

PLATE 1.

RECEPTACULITES OWENI, *Hall.*

Page 243.

Fig. 1. Upper view of a specimen.

FAVISTELLA STELLATA, *Hall.*

Page 247.

Fig. 2. The lower decorticated side of a corallum.

Fig. 3. Transverse section, enlarged.

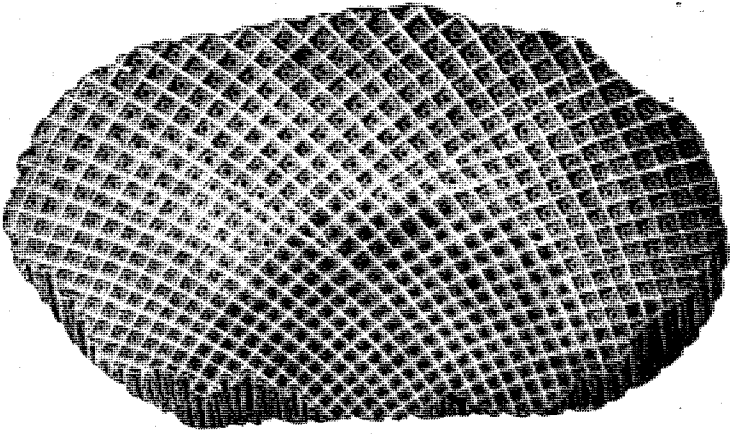
Fig. 4. Longitudinal section, enlarged.

PALÆOPHYLLUM DIVARICANS, *Nicholson.*

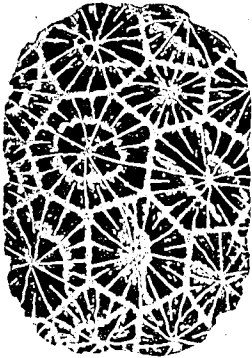
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Fig. 5. Lateral view of a group.

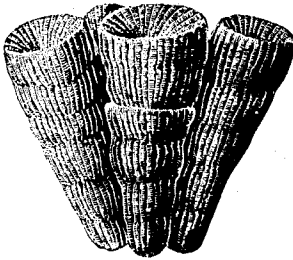
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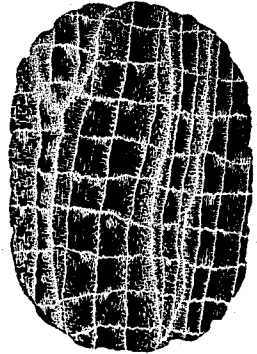
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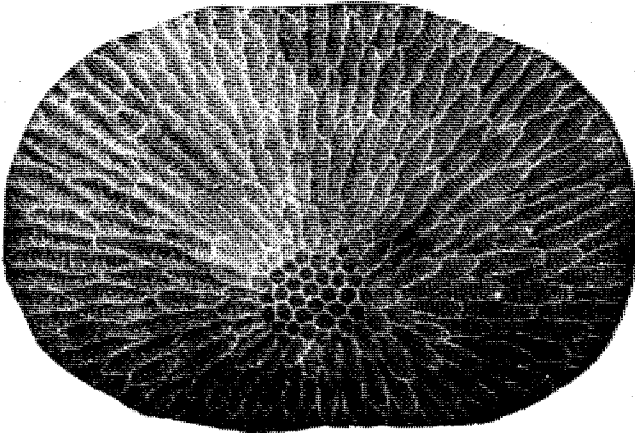
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EXPLANATION OF PLATES.

PLATE 2.

HELIOLITES INTERSTINCTUS, *Linne.*

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- Fig. 1. Upper view of a specimen, natural size.  
Fig. 2. Oblique view of a specimen, showing the upper surface and the vertical section.  
Fig. 3. Upper surface, enlarged.

LYELIA AMERICANA, *Edwards & Haime.*

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- Fig. 4. Upper surface, enlarged.  
Fig. 5. Vertical section enlarged. This section does not cut the cell tubes, and only represents the intercellular tissue.

THECIA MAJOR, *Rominger.*

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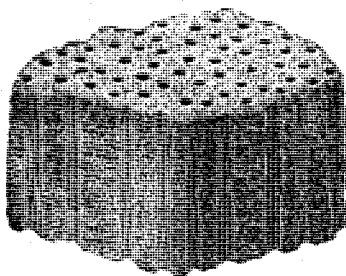
- Fig. 6. Upper view of a specimen.

FAVOSITES VENUSTUS, *Hall.*

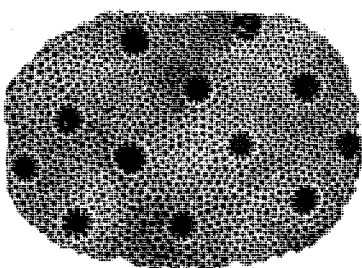
Page 253.

- Fig. 7. Oblique view of a specimen with the upper surface removed, showing the form of the cell tubes, and the vertical section showing the transverse diaphragms.  
Fig. 8. Upper view of a slightly weathered specimen.

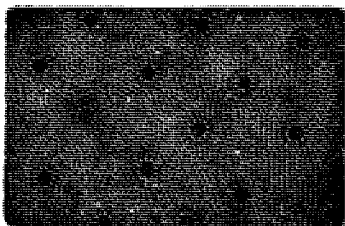
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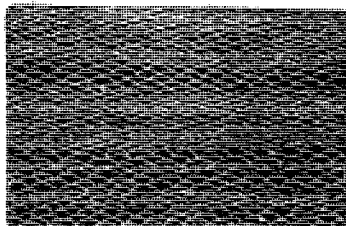
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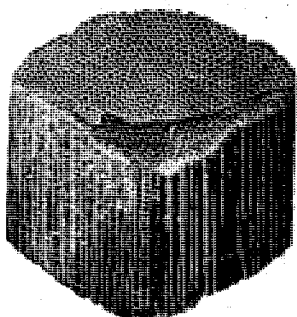
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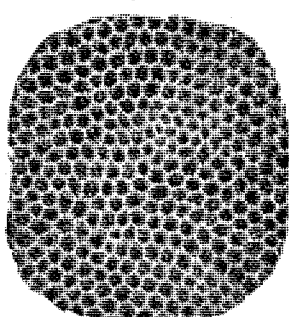
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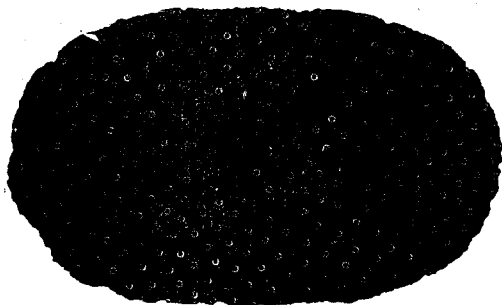
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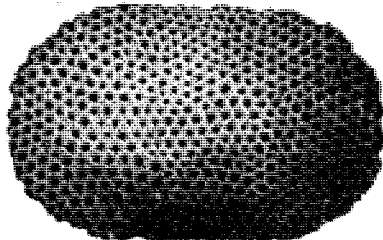


PLATE 3.

FAVOSITES FAVOSUS, *Goldfuss*.

Page 253.

- Fig. 1. Upper view of a specimen.
- Fig. 2. Lateral view.
- Fig. 3. Lateral view, enlarged, showing the position of the pores.
- Fig. 4. Transverse section, enlarged, showing the number and position of the pores.

SYRINGOPORA VERTICILLATA, *Goldfuss*.

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- Fig. 5. Side view of a mass of corallites. The figure of this species by Mr. Van Cleve does not correspond with the figure of Goldfuss, nor with specimens identified as *S. verticillata*, from the Niagara group in the Western States.

ERIDOPHYLLUM RUGOSUM, *Edwards & Haime*.

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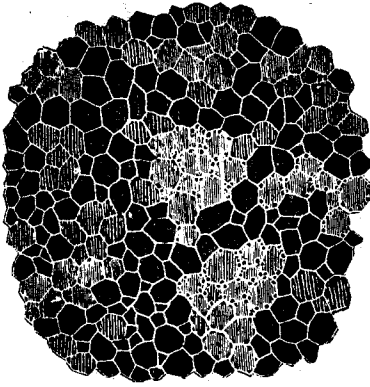
- Fig. 6. Lateral view, showing the constrictions and processes of the tubes.

LYELLIA AMERICANA, *Edwards & Haime*.

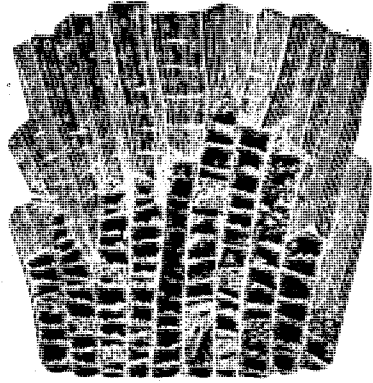
Page 252.

- Fig. 7. Lateral view of a weathered specimen, showing the furrowed tubes.

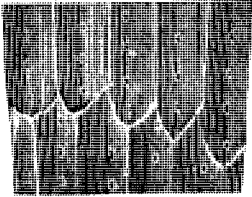
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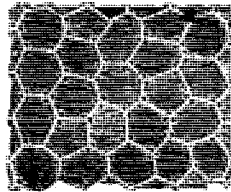
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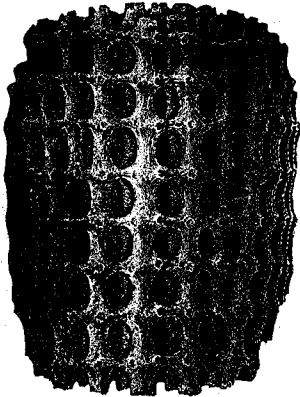
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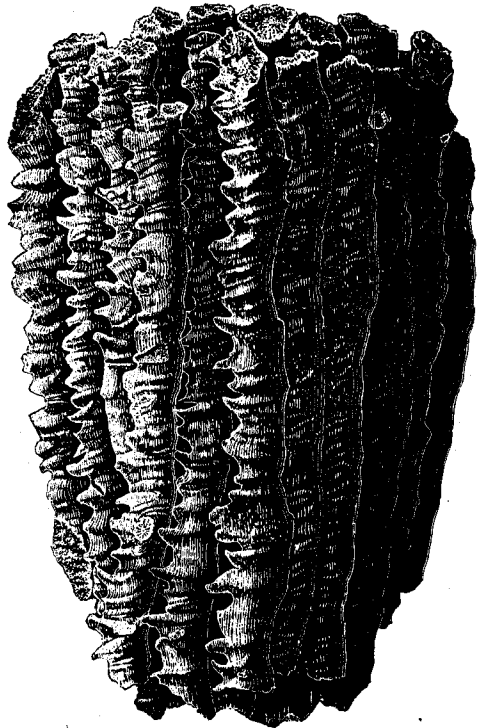
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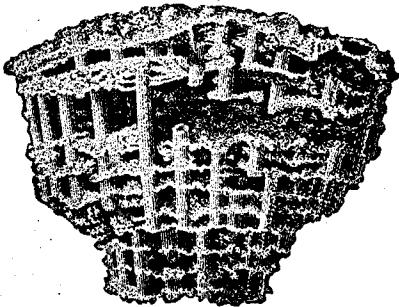


PLATE 4.

AULOPORA VANCELVII, *Hall.*

Page 255.

- Fig. 1. A large colony, showing the compact and scattered forms of growth.  
Fig. 2. Several of the tubes enlarged.

FAVOSITES EMMONSI, *Rominger.*

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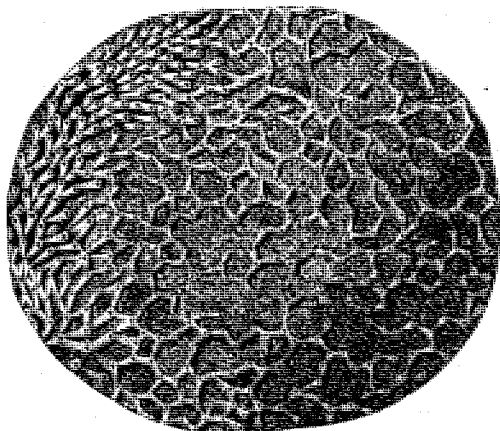
- Fig. 3. Upper surface of a specimen.  
Fig. 4. Side view enlarged, showing the transverse diaphragms and the pores.

FAVOSITES LIMITARIS, *Rominger.*

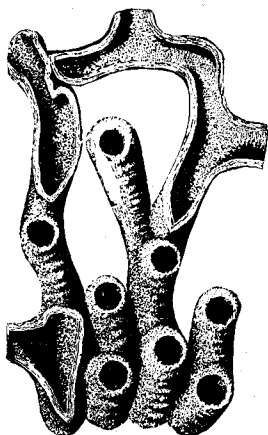
Page 256.

- Fig. 5. A specimen with large branches, but slightly diverging.  
Fig. 6. A more slender and frequently branching form.

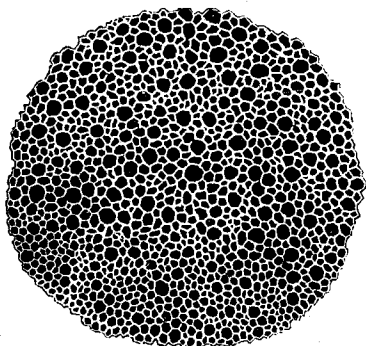
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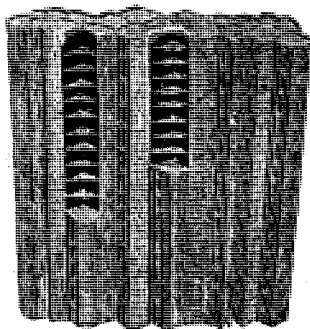
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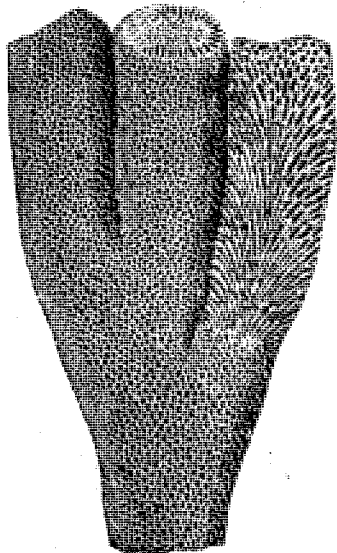
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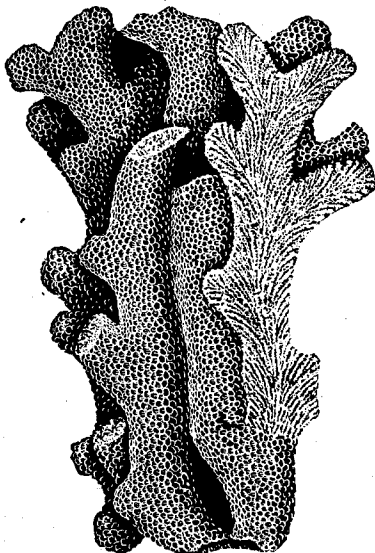


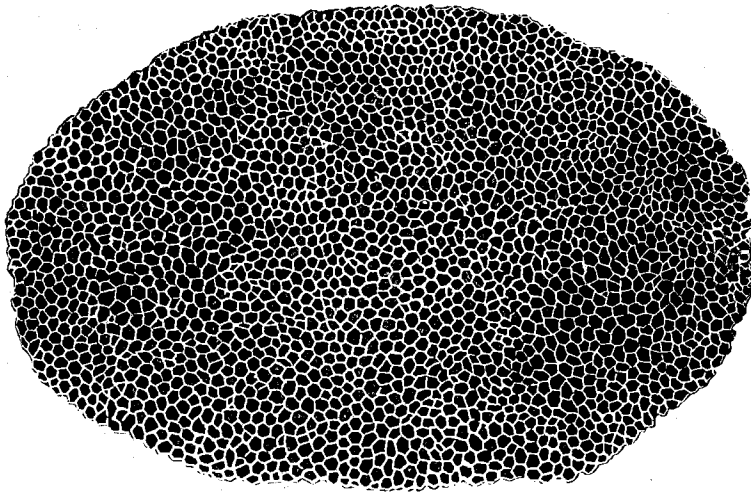
PLATE 5.

