

# SUPPLEMENTARY DATA ON THE MARINE MALACOFAUNA OF ZANZIBAR AND PWANI PROVINCE IN TANZANIA; EAST AFRICA

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*Abstract* The marine malacofauna, of the Pwani Province in Eastern Tanzania (Dar es Salaam, Mbudya Island) and Zanzibar Island (Nungwi) was studied in 2000. In this paper, known data from Spry (1964, 1968), Sawyer (1999, 2000) and Rosenberg et al. (2004) are supplemented by the results of the author's fieldwork. A total of 193 gastropod and bivalve species were recorded; 39 were neither recorded by Spry (1964, 1968) nor by Sawyer (1999, 2000), of which 23 species are new for East Africa (Rosenberg et al., 2004). On the basis of the current results and the lack of a comprehensive species list, a more detailed investigation of tropical marine East African malacofauna is recommended.

*Key words* Marine fauna, Gastropoda, Bivalvia, Tanzania

## INTRODUCTION AND METHODS

Previous comprehensive records of marine molluscs from Tanzania's coast were provided by Spry (1964, 1968) and Sawyer (1999, 2000). Spry focused on the marine molluscs of Dar es Salaam and adjacent reefs and islands in the Zanzibar Channel (Pwani Province), while Sawyer collected at three locations on Zanzibar Island and listed marine shells exhibited at the Natural History Museum Stone Town, Zanzibar. Other authors provided single records to the marine malacofauna of the area (e.g. Abbott, 1960). These inventories help to give a good impression of the collecting sites and the species previously recorded from the area. However, in this study I relate my findings solely to the checklists provided by Spry (1964, 1968), Sawyer (1999, 2000) and the *OBIS Indo-Pacific Molluscan Database* of Rosenberg, Ponder, Middelfart, Gosliner, Bouchet and Morris (2004). My study was carried out between 24<sup>th</sup> March and 6<sup>th</sup> April 2000 in order to study the marine malacofauna of Zanzibar Island and the Pwani Province in Tanzania. The following localities were investigated: i) Kawe at Manzani Bay, Dar es Salaam (6°43'S/39°14'E), ii) Mbudya Island in the Zanzibar Channel (6°43'S/39°15'E) and iii) Nungwi village a location at the northern tip of Zanzibar Island (5°43'S/39°18'E). Mbudya island and Kawe beach at Manzani Bay were sampled during three days, while the coast line at Nungwi was searched during a six day period.

An inventory was made of all available data on marine molluscs collected by daily beach-comb-

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ing along the low tide line. Further material was collected by searching solid rock surfaces and by turning stones embedded in sand or in rock pools. Collecting methods did not include snorkelling, SCUBA-diving or dredging therefore the search-range was limited from the supra-littoral zone down to just beneath the lowest low watermark. This also implies that nudibranchs, gastropods and chitons were excluded from the survey.

The results of my research were influenced by tide level, wind force and direction. In Nungwi (Zanzibar) and on Mbudya Island shell grit was collected, in which many dead molluscs and juvenile specimens of larger species were found. Many of these species occur in the shallow subtidal zone. In early April a low water of spring tides enabled the author to extend the search range by approximately 0.65 m compared to the previous days.

Shell determinations followed mainly geographic monographs such as Cernohorsky (1971, 1972, 1978), Kensley (1973), Kay (1979), Oliver (1992), Bosch, Dance, Moolenbeek & Oliver (1995), Drivas & Jay (1988) and Wilson (1993, 1994), but where available family monographs were used to improve steadiness (i.e. Bratcher & Cernohorsky, 1987; Henning & Hemmen, 1993; Houart, 1992; Kreipl, 1997; Lorenz & Hubert, 1993; Mayhew & Lawson, 2005; Radwin & D'Attilio, 1976; Röckel, Korn & Kohn, 1994; Sterba, 2004; Walls, 1979). For determination and synonyms of *Capulus* species Abbott (1974) was consulted. Systematic and nomenclature were used following predominantly Rosenberg et al. (2004) and Vaught (1989) for the gastropods and Oliver (1992) and Rosenberg et al. (2004) for

the bivalves. Most material (only shells) was preserved for definite identification and is now stored in the Zoological Museum Hamburg, Germany and in the private collections of the author, although not re-examined for this study, Spry's material is now deposited in the Natural History Museum in London.

