A Synoptical Classification of the Bivalvia (Mollusca)

Authors: Carter, Joseph G., Altaba, Cristian R., Anderson, Laurie C., Araujo, Rafael, Biakov, Alexander S., et al.

Source: Paleontological Contributions, 2011(4) : 1-47

Published By: The Paleontological Institute at The University of Kansas

URL: https://doi.org/10.17161/PC.1808.8287

Paleontological Contributions

October 27, 2011 Number 4

A SYNOPTICAL CLASSIFICATION OF THE BIVALVIA (MOLLUSCA)

Joseph G. Carter, Cristian R. Altaba, Laurie C. Anderson, Rafael Araujo, Alexander S. Biakov, Arthur E. Bogan, David C. Campbell, Matthew Campbell, Chen Jin-hua, John C. W. Cope, Graciela Delvene, Henk H. Dijkstra, Fang Zong-jie, Ronald N. Gardner, Vera A. Gavrilova, Irina A. Goncharova, Peter J. Harries, Joseph H. Hartman, Michael Hautmann, Walter R. Hoeh, Jorgen Hylleberg, Jiang Bao-yu, Paul Johnston, Lisa Kirkendale, Karl Kleemann, Jens Koppka, Jiří Kříž, Deusana Machado, Nikolaus Malchus, Ana Márquez-Aliaga, Jean-Pierre Masse, Christopher A. McRoberts, Peter U. Middelfart, Simon Mitchell, Lidiya A. Nevesskaja, Sacit Özer, John Pojeta, Jr., Inga V. Polubotko, Jose Maria Pons, Sergey Popov, Teresa Sánchez, André F. Sartori, Robert W. Scott, Irina I. Sey, Javier H. Signorelli, Vladimir V. Silantiev, Peter W. Skelton, Thomas Steuber, J. Bruce Waterhouse, G. Lynn Wingard, and Thomas Yancey[1]

PREFACE

Joseph G. Carter, Cristian R. Altaba, David C. Campbell, Peter J. Harries, and Peter Skelton

The following classification summarizes the suprageneric taxonomy of the Bivalvia for the upcoming revision of the Bivalvia volumes of the *Treatise on Invertebrate Paleontology,* Part N. The development of this classification began with Carter (1990a), Campbell, Hoekstra, and Carter (1995, 1998), Campbell (2000, 2003), and Carter, Campbell, and Campbell (2000, 2006), who, with assistance from the United States National Science Foundation, conducted large-scale morphological phylogenetic analyses of mostly Paleozoic bivalves, as well as molecular phylogenetic analyses of living bivalves. During the past several years, their initial phylogenetic framework has been revised and greatly expanded through collaboration with many students of bivalve biology and paleontology, many of whom are coauthors. During this process, all available sources of phylogenetic information, including molecular, anatomical, shell morphological, shell microstructural, bio- and paleobiogeographic as well as stratigraphic, have been integrated into the classification. The more recent sources of phylogenetic information include, but are not limited to, Carter (1990a), Malchus (1990), J. Schneider (1995, 1998a, 1998b, 2002), T. Waller (1998), Hautmann (1999, 2001a, 2001b), Giribet and Wheeler (2002), Giribet and Distel (2003), Dreyer, Steiner, and Harper (2003), Matsumoto (2003), Harper, Dreyer, and Steiner (2006), Kappner and Bieler (2006), Mikkelsen and others (2006), Neulinger and others (2006), Taylor and Glover (2006), Kříž (2007), B. Morton (2007), Taylor, Williams, and Glover (2007), Taylor and others (2007), Giribet (2008), and Kirkendale (2009). This work has also benefited from the nomenclator of bivalve families by Bouchet and Rocroi (2010) and its accompanying classification by Bieler, Carter, and Coan (2010).

This classification strives to indicate the most likely phylogenetic position for each taxon. Uncertainty is indicated by a question mark before the name of the taxon. Many of the higher taxa continue to undergo major taxonomic revision. This is especially true for the superfamilies Sphaerioidea and Veneroidea, and the orders Pectinida and Unionida. Because of this state of flux, some parts of the classification represent a compromise between opposing points of view. Placement of the Trigonioidoidea is especially problematic. This Mesozoic superfamily has traditionally been placed in the order Unionida, as a possible derivative of the superfamily Unionoidea (see Cox, 1952; Sha, 1992, 1993; Gu, 1998; Guo, 1998; Bieler, Carter, & Coan, 2010). However, Chen Jin-hua (2009) summarized evidence that Trigonioidoidea was derived instead from the superfamily Trigonioidea. Arguments for these alternatives appear equally strong, so we presently list the Trigonioidoidea, with question, under both the Trigoniida and Unionida, with the contents of the superfamily indicated under the Trigoniida.

Typified Versus Descriptive Names

The present classification gives preference to typified names over descriptive names above the family-group, following the recommendation by Stys and Kerzhner (1975) and Starobogatov (1991). Typified names are more useful than descriptive names, because their

[1]Author information provided in Appendix 4, p. 29 herein.

root indicates taxonomic affiliation and their suffix can be modified to reflect taxonomic rank. Descriptive names can be advantageous for indicating a key morphological feature, but this feature may not characterize all members of the group (e.g., the Palaeotaxodonta), and descriptive names indicate nothing about the phylogenetic placement of the taxon.

We agree with Dubois (2005) that adoption of a descriptive name should be guided by the spirit of priority and adherence to original definition. The term original definition is presently interpreted in a phylogenetic sense to mean the monophyletic clade defined by the original members of the taxon, their common ancestor, and all of its descendants. We have, therefore, not formally adopted the terms Palaeoheterodonta and Heterodonta, the original definitions of which have no useful phylogenetic equivalent in the present classification. These descriptive names, as well as the phylogenetically more useful Euheterodonta and Nepiomorphia, are, however, placed in the classification in bold-face type after their synonymous, or approximately synonymous, typified name. The descriptive names Autobranchia, Protobranchia, Pteriomorphia, and Heteroconchia are presently formally adopted. Grobben's (1894) Autolamellibranchiata is herein replaced with the shorter, more euphonic Autobranchia, following C. M. Kolesnikov (1977), T. Waller (1978), Naumov (2006), and Bieler, Carter, and Coan (2010).

Authorship and Priority of Nomina above the Family-Group

The ICZN (1999) *Code* does not regulate taxon names above the family-group. Previous workers have used various guidelines to determine the composition, authorship, and priority of such names. Some have based these names on the oldest valid and available included family-group name in the group, or the first publication to define the group in a modern sense, or the oldest valid and available typified name above the family-group. We have adopted the latter guideline, with separate authorship and priority for names above and within the family-group. For example, the hyporder name Antipleuroidei Kříž, 2007, is presently adopted, even though it contains the superfamily Dualinoidea Conrath, 1887, because order Antipleuroida Kříž, 2007 is the oldest valid and available typified name above the family-group for this clade. Similarly, Hippuritida Newell, 1965, is adopted for an order that includes some families established as early as 1847 and 1848. In cases where a new name above the family-group is needed, but an appropriate typified root name above the family-group is not available, the earliest valid and available typified name in the family-group is used as the root, but with a new publication date. Separate priority for names above and within the family-group is preferred because it allows for the retention of a number of widely used but otherwise lesser priority names above the family-group, such as order Hippuritida.

Typified names above the family-group, which are based on a junior generic synonym or homonym, are presently regarded as unavailable and are disregarded for purposes of priority. This is a departure from the ICZN (1999) *Code* rules for family-group names. For example, *Anatina* Lamarck, 1818, is a junior homonym of *Anatina* Schumacher, 1817. Consequently, the suborder Anatinacea P. Fischer, 1887, based on *Anatina* Lamarck, 1818, is not available and has no bearing on the priority of any other typified name above the family-group. Also, the suborder Saxicavoidea Morretes, 1949, is unavailable because it is based on *Saxicava* Fleuriau de Bellevue, 1802, a junior synonym of *Hiatella* Bosc *ex* Daudin MS, 1801, and the suborder Saxicavoidea has no bearing on the priority of the presently adopted order Hiatellida. However, typified names above the family-group are not presently regarded as unavailable on the basis that their nominal family-group name is a junior synonym of another family-group name. For example, the suborder Leptonidina Dall, 1889, is available despite the fact that its nominal family-group name, Leptonidae J. Gray, 1847b, is now a junior synonym of Lasaeidae J. Gray, 1842.

Priority is presently given to the higher ranking of two or more simultaneously published typified or descriptive names above the family-group. This is an extension of Article 24.1 of the ICZN (1999) *Code* for family-group names. For example, order Pectinacea J. Gray, 1854a, has priority over the simultaneously established (unspecified rank above family-group but below suborder) Anomiaina J. Gray, 1854a. Changes in the rank, spelling, and/or taxonomic composition of a descriptive name are not presently considered to be a valid basis for changing the author and date of the descriptive name.

Paraphyletic and polyphyletic taxa. Paraphyletic higher taxa are unavoidable in a classification that includes ancestors and descendants. This is illustrated by J. Schneider's (1995, 1998a, 1998b, 2002) revision of the superfamily Cardioidea. Schneider reduced superfamily Tridacnoidea to subfamily Tridacninae within Cardiidae to elimininate paraphyly of Cardioidea with respect to Tridacnoidea. However, this reduction in rank merely shifted paraphyly from Cardioidea to its subfamily Cerastodermatinae, the ancestral stock group for Tridacninae. Building a taxonomy that includes living and extinct taxa presents a dilemma: choosing between explicitly recognizing paraphyletic taxa or multiplying supraspecific taxa beyond reasonable bounds (Cela-Conde & Altaba, 2002; Altaba, 2009). We favor an evolutionary classification that, being based upon cladistic analysis, does not dismiss evidence and reflects ancestor-descendant relationships. Paraphyletic taxa are indicated in the classification by an exclamation point (!) after the name.

Polyphyletic taxa are avoided in the classification, except in rare instances where the polyphyly is limited to descendants of the same genus, originating at about the same time. For example, the subfamily Lymnocardiinae is believed to contain more than one tribe derived, in the Miocene, from *Cerastoderma* of the subfamily Cerastodermatinae. In this case, Lymnocardiinae is also paraphyletic because it does not include *Cerastoderma,* the common ancestor of all its members.

Linnean Ranks and Suffixes for Names above the Family-Group

The present classification utilizes an increased number of Linnean ranks to adequately portray phylogenetic relationships. The number of Linnean ranks reflects a substantial increase in suprageneric taxa described over the past 50 years, and the fact that morphological and molecular phylogenetics have made possible a detailed phylogenetic framework for the Bivalvia. In order to minimize the number of Linnean ranks, we have not ranked the clade Eubivalvia and certain clades in more intensively studied groups, such as the Pectinoidea, Radiolitoidea, and Cardioidea. Those preferring a simpler classification can achieve this by disregarding some of the less familiar ranks, such as subcohort, infrasubcohort, megaorder, hyporder, minorder, epifamily, and series. Such condensation of the classification will hide some phylogenetic relationships, but it might be better suited for some summary and discussion purposes. The present

Linnean synopsis does not show ancestor-descendant relationships, but these are identified in the phylogenetic classification under preparation for the revised Bivalvia *Treatise.*

There is currently no consensus on suffixes for typified names above the family-group. The proposal by Rohdendorf (1977) for general zoology is compared in Table 1 with the classifications of the Bivalvia by Cox and others (1969, 1971), Starobogatov (1984, 1992), Waterhouse (2008), and that used herein.

The suffix -ia is commonly used for bivalve subclasses and infraclasses, e.g., Protobranchia, Autobranchia, Pteriomorphia, and Heteroconchia (T. Waller, 1978; Amler, 1999). The suffix -ata was used by Blainville (1825, 1827) and by Grobben (1894) for orders (Lamellibranchiata and Autolamellibranchiata, respectively), and by Grobben (1892), Keen (1963), and Pojeta (1978) for subclasses (Protobranchiata, Anomalodesmata, and Lucinata, respectively).

Cohort and subcohort are generally inserted between class-group and ordinal-group names, although cohort has been used below the ordinal level for dinosaurs (e.g., Benton, 2005). The ranks subcohort, megaorder, hyporder, minorder, epifamily, and series have not been used before for the Bivalvia. Megaorder, hyporder, and minorder have been used for tetrapods, although at varying ranks in the case of hyporder and minorder (cf. Novacek, 1986; Sereno, 1986, 1999; E. Gaffney & Meylan, 1988; van Valen, 1994; McKenna & Bell, 1997; Benton, 2005).

Waterhouse (2000, 2001, 2008) suggested using -idina for suborders rather than the -ina of some earlier authors, because -ina is reserved for subtribes by Article 29.2 of the ICZN (1999) *Code*. The subordinal suffix -oidina, advocated by Waller in T. Waller and Stanley (2005, p. 8), is presently rejected because -idina is more consistent with the -ida ordinal ending adopted by Scarlato and Starobogatov (1969, 1979a), Waterhouse (2008), and Bieler, Carter, and Coan (2010). The suffix -oid, as in nuculoid and pterioid, is retained for informal reference to orders, to avoid confusion with informal references to families, such as nuculids and pteriids.

The rank epifamily, with the suffix -oidae, has been used between superfamily and family for reptiles (Bour & Dubois, 1984; de la Fuente, 2003; van der Meijdin & others, 2005) and for insects (M. Engel, 2005). The term series has been used between superfamily and family for Lepidoptera.

Table 1. Suffixes for taxonomic ranks.

	Cox & others (1969, 1971)	Rohdendorf (1977)	Starobogatov (1984, 1992)	Waterhouse (2008)	Herein
Subclass	---	-ona	-iones	---	-ia
Infraclass	---	-ones	-ioni	---	-ia
Cohort	---	-iformes	-omorphi	---	-omorphi
Subcohort	---	---	---	---	-ioni
Infrasubcohort	---	---	---	---	-idia
Megaorder	---	---	---	---	-ata
Superorder	---	-idea	-iformii	-idia	-iformii
Order	-oida	-ida	-iformes	-ida	-ida
Suborder	-ina	-ina	-oidei	-idina	-idina
Hyporder	---	---	---	---	-oidei
Minorder	---	---	---	---	-oitei
Superfamily*	-acea	---	-oidea	-oidea	-oidea
Epifamily	---	---	---	---	-oidae
Series	---	---	---	---	-itae
Family*	-idae	-idae	-idae	-idae	-idae
Subfamily*	-inae	-inae	-inae	-inae	-inae
Tribe*	---	---	---	---	-ini
Subtribe*	---	---	---	---	-ina

*suffix mandated by the ICZN (1999) *Code.*

New Taxa

New taxon names are formally proposed in Appendices 1 and 2 (p. 19–27 herein). This excludes rank and/or spelling changes of previously established suprageneric taxa, which will be documented in the Introduction volume to the revised Bivalvia *Treatise*.

CLASSIFICATION FORMAT

The present classification of the Bivalvia differs from previous ones in its uniform priority basis for determining names above the family-group, more consistent use of typified rather than descriptive names above the family-group, and labelling of paraphyletic taxa. Details of the classification format are described below.

Taxon Order

The nominotypical family, subfamily, or tribe is listed first within each superfamily, family, or subfamily, respectively. This is followed by the remaining members of the group in alphabetical order. At higher taxonomic ranks, simpler clades are generally listed before more complex clades.

Paraphyletic Taxa

Paraphyletic taxa are indicated by an exclamation point after the name, e.g., Grade Euprotobranchia!.

Extinct Taxa

Extinct taxa are indicated by the symbol • before the name, e.g., •Family Actinodontidae.

Taxonomically Isolated Plesions and Paraphyletic Taxa

Some plesions and some paraphyletic taxa are taxonomically isolated in the sense that they lack membership in one or more expected, immediately higher Linnean ranks, e.g., the family Palaeocarditidae placed within the suborder Cardiidina without an intervening hyporder, minorder, or superfamily. Such isolated plesions and paraphyletic taxa are presently labelled plesions and paraplesions, respectively, to emphasize their deviation from the normal Linnean hierarchy.

Taxon Dates and References

Where two references are given for a taxon, e.g., Glycymerididae Dall, 1908 (Leach in J. Gray, 1847a), the second one indicates the source of date priority. See Bouchet and Rocroi (2010) for documentation.

Informal Descriptive Names

Commonly used descriptive names that are not presently formally adopted but have exact phylogenetic equivalents in the present classification are placed in bold face type after their correlative typified name, e.g., **Eupteriomorphia, Foliobranchia, Euheterodonta, Neoheterodontei, Nepiomorphia, Palaeotaxodonta.** Commonly used descriptive names that are not presently formally adopted and have no exact phylogenetic equivalent in the present classification (as determined by their original composition) are placed in **bold-face type** and *italics* after their most compatible typified name, e.g., ***Palaeoheterodonta, Heterodonta.*** The taxonomically widely dispersed taxa formerly assigned to the Anomalodesmata are indicated by underlining.

ABSTRACT OF CLASSIFICATION

To more clearly illustrate the major structure of the classification, the following abstract includes only the higher taxonomic ranks and their higher ranking paraplesions. A more detailed abstract, which includes all taxa at or above the rank of superfamily, plus all plesions and paraplesions, is provided in Appendix 3 (p. 27 herein). Symbols: • = extinct; ! = paraphyletic; underlining = former members of Anomalodesmata; ? = taxonomic placement uncertain.

Class Bivalvia Linnaeus, 1758 in 1758–1759
- •Grade Euprotobranchia! Nevesskaja, 2009
  - •Order Fordillida! Pojeta, 1975
  - •Order Tuarangiida MacKinnon, 1982
- Clade Eubivalvia Carter, *nov.*
  - Subclass Protobranchia Pelseneer, 1889 (=**Palaeotaxodonta** Korobkov, 1954)
    - Superorder Nuculiformii! Dall, 1889 (=**Foliobranchia** Ménégaux, 1889)
      - Order Nuculida! Dall, 1889
      - Order Solemyida Dall, 1889
    - Superorder Nuculaniformii Carter, Campbell, & Campbell, 2000
      - Order Nuculanida Carter, Campbell, & Campbell, 2000
      - •Order Afghanodesmatida! Carter, *nov.*
  - Subclass Autobranchia Grobben, 1894
    - Infraclass Pteriomorphia Beurlen, 1944
      - Cohort Mytilomorphi! Férussac, 1822 in 1821–1822
        - Order Mytilida! Férussac, 1822 in 1821–1822
        - •Order Colpomyida Carter, *nov.*
      - Cohort Ostreomorphi Férussac, 1822 in 1821–1822
        - Subcohort Arcioni J. Gray, 1854a
          - •Order Cyrtodontida! Scarlato & Starobogatov in Nevesskaja & others, 1971
            - •Suborder Cyrtodontidina! Scarlato & Starobogatov in Nevesskaja & others, 1971
            - •Suborder Praecardiidina Newell, 1965 (=**Nepiomorphia** Kříž, 2007)
              - •Hyporder Praecardioidei Newell, 1965
              - •Hyporder Antipleuroidei Kříž, 2007
          - Order Arcida J. Gray, 1854a
        - Subcohort Ostreioni Férussac, 1822 in 1821–1822
          - •Megaorder Myalinata H. Paul, 1939
            - •Order Myalinida H. Paul, 1939
          - Megaorder Ostreata Férussac, 1822 in 1821–1822
            - Superorder Ostreiformii Férussac, 1822 in 1821–1822 (=**Eupteriomorphia** Boss, 1982)
              - Order Ostreida Férussac, 1822 in 1821–1822
                - Suborder Ostreidina Férussac, 1822 in 1821–1822
                - Suborder Malleidina! J. Gray, 1854a
              - Order Pectinida J. Gray, 1854a
                - (paraplesion) •Superfamily Leiopectinoidea! Krasilova, 1959
                - Suborder Pectinidina J. Gray, 1854a
                - Suborder Anomiidina J. Gray, 1854a
                  - Hyporder Anomioidei J. Gray, 1854a
                    - •(paraplesion) Superfamily Pseudomonotoidea! Newell, 1938
                    - Minorder Anomioitei J. Gray, 1854a
                    - Minorder Dimyoitei Ridewood, 1903
                  - •Hyporder Aviculopectinoidei Starobogatov, 1992
                  - Hyporder Limoidei R. Moore in Moore, Lalicker, & Fischer, 1952
                  - •Hyporder Monotoidei Waterhouse, 2001
                - Suborder Entoliidina Hautmann, *nov.*
    - Infraclass Heteroconchia Hertwig, 1895
      - Cohort Uniomorphi J. Gray, 1854a (=***Palaeoheterodonta*** of authors)
        - Subcohort Unioni J. Gray, 1854a
          - (paraplesion) •Superfamily Lyrodesmatoidea! P. Fischer, 1886
          - Megaorder Unioniata J. Gray, 1854a
            - Order Trigoniida! Dall, 1889
            - Order Unionida J. Gray, 1854a
              - Suborder Unionidina J. Gray, 1854a
              - Suborder Hyriidina Hoeh & others, 2009
              - •Suborder Silesunionidina! Skawina & Dzik, 2011
      - Cohort Cardiomorphi Férussac, 1822 in 1821–1822 (=***Heterodonta*** of authors)
        - Subcohort Carditioni Dall, 1889
          - •Order Actinodontida! Deschaseaux, 1952
          - Order Carditida Dall, 1889
        - Subcohort Cardioni Férussac, 1822 in 1821–1822 (=**Euheterodonta** Giribet & Distel, 2003)

Infrasubcohort Lucinidia J. Gray, 1854a
(paraplesion) •Superfamily Babinkoidea! Horný, 1960
Order Lucinida J. Gray, 1854a
Infrasubcohort Cardiidia Férussac, 1822 in 1821–1822
(paraplesion) •Superfamily Grammysioidea! S. A. Miller, 1877
Megaorder Cardiata Férussac, 1822 in 1821–1822 (=**Neoheterodontei** Taylor & others, 2007)
Superorder Pholadiformii J. Gray, 1854a
Order Pholadida J. Gray, 1854a
Superorder Cardiiformii Férussac, 1822 in 1821–1822
•Order Modiomorphida! Newell, 1969c
•Order Megalodontida Starobogatov, 1992
•Order Hippuritida Newell, 1965
Order Cardiida Férussac, 1822 in 1821–1822
(paraplesion) •Superfamily Kalenteroidea! Marwick, 1953
Suborder Cardiidina Férussac, 1822 in 1821–1822
(paraplesion) •Family Palaeocarditidae! Chavan, 1969b
Hyporder Cardioidei Férussac, 1822 in 1821–1822
Hyporder Veneroidei J. Gray, 1854a
Minorder Veneroitei J. Gray, 1854a
Minorder Dreissenoitei R. Moore in Moore, Lalicker, & Fischer, 1952
Suborder Gastrochaenidina Morretes, 1949
•Suborder Anthracosiidina Silantiev & Carter, 2011
Suborder Leptonidina Dall, 1889
Megaorder Poromyata Ridewood, 1903
Order Poromyida Ridewood, 1903
Order Pandorida R. Stewart, 1930
Order Pholadomyida! Newell, 1965
Order Thraciida Carter, *nov.*
Megaorder Solenata Dall, 1889
Order Solenida Dall, 1889
Order Hiatellida Carter, *nov.*

DETAILED CLASSIFICATION

Class Bivalvia Linnaeus, 1758 in 1758–1759
•Grade Euprotobranchia! Nevesskaja, 2009
•Order Fordillida! Pojeta, 1975
•Superfamily Fordilloidea! Pojeta, 1975
•Family Fordillidae! Pojeta, 1975
•Family Camyidae! Hinz-Schallreuter, 2000
•Order Tuarangiida MacKinnon, 1982
•Family Tuarangiidae MacKinnon, 1982
Clade Eubivalvia Carter, *nov.*
Subclass Protobranchia Pelseneer, 1889 (=**Palaeotaxodonta** Korobkov, 1954)
Superorder Nuculiformii! Dall, 1889 (=**Foliobranchia** Ménégaux, 1889)
Order Nuculida! Dall, 1889
Superfamily Nuculoidea! J. Gray, 1824
Family Nuculidae! J. Gray, 1824
Subfamily Nuculinae J. Gray, 1824
Subfamily Nuculominae! Maxwell, 1988
•Subfamily Palaeonuculinae! Carter, 2001
•Family Praenuculidae! McAlester, 1969
•Subfamily Praenuculinae! McAlester, 1969
•Subfamily Concavodontidae Sánchez, 1999
Superfamily Pristiglomoidea Sanders & Allen, 1973
Family Pristiglomidae Sanders & Allen, 1973
Order Solemyida Dall, 1889
Superfamily Solemyoidea! J. Gray, 1840b
Family Solemyidae J. Gray, 1840b
Subfamily Solemyinae J. Gray, 1840b
Subfamily Janacekiinae! Růžička & Řehoř in Hajkr & others, 1978
•Family Clinopisthidae! Pojeta, 1988
•Family Ctenodontidae Wöhrmann, 1893
•Family Ovatoconchidae! Carter, *nov.*
Superfamily Manzanelloidea Chronic, 1952
Family Manzanellidae Chronic, 1952
Superorder Nuculaniformii Carter, Campbell, & Campbell, 2000

- •Order Afghanodesmatida! Carter, *nov.*
  - •Superfamily Tironuculoidea Babin in Babin & others, 1982
    - •Family Tironuculidae Babin in Babin & others, 1982
      - •Subfamily Tironuculinae! Babin in Babin & others, 1982
      - •Subfamily Natasiinae Sánchez, 1997
    - •Family Nucularcidae Pojeta & Stott, 2007
    - •Family Similodontidae! Carter & Pojeta, *nov.*
  - •Superfamily Afghanodesmatoidea! Scarlato & Starobogatov, 1979a
    - •Family Afghanodesmatidae Scarlato & Starobogatov, 1979a
    - •Family Eritropidae! Cope, 2000
- Order Nuculanida Carter, Campbell, & Campbell, 2000
  - Superfamily Malletioidea! H. Adams & A. Adams, 1858 (d'Orbigny, 1846)
    - Family Malletiidae! H. Adams & A. Adams, 1858 (d'Orbigny, 1846)
    - •Family Cucullellidae! P. Fischer, 1886
      - •Subfamily Cucullellinae P. Fischer, 1886
      - •Subfamily Palaeoneilinae! Babin, 1966
    - •Family Pseudocyrtodontidae Maillieux, 1939
    - •Family Strabidae Prantl & Růžička, 1954
    - Family Tindariidae Verrill & Bush, 1897
      - Subfamily Tindariinae! Verrill & Bush, 1897
      - Subfamily Neilonellinae Schileyko, 1989
  - Superfamily Nuculanoidea H. Adams & A. Adams, 1858 (J. Gray, 1854a)
    - Family Nuculanidae! H. Adams & A. Adams, 1858 (J. Gray, 1854a)
    - •Family Isoarcidae Keen, 1969b
    - Family Phaseolidae Scarlato & Starobogatov in Nevesskaja & others, 1971
      - Subfamily Phaseolinae Scarlato & Starobogatov in Nevesskaja & others, 1971
      - Subfamily Siliculinae! J. A. Allen & Sanders, 1973
    - •Family Polidevciidae! Kumpera, Prantl, & Růžička, 1960
    - Family Sareptidae Stoliczka, 1870 in 1870–1871
      - Subfamily Sareptinae! Stoliczka, 1870 in 1870–1871
      - Subfamily Yoldiellinae J. A. Allen & Hannah, 1986
      - Subfamily Yoldiinae Dall, 1908
    - Family Zealedidae Scarlato & Starobogatov, 1979a
      - Subfamily Zealedinae Scarlato & Starobogatov, 1979a
      - Subfamily Parayoldiellinae Filatova & Schileyko, 1984

Subclass Autobranchia Grobben, 1894

- Infraclass Pteriomorphia Beurlen, 1944
  - Cohort Mytilomorphi! Férussac, 1822 in 1821–1822
    - Order Mytilida! Férussac, 1822 in 1821–1822
      - •Superfamily Modiolopsoidea! P. Fischer, 1886
        - •Family Modiolopsidae! P. Fischer, 1886
        - •Family Goniophorinidae Sánchez, 2006
      - Superfamily Mytiloidea Rafinesque, 1815
        - Family Mytilidae! Rafinesque, 1815
          - Subfamily Mytilinae Rafinesque, 1815
            - Tribe Mytilini! Rafinesque, 1815
            - Tribe Adulini Scarlato & Starobogatov, 1979b
            - Tribe Aulacomyini Carter, *nov.*
          - Subfamily Arcuatulinae Scarlato & Starobogatov, 1979b
          - Subfamily Bathymodiolinae Kenk & Wilson, 1985
          - Subfamily Lithophaginae H. Adams & A. Adams, 1857 (J. Gray, 1854a)
            - Tribe Lithophagini H. Adams & A. Adams, 1857 (J. Gray, 1854a)
            - Tribe Botulini Scarlato & Starobogatov, 1979b
          - Subfamily Modiolinae! G. Termier & H. Termier, 1950
          - •Subfamily Xenomytilinae Squires & Saul, 2006
        - Family Crenellidae J. Gray, 1840b
          - Subfamily Crenellinae J. Gray, 1840b
            - Tribe Crenellini! J. Gray, 1840b
            - Tribe Dacrydiini Ockelmann, 1983
          - Subfamily Musculinae Iredale, 1939
        - Family Septiferidae Scarlato & Starobogatov, 1979b
          - Subfamily Septiferinae! Scarlato & Starobogatov, 1979b
          - Subfamily Limnoperninae Scarlato & Starobogatov, 1979b
      - •Order Colpomyida Carter, *nov.*
        - •Superfamily Colpomyoidea Pojeta & Gilbert-Tomlinson, 1977
          - •Family Colpomyidae! Pojeta & Gilbert-Tomlinson, 1977
          - •Family Evyanidae Carter, Campbell, & Campbell, 2000

Cohort Ostreomorphi Férussac, 1822 in 1821–1822
(plesion) •Family Matheriidae Scarlato & Starobogatov, 1979a
(plesion) •Family Ischyrodontidae Scarlato & Starobogatov, 1979a
Subcohort Arcioni! J. Gray, 1854a
•Order Cyrtodontida! Scarlato & Starobogatov in Nevesskaja & others, 1971
•Suborder Cyrtodontidina! Scarlato & Starobogatov in Nevesskaja & others, 1971
•Superfamily Cyrtodontoidea! Ulrich in Ulrich & Scofield, 1894
•Family Cyrtodontidae! Ulrich in Ulrich & Scofield, 1894
•Subfamily Cyrtodontinae! Ulrich in Ulrich & Scofield, 1894
•Subfamily Ptychodesmatinae Scarlato & Starobogatov, 1984
•Superfamily Falcatodontoidea Cope, 1996
•Family Falcatodontidae Cope, 1996
•Superfamily Pichlerioidea Scarlato & Starobogatov, 1979a
•Family Pichleriidae Scarlato & Starobogatov, 1979a
•Suborder Praecardiidina Newell, 1965 (=**Nepiomorphia** Kříž, 2007)
•Hyporder Praecardioidei Newell, 1965
•Superfamily Praecardioidea R. Hoernes, 1884
•Family Praecardiidae! R. Hoernes, 1884
•Family Buchiolidae Grimm, 1998
•Superfamily Cardioloidea R. Hoernes, 1884
•Family Cardiolidae R. Hoernes, 1884
•Family Slavidae Kříž, 1982
•Hyporder Antipleuroidei Kříž, 2007
•Superfamily Dualinoidea Conrath, 1887
•Family Dualinidae! Conrath, 1887
•Subfamily Dualininae! Conrath, 1887
•Subfamily Loxopteriinae Nagel-Myers, Amler, & Becker, 2009
•Family Praelucinidae Conrath, 1887
•Family Stolidotidae! Starobogatov, 1977
•Family Spanilidae Kříž, 2007
Order Arcida J. Gray, 1854a
•Superfamily Glyptarcoidea Cope, 1996
•Family Glyptarcidae Cope, 1996
•?Family Pucamyidae Sánchez in Sánchez & Benedetto, 2007
Superfamily Arcoidea Lamarck, 1809
Family Arcidae Lamarck, 1809
Subfamily Arcinae! Lamarck, 1809
Subfamily Anadarinae Reinhart, 1935
Subfamily Noetiinae R. Stewart, 1930
Tribe Noetiini R. Stewart, 1930
Tribe Striarcini MacNeil, 1937
•Tribe Trinacriini MacNeil, 1937
•Family Catamarcaiidae Cope, 2000
Family Cucullaeidae! R. Stewart, 1930
•Family Frejidae! Ratter & Cope, 1998
Family Glycymerididae Dall, 1908 (Leach in J. Gray, 1847a)
Subfamily Glycymeridinae Dall, 1908 (Leach in J. Gray, 1847a)
•Subfamily Arcullaeinae! Newell, 1969a
•Family Parallelodontidae! Dall, 1898
•Subfamily Parallelodontinae Dall, 1898
•Subfamily Grammatodontinae! L. Stephenson, 1941
•Tribe Grammatodontini! L. Stephenson, 1941
•Tribe Catellini Scarlato & Starobogatov, 1979b
•Tribe Nemodontini L. Stephenson *ex* MacNeil MS, 1941
Superfamily Limopsoidea Dall, 1895a
Family Limopsidae Dall, 1895a
Superfamily Philobryoidea Félix Bernard, 1897
Family Philobryidae Félix Bernard, 1897
Subcohort Ostreioni Férussac, 1822 in 1821–1822
•Megaorder Myalinata H. Paul, 1939
•Order Myalinida H. Paul, 1939
•Superfamily Alatoconchoidea H. Termier, Termier, & Lapparent, 1974
•Family Alatoconchidae H. Termier, Termier, & Lapparent, 1974
•Family Saikraconchidae Yancey & Ozaki, 1986
•Superfamily Ambonychioidea! S. A. Miller, 1877
•Family Ambonychiidae! S. A. Miller, 1877
•Family Lunulacardiidae P. Fischer, 1887

- • Subfamily Lunulacardiinae P. Fischer, 1887
- •Subfamily Pterochaeniinae Fang & Ding, 1993
- •Family Monopteriidae Newell, 1969b
- •Family Mysidiellidae Cox, 1964
- •Family Myalinidae! Frech, 1891
- •Family Ramonalinidae Yancey, Wilson, & Mione, 2009
- •Superfamily Inoceramoidea C. Giebel, 1852
- •Family Inoceramidae C. Giebel, 1852
- •Subfamily Inoceraminae C. Giebel, 1852
- •Subfamily Coloniceraminae Pochialaynen, 1985
- •Subfamily Sachalinoceraminae Zonova, 1984
- •Family Atomodesmatidae! Waterhouse, 1976
- •Subfamily Atomodesmatinae! Waterhouse, 1976
- •Subfamily Malimanininae Waterhouse, 2001
- •Subfamily Permoceraminae! Waterhouse, 2008
- •Family Kolymiidae V. Kuznetsov, 1973
- •Family Retroceramidae! Koschelkina, 1980
- •Superfamily Prokopievskioidea H. Vokes, 1967
- •Family Prokopievskiidae H. Vokes, 1967
- •Subfamily Prokopievskiinae H. Vokes, 1967
- •Subfamily Abiellinae Starobogatov, 1970
- •Subfamily Concinellinae Silantiev, *nov.*
- •Subfamily Kinerkaellinae Scarlato & Starobogatov, 1979a
- •Family Anadontellidae Silantiev, *nov.*
- •Family Naiaditidae Scarlato & Starobogatov, 1979a

Megaorder Ostreata Férussac, 1822 in 1821–1822
(plesion) •Family Myodakryotidae Tunnicliff, 1987
Superorder Ostreiformii Férussac, 1822 in 1821–1822 (=**Eupteriomorphia** Boss, 1982)
Order Ostreida Férussac, 1822 in 1821–1822
Suborder Ostreidina Férussac, 1822 in 1821–1822
Superfamily Ostreoidea Rafinesque, 1815
Family Ostreidae Rafinesque, 1815
Subfamily Ostreinae Rafinesque, 1815
Tribe Ostreini Rafinesque, 1815
Tribe Pustulostreini Harry, 1985
Tribe Undulostreini Harry, 1985
Subfamily Lophinae Vialov, 1936
Tribe Lophini Vialov, 1936
Tribe Myrakeenini Harry, 1985
•Family Arctostreidae Vialov, 1983
•Subfamily Arctostreinae! Vialov, 1983
•Subfamily Palaeolophinae! Malchus, 1990
•?Family Eligmidae T. Gill, 1871
Family Flemingostreidae! Stenzel, 1971
•Subfamily Flemingostreinae! Stenzel, 1971
•Tribe Flemingostreini! Stenzel, 1971
•Tribe Ambigostreini Malchus, 1990
•Tribe Curvostreini Malchus, 1990
Subfamily Crassostreinae Scarlato & Starobogatov, 1979a
Tribe Crassostreini Scarlato & Starobogatov, 1979a
Tribe Striostreini Harry, 1985
•Tribe Turkostreini Malchus, 1990
•Subfamily Liostreinae! Vialov, 1983
Family Gryphaeidae! Vialov, 1936
•Subfamily Gryphaeinae! Vialov, 1936
•Subfamily Exogyrinae Vialov, 1936
•Tribe Exogyrini Vialov, 1936
•Tribe Amphidonteini Vialov, 1983
•Subfamily Gryphaeostreinae Stenzel, 1971
Subfamily Pycnodonteinae Stenzel, 1959
•Tribe Pycnodonteini Stenzel, 1959
Tribe Hyotissini Scarlato & Starobogatov, 1979b
Tribe Neopycnodonteini Harry, 1985
Suborder Malleidina! J. Gray, 1854a
(paraplesion) •Family Pterineidae! F. Meek, 1864b
Superfamily Pinnoidea Leach, 1819
Family Pinnidae Leach, 1819