FAVOSITES HEMISPHERICUS, *Yandell & Shumard.*

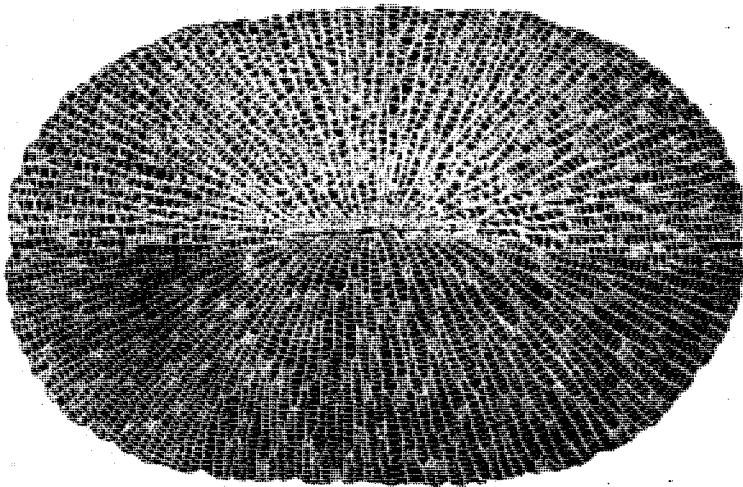
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- Fig. 1. Upper view of a corallum, showing the size and form of the corallites.  
Fig. 2. Lower surface with the epitheca removed, showing the septate tubes of the corallites.

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EXPLANATION OF PLATES.

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PLATE 6.

HELIOPHYLLUM HALLI, *Edwards & Haime.*

Page 259.

Fig. 1. Lateral view of an unusually large and fine specimen.

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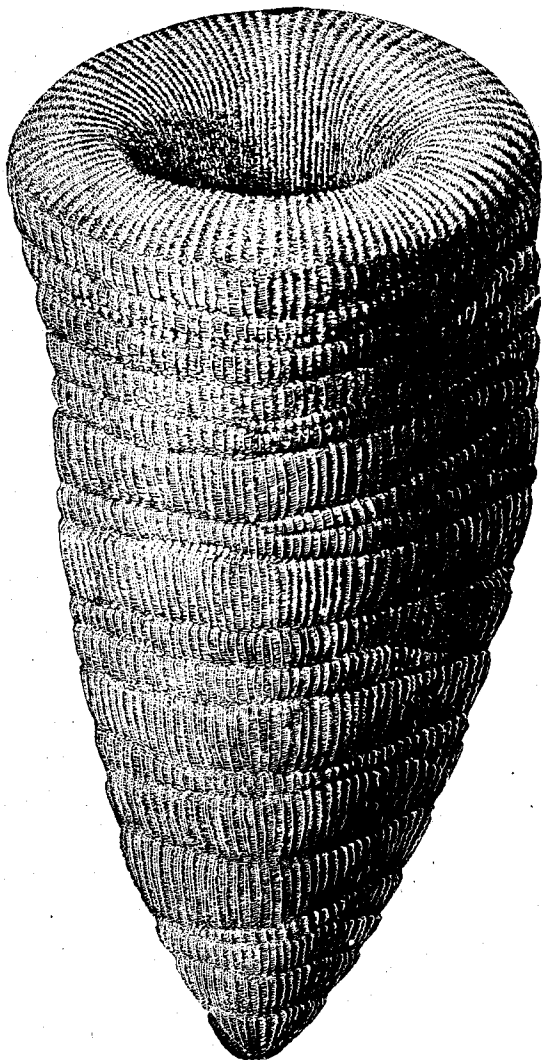


PLATE 7.

SYRINGOPORA PERELEGANS, *Billings*.

Page 258.

Fig. 1. Lateral view of a mass of corallites.

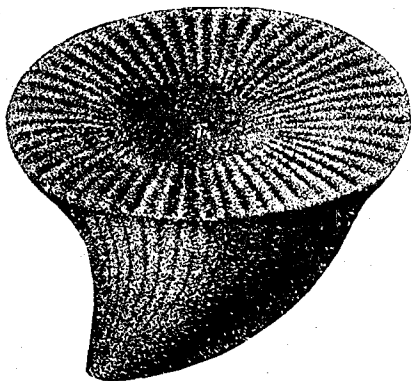
HELIOPHYLLUM COALITUM, *Rominger*.

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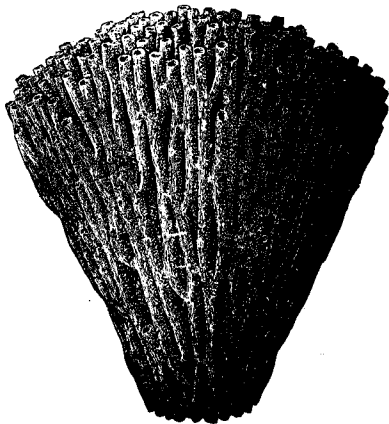
Fig. 2. Lateral view of a simple specimen. There may be some doubt as to the identity of this form with Fig. 3.

Fig. 3. Upper view of compound group.

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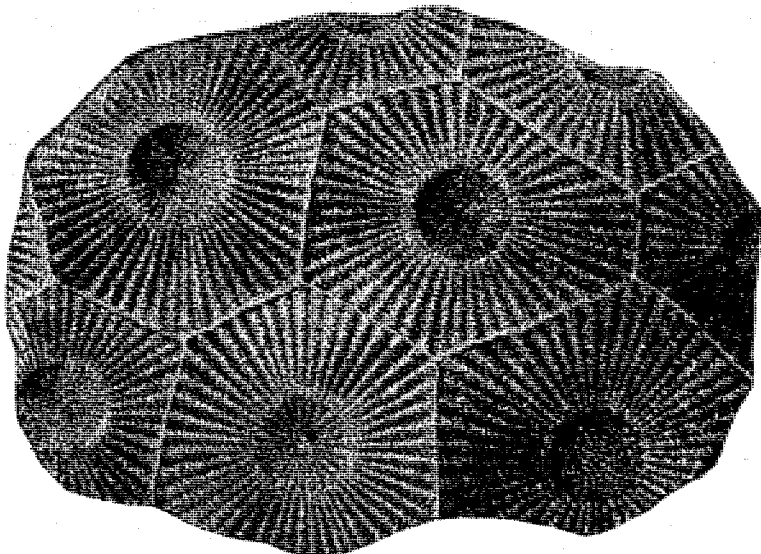


PLATE 8.

CYATHOPHYLLUM RUGOSUM? *Hall.*

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- Fig. 1. Upper side of a colony showing the corallites. The figure is identified with considerable doubt. Mr. Van Cleve's description agrees with the species better than the characters represented in the figure.
- Fig. 2. Lower surface showing the concentric lines of the epithica and the radiation of the interior structure.

ERIDOPHYLLUM VERNEULLIANUM? *Edwards & Haime.*

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- Fig. 3. Lateral view of a specimen showing the lateral processes. The figure does not correspond in all features to typical specimens of this species. The corallites are smaller than usual, and the lateral processes more regular. It must be remembered that some of these illustrations are composite in their representation, owing to embodying the characters of several specimens in one figure, and to the evident attempt to follow Goldfuss, both in descriptive characters and in illustration.

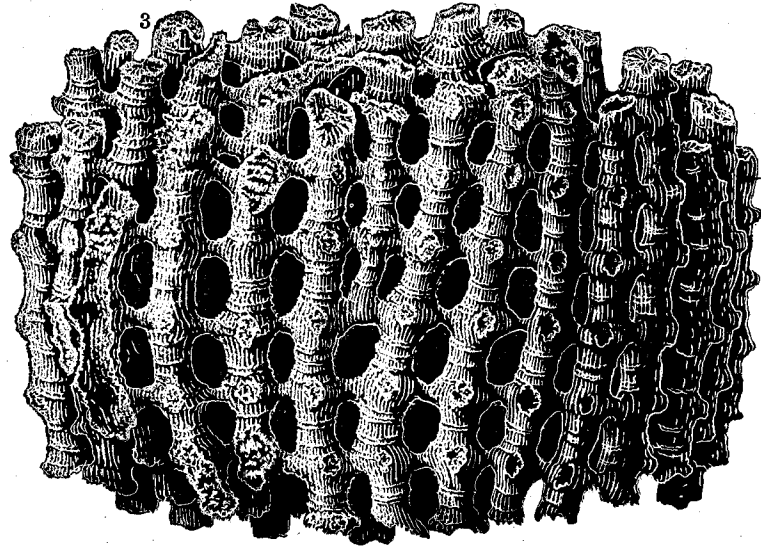
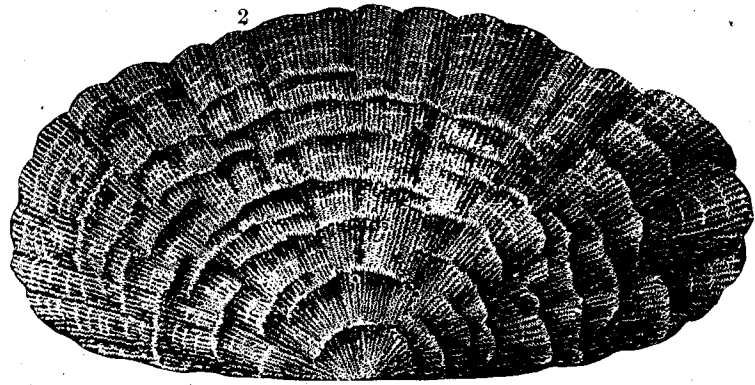
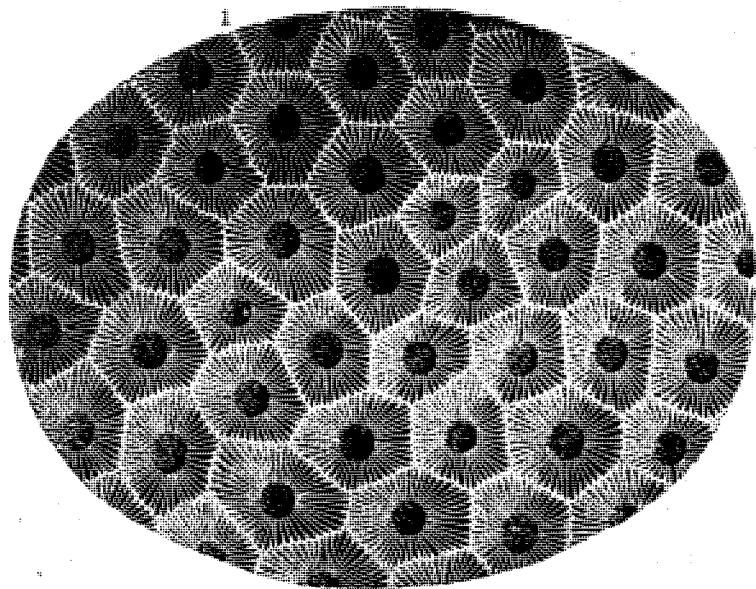


PLATE 9.

ERIDOPHYLLUM SIMCOENSE, *Billings*.

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Fig. 1. Lateral view of a group of corallites.

DIPHYPHYLLUM STRAMINEUM, *Billings*.

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Fig. 2. Side view of a specimen.

CYSTIPHYLLUM PUSTULATUM, *Hall*.

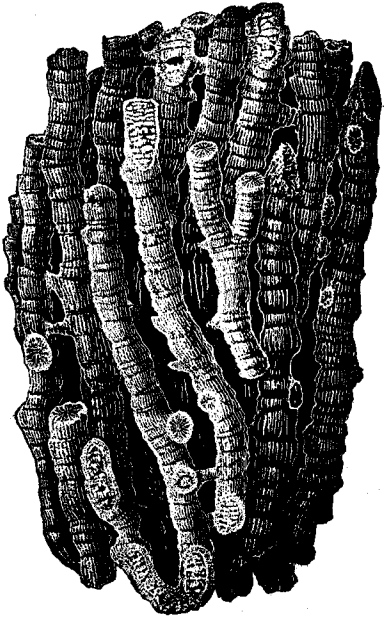
Page 262.

Fig. 3. Lateral view of a corallum, showing its size and the turbinate form.

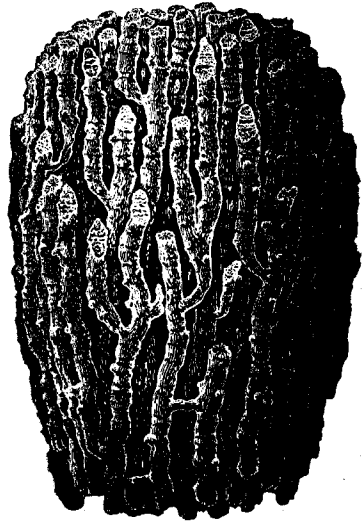
Fig. 4. Transverse section. (These sections are referred, with doubt, to this species.)

Fig. 5. A longitudinal section of a corallum.

