

VOLUME 54
Part 3

MEMOIRS

OF THE

QUEENSLAND MUSEUM

BRISBANE
30 DECEMBER 2010

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National Library of Australia card number
ISSN 0079-8835

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A Queensland Government Project
Typeset at the Queensland Museum

A preliminary checklist of the marine bivalves (Mollusca: Bivalvia) of Moreton Bay, Queensland

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Citation: Healy, J.M. & Potter, D.G. 2010 12 30. A preliminary checklist of the marine bivalves (Mollusca: Bivalvia) of Moreton Bay, Queensland. In, Davie, P.J.F. & Phillips, J.A. (Eds), Proceedings of the Thirteenth International Marine Biological Workshop, The Marine Fauna and Flora of Moreton Bay, Queensland, *Memoirs of the Queensland Museum – Nature* 54(3): 235-252. Brisbane. ISSN 0079-8835.

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 Pteriomorpha, 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 Pteriomorpha 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 (gastropods, octopods, crabs) and vertebrates (fish, wading birds and gulls). In addition, some species form the basis of important local fisheries (e.g. the rock oyster *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.

□ *Bivalvia, species list, molluscan fauna, Moreton Bay, Queensland.*

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 Grobden, 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 supra-generic 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.anasp.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 Pteriomorphia (103 or 30% of total count). Given that some major groups of heterodonts such as the Tellinoidea and Galeommatoida 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 pteriomorphian 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 autobranchs (1500 pteriomorphians: 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 cleansing 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, tubicolous 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 Pteriomorphia: 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

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

Taxon	No. of Species	Species % (approx.)
Subclass PROTOBRANCHIA (11 species)		
Nuculoidea	5	1.4%
Solemyoidea	2	0.6%
Nuculanoidea	4	1.2%
Subclass AUTOBRANCHIA (339)		
Superorder PTERIOMORPHIA (103 species)		
Mytiloidea	15	4.3%
Arcoidea	21	6.0%
Limopsoidea	2	0.6%
Pterioidea	21	6.0%
Pinnoidea	6	1.7%
Ostreoidea	7	2.0%
Anomioidea	4	1.2%
Pectinoidea	22	6.3%
Plicatuloidea	1	0.3%
Limoidea	4	1.2%
Superorder HETEROCONCHIA (236)		
PALEOHETERODONTA (1 species)		
Trigonioidea	1	0.3%
HETERODONTA (235 species)		
Lucinoidea	11	3.1%
Carditoidea	7	2.0%
Crassatelloidea	2	0.6%
Hemidonacidae (position uncertain)	2	0.6%
Arcticoidea	2	0.6%
Cardioidea	17	4.8%
Chamoidea	6	1.7%
Cyamioidea	1	0.3%
Cyrenoidea	3	0.9%
Galeommatoidea	18	5.2%
Mactroidea	19	5.5%
Tellinoidea	56	15.8%
Ungulinoidea	1	0.3%
Veneroidea	52	14.9%
Myoidea	10	2.9%
Pholadoidea	9	2.6%
Hiatelloidea	1	0.3%
Solenoidea	5	1.4%
'ANOMALODESMATAN' HETERODONTS		
Myochamoidea	5	1.4%

Table 1. Continued ...

Taxon (Subclasses & superfamilies)	No. of Species	Species % (approx.)
Pandoroidea	1	0.3%
Thracioidea	5	1.4%
Cuspidarioidea	1	0.3%
Poromyoidea	1	0.3%
TOTALS	350	100%

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,

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 Trigonioidea. 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 Trigonioidea (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 *Gafrarium australe* 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*, *Lunulicardium hemicardium* 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 cumingii* (Crassatelloidea) and *Corbula tunicata* (Myoidea) may bear one or more attached *Myochama anomioidea*.

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 dissimilis* (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 deltooides* — 'pipi' or 'eugarie'), most tellinoideans are deep burrowing and seldom seen other than as dead specimens (usually isolated valves). *Donax deltooides* 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).

