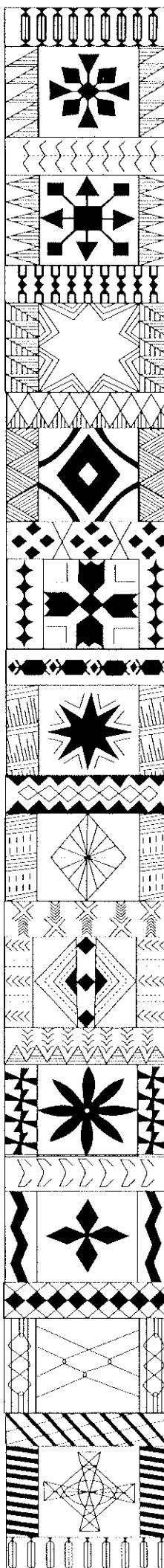




Marine Studies

The University of the South Pacific



Technical Report

MOLLUSCAN DIVERSITY OF THE GREAT ASTROLABE REEFS FIJI A VOUCHER COLLECTION 1986 - 1996

by

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Series
Number

97/5

ISSN 1018-2896

Molluscan Diversity of The Great Astrolabe Reefs, Fiji A Voucher Collection 1986 - 1996

The purpose of this collection of molluscs is to contribute to baseline information on The Astrolabe Reefs where the Marine Studies Programme of The University of the South Pacific maintains a Field Research Station. After being photographed and identified the specimens will be added to other collections of the Marine Studies Programme.

This list includes 751 species from 205 genera collected from the North and Great Astrolabe Reefs between 1986 and 1996. Collecting continues as does identification. Specimens in the National Museum of Natural History of the Smithsonian Institution have been the prime source for comparisons.

Specimens were collected while diving on over 200 sites on the outer reefs in the lagoon and from the beaches of Dravuni, Namara and Vanuakula Islands. Most of the dives were in daylight so there are not as many live molluscs as there would be if collecting took place at night. The live specimens were first preserved in 100% alcohol later replaced with a 50% solution. Location data since 1992 have been determined by GPS.

The Research Station is on Dravuni Island, approximately 35n.m. South of Suva and all sorties were made from there. Through the local *mataqali*, there is access to the North Astrolabe, the Great Astrolabe as far as South of Ono and to the mangrove rimmed lagoon near Natusara School on Ono. Separate permission must be obtained to collect from the domains of other villages on Ono and Kadavu.

The North Astrolabe is located from S 18° 36.20 to S 18° 40.60 and between E 178° 30.00 and E 178° 33.55. The circumference of this atoll is approximately 12.5 N.M.

Separated from it by D'Urville Channel, the Great Astrolabe lies between E 18° 41.20 and S 19° 00.00, E 178° 26.40 and E 178° 35.80 with the large island of Kadavu at its base. The outer reef area available to MSP researchers is about 27 n.m., providing a total of nearly 40 n.m. and over 55 square miles of lagoon.

There is a broad variety of habitats: shallow to deep lagoon with sediment and / or sand and a number of pinnacles; fringing reefs; atoll and barrier reefs with numerous pinnacles.

The Great Astrolabe reef formation began 3 million years ago with the eruption of 3 volcanoes, the North Reef from yet another. Subsidence and sea level

changes have shaped the topography. Lying in open ocean, heavy wave action produced by cyclones also play a role.

Within the past 10,000 years sea level in the Southwest Pacific basin has risen 40-70 metres. It is suggested that benches on the outer reefs at fairly consistent depths represent long time periods when seas were at those levels.

The outer reef wall fall sharply from the crest to 30-40 metres where there is a bench which slopes another 10 metres. At the edge of this bench there is another steep drop of 60-70 meters to a second bench. Caves interrupt the walls at the bench levels.

Fissures in the reef crest to a depth of 30 metres have left pinnacles which stand apart from the reef, with rubble-filled canyons between them. Caves, overhangs and passage-ways provide protected habitats and are rich collecting areas. Many dead specimens are found there and in the sand aprons at the base of these pinnacles. Large Spondylidae and Chamyidae are so firmly attached to cave walls that is impossible to remove them intact. Some of the Fasciolaridae, Muricidae, Cymatidae and smaller Bursidae can be collected on these walls.

Dead specimens of the once elusive Cypraea childrei, globulus, cicercula and bistrinotata are common in the sand and rubble floors of caves and passageways indicating that a sharp search image at night would uncover live specimens. The large Cypraea talpa, argus and mappa are scattered in the same area. Cyp. isabella and carneola are among the most common outside the lagoon as well as inside.

Several species of Lambis are so common in the North Reef lagoon that they have been harvested by the thousands. Trochus niloticus have been over-harvested on both reefs and few large specimens remain. The Tridacna are collected for consumption and distribution to relatives on Viti Levu.

The lagoon of the Great Astrolabe is up to 40 metres deep providing habitat in sand and sediment where most bivalves are found. Few collected prior to 1992 and many are not yet identified.

In summary, the Astrolabe Reefs provide a broad variety of habitats for a diverse molluscan population. As many gastropods are nocturnal collections would be enhanced by more night diving. The number of bivalve species would be increased by dredging in the lagoon.

CLASS GASTROPODA

SUB-CLASS Prosobranchia

ORDER Archaeogastropoda

Pleurotomariodea

Haliotidae

- Haliotis (Ovinotis) ovina* Gmelin, 1791
Haliotis asinina Linnaeus, 1758
Haliotis conicopora Peron, 1816
Haliotis crebisculpta Sowerby, 1914
Haliotis melculus Iredale, 1927
Haliotis (Sanhaliotus) planata Sowerby, 1833
Haliotis semiplicata Menke, 1843

Fissurelloidea

Fissurellidae

Fissurellinae

- Emarginula nigromaculata* Thiele, 1930
Macroschisma bakiei Adams in Sowerby, 1862

Diodorinae

- Diodora singaporesis* Reeve, 1850

Patelloidea

Acmaeidae

Acmaeinae

- Patella flexuosa flexuosa* Quoy and Gaimard, 1834
Patelloida saccharinoides Habe and Kosuge, 1966
Patelloida saccharina Linnaeus, 1758