### DESCRIPTION OF LOCALITIES

The seashore in the study area comprises of coral reefs and subsequent lagoons (Nungwi, Mbudya) and occasionally of sandy beaches (Kawe, Nungwi; Spry, 1968).

The Mbudya island extends over 5.29 ha and has about 1.8 km of sedate coastline (Muhando & Francis, 2001). The intertidal area found around Mbudya comprises of 21,1 ha rocky habitat and with coral growth on the protected west (Wagner, 2000). Seagrass dominates the sandy lower intertidal zone along the sheltered western side of Mbudya island while most of the eastern coastline is exposed to strong current and wave action (Wagner, 2000; Muhando & Francis, 2001). The island lies approximately 4 km off the coast from Dar es Salaam and is based on Pleistocene coral reefs previously being flooded and elevated above sea level at some point in time (Muhando & Francis, 2001).

The beach of Manzani Bay (Kawe) extends over 8 km and gently slopes into a flat, sandy sub-littoral plain grown over by seagrass beds. As most part of Tanzania's coast line, Zanzibar Island is footed on rocks ranging in age from Miocene to recent calcareous sediment with limestone of marine origin that was subsequently covered by sands, silt and clays brought by rivers from the East African mainland (Iversen, Myklevoll, Lwiza & Yonazi, 1984). Today's coast is rocky and along the eastern shore completely protected by a barrier reef. The northern tip of the island combines several habitats including reefs, lagoons, rocky cliffs and gently sloping sand plains. Flat reefs generally appear along the eastern shore lines of Zanzibar and the mainland coast, extending principally from south-east to north-west. Reefs in the exposed windward side play an important role in protection of the coastline environment against ocean currents and waves (Muhando 1999). This pattern is the result of a permanent, warm, north-west current, stronger or weaker

according to the prevailing monsoon. The ocean surrounding Zanzibar consists of a confluence of ocean currents that culminate into the East Africa Coastal Current (EACC), which mostly flows northwards but pockets of residual currents flowing southwards have been recorded (Iversen *et al.*, 1984). It is believed that the northward flows are common during the Southwest Monsoon (April to October) and southwards flows in the Northeast Monsoon (November to March). The average water temperature in the region lies around 27°C (Iversen *et al.*, 1984). There is deep water (180-275m) not far offshore from Nungwi and the margin of the deep water follows a line from the east coast of Zanzibar to Dar es Salaam, meaning that in all shallow shelf waters west of that line the depth rarely exceeds 20 meters (Spry, 1968; Muhando & Francis, 2001).

### RESULTS AND DISCUSSION

In total, 193 species of marine molluscs (139 gastropods and 54 bivalves out of 62 families) were recorded during this study. Of this amount 39 species are neither listed in Spry's (1964, 1968) nor in Sawyer's (1999, 2000) compilation of Dar es Salaam and Zanzibar seashells (Table 1). Out of this, 23 species are not listed in Rosenberg *et al.* (2004) and are therefore here regarded as newly recorded for East Africa (Table 1). Spry cites in his survey of Pwani province 504 gastropod species (Spry, 1968), and 246 bivalves (Spry, 1964) coming to a total of 750 mollusc species. Some of his records are synonyms of current taxa (see Table 1). Sawyer gives in her species list 197 gastropod (Sawyer 1999) and 78 bivalve species (Sawyer 2000), including 167 taxa exhibited in the Natural History Museum Stone Town, Zanzibar.

A few records denote a considerable species range extension, namely for *Ancilla (Sparella) farsiana* which is currently known from the Gulf of Aden to western India (Rosenberg *et al.*, 2004; Bosch, Dancee, Moolenbeek & Oliver, 1995), *Conus cf. lentiginosus* from the northern Indian Ocean (further range uncertain; Mayhew & Lawson, 2005) and *Macroschisma africana* which has its most northern limits in Mozambique (Kilburn & Rippey, 1982). *Osilinus kotschyi* is known from Central- and East Indian Ocean (Rosenberg *et al.*, 2004; Herbert, 1994) as well as from the Persian Gulf (Bosch *et al.*, 1995).