- •Superfamily Posidonioidea Neumayr, 1891
  - •Family Posidoniidae! Neumayr, 1891
  - •Family Aulacomyellidae! Ichikawa, 1958
    - •Subfamily Aulacomyellinae Ichikawa, 1958
    - •Subfamily Bositrinae! Waterhouse, 2008
  - •Family Daonellidae Neumayr, 1891
  - •Family Halobiidae Kittl, 1912
- Superfamily Pterioidea! J. Gray, 1847b (Goldfuss, 1820)
  - Family Pteriidae J. Gray, 1847b (Goldfuss, 1820)
    - Subfamily Pteriinae! J. Gray, 1847b (Goldfuss, 1820)
    - •Subfamily Dattinae M. Healey, 1908
  - •Family Bakevelliidae! W. King, 1850
  - •?Family Cassianellidae Ichikawa, 1958
  - •?Family Kochiidae Frech, 1891
  - Family Malleidae Lamarck, 1818
    - Subfamily Malleinae Lamarck, 1818
    - Subfamily Isognomoninae! Woodring, 1925 (J. Fleming, 1828)
    - Subfamily Pulvinitinae L. Stephenson, 1941
  - •Family Pergamidiidae Cox, 1964
    - •Subfamily Pergamidiinae Cox, 1964
    - •?Subfamily Oretiinae Waterhouse, 2008
  - •Family Plicatostylidae Lupher & Packard, 1929
  - •Family Vlastidae! Neumayr, 1891
    - •Subfamily Vlastinae Neumayr, 1891
    - •Subfamily Praeostreinae! Kříž, 1966
- •Superfamily Rhombopterioidea! Korobkov in Eberzin, 1960
  - •Family Rhombopteriidae! Korobkov in Eberzin, 1960
  - •Family Umburridae! P. A. Johnston, 1991

Order Pectinida J. Gray, 1854a

(paraplesion) •Superfamily Leiopectinoidea! Krasilova, 1959

- •Family Leiopectinidae! Krasilova, 1959

Suborder Pectinidina J. Gray, 1854a

- Superfamily Pectinoidea Rafinesque, 1815
  - Epifamily Pectinoidae Rafinesque, 1815
    - Family Pectinidae! Rafinesque, 1815
      - Subfamily Pectininae Rafinesque, 1815
        - Tribe Pectinini Rafinesque, 1815
        - Tribe Aequipectinini! Nordsieck, 1969
        - Tribe Amusiini Ridewood, 1903
        - Tribe Austrochlamydini Jonkers, 2003
        - Tribe Decatopectinini T. Waller, 1986
      - Subfamily Camptonectinae Habe, 1977
      - Subfamily Palliolinae Korobkov in Eberzin, 1960
        - Tribe Palliolini Korobkov in Eberzin, 1960
        - Tribe Adamussiini Habe, 1977
        - •Tribe Eburneopectinini T. Waller, 2006
        - Tribe Mesopeplini T. Waller, 2006
        - •Tribe Pseudentoliini T. Waller, 2006
        - •Tribe Serripectinini T. Waller, 2006
      - Subfamily Pedinae! Bronn, 1862
        - Tribe Pedini Bronn, 1862
        - Tribe Chlamydini! Teppner, 1922
        - Tribe Crassadomini T. Waller, 1993
        - Tribe Fortipectinini K. Masuda, 1963
          - Subtribe Fortipectinina K. Masuda, 1963
          - Subtribe Patinopectinina Habe, 1977
        - Tribe Mimachlamydini! T. Waller, 1993
      - •Subfamily Pseudopectininae! Kasum-Zade, 2003
      - •Subfamily Weylinae Kasum-Zade, 2003
    - •Family Pleuronectitidae! Hautmann, *nov.*
    - Family Spondylidae J. Gray, 1826
      - Subfamily Spondylinae J. Gray, 1826
      - •Subfamily Spondylopectininae! Kasum-Zade & Romanov, 1987
  - •Epifamily Neitheoidae Sobetski, 1960
    - •Family Neitheidae Sobetski, 1960
    - •Family Tosapectinidae! Trushchelev, 1984

Suborder Anomiidina J. Gray, 1854a

Hyporder Anomioidei J. Gray, 1854a
•(plesion) ?Family Saharopteriidae G. Termier & H. Termier in Pareyn, Termier, & Termier, 1972
•(paraplesion) Superfamily Pseudomonotoidea! Newell, 1938
•Family Pseudomonotidae! Newell, 1938
Minorder Anomioitei J. Gray, 1854a
Superfamily Anomioidea Rafinesque, 1815
Family Anomiidae! Rafinesque, 1815
Subfamily Anomiinae! Rafinesque, 1815
Subfamily Heteranomiinae Scarlato & Starobogatov, 1979a
•Family Permanomiidae Carter, 1990a
Family Placunidae Rafinesque, 1815
Minorder Dimyoitei Ridewood, 1903
Superfamily Dimyoidea P. Fischer, 1886
Family Dimyidae P. Fischer, 1886
Superfamily Plicatuloidea J. Gray, 1854b
Family Plicatulidae! J. Gray, 1854b
•Family Chondrodontidae Freneix, 1960
•Superfamily Prospondyloidea! Pchelintseva, 1960
•Family Prospondylidae! Pchelintseva, 1960
•Subfamily Prospondylinae! Pchelintseva, 1960
•Subfamily Pegmavalvulinae! Waterhouse, 2008
•Hyporder Aviculopectinoidei! Starobogatov, 1992
•Superfamily Aviculopectinoidea! F. Meek & Hayden, 1865
•Family Aviculopectinidae! F. Meek & Hayden, 1865
•Subfamily Aviculopectininae! F. Meek & Hayden, 1865
•Subfamily Echiniferipectininae Waterhouse, 2008
•Subfamily Hayasakapectininae! Boyd & Newell, 2000
•Subfamily Spyridopectininae Waterhouse, 2008
•Family Deltopectinidae Dickins, 1957
•Subfamily Deltopectininae! Dickins, 1957
•Subfamily Cyrtorostrinae Newell & Boyd, 1995
•Subfamily Squamuliferipectininae Waterhouse, 2008
•Family Limatulinidae! Waterhouse, 2001
•Superfamily Chaenocardioidea S. A. Miller, 1889
•Family Chaenocardiidae! S. A. Miller, 1889
•Family Streblochondriidae Newell, 1938
•Subfamily Streblochondriinae Newell, 1938
•Subfamily Guizhoupectininae M. Astafieva, 1994
•Subfamily Orbiculopectininae Waterhouse, 2001
•Tribe Orbiculopectinini Waterhouse, 2001
•Tribe Eocamptonectini Waterhouse, 2001
•Subfamily Saturnopectininae D. Campbell, *nov.*
•Subfamily Streblopteriinae Waterhouse, 2008
•Superfamily Heteropectinoidea! Beurlen, 1954
•Family Heteropectinidae! Beurlen, 1954
•Subfamily Heteropectininae! Beurlen, 1954
•Subfamily Cassianoidinae Newell & Boyd, 1995
•Subfamily Etheripectininae! Waterhouse, 1982
•Subfamily Girtypectininae Waterhouse, 2008
•Family Annuliconchidae Astafieva, 1995
•Family Antijaniridae Hautmann, *nov*.
•Family Hunanopectinidae! Yin Hong-fu, 1985
•Subfamily Hunanopectininae Yin Hong-fu, 1985
•Tribe Hunanopectinini Yin Hong-fu, 1985
•Tribe Furcatiini Waterhouse, 2001
•Subfamily Asoellinae! Begg & Campbell, 1986
•Family Limipectinidae Newell & Boyd, 1990
•Subfamily Limipectininae Newell & Boyd, 1990
•Subfamily Acanthopectininae Newell & Boyd, 1995
•Tribe Acanthopectinini Newell & Boyd, 1995
•Tribe Costatoplicatinini Waterhouse, 2008
•Tribe Lamnipectinini Waterhouse, 2008
•Family Ornithopectinidae Hautmann, *nov.*
•Superfamily Pterinopectinoidea! Newell, 1938
•Family Pterinopectinidae! Newell, 1938
•Subfamily Pterinopectininae! Newell, 1938
•Subfamily Pterinopectinellinae Waterhouse, 2008

•Subfamily Tesseratiinae Waterhouse, 2008
•Family Claraiidae Gavrilova, 1996
•Subfamily Claraiinae! Gavrilova, 1996
•Subfamily Chuluariinae Waterhouse, 2008
•Family Natalissimidae! Waterhouse, 2008
•Subfamily Natalissiminae! Waterhouse, 2008
•Subfamily Pseudaviculopectininae! Waterhouse, 2008
Hyporder Limoidei R. Moore in Moore, Lalicker, & Fischer, 1952
Superfamily Limoidea Rafinesque, 1815
Family Limidae! Rafinesque, 1815
Subfamily Liminae Rafinesque, 1815
•Subfamily Ctenostreoninae Kasum-Zade, 2003
Subfamily Limatulinae! Kasum-Zade, 2003
Tribe Limatulini! Kasum-Zade, 2003
•Tribe Calcicaniculariini Waterhouse, 2008
•Subfamily Plagiostominae Kasum-Zade, 2003
Family Isolimeidae Kasum-Zade, 2003
•Hyporder Monotoidei Waterhouse, 2001
•Superfamily Buchioidea! Cox, 1953 (P. Fischer, 1886)
•Family Buchiidae Cox, 1953 (P. Fischer, 1886)
•Family Dolponellidae Waterhouse, 2001
•Family Monotidae! P. Fischer, 1886
•Subfamily Monotinae P. Fischer, 1886
•Subfamily Otapiriinae! Waterhouse, 1982
•Superfamily Eurydesmatoidea! Reed, 1932
•Family Eurydesmatidae! Reed, 1932
•Family Manticulidae Waterhouse, 2008
•Superfamily Oxytomoidea Ichikawa, 1958
•Family Oxytomidae Ichikawa, 1958
•Subfamily Oxytominae! Ichikawa, 1958
•Subfamily Maccoyellinae Waterhouse, 2008
Suborder Entoliidina! Hautmann, *nov*.
Superfamily Entolioidea! Teppner, 1922
Family Entoliidae Teppner, 1922
•Subfamily Entoliinae Teppner, 1922
•Subfamily Palaeoentoliinae! Romanov, 1985
Subfamily Syncyclonematinae T. Waller, 1978
•Family Entolioidesidae Kasum-Zade, 2003
•Subfamily Entolioidesinae! Kasum-Zade, 2003
•Subfamily Calvaentoliinae Kasum-Zade, 2003
•Family Pernopectinidae! Newell, 1938
Family Propeamussiidae Abbott, 1954
•Superfamily Euchondrioidea! Newell, 1938
•Family Euchondriidae! Newell, 1938
Infraclass Heteroconchia Hertwig, 1895
Cohort Uniomorphi J. Gray, 1854a (=***Palaeoheterodonta*** of authors)
(plesion) •Family Thoraliidae N. Morris, 1980
Subcohort Unioni J. Gray, 1854a
(paraplesion) •Superfamily Lyrodesmatoidea! P. Fischer, 1886
•Family Lyrodesmatidae! P. Fischer, 1886
•?Family Pseudarcidae Scarlato & Starobogatov, 1979a
Megaorder Unionata J. Gray, 1854a
Order Trigoniida! Dall, 1889
Superfamily Trigonioidea! Lamarck, 1819
Family Trigoniidae! Lamarck, 1819
Subfamily Trigoniinae Lamarck, 1819
•Subfamily Minetrigoniinae T. Kobayashi, 1954
•Subfamily Nototrigoniinae Skwarko, 1963
•Subfamily Pleurotrigoniinae van Hoepen, 1929
•Subfamily Neuquenitrigoniinae H. Leanza, 1993
•Subfamily Psilotrigoniinae C. Fleming, 1987
•Family Eoschizodidae Newell & Boyd, 1975
•Family Groeberellidae Pérez, Reyes, & Damborenea, 1995
•Family Myophoriidae! Bronn, 1849 in 1848–1849
•Family Prosogyrotrigoniidae T. Kobayashi, 1954
•Subfamily Prosogyotrigoniinae T. Kobayashi, 1954
•Subfamily Praegoniinae C. Fleming, 1962

- •Family Scaphellinidae Newell & Ciriacks, 1962
- •Family Schizodidae! Newell & Boyd, 1975
  - •Subfamily Schizodinae! Newell & Boyd, 1975
  - •Subfamily Eoastartinae Newell & Boyd, 1975
  - •Subfamily Sinodorinae Pojeta & Zhang, 1984
- •Superfamily Myophorelloidea T. Kobayashi, 1954
  - •Epifamily Myophorelloidae T. Kobayashi, 1954
    - •Family Myophorellidae T. Kobayashi, 1954
      - •Subfamily Myophorellinae T. Kobayashi, 1954
        - •Tribe Myophorellini! T. Kobayashi, 1954
        - •Tribe Steinmanellini M. Cooper, 1991
      - •Subfamily Vaugoniinae T. Kobayashi, 1954
        - •Tribe Vaugoniini T. Kobayashi, 1954
        - •Tribe Quadratotrigoniini Saveliev, 1958
    - •Family Buchotrigoniidae H. Leanza, 1993
      - •Subfamily Buchotrigoniinae H. Leanza, 1993
      - •Subfamily Syrotrigoniinae Perez & Reyes, 1997
    - •Family Laevitrigoniidae Saveliev, 1958
      - •Subfamily Laevitrigoniinae Saveliev, 1958
      - •Subfamily Frenguelliellinae! Nakano, 1960
  - •Epifamily Megatrigonioidae van Hoepen, 1929
    - •Series Megatrigoniitae van Hoepen, 1929
      - •Family Megatrigoniidae van Hoepen, 1929
        - •Subfamily Megatrigoniinae van Hoepen, 1929
          - •Tribe Megatrigoniini van Hoepen, 1929
          - •Tribe Apiotrigoniini Tashiro, 1979
            - •Subtribe Apiotrigoniina Tashiro, 1979
            - •Subtribe Heterotrigoniina M. Cooper, 1991
        - •Subfamily Pterotrigoniinae van Hoepen, 1929
          - •Tribe Pterotrigoniini! van Hoepen, 1929
          - •Tribe Scabrotrigoniini M. Cooper, 1989
      - •Family Iotrigoniidae Saveliev, 1958
    - •Series Rutitrigoniitae van Hoepen, 1929
      - •Family Rutitrigoniidae van Hoepen, 1929
- •Superfamily Pseudocardinioidea Martinson, 1961
  - •Family Pseudocardiniidae Martinson, 1961
  - •?Family Utschamiellidae! C. M. Kolesnikov, 1977
- •?Superfamily Trigonioidoidea Cox, 1952 (or in Unionida?)
  - •Family Trigonioididae! Cox, 1952
    - •Subfamily Trigonioidinae Cox, 1952
    - •Subfamily Peregrinoconchinae! Gu Zhi-wei & others in Ma & others, 1976
  - •Family Nakamuranaiadidae Guo, 1981
  - •Family Nippononaiidae Chen Jin-hua, 1987
    - •Subfamily Nippononaiinae! Chen Jin-hua, 1987
    - •Subfamily Sinonaiinae Chen Jin-hua, 1987
  - •Family Plicatounionidae Chen Jin-hua, 1987
  - •Family Pseudohyriidae T. Kobayashi, 1968
- •Superfamily Trigonodoidea! Modell, 1942
  - •Family Trigonodidae! Modell, 1942
  - •Family Desertellidae Dechaseaux, 1947

Order Unionida J. Gray, 1854a
- Suborder Unionidina J. Gray, 1854a
  - Superfamily Unionoidea Rafinesque, 1820
    - Family Unionidae Rafinesque, 1820
      - Subfamily Unioninae Rafinesque, 1820
        - Tribe Unionini Rafinesque, 1820
        - Tribe Anodontini Rafinesque, 1820
      - Subfamily Ambleminae Rafinesque, 1820
        - Tribe Amblemini Rafinesque, 1820
        - Tribe Lampsilini Ihering, 1901
        - Tribe Pleurobemini Hannibal, 1912
        - Tribe Quadrulini Ihering, 1901
      - Subfamily Gonideinae Ortmann, 1916
      - Subfamily Modellnaiinae Brandt, 1974
      - Subfamily Parreysiinae Henderson, 1935
      - •Subfamily Qiyangiinae Chen Jin-hua, 1983
      - Subfamily Rectidentinae Modell, 1942

Family Margaritiferidae Henderson, 1929
•Family Sancticarolitidae Simone & Mezzalira, 1997
Superfamily Mullerioidea Deshayes, 1832a
Family Mulleriidae Deshayes, 1832a
Subfamily Mulleriinae Deshayes, 1832a
Subfamily Leilinae Morretes, 1949
Subfamily Monocondylaeinae Modell, 1942
Subfamily Mycetopodinae J. Gray, 1840b
Family Etheriidae Deshayes, 1832a
Family Iridinidae Swainson, 1840
Subfamily Iridininae Swainson, 1840
Subfamily Aspathariinae Modell, 1942
•?Superfamily Trigonioidoidea Cox, 1952 (or in Trigoniida, which see)
Suborder Hyriidina Hoeh & others, 2009
Superfamily Hyrioidea Swainson, 1840
Family Hyriidae Swainson, 1840
Subfamily Hyriinae Swainson, 1840
Tribe Hyriini Swainson, 1840
Tribe Castaliini Morretes, 1949
?Tribe Cucumerunionini Iredale, 1934
Tribe Diplodontini Ihering, 1901
Tribe Hyridellini McMichael & Hiscock, 1958 (Iredale, 1934)
Subfamily Velesunioninae Iredale, 1934
•Suborder Silesunionidina! Skawina & Dzik, 2011
•Superfamily Silesunionoidea! Skawina & Dzik, 2011
•Family Silesunionidae! Skawina & Dzik, 2011
•Family Unionellidae Skawina & Dzik, 2011

Cohort Cardiomorphi Férussac, 1822 in 1821–1822 (=***Heterodonta*** of authors)
(plesion) •Family Lipanellidae Sánchez, 2005
Subcohort Carditioni Dall, 1889
•Order Actinodontida! Deschaseaux, 1952
•Superfamily Anodontopsoidea! S. A. Miller, 1889
•Family Anodontopsidae S. A. Miller, 1889
•Family Actinodontidae! Davies, 1933
•Family Baidiostracidae Fang & Cope, 2008
•Family Cycloconchidae! Ulrich in Ulrich & Scofield, 1894
•Subfamily Cycloconchinae! Ulrich in Ulrich & Scofield, 1894
•Subfamily Taselasmodinae Fang & Cope, 2008
•Family Intihuarellidae! Sánchez in Sánchez & Vaccari, 2003
•Family Redoniidae! Babin, 1966
•Superfamily Nyassoidea! S. A. Miller, 1877
•Family Nyassidae! S. A. Miller, 1877
•Superfamily Palaeomuteloidea Lahusen, 1897
•Family Palaeomutelidae Lahusen, 1897
•?Superfamily Amnigenioidea Khalfin, 1948
•Family Amnigeniidae Khalfin, 1948
•Family Montanariidae! Scarlato & Starobogatov, 1979a
•Family Zadimerodiidae! Guo, 1988
•Superfamily Oriocrassatelloidea Boyd & Newell, 1968
•Family Oriocrassatellidae Boyd & Newell, 1968
•Family Crassatellopsidae! Carter, *nov.*
Order Carditida Dall, 1889
(plesion) •?Family Archaeocardiidae Khalfin, 1940
(paraplesion) •Family Eodonidae! Carter, Campbell, & Campbell, 2000
Superfamily Crassatelloidea Férussac, 1822 in 1821–1822
Family Crassatellidae Férussac, 1822 in 1821–1822
Subfamily Crassatellinae! Férussac, 1822 in 1821–1822
•Subfamily Ptychomyinae Keen, 1969b
Subfamily Scambulinae Chavan, 1952a
•?Family Aenigmoconchidae Betekhtina in Betekhtina & Soukhov, 1968
Family Astartidae! d'Orbigny, 1844 in 1844–1848 (J. Gray, 1840b)
Subfamily Astartinae! d'Orbigny, 1844 in 1844–1848 (J. Gray, 1840b)
•Subfamily Astartellinae! Boyd & Newell, 1968
•Subfamily Eriphylinae Chavan, 1952b
•Subfamily Opinae! Chavan, 1952b
•Subfamily Pinzonellinae Beurlen, 1954
•Subfamily Terraiinae Scarlato & Starobogatov, 1979a

- •Subfamily Trigonopinae R. N. Gardner & Campbell, 2002
- •Family Cardiniidae Zittel, 1881
- Family Carditidae! Férussac, 1822 in 1821–1822
  - Subfamily Carditinae Férussac, 1822 in 1821–1822
  - Subfamily Carditamerinae! Chavan, 1969b
  - Subfamily Carditesinae! Chavan, 1969b
  - Subfamily Miodomeridinae Chavan, 1969b
  - Subfamily Thecaliinae Dall, 1903
  - Subfamily Venericardiinae Chavan, 1969b
- Family Condylocardiidae Félix Bernard, 1896
  - Subfamily Condylocardiinae Félix Bernard, 1896
  - Subfamily Cuninae Chavan, 1969b
- •Family Myophoricardiidae Chavan in Cox & Chavan, 1969

Subcohort Cardioni Férussac, 1822 in 1821–1822 (=**Euheterodonta** Giribet & Distel, 2003)

- Infrasubcohort Lucinidia J. Gray, 1854a
  - (paraplesion) •Superfamily Babinkoidea! Horný, 1960
    - •Family Babinkidae! Horný, 1960
    - •Family Coxiconchiidae Babin, 1977
  - Order Lucinida J. Gray, 1854a
    - Superfamily Lucinoidea! J. Fleming, 1828
      - Family Lucinidae J. Fleming, 1828
        - Subfamily Lucininae J. Fleming, 1828
        - Subfamily Fimbriinae Nicol, 1950 (Stoliczka, 1870 in 1870–1871)
        - •Subfamily Ilioniinae! Scarlato & Starobogatov, 1979a
        - Subfamily Milthinae! Chavan, 1969a
        - Subfamily Myrteinae Chavan, 1969a
      - •Family Mactromyidae Cox, 1929 (P. Fischer, 1887)
      - •Family Paracyclidae! P. A. Johnston, 1993
    - Superfamily Thyasiroidea Dall, 1900 (Dall, 1895a)
      - Family Thyasiridae Dall, 1900 (Dall, 1895a)
        - Subfamily Thyasirinae! Dall, 1900 (Dall, 1895a)
        - Subfamily Axinopsidinae Frank Bernard, 1983
- Infrasubcohort Cardiidia Férussac, 1822 in 1821–1822
  - (paraplesion) •Superfamily Grammysioidea! S. A. Miller, 1877
    - •Family Grammysiidae! S. A. Miller, 1877
      - •Subfamily Grammysiinae S. A. Miller, 1877
      - •Subfamily Cuneamyinae! N. Morris, Dickins, & Astafieva-Urbajtis, 1991
    - •Family Sanguinolitidae S. A. Miller, 1877
      - •Subfamily Sanguinolitinae! S. A. Miller, 1877
      - •Subfamily Alulinae N. Morris, Dickins, & Astafieva-Urbajtis, 1991
      - •Subfamily Paleodorinae Carter, *nov.*
      - •Subfamily Pholadellinae S. A. Miller, 1877
      - •Subfamily Undulomyinae Astafieva-Urbajtis, 1983
  - Megaorder Cardiata Férussac, 1822 in 1821–1822 (=**Neoheterodontei** Taylor & others, 2007)
    - Superorder Cardiiformii Férussac, 1822 in 1821–1822
      - •Order Modiomorphida! Newell, 1969c
        - •Superfamily Modiomorphoidea! S. A. Miller, 1877
          - •Family Modiomorphidae! S. A. Miller, 1877
            - •Subfamily Modiomorphinae! S. A. Miller, 1877
            - •?Subfamily Butovicellinae Kříž, 1965
            - •Subfamily Healeyinae! Hautmann, 2008
            - •Subfamily Joanininae Carter, *nov.*
          - •Family Cypricardiniidae Ulrich in Ulrich & Scofield, 1894
          - •Family Hippopodiumidae Cox in Cox & LaRocque, 1969
          - •Family Palaeopharidae Marwick, 1953
          - •Family Tusayanidae Scarlato & Starobogatov, 1979a
        - •Order Megalodontida! Starobogatov, 1992
          - •Superfamily Mecynodontoidea! Haffer, 1959
            - •Family Mecynodontidae! Haffer, 1959
            - •Family Beichuaniidae Liu Xie-zhang & Gu in Hou Hong-fei, Wan, & Xian, 1988
            - •Family Congeriomorphidae Saul, 1976
            - •?Family Plethocardiidae Scarlato & Starobogatov, 1979a
            - •Family Prosocoelidae! Karczewski, 1992
          - •Superfamily Megalodontoidea! J. Morris & Lycett, 1853
            - •Family Megalodontidae! J. Morris & Lycett, 1853
            - •Family Ceratomyopsidae Cox, 1964
            - •Family Dicerocardiidae! Kutassy, 1934

- •Family Pachyrismatidae! Scarlato & Starobogatov, 1979a
- •Family Wallowaconchidae Yancey & Stanley, 1999

•Order Hippuritida Newell, 1965
- •Superfamily Requienioidea Kutassy, 1934
  - •Family Requieniidae Kutassy, 1934
    - •Subfamily Requieniinae Kutassy, 1934
    - •Subfamily Matheroniinae! R. Scott & others, 2010
  - •Family Epidiceratidae! Rengarten, 1950
- •Superfamily Radiolitoidea d'Orbigny, 1847b
  - •Family Radiolitidae d'Orbigny, 1847b
  - •?Family Antillocaprinidae Mac Gillavry, 1937
  - •Family Caprinidae d'Orbigny, 1847b
    - •Subfamily Caprininae d'Orbigny, 1847b
    - •Subfamily Caprinuloideinae Damestoy, 1971
  - •Family Caprinulidae Yanin, 1990
  - •Family Caprotinidae J. Gray, 1848
  - •Family Diceratidae! Dall, 1895a
  - •Family Hippuritidae J. Gray, 1848
  - •Family Ichthyosarcolitidae Douvillé, 1887 (T. Gill, 1871)
  - •Family Monopleuridae! Munier-Chalmas, 1873
  - •Family Plagioptychidae Douvillé, 1888
  - •Family Polyconitidae! Mac Gillavry, 1937
  - •?Family Trechmannellidae Cox, 1934

Order Cardiida Férussac, 1822 in 1821–1822
- (paraplesion) •Superfamily Kalenteroidea! Marwick, 1953
  - •Family Kalenteridae! Marwick, 1953
    - •Subfamily Kalenterinae! Marwick, 1953
    - •Subfamily Myoconchinae! Newell, 1957
- Suborder Cardiidina Férussac, 1822 in 1821–1822
  - (paraplesion) •Family Palaeocarditidae! Chavan, 1969b
  - Hyporder Cardioidei Férussac, 1822 in 1821–1822
    - Superfamily Cardioidea Lamarck, 1809
      - •Family Pterocardiidae Scarlato & Starobogatov, 1979a
        - •Subfamily Pterocardiinae Scarlato & Starobogatov, 1979a
        - •Subfamily Tulongocardiinae! J. Schneider, 1995
      - Family Cardiidae! Lamarck, 1809
        - •Subfamily Lahilliinae Finlay & Marwick, 1937
        - Subfamily Protocardiinae Reuss, 1846 in 1845–1846
        - Clade Neocardiids J. Carter, Hylleberg, & Popov, *nov.*
          - Subfamily Laevicardiinae Keen, 1951
          - •Subfamily Pleuriocardiinae J. Schneider, 1995
          - Clade Eucardiids J. Schneider, 1995
            - Subfamily Cardiinae! Lamarck, 1809
              - Tribe Cardiini! Lamarck, 1809
              - Tribe Vepricardiini Kafanov & Starobogatov in Kafanov & Popov, 1977
            - Subfamily Cerastodermatinae! Nordsieck, 1969
              - Tribe Cerastodermatini! Nordsieck, 1969
              - •Tribe Chokrakiini S. V. Popov in Nevesskaja, Paramonova, & Popov, 2001
              - Tribe Parvicardiini! Kafanov & Starobogatov in Kafanov & S. V. Popov, 1977
            - Subfamily Clinocardiinae Kafanov, 1975
            - Subfamily Fraginae R. Stewart, 1930
              - Tribe Fragini R. Stewart, 1930
              - Tribe Goniocardiini Scarlato & Starobogatov, 1979a
            - Subfamily Lymnocardiinae! Stoliczka, 1870 in 1870–1871
              - •Tribe Lymnocardiini! Stoliczka, 1870 in 1870–1871
              - •Tribe Acobaecardiini Paramonova in Nevesskaja & others, 1986
              - Tribe Adacnini! T. Gill, 1871
              - •Tribe Arcicardiini Nevesskaja in Nevesskaja & others, 1986
              - •Tribe Avicardiini S. V. Popov in Kafanov & S. V. Popov, 1977
              - •Tribe Aviculocardiini Paramonova in Nevesskaja, Paramonova, & Popov, 2001
              - •Tribe Limnopappiini Schlickum, 1962
              - •Tribe Merklinicardiini S. V. Popov in Nevesskaja, Paramonova, & Popov, 2001
              - •Tribe Obsoletiformini! Paramonova in Nevesskaja, Paramonova, & Popov, 2001
              - •Tribe Pachydacnini Andreescu, 1975
              - •Tribe Paradacnini Eberzin, 1967
              - •Tribe Phyllocardiini Nevesskaja in Nevesskaja & others, 1986
              - •Tribe Planacardiini Paramonova in Nevesskaja, Paramonova, & Popov, 2001

- •Tribe Plicatiformini! Paramonova in Nevesskaja, Paramonova, & Popov, 2001
- •Tribe Pontalmyrini! Taktakishvili, 1987
- •Tribe Prosodacnini Keen, 1937
- •Tribe Pseudocarditini Keen, 1969b
- Subfamily Orthocardiinae J. Schneider, 2002
- •Subfamily Profraginae Badve, 1977
- •Subfamily Trapezicardiinae Kanjilal & Srinivasan, 2002
- Subfamily Tridacninae Lamarck, 1819

Superfamily Tellinoidea Blainville, 1814
- Family Tellinidae Blainville, 1814
- Family Donacidae J. Fleming, 1828
- •Family Icanotiidae R. Casey, 1961
- Family Psammobiidae J. Fleming, 1828
- •Family Quenstedtiidae Cox, 1929
- Family Semelidae Stoliczka, 1870 in 1870–1871 (Latreille, 1825)
  - Subfamily Semelinae! Stoliczka, 1870 in 1870–1871 (Latreille, 1825)
  - Subfamily Erviliinae Dall, 1895b
  - Subfamily Scrobiculariinae H. Adams & A. Adams, 1856
- Family Solecurtidae d'Orbigny, 1846
- •Family Sowerbyidae Cox, 1929
- •Family Tancrediidae F. Meek, 1864a
- •Family Unicardiopsidae Chavan, 1969c

Hyporder Veneroidei J. Gray, 1854a

Minorder Veneroitei J. Gray, 1854a

Superfamily Arcticoidea! R. Newton, 1891 (d'Orbigny, 1844 in 1844–1848)
- Family Arcticidae! R. Newton, 1891 (d'Orbigny, 1844 in 1844–1848)
- Family Euloxidae J. A. Gardner, 1944
- •Family Pollicidae L. Stephenson, 1953
- Family Trapezidae Lamy, 1920 (Dall, 1895a)
- •Family Veniellidae Dall, 1895a

Superfamily Chamoidea Lamarck, 1809
- Family Chamidae Lamarck, 1809

Superfamily Cyrenoidea J. Gray, 1840b
- Family Cyrenidae! J. Gray, 1840b
- Family Cyrenoididae H. Adams & A. Adams, 1857 (J. Gray, 1853)
- Family Glauconomidae J. Gray, 1853

Superfamily Gaimardioidea Hedley, 1916
- Family Gaimardiidae Hedley, 1916

Superfamily Glossoidea J. Gray, 1847b (J. Gray, 1840b)
- Family Glossidae J. Gray, 1847b (J. Gray, 1840b)
- Family Kelliellidae P. Fischer, 1887
- Family Vesicomyidae Dall & Simpson, 1901

Superfamily Hemidonacoidea Scarlato & Starobogatov in Nevesskaja & others, 1971
- Family Hemidonacidae Scarlato & Starobogatov in Nevesskaja & others, 1971

Superfamily Mactroidea Lamarck, 1809
- Family Mactridae! Lamarck, 1809
  - Subfamily Mactrinae! Lamarck, 1809
  - Subfamily Darininae Signorelli, *nov.*
  - Subfamily Kymatoxinae Stenzel & Krause in Stenzel, Krause, & Twining, 1957
  - Subfamily Lutrariinae J. Gray, 1853
  - Subfamily Tanysiphoninae Scarlato & Starobogatov in Nevesskaja & others, 1971
- Family Anatinellidae Deshayes in J. Gray, 1853
- Family Cardiliidae P. Fischer, 1887
- Family Mesodesmatidae J. Gray, 1840b
  - Subfamily Mesodesmatinae! J. Gray, 1840b
  - Subfamily Davilinae Dall, 1895b

Superfamily Ungulinoidea J. Gray, 1854b
- Family Ungulinidae J. Gray, 1854b

Superfamily Veneroidea Rafinesque, 1815
- •Family Isocyprinidae! R. N. Gardner, 2005
- Family Veneridae! Rafinesque, 1815
  - Subfamily Venerinae Rafinesque, 1815
    - Tribe Venerini Rafinesque, 1815
      - Subtribe Venerina Rafinesque, 1815
      - Subtribe Chionina Frizzell, 1936
    - Tribe Dosiniini Deshayes, 1853
    - Tribe Tapetini! J. Gray, 1851
  - Subfamily Meretricinae J. Gray, 1847b (J. Gray, 1838)

Tribe Meretricini J. Gray, 1847b (J. Gray, 1838)
Subtribe Meretricina! J. Gray, 1847b (J. Gray, 1838)
Subtribe Callocardiina! Dall, 1895a
Subtribe Clementiina Frizzell, 1936
Subtribe Cyclinina Frizzell, 1936
Subtribe Gemmina Dall, 1895a
Subtribe Petricolina d'Orbigny, 1840
Subtribe Samarangiina Keen, 1969c
Subtribe Sunettina Stoliczka, 1870 in 1870–1871
Subtribe Turtoniina W. Clark, 1855
?Tribe Gouldiini R. Stewart, 1930
Subtribe Gouldiina! R. Stewart, 1930
Subtribe Lioconchina Habe, 1977
Minorder Dreissenoitei R. Moore in Moore, Lalicker, & Fischer, 1952
Superfamily Dreissenoidea J. Gray, 1840a
Family Dreissenidae J. Gray, 1840a
Subfamily Dreisseninae! J. Gray, 1840a
•Subfamily Dreissenomyinae Babak, 1983
Superfamily Sphaerioidea! Deshayes, 1855b (Rafinesque, 1820)
Family Sphaeriidae! Deshayes, 1855b (Rafinesque, 1820)
Subfamily Sphaeriinae! Deshayes, 1855b (Rafinesque, 1820)
Subfamily Euperinae Heard, 1965
Subfamily Pisidiinae J. Gray, 1857
•?Family Neomiodontidae R. Casey, 1955
•Subfamily Neomiodontinae R. Casey, 1955
•Subfamily Eomiodontinae Hayami, 1965
Suborder Gastrochaenidina Morretes, 1949
Superfamily Gastrochaenoidea J. Gray, 1840b
Family Gastrochaenidae J. Gray, 1840b
Subfamily Gastrochaeninae J. Gray, 1840b
Subfamily Eufistulaninae Carter, *nov.*
Subfamily Spengleriinae! Carter, *nov.*
•Suborder Anthracosiidina Silantiev & Carter, 2011
•Superfamily Anthracosioidea Amalitzky, 1892
•Family Anthracosiidae Amalitzky, 1892
•?Family Ferganoconchidae Martinson, 1961
•?Family Shaanxiconchidae Liu Ben-pei in Liu Ben-pei & Li, 1980
•Superfamily Palaeanodontoidea Modell, 1964
•Family Palaeanodontidae Modell, 1964
•Superfamily Prilukielloidea Starobogatov, 1970
•Family Prilukiellidae Starobogatov, 1970
•Family Senderzoniellidae Betekhtina, Starobogatov, & Jatsuk, 1987
Suborder Leptonidina Dall, 1889
Superfamily Cyamioidea! G. O. Sars, 1878
Family Cyamiidae G. O. Sars, 1878
Family Basterotiidae Cossmann in Cossmann & Peyrot, 1909
Family Galatheavalvidae Knudsen, 1970
Family Sportellidae! Dall, 1899
Superfamily Galeommatoidea J. Gray, 1840b
Family Galeommatidae J. Gray, 1840b
Family Lasaeidae J. Gray, 1842
Superorder Pholadiformii J. Gray, 1854a
Order Pholadida J. Gray, 1854a
Superfamily Pholadoidea Lamarck, 1809
Family Pholadidae! Lamarck, 1809
Subfamily Pholadinae Lamarck, 1809
Tribe Pholadini! Lamarck, 1809
•Tribe Euxinibarneini Zhgenti, 1991
Subfamily Jouannetiinae Tryon, 1862b
Subfamily Martesiinae U. Grant & Gale, 1931
Subfamily Xylophaginae! Purchon, 1941
Family Teredinidae Rafinesque, 1815
Subfamily Teredininae Rafinesque, 1815
Tribe Teredinini Rafinesque, 1815
Tribe Bankiini Turner, 1966
Subfamily Kuphinae Tryon, 1862b
•Superfamily Pleuromyoidea! Zittel, 1895
•Family Pleuromyidae! Zittell, 1895

- •Family Ceratomyidae! Arkell, 1934
  - •Subfamily Ceratomyinae! Arkell, 1934
  - •Subfamily Myopholadinae! Cox, 1964
- •Family Vacunellidae! Astafieva-Urbajtis, 1973

Superfamily Myoidea Lamarck, 1809
- Family Myidae Lamarck, 1809
  - Subfamily Myinae Lamarck, 1809
  - Subfamily Cryptomyinae Habe, 1977
  - Subfamily Spheniinae! Frank Bernard, 1983
- Family Corbulidae! Lamarck, 1818
  - Subfamily Corbulinae! Lamarck, 1818
  - •Subfamily Caestocorbulinae H. Vokes, 1945
  - Subfamily Caryocorbulinae H. Vokes, 1945
  - Subfamily Erodoninae Winckworth, 1932
  - •Subfamily Pachydontinae H. Vokes, 1945
- •Family Pleurodesmatidae Cossmann in Cossmann & Peyrot, 1909
- •Family Raetomyidae R. Newton, 1919

Megaorder Poromyata Ridewood, 1903
- Order Poromyida Ridewood, 1903
  - Superfamily Poromyoidea Dall, 1886
    - Family Poromyidae! Dall, 1886
    - Family Cetoconchidae Ridewood, 1903
  - Superfamily Cuspidarioidea Dall, 1886
    - Family Cuspidariidae Dall, 1886
    - Family Halonymphidae Scarlato & Starobogatov, 1983
    - Family Protocuspidariidae! Scarlato & Starobogatov, 1983
    - ?Family Spheniopsidae J. A. Gardner, 1928
  - Superfamily Parilimyoidea! B. Morton, 1981
    - Family Parilimyidae! B. Morton, 1981
  - Superfamily Verticordioidea! Stoliczka, 1870 in 1870–1871
    - Family Verticordiidae Stoliczka, 1870 in 1870–1871
    - Family Euciroidae Dall, 1895a
    - Family Lyonsiellidae! Dall, 1895a
- Order Pholadomyida! Newell, 1965
  - Superfamily Pholadomyoidea! W. King, 1844
    - Family Pholadomyidae! W. King, 1844
      - Subfamily Pholadomyinae! W. King, 1844
      - •Subfamily Chaenomyinae Waterhouse, 1966
    - •Family Arenigomyidae Carter, *nov.*
    - •Family Margaritariidae H. Vokes, 1964
    - •Family Ucumariidae Sánchez in Sánchez & Vaccari, 2003
- Order Pandorida R. Stewart, 1930
  - Superfamily Pandoroidea! Rafinesque, 1815
    - Family Pandoridae Rafinesque, 1815
    - Family Laternulidae! Hedley, 1918 (J. Gray, 1840b)
    - Family Lyonsiidae! P. Fischer, 1887
  - Superfamily Clavagelloidea d'Orbigny, 1844 in 1844–1848
    - Family Clavagellidae! d'Orbigny, 1844 in 1844–1848
    - Family Penicillidae J. Gray, 1858
- Order Thraciida Carter, *nov.*
  - Superfamily Thracioidea! Stoliczka, 1870 in 1870–1871 (Couthouy, 1839)
    - Family Thraciidae! Stoliczka, 1870 in 1870–1871 (Couthouy, 1839)
    - •Family Burmesiidae M. Healey, 1908
    - Family Cleidothaeridae Hedley, 1918 (Stoliczka, 1870 in 1870–1871)
    - Family Myochamidae P. P. Carpenter, 1861
    - Family Periplomatidae Dall, 1895a

Megaorder Solenata Dall, 1889
- Order Solenida Dall, 1889
  - •Superfamily Orthonotoidea! S. A. Miller, 1877
    - •Family Orthonotidae! S. A. Miller, 1877
    - •Family Konduriidae! Sánchez in Sánchez & Benedetto, 2007
    - •Family Prothyridae S. A. Miller, 1889
    - •Family Solenomorphidae Cockerell, 1915
      - •Subfamily Solenomorphinae Cockerell, 1915
      - •Subfamily Promacrinae Scarlato & Starobogatov, 1979a
  - Superfamily Solenoidea Lamarck, 1809
    - Family Solenidae Lamarck, 1809
    - Family Pharidae! H. Adams & A. Adams, 1856

Subfamily Pharinae! H. Adams & A. Adams, 1856
Subfamily Cultellinae A. Davies, 1935
Subfamily Novaculininae Ghosh, 1920
Subfamily Pharellinae Stoliczka, 1870 in 1870–1871
•Subfamily Rzehakiinae Korobkov, 1954
Subfamily Siliquinae! Bronn, 1862
Order Hiatellida Carter, *nov.*
Superfamily Hiatelloidea J. Gray, 1824
Family Hiatellidae J. Gray, 1824
Subfamily Hiatellinae J. Gray, 1824
Subfamily Panopeinae! Bronn, 1862
Family Saxicavellidae! P. H. Scott, 1994
•Superfamily Edmondioidea! W. King, 1850
•Family Edmondiidae! W. King, 1850
•Family Pachydomidae! P. Fischer, 1887
•Subfamily Pachydominae! P. Fischer, 1887
•Tribe Pachydomini P. Fischer, 1887
•Tribe Astartilini Waterhouse, 1969
•Tribe Holdhausiellini Beurlen, 1954
•Tribe Plesiocyprinellini Simões & others, 1997
•Subfamily Myoniinae Scarlato & Starobogatov, 1979a

ACKNOWLEDGMENTS

We thank Michael Amler, Lyle Campbell, Jill Hardesty, and an anonymous reviewer for their critical reviews and/or editing of this manuscript. Thomas Waller provided helpful comments regarding the pectinoids. Richard Petit and Philippe Bouchet helped document several literature sources. We also thank John Taylor for pointing out that the putative cardiniid *Tellidorella* S. Berry, 1963, is a lucinid. This research was supported by NSF Grants GB-36048 and EAR-0003431, and University of North Carolina Research Council grants to J. G. Carter.