Bivalves of Moreton Bay

- CLASS BIVALVIA
 SUBCLASS PROTOBRANCHIA
 ORDER NUCULIDA
 SUPERFAMILY NUCULOIDEA
 (see Note 1)
 FAMILY NUCULIDAE
Leionucula Quenstedt, 1930
L. stricta (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. (Scaeolea) 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 *incertae sedis* (see Note 5)
A. vagina (Lamarck, 1819) [QM, 29 as *Modiolus vagina*]
- SUBFAMILY CRENELLINAE
Musculus Bolten, 1798
M. alganus Laseron, 1956 [M]
M. chinensis Bernard, Cai & Morton, 1993 [M]
M. cumingianus Reeve, 1857 [M; QM; 5; 21]
M. nanus (Dunker, 1856) [M]
Trichomya Ihering, 1900
T. hirsuta (Lamarck, 1818) [B; M; QM; 5; 15; 20; 27; 21 as *Branchiodontes* [sic] *hirsutus*]
- SUBFAMILY LIMNOPERNINAE
Limnoperna Rochebrune, 1882 (see Note 4)
- L. pulex* (Lamarck, 1819) [QM; 5 as *Modiolus pulex*]
L. securis (Lamarck, 1819) [QM, 27 as *Xenostrobus securis*]
- SUBFAMILY MODIOLINAE
Modiolus Lamarck, 1799
M. hanleyi Dunker, 1882 [QM]
M. micropterus Deshayes, 1836 [QM]
M. peronianus Laseron, 1956 [QM]
M. philippinarum Hanley, 1843 [QM]
M. proclivis Iredale, 1939 [B; QM; 27]
M. victoriae (Pritchard & Gatliff, 1903) [QM]
- Amygdalum* Megerie, 1811
A. glaberrima (Dunker, 1856) [QM as *Modiolus glaberrima*]
- ORDER ARCIDA
 SUPERFAMILY ARCOIDEA
 FAMILY ARCIDAE
 SUBFAMILY ARCINAE
Arca Linnaeus, 1758
A. (Arca) s.s.
A. (A.) navicularis Bruguière, 1789 [B; M; QM; 15; 20, 21]
A. (A.) ventricosa Lamarck, 1819 [QM]
Barbatia Gray, 1842
B. (Barbatia) s.s.
B. (B.) foliata (Forsskål, 1775) [M; QM; 15]
B. (B.) grayana (Dunker, 1858) [21 as *Arca multivillosa*]
B. (B.) parvillosa (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) [B; M; QM also as *Arca trapezium*; 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 GLYCYMERIDAE
 SUBFAMILY GLYCYMERIDINAE
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 NOETHIIDAE
- 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
- FAMILY PTERIIDAE
- 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) [B; 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. (Eostrea) 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
- Hytissa* Stenzel, 1971
H. hyotis (Linnaeus, 1758) [B; QM; 27]
Parahytissa 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

