notes: Shell.

Family Tudiclidae

Figure 41. [doi](#)

Euthria cornea (Linnaeus, 1758). *In situ* photograph.

Euthria cornea* (Linnaeus, 1758)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 58F0D1DA-0104-570E-8CE7-89953315C882
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: 34A585AA-9814-5B53-876B-DBEBBD1EA3FD

Notes: Alive, Fig. 41.

Family Columbellidae***Columbella rustica* (Linnaeus, 1758)****Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: DE4A7610-6D9F-5E4F-BCF3-FAD40C75C164
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 8C57FCF3-A5A8-5584-AAA5-631C541D43AD
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: 12F3A7C7-C991-537E-A9AF-C096C46D6A7C
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: E0A06E41-D821-55C0-8CF9-2D9BD6A213F4
- e. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: CF970F02-F38A-5F9D-ADD3-7984748A18E6

Notes: Alive, Fig. 42.

Family Mitridae***Episcomitra cornicula* (Linnaeus, 1758)****Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: 9B3CA709-0A3C-578A-B08C-8E0B2552A5C1
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 48CB5E14-8CD9-5ED1-B4A5-28BD69234453

Notes: Alive, Fig. 43.



Figure 42. [doi](#)

Columbella rustica (Linnaeus, 1758). *In situ* photograph.



Figure 43. [doi](#)

Episcomitra cornicula (Linnaeus, 1758). Optical photograph.

Family Fasciolariide

Tarantinaea lignaria (Linnaeus, 1758)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: BDABE2A6-23B3-5D08-8E13-0EE538DAF577

- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: 0B521C0F-E74F-54D4-A7B4-6CB020173024
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: A917D22F-5C9F-524A-90B5-578E0961C075

Notes: Alive, Fig. 44.



Figure 44. [doi](#)

Tarantinaea lignaria (Linnaeus, 1758). Optical photograph.

***Pseudofusus pulchellus* (Philippi, 1844)**

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: B54E0CC5-BF97-59BB-8263-93C58FF6A5D9
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: EF6D6085-E202-5500-9235-27D667196A1F

Notes: Shell.

***Aptyxis syracusana* (Linnaeus, 1758)**

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 529D02CD-B748-5A86-953B-CFF44FB8FC5F

Notes: Shell.

Family Columbelloidea

Mitrella minor (Scacchi, 1836)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: C4AF053E-8BB6-5465-A666-EA10550E67C6

Notes: Shell.

Mitrella scripta (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 70E9B502-DA39-5B05-B091-65900C6262CD

Notes: Shell.

Family Horaiclavidae

Haedropleura septangularis (Montagu, 1803)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 3F3F8CAD-F880-596F-8C59-940A730BAD11

Notes: Shell.

Family Mitromorphidae

Mitromorpha columbellaria (Scacchi, 1836)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: BCE3E3F2-FB9D-53EB-A9F7-8EE429D3878C

Notes: Shell.

Family Conidae

Conus ventricosus Gmelin, 1791

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 0F067DAE-12E0-56E0-A7BB-C87F1CD29F62

Notes: Alive, Fig. 45.



Figure 45. [doi](#)

Conus ventricosus Gmelin, 1791. *In situ* photograph.

Family Raphitomidae

Cyrrillia linearis (Montagu, 1803)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 7A62C62C-764B-5A14-BF73-416391570B4B

Notes: Alive.

Leufroyia concinna* (Scacchi, 1836)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 50A0AEC0-F98F-5810-B86F-567A64E6D382

Notes: Shell.

Leufroyia leufroyi* (Michaud, 1828)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: F87FAF6A-C0FC-5ACF-830E-75C32787A4A7

Notes: Shell.

Raphitoma bicolor* (Risso, 1826)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 0027DBCF-2E8B-58A2-9C5E-A28E4C9FB9EC

Notes: Shell.

Raphitoma densa* (Monterosato, 1884)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 9293F068-698A-5BC4-8C98-283E1BF0D5FB

Notes: Shell.

Raphitoma horrida* (Monterosato, 1884)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 43775F99-DA85-54C0-B043-0738375B82CF

Notes: Shell.

Raphitoma lineolata* (Bucquoy, Dautzenberg & Dollfus, 1883)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 3D6A094C-94A0-5471-888F-78DF996212F2

Notes: Shell.

Raphitoma locardi* Pusateri, Giannuzzi-Savelli & Oliverio, 2013*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: ED947A67-7D08-5CE9-9DD2-EEC1DBE2A4EB

Notes: Shell.

Raphitoma philberti* (Michaud, 1829)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 92313D41-6111-5983-AF35-1C7FA295BCE8

Notes: Shell.

Family Mangeliidae***Mangelia multilineolata* (Deshayes, 1835)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 82791F31-A6AC-5612-9ADE-501A2664792D

Notes: Shell.

Mangelia stosiciana* Brusina, 1869*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 8F39F862-26B7-5EFE-AB9B-48F4FE03894F

Notes: Shell.

Mangelia taeniata* (Deshayes, 1835)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: AAF2EA95-E840-5ABD-895D-91E5355E8EAC

Notes: Shell.

Mangelia unifasciata* (Deshayes, 1835)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: E431620E-419F-54B5-A27B-A33F2C3C81CF

Notes: Shell.



Figure 46. [doi](#)

Berthella plumula (Montagu, 1803). *In situ* photograph.

Mangelia vauquelini* (Payraudeau, 1826)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: BF47856C-CB94-5B7D-AF98-BE95624740E1

Notes: Shell.

Order Pleurobranchida**Family Pleurobranchidae*****Berthella plumula* (Montagu, 1803)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.14N; verbatimLongitude: 9 16 40.60E; geodeticDatum: WGS84; occurrenceID: 38692D0D-99C8-5E55-B535-FA85A595C237

Notes: Alive, Fig. 46; new record.



Figure 47. [doi](#)

Berthellina aurantiaca (Risso, 1818). Different colour morphotypes. *In situ* photographs.

***Berthella aurantiaca* (Risso, 1818)**

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 4F340B13-6BCC-59BB-8497-A5D1475BC5E4
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: 1981575E-790E-54C8-83D6-13463FE18071
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: D865CCAD-BB21-5E30-B35F-4E9329B250CD
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: FA7C1DB9-41EE-5E5B-816F-F56BFB5C9409
- e. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: E4469AD3-83B7-5675-8AA2-5309784F9EFA

Notes: Alive, Fig. 47; new record.

Order Nudibranchia

Family Chromodorididae



Figure 48. [doi](#)

Felimida krohni (Vérany, 1846). In situ photograph.

Felimida elegantula* (R. A. Philippi, 1844)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: 8CB9B21D-D354-57BC-AB1A-68E8B38392C0

Notes: Alive.

Felimida krohni* (Vérany, 1846)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: 79EE8F72-5FC3-5FE5-8755-35296BB2A323

Notes: Alive, Fig. 48.

Felimida luteorosea* (Rapp, 1827)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 94A9E1FC-EB1A-5FB4-A2CC-4FA9D042CB69

Notes: Alive, Fig. 49.



Figure 49. [doi](#)

Felimida luteorosea (Rapp, 1827). On the left, *in situ* photograph of specimen A; on the right, optical photograph of specimen B.

Felimida purpurea (Risso, 1831)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: D41ACB64-8C1E-5AAB-8CEC-51707609DA01

Notes: Alive, Fig. 50.



Figure 50. [doi](#)

Felimida purpurea (Risso, 1831). *In situ* photograph.



Figure 51. [doi](#)

Felimare orsinii (Vérany, 1846). *In situ* photograph.

Felimare orsinii* (Vérany, 1846)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: BFECFED0-3D7B-5A56-A9CB-A56D0A10A202

Notes: Alive, Fig. 51.

Felimare picta* (Schultz in Philippi, 1836)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 43052442-083B-5469-A70E-5E4B9A212ABF

Notes: Alive, Fig. 52, Suppl. material 2.

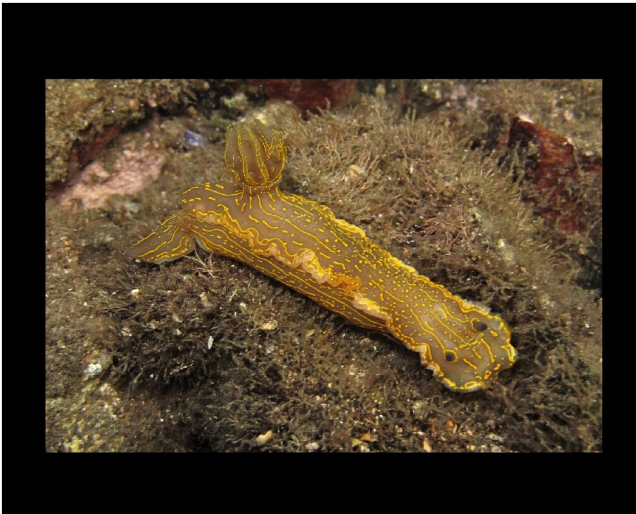


Figure 52. [doi](#)

Felimare picta (Schultz in Philippi, 1836). *In situ* photograph.

