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DIE
R A D I O L A R I E N.
(RHIZOPODA RADIARIA.)

EINE MONOGRAPHIE

VON

DR. ERNST HAECKEL,

AUSSERORDENTLICHEM PROFESSOR DER ZOOLOGIE UND DIRECTOR DES ZOOLOGISCHEN MUSEUMS AN DER UNIVERSITÄT JENA.

ATLAS

VON

FÜNF UND DREISSIG KUPFERTAFELN.

B E R L I N.
DRUCK UND VERLAG VON GEORG REIMER.
1862.

Systematische Uebersicht

der in dem Atlas abgebildeten Radiolarien-Arten,
nach den Familien und Gattungen geordnet.

Anm. Die römischen Ziffern hinter den Arten-Namen zeigen die Tafel, die arabischen Ziffern die Figur an.

Erste Unterordnung der Radiolarien: MONOZOA (MONOCYTTARIA).

Erste Reihe der Monozoen: Ectolithia.

Erste Familie: Collida.

Erste Unterfamilie der Colliden: Thalassicollida.

I. Genus. Thalassicolla.

1. Thalassicolla pelagica I, 1—5.
2. T. nucleata III, 1—5.
3. T. zancaea II, 3.

II. Genus. Thalassolampe.

4. Thalassolampe margarodes II, 4, 5.

Zweite Unterfamilie der Colliden: Thalassosphaerida.

III. Genus. Physematium.

5. Physematium Muelleri III, 6—9.

IV. Genus. Thalassosphaera.

6. Thalassosphaera bifurca XII, 1.

V. Genus. Thalassoplaneta.

7. Thalassoplaneta cavispicula III, 10—13.

Dritte Unterfamilie der Colliden: Aulacanthida.

VI. Genus. Aulacantha.

8. Aulacantha scolymantha II, 1, 2; IV, 1—5.

Zweite Familie: Acanthodesmida.

VII. Genus. Zygostephanus.

9. Zygostephanus Muelleri XII, 2.

VIII. Genus. Prismatium.

10. Prismatium tripleurum IV, 6.

IX. Genus. Dietyocha.

11. Dietyocha messanensis XII, 3—6.

Dritte Familie: Cyrtida.

Erste Unterfamilie der Cyrtiden: Monocyrtida.

X. Genus. Litharacnium.

12. Litharacnium tentorium IV, 7—10.

XI. Genus. Cyrtocalpis.

13. Cyrtocalpis obliqua V, 3—11.

14. C. amphora V, 2.

XII. Genus. Carpocanium.

15. Carpocanium diadema V, 1.

Zweite Unterfamilie der Cyrtiden: Zygocyrtida.

XIII. Genus. Petalospyris.

16. Petalospyris arachnoides XII, 7.

Dritte Unterfamilie der Cyrtiden: Dicyrtida.

XIV. Genus. Lithomelissa.

17. Lithomelissa thoracites VI, 2—8.

XV. Genus. Arachnocorys.

18. Arachnocorys circumtexta VI, 9—11.

19. A. umbellifera VI, 12.

XVI. Genus. Dietyophimus.

20. Dietyophimus tripus VI, 1.

XVII. Genus. Eucecryphalus.

21. Eucecryphalus Gegenbauri V, 12—15.

22. E. Schultzei V, 16—19.

Vierte Unterfamilie der Cyrtiden: Stichocyrtida.

XVIII. Genus. Eucyrtidium.

23. Eucyrtidium cranoides VII, 1—3.

24. E. carinatum VII, 4—7.

25. E. anomalum VII, 11—13.

26. E. galea VII, 8—10.

27. E. lagena IV, 11.

XIX. Genus. Dietyoceras.

28. Dietyoceras Virchowii VIII, 1—5.

XX. Genus. Dietyopodium.

29. Dietyopodium trilobum VIII, 6—10.

Fünfte Unterfamilie der Cyrtiden: Polycyrtida.

XXI. Genus. Spyridobotrys.

30. Spyridobotrys trinaeria XII, 8, 9.

XXII. Genus. Botryocampe.

31. Botryocampe hexathalamia XII, 10.

Vierte Familie: Ethmosphaerida.

Erste Unterfamilie der Ethmosphaeriden: Heliosphaerida.

XXIII. Genus. Cyrtidosphaera.

32. Cyrtidosphaera reticulata XI, 2.

XXIV. Genus. Ethmosphaera.

33. Ethmosphaera siphonophora XI, 1.

XXV. Genus. Heliosphaera.

34. Heliosphaera inermis IX, 1.

35. H. tenuissima IX, 2.

36. H. actinota IX, 3.

37. H. echinoides IX, 4.

38. H. elegans IX, 5.

Zweite Unterfamilie der Ethmosphaeriden: Arachnosphaerida.

XXVI. Genus. Diplosphaera.

39. Diplosphaera gracilis X, 1.

XXVII. Genus. Arachnosphaera.

40. Arachnosphaera oligacantha X, 2; XI, 3.

41. A. myriacantha X, 3; XI, 4.

Fünfte Familie: Aulosphaerida.

XXVIII. Genus. Aulosphaera.

42. Aulosphaera trigonopa X, 4.

43. A. elegantissima X, 5; XI, 5, 6.

Zweite Reihe der Monozoen: Entolithia.

Sechste Familie: Coelodendrida.

XXIX. Genus. Coelodendrum.

44. Coelodendrum ramosissimum XIII, 1—4.

45. C. gracillimum XXXII, 1—3.

Siebente Familie: Cladococcida.

XXX. Genus. Rhaphidococcus.

46. Rhaphidococcus simplex XIII, 5, 6.

47. R. acifer XIV, 1.

XXXI. Genus. Cladococcus.

48. Cladococcus dentatus XIII, 10.

49. C. spinifer XIII, 9.

50. C. bifureus XIII, 7, 8.

51. C. viminalis XIV, 2, 3.

52. C. cervicornis XIV, 4—6.

Achte Familie: Acanthometrida.

Erste Unterfamilie der Acanthometriden: Acanthostaurida.

XXXII. Genus. Acanthometra.

53. Acanthometra elastica XV, 1; XVIII, 1.

54. A. bulbosa XV, 2; XVIII, 2.

55. A. dolichosecia XVIII, 3a, 3b.

56. A. compressa XVIII, 4a, 4b.

57. A. tetracopa XVIII, 5.

58. A. Muelleri XV, 3; XVIII, 6.

59. A. fragilis XV, 4; XVIII, 7.

60. A. sicula XVII, 1, 2; XVIII, 8.

61. A. brevispina XV, 5; XVIII, 9.

62. A. quadrifolia XVIII, 10.

63. A. cuspidata XVIII, 11.

64. A. Claparèdei XVIII, 12.

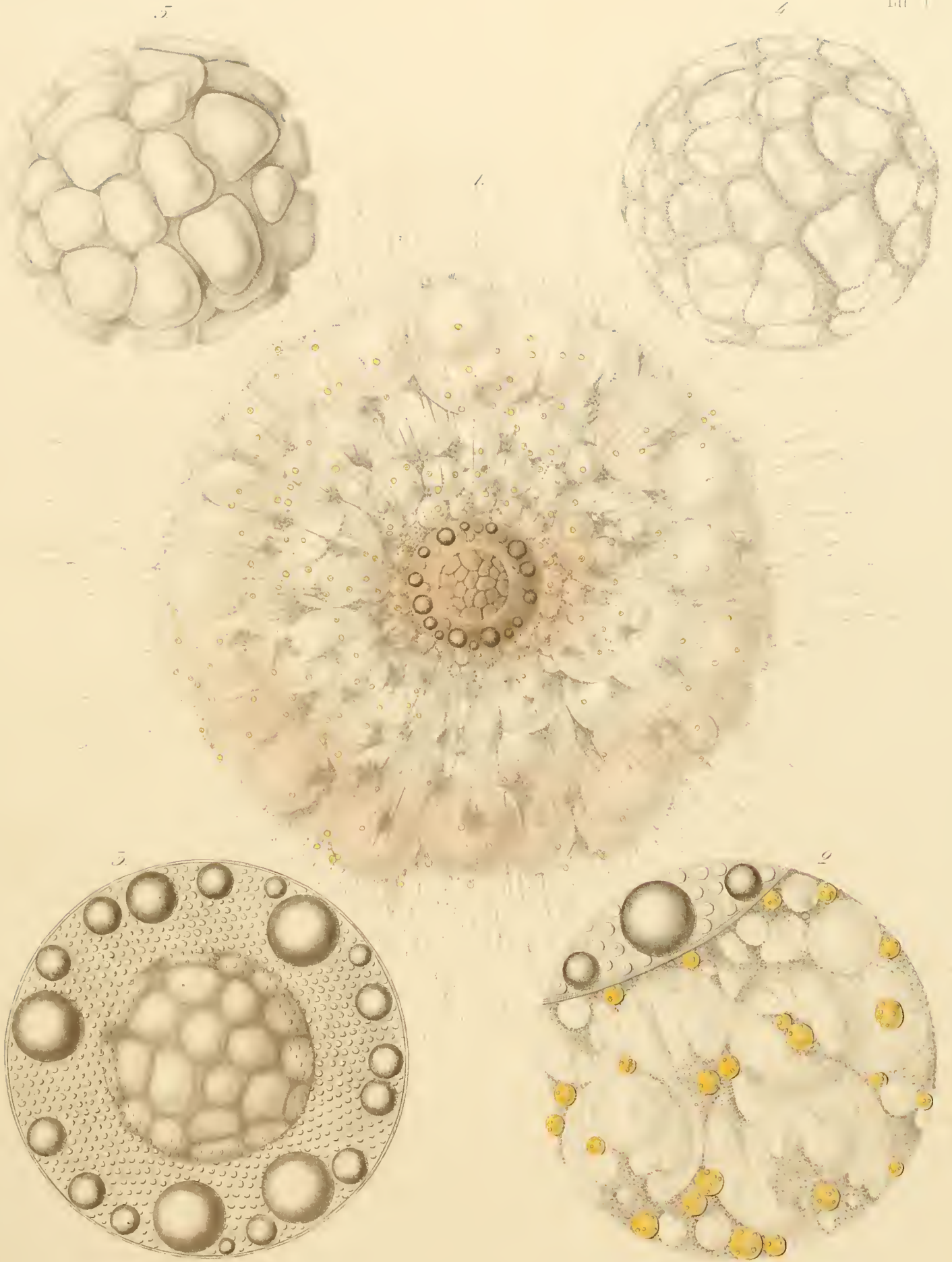
- XXXIII. Genus. *Xiphacantha*.
 65. *Xiphacantha cruciata* XVIII, 13.
 66. *X. serrata* XVII, 3; XVIII, 14a, 14b.
 67. *X. quadridentata* XVIII, 15a, 15b.
 68. *X. spinulosa* XVII, 4.
- XXXIV. Genus. *Amphilonche*.
 69. *Amphilonche tenuis* XVI, 1; XVIII, 16.
 70. *A. denticulata* XVI, 2; XVIII, 17.
 71. *A. complanata* XVI, 3; XVIII, 18a, 18b.
 72. *A. messanensis* XVI, 4; XVIII, 19.
 73. *A. tetraptera* XVI, 5; XVIII, 20.
 74. *A. belonoides* XVI, 6; XVIII, 21.
 75. *A. elongata* XVIII, 22A, 22B.
 76. *A. heteracantha* XVI, 7.
 77. *A. anomala* XVIII, 8; XVIII, 23A, 23B.
- XXXV. Genus. *Acanthostaurus*.
 78. *Acanthostaurus purpurascens* XIX, 1, 2.
 79. *A. forceps* XIX, 3, 4.
 80. *A. hastatus* XIX, 5.
- XXXVI. Genus. *Lithoptera*.
 81. *Lithoptera Muellerei* XX, 1, 2.
- Zweite Unterfamilie der Acanthometriden: *Astrolithida*.
 XXXVII. Genus. *Astrolithium*
 82. *Astrolithium dicopum* XX, 3, 4.
 83. *A. bifidum* XX, 5.
- XXXVIII. Genus. *Staurolithium*.
 84. *Staurolithium cruciatum* XX, 6.
- Dritte Unterfamilie der Acanthometriden: *Litholophida*.
 XXXIX. Genus. *Litholophus*.
 85. *Litholophus rhipidium* XIX, 6.
- Vierte Unterfamilie der Acanthometriden: *Acanthochiasmida*.
 XL. Genus. *Acanthochiasma*.
 86. *Acanthochiasma Krohni* XIX, 7.
 87. *A. fusiforme* XIX, 8.
- Neunte Familie: *Diploconida*.
 XLI. Genus. *Diploconus*.
 88. *Diploconus fascies* XX, 7, 8.
- Zehnte Familie: *Ommatida*.
 Erste Unterfamilie der Ommatiden: *Dorataspidia*.
 XLII. Genus. *Dorataspis*.
 89. *Dorataspis bipennis* XXI, 1, 2.
 90. *D. costata* XXIII, 1.
 91. *D. loricata* XXI, 3—6.
 92. *D. solidissima* XXII, 6—9.
 93. *D. diodon* XXII, 1—5.
 94. *D. polyancistra* XXI, 7—9.
- XLIII. Genus. *Haliommatidium*.
 95. *Haliommatidium Muellerei* XXI, 10—12.
 96. *H. tetragonopum* XXII, 13.
- Zweite Unterfamilie der Ommatiden: *Haliommatida*.
 XLIV. Genus. *Haliomma*.
 97. *Haliomma capillaceum* XXIII, 2.
 98. *H. erinaceus* XXIII, 3, 4.
 99. *H. castanea* XXIV, 4.
 100. *H. echinaster* XXIV, 1—3.
- XLV. Genus. *Heliodiscus*.
 101. *Heliodiscus phaeodiscus* XVII, 5—7.
- Dritte Unterfamilie der Ommatiden: *Actinommatida*.
 XLVI. Genus. *Actinomma*.
 102. *Actinomma inerme* XXIV, 5.
 103. *A. trinaerium* XXIV, 6—8.
 104. *A. asteracanthion* XXIII, 5, 6.
 105. *A. drymodes* XXIV, 9.

- XLVII. Genus. *Didymocyrtis*.
 106. *Didymocyrtis ceratospyris* XXII, 14—16.
- Elfte Familie: *Spongurida*.
 Erste Unterfamilie der Sponguriden: *Spongosphaerida*.
 XLVIII. Genus. *Rhizosphaera*.
 107. *Rhizosphaera trigonacantha* XXV, 1—7.
 108. *R. leptomita* XXV, 8—10.
- XLIX. Genus. *Spongosphaera*.
 109. *Spongosphaera streptacantha* XXVI, 1—3.
 110. *S. helioides* XII, 11—13.
- L. Genus. *Spongodietyum*.
 111. *Spongodietyum trigonizon*.
- Zweite Unterfamilie der Sponguriden: *Spongodiscida*.
 LI. Genus. *Spongodiscus*.
 112. *Spongodiscus mediterraneus* XII, 14, 15.
- LII. Genus. *Spongotrochus*.
 113. *Spongotrochus brevispinus* XXVII, 4, 5.
 114. *S. longispinus* XXVII, 2, 3.
- LIII. Genus. *Spongurus*.
 115. *Spongurus cylindricus* XXVII, 1.
- Dritte Unterfamilie der Sponguriden: *Spongocyclida*.
 LIV. Genus. *Spongocyclia*.
 116. *Spongocyclia cycloides* XXVIII, 1.
 117. *S. elliptica* XXVIII, 2.
 118. *S. orthogona* XXVIII, 3.
 119. *S. scyllaea* XXVIII, 4.
 120. *S. charybdaea* XXVIII, 5, 6.
- LV. Genus. *Stylospongia*.
 121. *Stylospongia Huxleyi* XXVIII, 7.
- LVI. Genus. *Spongasteriscus*.
 122. *Spongasteriscus quadricornis* XXVIII, 8—10.
- Zwölfte Familie: *Diseida*.
 Erste Unterfamilie der Diseiden: *Coccodiseida*.
 LVII. Genus. *Coccodiscus*.
 123. *Coccodiscus Darwinii* XXVIII, 11, 12.
- Zweite Unterfamilie der Diseiden: *Trematodiseida*.
 LVIII. Genus. *Trematodiscus*.
 124. *Trematodiscus orbiculatus* XXIX, 1.
 125. *T. sorites* XXIX, 2.
 126. *T. heterocylus* XXIX, 3.
- LIX. Genus. *Stylodictya*.
 127. *Stylodictya quadrispina* XXIX, 4.
 128. *S. multispina* XXIX, 5.
- LX. Genus. *Rhopalastrum*.
 129. *Rhopalastrum truncatum* XXIX, 6.
- LXI. Genus. *Euchitonia*.
 130. *Euchitonia Virchowii* XXX, 1—4.
 131. *E. Beckmanni* XXXI, 1.
 132. *E. Gegenbauri* XXXI, 2, 3.
 133. *E. Muellerei* XXX, 5—10.
 134. *E. Leydigii* XXXI, 4, 5.
 135. *E. Koellikeri* XXXI, 6, 7.
- Dritte Unterfamilie der Diseiden: *Discospirida*.
 LXII. Genus. *Discospira*.
 136. *Discospira helicoides* XXIX, 7.
 137. *D. operculina* XXIX, 8.
- LXIII. Genus. *Stylospira*.
 138. *Stylospira Dujardinii* XXIX, 9, 10.
- Dreizehnte Familie: *Lithelida*.
 LXIV. Genus. *Lithelius*.
 139. *Lithelius spiralis* XXVII, 6, 7.
 140. *L. alveolina* XXVII, 8, 9.

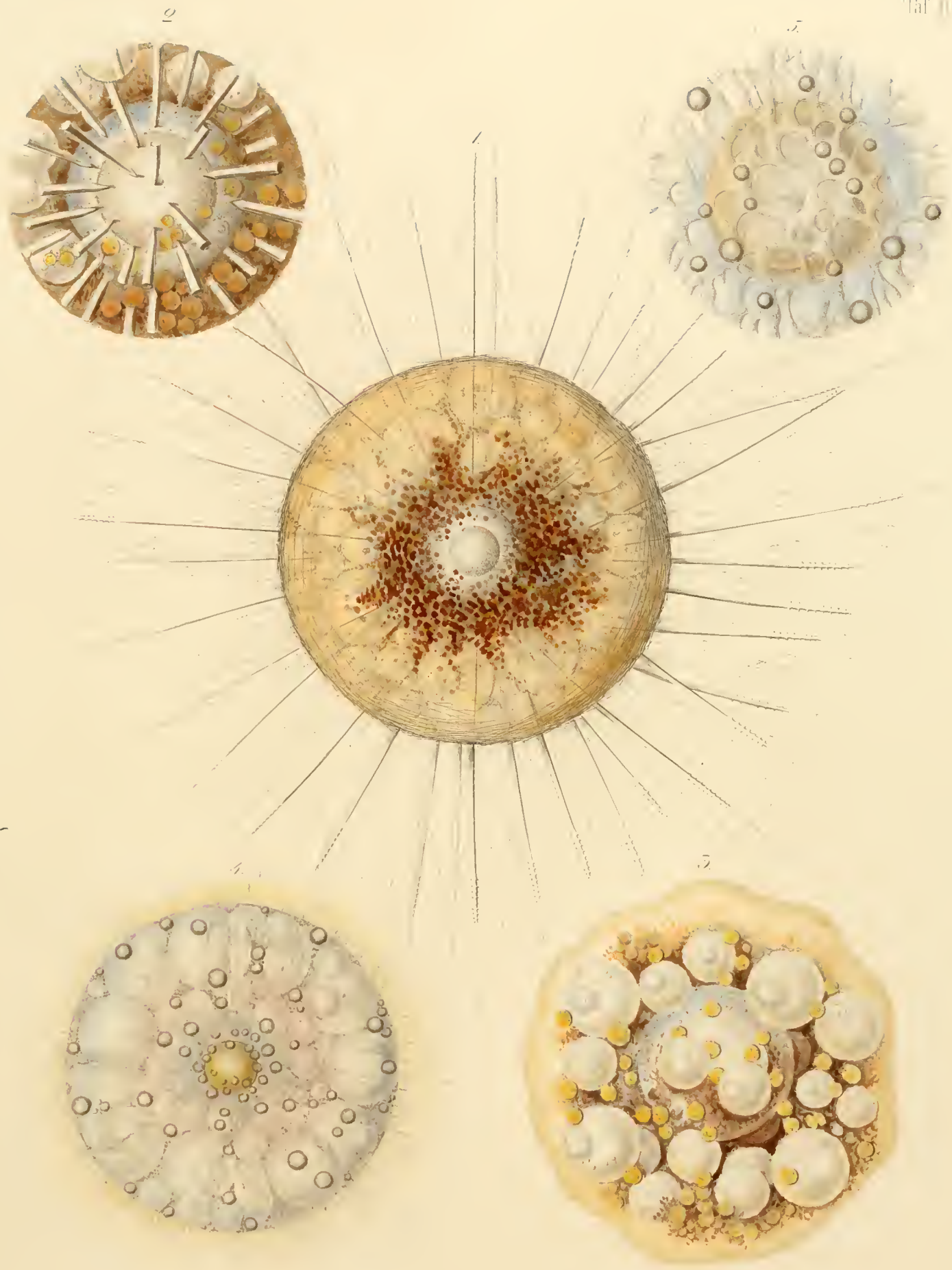
Zweite Unterordnung der Radiolarien: POLYZOA (POLYCYTTARIA).