Likewise Donald, Kennedy & Spencer (2005) describe the species for the Indian Ocean but not for East Africa. In all cases the range extension may be due to incomplete surveying and the lack of a comprehensive checklist for the Central East African coast.

As might be expected from a flat sandy coastline, gastropods are poorly represented in the material collected at Manzani Bay. Even the few gastropods species inhabiting this type of environment occur in relatively small numbers. In Nungwi the number of species recorded may be higher due to a longer sampling period (six days, in Kawe and Mbudya only three days), but on the other hand several habitats merge here (see above) and species numbers are distinctively higher than in the two other locations investigated. The reefs and rocky coasts of Zanzibar and Pwani Province prove a suitable habitat for nudibranch molluscs but due to the recording method those taxa were excluded from the survey. Nevertheless, the comparatively rich mollusc fauna of eastern Africa justifies a more detailed study on the distribution and ecology of molluscs in this region.

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**Table 1** All marine mollusc taxa collected during this study on Zanzibar Island (Nungwi) and the Pwani Province (Mbudy, Kawe) of Tanzania. The occurrence of these taxa (and where applicable their synonyms) in Dar es Salaam area (Spry 1964, 1968), on Zanzibar Island (Sawyer 1999, 2000) and their listing in Rosenberg *et al.* (2004; OBIS East Africa) are also given. Bold crosses indicate taxa collected during this study but not by Spry (1964, 1968) or Sawyer (1999, 2000), double crosses indicate taxa neither listed by Spry or Sawyer nor by Rosenberg *et al.* (2004; OBIS East Africa).

GASTROPODA	SYN. (Sawyer & Spry)	Sawyer	Spry	OBIS EA	Nungwi	Mbudya	Kawe
<b>Nacellidae</b>							
<i>Cellana radiata capensis</i> (Gmelin, 1791)	<i>C. rota, eucosmia</i>	x	x	x	x		
<b>Lottiidae</b>							
<i>Patelloida profunda</i> (Deshayes, 1863)	<i>Achnaea profunda</i>	x	x			x	
<b>Fissurellidae</b>							
<i>Macroschisma africana</i> Tomlin, 1926					xx		
<b>Trochidae</b>							
<i>Osilinus kotschy Philippi, 1849</i>					xx		
<i>Tectus (Tectus) mauritanus</i> (Gmelin, 1791)		x	x		x		
<i>Tectus (Tectus) virgatus</i> (Gmelin, 1791)		x	x	x	x		
<i>Trochus maculatus</i> Linné, 1758		x	x		x		
<b>Tubinidae</b>							
<i>Phasianella variegata</i> Lamarck, 1822	<i>Phasianella jaspidea</i>	x	x		x		
<i>Turbo (Marrarostoma) argyrostomus</i> Linné, 1758		x	x		x		
<i>Turbo (Lunella) coronatus</i> Gmelin, 1791		x	x		x		
<i>Turbo (Marrarostoma) crassus</i> Wood, 1828					xx		
<b>Haliotidae</b>							
<i>Haliotis pustulata</i> Reeve, 1846	<i>Haliotis pustulatus</i>	x	x	x	x		
<b>Neritidae</b>							
<i>Nerita (Thelostyla) albicilla</i> Linné, 1758		x	x	x	x		
<i>Nerita (Linnérta) polita</i> Linné, 1758		x	x	x	x		
<i>Nerita (Ritena) plicata</i> Linné, 1758		x	x	x	x		
<i>Nerita (Ritena) undata</i> Linné, 1758		x	x	x	x		
<i>Smaragdia (Smaragdisia) rangiana</i> (Récluz, 1841)				x	x		
<b>Cerithiidae</b>							
<i>Cerithium caeruleum</i> Sowerby, 1855		x	x	x	x		
<i>Cerithium columna</i> Sowerby, 1834		x	x		x		
<i>Cerithium coralium</i> Kiener, 1841			x		x		
<i>Cerithium echinatum</i> Lamarck, 1811			x		x		
<i>Cerithium nodulosum</i> Bruguière, 1792			x		x		
<i>Cerithium punctatum</i> Bruguière, 1792	<i>Cerithium piperitum</i>	x	x	x	x		
<i>Clypeomorius bifasciatus bifasciatus</i> (Sowerby, 1855)	<i>C. montiferus</i>	x	x	x	x		