Felimare villafranca* (Risso, 1818)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 44B38B1B-D65A-537D-AEB0-5AEEB26CFF85

Notes: Alive, Fig. 53.



Figure 53. [doi](#)

Felimare villafranca (Risso, 1818). *In situ* photograph.

Family Phyllidiidae

Phyllidia flava Aradas, 1847

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: FE3959E9-4594-53A1-A12F-D98C20E64534

Notes: Alive, Fig. 54.



Figure 54. [doi](#)

Phyllidia flava Aradas, 1847. *In situ* photograph.

Family Dendrodorididae

Dendrodoris grandiflora (Rapp, 1827)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: C651957D-0F8B-5190-9FDC-740C609D335C

Notes: Alive, Fig. 55.



Figure 55. [doi](#)

Dendrodoris grandiflora (Rapp, 1827). In situ photograph.

Dendrodoris limbata (Cuvier, 1804)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 66914B6A-E7EA-50FE-ADA4-4F411080929A
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: E2D82273-51FE-5914-BA9C-376101CA784E

Notes: Alive, Fig. 56.



Figure 56. [doi](#)
Dendrodoris limbata (Cuvier, 1804). *In situ* photograph.

Family Discodorididae

Taringa armata Swennen, 1961

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: DD1E7A6A-986E-5A31-8117-754B5B491214

Notes: Alive, Fig. 57.

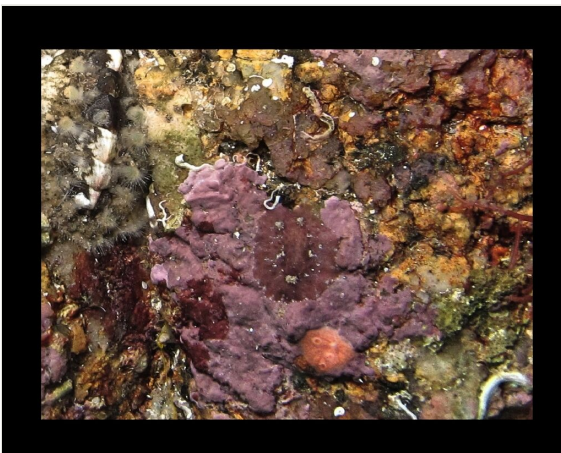


Figure 57. [doi](#)
Taringa armata Swennen, 1961. *In situ* photograph.

Family Janolidae

Antiopella cristata (Delle Chiaje, 1841)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 724F710D-1E5A-5F9C-BBCA-787B3A2DC4FC

Notes: Alive, Fig. 58.



Figure 58. [doi](#)

Antiopella cristata (Delle Chiaje, 1841). *In situ* photograph.

Family Aeolidiidae

Aeolidiella alderi (Cocks, 1852)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: 17841E95-C2C6-5A23-ADA0-AC7896FAC7A4
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: C54BACF7-CBA7-510A-B685-BBB2CA664DC3

Notes: Alive, Fig. 59.



Figure 59. [doi](#)

Aeolidiella alderi (Cocks, 1852). *In situ* photograph.

***Spurilla neapolitana* (Delle Chiaje, 1841)**

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 36243429-895D-577D-A3BB-4E7512DA2A3D
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: 4AD50BB0-63A1-514B-B2EC-C0C85019641D
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: CA7CD2DE-90A1-537B-BEDA-35D61C8EA2B7

Notes: Alive, Fig. 60.

Family Facelinidae

***Cratena peregrina* (Gmelin, 1791)**

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 44D399F6-85CC-508B-BBF6-523E93245C71
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.14N; verbatimLongitude: 9 16 40.60E; geodeticDatum: WGS84; occurrenceID: 7DCE5ADF-0C87-5978-A6E7-3A5DCED38914

Notes: Alive, Fig. 61, Suppl. material 3.



Figure 60. [doi](#)

Spurilla neapolitana (Delle Chiaje, 1841). *In situ* photograph.



Figure 61. [doi](#)

Cratena peregrina (Gmelin, 1791). *In situ* photograph.

Order Umbraculida

Family Tylodinidae

Tylodina perversa (Gmelin, 1791)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D1807523-13FB-5DF2-9BD5-984F03B2739F

Notes: Shell.

Family Umbraculidae

Umbraculum umbraculum ([Lighfoot], 1786)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: AD4493E1-28BE-5E6C-A0F5-51BA01EF8F28

Notes: Alive, Fig. 62.



Figure 62. [doi](#)

Umbraculum umbraculum ([Lighfoot], 1786). *In situ* photograph.

Order Cephalaspidea

Family Cylichnidae

Cylichna cylindracea (Pennant, 1777)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 34725ED8-3E5C-5F8E-A522-EFF1F98998E3

Notes: Shell.

Family Haminoeidae

Haminoea hydatis (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: B2698777-AA15-54D7-AD76-F8A1B877E18E

Notes: Shell.

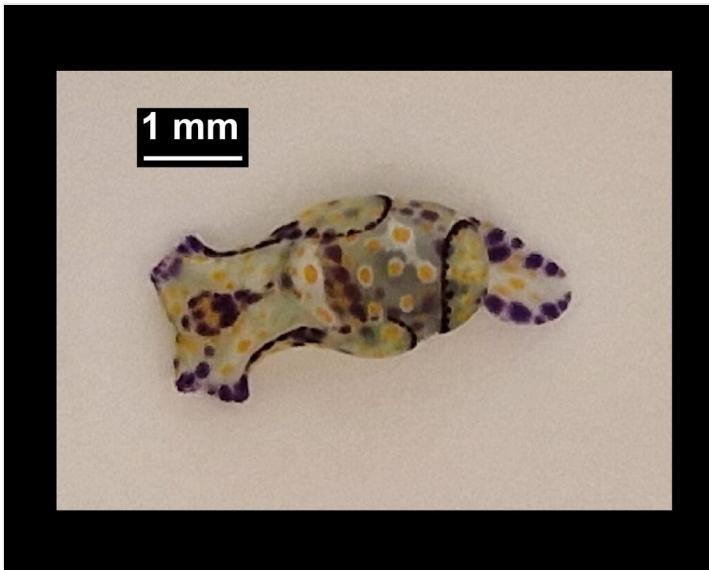


Figure 63. [doi](#)

Lamprohaminoea cyanomarginata (Heller & T. E. Thompson, 1983). Optical photograph.

Lamprohaminoea ovalis**Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: DCC99636-82F2-57F3-9F29-FF8BB63161A2

Notes: Alive, Fig. 63.

Family Philinidae***Philine catena* (Montagu, 1803)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D8121C0D-8C12-57FB-9411-8DDB1EAE6966

Notes: Shell.

Order Aplysiida**Family Aplysiidae*****Bursatella leachii* Blainville, 1817****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: 431F8C1B-6268-5097-9688-63A50311A12C

Notes: Alive, Fig. 64, Suppl. material 4; Non-indigenous species.

Aplysia depilans* Gmelin, 1791*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: 76CAF1DF-7737-5489-9B63-264D1DE6191F

Notes: Alive, Fig. 65.



Figure 64.

Bursatella leachii Blainville, 1817.

a: *In situ* photograph; [doi](#)

b: Details of the notum and radula. [doi](#)



Figure 65.

Aplysia depilans Gmelin, 1791.

a: *In situ* photograph; [doi](#)

b: Internal shell. [doi](#)

Petalifera petalifera (Rang, 1828)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: B58A515A-FAA5-55F1-99B3-55EF8603D744

Notes: Alive, Fig. 66, Suppl. material 5.

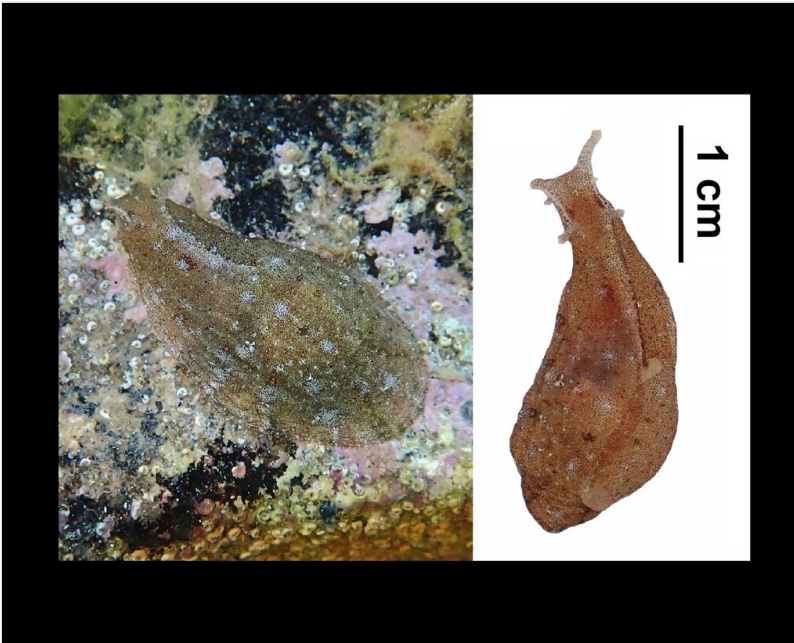


Figure 66. [doi](#)

Petalifera petalifera (Rang, 1828). On the left, *in situ* photograph; on the right, optical photograph.

