

G. INNOCENTI (\*)

## COLLECTIONS OF THE NATURAL HISTORY MUSEUM, ZOOLOGICAL SECTION «LA SPECOLA» OF THE UNIVERSITY OF FLORENCE. XXIII. CRUSTACEA, CLASS MAXILLOPODA, SUBCLASS THECOSTRACA, INFRACLASS CIRRIPIEDIA

**Abstract** - A list of 4018 specimens of Cirripedia (4 orders, 15 families, 28 genera, 59 species) preserved in the Zoological Section «La Specola» of the Natural History Museum of the University of Florence is given.

**Key words** - Maxillopoda, Thecostraca, Cirripedia, Thoracica, Rhizocephala, systematics, collections.

**Riassunto** - *Cataloghi del Museo di Storia Naturale dell'Università di Firenze, Sezione di Zoologia «La Specola». XXIII. Crustacea, Classe Maxillopoda, Sottoclasse Thecostraca, Infraclasse Cirripedia.* Sono elencati 4018 esemplari del phylum Crustacea, Classe Maxillopoda, Sottoclasse Thecostraca, Infraclasse Cirripedia (4 ordini, 15 famiglie, 28 generi, 59 specie) conservati nelle collezioni della sezione di Zoologia «La Specola» del Museo di Storia Naturale dell'Università di Firenze.

**Parole chiave** - Maxillopoda, Thecostraca, Cirripedia, Thoracica, Rhizocephala, sistematica, collezioni.

### INTRODUCTION

The collection consists of 4018 specimens (ca. 300 jars) belonging to 4 orders, 15 families, 28 genera and 59 species conserved in the Zoology Section «La Specola» of the Florence University Natural History Museum.

Much of the collection consists of historical material which was reviewed by Adolfo Targioni Tozzetti (1823-1902) in the second half of the XIX century and then again by Angelo Senna (1866-1952) at the beginning of the XX century. Both specialists published several papers on the Crustacean collection, including one by Targioni Tozzetti (1872) on a new species of Cirripedia Lepadomorpha (Mascherini, 1991). Targioni Tozzetti also indexed the material, adding notes on the systematics, synonymies and often a brief description of the samples. Senna continued the index but without adding any other information unless the identity of the species had been updated.

Fresh material has been obtained from research missions conducted in collaboration with the Gruppo di Ricerche Scientifiche e Tecniche Subacquee (G.R.S.T.S. - Underwater Scientific & Technical Research Group), and the Centro di Faunistica Tropicale of CNR, both in Italy and abroad (Pardi, 1976, 1982; G.R.S.T.S., 1986).

Most of our Cirripedia Verrucomorpha and Balanomorpha were studied between 1938 and 1941 by the Hungarian Gabor von Kolosváry, a specialist at the Budapest Natural History Museum, and later a professor at the University of Szeged. He bequeathed his Crustacean collection to the Budapest Natural History Museum (István Matskási and László Forró, pers. comm.; Kolosváry, 1941). There are several discrepancies in Kolosváry's list of our species, some caused by his error in reading the old labels. Moreover, a new species from the East Indies – described by Kolosváry as *Balanus orcuttiformis* and previously by Targioni Tozzetti as *Balanus declivis* – is missing. This species is not listed in any checklists of the known Balanomorpha species, with the exception of Newman & Ross (1976), where it is listed as *Membranobalanus orcuttiformis* (Kolosváry, 1941), distributed in the Indian Ocean, but without any further information.

More recently, nearly the entire collection of Cirripedia Rhizocephala was revised by Bo Øksnebjerg of Copenhagen Museum, Denmark (Øksnebjerg, 2000).

The systematic order of the present catalogue follows that proposed by Martin & Davis (2001). The Italian material has been compared to Argano *et al.* (1995) and Relini (1980) and the foreign material to Darwin (1851, 1854). Synonymies in the families Balanidae and Tetralitidae have been revised with the aid of the monographs by Henry & McLaughlin (1975, 1986), Pitombo (2004) and Ross (1969).

Indicated for each specimen, or group of specimens, is the genus, species (and subspecies), author, year of description, nation, locality (for Italian localities, in brackets the province abbreviation), date and collector; previous determinations and author, any synonyms or errors, new authors in chronological order, number of specimens, observations, and the Crustacea Cirripedia catalogue number (in parenthesis). A note containing an historical description of special interest has been included for some species.

### Abbreviations, terms and acronyms

< = antecedent; [*sic*] = so, apparent error; pur. = purchased; upd. = update; ca. = about; cf. = compare; det. = determination/author; sp. = specimen/s; leg. = collector/s; R. = Royal; rev. = revision; Patria? = unknown locality; leg.? = unknown collector; data? = unknown date; det.? = unknown author; MZUF = Florence Uni-

(\*) Museo di Storia Naturale dell'Università di Firenze, Sezione Zoologica «La Specola», via Romana 17, 50125 Florence, Italy.  
E-mail: gianna.innocenti@unifi.it

versity Zoology Museum Cirripedia catalogue collection number.

## SYSTEMATICS

Class MAXILLOPODA Dahl 1956

Subclass THECOSTRACA Gruvel 1905

Infraclass CIRRIPEDIA Burmeister 1834

Superorder RHIZOCEPHALA Müller 1862

Order KENTROGONIDA Delage 1884

Family PELTOGASTRIDAE Lilljeborg 1860

*Peltogaster paguri* Rathke 1842

Italy, (NA) Gulf of Naples, VIII.1876, leg. A. Targioni Tozzetti, previous det. *Sacculina* sp., det. A. Senna, upd. B. Øksnebjerg, 1 sp. on *Pagurus prideaux* (MZUF 213)  
Italy, (NA) Gulf of Naples, VIII.1876, leg. A. Targioni Tozzetti, previous det. *Peltogaster socialis* Müller, det. A. Targioni Tozzetti, upd. B. Øksnebjerg, 2 sp. on *Pagurus prideaux* (MZUF 211)  
Patria?, 1904, leg.?, det. B. Øksnebjerg, 3 sp. on *Pagurus excavatus* (MZUF 216)

*Peltogaster curvatus* Kossmann 1874

Italy, (NA) Gulf of Naples, VIII.1876, leg. A. Targioni Tozzetti, previous det. *Peltogaster socialis* Müller, det. A. Targioni Tozzetti, upd. B. Øksnebjerg, 1 sp. on *Pagurus prideaux* (MZUF 212)

*Peltogasterella sulcata* (Lilljeborg 1859)

Italy, (NA) Naples, 1913, leg.?, previous det. *Peltogaster socialis*, det.?, upd. B. Øksnebjerg, 32 sp. on *Pagurus excavatus* (MZUF 215)  
Italy, (NA) Gulf of Naples, VIII.1876, leg. A. Targioni Tozzetti, previous det. *Peltogaster socialis* Müller, det. A. Targioni Tozzetti, upd. B. Øksnebjerg, 10 sp. on *Pagurus prideaux* (MZUF 210)  
Patria? [Italy, Gulf of Naples?], data?, leg.? [probably from the Stazione Zoologica of Naples?], material obtained from the collection of the R. Istituto Superiore Femminile of Florence (Didactic Collection), previous det. *Peltogaster socialis* Müller, det.?, upd. B. Øksnebjerg, 4 sp. on *Pagurus prideaux* (MZUF 214)

*Parthenopea subterranea* Kossmann 1874

Italy, (NA) Gulf of Naples, VIII.1876, leg. A. Targioni Tozzetti, previous det. *Parthenopea subterranea* V., det. A. Senna, upd. B. Øksnebjerg, 3 sp. on *Callianassa* sp. (MZUF 208)

Family SACCULINIDAE Lilljeborg 1860

*Sacculina benedeni* Kossmann 1872

Italy, (LU) Viareggio quay, 17.VI.1914, leg. G. Pons, previous det. *Sacculina carcini*, det. V. Baldasseroni

(1915) (Vincenzo Baldasseroni (1884-1963), director of La Specola Museum, published in 1915 an article on such specimen and its association with the bryozoans and the mussels), upd. B. Øksnebjerg, 1 sp. on *Pachygrapsus marmoratus* in association with bryozoans and small specimens of *Mytilus galloprovincialis* (MZUF 222)  
Italy, (LU) Viareggio quay, 15.VI.1919, leg. F. Pons, det. B. Øksnebjerg, 1 sp. on *Pachygrapsus marmoratus* (MZUF 221)

Italy, (LI) Leghorn, IX.1970, leg. M.L. Azzaroli, det. B. Øksnebjerg, 13 sp. on *Pachygrapsus marmoratus* (MZUF 296)

Italy, (LI) Elba Island, Portoferraio, X.1877, leg. G.B. Toscanelli & E.H. Giglioli, det. B. Øksnebjerg, 2 sp. on *Pachygrapsus marmoratus* (MZUF 220)

Italy, (GR) Punta Ala, Sparviero Isle, 1976-1978, leg. M. Borri, det. B. Øksnebjerg, 1 sp. on *Pachygrapsus marmoratus* (MZUF 223)

Italy, (NA) Naples, 1903, leg.?, det. B. Øksnebjerg, 1 sp. on *Pachygrapsus marmoratus* (MZUF 224)

Italy, (NA) Gulf of Naples, VIII.1876, leg. A. Targioni Tozzetti, previous det. *Sacculina carcini* Thompson, det. A. Targioni Tozzetti, upd. B. Øksnebjerg, 3 sp. on *Pachygrapsus marmoratus* (MZUF 217)

Italy, (NA) Gulf of Naples, data?, leg.?, det. B. Øksnebjerg, 4 sp. on *Pachygrapsus marmoratus* (MZUF 225)

Italy, Sicily, VIII.1906, leg. P. Mingazzini, det. B. Øksnebjerg, 4 sp. on *Pachygrapsus marmoratus* (MZUF 218)

Greece, Syros Island, VI.1878, leg. Jule, det. B. Øksnebjerg, 1 sp. on *Pachygrapsus marmoratus* (MZUF 219)

*Sacculina* sp.