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<i>M. timida</i> Iredale, 1939	[QM]	<i>S. violascens</i> Lamarck, 1818	[QM; 8; 27]
<i>M. zelandica</i> (Gray, 1843)	[QM as <i>Anomia</i>		
<i>zelandica</i> ; 21 as <i>M. ione</i>]		SUPERFAMILY PLICATULOIDEA	
<i>Patro</i> Gray, 1850		FAMILY PLICATULIDAE	
<i>P. australis</i> (Gray, 1847)	[M; QM; 15; 27]	<i>Plicatula</i> Lamarck, 1801	
SUPERFAMILY PECTINOIDEA		<i>P. (Plicatula) s.s</i>	
FAMILY PECTINIDAE (see Note 7)		<i>P. (P.) australis</i> Lamarck, 1819	[M]
SUBFAMILY PECTININAE		ORDER LIMIDA	
<i>Pecten</i> Müller, 1776		SUPERFAMILY LIMOIDEA	
<i>P. fumatus</i> Reeve, 1852	[QM; 18; 21]	FAMILY LIMIDAE	
<i>Amusium</i> Röding, 1798		SUBFAMILY LIMINAE	
<i>A. balloti</i> (Bernardi, 1861)	[15; 18; 27]	<i>Lima</i> Bruguière, 1797	
<i>Annachlamys</i> Iredale, 1939		<i>L. vulgaris</i> (Link, 1807)	[QM; 27 as <i>Lima</i>
<i>A. flabellata</i> (Lamarck, 1819)	[QM, 15, 18, 20,	<i>lima vulgaris</i>]	
21, 27; also as <i>Chlamys</i> or <i>Annachlamys leopardus</i>]		<i>Limaria</i> Link, 1807	
<i>Decatopecten</i> Rüppell in Sowerby, 1839		<i>L. fragilis</i> (Gmelin, 1791)	[QM; 5]
<i>D. plica</i> (Linnaeus, 1758)	[QM, 18, 20, 21	<i>L. orientalis</i> (A. Adams & Reeve, 1850) [27]	
all as <i>Decatopecten strangei</i> or <i>Chlamys strangei</i>]		SUBFAMILY LIMATULINAE	
<i>Gloripallium</i> Iredale, 1939		<i>Limatula</i> Wood, 1839	
<i>G. pallium</i> (Linnaeus, 1758)	[QM; 18]	<i>L. strangei</i> (Sowerby, 1872)	[QM]
<i>Minnivola</i> Iredale, 1939		SUPERORDER HETEROCONCHIA	
<i>M. isomeres</i> Iredale, 1939	[QM; 18]	CLADE PALAEOHETERODONTA	
SUBFAMILY CHLAMYDINAE		ORDER TRIGONIOIDA	
<i>Laevichlamys</i> Waller, 1993		SUPERFAMILY TRIGONIOIDEA	
<i>L. irregularis</i> (Sowerby, 1842)	[QM, 18 both as	FAMILY TRIGONIIDAE	
<i>Chlamys irregularis</i>]		SUBFAMILY TRIGONIINAE	
<i>L. mollita</i> (Reeve, 1853)	[18 as C.	<i>Neotrigonia</i> Cossman, 1912	
<i>grossiana</i>]		<i>N. lamarckii</i> (Gray, 1838)	[B; QM; 15]
<i>L. squamosa</i> (Gmelin, 1791)	[QM]	CLADE HETERODONTA	
<i>Mimachlamys</i> Iredale, 1929		ORDER LUCINIDA	
<i>M. asperrima</i> (Lamarck, 1819)	[15]	SUPERFAMILY LUCINOIDEA	
<i>M. cloacata</i> (Reeve, 1853)	[QM as	FAMILY LUCINIDAE	
<i>Mimachlamys curtisiana</i>]		<i>Anodontia</i> Link, 1807	
<i>M. gloriosa</i> (Reeve, 1853)	[M; QM also as	<i>A. (Cryptophysema)</i> Taylor & Glover, 2005	
<i>Chlamys gloriosa</i> ; 15; 18; 20; 21; 27]		<i>A. (C.) trulla</i> Taylor & Glover, 2005	[QM; 22]
<i>Scaeoclamys</i> Iredale, 1929		<i>A. (C.) vesicula</i> (Gould, 1850)	[27 as <i>A. edentula</i>]
<i>S. livida</i> (Lamarck, 1819)	[M; QM; 15; 18;	<i>A. (Cavatidens)</i> Iredale, 1930	
21; 27]		<i>A. (C.) omissa</i> Iredale, 1930	[B; QM; 22]
<i>Semipallium</i> Jousseau in Lamy, 1928		<i>Cardiolumcina</i> Sacco, 1901	
<i>S. aktinos</i> (Petterd, 1886)	[QM; 18]	<i>C. rugosa</i> (Hedley, 1909)	[M; QM]
<i>S. coruscans coruscans</i> (Hinds, 1845)	[QM; 18]	<i>Codakia</i> Scopoli, 1777	
<i>Volachlamys</i> Iredale, 1939		<i>C. paytenorum</i> (Iredale, 1930)	[QM]
<i>V. singaporena</i> (Sowerby, 1842)	[QM; 5; 27]	<i>Ctena</i> Mörch, 1861	
SUBFAMILY PALLIOLINAE		<i>C. bella</i> (Conrad, 1834)	[15]
<i>Mesopeplum</i> Iredale, 1929		<i>Divaricella</i> Von Martens, 1880	
<i>M. fenestratum</i> (Hedley, 1901)	[QM, 18]	<i>D. irplex</i> (E.A. Smith, 1885)	[QM as <i>D. ornata</i>]
FAMILY SPONDYLIDAE		<i>Indoaustriella</i> Glover, Taylor & Williams, 2008	
<i>Spondylus</i> Linnaeus, 1758		<i>I. lamprelli</i> Glover, Taylor & Williams, 2008	[QM
<i>S. multisetosus</i> Reeve, 1856	[18]	holotype; 4]	
<i>S. nicobaricus</i> Schreibers, 1793	[18]	<i>Pillucina</i> Pilsbry, 1921	
<i>S. squamosus</i> Schreibers, 1793	[18]	<i>P. pacifica</i> Glover & Taylor, 2001	[3; 15]
<i>S. victoriae</i> Sowerby, 1860	[B; QM also as		
<i>S. wrightianus</i> ; 18, 20, 21 and 27 as <i>S. wrightianus</i>]			