Trochoidea

Trochidae

Mondontinae

Monodontida

- Jujubinus gilberti* Montrouzier, 1878
Cantharidus (Jujubinus) picturatus A.Adams, 1851

Thalotia

- Thalotia attenuata* Jonas, 1844

Gibbulinae

- Gibbula (Eurytrochus) affinis cognatus* Pilsbry, 1903

Trochinae

- Trochus calcaratus* Sowerby, 1826
Trochus concinnus Philippi, 1846
Trochus conus Gmelin, 1791
Trochus histrio Reeve, 1848
Trochus maculatus Linnaeus, 1758

- Trochus niloticus* Linnaeus, 1767
Trochus ochroleucus Gmelin, 1791
Trochus stellatus Gmelin, 1791
Clanculus atropurpureus Gould, 1849
Clanculus clanguloides Wood, 1828
Clanculus unedo Adams, 1853
Tectus conus Gmelin, 1791
Tectus fenestratus Gmelin, 1791
Tectus pyramis Born, 1778
Tectus radiatus Gmelin, 1791
Tectus stellatus Gmelin, 1791
Tectus triserialis Lamarck, 1822

Umboniinae

- Ethminolia stearnsii* Pilsbry, 1895
Monilea philippiana Dunker, 1811

Stomatellidae

Stomatellinae

- Pseudostomatella maculata* Quoy & Gaimard, 1834
Pseudostomatella decolorata Gould, 1838
Pseudostomatella sp.
Stomatella varia A. Adams, 1850
Stomaria phymotis Helbing, 1779

Turbinidae

Turbininae

- Lunella cinerea* Born, 1778
Turbo (Marmorostoma) argyrostomus Linnaeus, 1758
Turbo (Marmorostoma) chrysostomus Linnaeus, 1758
Turbo bruneus Röding, 1798
Turbo crassus Wood, 1828
Turbo haynesi Preston, 1914
Turbo petholatus Linnaeus, 1758
Turbo parvulus Philippi, 1848
Turbo radiatus Gmelin, 1791
Turbo reevei Philippi, 1847

Angariinae

- Angaria distorta* Linnaeus, 1758
Angaria delphinus Linnaeus, 1758

Astreaeinae

- Astrae (Cookie or Bolma) aureola* Hedley, 1907
Astralium (Australeum) calcar Linnaeus, 1758
Astralium rhodostoma Lamarck, 1822
Bolma (Galeoastrea) erectospina Habe & Okutani, 1980
Bolma (Galeoastrea) persica Dall, 1907

Neritoidea

Neritidae

Neritinae

- Nerita albacilla* Anton, 1839
Nerita (Ritena) plicata Linnaeus, 1758

Nerita polita Linnaeus, 1758
and form *rumphii* Recluz, 1841
Nerita squamulata Le Guillou, 1841

Neritopsidae
Neritopsis radula Linnaeus, 1758

SUB-CLASS Prosobranchia

ORDER Mesogastropoda

SUB-ORDER Taenioglossa, Superfamily Cerithiacia

Veremetidae
Serpulorbis medusae Pilsbry, 1891

Melanellidae
Melanella dufresnei Bowdich, 1832

Littorinoidea

Littorinidae

Littorininae
Littorina scabra scabra Linnaeus 1758
Littorina sp.

Rissoidea

Rissoidae

Rissoininae
Rissonia spirata Sowerby, 1824
Zebina (Morchiella) gigantea Deshayes, 1850

Cerithiodes

Cerithiidae

Cerithiinae
Cerithium alveolus Hombrun & Jaquinot, 1854
Cerithium balteatum Philippi, 1848
Cerithium column Sowerby, 1834
Cerithium echinatum Lamarck, 1822
Cerithium nesioticum Pilsbry & Vanatta, 1906
Cerithium nigrobalteatum E.A. Smith, 1884
Cerithium nodulosum Bruguiere, 1792
Cerithium novohollandiae A. Adams, 1855
Cerithium planum Anton, 1839
Cerithium (Ischnocerithium) rostratum Sowerby, 1855
Cerithium salebrosum Sowerby, 1855
Cerithium zonatum Wood, 1828
Clypeomorus batillariaeformis Habe & Kosuge, 1966
Clypeomorus tuberculatus Linnaeus, 1758
Clypeomorus petrosus Wood, 1828
Pseudovertagus aluco Linnaeus, 1758
Rhinoclavis articulata Adams & Reeve, 1850
Rhinoclavis aspera Linnaeus, 1758
Rhinoclavis fasciata Bruguiere, 1792

Rhinoclavis sinensis Gmelin, 1791
Rhinoclavis vertagus Linnaeus, 1758

Potamididae

Potamidinae

Cerithidea cingulata Gmelin, 1791

Modulidae

Modulus candidus Petit, 1853

Modulus tectum Gmelin, 1791

Siliquariidae

Siliquaria sp.

Vermetidae

Vermetus tokyoensis Pilsbry, 1835

Vermetus sp.