- Vierzehnte Familie: *Sphaerozoida*.
 Erste Unterfamilie der Sphaerozoiden: *Collozoida*.
 LXV. Genus. *Collozoum*.
 141. *Collozoum inerme* XXXV, 1—14.
 142. *C. coeruleum* XXXII, 6—8.
 143. *C. pelagicum* XXXIII, 4, 5.
- Zweite Unterfamilie der Sphaerozoiden: *Rhaphidozoida*.
 LXVI. Genus. *Sphaerozoum*.
 144. *Sphaerozoum italicum* XXXIII, 1, 2.

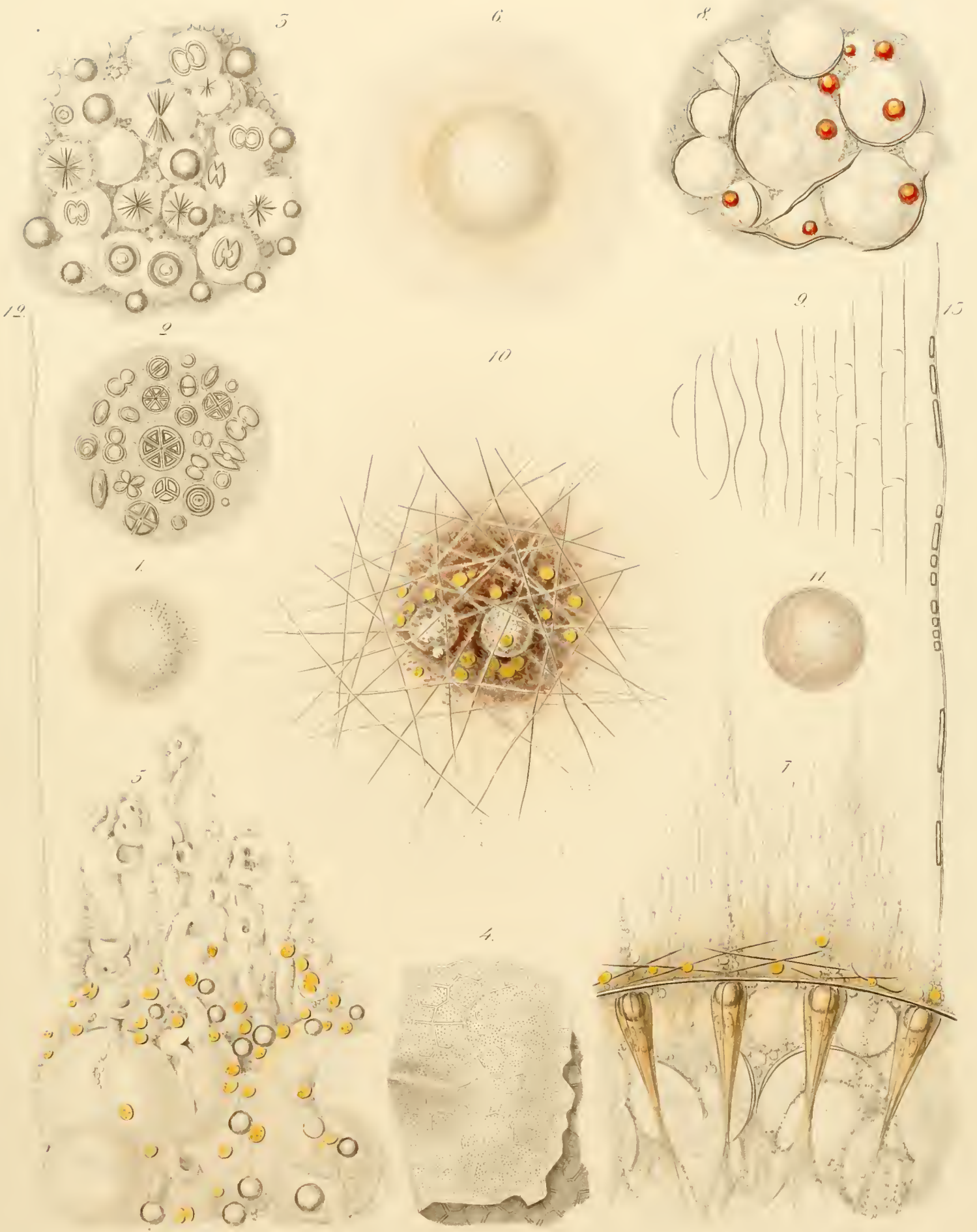
145. *S. spinulosum* XXXIII, 3, 4.
 146. *S. ovodinae* XXXIII, 5, 6.
 147. *S. punctatum* XXXIII, 7—9.
- LXVII. Genus. *Rhaphidozoum*.
 148. *Rhaphidozoum aciferum* XXXII, 9—11.
- Fünfzehnte Familie: *Collosphaerida*.
 LXVIII. Genus. *Collosphaera*.
 149. *Collosphaera Huxleyi* XXXIV, 1—11.
 150. *C. spinosa* XXXIV, 12, 13.



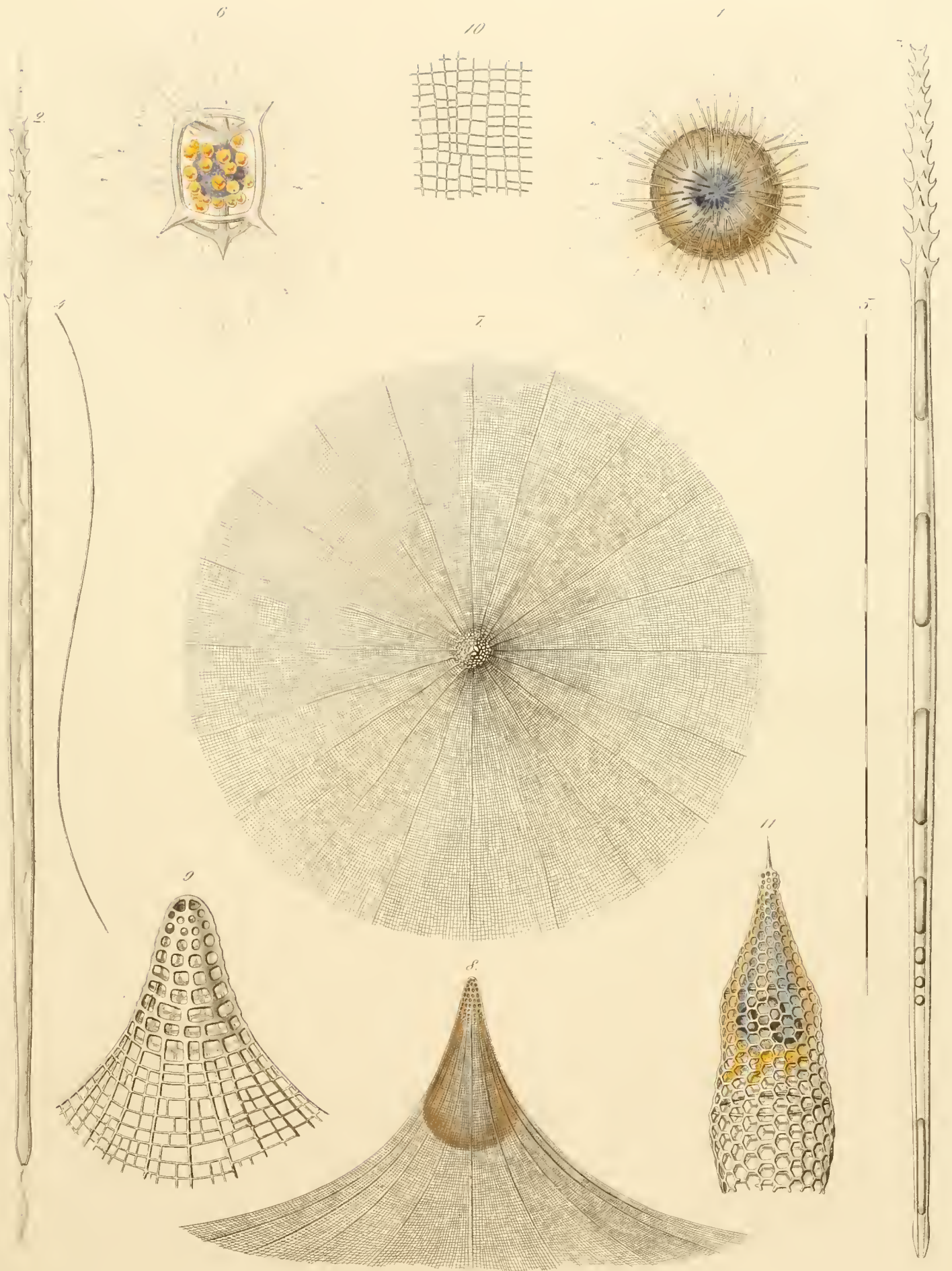
1-5. *Thalassicolla pelagica*. Hkl



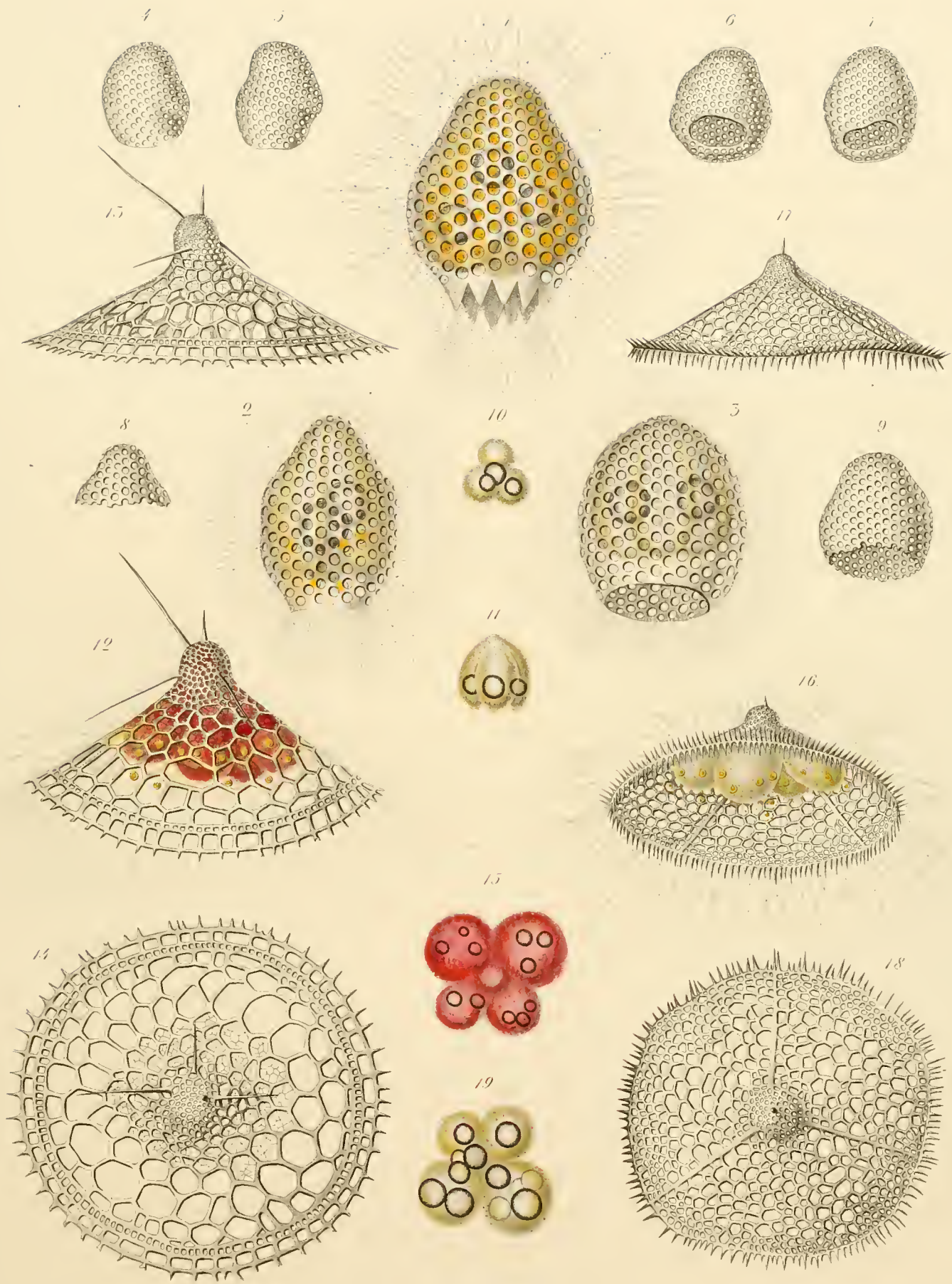
1. 2. *Aulacantha scolymantha*, Hkl. 5. *Thalassicolla Zanclea*, Hkl.
 4. 5. *Thalassolampe margarodes*, Hkl.



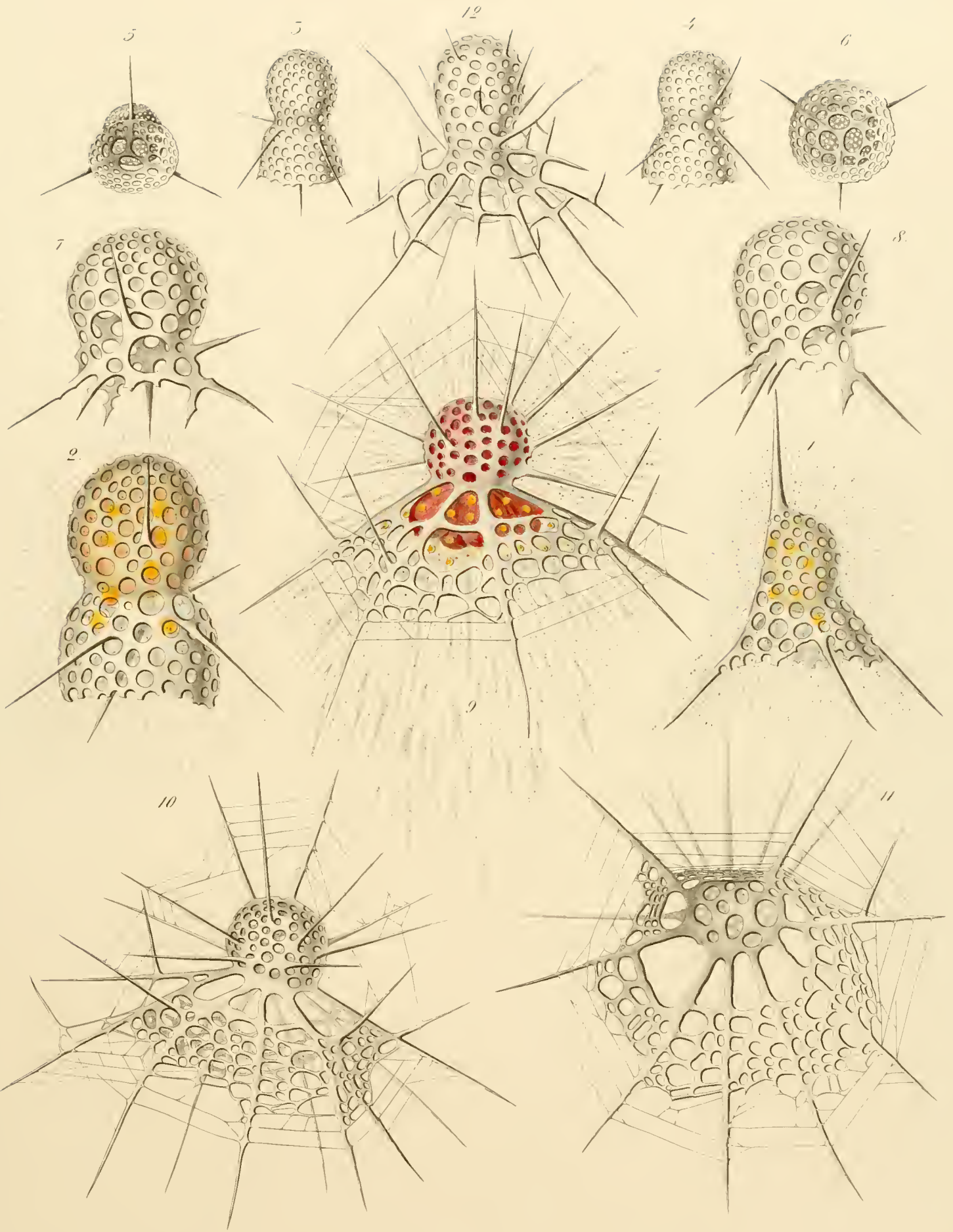
1-5 *Thalassicolla nucleata*, Huxley. 6-9. *Physematum Mulleri*, Schneider
 10-15. *Thalassoplaneta cavispicula*, Hkl.