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. crassica 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]
Salapatium Iredale, 1924
S. cf. torrei (Smith, 1885) [M]

ORDER VENERIDA

FAMILY HEMIDONACIDAE *incertae 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. subtorta (Dunker, 1857) [QM as *F. amarus*]

SUPERFAMILY RADIOIDEA

FAMILY RADIOIDAE

SUBFAMILY RADIOINAE

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 flava*; 20 as *Regozara flava*]

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

Vepricardium Iredale, 1929

V. multispinosum (Sowerby, 1838) [QM, as *V. pulchricostatum*; 15; 21]

SUBFAMILY FRAGINAE

Fragum Röding, 1792
F. fragum (Linnaeus, 1758) [B; QM]
F. unedo (Linnaeus, 1758) [B; QM; 15; 27]
Lunulicardia Gray, 1853
L. hemicardium (Linnaeus, 1758) [QM; 15]
L. retusum (Linnaeus, 1767) [B; 20 as *Lunulicardium subretusum*; 21 as *Opisocardium subretusum*]

SUBFAMILY FULVIINAE

Fulvia Gray, 1853
F. aperta (Bruguière, 1789) [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. (Chametracea) 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 CYAMIOIDEA

FAMILY CYAMIIDAE

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

SUPERFAMILY CYRENOIDEA

FAMILY GLAUCONOMIDAE (see Note 8)

Glaucanome Gray, 1828
G. cerea Reeve, 1844 [QM]
G. plankta (Iredale, 1936) [QM; 15]
G. virens (Linnaeus, 1758) [QM]

SUPERFAMILY GALEOMMATOIDEA
 (see Note 10)