GASTROPODA	SYN. (Sawyer & Spry)	Sawyer	Spry	OBIS EA	Nungwi	Mbudy	Kawe
<i>Rhinoclaavis (Rhinoclaavis) articulata</i> (Adams & Reeve, 1850)		x	x	x	x		
<i>Rhinoclaavis (Rhinoclaavis) aspera</i> (Linné, 1758)	<i>Cerithium asper</i>	x	x		x		
<i>Rhinoclaavis (Rhinoclaavis) sinensis</i> (Gmelin, 1791)			x		x		
<b>Planaxidae</b>							
<i>Planaxis sulcatus</i> (Born, 1778)			x	x	x		
<b>Littorinidae</b>							
<i>Littoraria (Littoraria) kraussi</i> (Rosewater, 1970)				x	x		
<b>Risoidae</b>							
<i>Truncatella (Truncatella) cf. Pfeifferi</i> Martens, 1860					xx		
<b>Strombidae</b>							
<i>Lambis (Lambis) crocata</i> (Link, 1807)		x	x		x		
<i>Lambis (Lambis) truncata truncata</i> (Lightfoot, 1786)	<i>Lambis bryonia</i>	x	x		x		
<i>Strombus (Conomurex) decorus decorus</i> (Röding, 1798)		x	x	x	x		
<i>Strombus (Gibberulus) gibberulus</i> Linné, 1758		x	x		x		
<i>Strombus (Canarium) mutabilis mutabilis</i> Swainson, 1821	<i>Strombus floridus</i>	x	x		x		
<i>Strombus (Lentigo) pipus</i> (Röding, 1798)		x			x		
<b>Hipponicidae</b>							
<i>Cheilea equestris</i> (Linné, 1758)			x			x	
<i>Hipponix conicus</i> (Schumacher, 1817)	<i>Amalthea conica</i>		x	x	x		
<b>Capulidae</b>							
<i>Capulus incurvatus</i> (Gmelin, 1791)	<i>Capulus intortus</i>		x		x		
<b>Vermetidae</b>							
<i>Dendropoma</i> sp.					xx		
<i>Vermicularia</i> sp.	Spry, 1968 No. 30A		x		x		
<b>Cypraeidae</b>							
<i>Cypraea (Cypraea) tigris</i> Linné, 1758			x		x	x	
<i>Cypraea (Erosaria) helvola</i> (Linné, 1758)		x	x	x	x	x	
<i>Cypraea (Erronea) caurica elongata</i> Perry, 1811		x	x	x	x		
<i>Cypraea (Lyncina) carneola carneola</i> Linné, 1758		x	x		x		
<i>Cypraea (Lyncina) levialhan titan</i> (Schilder & Schilder, 1962)						xx	
<i>Cypraea (Lyncina) vitellus</i> Linné, 1758		x	x		x		
<i>Cypraea (Erosaria) annulus</i> Linné, 1758		x	x	x	x		
<i>C. (Mauritia) arabica immanis</i> (Schilder & Schilder, 1939)			x	x	x		

