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### NOMENCLATURAL UNITS OF THE PELECYPOD FAMILY CARDIIDAE,

by A. Myra KEEN (Stanford University, California).

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Many systematists have adopted the view that every major molluscan group — family or superfamily — which has not been revised during a twenty-five year period is probably in need of critical study. Revision involves not only a comprehensive survey of the morphology and distribution of the various species included in the group, but also an evaluation of the name-units which have been proposed as aids in classifying the species.

The pelecypod family Cardiidae was last revised by Dall in 1901 (1) in a paper which, as its title avers, was more truly a synopsis than a revision, so that a fresh investigation appears justifiable. For classification of the more than 2200 named species of cardiids, some 104 nomenclatural units have been proposed. Many of these, of course, are to be rejected from the family as it is conceived at the present time; others are synonyms of earlier-named units; still others are homonyms. Only fifty-three units — genera and subgenera — appear to be nomenclaturally valid members of the restricted family Cardiidae. As a first step toward revising the family, I am here publishing a tabulation of pertinent data concerning the 104 units which I

(1) DALL, W. H., Synopsis of the family Cardiidae and of the North American species. Proc. U. S. Nat. Mus., vol. 23, n° 1214, Jan. 2, 1901, pp. 381-392.

have detected in the literature, with the hope that readers will call to my attention omissions or errors in interpretation which might lessen the usefulness of the revision upon which I am engaged.

The following table lists not only nomenclatural units with their references but also indicates genotypes, the manner of type designation, and the probable affinities of rejected units. Those units which are recognized as genuinely cardiid and as nomenclaturally valid are printed in large capitals; those which are nomenclaturally valid but which are rejected from the family are in small capitals and are bracketed; those which are typonyms (i. e., have the same genotype as an earlier-named unit) are in italics; those which are homonyms or are otherwise invalid are in Roman lower case. Discussions of some equivocal groups and citations of obvious misspellings are included in footnotes to the table.

**NOMENCLATURAL UNITS  
OF THE CARDIIDAE.**

## NOMENCLATURAL UNITS

Unit.	Reference.
ACANTHOCARDIA Gray, 1851 (2)	<i>List of specimens. Brit. Mus., Pt. VII, p. 23 ...</i>
<i>Acanthocardium</i> Römer, 1865 (3) ...	<i>Systematisches Conchylien Cabinet (Cardiacea)</i> ed. 2, p. 17 (1865-1868).
Acardo Swainson, 1840 (4) ... .. (not Lamarck, 1801)	<i>Treatise on Malacology</i> , p. 374 ... ..
ACROSTERIGMA Dall, 1900 ... ..	Trans. Wagner Free Inst. Sci., v. 3, pt. 5, p. 1073.
[ADACNA Eichwald, 1838]... ..	Bull. Soc. Imp. Moscou, p. 168 ( <i>fide</i> Stoliczka, Pal. Ind. ser. 6, v. 3, 1870-1871, p. 212).
AFROCARDIUM Tomlin, 1931 ... ..	Ann. Natal Gov. Mus., vol. 6, pt. 3, p. 449... ..
AGNOCARDIA Stewart, 1930 ... ..	Spec. Publ. Acad. Nat. Sci. Philadelphia, N° 3, pp. 37, 264.
AMERICARDIA Stewart, 1930 ... ..	Spec. Publ. Acad. Nat. Sci. Philadelphia, N° 3, pp. 37, 267.
<i>Amphicardium</i> Von Martens, 1880 .	<i>In</i> K. Möbius, <i>Beitrage zur Meeresfauna der Insel Mauritius</i> , p. 324.
Aphrodite Lea, 1834... .. (not Hübner, 1816).	Trans. Amer. Phil. Soc., vol. 5, p. 111 ... ..
<i>Archicardium</i> Sandberger, 1863 (5)	<i>Conchylien des Mainzer Tertiärbeckens</i> , p. 317 ...
[AVICULARIUM Gray, 1853] ... ..	Ann. Mag. Nat. Hist., ser. 2, vol. 11, p. 41 ... ..
BUCARDIUM Gray, 1853 (6) ... ..	Ann. Mag. Nat. Hist., ser. 2, vol. 11, p. 40 ... ..
[ <i>Buccardium</i> Megerle von Mühl- feldt, 1811].	Ges. Nat. Fr. Berlin, Mag., vol. V, pt. 1, p. 52 ...