Superorder Sacoglossa

Family Plakobranchidae

Elysia timida (Risso, 1818)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 1A91C829-E277-56D6-BD6E-4CAAF351D244
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 5CF6A548-FA7A-57BF-8F31-EA7172C49591
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: 5875A317-4537-5F51-BE86-01AE5D562363
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.14N; verbatimLongitude: 9 16 40.60E; geodeticDatum: WGS84; occurrenceID: 1F9C6881-EBA9-5135-8D5B-978A7BF52B2B

Notes: Alive, Fig. 67.

Thuridilla hopei* (Vérany, 1853)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 51.58N; verbatimLongitude: 9 17 31.46E; geodeticDatum: WGS84; occurrenceID: 057DC48A-35DB-5AAA-8F48-BF49AAA4C646
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: B2738112-53BA-5288-9D2C-55F29A45E93C
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: 44A1D449-00ED-5A3E-AEAB-784728E28D99

Notes: Alive, Fig. 68.



Figure 67. [doi](#)

Elysia timida (Risso, 1818). *In situ* photograph.

Order Siphonarida**Family Siphonariidae****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 6402AF77-07FA-57A6-876D-D1B55F3302EF

***Williamia gussoni* (O. G. Costa, 1829)**

Notes: Shell.

Superorder Pylopulmonata



Figure 68. [doi](#)

Thuridilla hopei (Vérany, 1853). Different colour morphotypes. On the left, optical photograph; on the right, *in situ* photograph.

Family Pyramidellidae

Euparthenia humboldti (Risso, 1826)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D34D69A7-615D-59AA-8D8E-F40079612E97

Notes: Shell.

Folinella excavata (Philippi, 1836)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: A537A975-F8AA-59CF-A098-EC0C61CCC151

Notes: Shell.

Parthenina alesii* Micali, Nofroni & Perna, 2012*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D9F33A9B-AD5D-59FE-891C-4D7562F1B632

Notes: Shell; new record.

Parthenina angulosa* (Monterosato, 1889)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 7A5BEB1A-8B64-5DCD-A5EB-E8D35F9C26EF

Notes: Shell.

Parthenina monozona* (Brusina, 1869)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: EF94EF40-B09B-5C58-929F-CD431418239D

Notes: Shell.

Megastomia conoidea* (Brocchi, 1814)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 2D0FEE63-8521-56B2-8D2B-AF64F7A1DFFA

Notes: Shell, new record.

Turbonilla gradata* Bucquoy, Dautzenberg & Dollfus, 1883*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: D8F0B235-EB39-5AA9-BC03-1C357A43E25A

Notes: Shell.

Turbonilla jeffreysii* (Forbes & Hanley, 1850)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 854985A2-6FFF-5D51-B998-8CAD4F62DFC1

Notes: Shell.

Class Scaphopoda**Order Dentaliida****Family Dentaliidae*****Antalis vulgaris* (da Costa, 1778)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 3F3301A8-E7F0-58AB-91DD-23915507C679

Notes: Alive, Fig. 69.



Figure 69. [doi](#)

Antalis vulgaris (da Costa, 1778). Optical photograph.

Class Bivalvia

Order Arcida

Family Arcidae

Arca noae Linnaeus, 1758

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 8F7CA50A-2A0D-5ABD-B209-17FDABD09A25
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 6BA5E27B-96E4-5C68-BB26-861CA467EBD2
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 5C0F4151-8CB2-57A9-A0E4-CCACA1F1A65C
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: DAEFE6E8-2370-5B86-B2D1-933D21A3A8D8

Notes: Alive, Fig. 70.



Figure 70. [doi](#)

Arca noae Linnaeus, 1758. *In situ* photograph.

***Barbatia barbata* (Linnaeus, 1758)**

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 36F189F0-1395-5236-B870-190834BABCEC
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: B17033BD-8DE3-52EE-9BFE-CB60A0D28217
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 1292A9FD-372A-5C44-9C9D-DD110F9CE861

Notes: Alive, Fig. 71.

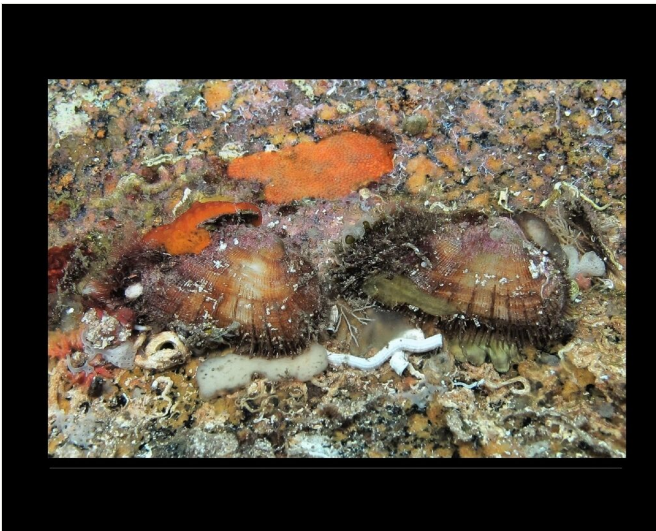


Figure 71. [doi](#)

Barbatia barbata (Linnaeus, 1758). *In situ* photograph.

Family Noetiidae

***Striarca lactea* (Linnaeus, 1758)**

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 32.26N; verbatimLongitude: 9 16 52.46E; geodeticDatum: WGS84; occurrenceID: 90AEA74C-C435-5E38-82D5-ED5D2EF9B548
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 262F6CD4-A2CD-572A-AD0E-BE01E731518F

- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: BB89A243-8BDD-5EFB-B6EF-8B84CEE8CC75

Notes: Alive, Fig. 72.



Figure 72. [doi](#)

Striarca lactea (Linnaeus, 1758). *In situ* photograph.

Order Mytilida

Family Mytilidae

Litophaga lithophaga (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 563D985B-D31E-5C3F-9266-765CD3A8E6F8

Notes: Alive.

Mytilaster marioni (Locard, 1889)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.14N; verbatimLongitude: 9 16 40.60E; geodeticDatum: WGS84; occurrenceID: EB7784B9-6F00-5EB4-9DE3-0F865ECBE5BC

Notes: Alive, Fig. 73.



Figure 73. [doi](#)

Mytilaster marioni (Locard, 1889). *In situ* photograph.

***Mytilus galloprovincialis* Lamarck, 1819**

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.14N; verbatimLongitude: 9 16 40.60E; geodeticDatum: WGS84; occurrenceID: B2D2FD74-AA3D-5F00-A460-1221EE34E72D

Notes: Alive.

***Musculus subpictus* (Cantraine 1835)**

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 0B0142FA-F243-512A-B421-3C19CD42E9A5

Notes: Shell.

***Gregariella semigranata* (Reeve, 1858)**

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 47CE54D4-AC3D-54DD-82A4-DC628CF2043F

Notes: Alive; new record.

Order Pectinida

Family Spondylidae

Spondylus gaederopus Linnaeus, 1758

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 54AFBBC5-3AB8-5CE4-9067-2D0B5321F127
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 01D358C1-EC4C-591E-8B32-0D02E6C6C1D3

Notes: Alive, Fig. 74.



Figure 74. [doi](#)

Spondylus gaederopus Linnaeus, 1758. On the left, *in situ* photograph; on the right, optical phototgraph.

Family Pectinidae

Mimachlamys varia (Linnaeus, 1758)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: D9D24F73-DFF1-50E4-9A00-C4F459A9C198

- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 3C054522-5EC1-5940-AAC6-3892AAEDE665
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: 9EECABD4-3FBD-5B6E-BA85-03896FF463C3

Notes: Alive, Fig. 75.

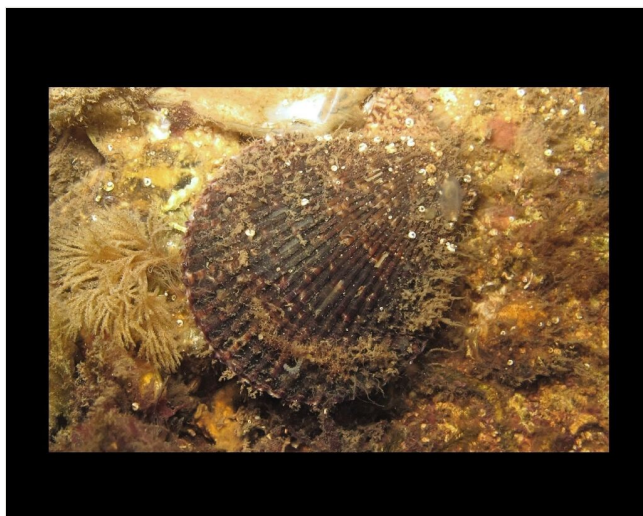


Figure 75. [doi](#)

Mimachlamys varia (Linnaeus, 1758). *In situ* photograph.