GASTROPODA	SYN. (Sawyer & Spry)	Sawyer	Spry	OBIS EA	Nungwi	Mbudya	Kawe
<i>Cypraea (Palmadusta) diluculum</i> Reeve, 1845			x	x	x		
<i>Cypraea (Purpuradusta) fimbriata</i> Gmelin, 1791			x	x	x		
<i>C. (Staphylea) nucleus madagascariensis</i> Gmelin., 1791			x	x	x		
<b>Triviidae</b>							
<i>Trivirostra oryza</i> (Lamarck, 1811)		x	x		x		
<b>Naticidae</b>							
<i>Natica gualtieriana</i> Recluz, 1844		x			x		
<i>Natica (Natica) cernica</i> Jousseau, 1874				x	x		
<i>Polinices (Polinices) mammilla</i> (Linné, 1758)		x	x		x	x	
<i>Polinices (Mammilla) melanostoma</i> (Gmelin, 1791)		x	x		x	x	
<i>Polinices (Mammilla) siniae</i> (Deshayes, 1838)				x	x		
<b>Bursidae</b>							
<i>Bursa rhodostoma</i> (Beck in G.B. Sowerby II, 1835)					xx		
<b>Cassidae</b>							
<i>Cassis (Cassis) cornuta</i> (Linné, 1758)		x	x			x	
<i>Casmaria erinacea erinacea</i> (Linné, 1758)	<i>Phatium vitex</i>		x	x	x		
<i>Casmaria ponderosa ponderosa</i> (Gmelin, 1791)	<i>Phatium eranicus</i>		x		x		
<i>Cypraeacassis (Cypraeacassis) rufa</i> (Linné, 1758)		x	x			x	
<b>Ranellidae</b>							
<i>Cymatium (Guthurnium) muricinum</i> (Röding, 1798)	<i>Ranularia muricina</i>		x	x	x		
<i>Cymatium (Ranularia) gallinago</i> (Reeve, 1844)			x		x		
<i>Cymatium (Monoplex) pileare</i> (Linné, 1758)	<i>Lampusia pileare</i>		x		x	x	
<i>Cymatium (Monoplex) nicobaricum</i> Röding, 1798	<i>Lampusia nicobarica</i>	x	x		x		
<i>Cymatium (Monoplex) aquatile</i> (Reeve, 1844)	<i>Lampusia aquatilis</i>		x		x		
<i>Gyrineum (Gyrineum) pusillum</i> (Broderip, 1833)	<i>Gyrineum pusilla</i>		x	x	x		
<b>Personidae</b>							
<i>Distorsio anus</i> (Linné, 1758)		x	x		x		
<b>Tonnidae</b>							
<i>Maleara pomum</i> (Linné, 1758)	<i>Quimalea pomum</i>	x	x		x		
<i>Tonna cepa</i> (Röding, 1798)	<i>Tonna canaliculata</i>	x	x	x	x		
<b>Triphoridae</b>							
<i>Euthymella cf pyramidalis</i> (A. Adams & Reeve, 1850)					xx		

GASTROPODA	SYN. (Sawyer & Spry)	Sawyer	Spry	OBIS EA	Nungwi	Mbudy	Kawe
<b>Muricidae</b>							
<i>Chicoreus (Triplex) bourguignati</i> (Poiret, 1883)	( <i>Chicoreus banksii</i> )		x		x		
<i>Chicoreus (Triplex) brunneus</i> (Link, 1807)	<i>Chicoreus adustus</i>		x		x		
<i>Cronia crassulnata</i> (Hedley, 1915)					xx	xx	
<i>Pinaxia versicolor</i> (Gray, 1839)	<i>Pinaxia coronata</i>		x	x	x		
<i>Morula (Morula) granulata</i> (Duclos, 1832)		x	x			x	
<i>Murex (Murex) tribulus</i> Linné, 1758				x	x		
<i>Quoyula madreporarum</i> (Sowerby, 1834)					xx		
<i>Thais (Stramonita) savignyi</i> (Deshayes in Lamarck, 1844)					xx		
<b>Buccinidae</b>							
<i>Engina mendicaria</i> (Linné, 1758)		x	x		x		
<i>Engina zea</i> Melvill, 1893				x	x		
<b>Columbellidae</b>							
<i>Mitrella (Mitrella) albina</i> (Kiener, 1841)				x	x		
<i>Pyrene testudinaria</i> (Link, 1807)					xx		
<i>Pyrene turturina</i> (Lamarck, 1822)			x	x	x		
<b>Melongenidae</b>							
<i>Volena paradisiaca</i> Röding, 1798	Spry, 1968 Fig. 167	x	x	x	x	x	
<b>Nassaridae</b>							
<i>Nassarius (Nassarius) arcularius plicatus</i> (Röding, 1798)			x		x	x	
<i>Nassarius (Nassarius) coronatus</i> (Bruguière, 1789)		x	x	x	x		
<i>Nassarius (Plicarularia) callospira</i> (A. Adams, 1852)			x	x	x		
<i>Nassarius (Hima) pauperus</i> (Gould, 1850)	<i>Nassarius pauper</i>		x	x		x	
<i>Nassarius (Niotha) gemmuliferus</i> (A. Adams, 1852)		x	x	x	x		
<b>Fasciolaridae</b>							
<i>Fusinus (Fusinus) colus</i> (Linné, 1758)		x	x	x	x		
<i>Peristernia pulchella</i> (Reeve, 1847)	<i>Latirus pulchellus</i>		x		x		
<i>Pleuroploca trapezium</i> (Linné, 1758)		x	x	x		x	
<b>Olividae</b>							
<i>Ancilla (Sparella) farsiana</i> Kilburn, 1981				x	x		
<i>Olioa mantichora</i> Duclos, 1840	<i>Olioa annulata</i>		x	x	x		
<i>Olioa bulbosa</i> (Röding, 1798)			x	x		x	x