## OF THE CARDIIDAE.

Genotype.	Designation.	Remarks.
<i>Cardium aculeatum</i> Linné, 1758.	Stoliczka, 1870, Pal. Ind. (6), v. 3, p. 207.	
<i>Cardium aculeatum</i> Linné, 1758.	Tryon, 1869, Am. Jour. Conch., v. 5, p. 60.	= <i>Acanthocardia</i> Gray 1851.
« <i>Cardium edentulum</i> Auct. » ...		<i>Nomen nudum.</i>
<i>Cardium dalli</i> Heilprin, 1887 ...	Original.	
?	?	Not a cardiid unit : Adacnidae Vest, 1876.
<i>Fragum (Afrocardium) shepstoneense</i> Tomlin, 1931.	Original.	
<i>Cardium claibornense</i> Aldrich, 1911.	Original.	
<i>Cardium medium</i> Linné, 1758	Original.	
<i>Cardium lyratum</i> Sowerby, 1841	Here designated... ..	= <i>Lyrocardium</i> Meek, 1876.
<i>Aphrodite columba</i> Lea, 1834 ... (= <i>Cardium groenlandicum</i> Bruguière, 1789).	Monotypy ... ..	= <i>Serripes</i> Gould, 1841.
<i>Cardium aculeatum</i> Linné, 1758.	Here designated ... ..	= <i>Acanthocardia</i> Gray, 1851.
« <i>Cardium aviculare</i> Lam. » (= <i>Cardita avicularia</i> Lamarck, 1805).	Dall, 1900, Trans. Wag. Inst. Sci., v. 3, pt. 5, p. 1078.	Not a cardiid unit : « Tridacnidae ».
« <i>Cardium ringens</i> Chemn. » (= <i>C. ringens</i> Bruguière, 1789).	Von Vest, 1875, Jahrb. Mal. Ges., v. 2, p. 323.	
<i>Buccardium commune</i> Megerle von Mühlfeldt, 1811 (= <i>Chamaecor</i> Linné, 1758).	Monotypy... ..	Not a cardiid unit : = <i>Isocardia</i> Lamarck, 1799.

Unit.	Reference.
[BYSSOCARDIUM Munier - Chalmas, 1882].	Bull. Géol. Soc. France, ser. 3, vol. 10, p. 228... ..
Callicardia Conrad, 1875 (7) ... ..	In Kerr, <i>Geol. N. Carolina</i> , vol. 1, Appendix A, p. 27.
<i>Cardea</i> Whitfield, 1885 ... ..	U. S. Geol. Surv. Monog., N° 9, p. 134, footnote...
<i>Cardiarius</i> Duméril, 1805 (8) ... ..	<i>Zoologie Analytique</i> , p. 333 ( <i>vide</i> Iredale, Proc. Mal. Soc., v. 12, 1916, p. 81).
[CARDIOMORPHA De Koninck, 1842].	<i>Descr. Anim. Foss. Carbonif. Belgique</i> , p. 101 ...
<i>Cardissa</i> Megerle von Mühlfeldt, 1811.	Ges. Nat. Fr. Berlin, Mag., vol. V, pt. 1, p. 52...
<i>Cardissa</i> Swainson, 1840 ... .. (not Megerle von Mühlfeldt, 1811)	<i>Treatise on Malacology</i> , p. 373 ... ..
CARDIUM Linné, 1758 ... ..	<i>Systema Naturae</i> , p. 678 ... ..
<i>Cerastes</i> Poli, 1795 ... .. (not J. Laurenti, 1768)	<i>Test. utriusque Sicil.</i> Vol. 2, pp. 252, 258 ... ..
CERASTODERMA Poli, 1795 (9) .	<i>Test. utriusque Sicil.</i> Vol. 2, pp. 252, 258 ... ..
CLINOCARDIUM Keen, 1936 ... ..	Trans. San Diego Soc. Nat. Hist., vol. 8, n° 17, p. 119.
<i>Cochlea</i> Martyn, 1784 ... .. (not Da Costa, 1778)	<i>Universal Conchologist</i> , Table 2 ... ..
[CONOCARDIUM Bronn, 1834] ... ..	Leth. Geogn., Vol. 1, pt. 1, p. 92 ( <i>vide</i> Sherborn, <i>Index Anim.</i> , Sect. 2, p. 1475.
CORCULUM Röding, 1798 ... ..	<i>Museum Boltenianum</i> , p. 188 ... ..

Genotype.	Designation.	Remarks.
<i>Cardium emarginatum</i> Deshayes, 1829.	Original.	Not a cardiid unit : probably « Tridacnidae ».
—	—	<i>Nomen dubium.</i>
<i>Cardium dumosum</i> Conrad, 1870	Monotypy ... ..	= <i>Criocardium</i> Conrad, 1870.
<i>Cardium edule</i> Linné, 1758 ... ..	Froriep, 1806, <i>C. Dumérils. Anal. Zool. (fide Iredale, op. cit., p.83).</i>	= <i>Cerastoderma</i> Poli, 1795.
?	?	[Paleozoic genus].
<i>Cardissa alba</i> Megerle v. Mühlfeldt, 1811 (= <i>Cardium cardissa</i> Linné, 1758).	Monotypy ... ..	= <i>Corculum</i> Röding, 1798.
<i>Cardissa spinosa</i> Swainson, 1840 (= <i>Cardium cardissa</i> Linné, 1758).	Monotypy ... ..	= <i>Corculum</i> Röding, 1798.
<i>Cardium costatum</i> Linné, 1758...	Children, 1823, <i>Quart. Jour. Sci.</i> , p. 315.	
<i>Cerastes gracilis</i> Poli, 1795 (= <i>Cardium edule</i> Linné, 1758).	Here designated ... ..	= <i>Cerastoderma</i> Poli, 1795.
<i>Cardium edule</i> Linné, 1758 ... ..	Von Martens, 1870, <i>Zool. Rec.</i> (1869), p. 586.	
<i>Cardium nuttallii</i> Conrad, 1837.	Original.	
—	—	Non - binomial publication ? See footnote 18.
?	?	Not a cardiid unit : Conocardiidae Neumayr.
<i>Cardium cardissa</i> Linné, 1758 ... ..	Von Martens, 1870, <i>Zool. Rec.</i> (1869), p. 586.	