Figure 76. [doi](#)

Manupecten pesfelis (Linnaeus, 1758). Lower, optical photograph; upper, *in situ* photograph.

Manupecten pesfelis* (Linnaeus, 1758)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 714105D3-8A5F-5F0F-9737-ACBB90847EB9

Notes: Alive, Fig. 76.

Talochlamys multistriata* (Poli, 1795)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: FC6B472B-1C26-5705-8556-1A77E2AD7CEF

Notes: Shell, Fig. 77.



Figure 77. [doi](#)

Talochlamys multistriata (Poli, 1795). Optical photograph.

Flexopecten hyalinus* (Poli, 1795)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: CB7E458E-B90C-574B-B0BE-23D7526F5088

Notes: Alive.

Palliolum incomparabile (Risso, 1826)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: DDE27085-80FB-565D-ADFE-58FEC08C90DD

Notes: Shell.

Family Anomiidae

Anomia ephippium Linnaeus, 1758

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: 595BEE47-52FF-502A-9E31-F0AE8AA22F17
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.14N; verbatimLongitude: 9 16 40.60E; geodeticDatum: WGS84; occurrenceID: 06B859A6-4BB0-5C7A-A425-F4116C3D4775
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: AEB0FEBE-31F3-5F74-93B3-AD35B1FA59D5
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 54D9670E-25B9-547A-A47F-B9C6A3BCBDCC

Notes: Alive, Fig. 78.



Figure 78. [doi](#)

Anomia ephippium Linnaeus, 1758. In situ photograph.

Pododesmus squama* (Gmelin, 1791)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: 3DC49077-90A0-5EA0-9865-AE6498D37561

Notes: Alive.

Order Limida**Family Limidae*****Lima lima* (Linnaeus, 1758)****Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 15E606FA-B380-5E20-B4CE-14CAE4F2266E
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: C5B377AB-109C-5734-8B02-C3DE9B944B1E

Notes: Alive, Fig. 79.



Figure 79. [doi](#)

Lima lima (Linnaeus, 1758). *In situ* photograph.

Limaria hians (Gmelin, 1791)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 795E1637-6EA3-5A35-A871-EFDDD0CD8CFF
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: D6C862E1-0B8D-5CFA-9188-C5C458B82DE8
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: 2B94FDA3-74D0-5269-B624-76EB1F5E42CE

Notes: Alive, Fig. 80, Suppl. material 6.



Figure 80. [doi](#)

Limaria hians (Gmelin, 1791). *In situ* photograph.

Limaria tuberculata (Olivi, 1792)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: 9E28F910-12F6-5F1C-9E60-9A6CAC9C45E1
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: 98BB4B1D-316A-5489-80A3-04A5DC3C023B
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 6AAB8549-E613-5B00-B50B-7BD0B271254F

Notes: Alive, Fig. 81, Suppl. material 7.



Figure 81. [doi](#)

Limaria tuberculata (Olivi, 1792). Optical photograph.

Order Ostreida

Family Ostreidae

Ostrea edulis Linnaeus, 1758

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 2C2057D8-32C2-521F-BB83-43BD32339F86
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 8AA117F8-7315-5E43-B08F-F9EE3AD421EB
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: 8A4C9FC5-AC56-5ABB-A9EC-BF6146F99534
- d. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: 66DBEABC-6298-5EF9-86EF-05320EC5B3B3

Notes: Alive, Fig. 82.



Figure 82. [doi](#)

Ostrea edulis Linnaeus, 1758. *In situ* photograph.

Ostrea stentina Payraudeau, 1826

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.14N; verbatimLongitude: 9 16 40.60E; geodeticDatum: WGS84; occurrenceID: 844AE492-A214-5B9C-A2E1-D70B1572D7E3
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: 3A689CF4-DD91-5C1B-BE92-2C2AC9C8CF1A

Notes: Alive, Fig. 83.

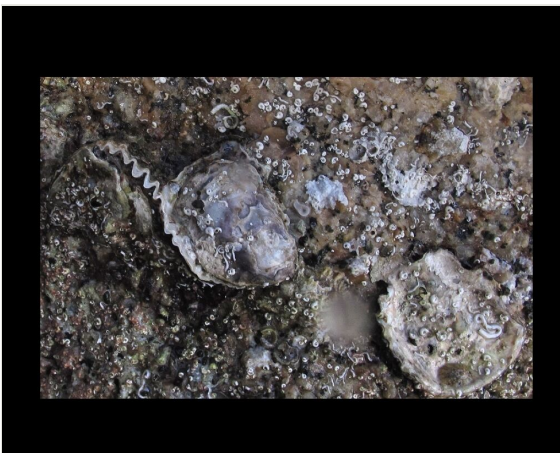


Figure 83. [doi](#)

Ostrea stentina Payraudeau, 1826. *In situ* photograph.

Magallana gigas* (Thunberg, 1793)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 09.61N; verbatimLongitude: 9 16 43.24E; geodeticDatum: WGS84; occurrenceID: 0129F0F7-645C-5EB2-AFC8-57EAB894A84C

Notes: Shell, Fig. 84; Non-indigenous species.



Figure 84. [doi](#)

Magallana gigas (Thunberg, 1793). Wasted shell from the aquaculture plant. *In situ* photograph.

Family Pinnidae***Pinna nobilis* Linnaeus, 1758****Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: 70F8D837-B77C-51C6-B652-D3BE862C68B1
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 32.26N; verbatimLongitude: 9 16 52.46E; geodeticDatum: WGS84; occurrenceID: FA0D2168-DDAB-5882-9815-A10312E5C089

Notes: Shell, Fig. 85.



Figure 85. [doi](#)

Pinna nobilis Linnaeus, 1758. Dead shell encrusted with epibionts.

Family Margaritidae

Pinctada radiata (Leach, 1814)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 47.63N; verbatimLongitude: 9 17 08.68E; geodeticDatum: WGS84; occurrenceID: F4AB8AF3-C794-55AB-968D-778E8CE59DA7

Notes: Shell, Fig. 86, Non-Indigenous Species.



Figure 86. [doi](#)

Pinctada radiata (Leach, 1814). Left valve. Optical photograph.

Order Lucinida

Family Lucinidae

Ctena decussata (O. G. Costa, 1829)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: F945A2E8-61E0-582D-BFEE-B91D42376C19

Notes: Shell.

Loripes lacteus (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: D717317E-47BC-5544-8A63-09FEE8FD8CCC

Notes: Alive, Fig. 87.



Figure 87. [doi](#)

Loripes lacteus (Linnaeus, 1758). Preyed shell. Optical photograph.

Order Galeommatida

Family Galeommatidae

Galeomma turtoni W. Turton, 1825

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 58.16N; verbatimLongitude: 9 17 09.66E; geodeticDatum: WGS84; occurrenceID: E8D1DDE9-3D48-5EC4-B6A1-CC9CEE89E234

Notes: Alive, Fig. 88.



Figure 88. [doi](#)

Galeomma turtoni W. Turton, 1825. *In situ* photograph.

Order Carditida

Family Carditidae

Glans trapezia (Linnaeus, 1767)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: FD29E6B8-E0A0-5E1B-862C-90EB59F8AFFB

Notes: Shell.

Cardites antiquatus* (Linnaeus, 1758)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: F42AAD43-D8A0-5BDD-970A-D468B2F32D55
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: F1A07784-3205-5875-B01E-9AA96410C24D

Notes: Shell.

Cardita calyculata* (Linnaeus, 1758)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.14N; verbatimLongitude: 9 16 40.60E; geodeticDatum: WGS84; occurrenceID: 157B7DB0-DFAE-5F5B-9782-C91A8ADA8231

Notes: Alive, Fig. 89.



Figure 89. [doi](#)

Cardita calyculata (Linnaeus, 1758). Optical photograph.

Family Cardiidae

Acanthocardia paucicostata (G. B. Sowerby II, 1834)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 3AB98DC1-2C4C-5725-A5A2-4EAA2F3F6C1E
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 12DC9F18-679F-54D9-9218-A8AFA72F5672

Notes: Shell.

Acanthocardia tuberculata (Linnaeus, 1758)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 48A8D8B1-F947-56CF-A247-9A5A9E219B0B
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 7AF58FDB-5FD0-5578-8898-62D681A5D6CE

Notes: Shell.

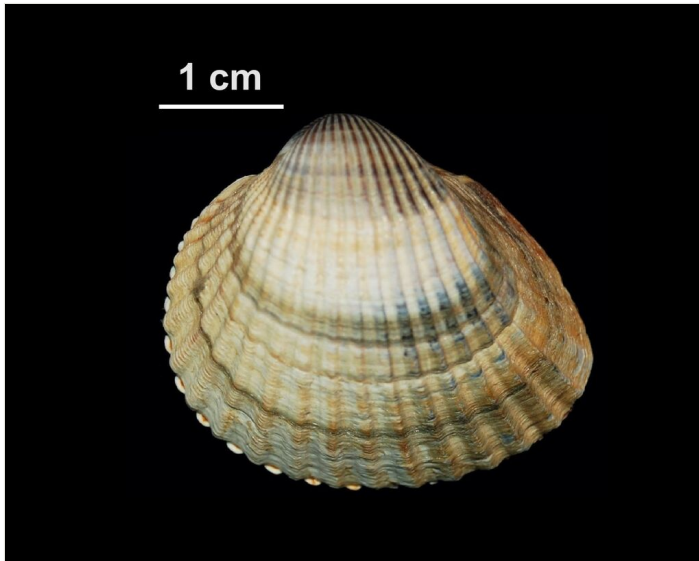


Figure 90. [doi](#)

Cerastoderma glaucum (Bruguière, 1789). *In situ* photograph.

