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A Queensland Government Project
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ABSTRACT

A preliminary checklist of the bivalve molluscs of Moreton Bay is presented, based on the holdings of the Queensland Museum, supplemented by material derived from the 2005 Moreton Bay Workshop, the Bivalve Assembling the Tree of Life expedition (2008) to Moreton Bay, and published literature. A total of 350 species are recorded, representing 155 genera and 55 families, and both extant subclasses (Protobranchia, Autobranchia — the latter now embracing the former subclasses Pteriomorphia, Paleoheterodonta, Heterodonta and Anomalodesmata). By far the most diverse divisions of the Autobranchia, both in terms of numbers of species and higher taxa, is the ‘clade’ Heterodonta with 235 species in 100 genera and 33 families, and the Superorder Pteriomorphia with 103 species in 50 genera and 17 families. Among the heterodonts the Tellinoidea (tellins and allies; 56 species) and Veneroidea (venus clams and allies; 52 species) clearly predominate (46% of total). The bay fauna also contains a wide variety of Mactroidea (trough clams), Galeommatoidea (commensal clams and allies) and Cardioidea (true cockles) (each with 17–19 species). Key groups in the Pteriomorpha are the Pectinoidea (scallops and allies; 22 species), Pterioidea (pearl oysters and allies; 21 species), Mytiloidea (mussels; 15 species), and Arcoidea (ark shells and allies; 21 species). Pteriomorphians form the dominant component of the epibenthic bivalve fauna of the bay whereas heterodonts form the dominant infaunal component. While the ecological importance of bivalves as filtering animals (cleansing of sea water) is apparent, they are also primary sources of food for many predatory invertebrates within the bay system (gastric, octopods, crabs) and vertebrates (fish, wading birds and gulls). In addition, some species form the basis of important local fisheries (e.g. Saccostrea glomerata; the scallops Amusium balloti, Annachlamys flabellatus). By virtue of their clumping lifestyle a number of epibenthic groups such as oysters, mussels and ark shells, provide rich settlement opportunities and/or shelter for numerous smaller animals (invertebrate and vertebrate). Clumped pteriomorphians (living or dead) undoubtedly also aid in the stabilisation of fine or moving sediments.

The molluscan fauna of Moreton Bay is extensive and although lists of species have been generated through ecological surveys (e.g. Davie 1990; Hailstone 1976; Stephenson et al. 1970, 1974, 1976) these have covered only a small proportion of bivalves from the region, primarily with emphasis on the larger and more common species. Aside from commercially harvested species such as the rock oyster (Saccostrea glomerata) and scallops (Amusium balloti, Annachlamys flabellatus), the vast majority of bivalve species from the bay have never been the subject of anatomical or
ecological study, and an enormous amount of taxonomic research remains to be carried out. A number of larger species have been, and continue to be, important elements of the diet of local aboriginal people as evidenced by the occurrence of numerous shell middens throughout the bay islands and adjacent areas (Alfredson 1984; Durbridge 1984; Richardson 1984; Hall & Bowen 1989).

A major survey of the benthos of Moreton Bay was conducted during February 2005 and the results of this work (see Davie & Phillips 2008) include studies on new bivalve species and a taxonomic revision of the date clams (Solemyidae) (Morton 2008; Taylor et al. 2008). In October 2008 an international team of malacologists (including JH) collected representative species from Moreton Bay for the National Science Foundation funded Assembling the Bivalve Tree of Life Project (BivAToL), focussing on the phylogeny and taxonomy of the Bivalvia. The area was chosen specifically because of the known richness of the bivalve fauna, including the fact that all subclasses and a vast array of genera and families occur there. Such independent recognition of the biological diversity of Moreton Bay clearly underscores the importance of documenting the bivalve species inhabiting the bay and the need for continuing controls on human impacts.

The purpose of the present account is to provide a taxonomically-verified list of bivalve species recorded (to date) from Moreton Bay. It is hoped that the list will act as a useful reference point for current and future survey work, not only in the bay but in southeast Queensland in general. As with the Gastropoda list in this volume (see Healy et al. 2010) we stress that this is a preliminary list of species. It should therefore be viewed not as the ‘last word’ on the subject but as a step in the direction of truly knowing the bivalve fauna of this biologically rich marine region.

This paper is dedicated to the late Dr Kevin Lamprell, a long-standing Honorary of the Queensland Museum, whose books, research papers, and vast collection experience have contributed so extensively to the study of the Australian bivalve fauna including that of Moreton Bay.

MATERIAL AND METHODS

This study is based primarily on the extensive marine collections held in the Queensland Museum (including the comprehensive Lamprell and Carless collections) and material from the 2005 Moreton Bay Marine Workshop housed in the Queensland Museum and representative material from the BivAToL Project (2008). The list has been supplemented with records from the literature, with emphasis on recent accounts and those that are illustrated. The source of information concerning confirmed locality data for Moreton Bay material is indicated in brackets after each species in the list. We stress that such sources do not constitute an exhaustive catalogue of locality information. For published records (principally Stephenson et al. 1970, 1974, 1976; Stephenson & Campbell 1977) we have not included any taxa listed by those authors as ‘cf’ or ‘sp’, except in those instances where the record is the only one for a family or genus in the bay.

For the purposes of this study, Moreton Bay is defined as the waters and shores from Caloundra (and immediate offshore reefs as far east as Flinders Reef) south to (and including) the Gold Coast. Although this definition also includes the ocean side of the larger bay islands (Moreton, North and South Stradbroke), any records beyond 50 m depth (i.e. material outside of normal diving range) are not included.

As with the Gastropoda, the classification of the Bivalvia has undergone profound and almost continuous alteration for the last 40 years and it can be safely concluded that more changes are inevitable once molecular analyses and more detailed (and comparative) anatomical and cytological work have been carried out. Perhaps one of the most significant (and accepted) recent changes to the higher level classification of Bivalvia is the incorporation of the former subclass Anomalodesmata within the Heterodonta based on molecular phylogenetic work (see Dreyer et al. 2003; Giribet & Distel 2003; Taylor et al. 2006). Most recently Bieler et al. (2010), in a revised classification of the Bivalvia incorporating all extinct groups, have followed Waller (1978) in placing 'traditional' subclasses Pteriomorpha, Paleoheterodonta and Heterodonta into a single subclass Autobranchia (originally Autolamellibranchiata of Grobben, 1894), though retaining these three groups as valid higher taxa of lesser rank (either superorders or clades). Bieler et al. (2010: 114) recognized the tentative and to some extent pragmatic nature of the newest arrangement of the Bivalvia ‘… the
working classification represents current understanding and/or an educated guess to be tested’, and the placement of several fossil groups may always remain uncertain. Clearly changes to the higher classification of the Bivalvia are to be expected as more results from collaborative work such as the BivAToL project come to fruition, but in the present list we have followed the arrangement of Bieler et al. (2010) as it represents the ‘state of the art’ on the subject.

In this list, authorship for taxa is limited to genus and species. All authorships for suprageneric taxa can be found in Bieler & Mikkelsen (2006), Bieler et al. (2010) and the Academy of Natural Sciences OBIS searchable taxonomic website for Indo-Pacific molluscs (Indo-Pacific Molluscan Database, http://clade.anesp.org/obis/find_mollusk.html). Key synonyms for species (where they exist) can be found in Lamprell & Whitehead (1992), Lamprell & Healy (1998), the OBIS website and individual taxonomic papers or monographs (see References this paper for key works). In a number of cases it has been necessary for us to list the names under which a species has been cited in previously published lists or in the QM (Vernon) database. For detailed biological information and associated literature on any of the families listed in this account we recommend the *Fauna of Australia Volume 5 (Mollusca: The Southern Synthesis)* (Beesley et al. 1998).