Unit.	Reference.
Cordata Spengler, 1799 (see note 11)	Skriv. Natur.-Selsk., v. 5, pt. 1, p. 4 ( <i>vide</i> Stewart, Spec. Publ. Acad. Nat. Sci. Phila. N° 3, 1930, p. 270).
Cordium Gistel, 1848 (10) ... ..	<i>Naturgeschichte Thierreichs...</i> , p. XIV ... ..
CRIOCARDIUM Conrad, 1870... ..	Amer. Jour. Conch., vol. 6, p. 75 ... ..
CTENOCARDIA H. & A. Adams, 1857.	<i>Genera of Recent Mollusca</i> , Vol. 2, p. 459 ... ..
[CYPRICARDIA Lamarck, 1819] ... ..	<i>Hist. An. s. Vert.</i> , Vol. 6, p. 27 ( <i>vide</i> Schulze <i>et al.</i> <i>Nomenc. Anim. gen. subgen.</i> , Vol. 2, p. 899).
DALLOCARDIA Stewart, 1930 ... ..	Spec. Publ. Acad. Nat. Sci. Philadelphia, N° 3, pp. 37, 364.
[DIDACNA Eichwald, 1838] ... ..	Bull. Soc. Imp. Moscou, p. 166 ( <i>vide</i> Stoliczka, <i>Pal. Ind.</i> (6), v. 3, 1870-1871, p. 212).
DINOCARDIUM Dall, 1900 ... ..	Trans. Wag. Free Inst. Sci., vol. 3, pt. 5, p. 1074.
DISCORS Deshayes, 1860... ..	<i>An. s. vert. Bassin Paris</i> , Vol. 1, pp. 553, 569... ..
DIVARICARDIUM Dollfus and Dautzenberg, 1886.	Feuille Jeunes Naturalistes, p. 95... ..
[ <i>Donacocardium</i> Von Vest, 1875] ... ..	Jahrb. Mal. Ges., vol. 2, p. 322... ..
[« <i>Donaciocardium</i> Vest » Von Mar- tens, 1878].	<i>Zoological Record</i> (1876), vol. 13, p. 57 ... ..



Genotype.	Designation.	Remarks.
—		A « group » of doubtful validity and rank.
—		Innovation for <i>Cardium</i> Linné, 1758.
<i>Cardium dumosum</i> Conrad, 1870.	Stoliczka, 1871, <i>op. cit.</i> , p. 486.	
<i>Cardium hystrix</i> Reeve, 1844 (not Solander, 1786) (= <i>Fragum symbolicum</i> Iredale, 1929)	Dall, 1900, <i>Trans. Wag. Inst. Sci.</i> , vol. 3, pt. 5, p. 1075.	
<i>Cypricardia Guinaica</i> Lamarck, 1819 (= <i>Chama oblonga</i> Linné, 1758).	Children, 1823, <i>Quart. J. Sci.</i> , p. 316.	= <i>Trapezium</i> Megerle von Mühlfeldt, 1811 : not a cardiid unit.
« <i>Cardium quadrigenerium</i> Conrad » (= <i>C. quadragenarium</i> Conrad, 1837).	Original.	
?	?	Not a cardiid unit : perhaps Monodacnidae ?
<i>Cardium magnum</i> Born, 1778 (not Linné, 1758) (= <i>C. robustum</i> Solander, 1786).	Original.	
<i>Cardium discors</i> Lamarck, 1805 (not Montagu, 1803) (= <i>C. parisiense</i> D'Orbigny, 1850).	Absolute tautonymy.	
<i>Cardium discrepans</i> Basterot, 1825.	Cossmann, 1886, <i>Mem. Soc. roy. Mal. Belgique</i> , vol. 21, p. 175.	
<i>Cardium donaciforme</i> Schröter, 1786 (= <i>C. donaciforme</i> Bruguière, 1792).	Original ... ..	= <i>Hemidonax</i> Von Martens, 1870 ; not a cardiid unit.
—	—	Error for <i>Donaciacardium</i> ; not a cardiid unit.