Stromboidea

Strombidae

Lambis lambis Linnaeus, 1758

Lambis scorpius scorpius Linnaeus, 1758

Lambis truncata sebae Kiener, 1843

Lambis crocata crocata Link, 1807

Strombus (Canarium) dentatus Linnaeus, 1758

Strombus (Canarium) fragilis Röding, 1798

Strombus (Canarium) labiatus labiatus Röding, 1798

Strombus (Canarium) mutabilis Swainson, 1821

Strombus (Canarium) terebellatus Sowerby II, 1842

Strombus (Canarium) turben Reeve, 1844

Strombus (Conomurex) iuhuanus Linnaeus, 1758

Strombus (Dolomena) minimus Linnaeus, 1771

Strombus (Euprotomus) bulla Röding, 1798

Strombus gibberulus gibbosus Röding, 1798

Strombus (Lentigo) lentiginosus Linnaeus, 1758

Strombus thersites Swainson, 1832

Strombus (Tricornis) sinuatus Humphrey, 1786

Terebellum terebellum Linnaeus, 1758

Crepiduloidea

Trichotropidae

Trichotropis dorbignyanum Petit, 1851

Hipponicoidea

Hipponicidae

Cheilea equestris Linnaeus, 1758

Chilea flinderski Cotton, 1935

Hipponix australis Lamarck, 1819

Sabia conica Schumacher, 1817

Vanikoroidea

Vanikoridae

Vanikoro cancellata Lamarck, 1822

Vanikoro ligata gueriniana Recluz, 1844

Cypraeoidea

Cypraeidae

Cypraea alisonae Burgess, 1983

Cypraea annulus Linnaeus, 1758

Cypraea arabica Linnaeus, 1758

Cypraea argus Linnaeus, 1758

Cypraea asellus Linnaeus, 1758

Cypraea beckii Gaskoin, 1836

Cypraea bistrinotata Schilder & Schilder, 1937

Cypraea bregeriana Crosse, 1868

Cypraea caputserpentis Linnaeus, 1758

Cypraea carneola Linnaeus, 1758

Cypraea caurica Linnaeus, 1758

and form *elongata* Perry, 1811

Cypraea childreni Gray, 1825

Cypraea cicercula Linnaeus, 1758

Cypraea cicercula form *margarita* Dillwyn, 1817

Cypraea cribraria Linnaeus, 1758

Cypraea eburnea Barnes, 1824

Cypraea eglantina Duclos, 1833

Cypraea erosa Linnaeus, 1758

Cypraea erosa form *lactescens* Dautzenberg - Bauge, 1933

Cypraea errores Linnaeus, 1758

Cypraea felina Gmelin, 1791

Cypraea globulus Linnaeus, 1758

Cypraea helvola Linnaeus, 1758

Cypraea hirundo Linnaeus, 1758

Cypraea ? humphreysi Gray, 1825

Cypraea interrupta Gray, 1824

Cypraea isabella Linnaeus, 1758

Cypraea kieneri Hidalgo, 1906

Cypraea labrolineata Gaskoin, 1849

Cypraea limacina Lamarck, 1810

Cypraea lutea Gmelin, 1791

Cypraea lynx Linnaeus, 1758

Cypraea mappa Linnaeus, 1758

Cypraea mariae Schilder, 1927

Cypraea martini Schepman, 1907

Cypraea mauritiana Linnaeus, 1758

Cypraea minoridens Melville, 1901

Cypraea moneta Linnaeus, 1758

Cypraea nucleus Linnaeus, 1758

Cypraea pallidula Gaskoin, 1849

Cypraea poraria Linnaeus, 1758

Cypraea propinqua Garrett, 1879

Cypraea pulchella Swainson, 1823

Cypraea punctata Linnaeus, 1771

Cypraea scurra Gmelin, 1791

Cypraea staphylaea Linnaeus, 1758
Cypraea stolidia Linnaeus, 1758
Cypraea talpa Linnaeus, 1758
Cypraea teres Gmelin, 1791
Cypraea tigris Linnaeus, 1758
Cypraea ursellus Gmelin, 1791
Cypraea ventriculus Lamarck, 1810
Cypraea vitellus Linnaeus, 1758
Cypraea yaloka Steadman & Cotton, 1943

Triviidae

Trivirostra oryza oryza Lamarck, 1810

Ovulidae

Ovulinæ

Ovula ovum Linnaeus, 1758

Lamellariidae

Calidoniella sp. (Souverbie, 1869)

Naticoidea

Naticidae

Naticinae

Natica (Naticarius) onca Röding, 1798
Natica aerolata Recluz, 1844
Natica sagittata Menke, 1843

Polinicinae

Polinices albumen Linnaeus, 1758
Polinices (Mammilla) melanostromus Gmelin, 1791
Polinices fibrosa Souleyet, 1852
Polinices flemingianus Recluz, 1844
Polinices maurus Lamarck, 1816
Polinices sebae Recluz, 1844
Polinices (Mammilla) simiae Deshayes, in Deshayes and Edwards, 1838
Polinices tumidus Swainson, 1840

Sininae

Eunaticina papilla Gmelin, 1791

Tonnoidea

Tonnidae

Tonna perdix Linnaeus, 1758
Tonna tessellata Lamarck, 1816
Malea pomum Linnaeus, 1758

Ficidae

Ficus filosa Sowerby, 1892
Ficus subintermedia d'Orbigny, 1852

Cassidae

Casmaria erinaceus Linnaeus, 1758
Casmaria ponderosa ponderosa, form *nodulosa* Gmelin, 1791

Bursidae

- Bursa condita* Gmelin, 1791
Bursa (Bursa) cruentata Sowerby, 1835
Bursa (Bursa) lamarkii Deshayes, 1853
Bursa (Bursa) rhodostoma G.B. Sowerby II, 1835
Bursa (Bursa) rosa Perry, 1811
Bursa (Colubrellina) granularis Röding, 1798
Bursa (Tutufa) bubo Linnaeus, 1758
Bursa (Tutufa) bufo Röding, 1798
Bursa (Tutufella) rubeta Röding, 1798

Ranellidae***Ranellinae***

- Gyrineum pusillum* Broderip, 1832
Gyrineum gyrum Linnaeus, 1758
Gyrineum (Gyrinum) natator Röding, 1798

Cymatiidae***Cymatiinae***

- Charonia (Tritonis) tritonis* Linnaeus, 1758
Cymatium hepaticum Röding, 1798
Cymatium lotorium Linnaeus, 1758
Cymatium mundum Gould, 1849
Cymatium muricinum Röding, 1798
Cymatium nicobaricum Röding, 1798
Cymatium pileare Linnaeus, 1758
Cymatium pileare form *intermedium* Pease, 1869
Cymatium pileare, form *aquatilis*, Reeve, 1844
Cymatium (Ranularia) pyrum Linnaeus, 1758
Cymatium (Septa) gemmatum Reeve, 1844
Cymatium (Septa) rubeculum Linnaeus, 1758
Cymatium vespaceum Lamarck, 1822
Linatella (Gelagna) succincta Linnaeus, 1771

Distorsioninae

- Distorsio anus* Linnaeus, 1758
Distorsio (Distorsio) constricta habeai Lewis, 1972

