

Table of Contents

Treatise on Invertebrate Paleontology, Part H (Revised)

Brachiopoda

Volume 5: Rhynchonelliformea (part)

Edited by Roger L. Kaesler

Coordinating author: Sir Alwyn Williams, leading a team of international specialists:

Alwyn Williams, C. H. C. Brunton, S. J. Carlson, P. G. Baker, J. L. Carter, G. B. Curry, A. S. Dagys, Rémy Gourvenec, Hou Hong-fei, Jin Yu-gan, J. G. Johnson, D. E. Lee, D. I. MacKinnon, P. R. Racheboeuf, T. N. Smirnova, and Sun Dong-li

Information on Treatise volumes	xii
Editorial Preface (Roger L. Kaesler)	xiv
Stratigraphic Divisions	xxvii
Coordinating Author's Preface (C. Howard C. Brunton, assisted by G. B. Curry)	xxviii
Repositories and Their Abbreviations	xxxvii
Outline of Suprafamilial Classification and Authorship (Alwyn Williams, S. J. Carlson, & C. H. C. Brunton)	xl

Systematic Descriptions

SPIRIFERIDA (J. L. Carter, J. G. Johnson, Rémy Gourvenec, and Hou Hong-fei)	1689
Order SPIRIFERIDA	1689
INTRODUCTION (J. L. Carter and Rémy Gourvenec)	1689
Suborder SPIRIFERIDINA	1694
CYRTIOIDEA (J. G. Johnson and Hou Hong-fei)	1695
Superfamily CYRTIOIDEA	1695
Family CYRTIIDAE	1695
Family HEDEINOPSIDAE	1701
ADOLFIOIDEA (J. G. Johnson)	1703
Superfamily ADOLFIOIDEA	1703
Family ADOLFIIDA	1703
Family ECHONOSPIRIFERIDA	1711
THEODOSSIOIDEA (J. G. Johnson, J. L. Carter, and Hou Hong-fei)	1714
Superfamily THEODOSSIOIDEA	1714
Family THEODOSSIIDAE	1714
Family ULBOSPIRIFERIDAE	1715
Family PALAEOCHORISTITIDAE	1720
CYRTOSPIRIFEROIDEA (J. G. Johnson)	1722
Superfamily CYRTOSPIRIFEROIDEA	1722

Family SPINOCYRTIIDAE	1722
Family CYRTOSPIRIFERIDAE	1726
AMBOCOELIOIDEA (J. G. Johnson, J. L. Carter, and Hou Hong-fei)	1733
Superfamily AMBOCOELIOIDEA	1733
Family AMBOCOELIIDAE	1733
Family LAZUTKINIIDAE	1744
Family EUDOXINIDAE	1744
Family VERNEULIIDAE	1746
MARTINIOIDEA (J. L. Carter and Rémy Gourvenec)	1747
Superfamily MARTINIOIDEA	1747
Family TENELLODERMIDAE	1747
Family ELYTHYNIDAE	1747
Family MARTINIIDAE	1748
Family CRASSUMBIDAE	1758
Family INGELARELLIDAE	1758
Family GERKISPIRIDAE	1764
Family PERISSOTHYRIDIDAE	1767
SPIRIFEROIDEA (J. L. Carter)	1769
Superfamily SPIRIFEROIDEA	1769
Family SPIRIFERIDAE	1769
Family CHORISTITIDAE	1780
Family IMBREXIIDAE	1786
Family TRIGONOTRETIDAE	1789
Family SPIRIFERELLIDAE	1805
PAECKELMANELLOIDEA (J. L. Carter)	1812
Superfamily PAECKELMANELLOIDEA	1812
Family STROPHOPLEURIDAE	1812
Family PAECKELMANELLIDAE	1818
BRACHYTHYRIDOIDEA (J. L. Carter)	1821
Superfamily BRACHYTHYRIDOIDEA	1821
Family BRACHYTHYRIDIDAE	1821
Family SKELIDORYGMIDAE	1823
DELTHYRIDINA (J. G. Johnson, Hou Hong-fei, J. L. Carter, and Rémy Gourvenec)	1825
Suborder DELTHYRIDINA	1825
DELTHYRIDOIDEA (J. G. Johnson and Hou Hong-fei)	1825
Superfamily DELTHYRIDOIDEA	1825
Family DELTHYRIDIDAE	1825
Family HYSTEROLITIDAE	1827
Family ACROSPIRIFERIDAE	1836
Family CYRTINOPSIDAE	1840
Family MUCROSPIRIFERIDAE	1843
RETICULARIOIDEA (J. L. Carter and Rémy Gourvenec)	1848
Superfamily RETICULARIOIDEA	1848
Family RETICULARIIDAE	1848