Australia, Rockhampton, IV.1888, pur. Pohl, 1 sp. on *Leptodius nudipes* (MZUF 226)

*Drepanorchis neglecta* (Fraisie 1877)

Italy, (NA) Gulf of Naples, VIII.1876, leg. A. Targioni Tozzetti, previous det. *Sacculina neglecta* Fraisse, det. A. Targioni Tozzetti, upd. B. Øksnebjerg, 3 sp. on *Inachus communissimus* (MZUF 209)

*Heterosaccus dollfusi* Boschma 1960

Israel, Haifa bay, XI.1995, leg. local fishermen, det. G. Innocenti, 2 sp. on *Charybdis longicollis* (MZUF 227)  
Israel, Haifa bay, XI.1995, leg. local fishermen, det. G. Innocenti, 4 sp. on *Charybdis longicollis* (MZUF 228)  
Israel, Haifa bay, between Haifa harbour and Akko, 24.VII.2000, leg. local fishermen, det. G. Innocenti, 10 sp. on *Charybdis longicollis* (MZUF 229)

Order AKENTROGONIDA Häfele 1911

Family THOMPSONIIDAE Høeg & Rybakov 1992

THOMPSONIIDAE GEN. SP.

Kenya, Malindi, Mida Creek, Kirepwe Isle, mangrove swamp, 14.IX.2000, leg. S. Cianfanelli & E. Talenti, 34 sp. on *Epixanthus dentatus* (MZUF 230)

Superorder THORACICA Darwin 1854

Order PEDUNCULATA Lamarck 1818

Suborder IBLMORPHA Newman 1987

Family IBLIDAE Leach 1825

*Ibla* sp.

Jordan, Yemanye, Aqaba, 2-5.I.1975, leg. M. Poggesi (G.R.S.T.S.), 4 sp. associated to *Tetraclita* sp. and to bivalve molluscs (MZUF 207)

Suborder LEPADOMORPHA Pilsbry 1916

Family LEPADIDAE Darwin 1852

*Conchoderma virgatum* (Spengler 1790)

Italy, (VE) Venice, VIII.1872, donated by A. Ninni, previous det.: *Conchoderma virgatum* Olf., det. A. Senna, *Conchoderma virgata* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. (MZUF 128)

Italy, (SP) Gulf of La Spezia, 1863-1864, leg. A. Targioni Tozzetti, previous det.: *Conchoderma virgatum* Olf., det. A. Senna, *Conchoderma virgata* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 3 sp. (MZUF 126)

Italy, (NA) Gulf of Naples, VIII.1876, leg. A. Targioni Tozzetti, previous det.: *Conchoderma virgatum* Olf., det. A. Senna, upd. G. Innocenti, ca. 8 sp. on 5 sp. of *Lepas hilli* (MZUF 129)

Italy, (ME) Messina, VIII-X.1878, leg. E.H. Giglioli & G.B. Toscanelli, det. A. Senna, 1 sp. (MZUF 131)

Italy, (PA) Palermo, IV.1869, donated by M. Schiff, previous det.: *Conchoderma virgatum* Olf., det. A. Senna, *Conchoderma virgata* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 3 sp. (MZUF 183)

Italy, (PA) Palermo, 1871, donated by P. Marotto & E. Ragusa, det. G. Innocenti, 1 sp. (MZUF 174)

Mediterranean Sea, [Italy, Gulf of Naples?], data?, leg. Stazione Zoologica of Naples, material obtained from the collection of the R. Istituto Superiore Femminile of Florence (Didactic Collection), previous det. *Conchoderma virgata* Spengler, det.?, upd. G. Innocenti, 6 sp. (MZUF 132)

Mediterranean Sea, data?, leg.?, previous det. *Conchoderma virgatum* Olf., det. A. Senna, upd. G. Innocenti, 3 sp. (MZUF 133)

France, Nice, VI.1884, pur. Gal, det. A. Senna, 2 sp. (MZUF 130)

Atlantic Sea, 1867, pur. Schaufuss, previous det.: *Conchoderma virgatum* Olf., det. A. Senna, *Conchoderma virgata* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. (MZUF 127)

*Conchoderma auritum* (L. 1767)

Mediterranean Sea, < 1836, leg.?, previous det.: *Conchoderma auritum* Olf., det. A. Senna, *Conchoderma aurita* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. (MZUF 182)

Eritrea, Assab, 1880-82, leg. V. Ragazzi, previous det.

*Lepas anserifera*, det.?, upd. G. Innocenti, 1 sp. (MZUF 184)

French Polynesia, Society Islands, Tahiti, 1853, donated by Bermont from Brest (France), previous det.: *Conchoderma auritum* Olf., det. A. Senna, *Conchoderma aurita* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 6 sp. (MZUF 135)

South Seas, IV.1888, pur. Johs, previous det. *Conchoderma auritum* Olf., det. A. Senna, upd. G. Innocenti, 1 sp. (MZUF 134)

*Lepas anatifera* L. 1767

Italy, (TS) Gulf of Trieste, VIII.1875, donated by F. Tedeschi, det. A. Targioni Tozzetti, 10 sp. (MZUF 145)

Italy, (GE) Genoa, VI.1869, pur. C. Biagi, det. A. Targioni Tozzetti, 30 sp. covered of serpulids and balanids (MZUF 158)

Italy, (SP) La Spezia, 1863-64, leg. A. Targioni Tozzetti, det. A. Targioni Tozzetti, 17 sp. (MZUF 152)

Italy, (AN) San Benedetto del Tronto, VII.1869, donated by P. Bargagli, det. A. Targioni Tozzetti, 2 sp. (MZUF 143)

Italy, (LI) Leghorn, 1861, pur. C. Caterini, det. A. Targioni Tozzetti, 5 sp. (MZUF 159)

Italy, (LI) Pianosa Island, III and IX.1884, leg. Simionelli, Fanfani & Danielli, det. A. Targioni Tozzetti, 6 sp. associated to *Chthamalus* (MZUF 144)

Italy, (LI) Elba Island, Portoferraio, XI.1880, donated by V. Toscanelli, previous det. *Lepas pectinata* Spengl., det. A. Targioni Tozzetti, upd. G. Innocenti, 13 sp. (MZUF 155)

Italy, (LI) Elba Island [Portoferraio], 1861, pur. G. Pisani, det. A. Targioni Tozzetti, 25 valves (MZUF 149)

Italy, (GR) Porto Ercole, 30.IV.1978, leg. S. Cianfanelli, det. G. Innocenti, 10 sp. (MZUF 172)

Italy, (GR) Porto Santo Stefano, Villa Domizia, stranded, 23.V.1997, leg. G. Innocenti, det. G. Innocenti, 2 sp. (MZUF 173)

Italy, (GR) La Feniglia, Monte Argentario, beach, 16.IV.1998, leg. G. Innocenti, det. G. Innocenti, 4 sp. (MZUF 194)

Italy, (GR) Alberese beach, IV.1992, leg. G. Innocenti, det. G. Innocenti, 3 sp. (MZUF 283)

Italy, (NA) [Gulf of] Naples, XII.1864, donated by P. Panceri, VIII.1876, leg. A. Targioni Tozzetti, det. A. Targioni Tozzetti, 28 sp. (MZUF 156)

Italy, (NA) Gulf of Naples, VIII.1876, leg. A. Targioni Tozzetti, det. A. Targioni Tozzetti, 4 sp. (MZUF 157)

Italy, (CT) Catania, 1878, leg. A. Aradas, det. A. Targioni Tozzetti, 3 sp. (MZUF 161)

Italy, (PA) Palermo, II.1866, donated by L. Fasce, det. A. Targioni Tozzetti, 89 sp. (MZUF 146)

Italy, (PA) Palermo, II.1866, donated by L. Fasce, det. A. Targioni Tozzetti, 84 sp. (MZUF 147)

Italy, (PA) Palermo, 1871, donated by P. Marotto & E. Ragusa, det. A. Targioni Tozzetti, 12 sp. one of which on 1 sp. of *Platylepas hexastylus* (MZUF 150)

Mediterranean Sea, [Italy, Gulf of Naples?], data?, leg. Stazione Zoologica of Naples, material obtained from the collection of the R. Istituto Superiore Femminile of Florence (Didactic Collection), previous det. *Anatifera*