Data sources are listed at the back of this paper (numbered), with the exception of the following: M = Moreton Bay Workshop Survey (2005) (material housed in QM); B = BivAToL Project Expedition; QM = Queensland Museum Collections (registered and reserve collections).

**DISCUSSION**

Moreton Bay offers a very wide range of habitats for epifaunal and infaunal molluscs, and this is amply reflected in the diversity of the Bivalvia from the region. The bay’s physical position within the East Australian Overlap and strong connections to both oceanic and estuarine influences undoubtedly are key factors in the richness of the bivalve fauna. In total the present study records 350 species, 155 genera and 55 families, mostly from the subclass Autobranchia (339 species) but also a significant number of Protobranchia (11 species).

As shown in Table 1 the bivalve fauna of Moreton Bay is, in terms of species numbers, dominated by the Autobranchia, in particular the Heterodonta (235 out of 350, or 67% of total count) and to a lesser extent the Pteriomorpha (103 or 30% of total count). Given that some major groups of heterodons such as the Tellinoidea and Galeomatoidea are almost certainly under-represented in the present list — both are only now attracting taxonomic interest — it is almost inevitable that the total heterodont species count will be substantially greater than 235. Interestingly however, the ratio of pteriromorphian to heterodont species in the bay based on the present count (1: 2.3) approximates that calculated from Boss’s (1982) estimate of world species for these two groups of autibranchs (1500 pteriromorphians: 4000 heterodonts or 1: 2.6). Pteriomorphians clearly dominate the epifaunal Bivalvia of the bay both in abundance and species diversity, whereas the infaunal bivalves consist largely of heterodonts.

Bivalves play a key role in filtering and cleaning water by removal of particulate material (organic and inorganic) within the gill (ctenidial) complex. In this respect, the abundance of the Bivalvia in Moreton Bay remains critical to the maintenance of water quality within the system. In addition, the clumping habit of certain mytilids (*Modiolus* species, *Trichomya hirsuta*), many oysters (especially *Saccostrea glomerata*), larger Arcidae (*Barbatia foliata*, *Arca navicularis*) and several Pterioidea (species of *Pteria* and *Isognomon*) provide attachment surfaces for a large range of epibionts (other molluscs, sponges, hydroids, bryozoans, tubiculous polychaetes, barnacles, sea squirts) and valuable refuges for many other invertebrates and some vertebrates (especially small fish). Such clumping bivalves, even after death, must be seen as an important factor in the promotion of benthic biodiversity but also, to some extent, in the stabilisation of soft or moving sediments.

**SUBCLASS AUTOBRANCHIA**

**Superorder Pteriomorpha**: The Moreton Bay pteriomorphian bivalve fauna is extensive in terms of recorded species (103), genera (50), and families (17). Cemented rock oysters (*Ostreidae*) and byssal-attached ark shells (*Arcidae*) and mussels (*Mytilidae*) may form extensive intertidal
and shallow subtidal beds throughout the bay. Less extensive, but locally important clumping of pearl oysters (Pteriidae and allies) and mangrove oysters (Isognomonidae) can also occur, often in association with oysters and mussels. However, despite the impressive number of pteriomorphian species recorded from the bay, only a few tend to predominate at any one site. The Pterioidea (21 species, dominant genera *Pteria*, *Pinctada*), Mytiloidea (15 species, dominant genera *Modiolus*, *Musculus*) and Pectinoidea (22 species) are especially well represented within the bay fauna, the latter containing species from 13 genera (no clearly dominant genera).

Species which are routinely found, often together, include *Saccostrea glomerata* (Ostreidae), *Trichomya hirsuta* (Mytilidae) and *Anadara trapezia* (Arcidae), and it is not surprising that such prolific species form major components of local shell middens (Richardson 1984; Hall & Bowen 1989; JH pers. obs.). Pearl oysters (*Pinctada* species, especially *P. maculata* and *P. albina*) are also a favoured food item (‘quampi’) of native people of North Stradbroke Island (Iselin 2008; JH pers. obs.). Pteriidae, Malleidae and Isognomonidae are sometimes found on the mainland side of the bay but are most abundant around the bay islands. Possibly this is indicative of a preference for less estuarine water and a lower tolerance to sedimentation and perhaps greater exposure to collecting and pollution effects at mainland bay localities. Certainly species of all three of these families contribute to large intertidal shell beds at North Stradbroke Island. The razor clams (or pen shells) (Pinnoidea) include two common species within Moreton Bay—*Pinna bicolor* and *Atrina pectinata* — both encountered in the intertidal and shallow subtidal sandy mud and a notable hazard to bare-foot walkers, especially around Stradbroke and Moreton Islands. Subtidally, down to 30 metres, Pteriidae,

### Table 1. Breakdown of species composition according to superfamilies in Moreton Bay.

<table>
<thead>
<tr>
<th>Taxon</th>
<th>No. of Species</th>
<th>Species % (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subclass PROTOBRANCHIA</strong> (11 species)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuculoidea</td>
<td>5</td>
<td>1.4%</td>
</tr>
<tr>
<td>Solemyoidea</td>
<td>2</td>
<td>0.6%</td>
</tr>
<tr>
<td>Nuculanoidae</td>
<td>4</td>
<td>1.2%</td>
</tr>
<tr>
<td><strong>Subclass AUTOBRANCHIA</strong> (339)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Superorder PTERIOMORPHIA</strong> (103 species)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mytiloidea</td>
<td>15</td>
<td>4.3%</td>
</tr>
<tr>
<td>Arcoidea</td>
<td>21</td>
<td>6.0%</td>
</tr>
<tr>
<td>Limopsioidea</td>
<td>2</td>
<td>0.6%</td>
</tr>
<tr>
<td>Pterioidea</td>
<td>21</td>
<td>6.0%</td>
</tr>
<tr>
<td>Pinnioidea</td>
<td>6</td>
<td>1.7%</td>
</tr>
<tr>
<td>Ostroidea</td>
<td>7</td>
<td>2.0%</td>
</tr>
<tr>
<td>Anomioidea</td>
<td>4</td>
<td>1.2%</td>
</tr>
<tr>
<td>Pectinoidea</td>
<td>22</td>
<td>6.3%</td>
</tr>
<tr>
<td>Plicatuloidea</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Limoidea</td>
<td>4</td>
<td>1.2%</td>
</tr>
<tr>
<td><strong>Superorder HETEROCONCHIA</strong> (236)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PALEOHETERODONTA (1 species)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trigonioidae</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td><strong>HETERODONTA</strong> (235 species)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lucinoidea</td>
<td>11</td>
<td>3.1%</td>
</tr>
<tr>
<td>Carditoidea</td>
<td>7</td>
<td>2.0%</td>
</tr>
<tr>
<td>Crassatelloidea</td>
<td>2</td>
<td>0.6%</td>
</tr>
<tr>
<td>Hemidonacidae (position uncertain)</td>
<td>2</td>
<td>0.6%</td>
</tr>
<tr>
<td>Arcticoidea</td>
<td>2</td>
<td>0.6%</td>
</tr>
<tr>
<td>Cardioidea</td>
<td>17</td>
<td>4.8%</td>
</tr>
<tr>
<td>Chamoidea</td>
<td>6</td>
<td>1.7%</td>
</tr>
<tr>
<td>Cyamioidea</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Cyrenoidea</td>
<td>3</td>
<td>0.9%</td>
</tr>
<tr>
<td>Galeommatoidae</td>
<td>18</td>
<td>5.2%</td>
</tr>
<tr>
<td>Mactroidea</td>
<td>19</td>
<td>5.5%</td>
</tr>
<tr>
<td>Tellinoidae</td>
<td>56</td>
<td>15.8%</td>
</tr>
<tr>
<td>Ungulinoidae</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Veneroidae</td>
<td>52</td>
<td>14.9%</td>
</tr>
<tr>
<td>Myoidea</td>
<td>10</td>
<td>2.9%</td>
</tr>
<tr>
<td>Pholadoidea</td>
<td>9</td>
<td>2.6%</td>
</tr>
<tr>
<td>Hiatelloidea</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Solenoidea</td>
<td>5</td>
<td>1.4%</td>
</tr>
<tr>
<td>‘ANOMALODESMATAN’ HETERODONTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myochamoidea</td>
<td>5</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