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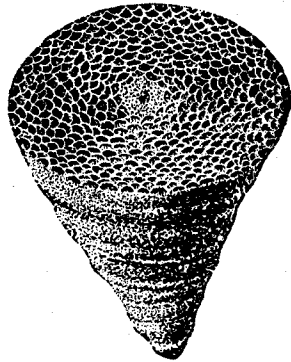
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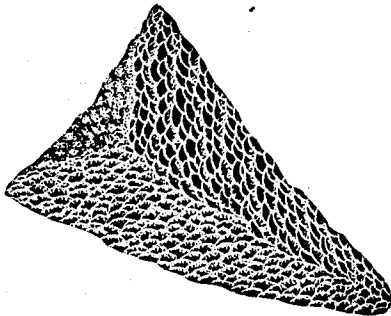


PLATE 10.

MONTICULIPORA GRACILIS, *James.*

Page 248.

- Fig. 1. Fragment of a corallum.
- Fig. 2. Fragment of another example.
- Fig. 3. The termination of a branch, enlarged.

MONTICULIPORA DISCOIDEA, *James.*

Page 247.

- Fig. 4. Basal views of three specimens.
- Fig. 5. Upper side of a specimen, enlarged.

MONTICULIPORA TUBERCULATA, *Edwards & Haime.*

Page 251.

- Fig. 6. A specimen attached to a portion of an *Orthoceras*, natural size.

STROMATOPORA (SYRINGOSTROMA) DENSUM, *Nicholson.*

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- Fig. 7. Oblique view of a specimen, showing the star-like canals of the upper surface, and the vertical structure of the mass.

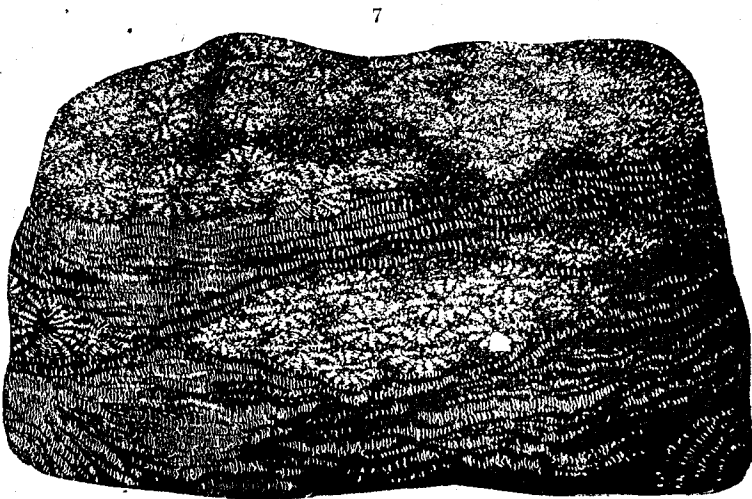
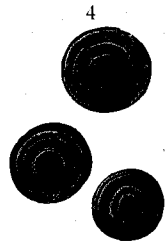
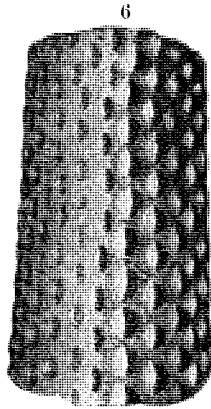
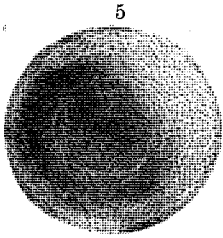
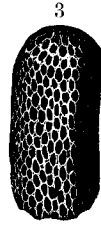
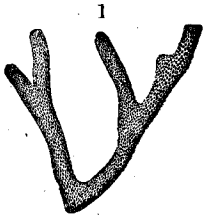


PLATE 11.

MONTICULIPORA MAMMULATA, *D'Orbigny.*

Page 250.

Fig. 1. A fragment of a corallum.

MONTICULIPORA DALII, *Edwards & Haime.*

Page 249.

Fig. 2. A fragment showing the method of branching, and the number and arrangement of the elevations on the surface.

MONTICULIPORA—*species?*

Page —.

Fig. 3. A fragment of undetermined specific relations.

Fig. 4. " " " " " "

Fig. 5. " " " " " "

Fig. 7. " " " " " "

Fig. 12. " " " " " "

Fig. 13. " " " " " " (enlarged.)

MONTICULIPORA APPROXIMATA, *Nicholson.*

Page 250.

Fig. 6. A fragment of a corallum.

MONTICULIPORA JAMESI, *Nicholson.*

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Fig. 8. A small fragment referred to this species.

MONTICULIPORA ANDREWSI, *Nicholson.*

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Fig. 9. A portion of a corallum.

MONTICULIPORA ULRICHI, *Nicholson.*

Page 249.

Fig. 10. A small fragment of a corallum.

MONTICULIPORA GRACILIS, *James.*

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Fig. 11. A single branch of a corallum.

N. B. The species on this plate were identified through the kindness of S. A. Miller, Esq., of Cincinnati, Ohio.

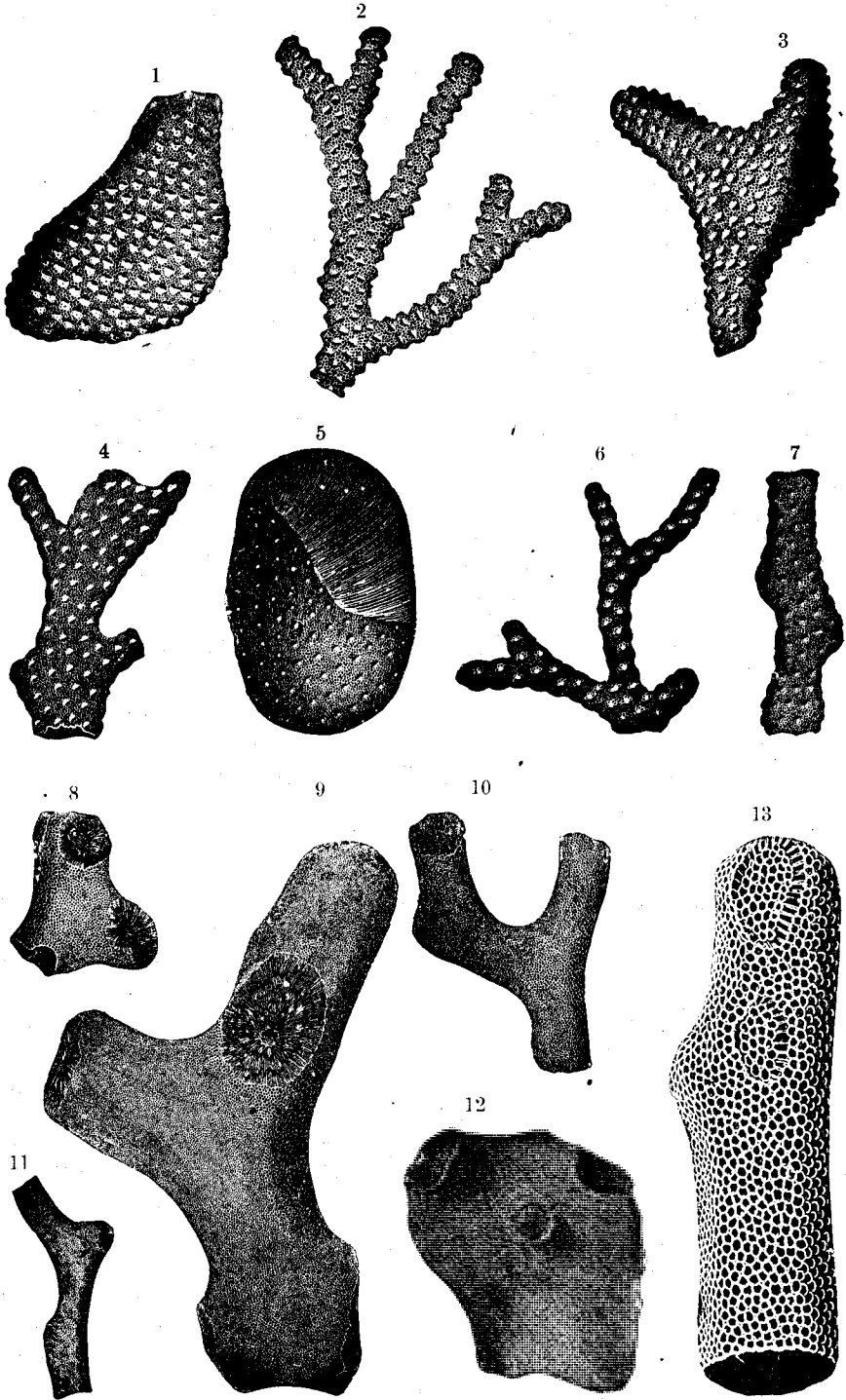


PLATE 12.

PTILODICTYA FALCIFORMIS, *Nicholson.*

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Fig. 1. A frond of this species, natural size.

PTILODICTYA EXPANSA, *Hall and Whitfield.*

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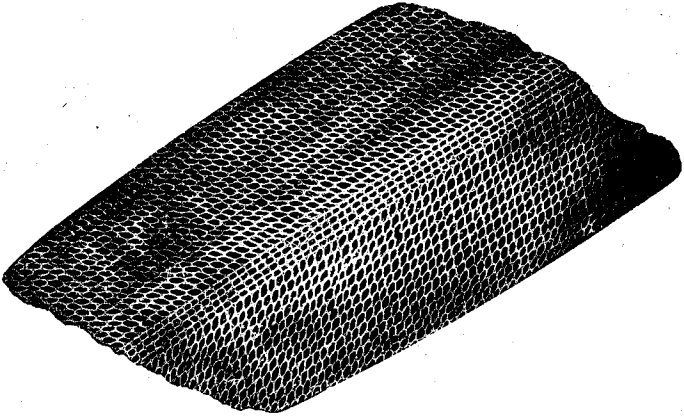
Fig. 2. A specimen showing portions of four fronds, two of which show their terminations.

Fig. 3. A portion, enlarged.

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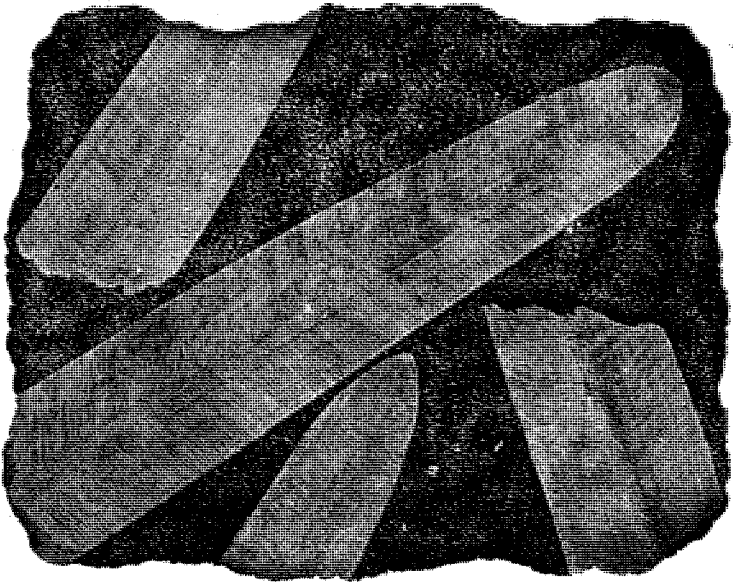


PLATE 13.

STICTOPORA VANCEVII, *Hall.*

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- Fig. 1. A specimen preserving portions of two fronds showing their size and mode of branching.  
Fig. 2. A portion enlarged.

STICTOPORA BIFURCATA, *Van Cleve.*

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- Fig. 3. A specimen showing two bifurcations.  
Fig. 4. A fragment of the frond, enlarged. (The arrangement of the pores at the bifurcation in this figure and in figure 2 is not strictly accurate.)

PTILODICTYA BIPUNCTATA, *Van Cleve.*

Page 266.

- Fig. 5. A specimen with three entire fronds, showing a gradation from the elongate form at the upper left hand corner to the large, broad-lobed specimen.

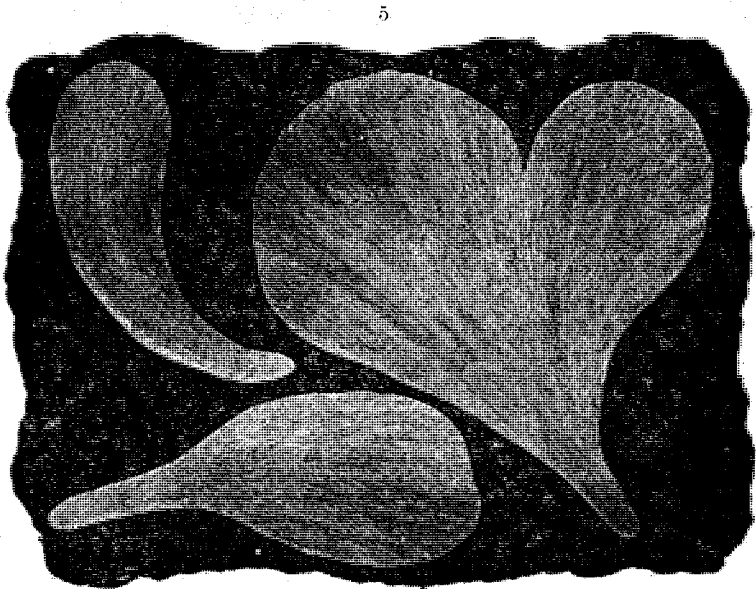
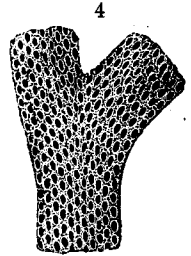
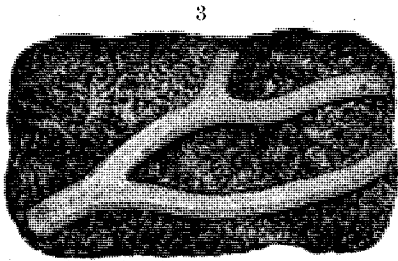
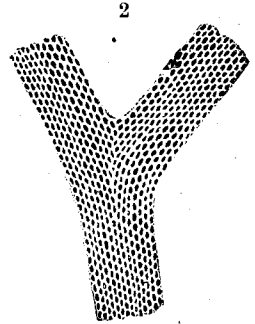
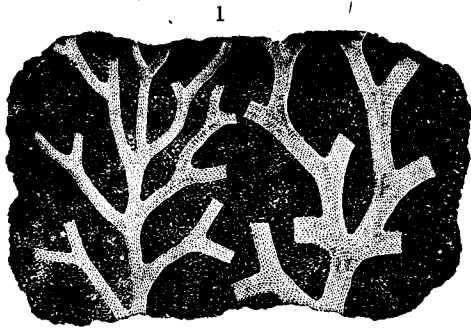


PLATE 14.