Cerastoderma glaucum* (Bruguière, 1789)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 661A17BC-515A-5617-94D8-E76E10E4F20F

Notes: Alive, Fig. 90; new record.

Parvicardium exiguum* (Gmelin, 1791)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: A2B28C0C-66DE-546B-AA69-B3431E1A2812

Notes: Shell.

Papillicardium papillosum* (Poli, 1791)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 4BE039B9-2C88-5251-A9A1-D53439CC3EF1

Notes: Shell.

Family Tellinidae***Bosemprella incarnata* (Linnaeus, 1758)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: BD56C427-D004-563F-887B-520CE461DAC4

Notes: Shell, Fig. 91.

Fabulina fabula* (Gmelin, 1791)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 064A050D-4000-5ECB-A976-674F561F247B

Notes: Shell.

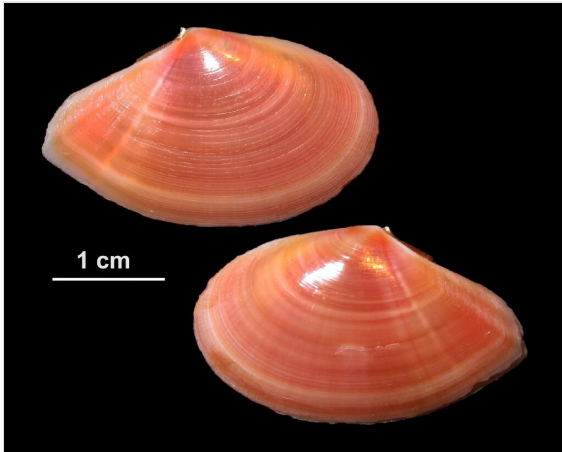


Figure 91. [doi](#)

Bosemprella incarnata (Linnaeus, 1758). Optical photograph.

***Moerella donacina* (Linnaeus, 1758)**

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: B15468FF-56EE-551A-8831-F9CC62FEC680

Notes: Shell, Fig. 92.



Figure 92. [doi](#)

Moerella donacina (Linnaeus, 1758). Optical photograph.

Moerella pulchella* (Lamarck, 1818)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 92F4D01D-6C86-52F3-B950-063709CDDB09

Notes: Shell, Fig. 93.

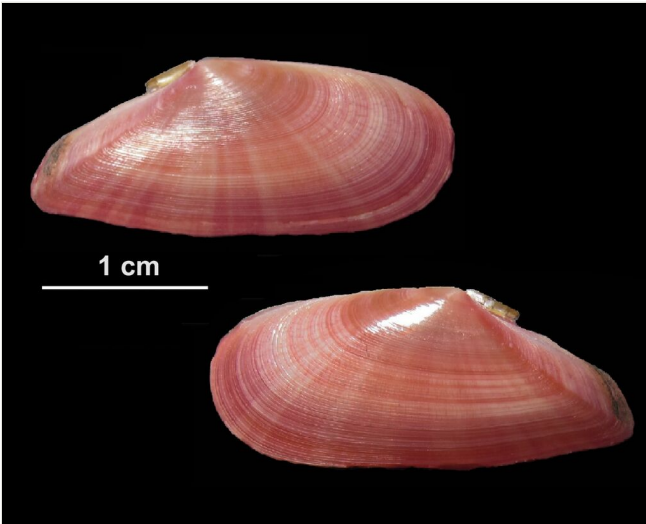


Figure 93. [doi](#)

Moerella pulchella (Lamarck, 1818). Optical photograph.

Peronaea planata* (Linnaeus, 1758)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 571371E8-DFF7-5FEE-B8A2-14258D0BB22A

Notes: Alive, Fig. 94.

Peronidia albicans* (Gmelin, 1791)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: C3A999B2-D142-5EC2-A59A-F94AC1FD46E2

Notes: Alive, Fig. 95.

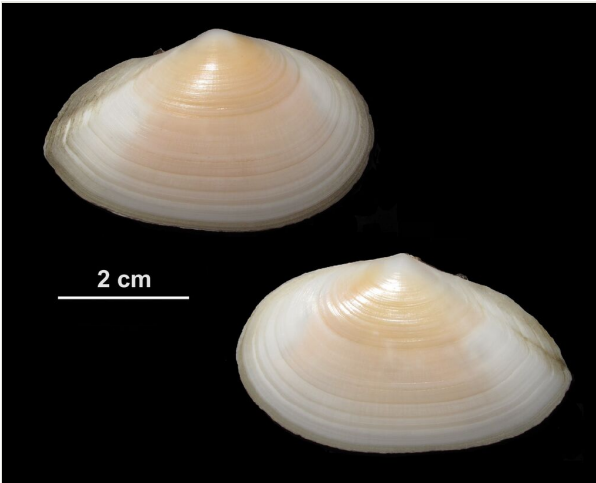


Figure 94. [doi](#)

Peronaea planata (Linnaeus, 1758). Optical photograph.



Figure 95. [doi](#)

Peronidia albicans (Gmelin, 1791). Optical photograph.

***Arcopella balaustina* (Linnaeus, 1758)**

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: AEA23BCF-9A08-59E7-A144-B301624FC721

Notes: Alive.

Gastrana fragilis* (Linnaeus, 1758)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 13.88N; verbatimLongitude: 9 17 56.14E; geodeticDatum: WGS84; occurrenceID: C6855869-12F3-548B-AEBA-A1C25EF6DA4C
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 06D9F221-8274-58F9-934F-B69CE5FB8349
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 1643FA58-259B-5582-A135-966636DA45A2

Notes: Alive.

Family Solecurtidae***Solecurtus strigilatus* (Linnaeus, 1758)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 1328ACE8-9E15-5605-B78F-F48DD07E136C

Notes: Shell, Fig. 96.

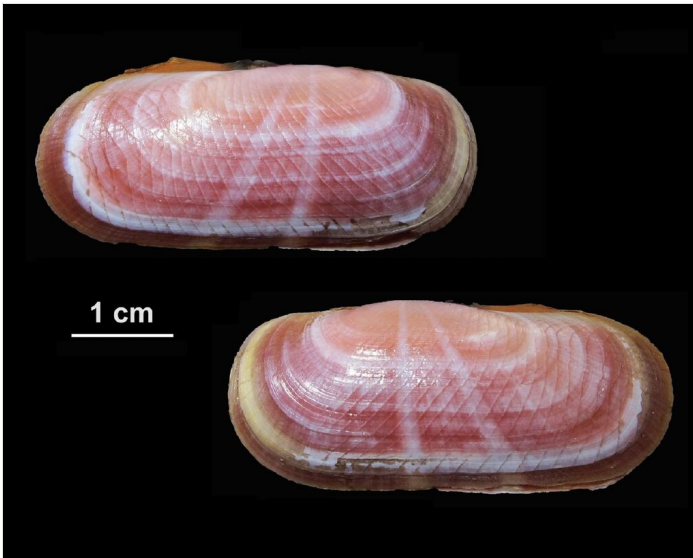


Figure 96. [doi](#)

Solecurtus strigilatus (Linnaeus, 1758). Optical photograph.

Family Donacidae

Donax trunculus Linnaeus, 1758

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 7D36E02C-321C-5180-8DEF-4F76BE3497AF

Notes: Shell.

Donax variegatus (Gmelin, 1791)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 4F98193B-D49D-59E7-A752-34E7356CBC47

Notes: Alive, Fig. 97.



Figure 97. [doi](#)

Donax variegatus (Gmelin, 1791). Optical photograph.

Family Psammobiidae

Gari costulata (W. Turton, 1822)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 06D9D22F-033C-585D-B5C2-5FC66C2E0619

Notes: Alive.

Gari depressa (Pennant, 1777)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 205F26B3-A8AA-5E40-B510-BBAE70D57C26
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 8E72B2A3-DDBF-588E-B4E1-561BDBF79CC2

Notes: Alive.

Order Venerida

Family Chamidae

Chama circinata Monterosato, 1878

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: C3BB6AA9-6BCF-531C-BCAF-44CC6997809D

Notes: Alive, Fig. 98.

Chama gryphoides (Linnaeus, 1758)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 5B390FEF-A662-525A-927E-8351EC03A872

- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: 67A9CBEE-C568-5959-982D-B4E167823294

Notes: Alive, Fig. 99.



Figure 98. [doi](#)

Chama circinata Monterosato, 1878. *In situ* photograph.



Figure 99. [doi](#)

Chama gryphoides (Linnaeus, 1758) . *In situ* photograph.