- laevis* Auct., det.?, upd. G. Innocenti, 8 sp. (MZUF 163)  
Mediterranean Sea, < 1897, leg. G. Caramagna, previous det. *Lepas anatifera* Lamarck, det. G. Caramagna, upd. G. Innocenti, 4 sp. (MZUF 167)  
Mediterranean Sea, data?, leg.?, det. A. Targioni Tozzetti?, 5 sp. (MZUF 151)  
North Sea, IV.1888, pur. Johs, det. A. Targioni Tozzetti, 17 sp. (MZUF 148)  
Spain, Canary Islands, La Palma Island, on a buoy in the harbour, VII.2005, leg. S. Cianfanelli, M. Calcagno, L. & G. Manganelli, det. G. Innocenti, 50 sp. (MZUF 301)  
Portugal, Azores, Faial Island, Monte de Guia, 14.VII.1999, leg. S. Cianfanelli & M. Calcagno, det. G. Innocenti, 2 sp. (MZUF 198)  
Patria?, [Italy, Gulf of Naples?], data?, leg. Stazione Zoologica of Naples, material obtained from the collection of the R. Istituto Superiore Femminile of Florence (Didactic Collection), det.?, ca. 30 sp. (MZUF 181)  
Patria?, data?, donated by M. Paulucci Panciaticchi, det. G. Innocenti, 3 sp. and 2 valves (MZUF 170)
- Lepas anserifera* L. 1767  
Italy, (LI) Castiglioncello, IV.1905, leg.?, det.?, ca. 30 sp. (MZUF 165)  
Italy, (GR) Porto Ercole, 30.IV.1978, leg. S. Cianfanelli, det. G. Innocenti, 1 sp. (MZUF 189)
- Lepas cf. anserifera* L. 1767  
[Atlantic Ocean, Mediterranean Sea], data?, leg.?, material obtained from the collection of the R. Istituto Superiore Femminile of Florence (Didactic Collection), previous det. *Lepas striata*, det.?, upd. G. Innocenti, ca. 30 sp. on a cork (MZUF 169)
- Lepas australis* Darwin 1851  
Papua New Guinea, < 1897, donated by G. Caramagna, previous det. *Anatifa sessilis* Quoy, det. G. Caramagna, upd. G. Innocenti, 2 sp. (MZUF 166)
- Lepas fascicularis* Ellis & Solander 1786  
Denmark, central Jylland, Hvide Sande, 10.VIII.2000, leg. S. Cianfanelli & M. Calcagno, det. G. Innocenti, 1 sp. (MZUF 171)  
USA, Massachusetts, Vineyard Sound, 1881, donated by the U.S. National Museum, Smithsonian Institution, det. A. Targioni Tozzetti, 15 sp. (MZUF 168)
- Lepas hillii* (Leach 1818)  
Adriatic Sea, < 1843, leg.?, previous det.: *Lepas hillii* Darwin, det. A. Senna, *Anatifa laevis*, det. A. Targioni Tozzetti, upd. G. Innocenti, ca. 14 sp. (MZUF 141)  
Adriatic Sea, 1867, pur. Schauffuss, previous det. *Lepas hillii* Darwin, det. A. Senna, upd. G. Innocenti, 2 sp. (MZUF 142)  
Patria?, data?, leg.?, previous det. *Lepas hillii* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 3 sp. (MZUF 160)
- Lepas pectinata* Spengler 1851  
Italy, (LU) Forte dei Marmi, VIII.1869, donated by I. Cocchi, det. A. Targioni Tozzetti, 12 sp. (MZUF 139)  
Italy, (LI) Viareggio, 1864, donated by G. Pisani, det. A. Senna, ca. 80 sp. on a wood piece and on a cork (MZUF 136)  
Italy, (LI) Viareggio, 1864, donated by G. Pisani, det. A. Senna, ca. 50 sp. (MZUF 137)  
Italy, (LI) Elba Island, Portoferraio, XI.1880, donated by V. Toscanelli, det. A. Targioni Tozzetti, 15 sp. on a wood piece (MZUF 154)  
Italy, (GR) Uccellina Park, beach, IV.1989, leg. G. Innocenti, det. G. Innocenti, 7 sp. on a wood piece (MZUF 191)  
Italy, (GR) La Feniglia, Monte Argentario, beach, 23.V.1997, leg. G. Innocenti, det. G. Innocenti, 7 sp. (MZUF 192)  
Italy, (GR) La Feniglia, Monte Argentario, beach, 16.IV.1998, leg. G. Innocenti, det. G. Innocenti, 10 sp. (MZUF 193)  
Italy, (NA) Napoli, XII.1864, donated by P. Panceri, det. A. Targioni Tozzetti, 5 sp. (MZUF 153)  
Italy, (ME) Stromboli Island, VIII-X.1878, leg. E.H. Giglioli & G.B. Toscanelli, det. A. Senna, 28 sp. (MZUF 138)  
Croatia, Rovinj, Isola Rossa, 26.V.1996, leg. G. Innocenti, on a floating bottle, det. G. Innocenti, 9 sp. (MZUF 190)  
Mediterranean Sea, < 1843, leg.?, det. A. Targioni Tozzetti, ca. 20 sp. on a cork piece and on a reed (MZUF 140)
- Lepas cf. pectinata* Spengler 1851  
Italy, (PI) Marina di Pisa, 28.VIII.1903, leg. G. Cavanaugh, det. A. Senna?, ca. 20 sp. on two piece of pine wood and on a cork (MZUF 162)  
Italy, (LI) Castiglioncello, at the beach, 1914, leg.?, previous det. *Lepas anatifera*, upd. G. Innocenti, ca. 20 sp. on a cork (MZUF 164)  
Italy, (GR) Porto Ercole, 30.IV.1978, leg. S. Cianfanelli, det. G. Innocenti, ca. 35 sp. (MZUF 188)  
Italy, (ME) Stromboli Island, 30.V.1985, leg. G. Messina, det. G. Innocenti, ca. 40 sp. on reeds (MZUF 187)
- Lepas* sp.  
Kenya, Mombasa, coral reef, IX.2000, leg. E. Talenti, 4 sp. (MZUF 197)  
Kenya, Malindi, Jambo Village, VII.1991, leg. E. Talenti, 4 sp. (MZUF 199)  
Saudi Arabia, Jeddah, 1977-78, leg. M. Borri (G.R.S.T.S.), 8 sp. (MZUF 195)  
Thailand, Koh Samui, I.1984, leg. E. Talenti, 1 sp. (MZUF 200)  
Australia, Cape Tribulation, North of Cairns, 29.VII.2002, leg. S. Cianfanelli & M. Calcagno, 4 sp. (MZUF 196)

## Family POECILASMATIDAE Annandale 1909

*Octolasmis* cf. *warwickii* (Gray 1825)

Atlantic Ocean, America, 1874, leg.?, previous det. *Dichelaspis warwickii* Darwin, det. A. Targioni Tozzetti and A. Senna, upd. G. Innocenti, ca. 30 sp. on *Mithrax* of American origin (MZUF 124)

*Octolasmis* sp.

[Italy, Tyrrhenian Sea], 1874, pur. at Florence fish market, det. A. Targioni Tozzetti as *Dichelaspis homari* n. sp. Targ. [never published], upd. G. Innocenti, ca. 10 sp. on *Homarus vulgaris* [= *Palinurus vulgaris*] gills (MZUF 125)

Somalia, Gesira, mangrove swamp, 24.VI.1984, leg. M. Vannini, ca. 10 sp. on *Scylla serrata* gills (MZUF 231)

## Suborder SCALPELLOMORPHA Newman 1987

## Family POLLICIPEDIDAE Leach 1817

*Capitulum mitella* (L. 1758)

Japan, 1880, donated by the Japanese superintendent, previous det.: *Pollicipes mitella* L., det. G. von Kolosváry, *Pollicipes* det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. associated to 14 sp. of *Chthamalus challengerii* (MZUF 185)

*Pollicipes pollicipes* (Gmelin 1789)

[Atlantic Ocean], < 1843, leg.?, previous det.: *Pollicipes cornucopia*, det. A. Targioni Tozzetti and A. Senna, upd. G. Innocenti, 22 sp. (MZUF 120)

[Atlantic Ocean], data?, leg.?, material obtained from the collection of the R. Istituto Superiore Femminile di Florence (Didactic Collection), previous det. *Pollicipes cornucopia* Leach, det.?, upd. G. Innocenti, 4 sp. (MZUF 186)

Mediterranean Sea (sic!), XII.1864, pur. F. Cara, previous det. *Pollicipes cornucopia* Leach, det. A. Targioni Tozzetti and A. Senna, upd. G. Innocenti, 1 sp. (MZUF 121)

*Pollicipes polymerus* Sowerby 1833

Pacific Ocean, 1865, donated by E. Benvenuti, det. A. Targioni Tozzetti, 2 sp. (MZUF 122)

## Family SCALPELLIDAE Pilsbry 1907

*Scalpellum scalpellum* (L. 1767)

Italy, (SP) Gulf of La Spezia, 1863-64, leg. A. Targioni Tozzetti, previous det. *Scalpellum vulgare* Leach, det. A. Targioni Tozzetti and A. Senna, upd. G. Innocenti, 1 sp. (MZUF 115)

Italy, (LI) Leghorn, V.1871, leg. Massard, previous det. *Scalpellum vulgare* Leach, det. A. Targioni Tozzetti and A. Senna, upd. G. Innocenti, ca. 15 sp. on *Homola cuvierii* (= *Paromola cuvieri*) carapace (MZUF 117)

Italy, (LI) Leghorn, upper Tyrrhenian Sea, spring 1987, leg. M. Borri, det. G. Innocenti, 7 sp. (MZUF 123)

Italy, (NA) Naples, XII.1864, pur. F. Cara, previous

det. *Scalpellum vulgare* Leach, det. A. Targioni Tozzetti and A. Senna, upd. G. Innocenti, 3 sp. (MZUF 116)

Italy, (CT) Catania, 1872, leg. A. Aradas, pur. A. Aradas from the R. Ministry of Agriculture, Industry and Commerce, previous det. *Scalpellum vulgare* Leach, det. A. Targioni Tozzetti and A. Senna, upd. G. Innocenti, 1 sp. (MZUF 118)

*Scalpellum* sp.

