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FIGURES

OF

MOLLUSCOUS ANIMALS,

SELECTED FROM

VARIOUS AUTHORS.

ETCHED FOR THE USE OF STUDENTS,

BY

MARIA EMMA GRAY.

VOL. V.

CONCHIFERA AND BRACHIOPODA.

PLATES 313 TO 381.

230125

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EXPLANATION OF THE PLATES.

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- 1 a. *Tellina planata*. *Cuvier, R. A.* t. 103.
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2. *Trigonella piperita*. *Deshayes, Algeria*, t. 45. f. 1, cop. T. Cottardi. *Cuv. R. A. Ill.* t. 98. f. 8,
3. *Scrobicularia compressa*. *Forbes & Hanley, B. M.* t. K. f. 6.
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2. *Petricola patagonica*. *D'Orb. Voy. Amér. Mérid.* t. 82. f. 8.
3. *Tellina nitida*. *Poli, Sicil.* t. 15. f. 2.
4. *Petricola striata*. *Wieg. Arch.* 1847, t. 7. f. 11, 14.
5. *Petricola hyalina*. *Deshayes, Algeria*, t. 66. f. 1, 2.
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2. *Erycina Geoffroyii*. *Deshayes, Algeria*, t. 43. f. 1.
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4. *Mactra lactea*. *Poli, Sicil.* t. 15. f. 14.

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2. *Mactra solida*. *Forbes & Hanley, B. M.* t. L. f. 2.
3. *Mactra subtruncata*. *Forbes & Hanley, B. M.* t. L. f. 3.
4. *Mactra lactea*. *Poli, Sicil.* t. 18. f. 14.
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 4. *Thracia distorta*. *Forbes & Hanley, B. M.* t. H. f. 5.
 5. *Thracia phaseolina*. *Forbes & Hanley, B. M.* t. H. f. 4.
 6. *Periploma ovata*. *D'Orb. Voy. Amér. Mérid.* t. 81. f. 10.
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 8. *Anatina hispidula*. *Mag. Zool.* 1843–1845, t. 102.

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1. *Spatha rubens*. *Wiegman. Arch.* 1847, t. 6. f. 2.
 2. *Hyria Syrmatophora*. *Wiegman. Arch.* 1847, t. 6. f. 3.
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 3. *Cardita sulcata*. *Deshayes, Algeria*, t. 102. f. 3.
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 3. *Cardium* ——. *Poli, Sicil.* t. 23. f. 12.
 4. *Cardium fasciatum*. *Forbes & Hanley, B. M.* t. N. f. 3.

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7. *Cardium pygmeum*. *Forbes & Hanley, B. M.* t. N. f. 2.
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2. *Dreissena polymorpha*. *Ann. Sci. Nat.* iii. t. 8. f. 1, 2, 3.
3. *Dreissena polymorpha*. *Gray in Turton, Man.* 301.
4. *Mytilus edulis*. *Poli, Sicil.* t. 31.
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2. *Kellia rubra*. *Forbes & Hanley, B. M.* t. O. f. 3.
3. *Montacuta substriata*. *Forbes & Hanley, B. M.* t. O. f. 2.
4. *Kellia suborbicularis*. *MSS. Mrs. Johnston*.
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7. *Galeomma Turtoni*. *Forbes & Hanley, B. M.* t. O. f. 5.
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TAB. 335.

- 1, 1 a. *Hippopus maculatus*. *Quoy & Gaim. Voy. Astrol.* t. 79. f. 2; *Cuvier, Règ. Anim. Ill.* t. 97. f. 4, 5.
2. *Tridacna mutica*. *Quoy & Gaim. Voy. Astrol.* t. 80. f. 3; *Cuvier, Règ. Anim.* t. 96. f. 3.
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TAB. 336.

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TAB. 337.

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3. Solen vagina. *Poli, Sicil.*; *Cuvier, R. A. Ill.* t. . f. 1.
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TAB. 338.

1. Clavagella ——. *Philippi, Wiegmann. Arch.* 1847, t. 6.
2. Pholas (Mulan). *Adanson, Seneg.* t. 17. f. 3.
3. Pholas globulosa. *Quoy & Gaim. Voy. Astrol.* t. 85. f. 17.
4. Xylophaga dorsalis. *Forbes & Hanley, B. M.* t. F. f. 2.
- 5, 5 a. Pholas crispata. *Lister, Conch.* t. 436.
6. Pholas candida. *Chiaje*, t. 65. f. 9.
7. Pholas dactylus. *Lister, Conch.* t. .
8. Pholadidea papyracea. *Forbes & Hanley, B. M.* t. F. f. 4.
9. Pholas crispata. *Lister, Conch.* t. .
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TAB. 339.

1. Saxicava rugosa. *Forbes & Hanley, B. M.* t. F. f. 6.
2. Gastrochæna modiolina. *Mag. Zool.* 1843, t. 69.
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5. Pholas crispata. *Cuvier, R. A. Ill.* t. . f. 3.

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- 1-5. Clavagella Balanorum. *Scacchi, Mag. Zool.* 1842, t. 52.
- 6, 7. Clavagella aperta. *Mag. Zool.* 1842, t. 49, 51.
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TAB. 342.

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- 2-4. Solen siliqua. *Cuvier, Règ. Anim. Ill.* t. .
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TAB. 343.

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2. *Solen siliqua*. *Forbes & Hanley, B. M. t. I. f. 1.*
3. *Solen ensis*. *Deshayes, Algeria, t. 11. f. 1.*
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TAB. 344.

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3. *Ceratisolen legumen*. *Forbes & Hanley, B. M. t. I. f. 4.*
4. *Solecurtus coarctatus*. *Forbes & Hanley, R. M. t. I. f. 5, 6.*
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6. *Solen legumen*. *Poli, Sicil. t. 11. f. 15.*

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1. *Lingula Audebardii*. *Brod. Trans. Zool. Soc.; Ann. Sci. Nat. iii. t. 2. f. 14.*
2. *Lingula* ——. *Ann. Sci. Nat. iii. t. 2. f. 15.*
3. *Glycimeris siliqua*. *Guérin, Icon. t. . f. .*
- 4-6. *Glycimeris siliqua*. *Ann. Sci. Nat. xxviii. t. 14.*

TAB. 346.

1. *Panopæa norvegica*. *Forbes & Hanley, B. M. t. W. f. 1.*
2. *Panopæa australis*. *Valenc. Mém. Mus. t. ; Cuvier, R. A. Ill. t. 107.*
3. *Poromya granulata*. *Forbes & Hanley, B. M. t. W. f. 2.*
4. *Venericardia australis*. *Quoy & Gaim. Voy. Astrol. t. 78. f. 13.*

TAB. 347.

- 1, 2, 3. *Cyrenoida* ——. *Johannis, Mag. Zool. 1835, t. 64.*
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5. *Saxicava rubra*. *Deshayes, Algeria, t. 66. f. 18.*
6. *Gastrochaena modiolaris*. *Forbes & Hanley, B. M. t. F. f. 5.*
7. *Saxicava rugosa*. *Forbes & Hanley, B. M. t. F. f. 6.*
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2. *Mya truncata*. *Forbes & Hanley, B. M. t. H. f. 1.*
3. *Periploma ovata*. *D'Orb. Voy. Amér. Mérid. t. 81. f. 10.*
4. *Mya arenaria*. *Baster, Opusc. t. 17. f. 1.*
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TAB. 349.

1. *Pisidium amnicum*. *Jenyns, Camb. Ph. Soc.* iv. t. 19. f. 2.
2. *Cyclas calyculata*. *Jenyns, Camb. Ph. Soc.* iv. t. 19. f. 1.
3. *Teredo* ——. *Cuvier, R. A. Ill.* t. 114. f. 2.
4. *Teredo* ——. *Forbes & Hanley, B. M.* t. F. f. 1.
5. *Teredo (Fistulana)*. *Dr. Peters, MSS.*

TAB. 350.

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2. *Neæra costellata*. *Forbes & Hanley, B. M.* t. G. f. 8, 9.
3. *Neæra cuspidata*. *Forbes & Hanley, B. M.* t. G. f. 4, 5, 6, 7.
—*a*, Lower side. *b & c*, Siphons.
4. *Corbula nucleus*. *Forbes & Hanley, B. M.* t. G. f. 3.
5. *Pandora striata*. *Forbes & Hanley, B. M.* t. G. f. 10.
6. *Corbula mediterranea*. *Deshayes, Algeria*, t. 21. f. 1.
7. *Azara labiata*. *D'Orb. Voy. Amér. Mérid.* t. 82. f. 2.
8. *Pandora (Tellina) inequivalvis*. *Poli, Sicil.* t. 15. f. 7.

TAB. 351.

1. *Pisidium obtusale*. *Jenyns, Camb. Ph. Soc.* iv. t. 20. f. 2.
2. *Pisidium pulchellum*. *Jenyns, Camb. Ph. Soc.* iv. t. 21. f. 2.
3. *Pisidium pusillum*. *Jenyns, Camb. Ph. Soc.* iv. t. 21. f. 4.
4. *Pisidium nitidum*. *Jenyns, Camb. Ph. Soc.* iv. t. 20. f. 7.
5. *Pisidium pulchellum*. *Jenyns, Camb. Ph. Soc.* iv. t. 21. f. 3.
6. *Pisidium pulchellum*. *Jenyns, Camb. Ph. Soc.* iv. t. 21. f. 1.
7. *Pisidium pusillum*. *Jenyns, Camb. Ph. Soc.* iv. t. 20. f. 5.
8. *Pisidium Henslowianum*. *Jenyns, Camb. Ph. Soc.* iv. t. 21. f. 6.
9. *Turtonia purpurea*. *Forbes & Hanley, B. M.* t. O. f. 1.
10. *Pisidium pusillum*. *Forbes & Hanley, B. M.* t. O. f. 9.
- 10 *a*. *Pisidium amnicum*. *Forbes & Hanley, B. M.* t. O. f. 8.
11. *Cyclas cornea*. *Sturm, Fauna*, t. .