GASTROPODA	SYN. (Sawyer & Spry)	Sawyer	Spry	OBIS EA	Nungwi	Mbudya	Kawe
<b>Harpidae</b>							
<i>Harpa amourettei</i> Röding, 1798		x	x	x	x		
<b>Mitridae</b>							
<i>Mitra (Nebularia) aurantia aurantia</i> (Gmelin, 1791)				x	x		
<i>Mitra (Nebularia) chrysalis</i> Reeve, 1844	<i>Mitra buryi</i>		x	x	x		
<i>Mitra (Mitra) incompta</i> Lightfoot, 1786		x	x		x		
<i>Mitra (Mitra) mitra</i> (Linné, 1758)			x	x	x		
<i>Mitra (Strigatella) paupercula</i> (Linné, 1758)			x	x	x		
<i>Scabricola (Svainsonia) casta</i> (Gmelin, 1791)				x	x		
<i>Vexillum (Costellaria) exasperatum</i> (Gmelin, 1791)	<i>Mitra arenosa</i>		x	x	x		
<i>Vexillum (Pusia) pardalis</i> (Küster, 1841)	<i>V. consanguinea</i>		x			x	
<i>Vexillum (Pusia) luculentum</i> (Reeve, 1845)					xx		
<i>Vexillum (Pusia) unifasciale</i> (Lamarck, 1811)					xx	xx	
<i>Vexillum (Vexillum) subdivisum</i> (Gmelin, 1791)				x	x		
<b>Conidae</b>							
<i>Conus arenatus</i> Hwass in Bruguière, 1792		x	x		x		
<i>Conus chaldaeus</i> (Röding, 1798)		x	x		x		
<i>Conus ebraeus</i> Linné, 1758		x	x		x		
<i>Conus flavidus</i> Lamarck, 1810			x		x	x	
<i>Conus imperialis</i> Linné, 1758		x	x		x		
<i>Conus litoglyphus</i> Hwass in Bruguière, 1792					xx		
<i>Conus lividus</i> Hwass in Bruguière, 1792		x	x		x		
<i>Conus cf. lentiginosus</i> Reeve, 1844					xx		
<i>Conus miliaris</i> Hwass in Bruguière, 1792		x			x		
<i>Conus sponsalis</i> Hwass in Bruguière, 1792			x		x		
<i>Conus namocanus</i> Hwass in Bruguière, 1792	<i>Conus nemocanus</i>	x	x		x		
<i>Conus striatus</i> Linné, 1758			x		x	x	
<i>Conus tessulatus</i> Borrn, 1778	<i>Conus tessulatus</i>	x	x		x	x	
<i>Conus textile</i> Linné, 1758		x	x	x	x		
<b>Turridae</b>							
<i>Xenoturris cingulifera</i> (Lamarck, 1822)		x	x	x		x	
<i>Turridrupa bijubata</i> (Reeve, 1843)				x	x		