Micronesia, Palau Island, IV.1888, pur. Johs, 1 sp. (MZUF 119)

*Lithotrya valentiana* (Gray 1825)

Somalia, Gesira, from alive and dead corals, X.1981, leg. M. Vannini, det. G. Innocenti, 6 sp. (MZUF 232)

## INCERTAE SEDIS

*Ornitholepas australis* n. gen. n. sp. Targioni Tozzetti 1872 (from the old form associated to such specimen: «Non si può forse escludere ogni dubbio che si tratti di larve di qualche specie di *Lepas*» [It cannot be excluded that they are larvae of some *Lepas* species] [A. Targioni Tozzetti]. W.A. Newman (San Diego Museum, USA) considers this species a junior synonym of *Lepas australis* Darwin, 1851 (pers. comm.)

Southern Atlantic Ocean (Lat. 42°51'S, Long. 10°15'E) and Indian Ocean (Lat. 27°49'S Long. 96°32'E) from 4.III.1866 to 11.IV.1866, R.N. Magenta cruise, leg. F. de Filippi & E.H. Giglioli, ca. 10 sp. on abdominal feathers of *Priofinus cinereus*, TYPUS! (MZUF 201)

## Order SESSILIA Lamarck 1818

## Suborder VERRUCOMORPHA Pilsbry 1916

## Family VERRUCIDAE Darwin 1854

*Verruca stroemia* (O.F. Müller 1776)

Russia, White Sea, < 1899, donated by B.V. Sukatschhoff, det. G. von Kolosváry, ca. 8 sp. associated to an ascidian and two balanids (MZUF 5)

## Suborder BALANOMORPHA Pilsbry 1916

## Superfamily CHTHAMALOIDEA Darwin 1854

## Family CHTHAMALIDAE Darwin 1854

*Chthamalus challengerii* Hoek 1883

Japan, 1880, donated by the Japanese superintendent, previous det. *Chthamalus challengerii nipponensis* Pilsbry 1916, det. G. Kolosváry, upd. G. Innocenti, 14 sp. on *Capitulum mitella* (MZUF 297)

*Chthamalus stellatus* (Poli 1791)

Italy, (SP) Gulf of La Spezia, 1863-1864, leg. A. Targioni Tozzetti, previous det.: *Chthamalus stellatus stel-*

*latus* forma *typica* (Poli), det. G. von Kolosváry, *Balanus crenatus* Brug., det. A. Targioni Tozzetti, upd. G. Innocenti, 26 sp. (MZUF 1)

Italy, (SP) Bagnola, near Lerici, VII-VIII.1865, leg. A. Targioni Tozzetti, previous det.: *Chthamalus stellatus stellatus* forma *typica* (Poli), det. G. von Kolosváry, *Balanus crenatus* Brug., det. A. Targioni Tozzetti, upd. G. Innocenti, ca. 30 sp. (MZUF 2)

Italy, (LI) Capraia Island, between Punta Teia and Punta della Manza, 28.V.1998, leg. G. Innocenti, det. G. Innocenti, 5 sp. (MZUF 107)

Italy, (LI) Elba Island, Marciana Marina, VI.1991, leg. J. Ferretti, det. G. Innocenti, 16 sp. (MZUF 108)

Greece, Naxos Island, Apollon and Chora, on rocks, VII.1992, leg. E. Talenti, det. G. Innocenti, ca. 20 sp. (MZUF 250)

*Chthamalus* cf. *montagui* Southward 1976

Croatia, Rovinj, Monsena, intertidal belt, 26.V.1996, leg. S. Cannicci, G. Innocenti & C. Volpi, det. G. Innocenti, 6 sp. (MZUF 246)

*Chthamalus* sp.

Italy, (LT) Gaeta, 15.V.1881, leg. G. Caramagna, previous det. *Balanus*, det. G. Caramagna, upd. G. Innocenti, 17 sp. (MZUF 94)

Malaysia, Balambangan Island, from the cruise of the corvette «Clotilde», XII.1897, leg. G. Caramagna, previous det. *Balanus*, det. G. Caramagna, upd. G. Innocenti, 1 sp. on *Hippopus* (MZUF 96)

*Euraphia depressa* (Poli 1791)

Italy, (SP) Portovenere, in a cave, XII.1897, leg. G. Caramagna, previous det. *Balanus balanoides*, det. G. Caramagna, upd. G. Innocenti, ca. 20 sp. (MZUF 93)

Italy, (SP) Portovenere, in a cave, 1897, leg. G. Caramagna, previous det. *Lepas depressa*, det. G. Caramagna, upd. G. Innocenti, 11 sp. (MZUF 105)

Italy, (SP) Gulf of La Spezia, 1863-1864, leg. A. Targioni Tozzetti, previous det. *Chthamalus stellatus stellatus* forma *depressa* (Poli) det. G. von Kolosváry, upd. G. Innocenti, 6 sp. (MZUF 298)

Italy, (LI) Castiglione, IV.1905, leg.?, previous det. *Chthamalus stellatus stellatus* forma *depressa* (Poli) det. G. von Kolosváry, upd. G. Innocenti, ca. 10 sp. (MZUF 3)

Italy, Sicily, < 1899, donated by M. Paulucci Panciatichi?, previous det. *Balanus galeatus*, upd. G. Innocenti, 10 sp. (MZUF 104)

Croatia, Vestar (= Vestre), 27.V.1996, leg. S. Cannicci, G. Innocenti & C. Volpi, det. G. Innocenti, 1 sp. (MZUF 106)

*Tetrachthamalus oblitteratus* Newman 1967

Egypt, Sinai, Nabq, El Monqata, mangrove swamp, 14.X.2004, leg. G. Innocenti, det. G. Innocenti, ca. 100 sp. on aerial roots of *Avicennia marina* and on oysters (MZUF 205)

Superfamily CORONULOIDEA Leach 1817

Family CHELONIBIIDAE Pilsbry 1916

*Chelonibia patula* (Ranzani 1818)

Italy, (CT) Catania, 1872, leg. A. Aradas, pur. A. Aradas from the R. Ministry of Agriculture, Industry and Commerce, previous det. *Chelonobia patula* Darwin det. A. Targioni Tozzetti, upd. G. von Kolosváry, 1 sp. (MZUF 8)

*Chelonibia testudinaria* (L. 1758)

Italy, (VE) Venice, IX.1874, donated by P. Bargagli, previous det. *Chelonobia testudinaria* Darwin, det. A. Targioni Tozzetti, upd. G. von Kolosváry, 1 sp. (MZUF 15)

Italy, (AN) San Benedetto del Tronto, VII.1869, donated by P. Bargagli, previous det. *Chelonobia caretta* Darwin det. A. Targioni Tozzetti, upd. G. von Kolosváry, 3 sp. (MZUF 14)

Adriatic Sea, 1867, pur. L.W. Schaffuss, previous det. *Chelonobia testudinaria* Darwin, det. A. Targioni Tozzetti, upd. G. von Kolosváry, 1 sp. (MZUF 13)

Turkey, Izmir (= Smirne), on a turtle, 1876, leg. G. Caramagna, previous det. *Balanus testudinarius*, det. G. Caramagna, upd. G. Innocenti, 2 sp. (MZUF 98)

Indonesia, Papua Onin, Pulo Faor, 1872, leg. L.M. D'Albertis, det. G. Innocenti, 5 sp. (MZUF 238)

Curaçao, 1931-32, leg. N. Beccari, det. G. Innocenti, 1 sp. (MZUF 281)

Southern America, 1871, pur. G. Bellenghi, previous det. *Chelonobia testudinaria* Darwin, det. A. Targioni Tozzetti, upd. G. von Kolosváry, 4 sp. (MZUF 70)

Patria?, < 1795, leg.?, previous det. *Chelonobia testudinaria* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 3 sp. (MZUF 9)

Patria?, < 1843, leg.?, previous det. *Chelonobia testudinaria* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 3 sp. (MZUF 10)

Patria?, < 1843, leg.?, previous det. *Chelonobia testudinaria* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 5 sp. (MZUF 11)

Patria?, < 1814, leg.?, previous det. *Chelonobia testudinaria* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 6 sp. (MZUF 12)

Patria?, 1897, leg. G. Caramagna, det. G. von Kolosváry, 5 sp. (MZUF 97)

Family CORONULIDAE Leach 1817

*Coronula balaenaris* (Gmelin 1789)

Australia?, [New Holland = Nuova Olanda], 1873, donated by Martens, previous det.: *Coronula balenaris* (Spengler 1790), det. G. von Kolosváry, *Coronula diadema* L., det. A. Senna, *Coronula diadema* Blainville, det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. (MZUF 86)