Family XENOMARTINIIDAE	1860
Family THOMASARIIDAE	1864
Family ELYTHIDAE	1864
UNCERTAIN (Patrick R. Racheboeuf)	1871
INTRODUCTION	1871
SUBORDER UNCERTAIN	1871
SPIRIFERINIDA (J. L. Carter and J. G. Johnson)	1877
Order SPIRIFERINIDA	1877
INTRODUCTION (J. L. Carter and Rémy Gourvenec)	1877
CYRTINIDINA (J. L. Carter and J. G. Johnson)	1881
Suborder CYRTINIDINA	1881
CYRTINOIDEA (J. G. Johnson)	1881
Superfamily CYRTINOIDEA	1881
Family CYRTINIDAE	1881
Family KOMIELLIDAE	1883
SUESSIOIDEA (J. L. Carter)	1883
Superfamily SUESSIOIDEA	1883
Family DAVIDSONINIDAE	1883
Family LABALLIDAE	1885
Family BITTNERULIDAE	1887
Family SUESSIIDAE	1889
SPONDYLOSPIROIDEA (J. L. Carter)	1891
Superfamily SPONDYLOSPIROIDEA	1891
Family SPONDYLOSPIRIDAE	1891
Family RASTELLIGERIDAE	1893
SPIRIFERINIDINA (J. L. Carter)	1897
Suborder SPIRIFERINIDINA	1897
Superfamily SYRINGOTHYRIDOIDEA	1897
Family SYRINGOTHYRIDIDAE	1897
Family DIMEGELASMIDAE	1905
Family LICHAREWIIDAE	1906
PENNOSPIRIFERINOIDEA (J. L. Carter)	1910
Superfamily PENNOSPIRIFERINOIDEA	1910
Family PUNCTOSPIRIFERIDAE	1910
Family SPIROPUNCTIFERIDAE	1913
Family RETICULARIINIDAE	1914
Family PARASPIRIFERINIDAE	1914
Family SPIRIFERELLINIDAE	1918
Family SARGANOSTEGIDAE	1920
Family BALATONOSPIRIDAE	1921
Family PENNOSPIRIFERINIDAE	1924
Family LEPISMATINIDAE	1925
SPIRIFERINOIDEA (J. L. Carter)	1930
Superfamily SPIRIFERINOIDEA	1930