APPENDIX 1. NEW SUPRAGENERIC TAXA AND UNRANKED CLADE NAMES

Abbreviations: CL, simple crossed lamellar; CCL, complex crossed lamellar; ISP, irregular simple prismatic; RSP, regular simple prismatic.

Afghanodesmatida Carter, herein, *ord. nov.*, *nom. transl. et correct. ex* Afghanodesmatidae Scarlato & Starobogatov (1979a, p. 19, 25). Taxonomic content indicated above.

Anadontellidae Silantiev, herein, *fam. nov.* Type genus, *Anadontella* Betekhtina in Betekhtina, Starobogatov, & Jatsuk, 1987, p. 41. Family diagnosis: members of the superfamily Prokopievskioidea with relatively thin, elongate, subtriangular (*Anthraconauta*-like) or subrectangular, equivalve or slightly inequivalve shells, with an edentulous hinge, distinctly multilayered shells with fine, commarginal growth lines, and no radial microsculpture. Some forms (e.g., *Synjaella*) are strongly tapered posteroventrally and have a sinus-like concavity on the posterior and ventral margins. Ligament opisthodetic, possibly submerged, with single, narrow ligament groove appearing on internal molds, possibly representing secondarily simplified duplivincular ligament. Outer shell layer calcitic irregular simple prismatic or fibrous prismatic, middle and inner shell layers nacreous, except immediately internal to ISP pallial myostracum, where irregular CCL is developed. Nonmarine. Anadontellidae resembles Naiaditidae but differs from Prokopievskiidae in lacking radial microsculpture. At least *Anadontella* differs from some Prokopievskiidae and Naiaditidae in having a distinct sublayer of irregular CCL between the pallial myostracum and the nacreous inner part of the inner shell layer. Anadontellidae differs from Naiaditidae in having a single, narrow, opisthodetic ligament groove instead of an amphidetic, duplivincular ligament. This family also contains *Soanellina* Betekhtina, 1990, and *Synjaella* Kanev, 1993.

Antijaniridae Hautmann, herein, *fam. nov.* Type genus, *Antijanira* Bittner, 1901, p. 49. Family diagnosis: small shells with well-developed radial ribs occasionally bearing spines; ribs either equal in strength or intercalated in two or more ranks; discs circular to slightly retrocrescent, biconvex or with right disc flatter; dorsal margin straight and relatively short; beaks located close to midpoint of dorsal margin; byssal notch well developed; ctenolium not observed; ligament alivincular-areate, with centrally or slightly posteriorly located resilifer; shell with calcitic outer shell layer, regular simple prismatic in right valve and predominantly homogeneous in left valve, plus aragonitic crossed lamellar middle and inner shell layers. Comparisons: the ligament system indicates affinity with taxa presently classified with Aviculopectinoidea or Heteropectinoidea, contrary to Hertlein's (1969, p. 355) placement of the "*Antijanira* group" in Pectinidae. The style of ornamentation in Antijaniridae is not observed in other Triassic Aviculopectinoidea or Heteropectinoidea, except for *Ornithopecten* (Ornithopectinidae), which differs in having a broad right posterior wing and a delicate right anterior auricle. This family also contains *Amphijanira* Bittner, 1901, and *Oxypteria* Waagen, 1907. The affinity of *Oxypteria* to this group was first recognized by Allasinaz (1972, p. 266).

Arenigomyidae Carter, herein, *fam. nov.* Type genus, *Arenigomya* Cope, 1996, p. 1017. Cope (1996, p. 1017) gave the following diagnosis for *Arenigomya*, which is also the present family diagnosis: "Equivalve, edentulous, trapezoidal bivalve with length one-and-a-half times greater than height. Surface with fine concentric undulose ornament, radial striae and anteriorly prominent commarginal rugae. Surface detail of finely granulose ornament. Strong carina runs from posterior side of umbo to postero-ventral margin of valves. Each valve with subumbonal articulation device." This family is monogeneric.

Aulacomyini Carter, herein, *tribe nov*. Type genus, *Aulacomya* Mörch, 1853 in 1852–1853, p. 53. This new tribe is proposed because Perninae Scarlato & Starobogatov, 1979b, p. 24, is invalid;

its type genus was given without author or date but is inferred from the context to be *Perna* Philipsson in Retzius, 1788. This Perninae is a junior homonym of Pernadae J. Fleming, 1828 (spelling corrected by Zittel, 1895, to Pernidae, the latter based on *Perna* Bruguière, 1789, in Bruguière, Lamarck, & Deshayes, 1789–1832, a junior synonym of *Isognomon* Lightfoot, 1786). Tribe Aulacomyini diagnosis: smooth or radially ribbed, mytiliform members of Mytilinae in which the anterior adductor muscle is present only in the juvenile stage. Other than the type genus, this tribe contains *Ischadium* Jukes-Browne, 1905, *Perna* Philipsson in Retzius, 1788, and *Choromytilus* T. Soot-Ryen, 1952.

Colpomyida Carter, herein, *ord. nov.*, *nom. transl. et correct.* Carter, herein, *ex* Colpomyidae Pojeta & Gilbert-Tomlinson, 1977, p. 37. Taxonomic content indicated above.

Concinellinae Silantiev, herein, *subfam. nov.* Type genus, *Concinella* Betekhtina, 1966, p. 108, 198. Subfamily diagnosis: members of family Prokopievskiidae with thin, subcircular to subtriangular, inequivalve or equivalve, edentulous shells, probably an opisthodetic, possibly submerged ligament with a single, narrow ligament groove appearing on internal molds, possibly representing a secondarily simplified, duplivincular ligament. Ornamentation of regularly imbricated growth lines and fine radial striae. Outer shell layer calcitic irregular simple prismatic; middle and inner shell layers nacreous. Nonmarine. This subfamily is monogeneric.

Crassatellopsidae Carter, herein, *fam. nov.* Type genus, *Crassatellopsis* Beushausen, 1895, p. 146. The following family diagnosis is modified from the description of *Crassatellopsis* by P. A. Johnston (1993): two cardinal teeth in right valve, one anterior and one central, the latter bordered posteriorly by a narrow shelf; two cardinal teeth in left valve, left cardinal tooth immediately posterior to left pivotal cardinal is slender and directed posteroventrally; right cardinal tooth anterior to right pivotal cardinal tooth is slender and directed anteroventrally; no lateral teeth and no shell marginal teeth. Shell shape similar to *Astarte*, trigonally suboval or subcircular; umbos pointed, prosogyrate; shell margin broadly concave immediately anterior to umbos, convex elsewhere; lunule and escutcheon absent; exterior ornament of commarginal ribs, rugae, and growth lines; ribs generally prominent and regularly spaced in early growth stages, in some cases diminishing gradually throughout ontogeny. Hinge plate narrow or broad. Anterior adductor muscle scar reniform or moderately elongate; posterior adductor muscle scar larger. Anterior pedal retractor scar positioned above and separate from anterior adductor scar; above this scar 2 to possibly 4 subumbonal muscle scars are positioned at the junction of hinge plate and the shell interior, with the dorsalmost of these scars most prominent and usually positioned directly below the left or right principal cardinal tooth or its socket in the opposite valve. Posterior internal radial ridge present immediately anterior to posterior adductor muscle scar. Pallial line continuous, nonsinuate, relatively close to shell margin ventrally. Lamellar sublayer of ligament inserting into opisthodetic, narrow, submarginal fossette, but fibrous sublayer of ligament inserting within a strongly oblique, short resilifer; ligament sublayers separated by indistinct ridge on posterior margin of resilifer. This family is monogeneric.

Darininae Signorelli, herein, *subfam. nov.* Type genus, *Darina* J. Gray, 1853, p. 42. Subfamily diagnosis: members of Mactridae with thin, fragile, oval to subcircular, elongate, anteriorly and posteriorly gaping shells, nearly median umbos, a rudimentary, external ligament, a large resilium on a ventrally to posteroventrally strongly projecting chondrophore, a subdued posterior umbonal ridge, and hinge dentition that is concentrated on the central part of the hinge. This subfamily also contains *Darcinia* B. Clark & Durham, 1946. Darininae differs from Mactrinae in having a more elongate shell shape, thinner, more pellucid valves, and more medially concentrated hinge dentition. It differs from Kymatoxinae in having a more elongate, more nearly equilateral shell shape, anterior as well as posterior gapes, less prominent sculpture, and stronger anterior lateral teeth. It differs from Lutrariinae in having a more projecting chondrophore and more median umbos.

Entoliidina Hautmann, herein, *subord. nov.*, *nom. transl. et correct*. M. Hautmann, herein, *ex* Entoliinae Teppner, 1922, p. 89. A suborder proposed for the superfamilies Euchondrioidea and Entolioidea, as indicated above.

Eubivalvia Carter, herein, *unranked clade nov*. A descriptive clade name proposed for the subclasses Protobranchia and Autobranchia.

Eufistulaninae Carter, herein, *subfam. nov*. Type genus, *Eufistulana* Eames, 1951, p. 445. Subfamily diagnosis: obligate tube-dwelling Gastrochaenidae with long, straight-sided tubes; long, largely fused siphons *sensu stricto*; sparse, minute siphonal papillae on incurrent but not excurrent siphonal aperture; anterior pedal retractor muscles passing around visceral mass as they approach the foot; the ventral surface of the foot elongate-ovate in the lateral direction. This subfamily differs from Spengleriinae and Gastrochaeninae in having obligate tube-dwelling life habits in which the tube is very elongate and straight sided, in lacking papillae on the excurrent siphon, and in having a laterally expanded instead of round to anteroposteriorly elongate ventral pedal surface. This family also contains *Kummelia* L. Stephenson, 1937.

Hiatellida Carter, herein, *ord. nov.,* *nom. transl. et correct*. Carter, herein, *ex* Hyatelladae J. Gray, 1824, based on *Hyatella*, an incorrect subsequent spelling of *Hiatella* Bosc *ex* Daudin MS, 1801; =suborder Saxicavoidea Morretes, 1949, p. 47, invalid, based on the junior synonym *Saxicava* Fleuriau de Bellevue, 1802 (=*Hiatella* Bosc *ex* Daudin MS, 1801). Taxonomic content indicated above.

Joannininae Carter, herein, *subfam. nov*. Type genus, *Joannina* Waagen, 1907, p. 94. Subfamily diagnosis: edentulous members of Modiomorphidae differing from sister subfamilies Modiomorphinae and Healeyinae in having more dorsally projecting umbos, better defined anterior auricles, a narrower hinge plate, and, with the exception of *Leidapoconcha*, a shorter, more external ligament nymph and growth lines not continuing from a lunule onto the subumbonal hinge plate. This subfamily also contains *Protopis* Kittl, 1904, *Waijiaoella* Stiller & Chen, 2006, *Qingyaniola* Stiller & Chen, 2006, and *Leidapoconcha* Stiller & Chen, 2006.

Neocardiids Carter, Hylleberg, & Popov, herein, *unranked clade nov*. A descriptive name proposed for the clade of Laevicardiinae + Pleuriocardiinae + "eucardiids" *sensu* J. Schneider (1995, 1998a).

Ornithopectinidae Hautmann, herein, *fam. nov.* Type genus, *Ornithopecten* Cox, 1962, p. 596. Family diagnosis: discs inequilateral, retrocrescent, posteriorly slightly expanded; beaks located well in front of midpoint of dorsal margin; right anterior auricle delicate, with narrow subauricular byssal notch; right posterior wing broad, poorly differentiated but distally pointed; left anterior auricle poorly

differentiated, with indistinct auricular sinus; ornament with radial ribs usually intercalated in different ranks, superimposed by regularly spaced commarginal riblets. Comparisons: Ornithopectinidae differs from the closely related Antijaniridae chiefly in the anteriorly positioned beaks, retrocrescent dics, and broad posterior wing. This family is monogeneric.

Ovatoconchidae Carter, herein, *fam. nov*. Type genus, *Ovatoconcha* Cope, 1996, p. 988. Family diagnosis: members of superfamily Solemyoidea with anteriorly produced shell, as in Ctenodontidae and Solemyidae, but lacking parivincular nymphs and possibly also lacking palaeotaxodont hinge teeth in adult shell. This family is monogeneric.

Paleodorinae Carter, herein, *subfam. nov*. Type genus, *Paleodora* C. Fleming, 1957, p. 943. Subfamily diagnosis: members of family Sanguinolitidae with elongate, subrectangular, slightly sickle-shaped shell with anterior end short and rounded, posterior end longer; posteroventrally rounded and dorsoposteriorly truncate; ornament of low, commarginal ribs, replaced by fine growth lines on the relatively flat, dorsoposterior area; hinge unknown, possibly lacking distinct teeth; sharply elevated, internal shell lamellae radiating from area below beaks anteroventrally and toward the posterior. This subfamily is monogeneric.

Pleuronectitidae Hautmann, herein, *fam. nov*. Type genus, *Pleuronectites* Schlotheim, 1820, p. 217. Family diagnosis: discs procrescent, height of valves greater than length, left valve more convex than right; shell exterior smooth or with radial ribs; right anterior auricle with auricular scroll and deep byssal notch; ctenolium present; right posterior auricle obtuse but well delimited, not projecting above hinge margin; auricles of left valve lacking auricular sinuses and dorsally levelling with hinge margin; ligament alivincular-alate, small bourrelets may be present; hinge lacking resilial teeth; shell interior without buttresses; shell with thin, calcitic outer shell layer, divided into radial sectors with irregular foliated to radially irregular spherulitic prismatic to radially fibrous prismatic structure; aragonitic middle and inner shell layers with evidence of linear to slightly branching crossed lamellar structure. Comparisons and comment: Pleuronectitidae differs from other families of Pectinoidea (as defined by the presence of both an alivincular-alate ligament and a ctenolium, thus excluding the Entolioidea) in having procrescent discs, a flat right valve, a well-developed right anterior auricular scroll, and in lacking teeth and internal buttresses. This family tentatively also contains Lower and Middle Triassic *Periclaraia* Li Jin-hua & Ding, 1981.

Saturnopectininae D. Campbell, herein, *subfam. nov*. *Nom. subst*. D. Campbell, herein, *pro* Saturnellinae Astafieva, 1994, p. 12, 16, invalid, based on *Saturnella* Astafieva, 1994, a preoccupied name. Type genus, *Saturnopecten* Astafieva, 2001a, p. 106, 2001b, p. 557, *nom. nov. pro Saturnella* Astafieva, 1994, *non Saturnella* Hedinger, 1993 [Foraminifera]. Subfamily diagnosis same as for Saturnellinae in Waterhouse (2008, p. 104): "Distinguished by ornament of strong commarginal rugae, radial ornament absent or very faintly developed over body of shell, and stronger over right anterior auricle in some species." This subfamily also contains *Astafievina* Waterhouse, 2008, and *Montorbicula* Waterhouse, 2008.

Similodontidae Carter & Pojeta, herein, *fam. nov*. Type genus, *Similodonta* H. Soot-Ryen, 1964, p. 498. Family diagnosis: members of superfamily Tironuculoidea with low hinge angle (65–100°) and only slightly, if at all, anteroventrally expanded shell. Increased anterior shell gape achieved by orienting ligament axis more nearly perpendicular to the anteroventral shell margins. Anterior hinge teeth convexodont to orthomorphodont and inclined. Posterior hinge teeth convexodont in most genera, to orthomorphodont and inclined. Anterior and posterior tooth rows generally form continuous series below the beaks, but posterior tooth row may overlap anterior tooth row below beaks. Anterior and posterior tooth rows typically nearly equal in length, but the posterior tooth row may be slightly shorter. This family also contains *Australonucula* Sánchez, 1989, *Trigonoconcha* Sánchez, 1999, *Villicumia* Sánchez, 1999, and doubtfully Upper Ordovician *Palaeoconcha* S. A. Miller, 1889.

Spengleriinae Carter, herein, *subfam. nov*. Type genus, *Spengleria* Tryon, 1862a, p. 472, 485. Subfamily diagnosis: obligate endolithic Gastrochaenidae with short to long, entirely separated siphons *sensu stricto*, and with little or no extension of ctenidia and mantle cavity posterior to shell margins. Beaks slightly to moderately anterior, never far anterior or terminal. Numerous, minute siphonal papillae surround each siphonal aperture. Anterior pedal retractor muscles pass around visceral mass as they approach the sole of the foot; ventral surface of foot nearly circular to elongate-ovate in anteroposterior direction. This subfamily differs from Gastrochaeninae in having siphons *sensu stricto* that are entirely separated, and by having little or no extension of the ctenidia and mantle cavity posterior to the shell margins. It differs from Eufistulaninae in having entirely separated siphons *sensu stricto*, and in having obligate endolithic instead of obligate tube dwelling habits. This family also contains *Gastrochaenopsis* Chavan, 1952c, and *Spenglerichaena* Carter, *gen. nov.*

Thraciida Carter, herein, *ord. nov.,* *mom. transl. et correct*. Carter, herein, *ex* subfamily Thraciinae Stoliczka, 1870 in 1870–1871, p. 59, 62. Taxonomic content indicated above.

APPENDIX 2. NEW GENERA AND SPECIES

Superfamily Gastrochaenoidea J. Gray, 1840b
Family Gastrochaenidae J. Gray, 1840b
Subfamily Gastrochaeninae J. Gray, 1840b

Stenochaena* Carter, herein, *gen. nov.

Figure 1

Type species.—*Gastrochaena lacera* Belokrys, 1991, p. 10.

Discussion.—The genus *Stenochaena* is presently proposed for Middle Eocene *Gastrochaena lacera* Belokrys, 1991 (p. 10, pl. 1, *1–3,* fig. 1a, 2), from the Dnepropetrovsk region of Ukraine. The name *Stenochaena* derives from the Greek *stenos* for narrow, and from a variation of *cheniskos* for the upturned prow of a boat, as in *Gastrochaena*. The new genus name is feminine. The name *Stenochaena* reflects the extremely small pedal gape and boatlike shape of the united valves. In addition to *Stenochaena lacera*, this genus includes Upper Jurassic *Gastrochaena zitteli* Boehm, 1883, from Stramberk, Czech Republic, and Jurassic *Gastrochaena valfinensis* de Loriol, 1888, in de Loriol & Bourgeat, 1886–1888, from Valfin, eastern France (possibly a juvenile of *Stenochaena zitteli*).

Generic diagnosis and description.—Members of Gastrochaeninae with a greatly posteriorly elongated, small- to medium-sized shell (9.5–38 mm long), with far anterior but not terminal beaks, a very small, anteriorly restricted pedal gape (comprising less than 12% of shell length), and pedal gape margins oriented at a high angle (over 60°) relative to the hinge axis. The shell's posterior is narrowly ovate

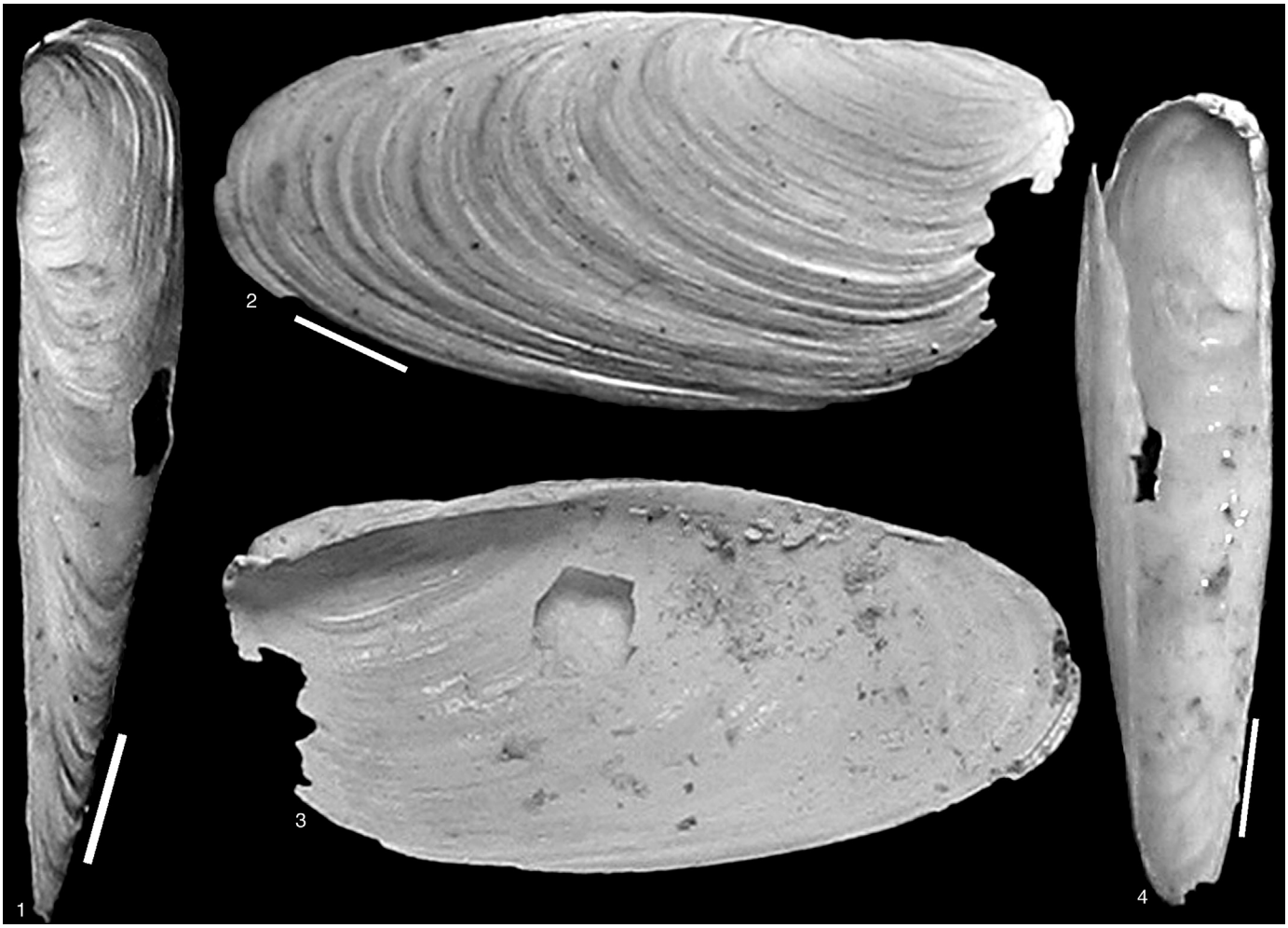

Figure 1. *Stenochaena lacera* (Belokrys, 1991) (new combination), holotype, right valve, Geologic Museum of Krivorozh'ye Mining Institute, Bv=148/74; middle Eocene, Dnepropetrovsk region, Ukraine; *1–4,* dorsal view perpendicular to dorsal hinge, lateral exterior view, lateral interior view, and ventral view perpendicular to subumbonal hinge, respectively; scale bars = 1 mm (new).

and ornamented with regularly spaced, erect, commarginal lamellae (*Stenochaena zitteli*) or irregularly spaced growth lines (*Stenochaena lacera*). There are no mineralized periostracal spikes or spines cemented to the shell. The boring's shell chamber is subcylindrical, tapering far anteriorly and far posteriorly to conform with the shell's shape. The anterior half of the siphonal boring appears like a slightly narrower extension of the shell chamber, without a strong constriction in boring width at the base of the siphons. The posterior half of the siphonal boring is divided into incurrent and excurrent areas that diverge at an angle of 20°–25°. The hinge is thin, edentulous, and lacks myophores. Posterior to the beaks, the hinge is slightly convex and nearly parallel with the ventral shell margin; anterior to the beaks, it is very short, dorsally slightly deflected, and laterally strongly deflected (about 60°) from the subumbonal hinge axis. This lateral deflection frames a distinct, triangular opening between the dorsoanterior shell margins. The ligament is opisthodetic and parivincular, with very thin, not strongly dorsally projecting nymphs. The anterior adductor muscle scar is positioned immediately adjacent to the deflected dorsoanterior shell margin. Other muscle scars are not visible, despite excellent preservation of the aragonitic shells.

Comparisons.—No other member of Gastrochaenidae approaches *Stenochaena* in its combination of a very anteriorly restricted, high-angle pedal gape and greatly posteriorly extended, nearly cylindrical shell shape.

Distribution.—*Stenochaena* is known only from the Upper Jurassic and Middle Eocene of Europe.

Ecology.—Specimens of *Stenochaena lacera* from Belokrys (1991) came from borings in the dome-shaped coral *Astraeopora sphaeroidalis* (Mich.). Belokrys speculated that juveniles of this species bored through living coral tissue. Although this cannot be certain, the borings are sometimes partially overgrown by coral, indicating close proximity to living coral tissue at the time of settlement. Calcareous laminae are sometimes present in the anterior of the boring's shell chamber, indicating that the bivalves sometimes bored in a posterior direction to keep pace with coral growth.

Boehm's (1883) specimen of *Stenochaena zitteli* came from an Upper Jurassic limestone at Stramberk, Czech Republic (Boehm, 1883, p. 495, pl. 53,*6–7*). Boehm indicated that his specimen occupied a calcareous tube that is anteriorly thin walled and posteriorly rather thick walled. This putative tube is probably the calcareous lining of

Figure 2. *Spenglerichaena apertissima* (Deshayes, 1855a) (new combination), holotype, paired valves, British Museum (Natural History), 1978086, Hugh Cuming collection; Recent, Isle of Panay, Philippines; *1–3,* right lateral exterior view, left lateral interior view, and ventral view perpendicular to subumbonal hinge, respectively; scale bars = 5 mm (new).

a boring, thickened posteriorly to conform with the shell's shape, as in modern endolithic gastrochaenids. The British Museum has in its collections an upper Tithonian, Upper Jurassic specimen of *S. zitteli*, also from Stramberk (British Museum Geology Department L23855), with impressions of a coral substratum on the exterior of its boring cast.

Superfamily Gastrochaenoidea J. Gray, 1840b
Family Gastrochaenidae J. Gray, 1840b
Subfamily Spengleriinae Carter, herein, *subfam. nov.*

Spenglerichaena Carter, herein, *gen. nov.*

Figure 2

Type species.—*Gastrochaena apertissima* Deshayes, 1855a, p. 326.

Discussion.—The genus *Spenglerichaena* is presently proposed for Recent, Indo-Pacific *Gastrochaena apertissima* Deshayes, 1855a, the type species. The name derives from *Spengleria* and *Gastrochaena*, in recognition of anatomical similarities with *Spengleria* and shell similarities, especially the lack of a raised posterior triangular area, with *Gastrochaena*. The new genus name is feminine.

Generic diagnosis and description.—Members of Spengleriinae with anteriorly strongly laterally inflated shells, moderately anterior umbos, completely divided, relatively long siphons *sensu stricto*, little or no extension of the ctenidia and posterior mantle cavity posterior to the shell margins, no raised, posterior triangular area, and no distinct umbonal-posteroventral sulcus. The shell posterior has irregular, commarginal growth lamellae and a thin, nonmineralized periostracum. The ctenidia are nonplicate, the pedal probing organ is spatulate, and the calcareous boring linings lack an annular septum and spiny baffles at the base of the siphonal boring.

Comparisons.—*Spenglerichaena* resembles *Spengleria* in its completely separated siphons *sensu stricto* and anterior pedal retractor muscles that pass around the visceral mass as they approach the foot. However, *Spenglerichaena* lacks the raised posterior triangular area, aragonitic periostracal spikes, distinct umbonal-posteroventral sulcus, pointed calcareous baffles in the boring lining at the base of the siphons, plicate ctenidia, and more medially positioned umbos of *Spengleria*. Its nonplicate ctenidia, spatulate pedal probing organ, lack of a raised, posterior triangular area, and lack of mineralized periostracal spines are more typical of *Gastrochaena* and *Rocellaria*, but in those genera, the siphons *sensu stricto* and *sensu lato* are largely fused, and the ctenidia and mantle cavity are extended at least slightly into the siphonal part of the boring, posterior to the shell margins. *Spenglerichaena* differs from *Gastrochaenopsis* in having a wider, longer pedal gape, no raised posterior triangular area, and greater lateral inflation of the shell.

Distribution.—Borings similar to those made by *Spenglerichaena* are known from the Lutetian, Middle Eocene near Verona, Italy, but the associated shells are unknown (Savazzi, 1980). *Spenglerichaena* is therefore definitely known only from the Recent tropical Indo-West Pacific Region.

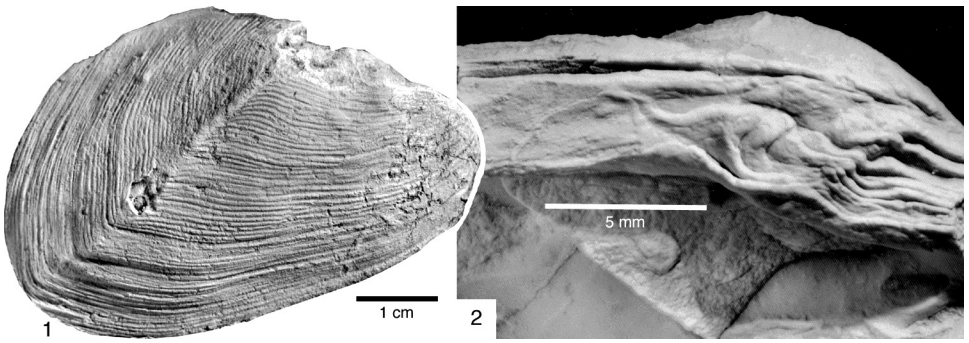

Figure 3. *Goniomorpha hamiltonensis* (J. Hall & Whitfield, 1869) (new combination), Middle Devonian, Marcellus (?) Formation, Hamilton Group, central New York State; *1,* exterior of broken, calcite-replaced right valve (Yale Peabody Museum 10276); *2,* subumbonal hinge of calcite-replaced left valve (Yale Peabody Museum 10060), from north of Morrisville, New York, showing parivincular ligament insertion area (upper left) and crude subumbonal dentition crossed by prominent growth lines (new).

Ecology.—*Spenglerichaena* bores primarily into thicker coral substrata that are less subject to breakage.

Superfamily Modiomorphoidea S. A. Miller, 1877
Family Modiomorphidae S. A. Miller, 1877
Subfamily Modiomorphinae S. A. Miller, 1877

Goniomorpha* Carter, herein, *gen. nov.

Figure 3

Type species.—*Goniophora hamiltonensis* J. Hall & Whitfield, 1869, p. 36.

Discussion.—The genus *Goniomorpha* is presently proposed for sharply carinate, posteriorly obliquely truncate, subumbonally irregularly dentate modiomorphids formerly classified as *Megalodon* J. de C. Sowerby, 1827, in James Sowerby, 1812–1845, or *Goniophora* J. Phillips, 1848. The type species is presently designated as Middle Devonian *Goniophora hamiltonensis* J. Hall & Whitfield, 1869. The name *Goniomorpha* derives from *Gonio-* (from *Goniophora* Phillips, 1848) and *morpha* (from *Modiomorpha* J. Hall & Whitfield, 1869). Johnston (1993, p. 76) was aware that "*Goniophora*" *hamiltonensis* is "almost certainly not congeneric" with *Goniophora* J. Phillips, 1848, and he pointed out that it differs from true *Goniophora* in having a depressed, striated lunule, the growth lines of which continue onto the subumbonal hinge plate, as in *Modiomorpha concentrica* (Conrad, 1838) (see J. Hall, 1884 in 1883–1884, pl. 43,*18–19;* Bailey, 1983, fig. 47; Carter, 1990a, fig. 50A). Carter (1990a, p. 266) indicated that "*Goniophora" hamiltonensis* belongs in Modiomorphidae, noting that it is microstructurally similar to *M. concentrica*, and Johnston (1993) also assigned "*Goniophora" hamiltonensis* to Modiomorphidae.

True *Goniophora* is a mecynodontid based on upper Silurian *Goniophora cymbaeformis* Sowerby in Murchison, 1839. This mecynodontid resembles *Goniomorpha* in having an equivalve, strongly inequilateral, posteriorly elongate shell with simple, commarginal ornament, and a sharp, angular carina extending from the beak to the posteroventral shell margin. However, it differs from *Goniomorpha* in having prominent anterior and posterior internal ridges (Johnston, 1993, p. 74–76; Liljedahl, 1994, p. 74, fig. 52I). The hinge and ligament of *Goniophora cymbaeformis* are unknown, but other species of this genus differ from *Goniomorpha* in having a narrower hinge plate, largely restricted to the subumbonal area, with finer, more regularly shaped cardinal teeth, an opisthodetic, parivincular ligament with shorter, more external nymphs, no strong growth lines on the subumbonal hinge plate, and no deeply impressed lunule (Liljedahl, 1994, p. 74).

Goniomorpha hamiltonensis was described and illustrated by J. Hall (1885, p. 296, pl. 43,*8–15, 17–21*), Carter and Tevesz (1978), Carter (1990a, p. 266–268, fig. 50), Carter, Lutz, and Tevesz (1990, p. 391), and Johnston (1993, p. 76). Other species presently included in *Goniomorpha* lack posterior lateral teeth, and they all have at least one, weakly to strongly developed, irregular but more or less triangular cardinal tooth in the left valve. A second, weaker cardinal tooth may be present posterior to the principal cardinal tooth in the left valve, e.g., in Lower Devonian *Goniomorpha stuertzi* (Beushausen, 1895) (see Maillieux, 1937, p. 136), or a large, rounded cardinal tooth may be present in the right valve, anterior to the right, principal cardinal socket, as in Lower Devonian *Goniomorpha cognata* (Drevermann, 1902) (see Drevermann, 1902, p. 88, pl. 10,*15–16*).

Carter (1990a, p. 266) incorrectly indicated that "*Goniophora*" *hamiltonensis* has a very weak left posterior lateral tooth overlapping a weak right posterior lateral tooth. This was based on a misinterpretation of a shallow flexure near the base of the posterior hinge plate in an isolated left valve. Subsequent sections through united valves from the Hamilton Group near Morrisville, New York, along with the observations by C. F. Römer (1844) and Maillieux (1937), indicate a lack of lateral hinge teeth in this genus.