Bivalves of Moreton Bay

- FAMILY GALEOMMATIDAE
- Ambuscintilla* Iredale, 1936
A. praeium 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 *Varotoga 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 (Laserson, 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.) anomala Angas, 1877 [QM]
M. (M.) vitrea Laserson, 1956 [B; QM]
- M. (Rocheportia)* Velain, 1877
M. (R.) sp. [QM]
- SUPERFAMILY MACTROIDEA
- FAMILY MACTRIDAE
- SUBFAMILY MACTRINAE
- 'Mactra' pellucida* Gmelin, 1791 *incertae sedis* [15]
- Mactra* Linnaeus, 1767
M. (Mactra) s.s.
M. (M.) abbreviata Lamarck, 1819 [QM; 27]
M. (M.) dissimilis Reeve, 1854 [QM]
M. (M.) eximia Reeve, 1854 [QM; 15; 21]
M. (M.) queenslandica Smith, 1914 [QM]
M. (M.) seriacea Reeve, 1854 [QM]
- M. (Austromactra)* Iredale, 1930
M. (A.) contraria Reeve, 1854 [QM; 15]
- M. (Electomactra)* Iredale, 1930
M. (E.) antecedens Iredale, 1930 [QM]
- M. (Nannomactra)* Iredale, 1930
M. (N.) pusilla (A. Adams, 1855) [QM]
- Spisula* Gray, 1837
S. (Notospisula) Iredale, 1930
S. (N.) trigonella (Lamarck, 1819) [QM; 15; 21 as *Notospisula parva*; 18; 27]
- SUBFAMILY 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 ZENATIINAE
- 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]
- P. (Amesodesma)* Iredale, 1930
P. (A.) elongata (Reeve, 1854) [B; QM; 15]
- SUBFAMILY DAVILINAE
- Davila* Gray, 1853
D. plana (Hanley, 1843) [QM as *Atactodea plana*]
- SUPERFAMILY 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.) deltoidalis 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. (Pinguitellina)* Iredale, 1925
T. (P.) languida Smith, 1885 [QM]
T. (P.) pinguis Hanley, 1844 [QM]
T. (P.) robusta Hanley, 1844 [QM]
- T. (Pistris)* Thiele, 1934
T. (P.) capsoides Lamarck, 1818 [QM]

- T. (Pseudocarpopagia)* Bertin, 1878
T. (P.) botanica (Hedley, 1918) [QM]
- T. (Scutarcopagia)* Pilsbry, 1918
T. (S.) linguafelis Linnaeus, 1758 [QM]
- T. (Semelanguus)* Iredale, 1924
T. (S.) liliium 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.) euronina 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.) occidens (Gmelin, 1791) [QM; 28]
G. (Psammobia) Lamarck, 1818
G. (P.) livida (Lamarck, 1818) [M; QM; 28]
G. (Psammotaena) Dall, 1900
G. (P.) togata (Deshayes, 1855) [QM; 15; 28]
Heteroglypta 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. jukesii (Reeve, 1853) [QM]
S. lamellosa (Sowerby, 1830) [QM]
- Abra* Lamarck, 1818
A. (Abra) s.s.
A. (A.) infans (Smith, 1885) [QM as *Timoclea 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 SOLECURTIDAE
- Solecortus* 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 *Tigammona 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]