Unit.	Reference.
ETHMOCARDIUM White, 1880 ...	Proc. U. S. Nat. Mus., vol. 2 (1879), p. 291... ..
<i>Eucardium</i> Fischer, 1887 ... ..	<i>Manuel de Conchybiologie</i> , p. 1037... ..
FRAGUM Röding, 1798 ... ..	<i>Museum Boltinianum</i> , p. 189... ..
FULVIA Gray, 1853... ..	Ann. Mag. Nat. Hist., ser. 2, vol. 11, p. 40... ..
[GONIOCARDIUM Vasseur, 1880] ... ..	Jour. Conchyl., vol. 28, p. 182 ... ..
GRANOCARDIUM Gabb, 1869... ..	<i>Paleontology of California</i> , vol. 2, p. 266 ... ..
Hemicardia Bruguière, 1792... .. ( <i>ex</i> Klein, 1753)	<i>Encycl. Meth., Vers</i> , vol. 1, fasc. 2, p. 537 ... ..
HEMICARDIA Spengler, 1799 (11)	Skriv. Natur.-Selsk., vol. 5, pt. 1, p. 4 ( <i>fide</i> Stewart, <i>op. cit.</i> , p. 270).
<i>Hemicardium</i> Schweigger, 1820 ... .. ( <i>ex</i> Cuvier, 1817 [vernacular])	<i>Handbuch Naturgeschichte</i> , p. 707 ... ..
Hemicardium Swainson, 1840 ... .. (not Schweigger, 1820)	<i>Treat. Malac.</i> , p. 373 ... ..
Hemicardium Dall, 1900 ... .. ( <i>ex</i> Cuvier 1817) (not Schweigger, 1820)	Trans. Wag. Inst. Sci., v. 3, pt. 5, p. 1075 ... ..
HEMIDISCORS Rovereto, 1898 ...	Atti Soc. Ligustica, vol. 9, p. 181 ... ..
[HEMIDONAX Mörch, 1870] .. ..	Malakozool. Blätter, vol. 17, p. 121 ... ..
INTEGRICARDIUM Rollier, 1912	Mem. Soc. Pal. Suisse, vol. 38, p. 127... ..

Genotype.	Designation.	Remarks.
<i>Cardium speciosum</i> Meek and Hayden, 1856, (not Adams and Reeve, 1850 (= <i>C. whitei</i> Dall, 1900).	Original.	
<i>Cardium aculeatum</i> Linné, 1758.	Stewart, 1930, <i>op. cit.</i> , p. 254.	= <i>Acanthocardia</i> Gray, 1851.
<i>Fragum flavum</i> Röding, 1798 (= <i>Cardium fragum</i> Linné, 1758).	Absolute tautonymy.	
<i>Fulvia aperta</i> [Bruguière] (= <i>Cardium apertum</i> Bruguière, 1789).	Monotypy.	
<i>Cardium rachitis</i> Deshayes, 1829.	Here designated... ..	Prosodacnidae (?). Not a cardiid unit.
<i>Cardium carolinum</i> D'Orbigny, 1844.	Stewart, 1930, <i>op. cit.</i> , p. 264.	
—	—	Pre-Linnean name, not validated by Bruguière.
<i>Cardium hemicardium</i> Linné, 1758.	Stewart, 1930, <i>op. cit.</i> , p. 270.	
<i>Cardium cardissa</i> Linné, 1758 ...	Monotypy... ..	= <i>Corculum</i> Röding, 1798.
<i>Hemicardium unedo</i> [Linné] (= <i>Cardium unedo</i> Linné, 1758).	Gray, 1847, Proc. Zool. Soc., p. 185.	= <i>Fragum</i> Röding, 1798.
<i>Cardium hemicardium</i> Linné, 1758.	Absolute tautonymy ...	= <i>Hemicardia</i> Spengler, 1799.
<i>Cardium rugiferum</i> Rovereto, 1898.	Original.	
<i>Donax (Serrula) pictus</i> Tryon, 1870 (? = <i>Cardium donaciforme</i> Bruguière, 1792).	Monotypy ... ..	Not a cardiid unit; perhaps deserves family rank.
<i>Cardium dupinianum</i> D'Orbigny, 1844.	Original.	

Unit.	Reference.
[ISOGARDIA Lamarck, 1799] ... ..	Mem. Soc. Hist. Nat. Paris, vol. 1, p. 186 ( <i>vide</i> Schulze <i>et al.</i> , <i>op. cit.</i> , vol. 3, p. 1693).
Isocardia Oken, 1815 ... .. (not Lamarck, 1799)	<i>Lehrbuch der Naturgeschichte</i> , pp. viii, 234 ( <i>vide</i> Schulze Dall, <i>Trans. Wag. Inst.</i> , v. 3, pt. 5, 1900, p. 1077).
JURASSICARDIUM Cossmann, 1906.	C.-R. assoc. franç. avanc. sci., vol. 34, p. 294... ..
KATHOCARDIA Tucker and Wil- son, 1932.	Bull. Am. Paleont., vol. 18, n° 65, p. 44 ... ..
LAEVICARDIUM Swainson, 1840 (12)	<i>Treat. Malac.</i> , p. 373 ... ..
[LAHILLIA Cossmann, 1899] ... ..	Rev. Crit. Paleozool., vol. 3, p. 134 ( <i>vide</i> Schulze <i>et al.</i> , <i>op. cit.</i> , vol. 3, lf. 13, p. 1753).
LEPTOCARDIA Meek, 1876 ... ..	U. S. Geol. Surv. Territories, v. 9, p. 172 ... ..
Levicardium Carpenter, 1864 ... ..	Ann. Mag. Nat. Hist., ser. 3, v. 13, p. 313 ... ..
Liocardium Agassiz, 1846... ..	<i>Nomencl. Zoöl.</i> , Index, pp. 199, 212 ... ..
[LIOPISTHA Meek, 1864] ... ..	Smith. Misc. Coll., n° 177, pp. 12, 32 ... ..
[ <i>Lithocardium</i> Woodward, 1854] ...	<i>Manual of Mollusca</i> , fasc. 2, p. 291 ... ..
« <i>Loevicardium</i> Sowerby » Monte- rosato, 1884.	<i>Nomenclatura generica e specifica di alcune con- chiglie mediterranee</i> , p. 19.
LOPHOCARDIUM Fischer, 1887... ..	<i>Manuel de Conchyliologie</i> , p. 1038... ..
LOXOCARDIUM Cossmann, 1886 .	Mem. Soc. roy. Mal. Belgique, v. 21, p. 172 ... ..