SUB-ORDER Heteroglossa***Triphoroidea******Triphoriidae******Triphorinae***

- Viriola interfiliata* Gould, 1861

Eulimoidea***Thycidae******Thycinae***

- Thyca crystallina* H. & A. Adams, 1854

ORDER Neogastropoda

Muricoidea

Muricidae

Muricinae

- Attilosa nodulifera* Sowerby, 1841
Attilosa sp.
Chicoreus (Chicoreus) ramosus Linnaeus, 1758
Chicoreus brunneus Link, 1807
Chicoreus microphyllus Lamarck, 1816
Chicoreus rosarius Perry, 1811
Chicoreus saulii Sowerby, 1841
Chicoreus strigatus Reeve, 1849
Chicoreus torrefactus Sowerby, 1841
Homolantha anomalis Kosuge, 1759
Homolantha anatomica Perry, 1811
Homolantha sp.
Marchia martinetana Röding, 1798

Naquetinae

- Naquetia trigonulus* Lamarck, 1816
Naquetia triquetra Born, 1778
Pterynotus elongatus Lightfoot, 1786
Pterynotus tripterus Born, 1778

Muricopsinae

- Favartia dorothyae* Emerson & D'Attilio, 1979
Favartia salmonia Melvill & Standen, 1899

Thaidinae

- Thais (Mancinella) mancinella* Linnaeus, 1758
Thais (Thais) armigera Link, 1807
Thais (Thais) javanica Philippi, 1848
Thais alouina Röding, 1798
Thais echinata Blainville, 1832
Thais echinulata Lamarck, 1816
Thais hippocostatum Linnaeus, 1758
Thais kieneri Deshayes, 1844
Thais tuberosa Röding, 1798
Stramonita muricina Blainville, 1832
Drupa clathrata Lamarck, 1816
Drupa grossularia Röding, 1798
Drupa morum morum Röding, 1798
Drupa (Drupa) ricinus ricinus Linnaeus, 1758
 and form *arachnoides* Lamarck, 1816
Drupa rubusidaeus Röding, 1798
Drupella cornus Röding, 1798
Drupella ochrostoma Blainville, 1832
Drupella rugosa Born, 1778
Maculotriton serriale Deshayes, in Labord & Linant, 1834
Morula (Cronia) margariticola Broderip, 1832
Morula (Cronia) spinosa H. & A. Adams, 1853
Morula biconica Blainville, 1832

Morula chaidea Duclos, 1832
Morula ? euracantha Adams, 1853
Morula funiculus Wood, 1828
Morula granulata Duclos, 1832
Morula nodicostata Pease, 1868
Morula nodulifera Mencke, 1829
Morula uva Röding, 1798
Nassa serta Bruguiere, 1789
Vitularia miliaris Gmelin, 1791

Ergalatinae

Maculotriton serriale Deshayes in Laborde and Linant, 1834
Muricodrupa stellaris Hombron & Jacquinot, 1853

Trophoninae

Boreotrophon sp.

Coralliophilidae

Coralliophila costularis Lamarck, 1816
Coralliophila neritoidea Lamarck, 1816
Coralliophila pyriformis Kira, 1959
Rapa rapa Linnaeus, 1758
Quoyula madrepoporarum Sowerby, 1832

Buccinidae

Photinae

Phos senticosus Linnaeus, 1758

Pisaninae

Cantharus pulcher Reeve, 1846
Cantharus wagneri Anton, 1839
Cantharus (Pollia) fumosus Dillwyn, 1817
Cantharus (Pollia) undosus Linnaeus, 1758
Cantharus (Prodotia) isotomus Gray, in Griffith & Pidgeon, 1834
Engina alveolata Kiener, 1836
Engina incarnata Deshayes, in Laborde & Linant, 1834
Engina lineata Reeve, 1848
Engina mendicaria Linnaeus, 1758
Engina zaticium Melvill, 1893
Engina zonalis Lamarck, 1822
Appisania crenilabram A. Adams, 1853
Appisania fasciculata Reeve, 1848
Pisania gracilis Sowerby, 1859
Pisania (Ecmanis) ignea Gmelin, 1791
Pollia mollis Gould, 1860

Columbellidae

Columbellinae

Nitidella sp.

Pyreninae

Pyrene bidentata Menke, 1843
Pyrene deshayesii Crosse, 1859
Pyrene flava Bruguiere, 1789
Pyrene punctata Bruguiere, 1789

- Pyrene scripta* Lamarck, 1822
Pyrene testudinaria Link, 1807
Pyrene (Columbella) turturina Lamarck, 1822
Aesopus spiculum Duclos, in Chenu, 1846
Dentimitrella vincta Tate, 1893
Mitrella albina Kierner, 1841
Mitrella (Mitrella) eximia Reeve, 1846
Mitrella (Mitrella) marquesa Gaskoin, 1852
Mitrella bicinata Gould, 1849
Mitrella (Graphicomassa) ligula Duclos, 1840
Mitrella spp.

Nasariidae

Nassariinae

- Nassarius acuticosta* Montrouzier, 1864
Nassarius albescens albescens Dunker, 1846
Nassarius arcularius arcularius Linnaeus, 1758
Nassarius concinnus Powys, 1835
Nassarius dorsatus Röding, 1798
Nassarius distortus A. Adams, 1852
Nassarius echinatus A. Adams, 1852
Nassarius gaudiosus Hinds, 1844
Nassarius (Alectrion) glans glans Linnaeus, 1758
Nassarius graniferus Kiener, 1834
Nassarius horridus Dunker, 1847
Nassarius limnaeformis Dunker, 1847
Nassarius cf. nodiferus Powys, 1835
Nassarius papillosum Linnaeus, 1758
Nassarius pauperatus Lamarck, 1822
Nassarius semisculcatus Rousseau, 1854
Nassarius (Telasco) shacklefordi Melvill & Standen 1896
Nassarius (Zeuxis) multicostatus A. Adams, 1852

Fasciolariidae

Fasciolariinae

- Faciolaria (Pleuroploca) filamentosa* Röding, 1798

Peristerniinae

- Peristernia australiensis* Reeve, 1847
Peristernia columbarium Gmelin, 1791
Peristernia funiculata Tapparino -Canefri, 1882
Peristernia incarnata Kiener, 1840
Peristernia nassatula Lamarck, 1822
Peristernia ustulata Reeve, 1847
Dolicholatirus lancea Gmelin, 1791
Latirolagena smaragdula Linnaeus, 1758
Latirus amplustris Dillwyn, 1817
Latirus belcheri Reeve, 1847
Latirus craticulatus Linnaeus, 1758
Latirus gibbulus Gmelin, 1791
Latirus irus Lightfoot, 1786
Latirus nodatus Gmelin, 1791
Latirus (Latirulus) noumeensis Cross, 1870
Latirus pictus Reeve, 1847

Latirus polygonus (Gmelin, 1791)
form *barclayi* Reeve, 1847
Latirus turritus Gmelin, 1791

Colubrariinae

Colubraria castanea Kuroda & Habe, 1952
Colubraria cumingii Dohrn, 1861
Colubraria mulveyana Iredale, 1925
Colubraria muricata Lightfoot, 1786
Colubraria nitidula Sowerby, 1833
Colubraria ? obscura Reeve, 1844
Colubraria tortuosa Reeve, 1847
Colubraria sp.