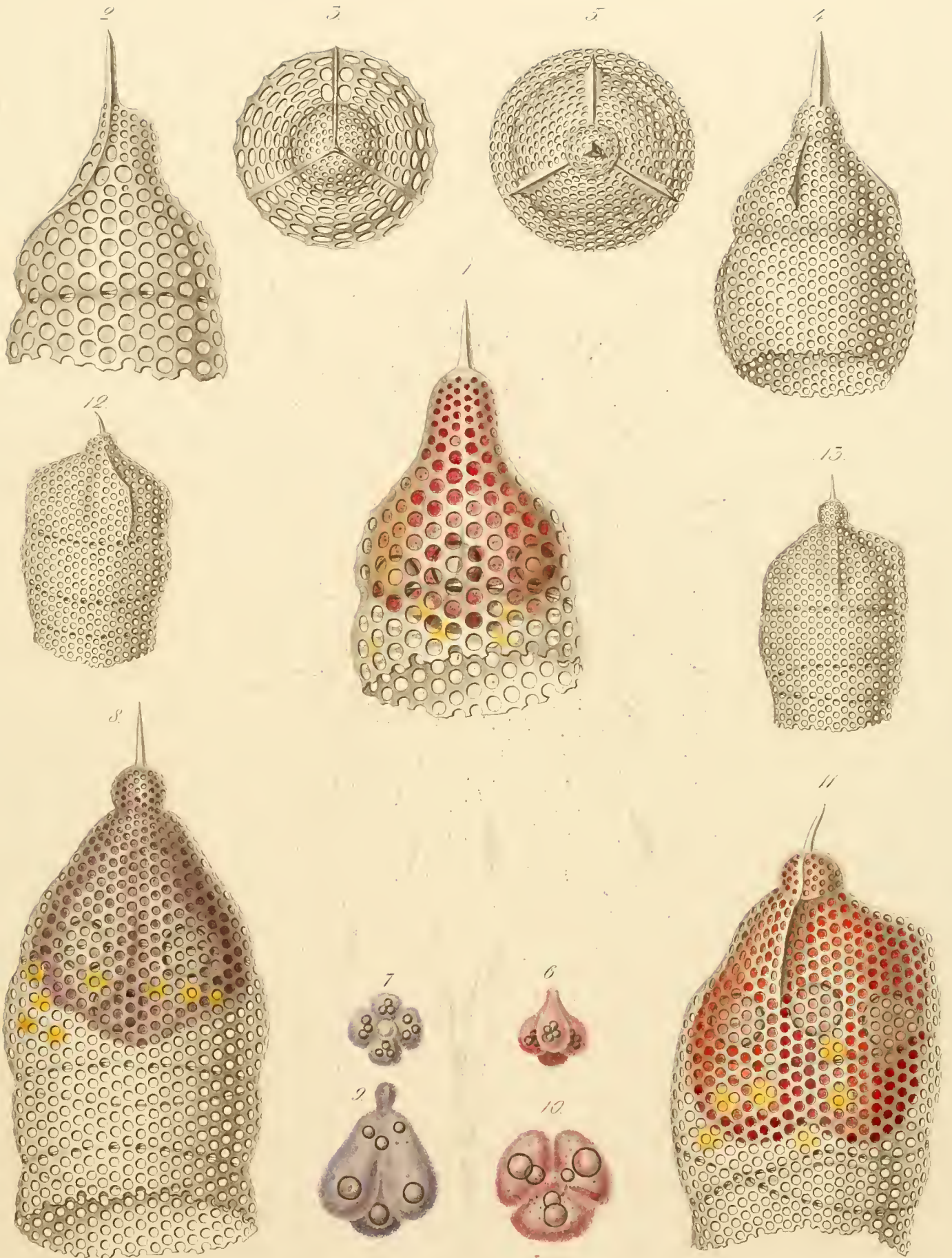
1-5. *Aulacantha scolymantha*, Hkl. 6. *Acanthodesmia Prismaticum*, Hkl.
 7-10. *Litharachnium Tentorium*, Hkl. 11. *Eucyrtidium Lagena*, Hkl.



1 Carporanium Diadema Hkl. 2-11. Cyrtocalpis 2 C. Amphora. Hkl. 3-11. C. obliqua, Hkl.
 12-19 Eucecryphalus. 12-15 E. Gegenbaun, Hkl. 16-19 E. Schultzei, Hkl.

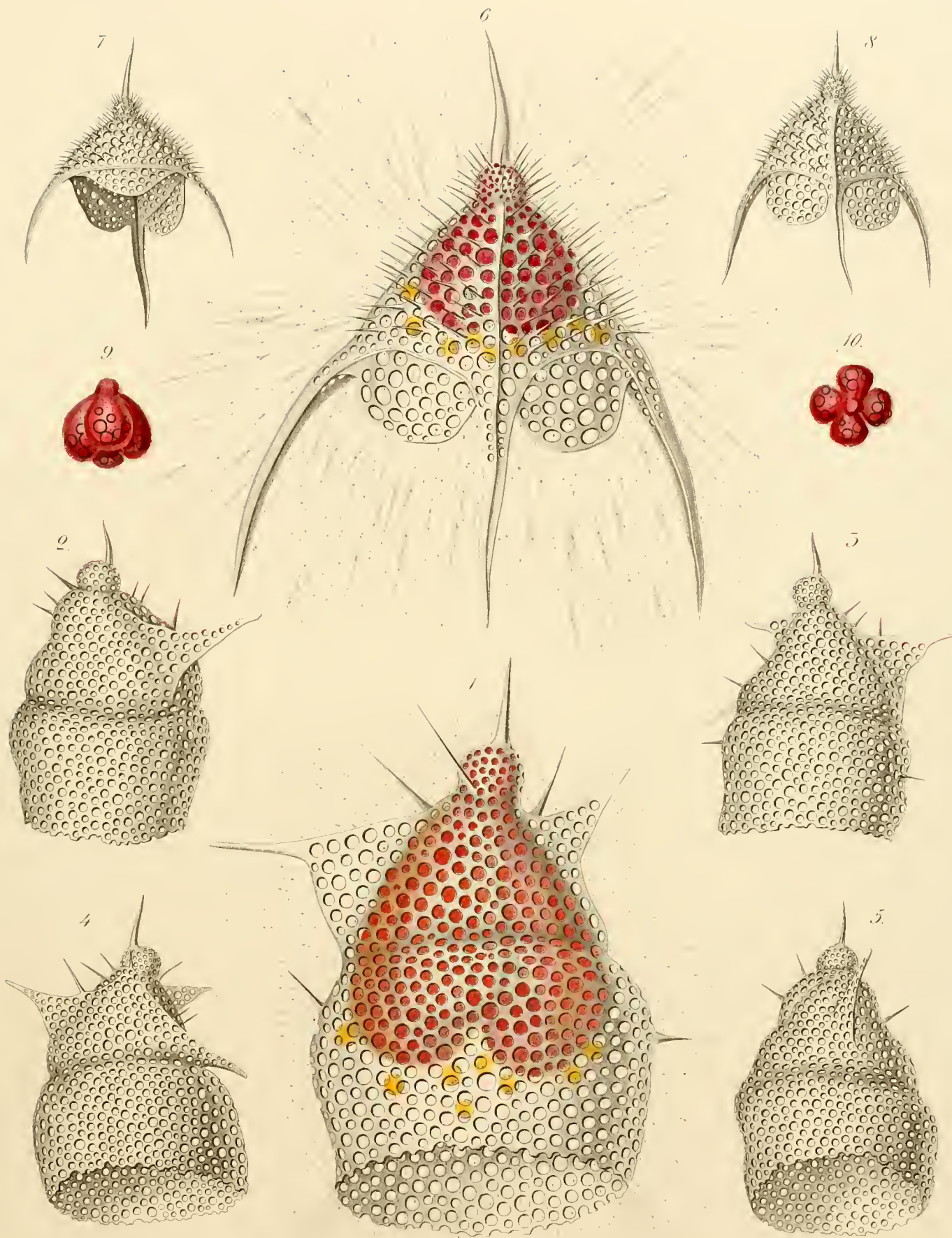


1 Dictyophimus Tripus, Hkl 2-3 Lithomelissa Thoracites, Hkl
 9-12 Arachnocorys, 9-11 A circumtexta, Hkl 12 A umbellifera, Hkl

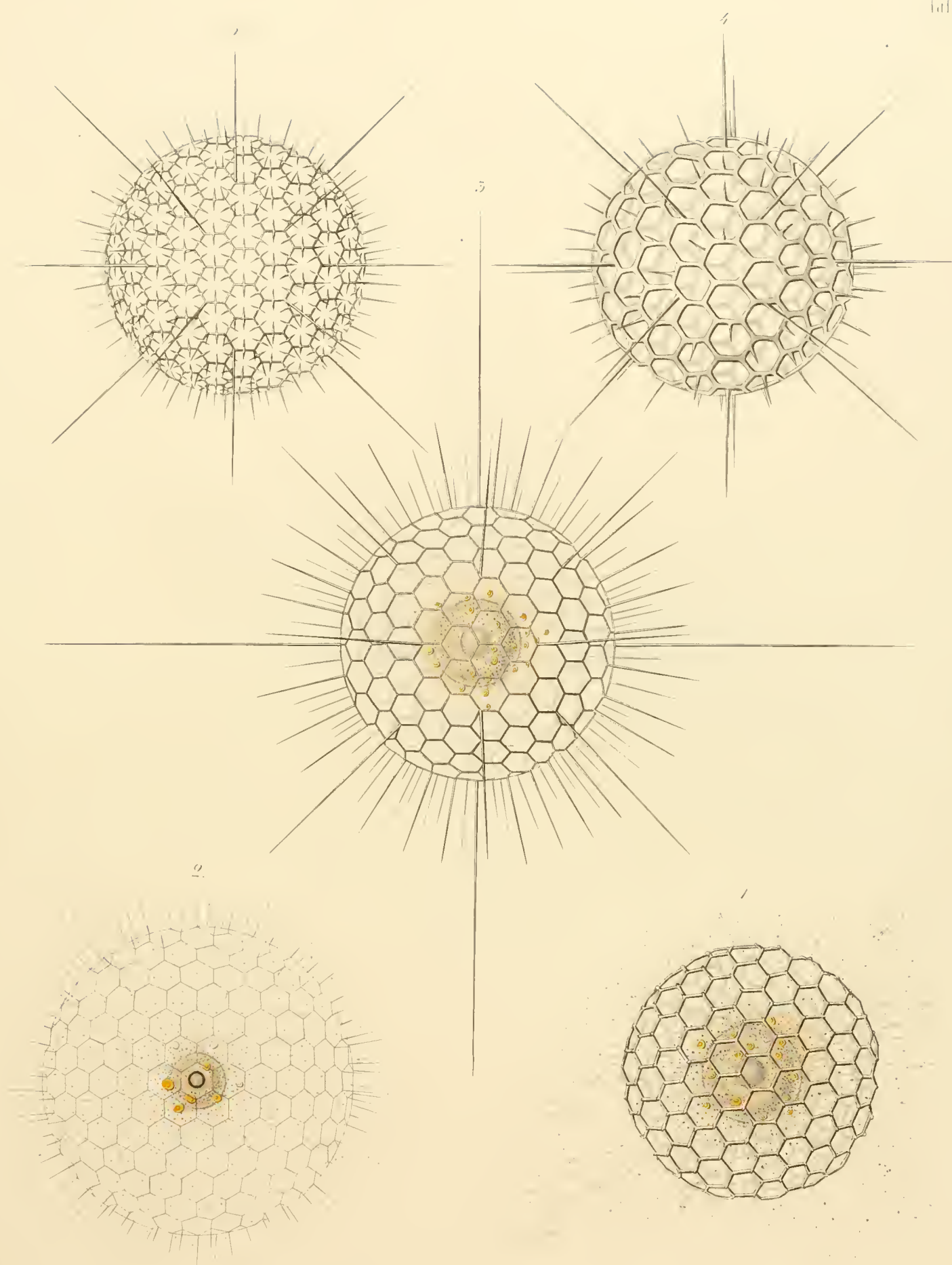


1-15. Eucyrtidium. 1-3. E. cranoides, Hkl. 4-7 E. carinatum, Hkl.

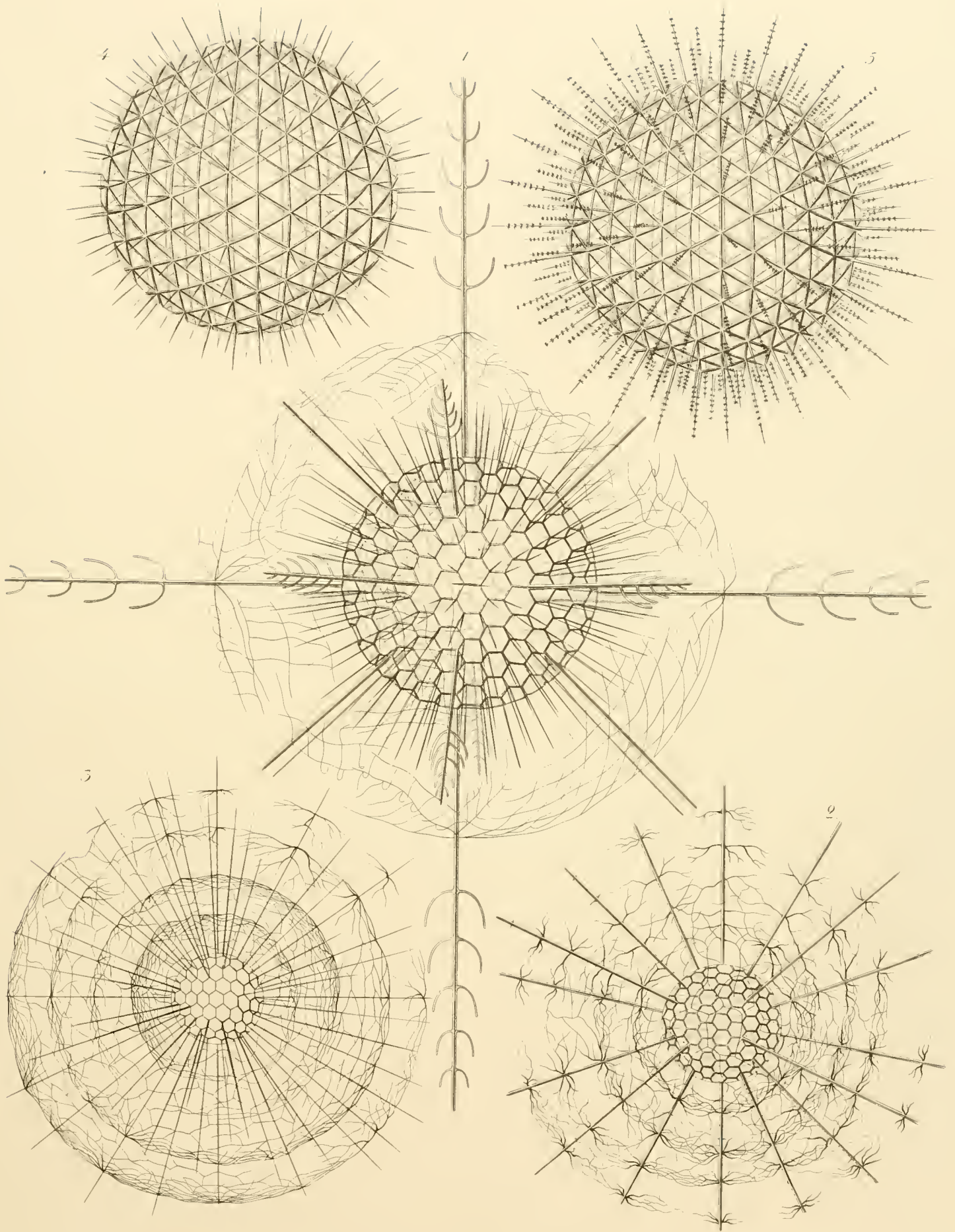
8-10. E. Galea, Hkl. 11-15. E. anomalum, Hkl



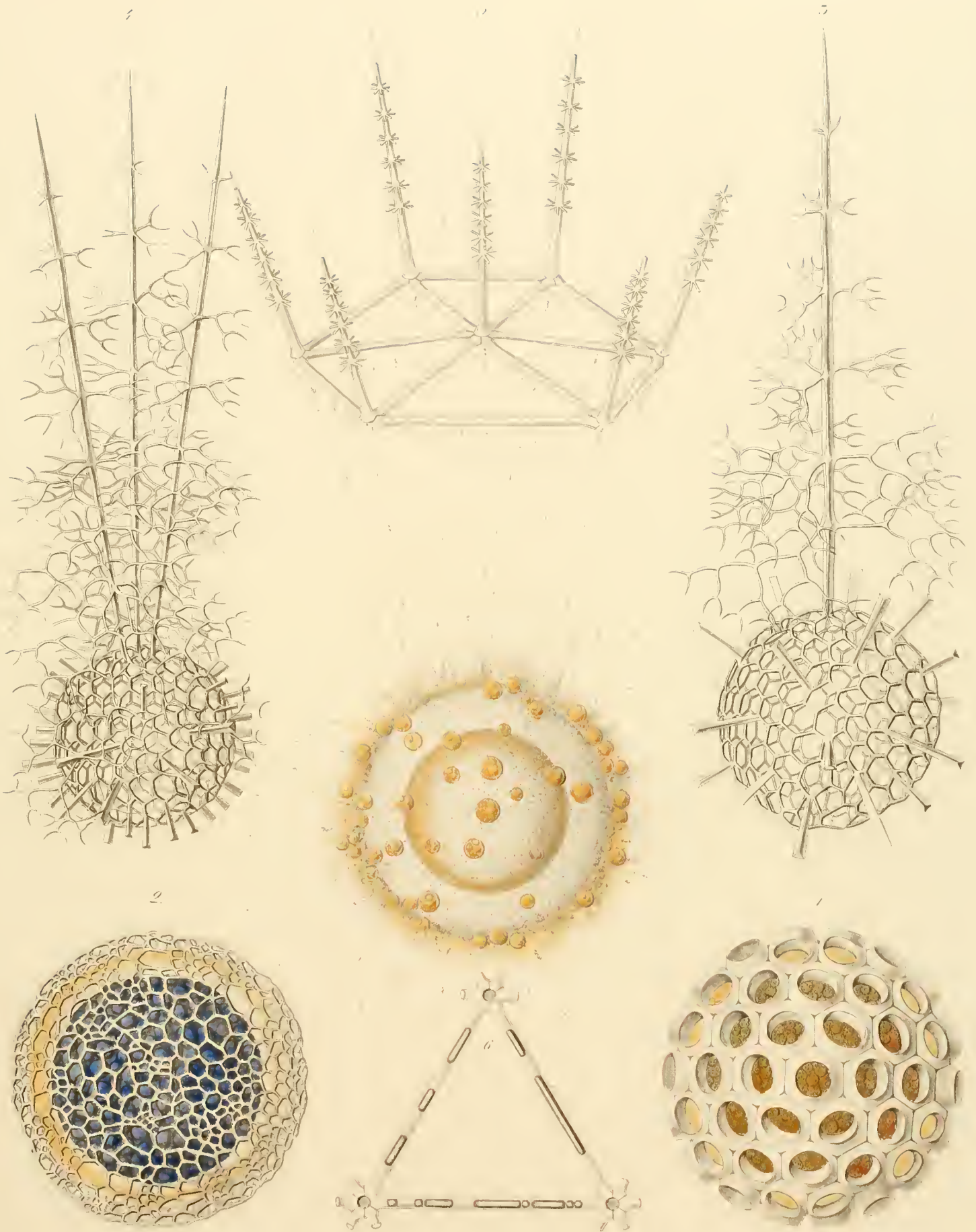
1-5 *Dictyoceras Virchowii*, Hkl 6-10 *Dictyopodium trilobum*, Hkl