Genotype.	Designation.	Remarks.
<i>Chama cor</i> Linné, 1758... ..	Children, 1823, <i>vide</i> Kennard <i>et al.</i> , Smith. Misc. Coll., v. 82, p.11.	Not a cardiid unit: Iso-cardiidae.
<i>Cardium hemicardium</i> Linné, 1758.	Monotypy (?) ... ..	= <i>Hemicardia</i> Spengler, 1799.
<i>Cardium (Jurassicardium) axonense</i> Cossmann, 1906.	Here designated.	
<i>Cardium (Kathocardia) aclinensis</i> Tucker and Wilson, 1932 (sic) (= <i>C. (K.) aclinense</i> Tucker & Wilson) [Here emended].	Original ... ..	Probably = <i>Trachycardium</i> Mörch, 1853.
<i>Laevicardium oblongum</i> [Gmelin] (= <i>Cardium oblongum</i> Gmelin, 1790).	Stoliczka, 1871, <i>op. cit.</i> , p. xviii.	
?	?	Not a cardiid unit: aff. <i>Thetironia</i> (?).
<i>Cardium subquadratum</i> Evans and Shumard, 1857.	Dall, 1901, Proc. U. S. Nat. Mus., vol. 23, p. 385.	
—	—	Error for <i>Laevicardium Swainson</i> , 1840.
		Emendation of <i>Laevicardium</i> Sw., 1840.
<i>Cardium elegantulum</i> Römer, 1849 (not Beck, 1842).	Original... ..	Not a cardiid genus : [Mesozoic].
« <i>Lithocardium avicularium</i> ... .. Defr. » (= <i>Cardita avicularia</i> Lamarck, 1805).	Munier - Chalmas, 1882, Bull. Soc. Géol. France, sér. 3, v. 10, p. 228.	= <i>Avicularium</i> Gray, 1853.
		Error for <i>Laevicardium Swainson</i> , 1840.
<i>Cardium cumingi</i> Broderip, 1833	Monotypy.	
<i>Cardium formosum</i> Deshayes, 1860.	Crosse, 1886, Jour. Conchyl., v. 34, p. 332.	

Unit.	Reference.
LUNULICARDIA Gray, 1853 (13).	Ann. Mag. Nat. Hist., ser. 2, v. 11, p. 41 ... ..
[LYMNOCARDIUM Stoliczka, 1870] ...	<i>Cret. Pelecypoda S. India</i> , Pal. Ind., ser. 6, vol. 3, p. 211.
LYROCARDIUM Meek, 1876 ... ..	U. S. Geol. Survey Territories, v. 9, p. 173 ... ..
MEXICARDIA Stewart, 1930 ... ..	Acad. Nat. Sci. Phila., Special Publ., N° 3, pp. 37, 263.
MICROCARDIUM Thiele, 1934 ...	<i>Handbuch der Systematischen Weichtierkunde</i> , pt. 3, p. 878.
[MYOCARDIA Von Vest, 1875]... ..	Jahrb. Mal. Gesell., v. 2, p. 325 ... ..
[MYOPHORICARDIUM Wöhrmann, ... 1889].	Jahrb. geol. Reichsanst., vol. 39, p. 226... ..
NEMOCARDIUM Meek, 1876... ..	U. S. Geol. Survey Territories, v. 9, p. 167... ..
ONESTIA McLearn, 1933 ... ..	Trans. Roy. Soc. Canada (3), v. 27, sect. 4, p. 152.
<i>Opisocardium</i> Bayle, 1879 ... ..	Jour. Conchyl., v. 27, p. 35 ... ..
PACHYCARDIUM Conrad. 1869 (14)	Am. Jour. Conch., v. 5, p. 96... ..
PAPILLICARDIUM Sacco, 1899...	<i>I Molluschi dei terreni terziarii del Piemonte e della Liguria</i> , pt. 27, p. 44.
PAPYRIDEA Swainson, 1840 ... ..	<i>Treatise on Malacology</i> , p. 374 ... ..
PARVICARDIUM Monterosato, ... 1884.	<i>Nomenclatura generica e specifica di alcune Conchyglie mediterranee</i> , p. 19.