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- G. embrithes* (Melvill & Standen, 1899) [B; QM; 15; 21 as *Venus embrithes*]
G. toreuma (Gould, 1850) [21 as *Venus toreuma*]
- 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 (Philippi, 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. moretonensis*; 20 as *C. strangei*]
- SUBFAMILY DOSINIINAE
Dosinia Scopoli, 1777
D. caerulea Reeve, 1850 [QM]
D. juvenilis (Gmelin, 1791) [B; QM; 15]
D. kaspevi Fischer-Piette & Delmas, 1967 [QM; 15]
D. mira Smith, 1885 [QM]
D. nedigna (Iredale, 1930) [B; QM; 15; 21]
 as *Merodosinia nedigna*
D. sculpta (Hanley, 1845) [B; M; QM; 15; 27]
D. tumida (Gray, 1838) [QM]
D. victoriae Gatliff & 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*]
- Gafrarium* Röding, 1798
G. australe (Sowerby, 1851) [QM; 15]
G. dispar (Holten, 1802) [QM]
G. tumidum Röding, 1798 [27]
- SUBFAMILY LIOCONCHINAE
Lioconcha Mörch, 1853
- L. fastigiata* (Sowerby, 1851) [13]
- SUBFAMILY PETRICOLINAE
Petricola Lamarck, 1801
P. divergens (Gmelin, 1791) [15]
- SUBFAMILY TAPETINAE
Tapes Mühlfeld, 1811
T. (Tapes) s.s.
T. (T.) dorsatus (Lamarck, 1818) [B; M; QM; 15; 19, 20, 21 all as *T. watlingi*; 25]
T. (T.) literatus (Linnaeus, 1758) [QM; 15]
T. (T.) sericeus Matsukuma, 1986 [QM]
- T. (Ruditapes)* Chiamenti, 1900
T. (R.) variegatus Sowerby, 1852 [B; QM; 15]
- Eumarcia* Iredale, 1924
E. fumigata (Sowerby, 1853) [QM]
- Gomphina* Mörch, 1853
G. fulgida Hedley, 1918 [QM]
- Granicorium* Hedley, 1906
G. indutum Hedley, 1906 [12]
- Irus* Schmidt, 1818
Irus carditoides (Lamarck, 1818) [15]
Irus crebrelamellatus (Tate, 1887) [QM; 15]
Irus crenatus (Lamarck, 1818) [QM]
Irus cumingii (Deshayes, 1854) [B; QM]
- Marcia* H & A Adams, 1857
M. (Hemitapes) Römer, 1864
M. (H.) hiantina (Lamarck, 1818) [B; M; QM; 15; 27]
- Paphia* Röding, 1798
P. (Paphia) s.s.
P. (P.) crassiuscula (Lamarck, 1818) [B; M; QM; 21 as *Tapes sulcosa*]
P. (P.) undulata (Born, 1780) [B; M; QM; 19; 20; 21 as *Paratapes scordalus*; 27]
- P. (Protapes)* Dall, 1902
P. (P.) gallus (Gmelin, 1791) [M; QM; 20; 21]
- Timoclea* Brown, 1827
T. (Chioneryx) Iredale, 1924
T. (C.) scabra (Hanley, 1844) [B; QM]
- Venerupis* Lamarck, 1818
V. (V.) anomala (Lamarck, 1818) [M; QM]
- 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* Lamprell & Healy, 1997 [QM including holotype; 9]
C. (N.) fortisulcata Smith, 1878 [QM]
C. (N.) hydripica (Iredale, 1930) [QM; 15; 20, 21; 27]
C. (N.) monilis Hinds, 1843 [M]
C. (N.) smithiana Brazier, 1879 [QM]
C. (N.) stephensoni Lamprell & Healy, 1997 [QM including holotype; 9]
C. (N.) tunicata Hinds, 1843 [B; QM also as *Notocorbula vicaria*]
C. (Serracorbula) Olsson, 1961
C. (S.) coxi Pilsbry, 1897 [QM]
C. (S.) crassa Reeve, 1843 [M; QM]
- SUPERFAMILY PHOLADOIDEA
 FAMILY PHOLADIDAE
 SUBFAMILY PHOLADINAE
Pholas Linnaeus, 1758
P. (Monothyra) Tryon, 1862
P. (M.) australasiae Sowerby, 1849 [QM]
P. (M.) orientalis (Gmelin, 1790) [QM]
 SUBFAMILY JOUANNETIINAE
Jouannetia Des Moulins, 1828
J. cumingi (Sowerby, 1850) [QM]
 SUBFAMILY MARTESIINAE
Martesia Sowerby, 1824
M. striata (Linnaeus, 1758) [B; QM]
 FAMILY TEREDINIDAE
 SUBFAMILY TEREDININAE
Teredo Linnaeus, 1758
T. poculifer Iredale, 1936 [24]
Dicyathifer Iredale, 1932
D. manni (Wright, 1866) [24]
 SUBFAMILY BANKIINAE
Bankia Gray, 1842
B. australis (Calman, 1920) [11; 24]
B. rochi Moll [24]
Nausitora Wright, 1864