TAB. 352.

- 1, 2. *Solenomya mediterranea*. *Philippi, Sicil.* t. 52. f. 10, 11.
3. *Solenomya mediterranea*. *Deshayes, Algeria*, t. 19. f. 1, 2.
—*a*, Hinder aperture.
4. *Solenomya mediterranea*. *Deshayes, Algeria; Cuv. R. A. Ill.* t. .

TAB. 353.

1. *Pectunculus pilosus*. *Poli, Sicil.* t. 26. f. 1.
2. *Pectunculus pilosus*. *Cuvier, R. A. Ill.* t. 86.
3. *Pectunculus intermedius*. *D'Orb. Voy. Amér.* t. 82. f. 26.
4. *Pectunculus glycimeris*. *Poli, Sicil.* t. 26. f. 7.

TAB. 354.

1. *Lucina tigerina*. *Valenc. Voy. Venus*, t. 2.
2. *Lucina jamaicensis*. *Valenc. Voy. Venus*, t. 1.

TAB. 355.

1. *Lucina lactea*. *Valenc. Voy. Venus*, t. 2.
2. *Lucina columba*. *Valenc. Voy. Venus*, t. 1. f. .
3. *Nucula æolica*. *Valenc. Voy. Venus*, t. 3. f. 2.
4. *Lucina (Corbis) fimbriata*. *Valenc. Voy. Venus*, t. 3. f. 14, 16.
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TAB. 356.

- 1 *a*. *Diplodonta brasiliensis*. *Journ. de Conchol.* t. 12. f. 4, 5.
2. *Diplodonta rotundata*. *Forbes & Hanley, B.M. t. M. f. 7.*
3. *Ungulina rubra*. *Ann. Sci. Nat.* xviii. t. 5. f. 4.
4. *Lucina borealis*. *Forbes & Hanley, B. M. t. M. f. 6.*
- 5 *a, b*. *Loripes lactea*. *Poli, Sicil. t. . f. ; Cuvier, R. A. Ill. t. 103. f. 3.*
- 6 *a, b*. *Lucina luteola*. *Deshayes, Algeria*, t. 78. f. 1, 2, 3.

TAB. 357.

1. *Chama (Cardita) antiquata*. *Poli, Sicil. t. 23. f. 10.*
2. *Venericardia sulcata*. *Cuvier, Règ. Anim. Ill. t. 94.*
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4. *Chama (Cardita) ———*. *Poli, Sicil. t. 23. f. 20.*

TAB. 358.

1. *Trigonia pectinata*. *Quoy & Gaim. Voy. Astrol. t. 78. f. 3.*
2. *Trigonia pectinata*. *MSS.*
3. *Arca Gaimardi*. *Deshayes, Algeria*, t. 123. f. 9.
4. *Arca imbricata*. *Deshayes, Algeria*, t. 123. f. 1.
5. *Trigonia pectinata*. *Huxley, P. Z. S. 1849, t. 3. f. 1.*

TAB. 359.

1. *Cyclas cornea*. *Zool. Journ.*
2. *Mycetopus siliquosus*. *D'Orb. Voy. A. M. t. .*
- 2 *a*. *Unio pictorum*. *Forbes & Hanley, B. M. t. O. f. 2.*
3. *Cyclas (Cyrena) limosa*. *D'Orb. Voy. A. M. t. 82. f. 14.*
5. *Tellina ———*. *Poli, Sicil. t. 15. f. 15.*
6. *Cyclas calyculata*. *Forbes & Hanley, B. M. t. O. f. 7.*
7. *Cyclas rivicola*. *Forbes & Hanley, B. M. t. Q. f. 1.*

TAB. 360.

1. *Anodonta Cygnea*. *Forbes & Hanley, B. M. t. Q. f. 3.*

2. *Anodonta Cygnea*. *Gray in Turton, Manual*, 226.
3. *Unio Feldmanni*. *Deshayes, Algeria*, t. 109. f. 9.

TAB. 361.

1. *Anodon latomarginata*. *D'Orb. Voy. A. M.* t. 79. f. 11.
2. *Iridina nilotica*. *Cuvier, R. A. Ill.* t. 91.
3. *Castalia* ——. *D'Orb. Voy. A. M.* t. .

TAB. 362.

1. *Anodon Anatina*. *Cuvier, R. A. Ill.* t. 90*.
2. *Anodon Anatina*. *Cuvier, R. A.* t. 90*.
3. *Anodon Anatina*. *Poli, Sicil.* t. 33.

TAB. 363.

1. *Anodon Anatinus*. *Sturm, Faun. Germ.* t. .
2. *Unio pictorum*. *Sturm, Faun. Germ.* t. .
3. *Anodonta limnoica*. *D'Orb. Voy. A. M.* t. 79. f. 10.

TAB. 364.

1. *Unio Guaraquana*. *D'Orb. Voy. A. M.* t. 68. f. 7.
2. *Unio Solisiana*. *D'Orb. Voy. A. M.* t. 69. f. 2.
3. *Unio pictorum*. *Sturm, Faun. Germ.* t. .
4. *Unio pictorum*. *Poli, Sicil.* t. 9. f. 8.
5. *Unio patagonica*. *D'Orb. Voy. A. M.* t. 70. f. 4.

TAB. 365.

1. *Etheria Caillaudi*. *Fér. Mém. Mus.*; *Cuvier, R. A.* t. 84.
2. *Etheria de Senegal*. *Lesson, Ill. Zool.* t. .

TAB. 366.

1. *Mytilus Lithophagus*. *Deshayes, Algeria*, t. 180. f. 1.
2. *Mytilus edulis*. *Cuv. Règ. Anim. Ill.* t. 89. f. 2.
3. *Mytilus africanus*. *Deshayes, Algeria*, t. 136. f. 1.

TAB. 367.

1. *Modiola* ——. *Adanson, Seneg.* t. . f. .
- 1 a. *Modiola* (Lutat). *Adanson, Seneg.* t. 15.
2. *Avicula tarentina*. *Deshayes, Algeria*, t. 130. f. 5.

TAB. 368.

1. *Pinna squamosa*. *Poli, Sicil.* t. .

TAB. 369.

1. *Pinna squamosa*. *Poli, Sicil. t.* .
2. *Crenella nigra*. *Forbes & Hanley, B. M. t. Q. f. 7.*
3. *Modiola Tulipa*. *Forbes & Hanley, B. M. t. Q. f. 6.*
4. *Lithodomus patagonicus*. *D'Orb. Voy. A. M. t. 82. f. 4.*

TAB. 370.

1. *Arca barbata*. *Poli, Sicil. t. 25. f. 6.*
2. *Arca barbata*. *Deshayes, Algeria, t. 118. f. 1.—a, End of shell and foot.*
3. *Arca tetragona*. *Forbes & Hanley, B. M. t. P. f. 1.—a, The byssus.*
4. *Arca Noæ*. *Poli, Sicil. t. 24. f. 3.*

TAB. 371.

1. *Pectunculus pilosus*. *Forbes & Hanley, B. M. t. P. f. 6.*
2. *Pectunculus violascens*. *Deshayes, Algeria, t. 125. f. 6.*
3. *Pectunculus violascens*. *Deshayes, Algeria, t. 125. f. 8.*
4. *Pectunculus pilosus*. *Deshayes, Algeria, t. 126. f. 1.*

TAB. 372.

1. *Nucula nucleus*. *Forbes & Hanley, B. M. t. P. f. 4.*
2. *Turtonia purpurea*. *Forbes & Hanley, B. M. t. Q. f. 1.*
3. *Nucula (Leda) pygmaea*. *Forbes & Hanley, B. M. t. P. f. 3.*
4. *Rhomboides rugosus*. *Blainv. Malac. t. 80. f. 6.*
5. *Sphænia Binghami*. *Forbes & Hanley, B. M. t. T. f. 3.*
6. *Nucula sulcata*. *Wieg. Arch. 1847, t. 7. f. 25.*
7. *Nucula emarginata*. *Wieg. Arch. 1847, t. 7. f. 26, 28.*
8. *Yoldia arctica*. *Müller, Icon. MSS.—a, Interior.*
9. *Erycina Renieri*. *Wieg. Arch. 1847, t. 7. f. 2, 23.—a, Interior.*
- 10 & 7 a. *Nucula australis*. *Quoy & Gaim. Voy. Astrol. t. 78. f. 6.—a, Foot. b, Interior.*
11. *Pandora oblonga*. *Deshayes, Algeria, t. 23. f. 1.*

TAB. 373.

1. *Avicula tarentina*. *Forbes & Hanley, B. M. t. S. f. 4.*
2. *Modiola Tulipa*. *Müll. Zool. Dan. t. , reduced.*
3. *Avicula Hirundo*. *Poli, Sicil. t. 32.*
4. *Lithodomus dactylus*. *Poli, Sicil. t. 32.*

TAB. 374.

- 1, 2. *Pedum Spondiloidæum*. *Quoy & Gaim. t. . f. ; Cuvier, Règ. Anim. t. .*
3. *Pecten Jacobæa*. *Poli, Sicil. t. 27. f. 5.*

TAB. 375.

1. *Lima glacialis*. *Poli, Sicil.* t. 28. f. 20.
2. *Lima inflata*. *Quoy, Voy. Astrol.* t. 76. f. 7.
3. *Lima linguatula*. *Quoy, Voy. Astrol.* t. 76. f. 11.
4. *Lima linguatula*. *Isis*, 1833, t. 10. f. 7.
5. *Lima glacialis?* *Poli, Sicil.* t. 28. f. 24.
6. *Lima inflata*. *Quoy, Voy. Astrol.* t. 76. f. 7.