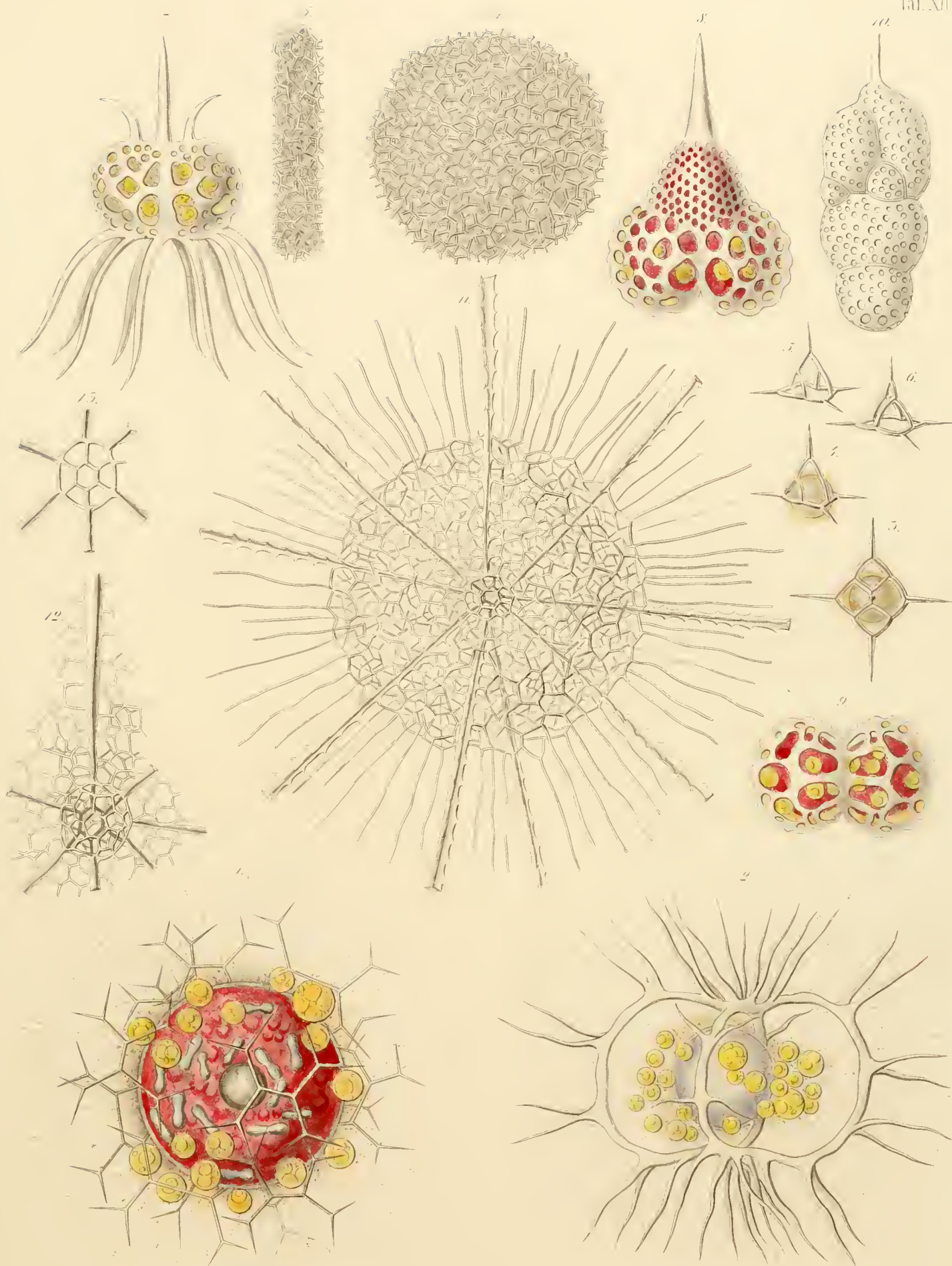
1-5 Heliosphaera 1 H. inermis, Hkl 2 H. tenuissima Hkl 3 H. actinota, Hkl
 4 H. echinoides, Hkl 5 H. elegans, Hkl



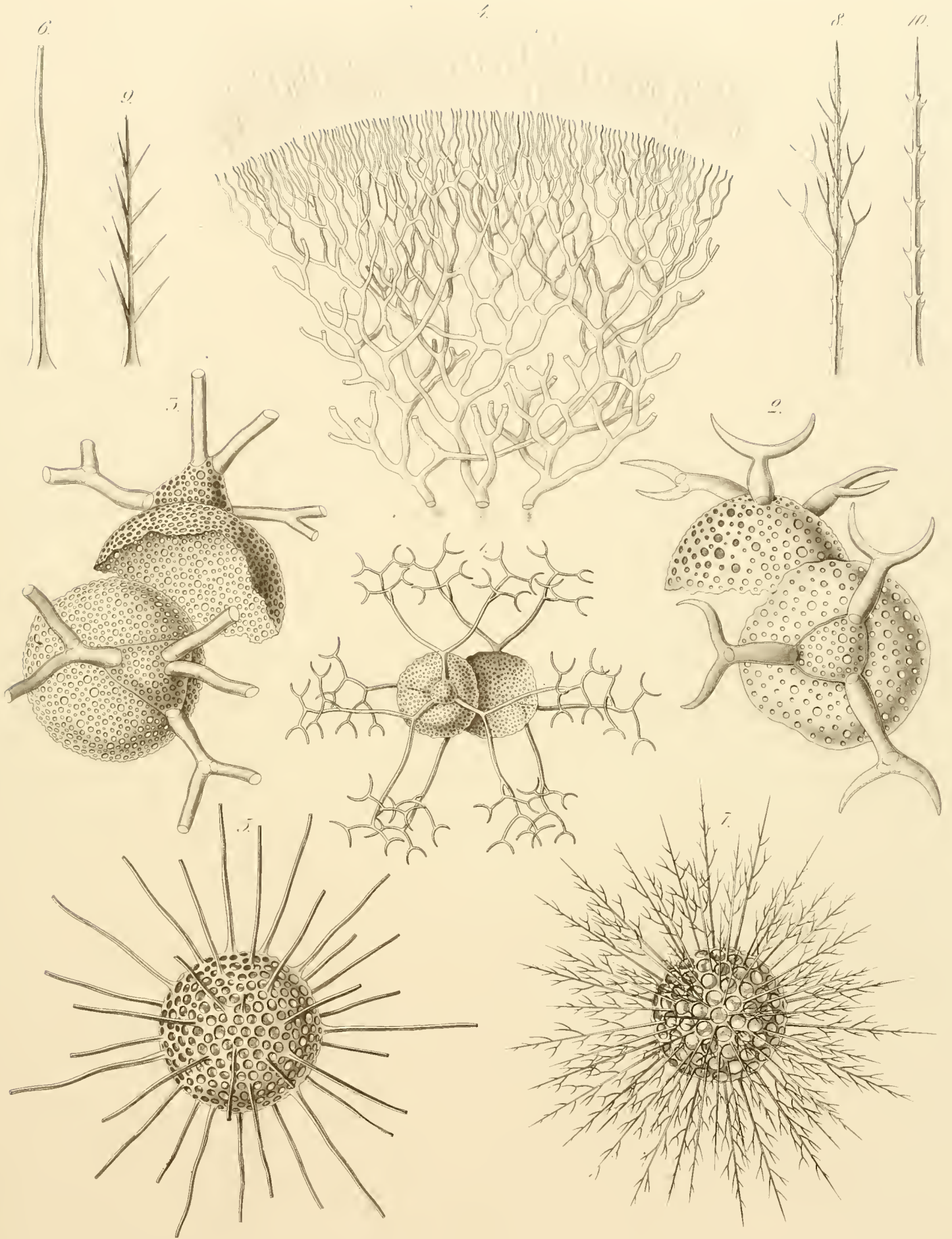
1. *Diplosphaera gracilis* Hkl 2 5 *Arachnosphaera* 2 *A. oligacantha*, Hkl
 5 *A. myriacantha*, Hkl 4 5 *Autosphaera* 4 *A. trigonopa*, Hkl 5. *A. elegantissima*, Hkl



1 *Ethmosphaera siphonophora*, Hkl. 2 *Cytidosphaera reticulata*, Hkl. 3 4 *Arachnosphaera*.
 5 *A. obq̄acantha*, Hkl. 4 *A. myriacantha*, Hkl. 5 6 *Aulosphaera elegantissima*, Hkl.

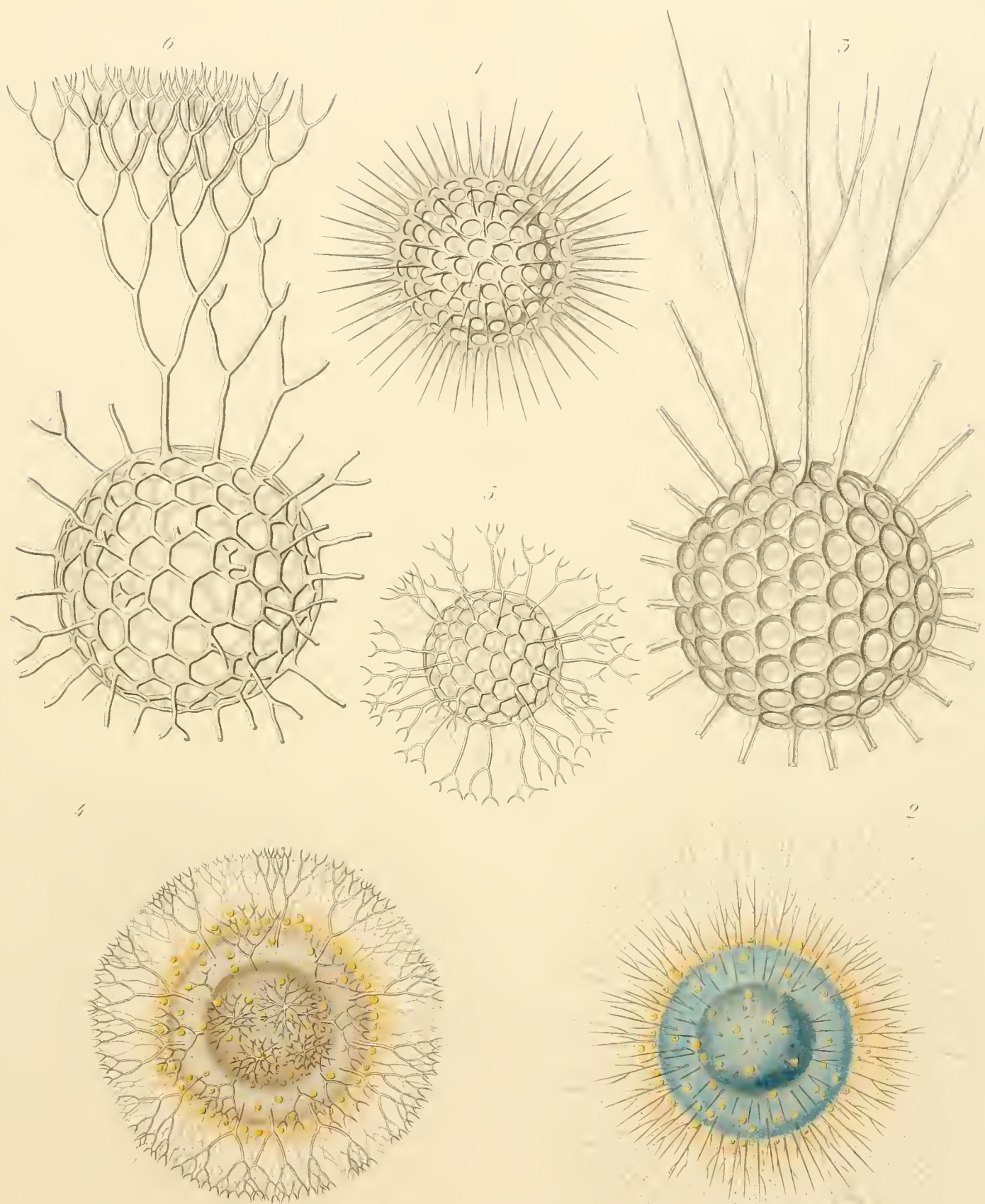


1. *Thalassosphaera bifurca*, Blk. 2. *Zygod Stephanus Müller*, Blk. 3-6. *Dictyocha Messanensis*, Blk. 7. *Petalospyris arachnoides*, Blk. 8. 9. *Spyridobotrys Timaria*, Blk. 10. *Botryocampe hexathalamia*, Blk. 11-15. *Spongosphaera helordes*, Blk. 14-15. *Spongodiscus Mediterraneus*, Blk.

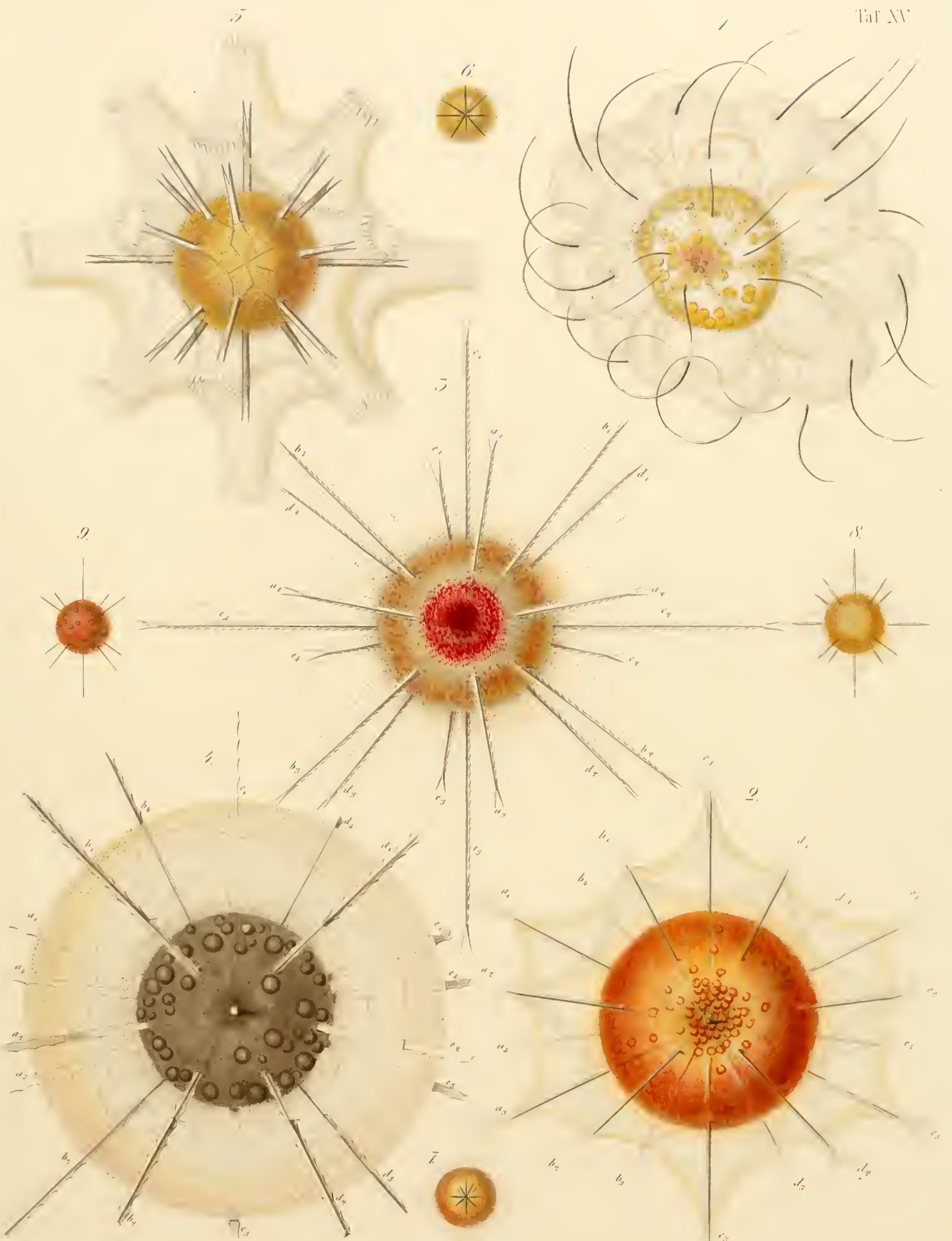


1-4. *Coelodendrum ramosissimum*, Hkl. 5. 6. *Rhaphidococcus simplex*, Hkl. 7-10. *Cladococcus*.

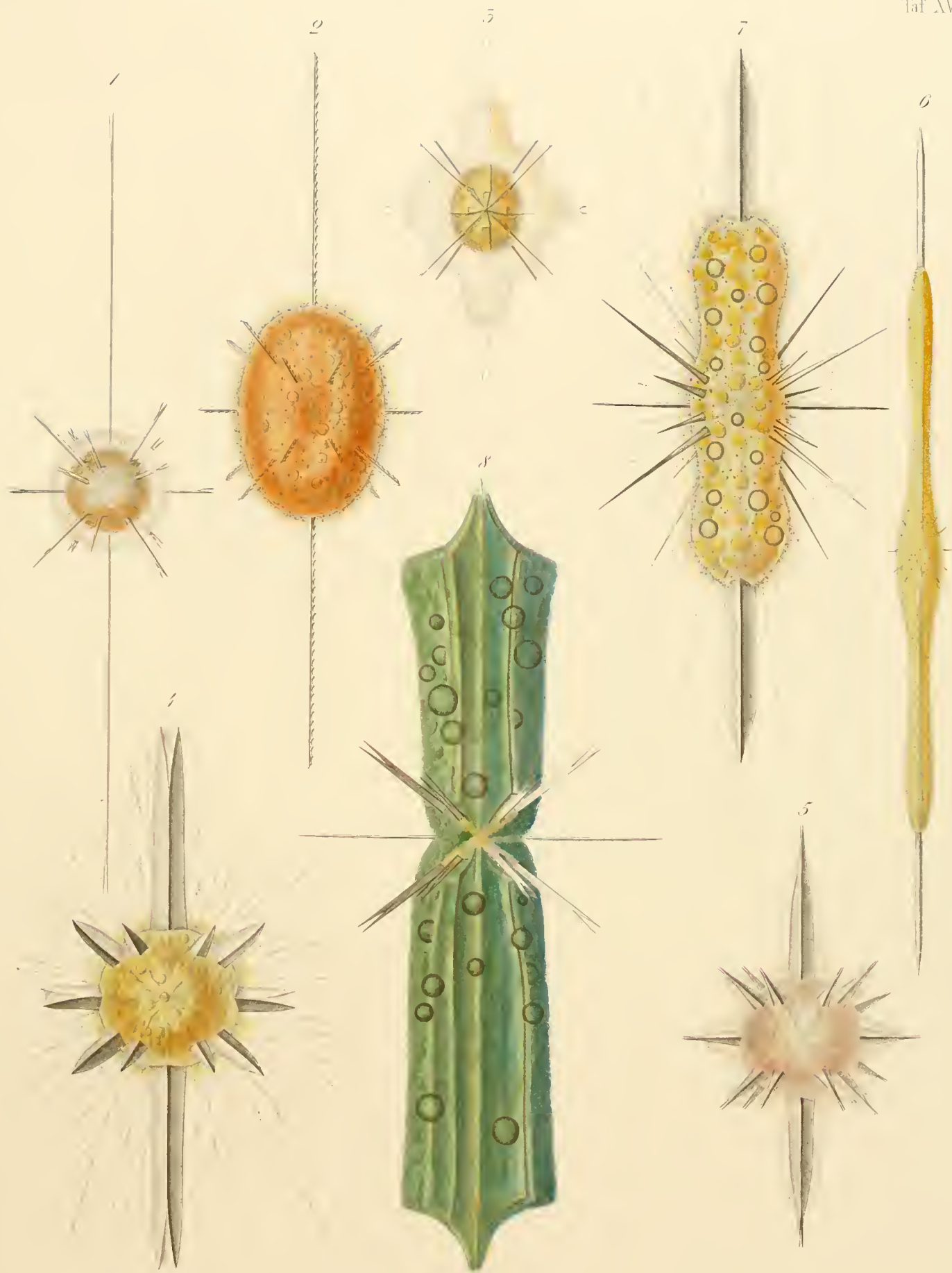
7 8. *C. bifurcus*, Hkl. 9. *C. spinifer*, Hkl. 10. *C. dentatus*, Hkl.