### Table 1. Continued ...

<table>
<thead>
<tr>
<th>Taxon (Subclasses &amp; superfamilies)</th>
<th>No. of Species</th>
<th>Species % (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pandoroidea</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Thracioidea</td>
<td>5</td>
<td>1.4%</td>
</tr>
<tr>
<td>Cuspidarioidea</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Poromyoidea</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>350</td>
<td>100%</td>
</tr>
</tbody>
</table>
Mytilidae, Arcidae, Pectinidae and Glycymerididae are the dominant pteriomorphian families within the bay, each with several species. Representatives of the first four of these families are capable of clumping into beds which support a wealth of attached or sheltering invertebrates.

Aside from the rock oyster (Saccostrea glomerata) and the trawled scallops Amusium balloti and Annachlamys flabellatus (Pectinidae), the pteriomorphian fauna of the bay has not attracted commercial interest although potentially all species could be subject to amateur over-collecting (food, bait, shells etc) and hence are justifiably subject to policed bag limits.

**Superorder Heteroconchia.** The Heteroconchia (comprising the former subclasses, and now clades, Palaeoheterodonta and Heterodonta) are at least in terms of number of species, the major component of the bivalve fauna of the bay (Table 1) with 236 species, 34 families and 100 genera represented.

**Clade Palaeoheterodonta:** Australian waters are home to the only surviving members of the Mesozoic-dominant order Trigonioida. The six species, all belonging to the genus Neotrigonia, are closely related and superficially cardiid-like in external shell morphology, but clearly possess the internal shell features characteristic of the Trigonioida (complex grooved teeth, nacreous shell interior; e.g. see Darragh 1986, 1998). The only species recorded from Moreton Bay, Neotrigonia lamarcki, was found living at about 45–50 m depth north of Cape Moreton, and off the south-east passage, east of southern Moreton Island, by the BivAToL project (Oct 2008). Its precise range is uncertain — according to Darragh (1986) it occurs from Wollongong (New South Wales) to Tin Can Bay (Queensland) but Lamprell & Whitehead (1992) suggest it may occur north to Central Queensland.

**Clade Heterodonta:** Within the largest heterodont superfamily, the Veneroidea (2 families, 52 species), the Veneridae (20 genera, 51 species) are particularly well represented in Moreton Bay with several abundant species. In the Veneridae, species such as Marcia hiantina and Gafarium austral are especially common on the mainland side of the bay and at some sites are often the only species of venerid present. On the eastern side of the bay species such as Tapes dorsatus and Circe plicatina predominate in the shallow subtidal, whereas in deeper water various species of Dosinia, Placamen, Paphia and Callista tend to form the major venerid elements of the bivalve fauna. Several venerid species are prey to gastropods (especially Naticidae and Muricidae) as well as stingrays and wader birds (JH pers. obs.). Brewer & Willan (1985) reported that the exposed siphons of glauconomid veneroids form an important component in the diet of the golden-lined whiting (Sillago analis) within parts of Moreton Bay.

The true cockles (Cardioidea) are reasonably well represented in Moreton Bay (9 genera, 17 species), but aside from a few mainland localities (e.g. Redcliffe Peninsula), are mainly restricted to the central and eastern side of the bay. This is probably due to the preponderance of mud as a major sediment component on the mainland (western) side of the bay — cardiids preferring a firmer (though not rocky) substrate. Fragum unedo, Lunulocardium hemocardium and Trachycardium vertebratum are the bay’s most abundant cardiids, being particularly common in shallow subtidal banks among seagrass and sand. Moreton Bay can also boast at least one species of giant clam, Tridacna maxima, but its distribution in the area is limited to waters around coral reefs, especially off North Stradbroke and Moreton Islands.

Worthy of mention is the large number of higher taxa of anomalodesmatans present within the bivalve fauna of the bay (6 families from 5 superfamilies). While only a few of the species are truly common, the breadth of representation of this group (formerly considered a separate subclass) is probably to be expected. Anomalodesmatans are renowned for exploiting a wide range of habitats and Moreton Bay offers many of these (e.g. mangrove muds for Laternulidae, clayey mud for Cuspidariidae and Poromyidae, live bivalve shells for Myochamidae). At some subtidal sites in the eastern bay a large proportion of the Eucrassatella cunningii (Crassatelloidea) and Corbula tunicata (Myoidea) may bear one or more attached Myochama anomoides.

Among the Mactroidea (9 genera, 19 species), the small indigenous species Spisula trigonella (Mactridae) ranks as possibly Moreton Bay’s most common bivalve and certainly its most
common infaunal species. It is especially abundant in muddy intertidal and shallow subtidal localities, and its dead shells contribute greatly to benthic sediment and to on-shore shell heaps (Quinnell 1999; JH pers. obs.). Much larger mactrids such as *Mactra dissecilis* (mainland or western side of bay) and *M. eximia* (eastern side of bay) are commonly encountered but not in the large numbers seen with *S. trigonella*. Mangrove-associated mactrids such as *Lutraria* species are undoubtedly important components of that ecosystem, however due to their deep-burrowing habit, living animals are rarely seen (unless dug out) and usually isolated valves are the only surface evidence of their presence. They and other mactrid species are often preyed on by wader birds (Quinnell 1999) and *S. trigonella* seems to form a staple part of the diet of sand snails (*Naticidae*) (JH pers. obs.). Of the four species of Mesodesmatidae known from the bay, only *Paphies elongata* (a surf inhabitant) and *P. striata* (an inshore shallow burrower) are reasonably common.

Five of the six species of Chamidae (*Chamoidea*) in Moreton Bay are common and very widespread in the area. Chamids comprise one of a very few surface dwelling heterodont families and, like oysters, they settle and grow on shells of other molluscs (live or dead), rocks and dead coral chunks. During the Moreton Bay Benthic Survey of 2005, most shallow subtidal mussel and oyster clump samples were found to contain one or more cemented species of *Chama* (especially *C. asperella, C. fibula, C. limbula, C. pulchella*) (JH pers. obs.) sometimes in small clusters. Chamids are not as common in the bay intertidally as they are subtidally, possibly due to intense competition from rock oysters and barnacles for settlement space at suitable sites.