Harpidae

Harpinae

Harpa amouretta Röding, 1798
Harpa gracilis Broderip & Sowerby, 1829

Vasidae

Vasinae

Vasum armatum Broderip, 1833
Vasum ceramicum Linnaeus, 1758
Vasum turbinellus form *cornigerum* Lamarck, 1822

Olividae

Olivinae

Oliva andamanensis Bridgman, 1909
Oliva annulata Gmelin, 1791
Oliva carneola Gmelin, 1791 form *bizonalis* Dautzenberg, 1927
Oliva carneola Gmelin, 1791 form *unizonalis* Dautzenberg, 1927
Oliva (Carmione) concavospira Sowerby, 1914
Oliva episcopalis Lamarck, 1811
Oliva miniacea Röding, 1798 and form *amethystina*
Oliva mustellina Lamarck, 1811
Oliva tricolor philantha Duclos, 1835
Oliva (Carmione) reticulata, Röding 1798
Oliva vidua Röding, 1798

Ancillinae

Alcospira edithae Pritchard & Gabriel, 1898

Mitridae

Mitrinae

Mitra ambigua Swainson, 1829
Mitra assimilis Pease, 1868
Mitra aurora floridula Sowerby, 1874
Mitra chrysalis Reeve, 1844
Mitra chrysostoma Broderip, 1836
Mitra cookii Sowerby, 1874
Mitra coronata Lamarck, 1811
Mitra deshayesii Reeve, 1844
Mitra ? eremitarum Röding, 1798
Mitra fulvescens Broderip, 1836

- Mitra luctuosa* A. Adams, 1853
Mitra mitra Linnaeus, 1758
Mitra (Dibaphus) multiplicata Pease, 1865
Mitra nubila nubila Gmelin, 1791
Mitra (Mitra) erimitarum Röding, 1798
Mitra (Mitra) imperialis Röding, 1798
Mitra (Mitra) ustulata Reeve, 1811
Mitra stictica Link, 1807
Mitra tabanula Lamarck, 1811
Mitra (Nebularia) aurantia aurantia Gmelin, 1791
Mitra (Nebularia) contracta Swainson, 1820
Mitra (Nebularia) coronata Lamarck, 1811
Mitra (Nebularia) cucumerina Lamarck, 1811
Mitra (Nebularia) doliolum Kuster, 1839
Mitra (Nebularia) ferruginea Lamarck, 1811
Mitra (Nebularia) fraga Quoy & Gaimard, 1833
Mitra (Nebularia) lugubris Swainson, 1821
Mitra (Nebularia) rubritincta Reeve, 1844
Mitra (Nebularia) sowerbeyi kingae Cernohorsky, 1972
Mitra (Strigatella) assimilis Pease, 1868
Mitra (Strigatella) fastigum Reeve, 1845
Mitra (Strigatella) litterata Lamarck, 1811
Mitra (Strigatella) paupercula Linnaeus, 1758
Mitra (Strigatella) pellisserpentis Reeve, 1844
Mitra (Strigatella) pica Dillwyn, 1817
Mitra (Strigatella) retusa Lamarck, 1811
Mitra (Strigatella) scutulata Gmelin, 1791
Mitra (Strigatella) telescopium Reeve, 1844
Mitra (Strigatella) ticaonica Reeve, 1844

Cylindromitrinae

- Pterygia crenulata* Gmelin, 1791
Pterygia dactylus Linnaeus, 1767
Pterygia nucea Gmelin, 1791
Pterygia scabricula Linnaeus, 1758

Imbricariinae

- Imbricaria conularis* Lamarck, 1811
Imbricaria olivaeformis Swainson, 1821
Imbricaria punctata Swainson, 1821
Scabricola (Swainsonia) fusca Swainson, 1824
Cancilla (Domiporta) citharoidea Dohrn, 1862
Cancilla (Domiporta) filaris Linnaeus, 1771
Neocancilla papilio Link, 1807

Costellariidae

- Vexillum affinis* Reeve, 1844
Vexillum anthracina Reeve, 1844
Vexillum cophinum Gould, 1850
Vexillum crocatum Lamarck, 1811
Vexillum cruentatum Gmelin, 1791
Vexillum formosense Sowerby, 1890
Vexillum funereum Reeve, 1844
Vexillum plicarium Linnaeus, 1758

- Vexillum porphyreticum* Reeve, 1844
Vexillum unifasciatum Wood, 1828
Vexillum vulpecula Linnaeus, 1758
Vexillum (Costellaria) accuminatum Gmelin, 1791
Vexillum (Costellaria) cadaverosum Reeve, 1844
Vexillum (Costellaria) coronatum Helbing, 1779
Vexillum (Costellaria) daedalum Reeve, 1845
Vexillum (Costellaria) discoloratum Reeve, 1845
Vexillum (Costellaria) exaratum A. Adams, 1855
Vexillum (Costellaria) exasperatum Gmelin, 1791
Vexillum (Costellaria) fuscoapictatum E.A. Smith, 1855
Vexillum (Costellaria) granosum Gmelin, 1791
Vexillum (Costellaria) ligatum H. & A. Adams, 1953
Vexillum (Costellaria) lucidum Reeve, 1845
Vexillum (Costellaria) pacificum Reeve, 1845
Vexillum (Costellaria) radix Sowerby, 1874
Vexillum (Costellaria) semifasciatum Lamarck, 1811
Vexillum (Costellaria) zelotypum Reeve, 1845
Vexillum (Pusia) cancellarioides Anton, 1838
Vexillum (Pusia) cavea Reeve, 1844
Vexillum (Pusia) consanguinea Reeve, 1845
Vexillum (Pusia) leucodesmum Reeve, 1845
Vexillum (Pusia) luculentum Reeve, 1845
Vexillum (Pusia) microzonias Lamarck, 1811
Vexillum (Pusia) millecostatum Broderip, 1836
Vexillum (Pusia) rubrum Broderip, 1836
Vexillum (Pusia) sauvis Sowerby, 1875
Vexillum (Pusia) semicostatum Anton, 1838
Vexillum (Pusia) speciosum Reeve, 1844
Vexillum (Pusia) turben Reeve, 1844
Vexillum (Pusia) unifascialis Lamarck, 1811