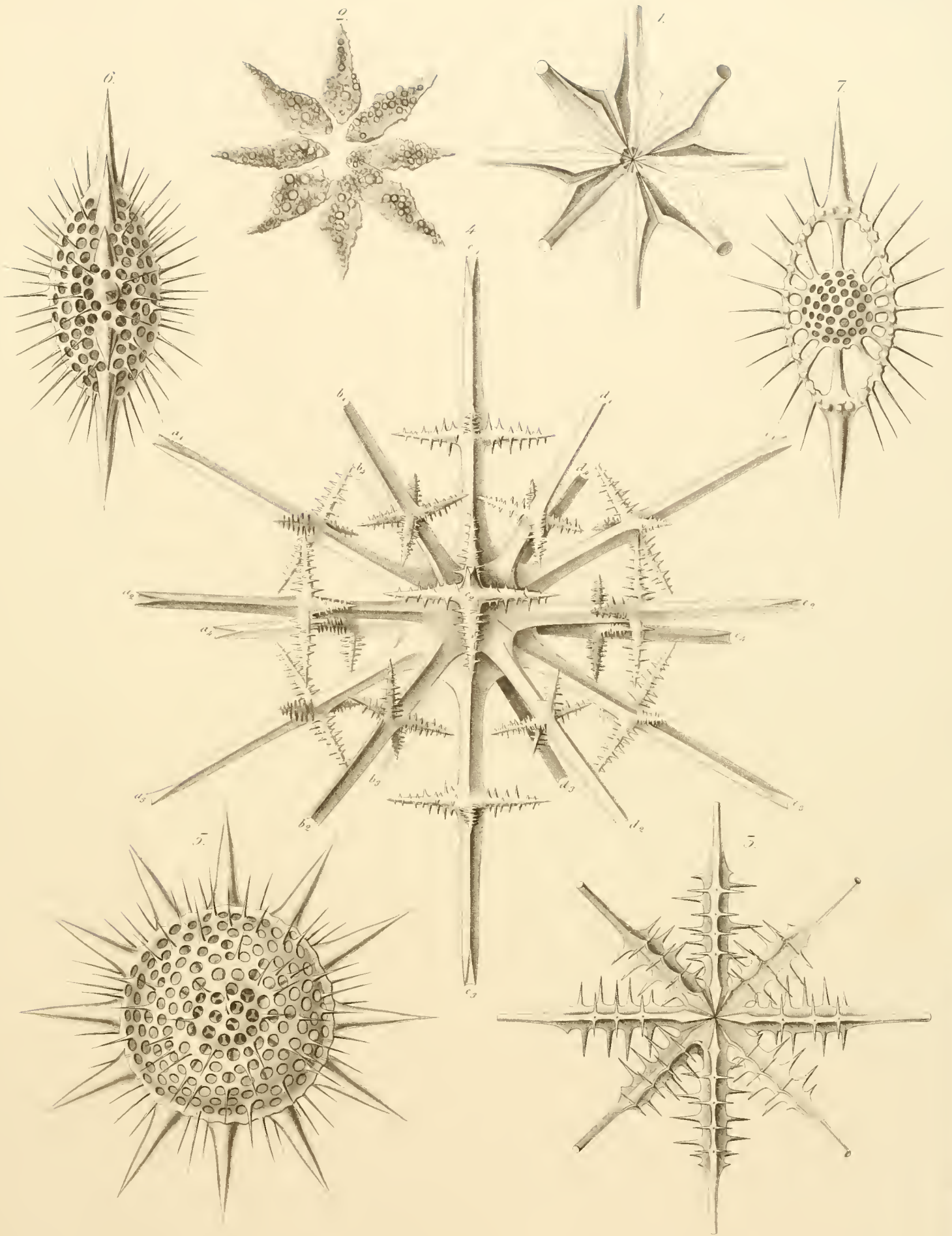
1 *Rhaphidococcus acifer*, Hkl. 2-6 *Cladococcus*
 2 3. *C. viminalis*, Hkl. 4-6 *C. cervicornis*, Hkl.



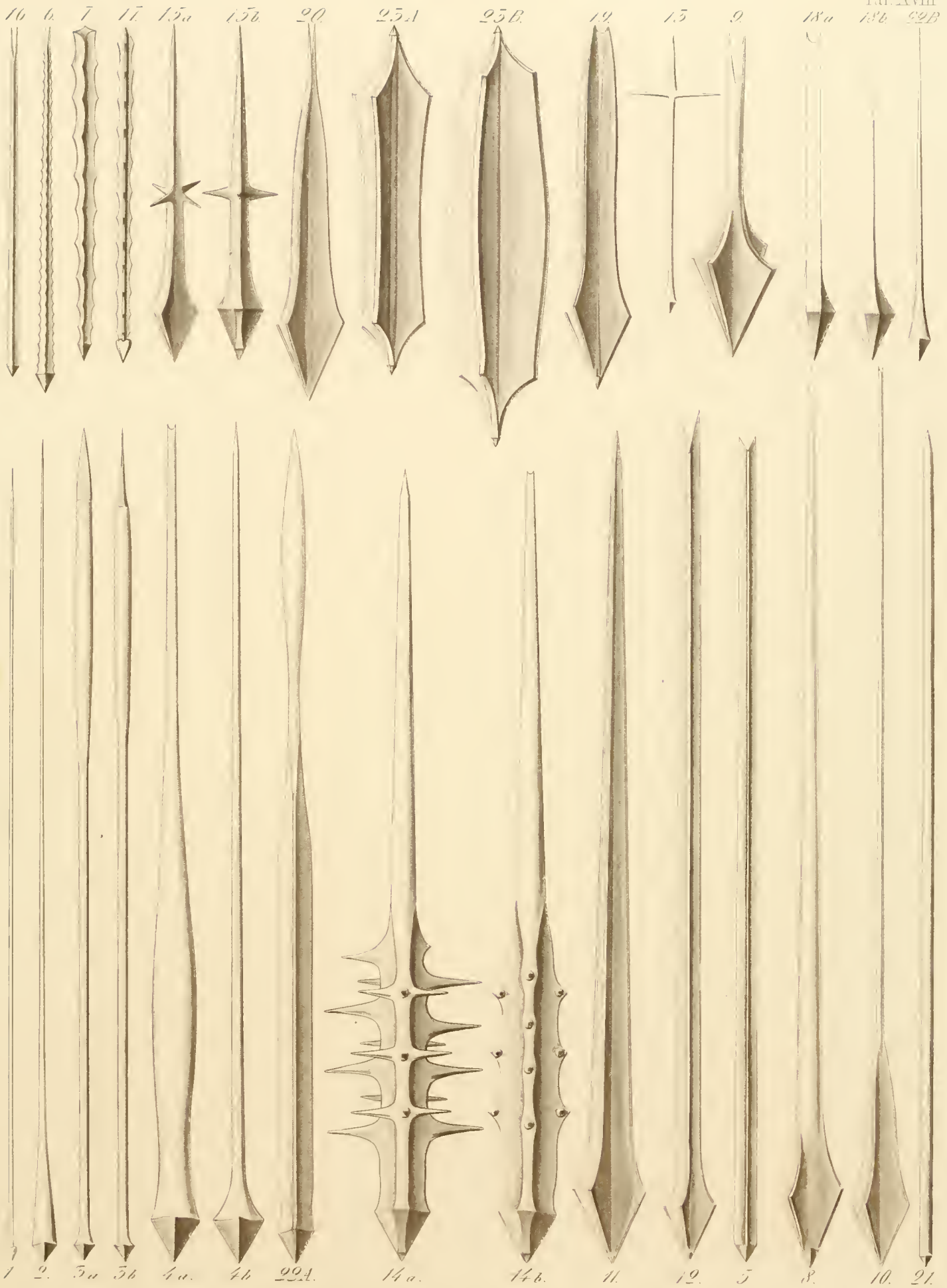
1-9. Acanthometra. 1. A. elastica, Hkl. 2. A. bulbosa, Hkl. 3. A. Mülleri, Hkl.
 4. A. fragilis, Hkl. 5. A. brevispina, Hkl. 6-9. Acanthometrae juvenes.



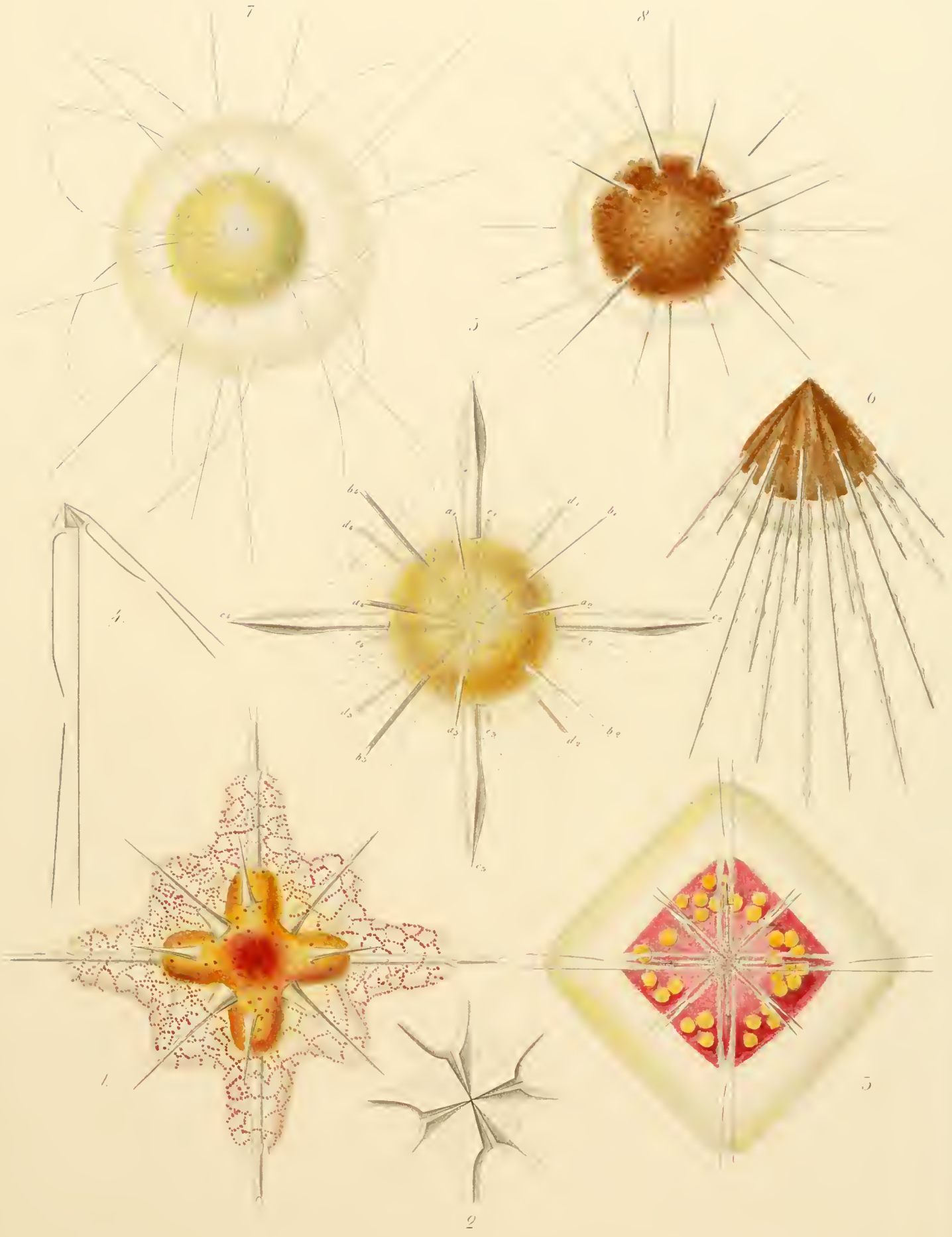
1-8. Amphilonche. 1. *A. tenuis*, Hkl. 2. *A. denticulata*, Hkl. 3. *A. complanata*, Hkl. 4. *A. Messanensis*, Hkl.
 5. *A. tetraptera*, Hkl. 6. *A. belonoides*, Hkl. 7. *A. heteracantha*, Hkl. 8. *A. anomala*, Hkl.



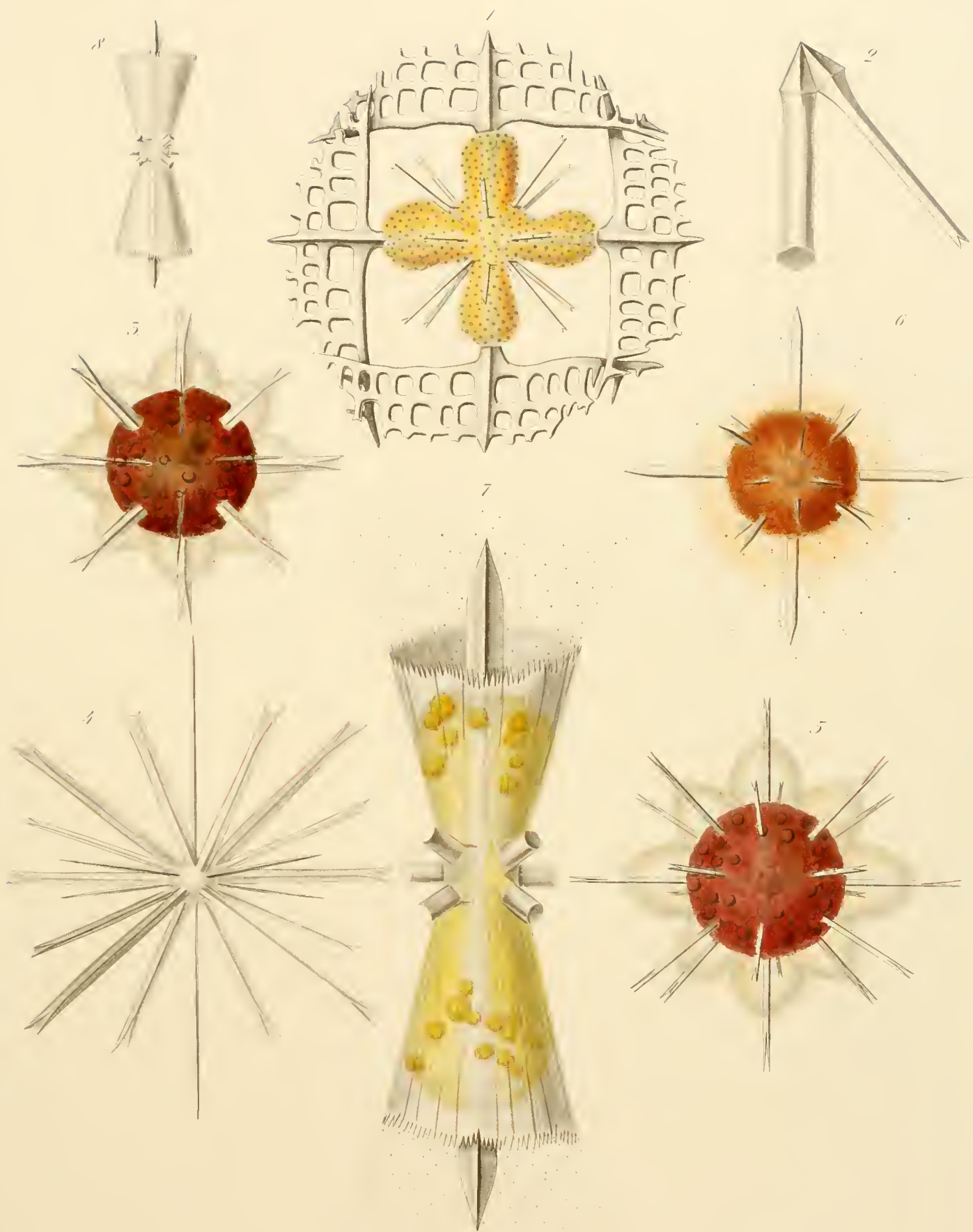
1. 2. *Acanthometra Sicula*, Hkl. 3. 4. *Niphacantha* 5. *N. serrata*, Hkl.
 6. *N. spinulosa*, Hkl. 7. *Heliodiscus Phacodiscus*, Hkl.



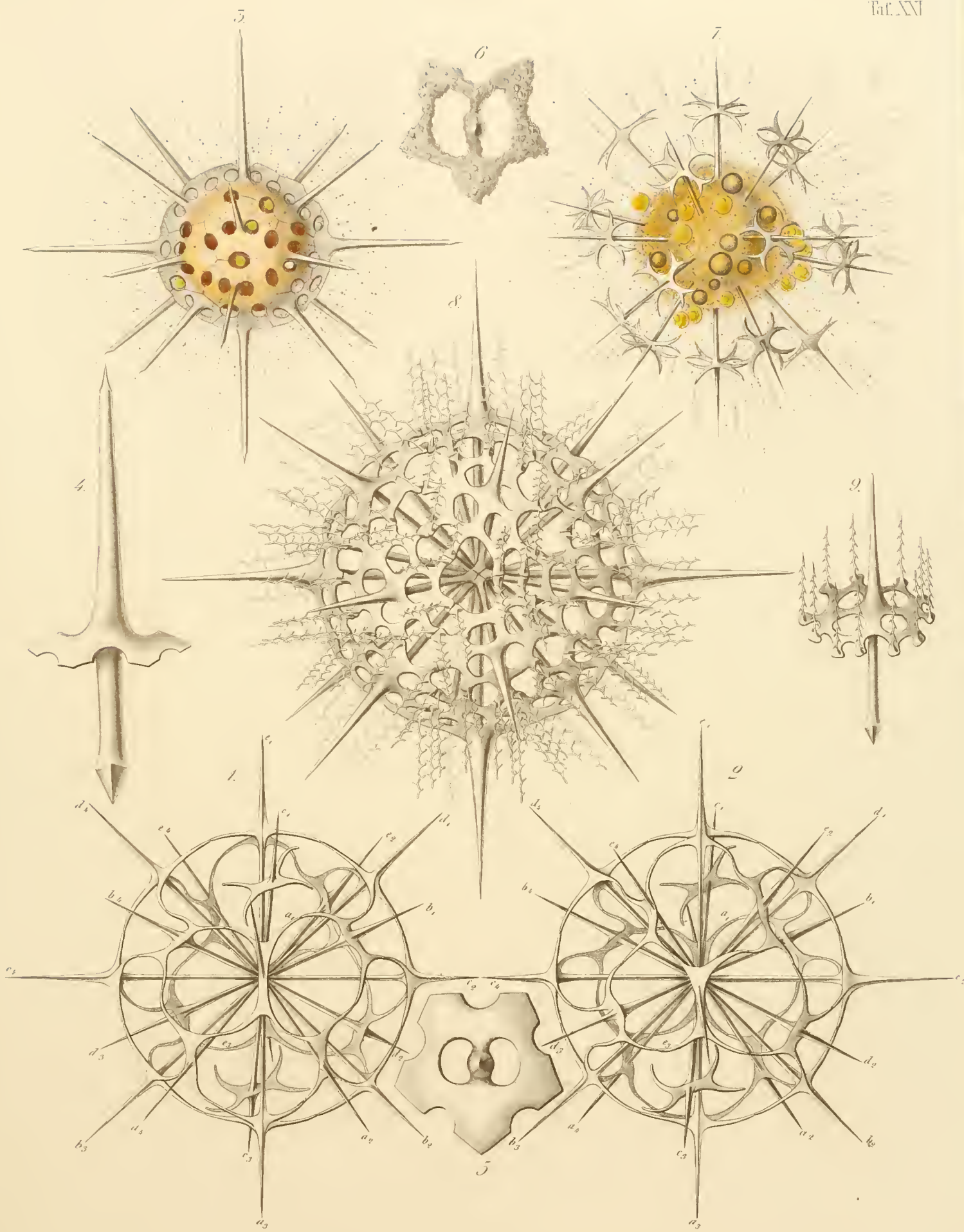
1-25. Aculei Acanthostauridum, 1-12. Generis Acanthometrae,
13-15 Generis Xiphacanthae, 16-25 Generis Amphilonchae.