RETEPORA ANGULATA, *Hall.*

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Fig. 1. A portion of a frond.

Fig. 2. A fragment, enlarged.

STICTOPORA COMPRESSA, *Van Cleve.*

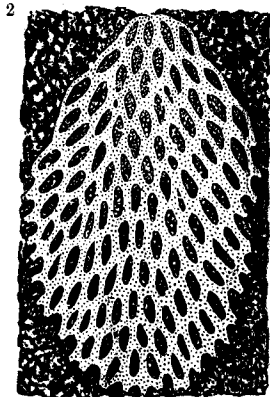
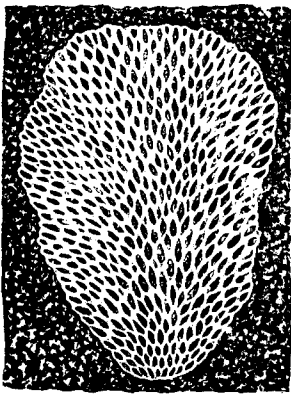
Page 267.

Fig. 3. A portion of a frond showing the manner of growth and the size of the branches.

STICTOPORA MULTIFIDA, *Van Cleve.*

Page 268.

Fig. 4. A large and apparently nearly entire frond, exhibiting the close and frequent branching and the longitudinal arrangement of the pores.



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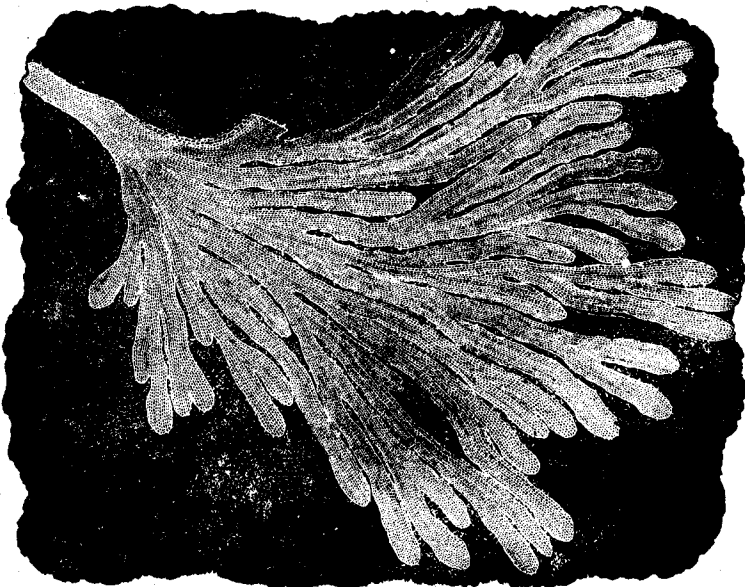


PLATE 15.

CHONOPHYLLUM VADUM.

Page 272.

- Figs. 1, 2. Lateral views of individuals of the ordinary form.  
Fig. 3. View of the calyx of fig. 2.  
Fig. 4. An individual showing proliferous growth.

ANISOPHYLLUM UNILARGUM.

Page 272.

- Fig. 5. Lateral view of specimen of ordinary size and proportions.  
Fig. 6. An imperfect specimen, showing the single prominent ray in the anterior side of the calyx.

ANISOPHYLLUM TRIFURCATUM.

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- Figs. 7, 8. Lateral and posterior views of different specimens. The stronger lamellæ are not well shown in fig. 8.

CYATHOPHYLLUM INTERTRIUM.

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- Figs. 9, 10. Lateral and summit views of a specimen.  
Fig. 11. An enlargement, showing the three finer rays between the stronger ones

CYSTIPHYLLUM GRANILINEATUM.

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- Fig. 13. Lateral view of an imperfect specimen. (For view of the calyx, see pl. 23, fig. 13.)

HELIOPHYLLUM PRAVUM.

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- Fig. 12. Lateral view of a specimen of ordinary size and form.  
(For view of the calyx, see plate 25, fig. 4.)

CYATHAXONIA HERZERI.

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- Fig. 14. Posterior view of a specimen, showing interior of the calyx.

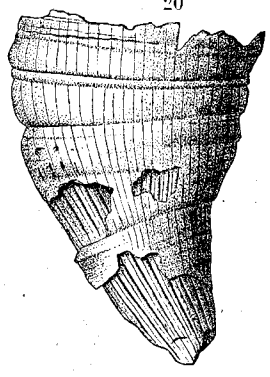
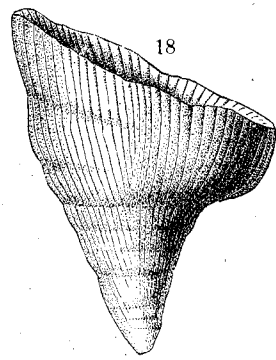
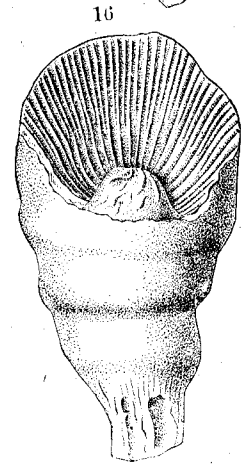
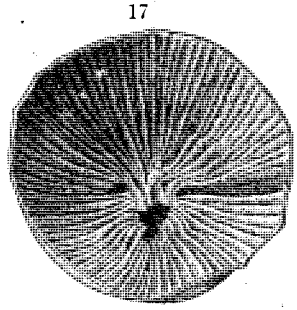
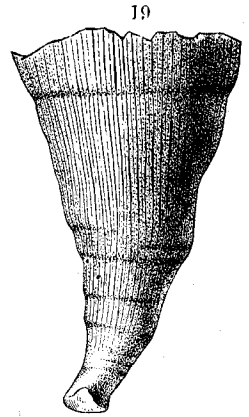
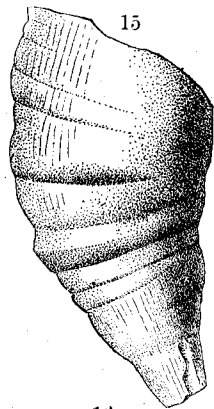
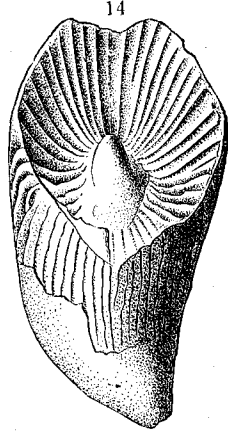
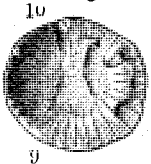
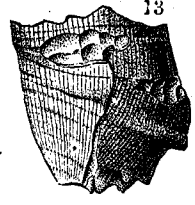
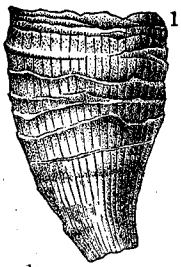


PLATE 15—Continued.

STREPTELASMA COARCTATUM.

Page 276.

Figs. 15, 16. Lateral and posterior views of a specimen; the latter showing the interior of the calyx with the twisted lamellæ.

STREPTELASMA INFLATUM.

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Fig. 17. Lateral view of a specimen of the ordinary proportions.  
Fig. 18. The calical view of the specimen fig. 17.

ZAPHRENTIS CYATHIFORMIS.

Page 290.

Fig. 19. Lateral view of a specimen.  
(For calicular view, see plate 16, fig. 4.)

STREPTELASMA PAPILLATUM.

Page 276.

Fig. 20. Lateral view of a specimen of ordinary proportions.

PLATE 16.

STREPTELASMA SIMPLEX.

Page 277.

Fig. 1. Lateral view of an individual of ordinary size.

STREPTELASMA MAMMIFERUM.

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Fig. 2. Specimen somewhat worn, with the lamellæ broken.

Fig. 3. Specimen nearly entire, preserving the conical elevation in the center.  
(See plate 21, figs. 1 and 2.)

ZAPHRENTIS CYATHIFORMIS.

Page 290.

Fig. 4. View of a calyx. (See plate 15, fig. 19.)

AULACOPHYLLUM TRISULCATUM.

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Fig. 5. View of a calyx.

AULACOPHYLLUM PRÆCIPITUM.

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Fig. 6. Lateral view of the coral.

Fig. 7. Interior of calyx.

AULACOPHYLLUM PRINCEPS.

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Fig. 8. View from the posterior side, showing the interior of the calyx and lamellæ.

Fig. 9. Lateral view of the same individual.

Fig. 10. Posterior view of the same individual.

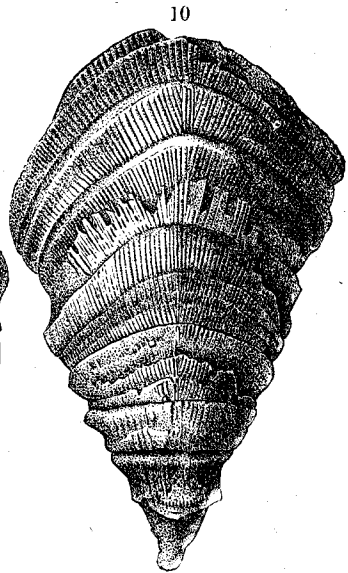
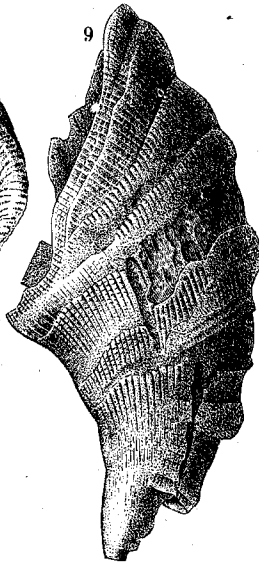
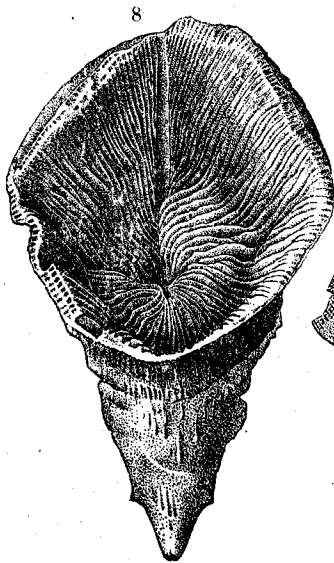
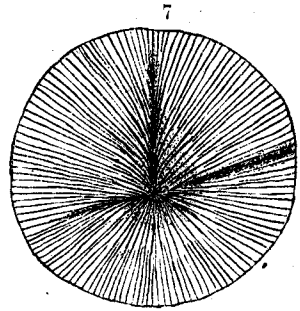
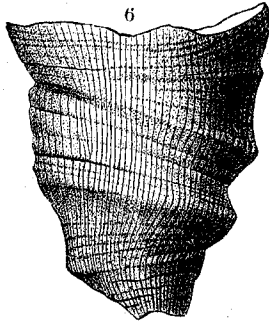
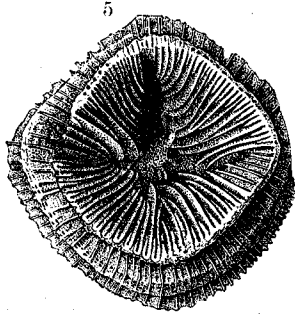
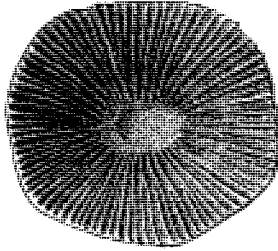
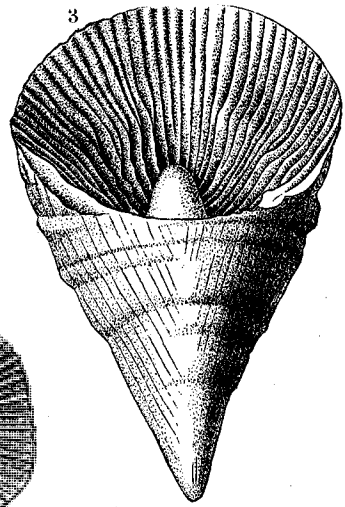
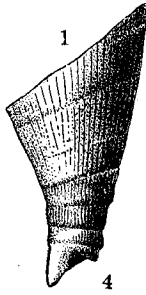
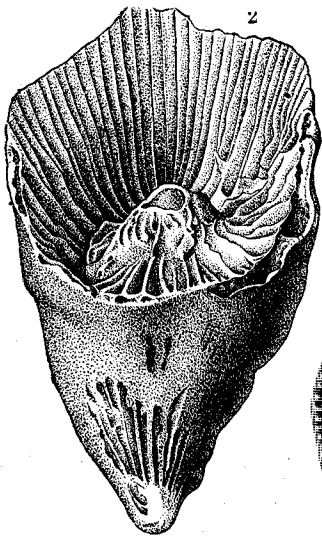


PLATE 17.

AULACOPHYLLUM CONVERGENS.

Page 281.

- Fig. 1. Lateral view of the coral.  
Fig. 2. View of the calyx.

AULACOPHYLLUM PRATERIFORME.

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- Fig. 3. Lateral view of an imperfect specimen.  
Fig. 4. Calyx of the same.

AULACOPHYLLUM CRUCIFORME.

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- Fig. 5. Lateral view of the coral.  
Fig. 6. Anterior view, showing the calyx.

AULACOPHYLLUM SULCATUM.

Page 279.

- Fig. 7. Posterior view of a worn specimen, showing the calyx.  
Fig. 8. A similar form to the preceding, but presenting variations in the fasciculating of the lamellæ.  
Fig. 9. Lateral view of a decorticated specimen.  
Fig. 10. Anterior view of same, showing calyx.