Cancellarioidea

Cancellariinae

- Trigonostoma bicolor* Hinds, 1843
Trigonostoma scalarina Lamarck, 1822

Conoidea

Conidae

- Conus ammiralis* Linnaeus, 1758
Conus arenatus Hwass, 1792
Conus artroptus Sowerby, 1833
Conus aulicus Linnaeus, 1758
Conus aureus Hwass, 1792
Conus auricomus Hwass in Bruguiere, 1792
Conus balteatus Sowerby, 1833
Conus boeticus Reeve, 1844
Conus bullatus Linnaeus, 1758
Conus capitaneus Linnaeus, 1758
Conus catus Hwass, 1792
Conus coelinae Crosse, 1858
Conus coffeae Gmelin, 1791
Conus connectens A. Adams, 1855
Conus circumcisus Born, 1778

Conus coccineus Gmelin, 1791
Conus chaldaeus Röding, 1798
Conus coronatus Gmelin, 1791
Conus cylindraceus Broderip & Sowerby I, 1830
Conus distans Hwass, 1792
Conus ebraeus Linnaeus, 1758
Conus eburneus Hwass, 1792
Conus emaciatus Reeve, 1849
Conus flavidus Lamarck, 1810
Conus frigidus Reeve, 1848
Conus generalis Linnaeus, 1767
Conus geographus Linnaeus, 1758
Conus glans Hwass, 1792
Conus granum Röckel & Fischoder, 1985
Conus imperialis Linnaeus, 1758
Conus legatus Lamarck, 1810
Conus leopardus Röding, 1798
Conus litoglyphus Hwass, 1792
Conus litteratus Linnaeus, 1758
Conus lividus Hwass, 1792
Conus luteus Sowerby, 1833
Conus magus Linnaeus, 1758
Conus marmoreus Linnaeus, 1758
Conus marmoreus, form *vidua* Reeve, 1845
 and form *psuedomcrosse*
Conus miles Linnaeus, 1758
Conus miliaris Hwass, 1792
Conus mitratus Hwass, 1792
Conus moreleti Cross, 1858
Conus muriculatus Sowerby, 1833
Conus musicus Hwass, 1792
Conus mustelinus Hwass, 1792
Conus nussatella Linnaeus, 1758
Conus obscuris Sowerby I, 1833
Conus omaria Hwass, 1792
Conus parvulus Link, 1807
Conus pertusus Hwass, 1792
Conus planorbis Born, 1778
Conus proximus Sowerby II, 1859
Conus pulicarius Hwass, 1792
Conus quercinus Lightfoot, 1786
Conus ranunculus Hwass, 1792
Conus rutilus Hwass, 1792
Conus sanguinolentus Quoy & Gaimard, 1832
Conus sponsalis Hwass, 1792 (syn.: *Conus nanus* Sowerby, 1822)
Conus striatellus, Link, 1807
Conus striatus Linnaeus, 1758
Conus sugillatus I Reeve, 1844
Conus tenuistriatus G.B Sowerby II, 1857-58
Conus terebra Born, 1778
Conus textile Linnaeus, 1758
Conus tulipa Linnaeus, 1758
Conus varius Linnaeus, 1758
Conus vexillum Gmelin, 1791

Conus virgo Linnaeus, 1758
Conus vitulinus Hwass, 1792

Turridae

Drillinae

Austrodrillia (Regidrillia) secunda Powell, 1965
Clavus unizonalis Lamarck, 1822
Clavus vidus Reeve, 1843

Turrinae

Turris crispa crispa Lamarck, 1822
Turris cryptorhaphes Sowerby, 1825
Turris garsonii Reeve, 1843
Turris spectabilis Reeve, 1843
Turridrupa bijubata Reeve, 1843
Lophiotoma albina Lamarck, 1822
Lophiotoma acuta Perry, 1811
Xenuroturris cingulifera cingulifera Lamarck, 1822
Xenuroturris kingae Powell, 1964

Daphnellinae

Daphnella botanica Hedley, 1918

Terebridae

Terebra areolata Linnaeus, 1767
Terebra affinis Gray, 1834
Terebra areolata Link, 1807
Terebra argus Hinds, 1844
Terebra babylonia Lamarck, 1822
Terebra chlorata Lamarck, 1822
Terebra cingulifera Lamarck, 1822
Terebra dimidiata Linneaus, 1758
Terebra felina Dillwyn, 1817
Terebra guttata Röding, 1798
Terebra laevigata Gray, 1834
Terebra maculata Linnaeus, 1758
Terebra punctatostriata Gray, 1834
Terebra subulata Linnaeus, 1767
Terebra succinea Hinds, 1844
Duplicaria baileyi Bratcher & Cernohorsky, 1982
Hastula albula Menke, 1843

SUB-CLASS *Heterobranchia*

SUB-ORDER *Allogastropoda*

Architectonicaidea

Architectonicidae

Architectonicinae

Philippia radiata Röding, 1798
Philippia (Psilaxis) oxytropis A. Adams, 1854
Heliacus dorsuosus Hinds, 1844
Heliacus variegatus Gmelin, 1791

Pyramidelloidea

Pyramidellidae

Pyramidillinae

Pyramidella acus Gmelin, 1791

Pyramidella sulcata A. Adams, 1854

Pyramidella teres A. Adams, 1855

Pyramidella spp.