Pseudochama gryphina* (Lamarck, 1819)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 8306676E-9983-59CA-BAE4-088E7F0C3FBC
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 42.40N; verbatimLongitude: 9 17 45.35E; geodeticDatum: WGS84; occurrenceID: 658D073A-55A3-50D5-A001-CBCD3245146E

Notes: Alive, Fig. 100.



Figure 100. [doi](#)

Pseudochama gryphina Lamarck, 1819). *In situ* photograph.

Family Neoleptonidae***Neolepton sulcatulum* (Jeffreys, 1859)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 53C4BEC3-75C1-5A88-89B3-76F8BAC36C2D

Notes: Shell; new record.

Family Mactridae

Mactra stultorum (Linnaeus, 1758)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 35B2C188-6BC4-5BEE-B7E7-0C0F903B9198
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 1262CF6C-CF5F-5836-A5D5-FEE7417071D8

Notes: Alive.

Spisula subtruncata (da Costa, 1778)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 19E8D865-9AEF-5B29-874F-86A86F5ACC86
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 0EDBB847-CF80-524F-9B9E-5BDA8A49FC55

Notes: Shell.

Lutraria oblonga (Gmelin, 1791)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 8F3E39B1-6C9D-559B-B209-C862B4DBACEE

Notes: Shell.

Family Mesodesmatidae

Donacilla cornea (Poli, 1795)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: C0918744-E1D7-5176-8E6A-7A9CD1AE96CD

Notes: Alive.

Family Veneridae

Venus verrucosa Linnaeus, 1758

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: D1B51D8C-8A6E-52D4-AEA1-3F9FEAE71584
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 0D979544-8DE3-5966-BBB8-4C866FA5E83F

Notes: Alive, Fig. 101.



Figure 101. [doi](#)

Venus verrucosa Linnaeus, 1758. *In situ* photograph.

Dosinia exoleta (Linnaeus, 1758)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 3AE2B5D3-90FC-5341-87D9-3CC14BCDCB86

Notes: Alive.

Dosinia lupinus* (Linnaeus, 1758)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: E7957C35-90AE-5774-A4AD-24003CBFFBC1
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: 48D5F633-8BDE-5350-AA81-7F2114FD6DCD

Notes: Alive, Fig. 102.



Figure 102. [doi](#)
Dosinia lupinus (Linnaeus, 1758). Optical photograph.

Irus irus* (Linnaeus, 1758)*Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: FAFDB4C1-4083-5F32-B6BF-645F9CFCEC91

Notes: Shell.

Polititapes aureus* (Gmelin, 1791)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 86B5BD6C-0A36-502B-864D-321911D9806A

- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 28.32N; verbatimLongitude: 9 16 44.50E; geodeticDatum: WGS84; occurrenceID: 14FD896F-5820-537F-848E-FF5FFEDE1EE2
- c. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: CFB2BFA2-20BB-5F20-9322-5A0E12D9D366

Notes: Alive, Fig. 103.



Figure 103. [doi](#)

Polititapes aureus (Gmelin, 1791). Optical photograph.

Polititapes lucens (Locard, 1886)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: EFE046EF-0A2B-531C-9C82-C0C3942BC1F5

Notes: Alive.

Ruditapes decussatus* (Linnaeus, 1758)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: F56E3108-CA5A-5D9C-8453-A47EC499B39B
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 22.14N; verbatimLongitude: 9 16 59.05E; geodeticDatum: WGS84; occurrenceID: A9D512B2-3E5A-5C28-94CC-5F752E0BEC8D

Notes: Alive.

Callista chione* (Linnaeus, 1758)*Materials**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 6BBA1D87-092A-5607-A3BB-5F4EA8D82E0E
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: 12035329-C7ED-5ABA-A66E-1FA1782D1FC8

Notes: Shell.

Family Trapezidae***Coralliophaga lithophagella* (Lamarck, 1819)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 34D3AD86-64C4-5386-85D0-3F8E31711388

Notes: Shell.

Family Ungulinidae***Microstagon trigonum* (Scacchi, 1835)****Material**

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 88116113-3427-52DE-A45C-69E08B5AB949

Notes: Shell.

Order Adapedonta

Family Solenidae

Solen marginatus Pulteney, 1799

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 615BFB03-B6F9-58BA-8B59-7E730EE9F69C
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 12 28.07N; verbatimLongitude: 9 17 47.62E; geodeticDatum: WGS84; occurrenceID: B5B63BCF-9A3E-5911-BE5D-98698CAD119D

Notes: Shell.

Family Pharidae

Ensis minor (Chenu, 1843)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: A4F1C82D-AB0E-5D68-A932-7AC1C451A802
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 56.04N; verbatimLongitude: 9 17 33.63E; geodeticDatum: WGS84; occurrenceID: DB90F455-1563-5992-820B-B6A7D8A2DA20

Notes: Shell.

Order Myida

Family Myidae

Sphenia binghami W. Turton, 1822

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 6E344CCB-2BCC-528C-BEA9-38E396102810

Notes: Shell.

Superorder Anomalodesmata

Family Thraciidae

Thracia convexa (W. Wood, 1815)

Materials

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 02B6C8CD-3EE3-5262-9874-2931848A3728
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 0CD9D27A-1A8C-5A9F-AD6E-4F7CFC6CBDF3

Notes: Shell.

Thracia phaseolina (Lamarck, 1818)

Material

- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: EF4BD90A-100F-5E03-981A-5C4109FBD1AC

Notes: Shell.

Thracia villosiuscula (MacGillivray, 1827)

Materials

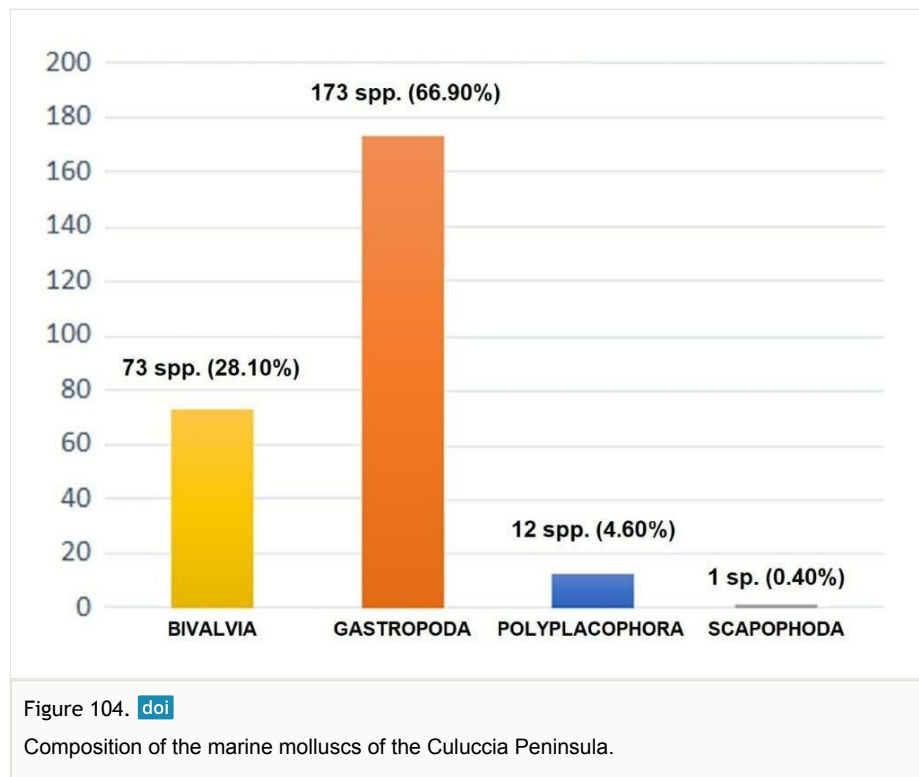
- a. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 13 17.70N; verbatimLongitude: 9 17 21.41E; geodeticDatum: WGS84; occurrenceID: 8BA528E2-A7BB-5B70-BDBC-13B1983163EF
- b. country: Italy; countryCode: IT; stateProvince: Sassari; locality: Island of Culuccia; verbatimLatitude: 41 11 46.79N; verbatimLongitude: 9 17 20.34E; geodeticDatum: WGS84; occurrenceID: 0F579E75-78D0-597B-894E-D2F2BDB7702C

Notes: Alive.

Analysis

Marine molluscs were collected in 15 sampling sites alongside Culuccia Peninsula (Fig. 1). In total, 114 live-collected specimens and 142 empty shells were sampled, belonging to 256 species, 176 genera, 99 families, 31 orders and four classes. Composition of the marine molluscs of the Culuccia Peninsula resulted as follows: 71 species of Bivalvia (61 genera, 28 families, 13 orders), 172 species of Gastropoda (107 genera, 63 families, 14

orders), 12 species of Polyplacophora (7 genera, 7 families, 3 orders), one species of Scaphopoda. Amongst the four classes recorded, gastropods were the most represented (68.83% of the total number species), followed by bivalves (25.91%), polyplacophorans (4.86%) and scaphopods (0.40%) (Fig. 104).