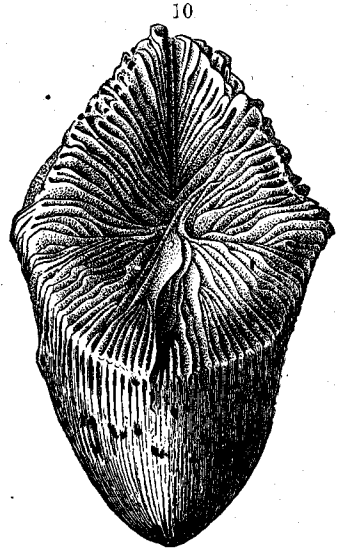
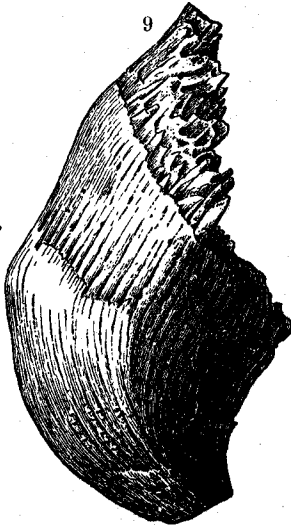
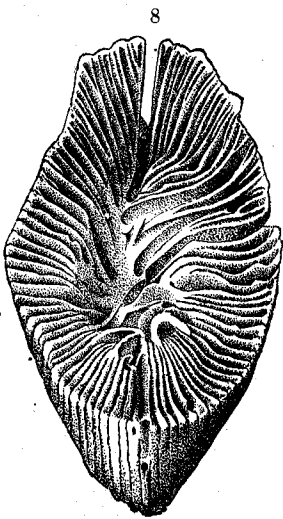
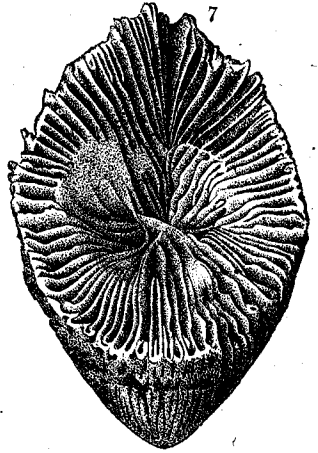
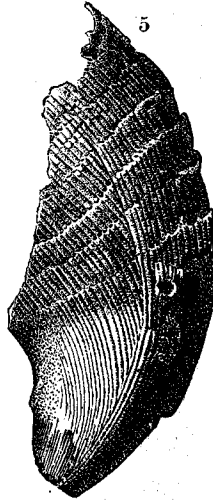
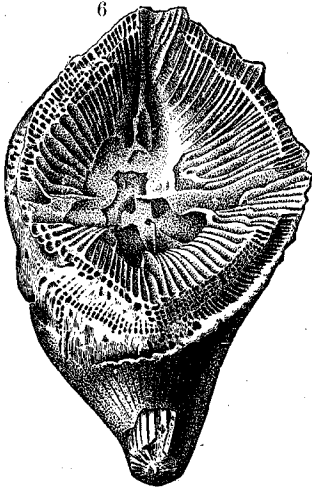
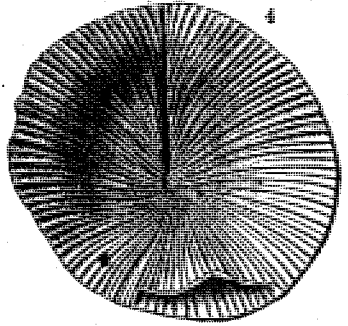
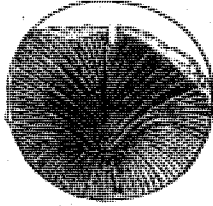
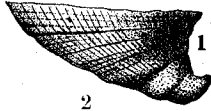
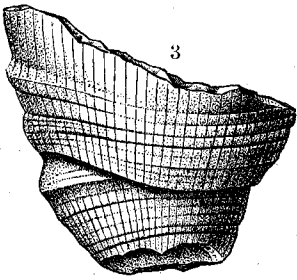


PLATE 18.

AULACOPHYLLUM PINNATUM.

Page 284.

- Fig. 1. Lateral view of an imperfect specimen. (See plate 22, fig. 10.)

AULACOPYLLUM POCULUM.

Page 283.

- Fig. 2. Lateral view of the upper portion of a specimen.  
Fig. 3. View of the calyx of the same.  
Fig. 4. Outline showing the concavity of the calyx.

AULACOPHYLLUM REFLEXUM.

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- Fig. 5. Lateral view of a specimen.  
Fig. 6. View of the calyx of the same.  
Fig. 7. Outline showing concavity of the cup.

ZAPHRENTIS SUBCOMPRESSA.

Page 286.

- Fig. 8. Lateral view of a specimen.  
Fig. 9. The calyx of another specimen.

ZAPHRENTIS FOLIATA.

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- Fig. 10. Lateral view.  
Fig. 11. A portion of the upper part showing the rays of the calyx on one side the other being broken away.

ZAPHRENTIS COLLETTI.

Page 315.

- Fig. 12. View of the calyx showing the strong lamellæ.  
Fig. 13. Lateral view of a specimen of the same species.

PTYCHOPHYLLUM KNAPPI.

Page 278.

- Fig. 14. Lateral view of a short and broad specimen.  
Fig. 15. Lateral view of a more elongate and irregular growing individual. (See plate 25, figs. 6 and 7.)

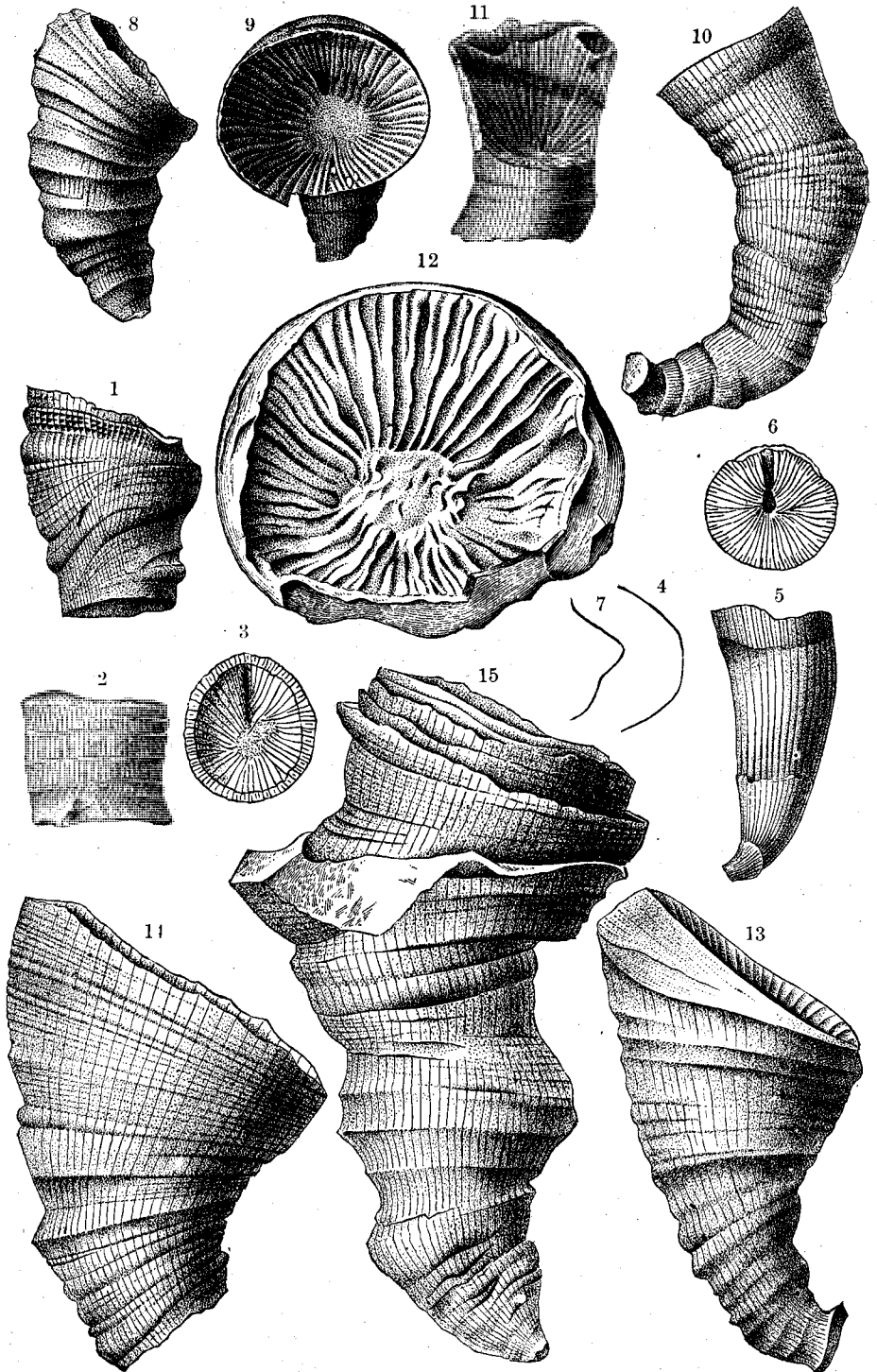


PLATE 19.

ZAPHRENTIS PROFUNDA.

Page 287.

Fig. 1. Lateral view of a specimen.

ZAPHRENTIS ELEGANS.

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Fig. 2. Posterior side, showing a portion of the calyx.

Fig. 3. View of the calyx of the same species from another specimen.

Figs. 4, 5. Lateral views of two specimens.

ZAPHRENTIS NITIDA.

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Fig. 6. Lateral view. (See plate 20, figs. 4, 6.)

ZAPHRENTIS PONDEROSA.

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Fig. 7. A posterior view, looking into the calyx. The specimen is slightly twisted in its mode of growth.

ZAPHRENTIS SPISSA.

Page 289.

Fig. 8. Lateral view of an individual.

Fig. 9. The calyx of the same specimen.

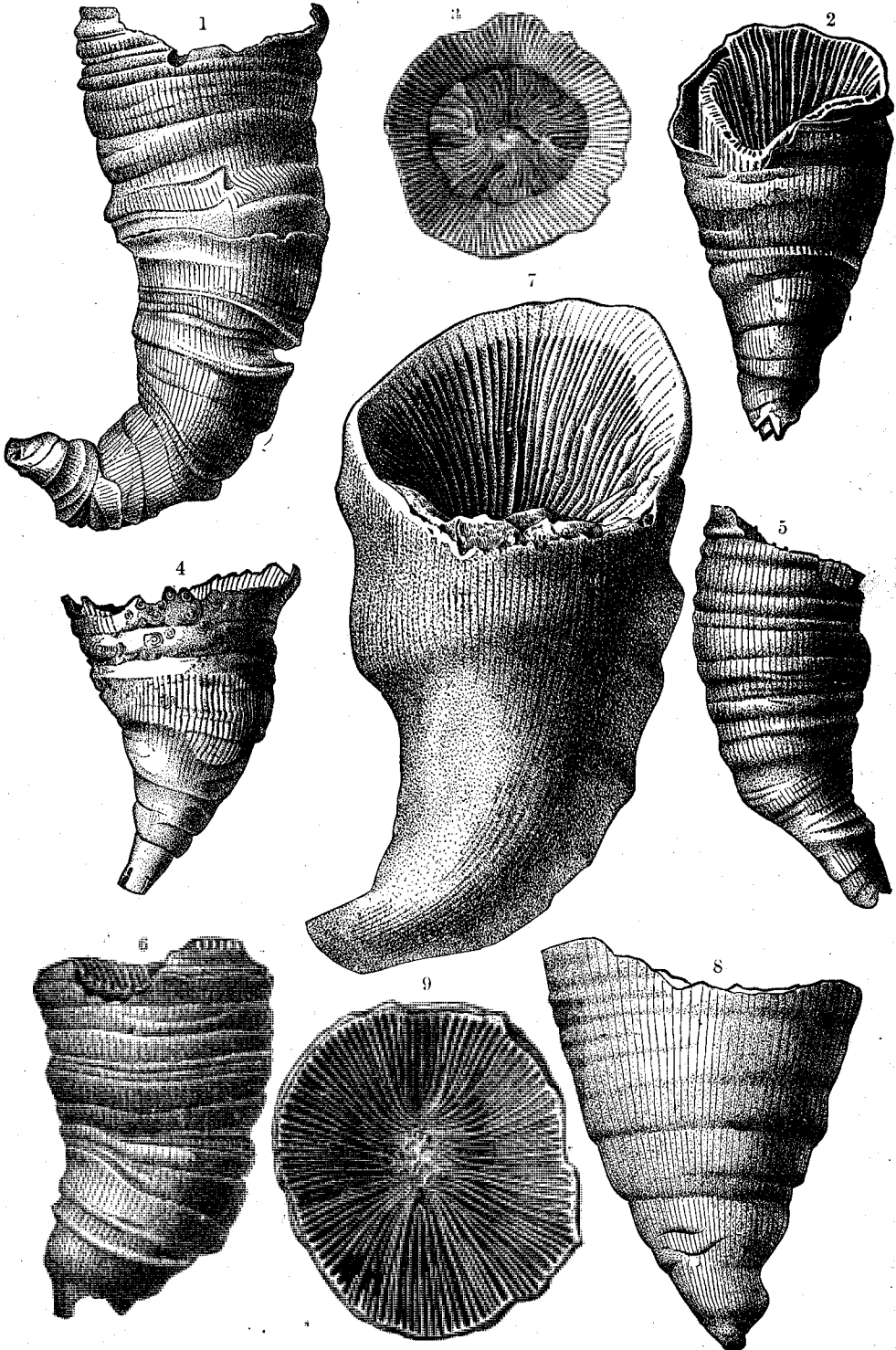


PLATE 20.

ZAPHRENTIS TRISUTURA.

Page 289.

- Fig. 1. The anterior side of a specimen.
- Fig. 2. Lateral view of left side of the same.
- Fig. 3. The calyx of the same.

ZAPHRENTIS NITIDA.

Page 288.

- Fig. 4. Lateral view of a specimen.
- Fig. 5. The calyx of the same.
- Fig. 6. The calyx of another individual. (See plate 19, fig. 6.)

ZAPHRENTIS UNDATA.

Page 291.

- Fig. 7. Lateral view of a small nearly erect form.
- Fig. 8. Lateral view of a larger individual, presenting the usual curved form.  
(See plate 25, fig. 1.)

ZAPHRENTIS DEFORMIS.

Page 290.

- Fig. 9. Lateral view of a specimen.
- Fig. 10. The calyx of the same.