Otopiclura mitralis A. Adams, 1855

SUB-CLASS *Opisthbranchia*

ORDER *Cephalaspidea*

Philinoidea

Actaeonidae

Acteon virigatus Reeve, 1842

Pupa nitidula Lamarck, 1816

Pupa sulcata Gmelin, 1791

Bullidae

Bulla ampulla Linnaeus, 1758

Bulla vernicosa Gould, 1859

Hamineidae

Hamineinae

Atys (Aliculastrum) cylindricus Helbling, 1779

Hydatinidae

Hydatina (Aplustrum) apulstre Linnaeus, 1758

Hydatina physis Linnaeus, 1758

SUB-CLASS *Pulmonata*

ORDER *Archaeopulmonata*

Ellobioidea

Ellobiidae

Melampiniae

Melampus fasciatus Deshayes, 1830

Melampus flavus Gmelin, 1791

Melampus luteus Quoy & Gaimard, 1832

Melampus sp.

Siphonarioidea

Siphonariidae

Siphonaria atra Quoy & Gaimard, 1833

Siphonaria denticulata Quoy & Gaimard, 1833

Siphonaria javanica Lamarck, 1819

Siphonaria subatra Pilsbry, 1894

Siphonaria laciniosa Linnaeus, 1758
Trimusculus reticulatus Sowerby, 1835

CLASS CEPHALOPODA

Nautiloidea

Nautilidae

Nautilus pompilius Linnaeus, 1758

Spirulidae

Spirula spirula Linnaeus, 1758

CLASS BIVALVIA

SUB-CLASS Pteriomorphia

ORDER Arcoida

Arcoidea

Arcidae

Arcinæ

Arca avella Lamarck, 1819
Arca plicatum Dillwyn,
Arca ventricosa Lamarck, 1819
Barbatia barbata Linnaeus, 1758
Barbatia (Acar)? congenita E.A. Smith, 1855
Barbatia (Acar) sp.
Barbatia amygdalumtostum Röding, 1798
Barbatia foliata Forsskal, 1775
Barbatia lacerata Linnaeus, 1758
Barbatia velata Sowerby, 1843
Barbatia spp.

Anadarinae

Anadara antiquata Linnaeus, 1758
Andara scapha Linnaeus, 1758

ORDER Limopsoidea

Glycymerididae

Glycymeris (Glycymeris) reevei Mayer, 1868
Tucetona pectunculus Linnaeus, 1758

ORDER Mytiloidea

Mytiloidea

Mytilidae

Mytilinae

Septifer bilocularis Linnaeus, 1758
Septifer excisus Wiegmann, 1837

Modiolinae

Modiolus auriculatus Krauss, 1848
Modiolus philippinarum Hanley, 1843

Lithophaginae

Lithophaga nigra Orbigny, 1842
Lithophaga teres Philippi, 1846
Lithophaga sp.

ORDER Pterioida

SUB-ORDER Pteriina

Pteriidea

Pteriidae

Pinctada fucata martensi Dunker
Pinctada margaritifera Linnaeus, 1758
Pteria avicula Holten, 1802
Pteria crocea Lamarck, 1819
Pteria penguin Röding, 1798
Pinctada spp.

Malleidae (Vulsellidae)

Vulsella vulsella Linnaeus, 1758
Vulsella vulsella form *linguata* Lamarck, 1801

Isognomonidae

Isognomon isognomum Linnaeus, 1758
Isognomon perna Linnaeus, 1767

SUB-ORDER Pinnina

Pinnoidea

Pinnidae

Pinna muricata Linnaeus, 1758
Atrina pectinata pectinata Linnaeus, 1767
Atrina (Atrina)? tasmanica Tenison-Woods, 1876
Streptopinna saccata Linnaeus, 1758

ORDER Limoida

Limoidea

Limidae

Lima basilanica Adams & Reeve, 1850
Lima lima vulgaris Link, 1807
Lima scabra form *glacialis* Gmelin, 1791
Lima (Ctenoides) ales Finlay, 1927
Lima (Ctenoides) annulata Lamarck, 1819
Limaria fragilis Gmelin, 1791
Lima (Ctenoides) sp. aff. *C. concentrica* Sowerby, 1888

ORDER Ostreoida

SUB-ORDER Ostreina

Ostreoidea

Ostreidae

Ostreinae

- Lopha cristagalli*, form *folium* Linnaeus, 1758
Lopha hyotis Linnaeus, 1758
Alectryonella crenulifera Sowerby, 1871

Lophinae

- Hyotissa* sp.

Plicatuloidea

Plicatulidae

Plicatulinae

- Plicatula plicata* Linnaeus, 1758
Plicatula sp.

SUB-ORDER Pectinina

Pectinoidea

Pectinidae

Chlamydinae

- Chlamys perfecta* Melville, 1909
Laevichlamys coruscans coruscans Hinds, 1845
Laevichlamys squamosa Gmelin, 1791
Laevichlamys wilhelminae Bavay, 1904
Mirapecten rastellum Lamarck, 1819
Mirapecten mirificus Reeve, 1853

Pectininae

- Decatoppecten nodifera* Sowerby, 1842
Comptopallium radula Linnaeus, 1758
Gloriapallium speciosum Reeve, 1853
Gloriapallium pallium Linnaeus, 1758
Semipallium coruscans Hinds, 1845
Semipallium dianae Crandall, 1979
Semipallium kengaluorum Dijkstra, 1986
Semipallium tigris Lamarck, 1819
Exellichlamys spectabilis Reeve, 1853
spp.

Spondylidae

Spondylinae

- Spondylus aurantius versicolor* Lamarck, 1819
Spondylus barbatus cruentus Lischke, 1868
Spondylus candidus Lamarck, 1819
Spondylus cuneus Reeve, 1856
Spondylus flabellum Reeve, 1856
Spondylus isotoma Conrad, 1837

- Spondylus lingefelis* Sowerby, 1847
 and form *aspemmus* Sowerby, 1847
Spondylus nicobaricus Schriebers, 1793
Spondylus pacifica Broderip, 1834
Spondylus regius Linnaeus, 1758
Spondylus sanguineus Dunker, 1852
Spondylus sinensis Schreibers, 1793
Spondylus squamosus Schreibers, 1793
Spondylus versicolor Schreibers, 1793
Spondylus varius Sowerby, 1829
Spondylus spp.