Southern America, 1871, pur. G. Bellenghi, previous det.: *Coronula balenaris* (Spengler 1790), det. G. von Kolosváry, *Coronula diadema* L., det. A. Senna, *Coronula diadema* Blainville, det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. (MZUF 88)

Southern Ocean, 1865, pur. De Greaux, previous det. *Coronula balaenaris* Lamarck, det. A. Targioni Tozzetti, upd. A. Senna, 1 sp. (MZUF 85)  
Patria?, < 1836, leg.?, previous det. *Coronula balaenaris* Lamarck, det. A. Targioni Tozzetti, upd. A. Senna, 1 sp. (MZUF 83)  
Patria?, < 1843, leg.?, det. A. Senna, 1 sp. (MZUF 84)

*Coronula diadema* (L. 1767)  
Patria?, < 1843, leg.?, det. A. Targioni Tozzetti, 1 sp. (MZUF 76)

*Coronula reginae* Darwin 1854  
North Sea, [Sweden, Goteborg], 1873, donated by Martens, previous det.: *Coronula diadema* L., det. A. Senna, *C. diadema* Blain., det. A. Targioni Tozzetti, upd. G. von Kolosváry, 1 sp. (MZUF 179)  
Japan, 1878, donated by M. Paulucci Panciaticchi, det. G. von Kolosváry, 1 sp. (MZUF 77)  
Southern America, 1871, pur. G. Bellenghi, det. G. von Kolosváry, 1 sp. (MZUF 89)

#### Family PLATYLEPADIDAE Newman & Ross 1976

*Platylepas hexastylus* (Fabricius 1798)  
Italy, (CT) Catania, 1872, leg. A. Aradas, pur. A. Aradas from the R. Ministry of Agriculture, Industry and Commerce, previous det. *Platylepas bisexlobata* Blv., det. A. Targioni Tozzetti, upd. G. von Kolosváry, 1 sp. (MZUF 7)  
Italy, (PA) Palermo, 1871, donated by P. Marotto & E. Ragusa, previous det. *Platylepas bisexlobata* Blv., det. A. Targioni Tozzetti, upd. G. von Kolosváry, 26 sp. (MZUF 6)  
Italy, (PA) Palermo, 1871, donated by P. Marotto & E. Ragusa, det. G. Innocenti, 1 sp. (MZUF 175)

*Tubicinella* sp.  
Southern America, 1871, pur. G. Bellenghi, previous det.: *Tubicinella major* Lamarck, det. G. von Kolosváry, *Tubicinella trachealis* Shaw, det. A. Senna, *Tubicinella trachealis* Gray, det. A. Targioni Tozzetti, upd. G. Innocenti, 2 sp. (MZUF 72)  
Patria?, < 1832, leg.?, previous det.: *Tubicinella trachealis* Shaw, det. A. Senna, *Tubicinella trachealis* Gray, det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. (MZUF 71)

#### Superfamily TETRACLITOIDEA Gruvel 1903

##### Family TETRACLITIDAE Gruvel 1903

*Tetraclita rubescens* Darwin 1854  
Japan, 1878, donated by M. Paulucci Panciaticchi, previous det. *Tetraclita squamosa rubescens* Darwin, det. G. von Kolosváry, upd. G. Innocenti, 1 sp. (MZUF 73)

*Tetraclita* cf. *rubescens*  
Somalia, Durbo, towards Maragno, rocky pools, 23.X.1973, leg. M.L. Azzaroli, det. G. Innocenti, 4 sp. (MZUF 100)

*Tetraclita* cf. *serrata*  
Kenya, Watamu Beach, Malindi, North of Mida Creek, 4.XI.1968, leg. B. Lanza, det. G. Innocenti, 1 sp. (MZUF 99)

*Tetraclita squamosa* (Bruguière 1789)  
Atlantic Ocean, 1865, pur. De Greaux, previous det. *Tetraclita squamosa squamosa* (Bruguière), det. G. von Kolosváry, upd. G. Innocenti, 1 sp. (MZUF 74)

*Tetraclita squamosa panamensis* Pilsbry 1916  
Southern America, 1871, pur. G. Bellenghi, previous det. *Tetraclita porosa* Darwin, det. A. Targioni Tozzetti, upd. G. von Kolosváry, 5 sp. (MZUF 87)

*Tetraclita squamosa rufotincta* Pilsbry 1916  
Red Sea, 1880-1882, donated by the Modena Natural History Museum, leg. V. Ragazzi, previous det. *Tetraclita porosa* Gmelin forma *rubescens* Darwin, det. A. Senna, upd. G. von Kolosváry, 1 sp. (MZUF 75)

*Tetraclita* sp.  
Israel, Eilat, Coral Beach, stranded, 24-25.XI.1995, leg. G. Innocenti, 7 sp. (MZUF 109)  
Jordan, Yemanye, Aqaba, 2-5.I.1975, leg. M. Poggesi (G.R.S.T.S.), ca. 50 sp. associated to *Ibla* sp. and to bivalve molluscs (MZUF 112)  
Egypt, Sinai, El Kura, Dahab, 26.XII.1972, leg. F. Cinelli (G.R.S.T.S.), 10 sp. (MZUF 111)  
Egypt, Sinai, Ras Mohammed, rocky beach, 16.X.2004, leg. G. Innocenti, 15 sp. (MZUF 202)  
Egypt, Sinai, Ras Mohammed, rocky beach, 12.X.2004, leg. G. Innocenti, 2 sp. associated to serpulids (MZUF 203)  
Egypt, Sinai, Ras Mohammed, rocky beach, 16.X.2004, leg. G. Innocenti, 15 sp. (MZUF 204)  
Red Sea, < 1897, leg. G. Caramagna, 3 sp. (MZUF 278)  
Red Sea, < 1897, leg. G. Caramagna, 10 sp. (MZUF 279)  
Eritrea, Assab, 1897, leg. G. Caramagna, previous det. *Balanus stalactiformis*, det. G. Caramagna, upd. G. Innocenti, 2 sp. (MZUF 101)  
Eritrea, Assab, < 1897, leg. G. Caramagna, previous det. *Tetraclita stalactiformis* (Lam), det. G. Caramagna, upd. G. Innocenti, 3 sp. (MZUF 277)  
Eritrea, Massaua, II.1871, leg. O. Beccari, 28 sp. (MZUF 236)  
Somalia, Sar Uanle, VIII.1975, leg. M. Vannini, ca. 100 sp., associated to drilling gastropods (MZUF 113)  
South Africa, Knysna, beach, X.1994, leg. S. Innocenti, 4 sp. (MZUF 110)  
Brazil, Santa Marta, C°. America [sic], 1897, leg. G. Caramagna, previous det. *Balanus*, det. G. Caramagna, upd. G. Innocenti, 2 sp. (MZUF 102)

## Superfamily BALANOIDEA Leach 1817

## Family BALANIDAE Leach 1817

*Megabalanus coccopoma* (Darwin 1854)

Mauritius, 1875, pur. M. Paulucci Panciatichi, previous det. *Balanus tintinnabulum coccopoma* Darwin, det. G. von Kolosváry, upd. G. Innocenti, 5 sp. (MZUF 53)

*Megabalanus concinnus* (Darwin 1854)

Peru, VI.1879, pur. C. Biagi, previous det. *Balanus tintinnabulum concinnus* Darwin, det. G. von Kolosváry, upd. G. Innocenti, 7 sp. (MZUF 16)  
Peru, VI.1879, pur. C. Biagi, previous det. *Balanus tintinnabulum* L., det. A. Senna, upd. G. Innocenti, 7 sp. (MZUF 17)

*Megabalanus rosa* (Pilsbry 1916)

Japan, 1878, donated by M. Paulucci Panciatichi, previous det. *Balanus tintinnabulum rosa* Pilsbry, det. G. von Kolosváry, upd. G. Innocenti, 1 sp. (MZUF 45)

*Megabalanus spinosus* (Gmelin 1791)

Patria?, < 1843, leg.?, previous det. *Balanus tintinnabulum* forma *spinosus* (L.) Gm., det. A. Targioni Tozzetti, upd. G. Innocenti, 6 sp. (MZUF 54)

*Megabalanus tintinnabulum* (L. 1758)

Italy, (GE) Genoa, under the bottom of the cruiser «Piemonte», XII.1897, leg. G. Caramagna, previous det. *Balanus tintinnabulum* L., det. G. Caramagna, upd. G. Innocenti, 2 sp. (MZUF 91)

Jamaica, < 1843, leg.?, previous det. *Balanus tintinnabulum tintinnabulum* (L.), det. G. von Kolosváry, upd. G. Innocenti, 2 sp. (MZUF 41)

Jamaica, < 1843, leg.?, previous det. *Balanus tintinnabulum tintinnabulum* (L.), det. G. von Kolosváry, upd. G. Innocenti, 3 sp. (MZUF 42)

Jamaica, < 1843, leg.?, previous det. *Balanus tintinnabulum* forma *communis* Darw., det. A. Targioni Tozzetti, upd. G. Innocenti, ca. 5 sp. (MZUF 180)