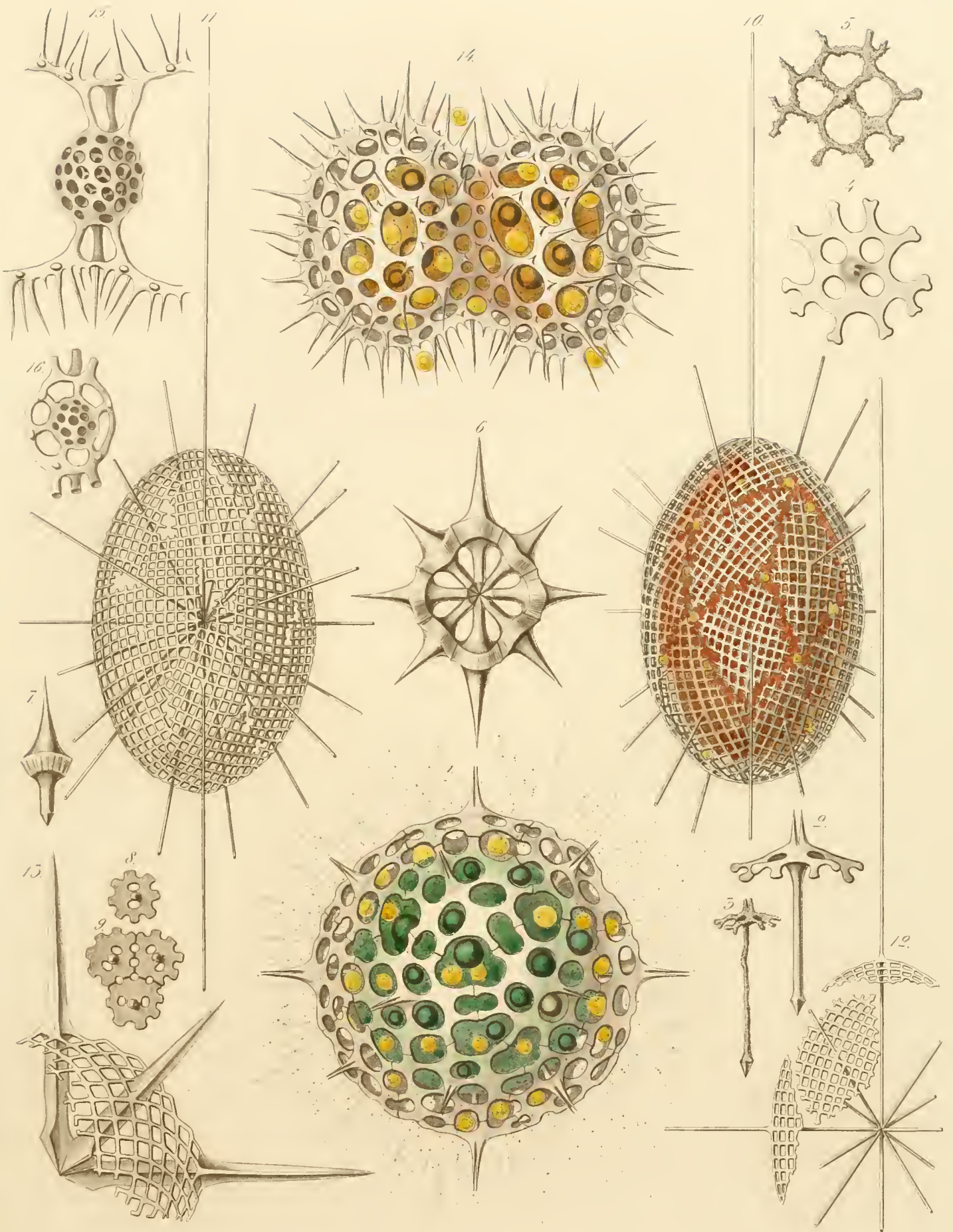
1-5. Acanthostaurus. 1 2. A. purpurascens, Hk. 3 4. A. Forceps, Hk. 5. A. hastatus, Hk.
 6. Lithotopius Rhupidium, Hk. 7 8. Acanthochasma. 7. A. Kronm., Hk. 8. A. fusiforme, Hk.



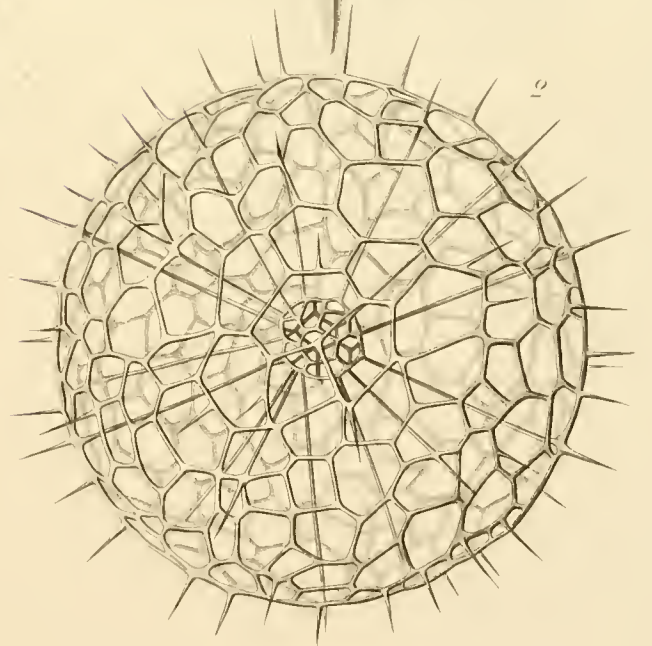
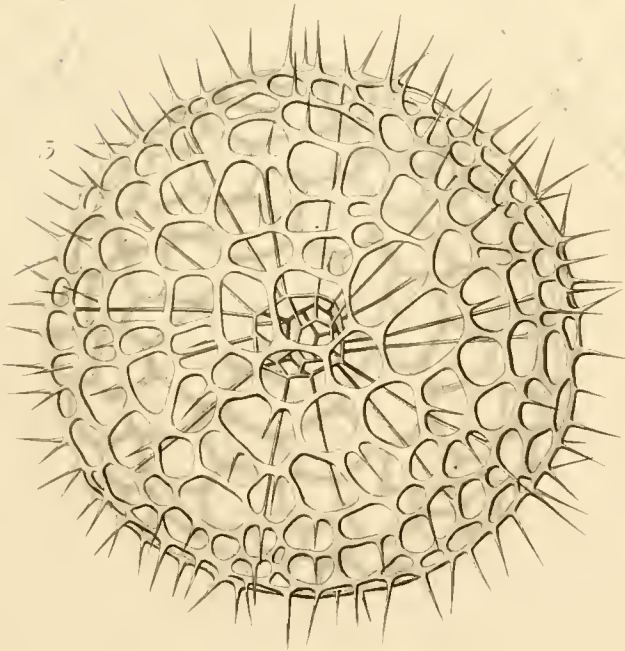
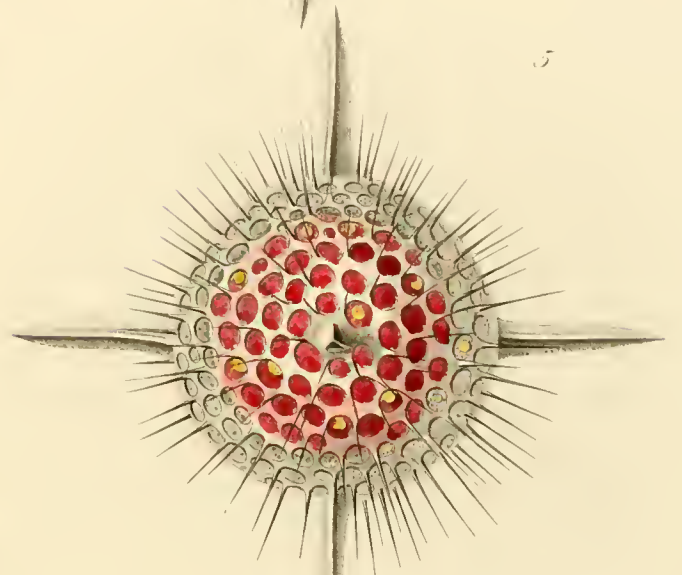
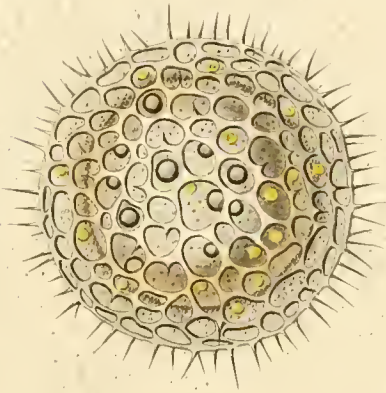
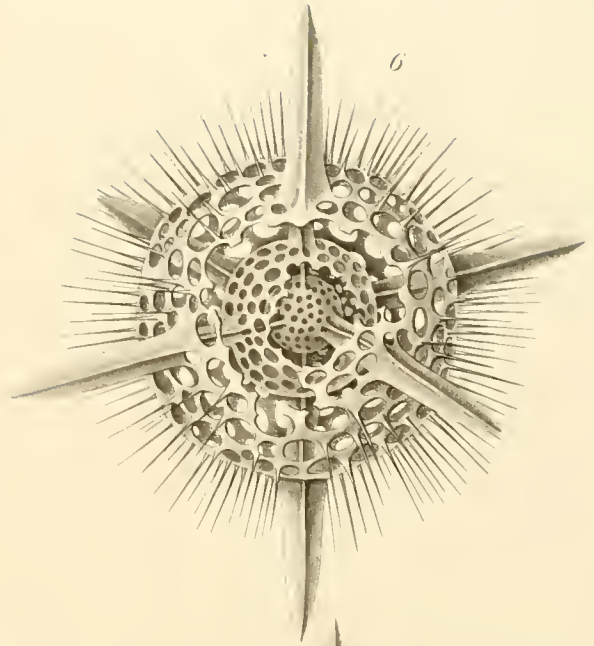
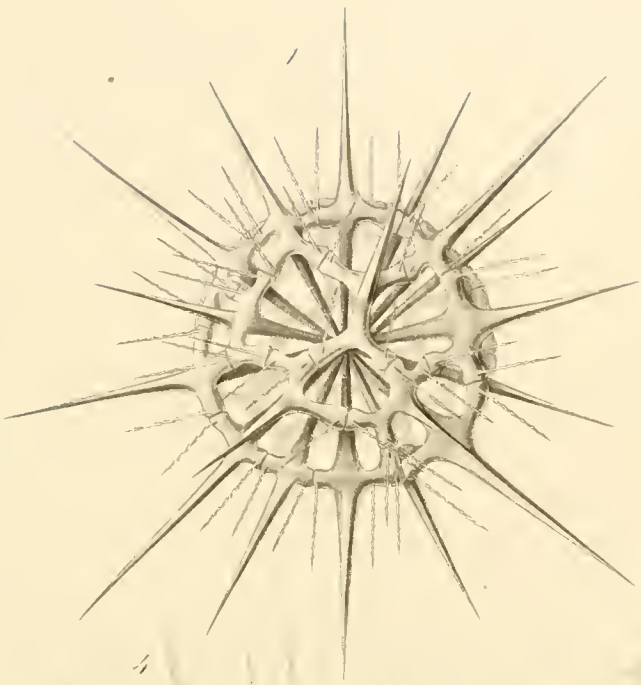
1 2 Lithoptera Mulleri, Hkl 3-6 Astrothum 5 4 A decipim, Hkl
 5 A bifidum, Hkl 6 A cruciatum, Hkl 7 8 Diplococus Fasces, Hkl



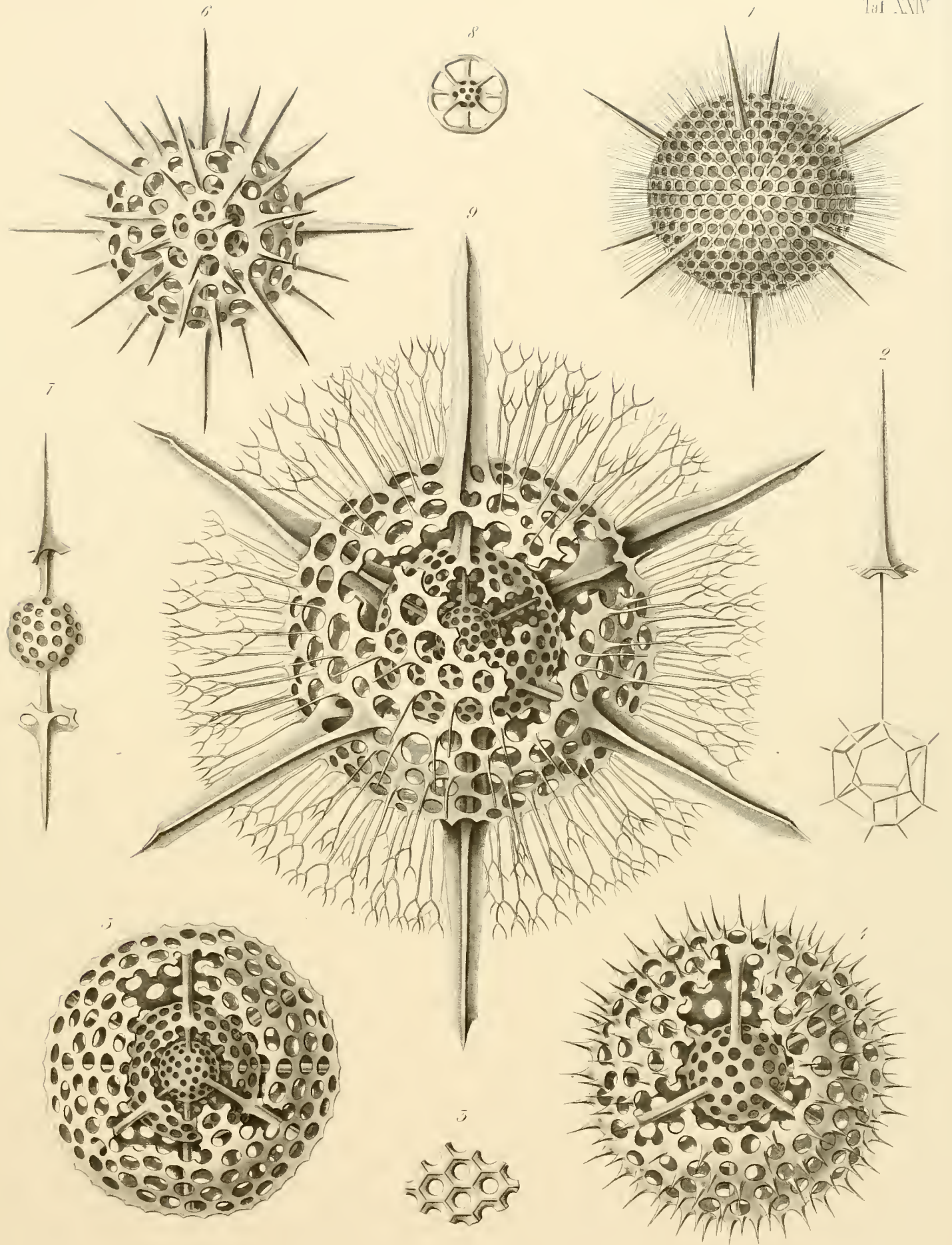
1-9. Dorataspis. 1 2. *D. bipennis*, Hkl. 3-6 *D. toricata*, Hkl.
 7-9. *D. polyantra*, Hkl.



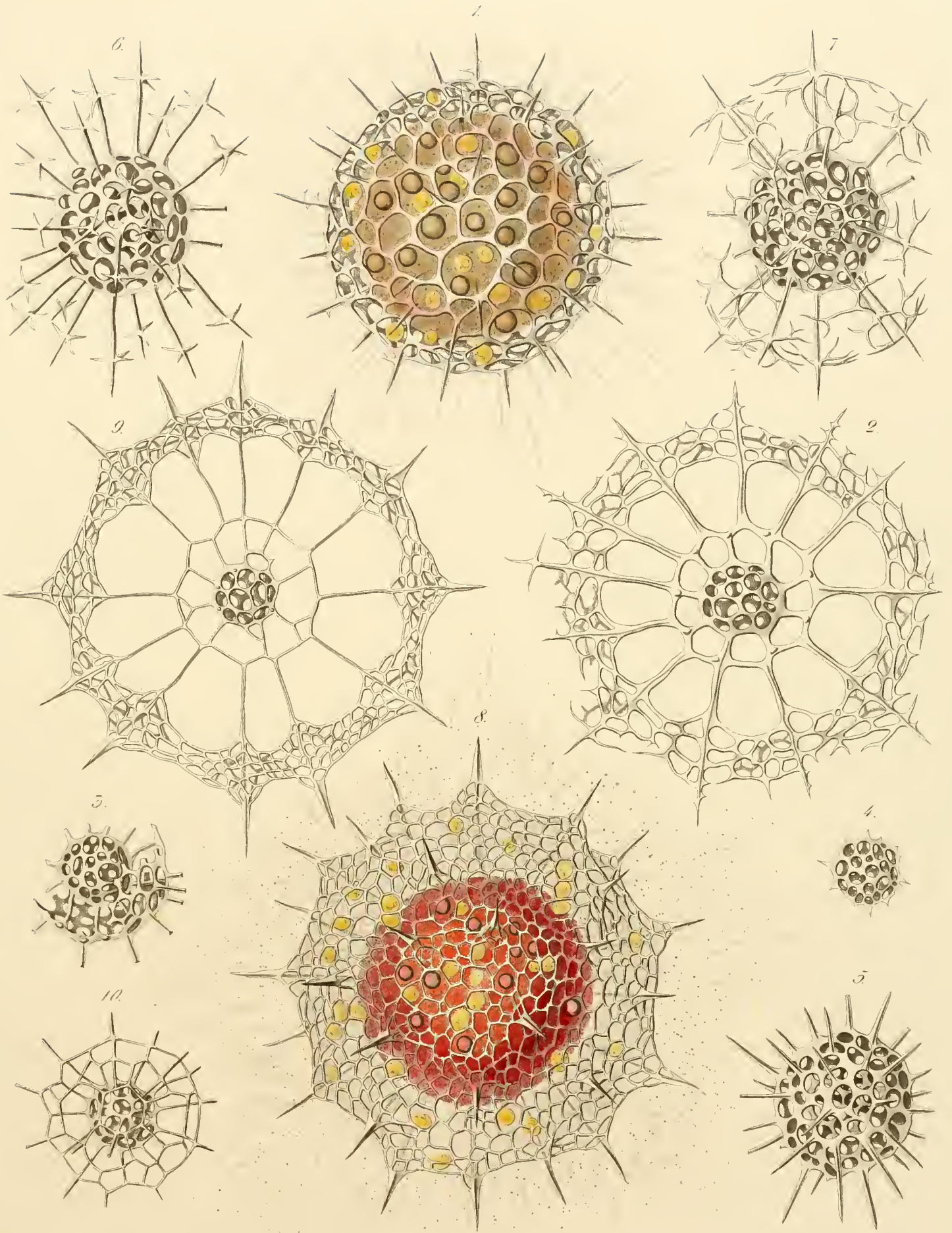
1-9. *Dorataspis*. 1-5. *D. Diodon*, Hkl. 6-9. *D. solidissima*, Hkl. 10-13. *Haliommatidium*.
 10-12. *H. Mülleri*, Hkl. 13. *H. tetragonopium*, Hkl. 14-16. *Didymocyrtis*. *Ceratospyris*.