Discussion

Amongst the species recorded, some taxa are worthy of mention being threatened or rarely collected/observed. This is the case of the fan mussel (or nobel pen shell) *Pinna nobilis* (Linnaeus, 1758), the largest bivalve of the Mediterranean Sea, an endemic species protected under the European Council since 1992 [Annex IV of EU Habitats Directive 92/43/EEC (EEC 1992)]. Currently, *P. nobilis* has become a threatened and vulnerable species and is legally protected under Annex II of the Barcelona Convention (SPA/BD Protocol 1995), Annex IV of the EU Habitats Directive (EU Habitats Directive 2007) and the Spanish Catalogue of Threatened Species (Category: Vulnerable, Royal Decree 139/2011). During the 20th century, populations of this bivalve have greatly declined because of human activities, accidental killing by boat anchoring, fishing nets and trawlers and, in the last years, parasites' infection. In 2017-2018, a mass mortality event (MME) affecting this pen shell was detected along the Spanish coasts (Vázquez-Luis et al. 2017) and, later on, at many sites across the whole Mediterranean Sea. This MME was

associated to a haplosporidian (*Haplosporidium pinnae*) parasite (Darriba 2017, Catanese et al. 2018, Tiscar et al. 2022) and/or to mycobacterial (*Mycobacterium* sp.) infection (Carella et al. 2019, Lattos et al. 2020), in some cases with the addition of a concomitant vibriosis (*Vibrio* spp.) (Künili et al. 2021) and other opportunistic pathogens like *Perkinsus* sp. (Carella et al. 2019). All the *P. nobilis* observed at Culuccia were dead, confirming the observation that the MME also occurred in northern Sardinia (Scarpa et al. 2020). The limpet *P. ferruginea* is a Mediterranean endemic species listed amongst the most threatened marine macro-invertebrates occurring in this Basin (European Council Directive 92/43/EEC on the Conservation of Natural Habitat of Wild Fauna and Flora, 1992). Although having the 'strict protection' status, this species is still collected by fishermen and unaware tourists. Cossu et al. (2022) have examined the genetic diversity of this limpet in northern Sardinian populations, as well as their spatial distribution. According to their study, the closest geographical spot where this endangered species was recorded is La Maddalena Island. We have observed *P. ferruginea* in two sampling sites at Culuccia (SS #4 and #8).

Four NIS, two gastropods and two bivalves have been recorded. The cephalaspidean *Lamprohaminoea cyanomarginata* (Heller & Thompson, 1983) is a lessepsian species and, in spite of the fact that it is missing in "The New Checklist of the Italian Fauna" (Renda et al. 2022, herein abbreviated as ClFmM) for the Sardinia waters, this non-indigenous seaslug has been reported since 2016 by Azzola et al. (2022) from the Tavolara-Punta Coda Cavallo Marine Protected Area. With this investigation, its presence has been confirmed and its range has been slightly enlarged to the north-western portion of Sardinia. The ragged sea hare *Bursatella leachii* Blainville, 1817 is nowadays widespread in the whole Mediterranean Sea (Selfati et al. 2017) and it was reported from the Gulf of Olbia since 2010 (Doneddu 2010). We confirm the presence of this aplysiid in north-western Sardinia. The Pacific oyster *Magallana gigas* (Thunberg, 1793) is one of the most important cultured bivalves worldwide (Tran et al. 2022 and references therein). In a suspended aquaculture plant located in the southern part of the Culuccia Fjord (SS#14), this oyster has been reared since 2019. Interestingly, in the coastline (SS#13-15) facing the oyster farm, abundant populations of both *Ostrea edulis* and *O. stentina* have been recorded on rocky substrates, while no individuals of *M. gigas* have been found. *Pinctada radiata* (Leach, 1814) is an alien bivalve that is progressively expanding its Mediterranean distribution. According to several authors (Barbieri et al. 2015, Gavrilović et al. 2017, Petović and Mačić 2017, Ballesteros et al. 2020, Png-Gonzalez et al. 2021), the Mediterranean specimens of this alien Margaritidae belong to the subspecies *P. imbricata radiata*. In particular, Barbieri et al. (2015) have described in details its invasion history in the Mediterranean and its rapid spread. Another subspecies, *P. imbricata fucata*, has been recorded by Scuderi et al. (2019) and Cunningham Aparicio and Mulero Méndez (2021) in the Mediterranean Sea, claiming a second (independent) alien *Pinctada* colonisation. In "The New Checklist of the Italian Fauna" (Renda et al. 2022), both *P. imbricata radiata* and *P. imbricata fucata* are reported in Italian waters. A note reporting the first record for Sardinia of living specimens of this allochthonous species, denominated as *P. radiata*, have recently been submitted for publication (M. Garzia, personal communication). Interestingly, a valve of this species has been collected in SS#10, confirming the presence of this taxon

in northern Sardinia. Amongst the four classes recorded, gastropods were the most represented (68.83% of the total number species), followed by bivalves (25.91%), polyplacophorans (4.86%) and scapophods (0.40%) (Fig. 104). This is in line with the prevalence of rocky substrates, including pebbles and gravel, over sandy-muddy shores, around the Peninsula of Culuccia (Table 1). Considering only the four classes Bivalvia, Gastropoda, Polyplacophora and Scapophoda, according to the CIFmM (Renda et al. 2022), a total of 1,283 molluscan species have been listed of the Marine Sector 2 (MS2, northern Tyrrhenian, including the sea around Corsica and Sardinia). Amongst the 26 species of Polyplacophora present in the MS2, 10 are confirmed, while *Callochiton septemvalvis* (Montagu, 1803) (Fig. 2) and *Leptochiton asellus* (Gmelin, 1791) are new records for Sector 2. In this Mediterranean sector, out of 960 gastropod species, 160 have been confirmed and nine species must be added to the CIFmM-MS2; of these, seven are: *Rissoa aartseni* Verduin, 1985; *Crisilla semistriata* (Montagu, 1808); *Manzonina crassa* (Kanmacher, 1798); *Pusia granum* (Forbes, 1844); *Gibberula caelata* (Monterosato, 1878); *Parthenina alesii* Micali, Nofroni & Perna, 2012 and *Megastomia conoidea* (Brocchi, 1814). The two additional taxa to be added are the Pleurobranchidae *Berthella plumula* (Montagu, 1803) and *Berthellina aurantiaca* (Risso, 1818), albeit they have been previously reported by Trainito and Doneddu (2016) from the Marine Protected Area Tavolara-Punta Coda Cavallo (north-eastern Sardinia). In Marine Sector 2, 286 bivalves are listed, 68 have been confirmed, while three resulted in being new records: *Gregariella semigranata* (Reeve, 1858), *Neolepton sulcatulum* (Jeffreys, 1859) and *Cerastoderma glaucum* (Bruguière, 1789).

In conclusion, with this investigation, 16 molluscan species can be added to the CIFmM of the Marine Sector 2 as new records [2 polyplacophorans, 10 gastropods (including *L. cyanomarginata*), 4 bivalves (including *P. radiata*)]. As stressed by the Marine Strategy Framework Directive (2008/56/EC), molluscs are amongst the best descriptors of the effects of climate change and human impact on marine ecosystems, as well as to evaluate the status of protected areas. Therefore, long-term biodiversity monitoring and observation are needed to improve our knowledge of biodiversity changes that can occur in marine areas. This work is an important addition to local and regional biodiversity knowledge and a baseline for future biodiversity monitoring in northern Sardinia.

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Author contributions

Conceptualisation (PM, MO, ADG), Methodology (PM, MO, ADG, CS, SR), Validation (PM, CS, MO), Investigation (PM, MO, ADG, SR), Data Curation (PM, CS, MO), Writing - Original draft (PM, ADG, CS), Writing - Review and Editing (PM, ADG, CS, MO, SR), Supervision (PM), Project administration (ADG, PM, SR), Funding Acquisition (ADG, SR).