Southern America or Giamaica, 1871, pur. G. Bellegghi, previous det. *Balanus tintinnabulum tintinnabulum* (L.), det. G. von Kolosváry, upd. G. Innocenti, 2 sp. (MZUF 44)

East Indies? [Indian Ocean], 1865, pur. de Greaux, previous det. *Balanus tintinnabulum tintinnabulum* (L.), det. G. von Kolosváry, upd. G. Innocenti, 1 sp. (MZUF 56)

Patria?, < 1843, leg.?, previous det. *Balanus tintinnabulum* L., det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. (MZUF 43)

Patria?, < 1843, leg.?, previous det. *Balanus tintinnabulum* forma *communis* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 5 sp. (MZUF 55)

Patria?, < 1843, leg.?, previous det. *Balanus tintinnabulum* forma *communis* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 11 sp. associated to serpulids (MZUF 273)

Patria?, < 1843, leg.?, previous det. *Balanus tintinnabulum* forma *communis* Darwin, det. A. Targioni

Tozzetti, upd. G. Innocenti, 11 sp. on coral (MZUF 274)

Patria?, < 1843, leg.?, previous det. *Balanus tintinnabulum* and *B. plicatus* forma *zebra* juv., det. A. Targioni Tozzetti, upd. G. Innocenti, 15 sp. on a twig and ca. 50 sp. on a gastropod shell associated to briozoans (MZUF 295)

*Megabalanus tulipiformis* (Ellis 1758)

Italy, (CT) Isola dei Ciclopi near Catania, VIII-X.1878, leg. E.H. Giglioli & G.B. Toscanelli, previous det. *Balanus tulipiformis* Darwin, det. G. von Kolosváry, upd. G. Innocenti, ca. 12 sp. (MZUF 46)

Italy, (CT) Isola dei Ciclopi near Catania, VIII-X.1878, leg. E.H. Giglioli & G.B. Toscanelli, previous det. *Balanus tulipiformis* Darwin, det. G. von Kolosváry, upd. G. Innocenti, 1 sp. (MZUF 47)

Italy, (CT) Catania, IX-X.1868, leg. A. Targioni Tozzetti, previous det. *Balanus tulipiformis* Darwin, det. G. von Kolosváry, upd. G. Innocenti, ca. 17 sp. (MZUF 49)

Italy, (CT) Catania, 1872, leg. A. Aradas, pur. A. Aradas from the R. Ministry of Agriculture, Industry and Commerce, previous det. *Balanus tulipiformis* Darwin, det. G. von Kolosváry, upd. G. Innocenti, ca. 10 sp. (MZUF 52)

Patria?, < 1843, leg.?, previous det. *Balanus tulipiformis* Ellis, det. A. Targioni Tozzetti, upd. G. Innocenti, 4 sp. on *Caryophyllia cespitosa* (MZUF 48)

Patria?, < 1843, leg.?, previous det. *Balanus tulipiformis* Ellis, det. A. Targioni Tozzetti, upd. G. Innocenti, ca. 30 sp. (MZUF 50)

Patria?, < 1843, leg.?, previous det. *Balanus tulipiformis* Ellis, det. A. Targioni Tozzetti, upd. G. Innocenti, ca. 50 sp. (MZUF 51)

*Megabalanus validus* (Darwin 1854)

Patria?, < 1843, leg.?, previous det. *Balanus tintinnabulum* L. forma *valida* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. (MZUF 59)

*Megabalanus zebra* (Darwin 1854)

Patria?, < 1843, leg.?, previous det. *Balanus tintinnabulum* L. forma *zebra* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. on an oyster valve (MZUF 57)

Patria?, < 1843, leg.?, previous det. *Balanus tintinnabulum* L. forma *zebra* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. (MZUF 58)

*Megabalanus* sp.

Red Sea, < 1897, leg. G. Caramagna, 1 sp. (MZUF 292)

Red Sea, < 1897, leg. G. Caramagna, 2 sp. (MZUF 293)

Red Sea, < 1897, leg. G. Caramagna, ca. 10 sp. associated to serpulids and oysters (MZUF 294)

Somalia, Merca, Portuguese Castles, 1956-1970, pur. Soderi Annovazzi, ca. 40 sp. (MZUF 267)

Somalia, Mogadiscio, data?, leg.?, 1 sp. (MZUF 287)

Malaysia, Lubuan, 1897, leg. G. Caramagna, previous det. *Balanus*, det. G. Caramagna, upd. G. Innocenti, ca. 7 sp. (MZUF 103)



Ecuador, Galapagos Islands, Mosquera Island, 29.XII.1971, leg. L. Azzaroli (G.R.S.T.S.), 1 sp. (MZUF 235)

Argentina, Ushuaia, Bridges Islands, 5.I.1974, leg. B. Lanza & M. Poggesi (G.R.S.T.S.), 2 sp. (MZUF 234)  
Uruguay, Cabo Polonio, on rocks, II.2000, leg. J. Ferretti, 2 sp. (MZUF 237)

*Balanus albicostatus* Pilsbry 1916

Patria? [Southern America?], < 1843, leg.?, previous det. *Balanus amphitrite albicostatus*, det. G. von Kolosváry, *Balanus flosculus* Darwin forma *sordidus*, det. A. Targioni Tozzetti, upd. G. Innocenti, ca. 25 sp. (MZUF 275)

*Balanus amphitrite amphitrite* Darwin 1854

Italy, (VE) Venice lagoon, II.1872, donated by A. Ninni, previous det. *Balanus amphitrite communis* Darwin, det. G. von Kolosváry, upd. G. Innocenti, 11 sp. (MZUF 300)

Italy, (LI) Meloria shoals, 28.IX.1969, leg. B. Lanza & L. Lottini, det. G. Innocenti, 2 sp. on *Liocarcinus* sp. (MZUF 239)

Italy, (LI) Elba Island, data?, leg.?, det. G. Innocenti, 3 sp. on oyster (MZUF 288)

Italy, (GR) Porto Santo Stefano, 1.VII.1991, leg. J. Ferretti, det. G. Innocenti, 11 sp. on mussels (MZUF 242)

Italy, (SS) Isola Maddalena, 1872, donated by the R. Ministry of Agriculture, Industry and Commerce, previous det. *Balanus amphitrite communis* Darwin, det. G. von Kolosváry, upd. G. Innocenti, ca. 10 sp. (MZUF 23)

Italy, (NA) Gulf of Naples, 1871, donated by A. Targioni Tozzetti, previous det. *Balanus amphitrite communis* Darwin, det. G. von Kolosváry, upd. G. Innocenti, ca. 10 sp. (MZUF 299)

Italy, (ME) Stromboli Island, VIII-X.1878, leg. E.H. Giglioli & G.B. Toscanelli, previous det. *Balanus amphitrite communis* Darwin, det. G. von Kolosváry, upd. G. Innocenti, 4 sp. (MZUF 38)

Italy, (CT) Catania, 1872, leg. A. Aradas, pur. A. Aradas from the R. Ministry of Agriculture, Industry and Commerce, previous det. *Balanus amphitrite communis* Darwin, det. G. von Kolosváry, upd. G. Innocenti, 7 sp. (MZUF 37)

Mediterranean Sea, < 1843, leg.?, previous det. *Balanus amphitrite* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 3 sp., 1 sp. on a gastropod, 2 sp. on an oyster (MZUF 39)

Kenya, Sita, Mida Creek, 31.X.1999, leg. S. Cianfanelli, det. G. Innocenti, ca. 70 sp. on a mangrove root (MZUF 114)

Kenya, Mida Creek, Sita, III.1997, leg. M. Vannini, previous det. *Balanus amphitrite* forma *denticulata*, det. G. Innocenti, upd. G. Innocenti, 20 sp. on the aerial roots of a mangrove tree (MZUF 21)

Kenya, Mida Creek, Sita, X.1988, leg. M. Vannini, det. G. Innocenti, ca. 100 sp. on the aerial roots of a mangrove tree (MZUF 233)

Kenya, Mida Creek, Mida, open area with mud, 30.X.1999, leg. S. Cianfanelli, det. G. Innocenti, 25 sp. associated to serpulids on a coconut shell (MZUF 265)

Kenya, Mida Creek, Mida, 28.X.1999, leg. S. Cianfanelli, det. G. Innocenti, 20 sp. (MZUF 268)

Patria?, < 1843, leg.?, previous det. *Balanus amphitrite* Darwin, det. A. Targioni Tozzetti, upd. G. Innocenti, 1 sp. on *Buccinum undatum* (MZUF 40)

*Balanus* cf. *amphitrite*

Egypt, Sinai, Ras Mohammed, 16.X.2004, leg. G. Innocenti, det. G. Innocenti, 2 sp. (MZUF 206)

Kenya, Mida Creek, Sita, X.1988, leg. M. Vannini, det. G. Innocenti, 18 sp. on oyster (MZUF 266)

Thailand, Koh Samui, I.1984, leg. E. Talenti, det. G. Innocenti, 5 sp. (MZUF 264)

*Balanus aquila regalis* Pilsbry 1916

Chile, Strait of Magellan, Cape Horn, XII.1897, leg. G. Caramagna, previous det. *Balanus regalis* Pilsbry, det. G. von Kolosváry, upd. G. Innocenti, ca. 12 sp. on a black pebble (MZUF 92)

*Balanus balanus* (L. 1758)