Two other superfamilies of heterodonts also comprise important elements of the bay bivalve fauna — the Tellinoidea (15 genera, 56 species) and Galeommatoidea (8 genera, 18 species) — although discussion of their diversity is hampered by a lack of detailed taxonomic work on many of their constituent families. Aside from Willan’s (1993) monograph on the Australian Psammobiidae, the Tellinoidea of Moreton Bay are in need of thorough revision. With the exception of the surf-zone inhabiting *Donax* spp. (especially the indigenous *Donax deltoides* — ‘pipi’ or ‘eugarie’), most tellinoideans are deep burrowing and seldom seen other than as dead specimens (usually isolated valves). *Donax deltoides* is not only valued as a food item (and a very common midden component — see Haglund-Calley & Quinnell 1973; Richardson 1984) but is also widely used as bait for line fishing. On the mainland side of the bay *Tellina australis* (Tellinidae) and *Soletellina alba* (Psammobiidae) form an important part of the diet of predatory sand snails (*Naticidae*) as evidenced by the abundance of drilled valves of both species. Both species are also consumed by wading birds (see Quinnell 1999). The taxonomic neglect evident in the Tellinoidea is repeated in the Galeommatoidea, with the exception that that latter is attracting more research attention by virtue of their commensal relationships with other invertebrates such as crustaceans and echinoderms (e.g. see Morton 2008) and their often complex reproductive biology (including the production of strongly dimorphic spermatozoa in several species (Lützen et al. 2004, 2005)).

**CONCLUDING REMARKS**

Moreton Bay is home to a large and important bivalve mollusc fauna (350 species), as indeed is also the case with the gastropod molluscs (1023 species: see Healy et al. 2010 this volume). We anticipate that many more species and additional genera and families will, in time, be added once suitable taxonomic work and localised collecting (intertidal and subtidal) have been carried out.

This list is an updatable resource for those interested not only in the ecology and biodiversity of Moreton Bay but also the monitoring of environmental health, regional development issues and species conservation. In the light of current threats such as pollution (e.g. the March 2009 oil and fertiliser spill in Moreton Bay) and over-fishing, it is essential that checklists such as these are established. We believe they are of vital importance in the planning and implementation of strategies designed to safeguard the rich marine fauna of this region such as the revised management zonings for Moreton Bay (particularly the increased extent of the green ‘no-take’ zone).
CLASS BIVALVIA

SUBCLASS PROTOBRANCHIA

ORDER NUCULIDA

SUPERFAMILY NUCULOIDEA

FAMILY NUCULIDAE

Leionucula Quenstedt, 1930
- L. stricata (Iredale, 1937) [19; 20]
- L. cumingii (Hinds, 1843) [B]
- L. obliqua (Lamarck, 1819) [M]
- L. orekta (Iredale, 1939) [20]
- L. superba (Hedley, 1902) [27]

ORDER SOLEMYIDA

SUPERFAMILY SOLEMYOIDEA

FAMILY SOLEMYIDAE (see Note 2)

Solemya Lamarck, 1818
- Solemya incertae sedis (see Note 3)
- S. moretonensis Taylor, Glover & Williams, 2008 [QM holotype and paratypes; 23]
- S. (Solemyarina) Iredale, 1931
  - S. (S.) velesiana Iredale, 1931 [B; QM; 23]

ORDER NUCULANIDA

SUPERFAMILY NUCULANOIDEA

FAMILY NUCULANIDAE

Nuculana Link, 1807
- N. (Scaeoleda) Iredale, 1929
  - N. (S.) caloundra (Iredale, 1929) [B; QM]
  - N. (S.) crassa (Hinds, 1843) [QM]
  - N. (S.) dohrni (Hanley, 1861) [QM]

FAMILY YOLDIIDAE

Yoldia Möller, 1842
- Yoldia cf lata (Hinds, 1843) [M]

SUBCLASS AUTOBRANCHIA

SUPERORDER PTERIOMORPHIA

ORDER MYTILIDA

SUPERFAMILY MYTILOIDEA

FAMILY MYTILIDAE

Arenifodiens Wilson, 2006
- A. (A.) navicularis Bruguère, 1789 [B; M; QM; 15; 20, 21]
- A. (A.) ventricosa Lamarche d'Aubert, 1819 [QM]

B. (Barbatia) s.s.
- B. (B.) foliata (Forsskål, 1775) [M; QM; 15]
- B. (B.) grayana (Dunker, 1858) [21 as Arca multivillosa]
- B. (B.) parvilloosa (Iredale, 1939) [21]
- B. (B.) pistachia (Lamarck, 1819) [QM]

Trisidos Röding, 1798
- T. semitorta (Lamarck, 1819) [QM]
- T. tortuosa (Linnaeus, 1758) [B; M; QM; 5; 15; 21 as T. yongei; 27]

SUBFAMILY ANADARINAE

Anadara Gray, 1847
- A. (Anadara) s.s.
  - A. (A.) antiquata (Linnaeus, 1758) [QM, as Arca antiquata]
  - A. (A.) trapezia (Deshayes, 1840) as Arca trapezia; 15; 18; 27]
- A. (Cunearca) Dall, 1898
  - A. (C.) pilula (Reeve, 1843) [QM]
  - A. (C.) rotundicostata (Reeve, 1843) [20 as Scapharca (Cunearca) hubbardi; 21 as Imparilarca hubbardi]
- A. (Scapharca) Gray, 1847
  - A. (S.) crebricostata (Reeve, 1844) [QM]

FAMILY GLYCYSYRIDIDAE

SUBFAMILY GLYCYSYRIDINAE

Glycymeris Costa, 1778
- G. (Glycymeris) s.s.
  - G. (G.) radians (Lamarck, 1819) [M; QM]
  - G. (G.) striatularis (Lamarck, 1819) [QM]
G. (Veletuceta) Iredale, 1931
G. (V.) grayana (Dunker, 1857) [QM]
G. (V.) hedleyi (Lamy, 1912) [QM; 21]
G. (V.) holosericus (Reeve, 1843) [B; QM; 15; 27]

G. (Tucetilla) Iredale, 1939
G. (T.) crebriliratus (Sowerby, 1889) [B; QM; 15]

FAMILY NOETIIDAE
Arcopsis von Koenen, 1885
A. afra (Gmelin, 1791) [QM]

Sheldonella Maury, 1917
S. repenta (Iredale, 1939) [QM]

SUPERFAMILY LIMOPSOIDEA
FAMILY LIMOPSIDAE
Limopsis Sassi, 1827
L. (Pectunculina) d’Orbigny, 1842
L. (P.) loringi Angas, 1873 [QM]

FAMILY PHILOBRYIDAE
Cosa Finlay, 1927
C. tatei (Hedley, 1901) [QM]

ORDER PTERIIDA
SUPERFAMILY PTERIOIDEA
Pteria Scopoli, 1777
P. coturnix (Dunker, 1872) [QM]
P. falcata (Lamarck, 1819) [QM]
P. lata (Gray, 1845) [QM; 5; 15]
P. levitata (Iredale, 1939) [QM]
P. peasei (Dunker, 1872) [QM]
P. penguin (Röding, 1798) [QM]
P. scabriuscula (Reeve, 1857) [QM]

Electroma Stoliczka, 1871
E. (Electroma) s.s.
E. (E.) georgiana (Quoy & Gaimard, 1834) [QM]
E. (E.) ovata (Quoy & Gaimard, 1834) [21 as E. pygmaea]

E. (Pterelectroma) Iredale, 1939
E. (P.) physoides (Lamarck, 1819) [QM; 21 as E. zebra; 27]

Pinctada Röding, 1798
P. albina albina (Lamarck, 1819) [B; M; QM]
P. albina sugillata (Reeve, 1857) [QM; 5; 20]
P. fucata (Gould, 1850) [QM; 18]
P. maculata (Gould, 1850) [B; M; QM; 27]
P. margaritifera (Linnaeus, 1758) [QM; 21]
P. maxima (Jameson, 1901) [QM; 18]