N. dunlopei Wright, 1864 [24]
 CLADE HETERODONTA INCERTAE SEDIS
 SUPERFAMILY HIATELLOIDEA
 FAMILY HIATELLIDAE
Hiatella Daudin 1801
H. australis (Lamarck, 1818) [B; M; QM]
 SUPERFAMILY SOLENOIDEA
 FAMILY SOLENIDAE
Solen Linnaeus, 1758
S. fonesi Dunker, 1862 [QM; 15]
- S. vaginoides* Lamarck, 1818 [B; M; QM; 20, 21 as *Neosolen correctus* or *N. vaginoides*; 27]
 FAMILY PHARIDAE
 SUBFAMILY CULTELLINAE
Cultellus Schumacher, 1817
C. attenuatus Dunker, 1861 [QM; 27]
Ensiculus H. Adams, 1860
E. cultellus (Linnaeus, 1758) [B; M; QM as *Cultellus cultellus* and *Cultellus hilaris*; 20, 21 as *Ensiculus hilaris*]
 SUBFAMILY SILIQUINAE
Siliqua Mergerie von Mühlfeld, 1811
Siliqua sp. [M]
 ORDER PHOLADOMYIDA ('ANOMALODESMATA')
 SUPERFAMILY MYOCHAMOIDEA
 FAMILY MYOCHAMIDAE
Myochama Stutchbury, 1830
M. anomioides Stutchbury, 1830 [B; QM; 15; 21]
M. strangei Adams, 1852 [QM]
Myadora Gray, 1840
M. brevis Sowerby, 1829 [B; QM; 15]
M. ovata Reeve, 1844 [QM]
M. pandoriformis (Stutchbury, 1830) [B; QM]
 SUPERFAMILY PANDOROIDEA
 FAMILY PANDORIDAE
Pandora Bruguière, 1797
P. (Frenamya) Iredale, 1930
P. (F.) elongatus (Carpenter, 1846) [B; QM]
 SUPERFAMILY THRACIOIDEA
 FAMILY LATERNULIDAE
Laternula Röding, 1798
L. anatina (Linnaeus, 1758) [27]
L. attenuata Reeve, 1860 [M]
L. faba (Reeve, 1860) [11]
L. marilina (Reeve, 1860) [B; QM]
 FAMILY PERIPLMATIDAE
Periploma Schumacher, 1817
P. (Offadesma) Iredale, 1930
P. (O.) angasi Crosse & Fischer, 1868 [QM]
 SUPERFAMILY CUSPIDARIOIDEA
 FAMILY CUSPIDARIIDAE
Cuspidaria Nardo, 1840
C. latesulcata Tension-Woods, 1878 [B]
 SUPERFAMILY POROMYOIDEA
 FAMILY POROMYIDAE
Poromya Forbes, 1844
P. illevis Hedley, 1913 [B; QM]

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

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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 Glauconomidae 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 glauconomids 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 Hemidonacidae remain uncertain and cases for their inclusion in the Cardioidea, Tellinoidea and the Veneroidea have been made (Ponder *et al.* 1981). Even sperm ultrastructure (of *Hemidonax pictus*) has not provided any definitive evidence of immediate affinity other than to suggest general cardioid-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).

ACKNOWLEDGEMENTS

We thank Dr J. Taylor and Mrs E. Glover (Natural History Museum, London) for advice on Lucinidae, and Drs R. Bieler (Field Museum, Chicago) and Paula Mikkelsen (Paleontological Institute, New York) for advice on Veneridae. Members of the Malacological Society of Australasia provided valuable collection records (examined by us) to supplement our QM Collection and literature sources. We also wish to thank the Lamprell and Carless families for their generous donation of major bivalve collections to the Queensland Museum (much of this material being essential to the project). The work forms part of a project (of JH) on the faunal composition of the Mollusca of Moreton Bay supported by the Queensland Museum. The National Science Fund (USA) supported the Bivalve Tree of Life Project (BivAToL) expedition in October 2008 (in which JH participated) which yielded many locality records incorporated into the present work (NSF award DEB-0732854 to R Bieler).

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