GASTROPODA	SYN. (Sawyer & Spry)	Sawyer	Spry	OBIS EA	Nungwi	Mbudya	Kawe
<b>Terebidae</b>							
<i>Terebra cerithiina</i> Lamarck, 1822	<i>Terebra cerithiina</i>	x	x		x		
<i>Terebra columellaris</i> Hinds, 1844	<i>T. columbellaris</i> ?		x		x		
<i>Terebra crenulata</i> (Linné, 1758)		x	x		x		
<i>Terebra guttata</i> (Röding, 1798)		x	x		x		
<i>Terebra subulata</i> (Linné, 1767)		x	x		x		
<b>Bullinidae</b>							
<i>Bulla ampulla</i> Linné, 1758		x	x		x		
<b>Haminoeidae</b>							
<i>Alys cylindrcus</i> (Helbling, 1779)		x	x		x		
<b>Acteonidae</b>							
<i>Pupa (Pupa) sulcata</i> (Gmelin, 1791)			x		x		
<i>Pupa nitidula</i> (Lamarck, 1816)					xx		
<b>Pyramidellidae</b>							
<i>Otopleura nitralis</i> (A. Adams, 1855)	<i>Pyramidella nitralis</i>		x		x		
<i>Rissosyrnola cf. aelis</i> (A. Adams, 1854)					xx		
<i>Pyramidella maculosa</i> Lamarck, 1816					xx		
<b>Ellobiidae</b>							
<i>Melampus lividus</i> (Deshayes, 1830)		x	x		x		
<b>BIVALVIA</b>							
<b>Mytilidae</b>							
<i>Modiolus (Modiolus) auriculatus</i> (Krauss, 1848)	<i>Modiolus tulipa</i>	x	x	x	x	x	x
<i>Septifer (Septifer) bilocularis</i> (Linné, 1758)		x	x	x	x		
<i>Septifer (Septifer) excisus</i> Weigmann, 1837			x	x	x		
<b>Arcidae</b>							
<i>Anadara (Anadara) antiquata</i> (Linné, 1758)		x	x		x		
<i>Anadara erythraeonensis</i> (Philippi, 1851)							x
<i>Arca (Arca) avellana</i> Lamarck, 1819	<i>A. cunealis</i> , <i>A. kraussi</i>	x	x		x		
<i>Arca (Arca) navicularis</i> Bruguière, 1789		x				x	
<i>Barbatia (Barbatia) decussata</i> (Sowerby, 1833)			x			x	
<i>Barbatia (Barbatia) foliata</i> (Forskål, 1775)	<i>Barbatia helblingii</i>		x				
<i>Barbatia (Barbatia) fusca</i> (Bruguière, 1789)	<i>B. amygdalumtostum</i>	x	x	x	x		

BIVALVIA	SYN. (Sawyer & Spry)	Sawyer	Spry	OBIS EA	Nungwi	Mbudya	Kawe
<b>Glycymerididae</b>							
<i>Glycymeris (Glycymeris) lividus</i> (Reeve, 1843)					xx		
<i>Tucetona (Tucetona) pectunculus</i> (Linné, 1758)	<i>G. amboinensis</i>	x	x	x	x		
<b>Pteriidae</b>							
<i>Pinctada margaritifera</i> (Linné, 1758)		x	x		x		
<i>Pinctada nigra</i> (Gould, 1850)	Spry, 1964 No. 37	x	?		x		x
<b>Pinnidae</b>							
<i>Atrina (Serratrina) pectinata pectinata</i> (Linné, 1767)				x			x
<b>Pectinidae</b>							
<i>Chlamys (Minachlamys) senatoria</i> (Gmelin, 1791)	<i>Chlamys senatoriis</i>	x	x	x	x		
<i>Chlamys (Chlamys) towmsendi</i> (Sowerby, 1895)							xx
<b>Plicatulidae</b>							
<i>Plicatula (Plicatula) australis</i> Lamarck, 1819			x		x		
<b>Anomiidae</b>							
<i>Pododesmus caelata</i> (Reeve, 1859)					xx		
<b>Gryphaeidae</b>							
<i>Hyotissa hyotis</i> (Linné, 1758)	<i>Ostrea hyotis</i>		x	x		x	
<b>Chamidae</b>							
<i>Chama brassica</i> Reeve, 1847			x			x	
<i>Chama reflexa</i> Reeve, 1846		x	x			x	
<b>Lucinidae</b>							
<i>Codiakia (Codiakia) punctata</i> (Linné, 1758)		x	x		x		
<i>Codiakia (Codiakia) figerina</i> (Linné, 1758)		x	x			x	
<i>Divalucina cumingi</i> (A. Adams & Angas, 1864)	<i>Divaricella dalliana</i>		x			x	
<i>Loripes cf. victoralis</i> Melvill, 1899		x				x	
<i>Loripes clausus</i> (Philippi, 1848)		x	x	x			x
<b>Carditidae</b>							
<i>Beguinia gubernaculum</i> (Reeve, 1844)		x		x		x	
<i>Cardita variegata</i> Bruguière, 1792		x	x	x	x	x	
<b>Cardiidae</b>							
<i>Fragum fragum</i> (Linné, 1758)		x	x	x	x		
<i>Trachycardium rubicundum</i> (Reeve, 1845)		x	x		x		
<i>Trachycardium flavum</i> (Linné, 1758)		x	x	x		x	