FAMILY ISOGNOMONIDAE
Isognomon Lightfoot, 1786
I. (Isognomon) s.s.
I. (I.) ephippium (Linnaeus, 1758) [B; QM; 15]
I. (I.) isognomon (Linnaeus, 1758) [B; QM; 15]
I. (I.) nucleus (Lamarck, 1819) [QM]

FAMILY MALLEIDAE
Malleus Lamarck, 1789
M. albus Lamarck, 1819 [B; M; QM; 5; 15; 18; 20; 21; 27]
M. malleus (Linnaeus, 1758) [QM; 15]

Vulsella Röding, 1798
V. vulsella (Linnaeus, 1758) [B; M; QM]

SUPERFAMILY PINNOIDEA
FAMILY PINNIDAE
Pinna Linnaeus, 1758
P. bicolor Gmelin, 1791 [B; QM; 1; 15; 18; 27]
P. deltodes Menke, 1843 [QM]
P. muricata Linnaeus, 1758 [M; QM]

Atrina Gray, 1842
A. (Atrina) s.s.
A. (A.) vexillum (Born, 1778) [QM]
A. (Servatrina) Iredale, 1939
A. (S.) pectinata (Linnaeus, 1758) [QM; 15; 20]

Streptopinna von Martens, 1880
S. saccata (Linnaeus, 1758) [18]

ORDER OSTREIDA
SUPERFAMILY OSTREOIDEA
FAMILY OSTREIDAE
SUBFAMILY OSTREINAE
Ostrea Linnaeus, 1758
O. (Oestrea) Ihering, 1907
O. (E.) virescens Angas, 1867 [QM]

SUBFAMILY CRASSOSTREINAE
Saccostrea Dolfuss & Dautzenberg, 1920
S. cucullata (Born, 1778) [QM; 27]
S. glomerata (Gould, 1850) [B; M; QM also as Saccostrea commercialis; 5 as Crassostrea commercialis; 15; 27] (see Note 6)

SUBFAMILY LOPHINAE
Lopha Röding, 1798
L. cristagalli (Linnaeus, 1758) [QM]

Planostrea Harry, 1985
P. pestigris (Hanley, 1846) [QM]

FAMILY GRYPHAEIDAE
SUBFAMILY PYCNODONTEINAE
Hyotissa Stenzel, 1971
H. hyotis (Linnaeus, 1758) [B; QM; 27]
Parahyotissa Harry, 1985
P. imbricata (Lamarck, 1819) [B; QM]

ORDER PECTINIDA
SUPERFAMILY ANOMIOIDEA
FAMILY ANOMIIDAE
Anomia Linnaeus, 1758
A. trigonopsis Hutton, 1877 [QM also as A. descripta; 18; 21 as A. descripta]

Monia Gray, 1850
Bivalves of Moreton Bay

M. timida Iredale, 1939 [QM]
M. zelandica (Gray, 1843) [QM as Anomia zelandica; 21 as M. ione]
Patro Gray, 1850
P. australis (Gray, 1847) [M; QM; 15; 27]

SUPERFAMILY PECTINOIDEA
FAMILY PECTINIDAE (see Note 7)
SUBFAMILY PECTININAE
Pecten Müller, 1776
P. fumatus Reeve, 1852 [QM; 18; 21]
Annachlamys Iredale, 1939
A. balloti (Bernardi, 1861) [15; 18; 27]
Annachlamys (Lamarck, 1819) [QM, 15, 18, 20, 21; also as Chlamys or Annachlamys]
Decatopecten Küppell in Sowerby, 1839
D. plica (Linnaeus, 1758) [QM, 18, 20, 21 all as Decatopecten strangei or Chlamys strangei]
Gloripallium Iredale, 1939
G. pallium (Linnaeus, 1758) [QM; 18]
Minnivola Iredale, 1939
M. isomeres Iredale, 1939 [QM; 18]

SUBFAMILY CHLAMYDINAE
Laevichlamys Waller, 1993
L. irregularis (Sowerby, 1842) [QM, 18 both as Chlamys irregularis]
L. mollita (Reeve, 1853) [18 as C. grossiana]
L. squamosa (Gmelin, 1791) [QM]
Mimachlamys Iredale, 1929
M. asperrima (Lamarck, 1819) [15]
M. cloacata (Reeve, 1853) [QM as Mimachlamys curtisiana]
M. gloriosa (Reeve, 1853) [M; QM also as Chlamys gloriosa; 15; 18; 20; 21; 27]
Scaechlamys Iredale, 1929
S. livida (Lamarck, 1819) [M; QM; 15; 18; 21; 27]
Semipallium Joussseaume in Lamy, 1928
S. aktinis (Petterd, 1886) [QM; 18]
S. corninus corninus (Hinds, 1845) [QM; 18]
Volachlamys Iredale, 1939
V. singaporina (Sowerby, 1842) [QM; 5; 27]

SUBFAMILY PALLIOLINAE
Mesopeplum Iredale, 1929
M. fenestratrum (Hedley, 1901) [QM, 18]

FAMILY SPONDYLIDAE
Spondylus Linnaeus, 1758
S. multisetosus Reeve, 1856 [18]
S. nicobaricus Schrebers, 1793 [18]
S. squamosus Schrebers, 1793 [18]
S. victoriae Sowerby, 1860 [B; QM also as S. wrightianus; 18, 20, 21 and 27 as S. wrightianus]
S. violascens Lamarck, 1818 [QM; 8; 27]

SUPERFAMILY PLICATULOIDEA
FAMILY PLICATULIDAE
Plicatula Lamarck, 1801
P. (Plicatula) s.s
P. (P.) australis Lamarck, 1819 [M]

ORDER LIMIDA
SUPERFAMILY LIMOIDEA
FAMILY LIMIDAE
SUBFAMILY LIMINAE
Lima Bruguère, 1797
L. vulgaris (Link, 1807) [QM; 27 as Lima vulgaris]
Limaria Link, 1807
L. fragilis (Gmelin, 1791) [QM; 5]
L. orientalis (A.Adams & Reeve, 1850) [27]

SUBFAMILY LIMATULINAE
Limatula Wood, 1839
L. strangei (Sowerby, 1872) [QM]

SUPERORDER HETEROCONECHIA
CLADE PALAEOHETERODONTA
ORDER TRIGONIOIDA
SUPERFAMILY TRIGONIOIDEA
FAMILY TRIGONIIDAE
SUBFAMILY TRIGONIINAE
Neotrigonia Cossman, 1912
N. lamarckii (Gray, 1838) [B; QM; 15]

CLADE HETERODONTA
ORDER LUCINIDA
SUPERFAMILY LUCINOIDEA
FAMILY LUCINIDAE
Anodontia Link, 1807
A. (Cryptophysema) Taylor & Glover, 2005
A. (C.) trulla Taylor & Glover, 2005 [QM; 22]
A. (C.) vesicula (Gould, 1850) [27 as A. edentula]
A. (Cavatidens) Iredale, 1930
A. (C.) omissa Iredale, 1930 [B; QM; 22]
Cardiolucina Sacco, 1901
C. rugosa (Hedley, 1909) [M; QM]
Codakia Scopoli, 1777
C. paytenorum (Iredale, 1930) [QM]
Ctena Möörch, 1861
C. bella (Conrad, 1834) [15]
Divaricella Von Martens, 1880
D. irplex (E.A. Smith, 1885) [QM as D. ornata]
Indoaustriella Glover, Taylor & Williams, 2008
I. lamprelli Glover, Taylor & Williams, 2008 [QM holotype; 4]
Pillicuca Pilsbry, 1921
P. pacifica Glover & Taylor, 2001 [3; 15]
P. vietnamica Zorina, 1974 [3; 15]