Generic diagnosis and description.—*Goniomorpha* encompasses members of subfamily Modiomorphinae with a sharply defined, umbonal-posteroventral carina, an angular, rostrate posterior, and no posterior lateral hinge teeth. Like other Modiomorphinae, the shell is equivalved, posteriorly elongate, and strongly inequilateral, with low umbos, a deeply impressed, growth-lined lunule with growth lines extending from the lunule onto a wide, subumbonal hinge plate, a weakly or more strongly developed, irregular, more or less triangular, left cardinal tooth, a flat, wide, posterior hinge plate, and slightly submerged, elongate, parivincular ligament nymphs. In some species, a second, smaller, more posterior, left cardinal tooth is also present, or a rounded cardinal tooth is present in front of the principal cardinal socket in the right valve. The adductors are heteromyarian, the anterior one deeply impressed and positioned just below the hinge, and bounded posteriorly by a low, umbonal ridge or buttress. The posterior adductor muscle scar is more shallowly impressed. The anterior pedal retractor scar is separated from

the anterior adductor scar, but the posterior pedal retractor scar is partially confluent with the posterior adductor scar. The pallial line is unknown for the type species, but it was probably integripalliate, judging from other members of Modiomorphinae. The shell mineralogy and microstructure resemble *Modiomorpha concentrica,* except that mineralized periostracal spikes are fused to the shell's exterior anteriorly (see Carter, 1990a, p. 268).

Comparisons.—*Goniomorpha* resembles *Modiomorpha* in having a crudely shaped cardinal tooth in the left valve, but *Goniomorpha* has a more sharply defined posterior carina, a more sharply truncate posterior, a more variable subumbonal dentition, and no posterior lateral teeth. A posterior lateral tooth is variably developed in *Modiomorpha* (see Carter, 1990a, p. 266).

Distribution.—*Goniomorpha* includes most of the Lower Devonian species assigned by Maillieux (1937) to *Goniophora*, e.g., *Goniophora bipartita* (F. Römer, 1844), *G. dorlodoti* Asselberghs, 1913, *G. trapezoidalis* Kayser, 1885, *G. schwerdi* Beushausen, 1895, *G. stuertzi* Beushausen, 1895, *G. praecedens* Drevermann, 1902, *G. cognata* Drevermann, 1902, *G. rhenana* Beushausen, 1895, *G. stainieri* Maillieux, 1937, *G. kaisini* Maillieux, 1937, and *G. atrebatensis* Leriche, 1912. It also contains most, if not all, of the New York Middle and Upper Devonian species placed by Hall (1885, p. 293–306) in *Goniophora*, e.g., *Goniophora acuta* (Hall & Whitfield, 1869), *G. rugosa* (Conrad, 1841), *G. truncata* Hall, 1883 in 1883–1884, *G. glaucus* (Hall & Whitfield, 1869), *G. ida* (Hall & Whitfield, 1869), *G. carinata* (Conrad, 1841), *G. trigona* Hall, 1885, and *G. chemungensis* (Vanuxem, 1842).

Paleoecology.—*Goniomorpha hamiltonensis* occurs in the Middle Devonian Hamilton Group of central New York State in clay-rich sandstones also containing a high diversity of other marine invertebrates, especially the bivalves *Ptychopteria* (Pterineidae), rare pectinoids, and the gastropods *Palaeozyglopleura* and *Bembexia*. *Goniomorpha hamiltonensis* is not usually found in large concentrations. The strongly and sharply truncate, elongate posterior and lack of a distinct byssal notch suggest a shallow infaunal life habit, with the shell's posterior end at or just above the sediment-water interface. The species is never associated with abundant nuculoids and muddy, fine grained sediments, suggesting suspension feeding habits and low tolerance of resuspended, muddy substrata.

Superfamily Ostreoidea Rafinesque, 1815
Family Arctostreidae Vialov, 1983
Subfamily Palaeolophinae Malchus, 1990

Nacrolopha Carter & Malchus, herein, *gen. nov.*

Figure 4

Type species.—*Nacrolopha carolae* Carter & Malchus, herein, *gen. et sp. nov.*

The new genus *Nacrolopha* is presently proposed for the new species, Carnian, Upper Triassic *Nacrolopha carolae* Carter & Malchus (Fig. 4), with the holotype of the latter being a well-preserved left valve from Alpe di Specie, Cassiano Formation (alt. 1900–2000 m), Italy (UNC 13497b). The holotype was described and illustrated as an unknown genus and species by Carter (1990a, p. 217–220, fig. 32). The genus name derives from the nacreous microstructure and *Lopha*-like shape of the type species. The species is dedicated to Carol Elizabeth Via Carter. The holotype, which has been sectioned for microstructural analysis, is deposited in the paleontological collection of the Yale University Peabody Museum of Natural History, New Haven, Connecticut.

Generic and species diagnosis.—*Nacrolopha* is characterized by a posteriorly instead of posterodorsally positioned posterior adductor scar, a posterior pedal retractor scar that is partially confluent with the posterior adductor scar, a minute, anterior adductor scar, and a nacroprismatic left valve that lacks foliated structure, structural chambering, and chalky deposits. This diagnosis applies to the genus and to its type species.

Generic and species description.—The following description of *N. carolae* is based on left valve UNC 13497b. The beak is prosogyrate in the juvenile stage and orthogyrate in the adult stage. The hinge is slightly arched and smooth except for 9 shallow pits (possible preparation artifacts) posterior and ventral to the cardinal area. There are no chomata. The ventral and lateral internal shell margins vary from nearly smooth to slightly radially costate. The exterior has about 25 coarse, radial costae immediately adjacent to the attachment area; these increase to about 30 at the shell margins through intercalation and branching, but mostly through intercalation. A pallial line is not visible, but this could be covered by an attached brachiopod and adherent sediment. The posterior adductor muscle scar (5.1 × 3.5 mm) is ovate, higher than wide, and much larger than the anterior adductor muscle scar (1.4 × 0.8 mm); both scars are positioned near their respective shell margins, and both are elevated by a shelly buttress, that supporting the anterior adductor being more prominent by virtue of its position on a more steeply inclined shell surface. The posterior pedal retractor scar measures 1.2 × 1.0 mm, and its center is 40% from the ventral shell margin toward the dorsal end of the shell. The ligament insertion area is acutely triangular and alivincular-arcuate, with the fibrous attachment area distinctly impressed below narrow, distinct, anterior and posterior bourrelets. The "incipient" crura that Carter (1990a, p. 219) described for this specimen are actually the flanks of the alivincular-arcuate ligament (Hautmann, 2004, 2006). The ligament insertion area is covered by a very thin aragonitic ligostracum of nearly vertical irregular simple prisms (ISP) and steeply dipping fibrous prisms. The underlying hinge is nacreous. The outer shell layer is very thin and varies from ISP to regular simple prismatic to homogeneous mosaic, with prisms 6–10 μm wide. The middle shell layer is nacreous and closely approaches the shell margins. Where marginal radial folds are present, the nacreous laminae are strongly reflected outward. The adductor myostracum is finely ISP. The inner shell layer is aragonitic and mostly coarsely textured ISP, with minor nacreous lensatic sublayers.

Comparisons.—*Nacrolopha carolae* differs from all other presently known members of Palaeolophinae in having nacre, an anterior adductor muscle scar, and a posterior pedal retractor scar. Because these features are internal, the composition of the genus is poorly known. *Palaeolopha montiscaprilis* (Klipstein, 1843) (Klipstein, 1843, p. 247, pl. 16,*5*) appears externally similar to *N. carolae* (see also Wöhrmann, 1889, p. 200, pl. 6,*1–3*), but illustrations of that species do not show an anterior adductor or posterior pedal retractor muscle scar. Possible congeners of *Nacrolopha* include certain other species assigned by Malchus (1990) to *Palaeolopha*, such as Carnian, Upper Triassic *Palaeolopha mediocostata* (Wöhrmann, 1889), and *Palaeolopha calceoformis* (Broili, 1904). However, these species are unknown both microstructurally and in the details of their muscle scars.

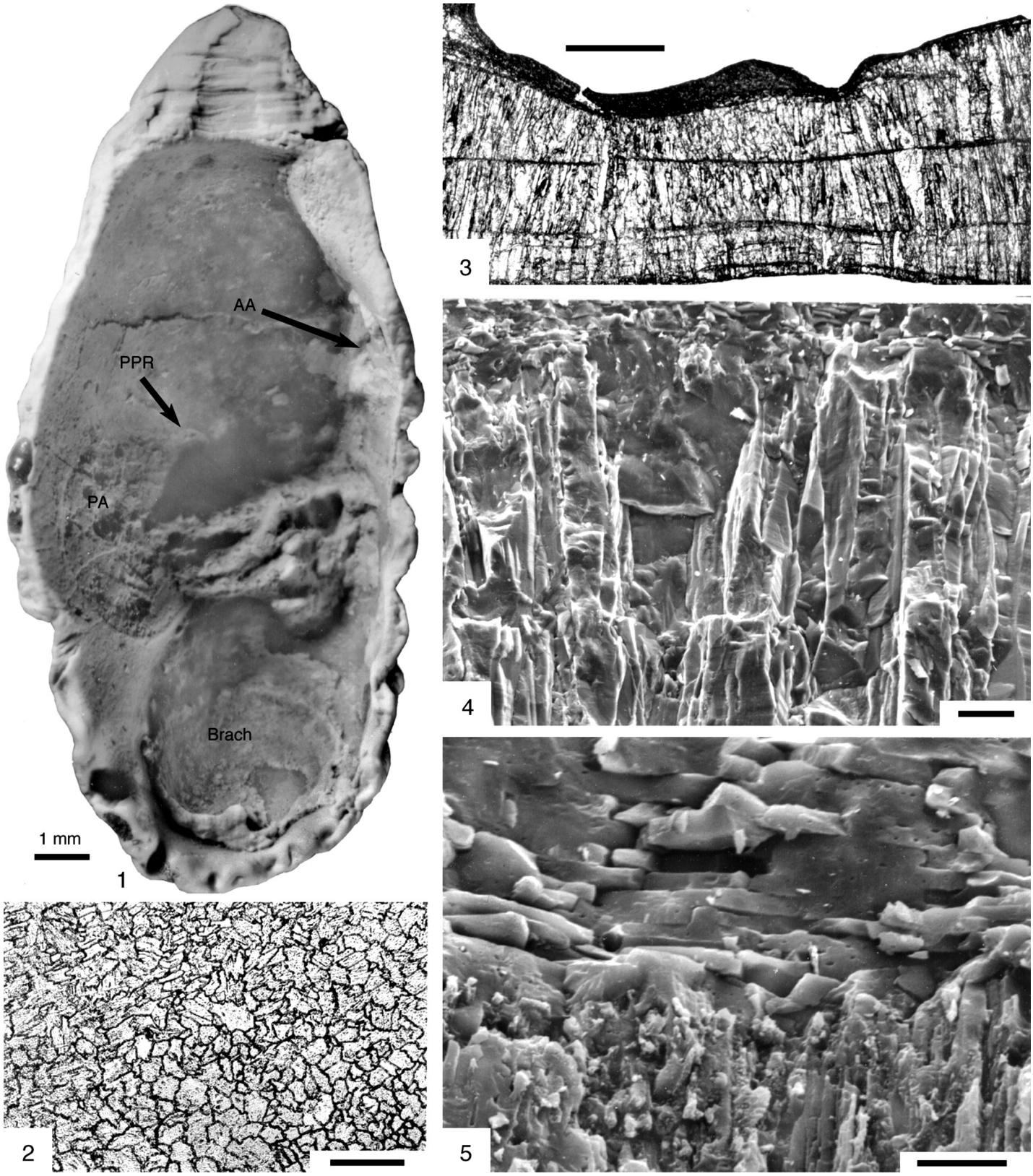

Figure 4. *Nacrolopha carolae* Carter & Malchus, *gen. et sp. nov.,* holotype, left valve, University of North Carolina 13497b; Carnian, Upper Triassic, Cassiano Formation, Alpe di Specie, altitude 1900–2000 m, Dolomitic Alps, northeast of Cortina d'Ampezzo, Italy; *1,* interior of left valve, showing alivincular-arcuate ligament insertion area, muscle scars for posterior adductor (*PA*), anterior adductor (*AA,* supported by a slight buttress), and posterior *(Continued on facing page.)*

The presence of ISP and homogeneous mosaic structure in the outer shell layer of the left valve of *N. carolae* resembles some Triassic bakevelliids and gryphaeids, e.g., the Middle Triassic bakevelliid *Hoernesia socialis* (Schlotheim, 1823 in 1822–1823) (Carter, 1990b, p. 337) and the Upper Triassic gryphaeid *Gryphaea nevadensis* McRoberts, 1992 (McRoberts & Carter, 1994). Some Jurassic gryphaeids retained homogeneous mosaic structure in their outer shell layer, typically between an RSP outermost sublayer and the foliated middle shell layer, e.g., in Jurassic *Gryphaea arcuata* (Lamarck, 1801) and in *Praeexogyra hebridica* (Forbes, 1851) (Carter, 1990c, p. 356–359).

The dorsally rounded posterior adductor muscle scar in *N. carolae* resembles Gryphaeidae and differs from the dorsally flattened or concave posterior adductor scar in Ostreidae (Harry, 1985).

Nacrolopha carolae resembles Norian–Rhaetian, Upper Triassic *Umbrostrea emamii* Hautmann, 2001b, from the Nayband Formation of Iran, in having some calcitic RSP in its outer shell layer and nacre in its inner shell layers. However, *U. emamii* differs in having a regularly to irregularly foliated instead of nacreous middle shell layer. In *U. emamii,* the outer layer of the right valve is RSP to slightly ISP, whereas that of the left valve is coarsely ISP (Hautmann, 2001b, pl. 7; 2006). Structural chambers are lacking in the foliated layer. *Umbrostrea* lacks an adult anterior adductor muscle scar and adult posterior pedal retractor muscle scars (Hautmann, 2001b).

Distribution.—Nacrolopha carolae is presently known only from the Carnian, Upper Triassic, Cassiano Formation at Alpe di Specie, Italy.

APPENDIX 3. CLASSIFICATION ABOVE FAMILY RANK

The following abstract includes all taxa at or above the rank of superfamily (superfamilies are listed in alphabetical order), plus all plesions and paraplesions. Taxa above the rank of order are highlighted with bold face type. Symbols: • = extinct; ! = paraphyletic.

Class Bivalvia Linnaeus, 1758 in 1758–1759
•Grade Euprotobranchia! Nevesskaja, 2009
•Order Fordillida! Pojeta, 1975: •Superfamily Fordilloidea! Pojeta, 1975
•Order Tuarangiida MacKinnon, 1982
Clade Eubivalvia Carter, *nov.*
Subclass Protobranchia Pelseneer, 1889 (=Palaeotaxodonta Korobkov, 1954)
Superorder Nuculiformii! Dall, 1889 (=Foliobranchia Ménégaux, 1889)
Order Nuculida! Dall, 1889: Superfamily Nuculoidea! J. Gray, 1824; Superfamily Pristiglomoidea Sanders & Allen, 1973
Order Solemyida Dall, 1889: Superfamily Manzanelloidea Chronic, 1952; Superfamily Solemyoidea! J. Gray, 1840b
Superorder Nuculaniformii Carter, Campbell, & Campbell, 2000
•Order Afghanodesmatida! Carter, *nov.*: •Superfamily Afghanodesmatoidea! Scarlato & Starobogatov, 1979a; •Superfamily Tironuculoidea Babin in Babin & others, 1982
Order Nuculanida Carter, Campbell, & Campbell, 2000: Superfamily Malletioidea! H. Adams & A. Adams, 1858 (d'Orbigny, 1846); Superfamily Nuculanoidea H. Adams & A. Adams, 1858 (J. Gray, 1854a)
Subclass Autobranchia Grobben, 1894
Infraclass Pteriomorphia Beurlen, 1944
Cohort Mytilomorphi! Férussac, 1822 in 1821–1822
Order Mytilida! Férussac, 1822 in 1821–1822: •Superfamily Modiolopsoidea! P. Fischer, 1886; Superfamily Mytiloidea Rafinesque, 1815
•Order Colpomyida Carter, *nov.*: •Superfamily Colpomyoidea Pojeta & Gilbert-Tomlinson, 1977
Cohort Ostreomorphi Férussac, 1822 in 1821–1822
(plesion) •Family Matheriidae Scarlato & Starobogatov, 1979a
(plesion) •Family Ischyrodontidae Scarlato & Starobogatov, 1979a
Subcohort Arcioni! J. Gray, 1854a
•Order Cyrtodontida! Scarlato & Starobogatov in Nevesskaja & others, 1971
•Suborder Cyrtodontidina! Scarlato & Starobogatov in Nevesskaja & others, 1971: •Superfamily Cyrtodontoidea! Ulrich in Ulrich & Scofield, 1894; •Superfamily Falcatodontoidea Cope, 1996; •Superfamily Pichlerioidea Scarlato & Starobogatov, 1979a
•Suborder Praecardiidina Newell, 1965 (=Nepiomorphia Kříž, 2007)
•Hyporder Praecardioidei Newell, 1965: •Superfamily Cardioloidea R. Hoernes, 1884; •Superfamily Praecardioidea R. Hoernes, 1884

Figure 4 *(continued from facing page).*
pedal retractor (*PPR*); a brachiopod (*Brach*) is cemented to shell's interior; *2,* horizontal acetate peel through aragonitic ISP inner shell layer also visible in view *3,* scale bar = 100 µm; *3,* anterior-posterior, vertical acetate peel showing nacreous middle shell layer (above, darker layer) and the underlying aragonitic ISP inner shell layer, scale bar = 0.5 mm; *4,* SEM, vertical fracture through nacreous middle shell layer (barely visible at extreme top of figure) and the aragonitic ISP inner shell layer, scale bar = 25 µm; *5,* vertical fracture through the nacreous middle shell layer and aragonitic ISP adductor myostracum, scale bar = 5 µm; calcitic outer shell layer does not appear in any of these figures (new).

•Hyporder Antipleuroidei Kříž, 2007: •Superfamily Dualinoidea Conrath, 1887
Order Arcida J. Gray, 1854a: Superfamily Arcoidea Lamarck, 1809; •Superfamily Glyptarcoidea Cope, 1996; Superfamily Limopsoidea Dall, 1895a; Superfamily Philobryoidea Félix Bernard, 1897
Subcohort Ostreioni Férussac, 1822 in 1821–1822
•Megaorder Myalinata H. Paul, 1939
•Order Myalinida H. Paul, 1939: •Superfamily Alatoconchoidea H. Termier, Termier, & Lapparent, 1974; •Superfamily Ambonychioidea! S. A. Miller, 1877; •Superfamily Inoceramoidea C. Giebel, 1852; •Superfamily Prokopievskioidea H. Vokes, 1967
Megaorder Ostreata Férussac, 1822 in 1821–1822
(plesion) •Family Myodakryotidae Tunnicliff, 1987
Superorder Ostreiformii Férussac, 1822 in 1821–1822 (=Eupteriomorphia Boss, 1982)
Order Ostreida Férussac, 1822 in 1821–1822
Suborder Ostreidina Férussac, 1822 in 1821–1822: Superfamily Ostreoidea Rafinesque, 1815
Suborder Malleidina! J. Gray, 1854a
(paraplesion) •Family Pterineidae! F. Meek, 1864b
Superfamily Pinnoidea Leach, 1819; •Superfamily Posidonioidea Neumayr, 1891; Superfamily Pterioidea! J. Gray, 1847b (Goldfuss, 1820); •Superfamily Rhombopterioidea! Korobkov in Eberzin, 1960
Order Pectinida J. Gray, 1854a
(paraplesion) •Superfamily Leiopectinoidea! Krasilova, 1959
Suborder Pectinidina J. Gray, 1854a: Superfamily Pectinoidea Rafinesque, 1815
Suborder Anomiidina J. Gray, 1854a
Hyporder Anomioidei J. Gray, 1854a
•(plesion) ?Family Saharopteriidae G. Termier & H. Termier in Pareyn, Termier, & Termier, 1972
•(paraplesion) Superfamily Pseudomonotoidea! Newell, 1938
Minorder Anomioitei J. Gray, 1854a: Superfamily Anomioidea Rafinesque, 1815
Minorder Dimyoitei Ridewood, 1903: Superfamily Dimyoidea P. Fischer, 1886; Superfamily Plicatuloidea J. Gray, 1854b; •Superfamily Prospondyloidea! Pchelintseva, 1960
•Hyporder Aviculopectinoidei! Starobogatov, 1992: •Superfamily Aviculopectinoidea! F. Meek & Hayden, 1865; •Superfamily Chaenocardioidea S. A. Miller, 1889; •Superfamily Heteropectinoidea! Beurlen, 1954; •Superfamily Pterinopectinoidea! Newell, 1938
Hyporder Limoidei R. Moore in Moore, Lalicker, & Fischer, 1952: Superfamily Limoidea Rafinesque, 1815
•Hyporder Monotoidei Waterhouse, 2001: •Superfamily Buchioidea! Cox, 1953 (P. Fischer, 1886); •Superfamily Eurydesmatoidea! Reed, 1932; •Superfamily Oxytomoidea Ichikawa, 1958
Suborder Entoliidina! Hautmann, *nov*.: Superfamily Entolioidea! Teppner, 1922; •Superfamily Euchondrioidea! Newell, 1938
Infraclass Heteroconchia Hertwig, 1895
Cohort Uniomorphi J. Gray, 1854a (=*Palaeoheterodonta* of authors)
(plesion) •Family Thoraliidae N. Morris, 1980
Subcohort Unioni J. Gray, 1854a
(paraplesion) •Superfamily Lyrodesmatoidea! P. Fischer, 1886
Megaorder Unionata J. Gray, 1854a
Order Trigoniida! Dall, 1889: •Superfamily Myophorelloidea T. Kobayashi, 1954; •Superfamily Pseudocardinioidea Martinson, 1961; Superfamily Trigonioidea! Lamarck, 1819; •?Superfamily Trigonioidoidea Cox, 1952 (or in Unionida?); •Superfamily Trigonodoidea! Modell, 1942
Order Unionida J. Gray, 1854a
Suborder Unionidina J. Gray, 1854a: Superfamily Mullerioidea Deshayes, 1832a; •?Superfamily Trigonioidoidea Cox, 1952 (or in Trigoniida?); Superfamily Unionoidea Rafinesque, 1820
Suborder Hyriidina Hoeh & others, 2009: Superfamily Hyrioidea Swainson, 1840
•Suborder Silesunionidina! Skawina & Dzik, 2011: •Superfamily Silesunionoidea! Skawina & Dzik, 2011
Cohort Cardiomorphi Férussac, 1822 in 1821–1822 (=*Heterodonta* of authors)
(plesion) •Family Lipanellidae Sánchez, 2005
Subcohort Carditioni Dall, 1889
•Order Actinodontida! Deschaseaux, 1952: •?Superfamily Amnigenioidea Khalfin, 1948; •Superfamily Anodontopsoidea! S. A. Miller, 1889; •Superfamily Nyassoidea! S. A. Miller, 1877; •Superfamily Oriocrassatelloidea Boyd & Newell, 1968; •Superfamily Palaeomuteloidea Lahusen, 1897
Order Carditida Dall, 1889
(plesion) •?Family Archaeocardiidae Khalfin, 1940
(paraplesion) •Family Eodonidae! Carter, Campbell, & Campbell, 2000

Superfamily Crassatelloidea Férussac, 1822 in 1821–1822

Subcohort Cardioni Férussac, 1822 in 1821–1822 (=Euheterodonta Giribet & Distel, 2003)

Infrasubcohort Lucinidia J. Gray, 1854a

(paraplesion) •Superfamily Babinkoidea! Horný, 1960

Order Lucinida J. Gray, 1854a: Superfamily Lucinoidea! J. Fleming, 1828; Superfamily Thyasiroidea Dall, 1900 (Dall, 1895a)

Infrasubcohort Cardiidia Férussac, 1822 in 1821–1822

(paraplesion) •Superfamily Grammysioidea! S. A. Miller, 1877

Megaorder Cardiata Férussac, 1822 in 1821–1822 (=Neoheterodontei Taylor & others, 2007)

Superorder Cardiiformii Férussac, 1822 in 1821–1822

•Order Modiomorphida! Newell, 1969c: •Superfamily Modiomorphoidea! S. A. Miller, 1877

•Order Megalodontida! Starobogatov, 1992: •Superfamily Mecynodontoidea! Haffer, 1959; •Superfamily Megalodontoidea! J. Morris & Lycett, 1853

•Order Hippuritida Newell, 1965: •Superfamily Radiolitoidea d'Orbigny, 1847b; •Superfamily Requienioidea Kutassy, 1934

Order Cardiida Férussac, 1822 in 1821–1822

(paraplesion) •Superfamily Kalenteroidea! Marwick, 1953

Suborder Cardiidina Férussac, 1822 in 1821–1822

(paraplesion) •Family Palaeocarditidae! Chavan, 1969b

Hyporder Cardioidei Férussac, 1822 in 1821–1822: Superfamily Cardioidea Lamarck, 1809; Superfamily Tellinoidea Blainville, 1814

Hyporder Veneroidei J. Gray, 1854a

Minorder Veneroitei J. Gray, 1854a: Superfamily Arcticoidea! R. Newton, 1891 (d'Orbigny, 1844 in 1844–1848); Superfamily Chamoidea Lamarck, 1809; Superfamily Cyrenoidea J. Gray, 1840b; Superfamily Gaimardioidea Hedley, 1916; Superfamily Glossoidea J. Gray, 1847b (J. Gray, 1840b); Superfamily Hemidonacoidea Scarlato & Starobogatov in Nevesskaja & others, 1971; Superfamily Mactroidea Lamarck, 1809; Superfamily Ungulinoidea J. Gray, 1854b; Superfamily Veneroidea Rafinesque, 1815

Minorder Dreissenoitei R. Moore in Moore, Lalicker, & Fischer, 1952: Superfamily Dreissenoidea J. Gray, 1840a; Superfamily Sphaerioidea! Deshayes, 1855b (Rafinesque, 1820)

Suborder Gastrochaenidina Morretes, 1949: Superfamily Gastrochaenoidea J. Gray, 1840b

•Suborder Anthracosiidina Silantiev & Carter, 2011: •Superfamily Anthracosioidea Amalitzky, 1892; •Superfamily Palaeanodontoidea Modell, 1964; •Superfamily Prilukielloidea Starobogatov, 1970

Suborder Leptonidina Dall, 1889: Superfamily Cyamioidea! G. O. Sars, 1878; Superfamily Galeommatoidea J. Gray, 1840b

Superorder Pholadiformii J. Gray, 1854a

Order Pholadida J. Gray, 1854a: Superfamily Myoidea Lamarck, 1809; Superfamily Pholadoidea Lamarck, 1809; •Superfamily Pleuromyoidea! Zittel, 1895

Megaorder Poromyata Ridewood, 1903

Order Poromyida Ridewood, 1903: Superfamily Cuspidarioidea Dall, 1886; Superfamily Parilimyoidea! B. Morton, 1981; Superfamily Poromyoidea Dall, 1886; Superfamily Verticordioidea! Stoliczka, 1870 in 1870–1871

Order Pholadomyida! Newell, 1965: Superfamily Pholadomyoidea! W. King, 1844

Order Pandorida R. Stewart, 1930: Superfamily Clavagelloidea d'Orbigny, 1844 in 1844–1847; Superfamily Pandoroidea! Rafinesque, 1815

Order Thraciida Carter, *nov.*: Superfamily Thracioidea! Stoliczka, 1870 in 1870–1871 (Couthouy, 1839)

Megaorder Solenata Dall, 1889.

Order Solenida Dall, 1889: •Superfamily Orthonotoidea! S. A. Miller, 1877; Superfamily Solenoidea Lamarck, 1809

Order Hiatellida Carter, *nov.*: •Superfamily Edmondioidea! W. King, 1850; Superfamily Hiatelloidea J. Gray, 1824

APPENDIX 4. AUTHOR ADDRESSES

Cristian R. Altaba, Laboratori de Sistemàtica Humana, Universitat de les Illes Balears, 07122 Palma, Balearic Islands, Spain, cristianr.altaba@uib.cat

Laurie C. Anderson, South Dakota School of Mines and Technology, 501 East Saint Joseph Street, Rapid City, South Dakota 57701-3901, USA, Laurie.Anderson@sdsmt.edu

Rafael Araujo, Museo Nacional de Ciencias Naturales, José Gutiérrez Abascal 2, 28006, Madrid, Spain, mcnra2f@mncn.csic.es

Alexander S. Biakov, Chief of Laboratory of Stratigraphy and Tectonics, North-East Interdisciplinary Scientific Research Institute (NEISRI), Far East Branch, Russian Academy of Sciences, Portovaya Street, 16, 685000, Magadan, Russia, abiakov@mail.ru

Arthur E. Bogan, Research Laboratory, North Carolina State Museum of Natural Sciences, Mail Service Center 1626, Raleigh, North Carolina 27699-1626, USA, arthur.bogan@ncdenr.gov

David C. Campbell, Paleontological Research Institution, 1259 Trumansburg Road, Ithaca, New York 14850, USA, pleuronaia@gmail.com

Matthew Campbell, Department of Biology, Charleston Southern University, 9200 University Boulevard, Charleston, South Carolina 29406, USA, mrcampbell2008@gmail.com

Joseph G. Carter, Department of Geological Sciences, University of North Carolina, Chapel Hill, North Carolina 27599-3315, USA, clams@email.unc.edu
Chen Jin-hua, Nanjing Institute of Geology and Palaeontology, Academia Sinica, Nanjing, 210008, Peoples Republic of China, jhchen@nigpas.ac.cn
John C. W. Cope, Department of Geology, National Museum of Wales, Cardiff CF10 3NP, UK, john.cope@museumwales.ac.uk
Graciela Delvene, Instituto Geológico y Minero de España, C/. Ríos Rosas, 23 28003, Madrid, Spain, g.delvene@igme.es
Henk H. Dijkstra, Department of Marine Zoology, Netherlands Centre for Biodiversity (NCB Naturalis), P.O. Box 9517, 2300 Leiden, The Netherlands, H.H.Dijkstra@uva.nl or h.h.dijkstra@planet.nl
Fang Zong-jie, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, Nanjing 210008, People's Republic of China, zjfang@nigpas.ac.cn
Ronald N. Gardner, 19B Cheam St, Dallington, Christchurch 8061, New Zealand, ronaldogardner@aol.com
Vera A. Gavrilova, Russian Geological Research Institute (VSEGEI), Sredniy pr, 74, 199106, St. Petersburg, Russia, Vera_Gavrilova@vsegei.ru
Irina A. Goncharova, Mollusk Laboratory, Paleontological Institute, Russian Academy of Sciences, Profsoyuznaya ul. 123, Moscow, 117997, Russia, iringonch@gmail.com
Peter J. Harries, Department of Geology, University of South Florida, SCA 528, Tampa, Florida, 22620, USA, pjharries@gmail.com or harries@usf.edu
Joseph H. Hartman, Department of Geology and Geological Engineering, University of North Dakota, 81 Cornell Street Stop 8358, Grand Forks, North Dakota 58202, USA, Joseph.hartman@engr.und.edu
Michael Hautmann, Wissenschaftlicher Mitarbeiter, Paläontologisches Institut und Museum, Karl-Schmidt-Strasse 4, CH-8006, Zürich, Switzerland, michael.hautmann@pim.uzh.ch
Walter R. Hoeh, Department of Biological Sciences, Kent State University, Kent, Ohio, 44242, USA, whoeh@kent.edu
Jorgen Hylleberg, Institute of Biology, Bygning 1135, Ole Worms alle 1, 8000 Aarhus C, Denmark, hylleberg@biology.au.dk
Jiang Bao-yu, Department of Earth Sciences, Nanjing University, 22 Hankou Road, 210093, Nanjing, People's Republic of China, byjiang@nju.edu.cn
Paul Johnston, Department of Earth Sciences, Mount Royal University, 4825 Mount Royal Gate SW, Calgary, Alberta, Canada T3E 6K6, pajohnston@mtroyal.ca
Lisa Kirkendale, University of Wollongong, Shoalhaven Marine and Freshwater Centre, West Nowra, 2541, New South Wales, Australia, lisak@uow.edu.au
Karl Kleemann, Centre for Earth Sciences, University of Vienna, Althanstrasse 14, A1090 Vienna, Austria, Karl.Kleemann@univie.ac.at
Jens Koppka, Paléontologie A16, République et Canton du Jura, Office de la Culture, Section d'Archéologie et Paléontologie, Hôtel des Halles, Case postale 64, CH-2900 Porrentruy 2, Switzerland, jens.koppka@palaeojura.ch
Jiří Kříž, Czech Geological Survey, Department of Sedimentary Formations, Lower Palaeozoic Section, Klárov 3, Praha 011, 118 21, Czech Republic, jiri.kriz@geology.cz, silubiv@seznam.cz
Deusana Machado, Departamento de Ciências Naturais, ECB, CCBS, Universidae do Rio de Janeiro, Av. Pasteur, 428, Urca, Rio de Janeiro, Brazil, deusana@gmail.com
Nikolaus Malchus, Institut Català de Paleontologia (ICP), C/Escola Industrial, 23-08201-Sabadell, Catalunya, Spain, n.malchus@gmx.net or nikolaus.malchus@icp.cat
Ana Márquez-Aliaga, Instituto Cavanilles de Biodiversidad y Biologia Evolutiva and Departamento de Geología, Universitat de València, Dr. Moliner 50, E-46100, Burjassot, Valencia, Spain, ana.marquez@uv.es
Jean-Pierre Masse, Laboratoire de Géologie des Systèmes et des Reservoirs Carbonatés, Université de Provence, 13331, Marseilles Cedex 03, France, Jean-Pierre.Masse@up.univ-mrs.fr or jpmasse@newsup.univ-mrs.fr
Christopher A. McRoberts, Department of Geology, State University of New York at Cortland, P.O. Box 2000, Cortland, New York, 13045, USA, Christopher.McRoberts@cortland.edu
Peter U. Middelfart, Malacology, Australian Museum, 6 College Street, Sydney 2010, Australia, Peter.Middelfart@austmus.gov.au
Simon Mitchell, Department of Geography and Geology, The University of the West Indies at Mona, Jamaica, simon.mitchell@uwimona.edu.jm
Lidiya A. Nevesskaja (deceased), Paleontological Institute, Russian Academy of Sciences, Profsoyuznaya ul. 123, Moscow, 117997, Russia
Sacit Özer, Dokuz Eylül University, Engineering Faculty, Geological Engineering Department, 35160, Buca Campus, Izmir, Turkey, sacit.ozer@deu.edu.tr
John Pojeta, Jr., Department of Paleobiology, Museum of Natural History, P.O. Box 37012, NHB MRC 121, Smithsonian Institution, Washington, D.C, 20013-7012, USA, pojetaj@si.edu
Inga V. Polubotko, Russian Geological Research Institute (VSEGEI), Sredniy pr. 74, 199106, St. Petersburg, Russia, contact person: Vera A. Gavrilova, Vera_Gavrilova@vsegei.ru
Jose Maria Pons, Departament de Geologia, Universitat Autònoma de Barcelona, 08193, Bellaterra, Spain, josepmaria.pons@uab.es or josepmaria.pons@uab.cat
Sergey Popov, Mollusk Laboratory, Palaeontological Institute, Russian Academy of Sciences, Profsoyuznaya ul. 123, 117997, Moscow, Russia, serg.pop@mail.ru
Teresa Sánchez (deceased), Centro de Investigaciones en Ciencias de la Tierra, Universidad Nacional de Córdoba y Consejo Nacional de Investigaciones Científicas y Técnicas, Av. Velez Sársfeld 299, 5000 Córdoba, Argentina
André F. Sartori, Division of Invertebrates, Department of Zoology, Field Museum of Natural History, 1400 S. Lake Shore Drive, Chicago, Illinois, 60605-2496, USA, andrefsartori@gatesscholar.org
Robert W. Scott, Precision Stratigraphy Associates, 149 West Ridge Road, Cleveland, Oklahoma, 74020, USA, and University of Tulsa, 800 S. Tucker Dr., Tulsa, Oklahoma 74104, USA, rwscott@cimtel.net
Irina I. Sey, Russian Geological Research Institute (VSEGEI), 74 Sredniy pr, 74, 199106, St. Petersburg, Russia, contact person: Vera A. Gavrilova, Vera_Gavrilova@vsegei.ru
Javier H. Signorelli, Centro Nacional Patagonico (CENPAT) Biología y Manejo de Recursos Acuáticos, Bvd. Brown 2915 (U9120ACD) Puerto Madryn, Argentina, jsignorelli@cenpat.edu.ar
Vladimir V. Silantiev, Department of Geological Sciences, Kazan Federal University, 18 Kremlyovskaya St., Kazan, 420008, Russia, Vladimir.Silantiev@ksu.ru or vsilant@gmail.com
Peter W. Skelton, Department of Earth and Environmental Sciences, Open University, Walton Hall, Milton Keynes, MK7 6AA, UK, P.W.Skelton@open.ac.uk
Thomas Steuber, The Petroleum Institute, Abu Dhabi, United Arab Emirates, tsteuber@pi.ac.ae
J. Bruce Waterhouse, 25 Avon St, Oamaru, New Zealand, perma@xnet.co.nz
G. Lynn Wingard, U.S. Geological Survey, 926A National Center, Reston, Virginia, 20192, USA, lwingard@usgs.gov
Thomas Yancey, Department of Geology and Geophysics, MS 3115, Texas A & M University, College Station, Texas, 77843, USA, tyancey@geos.tamu.edu

REFERENCES

Abbott, R. Tucker. 1954. American Seashells, 1st edit., 2nd printing. Van Nostrand Reinhold Co. Toronto. xiv + 541 p., 40 pl.

Adams, Henry, & A. Adams. 1856. The Genera of Recent Mollusca, Arranged According to their Organization. Van Voorst. London. 2 vol. Collated in two volumes by the authors on p. 661 of vol. 2, although usually bound in 3 volumes. Vol. 1: xl + 484 p.; vol. 2: 1–604; collation: i–xl + 605–661; vol. 3: 138 pl. [Bivalvia in vol. 2]. Dates from vol. 2, p. 661, and A. Trew (1992). Vol. 2 + associated plates: p. 285–316, pl. 97–100 [March, 1856]; p. 317–348, pl. 101–104 [June, 1856]; p. 349–380, pl. 105–108 [August, 1856]; p. 381–412, pl. 109–112 [November, 1856].