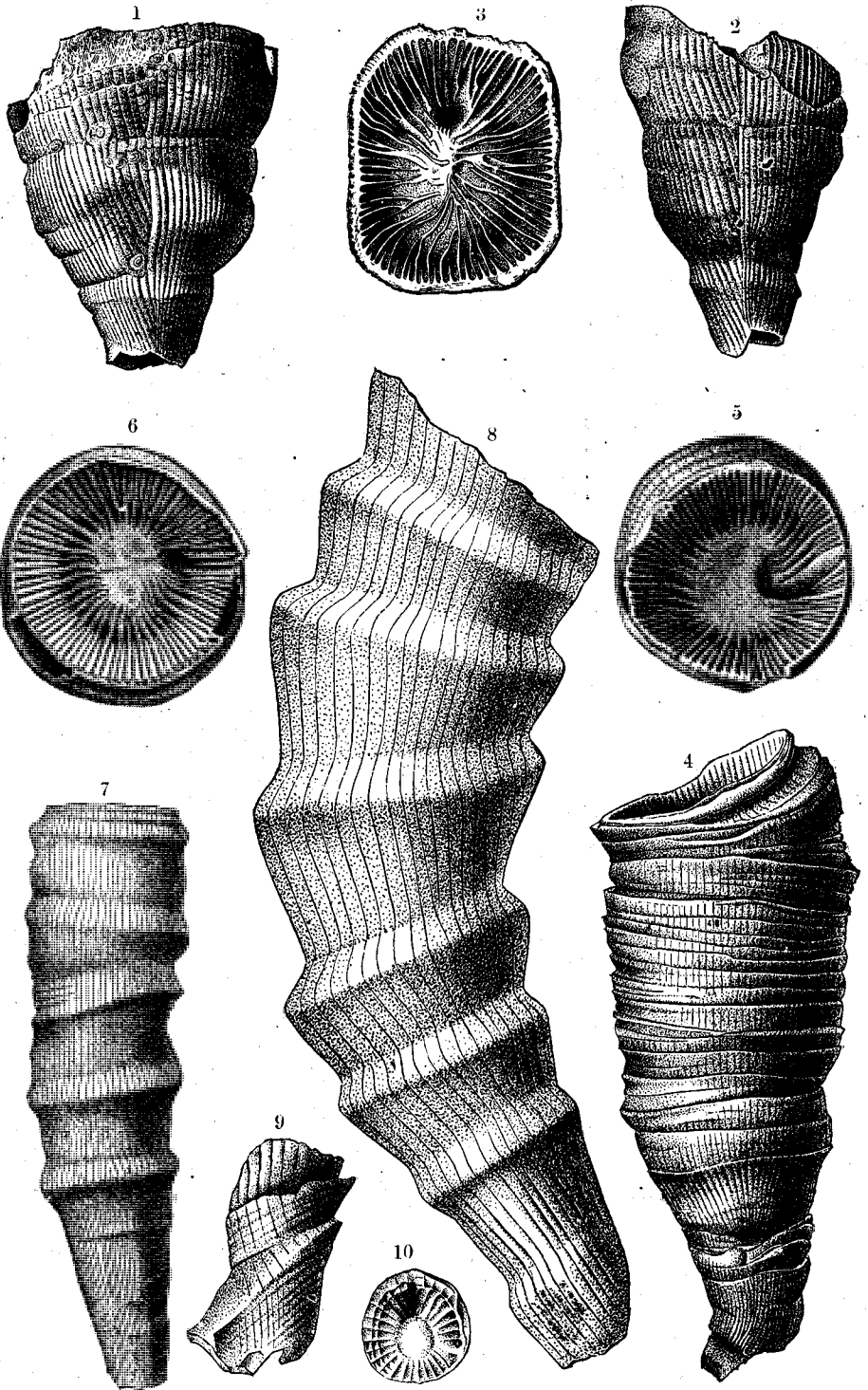


PLATE 21.

*STREPTALASMA MAMMIFERUM.*

Page 278.

- Fig. 1. View from the anterior side of a specimen, with the walls removed, showing the lamellæ with the central twisted elevation.  
Fig. 2. Anterior view of another individual, with the margin broken away, showing the interior with the central elevation.

*ZAPHRENTIS DUPLICATA.*

Page 293.

- Fig. 3. Posterior side of a specimen.

*ZAPHRENTIS COMPRESSA.*

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- Fig. 4. Posterior side, looking into the calyx.  
Fig. 5. The calyx of the same specimen. (See plate 22, fig. 5.)

*ZAPHRENTIS CONCAVA.*

Page 291.

- Fig. 6. Lateral view.

*ZAPHRENTIS HERZERI.*

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- Fig. 7. Lateral view.  
Fig. 8. Anterior side of a specimen.  
Fig. 9. Posterior side.

*ZAPHRENTIS CALCARIFORMIS.*

Page 293.

- Fig. 10. Lateral view of a specimen.  
Fig. 11. The calyx of the same.

*ZAPHRENTIS FUSIFORMIS.*

Page 296.

- Fig. 12. Lateral view.  
Fig. 13. The calyx of the same.

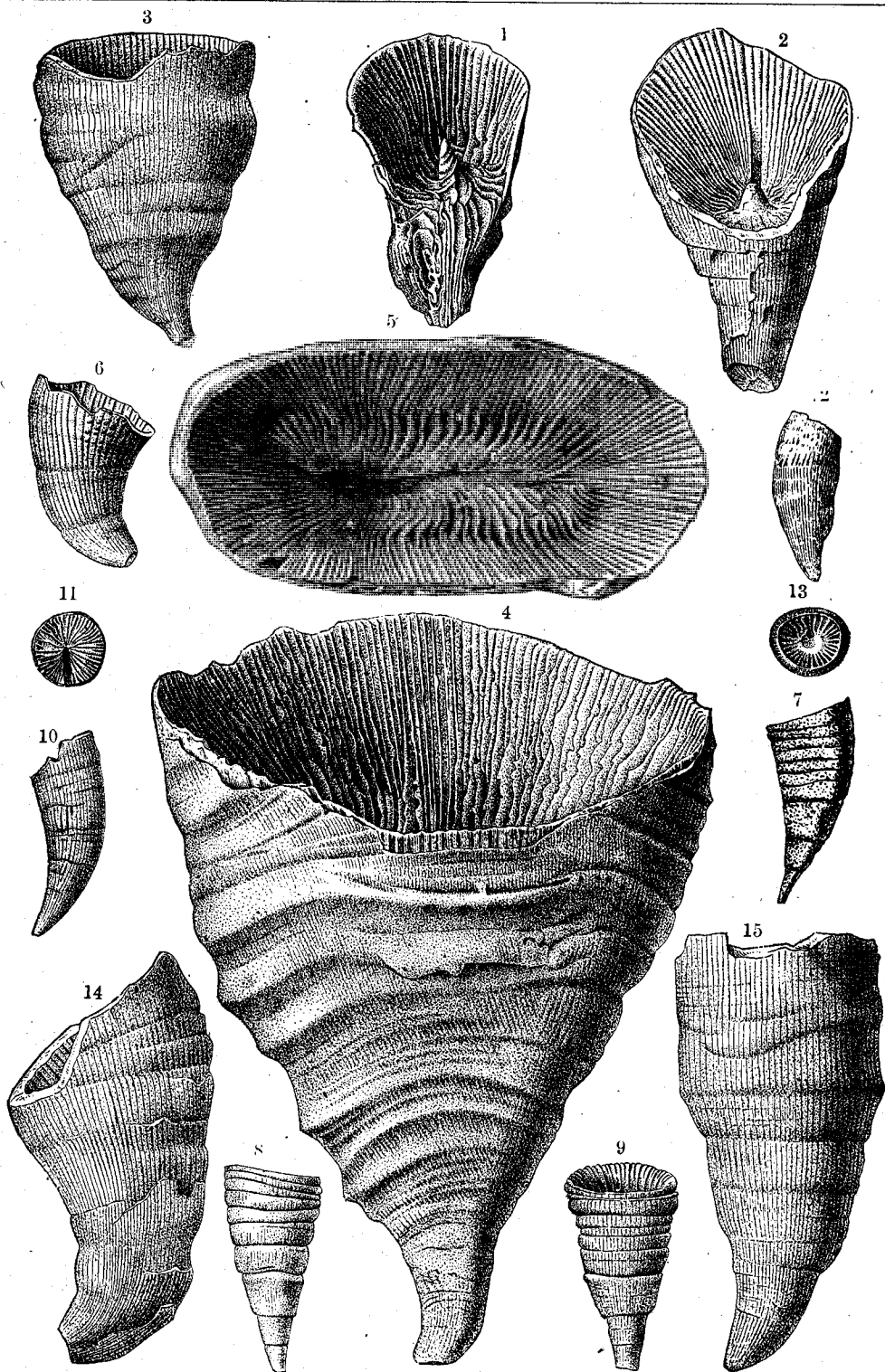


PLATE 21—Continued.

CYATHOPHYLLUM CONCENTRICUM.

Page 316.

Fig. 14. Lateral view of the coral.

ZAPHRENTIS PLANIMA.

Page 292.

Fig. 15. Lateral view of the coral.

PLATE 22.

ZAPHRENTIS TORTA.

Page 285.

Fig. 1. Lateral view of the coral.

ZAPHRENTIS CONVOLUTA.

Page 294.

Fig. 2. View from the posterior side, looking into the calyx.

CLISIOPHYLLUM CONIGERUM.

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Fig. 3. Lateral view of a large individual.

Fig. 4. View of the posterior side of another specimen, showing the calyx with the central conical elevation.

ZAPHRENTIS COMPRESSA.

Page 295.

Fig. 5. Lateral view of the specimen. (Figs. 4, 5 of pl. 21.)

ZAPHRENTIS (AMPLEXUS?) CRUCIFORMIS.

Page 315.

Fig. 6. Lateral view of the coral.

Fig. 7. View showing the calyx; the wall on the posterior side is broken away.

AULACOPHYLLUM TRIPINNATUM.

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Fig. 8. View of a specimen, imperfect at the base.

Fig. 9. Lateral view of the calyx.

AULACOPHYLLUM PINNATUM.

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Fig. 10. View from the posterior side looking into the calyx. (See plate 18, fig. 1.)

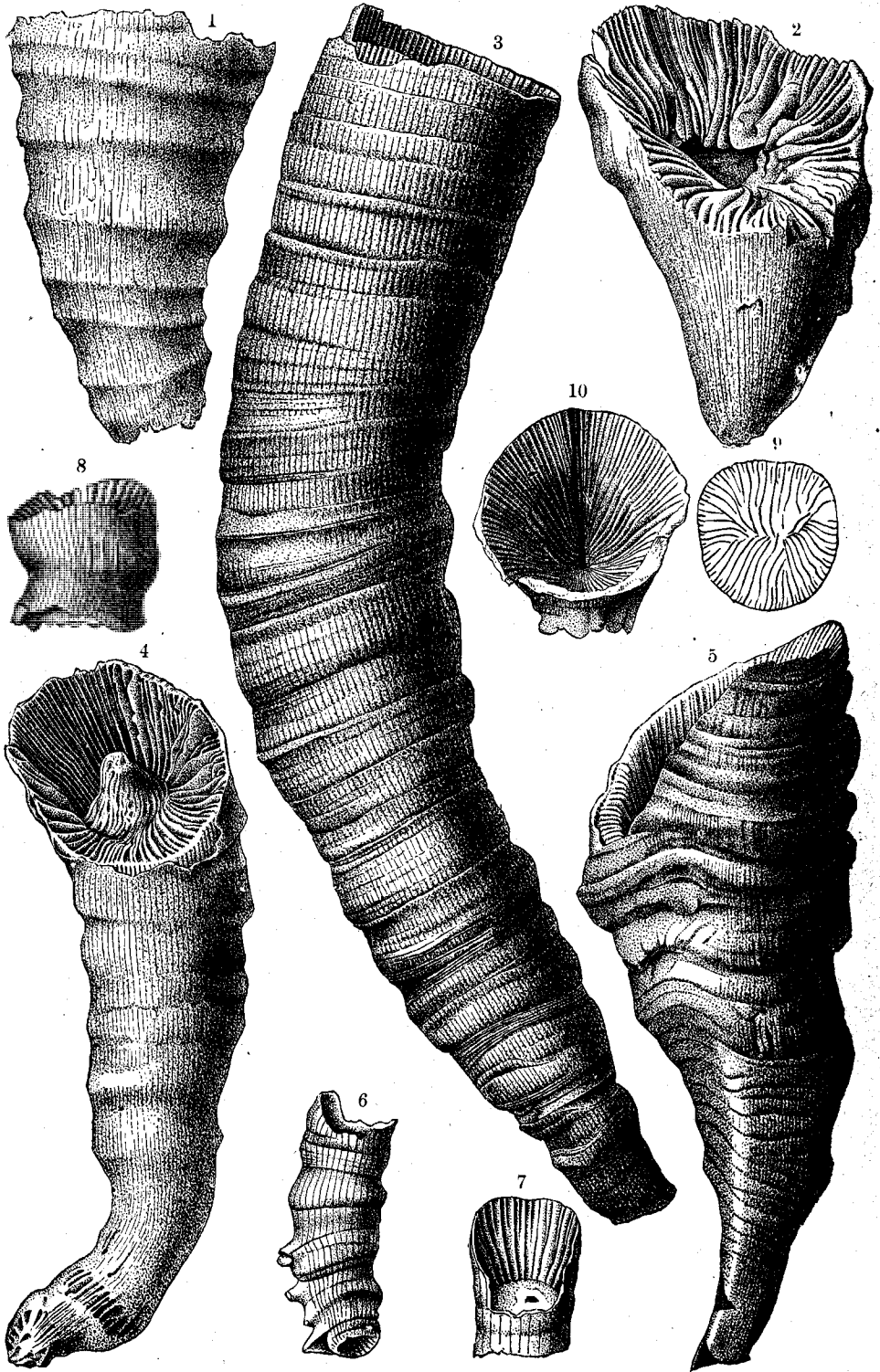


PLATE 23.

ZAPHRENTIS OVALIS.

Page 294.

Fig. 1. Lateral view of the coral.

ZAPHRENTIS UNGULA.

Page 296.

Fig. 2. Anterior side of the coral.

Fig. 3. Lateral view of the same.

Fig. 4. A calyx. (The specimen is larger than ordinary.)

ZAPHRENTIS TEREBRATA.

Page 316.

Fig. 5. Lateral view of the specimen.

CYATHOPHYLLUM VESICULATUM.

Page 297.

Fig. 6. Lateral view of a specimen.

CYATHOPHYLLUM IMPOSITUM.

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Fig. 7. Lateral view of the coral.

HELIOPHYLLUM INFUNDIBULUM.

Page 305.

Fig. 8. Lateral view. (See plate 24, fig. 7.)

HELIOPHYLLUM CORNICULUM.

Page 311.

Fig. 9. View from the postero-lateral side, looking into the calyx.

HELIOPHYLLUM ÆQUUM.

Page 314.

Fig. 10. Lateral view of a specimen.

Fig. 11. The calyx of the same.