BIVALVIA	SYN. (Sawyer & Spry)	Sawyer	Spry	OBIS EA	Nungwi	Mbudya	Kawe
<b>Tridacnidae</b>							
<i>Tridacna (Chametrachea) squamosa</i> Lamarck, 1819			x	x		x	
<b>Mactridae</b>							
<i>Mactra aequisulcata</i> Sowerby, 1894			x	x			x
<i>Mactra (Mactra) lilacea</i> Lamarck, 1818		x	x		x		
<i>Meropista nicobarica</i> (Gmelin, 1791)	<i>Eastonia nicobarica</i>		x	x			x
<b>Psammobiidae</b>							
<i>Asaphis violascens</i> (Forskskål, 1775)	<i>Asaphis deflorata</i>	x	x		x	x	
<b>Mesodesmatidae</b>							
<i>Atactodea glabrata</i> (Gmelin, 1791)		x	x			x	
<b>Tellinidae</b>							
<i>Tellina (Quidnipogus) palatam</i> Iredale, 1929	<i>Tellina rugosa</i>	x	x		x	x	x
<i>Tellina (Serratina) capsoides</i> Lamarck, 1818	<i>T. diaphana</i> , <i>T. resecta</i>		x	x		x	
<i>Tellina arsinensis</i> Issele, 1869						xx	
<i>Tellina valtonis</i> Hanley, 1844	<i>Tellina rubella</i>		x	x	x		
<i>Tellina (Tellinella) rastellum</i> Hanley, 1844			x	x	x		
<i>Tellina (Tellinella) staurilla</i> Lamarck, 1818		x	x	x	x	x	
<i>Psammotreta (Tellinimactra) edentula</i> (Spengler, 1797)				x		x	
<b>Donacidae</b>							
<i>Donax (Latona) faba</i> Gmelin, 1791			x		x	x	x
<b>Trapezidae</b>							
<i>Trapezium (Trapezium) bicarinatum</i> (Schumacher, 1817)	<i>Trapezium rostrata</i>		x	x	x		
<b>Veneridae</b>							
<i>Callista (Callista) florida</i> (Lamarck, 1818)		x	x	x		x	
<i>Sunetta (Cyclosunetta) contempta</i> E.A. Smith, 1891			x				x
<i>Dosinia hepatica</i> (Lamarck, 1818)		x	x	x		x	
<i>Goffrarium pectinatum</i> (Linné, 1758)		x	x	x	x		x
<i>Irus (Irus) irus</i> (Linné, 1758)	<i>Venerupis macrophylla</i>		x	x	x		x
<i>Pitar (Pitarina) prora</i> (Conrad, 1837)	<i>Pitaria obliquata</i>		x	x	x	x	
<i>Timoclea (Veremolpa) costellifera</i> (A. Adams & Reeve, 1848)				x	x	x	