Germany, Helgoland Island, IX.1865, donated by P. Marchi, previous det. *Balanus cariosus* Darwin, det. A. Targioni Tozzetti, upd. G. von Kolosváry, ca. 50 sp. on 3 sp. of Buccinidae (MZUF 24)

*Balanus crenatus* Bruguière 1789

Russia, White Sea, < 1899, donated by B.V. Sukatschhoff, det. G. von Kolosváry, ca. 30 sp. associated to the molluscs *Neptunea despecta* and *Anomia ephippium* (MZUF 22)

Russia, White Sea, < 1899, donated by B.V. Sukatschhoff, det. G. von Kolosváry, 11 sp. associated to the molluscs *Lithotamnion* and *Anomia ephippium* (MZUF 25)

Russia, White Sea, < 1899, donated by B.V. Sukatschhoff, det. G. von Kolosváry, ca. 50 sp. on 2 sp. of *Buccinum undatum* (MZUF 26)

Germany, Gulf of Kiel, 1873, donated by Moebius, det. G. von Kolosváry, 1 sp. on a mussel (MZUF 27)

Mediterranean Sea, < 1843, leg.?, previous det. *Balanus crenatus* forma *elongatus* Bruguière, det. A. Targioni Tozzetti, upd. G. von Kolosváry, ca. 6 sp. on *Cardium* sp. (MZUF 29)

Mediterranean Sea, < 1843, leg.?, previous det. *Chthamalus stellatus* Ranz. forma *depressa*, det. A. Targioni Tozzetti, upd. G. von Kolosváry, 3 sp. (MZUF 33)

Mediterranean Sea, < 1843, leg.?, previous det. *Chthamalus stellatus* Ranz., det. A. Targioni Tozzetti, upd. G. von Kolosváry, 1 sp. (MZUF 34)

Mediterranean Sea?, < 1843, leg.?, previous det. *Balanus crenatus* forma *elongatus* Bruguière, det. A. Targioni Tozzetti, upd. G. von Kolosváry, ca. 6 sp. (MZUF 30)

Atlantic Ocean, < 1843, leg.?, previous det. *Balanus crenatus* forma *laevis* Bruguière, det. A. Targioni Tozzetti, upd. G. von Kolosváry, ca. 60 sp. on two valves of *Cyprina islandica* (MZUF 32)

India, Calcutta, 1879, donated by C. Pilastrri, det. G. von Kolosváry, 42 sp. on two valves of *Placuna* sp. (MZUF 28)

Patria? [Europe, North America], < 1843, leg.?, det. A. Targioni Tozzetti, ca. 25 sp. on the carapace of a crayfish (MZUF 31)

Patria?, < 1843, leg.?, previous det. *Balanus porcatus* Da Costa, det. A. Targioni Tozzetti, upd. G. Innocenti, 6 sp. on a valve of Pectinidae (MZUF 271)

*Balanus eburneus* Gould 1841

Italy, (VE) Venice lagoon, II.1872, donated by A. Ninni, previous det. *Balanus amphitrite* Darwin, det. A. Targioni Tozzetti, upd. G. von Kolosváry, 11 sp. (MZUF 19)

Italy, (VE) Venice lagoon, 1878, donated by P. Bargagli, previous det. *Balanus amphitrite* Darwin, det. A. Targioni Tozzetti, upd. G. von Kolosváry, 3 sp. (MZUF 35)

Italy, (RA) Ravenna, beach, 1863-64, leg. A. Targioni Tozzetti, previous det. *Balanus amphitrite* Darw. forma *bianca* det. A. Targioni Tozzetti, upd. G. von Kolosváry, ca. 30 sp. on a pine bark (MZUF 176)

Italy, (LU) Forte dei Marmi, VIII.1869, donated by I. Cocchi, previous det. *Balanus amphitrite* Darwin, det. A. Targioni Tozzetti, upd. G. von Kolosváry, ca. 30 sp. (MZUF 20)

Mauritius, 1878, donated by M. Paulucci Panciatichi, previous det. *Balanus trigonus* Darwin, det. A. Targioni Tozzetti, upd. G. von Kolosváry, 6 sp. on two valves of an oyster (MZUF 36)

*Balanus nubilus* Darwin 1854

Chili (= Chile), XII.1874, pur. V. Pecchioli, previous det. *Balanus cariosus* Darwin, det. A. Targioni Tozzetti, upd. G. von Kolosváry, 16 sp. on *Calyptraea peruviana* (= *Infundibulum radians*) (MZUF 78)

Patria?, < 1843, leg.?, previous det. *Balanus cariosus* Darwin, det. A. Targioni Tozzetti and A. Senna, upd. G. Innocenti, 6 sp. on two valves of mussels (MZUF 79)

*Balanus perforatus* Bruguière 1789

Italy, (LI) Pianosa Island, III and IX.1884, donated by Simionelli, det. G. Innocenti, 9 sp. on *Haliotis* sp. (MZUF 4)

Italy, (NA) Gulf of Naples, 1871, donated by A. Targioni Tozzetti, det. G. von Kolosváry, ca. 30 sp. (MZUF 18)

Italy, (NA) Gaiola Isle, at depths between -10 and -20 m, 27.X.1969, leg. M.L. Azzaroli, det. G. Innocenti, ca. 20 sp. (MZUF 241)

America meridionale (from the old form associated to the specimen, A. Targioni Tozzetti doubts they are of American origins: «per quanto il n. di mag. individui l'esemplare come di acquisto Bellenghi mi pare identico agli altri in v.sp. della Spezia» [even if the storage inventory number individuates the specimen as purchased from Bellenghi, it seems identical to other specimens from La Spezia, Italy]), 1871, pur. G. Bellenghi, previous det. *Balanus perforatus perforatus* Bruguière, det. G. von Kolosváry, upd. G. Innocenti, 9 sp. (MZUF 65)

America meridionale?, 1871, pur. G. Bellenghi, previous det. *Balanus laevis nitidus* Darwin, det. A. Targioni Tozzetti, upd. G. Kolosváry, ca. 80 sp. (MZUF 177)

Patria?, 1865, pur. de Greaux, det. A. Targioni Tozzetti, ca. 60 sp. (MZUF 60)

Patria?, < 1843, leg.?, det. A. Targioni Tozzetti, ca. 22 sp. on a pebble (MZUF 61)

Patria?, < 1843, leg.?, det. A. Targioni Tozzetti, ca. 30 sp. on *Caryophyllia* (MZUF 62)

Patria?, < 1843, leg.?, det. A. Targioni Tozzetti, ca. 60 sp. (MZUF 63)

Patria?, < 1843, leg.?, det. A. Targioni Tozzetti, ca. 50 sp. on *Zostera marina* (MZUF 64)

Patria?, < 1843, leg.?, det. A. Targioni Tozzetti, 2 sp. on *Pecten* sp. (MZUF 178)

Patria?, < 1843, leg.?, det. A. Targioni Tozzetti, 1 sp. on a valve of a Pectinidae (MZUF 272)

*Balanus* cf. *perforatus* Bruguière 1789

Italy, (GR) Uccellina Park, beach, IV.1989, leg. G. Innocenti, det. G. Innocenti, ca. 15 sp. (MZUF 245)

*Balanus spongicola* Brown 1844

Italy, (CT) Catania, 1872, leg. A. Aradas, pur. A. Aradas from the R. Ministry of Agriculture, Industry and Commerce, det. G. von Kolosváry, ca. 5 sp. (MZUF 67)

Italy, (CT) Catania, 1872, leg. A. Aradas, pur. A. Aradas from the R. Ministry of Agriculture, Industry and Commerce, det. G. von Kolosváry, 3 sp. (MZUF 68)

Italy, (CT) Catania, 1872, leg. A. Aradas, pur. A. Aradas from the R. Ministry of Agriculture, Industry and Commerce, det. G. von Kolosváry, 1 sp. (MZUF 69)

Patria?, < 1860, leg.?, det. A. Targioni Tozzetti, 5 sp. on a pebble associated to Vermetidae molluscs (MZUF 66)

*Balanus trigonus* Darwin 1854

Italy, (GR) Porto Santo Stefano, 1.VII.1991, leg. J. Ferretti, det. G. Innocenti, 3 sp. on mussels (MZUF 243)

Italy, (NA) Gaiola Isle, at depths between -10 and -20 m, 27.X.1969, leg. M.L. Azzaroli, det. G. Innocenti, ca. 30 sp. (MZUF 240)

*Balanus* cf. *trigonus* Darwin 1854

Croatia, Rovinj, Salina, 26.V.1996, leg. S. Cannicci, G. Innocenti & C. Volpi, det. G. Innocenti, 1 sp. (MZUF 248)

*Balanus* sp.