Genotype.	Designation.	Remarks.
<i>Cardium retusum</i> Linné, 1767 ...	Monotypy.	
<i>Cardium haueri</i> Hörnes, 1870 ...	Original... ..	Not a cardiid unit : Lymnocardiidae Dall, 1901.
<i>Cardium lyratum</i> Sowerby, 1841.	Dall, 1900, Trans. Wa- gner Inst. Sci., v. 3, pt. 5, p. 1076.	
<i>Cardium procerum</i> Sowerby, 1833	Original.	
<i>Cardium (Fulvia) peramabilis</i> Dall, 1881 (= <i>C. peramabile</i> Dall) [Here emended].	Here designated.	
<i>Myocardia truncata</i> (Von Vest), 1861.	Original... ..	Not a cardiid unit : Adacnidae Von Vest, 1875.
<i>Myophoricardium lineatum</i> ... .. Wöhrmann, 1889.	Monotypy ... ..	Not a cardiid unit : Aloididae (?).
<i>Cardium semiasperum</i> Deshayes, 1860.	Sacco, 1899, <i>I Moll. Li- guria</i> , pt. 27, p. 56.	
<i>Laevicardium onestae</i> McLearn, 1931.	Original.	
<i>Cardium retusum</i> Linné, 1767 ...	Original ... ..	= <i>Lunulicardia</i> Gray, 1853.
<i>Cardium spillmani</i> Conrad, 1858	Dall, 1900, <i>op. cit.</i> , p. 1076.	
<i>Cardium papillosum</i> Poli, 1795.	Original.	
<i>Papyridea soleniforme</i> [Bru- guière] (= <i>Cardium solenifor- me</i> Bruguière, 1789)	Gray, 1847, Proc. Zoöl. Soc., p. 185.	
<i>Cardium parvum</i> Philippi, 1844 (not Sowerby, 1841, Mawe, 1823, nor Da Costa, 1778) (= <i>C. exiguum commutata</i> Buc- quoy, Dautzenberg and Doll- fus, 1892).	Bucquoy, Dautzenberg & Dollfus, 1892, <i>Moll. Marins Roussillon</i> , t. 2, p. 277.	

Unit.	Reference.
Pectunculus Mörch, 1853 ... ( <i>ex</i> Adanson, 1757) (not Da Costa, 1778)	<i>Catal. Conchyliorum.. Yoldi</i> , fasc. 2, p. 33... ..
PHLOGOCARDIA Stewart, 1930...	Acad. Nat. Sci. Philadelphia, Special Publ., N° 3, pp. 38, 263.
[PHYLLOCARDIUM Fischer, 1887] ...	<i>Manuel de Conchyliologie</i> , p. 1039 ... ..
PLAGIOCARDIUM Cossmann, ... 1886.	Mem. Soc. roy. Mal. Belgique, v. 21, p. 168 ... ..
PRATULUM Iredale, 1924 ... ..	Proc. Linn. Soc. N. S. Wales, v. 49, p. 182... ..
[PROSODACNA Tournouër, 1882]... ..	Jour. Conchyl., v. 30, p. 58 ... ..
PROTOCOLDIA Beyrich, 1845 (15)	Zeitschr. f. Malakozoöl., p. 17 ... ..
« Protocardium Beyrich » Stoliczka, 1870.	Pal. Indica, ser. 6, v. 3, p. 209 ... ..
[PSEUDOCARDITA Oppenheim, 1918].	Zeitschr. d. geol. Ges., v. 70, p. 136 ... ..
[PTEROCARDIA Favre, 1843 ( <i>fide</i> Schulze <i>et al.</i> , <i>op. cit.</i> , v. 4, lf. 21, p. 2946, 1935) ( <i>ex</i> Agassiz MS)].	Mem. Soc. Genève, v. 10, p. 71 ( <i>fide</i> Schulze <i>et al.</i> , <i>op. cit.</i> ).
<i>Ringicardium</i> Fischer, 1887 (16)	<i>Manuel de Conchyliologie</i> , p. 1037... ..
RUDICARDIUM Coen, 1915 ... .. ( <i>ex</i> Monterosato MS)	Ann. Mus. Civico Storia Nat. Genova, v. 46 (ser. 3, v. 6), p. 299.
SCHEDOCARDIA Stewart, 1930...	Acad. Nat. Sci. Philadelphia, Special Publ., N° 3, pp. 38, 255.
SERRIPES Gould, 1841 ( <i>ex</i> Beck MS).	<i>Invertebrates of Massachusetts</i> , p. 93 ... ..
SPHAEROCARDIUM Coen, 1933 .	Mus. Com. Talass. Ital., n° 192, p. 132 ... ..



Genotype.	Designation.	Remarks.
<i>Cardium asiaticum</i> Bruguière, 1789.	Von Martens, 1870, <i>Zool. Rec.</i> (1869), p. 586.	= <i>Bucardium</i> Gray, 1853.
<i>Cardium belcheri</i> Broderip and Sowerby, 1829.	Original.	
<i>Cardium planum</i> Deshayes, 1838.	Original... ..	Not a cardiid unit: Monodaenidae ?
<i>Cardium granulatum</i> Lamarek, 1805.	Crosse, 1896, <i>Jour. Conchyl.</i> , v. 34, p. 332.	
<i>Cardium thetidis</i> Hedley, 1902...	Original.	
<i>Cardium macrodon</i> Deshayes, 1838.	Original... ..	Not a cardiid unit: Adacnidae Von Vest, 1875 (?).
<i>Cardium hillanum</i> J. de C. Sowerby, 1813.	Herrmannsen, 1847, <i>Indicis Gen. Malac.</i> , v. 2, p. 336.	Emendation of <i>Protocardia</i> Beyrich, 1845.
<i>Cardium (Pseudocardita) bukowski</i> Oppenheim, 1918.	Here designated ... ..	Not a cardiid unit: possibly carditid (?).
<i>Cardium buvignieri</i> Deshayes 1839-1857.	Cossmann, 1906, <i>Bull. Soc. Sci. Nantes</i> , p. 292.	= <i>Avicularium</i> ? Not a cardiid unit.
<i>Cardium ringens</i> Chemnitz, 1782 (= <i>C. ringens</i> Bruguière, 1789)	Monotypy ... ..	= <i>Bucardium</i> Gray, 1853.
<i>Cardium tuberculatum</i> Linné, 1758.	Here designated... ..	
<i>Cardium hatchetigbeense</i> Aldrich, 1886.	Original.	
<i>Cardium groenlandicum</i> Bruguière, 1789.	Monotypy.	
<i>Cardium paucicostatum</i> Sowerby, 1841 (not Deshayes, 1838).	Here designated... ..	Probably = <i>Acanthocardia</i> Gray, 1851.