Adams, Henry, & A. Adams. 1857. The Genera of Recent Mollusca, Arranged According to their Organization. Van Voorst. London. 2 vol. Collated in two volumes by the authors on p. 661 of vol. 2, although usually bound in 3 volumes. Vol. 1: xl + 484 p.; vol. 2: 1–604; collation: i–xl + 605–661; vol. 3: 138 pl. [Bivalvia in vol. 2]. Dates from vol. 2, p. 661, and A. Trew (1992). Vol. 2 + associated plates: p. 413–444, pl. 113–116 [March, 1857]; p. 445–476, pl. 117–120 [April, 1857]; p. 477–508, pl. 121–124 [September, 1857]; p. 509–540, pl. 125–128 [December, 1857].

Adams, Henry, & A. Adams. 1858. The Genera of Recent Mollusca, Arranged According to their Organization. Van Voorst. London. 2 vol. Collated in two vol. by the authors on p. 661 of vol. 2, although usually bound in 3 vol.] Vol. 1: xl + 484 p.; vol. 2: 1–604; collation: i–xl + 605–661; vol. 3: 138 pl. [Bivalvia in vol. 2]. Dates from vol. 2, p. 661, and A. Trew (1992). Vol. 2 + associated plates: p. 541–572, pl. 129–132 [January, 1858]; p. 573–604, pl. 133–136 [May, 1858]. Collation + plates: i–xl + p. 605–661, pl. 137–138 [November, 1858].

Allasinaz, Andrea. 1972. Revisione dei Pettinidi Triassici. Rivista Italiana di Paleontologia e Stratigrafia 78(2):189–428, 48 pl.

Allen, John A., & F. J. Hannah. 1986. A reclassification of the Recent genera of the subclass Protobranchia (Mollusca: Bivalvia). Journal of Conchology 32(4):225–249.

Allen, John A., & H. L. Sanders. 1973. Studies on deep sea Protobranchia (Bivalvia); the families Siliculidae and Lametilidae. Museum of Comparative Zoology, Harvard University, Bulletin 145(6):263–310.

Altaba, Cristian R. 2009. Universal artifacts affect the branching of phylogenetic trees, not universal scaling laws. PLoS ONE 4(2):e4611, doi: 10:1371/journal.pone.0004611.

Amalitzky, Vladimir P. 1892. Materialy k poznaniiu fauny Permskoi Systemy Rossii. 1. Mergelisto-peschanye porody Oksko-Volzhskogo-Basseina. Anthracosiidae [Materials on fauna from the Permian System of Russia. 1. Calk-sandshale rocks of Oka-Volga Basin. Anthracosiidae]. Izvestia Warshawskogo Universiteta [Proceedings of Warsaw University] 2–5, 7–8:1–150, 1 table, 5 pl., 7 pages of plate explanations, 2 page table of contents, 2 page author's preface dated April 5, 1892. In Russian.

Amler, Michael R. W. 1999. Synoptical classification of fossil and Recent Bivalvia. Geologica et Palaeontologica 33:237–248.

Andreescu, I. 1975. Prosodacniform lymnocardiids, biostratigraphic markers of the upper Neogene from Paratethys. Proceedings of the 6th Congress [Bratislava, September 4–7, 1975], Regional Committee on Mediterranean Neogene Stratigraphy 1:145–148.

Arkell, William J. 1934 ["1933"]. A Monograph of British Corallian Lamellibranchia. Palaeontographical Society, London [Monographs]. The Palaeontographical Society. In 10 parts: Part 7, vol. 87:277–324, pl. 37–44.

Asselberghs, Étienne. 1913. Déscription des fossiles découverts par M. J. Duvigneaud aux environs de Neufchateau. Société Belge de Géologie, Bulletin 26(1912):189–215, pl. viii.

Astafieva, M. M. 1994. A revision of the Chaenocardiidae (=Streblochondriidae) (Bivalvia, Pectinoidea). Paleontological Journal 28(1A):1–22.

Astafieva, M. M. 1995. K revizii Aviculopectinidae i Deltopectinidae (Bivalvia) [Revision of Aviculopectinidae and Deltopectinidae (Bivalvia)]. Paleontologicheskii Zhurnal 1995(2):30–40. Translated in Paleontological Journal 29(2):34–45.

Astafieva, M. M. 2001a. [New names for genera of Late Paleozoic bivalves]. Paleontologicheskii Zhurnal 2001:106. In Russian.

Astafieva, M. M. 2001b. New names for genera of Late Paleozoic bivalves. Paleontological Journal 35(5):557.

Astafieva-Urbajtis, K. A. 1973. K sistematike Megadesmidae (Bivalvia) [The systematics of Megadesmidae (Bivalvia)]. Paleontologicheskii Zhurnal 1973(1):13–19.

Astafieva-Urbajtis, K. A. 1983. *Manankovia*—novyi rod kamennougolnykh dvustvorok [*Manankovia*—a new genus of Carboniferous bivalves]. Sovmestnaia Sovetsko-Mongolskaia Paleontologicheskaia Expeditsia, Trudy [Joint Soviet-Mongolian Geological Expedition, Publications] 20:66–74, pl. 12.

Babak, E. V. 1983. Pliotsenovye i chtvertichnye Dreissenidy evksinskogo basseina [Pliocene and Quaternary Dreissenidae, Euxine Basin]. Trudy Paleontologicheskogo Instituta 204:1–104. In Russian.

Babin, Claude. 1966. Mollusques Bivalves et Céphalopodes du Paléozoique Armoricain. Étude Systematique. Essai sur la Phylogénie des Bivalves. Esquisse Paléoécologique. Imprimerie Commerciale et Administrative. Brest. p. 1–470, 18 pl.

Babin, Claude. 1977. Étude comparée des genres *Babinka* Barrande et *Coxiconcha* Babin (Mollusques bivalves de l'Ordovician) intérêt phylogénétique. Geobios 10(1):51–79, pl. 1–5.

Babin, Claude, R. Courtessole, M. Melou, J. Pillet, D. Vizcaino, & E. L. Yochelson. 1982. Brachiopodes (Articulés) et Mollusques (Bivalves, Rostroconches, Monoplacophores, Gastropodes) de l'Ordovicien inférieur (Trémadocien-Arenigien) de la Montagne Noire (France Méridionale). Société des Études Scientifiques de l'Aude, Carcassonne, Mémoire. Sival, Carcassone. p. 1–63, 15 pl. Systematics of Bivalvia, p. 37–49, by Babin.

Badve, R. M. 1977. Profraginae, a new cardiid subfamily from the Upper Cretaceous rock formations of South India. Bio-Vigyanam 3(1):61–64, pl. 4.

Bailey, Jack B. 1983. Middle Devonian Bivalvia from the Solsville Member (Marcellus Formation), central New York State. American Museum of Natural History Bulletin 174(3):193–325.

Begg, J. G., & H. J. Campbell. 1986 ["1985"]. *Etalia*, a new Middle Triassic (Anisian) bivalve from New Zealand, and its relationship with other pteriomorphs. New Zealand Journal of Geology and Geophysics 28(4):725–741.

Belokrys, L. S. 1991. Novyye gastrokheny (Bivalvia) iz eotsena Ukrainy [New Eocene gastrochaenids (Bivalvia) from the Ukraine]. Paleontologicheskiy Zhurnal 1991(2):9–17, 1 pl. Translated in Paleontological Journal 25(2):9–20.

Benton, Michael J. 2005. Vertebrate Palaeontology, 3rd ed. Blackwell Publishing Co. Oxford. i–xi + p. 1–455. See also "Classification of the Vertebrates," based on this book: http://palaeo.gly.bris.ac.uk/benton/vertclass.html.

Bernard, Félix. 1896. Diagnoses de coquilles nouvelles de lamellibranches (genres *Hochstetteria* et *Condylocardia*). Muséum d'Histoire Naturelle (Paris), Bulletin 2(5):193–197.

Bernard, Félix. 1897. Études comparatives sur la coquille des lamellibranches. II. Les genres *Philobrya* et *Hochstetteria*. w (Paris). Journal de Conchyliologie (series 3, vol. 37) 45(1):6–47, pl. 1.

Bernard, Frank R. 1983. Catalogue of the living Bivalvia of the Eastern Pacific Ocean: Bering Strait to Cape Horn. Canadian Special Publication of Fisheries and Aquatic Sciences, Department of Fisheries and Oceans, Ottawa 61:i–vii + 1–102 p.

Berry, Samuel S. 1963. Notices of new eastern Pacific Mollusca—V. Leaflets in Malacology 1(23):139–146.

Betekhtina, Olga A. 1966. Verkhnepaleozoiskie nemorskie pelecypodi Sibiri i Vostochnogo Kazakhstana [Upper Paleozoic non-marine pelecypods of Siberia and Eastern Kazakhstan]. Nauka. Moscow. 220 p., 20 pl., 2 tables. In Russian.

Betekhtina, Olga A. 1990. Nemorskie dvustvorchatye molliuski Tailuganskoi svity Kuznetskogo Basseina (verchniaya perm) [Nonmarine bivalves from Taigulanskaya Suite of Kuznetsk Basin (upper Permian)]. *In* Novoe v Paleontologii i Biostratigraphii Paleozoia Aziatskoi Chasti SSSR [News in Paleontology and Biostratigraphy of the Paleozoic of the Asiatic part of USSR]. Akademiia Nauk SSSR, Sibirskoe Otdelenie, Institut Geologii i Geofiziki, Trudy [Academy of Sciences of USSR, Siberian Branch, Institute of Geology and Geophysics, Transactions] 770:132–140, pl. 23–24. In Russian.

Betekhtina, Olga A., & S. V. Soukhov. 1968. Fauna i flora verkhnepaleozoiskikh otlozhenii Gorlovskogo Basseina [Fauna and flora from the upper Paleozoic deposits in Gorlov Basin]. Akademiia Nauk SSSR, Sibirskoe Otdelenie, Institut Geologii i Geofiziki, Trudy [Academy of Sciences of USSR, Siberian Branch, Institute of Geology and Geophysics, Transactions] 23:1–140, 36 pl. In Russian.

Betekhtina, Olga A., Y. I. Starobogatov, & N. E. Jatsuk. 1987. Nekotorye voprosy nomenklatury i sistematiki pozdnepaleozoiskikh nemorskikh dvustvorchatykh molliuskov [Some questions of nomenclature and classification of the Late Paleozoic nonmarine bivalves]. *In* Sistema i Philogeniia Iskopaemych Bespozvonochnych [The System and Phylogeny of Fossil Invertebrates]. Akademiia Nauk SSSR, Sibirskoe Otdelenie, Institut Geologii i Geofiziki, Trudy [Academy of Sciences of USSR, Siberian Branch, Institute of Geology and Geophysics, Transactions] 688:37–49, pl. 7. In Russian.

Beurlen, Karl. 1944. Beiträge zur Stammesgeschichte der Muscheln. Mathematisch-Naturwissenschaftlichen Abteilung der Bayerischen Akademie der Wissenschaften zu München, Sitzungsberichte 1944(1–2):133–145.

Beurlen, Karl. 1954. As faunas de lamellibrânquios do sistema Gonduânico no Paraná. *In* Frederico W. Lange, ed., Paleontologia do Paraná. Comissão de Comemorações do Centenário do Paraná. Curitiba, Paraná, Brasil. p. 107–136, pl. 1–7.

Beushausen, H. E. L. 1895. Die Lamellibranchiaten des Rheinischen Devon mit Ausschluss der Aviculiden der Aviculiden. Königlich Preussischen Geologischen Landesanstalt, Abhandlungen (new series) 17:1–514.

Bieler, Rüdiger, J. G. Carter, & E. V. Coan. 2010. Classification of bivalve families. *In* P. Bouchet & J.-P. Rocroi, eds., Nomenclator of bivalve families. Malacologia 52(2):1–184.

Bittner, Alexander. 1901. Lamellibranchiaten aus der Trias des Bakonyer Waldes. Resultate der Wissenschaftlichen Erforschung des Balatonsees, Band 1, Theil 1. Anhang: Paläontologie der Umgebung des Balatonsees II. Magyar Földrajzi Társulat. Budapest. p. 1–106 + [1], 9 pl.

Blainville, Henri-Marie D. de. 1814. Mémoire sur la classification méthodique des animaux mollusques, et établissement d'une nouvelle considération pour y parvenir. Bulletin des Sciences par la Société Philomatique de Paris, Zoologie 1814:175–180.

Blainville, Henri-Marie D. de. 1825. Manuel de Malacologie et de Conchyliologie. F. G. Levrault. Paris. Vol. [1]:viii + 664 p. + 2 unpaged, folded tables, post May 20, 1825. Some copies have p. [649]–664 bound with vol. [2], as "Nouvelles additions et corrections au genera." "Bibliographie Conchyliologique," p. 317–361. The plates are identical with those in Blainville's 1824 "Conchyliologie et Malacologie," but are numbered differently: pl. 64, 68, 76, 79, 80bis, 81, and 84 of this work correspond to plates 91, 96, 106, 109, 111, 112, and 115 of the "Conchyliologie et Malacologie," according to Clapp and Kenk (1963, p. 153).

Blainville, Henri-Marie D. de. 1827. Manuel de Malacologie et de Conchyliologie. F. G. Levrault. Paris. Vol. [2], "Planches," 1827, with 109 leaves of plates [1–4, 1–87, 13 bis pl., 1 ter pl., 4 duplicated numbers], with explanation of plate numbering on *verso* of Planches title page of vol. [2]. Some copies have p. [649]–664 bound with vol. [2], as "Nouvelles additions et corrections au genera." "Bibliographie Conchyliologique," p. 317–361. [The plates are identical with those in Blainville's 1824 "Conchyliologie et Malacologie," but are numbered differently: pl. 64, 68, 76, 79, 80bis, 81, and 84 of this work correspond to plates 91, 96, 106, 109, 111, 112, and 115 of the "Conchyliologie et Malacologie," according to Clapp and Kenk (1963, p. 153).

Boehm, Georg. 1883. Die Bivalven der Stramberger Schichten. Palaeontographica. Beitraege zur Naturgeschichte der Vorwelt. Theodor Fischer. Cassel. vii + 680 p., Supplement II, Vierte Abtheilung, p. 493–680, pl. 53–70. Separately bound atlas in folio with same information on title page, but also indicating Tafel LIII–LXX, with figure explanations on bottom of each plate.

Bosc, Louis A. G. 1801. Histoire Naturelle de Coquilles, Contenant leur Description, les Moeurs des Animaux qui les Habitent et Leurs Usages, avec Figures Desinées d'après Nature. *In* G. L. Leclerk de Buffon, ed., Histoire Naturelle de Buffon, Classée ...d'après le System de Linné ...par R. R. Castel...nouvelle édition. Déterville, Paris. Mollusca: 5 vol., 44 pl. [pre-October 22, 1801. Also published separately in 1802, Chez Deterville, de l'Imprimerie de Guilleminet, Paris, 3 vol.]. Vol. 1: 343 p.; vol. 2: 330 p., pl. 1–15, 1 fold-out table [An X = 1801]; vol. 3: 292 p., pl. 16–28 [An X = 1801]; vol. 4: 280 p., pl. 29–36; vol. 5: 255 + [1] p., pl. 37–44. Other editions published 1824, 1830, and 1836. Publication dates from Dodge, 1950, *Hiatella* Daudin versus *Saxicava* Bellevue. The Nautilus 63(4):138–139; 64(1):29–33.

Boss, Kenneth J. 1982. Mollusca. *In* S. P. Parker, ed., Synopsis and Classification of Living Organisms, vol. 1. McGraw-Hill. New York. p. 945–1166.

Bouchet, Philippe, & J.-P. Rocroi. 2010. Nomenclator of bivalve families; with a classification of bivalve families by R. Bieler, J. G. Carter, and E. V. Coan. Malacologia 52(2):1–184.

Bour, R., & A. Dubois. 1984. Nomenclature ordinale et familiale des tortues (Reptilia). Studia Geologica Salmanticensia, Volume Especial 1:77–86.

Boyd, D. W., & N. D. Newell. 1968. Hinge grades in the evolution of crassatellacean bivalves as revealed by Permian genera. American Museum Novitates 2328:1–52.

Boyd, Donald W., & N. D. Newell. 2000. The importance of recently reported specimens of the Late Paleozoic bivalve *Aviculopecten planoradiatus* McCoy, 1851. Acta Palaeontologica Sinica 39(4):533–534.

Brandt, R. A. 1974. The non-marine aquatic Mollusca of Thailand. Archiv für Molluskenkunde 105(1–4):1–423 p., 30 pl.

Broili, Ferdinand. 1904. Die Fauna der Pachycardientuffe der Seiser Alp. Palaeontographica 50(4–5):145–227, pl. 17–27.

Bronn, Heinrich G. 1848–1849. Index Palaeontologicus oder Übersicht der bis Jetzt Bekannten Fossilen Organismen, bearbeitet unter Mitwirkung der Herren Prof. H. R. Göppert and Herm. v. Meyer, bearbeitet von Dr. H. G. Bronn. A. Nomenclator Palaeontologicus, in Alphabetischer Ordnung [two halves, each in a separate volume]. Schweizerbart. Stuttgart. Erste Hälfte. 1848: A–M [i–lxxxiv + p. 1–775, reprinted without change in 1849; Zweite Hälfte. N–Z [p. 776–1381, 1848, reprinted without change in 1849. 1849: B. Enumerator Palaeontologicus: Systematische Zusammenstellung und Geologische Entwickelungs-Gesetze der Organischen Reiche, p. 1–1106.

Bronn, H. G. 1862. Die Klassen und Ordnungen der Weichthiere (Malacozoa). Wissenschaftlich Dargestellt in Wort und Bild, Bd. 3, Abt. 1 (Malacozoa Acephala). Winter. Leipzig & Heidelberg. 518 p., 44 pl. + legends on unnumbered pages.

Bruguière, Jean G., J. B. A. de M. de Lamarck, & G. P. Deshayes. 1789–1832. Encyclopédique Méthodique, Histoire Naturelle des Vers. 3 vol. Pancoucke. Paris. On title page for vol. 1: "Tome sixième;" includes 2 folded tables. Vol. 1, part 1, xiii + 1–344 by Bruguière, 1789; vol. 1, first part of part 2, p. 345–585 by Bruguière, 1792; second part of part 2, p. 586–757 (on *Conus*) by Hwass, 1792; vol. 2, part 1, i–viii + p. 1–256 by Deshayes, 1830a; vol. 2, part 2, p. 1–144, by Deshayes, 1830b; vol. 2, part 2, p. 145–594 by Deshayes, 1832a; vol. 3, p. 595–1152 by Deshayes, 1832b. Plates issued in separate volume by Bruguière and others, 1791–1827, which see. WorldCat entries provide the following information: Vol. 1, Septième Livraison, Mollusques Testacés, published 1789 ["1791" on title page to Septième Livraison], including pl. 1–107, pl. 107A–107C, 108–189; and vol. 1

text, viii +180 p., with p. [i]–viii + [1]–83 (and pl. 1–95) by Bruguière, and with p. 83–180 by Bory de Saint-Vincent. Vol. 1, p. 83 indicates: "Le travail de Bruguière qui se termine ici, n'est que l'extrait du bel ouvrage de O. F. Müller, intitulé Animalcula Infusoria, fluviatila, et maritima, publié in 1786 par Othon Frabricius" [note signed Bory de Saint-Vincent and dated Paris, 1er août 1824]. One source indicates that pages 85–131 and pl. 96–189 [actually 96–107, 107A–107C, 108–189] lack author's statement, but were published by Bruguière [?] in 1792. Volumes 2 and 3 are paginated continuously: vol. 2, vii + 256–594 p., vol. 3, [595]–1150, [2] pages. Vol. 2, 19 ptie., Vers Testacées, à Coquilles Bivalves, includes pl. 190–286 [actually 190–202, 204, 204–286], by Lamarck [?], published An VI (1797), with pl. 203 misnumbered 204. Vol. 3, 21 ptie., Mollusques Testacés, includes pl. 287–390, by Lamarck, published 1816. Volume 4, 23 ptie., Mollusques et Polypes Divers, by Lamarck, 4 p., 100 pl., published 1824, includes pl. 391–431, 431 bis, 431 bis*, 432–488 (and text, 16 p.). Publisher varies: Vol. 1 by Panckoucke, Paris; Vol. 2 and 3 by H. Agasse, Paris; Vol. 4 by Mme. Veuve Agasse, Paris. Vol. 4 is also cited as Lamarck, Jean Baptiste Pierre Antoine de Monet de, Jean Guillaume Bruguière, and Bory de Saint-Vincent, 1816.

Bruguière, Jean G., J. B. P. A. de M. de Lamarck, Jean B. G. M. Bory de Saint-Vincent, G. P. Deshayes, & O. F. Müller. 1791–1827. Tableau Encyclopédique et Méthodique des Trois Règnes de la Nature Contenant l'Helminthologie, ou les Vers Infusoires, les Vers Intestins, les Vers Mollusques, &c. H. Agasse, Paris. 3 vol., viii + 180 + 16 p., + 488 [actually 493] pl. Plates to Vers, Coquilles, Mollusques et Polypiers: viii + 1–83 p. [84 blank], pl. 1–95 by Bruguière, 30 July, 1791; p. 85–132, pl. 96–189 by Bruguière, May, 1792; pl. 190–286 by Bruguière, 8 July, 1797; pl. 287–390 by Lamarck, 29 April, 1798 [text for pl. 292–300 written by Bory de Saint-Vincent, printed in 1827]. "Liste des objets," p. 1–16, pl. 391–431 bis, 431 bis*, 432–488, by Lamarck, 14 December, 1816; p. 83 [repr.]–84, 133–180, by Bory de Saint Vincent, 27 September, 1827.

Campbell, David C. 2000. Molecular evidence on the evolution of the Bivalvia. *In* E. M. Harper, J. D. Taylor, & J. A. Crame, eds., The Evolutionary Biology of the Bivalvia. The Geological Society of London, Special Publication 177:31–46.

Campbell, David C. 2003. New insights on bivalve evolution. American Conchologist 30(3):16–21.

Campbell, David C., K. J. Hoekstra, & J. G. Carter. 1995. New evidence on the origin of oysters. *In* International Symposium on the Paleobiology and Evolution of the Bivalvia. Geological Association of Canada, Paleontology Division. p. 4–5.

Campbell, David C., K. J. Hoekstra, & J. G. Carter. 1998. 18s ribosomal DNA and evolutionary relationships within the Bivalvia. *In* P. A. Johnston & J. W. Haggart, eds., Bivalves: An Eon of Evolution—Paleobiological Studies Honoring Norman D. Newell. University of Calgary Press. Calgary. p. 75–85.

Carpenter, Philip P. 1861. Lectures on Mollusca; or "shell-fish" and their allies. Annual Report of the Board of Regents of the Smithsonian Institution, Showing the Operations, Expenditures, and Condition of the Institution for the Year 1860:[151]–283.

Carter, Joseph G. 1990a. Evolutionary significance of shell microstructure in the Palaeotaxodonta, Pteriomorphia and Isofilibranchia (Bivalvia: Mollusca). *In* J. G. Carter, ed., Skeletal Biomineralization: Patterns, Processes and Evolutionary Trends, vol. I. Van Nostrand Reinhold. New York. p. 135–296.

Carter, Joseph G. 1990b. Shell microstructural data for the Bivalvia. Part III. Orders Praecardioida, Arcoida, Pterioida and Limoida. *In* J. G. Carter, ed., Skeletal Biomineralization: Patterns, Processes and Evolutionary Trends, vol. I. Van Nostrand Reinhold. New York. p. 321–345.

Carter, Joseph. G. 1990c. Shell microstructural data for the Bivalvia. Part IV. Order Ostreoida. *In* J. G. Carter, ed., Skeletal Biomineralization: Patterns, Processes and Evolutionary Trends, vol. I. Van Nostrand Reinhold. New York. p. 347–362.

Carter, Joseph G. 2001. Shell and ligament microstructure of selected Silurian and Recent palaeotaxodonts (Mollusca: Bivalvia). American Malacological Bulletin 16(1–2):217–238.

Carter, Joseph G., D. C. Campbell, & M. R. Campbell. 2000. Cladistic perspectives on early bivalve evolution. *In* E. M. Harper, J. D. Taylor, & J. A. Crame, eds., The Evolutionary Biology of the Bivalvia. The Geological Society of London, Special Publication 177:47–79.

Carter, Joseph G., D. C. Campbell, & M. R. Campbell. 2006. Morphological Phylogenetics of the Early Bivalvia. *In* N. Malchus & J. M. Pons, eds., Abstracts and Posters of the International Congress on Bivalvia at the Universitat Autonoma de Barcelona, Spain, 22–27 July 2006. Organisms, Diversity, and Evolution 6, electronic supplement 16, part 1:20–21 + 4 fig., http://www.senckenberg.de/odes/06-16.htm. Cladograms: http://www.senckenberg.de/odes/06-16/Carter_et_al_Phylogeny-EarlyBiv.pdf.

Carter, Joseph G., R. A. Lutz, & M. J. S. Tevesz. 1990. Shell microstructural data for the Bivalvia. Part VI, Orders Modiomorphoida and Mytiloida. *In* J. G. Carter, ed., Skeletal Biomineralization: Patterns, Processes and Evolutionary Trends, 2 vol. (vol. 1:vii + 832 p., vol. 2:101 p., 200 pl.). Van Nostrand Reinhold. New York. p. 391–411.

Carter, Joseph G., & M. J. S. Tevesz. 1978. Shell microstructure of a Middle Devonian (Hamilton Group) bivalve fauna from central New York. Journal of Paleontology 52:859–880.

Casey, Raymond. 1955. The Neomiodontidae, a new family of Arcticacea (Pelecypoda). Malacological Society of London, Proceedings 31(5–6):208–222, pl. 11.

Casey, Raymond. 1961. The stratigraphical palaeontology of the lower Greensand. Palaeontology 3(4):487–621, pl. 77–84.

Cela-Conde, C., & C. R. Altaba. 2002. Multiplying genera versus moving species: A new taxonomic proposal for the family Hominidae. South African Journal of Science 98:1–4.

Chavan, André. 1952a. Mélanges paléontologiques II. Distinction et classement des Crassatellidés. Cahiers Géologiques de Thoiry 14:117–120.

Chavan, André. 1952b. Mélanges paléontologiques III–IV. Distinction et classement des Astartidés. Cahiers Géologiques de Thoiry 15:123–126.

Chavan, André. 1952c. Les Pelecypodes des Sables Astartiens de Cordebugle (Calvados). Mémoires Suisses de Paléontologie [Schweizerische Palaeontologische Abhandlungen] 69:1–132, pl. 1–4.

Chavan, André. 1969a. Superfamily Lucinacea. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 491–517.

Chavan, André. 1969b. Superfamily Carditacea. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence p. 543–561.

Chavan, André. 1969c. Family Unicardiopsidae. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 634.

Chen Jin-hua. 1983. Microstructure of Early and Middle Jurassic unionids. Chinese Society of Malacology, Transactions 1:221–222.

Chen Jin-hua. 1987. Classification and evolution of non-marine trigonioids (Bivalvia). Advances in Science of China, Earth Sciences 2:141–152. The first page of the article indicates publication in 1987, but the copyright date for the volume is marked 1988. The 1987 date is presently accepted.

Chen Jin-hua. 2009. On the non-marine Cretaceous bivalve Trigonioidoidea, with a note on the Jingxing fauna from eastern Tibet, China. Acta Palaeontologica Sinica 48(4):589–610. In Chinese with English summary.

Children, John G. 1822–1824. [Anonymous] Art. VI.—Lamarck's genera of shells translated from French by J. G. Children, F. R. S. &c. &c. &c. With plates from original drawings, by Miss Anna Children. Quarterly Journal of Science, Literature and Arts 14(27):64–86, pl. 3–4 [October,

1822]; 14(28):298–322, pl. 5–6 [January, 1823]; 15(29):23–52, pl. 2–3 [April, 1823]; 15(30):216–258, pl. 7–8 [July, 1823]; 16(31):49–79, pl. 5 [October, 1823]; 16(32):241–264, pl. 6 [January, 1824]. Also separately printed in 1823 under the author's name, 177 p.

Chronic, H. 1952. Molluscan fauna from the Permian Kaibab formation, Walnut Canyon, Arizona. Bulletin of the Geological Society of America 63(2):95–165, pl. 1–11.

Clapp, William F., & R. Kenk. 1963. Marine Borers. An Annotated Bibliography. Office of Naval Research, Department of the Navy. ACR–74. Washington, D.C. xii + 1136 p.

Clark, Bruce L., & J. W. Durham. 1946. Eocene faunas from the department of Bolívar, Colombia. Geological Society of America Memoirs 16:1–126, 27 pl., 1 map.

Clark, William. 1855. Mollusca Testacea Marium Britannicorum: A History of the British Marine Testaceous Mollusca, Distributed in their Natural Order, on the Basis of the Organization of the Animals; with References and Notes on Every British Species. J. van Voorst. London. xii + 536 p.

Cockerell, T. D. A. 1915. The Solenopsidae. The Nautilus 29(7):84.

Conrad, Timothy A. 1838. Report on the paleontological department of the survey. New York Geological Survey, Annual Report 2:107–119.

Conrad, Timothy A. 1841. Fifth Annual Report of the New York Geological Survey 5:25–57.

Conrath, Paul. 1887. Über einige Silurische Pelecypoden. Kaiserliche Akademie der Wissenschaften (Mathematisch-Naturwissenschaftlichen Classe), Sitzungsberichte 96(1):40–51, 2 pl.

Cooper, Mark A. 1989. The Gondwanic bivalve *Pisotrigonia* (family Trigoniidae) with description of a new species. Paläontologische Zeitschrift 63(3–4):241–250.

Cooper, Mark R. 1991. Lower Cretaceous Trigonioida (Mollusca, Bivalvia) from the Algoa Basin, with a revised classification of the order. Annals of the South African Museum 100(1):1–52.

Cope, John C. W. 1996. Early Ordovician (Arenig) bivalves from the Llangynog inlier, South Wales. Palaeontology 39(4):979–1025, pl. 1–7.

Cope, John C. W. 2000. A new look at early bivalve phylogeny. *In* E. M. Harper, J. D. Taylor, & J. A. Crame, eds., The evolutionary biology of the Bivalvia. Geological Society of London, Special Publication 177:vi + p. 1–494, p. 81–95.

Cossmann, Alexandre É. M., & A. Peyrot. 1909. Conchologie Néogénique de l'Aquitaine. Pélécypodes. 2 vol. A. Saugnac. Bordeaux. Published in parallel in Société Linnéenne de Bordeaux, Actes [for publication dates, see P. Louzouet & J.-F. Lesport, 1994, Cossmanniana 3(1): 9–12]. Tome 1: p. 1–220, pl. 1–7 [December 18, 1909]; =Actes 63(2):72–144, pl. 1–4 [October 5, 1909]; Actes 63(3):145–232, pl. 5–7 [November 13, 1909]; Actes 63(4):233–293 [December 18, 1909].

Couthouy, Joseph P. 1839. Monograph on the family Osteodesmacea of Deshayes, with remarks on two species of Patelloidea, and descriptions of new species of marine shells, a species of *Anculotus*, and one of *Eolis*. Boston Journal of Natural History 2(2):129–189, pl. 1–4.

Cox, Leslie R. 1929. A synopsis of the Lamellibranchia and Gastropoda of Portland beds of England. Part 1, Lamellibranchia. Proceedings of the Dorset Natural History and Archaeology Society 50:131–202, pl. 1–6.

Cox, Leslie R. 1934. On the structure of the Persian rudist genus *Trechmanella* (formerly *Polyptychus*), with the description of a new species. Malacological Society of London, Proceedings 21(1):42–66, pl. 4–8.

Cox, Leslie R. 1952. Notes on Trigoniidae, with outlines of a classification of the family. Malacological Society of London, Proceedings 29(2–3):45–70, pl. 3–4.

Cox, Leslie R. 1953. Lower Cretaceous Gastropoda, Lamellibranchia and Annelida from Alexander Isand (Falkland Islands Dependencies). Scientific Reports of the British Antarctic Survey, Falkland Islands Dependencies Survey 4:1–14, 2 pl.

Cox, Leslie R. 1962. New genera and subgenera of Mesozoic Bivalvia. Palaeontology 4(4):592–598.

Cox, Leslie R. 1964. Notes concerning the taxonomy and nomenclature of fossil Bivalvia (mainly Mesozoic). Malacological Society of London, Proceedings 36(1):39–48, 1 pl.

Cox, Leslie R., & A. Chavan. 1969. Family Myophoricardiidae. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 580–582.

Cox, Leslie R., & A. LaRocque. 1969. Family Hippopodiidae. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 582–583.

Cox, Leslie R., N. D. Newell, D. W. Boyd, C. C. Branson, R. Casey, A. Chavan, A. H. Coogan, C. Dechaseaux, C. A. Fleming, F. Haas, L. G. Hertlein, E. G. Kauffman, A. M. Keen, A. LaRocque, A. L. McAlester, R. C. Moore, C. P. Nuttall, B. F. Perkins, H. S. Puri, L. A. Smith, T. Soot-Ryen, H. B. Stenzel, E. R. Trueman, R. D. Turner, & J. Weir. 1969. Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. vol. 1, xxviii + p. 1–489; vol. 2, ii + p. 491–952.

Cox, Leslie R., N. D. Newell, D. W. Boyd, C. C. Branson, R. Casey, A. Chavan, A. H. Coogan, C. Dechaseaux, C. A. Fleming, F. Haas, L. G. Hertlein, E. G. Kauffman, A. M. Keen, A. LaRocque, A. L. McAlester, R. C. Moore, C. P. Nuttall, B. F. Perkins, H. S. Puri, L. A. Smith, T. Soot-Ryen, H. B. Stenzel, E. R. Trueman, R. D. Turner, & J. Weir. 1971. Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 3. Geological Society of America & University of Kansas. Boulder & Lawrence. iv + p. 953–1124.

Crouch, Edmund A. 1826 ["1827"]. An Illustrated Introduction to Lamarck's Conchology; Contained in his Histoire Naturelle des Animaux sans Vertèbres: Being a Literal Translation of the Descriptions of the Recent and Fossil Genera. Rees, Orme, Brown, & Green. London. iv + 47 p., 22 pl. The 1826 date from British Museum copy. Some sources cite this as 1827.

Dall, William H. 1886. XXIX. Report on the Mollusca. Part 1. Brachiopoda and Pelecypoda. *In* Reports on the results of dredging, under the supervision of Alexander Agassiz, in the Gulf of Mexico (1877–1878) and in the Caribbean Sea (1879–1880), by the U.S. Coast Survey Steamer "Blake," Lieut.-Commander C. D. Sigsbee, U.S.N., and Commander J. R. Bartlett, U.S.N., commanding. 1886 + 1889. Harvard College, Museum of Comparative Zoology, Bulletin 12(6):171–318, pl. 1–9 with explanations.

Dall, William H. 1889. On the hinge of pelecypods and its development, with an attempt toward a better subdivision of the group. American Journal of Science and Arts (series 3) 38(228):445–462.

Dall, William H. 1895a. Contributions to the Tertiary fauna of Florida, with especial reference to the Miocene silex-beds of Tampa and the Pliocene beds of the Caloosahatchie River. Part III, A new classification of the Pelecypoda. Wagner Free Institute of Science of Philadelphia, Transactions 3(3):483–570.

Dall, William H. 1895b. Synopsis of a review of the genera of Recent and Tertiary Mactridae and Mesodesmatidae. Malacological Society of London, Proceedings 1(5):203–213.

Dall, William H. 1898. Contributions to the Tertiary fauna of Florida with especial reference to the Miocene Silex beds of Tampa and the Pliocene beds of the Caloosahatchie River, including in many cases a complete revision of the generic groups treated and of their American Tertiary Species. Part IV. 1. Prionodesmacea: *Nucula* to *Julia*. 2. Teleodesmacea: *Teredo* to *Ervilia*. Wagner Free Institute of Science of Philadelphia, Transactions 3(4):i–viii + p. 571–947, pl. 23–35.

Dall, William H. 1899. Synopsis of the Recent and Tertiary Leptonacea of North America and the West Indies. U. S. National Museum, Proceedings 21(1177):873–897, pl. 87–88.

Dall, William H. 1900. Contributions to Tertiary fauna of Florida, with especial reference to the Miocene Silex-beds of Tampa and the Pliocene beds of the Caloosahatchie River. Part V, Teleodesmacea: *Solen* to *Diplodonta*. Wagner Free Institute of Science of Philadelphia, Transactions 3(5):949–1218, pl. 36–47.

Dall, William H. 1903. Synopsis of the Carditacea and of the American species. Academy of Natural Sciences of Philadelphia, Proceedings 54(4):696–716.

Dall, William H. 1908. Reports on the dredging operations off the west coast of Central America to the Galapagos, to the West coast of Mexico, and in the Gulf of California, in charge of Alexander Agassiz, carried on by the U. S. Fish Commission steamer "Albatross," during 1891, Lieut. Commander Z. L. Tanner, U.S.N., commanding. XXXVII. Reports on the scientific results of the expedition to the eastern tropical Pacific, in charge of Alexander Agassiz, by the U. S. Fish Commission steamer "Albatross," from October, 1904, to March, 1905, lieut. commander L. M. Garrett, U.S.N., commanding. XIV. The Mollusca and the Brachiopoda. Museum of Comparative Zoology, Harvard University, Bulletin 43(6):205–487, pl. 1–22.

Dall, William H., & C. T. Simpson. 1901. The Mollusca of Porto Rico. United States Fish Commission Bulletin 20(1):351–524, pl. 53–58.

Damestoy, Guy. 1971. Essai de classification phylogénique des caprinidés (lamellibranches). Muséum National d'Histoire Naturelle, Bulletin (série 2) 42(5):1003–1008, pl. 1–4, 1 table.

Daudin, MS. 1801. Unpublished manuscript cited by Bosc, 1801 (which see).

Davies, A. Morley. 1933. The bases of the classification of the Lamellibranchia. Malacological Society of London, Proceedings 20(6):322–326.

Davies, A. Morley. 1935. Tertiary Faunas. A Textbook for Oilfield Palaeontologists and Students of Geology, vol. I. The Composition of Tertiary Faunas. Thomas Murby & Co. London. 406 p.