TAB. 376.

1. *Pecten striatus*. *Forbes & Hanley, B. M.* t. S. f. 2.—
a, b, Edge of mantle.
2. *Pecten niveus*. *Forbes & Hanley, B. M.* t. S. f. 3.
3. *Pecten (Ostrea) fuci*. *Müll. Zool. Dan.* t. . f. .
- 3 *a*. *Pecten striatus*. *Müll. Zool. Dan.* t. 60. f. 3, 5.
4. *Pecten* ——. *Lister, Conch.* t. 17, reduced.
5. *Pecten sanguinea*. *Poli, Sicil.* t. 28. f. 8.
6. *Pecten (subfusca?)*. *Ann. Sci. Nat.* xviii. t. 10. f. 1.
7. *Pecten similis*. *Forbes & Hanley, B. M.* t. S. f. 1.

TAB. 377.

1. *Lima tenera*. *Forbes & Hanley, B. M.* t. R. f. .—
a, Beard. *b*, Foot.
2. *Lima inflata*. *Deshayes, Algeria*, t. 142. f. 2.

TAB. 378.

1. *Ostrea edulis*. *Poli, Sicil.* t. , cop. *Cuv. R. A. Ill.* t. 70.
2. *Ostrea edulis*. *Cuv. Règ. Anim. Ill.* t. 70.

TAB. 378 *a*.

1. *Ostrea edulis*. *Forbes & Hanley, B. M.* t. T. f. 1.
2. *Ostrea edulis*. *Lister, Conch. App.* t. 15.

TAB. 379.

1. *Spondylus gaderopus*. *Cuv. R. A. Ill.* t. 74. f. 2 *a*.
2. *Spondylus gaderopus*. *Cuv. R. A. Ill.* t. 74. f. 2.
3. *Spondylus gaderopus*. *Poli*, t. 22. f. 1.

TAB. 380.

- 1, 2. *Crania antiquata*. *Poli, Sicil.* t. 30. f. 23.
3. *Crania norvegica*. *Müll. Zool. Dan.*
4. *Terebratula* ——. *Grundler, Naturf.* ii. t. 3.
- 5–9. *Terebratula Sowerbii*. *Owen, Trans. Zool. Soc.* i. t. .

TAB. 381. .

1. Terebratula ——. *Philippi, Sicil. t. 6. f. 6.*
2. Terebratula psittacea. *Owen, Trans. Zool. Soc. i. t. .*
3. Discina (lower valve).
4. Terebratula truncata. *Cuv. Règ. Anim. t. 134. f. 1, 2.*
5. Crania norvegica. *Forbes & Hanley, B. M. t. U. f. 2.*
6. Terebratula caput serpentis. *Forbes & Hanley, B. M. t. U. f. 1.*
7. Anomia Ephippium (showing beard or plug). *Forbes & Hanley, B. M. t. T. f. 2.*
- 8 *a, b.* Anomia Ceba. *Poli, Sicil. t. 30.*
9. Discina (Orbicula) Cumingii. *Zool. Trans. t. .*
- 10-12. Anomia Ephippium (inner surface upper shell). *Cuv. Règ. Anim. Ill. t. 79.*

SYSTEMATIC ARRANGEMENT OF THE FIGURES.

[CONTINUED FROM VOL. IV.]

Class I. CONCHIFERA.

Animal having the mouth placed between the gills. They and the body enclosed between the two leaves of the mantle, which are covered with two shelly valves. The valves are on the side of the animal, and united behind and above by a ligament and cartilage.

Subclass I. SIPHONOPHORA.

Mantle leaves connected, with two siphonal openings behind.

There is sometimes a minute fourth aperture, with an internal valvular protuberance on the mantle under the siphons.

Order I. VENERACEA.

Mantle with two more or less elongated siphonal openings. Gills short, not produced into the inhalent or lower siphon. Siphons under the hinder adductor muscle often more or less separate.

I. *Foot compressed, generally without any byssal groove. Animal crawling.*

1. *Cardinal teeth diverging. Central tooth bifid. Cartilage of hinge external, marginal.*

A. *Siphons more or less united, short.*

Fam. 1. Veneridæ.

Mantle lobes free. Hinder lateral tooth compressed, and forming a part of the margin of the shell.

* *Foot lunate, inferior. Siphons united. Shell and body orbicular.*

1. ARTEMIS.

1. A. *Lupinus*, t. 313. f. 1.

2. A. *lineta*, t. 313. f. 2.

3. A. *exoleta*, t. 313. f. 3.

** *Foot lanceolate, anterior. Siphons partly united. Shell ovate, triangular or oblong.*

a. *Anterior lateral tooth distinct. Cardinal teeth triangular. Shell ovate.*

† *Hinder cardinal tooth cross-grooved or torn.*

1. MERETRIX.

†† *Hinder cardinal teeth smooth.*

2. VENUS.

1. *V. verrucosa*, t. 314. f. 1, t. 316. f. 2?, t. 316*a*. f. 7.
2. *V. —*, t. 316*a*. f. 5.
3. *V. —*, t. 316*a*. f. 4.

3. CIRCE.

1. ? *C. minima*, t. 317. f. 2.

b. *Anterior lateral teeth none. Cardinal teeth triangular. Shell ovate.*

4. CHIONE.

1. *C. Chione*, t. 315. f. 1.
2. *C. florida*, t. 316*a*. f. 1.
3. *C. lacta*, t. 316*a*. f. 3.
4. *C. gallina*, t. 316. f. 3, 7.
5. *C. —*, t. 316*a*. f. 6.
6. *C. fasciata*, t. 316. f. 1.
7. *C. opaca*, t. 317. f. 4.
8. *C. Thaca*, t. 316. f. 5.
9. *C. ovata*, t. 316. f. 3.

5. LUCINOPSIS.

1. *L. undata*, t. 317. f. 2.

c. *Anterior lateral teeth none. Cardinal teeth compressed. Shell oblong. Hinder lateral tooth none or rudimentary.*

6. VENERUPIS. Foot byssiferous.

1. *V. perforans*, t. 313. f. 4.
2. *V. pullastra*, t. 313. f. 7.
3. *V. decussata*, t. 314. f. 2.
4. *V. castrensis*, t. 315. f. 3.
5. *V. geographica*, t. 315. f. 2.
6. *V. Irus*, t. 313. f. 5, 6.

d. *Anterior lateral teeth none. Cardinal teeth thick, divergent. Shell oblong. Hinder lateral tooth large, strong.*

7. TRAPEZIUM.

1. *T. rostrata* (fig. 1).

Fig. 1.—*Trapezium rostrata*.

f, foot aperture. *pp*, pedal muscles.

Fam. 2. *Cyprinadæ*.

Shell ovate, cordate, covered with a hard dull brown periostraca. The hinge-teeth 3·3, triangular; the front of left valve conical,

rugose, like the anterior lateral tooth of *Venus*; the hinder of left valve very thin, compressed; the middle of right valve compressed; the hinder very broad, with a deep groove; anterior lateral tooth none; hinder of right valve compressed, separated from the dorsal margin by a deep groove. Siphonal inflection none, or very slightly truncate. Mantle lobes free beneath. Siphons very short.

1. CYPRINA.

1. *C. islandica*, t. 316. f. 4, t. 316 a. f. 2.

Fam. 3. *Glauconomidae*.

Mantle lobes united. Siphons elongate, united at the base. Pedal opening small, linear. Foot small, compressed in front. Palpi triangular, elongate. Gills elongate, united behind, but not produced. Shell oblong, covered with a hard olive periostraca extending beyond the edge. Lateral teeth none.

1. GLAUCONOME.

1. *G. chinensis* (fig. 2).

Fig. 2.—*Glaucnome chinensis*.

pp, pedal muscles. *r*, retractor of siphon. *s*, siphon retracted.
c-b, pedal aperture. *a a'*, adductor muscles.

Fam. 4. *Petricolidæ*.

Siphons elongate, separate nearly to the base. Aperture ciliated. Pedal opening small. Foot small, thin, cylindrical, with a distinct byssus. Shell ovate. Cardinal teeth bent up, as if coming from the inner surface of the shell under the umbo.

1. PETRICOLA.

1. *P. striata*, t. 322. f. 4.
2. *P. Lithophaga*, t. 322. f. 1, 5.
3. *P. hyalina*, t. 322. f. 5.
4. *P. patagonica*, t. 322. f. 2.

Fam. 5. *Corbiculadæ*.

Mantle lobes free. Pedal opening very large. Hinder end double-edged. Siphonal apertures distinct; anal small; inhalent

large, oblong, simple. Gills, two pairs, moderate, subequal, united together behind. Lips elongate, lanceolate. Foot compressed, small, quadrate, angular at each end. Shell solid, covered with a hard, olive, polished periostraca. Cardinal teeth 3·3, diverging. Lateral teeth compressed. Siphonal inflection none.

1. CORBICULA.

1. *C. limosa*, t. 359. f. 4.

Fam. 6. *Cyclasidæ*.

Mantle lobes united at each end. Pedal opening moderate. Foot compressed, lanceolate. Siphons united at the base, separate, diverging at the tip. Apertures bearded. Shell oblong. Cardinal teeth 2·2. Lateral teeth elongate, compressed, smooth.

1. SPHÆRIUM.

1. *S. rivicola*, t. 359. f. 7.
2. *S. corneum*, t. 317. f. 4, t. 357. f. 11, t. 359. f. 3.
3. *S. calyculatum*, t. 349. f. 2, t. 359. f. 6.

Fam. 7. *Cyrenelladæ*.