Unit.	Reference.
Sphaerocardium Coen, 1933... ..	Mus. Com. Talass. Ital., n° 192, p. 184 ... ..
TENDAGURIUM Dietrich, 1933 ...	Palaeontogr. Suppl. VII, Reihe 2, Teil 2, lief. 1, p. 50.
[THETIBONIA Stoliczka, 1870] ... ..	Pal. Indica, ser. 6, v. 3, p. 158 ... ..
TRACHYCARDIUM Mörch, 1853 .	<i>Catal. Conchyliorum.. Yoldi</i> , fasc. 2, p. 34... ..
TRIGONIOCARDIA Dall, 1900 ...	Trans. Wagner Inst. Sci., v. 3, pt. 5, p. 1075... ..
« Tropicardium Coen », 1914 ... .. Preston, 1916.	<i>Zool. Rec.</i> (1914) 1916, Moll., p. 2231... ..
<i>Tropidocardium</i> Römer, 1865 (17)...	<i>Systematisches Conchyl. Cab. (Cardiacea)</i> , ed. 2, p. 13.
VASTICARDIUM Iredale, 1927 ...	Rec. Austr. Mus., v. 16, p. 75... ..
VEPRICARDIUM Iredale, 1929 ...	Australian Zool., v. 5, p. 338... ..

Genotype.	Designation.	Remarks.
		Error for <i>Sphaerocardium</i> Coen, 1933
<i>Cardium (Tendagurium) propellanense</i> Dietrich, 1933.	Here designated.	
<i>Thetis minor</i> Sowerby, 1826 ... ..	Original... ..	Not a cardiid unit : probably veneracean, teste D. L. Frizzell.
<i>Cardium isocardia</i> Linné, 1758...	Von Martens, 1870, <i>Zoöl. Rec.</i> (1869), p. 586.	
<i>Cardium graniferum</i> Broderip and Sowerby, 1829.	Original.	
	—	Error for <i>Tropidocardium</i> Römer, 1865.
<i>Cardium costatum</i> Linné, 1758...	Tryon, 1869, <i>Am. Jour. Conch.</i> , v. 5, p. 60.	= <i>Cardium</i> Linné, 1758.
<i>Cochlea nebulosa</i> Martyn, 1792 (18)	Original.	
<i>Vepricardium pulchricostatum</i> Iredale, 1929.	Original.	

## FOOTNOTES.

(2) Misspelled *Aathocardia* and *Acanthocardium* by Meek (U. S. Geol. Surv. Territories, vol. 9, 1876, pp. 165, 166, respectively).

(3) Not, as would appear from the evidence of the table, simply an emendation of *Acanthocardia* Gray : proposed by Roemer as a new « section », credited to himself, with no reference to Gray's name.

(4) Although a species-name is cited for *Acardo*, the absence of any bibliographic reference and of an author's name would appear to make the cited species unavailable for type-designation. Fortunately, the name *Acardo* is preoccupied.

(5) Proposed by Sandberger in the following words, « *Archicardium* umfasst alle typischen Cardien einschliesslich der Gruppen *Bucardium* Gray, *Trachycardium* Mörch, *Acanthocardia* Gray ». This composite unit is interpreted to include all species cited by the authors of the three component groups; *Cardium aculeatum* Linné is here selected as type, making *Archicardium* synonymous with *Acanthocardia*. This seems preferable to attempting to validate the name for some part of one component which may be considered to require a name; other things being equal, it is simpler to propose a new unit than to validate an equivocal one.

(6) *Bucardium* is not invalidated by *Buccardium*. Megerle von Mühlfeldt, 1811, or *Bucardia* Schumacher, 1817. The designation of *Cardium ringens* as type gives *Bucardium* priority over *Ringicardium* Fischer, 1887, unless a previous use of *Bucardium* was overlooked by the compilers of the two most recently-published nomenclators (*Index Animalium*, C. D. Sherborn, 1902-1903 and *Nomenclator animalium generum et subgenerum*, F. E. Schulze, W. Kükenthal, and K. Heider, 1926).