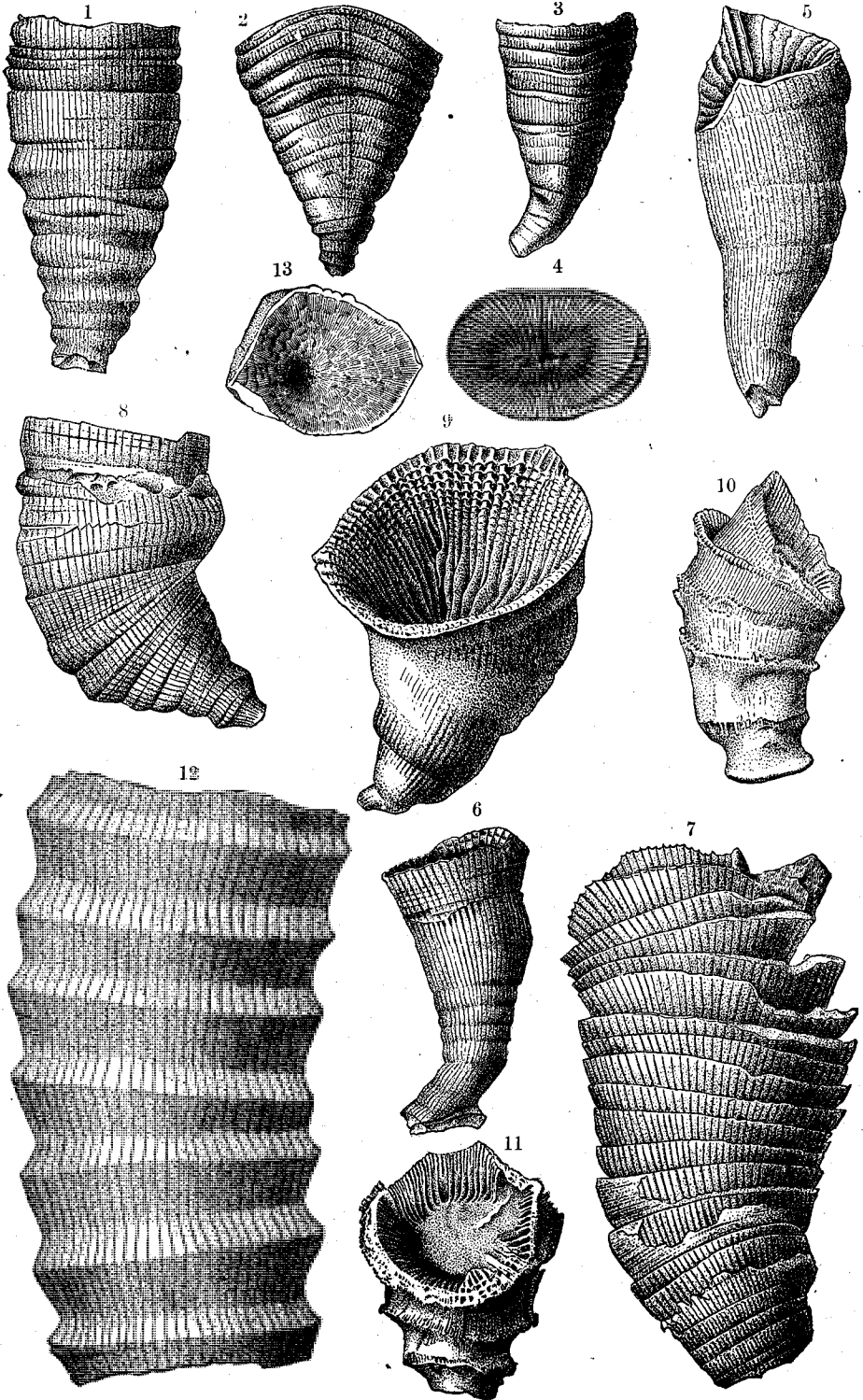


PLATE 23—Continued.

*HELIOPHYLLUM ANNULATUM.*

Page 307.

Fig. 12. A portion of the upper part of a large individual; lateral view. (See plate 25, figs. 2, 3.)

*CYSTIPHYLLUM GRANILINEATUM.*

Page 274.

Fig. 13. The calyx of the specimen figured on plate 15, fig. 13.

PLATE 24.

CYATHOPHYLLUM ARCTIFOSSA.

Page 297.

- Fig. 1. Posterior side of the coral.  
Fig. 2. The calyx of the same.

CYATHOPHYLLUM DEPRESSUM.

Page 298.

- Fig. 3. Lateral view of the coral.  
Fig. 4. Posterior side, looking into the calyx.

HELIOPHYLLUM ALTERNATUM.

Page 305.

- Fig. 5. Antero-lateral view of a specimen.  
Fig. 6. The calyx of the same.

HELIOPHYLLUM INFUNDIBULUM.

Page 305.

- Fig. 7. View from the posterior side, looking into the calyx. (See plate 23, fig. 8.)

COLEOPHYLLUM ROMINGERI.

Page 317.

- Fig. 8. Posterior side, looking into the calyx.  
Fig. 9. Lateral view of the same.

COLEOPHYLLUM PYRIFORME.

Page 318.

- Fig. 10. View of the posterior side, looking into the calyx. Compare with some forms of *cystiphyllum sulcatum*.

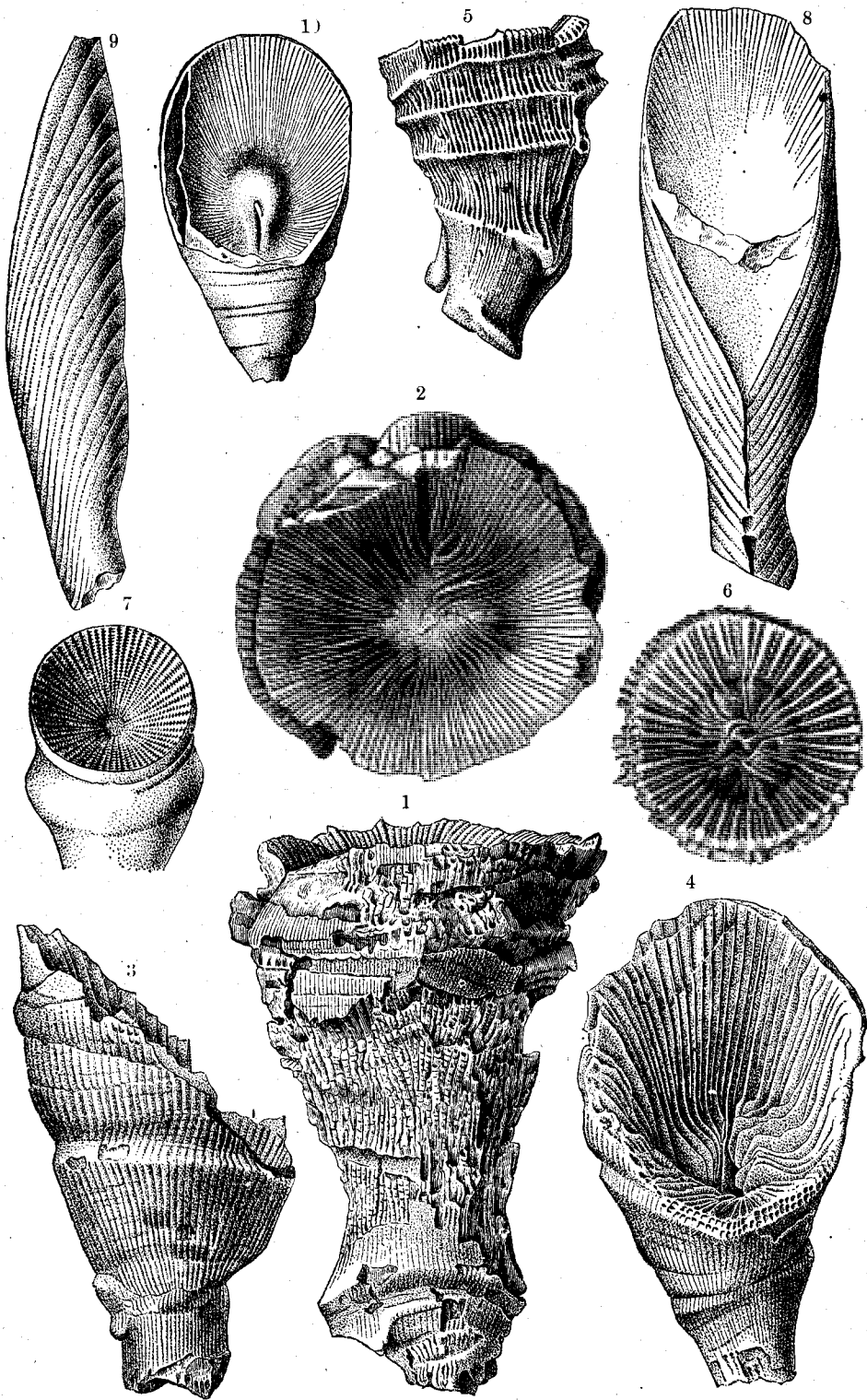


PLATE 25.

ZAPHRENTIS UNDATA.

Page 291.

Fig. 1. Longitudinal section, showing the tabulae. (See plate 20, figs. 7, 8.)

HELIOPHYLLUM ANNULATUM.

Page 307.

Fig. 2. Lateral view of a large specimen, imperiect at the base, showing the usual external characters.

Fig. 3. A longitudinal section of a straight specimen of this species. (See plate 23, fig. 12.)

HELIOPHYLLUM PRAVUM.

Page 274.

Fig. 4. Oblique view, showing calyx. (See plate 15, fig. 12.)

HELIOPHYLLUM COMPACTUM.

Page 308.

Fig. 5. Posterior side of the coral.

PTYCHOPHYLLUM KNAPPI.

Page 278.

Fig. 6. A calyx showing the strong, coarse rays.

Fig. 7. A calyx where the rays are partially obliterated by silicification. (See plate 18, figs. 14, 15.)

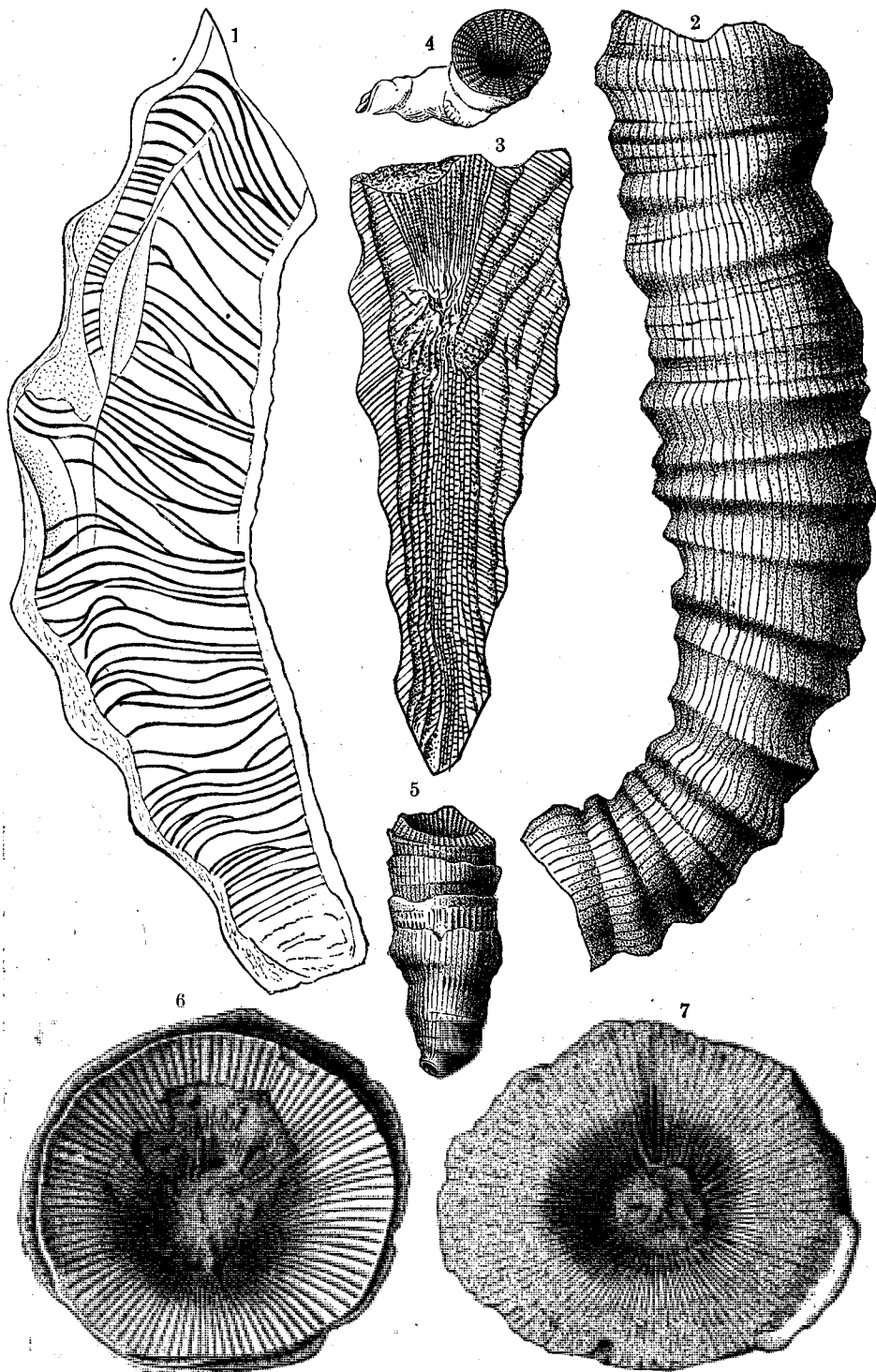


PLATE 26.

HELIOPHYLLUM DISTANS.

Page 308.

- Fig. 1. Lateral view of an individual.  
Fig. 2. The calyx of the same specimen.

HELIOPHYLLUM INCRASSATUM.

Page 309.

- Fig. 3. Lateral view of an individual eroded from weathering.  
Fig. 4. The calyx of the same specimen.

HELIOPHYLLUM SCYPHULUS.

Page 306.

- Fig. 5. Lateral view of a specimen. (See plate 28, figs. 2, 3.)

HELIOPHYLLUM FECUNDUM.

Page 309.

- Fig. 6. Lateral view of parent coral with numerous buds. (See plate 27, figs. 4, 5.)

HELIOPHYLLUM DENTICULATUM.

Page 313.

- Fig. 7. View of the calyx showing the strongly denticulate rays.

HELIOPHYLLUM NETTELROTHI.

Page 312.

- Fig. 8. Anterior side of a specimen, from which the epitheca has been removed.

HELIOPHYLLUM SORDIDUM.

Page 311.

- Fig. 9. Lateral view of an imperfect specimen.  
Fig. 10. The calyx of the same.