Mantle lobes free beneath, united at each end. Siphons two, elongate, united, contractile. Lips elongate. Foot subcylindrical, club-shaped. Gills two on each side. Shell oblong, roundish, ventricose, covered with a hard olive periostraca. Siphonal inflection none.—*Ann. & Mag. N. H.* xi. 1853, 39.

1. CYRENOIDA.

1. *C. Dupontia*, t. 347. f. 1, 2, 3.

Fam. 8. *Mysiadæ*.

Pedal opening moderate, inferior. Siphons none; anal opening linear, with two semilunar lateral valves; inhalent small, round, fringed. Gills two on each side. Lips four, moderate. Foot compressed, lanceolate.

1. MYSIA.

1. *M. rotundata*, t. 358. f. 2.
2. *M.* —? (Philippines) (fig. 3).

Fig. 3.—*Mysia* —? (Philippines).

f, foot. *p*, palpi. *l*, liver. *b-c*, pedal opening.

B. *Siphons separate, elongate, slender.*Fam. 9. *Tellinidæ.*

Mantle lobes free. Pedal opening elongate. Gills two on each side, small, united. Lips very large, behind the foot. Shell oblong. Cartilage internal or external. Siphons very large, when contracted bent up between the hinder part of the mantle edge.

A. *Shell oblong, subequilateral. Hinder side with a fold. Hinge-teeth compressed.*

§ *Cartilage marginal, exterior.*

1. *TELLINA.*

1. *T. nitida*, t. 320 a. f. 4, ? t. 322. f. 3.
2. *T. lucida*, t. 320. f. 7.
3. *T. planata*, t. 320. f. 1.
4. *T. fragilis*, t. 320 a. f. 5.
5. *T. —*, t. 359. f. 5.
6. *T. donacina*, t. 320 a. f. 8, 9.
7. *T. —*, t. 318. f. 4.
8. *T. Costæ*, t. 320. f. 2.

2. *PSAMMOBIA.*

1. *P. vespertina*, t. 321. f. 1, 2, & 6.
2. *P. tellina*, t. 320 a. f. 2.
3. *P. pallida* (fig. 4).
4. *P. polita*, t. 319. f. 2 (Capsa).

Fig. 4.—*Psammobia pallida.*

a a, adductor muscles. *p p p*, pedal muscles.

3. *DIODONTA.*

1. *D. fragilis*, t. 320 a. f. 3, t. 321. f. 3, 4, 5.

§§ *Cartilage interior, in a cardinal pit.*

4. *SYNDOSMYA.*

1. *S. intermedia*, t. 320 a. f. 1.
2. ? *S. Renieri*, t. 372. f. 9.

B. *Shell oblong, compressed, rounded at the ends, rather gaping behind.*

5. *SANGUINOLARIA.*

1. *S. rosea*.

c. *Shell trigonal, truncated behind.*

6. DONAX.

1. *D. trunculus*, t. 319. f. 4, 5.
2. *D. anatinum*, t. 319. f. 3.
3. *D. venusta*, t. 319. f. 1.

7. GALATHEA.

1. *G. radiata*, t. 317. f. 1.

Fam. 10. *Scrobiculariadae*.

Mantle lobes free. Pedal opening elongate. Gills only one on each side, broad, triangular, thick, united together behind, divided diagonally by a subcentral narrow groove, the upper portion the least. Palpi very large, flat, thin, triangular. Siphon very long, slender, separate from the base. Shell oblong.

1. LIMICOLA.

1. *L. tenuis*, t. 320 a. f. 4, 10.

2. SCROBICULARIA.

1. *S. compressa*, t. 321. f. 2, t. 321 a. f. 1, 2, 4.

3. TELLINIDES.

1. *T. timorensis*.

II. *Cardinal teeth diverging, central, laminar, folded. Cartilage internal, in a triangular pit near the cardinal teeth.*Fam. 11. *Macradæ*.

Mantle lobes more or less free beneath. Siphons two, elongate, more or less united at the base. Foot lanceolate, subanterior. Gills two on each side, broad. Lips narrow, elongate, acute.

* *Mantle lobes free. Lateral teeth developed, luminar. Mactraina.*

1. MACTRA.

1. *M. stultorum*, t. 324. f. 5, 7, 9.
2. *M. lactea*, t. 323. f. 4, t. 324. f. 4.
3. *M. glauca*?, t. 324. f. 6.
4. *M. neapolitana*, t. 323. f. 3.
5. *M. triangularis*, t. 323. f. 1.

2. SPISULA.

1. *S. solida*, t. 324. f. 2, 8.
2. *S. elliptica*, t. 324. f. 1.
3. *S. subtruncata*, t. 324. f. 3.

** *Mantle lobes united. Shell oblong, gaping behind. Lutrariana.*

3. LUTRARIA.

1. *L. elliptica*, t. 325. f. 2, 3.
2. *L. oblonga*, t. 325. f. 1.

Fam. 12. *Paphiadæ*.

Mantle lobes united. Pedal opening small, anterior. Gills two on each side, produced, truncated behind, not united behind the foot. Lips transversely striated within. Siphons short, separate; anal largest. (See *Ann. & Mag. N. H.* xi. 1853, 44.)

1. PAPHIA.

1. *P. cornea*, t. 318. f. 1, 2, 3, 5.

Fam. 13. ? *Anatinelladæ*.

Animal unknown. (See *Ann. & Mag. N. H.* xi. 1853, 43.)

111. *Cardinal teeth very oblique. Hinder nearly parallel with hinge-margin. Cartilage external, marginal. Umbones subspiral.*

Fam. 14. *Glossidæ*.

Foot compressed, truncated, short, small. Pedal opening rather contracted; lips simple. Shell free.

1. GLOSSUS.

1. *G. Cor*, t. 326. f. 1, t. 329.

Fam. 15. *Chamadæ*.

Foot very small, rather produced in front. Lips foliaceous, quadrangular. Pedal opening very small. Siphons two, short. Shell irregular, attached by the outer surface of one valve.

1. CHAMA.

1. *C. Lazarus*, t. 357. f. 4 (fig. 5).

Fig. 5.—*Chama Lazarus*.

a a', adductor muscles. *p*, pedal muscle. *d*, dental membrane. *t*, tentacle. *g*, small outer gill. *e*, anal siphon. *b*, branchial siphon. *f*, pedal orifice. *m*, mantle line. *o*, ovarium. *l*, liver.

114. *Hinge toothless. Cartilage internal, in a pit, with an imbedded shelly appendage in front.*

Fam. 16. *Anatinidæ*.

Siphons elongate, generally separate. Gills pinnate, apparently

one on each side the upper part against the side of the body. Mantle with a small valvular hole, under the siphon. Foot with a byssal groove. Shell inequivalve. Umbo with a cartilage-slit. Cartilage internal, in a pit in each valve, with a peculiar shelly plate before it, or covering it. Periostraca often hispid.

a. *Siphons united. Valves subequal. Clavicle linear.*

1. LATERNULA.

1. *L. hispidula*, t. 327, and fig. 6.

Fig. 6.—*Laternula hispidula*.

a a', adductor muscles. *l*, ligament. *o*, clavicle. *g*, gills. *h*, palpi.

b. *Siphons separate at the end. Valves unequal. Clavicle flat, covering the cartilage.*

2. LYONSIA.

1. *L. coruscans*, t. 327. f. 3.
2. *L. norvegica*, t. 327. f. 1.

3. MYTILIMERA.

1. *M. patagonica*, t. 327. f. 2.

c. *Siphons separate. Valves unequal. Clavicle small, subcylindrical.*

4. THRACIA.

1. *T. phaseolina*, t. 327. f. 5.
2. *T. distorta*, t. 327. f. 4.
3. *T. corbuloides*, t. 327. f. 7.

5. PERIPLOMA.

1. *P. ovale*, t. 327. f. 6, t. 328. f. 3.

6. NEÆRA.

1. *N. costulata*, t. 350. f. 2.
2. *N. cuspidata*, t. 350. f. 3.

7. POROMYA.

1. *P. granulata*, t. 346. f. 3.

- d. *Siphons separate. Shell attached by one valve. Clavicle large, subcylindrical.*

8. CHAMOSTREA.

1. *C. albida.*

- v. *Hinge toothed or toothless. Cartilage external, marginal. Shell pearly. Periostraca hard, polished.*

Fam. 17. *Muteladæ.*

Foot large, compressed, angular in front. Pedal opening very large. Gills large. Lips very large, semioral, attached by the straight line without the free point existing in *Unio* and *Anodon*. Shell scarcely to be distinguished from *Unio* or *Anodon*, but the hinder submarginal scar is rather more truncate.

1. MUTEA.

1. *M. nilotica*, t. 361. f. 2.
2. *M. rubens*, t. 328. f. 1.

2. CASTALIA.

1. *C. ambigua*, t. 361. f. 3.

3. HYRIA.

1. *H. Syrmatophora*, t. 328. f. 2.

II. *Foot conical, acute, angularly bent behind for leaping.*

Fam. 18. *Cardiadæ.*

Gills narrow, elongate, floating, only attached at the upper end, united together behind the foot. Shell equivalve. Cardinal teeth conical, forming a cross when the valves are closed. Cartilage external, marginal.

- a. *Shell gaping, and furnished with a serrated hinder margin.*

1. CARDIUM.

1. *C. hians*, t. 330. f. 1.

2. BUCARDIUM.

1. *B. ringens?*, t. 330. f. 5.

- b. *Shell closed, and smooth or nearly smooth behind.*

3. CERASTES.

1. *C. edule*, t. 329. f. 5, t. 330. f. 2, 6, t. 331. f. 1, 2.
2. *C. echinatum*, t. 330. f. 1.
3. *C. rusticum*, t. 330. f. 8.
4. *C. —*, t. 330. f. 3.
5. *C. aculeatum?*, t. 329. f. 1.
6. *C. pygmæum*, t. 330. f. 7.
7. *C. fasciatum*, t. 330. f. 4.
8. *C. —*, t. 330. f. 10.
9. *C. norvegicum*, t. 329. f. 4.