Family SPIRIFERINIDAE	1930
Family SINUCOSTIDAE	1936
THECIDEIDA (Peter G. Baker)	1938
Order THECIDEIDA	1938
INTRODUCTION	1938
THECOSPIROIDEA (Peter G. Baker)	1944
Superfamily THECOSPIROIDEA	1944
Family THECOSPIRIDAE	1944
Family THECOSPIRELLIDAE	1944
Family HUNGARITHECIDAE	1946
THECIDEOIDEA (Peter G. Baker)	1948
Superfamily THECIDEOIDEA	1948
Family ENALLOTHECIDEIDAE	1948
Family THECIDELLINIDAE	1948
Family BACTRYNIIDAE	1954
Family THECIDEIDAE	1955
TEREBRATULIDA (D. E. Lee, D. I. Mackinnon, T. N. Smirnova, P. G. Baker, Jin Yu-gan, and Sun Dong-li)	1965
Order TEREBRATULIDA	1965
INTRODUCTION (D. E. Lee and D. I. MacKinnon)	1965
Higher-Level Classification	1966
Origins	1969
Terebratulide Morphology	1969
LOOP MORPHOLOGY AND TERMINOLOGY IN TEREBRATULIDA (D. I. MacKinnon and D. E. Lee)	1974
Terminology	1975
Short-Looped Terebratulida	1977
Long-Looped Terebratulida	1977
Unusual or Aberrant Post-Paleozoic Long-Looped Brachiopods	1983
Paleozoic Long-Looped Cryptonelloidea	1984
Methods of Studying Loops	1984
Homoplasy	1985
Suborder Terebratulidina	1985
Suborder Terebratellidina	1989
TEREBRATULIDINA (D. E. Lee, A. S. Dagys, T. N. Smirnova, Sun Dong-li, and Jin Yu-gan)	1994
Suborder TEREBRATULIDINA	1994
STRINGOCEPHALOIDEA (D. E. Lee)	1994
Superfamily STRINGOCEPHALOIDEA	1994
Family CENTRONELLIDAE	1994
Family STRINGOCEPHALIDAE	1999
Family MEGANTERIDIDAE	2007
Family RHIPIDOTHYRIDIDAE	2016
Family UNCERTAIN	2018
CRYPTONELLOIDEA (Jin Yu-gan and D. E. Lee)	2019

Superfamily CRYPTONELLOIDEA	2019
Family CRANAENIDAE	2019
Family NOTOTHYRIDIDAE	2022
Family LABAIIDAE	2024
Family CRYPTONELLIDAE	2024
Family CIMICINELLIDAE	2027
Family UNCERTAIN	2028
DIELASMATOIDEA (Jin Yu-gan, D. E. Lee, Sun Dong-li, T. N. Smirnova, A. S. Dagys, and M. R. Sandy)	2029
Superfamily DIELASMATOIDEA	2029
Family DIELASMATIDAE	2029
Family HETERELASMINIDAE	2038
Family BEECHERIIDAE	2039
Family GILLEDIIDAE	2041
Family PSEUDODIELASMATIDAE	2045
Family ANGUSTOTHYRIDIDAE	2046
Family ANTEZEILLERIDAE	2050
Family ZUGMAYERIIDAE	2052
Family JUVAVELLIDAE	2052
Family UNCERTAIN	2052
TEREBRATULOIDEA (D. E. Lee and T. N. Smirnova)	2054
Superfamily TEREBRATULOIDEA	2054
Family TEREBRATULIDAE	2054
Family SELLITHYRIDIDAE	2062
Family CAPILLITHYRIDIDAE	2070
Family WEBERITHYRIDIDAE	2074
Family GIBBITHYRIDIDAE	2074
Family UNCERTAIN	2080
LOBOIDOTHYRIDOIDEA (D. E. Lee, T. N. Smirnova, and A. S. Dagys)	2082
Superfamily LOBOIDOTHYRIDOIDEA	2082
Family LOBOIDOTHYRIDIDAE	2082
Family PLECTOCONCHIDAE	2089
Family TRIADITHYRIDIDAE	2089
Family BOREIOTHYRIDIDAE	2092
Family CHEIROTHYROPSIDAE	2095
Family CHENIOTHYRIDIDAE	2096
Family DICTYOTHYRIDIDAE	2096
Family DIENOPIIDAE	2096
Family HESPERITHYRIDIDAE	2096
Family LISSAJOUSITHYRIDIDAE	2098
Family LOBOTHYRIDIDAE	2102
Family MUIRWOODELLIDAE	2106
Family POSTEPITHYRIDIDAE	2108
Family TCHEGEMTHYRIDIDAE	2119