Prophetilora Iredale, 1930

P. simplex (Reeve, 1850) [QM]

ORDER CARDITIDA
SUPERFAMILY CARDITOIDEA
FAMILY CARDITIDAE

Subfamily Carditinae
Cardita Bruguière, 1792
C. crassicosta Lamarck, 1819 [QM; 27]
C. excavata Deshayes, 1854 [QM]
C. incrassata Sowerby, 1825 [QM; 21]
C. marmorea Reeve, 1843 [QM]
C. muricata Sowerby, 1832 [QM; 15]
C. preissii Menke, 1843 [M]
C. variegata Bruguière, 1792 [QM]

SUPERFAMILY CRASSATELLOIDEA
FAMILY CRASSATELLIDAE

Eucrassatella Iredale, 1924
E. cumingii (A. Adams, 1852) [B; QM; 21; 27]

ORDER VENERIDA
FAMILY HEMIDONACIDAE

Familia incerta sedis (see Note 9)

Hemidonax Mörch, 1871
H. dactylus Hedley, 1923 [16]
H. pictus (Tryon, 1870) [B; QM; 6; 15; 18; 21; 27]

SUPERFAMILY ARCTICOIDEA
FAMILY TRAPEZIDAE

Trapezium Mühlfeld, 1811
T. (Neotrapezium) Habe, 1951
T. (N.) sublaevigatum (Lamarck, 1819) [QM; 15]

Fluviolanatus Iredale, 1924
F. suborta (Dunker, 1857) [QM as F. amarus]

SUPERFAMILY CARDIOIDEA
FAMILY CARDIIDAE

Subfamily Cardiinae
Acrosterigma Dall, 1900
A. impolita (Sowerby, 1833) [QM; 15; 25]
A. kerslakae Healy & Lamprell, 1992 [QM; 7; 25]
A. punctolineata Healy & Lamprell, 1992 [QM]

Maoricardium Marwick, 1944
M. setosum (Redfield, 1846) [B; QM; 5; 21 as Trachycardium setosum; 26; 27 as Plagiocardium setosum]

Vasticardium Iredale, 1927
V. flavum (Linnaeus, 1758) [M; QM also as Acrosterigma flavum; 20 as Regozara flavum]

V. vertebratum (Jonas, 1844) [B; QM also as Acrosterigma reeveanum; 15; 27 as Acrosterigma vertebratum]

Vepricardium Iredale, 1929
V. multispinosus (Sowerby, 1838) [QM, as V. pulchricostatum; 15; 21]

SUBFAMILY FRAGINAE

Fragum Röding, 1792
F. fragum (Linnaeus, 1758) [B; QM]
F. tenuicostata (Lamarck, 1819) [21 as Trachycardium racketti]

Fulvia sp. [M]

SUBFAMILY LAEVICARDIINAE

Laevicardium Swainson, 1840
L. attenuatum (Sowerby, 1840) [QM]
L. biradiatum (Bruguière, 1789) [QM]

SUBFAMILY TRIDACNINAE

Tridacna Bruguière, 1792
T. (Chametrachea) Mörch, 1853
T. (C.) maxima (Röding, 1798) [15]

SUPERFAMILY CHAMOIDEA
FAMILY CHAMIDAE

Chama Linnaeus, 1758
C. asperella Lamarck, 1819 [M; 21 as C. jukesii]
C. fibula Reeve, 1846 [M; QM; 15; 19]
C. limbula Lamarck, 1819 [M; QM; 15; 27]
C. pacifica Broderip, 1834 [QM]
C. pulchella Reeve, 1846 [M; QM; 20]
C. ruderalis Lamarck, 1819 [M]

SUPERFAMILY CYAMOIDEA
FAMILY CYAMIIDAE

Cyamiomactra Bernard, 1897
C. mactroides Tate & May, 1900 [QM]

SUPERFAMILY GALEOMMATOIDEA (see Note 10)

Cyamionactra Bernard, 1897
C. mactroides Tate & May, 1900 [QM]
### FAMILY GALEOMMATIDAE

- **Ambuscintilla** Iredale, 1936  
  *A. praemium* Iredale, 1936 [QM]

- **Borniola** Iredale, 1924  
  *B. cf lepida* (Hedley, 1906) [M]

- **Scintilla** Deshayes, 1856  
  *S. cuvieri* Deshayes, 1856 [QM]  
  *S. hyalina* (Deshayes, 1856) [QM]  
  *S. incerta* (Récluz, 1851) [QM]  
  *S. strangei* Deshayes, 1856 [QM]

- **Scintillona** Finlay, 1927  
  *S. cryptozoica* (Hedley, 1917) [B; QM as *Varo - toga cryptozoica*; 16]  
  *S. daviei* Morton, 2008 [QM holotype and paratype; 16]

### FAMILY LASAEIDAE

- **Kellia** Turton, 1822  
  *K. adamsi* (Angas, 1868) [21 as *Marikellia adamsi*]  
  *K. cycladiformis* (Deshayes, 1850) [QM]  
  *K. jacksoniana* Smith, 1884 [QM]  
  *K. rotunda* (Deshayes, 1855) [QM]  
  *K. tumida* (Laseron, 1956) [QM]

- **Lasaea** Brown, 1827  
  *L. australis* (Lamarck, 1818) [QM]

- **Montacuta** Turton, 1822  
  *Montacuta* sp. [M]

- **Mysella** Angas, 1877  
  *M. (Mysella) s.s.*  
  *M. (M.) anomalta* Angas, 1877 [QM]  
  *M. (M.) vitrea* Laseron, 1956 [B; QM]

- **M. (Rochefortia)** Velain, 1877  
  *M. (R.) sp.* [QM]

### FAMILY LUTRARINAE

- **Lutraria** Lamarck, 1799  
  *L. (Psammophila) Brown, 1827*
  *L. (P.) australis* Reeve, 1854 [QM]  
  *L. (P.) impar* Reeve, 1854 [QM; 21]  
  *L. (P.) rhynchaena* Jonas, 1844 [QM]

- **Meropesta** Iredale, 1929  
  *M. nicobarica* (Gmelin, 1791) [B; QM; 15]

### SUBFAMILY KYMATOXINAE

- **Raeta** Gray, 1853  
  *R. (Raetina) Dall, 1898*
  *R. (R.) pellicula* (Reeve, 1854) [15]

### SUBFAMILY ZENATINAE

- **Zenatina** Gill & Darragh, 1963  
  *Z. victoriae* (Pritchard & Gatliﬀ, 1903) [QM]

### FAMILY MESODESMATIDAE

#### SUBFAMILY MESODESMATINAE

- **Paphies** Lesson, 1830  
  *P. (Atactodea) Dall, 1895*  
  *P. (A.) striata* Gmelin, 1791 [QM; 15]

#### SUBFAMILY DAVILINAE

- **Davila** Gray, 1853  
  *D. plana* (Hanley, 1843) [QM as *Atactodea plana*]