4. APHRODITA.

1. *A. grœnlandica*, t. 329. f. 2.

III. *Foot elongate, cylindrical, tubular.*Fam. 19. *Thyasidæ*.

Mantle free beneath, with transparent oblique vessels. Siphons, two simple holes edged by the mantle. Foot cylindrical, annulated from the lower edge of the compressed body, attenuated at the tip. Gills one on each side, small, united together behind. Labial palpi none.

1. *THYAS*.

1. *T. radula*, t. 358. f. 4.

IV. *Foot compressed, truncated and dilated at the end for crawling and anchoring.*Fam. 20. *Ledææ*.

Gills small, oblong, subpinnate?, formed of separate threads. Lips large. Palpi very long, subulate. Siphons small, united. Shell equivalve. Hinge-teeth two, elongate, nearly parallel with hinge-margin, each divided into numerous transverse hook-like plates. Siphonal scar distinct, inflected.

* *Cartilage internal, triangular.*1. *YOLDIA*.

1. *Y. arctica*, t. 372. f. 8.
2. *Y. australis* (fig. 7).

Fig. 7.—*Yoldia australis* (magnified).

a a, adductor muscles. *p p*, pedal muscles. *g*, gills. *s*, siphon. *t c*, labial palpi and appendages. *i*, intestines. *f*, foot. *x x*, lateral muscle of foot. *m*, mantle line. *l*, ligament.

2. *LEDA*.

1. *L. caudata*, t. 332. f. 2.
2. *L. minuta*, t. .

3. *L. pygmæa*, t. 372. f. 3.

4. *L. emarginata*, t. 332. f. 1, t. 372. f. 7.

** *Cartilage external, marginal.*

3. CTENOCONCHA.

1. *C. australis*, t. 372. f. 10.

Fam. 21. *Modiolarcadæ.*

Gills four, thick, dependent, subtrigonal, truncated in front, narrow, produced, and united together behind the foot. Lips four, moderate. Palpi obsolete. Siphonal apertures distinct; anal moderate; inhalent very large, inferior, simple-edged. Foot oblong, truncate, lanceolate, acute in front, with subposterior central hole for byssus. Eggs retained in outer gill-cases. Shell equivalve. Hinge-teeth none or rudimentary. Cartilage external, linear. Periostraca polished. Living attached to floating sea-weed.

1. MODIOLARCA.

1. *M. trapezina* (fig. 8).

Fig. 8.—*Modiolarca trapezina*.

pp', pedal muscles. *aa'*, adductor muscles. *f*, foot. *l*, liver.

V. *Foot elongate, slender, strap-like, byssiferous—for anchoring the animal.*

Fam. 22. *Dreissenidæ.*

Foot conical, small. Anterior adductor muscle small, on a transverse subumbonal internal plate. Mantle edge double. Gills four, unequal; outer small. Lips four, triangular, short, broad at the base. Shell equivalve, subtrigonal, keeled. Hinge toothless. Cartilage external, marginal. Fluvatile.

1. DREISSENA.

1. *D. polymorpha*, t. 333. f. 1, 2, 3, 5.

Fam. 23. *Galeommidæ.*

Foot very small, strap-shaped, flattened beneath. Mantle edge

double; outer more or less expanded and reflexed, covering (perhaps all) the shell; inner covering the gape of the shell. Gills two pair, dependent, united together behind the foot. Lips elongate. Shell oblong, equivalve, gaping behind. Hinge toothless. Cartilage internal, in a triangular pit.

1. GALEOMMA.

1. *G. Turtoni*, t. 334. f. 7, 9, t. 347. f. 4.
2. *G. tongensis*, t. 334. f. 5.

VI. *Foot very small, rudimentary, byssiferous. Hinder adductor muscle large, placed forward in the centre of the lower edge of the shell. Pedal opening small in front near the umbo. Anal opening apparently behind and above the hinder adductor muscle.*

Fam. 24. *Tridacnidae.*

Foot small. Anterior adductor muscle very small. Mantle double-edged; inner edge expanded. Gills small, thick, pinnate, united behind the foot.

1. TRIDACNA.

1. *T. mutica*, t. 335. f. 2, t. 336. f. 2.
2. *T. —*, t. 336. f. 1.
3. *T. crocea*, t. 335. f. 3 (fig. 9).

Fig. 9.—*Tridacna crocea*.

p, pedal orifice. *b*, byssus. *f*, foot. *g*, gills. *a*, posterior adductor muscle. *l*, pallial muscle. *s*, siphons—*i*, branchial; *e*, anal.

2. HIPPOPUS.

1. *H. maculatus*, t. 335. f. 1.

Order II. PHOLADACEA.

Mantle with two close, more or less elongate siphonal openings under the hinder adductor muscle. Gills two pair, produced behind into the inhalent or lower siphon. Pedal opening generally small. Siphons united (except in *Pharus*).

Suborder I. ORTHOCONCHÆ.

Body symmetrical. Valves equal, gaping at each end. Mantle partly exposed. Cartilage external or none. Living perpendicularly in holes in rocks or sand.

A. *Cartilage none, replaced by muscle.*Fam. 1. *Pholadidæ*.

Foot clavate, truncated, anterior. Gills two on each side.

† *Dorsal muscle covered with shelly plates. Dwelling-cavity naked. Palettes none. Pholadina.*

§ *Hinder gape of shell simple.*

* *Front gape of the shell more or less open, never closed with an additional shelly plate.*

1. DACTYLINA.

1. *D. dactylus*, t. 337. f. 4, t. 338. f. 7.

2. BARNIA.

1. *B. candida*, t. 338. f. 6.

2. *B. parva*, t. 338. f. 10 (1 c. on plate).

3. XYLOPHAGA.

1. *X. dorsalis*, t. 338. f. 4.

** *Front gape of the shell at length closed with a callous plate.*

4. JOUANNETIA.

1. *J. globulosa*, t. 338. f. 3.

§§ *Hinder gape of shell with one or two shelly or horny plates, forming a cup, round the siphons.*

5. PHOLADIDEA.

1. *P. papyracea*, t. 338. f. 8.

†† *Dorsal muscle covered with a coriaceous periostraca.*

‡ *Dwelling-cavity naked. Siphons without palettes. Zirphæana.*

6. ZIRPHÆA.

1. *Z. crispata*, t. 338. f. 5, t. 339. f. 5.

2. *Z. ? Mulan*, t. 338. f. 2.

‡‡ *Dwelling-cavity lined with a shelly tube. Siphons with lateral palettes. Teredina.*

7. TEREDO.

Shelly valve distinct. Palettes simple, broad.

1. T. —, t. 349. f. 3.
2. T. *navalis*, t. 349. f. 4.
3. T. *norvegica* (fig. 10).

Fig. 10.—*Teredo norvegica*.

a, small shell. *b*, elongate body with, *c*, siphonal palettes.

8. FURCELLA.

Shelly valves none. Palette simple, broad.

1. F. *polythalamia*, Gray, P. Z. S. 1857.

9. XYLOTRYA.

Shelly valves perfect. Palettes elongate, cylindrical, articulated.

B. *Cartilage marginal, under the ligament.*

Fam. 2. *Gastrochænidæ*.

Foot small, cylindrical, anterior, not byssiferous. Gills two on each side. Shell gaping in front. Cartilage small, weak, marginal. Living enclosed or imbedded in a shelly case.

- a. Valves both soldered into the shelly sheath, the umbones alone visible externally.*

1. PENICILLUS.

1. P. *vaginiferus*, t. 341. f. 2.

- b. Valves regular ; one free, the other forming part of the very irregular shelly sheath.*

2. BRYOPA.

1. B. *aperta*, t. 340. f. 6, 7, 8.
2. B. *melitensis*, t. 340. f. 3, 4, 5, 9, t. 341. f. 1.
3. B. —, t. 338. f. 1.

- c. Valves regular, equal, free in the shelly sheath.*

3. CHÆNA.

1. C. *faba*, t. 339. f. 2, 3, 4, t. 347. f. 6, 8.

Fam. 3. *Saxicavidæ*.

Foot small, cylindrical, inferior, byssiferous. Gills two on each side. Lips small. Siphons moderate. Shell solid. Hinge-teeth rudimentary. Cartilage thick, marginal.

1. SAXICAVA.

1. *S. rugosa*, t. 339. f. 1, t. 347. f. 7, 9, t. 372. f. 4.
2. *S. rubra*, t. 347. f. 8.

2. PANOMYA.

1. *P. norvegica*, t. 346. f. 1.

Fam. 4. *Pholadomyadæ*.

Foot short, compressed, with a small bifurcate pedal appendage behind. Siphons united. Pedal opening small. Gills two on each side, thick, united behind the body. Shell oblong, gaping at each end. Hinge-teeth rudimentary or none. Cartilage marginal, external.

1. PHOLADOMYA.

Fam. 5. *Solenidæ*.

Foot very large, clavate or truncated in front, not byssiferous. Pedal opening anterior. Gills two on each side. Shell cylindrical or oblong, gaping at each end. Hinge-teeth distinct. Cartilage very large, marginal, on a distinct fulcrum. Living sunk in the sand. (See *Ann. & Mag. N. H.* xiv. 1854, 23.)

* *Cardinal teeth* 1·1. *Siphon produced, united. Siphonal muscles moderate. Siphonal inflection deep, truncated.*

1. SOLEN.

1. *S. vagina*, t. 337. f. 1, 2, 3, t. 343. f. 1.