Family TEGULITHYRIDIDAE	2120
Family ALABUSHEVOTHYRIDIDAE	2120
Family CLATHRITHYRIDIDAE	2120
Family HARPOTOTHYRIDIDAE	2124
Family MAMETOTHYRIDIDAE	2124
Family SPASSKOTHYRIDIDAE	2126
Family TRIGONITHYRIDIDAE	2128
Family UNCERTAIN	2129
Family UNCERTAIN	2130
DYSCOLIOIDEA (D. E. Lee)	2136
Superfamily DYSCOLIOIDEA	2136
Family DYSCOLIIDAE	2136
Family PYGOPIDAE	2140
Family NUCLEATIDAE	2142
Family UNCERTAIN	2144
CANCELLOTHYRIDOIDEA (D. E. Lee, T. N. Smirnova, and Sun Dong-li)	2145
Superfamily CANCELLOTHYRIDOIDEA	2145
Family CANCELLOTHYRIDIDAE	2145
Family CHLIDONOPHORIDAE	2151
Family CNISMATOCENTRIDAE	2159
Family INOPINATARCULIDAE	2161
Family UNCERTAIN	2161
Superfamily UNCERTAIN	2162
Invalid Generic Name Ascribed to Brachiopoda	2162
TEREBRATELLIDINA (D. I. MacKinnon, D. E. Lee, P. G. Baker, T. N. Smirnova, A. S. Dags, and Sun Dong-li)	2163
Suborder TEBRATELLIDINA	2163
ZEILLERIOIDEA (Peter G. Baker)	2163
Superfamily ZEILLERIOIDEA	2163
Family ZEILLERIIDAE	2163
Family GUSARELLIDAE	2183
Family EUDESIIDAE	2186
KINGENOIDEA (D. I. MacKinnon, T. N. Smirnova, and D. E. Lee)	2189
Superfamily KINGENOIDEA	2189
Family KINGENIDAE	2189
Family AULACOTHYROPSIDAE	2194
LAQUEOIDEA (D. I. MacKinnon and D. E. Lee)	2201
Superfamily LAQUEOIDEA	2201
Family LAQUEIDAE	2201
Family FRENULINIDAE	2209
Family TEBRATALIIDAE	2211
MEGATHYRIDOIDEA (D. E. Lee, D. I. MacKinnon, and T. N. Smirnova)	2217
Superfamily MEGATHYRIDOIDEA	2217
Family MEGATHYRIDIDAE	2217

Family PRAEARGYROTHECIDAE	2221
Family THAUMATOSIIDAE	2222
BOUCHARDIOIDEA (D. I. MacKinnon and D. E. Lee)	2223
Superfamily BOUCHARDIOIDEA	2223
Family BOUCHARDIIDAE	2223
PLATIDIOIDEA (D. I. MacKinnon and D. E. Lee)	2225
Superfamily PLATIDIOIDEA	2225
Family PLATIDIIDAE	2225
TEREBRATELLOIDEA (D. I. MacKinnon and D. E. Lee)	2229
Superfamily TEREBRATELLOIDEA	2229
Family TEREBRATELLIDAE	2229
Family DALLINIDAE	2242
KRAUSSINOIDEA (D. E. Lee and D. I. MacKinnon)	2245
Superfamily KRAUSSINOIDEA	2245
Family KRAUSSINIDAE	2245
UNCERTAIN (D. I. MacKinnon)	2247
Suborder Uncertain, Superfamily GWYNIOIDEA	2247
UNCERTAIN (Jin Yu-gan and D. E. Lee)	2248
Superfamily UNCERTAIN, Family OBOLORUGIDAE	2248
UNCERTAIN (P. G. Baker)	2249
Superfamily and Family UNCERTAIN	2249
UNCERTAIN (Jin Yu-gan)	2250
Superfamily UNCERTAIN	2250
UNCERTAIN (Jin Yu-gan and D. E. Lee)	2252
Order UNCERTAIN	2252
Family MONGOLELLIDAE	2252
Family UNCERTAIN	2252
NOMINA DUBIA	2252
UNCERTAIN (Alwyn Williams and C. Howard C. Brunton)	2253
?Class Strophomenata, Order Uncertain, Family LIOSOMENIIDAE	2253
Nomenclatorial Note (D. E. Lee and Jin Yu-gan)	2254
Nomenclatorial Note (D. E. Lee and E. S. Tchorszhevsky)	2255
References	2256
Index	2308