References

- Azzola A, Furfaro G, Trainito E, Doneddu M, Montefalcone M (2022) Seawater warming favours the northward range expansion of Lessepsian species in the Mediterranean Sea: the cephalaspidean *Lamprohaminoea ovalis*. Journal of the Marine Biological Association of the United Kingdom 102: 167-173. <https://doi.org/10.1017/s0025315422000339>
- Ballesteros E, Marsinyach E, Bagur M, Sales M, Movilla J, Bolado I, Cefali M (2020) The pearl oyster *Pinctada imbricata radiata* (Leach, 1814) (Bivalvia: Pteriidae) reaches Minorca, Balearic Islands. Bolletì de la Societat D'Història Natural de Les Balears 63: 97-108.
- Barbieri M, Deidun A, Maltagliati F, Castelli A (2015) A contribution to the phylogeography of *Pinctada imbricata radiata* (Leach, 1814) (Bivalvia: Pteriidae) from the Eastern Mediterranean Sea by means of the mitochondrial COI marker. Italian Journal of Zoology 83 (1): 113-120. <https://doi.org/10.1080/11250003.2015.1106012>
- Barnes RS (1980) Coastal lagoons. The natural history of a neglected habitat. Cambridge studies in modern Biology: 1. XI. Cambridge University Press, London, 106 pp.
- Carella F, Aceto S, Pollaro F, Miccio A, Iaria C, Carrasco N, Prado P, De Vico G (2019) A mycobacterial disease is associated with the silent mass mortality of the pen shell *Pinna nobilis* along the Tyrrhenian coastline of Italy. Scientific Reports 9 (1). <https://doi.org/10.1038/s41598-018-37217-y>
- Catanese G, Grau A, Valencia JM, García-March JR, Vázquez-Luis M, Alvarez E, Deudero S, Darriba S, Carballal M, Villalba A (2018) *Haplosporidium pinnae* sp. nov., a haplosporidan parasite associated with mass mortalities of the fan mussel, *Pinna nobilis*, in the Western Mediterranean Sea. Journal of Invertebrate Pathology 157: 9-24. <https://doi.org/10.1016/j.jip.2018.07.006>
- Cossu P, Mura L, Dedola GL, Lai T, Sanna D, Scarpa F, Azzena I, Fois N, Casu M (2022) Detection of genetic patterns in endangered marine species is affected by small sample sizes. Animals 12 (20). <https://doi.org/10.3390/ani12202763>
- Cunningham Aparicio BC, Mulero Méndez I (2021) First record of the potentially invasive *Pinctada imbricata fucata* (Gould, 1850) (Bivalvia Pteriidae) along the Mediterranean coasts of Spain. Biodiversity Journal 12 (3): 585-588. <https://doi.org/10.31396/biodiv.jour.2021.12.3.585.588>
- Darriba S (2017) First haplosporidan parasite reported infecting a member of the superfamily Pinnoidea (*Pinna nobilis*) during a mortality event in Alicante (Spain, Western Mediterranean). Journal of Invertebrate Pathology 148: 14-19. <https://doi.org/10.1016/j.jip.2017.05.006>

- Doneddu M (2010) Primi rinvenimenti di *Bursatella leachii* de Blainville, 1817 e *Fulvia fragilis* (Forskål, 1775) nel Golfo di Olbia (Sardegna nord orientale). Bollettino Malacologico 46: 104-109.
- Galil B, Marchini A, Occhipinti-Ambrogi A (2018) East is east and West is west? Management of marine bioinvasions in the Mediterranean Sea. Estuarine, Coastal and Shelf Science 201: 7-16. <https://doi.org/10.1016/j.ecss.2015.12.021>
- Gavrilović A, Piria M, Guo X, Jug-Dujaković J, Ljubučić A, Krkić A, Iveša N, Marshall B, Gardner JA (2017) First evidence of establishment of the rayed pearl oyster, *Pinctada imbricata radiata* (Leach, 1814), in the eastern Adriatic Sea. Marine Pollution Bulletin 125: 556-560. <https://doi.org/10.1016/j.marpolbul.2017.10.045>
- Guelorget O, Perthuisot J (1992) Paralic ecosystems. Biological organization and functioning. Vie et Milieu 42: 215-251.
- Künili İE, Ertürk Gürkan S, Aksu A, Turgay E, Çakir F, Gürkan M, Altınağaç U (2021) Mass mortality in endangered fan mussels *Pinna nobilis* (Linnaeus 1758) caused by co-infection of *Haplosporidium pinnae* and multiple *Vibrio* infection in Çanakale Strait, Turkey. Biomarkers 26 (5): 450-461. <https://doi.org/10.1080/1354750x.2021.1910344>
- Lattos A, Giantsis I, Karagiannis D, Michaelidis B (2020) First detection of the invasive *Haplosporidian* and *Mycobacteria* parasites hosting the endangered bivalve *Pinna nobilis* in Thermaikos Gulf, North Greece. Marine Environmental Research 155 <https://doi.org/10.1016/j.marenvres.2020.104889>
- Petović S, Mačić V (2017) New data on *Pinctada radiata* (Leach, 1814) (Bivalvia: Pteriidae) in the Adriatic Sea. Acta Adriatica 58 (2): 357-361. <https://doi.org/10.32582/aa.58.2.14>
- Png-Gonzalez L, Aguilo-Arce J, Vázquez-Luis M, Carbonell A (2021) New occurrence of *Pinctada imbricata radiata* (Leach, 1814) in the Balearic Archipelago (NW Mediterranean Sea). BioInvasions Records 10 (4): 853-858. <https://doi.org/10.3391/bir.2021.10.4.09>
- Renda W, Amati B, Bogi C, Bonomolo G, Capua D, Dell'Angelo B, Furfaro G, Giannuzzi Savelli R, La Perna R, Nofroni I, Pusateri F, Romani L, Russo P, Smriglio C, Tringali L, Oliverio M (2022) The new checklist of the Italian fauna: marine Mollusca. Biogeographia – The Journal of Integrative Biogeography 37 (1). <https://doi.org/10.214/26/b637156028>
- Scarpa F, Sanna D, Azzena I, Mugetti D, Cerruti F, Hosseini S, Cossu P, Pinna S, Grech D, Cabana D, Pasquini V, Esposito G, Cadoni N, Atzori F, Antuofermo E, Addis P, Sechi LA, Prearo M, Peletto S, Mossa M, Saba T, Gazale V, Casu M (2020) Multiple non-species-specific pathogens possibly triggered the mass mortality in *Pinna nobilis*. Life 10 (10). <https://doi.org/10.3390/life10100238>
- Scuderi D, Balistreri P, Germanà A (2019) Are *Pinctada radiata* (Leach, 1814) and *Pinctada fucata* (Gould, 1850) (Bivalvia Pteriidae) only synonyms or really different species? The case of some Mediterranean populations. Biodiversity Journal 10 (4): 415-426. <https://doi.org/10.31396/biodiv.jour.2019.10.4.415.426>
- Selfati M, El Ouamari N, Crocetta F, Mesfioui A, Boissery P, Bazairi H (2017) Closing the circle in the Mediterranean Sea: *Bursatella leachii* Blainville, 1817 (Mollusca: Gastropoda: Anaspeidea) has reached Morocco. BioInvasions Records 6 (2): 129-134. <https://doi.org/10.3391/bir.2017.6.2.07>
- Tiscar PG, Rubino F, Paoletti B, Di Francesco CE, Mosca F, Della Salda L, Hattab J, Smoglica C, Morelli S, Fanelli G (2022) New insights about *Haplosporidium pinnae* and

the pen shell *Pinna nobilis* mass mortality events. Journal of invertebrate pathology 190: 107735. <https://doi.org/10.1016/j.jip.2022.107735>

- Trainito E, Doneddu M (2016) Contribution to the knowledge of the molluscan fauna in the Marine Protected Area Tavolara-Punta Coda Cavallo: Sacoglossa, Umbraculida, Pleurobranchomorpha, Anaspidea, Cephalaspidea, Thecosomata (Gastropoda; Heterobranchia). Boll. Malacol. 52: 79-89.
- Tran BT, Kim K, Heo JS, Park S, Park HK, Choi YH (2022) Determination of the Pacific oyster *Magallana gigas* (Crassostrea gigas) diet composition in two aquaculture farms by fecal DNA metabarcoding. Aquaculture 552 <https://doi.org/10.1016/j.aquaculture.2022.738042>
- Vázquez-Luis M, Álvarez E, Barrajón A, García-March J, Grau A, Hendriks I, Jiménez S, Kersting D, Moreno D, Pérez M, Ruiz J, Sánchez J, Villalba A, Deudero S (2017) S.O.S. *Pinna nobilis*: A mass mortality event in Western Mediterranean Sea. Frontiers in Marine Science 4 <https://doi.org/10.3389/fmars.2017.00220>

Supplementary materials

Suppl. material 1: *Haliotis tuberculata*

Authors: P. Mariottini

Data type: Movie

Brief description: *Haliotis tuberculata* crawling on rocky substrate.

[Download file](#) (11.87 MB)

Suppl. material 2: *Felimare picta*

Authors: P. Mariottini

Data type: Movie

Brief description: *Felimare picta* crawling on a rock.

[Download file](#) (18.10 MB)

Suppl. material 3: *Cratena peregrina*

Authors: P. Mariottini

Data type: Movie

Brief description: *Cratena peregrina* feeding on a colony of *Eudendrium* sp.

[Download file](#) (9.64 MB)

Suppl. material 4: *Bursatella leachii*

Authors: G. Mariottini

Data type: Movie

Brief description: *Bursatella leachii* crawling on muddy substrate covered by the seaweed *Caulerpa prolifera*.

[Download file](#) (5.03 MB)

Suppl. material 5: *Petalifera petalifera* [doi](#)

Authors: P. Mariottini

Data type: Movie

Brief description: *Petalifera petalifera* crawling on encrusted rock surface.

[Download file](#) (6.71 MB)

Suppl. material 6: *Limaria hians* [doi](#)

Authors: P. Mariottini

Data type: Movie

Brief description: *Limaria hians* on a sandy substrate covered by *Caulerpa prolifera*.

[Download file](#) (13.93 MB)

Suppl. material 7: *Limaria tuberculata* [doi](#)

Authors: P. Mariottini

Data type: Movie

Brief description: *Limaria tuberculata* on a sandy substrate.

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