** *Cardinal teeth* 2·3. *Shell rounded at each end.*

† *Siphons moderate, separate. Siphonal muscles small. Siphonal inflection small, truncated.*

2. ENSIS.

1. *E. Siliqua*, t. 342. f. 2, 3, 4, t. 343. f. 2, 3, 4 (fig. 11).
2. *E. pellucidus*, t. 344. f. 5.

Fig. 11.—*Ensis Siliqua*.

Valves forced open. Mantle divided as far as the ventral foramen, to show the foot.

3. PHARELLA.

- 1.
- P. javanica*
- (fig. 12).

Fig. 12.—*Pharella javanica*.

a a', adductor muscles. *p*, palpi. *l*, liver. *h*, heart.

4. PHARUS.

- 1.
- P. legumen*
- , t. 344. f. 2, 3, 6.

†† Siphons much produced, large, united, covered with a thick periostraca. Retractor siphonal muscles small. Siphonal inflection very small.

5. CYRTODARIA.

- 1.
- C. Glycimeris*
- , t. 345. f. 3, 4, 5 (fig. 13).

Fig. 13.—*Cyrtodaria Glycimeris*.

a a, adductor muscle. *p*, pedal muscle. *s*, siphonal muscle. *f*, foot. *t*, palpi. *g*, gills.

††† Siphons elongate, with large fan-shaped retractor muscles. Siphonal inflection deep, rounded.

§ Siphons very large, united, covered with a hard periostraca. Shell compressed. Hinge-teeth 3·3, compressed.

6. SILIQUA.

§§ Siphons large, united at the base, covered with a hard periostraca. Shell subcylindrical. Hinge-teeth conic.

7. GLYCIMERIS.

- 1.
- G. australis*
- , t. 346. f. 2.

- 2.
- G. Aldrovandi*
- (
- Proc. Zool. Soc.*
- 1855, fig. p. 218).

8. ADACNA.

1. *A. læviuscula* (fig. 14).Fig. 14.—*Adacna læviuscula*.

f, foot. *s*, siphons.

§§§ Siphons very large, united at the base; upper part free, ringed.

9. MACHA.

1. *M. strigillatus*, t. 342. f. 5.2. *M. candidus*, t. 344. f. 1.

10. AZOR.

1. *A. coarctatus*, t. 344. f. 4.

§§§§ Siphons elongate, cylindrical.

11. TAGELUS.

1. *T. viridi-æneus*?, t. 342. f. 1.

Suborder II. HETEROCONCHÆ.

Body not symmetrical. Valves unequal. Cartilage internal, in a pit. Hinge simple. Pedal opening inferior. Living lying on the side in sand or mud.

Fam. 6. *Myadæ*.

Siphons elongate, united, covered with a horny periostraca. Gills two on each side, dependent. Lips small. Shell porcellaneous. Hinge toothless. Cartilage-pit in a hollow in one, and a concavity in the umbonal surface of the other valve.

1. MYA.

1. *M. truncata*, t. 348. f. 2, 5 (fig. 15).Fig. 15.—*Mya truncata*.

2. *M. arenaria*, t. 348. f. 1, 4,
(fig. 16).

2. SPHENIA.

1. *S. Binghami*, t. 372. f. 5.

Fam. 7. *Corbulidæ*.

Siphons moderate. Foot small.
Gills two on each side, dependent,
separate, moderately prolonged.
Lips long. Shell porcellanous.
Hinge with a conical tooth and a
cartilage-pit in each valve.

1. CORBULA.

1. *C. nucleus*, t. 350. f. 4.
2. *C. patagonica*, t. 350. f. 1.
3. *C. mediterranea*, t. 350. f. 6.

2. AZARA.

1. *A. labiata*, t. 350. f. 7.

Fam. 8. *Pandoridæ*.

Siphons large. Foot moderate.
Gills subpinnate, one on each side,
greatly developed. Lips long.
Shell pearly. Hinge with two diverging
teeth and a triangular cartilage-pit
in each valve. Valves very unequal.

1. PANDORA.

1. *P. oblonga*, t. 372. f. 11.
2. *P. obtusa*, t. 350. f. 5.
3. *P. rostrata*, t. 350. f. 8.

Fig. 16.—*Mya arenaria*.

Left half of mantle and shell removed.
a a', adductor muscles. *b*, body.
c, cloaca. *f*, foot. *g*, gills. *h*,
heart. *m*, cut edge of mantle.
o, mouth. *ss*, siphons. *t*, labial
tentacles. *v*, vent. The arrows
indicate the directions of the
currents. The four rows of dots
at the base of the gills are the
orifices of the branchial tubes
opening into the dorsal channels.

Subclass II. ASIPHONOPHORA.

Mantle lobes mostly free, bearded behind, or on the whole edge, sometimes with a separate siphonal opening for the vent.

Order III. LASIACEA.

Mantle lobes united, with an anal siphonal aperture under the hinder adductor muscle, and a large pedal opening.

Fam. 1. *Solenomyadæ*.

Pedal opening anterior. Foot large, oblong, clavate, truncated at the end. Siphonal opening in a disk surrounded with long beards. Gills pinnate, appearing only one on each side, broad, of separate threads. Palpi small, slender. Shell gaping, thin. Periostraca hard, polished, dilated beyond the shell. Cartilage linear, internal. Animal leaps and swims about by suddenly drawing in the umbrella-shaped foot; at the same time the water is expressed from the hinder opening by the closing of the valves.

1. SOLENOMYA.

1. *S. mediterranea*, t. 352. f. 1, 2, 3, 3 a, 4, 4 a.

Fam. 2. *Lasiadæ*.

Pedal opening inferior, moderate; front edge sometimes produced into a hood (or united and forming an anterior aperture for an inhalent siphon?). Gills two on each side, laminar, dependent, unequal, oblong. Lips cylindrical; outer pair small, inner very broad. Foot compressed, with a central, inferior, byssiferous groove. Mantle double-edged; inner dilatable.

1. KELLIA.

1. *K. rubra*, t. 334. f. 2.
2. *K. suborbicularis*, t. 334. f. 1, 4.

2. TURTONIA.

1. *T. purpurea*, t. 351. f. 9.

3. BORNTA.

1. *B. seminulum*, t. 334. f. 8.

4. LEPTON.

1. *L. squamosum*, t. 334. f. 6.

Fam. 3.^a *Montacutidæ*.

Mantle extending beyond the edge of the shell, free beneath, with a single posterior anal siphon. Foot very large, broad, subtriangular, slightly geniculated, and with a distinct byssal groove. Gills (one on each side?). Hinge with a distinct shelly plate over the cartilage, as in *Anatinidæ*.

1. MONTACUTA.

1. *M. substriata*, t. 334. f. 3.

Fam. 4. *Pisidiadæ*.

Pedal and branchial openings inferior. Foot lanceolate, compressed, not byssiferous. Siphons conical, more or less elongate. Gills two on each side.

1. *PISIDIUM*.

1. *P. amnicum*, t. 349. f. 1, 10 (fig. 17).

Fig. 17.—*Pisidium amnicum*.

f, foot. *b*, branchial opening. *s*, anal opening.

2. *P. Henslowianum*, t. 351. f. 8.
 3. *P. pusillum*, t. 351. f. 3, 7, 10.
 4. *P. obtusale*, t. 351. f. 1.
 5. *P. nitidum*, t. 351. f. 4.
 6. *P. pulchellum*, t. 351. f. 2, 5, 6.

Order IV. *UNIONACEA*.

Mantle lobes free, slightly united behind, forming a separate anal siphonal opening placed under the hinder adductor muscle.

Suborder I. *LUCINACEA*.

Foot cylindrical, elongate, inferior. Anterior adductor muscle generally elongate.

Fam. 1. *Lucinidæ*.

Anal siphon elongate, cylindrical, retractile into the mantle cavity. Pedal opening inferior, moderate. Gills only one on each side of the body, lamellar, oblong, broad, united behind the base of the foot. Foot cylindrical, elongate, inferior, not byssiferous. Lips none. Mantle double-edged; outer dilatile.—See *Ann. & Mag. N. H.* xiv. 1854, 25.

1. *LORIPES*.

1. *L. lactea*, t. 355. f. 1, t. 356. f. 5.

2. *LUCINA*.

1. *L. luteola*, t. 356. f. 6.
 2. *L. columba*, t. 355. f. 2.
 3. *L. jamaicensis*, t. 354. f. 2.
 4. *L. tigerina*, t. 354. f. 1.

3. CORBIS.

1. *C. fimbriata*, t. 355. f. 4.

Fam. 2. *Ungulinidæ*.

Mantle lobes united. Pedal opening moderate, inferior. Gills two on each side; outer small. Siphonal aperture single (anal). Lips moderate, lanceolate.

1. UNGULINA.

1. *U. rubra*, t. 356. f. 3.

2. MITTREA.

1. *M. brasiliensis*, t. 356. f. 1.

Suborder II. SUBMYTILACEA.

Foot large, compressed. Anterior adductor muscles nearly as large as the hinder.

A. *Shell free. Periostraca brown, hairy. Marine.*

Fam. 3. *Astartidæ*.

Foot compressed, subquadrate. Pedal opening elongate. Shell covered with a thick brown periostraca. Cardinal teeth 2:3, diverging, broad, triangular; central bifid; hinder lateral of the left valve double.—See *Ann. & Mag. Nat. Hist.* xiv. 1854, 21.

1. ASTARTE.

1. *A. damnoniensis*, t. 326. f. 2.
2. *A. incrassata*, t. 326. f. 4.
3. *A. semisulcata* (fig. 18).

Fig. 18.—*Astarte semisulcata*.

pp', adductor muscles.

Fam. 4. *Carditidæ*.