Dechaseaux, Colette. 1947. Le genre *Desertella* Munier-Chalmas, type d'une nouvelle famille de lamellibranches: Les Desertellidae. Société Géologique de France, Compte Rendu Sommaire des Séances, 1946(15):307–309.

Dechaseaux, Colette. 1952. Classes des Lamellibranches (Lamellibranchiata Blainville, 1816). *In* J. Piveteau, ed., Traité de Paléontologie, vol. 2. Masson et Cie. Paris. p. 220–364.

Deshayes, Gérard-Paul. 1830a. Encyclopédie Méthodique. Histoire Naturelle des Vers. Published in parts, the earlier part by J. G. Bruguière [dates from N. Evenhuis & R. E. Petit, 2003, Zootaxa 207:1–4]. Tome 2, Première partie [author Deshayes, publisher Agasse, Paris], vii + 1–256 p. Clapp & Kenk (1963, p. 304) wrote, "The title page lists as authors J. G. Bruguière, [J. B.] de Lamarck, & G. P. Deshayes; Bruguière and Lamarck had, however, no part in the authorship; see C. D. Sherborne and B. B. Woodward. In Zoological Society of London, Proceedings for 1893, p. 582–584."

Deshayes, Gérard-Paul. 1830b. Encyclopédie Méthodique. Histoire Naturelle des Vers. Published in parts, the earlier part by J. G. Bruguière [dates from N. Evenhuis & R. E. Petit, 2003, Zootaxa 207:1–4]. Tome 2, Deuxième partie [author Deshayes, publisher Agasse, Paris], p. 1–144.

Deshayes, Gérard-Paul. 1832a. Encyclopédie Méthodique. Histoire Naturelle des Vers. Published in parts, the earlier part by J. G. Bruguière [dates from N. Evenhuis & R. E. Petit, 2003, Zootaxa 207:1–4]. Tome 2, Deuxième partie [author Deshayes, publisher Agasse, Paris], p. 145–594, including one unnumbered table.

Deshayes, Gérard-Paul. 1832b. Encyclopédie Méthodique. Histoire Naturelle des Vers. Published in parts, the earlier part by J. G. Bruguière [dates from N. Evenhuis & R. E. Petit, 2003, Zootaxa 207:1–4]. Tome 3 [author Deshayes, publisher Agasse, Paris], p. 595–1152.

Deshayes, Gérard-Paul. 1853. Catalogus Concharum Bivalvium quae in Museo Britannico Asservantur/Catalogue of the Conchifera or Bivalve shells in the Collection of the British Museum, part 1. Veneridae, Cyprinidae and Glauconomidae. London. p. 1–216. J. Gray, ed.; authorship attributed by Gray to Deshayes: "Catalogum elaboravit dominus Deshayes. . ."

Deshayes, Gérard-Paul. 1855a ["1854"]. Descriptions of new shells from the collection of Hugh Cuming, Esq. Zoological Society of London, Proceedings, for 1854 [22](279):317–320 [May 8]; (280):321–336, (281):337–352, (282):353–368, (283):369–371.

Deshayes, Gérard-Paul. 1855b ["1854"]. Catalogue of the Conchifera or bivalve shells in the collection of the British Museum. Part II. Petricoladae (concluded); Corbiculadae. British Museum. London. p. 217–292.

Dickins, John M. 1957. Lower Permian pelecypods and gastropods from the Carnarvon Basin, western Australia. Commonwealth of Australia, Bureau of Mineral Resources, Geology and Geophysics, Bulletin 41:1–75, 10 pl.

Douvillé, [Joseph] Henri F. 1887. Sur quelques formes peu connues de la famille des Chamidés. Société Géologique de France, Bulletin (série 3) 15:756–802, pl. 28–31.

Douvillé, [Joseph] Henri F. 1888. Étude sur les caprines. Société Géologique de France, Bulletin (série 3) 16:699–730, pl. 22–23.

Drevermann, F. 1902. Die Fauna der Obercoblenzschichten von Oberstadtfeld. Palaeontographica 49:73–119, pl. 9–14.

Dreyer, Hermann, G. Steiner, & E. M. Harper. 2003. Molecular phylogeny of Anomalodesmata (Mollusca: Bivalvia) inferred from 18S rRNA sequences. Zoological Journal of the Linnean Society 139(2):229–246.

Dubois, Alain. 2005. Proposals for the incorporation of nomina of higher-ranked taxa into the Code. Bulletin of Zoological Nomenclature 62(4):200–209.

Eames, Frank E. 1951. A contribution to the study of the Eocene in Western Pakistan and Western India. B. The description of the Lamellibranchia from standard sections in the Rakhi Nala and Zinda Pir Areas of the Western Punjab and in the Kohat Distract. Royal Society of London, Philosophical Transactions B, Biological Sciences 235(627):311–482, pl. 9–17.

Eberzin, Anatolii G. [also I. A. Korobkov]. 1960. Molliuski. Pantsirnye, Dvustvorchatye, Lopatonogie [Mollusks—Chitons, bivalves, scaphopods]. *In* Y. A. Orlov, ed., Osnovy Paleontologii. Spravochnik dlia Paleontologov i Geologov SSSR [Basic Paleontology. Reference Book for the Paleontology and Geology of the USSR]. Akademiya Nauk, Moscow. Ministerstvo Geologii i Okhrany Nedr SSSR, Ministerstvo Vysshego Obrazovaniia SSSR. p. 1–300, 44 pl. This section 230 p. In Russian.

Eberzin, Anatolii G. 1967. Solonovatovodnie Cardiidi Pliotsena SSSR. Chart 5. *Pseudocatillus*, *Didacnomya*, *Macradacna* [Brackish Cardiidae Pliocene USSR. Chart 5. *Pseudocatillus, Didacnomya, Macradacna*]. Trudy Paleontologicheskogo Instituta 112:1–168, 18 pl.

Engel, Michael S. 2005. Family-group names for bees (Hymenoptera: Apoidea). American Museum Novitates 3476:1–33.

Fang Zong-jie, & C. W. Cope. 2008. Affinities and palaeobiogeographical significance of some Ordovician bivalves from East Yunnan, China. Alcheringa 32:297–312.

Fang Zong-jie, & Ding Wei-ming. 1993. On Devonian Pterochaeniins (Bivalvia). Acta Palaeontologica Sinica 32(1):1–12, pl. 1. In Chinese with English summary.

Férussac, André E. J. d'Audebard de. 1821–1822. Tableaux Systèmatiques des Animaux Mollusques suivis d'un Prodrome Général pour tous les Mollusques Terrestres ou Fluviatiles Vivants ou Fossiles. Première Partie, Tableaux Systématiques Généraux. Arthus-Bertrand, Paris; J. B. Sowerby, London. Published in parts between 1821 and 1822. Dates after A. S. Kennard, 1942, Proceedings of the Malacological Society of London 25(3):105–110. See also C. D. Sherborn & B. B. Woodward, 1901, "On the dates of publication of the 'Histoire naturelle générale et particulière des mollusques terrestres et fluviatiles' and the 'Tableaux systématiques des animaux mollusques,' Annals and Magazine of Natural History (series 7) 8:74–76. See also the note by M. Connolly, 1912, in Proceedings of the Malacological Society of London 10:53. Some printings have the date "Janvier, 1821" instead of "Juin, 1821" on the half-title for part 2 ("Tableaux systématique de la famille des limaces," p. [1], 2nd group), together with a 4 p. "avertissement" (p. [3]–6, 3rd group) inserted at

the beginning of part 3. Thus, the Janvier 1821 printing has a slightly different overall pagination: xlvii, 27, 114 p., rather than xlvii, 27, 110 p. Tableaux Systématiques, i–xxiv, published February 16, 1822; xxv–xlvii, published April 13, 1822.

Filatova, Zinaida A., & A. A. Schileyko. 1984. Ob'em, struktura i rasprostranenie glubokovodnykh dvustvorchatykh molliuskov semeistva Ledellidae (Protobranchia) [Size, structure and distribution of the deep-sea Bivalvia of the family Ledellidae (Protobranchia)]. Tsitologiya [Cytology]. Izdvo Akademiya Nauk SSSR, Zoologicheskii Institut Okeanologii, Trudy 119:106–144. In Russian with English summary.

Finlay, H. J., & J. Marwick. 1937. The Wangaloan and associated molluscan faunas of Kaitangata–Green Island Subdivision. New Zealand Geological Survey Palaeontological Bulletin 15:1–140, 18 pl.

Fischer, Paul-Henri. 1886. Manuel de Conchyliologie et de Paléontologie Conchyliologique, ou Histoire Naturelle des Mollusques Vivants et Fossiles suivi d'un Appendice sur les Brachiopodes par D. P. Oehlert. Avec 23 planches contenant 600 figures dessinées par S. P. Woodward. F. Savy. Paris. Fasc. 10, p. 897–1008 [April 30; 1886]. Published in 11 parts (fascicules), xxiv + 1369 p., 1138 fig., 23 pl.

Fischer, Paul-Henri. 1887. Manuel de Conchyliologie et de Paléontologie Conchyliologique, ou Histoire Naturelle des Mollusques Vivants et Fossiles suivi d'un Appendice sur les Brachiopodes par D. P. Oehlert. Avec 23 planches contenant 600 figures dessinées par S. P. Woodward. F. Savy. Paris. Fasc. 11, p. 1009–1369 [June 15, 1887]. Published in 11 parts (fascicules), xxiv + 1369 p., 1138 fig., 23 pl.

Fleming, Charles A. 1957. A new Devonian lamellibranch from Reefton, New Zealand. Royal Society of New Zealand, Transactions 84:943.

Fleming, Charles A. 1962. Two new genera of Triassic Trigoniidae from New Zealand. Malacological Society of London, Proceedings 35(1):1–4, 1 pl.

Fleming, Charles A. 1987. New Zealand Mesozoic bivalves of the superfamily Trigoniacea. New Zealand Geological Survey Paleontological Bulletin 53:1–104, pl. 1–11.

Fleming, John [D. D.] 1828. A History of British Animals, Exhibiting the Descriptive Characters and Systematical Arrangement of the Genera and Species of Quadrupeds, Birds, Reptiles, Fishes, Mollusca, and Radiata of the United Kingdom; including the Indigenous, Extirpated, and Extinct Kinds, Together with Periodical and Occasional Visitants. Bell and Bradfute, Edinburgh, and James Duncan, London. xxiii + 565 + [1] p. Second edition, 1842, is merely a reprint.

Fleuriau de Bellevue, Louis B. 1802 [An X de la République]. Mémoire sur quelques nouveaux genres de mollusques et de vers lithophages, et sur la faculté qu'ont ces animaux de percer les rochers. Journal de Physique, de Chimie, d'Histoire Naturelle et des Artes 54:345–355.

Forbes, Edward, Jr. 1851. On the estuary beds and the Oxford Clay at Loch Staffin in Skye. Quarterly Journal of the Geological Society of London 7:104–113.

Frech, F. 1891. Die Devonischen Aviculiden Deutschlands. Ein Betrag zur Systematik und Stammesgeschichte der Zweischaler. Abhandlungen zur Geologischen Specialkarte von Preussen und den Thüringischen Staaten 9(2):1–261; 9(3):199–459, 18 pl. Offprint: viii + 1–261 p.

Freneix, Suzanne. 1960 ["1959"]. Lamellibranches du Crétacé supérieur de France [Protobranches, Prionodontes, Dysodontes (pars)]. Compte-Rendu du Congrès des Sociétés Savantes, Dijon, 1959, Section des Sciences, Sous-section de Géologie. Paris. p. 175–248.

Frizzell, Don L. 1936. Classification of veneracean pelecypods. Proceedings of the Geological Society of America 1935:415.

de la Fuente, Marcelo S. 2003. Two new pleurodiran turtles from the Portezuelo Formation (Upper Cretaceous) of northern Patagonia, Argentina. Journal of Paleontology 77(3):559–575.

Gaffney, Eugene S., & P. A. Meylan. 1988. A phylogeny of turtles. *In* M. J. Benton, ed., The Phylogeny and Classification of the Tetrapods, vol. 1, Amphibians, Reptiles, Birds. Clarendon Press. Oxford. p. 157–219.

Gardner, Julia A. 1928. The molluscan fauna of the Alum Bluff Group of Florida. Part V, Tellinacea, Solenacea, Mactracea, Myacea, Molluscoidea. U. S. Geological Survey Professional Paper 142E:iii + 185–249, pl. 29–36.

Gardner, Julia A. 1944 ["1943"]. Mollusca from the Miocene and Lower Pliocene of Virginia and North Carolina; Part I, Pelecypoda; with a summary of the stratigraphy by W. C. Mansfield. U. S. Geological Survey Professional Paper 199A:iv + 1–178, 23 pl.

Gardner, Ronald N. 2005. Middle-Late Jurassic bivalves of the superfamily Veneroidea from New Zealand and New Caledonia. New Zealand Journal of Geology and Geophysics 48(2):325–376.

Gardner, Ronald N., & H. J. Campbell. 2002. Middle to late Jurassic bivalves of the genera *Neocrassina* and *Trigonopis* from New Zealand. New Zealand Journal of Geology and Geophysics 45(3):323–347.

Gavrilova, V. A. 1996. K sistematike triasovykh Pterinopectinidae (Bivalvia) [On the systematics of Triassic Pterinopectinidae (Bivalvia)]. Paleontologicheskii Zhurnal 1996(4):7–15. See Paleontological Journal, 1996, 30(5):497–505, for English version.

Ghosh, Ekendranath. 1920. Taxonomic studies on the soft parts of the Solenidae. Records of the Indian Museum 19(2):47–78, pl. 2–3.

Giebel, Chistoph G. A. 1852. Allgemeine Palaeontologie: Entwurf einer Systematischen Darstellung der Fauna und Flora der Vorwelt, zum Gebrauche bei Vorlesungen und zum Selbstunterrichte. Ambrosius Abel, Leipzig. [I–V] + VI–VIII; Paläontologie, Allgemeine Bestimmungen, p. 1–12, I. Erster Theil, Paläozoologie, p. [13–15] + 16–328; II. Zweiter Theil, p. [329–331] + 332–398; Register, p. [399] + 400–413; Druckfehler, p. [414].

Gill, Theodore. 1871. Arrangement of the families of mollusks. Prepared for the Smithsonian Institution. Smithsonian Miscellaneous Collections 227:i–xvi + 17–49.

Giribet, Gonzalo. 2008. Bivalvia. *In* W. F. Ponder & D. R. Lindberg, eds., Phylogeny and Evolution of the Mollusca. University of California Press. Berkeley. p. 105–141.

Giribet, Gonzalo, & D. L. Distel. 2003. Bivalve phylogeny and molecular data. *In* C. Lydeard & D. R. Lindberg, eds., Molecular Systematics and Phylogeography of Mollusks, no. 3. Smithsonian Books. Washington, D.C. & London. p. 45–90.

Giribet, Gonzalo, & W. Wheeler. 2002. On bivalve phylogeny: A high-level analysis of the Bivalvia (Mollusca) based on combined morphology and DNA sequence data. Invertebrate Biology 121(2):271–324.

Goldfuss, Georg A. 1820. Handbuch der Zoologie. *In* G. H. Schubert, ed., Handbuch der Naturgeschichte zum Gebrauch bei Vorlesungen, Theil 3, Abtheilung 1. Schrag. Nürnberg. i–xlvi + 1–696, pl. 1–2.

Grant, Ulysses S., & H. R. Gale. 1931. Catalogue of the marine Pliocene and Pleistocene Mollusca of California and adjacent regions; with notes on their morphology, classification, and nomenclature and a special treatment of the Pectinidae and the Turridae (including a few Miocene and Recent species), together with a summary of the stratigraphic relations of the formations involved, p. 1036. Memoirs of the San Diego Society of Natural History 1:1–1036, 32 pl.

Gray, John E. 1824. A Supplement to the Appendix of Captain Perry's Voyage for the Discovery of a North West Passage, in the Years 1819–1820, Containing an Account of the Subjects of Natural History. *In* W. E. Parry, ed., Journal of a Second Voyage for the Discovery of a Northwest Passage from the Atlantic to the Pacific, Performed in the Years 1821–22–23, in His Majesty's Ships Fury and Hecla, under the Orders of Captain William Edward Parry, R. N., F. R. S. J. Murray. London. Appendix X. Natural History, Shells: p. ccxl–ccxlvi.

Gray, John E. 1826. On a recent species of the genus *Hinnita* of De France, and some observations on the shells of the Monomyaires of Lamarck. The Annals of Philosophy 28[new series, 12](2):103–106.

Gray, John E. 1838. Catalogue of the species of the genus *Cytherea* of Lamarck. The Analyst 8(24):302–309.

Gray, John E. 1840a. [A new edition of] A Manual of the Land and Freshwater Shells of the British Islands by W. Turton. Longman, Orme, Brown, Green, & Longmans. London. ix + 324 p., 12 pl.

Gray, John E. 1840b. Shells of molluscous animals. *In* Synopsis of the contents of the British Museum, 42nd edit. G. Woodfall & Son. London. p. 86–89 + 105–152.

Gray, John E. 1842. Molluscs. *In* [multiauthored] Synopsis of the Contents of the British Museum, edit. 44. G. Woodfall & Son. London. p. 48–92.

Gray, John E. 1847a. The classification of the British Mollusca, by W. E. Leach, M. D. Annals and Magazine of Natural History 20(10):267–273. October 1. Gray published herein a combination of two manuscripts of the late William E. Leach, one dated 1816, the other 1818, both of which Gray indicated were in wide circulation. Gray inserted names present only in the 1816 ms into the 1818 ms, and marked these additions with an asterisk. Gray added, after Leach's name, the genus to which Montague or Lamarck referred the species. Gray regarded the names in this combined list as having a publication date of 1818, although that is not presently considered to be their date.

Gray, John E. 1847b. A list of the genera of Recent Mollusca, their synonyma and types. Zoological Society of London, Proceedings 15(178):129–219.

Gray, John E. 1848. On the arrangement of the Brachiopoda. The Annals and Magazine of Natural History (series 2) 2(12):435–440.

Gray, John E. 1851. Part VII. Mollusca Acephala and Brachiopoda. *In* J. E. Gray, G. R. Gray, A. White, J. F. Stephens, F. Smith, H. Denny, H. T. Stainton, & E. Shepherd, eds., 1845–1855, List of the Specimens of the British Animals in the Collection of the British Museum. British Museum (Natural History). Department of Zoology. Printed by order of the Trustees. London. 17 volumes by various authors. iv + 167 p.

Gray, John E, ed. 1853. A revision of the genera of some of the families of Conchifera or bivalve shells [title varies]. Published in parts. The Annals and Magazine of Natural History (series 2) 11(61):33–44 [January 1, 1853].

Gray, John E. 1854a. A revision of the arrangement of the families of bivalve shells (Conchifera). The Annals and Magazine of Natural History (series 2) 13(77):408–418.

Gray, John E. 1854b. Additions and corrections to the arrangement of the families of bivalve shells. The Annals and Magazine of Natural History (series 2) 14(79):21–28.

Gray, John E. 1857. A Manual of the Land and Fresh-water Shells of the British Islands, new edition, with additions, of William Turton. Longman, Brown, Green, Longmans, & Roberts. London. xvi + 1–335 p., 12 pl.

Gray, John E. 1858. On the families Aspergillidae, Gastrochaenidae, and Humphreyiadae. Zoological Society of London, Proceedings 26(366):307–318. Plate 5 for this article published in Zoological Society of London, Proceedings 1848–1860, Plates, Mollusca.

Grimm, Matthias C. 1998. Systematik und Paläoökologie der Buchiolinae *nov. subfam.* (Cardiolidae, Arcoida, Lamellibranchiata, Devon). Dissertation zur Erlangung des Grades "Doktor der Naturwissenschaften" am Fachbereich Geowissenschaften der Johannes Gutenberg-Universität in Mainz (D77). Mémoires Suisses de Paléontologie. Schweizerische Paläontologische Abhandlungen 118:1–135, 9 pl., incl. 24 unnumbered pages.

Grobben, Carl. 1892. Das System der Lamellibranchiaten. Zoologischer Anzeiger 15(402):371–372 [October 3]; 15(403):373–375.

Grobben, Carl. 1894. Zur Kenntniss der Morphologie, der Verwandtschaftsverhältnisse und des Systems der Mollusken. Kaiserliche Akademie der Wissenschaften (Mathematisch-Naturwissenschaftlichen Classe), Sitzungsberichte 103(1):61–86.

Gu Zhi-wei. 1998. Evolutionary trends in non-marine Cretaceous bivalves of Northeast China. *In* P. A. Johnston and J. W. Haggart, eds., Bivalves: An Eon of Evolution. University of Calgary Press. Calgary. p. 267–276.

Guo Fu-xiang. 1981. Bivalves from the Jingxing Formation (Cretaceous) in western Yunnan with notes on the origin of the trigonioids in Asia. *In* Palaeontological Society of China, ed., 12th Annual Conference of the Paleontological Society of China, Selected Papers. Science Press. Beijing. p. 61–79, pl. 1–3. In Chinese.

Guo Fu-xiang [with additions by Chen Jin-hua]. 1988. New genera of fossil bivalves from Yunnan. Yunnan Geology 7(2):112–144, pl. 1–7.

Guo Fu-xiang. 1998. Origin and phylogeny of the Trigonioidoidea (nonmarine Cretaceous bivalves). *In* P. A. Johnston & J. W. Haggart, eds., Bivalves: An Eon of Evolution. University of Calgary Press. Calgary. p. 277–289.

Habe, Tadashige. 1977. Systematics of Mollusca in Japan. Bivalvia and Scaphopoda. Hokuryukan. Tokyo. xii + p. 1–372 + 4 p. errata, 72 pl. In Japanese.

Haffer, Jürgen. 1959. Der Schlossbau früh-heterodonter Lamellibranchiaten aus dem Rheinischen Devon. Palaeontographica (Abteilung A, Palaeozoologie, Stratigraphie) 112(5–6):133–192, pl. 11–14.

Hajkr, O., A. Lukasová, B. Růžička, & F. Řehoř. 1978. *Janacekia* gen. nov. (Bivalvia) aus dem Karbon. Freiberger Forschungshefte, series C (Geowissenschaften-Paläontologie) 325:1–124, pl. 1–49.

Hall, James. 1883–1884. Natural History of New York. Paleontology of New York. Geological Survey of New York. Paleontology. Vol. 5, Part 1. Lamellibranchiata I. Containing Descriptions and Figures of the Monomyaria of the Upper Helderberg, Hamilton, Portage and Chemung Groups. van Benthuysen & Sons. Albany. i–xviii + p. 1–268, pl. 1–92.

Hall, James. 1885. Natural History of New York. Paleontology of New York. Geological Survey of New York. Paleontology, vol. 5, part 1. Lamellibranchiata II. Containing Descriptions and Figures of the Dimyaria of the Upper Helderberg, Hamilton, Portage and Chemung Groups. van Benthuysen & Sons. Albany. i–lxii + p. 269–562, pl. 34–80, 93–96.

Hall, James, & R. P. Whitfield. 1869. Preliminary notice of the lamellibranchiate shells of the upper Helderberg, Hamilton and Chemung groups, with others from the Waverly sandstones, Part 2, 35th Annual Report. New York State Museum of Natural History. Albany. 97 p.

Hannibal, H. A. 1912. A synopsis of the Recent and Tertiary freshwater Mollusca of the Californian province based upon an ontogenetic classification. Malacological Society of London, Proceedings 10(2):112–165, pl. 5–6 [June 29]; 10(3):167–211, pl. 7–8 [October 30].

Harper, Elizabeth M., H. Dreyer, & G. Steiner. 2006. Reconstructing the Anomalodesmata (Mollusca: Bivalvia): Morphology and molecules. Zoological Journal of the Linnean Society of London 148(3):395–420.

Harry, Harold W. 1985. Synopsis of the supraspecific classification of the living oysters (Gryphaeidae and Ostreidae). The Veliger 28(2):121–158.

Hautmann, Michael. 1999. Phylogeny and taxonomy of cementing Triassic bivalve families (Prospondylidae, Dimyidae and Ostreidae). *In* Biology and Evolution of the Bivalvia. Paper and Poster Abstracts. Meeting 14–17th September, 1999. Malacological Society of London. Cambridge, UK. p. 22–23.

Hautmann, Michael. 2001a. Taxonomy and phylogeny of cementing Triassic bivalves (families Prospondylidae, Plicatulidae, Dimyidae and Ostreidae). Palaeontology 44(2):339–373.

Hautmann, Michael. 2001b. Die Muschelfauna der Nayband–Formation (Ober Trias, Nor–Rhät) des östlichen Zentraliran. Beringeria, Würzburger Geowissenschaftliche Mitteilungen 29:1–181.

Hautmann, Michael. 2004. Early Mesozoic evolution of alivincular bivalve ligaments and its implications for the timing of the 'Mesozoic marine revolution.' Lethaia 37:165–172.

Hautmann, Michael. 2006. Shell morphology and phylogenetic origin of oysters. Palaeogeography, Palaeoclimatology, Palaeoecology 240:668–671.

Hautmann, Michael. 2008. Taxonomy and phylogeny of the Triassic bivalve families Mysidiellidae Cox, 1964 and Healeyidae new family. Journal of Paleontology 82(3):555–564.

Hayami, Itaru. 1965. Lower Cretaceous marine pelecypods of Japan, part II. Faculty of Science, Kyushu University, Memoirs (series D) 17(2):73–150, pl. 7–21.

Healey, M. 1908. The fauna of the Napeng beds or the Rhaetic beds of Upper Burma. Memoirs of the Geological Survey of India. Palaeontologia Indica (new series) 2(4):ii + 88 p., 9 pl.

Heard, William H. 1965. Recent *Eupera* (Pelecypoda: Sphaeriidae) in the United States. American Midland Naturalist 74(2):309–317.

Hedinger, A. S. 1993. Upper Jurassic (Oxfordian–Volgian) foraminifera from the Husky Formation, Aklavik Range, District of MacKenzie, Northwest Terrtitories. Geological Survey of Canada, Bulletin 439:1–173.

Hedley, Charles. 1916. Mollusca (exclusive of Cephalopoda). Australasian Antarctic Expedition, 1911–1914, Scientific Reports (series C, Zoology and Botany) 4(1):1–80, pl. 1–9.

Hedley, Charles. 1918. A check-list of the marine fauna of New South Wales. Part 1, Mollusca. Journal of the Royal Society of New South Wales 51(suppl.):1–120.

Henderson, Junius. 1929. Non-marine Mollusca of Oregon and Washington. University of Colorado Studies 17(2):47–190.

Henderson, Junius. 1935. Fossil non-marine Mollusca of North America. Geological Society of America Special Papers 3:vii + p. 1–313.

Hertlein, Leo G. 1969. Family Pectinidae Rafinesque, 1815. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1. The Geological Society of America & University of Kansas. Boulder & Lawrence. p. 348–373.

Hertwig, Richard. 1895. Lehrbuch der Zoologie, 3rd edit. Gustav Fischer. Jena. xii + p. 1–599.

Higo, Shun'ichi, & Y. Gotō. 1993. A systematic list of molluscan shells from the Japanese islands and the adjacent area. Tenoji. Osaka. p. 1–149.

Hinz-Schallreuter, I. 2000. Middle Cambrian Bivalvia from Bornholm and a review of Cambrian bivalved Mollusca. Revista Española de Micropaleontología 32(2):225–242.

Hoeh, Walter R., A. E. Bogan, W. H. Heard, & E. G. Chapman. 2009. Palaeoheterodont phylogeny, character evolution, diversity and phylogenetic classification: A reflection on methods of analysis. Malacologia 51(2):307–317.

Hoernes, Rudolf. 1884. Elemente der Palaeontologie (Palaeozoologie). Veit & Co. Leipzig. xvi + p. 1–594.

Horný, R. J. 1960. On the phylogeny of the earliest pelecypods (Mollusca). Věstník Ústředního Ústavu Geologického [Geological Survey, Bulletin, Czechoslovakia] 35(6):479–482, pl. 1.

Hou Hong-fei, Wan Zheng-Quan, & Xian Si-Yuan, eds. 1988. Devonian Stratigraphy, Palaeontology and Sedimentary Facies of Longmenshan, Sichuan. Geological Publishing House. Beijing. 487 p.

Ichikawa, Kochiro. 1958. Zur Taxonomie und Phylogenie der Triadischen "Pteriidae" (Lamellibranchia) mit besonderer Berücksichtigung der Gattungen *Claraia*, *Eumorphotis*, *Oxytoma*, und *Monotis*. Palaeontographica (Abteilung A, Palaeozoologie, Stratigraphie) 111(5–6):131–212, pl. 21–24.

Ihering, Hermann von. 1901. The Unionidae of North America. The Nautilus 15(4):37–39; 15(5):50–53.

International Commission on Zoological Nomenclature. 1999. International Code of Zoological Nomenclature, 4th edit. Adopted by the International Union of Biological Sciences. International Trust for Zoological Nomenclature, The Natural History Museum. London. i–xxix + 1–306 p.

Iredale, Thomas. 1934. The fresh-water mussels of Australia. The Australian Zoologist 8(1):57–78, pl. 3–6.

Iredale, Thomas. 1939. Mollusca, Part 1. Great Barrier Reef Expedition, 1928–29, Scientific Report, vol. 5, no. 6. British Museum (Natural History). London. p. 209–425, pl. 1–7.

Iredale, Thomas, & D. F. McMichael. 1962. A reference list of the marine Mollusca of New South Wales. The Australian Museum of Sydney, Memoir 11:1–185.

Johnston, Paul A. 1991. Systematics and ontogeny of a new bivalve, *Umburra cinefacta*, from the Silurian of Australia: Implications for pteriomorphian evolution. Alcheringa 15(4):293–319.

Johnston, Paul A. 1993. Lower Devonian Pelecypoda from southeastern Australia. Memoir of the Association of Australasian Palaeontologists 14:1–134.

Jonkers, H. A. 2003. Late Cenozoic–Recent Pectinidae (Mollusca: Bivalvia) of the Southern Ocean and neighbouring regions. Monographs of Marine Mollusca 5:i–viii + p. 1–125.

Jukes-Browne, Alfred J. 1905. A review of the genera of the family Mytilidae. Malacological Society of London, Proceedings 6(4):211–224.

Kafanov, Alexander I. 1975. K sisteme podsemeistva Laevicardiinae Keen, 1936 (Bivalvia, Cardiidae) [On the system of the subfamily Laevicardiinae Keen, 1936 (Bivalvia, Cardiidae)]. *In* I. M. Likharev, ed., Molliuski: Ikh Sistema, Evoliutsiia i Rol' v Prirode [Mollusca, their System, Evolution and Significance in Nature]. Avtoreferaty Dokladov, Sbornik Piatyi. Nauchnyi Sovet po Probleme "Biologicheskie Osnovy Osvoeniia, Rekonstruksii i Okhrany Zhivotnogo Mira" [Abstracts of Reports, Fifth Collection. Scientific Council on the Problem "The Biological Basis of Development, Reconstruction and Conservation of Wildlife"]. Akademiia Nauk SSSR, Zoologicheskii Institut. Vsesoiuznoe Soveshchanie po Izucheniiu Molliuskov (5th, Leningrad, 1975) [Theses of Communications, 5th Meeting of the Investigation of Mollusca, Leningrad, 1975]. Nauka. Leningrad, Leningradskoe otd-nie. 242 p. 145–147. In Russian. See Kafanov (1978) for English translation.

Kafanov, Alexander I. 1978. Systematics of the subfamily Laevicardiinae Keen, 1936 (Bivalvia: Cardiidae). Malacological Review 11(1-2):122–123. English translation of Kafanov (1975).

Kafanov, Alexander I., & S. V. Popov [also Y. I. Starobogatov]. 1977. K sisteme Kainozoiskikh kardioidei (Bivalvia) [On the system of Cenozoic Cardioidea (Bivalvia)]. Paleontologicheskii Zhurnal 1977(3):55–64. Translated in Paleontological Journal 11(3):307–314.

Kanev, Gennadyi P. 1993. [*Synjaella*—a new name for the genus *Siniella* Kanev, 1980 (Bivalvia)] Paleontologischeskii Zhurnal 1:113. In Russian.

Kanjilal, S., & M. S. Srinivasan. 2002. New bivalves from the Miocene of Little Andaman Island, Bay of Bengal. Journal of the Geological Society of India 60(5):527–536.

Kappner, Isabella, & R. Bieler. 2006. Phylogenetic studies of the marine bivalve subfamily Venerinae [abst.]. *In* N. Malchus & J. M. Pons, eds., Bivalvia 2006. International Congress on Bivalvia, Barcelona, Spain, July 22–27, 2006, Scientific Program and Abstracts. International Congress on Bivalvia. Barcelona. p. 45–46.

Karczewski, L. 1992. Praeheterodonta bivalves from the Devonian of the Góry Świętokrzyskie (Mts). Prace Państwonego Instytutu Geologicznego 140:1–35, pl. 1–9. In Polish.

Kasum-Zade, A. A. 2003. Sostoianie Izuchennosti Mezozoiskikh Dvustvorchatykh Molliuskov Azerbaidzhana (Otriad Pectinopida: Reviziia i Sistematika) [Advances in Research of Mesozoic Bivalve Mollusks in Azerbaijan (Order Pectinoida: Revision and Systematics)]. El-Aliance. Baku. 112 p. In Russian.

Kasum-Zade, A. A., & L. F. Romanov. 1987. Semeistvo Spondylopectinidae Kasum-Zade & Romanov fam. nov. v. Iure iuga SSSR [Spondylopectinidae Kasum-Zade & Romanov, fam. nov. of Jurassic in the south of the USSR]. *In* L. A. Nevesskaja, ed., Stratigrafiia Verkhnego Fanerozoia Moldavii [Stratigraphy of the Moldavian Upper Phanerozoic]. Kishinev. Shtiintsa. p. 6–16, pl. 1–2. In Russian.

Kayser, F. H. Emanuel. 1885. Ueber einige neur Zweischaler des Rheinischen Taunusquarzits. Königlich Preussischen Geologischen Landesanstalt für das Jarh 1884:9–23, pl. ii–iv.

Keen, A. Myra. 1937. Nomenclatural units of the pelecypod family Cardiidae. Musée Royal d'Histoire Naturelle de Belgique, Bulletin 13(7):1–22.

Keen, A. Myra. 1951. Outline of a proposed classification of the pelecypod family Cardiidae. Conchological Club of Southern California, Minutes 111:6–8.

Keen, A. Myra. 1963. Marine Molluscan Genera of Western North America. Stanford University Press. Stanford. p. 1–126.

Keen, A. Myra. 1969a. Family Isoarcidae Keen, new family. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 241.

Keen, A. Myra. 1969b. Superfamily Cardiacea Lamarck, 1809. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6,

Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 583–594.

Keen, A. Myra. 1969c. Superfamily Veneracea Rafinesque, 1815. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 670–690.

Kenk, Vida C., & B. R. Wilson. 1985. A new mussel (Bivalvia, Mytilidae) from the hydrothermal vents in the Galapagos rift zone. Malacologia 26(1–2):253–271.

Khalfin, Leonid L. 1940. Peletsipodi nizhnego Devona Altaia [Lower Devonian pelecypods of the Altai]. Tomskiy Gosudarst. Univ.; Trudy Nauchnoi Konferentsii po Izucheniiu i Osvoeniiu Proizveditelnykh sil Sibiri [Tomskiy Gosudarst. Univ.; Proceedings of the Scientific Conference on the Study and Development of the Productive Forces of Siberia] 2:256–289, pl. 1–3. In Russian.

Khalfin, Leonid L. 1948. Fauna i stratigrafiia Devonskikh otlozhenii Gornogo Altaia [The fauna and stratigraphy of the Devonian Gorny Altai]. Izvestiia Tomskogo Politekhnicheskogo Instituta 65(1):1–464. In Russian.

King, William. 1844. On a new genus of Palaeozoic shells. The Annals and Magazine of Natural History 14:313–317.

King, William. 1850. A Monograph of the Permian Fossils of England. Palaeontographical Society Monograph. London. i–xxxviii + 1–258 p., 28 pl.

Kirkendale, Lisa. 2009. Their day in the sun: Molecular phylogenetics and origin of photosymbiosis in the 'other' group of photosymbiotic marine bivalves (Cardiidae: Fraginae). Biological Journal of the Linnean Society 97:448–465.

Kittl, E. 1904. Geologie der Umgebung von Sarajevo. Kaiserlich-Königlichen Geologischen Reichsanstalt, Jahrbuch 53(1903):liii + p. 515–748, pl. xxi–xxiii, 1 map.

Kittl, E. 1912. Materialien zu einer Monographie der Halobiidae und Monotidae der Trias. Palaeontologie der Umgebung des Balatonsees 2(4):1–129, 10 pl.

Klipstein, August von. 1843. Beiträge zur Geologischen Kenntniss der Östlichen Alpen, mit Geognostischen und Petrefactologischen Tafeln. Georg Friedrich Heyer, Giessen. p. 1–310, 20 pl. Extra title page reads: Mittheilungen aus dem Gebiete der Geologie und Paleontologie, vol. 1, Giessen, Georg Friedrich Heyer, 1845.

Knudsen, Jørgen. 1970. The systematics and biology of abyssal and hadal Bivalvia. Galathea Report 11:241 p., 20 pl.

Kobayashi, Teiichi. 1954. Studies on the Jurassic trigonians in Japan. Part 1. Preliminary notes. Japanese Journal of Geology and Geography 25(1–2):61–80.

Kobayashi, Teiichi. 1968. The Cretaceous non-marine pelecypods from the Nam Phung Dam site in the northeastern part of the Khorat Plateau, Thailand, with a note on the Trigonioididae. *In* T. Kobayashi & R. Toriyama, eds., Geology and Paleontology of Southeast Asia, vol. 4. University of Tokyo Press. Tokyo. p. 109–138, pl. 20–23.

Kolesnikov, Charl'z M. 1977. Sistema i proiskhozhideniye limnicheskikh dvustvorok Mesozoya [The system and origin of Mesozoic limnic bivalves]. Paleontologicheskii Zhurnal 1977(3):42–54, pl. 1. Translated in Paleontological Journal 11(3):295–306.

Korobkov, Ilia A. 1954. Spravochnik i metodicheskoe Rukovodstvo po tretichnym mollyuskam Plastinchatozhabernye [Handbook on and Systematic Guide to the Tertiary Mollusca, Lamellibranchia]. Gosud. Nauchno-tech. Issledov. Nefti. Gorno-toplivnoi lit-ri, Leningradskoi Otdelenie. Gostoptexhizdat, Leningrad. p. 1–444, 96 pl. In Russian.