### SUBFAMILY TELLINOIDEA

#### (see Note 11)

### FAMILY TELLINIDAE

- **Tellina** Linnaeus, 1758  
  *T. (Arcopaginula) Lamy, 1918*
  *T. (A.) inflata* Gmelin, 1791 [21]  
  *T. (Angulus) Mühlfeld, 1811*
  *T. (A.) emarginata* Sowerby, 1825 [QM]  
  *T. (Cadella) Dall, Bartsch & Rehder, 1938*
  *T. (C.) diluta* Smith, 1885 [QM]  
  *T. (C.) obtusalis* Deshayes, 1854 [QM]  
  *T. (Macomona) Finlay, 1927*
  *T. (M.) australis* Deshayes, 1854 [QM; 15]  
  *T. (M.) deltoïdal Lamarck, 1818* [QM]  
  *T. (M.) imbellis* (Hanley, 1844) [QM]  
  *T. (Moerella) Fischer, 1887*
  *T. (M.) minuta* Lischke, 1872 [QM]  
  *T. (Pharaonella) Lamy, 1918*
  *T. (P.) astula* Hedley, 1917 [QM]  
  *T. (P.) perna* Spengler, 1798 [QM; 27]  
  *T. (P.) rostrata* Linnaeus, 1758 [QM]  
  *T. (Pistris) Thiele, 1934*
  *T. (P.) capsoides* Lamarck, 1818 [QM]
T. (Pseudoarcopagia) Bertin, 1878  
T. (P.) botanica (Hedley, 1918)  [QM]  
T. (Scutarcopagia) Pilsbry, 1918  
T. (S.) lingualis Linnaeus, 1758  [QM]  
T. (Semelangulus) Iredale, 1924  
T. (S.) lilium Hanley, 1844  [QM; 18]  
T. (S.) semitorta Sowerby, 1867  [18]  
T. (S.) tenuilirata Sowerby, 1867  [21]  

Exotica Lamy, 1818  
E. (Exotica) s.s.  
E. (E.) donaciformis (Deshayes, 1854)  [QM; 19 as Macoma donaciformis]  

Leporimetis Iredale, 1930  
L. spectabilis (Hanley, 1844)  [QM]  

Macoma Leach, 1819  
M. (Psammacoma) Dall, 1900  
M. (P.) candida (Lamarck, 1818)  [QM]  
M. (P.) retrorsa (Sowerby, 1867)  [QM]  
M. (Salmacoma) Iredale, 1929  
M. (S.) vappa (Iredale, 1929)  [21]  

Strigilla Turton, 1822  
S. (Aeretica) Dall, 1900  
S. (A.) euronia Hedley, 1908  [QM]  

FAMILY DONACIDAE  

Donax Linnaeus, 1758  
D. (Deltachion) Iredale, 1930  
D. (D.) brazieri Smith, 1892  [QM; 15]  
D. (Plebidonax) Iredale, 1930  
D. (P.) deltoides Lamarck, 1818  [B; QM; 15; 27]  
D. (Latona) Schumacher, 1817  
D. (L.) faba Gmelin, 1791  [21 as Latona faba]  
D. (Tentidonax) Iredale, 1930  
D. (T.) veruinus Hedley, 1913  [B; QM]  

FAMILY PSAMMOBIIDAE  

Gari Schumacher, 1817  
G. (Gari) s.s.  
G. (G.) anomala (Deshayes, 1855)  [QM; 28]  
G. (G.) lessoni (Blainville, 1826)  [QM; 28]  
G. (G.) maculosa (Lamarck, 1818)  [QM; 27; 28]  
G. (G.) modesta (Deshayes, 1855)  [20 as Gari venta; 21 as Milligaretta modesta; 28]  
G. (G.) pallida (Deshayes, 1855)  [M; QM also as G. weinkauffi]  
G. (Crassulobia) Willan, 1993  
G. (C.) crassula (Deshayes, 1855)  [QM; 28]  
G. (Dysmea) Dall, Bartsch & Rehder, 1939  
G. (D.) occidentis (Gmelin, 1791)  [QM; 28]  
G. (Psammobia) Lamarck, 1818  
G. (P.) livida (Lamarck, 1818)  [M; QM; 28]  
G. (Psammatena) Dall, 1900  
G. (P.) togata (Deshayes, 1855)  [QM; 15; 28]  

Heterolygta Martens, 1880  
H. contraria (Deshayes, 1863)  [QM; 28]  

Soletellina Blainville, 1824  
S. alba (Lamarck, 1818)  [QM also as S. donacioides; 28]  
S. burnupi (Sowerby, 1894)  [28]  

FAMILY SEMELIDAE  

Semele Schumacher, 1817  
S. casta A. Adams, 1853  [21]  
S. crenulata (Sowerby, 1833)  [QM]  
S. duplicata (Sowerby, 1833)  [QM]  
S. juksesii (Reeve, 1853)  [QM]  
S. lamellosa (Sowerby, 1830)  [QM]  

Abra Lamarck, 1818  
A. (Abra) s.s.  
A. (A.) infans (Smith, 1885)  [QM as Timocea infans]  
A. (Syndosmya) Récluz, 1843  
A. (S.) truncata Hedley, 1906  [QM]  

Leptomya A. Adams, 1864  
L. pura (Angas, 1871)  [QM; 19, 20]  

Theora H. & A. Adams, 1866  
T. fragilis A. Adams, 1855  [QM]  
T. lata (Hinds, 1843)  [QM; 19]  

FAMILY PSAMMOBIIDAE  

Solecurtus Blainville, 1824  
S. divaricatus (Lischke, 1869)  [QM as S. leone; 21]  
S. quoyi Reeve, 1874  [QM]  
S. sulcatus (Dunker, 1861)  [QM]  

Azorinus Récluz, 1869  
A. coarctatus (Gmelin, 1791)  [QM; 20, 21 all as A. abbreviatus]  

SUPERFAMILY UNGULINOIDEA  

FAMILY UNGULINIDAE  

Felaniella Dall, 1899  
F. (Zemysia) Finlay, 1926  
F. (Z.) ethima (Melvill & Standen, 1899)  [21 as Diplodonta ethima]  

SUPERFAMILY VENEROIDEA (See Note 12)  

FAMILY VENERIDAE  

SUBFAMILY VENERINAE  

Antigona Schumacher, 1817  
A. (Antigona) s.s.  
A. (A.) chemnitzii (Hanley, 1844)  [B; M; QM; 5; 15; 20 as Tigamnona chemnitzii; 21 as Periglypta chemnitzii; 27]  
A. (A.) lamellaris Schumacher, 1817  [B; QM; 15; 19, 21]  
A. (A.) persimilis (Iredale, 1930)  [QM]  
A. (Periglypta) Jukes-Browne, 1914  
A. (P.) reticulata (Linnaeus, 1758)  [QM]  
A. (P.) clathrata (Deshayes, 1854)  [QM]  
Globivenus Coen, 1934  
G. capricornea (Hedley, 1908)  [QM; 15]
SUBFAMILY CALLOCARDIINAE

Pitar Römer, 1857
P. (Pitarina) Jukes-Browne, 1913
P. (P.) affinis (Gmelin, 1791) [B; QM; 15; 27]
P. (P.) nipponica Kuroda & Habe, 1971 [10]
P. (P.) queenslandica Lamprell & Healy, 1997 [10]
P. (P.) trevori Lamprell & Whitehead, 1990 [B; 15]