Foot compressed, conical, rather angulated behind. Cartilage external, marginal. Hinge-teeth diverging, very oblique. Gills two on each side, free behind the body.—For genera, see *Ann. & Mag. Nat. Hist.* xiv. 1854, 22.

1. ? *CARDITA*.

1. *C. spurca*, t. 326. f. 5, with two siphonal openings!
2. *C. calyculata*, t. 326. f. 3, t. 357. f. 1.
3. *C. antiquata*, t. 357. f. 3.
4. *C. sulcata*, t. 329. f. 3, t. 357. f. 2, 2 *a*, 4, 4 *a*.

2. *VENERICARDIA*.

1. *V. australe*, t. 346. f. 4.

Fam. 5. *Crassatellidæ*.

Gills two on each side, dependent, produced, acute, and united behind the base of the foot. Lips four, rhombic. Foot short, compressed, triangular, with a deep groove below. Mantle lobes free; hinder end bearded. Anal opening separate. Shell porcelanous. Hinder teeth 2·3, diverging. Cartilage internal, in a triangular pit.

1. *CRASSATELLA*.

1. *C. pulchra* (fig. 19).

Fig. 19.—*Crassatella pulchra*. *pp'*, adductor muscles.

B. *Shell free. Periostraca hard, smooth. Fluvatile.*

Fam. 6. *Unionidæ*.

Foot compressed, subquadrate, angulated behind. Mantle edge smooth, generally bearded behind. Gills two on each side, large, dependent. Shell pearly within. Hinge variable, toothed or toothless. Periostraca hard, polished, olive.

a. *Unionina*. Foot moderate.

1. UNIO.

1. *U. pictorum*, t. 359. f. 2, t. 363. f. 2, t. 364. f. 3, 4 (fig. 20).

Fig. 20.—*Unio pictorum*.

Right valve and mantle lobe removed. *a a'*, adductor muscles. *pp'*, pedal muscle and accessory pedal muscle. *u*, umbo. *l*, ligament. *b*, branchial orifice. *v*, anal opening. *f*, foot. *o*, mouth. *t*, palpi or lips.

2. *U. patagonica*, t. 364. f. 5.
3. *U. Feldmanni*, t. 360. f. 3.
4. *U. guaraquana*, t. 364. f. 1.
5. *U. Solisiani*, t. 364. f. 2.

2. ANODON.

1. *A. anatinus*, t. 360. f. 1, 2, t. 362. f. 1, 2, 3, t. 363. f. 1 (fig. 21).
2. *A. latomarginata*, t. 361. f. 1.

Fig. 21.—*Anodon anatinus* (female).

f, the foot, contracted. *a*, anterior adductor muscle. *p*, palpi. *g*, inner gills. *o*, outer gills distended with spawn. *b*, a bristle passed through one of the dorsal channels.

3. LIMNOICA.

1. *L. linearis*, t. 363. f. 3.

4. DAMARIS.

1. *D. margaritifera*, t. 328. f. 3.

b. *Mycetopodina*. Foot elongate, enlarged at the end. Shell gaping at each end.

5. MYCETOPUS.

1. *M. siliquosus*, t. 359. f. 1.

C. *Shell attached by the outer surface of one valve. Periostraca hard, polished. Fluvatile.*

Fam. 7. *Etheriadae*.

Mantle edge bearded. Gills two on each side, large, dependent. Foot none. Body produced into the cavity of the mantle like a foot. Anterior adductor muscle small, linear, or wanting. Lips very large, semioval, and attached by the straight edge without any free point, as in *Muteladae*. Shell pearly and blistered within. Hinge toothless. Cartilage subinternal, curved. Young shell free, like *Unio*.

1. ETHERIA.

1. *E. senegalensis*, t. 365. f. 2.

2. *E. Cailliaudi*, t. 365. f. 1.

2. MULLERIA.

1. *M. Acostæa* (fig. 22).

Fig. 22.—*Mulleria Acostæa*.

a, the young normal shell on apex.

Suborder III. MYTILACEA.

Foot small, ligulate, byssiferous. Anterior adductor muscle small.

Fam. 8. *Mytilidæ*.

Gills two on each side, dependent. Anus simple.

- a. *Mytilina*. Hinder part of the mantle only slightly produced. Anterior muscle small. Pedal opening large. Anal siphon short.

1. MYTILUS.

1. *M. edulis*, t. 333. f. 4, 6, t. 366. f. 2.
2. *M. africanus*, t. 366. f. 3.

2. MODIOLA.

1. *M. tulipa*, t. 369. f. 3, t. 373. f. 2.
2. *M. —?*, t. 367. f. 1, 2.

- b. *Crenellina*. Hinder part of the mantle produced, forming false siphons. Pedal opening small. Anal siphon produced.

3. CRENELLA.

1. *C. nigra*, t. 369. f. 2.

- c. *Lithodomina*. Hinder part of the mantle more or less produced. Anterior muscles moderate-sized.

4. LITHODOMUS.

1. *L. lithophagus*, t. 366. f. 1, t. 373. f. 4, 4 a.
2. *L. patagonicus*, t. 369. f. 4.

Order V. PECTINACEA.

Mantle lobes free all round, without any separate opening for the out-going current and vent.

Suborder I. ARCACEA.

Shell oblong or roundish. The anterior and posterior adductor muscles subequal. Mantle bearded behind. Vent, an attached tube over the hinder adductor muscle, opening in a disk. Hinge-teeth elongate, nearly parallel to the hinge-margin, deeply grooved or divided into transverse interlocking plates.

A. Foot lanceolate, subulate, angulated—for leaping.

Fam. 1. *Trigoniadæ*.

Foot lanceolate, subulate, angulated, rather acute. Shell pearly within. Hinge-teeth two, divergent, deeply cross-grooved.

1. TRIGONIA.

1. *T. pectinata*, t. 358. f. 1, 1 a, 2, 5.

- B. *Foot truncated or dilated at the end, often byssiferous—*
for anchoring.

Fam. 2. *Arcadæ*.

Foot rather compressed, truncated or broad, and folded together at the base, often secreting a laminated byssus. Gills two on each side, subpinnate, formed of fibres. Shell subquadrate or roundish. Hinge-teeth two in each valve, each divided into numerous transverse interlocking plates.

- a. *Arcaina*. Body subquadrate. Foot byssiferous. Gills triangular, subequal, dependent, separate from each other behind. Cartilage in small marginal pits.

1. ARCA.

1. *A. tetragona*, t. 370. f. 3.
2. *A. Noë*, t. 370. f. 4.

2. BARBATIA.

1. *B. barbata*, t. 370. f. 1, 2, 2 a.
2. *B. Gaimardi*, t. 358. f. 3.
3. *B. imbricata*, t. 358. f. 4, 4 a.

- b. *Pectunculina*. Body roundish. Foot securiform, simple, not byssiferous. Cartilage in small marginal pits.

3. PECTUNCULUS.

1. *P. violascens*, t. 371. f. 2, 3.
2. *P. pilosus*, t. 353. f. 1, 2, 2 a, t. 371. f. 1, 4.
3. *P. Glycimeris*, t. 353. f. 4.
4. *P. intermedius*, t. 353. f. 3.

- c. *Nuculina*. Body subtrigonal. Foot compressed, edge of basal disk bearded, not byssiferous. Gills small, pinnate. Lips broad, triangular, large. Cartilage in a small central internal pit.

4. NUCULA.

1. *N. æolica*, t. 355. f. 3.
2. *N. margaritacea*, t. 332. f. 4, t. 372. f. 1.
3. *N. tenuis*, t. 332. f. 2.
4. *N. laterna*, t. 355. f. 5.
5. *N. sulcata*, t. 372. f. 6.

Suborder II. MALLEACEA.

Shell subtrigonal. Anterior adductor muscle moderate, rudimentary or none; hinder large subcentral gill lamellar. Rectum over the hinder adductor muscle. Vent free, medial. Body forming a single mass. Foot byssiferous.

Fam. 3. *Pinnadæ*.

Rectum with a long tubular dilatile process at the upper edge of

the base. Vent medial, simple. Front adductor muscle large. Gills narrow, very much produced behind, free from each other and the mantle, but fitting against a fold on its inner surface. Foot cylindrical, grooved beneath, large, byssiferous.

1. PINNA.

1. *P. squamosa*, t. 368, t. 369. f. 1.

Fam. 4. *Aviculadæ*.

Front adductor muscle very small, rudimentary, or entirely wanting. Gills narrow, much produced behind, free from each other and the surface of the mantle, but fitting into a fold on its inner surface. Rectum simple, central. Foot slender, cylindrical, grooved in front, generally byssiferous. Shell internally pearly; hinge toothless, or nearly so.

- a. *Pteriacina*. Foot byssiferous. Mantle lobes fringed. Shell eared, with a byssal notch.

1. AVICULA.

1. *A. tarentina*, t. 367. f. 3, t. 373. f. 1.
2. *A. hirundo*, t. 373. f. 3.

- b. *Crenatulina*. Foot not byssiferous. Mantle fringed behind. Shell not eared, without any anterior byssal groove. Hinge toothless.

1. CRENATULA.

Fam. 5. *Vulsellidæ*.

Anterior adductor muscle none. Gills narrow, much produced behind, united together and to the inner surface of the mantle, dividing the mantle-cavity into two parts. Rectum simple.

1. VULSELLA.

Suborder III. OSTRACEA.

Shell suborbicular. Anterior adductor muscle none; hinder large, central. Cartilage internal, in a pit. Mantle often bearded on the whole edge.

- A. *Pectenacea*. Foot distinct, small, byssiferous or appendaged. Inner edge of mantle inflexed. Tentacles separate from the gills. Body forming a single central mass.

Fam. 6. *Spondylidæ*.