Koschelkina, Z. V. 1980. Retroseramidy i zonalnaia stratigrafiia, srednei iuri severovostoka SSSR [Retroceramids in zonal stratigraphy, Middle Jurassic northeast SSSR]. *In* Ekosystemi v Stratigrafii. Dalenvostochnii Nauchnyi Tsentr Biologo-Pochvennyi Institut [Ecosystems and Stratigraphy. Far Eastern Scientific Center Biological-Earth Institute]. Vladivostok. p. 131–135.

Krasilova, I. N. 1959. Novoe semeistvo Leiopectinidae iz verkhnesiluriiskikh i nizhnedevonskikh otlozhenii severo-vostochnogo Pribalkhashia [A new family Leiopectinidae from upper Silurian and Lower Devonian deposits of northeastern Balkhash]. Paleontologicheskii Zhurnal 1959(3):41–46, pl. 4.

Kříž, Jiří. 1965. Genus *Butovicella* gen. n. in the Silurian (Bivalvia). Věstník Ústředního Ústavu Geologického [Geological Survey, Bulletin, Czechoslovakia] 40(3):207–208, pl. 1–2.

Kříž, Jiří. 1966. *Praeostrea* Barrande, 1881 from the Lower Paleozoic of Central Europe (Bivalvia). Časopis Národního Musea, Oddíl Přírodovědny 135:25–32.

Kříž, Jiří. 1982. *Slavinka* gen. n. and Slavidae fam. n. (Bivalvia) from the Silurian of Bohemia. Věstník Ústředního Ústavu Geologického [Geological Survey, Czechoslovakia, Bulletin] 57(4):237–240, pl. 1–7.

Kříž, Jiří. 2007. Origin, evolution and classification of the new superorder Nepiomorphia (Mollusca, Bivalvia, Lower Paleozoic). Palaeontology 50(6):1341–1365.

Kumpera, O., F. Prantl, & B. Růžička. 1960. Revision of the Nuculanidae from the Ostrava-Karviná District (Pelecypoda). Acta Musei Nationalis Pragae (series B) Historia Naturalis 16(1–2):17–80, pl. 1–4.

Kutassy, Endré (Andreas). 1934. Pachyodonta Mesozoica (Rudistis exclusis). *In* W. Quenstedt, ed., Fossilium Catalogus, I. Animalia, Pars 68. W. Junk. The Hague, Neubrandenburg. p. 1–202.

Kuznetsov, V. V. 1973. Novyi rod permskikh inotseramorodovnykh dvustvorok [A new genus of Permian *Inoceramus*-like bivalves]. Novosti Geologii Iakutii [News of Geology of Yakutia] 3:23–27.

Lahusen, I. 1897. Kratkii kurs paleontologii. Vol. 2, Paleozoologiia [A Short Course in Paleontology. Vol. 2, Paleozoology]. Akademiia Nauk. St. Petersburg. xxvi + p. 327–741.

Lamarck, Jean B. P. A de M. de. 1801. Système des Animaux sans Vertèbres, ou Tableau Général des Classes, des Ordres, et des Genres de ces Animaux. Présentant leurs Caractères Essentiels et leur Distribution, d'après la Considération de leurs Rapports Naturels et de leur Organisation, et Suivant l'Arrangement établi dans les Galeries du Muséum National d'Histoire Naturelle, Parmi leurs Dépouilles Conservées, Précedée du Discours d'Ouverture du Cours de Zoologie, Donné dans le Muséum National d'Histoire Naturelle. L'an 8 de la Republique [=1801]. Deterville [or chez l'auteur]. Paris. viii + 432 p., tables.

Lamarck, Jean B. P. A. de M. de. 1809. Philosophie Zoologique, ou Exposition des Considérations Relative à l'Histoire Naturelle des Animaux; à la Diversité de Leur Organisation et des Facultés qu'ils en Obtiennent; aux Causes Physiques qui Maintiennent en Eux la Vie et Donnent lieu aux Mouvements qui'ils Exécutent; enfin, à celles qui Produisent, les Unes le Sentiment, et les Autres l'Intelligence de Ceux qui eu sont Doués. Chez Dentu [et] l'Auteur. Paris. 2 vols: vol. 1, xxv + 422 p., + Table des Matières, p. 423–428; vol. 2, 466 p., + Table des Matières, p. 467–475.

Lamarck, Jean B. P. A. de M. de. 1818. Histoire Naturelle des Animaux sans Vertèbres, vol. 5, 1st edit. Déterville. Paris. 612 p. For English translation of generic diagnoses, see Children (1822–1824) and Crouch (1826). For dates of issue, see Sherborn, 1922, Index Animalium, sect. 2, p. 77, and T. Iredale, 1922, Malacological Society of London, Proceedings 15:85.

Lamarck, Jean B. P. A. de M. de. 1819. Histoire Naturelle des Animaux sans Vertèbres, vol. 6, part 1, 1st edit. Déterville. Paris. 232 p. For English translation of generic diagnoses, see Children (1822–1824) and Crouch (1826). For dates of issue, see Sherborn, 1922, Index Animalium, sect. 2, p. 77, and T. Iredale, 1922, Malacological Society of London, Proceedings 15:85.

Lamy, Édouard. 1920. Révision des Cypricardiacea et des Isocardiacea vivants du Muséum d'Histoire Naturelle de Paris. Journal de Conchyliologie (Paris) (series 4, vol. 18) 64(4):259–307, pl. 8.

Latreille, P. A. 1825. Familles Naturelles du Règne Animal Exposées Succinctement et dans un Ordre Analytique, avec Indication de leurs Genres. Baillière. Paris. 570 p., with additions and corrections on p. 554–570.

Leach, William E. 1819. Descriptions des nouvelles espèces d'animaux découvertes par le vasseau Isabelle dans un voyage au pôle boréal. Journal

de Physique, de Chimie, d'Histoire Naturelle et des Arts 88(6):462–467. Translated in Annals of Philosophy 14(9):201–206.

Leanza, Hector A. 1993. Jurassic and Cretaceous trigoniid bivalves from West-Central Argentina. Bulletins of American Paleontology 105(343):1–95, 17 pl.

Leriche, M. 1912. Les Lamellibranches, Gastropodes, Ptéropodes (Conularida), Ostracodes et Mérostomes de la faune Silurio-Dévonienne de Liévin (Pas-de-Calais). Société Géologique du Nord, Mémoires 6(2):37–64.

[Lightfoot, John]. 1786. A Catalogue of the Portland Museum, Lately the Property of the Duchess Dowager of Portland, Deceased: Which Will be Sold by Auction, by Mr. Skinner and Co. on Monday the 24th of April, 1786, and the Thirty-seven following Days, at Twelve O'Clock, Sundays, and the 5th of June, (the Day his Majesty's Birth-Day is Kept) Excepted; at Her Late Dwelling House, in Privy-Garden, Whitehall; by Order of the Acting Executrix. To be Viewed Ten Days Preceding the Sale. Catalogues may now be had on the premises, and of Mr. Skinner and Co., Aldersgate Street, Price Five Shilling, which will admit the Bearer during the Time of the Exhibition and Sale. London. viii + 194 p.

Li Jin-hua, & Ding Bao-liang. 1981. Two new lamellibranch genera from Lower Triassic of Anhui. Acta Palaeontologica Sinica 20(4):325–330. In Chinese with English summary.

Liljedahl, Louis. 1994. Silurian nuculoid and modiomorphid bivalves from Sweden. Fossils and Strata 33:1–89.

Linnaeus, Carolus A. 1758–1759. Caroli Linnaei, Equitis de Stella Polari, Archiatri Regii, Med. and Botan. Profess. Upsal.; Acad. Upsal. Holmens. Petropol. Berol. Imper. Lond. Monspel. Tolos. Florent. Soc. Systema Naturae per Regna Tria Naturae, Secundum Classes, Ordines, Genera, Species, cum Characteribus, Differentiis, Synonymis, Locis. Editio Decima, reformata, 2 vol., paged continuously. Tomus I, Regnum Animale, 1758, [4] + p. 1–823 + [1 errata] p.; Tomus II, Regnum Vegetabile, 1759, [4] + p. 825–1384. Impensis Laurentii Salvii, Holmiae [Lipsiae, Stockholm]. In Latin. Reprinted by Unwin Brothers Ltd.: Caroli Linnaei Systema Naturae. A photographic facsimile of the first volume of the 10th edition (1758). Regnum Animale. London. Printed by order of the Trustees British Museum (Natural History) 1956.

Liu Ben-pei, & Li Zi-shun. 1980. Bivalve fossils. 1. Triassic. *In* Anonymous [=Chinese Academy of Geological Sciences, Institute of Geology, Shan Ganning Pendi Zhongshengdai Diceng Gushengwu], Mesozoic Stratigraphy and Palaeontology of Basins of Shanxi, Gangsu and Ningxia, Part 2. Dizhi Chuban She. Beijing. p. 1–27, pl. 99–147. In Chinese.

Liu Xie-zhang [also Gu Dao-yuan]. 1988. Bivalvia. *In* Hou Hong-fei, Wan Zheng-Quan, & Xian Si-Yuan, eds., Devonian Stratigraphy, Palaeontology and Sedimentary Facies of Longmenshan, Sichuan. Geological Publishing House. Beijing. p. 240–269 [Chinese text], p. 397–402 [English summary], pl. 70–77.

Loriol [Le Fort], Perceval de, & F. E. Bourgeat. 1886–1888. Études sur les Mollusques des Couches Coralligènes de Valfin (Jura); Précédées d'une Notice Stratigraphique, par l'abbé E. Bourgeat. C. Schuchardt. Geneva. 3 volumes bound in 1; p. 1–369; pl. A–C and 1–37. Information from Mémoires de la Société Paléontologique Suisse, vol. 13–15. Paginated continuously: vol. 13:1–120; vol. 14:121–224; vol. 15:225–369. Troisième partie, 1888, 14 planches de fossiles, vol. 15, pl. 24–37. New species indicated in text as published by P. de Loriol, 1888.

Lupher, A. W., & E. L. Packard. 1929. The Jurassic and Cretaceous rudistids of Oregon. University of Oregon Publication (Geology Series) 1(3):203–225, pl. 1–6.

Ma Qi-hong, Chen Jin-hua, Lan Xiu, Gu Zhi-wei, Chen Chu-zhen, & Lin Min-ji. 1976. Mesozoic fossil lamellibranchs from Yunnan, China. *In* Mesozoic Fossils from Yunnan, China, vol. 1. Science Press. Beijing. p. 161–386, pl. 1–42. In Chinese.

Mac Gillavry, H. J. 1937. Geology of the province Camaguey, Cuba, with revisional studies of rudist paleontology. Utrecht Rijks-Universiteit, Geographische en Geologische Mededelingen, Physiographisch-Geologische series Reeks, Thése 14:1–168, 10 pl., 1 map.

MacKinnon, D. I. 1982. *Tuarangia paparua*, n. gen. and n. sp., a late Middle Cambrian pelecypod from New Zealand. Journal of Paleontology 56(3):589–598, 2 pl.

MacNeil, Francis S. 1937. The systematic position of the pelecypod genus *Trinacria*. Journal of the Washington Academy of Sciences 27(11):452–458.

MacNeil MS, 1941. See comment in Stephenson (1941).

Maillieux, Eugene. 1937. Les lamellibranches du Dévonien inférieur de l'Ardenne. Musée Royal d'Histoire Naturelle de Belgique, Mémoires 81:1–273, 14 pl.

Maillieux, Eugene. 1939. L'Ordovicien de Sart-Bernard. Musée Royal d'Histoire Naturelle de Belgique, Mémoires 86:1–59, pl. 1–3.

Malchus, Nikolaus. 1990. Revision der Kreide-Austern (Bivalvia: Pteriomorphia) Ägyptens (Biostratigraphie, Systematik). Berliner Geowissenschaftliche Abhandlungen (Reihe A) 125:1–231, 27 pl.

Martinson, G. G. 1961. Mezozoiskie i Kaynozoyskie Molluski Kontinentalnykh Otlozheniy Sibirskoy Platformy, Zabaykalya i Mongolii [Mesozoic and Cenozoic Mollusca, Non-marine Sedimentary Succession of Sibirican platform, Baikalia and Mongolia]. East Sibirican Branch, Sibirican Section, Academy of Sciences of the USSR. Izdatelstvo Akademiy Nauk SSSR. Moscow. Trudy Baikal'skoi Limnologicheskoi Stantsii [Transactions of Baikalian Limnologic Station] 19:1–332 p., 26 pl. In Russian.

Marwick, John. 1953. Divisions and faunas of the Hokonui System (Triassic and Jurassic). New Zealand Geological Survey Paleontological Bulletin 21:1–141, pl. 1–17.

Masuda Koichiro. 1963. The so-called *Patinopecten* of Japan. Palaeontological Society of Japan, Transactions and Proceedings (new series) 52:145–153, pl. 22–23.

Matsumoto, Masahiro. 2003. Phylogenetic analysis of the subclass Pteriomorphia (Bivalvia) from mtDNA COI sequences. Molecular Phylogenetics and Evolution 27(3):429–440.

Maxwell, Phillip A. 1988. Comments on "A reclassification of the Recent genera of the subclass Protobranchia (Mollusca: Bivalvia)" by J. A. Allen & F. J. Hannah (1986). Journal of Conchology 33(2):85–96.

McAlester, Arcie L. 1969. Superfamily Nuculacea [diagnosis] and Family Praenuculidae. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 229–230.

McKenna, Malcolm C., & S. K. Bell, eds. 1997. Classification of Mammals Above the Species Level. Columbia University Press. New York. i–xiii + p. 1–631.

McMichael, D. F., & I. D. Hiscock. 1958. A monograph of the freshwater mussels (Mollusca: Pelecypoda) of the Australian region. Australian Journal of Marine and Freshwater Research 9(3):372–508, pl. 1–19.

McRoberts, Christopher A. 1992. Systematics and paleobiogeography of Late Triassic *Gryphaea* (Bivalvia) from the North American Cordillera. Journal of Paleontology 66:28–39.

McRoberts, Christopher A., & J. G. Carter. 1994. Nacre in an early gryphaeid bivalve (Mollusca). Journal of Paleontology 68:1405–1408.

Meek, Fielding B. 1864a. Checklist of the invertebrate fossils of North America. Cretaceous and Jurassic. Smithsonian Miscellaneous Collections 7(177):ii + 1–40 p.

Meek, Fielding B. 1864b. Remarks on the family Pteriidae (=Aviculidae), with descriptions of some new fossil genera. American Journal of Science and Arts (series 2) 37:212–220.

Meek, Fielding B., & F. V. Hayden. 1865. Palaeontology of the Upper Missouri. Invertebrates, Part 1. Smithsonian Contributions to Knowledge 14(172):ix + 1–136, pl. 1–5.

Ménégaux, Auguste. 1889. Sur la branchie des lamellibranches et sur sa comparaison avec celle des Scutibranches. Société Philomatique de Paris, Bulletin (series 8) 1(1):137–144.

Mikkelsen, Paula M., R. Bieler, I. Kappner, & T. A. Rawlings. 2006. Phylogeny of Veneroidea (Mollusca: Bivalvia) based on morphology and molecules. Zoological Journal of the Linnean Society of London 148(3):439–521.

Miller, S. A. 1877. The American Palaeozoic Fossils, a Catalog of the Genera and Species. Published by author. Cincinnati. xv + 253 p.

Miller, S. A. 1889. North American Geology and Palaeontology for the use of Amateurs, Students and Scientists. Western Methodist Book Concern. Cincinnati. 664 p.

Modell, Hans. 1942. Das natürlich System der Najaden. Archiv für Molluskenkunde 74(5–6):161–191, pl. 5–7.

Modell, Hans. 1964. Das natürliche System der Najaden, 3. Archiv für Molluskenkunde 93(3–4):71–126.

Moore, Raymond C., C. G. Lalicker, & A. G. Fischer. 1952. Invertebrate Fossils. McGraw-Hill. New York. xiii + 766 p.

Mörch, Otto A. L. 1852–1853. Catalogus Conchyliorum, quae Reliquit D. Alphonso d'Aguirra & Gadea, Comes de Yoldi: Regis Danie Cubiculariorum Princeps, Ordinis Dannebrogici in Prima Classe & Ordinis Caroli Tertii Eques. Ludovici Kleini, Hafniae (Copenhagen). Part 1, 170 p. (1852), Part 2, Acephala, Annulata Cirripedia, Echinodermata, [iv] + 74 p. (1853). In Latin.

Morretes, Frederico W. L. de. 1949. Ensaio de catalogo dos moluscos do Brasil. Arquivos do Museu Paranaense 7(1):[unpaginated p. 3–4] + 5–216.

Morris, John, & J. Lycett. 1853. A monograph of the Mollusca from the Great Oolite, chiefly from Minchinhampton and the coast of Yorkshire. Part II, Bivalves. Palaeontographical Society Monographs, London. p. 1–80, pl. 1–8.

Morris, Noel J. 1980. A new Lower Ordovician bivalve family, the Thoraliidae (?Nuculoida), interpreted as actinodont deposit feeders. British Museum (Natural History), Bulletin (Geology series) 34(4):265–272, 7 fig.

Morris, Noel J., J. M. Dickins, & K. Astafieva-Urbajtis. 1991. Upper Palaeozoic anomalodesmatan Bivalvia. British Museum (Natural History), Bulletin (Geology series) 47(1):51–100.

Morton, Brian S. 1981. The Anomalodesmata. Malacologia 21(1–2):35–60.

Morton, Brian S. 2007. Evolution of the watering pot shells (Bivalvia: Anomalodesmata: Clavagellidae and Penicillidae). Records of the Australian Museum 24(1):19–64.

Munier-Chalmas, Ernest C. P. A. 1873. Prodrome d'une classification des rudistes. Journal de Conchyliologie (Paris) (série 3) 21(1):71–75.

Murchison, Roderick I. 1839. The Silurian System Founded on Geological Researches in the Counties of Salop, Hereford, Radnor, Montgomery, Caermarthen, Brecon, Pembroke, Monmouth, Gloucester, Worcester and Stafford; with Descriptions of the Coalfields and Overlying Formations. John Murray. London. xxxii + 768 p.

Nagel-Myers, Judith, M. R. W. Amler, & R. T. Becker. 2009. The Loxopteriinae n. subfam. (Dualinidae, Bivalvia): Review of a common bivalve taxon from the Late Devonian pelagic facies. Palaeontographica Americana 63:167–185.

Nakano, Mitsuo. 1960. Stratigraphic occurrences of the Cretaceous trigoniids in the Japanese islands and their faunal significances. Journal of Science of the Hiroshima University (series C) 3(2):215–280, pl. 23–30.

Naumov, Andrew D. 2006. Clams of the White Sea. Ecological and faunistic analysis. Exploration of the Fauna of the Seas, St. Petersburg 59(67):1–367. In Russian with English summary. Atlas of species includes watercolor paintings by the author. PDF version published 2007, available from Zoological Institute, Russian Academy of Sciences, Universitetskaya nab., 1. St. Petersburg, 199034, Russia.

Neulinger, Sven C., H. Sahling, J. Imhoff, & J. F. Süling. 2006 [April 24]. Presence of two phylogenetically distinct groups in the deep-sea mussel *Acharax* (Mollusca: Bivalvia: Solemyidae). Marine Ecology Progress Series 312:161–168.

Neumayr, Melchior. 1891. Beiträge zu einer morphologischen Eintheilung der Bivalven. Aus den Hinterlassenen Schriften des Prof. M. Neumayr, C. M. K. Akad. mit einem Vorworte von E. Suess, W. M. K. Akademie der Kaiserlichen Akademie der Wissenschaften, Mathematisch-Naturwissenschaftliche Klasse, Denkschriften, Wien 58:701–801.

Nevesskaja, Lidiya A. 2009. Principles of systematics and the system of bivalves. Paleontologicheskii Zhurnal 2009(1):3–13. In Russian: see also English translation in Paleontological Journal, 2009.

Nevesskaja, Lidiya A., I. A. Goncharova, L. B. Iljina, N. P. Paramonova, S. V. Popov, E. V. Babak, K. G. Bagdasarian, & A. A. Voronina. 1986. Istoriia neogenovykh molliuskov Paratetisa [The history of Neogene mollusks of the Paratethys]. Trudy Paleontologicheskogo Instituta, Akademiia Nauk SSSR 220:1–208, 8 pl. In Russian.

Nevesskaja, Lidiya A., N. P. Paramonova, & S. V. Popov. 2001. History of Lymnocardiinae (Bivalvia, Cardiidae). Paleontological Journal 35(suppl. 3):143–217.

Nevesskaja, Liydia. A., O. A. Scarlato, Y. I. Starobogatov, & A. G. Eberzin. 1971. Novye predstavleniia o sisteme dvustvorchatykh molliuskov [New ideas on the systematics of bivalved mollusks]. Paleontologicheskii Zhurnal 1971(2):3–20. In Russian.

Newell, Norman D. 1938 ["1937"]. Late Paleozoic pelecypods: Pectinacea. State Geological Survey of Kansas, Bulletin 10:1–123, 20 pl.

Newell, Norman D. 1957. Notes on certain primitive heterodont pelecypods. American Museum Novitates 1857:1–14.

Newell, Norman D. 1965. Classification of the Bivalvia. American Museum Novitates 2206:1–25.

Newell, Norman D. 1969a. Superfamily Limopsacea Dall, 1895, families Limopsidae Dall, 1895, and Glycymerididae Newton, 1922. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 264–269.

Newell, Norman D. 1969b. Family Monopteriidae Newell, new family. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 297.

Newell, Norman D. 1969c. Subclass Palaeoheterodonta Newell, 1965, and Order Modiomorphoida Newell, new order [diagnoses]. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 1–2. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 393.

Newell, Norman D., & D. W. Boyd. 1975. Parallel evolution in early trigoniacean bivalves. American Museum of Natural History, Bulletin 154(2):53–162.

Newell, Norman D., & D. W. Boyd. 1990. Nacre in a Carboniferous pectinoid mollusc and a new subfamily Limipectininae. American Museum Novitates 2970:1–7.

Newell, Norman D., & D. W. Boyd. 1995. Pectinoid bivalves of the Permian-Triassic crisis. American Museum of Natural History, Bulletin 227:1–95.

Newell, Norman D., & K. W. Ciriacks. 1962. A new bivalve from the Permian of the western United States. American Museum Novitates 2121:1–4.

Newton, Richard B. 1891. Systematic List of the Frederick E. Edwards Collection of British Oligocene and Eocene Mollusca in the British Museum (Natural History) with References to the Type Specimens from Similar Horizons Contained in Other Collections Belonging to the Geological Department of the Museum. Printed by order of the Trustees. Longmans and Co. London. xxviii + 365 p., 1 folded table.

Newton, R. B. 1919. On *Raetomya*, a new genus of Pelecypoda, from the Tertiary rocks of Egypt and southern Nigeria. Malacological Society of London, Proceedings 13(3–4):79–84, pl. 1.

Nicol, David. 1950. Recent species of the lucinoid pelecypod *Fimbria*. Journal of the Washington Academy of Sciences 40(3):82–87.

Nordsieck, Fritz. 1969. Die Europäischen Meeresmuscheln (Bivalvia) vom Eismeer bis Kapverden, Mittelmeer und Schwarzes Meer. Gustav Fischer. Stuttgart. xiii + 256 p., 2 + 25 pl.

Novacek, Michael J. 1986. The skull of lepticid insectivorans and the higher-level classification of eutherian mammals. American Museum of Natural History, Bulletin 183:1–112.

Ockelmann, Kurt W. 1983. Descriptions of mytilid species and definition of the Dacrydiinae, n. subfam. (Mytilacea–Bivalvia). Ophelia 22(1):81–123, 57 fig.

d'Orbigny, Alcide. 1835. Voyage dans l'Amérique Méridionale (le Brésil, la République de Orientale de l'Uruguay, la République Argentine, la Patagonie, République du Chili, la République de Bolivia, la République de Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833. Tome 5, Partie 3, Mollusques. Pitois-Levrault. Strasbourg, Paris. Livraison 1, pl. 1–2 [May 15, 1835]; Livraison 3, pl. 4 [May 15, 1835]; Livraison 4, pl. 3 [before August 31, 1835]; Livraison 5, pl. 5–7 [August 31, 1835]; Livraison 6, p. 1–48, pl. 10, 12 [September 14, 1835]; Livraison 7, p. 49–72 [November 23, 1835]; Livraison 8, p. 73–104 [December 7, 1835]. Publication dates from R. H. Cowie, N. L. Evenhuis, & C. C. Christensen, 1995, Catalogue of the Native Land and Freshwater Molluscs of the Hawaiian Islands, p. 220–221.

d'Orbigny, Alcide. 1836a. Voyage dans l'Amérique Méridionale (le Brésil, la République de Orientale de l'Uruguay, la République Argentine, la Patagonie, République du Chili, la République de Bolivia, la République de Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833. Tome 5, Partie 3, Mollusques. Pitois-Levrault. Strasbourg, Paris. Livraison 9, p. 105–123, pl. 9, 11, 13 [January 4, 1836]; Livraison 11, p. 129–152, pl. 17, 21 [April 18, 1836]; Livraison 12, p. 153–176, pl. 8 [May 30, 1836]; Livraison 13, pl. 18, 19, 22 [?]; Livraison 14, pl. 20, 25 [July 11, 1836]; Livraison 15, pl. 23 [August 1, 1836]; Livraison 16, pl. 15–16 [September 26, 1836]; Livraison 17, p. 177–184, pl. 27–28 [October 3, 1836]; Livraison 18, pl. 14, 26 [November 7, 1836]. Publication dates from R. H. Cowie, N. L. Evenhuis, & C. C. Christensen, 1995, Catalogue of the Native Land and Freshwater Molluscs of the Hawaiian Islands, p. 220–221.

d'Orbigny, Alcide. 1836b. Mollusques, Échinodermes, Foraminifères et Polypiers Recueillis aux Iles Canaries par MM. Webb et Berthelot. Partie 2. Mollusques. *In* P. B. Webb, S. Berthelot, A. Moquin-Tandon, F. L. P. Gervais, A. Valenciennes, A. D. d'Orbigny, M. Brullé, P. H. Lucas, and P. J. M. Macquart, 1836–1844, Histoire Naturelle des Iles Canaries, Tome 2, Partie 2, Contenant la Zoologie, 117 p., pl. 1–7B. Béthune. Paris. Livraison 9, pl. 1 [July, 1836]; Livraison 14, pl. 2 [December, 1836]; Livraison 41, p. 1–24 [August, 1839]; Livraison 42, p. 25–48 [September, 1839]; Livraison 43, p. 49–72 [October, 1839]. Published in parts, approximately 900 p. in various paginations. Publication dates from W. T. Stearn, 1937, Journal of the Society for the Bibliography of Natural History 1:54.

d'Orbigny, Alcide. 1837. Voyage dans l'Amérique Méridionale (le Brésil, la République de Orientale de l'Uruguay, la République Argentine, la Patagonie, République du Chili, la République de Bolivia, la République de Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833. Tome 5, Partie 3, Mollusques. Pitois-Levrault. Strasbourg, Paris. Livraison 21, pl. 31 [?]; Livraison 22, pl. 24, 35 [February 27, 1837]; Livraison 23, pl. 30, 32, 34 [April 3, 1837]; Livraison 24, pl. 35, 37 [June 5, 1837]; Livraison 25, pl. 38, 41 [June 19, 1837]; Livraison 26, pl. 38, 39 [August 7, 1837]; Livraison 27, pl. 40, 45 [September 18, 1837]; Livraison 28, pl. 29, 46 [?]; Livraison 29, pl. 41–43 [November 6, 1837]. Publication dates from R. H. Cowie, N. L. Evenhuis, & C. C. Christensen, 1995, Catalogue of the Native Land and Freshwater Molluscs of the Hawaiian Islands, p. 220–221.

d'Orbigny, Alcide. 1838. Voyage dans l'Amérique Méridionale (le Brésil, la République de Orientale de l'Uruguay, la République Argentine, la Patagonie, République du Chili, la République de Bolivia, la République de Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833. Tome 5, Partie 3, Mollusques. Pitois-Levrault. Strasbourg, Paris. Livraison 31, p. 185–232, pl. 44 [March 5, 1838]; Livraison 32, p. 233–280, pl. 47 [April 23,1838]; Livraison 33, p. 281–328, pl. 48, 52 [May 6, 1838]; Livraison 34, p. 329–376 [June 11, 1838]; Livraison 35, pl. 49–51 [October 11, 1938]; Livraison 36, pl. 55 [November 12, 1838] Publication dates from R. H. Cowie, N. L. Evenhuis, & C. C. Christensen, 1995, Catalogue of the Native Land and Freshwater Molluscs of the Hawaiian Islands, p. 220–221.

d'Orbigny, Alcide. 1839a. Voyage dans l'Amérique Méridionale (le Brésil, la République de Orientale de l'Uruguay, la République Argentine, la Patagonie, République du Chili, la République de Bolivia, la République de Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833. Tome 5, Partie 3, Mollusques. Pitois-Levrault. Strasbourg, Paris. Livraison 37, pl. 56 [April 8, 1839]; Livraison 38, pl. 57 [April 29, 1839]; Livraison 39, pl. 58 [June 24, 1839]; Livraison 42, pl. 59 [November 11, 1839]; Livraison 43, pl. 64, 65 [November 21, 1839] Publication dates from R. H. Cowie, N. L. Evenhuis, & C. C. Christensen, 1995, Catalogue of the Native Land and Freshwater Molluscs of the Hawaiian Islands, p. 220–221.

d'Orbigny, Alcide. 1839b. Mollusques, Échinodermes, Foraminifères et Polypiers Recueillis aux Iles Canaries par MM. Webb et Berthelot. Partie 2. Mollusques. *In* P. B. Webb, S. Berthelot, A. Moquin-Tandon, F. L. P. Gervais, A. Valenciennes, A. D. d'Orbigny, M. Brullé, P. H. Lucas, and P. J. M. Macquart, 1836–1844, Histoire Naturelle des Iles Canaries, Tome 2, Partie 2, Contenant la Zoologie, 117 p., pl. 1–7B. Béthune. Paris. Livraison 41, p. 1–24 [August, 1839]; Livraison 42, p. 25–48 [September, 1839]; Livraison 43, p. 49–72 [October, 1839]. Published in parts, approximately 900 p. in various paginations. Publication dates from W. T. Stearn, 1937, Journal of the Society for the Bibliography of Natural History 1:54.

d'Orbigny, Alcide. 1840. Mollusques, Échinodermes, Foraminifères et Polypiers Recueillis aux Iles Canaries par MM. Webb et Berthelot. Partie 2. Mollusques. *In* P. B. Webb, S. Berthelot, A. Moquin-Tandon, F. L. P. Gervais, A. Valenciennes, A. D. d'Orbigny, M. Brullé, P. H. Lucas, and P. J. M. Macquart, 1836–1844, Histoire Naturelle des Iles Canaries, Tome 2, Partie 2, Contenant la Zoologie, 117 p., pl. 1–7B. Béthune. Paris. Livraison 45, p. 73–104 [January, 1840]; Livraison 46, p. 105–[136] [March, 1840]; Livraison 49, pl. 4, 5 [June, 1840]. Published in parts, approximately 900 p. in various paginations. Publication dates from W. T. Stearn, 1937, Journal of the Society for the Bibliography of Natural History 1:54.

d'Orbigny, Alcide. 1841. Voyage dans l'Amérique Méridionale (le Brésil, la République de Orientale de l'Uruguay, la République Argentine, la Patagonie, République du Chili, la République de Bolivia, la République de Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833. Tome 5, Partie 3, Mollusques. Pitois-Levrault. Strasbourg, Paris. Livraison 44, pl. 54, 60–63 [September 6, 1841]; Livraison 46, pl. 66 [November 8, 1841]; Livraison 47, pl. 68, 69 [November 8, 1841]; Livraison 48, pl. 70 [November 8, 1841]; Livraison 49, p. 377–408 [November 15, 1841]; Livraison 50, pl. 53, 67, 71 [November 15, 1841]; Livraison 51, p. 409–424, pl. 72 [November 15, 1841]; Livraison 52, p. 425–472, pl. 73, 74, 79 [November 15, 1841]. Publication dates from R. H. Cowie, N. L. Evenhuis, & C. C. Christensen, 1995, Catalogue of the Native Land and Freshwater Molluscs of the Hawaiian Islands, p. 220–221.

d'Orbigny, Alcide. 1842a. Voyage dans l'Amérique Méridionale (le Brésil, la République de Orientale de l'Uruguay, la République Argentine, la Patagonie, République du Chili, la République de Bolivia, la République de Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833. Tome 5, Partie 3, Mollusques. Pitois-Levrault. Strasbourg, Paris. Livraison 53, p. 473–488, pl. 75, 76, 80 [February 14, 1842]; Livraison 88, pl. 83, 85 [wrapper date 1842]. Publication dates from R. H. Cowie, N. L. Evenhuis, & C. C. Christensen, 1995, Catalogue of the Native Land and Freshwater Molluscs of the Hawaiian Islands, p. 220–221.

d'Orbigny, Alcide. 1842b. Mollusques, Échinodermes, Foraminifères et Polypiers Recueillis aux Iles Canaries par MM. Webb et Berthelot. Partie 2. Mollusques. *In* P. B. Webb, S. Berthelot, A. Moquin-Tandon, F. L. P. Gervais, A. Valenciennes, A. D. d'Orbigny, M. Brullé, P. H. Lucas, and P. J. M. Macquart, 1836–1844, Histoire Naturelle des Iles Canaries, Tome 2, Partie 2, Contenant la Zoologie, 117 p., pl. 1–7B. Béthune. Paris. Livraison 62, pl. 7 [May, 1842]; Livraison 63, pl. 3 [May, 1842]; Livraison 65, pl. 6, 7B [August, 1842]. Published in parts, approximately 900 p. in various paginations. Publication dates from W. T. Stearn, 1937, Journal of the Society for the Bibliography of Natural History 1:54.

d'Orbigny, Alcide. 1844–1848. Lamellibranches. *In* A. d'Orbigny, G. H. Cotteau, Mr. Piette, E. Eudes-Deslongchamps, P. de Loriol-Le Fort, G. Saporta, E. de Fromentel, & Mr. Ferry, 1840–1894, Paléontologie Française. Description Zoologique et Géologique de Tous le Animaux Mollusques et Rayonnés Fossiles de France: Comprenant leur Application à la Reconnaissance des Couches. By the author. Paris. 22 vol. in 2 series (1st Série: Animaux Invertébrés, 2nd Série: Végétaux). 1st série in 3 sections. Section 2: Terrains Crétacés. Tome 3, "1843" [1844 –1848], Lamellibranches, 807 p., pl. 237–489, 242 bis, 247 bis, 186 bis. Published in parts (livraisons); dates after C. D. Sherborn, 1899, Geological Magazine (new series) 6(5):223–225. Livraisons 71–76, p. 1–96 [1844]; Livraisons 77–90, p. 97–288 [1844]; Livraisons 91–102, p. 289–448 [1845]; Livraisons 103–106, p. 449–480 [1846]; Livraisons 107–111, p. 481–520 [1846]; Livraisons 112–116, p. 521–576 [1847]; Livraisons 117–126, p. 577–688 [1847]; Livraisons 127–136, p. 689–807 [1848].

d'Orbigny, Alcide. 1845. Voyage dans l'Amérique Méridionale (le Brésil, la République de Orientale de l'Uruguay, la République Argentine, la Patagonie, République du Chili, la République de Bolivia, la République de Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833. Tome 5, Partie 3, Mollusques. Pitois-Levrault. Strasbourg, Paris. **Livraison 83, p. 529–600 [wrapper date 1845]. Pub**lication dates from R. H. Cowie, N. L. Evenhuis, & C. C. Christensen, 1995, Catalogue of the Native Land and Freshwater Molluscs of the Hawaiian Islands, p. 220–221.

d'Orbigny, Alcide. 1846. Voyage dans l'Amérique Méridionale (le Brésil, la République de Orientale de l'Uruguay, la République Argentine, la Patagonie, République du Chili, la République de Bolivia, la République de Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833. **Tome 5, Partie 3, Mollusques. Pitois-Levrault. Stras**bourg, Paris. Livraison 82, p. 489–528 [wrapper date 1846]; Livraison 84, p. 601–656 [wrapper date 1846]; Livraison 85, p. 657–704 [wrapper date 1846]; Livraison 86, p. 705–728 [wrapper date 1846]. Published in parts. Publication dates from R. H. Cowie, N. L. Evenhuis, & C. C. Christensen, 1995, Catalogue of the Native Land and Freshwater Molluscs of the Hawaiian Islands, p. 220–221.

d'Orbigny, Alcide. 1847a. Voyage dans l'Amérique Méridionale (le Brésil, la République de Orientale de l'Uruguay, la République Argentine, la Patagonie, République du Chili, la République de Bolivia, la République de Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833. Tome 5, Partie 3, Mollusques. Pitois-Levrault. Strasbourg, Paris. Livraison ?, p. 729–758 [?]; Livraison 89, pl. 78, 81 [wrapper date 1847]; Livraison 90, pl. 79, 82 [wrapper date 1847]. Publication dates from R. H. Cowie, N. L. Evenhuis, & C. C. Christensen, 1995, Catalogue of the Native Land and Freshwater Molluscs of the Hawaiian Islands, p. 220–221.

d'Orbigny, Alcide. 1847b. Sur les Brachiopodes ou Palliobranches (deuxième mémoire). Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences 25:266–269.

Ortmann, A. E. 1916. The anatomical structure of *Gonidea angulata* (Lea). The Nautilus 30(5):50–53.

Pareyn, Claude, G. Termier, & H. Termier. 1972 ["1971"]. Les bivalves ostréiformes du Sahara. Société Géologique du Nord, Annales 91(4):229–239, pl. 37–40. Systematics by G. Termier and H. Termier alone.

Paul, H. 1939. Die Muscheln der Magdeburger Kulmgrauwacke. Abhandlungen und Berichte aus dem Museum für Naturkunde und Vorgeschichte und dem Naturwissenschaftlichen Verein in Magdeburg 7(1):165–181, pl. 12.