Anomiidae

Placuna sella Gmelin, 1791

SUB-CLASS Heterodonta

ORDER Veneroida

Lucinidea

Lucinidae

Lucininae

- Codakia punctata* Linnaeus, 1758
Codakia tigerina Linnaeus, 1758
Ctena bella Conrad, 1834
Ctena delicatula Pilsbry,
Ctena divergens Philippi, 1850

Milthinae

- Anodontia edentula* Linnaeus, 1758

Frimbriidae

- Fimbria fimbriata* Linnaeus, 1758

Chamoidea

Chamidae

Chaminae

- Chama brassica* Reeve, 1846
Chama imbricata Broderip, 1835
Chama isotoma Conrad, 1837
Chama limbula Lamarck, 1819
Chama lazarus Linnaeus, 1758
Chama pacifica Broderip, 1835

Carditoidea

Carditidae

Carditinæ

- Cardita variegata* Bruguiere, 1792
Cardita crassicosta Lamarck, 1879

Cardioidea

Cardiidae

Fraginae

- Fragum fragum* Linnaeus, 1758
Fragum unedo Linnaeus, 1758
Fragum (Fragum) scruposum Deshayes, 1855
Fragum spp.
Ctenocardia (Ctenocardia) fornicata Sowerby, 1840
Ctenocardia sp.

Protocardiinae

- Nemocardium (Lyrocardium) lyratum* Sowerby, 1840

Trachycardiinae

- Trachycardium angulatum* Lamarck, 1819
Trachycardium elongatum Bruguere, 1789
Trachycardium flavum Linnaeus, 1758
Trachycardium orbitum Sowerby, 1833
Trachycardium oxygonum Sowerby, 1840
Trachycardium pectunculus Linnaeus, 1748
Trachycardium transcendens Melvill & Standen, 1899
Vasticardium burchardi Dunker, 1877
Fuliva australis Sowerby, 1841
Acrosterigma wilsoni Voskuil & Onverwagt, 1990

Tridacnoidea

Tridacnidae

- Tridacna crocea* Lamarck, 1819
Tridacna derasa Röding, 1798
Tridacana squamosa Lamarck, 1819
Hippopus hippopus Linnaeus, 1758

Mactroidea

Mactridae

spp.

Mesodesmatidae

- Atactodea striata* Gmelin, 1791

Tellinoidea

Tellinidae

Tellininae

- Tellina (Scutarcopagia) scobinata* Linnaeus, 1758
Tellina bougei Sowerby, 1909
Tellina gargadie Linnaeus, 1758
Tellina linguafelis Linnaeus, 1758
Tellina (Macomona) margaritina Lamarck, 1818
Tellina (Tellinella) crucigera Lamarck, 1818
Tellina (Tellinella) virgata Linnaeus, 1758
Tellina (Tellinella) staurella Lamarck, 1818
Tellina (Tellinella) verrucosa Hanley, 1844
Tellina (Pharaonella) perna Spengler, 1798

- Tellina (Pharaonella) pharaonis* Henly, 1844
Tellina (Pharaonella) rostrata Linnaeus, 1758
Tellina (Pharaonella) tongana Quoy & Gaimard, 1835
Tellina (Quidnipagus) palatam Iredale, 1929
Tellina (Hemimetis) angulata Gmelin, 1791
Tellina (Arcopagia) remies Linnaeus, 1758
Tellina (Cyclotellina) carnicolor Hanley, 1844
Tellina exculta Gould, 1850

Psammobiidae

Psammobiinae

- Asaphis violascens* Forsskal, 1775
Gari (Grammatomya) squamosa Lamarck, 1818
Gari (Gari) amethystus Wood, 1815
Gari (Gari) maculosa Lamarck, 1818

Donacidae

Donacinae

- Donax cuneatus* Linnaeus, 1758
Donax faba Gmelin, 1791

Arcticoidea

Trapezidae

- Trapezium bicarinatum* Schumacher, 1817
Trapezium (Glossocardia) obesa Reeve, 1843
Trapezium sowerbyi Hidalgo, 1903

Veneroidea

Veneridae

Venerinae

- Antigona (Periglypta) clathrata* Deshayes, 1853
Antigona (Periglypta) puerpera Linnaeus, 1771
Antigona (Periglypta) resticulata Sowerby, 1853
Antigona (Periglypta) reticulata Linnaeus, 1758
Globivenus toreuma Gould, 1850
Globivenus capricornea Hedley, 1908

Circinae

- Circe* sp.
Gafrarium divaricatum Gmelin, 1791
Gafrarium equivocum Holten, 1802
Gafrarium menke Jonas, 1846
Gafrarium tumidum Röding, 1798

Chioninae

- Tawera lagopus* Lamarck, 1818
Tawera subnodulosum Hanley, 1844
Timoclea (Glycydonta) marica Linnaeus, 1758

Pitarinae

- Pitar (Pitarina) nancyae* Lamprell & Whitehead, 1990

Pitar (Pitarina) pellucidus Lamarck, 1818
Pitar (Pitarina) spoori Lamprell & Whitehead, 1990
Pitar spp.
Lioconcha annettae Lamprell & Whitehead, 1990
Lioconcha castrensis Linnaeus, 1758
Lioconcha hieroglyphica Conrad, 1837
Lioconcha lorenziana Dillwyn, 1817
Lioconcha ornata Dillwyn, 1817
Lioconcha fastigiata Sowerby, 1851

Samaranginae

Samarangia quadrangularis Adams & Reeve, 1850

Tapetinae

Tapes litteratus Linnaeus, 1758
Marcia opima Gmelin, 1791
Irus (Irus) irus Linnaeus, 1758

Dosiniinae

Dosinia histrio Gmelin, 1791
Dosinia sp.

Pholadoidea

Pholadinae

Barnea manilensis Phillipi

NOTE: The classifications were taken from A Classification of The Living Mollusca, Kay Cunningham Vaught, edited by R. Tucker Abbott and Kenneth J. Boss, published by American Malacologists, Inc. 1989. All of the specimens were collected on The Great Astrolabe Reef and identified by Joan F. Koven with the assistance of Peg Carpenter, Raye German, Alan J. Kohn, Gustav Paulay, P. Pinkerton, Nicole Poulton, Harald Rehder, Thomas Waller and Breckinridge Willcox.