Foot short, thick, end with an enlarged truncated radiating disk, with a central, pedicelled, ovate body. Lips foliaceous, pinnately lobed. Mantle with bright ocelli. Hinge with two large interlocking teeth. Mantle edge slightly inflexed.

1. SPONDYLUS.

1. *S. gaderopus*, t. 379. f. 1, 2, 3.

Fam. 7. *Pectenidæ*.

Foot long, cylindrical, often byssiferous at the base, angularly bent. Mantle inflexed on the inner edge and the outer circumference with bright ocelli. Shell closed. Hinge not or obscurely toothed.

1. PECTEN.

1. *P. striatus*, t. 376. f. 1, 3 *a*.
2. *P. sanguineus*, t. 376. f. 5.
3. *P. varius* (figs. 23 & 24).
4. *P. fuci*, t. 376. f. 3.
5. *P. similis*, t. 376. f. 7.
6. *P. niveus*, t. 376. f. 2.

Fig. 23.—*Pecten varius*.

Left valve.

Right valve.

a a', adductor muscles. *p*, pedal impression. *m*, pallial line. *l*, ligamental margin. *c*, cartilage. *e*, anterior ears. *b*, byssal sinus.

Fig. 24.—*Pecten varius*.

m, the inner pendent of the mantle or curtain, finely fringed: it is not naturally so wide open as here represented, as the curtains of the two valves remain in contact at one point on the posterior side, separating the branchial from the exhalent currents. *br*, the gills.

2. JANIRA.

1. *J. maxima*, t. 376. f. 4.
2. *J. Jacobea*, t. 374. f. 3.

3. PEDUM.

Foot elongate, cylindrical, without any byssal groove, end rounded, subclavate.

1. *P. Spondyloideum*, t. 374. f. 1, 2.

Fam. 8. *Limadæ*.

Foot compressed, not byssiferous. Mantle with the inner margin greatly inflexed, making a kind of bag; the outer circumference without any ocelli. Shell gaping. Hinge toothless.

1. LIMA.

1. *L. tenera*, t. 377. f. 1.
2. *L. inflata*, t. 375. f. 2, 6, t. 377. f. 2.
3. *L. glacialis*, t. 375. f. 1, 5.
4. *L. Quoyi*, t. 375. f. 3.

- B. Ostracea. *Foot none. Body forming a single central mass. Vent medial, free. Tentacles separate from the gills.*

Fam. 9. *Ostreidæ*.

Gills united together and to the inner surface of the mantle. Tentacles short. Shell attached by the outer surface of one valve. Hinge toothless or denticulated.

1. OSTREA.

1. *O. edulis*, t. 378. f. 1, 2, t. 378 a. f. 1, 2.

Fam. 10. *Plicatulidæ*.

Gills free behind, and free from the mantle, suspended from the body by a membrane. Lips four, rather small, united together above the rather large mouth. Shell attached by one of its valves. Hinge with two diverging, cross-grooved, cardinal teeth. Cartilage in a pit between the base of the teeth.

1. PLICATULA.

- C. Anomiacea. *Foot distinct, small, truncated at the end. Ovaries separated from the mass of the body, and attached to the inner surface of the right lobe of the mantle. Vent nearer to or attached to the right lobe of the mantle. Gills united together behind, suspended by membranes to the inner surface of the mantle.*

Fam. 11. *Anomiadæ*.

Animal attached, rather distorted. Foot on the right side of the body, with a very large byssal pore at the base. Byssus horny or stony, formed of parallel laminae emitted through a notch in the front side of the apex of the right valve of the shell. Pedal muscle large, leaving two or three large scars on the disk of the left valve.

The byssus or plug is placed in exactly the same situation in the animal as the beard or byssus of *Mytilus* and *Pinna*, &c., and the animal is only rather distorted by being more closely attached to marine bodies than in the other genera.

1. ANOMIA.

1. *A. ephippium*, t. 381. f. 8, 8 a, 10, 11, 12 (figs. 25, 26 & 27).

Figs. 25, 26 & 27.—*Anomia ephippium*.

Right valve.

Left valve.

l, ligamental process in right and ligamental pit in left valve. *s*, byssal sinus. *f*, foot. *pl*, plug or byssus. *a'* and *p'*, adductor muscle. *p*, byssal or plug muscle. *u*, umbo.

Right side of animal.

Left side of animal, with mantle lobe removed.

a, adductor muscle. *p*, posterior pedal muscle. *f*, foot. *g*, gills. *l*, ligament. *p'*, anterior pedal muscle. *o*, mouth. *v*, ventricle. *i*, rectum. *g*, generative organ. *m*, gill suspensors. *r*, reflexed gill edges. *u*, umbo.

Fam. 12. *Placentadæ*.

Animal and shell free. Foot cylindrical, compressed, medial, without any byssal pore. Vent attached to the right lobe of the mantle. Pedal muscle small, having a small round scar between the diverging cardinal plates. Lips elongate, attached by their hinder edge. Shell compressed. Hinge with two diverging ridges bearing the cartilage.

1. PLACENTA (fig. 28).

Fig. 28.—*Placenta* — ?.

a, adductor muscle. *l*, ligament. *h*, liver. *f*, foot. *g*, generative gland. *b*, muscles suspending the mantle. *p*, pedal muscle. *c*, cartilage or hinge ridges. *i*, rectum. *v*, ventricle. *b b*, branchio-pallial muscles.

Class II. BRACHIOPODA.

Subclass I. ANCYLOPODA.

The oral arms not extensile, or only at the tip, on fixed shelly supports, or in grooves in the under or ventral valve. The mantle is adherent to the shell, the substance of the shell being pierced with numerous minute perforations, which are pervaded by the processes of the mantle.

Order I. ANCYLOBRACHIA.

The oral arms are attached to two shelly plates arising from the hinder or cardinal edges of the ventral valves; they are recurved and convolute on the inner side of the lamina. The animal is generally attached to marine bodies by a tendinous peduncle, which passes through an aperture in the apex of the umbo of the larger or dorsal valve. The peduncle and the aperture are sometimes obliterated in old specimens.

Fam. 1. *Terebratulidæ*.

1. TEREBRATULA.

1. T. —, t. 380. f. 4.
2. T. Sowerbyi, t. 380. f. 5-9.
3. T. —, t. 381. f. 1.
4. T. caput serpentis, t. 381. f. 6.
5. T. truncata, t. 381. f. 4.

Order II. CRYPTOBRACHIA.

Oral arms entirely attached, in the form of two or more lobed processes sunk into the grooves in the disk of the ventral valve. Shells thick, generally attached by the outer surface of the larger valve.

Fam. 1. *Thecideadæ*.

1. ARGIOPE.

2. THECIDEA.

Subclass II. HELICTOPODA.

The oral arms clongate, regularly spirally twisted when in repose. The mantle lobes merely applied to the inner surface of the shell. The substance of the valves is not pierced with minute perforations, though the surface is sometimes spinulose, the spines being only formed on the edge of the shell while it is being increased in size.

Order III. SCLEROBRACHIA.

The oral arms supported by a shelly band arising from the hinder or cardinal edge of the ventral valve.

Fam. 1. *Spiriferidae*.

The oral arms very largely developed, and supported the whole of their length by a thin, shelly, spirally twisted plate. Only known in the fossil state.

1. *SPIRIFER* (fig. 29).Fig. 29.—*Spirifer* — ?. Fam. 2. *Rhynchonellidae*.

The oral arms are elongate, fleshy, supported at the base by two short, hard, diverging shell-laminae arising from the hinge-margin of the ventral valve.

1. *RHYNCHONELLA*.1. *R. psittacea*, t. 381. f. 2 (fig. 30).Fig. 30.—*Rhynchonella psittacea*. Order IV. *SARCOBRACHIA*.

The oral arms fleshy to the base, and without any shelly support. The lower valve without any processes on the hinge-margin or disk, or except sometimes a slight medial longitudinal elongation.

Fam. 1. *Productidae*.

Shell generally spinose, attached by the surface of the ventral valve. Only found fossil.

1. *PRODUCTUS*.

Fam. 2. *Craniadæ*.

The upper valve conic; the lower valve entire, flat. Attached to marine bodies by its outer surface.

1. CRANIA.

1. *C. personata*, t. 380. f. 1, 2, 3, t. 381. f. 5 (fig. 31).

Fig. 31.—*Crania personata*. (Dorsal surface.)

Fam. 3. *Discinidæ*.

The upper valve conical, patelloid; the lower orbicular, with a small slit in its disk, through which a short tendinous peduncle is emitted, by which it is attached.

1. DISCINA.

1. *D. Cumingii*, t. 381. f. 9 (fig. 32).

Fig. 32.—*Discina Cumingii*. (Lower surface.)

p, peduncle.

Fam. 4. *Lingulidæ*.

The valves free, nearly equal, elongate, and supported by a thick peduncle, which comes out between the beaks of the two valves. Periostraca hard, olive. Shell sometimes very thin, almost flexible.

1. LINGULA.

1. *L. Audebardii*, t. 345. f. 1, 2.
2. *L. anatina* (fig. 33).

Fig. 33.—*Lingula anatina*.

a a, anterior adductors. *a'*, posterior adductors. *pp*, external protractors. *p'p'*, central protractors. *rr*, anterior retractors. *r'r'r'*, posterior retractors. *c*, capsule of pedicel. *nn*, visceral sheath. *o*, oesophagus. *s*, stomach. *l*, liver. *i*, intestine. *v*, vent. *h h*, auricles. *h'*, left ventricle. *b*, branchial vessels. *m'*, mantle edge. *m*, inner lamina of the mantle margin retracted, showing the bases of setae. *s*, setae.—*Hancock*.

2.

7

8

Streblospio

5.

5.

5.

7a.

valve
muscle

d.

Fig. 1. 2. 3. 4. 5. 6. 7.

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2

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