Pchelintseva [=Pčelincev], V. F. 1960. Semejstwo Prospondylidae fam. nov. [Family Prospondylidae fam. nov.]. *In* A. G. Eberzin, ed., Osnovy Paleontologii. Mollyuski—Pantsirnye, Dvustvorchatye, Lopatonogie [Fundamentals of Paleontology. Mollusks—Loricata, Bivalvia, Scaphopoda]. Isdastelstvo Akademii Nauk SSSR. Moscow. p. 78–87.

Pelseneer, Paul. 1889. Sur la classification phylogenetique de pelecypods. Bulletin Scientifique de la France et de la Belgique 20(sér. 3, no. 2):(1–4):27–52.

Pérez, Ernesto, & R. Reyes. 1997. Interpretación taxonomica de los buchotrigonidos (Bivalvia; Trigonioida) y descripción de una nueva especie de *Syrotrigonia* del Cretacico inferior de Chile. Revista Geologica de Chile 24(2):245–257, pl. 1.

Pérez, Ernesto, R. Reyes, & S. E. Damborenea. 1995. El genero *Groeberella* Leanza, 1993 y Groeberellidae nov. (Bivalvia: Trigonioida) del Jurasico de Chile y Argentina. Revista Geologica de Chile 22(2):142–157, pl. 1.

Phillips, John. 1848. The Malvern Hills compared with the Palaeozoic districts of Abberley, Woolhope, May Hill, Tortworth, and Usk. Memoirs of the Geological Survey Great Britain, and of the Museum of Practical Geology in London 2(1):1–330, pl. I–III, with Palaeontological Appendix by J. Phillips and J. W. Salter, p. 331–386, pl. IV–XXX.

Pochialaynen, V. P. 1985. Kolonitseramy v neokome na severe Patsifiki. [Coloniceramids in the Neocomian from the north Pacific]. Severo-Vostochnii Kompleksnyi Nauchno-Issledovatelskii Institut [Northeastern Comprehensive Scientific Research Institute]. Magadan. 32 p. In Russian.

Pojeta, John, Jr. 1975. *Fordilla troyensis* Barrande and early pelecypod phylogeny. Studies in paleontology and stratigraphy. Bulletins of American Paleontology 67(287):363–384, pl. 1–5.

Pojeta, John, Jr. 1978. The origin and early taxonomic diversification of pelecypods. Royal Society of London, Philosophical Transactions (series B) Biological Sciences 284(1001):225–246, pl. 1–15.

Pojeta, John, Jr. 1988. The origin and Paleozoic diversification of solemyoid pelecypods. New Mexico Bureau of Mines and Mineral Resources Memoir 44:201–271, 24 pl.

Pojeta, John, Jr., & J. Gilbert-Tomlinson. 1977. Australian Ordovician pelecypod molluscs. Commonwealth of Australia, Bureau of Mineral Resources, Geology and Geophysics, Bulletin 174:1–64 p., 29 pl.

Pojeta, John, Jr., & C. A. Stott. 2007. Nucularcidae: A new family of palaeotaxodont Ordovician pelecypods (Mollusca) from North America and Australia. Canadian Journal of Earth Sciences 44(10):1479–1501.

Pojeta, John, Jr., & Zhang Ren-jie. 1984. *Sinodora* n. gen.—A Chinese Devonian homeomorph of Cenozoic pandoracean pelecypods. Journal of Paleontology 58(4):1010–1025.

Powell, A. W. B. 1979. New Zealand Mollusca. Marine, Land and Freshwater shells. Collins. Auckland, Sydney & London. xiii + 500 p., 82 pl.

Prantl, F., & B. Růžička. 1954. *Straba* nov. gen., nový mlź z českeho Devonu. Sbornik Narodniho Musea v Praze (series B, Geologia et Palaeontologia)10(3) 2:3–29, pl. 1–4.

Purchon, Richard D. 1941. On the biology and relationships of the lamellibranch *Xylophaga dorsalis* (Turton). Marine Biological Association of the United Kingdom Journal 25(1):1–39.

Rafinesque, Constantine S. 1815. **Analyse de la Nature ou Tableau de l'Uni**versity et des Corps Organisés, etc. Jean Barravecchia. Palermo. 223 p.

Rafinesque, Constantine S. 1820. Monographie des coquilles bivalves fluviatiles de la Rivière Ohio, contenant douze genres et soixante-huit espèces. Annales Générales des Sciences Physiques (Bruxelles) 5:287–322, pl. 80–82.

Ratter, V. Alexander, & J. C. W. Cope. 1998. New Silurian neotaxodont bivalves from south Wales and their phylogenetic significance. Palaeontology 41(5):975–991, pl. 1.

Reed, F. R. Cowper. 1932. New fossils from the agglomeratic slate of Kashmir. Memoirs of the Geological Survey of India, Palaeontologia Indica (new series) 20(1):1–79, pl. 1–13.

Reinhart, Phillip W. 1935. Classification of the pelecypod family Arcidae. Musée Royal d'Histoire Naturelle de Belgique, Bulletin 11(13):1–68, pl. 1–4.

Rengarten, V. P. 1950. Rudistovye fatsii melovykh otlozhenii Zakavkazia [Rudist facies of the Cretaceous of Transcaucasus]. Akademiia Nauk SSSR 130 (ser. Geologicheskaia) 51:1–92, 16 pl. In Russian.

Retzius, Anders J. 1788. Dissertatio Historico-Naturalis Sistens Nova Testaceorum Genera. Quam Venia Ampliss. Facult. Philosophicae Praeside D. M. Andr. J. Retzio [=A. J. Retzius], Ad Publicum Examen Defert Laurentius Münter Philipsson Scanus. Ad Diem X. Decembris 1788. Typis Berlingianis, Lundae, [4] + p. [1]–23. A thesis by Laurentius Münter Philipsson prepared under the direction of A. J. Retzius at the University of Lund. The student Philipsson is the author of this work, and is to be credited with its new names (see ICZN Opinion 495).

Reuss, August E. 1845–1846. Die Versteinerungen der Böhmischen Kreideformation, mit Abbildungen der Neuen oder Weniger Bekannten Arten [with drawings by Joseph Rubesch]. Erste abtheilung, p. 1–58 + pl. 1–13(1845); zweite abtheilung, I, hälfte, p. 1–64, pl. 14–26; zweite abtheilung, II, hälfte, p. 65–148, pl. 27–51 (1846).

Ridewood, W. G. 1903. On the structure of the gills of the Lamellibranchia. Royal Society of London, Philosophical Transactions (series B) Biological Sciences 195(211):147–284, 61 fig.

Rohdendorf, B. B. 1977. [The rationalization of names of higher taxa in zoology]. Paleontologicheskiy Zhurnal 1977(2):14–22. Translated in Paleontological Journal 11(2):149–155.

Romanov, L. F. 1985. Iurskie pectinoidy Iuga SSSR [Jurassic pectinoids from southern USSR]. Kishinev. Shtiintsa. 231 p., 30 pl. In Russian.

Römer, Ferdinand [=Römer, Carl F.]. 1844. Das Rheinische Uebergangsbebirge: Eine Palaeontologisch-geognostische Darstellung. Hahn'schen Hofbuchhandlung. Hannover. p. 1–96, 6 pl.

Sánchez, Teresa M. 1989. Bivalvos palaeotaxodóntidos de la Formación Lipeón (Silúrico) de la Sierra de Zapla, Provincia de Jujuy, Argentina. Ameghiniana 26(3–4):173–189.

Sánchez, Teresa M. 1997. Natasiinae, a new subfamily of Tironuculidae (Bivalvia, Palaeotaxodonta) from the Acoite Formation (Early-Middle Arenig), Northwestern Argentine. *In* P. R. Racheboeuf & M. Gayet, eds., Actualités Paléontologiques en l'honneur de Claude Babin. Geobios (Mémoire Spécial) 20:471–475.

Sánchez, Teresa M. 1999. New Late Ordovician (early Caradoc) bivalves from the Sierra de Villicum (Argentine Precordillera). Journal of Paleontology 73(1):66–76.

Sánchez, Teresa M. 2005. New Bivalvia and Rostroconchia from the early Ordovician (late Tremadoc–middle Arenig) of northwestern Argentina. Journal of Paleontology 79:532–541.

Sánchez, Teresa M. 2006. Taxonomic position and phylogenetic relationships of the bivalve *Goniophorina* Isberg, 1934, and related genera from the early Ordovician of northwestern Argentina. Ameghiniana 43(1):113–122.

Sánchez, Teresa M., & J. L. Benedetto. 2007. The earliest known estuarine bivalve assemblage, Lower Ordovician of northwest Argentina. Geobios 40(4):523–533.

Sánchez, Teresa M., & N. E. Vaccari. 2003. Ucumariidae new family (Bivalvia, Anomalodesmata) and other bivalves from the Early Ordovician (Tremadocian) of northwestern Argentina. Ameghiniana 40(3):415–424.

Sanders, H. L., & J. A. Allen. 1973. Studies on deep-sea Protobranchia (Bivalvia): Prologue and the Pristiglomidae. Museum of Comparative Zoology, Harvard University, Bulletin 145(5):237–262.

Sars, Georg O. 1878. Bidrag til Kundskaben om Norges Arktiske Fauna: I. Mollusca Regionis Arcticae Norvegiae. Oversigt over de i Norges Arktiske Region Forekommende Bløddyr. A. W. Brøgger. Christiania. xiii + 466 p., 34 + XVIII pl. (18 folded), folded map. In Norwegian.

Saul, Louella R. 1976. Reinterpretation of hinge structures of two Devonian Bivalvia: *Congeriomorpha* and *Tusayana*. Journal of Paleontology 50(1):153–157.

Savazzi, Enrico. 1980. New records of fossil Gastrochaenacea (Pelecypoda) from the Venetian region (NE Italy). Memoire di Scienze Geologiche già Memoirie degli Istituti di Geologia e Mineralogia dell'Università di Padova 34:177–182.

Saveliev, A. A. 1958. Nizhnemelovye trigoniidy Mangyshlaka i zapadnoi Turkmenii. Trudy Vsesoiuznogo Neftianogo Nauchno-Issledovatelskogo Geologorazvedochnogo Instituta [VNIGRI] 125:1–517, 58 pl.

Scarlato, Orest A., & Y. I. Starobogatov. 1969. O estestvennoi sisteme dvustvorchatykh molliuskov [On the natural system of bivalved mollusks]. *In* Soveshchanie po probleme "Puti i zakonomernosti istoricheskogo razvitiia zhivotnikh i rastitelnykh organizmov" [Meeting on "Ways and laws of historical development of animals and plants"]. Tezisy Dokladov, Sektsiia Dvustvorchatykh Molliuskov [Abstracts, Section on Bivalved Mollusks]. Paleontological Institute. Moscow. p. 6–10.

Scarlato, Orest A., & Y. I. Starobogatov. 1979a. Osnovye cherty evoliutsii i sistema klassa Bivalvia [General evolutionary patterns and the system of the Class Bivalvia]. *In* Y. I. Starobogatov, ed., Morfologiia, Sistematika i Filogeniia Molliuskov [Morphology, Systematics and Phylogeny of Mollusks]. Akademiia Nauuk SSSR, Trudy Zoologicheskogo Instituta 80:5–38. In Russian. For English translation, see K. J. Boss & M. K. Jacobson, 1985, Museum of Comparative Zoology, Harvard University, Department of Mollusks, Special Occasional Publication 5:1–67, 9 fig.

Scarlato, Orest A., & Y. I. Starobogatov. 1979b. O sisteme podotriada Mytileina (Bivalvia) [The system of the suborder Mytileina (Bivalvia)]. *In* I. M. Likharev, ed., Molliuski, Oznovnye Rezul'taty ikh Izycheniiya, Avtoreferaty Dokladov [Mollusks, Main Results of their Study, Abstracts of Communications]. Akademiia Nauk SSSR, Zoologicheskii Institut, Shestoe Vsesoiuznoe Sovechanie po Izucheniiu Molliuskov [Sixth Soviet Conference on Molluscan Studies]. Nauka. Leningrad. 264 p. p. 22–25. For English translation, see Malacological Review, 1984, 17(1–2):115–116.

Scarlato, Orest A., & Y. I. Starobogatov. 1983. Sistema dvustvorchatykh molliuskov nadotriada Septibranchia [System of the bivalve mollusks of the superorder Septibranchia]. *In* I. M. Likharev, ed., Mollusks: Their Systematics, Ecology, and Distribution. Abstracts of Communications]. Vsesoiuznoe Soveshchanie po Izucheniiu Molliuskov (7th) [Seventh Soviet Conference on Molluscan Studies]. Nauka. Leningrad. p. 1–262. p. 7–13. In Russian. For English translation, see Poutiers & Bernard, 1995.

Scarlato, Orest A., & Y. I. Starobogatov. 1984. The systematics of the suborder Mytileina (Bivalvia). Malacological Review 17(1–2):115–116.

Schileyko, Anatolii A. 1989. Morfologicheskaia evoliutsiia nadotriada Protobranchia (Bivalvia) i osobennosti abissal'nykh predstavitelei gruppy [Morphological evolution of superorder Protobranchia and peculiarities of abyssal members of the group]. Trudy Instituta Okeanologii 123:81–101. In Russian.

Schlickum, W. R. 1962. Die Gattung *Limnopappia* n. gen. Archiv für Molluskenkunde 91(1–3):109–115, pl. 1–3.

Schlotheim, Ernst F. von. 1820. Die Petrefaktenkunde auf ihrem jetzigen Standpunkte durch die Beschreibung seiner Sammlung versteinerter und fossiler Überreste des Their- und Pflanzenreichs der Vorwelt erläutert. Becker. Gotha. lxii + 437 p.

Schlotheim, Ernst F. von. 1822–1823. Nachträge zur Petrefaktenkunde. 2 Abtheilungen (in einem Bande). Beckersche Buchhandlung. Gotha. 114 p., 16 pl.

Schneider, Jay A. 1995. Phylogeny of the Cardiidae (Mollusca, Bivalvia): Protocardiinae, Laevicardiinae, Lahilliinae, Tulongocardiinae subfam. nov. and Pleuriocardiinae subfam. nov. Zoologica Scripta 24(4):321–346.

Schneider, Jay A. 1998a. Phylogeny of stem-group eucardiids (Bivalvia: Cardiidae) and the significance of the transitional fossil *Perucardia*. Malacologia 40:37–62.

Schneider, Jay A. 1998b. Phylogeny of the Cardiidae (Bivalvia): Phylogenetic relationships and morphological evolution within the subfamilies Clinocardiinae, Lymnocardiinae, Fraginae and Tridacninae. Malacologia 40(1–2):321–373.

Schneider, Jay A. 2002. Phylogeny of cardiid bivalves (cockles and giant clams): Revision of the Cardiinae and the importance of fossils in explaining disjunct biogeographical distributions. Zoological Journal of the Linnean Society 136:321–369.

Schumacher, Chrétien F. 1817. Essai d'un Nouveau Système des Habitations des Vers Testacés avec XXII Planches. L'Imprimerie de Ma. le directeur Schultz. Copenhagen. [3] + 20 p. of text, Table systématique des monothalmes, p. 21–30 [no genera therein], Table abrégée des genres, p. 31–263, p. 264 (blank), Table de noms Français des genres et des espèces de coquilles, p. 265–271, Index nominum Latinorum generum atque specierum testaceorum, p. 272–278, Table des synonymes, p. 279–284, Explication des figures, p. 285–286, Errata, p. 287, 22 pl. With parallel French and Latin texts.

Scott, Paul H. 1994. A new species of *Saxicavella* (Bivalvia: Hiatellidae) from California with unique brood protection. The Veliger 37(1):62–68.

Scott, Robert W., Wan Xiao-qiao, Sha Jin-geng, & Wen Shi-xuan. 2010. Rudists of Tibet and Tarim Basin: Significance to Requieniidae phylogeny. Journal of Paleontology 84(3):444–465.

Sereno, Paul C. 1986. Phylogeny of the bird-hipped dinosaurs (order Ornithischia). National Geographic Research 2:234–256.

Sereno, Paul C. 1999. The evolution of dinosaurs. Science 284:2137–2147.

Sha Jin-geng. 1992. Ontogenetic variations of the Early Cretaceous nonmarine bivalve *Trigonioides* (*T.*) *heilongjiangensis* and the concept of fossil species. Pälaontologische Zeitschrift 66:241–264.

Sha Jin-geng. 1993. *Trigonioides* from early Cretaceous Hekou formation of Hekou basin, Ninghua, Fujian, China, with special remarks on classification of Trigonioididae. Acta Palaeontologica Sinica 32(3):285–302, pl. 1–6. In Chinese.

Silantiev, Vladimir V., & J. G. Carter. 2011. On the corrections of nonmarine Late Paleozoic bivalve systematics in the new edition of the "Treatise on Invertebrate Paleontology." Moscow Society of Naturalists, Bulletin 86(1):14–17. In Russian.

Simões, Marcello G., A. C. Marques, L. H. Cruz De Mello, & L. E. Anelli. 1997. Phylogenetic analysis of the genera of the extinct family Megadesmidae (Bivalvia, Anomalodesmùata), with remarks on its paleoecology and taxonomy. Journal of Comparative Biology 2(2):75–90.

Simone, Luiz R. L., & S. Mezzalira. 1997. The systematic position of some Unionoidea bivalves from Bauru Group (upper Cretaceous) of Brazil. Revista Universidade Guarulhos, Geociencias 2(6):63–65.

Skawina, Aleksandra, & J. Dzik. 2011. Umbonal musculature and relationships of the Late Triassic filibranch unionoid bivalves. Zoological Journal of the Linnean Society 163:863–883.

Skwarko, S. K. 1963. Australian Mesozoic trigoniids. Commonwealth of Australia, Department of National Development, Bureau of Mineral Resources, Geology and Geophysics, Bulletin 67:1–55.

Sobetski, V. A. 1960. K sistematike verkhnemelovykh pektinid srednego Prinestrovja [Contribution to the systematics of the Upper Cretaceous pectinids from the middle part of the Dniester River Basin]. Paleontologicheskii Zhurnal 1960(2):63–71.

Soot-Ryen, Helen. 1964. Nuculoid pelecypods from the Silurian of Gotland. Arkiv för Mineralogi och Geologi 3(28):489–519, 5 pl.

Soot-Ryen, Tron. 1952. *Choromytilus*, a new genus in the Mytilidae. Sociedad Malacologica "Carlos de la Torre." Revista 8(3):121–122.

Sowerby, James [continued by James de C. Sowerby]. 1812–1845. The Mineral Conchology of Great Britain; or Coloured Figures and Description of those Remains of Testaceous Animals or Shells Which Have Been Preserved at Various Times and Depths in the Earth. 7 vol. B. Meredith. London. Published in parts. James Sowerby published numbers 1–66, 1812–1822; his son, James de Carl Sowerby, completed numbers 67–113, 1823–1845. For authorship, collation, and dates, see ICZN Opinion 1429 (1987), Bulletin of Zoological Nomenclature 44(1):64–67, which ratified the collation by R. J. Cleevely (1974, The Sowerbys, the *Mineral Conchology*, and their fossil collection. Journal of the Society for the Bibliography Natural History, 6(6):418–481). By James Sowerby: Vol. 1(1–2):1–32, pl. 1–9 [1812]; 1(3–8):33–96, pl. 10–44 [1813]; 1(9–14):97–178, pl. 45–78 [1814]; 1(15–18):179–234, pl. 79–102 [1815]. Vol. 2 (19–20):1–28, pl. 103–114 [1815]; 2(21–26):29–116, pl. 115–150 [1816]; 2(27–32):117–194, pl. 151–186 [1817]; 2(33–35):195–235, pl. 187–203 [1818]. Vol. 3(36–38):1–40, pl. 204–221 [1818]; 3(39–44):41–98, pl. 222–253 [1819]; 3(45–47):99–126, pl. 254–271 [1820]; 3(48–53):127–184, pl. 272–306 [1821]. Vol. 4(54–55):1–16, pl. 307–318 [1821]; 4(56–66):17–114, pl. 319–383 [1822]. By James de C. Sowerby: 4(67–70):115–148, pl. 384–407 [1823]. Vol. 5(71–76):1–64, pl. 408–443 [1823]; 5(77–83):65–138, pl. 444–485 [1824]; 5(84–86):139–168, pl. 486–503 [1825]. Vol. 6(87–93):1–86, pl. 504–545 [1826]; 6(94–99):87–156, pl. 546–580 [1827]; 6(100–102):157–200, pl. 581–597 [1828]; 6(103–104): 201–230 [1829]; 6(105), index [1840]. Vol. 7(106–107):1–8, pl. 610–618 [1840]; 7(108):9–16, pl. 619–623 [1841]; 7(109):17–24, pl. 624–628 [1843]; 7(110–112):25–56, pl. 629–643 [1844]; 7(113):57–80, pl. 644–648 [1845].

Squires, Richard L., & L. R. Saul. 2006. New-Late Cretaceous mytilid and tellinoidean bivalves from California. The Veliger 48(3):121–135.

Starobogatov, Yaroslav I. 1970. Fauna Molliuskov i Zoogeograficheskoe Raionirovanie Kontinental'nykh Vodoemov Zemnogo Shara [The Molluscan Fauna and Zoogeographical Zoning of the Continental Water Bodies of the World]. Nauka. Leningrad. 372 p., 12 tables. In Russian.

Starobogatov, Yaroslav I. 1977. Sistematicheskoe polozhenie konokardiid i sistema paleozoiskikh Septibranchia (Bivalvia) [The systematic placement of the Conocardiida and the systematics of Paleozoic Septibranchia (Bivalvia)]. Biulleten' Moskovskogo Obshchestva Ispitatelei Priroda, Otdel Geologicheskii [Bulletin of the Moscow Naturalists Society, Geological Section] 52(4):125–139.

Starobogatov, Yaroslav I. 1984. O problemakh nomenklatury vysshikh taksonomischeskikh kategoriy [Problems in the nomenclature of higher taxonomic categories]. *In* L. P. Tatarinov & V. N. Shimanskiy, eds., Spravochnik po Sistematike Iskopayemykh Organizmov (Taksony Otryadnoy i Vyshchikh Grupp) [Handbook on the Systematics of Fossil Organisms (Taxa of Ordinal and Higher Groups)]. Izdatel'svo Nauka. Moscow. p. 174–187. See Starobogatov (1991) for English translation.

Starobogatov, Yaroslav I. 1991. Problems in the nomenclature of higher taxonomic categories. Bulletin of Zoological Nomenclature 48(1):6–18. Translation of Starobogatov, 1984, by Mark J. Grygier.

Starobogatov, Yaroslav I. 1992. Morphological basis for phylogeny and classification of Bivalvia. Ruthenica 2(1):1–25.

Stenzel, Henryk B. 1959. Cretaceous oysters of southwestern North America. International Geological Congress, XX Session, Mexico City, 1956, El Sistema Cretácico 1:15–37, 19 fig.

Stenzel, Henryk B. 1971. Oysters. *In* R. C. Moore, ed., Treatise on Invertebrate Paleontology, Part N. Mollusca 6, Bivalvia, vol. 3. Geological Society of America & University of Kansas. Boulder & Lawrence. p. 953–1224.

Stenzel, Henryk B., E. K. Krause, & J. T. Twining. 1957. Pelecypoda from the type locality of the Stone City Beds (middle Eocene) of Texas. The University of Texas, Publication 5704:1–237, 22 pl.

Stephenson, Lloyd W. 1937. The stratigraphic significance of *Kummelia*, a new Eocene bivalve genus from New Jersey. Washington Academy of Sciences, Journal 27(2):58–64.

Stephenson, Lloyd W. 1941. The larger invertebrate fossils of the Navarro group of Texas (exclusive of corals and crustaceans and exclusive of the fauna of the Escondido Formation). The University of Texas [Austin], Publication 4101:1–641, 95 pl. MacNeil MS cited by Stephenson as source of new subfamily Nemodontinae.

Stephenson, Lloyd W. 1953 ["1952"]. Larger invertebrate fossils of the Woodbine Formation (Cenomanian) of Texas. U. S. Geological Survey Professional Paper 242:i–iv + 1–226, 3 loose leaves, 59 pl.

Stewart, Ralph B. 1930. Gabb's California Cretaceous and Tertiary type lamellibranchs. Academy of Natural Sciences of Philadelphia, Special Publication 3:1–314, 17 pl.

Stiller, F., & Chen Jin-hua. 2006. New Mysidiellidae (Bivalvia) from the Anisian (Middle Triassic) of Qingyan, south-west China. Palaeontology 49(1):213–227.

Stoliczka, Ferdinand. 1870–1871. The Pelecypoda, with a review of all known genera of this class, fossil and Recent. *In* Thomas Oldham, Cretaceous Fauna of Southern India. Vol. 3, Palaeontologia Indica, Being Figures and Descriptions of the Organic Remains Procured During the Progress of the Geological Survey of India. Trübner and Co. Memoirs of the Geological Survey of India, Calcutta (series 1) 3:xxii + 535 p., 50 pl. Issued in 13 parts: dates of issue: parts 1–4, p. 1–222, pl. 1–12 [September 1, 1870]; parts 5–8, p. 223–409, pl. 13–28 [March 1, 1871]; parts 9–13, p. 410–535, pl. 29–50 [August 1, 1871].

Stys, P., & I. Kerzhner. 1975. The rank and nomenclature of higher taxa in Recent Heteroptera. Acta Entomologica Bohemoslovaka 72(2):65–79.

Swainson, William. 1840. A Treatise on Malacology or the Natural Classification of Shells and Shell-fish. Volume 122 of "The Cabinet Cyclopaedia," edited by Dionysius Lardner. A. Longman, Orme, Brown, Green and Longmans, and John Taylor. London. [vii]–viii + 1–419 + [1] p. errata slip, 130 fig.

Taktakishvili, I. G. 1987. Sistematika i Filogeniya Pliotsenovykh Cardiid Paratetisa [Systematics and phylogeny of cardiids from the Pliocene of Paratethys]. Metsniereba. Tbilisi. p. 1–247, 2 tables. In Russian.

Tashiro, Masayuki. 1979. A study of the "Pennatae trigoniids" from Japan. Palaeontological Society of Japan, Transactions and Proceedings (new series) 116:179–222, pl. 25–26.

Taylor, John D., & E. A. Glover. 2006. Lucinidae (Bivalvia)—The most diverse group of chemosymbiotic molluscs. Zoological Journal of the Linnean Society of London 148(3):421–438.

Taylor, John D., S. T. Williams, & E. A. Glover. 2007. Evolutionary relationships of the bivalve family Thyasiridae (Mollusca: Bivalvia), monophyly and superfamily status. Marine Biological Association of the United Kingdom Journal 87(2):565–574.

Taylor, John D., S. T. Williams, E. A. Glover, & P. Dyal. 2007. A molecular phylogeny of heterodont bivalves (Bivalvia: Heterodonta): New analysis of 18S rRNA and 28S rRNA genes. Zoologica Scripta 36(6):587–606.

Teppner, Wilfried von. 1922. Lamellibranchia Tertiaria, Anisomyaria II. *In* C. Diener, ed., Fossilium Catalogus, I. Animalia, Pars (15). W. Junk. Berlin. p. 67–296.

Termier, Geneviève, & H. Termier. 1950. Paléontologie Marocaine. 2, Invertébrés de l'ère Primaire. Fascicule 3, Mollusques. Hermann, Paris. [Service Géologique du Maroc, Notes et Mémoires, 78] 246 p., pl. 123–183.

Termier, Henri, G. Termier, & A. F. de Lapparent. 1974 ["1973"]. Grands bivalves récifaux du Permien supérieur de l'Afghanistan central. Société Géologique du Nord, Annales 93(1):75–80, pl. 13–14.

Trew, Alison. 1992. Henry and Arthur Adams's New Molluscan Names. National Museum of Wales. Cardiff. 63 p.

Trushchelev, A. M. 1984. Novye taksony triasovykh dvustvorok Iakutii [The new Triassic bivalve taxons of Jakutia]. Rossiiskaya Akademiya Nauk Sibirskoe Otdelenie, Trudy. Instituta Geologii i Geofiziki, Akademiia Nauk SSSR 600:64–72, pl. 10–11. In Russian.

Tryon, George W., Jr. 1862a. Synopsis of the Recent species of Gastrochaenidae, a family of acephalous Mollusca. Academy of Natural Sciences of Philadelphia, Proceedings 13:465–494.

Tryon, George W. 1862b. On the classification and synonymy of the Recent species of Pholadidae. Academy of Natural Sciences of Philadelphia, Proceedings 14(5):191–221.

Tunnicliff, S. P. 1987. Caradocian bivalve molluscs from Wales. Palaeontology 30(4):677–690, pl. 76–77.

Turner, Ruth D. 1966. A Survey and Illustrated Catalog of the Teredinidae (Mollusca: Bivalvia). Museum of Comparative Zoology, Harvard University, Special Publication. Museum of Comparative Zoology. Harvard. vii + 265 p., 64 pl.

Turton, William. 1840. A Manual of the Land and Fresh-water Shells of the British Islands with Figures of Each of the Kinds, new edit. Longman, Orme, Brown, Green, & Longmans. London. ix + 324 p., 12 pl. See Gray, John E., 1840a.

Ulrich, E. O., & W. H. Scofield. 1894 [June 16]. The Lower Silurian Lamellibranchiata of Minnesota. *In* E. O. Ulrich, W. H. Scofield, J. M. Clarke, & N. H. Winchell, eds., Final Report of the Geological and Natural History Survey of Minnesota, vol. 3, part 2, The Geology of Minnesota. Paleontology. p. 475–628, pl. 35–46. Published and distributed under separate cover prior to publication of entire vol. 3 in 1897. Systematics of Bivalvia by Ulrich alone.

van der Meijdin, Arie., M. Vences, S. Hoegg, & A. Meyer. 2005. A previously unrecognized radiation of ranid frogs in southern Africa revealed by nuclear and mitochondrial DNA sequences. Molecular Phylogenetics and Evolution 37(3):674–685.

van Hoepen, E. C. N. 1929. Die krytfauna van Soeloeland. 1, Trigoniidae. Paleontologiese Navorsing van die Nasionale Museum van Bloemfontein 1(1):1–38.

Vanuxem, L. 1842. Geology of New York, pt. 3, Comprising the Survey of the Third Geological District. New York State Geological Survey. New York. p. 1–306.

van Valen, Leigh M. 1994. The origin of the plesiadapid primates and the nature of Purgatorius. Evolutionary Monographs 15:1–79.

Verrill, Addison E., & K. J. Bush. 1897. Revision of Ledidae and Nuculidae of the Atlantic coast of the United States. American Journal of Science (series 4, vol. 3) 153(13):51–63.

Vialov, Oleg S. 1936. Sur la classification des huitres. Comptes Rendus (Doklady), Akademii Nauk SSSR (new series) 4(13), no. 1 (105):17–20.

Vialov, Oleg S. 1983. Zagal'na klasifikatsii ustrits [General classification of oysters]. Dopovidi Akademiyi Nauk Ukrayins'koyi RSR (series B), Heolohichni, Khimichni ta Biolohichni Nauky [Doklady Akademii Nauk Ukrainskoi SSR] (series B) 11:6–8. In Ukrainian with English and Russian summaries.

Vokes, Harold E. 1945. Supraspecific groups of the pelecypod family Corbulidae. American Museum of Natural History, Bulletin 86(1):1–32, pl. 1–4.

Vokes, Harold E. 1964. Margaritariidae, new family (Pelecypoda) and description of two new species. Tulane Studies in Geology 2:135–141, 1 pl.

Vokes, Harold E. 1967. Genera of the Bivalvia: A systematic and bibliographic catalogue. Bulletins of American Paleontology 51(232):[103–111] + 112–394.

Waagen, Lukas. 1907. Die Lamellibranchiaten der Pachycardientuffe der Seiser Alp nebst vergleichend paläotologischen und phylogenetischen Studien. Kaiserlich-Königliche Geologische Reichsanstalt, Abhandlungen 18(2): i + 1–180, 19 fig., pl. 25–34.

Waller, Thomas R. 1978. Morphology, morphoclines and a new classification of the Pteriomorphia (Mollusca: Bivalvia). Royal Society of London, Philosophical Transactions (series B) Biological Sciences 284(1001):345–365.

Waller, Thomas R. 1986. A new genus and species of scallop (Bivalvia: Pectinidae) from off Somalia and the definition of a new tribe Decatopectinini. The Nautilus 100(2):39–46, 13 fig.

Waller, Thomas R. 1993. The evolution of "*Chlamys*" (Mollusca: Bivalvia: Pectinidae) in the tropical western Atlantic and eastern Pacific. American Malacological Bulletin 10(2):195–249.

Waller, Thomas R. 1998. Origin of the molluscan class Bivalvia and a phylogeny of major groups. *In* P. A. Johnston & J. W. Haggart, eds., Bivalves: An Eon of Evolution. Paleobiological Studies honoring Norman D. Newell. University of Calgary Press. Calgary. p. 1–45.

Waller, Thomas R. 2006. New phylogenies of the Pectinidae (Mollusca: Bivalvia): Reconciling morphological and molecular approaches. *In* S. E.

Shumway & G. J. Parsons, eds., Scallops: Biology, Ecology, and Aquaculture. Developments in Aquaculture and Fisheries Sciences 35:1–44.

Waller, Thomas R., & G. D. Stanley, Jr. 2005. Middle Triassic Pteriomorphian Bivalvia (Mollusca) from the New Pass Range, West-Central, Nevada: Systematics, biostratigraphy, paleoecology, and paleobiogeography. Journal of Paleontology 79(1, supplement):1–64.

Waterhouse, J. Bruce. 1966. On the validity of the Permian bivalve family Pachydomidae Fischer (1887). Journal of the Geological Society of Australia 13(2):543–559, pl. 15–17.

Waterhouse, J. Bruce. 1969. The Permian bivalve genera *Myonia*, *Megadesmus*, *Vacunella* and their allies and their occurrences in New Zealand. New Zealand Geological Survey Paleontological Bulletin 41:1–141, 23 pl.

Waterhouse, J. Bruce. 1976. New occurrences of brachiopod and bivalve species from the Arthurton Group of South Otago and Southland, New Zealand, with comments on structure and stratigraphy. Royal Society of New Zealand Journal 6(2):227–252.

Waterhouse, J. Bruce. 1982. Permian Pectinacea and Limacea (Bivalvia) from New Zealand. New Zealand Geological Survey Paleontological Bulletin 49:1–75, 25 pl.

Waterhouse, J. Bruce. 2000. Early Triassic Pectinidina (Mollusca: Bivalvia) from Dolpo and Manang, Nepal Himalaya. Records of the Canterbury Museum 14:155–186.

Waterhouse, J. Bruce. 2001. Late Paleozoic Brachiopoda and Mollusca chiefly from Wairaki Downs, New Zealand, with notes on Scyphozoa and Triassic ammonoids and new classifications of Linoproductoidea (Brachiopoda) and Pectinida (Bivalvia). Earthwise 3:1–196, pl. 1–10.

Waterhouse, J. Bruce. 2008. Aspects of the evolutionary record for fossils of the bivalve subclass Pteriomorphia Beurlen. Earthwise 8:1–219.

Winckworth, Ronald A. 1932. A list of the marine Mollusca of the British Isles. Journal of Conchology 19(7):211–252.

Wöhrmann, S. Freiherrn von. 1889. Die Fauna der sogenannten *Cardita-* und Raibler-Schichten in den Nordtiroler und Bayerischen Alpen. Kaiserlich-königlichen Geologischen Reichsanstalt, Jahrbuch 39(1–2):181–258, pl. 5–10.

Wöhrmann, S. Freiherrn von. 1893. Ueber die systematische Stellung der Trigoniden und die Abstammung der Nayaden. Kaiserlich-Königliche Geologische Reichsanstalt Wien, Jahrbuch 43:1–28.

Woodring, Wendell P. 1925. Contributions to the Geology and Palaeontology of the West Indies. Miocene Mollusks from Bowden, Jamaica. Pelecypods and Scaphopods. Carnegie Institution Publication 366:v + 1–122, 28 pl.

Yancey, Thomas E., & K. Ozaki. 1986. Redescription of the genus *Shikamaia* and clarification of the hinge characters of the family Alatoconchidae (Bivalvia). Journal of Paleontology 60(1):116–125, 7 fig.

Yancey, Thomas E., & G. D. Stanley, Jr. 1999. Giant alatoform bivalves in the upper Triassic of western North America. Palaeontology 42:1–23, 16 pl.

Yancey, Thomas E., M. A. Wilson, & A. C. S. Mione. 2009. The ramonalinids: A new family of mound-building bivalves of the early Middle Triassic. Palaeontology 52(6):1349–1361.

Yanin, B. T. 1990. Kriterii sistematiki rudistov [Rudist systematic criteria]. *In* V. V. Menner, ed., Sistematika i Filogeniia Bespozvonochikh. Kriterii Vydeleniia Vyschikh Taksonov [Systematics and Phylogeny of Invertebrates. Criteria for Higher Level Taxonomy]. Nauka. Moscow. p. 57–69.

Yin Hong-fu. 1985. On *Hunanopecten*. Acta Palaeontologica Sinica 24(6):635–639. In Chinese.

Zhgenti, Elena M. 1991. Evolutsiya i Stratigraficheskoe Znachenie Molliuskovoi Fauny Konkskogo Yarusa Gruzii [Evolution and Stratigraphic Significance of the Mollusk Fauna from the Konkskii Stage of Georgia]. Metzniereba. Tbilisi. 125 p., 50 pl. In Russian.

Zittel, Karl A. von. 1881. Handbuch der Palaeontologie. *In* W. P. Schimper, A. Schenk, & S. H. Scudder, eds., Abteilung 1, Palaeozoologie, Band 2 [Mollusca and Arthropoda]. Oldenburg. München and Leipzig. 893 p.

Zittel, Karl A. von. 1895. Grundzüge der Paläontologie (Paläozoologie), I Abteilung, Invertebrata. Oldenburg. München and Leipzig. viii + 971 p.

Zonova, T. D. 1984. [Structure of the ligamentous apparatus of radial-ribbed inoceramids from the Campanian of the Pacific Ocean paleobiogeographic region and its significance for stratigraphy and systematics]. *In* Z. N. Pojarkova [=Poyarkova], ed., Novye Dannye po Detalnoi Biostratigrafii Fanerozoia Dalnego Vostoka [New Data on the Detailed Biostratigraphy of the Phanerozoic of the Soviet Far East]. USSR Academy of Sciences Far-East Science Center. Vladivostok. p. 111–117.