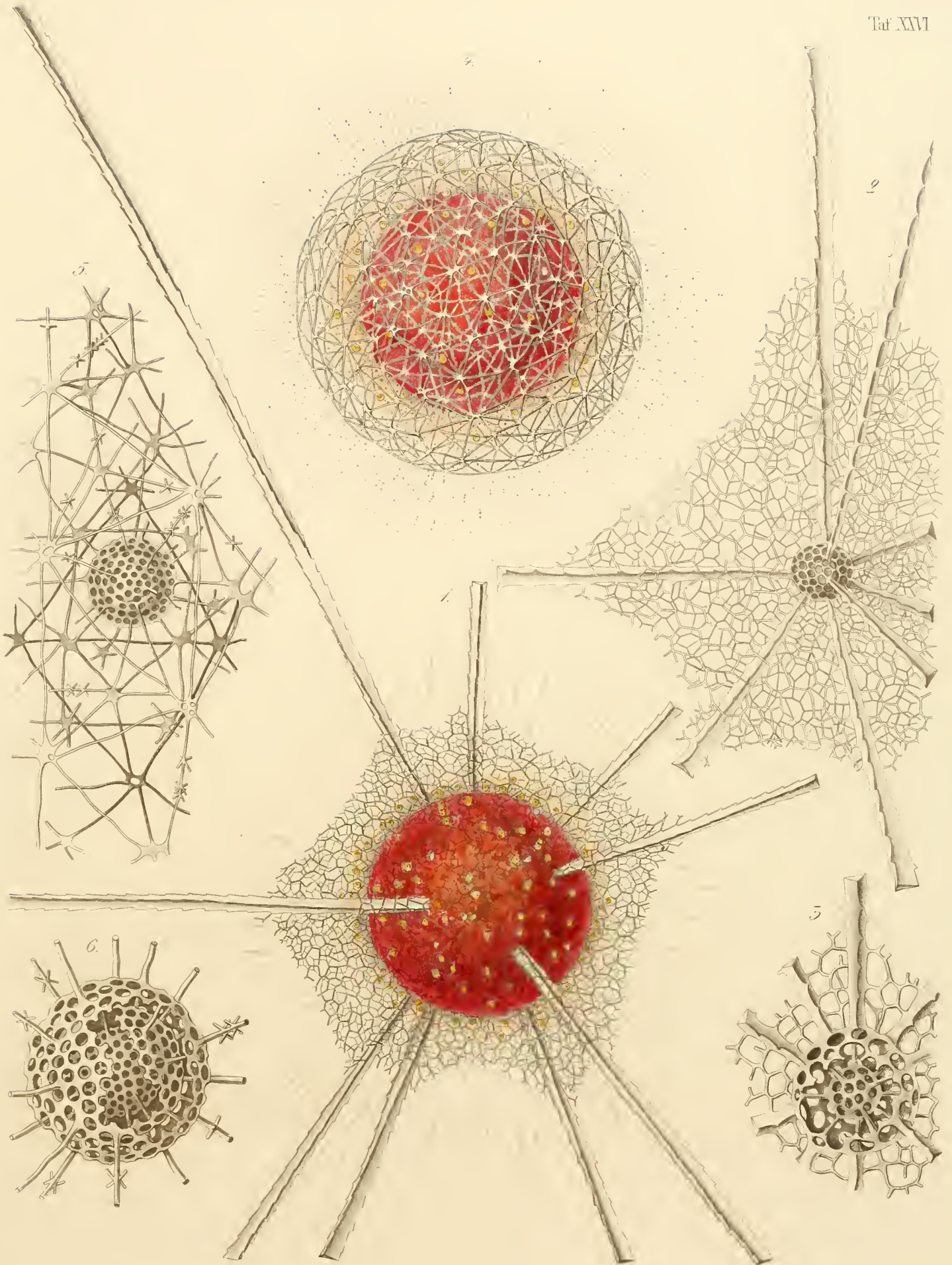
1 *Doraspis costata*, Ill. 2-4 *Haliomma* 2 II *capillaceum*, Ill.
 5 4 II *Erinaceus*, Ill. 5 6 *Actinomma Asteracanthou*, Ill.



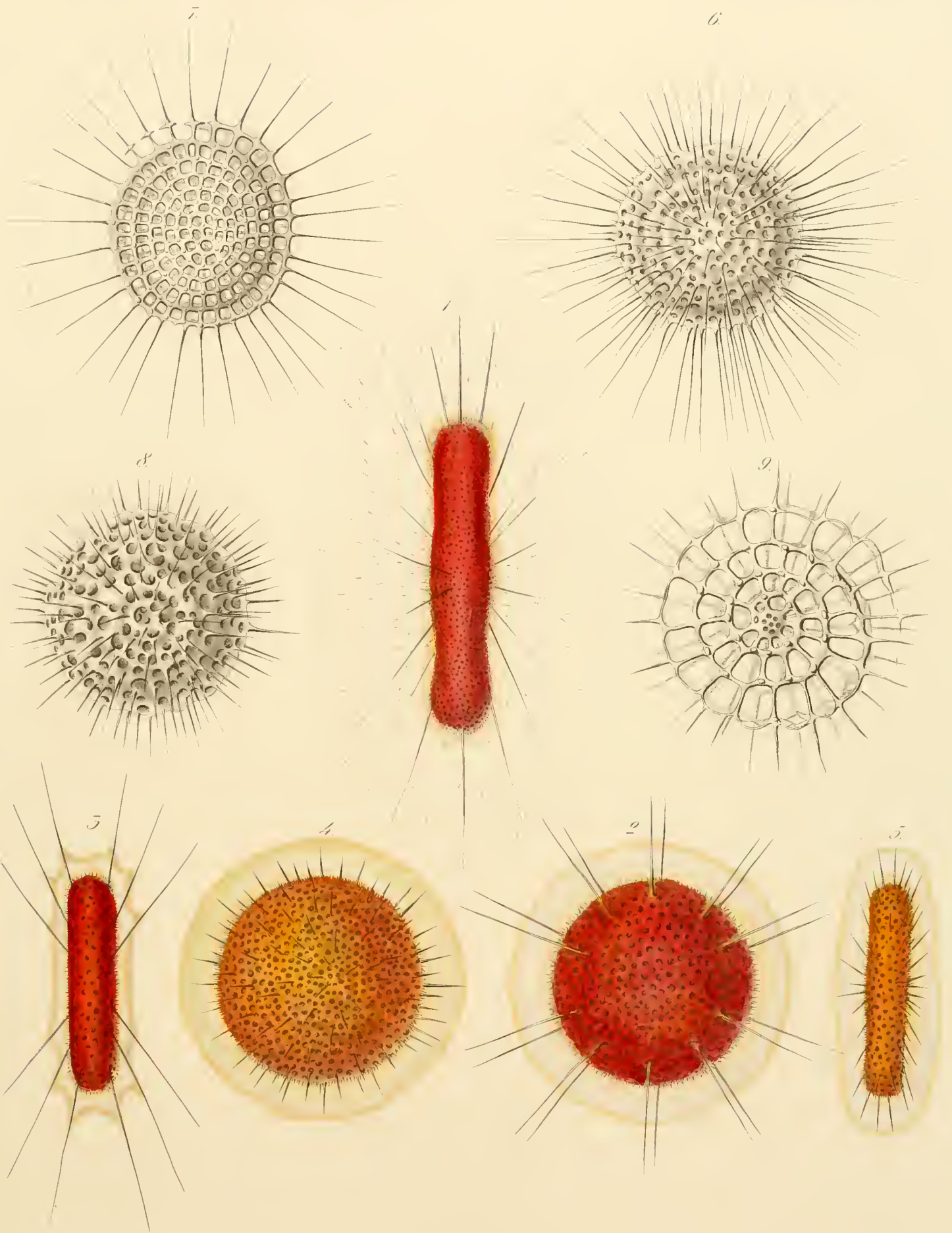
1-4 Halonima 1-3. H. Echinaster, Hkl. 4. H. Castanea, Hkl. 5-9 Actinomma
 5 A. inerre, Hkl. 6-8 A. Trinacrum, Hkl. 9 A. drymodes, Hkl.



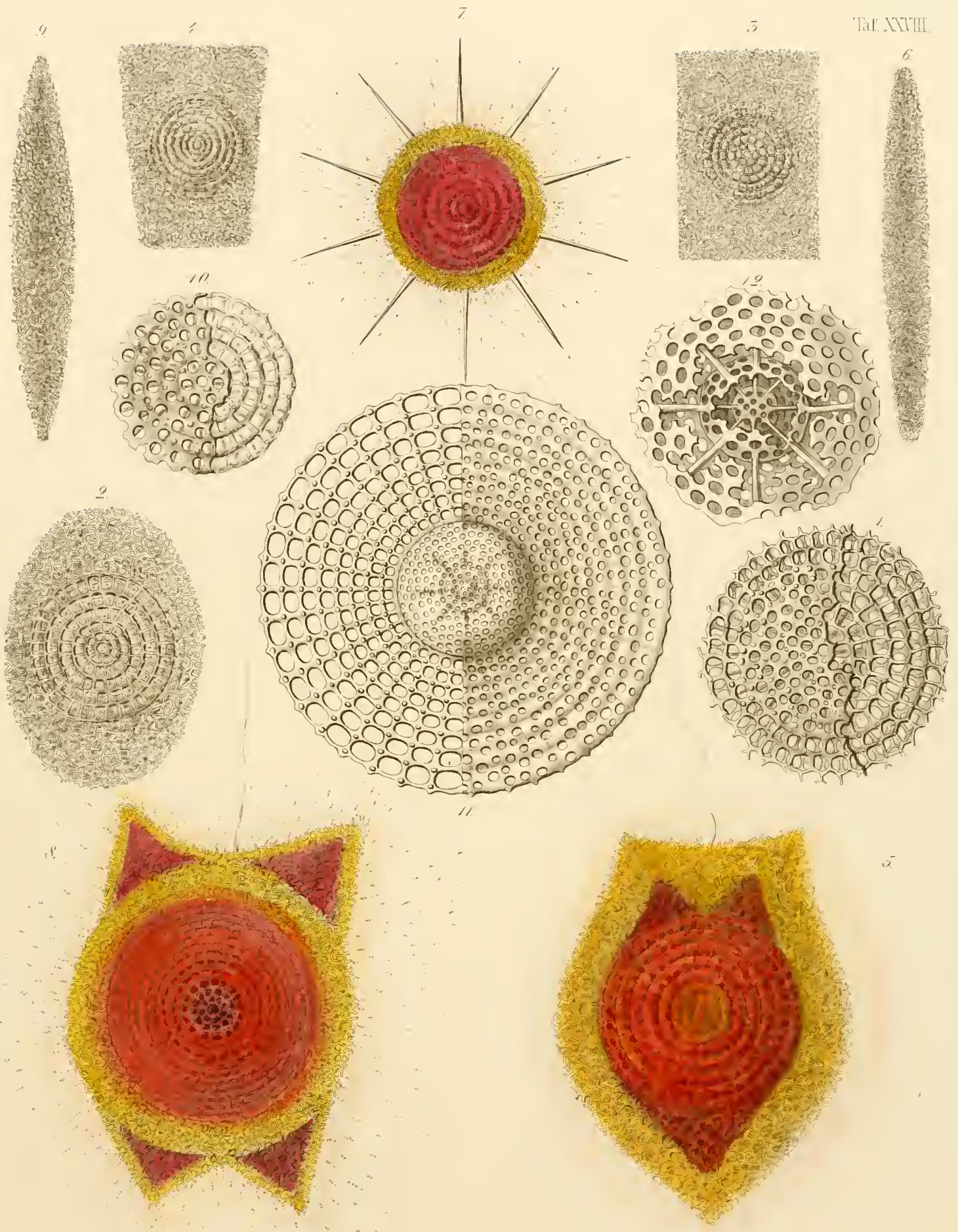
1-10 Rhizosphaera 1-7 R. trigonacantha, Hk. 8-10. R. leptomita, Hk.



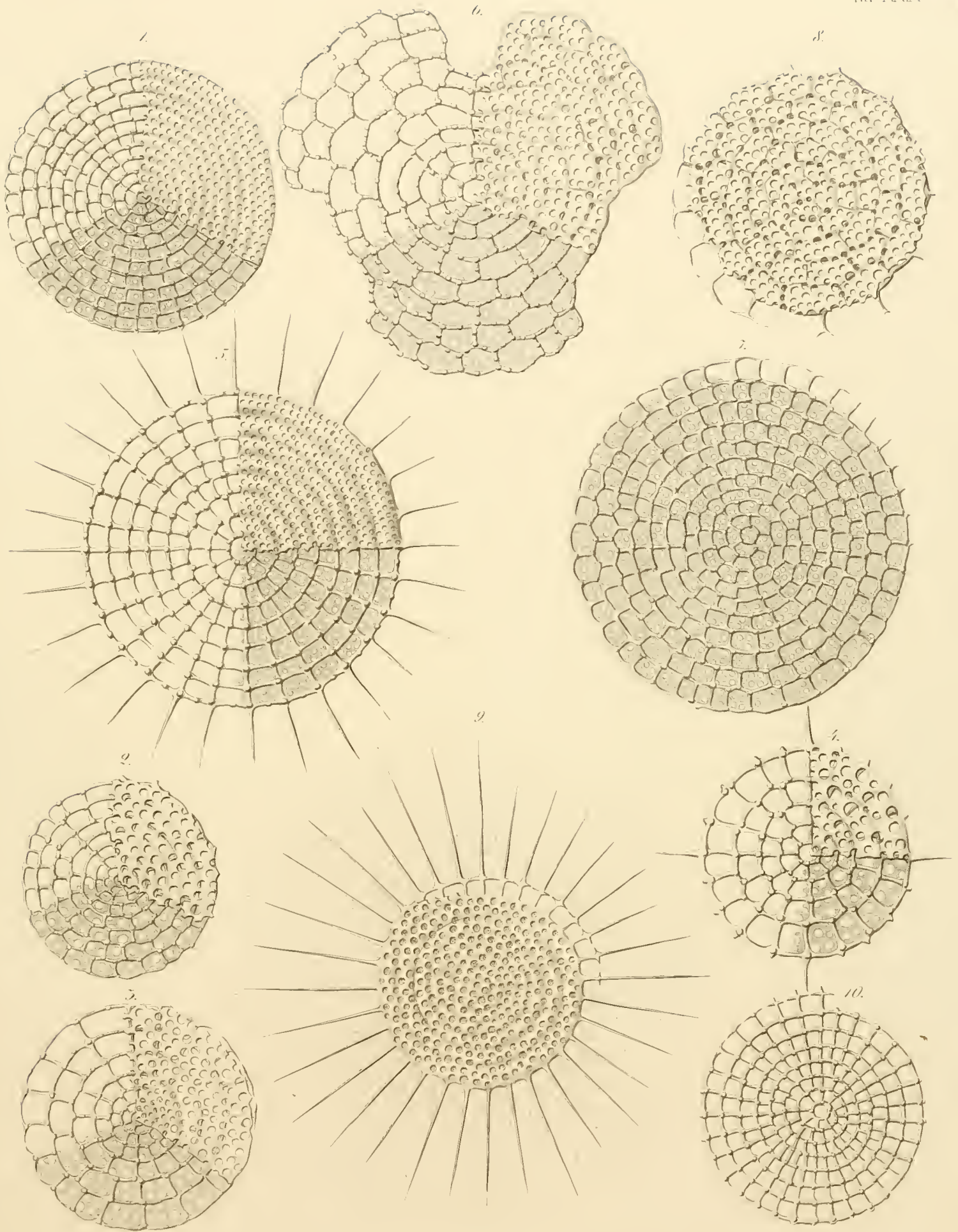
1-5. *Spongosphaera streptacantha*, Hkl. 4-6. *Dictyosema trigonum*, Hkl.



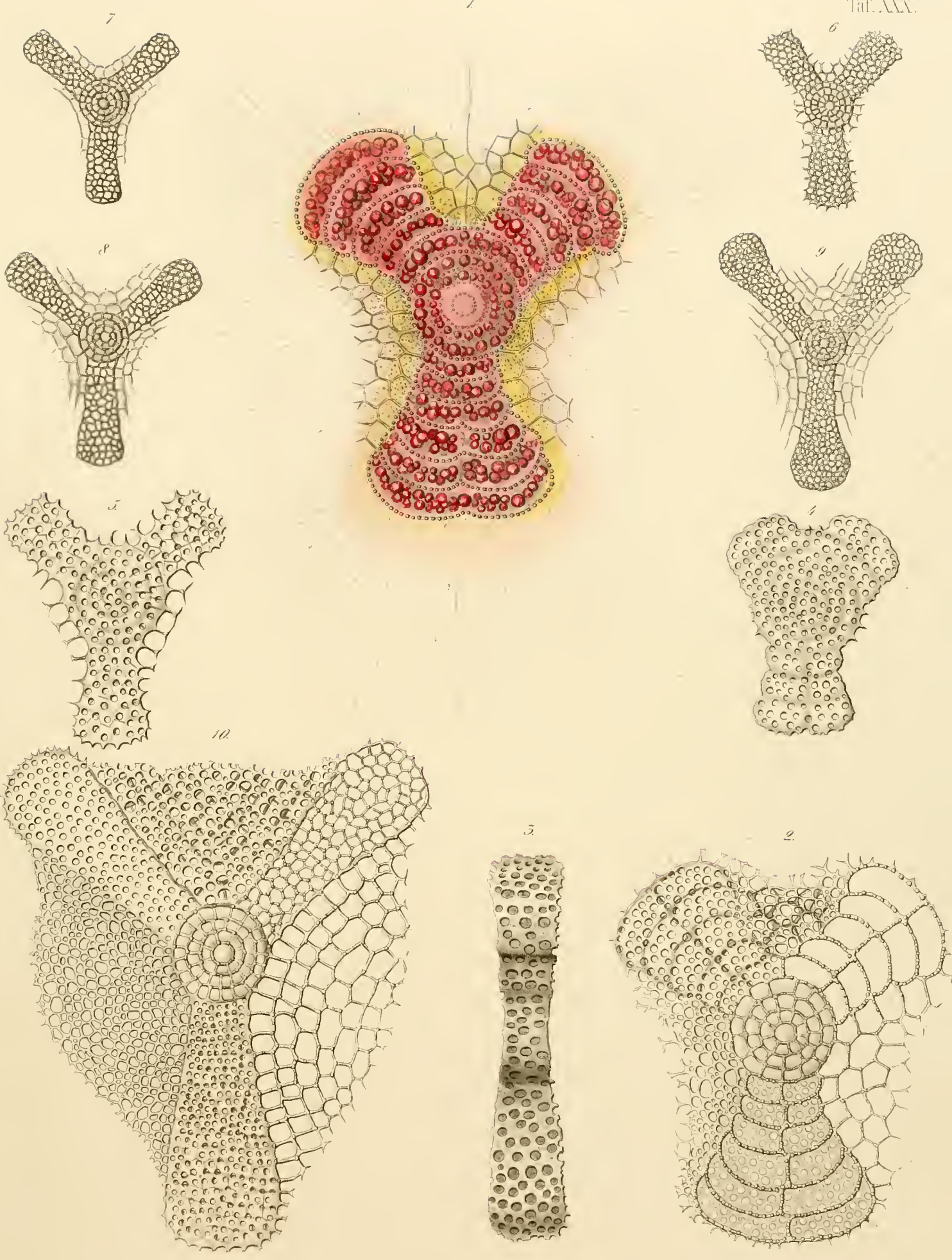
1. *Spongurus cylindricus*, Hk. 2-5. *Spongotrochus*. 2, 5. *S. longispinus*, Hk. 4, 5. *S. brevispinus*, Hk.
 6-9. *Lathelius*. 6, 7. *L. spiralis*, Hk. 8, 9. *L. Alveolna*, Hk.