Callista Poli, 1791
C. (Striacallista) Marwick, 1938
C. (S.) roseotincta (Smith, 1885) [M; QM]
C. (Notocallista) Iredale, 1924
C. (N.) disrupta (Sowerby, 1853) [B; QM; 15]

SUBFAMILY CHIONINAE

Placamen Iredale, 1925
P. calophyllum (Philippi, 1836) [QM; 15; 27]
P. placidum (Phillipi, 1844) [QM]
P. sidneyense (Menke, 1858) [M; QM; 19; 20; 21]
P. tiara (Dillwyn, 1817) [B; M; QM; 15 also as P. foliacea; 20; 21]

Bassina Jukes-Browne, 1914
B. jacksoni (Smith, 1885) [B; QM; 15]

SUBFAMILY CLEMENTIINAE

Clementia Gray, 1842
C. (Clementia) s.s.
C. (C.) papyracea (Gray, 1825) [B; M; QM also as C. moirotensis; 20 as C. strangel]

SUBFAMILY DOSINIINAE

Dosinia Scopoli, 1777
D. caerulea Reeve, 1850 [QM]
D. juvenilis (Gmelin, 1791) [B; QM; 15]
D. kaspewi Fischer-Piette & Delmas, 1967 [QM; 15]
D. mira Smith, 1885 [QM]
D. nudigta (Iredale, 1930) [B; QM; 15; 21 as Merodosinia nudiga]
D. sculpta (Hanley, 1845) [B; M; QM; 15; 27]
D. tumida (Gray, 1838) [QM]
D. victoriae Gatilff & Gabriel, 1914 [QM]

SUBFAMILY GOULDINAE

Circe Schumacher, 1817
C. (Circe) s.s.
C. (C.) plicatina (Lamarck, 1816) [B; QM; 15; 27]
C. (C.) scripta (Linnaeus, 1758) [M; QM; 20, 21 as C. sugillata]

Gafarium Röding, 1798
G. australis (Sowerby, 1851) [QM; 15]
G. dispar (Holten, 1802) [QM]
G. tumidum Röding, 1798 [27]

SUBFAMILY LIOCONCHINAE

Lioconcha Mörch, 1853

ORDER MYIDA

SUPERFAMILY MYOIDEA

FAMILY MYIDAE

SUBFAMILY CRYPTOMYINAE

Cryptomya Conrad, 1848
C. (Venatomya) Iredale, 1930
C. (V.) elliptica (A. Adams, 1853) [14]

FAMILY CORBULIDAE

SUBFAMILY CORBULINAE

Corbula Bruguière, 1797
C. (Anisocorbula) Iredale, 1930
C. (A.) moretonensis Lamplé & Healy, 1997
[QM including holotype; 9]

C. (N.) fortisulcata Smith, 1878
[QM]

C. (N.) hydropica (Iredale, 1930)
[QM; 15; 20, 21; 27]

C. (N.) monilis Hinds, 1843
[M]

C. (N.) smithiana Brazier, 1879
[QM]

C. (N.) stephensoni Lamplé & Healy, 1997
[QM including holotype; 9]

C. (N.) tunicata Hinds, 1843
[B; QM also as Notocorbula vicaria]

C. (S.) coxi Pilsbry, 1897
[QM]

C. (S.) crassa Reeve, 1843
[M; QM]

SUPERFAMILY PHOLADOIDEA
FAMILY PHOLADIDAE

Pholas Linnaeus, 1758

P. (Monothyra) Tryon, 1862

P. (M.) australasiae Sowerby, 1849
[QM]

P. (M.) orientalis (Gmelin, 1790)
[QM]

SUBFAMILY JOUANNETINAE

Jouannetia Des Moulins, 1828

J. cumingi (Sowerby, 1850)
[QM]

SUBFAMILY MARTESIIINAE

Martesia Sowerby, 1824

M. striata (Linnaeus, 1758)
[B; QM]

FAMILY TEREDINIDAE

SUBFAMILY TEREDININAE

Teredo Linnaeus, 1758

T. poulifére Iredale, 1936
[24]

Dicyathifer Iredale, 1932

D. mání (Wright, 1866)
[24]

SUBFAMILY BANKIINAE

Bankia Gray, 1842

B. australis (Calman, 1920)
[11; 24]

B. rochi Moll
[24]

Nautilus Wright, 1864

N. dunlopei Wright, 1864
[24]

CLADE HETERODONTA INCERTAE SEDIS
SUPERFAMILY HIATELLOIDEA
FAMILY HIATELLOIDAE

Hiatella Daudin 1801

H. australis (Lamarck, 1818)
[B; M; QM]

SUPERFAMILY SOLENOIDEA
FAMILY SOLENOIDAE

Solen Linnaeus, 1758

S. fonesi Dunker, 1862
[QM; 15]


**SOURCES FOR LOCALITY RECORDS**

(other than Queensland Museum (QM), BivAToL Project (expedition to Moreton Bay 2008) (B), or Moreton Bay Workshop Survey 2005 (M)).


NOTES ON THE LIST

Note 1. The Nuculida of Moreton Bay are not well known and it is likely that new species will emerge when adequate sampling of the bay is carried out. Taxonomic revision is needed.

Note 2. Taylor et al. (2008) have indicated that a further species of Solemya occurs in Moreton Bay but awaits description when additional material becomes available.

Note 3. Taylor et al. (2008) could not determine the subgeneric placement of their new species but noted it showed some shell and ligament similarities to the New Zealand species S. (Zesolemya) parkinsoni E.A. Smith, 1874.

Note 4. The species listed here have usually been allocated to Xenostrobus Wilson, 1966, but Beu (2006) has recently placed this name into the synonymy of Limnoperna.

Note 5. Wilson (2006) has recently erected this new genus for Modiolus vagina, on the basis of major anatomical differences from other Modiolus spp. and unique features (complex siphonal structures).

Note 6. Based on molecular evidence, Lam & Morton (2006) regard this species as part of the S. cucullata superspecies (consisting of S. cucullata s.s., S. glomerata and S. kegaki). Possibly it is better to consider it a subspecies of S. cucullata.

Note 7. Taxonomy of Pectinidae follows that of Raines & Poppe (2006) as this is the most recent comprehensive treatment of the whole family. It is anticipated however that molecular work will have a significant impact on the defining and recognition of genera and species once sufficient data has accumulated.

Note 8. The Glaucosomatidae was formerly located within the Veneroidea, but recently has been moved to a position basal to veneroids (Bieler et al. 2010) based on molecular and morphological evidence. Brewer & Willan (1985) report that the exposed siphons of glaucosomatids form an important component in the diet of the golden-lined whiting (Sillago analis) within parts of Moreton Bay.

Note 9. The affinities and systematic position of the Hemidacidae remain uncertain and cases for their inclusion in the Cardiidae, Tellinoidea and the Veneroidea have been made (Ponder et al. 1981). Even sperm ultrastructure (of Hemidacna pictus) has not provided any definitive evidence of immediate affinity other than to suggest general cardiod-veneroid affiliations (see Healy et al. 2007).

Note 10. The Galeommatoidea of Moreton Bay are poorly known. It is likely that several additional species to those listed here occur in the region.

Note 11. The small-sized tellinoideans of Moreton Bay are poorly known. Many subgenera used for Tellinidae have been used as full genera. However the validity of these taxa remains to be tested using molecular data. Bieler et al. (2010) do not recognise any subfamilies and we have followed this.

Note 12. The classification used here and understanding of phylogenetic relations within the Veneroidea owes much to the recent work of Mikkelsen et al. (2006).

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LITERATURE CITED