(7) Not to be confused with the veneracean genus *Callocardia* A. Adams, 1864. *Callicardia* was proposed as a subgenus of *Protocardia* to include a single Recent species. This species was not cited by name or described in any way, save that its occurrence in the « Sooloo » and Yellow Seas was mentioned. Six years earlier, in proposing another subgenus of *Protocardia* (Amer. Jour. Conch., vol. 5, 1869, p. 96) Conrad had mentioned what appears to be the same species under the name « *P. Belcheri* Adams », the « *P.* » evidently standing for *Protocardia*. No such species appears to have been described by Adams; there is, however, « *Cardium* » *bechei* Reeve, 1847, from the localities mentioned by Conrad. This species was redescribed by Adams and Reeve in 1850. As Conrad was notoriously inaccurate, one may assume that this is the species to which he refers in his proposal of *Callicardia*. Such an assumption, however, hardly has place in systematic work. Should *Callicardia* be regarded as valid, it must supplant *Nemocardium* Meek, 1876, since « *C.* » *bechei* is congeneric with the genotype of the latter — *Nemocardium semiasperum* (Deshayes).

(8) Although *Cardiarius* was published without mention of species,

it was validated in a German translation of Dumeril's work by Froriep, according to the evidence presented by Iredale in the reference cited. Publication of the name *Cardium edule* Linné in connection with *Cardiarius* makes the latter a typonym of *Cerastoderma* Poli.

(9) Misspelled *Ceratoderma* by Clark (Bull. Geol. Soc. Am., vol. 43, 1932, p. 613). The genus was proposed in the manner prescribed by the International Rules of Zoological Nomenclature (Articles 8 and 25), and is here accepted as of Poli, 1795, rather than of Mörch, 1853.

(10) *Cordium* is here regarded as an unjustified innovation for *Cardium* Linné, although Gistel apparently credits himself with the name as if it were being proposed as a new category. On page 172 of his work, under the family Cordiacea he lists, among eight other Linnean and Lamarckian genera, « Genus XVI : Herzmuschel (*Cardium*) », with four species, *C. Cardissa*, *C. edule*, *C. retusum*, and *C. calyculatum*, each with a brief description but with no bibliographic reference or authority; the last two species are figured, though no mention of the figures is made in the text. In the introduction to the work, which was apparently written later than the text, a series of « Berichtigungen » are published, one of which is : « S. 172. Nr. XVI. [read] *Cordium* (Nob.) und *Cordissa*. » There does not seem to be evidence here that Gistel intended *Cordissa*, as Iredale concluded (Proc. Mal. Soc., vol. 13, 1917, p. 36), to be co-ordinate with *Cordium*. Rather, Gistel appears to be emending the generic rubric, *Cardium*, and the first species included in his list, *C. cardissa*.

(11) This unit is invalid as of Bruguière, 1789 (International Rules of Zool. Nomencl., Opinion 5), being a reprint of a pre-linnean name not adopted by the author, Bruguière. Spengler's usage, accepted by Stewart, is open to question, since Spengler's other divisions of genera seem to have been almost uniformly « groups » names written as plurals. *Hemicardia* is here tentatively accepted, however, pending a decision by the International Commission on Zoological Nomenclature as to its validity.

(12) The first unequivocal type-designation for this unit is that of Stoliczka; earlier designations (Herrmannsen, 1846, Gray, 1847, Von Martens, 1870) were of species not, in the strict sense, included in the original list. The designation of Bucquoy, Dautzenberg, and Dollfus (1892), usually cited, is of a fictitious entity, « *C. europeum* Wood ».

(13) Not *Lunulacardium* Münster, 1840, a pteriid genus. Also not « *Lunulocardium* Münster » of Sandberger (N. Jahr. f. Min., 1845, p. 176), nor *Lunulacardium* » and « *Lunulicardium* » of F. Sandberger (*ibid.*, 1846, p. 61). This confusion in spelling has led to the needless renaming of the unit by Bayle as *Opisocardium*.

(14) Not invalidated by *Pachycardia* Hauer, 1857, a Paleozoic pelecypod genus.

(15) This name has been unjustifiably emended to *Protocardium* by Stoliczka on the ground that generic and subgeneric endings should be uniform; it was misspelled *Protocardium* by Meek and Hayden (Proc. Acad. Nat. Sci. Philadelphia, vol. 12, 1860, p. 418).

(16) Misspelled *Pingecardium* by Clark and Woodford (Univ. Calif. Publ. Bull. Dept. Geol. Sci., vol. 17, 1927, p. 94) and *Bingicardium* by Pilsbry and Lowe (Proc. Acad. Nat. Sci. Philadelphia, vol. 84, 1932, p. 136). *Ringicardium* is a synonym of the prior *Bucardium* Gray by subsequent type-designation and can be validated only if a previous use of the latter is found. See footnote 6.

(17) By subsequent designation this is a typonym of *Cardium*, *sensu stricto*; it is frequently cited as a subgenus by authors who assume, erroneously, that Lamarck's selection of *Cardium aculeatum* Linné as an example of *Cardium* constitutes valid type-designation for the latter.

(18) There is considerable room for doubting the nomenclatural availability of Martyn's species. Pending a decision by the International Commission on Zoölogical Nomenclature on the validity of Martyn's work, however, the species cited by Iredale is tentatively accepted here. It appears to be, as Iredale states, the "*Cardium elongatum* Bruguière" of Reeve and subsequent authors. *Cardium elongatum* Bruguière, 1792, is based upon the same figures as *C. leucostomum* Born, 1778; its type locality is Jamaica, so that Reeve's use of the name for an Indo-Pacific species is obviously unacceptable.

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