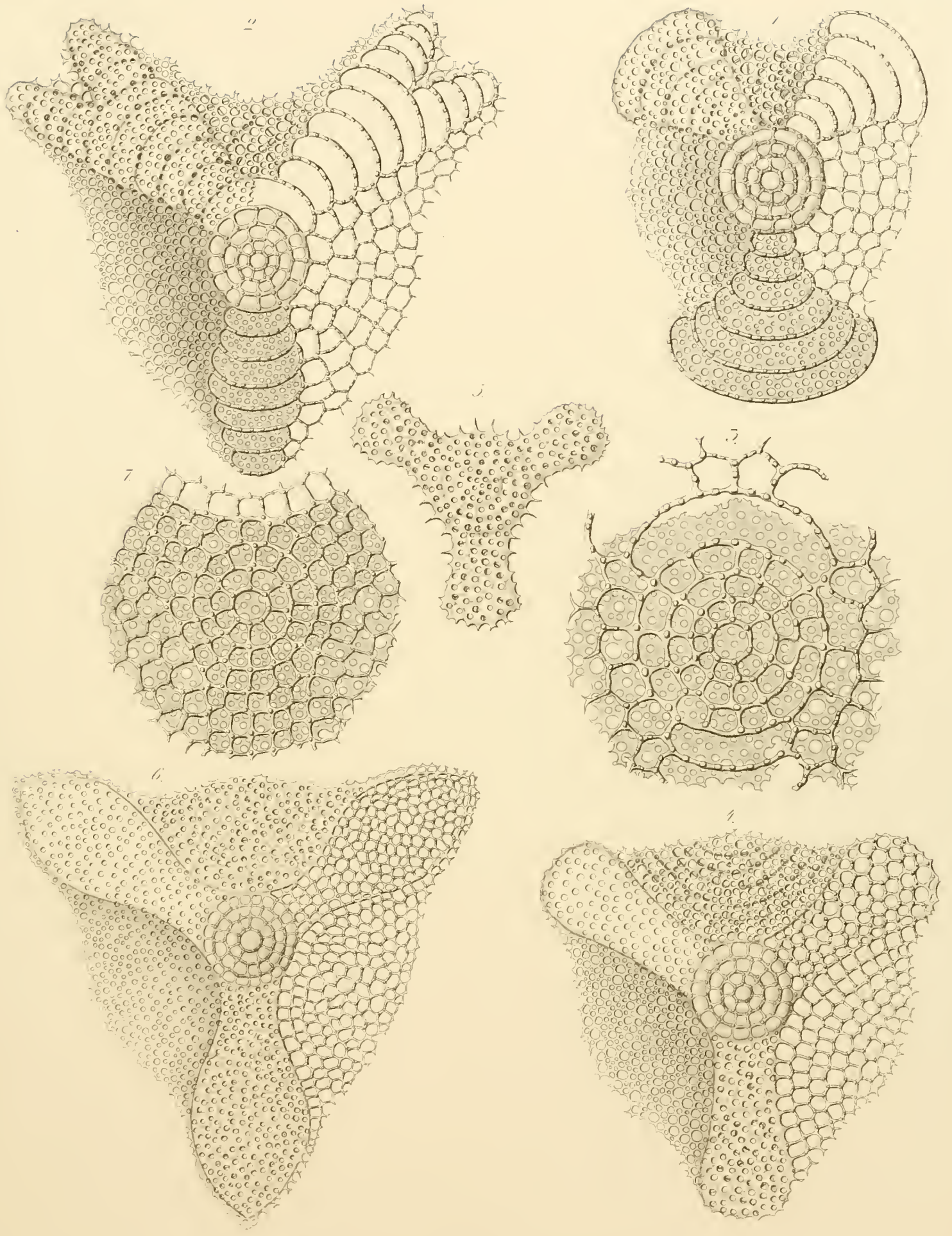
1-6. Spongiocyclia L.S. cycloides, Hkl. 2. S. elliptica, Hkl. 3. S. orthogona, Hkl. 4. S. Scyllaea, Hkl. 5. 6. S. Charybdaea, Hkl.
 7. Stylospongia Huxleyi, Hkl. 8-10. Spongiasteriscus quadricornis, Hkl. 11. 12. Coccodiscus Darwinii, Hkl.



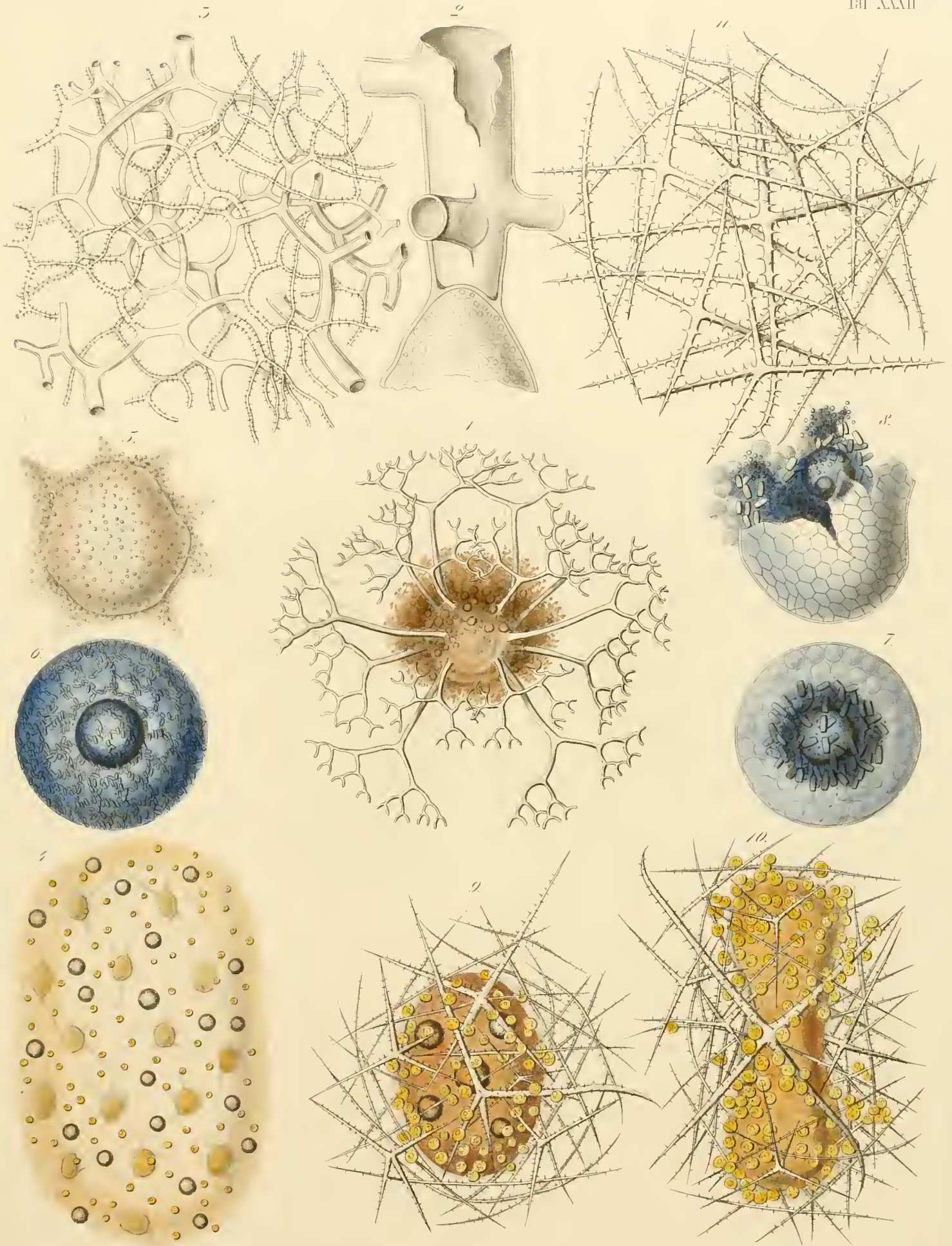
1-5 Trematodiscus 1. T. orbiculatus, Mik. 2. T. Sorites, Mik. 5. Eheterocyclus, Mik. 4. 5. Stylocleiva, 4. S. quadrispina, Mik.
 6. S. multispina, Mik. 6. Rhopalastrum truncatum, Mik. 7. 8. Discospira, 7. D. helicoides, Mik. 8. D. Operculina, Mik. 9. 10. Stylospira Hujardii, Mik.



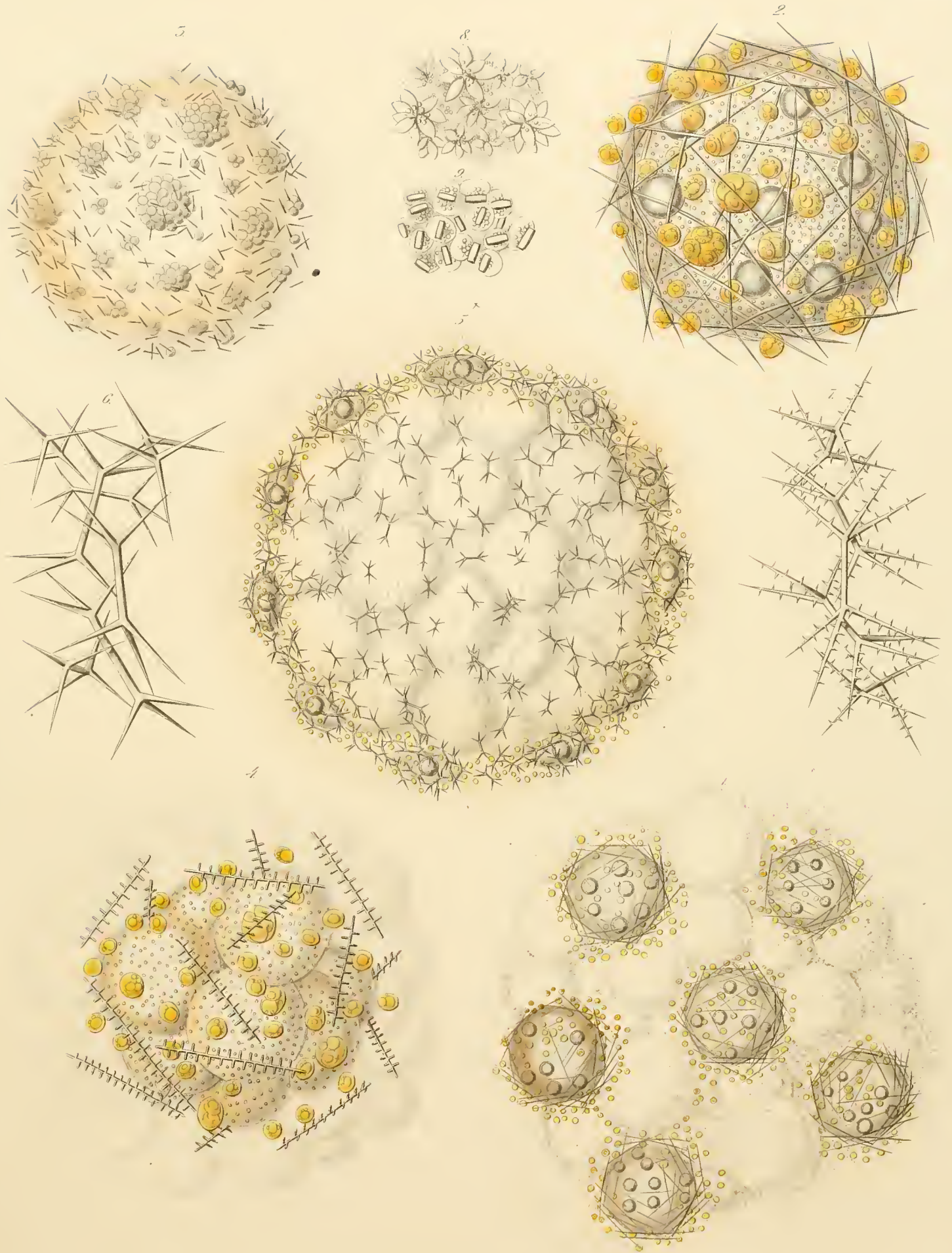
1-10. Euchitoma 1-4. E. Virchowii, Hk. 5-10. E. Mulleri, Hk.



1-7. *Euchitonium*. 1. E. Beckmanni, Hb. 2. 5. E. Gegenbauri, Hb.
4. 5. E. Leydigi, Hb. 6. 7. E. Kollikeri, Hb.

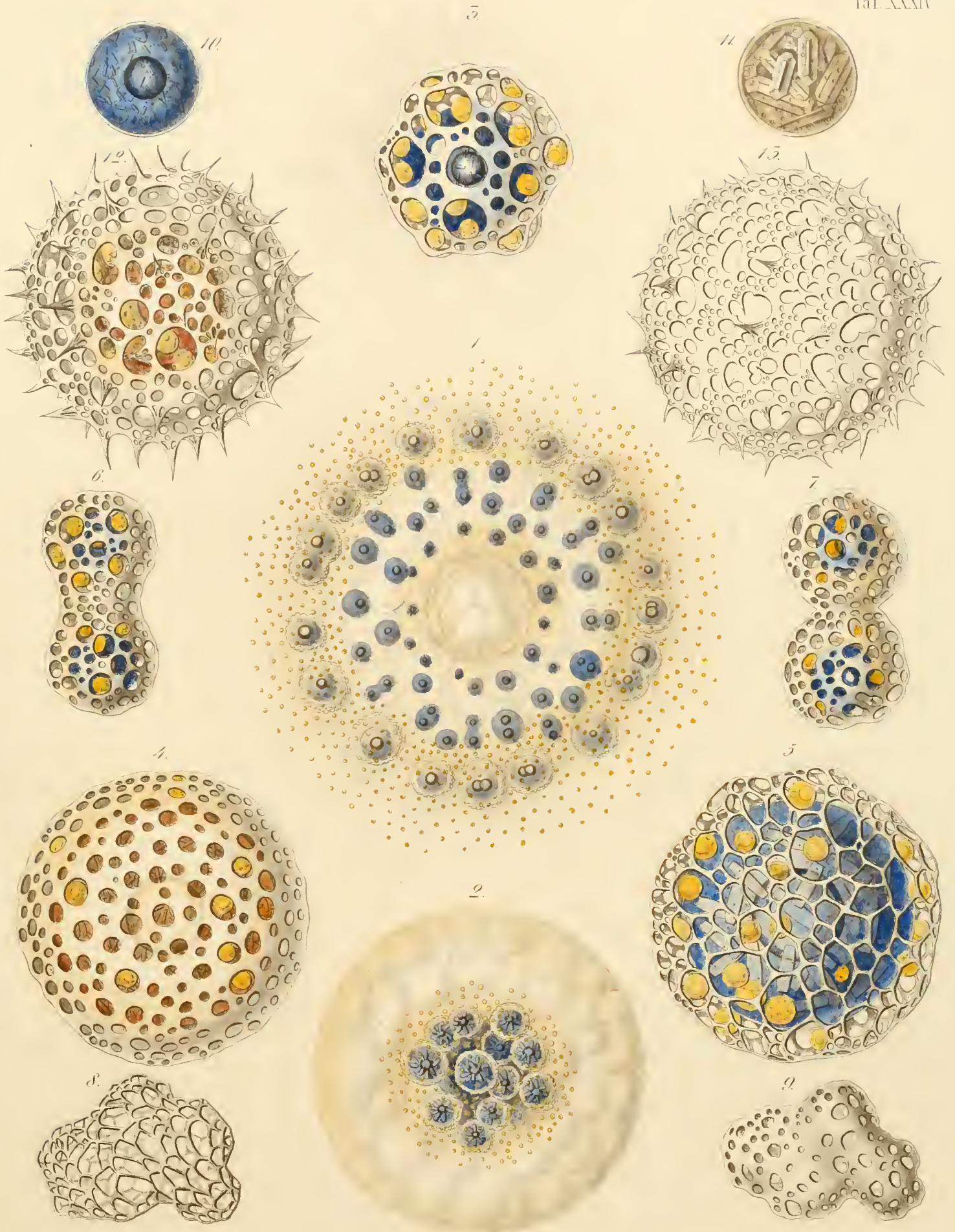


1-5. *Coelodendrum gracillimum*, Hkl. 4-8. *Collozoum*. 4-5 *C. pelagicum*, Hkl.
 6-8. *C. coeruleum*, Hkl. 9-11. *Rhaphidozoum aciferum*, Hkl.

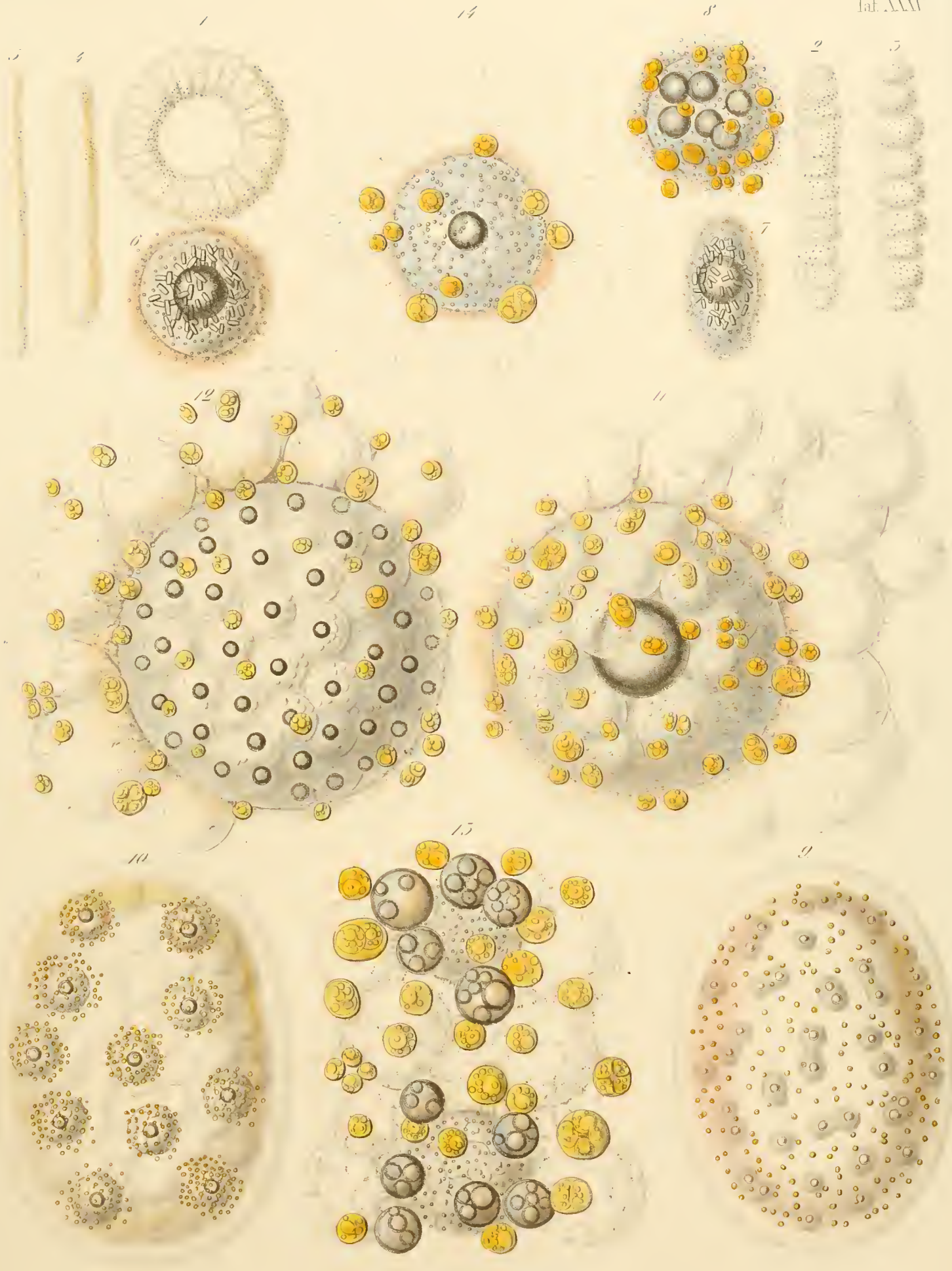


1-9. Sphaerozoum. 1 2 S. Italicum, Hbk. 3 4 S. spinulosum, Muller.

5-6 S. Ovodimare, Hbk. 7-9. S. punctatum, Muller



1-13. Collospira. 1-11. *C. Huxleyi*, Müller. 12-13. *C. spinosa*, Hbk.



1-14 Collozoum merme. Hb

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