Italy, (GR) Feniglia, beach, IV.2001, leg. G. Innocenti, ca. 15 sp. (MZUF 244)

Italy, (GR) Porto Santo Stefano, Villa Domizia, stranded, VIII.1995, leg. G. Innocenti, 12 sp. (MZUF 249)

Italy, (SS) Capo Testa, stranded, VI.1998, leg. G. Innocenti & J. Ferretti, 1 sp. (MZUF 252)

Croatia, Rovinj, Isola Rossa, 26.V.1996, leg. G. Innocenti, 3 sp. (MZUF 247)

Ireland, Rosslare, 2.VII.1998, leg. S. Cianfanelli & M. Calcagno, 35 sp. on a Buccinidae and *Carcinus* sp. (MZUF 251)

Spain, Vilagarcia, Pontevedra, 28.VIII.1995, leg. S. Cianfanelli & M. Calcagno, 6 sp. on a gastropod (MZUF 253)

Eritrea, Assab, < 1897, leg. Orsini, 6 sp. (MZUF 261)

Somalia, data?, leg.?, 25 sp. (MZUF 286)

South Africa, Durban, beach, 1929-1937, leg. L. Cipriani, 2 sp. (MZUF 270)

Hong Kong, coast, XI.1884, leg. G. Chierchia, «Vettor Pisani» cruise, 1 sp. on a gastropod (MZUF 262)

Philippines, Palawan Island, El Nido, 4-6.III.1991, leg. M. Borri & C. Volpi, 1 sp. (MZUF 269)

Australia, Fraseer Island, 23.VIII.2002, leg. S. Cianfanelli, M. Calcagno, G. Saccozza & M. Lenzone, 5 sp. (MZUF 263)

Argentina, Ushuaia, mouth of the river Rio Oliva, 14.I.1974, leg. M.L. Azzaroli (G.R.S.T.S.), 56 sp. (MZUF 254)

Argentina, Tierra del Fuego, Capo Domingo, tide zone, 12.I.1974, leg. M.L. Azzaroli (G.R.S.T.S.), ca. 60 sp. on a gastropod (MZUF 256)

Argentina, Eclairer Island, Beagle Channel, 6.I.1974, leg. M. Sarà (G.R.S.T.S.), ca. 50 sp. on balanids (MZUF 257)

Argentina, Straits of Magellan and Patagonia Channels (-50 m), 1882-1884, leg. G. Chierchia, «Vettor Pisani» cruise, 16 sp. associated to bryozoans (MZUF 260)

Uruguay, Cabo Polonio, on rocks, II.2000, leg. J. Ferretti, 1 sp. (MZUF 255)

[Atlantic Ocean, Europe, North America], < 1843, leg.?, previous det. *Balanus patellaris* and *B. porcatus*, det. A. Targioni Tozzetti, upd. G. Innocenti, 3 sp. (MZUF 290)

Patria?, under the bottom of the hydrographic ship «Monzambano», XII.1897, leg. G. Caramagna, previous det. *Balanus balanoides*, det. G. Caramagna, upd. G. Innocenti, 1 sp. (MZUF 95)

Patria?, < 1843, leg.?, previous det.: *Balanus porcatus* Da Costa and *Balanus plicatus*, det. A. Targioni Tozzetti, upd. G. Innocenti, 6 sp. (MZUF 276)

Patria?, < 1878, donated by M. Paulucci Panciatichi, ca. 100 sp. on twigs and on a cork (MZUF 280)

Patria?, < 1897, leg. G. Caramagna, 14 sp. (MZUF 282)

#### *Semibalanus balanoides* (L. 1767)

USA, New Haven, Connecticut, shore, 1881, donated by the U.S. National Museum, Smithsonian Institution, previous det. *Balanus balanoides* (L.), det. G. von Kolosváry, upd. G. Innocenti, 25 sp. on two mussels (MZUF 81)

USA, Cape Cod Bay, Massachusetts, shore, 1879, donated by the U.S. National Museum, Smithsonian Institution, previous det. *Balanus balanoides* (L.), det. G. von Kolosváry, upd. G. Innocenti, 25 sp. on barks (MZUF 82)

Patria?, < 1843, leg.?, previous det. *Balanus balanoides* Darwin, det. A. Targioni Tozzetti, 16 sp. on a rock (MZUF 80)

Patria?, < 1843, leg.?, previous det. *Balanus balanoides* Darwin, det. A. Targioni Tozzetti, 100 sp. on a rock (MZUF 90)

#### BALANOMORPHA GEN. SP.

Red Sea?, < 1897, leg. G. Caramagna, 6 sp. (MZUF 291)

Philippines, 1991-92, donated by the CITES Authority of Genoa, 15 sp. on *Millepora* (MZUF 284)

Philippines, 1991-92, donated by the CITES Authority of Genoa, 3 sp. on *Heliopora coerulea* (MZUF 285)

Argentina, Eclairer Island, Beagle Channel, 6.I.1974, leg. M. Sarà (G.R.S.T.S.), 7 sp. associated to *Balanus* sp. (MZUF 258)

Ecuador, Galapagos Islands, Seymour Island, 29.XII.1971, leg. M.L. Azzaroli (G.R.S.T.S.), 2 sp. (MZUF 259)

Patria?, < 1878, donated by M. Paulucci Panciatichi, 14 sp. (MZUF 289)

#### ACKNOWLEDGEMENTS

I wish to thank Dr Laszlo Forro and Dr István Matskási of the Hungarian Natural History Museum, Budapest, for their assistance about Gabor von Kolosváry biography and Dr William A. Newman, Scripps Institution of Oceanography, La Jolla (USA) for his useful information on the systematics. I wish to express my gratitude to Dr Patsy McLaughlin, Shannon Point Marine Center, Anacortes (USA) who, many years ago, encouraged me to study such peculiar group.

#### REFERENCES

- Argano R., Bruno M.C., Ceccherelli V.U., Cottarelli V., Mariniello L., Mazzocchi M.G., Pesce G.L., Principato M., Relini G. & Stella E., 1995. Crustacea Maxillopoda, Pentastomida. In: Minelli A., Ruffo S., La Posta S. (eds.), Checklist delle specie della fauna italiana 28: 1-57. Ed. Calderini, Bologna.
- Baldasseroni V., 1915. Due interessanti casi di commensalismo. *Bios* 2 (4): 317-319.
- Darwin C.R., 1851. A monograph on the sub-class Cirripedia, with figures of all the species. The Lepadidae, or, pedunculated cirripedes: 1-400. The Ray Society, London.
- Darwin C.R., 1854. A monograph on the sub-class Cirripedia, with figures of all the species. The Balanidae (or Sessile Cirripedes); the Verrucidae, etc.: 1-684. The Ray Society, London.
- G.R.S.T.S., 1986. Underwater Scientific & Technical Research Group, Florence - Italy. 1966-1986. Twenty years' private contribution to research: 1-31. Tipografia Giuntina, Firenze.
- Henry D.P., McLaughlin P.A., 1975. The barnacles of the *Balanus amphitrite* complex (Cirripedia, Thoracica). *Zool. Verh.* 141: 1-254.
- Henry D.P., McLaughlin P.A., 1986. The recent species of *Megabalanus* (Cirripedia: Balanomorph) with special emphasis on *Balanus tintinnabulum* (Linnaeus) *sensu lato*. *Zool. Verh.* 235: 1-69.
- Kolosváry V.G., 1941. Revisione della collezione di Balanidi del Museo Zoologico della R. Università di Firenze. *Monit. Zool. Ital.* 52 (9-10): 183-194.
- Martin J.W., Davis G.E., 2001. An updated classification of the recent Crustacea. *Nat. Hist. Mus. L.A. County, Contrib. Sci.* 39: 1-124.
- Mascherini B., 1991. Le miscellanee della Biblioteca di Biologia animale dell'Università degli Studi di Firenze. *Atti Soc. Tosc. Sci. Nat. Mem. Ser. B* 98: 135-152.
- Newman W.A., Ross A., 1976. Revision of the balanomorph barnacles; including a catalog of the species. *San Diego Soc. Nat. Hist. Mem.* 9: 1-108.
- Øksnebjerg B., 2000. The Rhizocephala (Crustacea: Cirripedia) of the Mediterranean and Black seas: taxonomy, biogeography, and ecology. *Isr. J. Zool.* 46 (1): 1-102.
- Pardi L., 1976. L'attività del «Centro di Studio per la Faunistica ed Ecologia Tropicali» del Consiglio Nazionale delle Ricerche nel quinquennio 1971-1976. *Monit. Zool. Ital.* (n.s.) Suppl. 7 (5): 195-269.
- Pardi L., 1982. L'attività del «Centro di Studio per la Faunistica ed Ecologia Tropicali» del Consiglio Nazionale delle Ricerche dal 1976 al 1981. *Monit. Zool. Ital.* (n.s.) Suppl. 16 (10): 219-262.
- Pitombo F.B., 2004. Phylogenetic analysis of the Balanidae. *Zool. Scr.* 33 (3): 261-276.
- Relini G., 1980. I Cirripedi Toracici (Guida per il riconoscimento delle specie animali delle acque lagunari e costiere italiane, 2): 1-122. CNR, Roma.
- Ross A., 1969. Studies on the Tetralitidae (Cirripedia: Thoracica): Revision of *Tetralita*. *San Diego Soc. Nat. Hist. Trans.* 15 (15): 237-251.
- Targioni Tozzetti A., 1872. Di una nuova specie in un nuovo genere di Cirripedi Lepadidei ospitante sulle penne addominali del *Priofinus cinereus* dell'Atlantico australe e dell'Oceano Indiano raccolta nel viaggio intorno al mondo della fregata italiana La Magenta dai Professori F. de Filippi ed E. Giglioli. *Bull. Soc. Ent. Ital.* IV: 84-96.

(ms. pres. il 10 gennaio 2006; ult. bozze il 20 dicembre 2006)