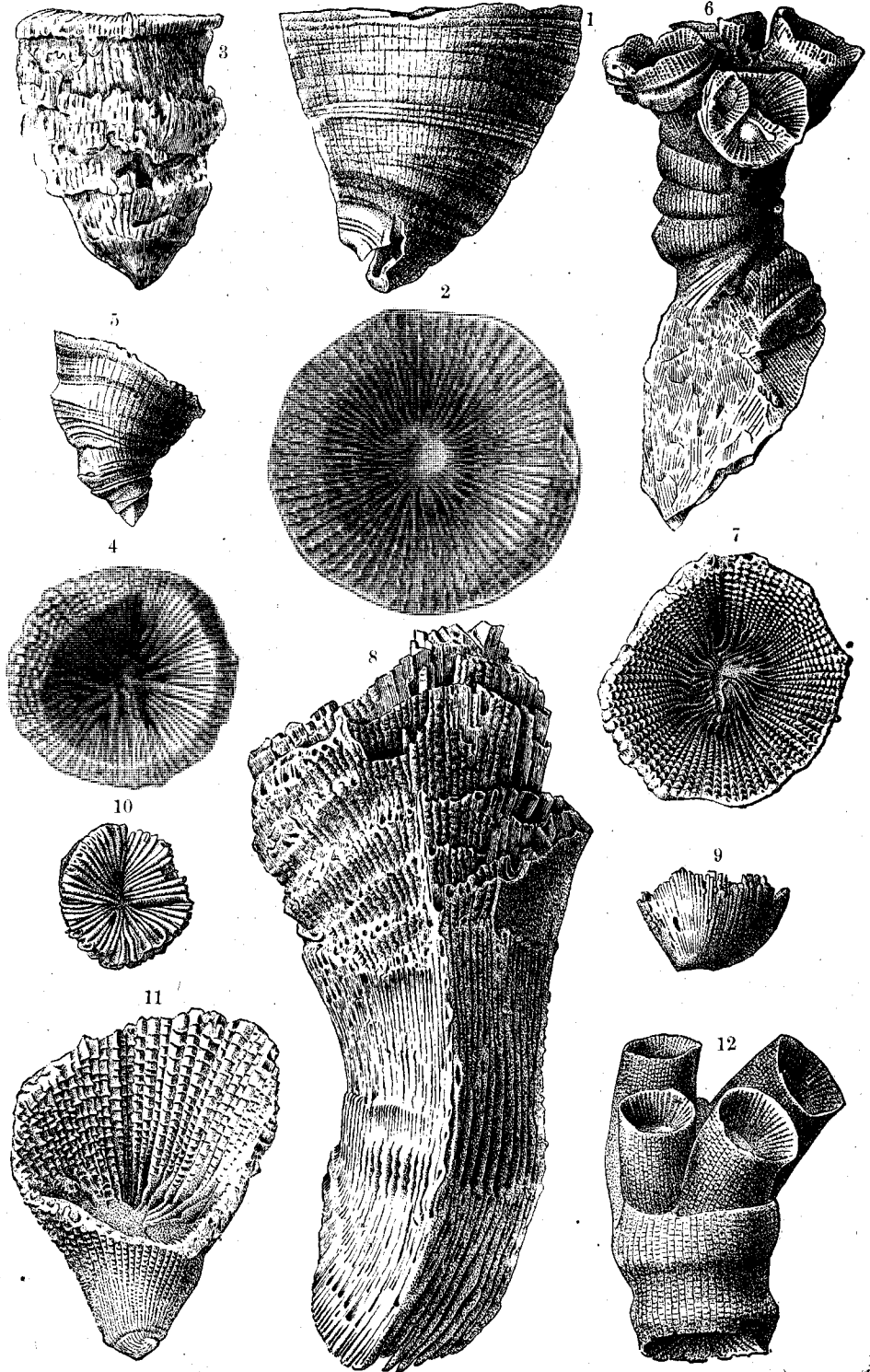


PLATE 26—Continued.

HELIOPHYLLUM ACUMINATUM.

Page 310.

Fig. 11. View from the posterior side, looking into the calyx.

HELIOPHYLLUM GEMMATUM.

Page 310.

Fig. 12. Lateral view, showing young corallites growing from the calyx of an older one.

PLATE 27.

HELIOPHYLLUM LATERICRESCENS.

Page 314.

Fig. 1. Lateral view of a group of corallites.

HELIOPHYLLUM TENUIMURALE.

Page 307.

Fig. 2. Lateral view of a specimen.

Fig. 3. The calyx of the same.

HELIOPHYLLUM FECUNDUM

Page 309.

Figs. 4, 5. Lateral and posterior views of a group of corallites. (See plate 26, fig. 6.)

DIPHYPHYLLUM APERTUM.

Page 303.

Fig. 6. Lateral view. (See plate 28, figs. 4, 5.)

DIPHYPHYLLUM ADNATUM.

Page 303.

Fig. 7. Lateral view.

Fig. 8. A calyx of one of the corallites.

BLOTHROPHYLLUM PROMISSUM.

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Fig. 9. A calyx of this species. (See plate 28, figs. 6, 7.)

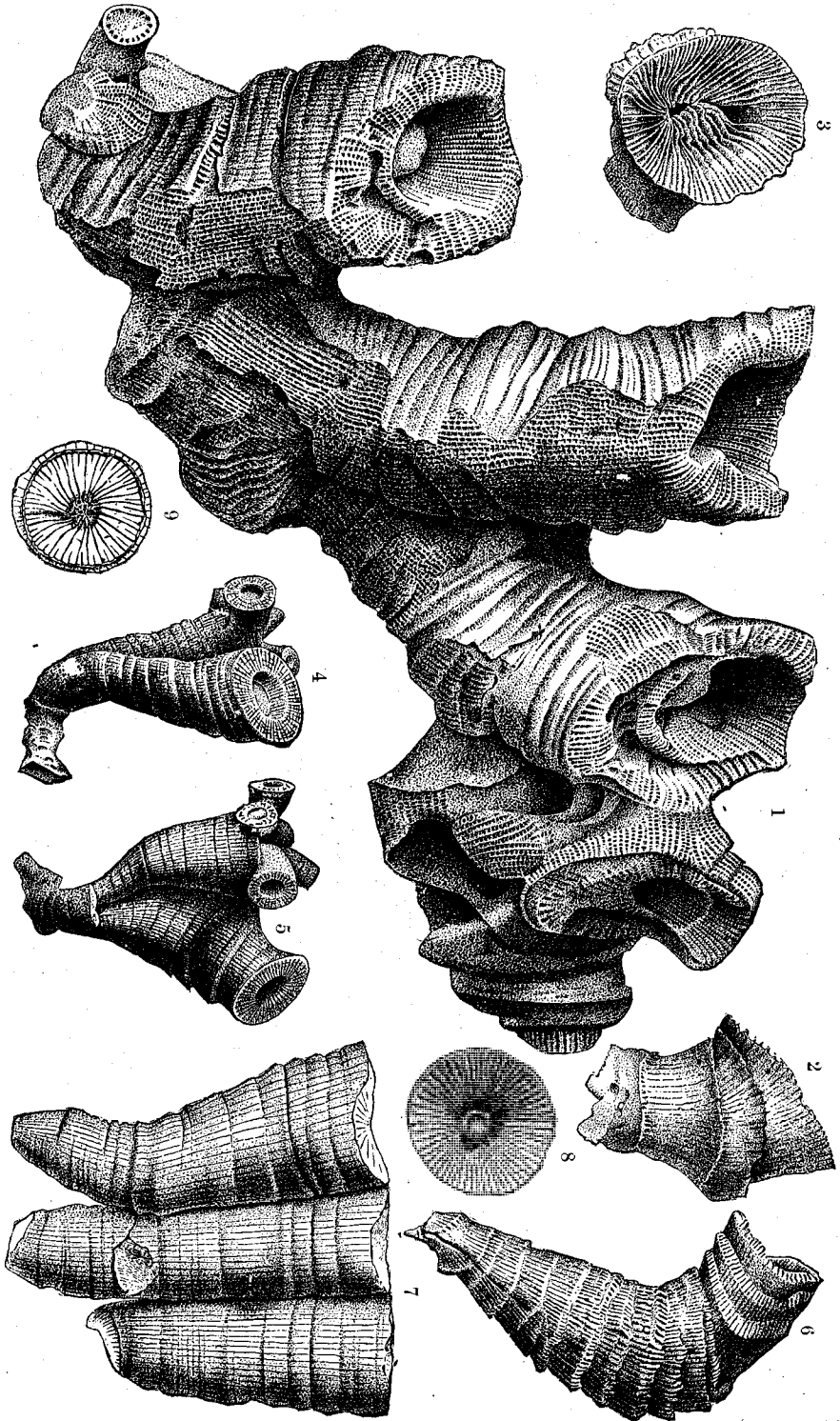


PLATE 28.

HELIOPHYLLUM INVAGINATUM.

Page 306.

Fig. 1. View from the posterior side looking into the calyx.

HELIOPHYLLUM SCYPHULUS.

Page 306.

Fig. 2. Lateral view. (See plate 26, fig. 5.)

Fig. 3. The calyx of the same species.

DIPHYPHYLLUM APERTUM.

Page 303.

Fig. 4. View from the posterior side looking into the calyx.

Fig. 5. The calyx of the same. (See plate 27, fig. 6.)

BLOTHROPHYLLUM PROMISSUM.

Page 304.

Fig. 6. The axis of a decorticated specimen showing the invaginated character of the walls.

Fig. 7. A longitudinal section of another individual. (See plate 27, fig. 9.)

CYSTIPHYLLUM LATIRADIUM.

Page 304.

Fig. 8. Lateral view.

Fig. 9. A calyx of the same.

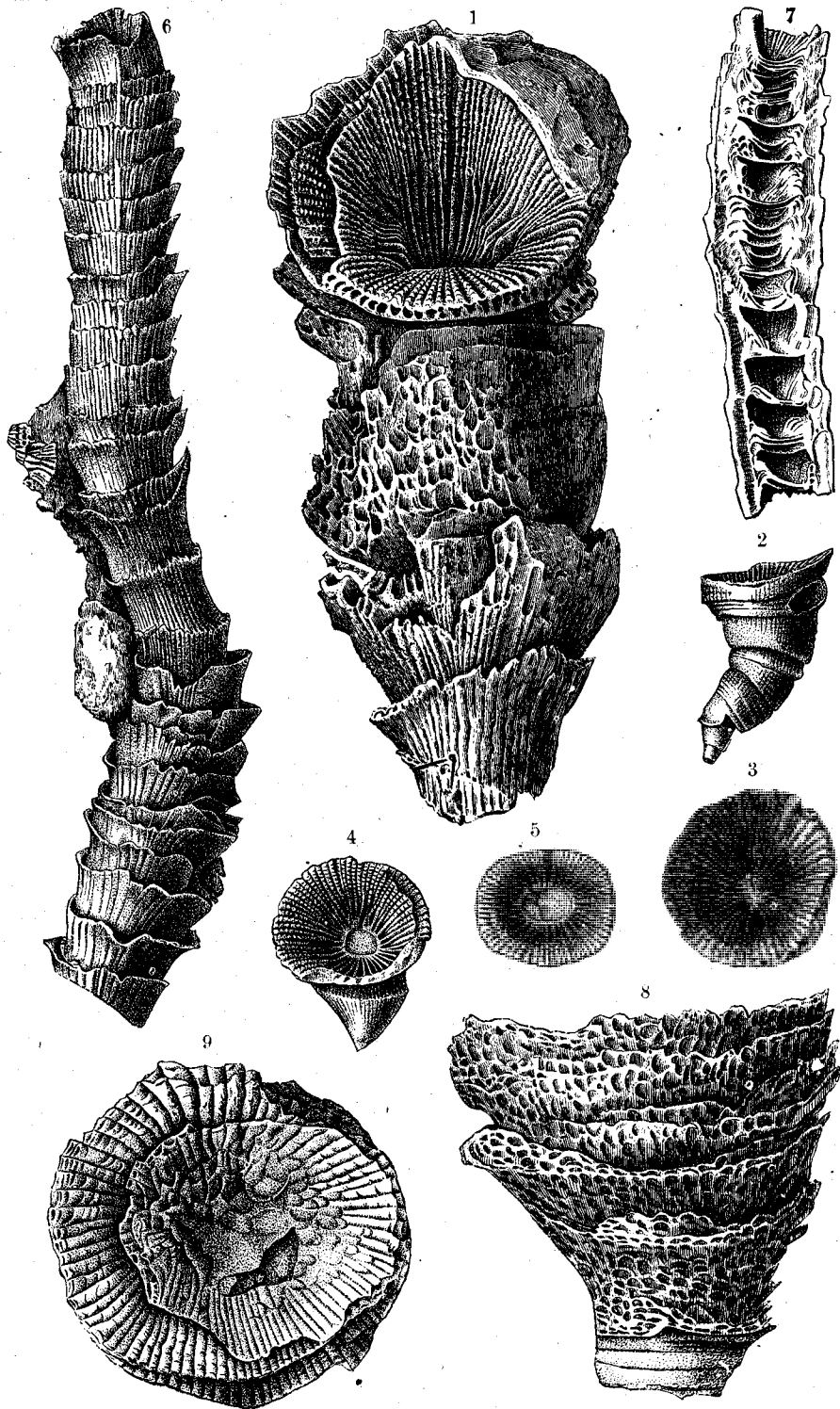


PLATE 29.

ORTHIS DUBIA.

Page 324.

- Figs. 1-5. Fig. 1, dorsal view of a ventricose specimen from Bloomington, Ind. Figs. 2-4, three views of a larger specimen from Spergen Hill, Ind. Fig. 5, interior of ventral valve of a large individual from Paynter's Hill, Ind.

PRODUCTUS INDIANENSIS.

Page 326.

- Figs 6-7. Profile and vertical views of the largest type specimen (2x).

PRODUCTUS BISERIATUS.

Page 325.

- Figs. 8-12. Fig. 8, enlarged (2x) view of interior of dorsal valve, from Bloomington. Fig. 9, another natural size from Alton, Ill. Figs. 10-12, three views of a large specimen from Spergen Hill, from later collections.

SPIRIFERA BIFURCATA.

Page 326.

- Figs. 13-15. Fig. 13, view of the original specimen (6x). Fig. 14, a larger individual (3x), and 15, a still larger one (2x) from Spergen Hill.

SPIRIFERINA NORWOODANA.

Page 327.

- Figs. 16-17. Dorsal and front views of one of the types (3x) from Alton, Ill.

ATHYRIS HIRSUTA.

Page 328.

- Figs. 18-21. Fig. 18, a small Spergen Hill specimen (2x), showing setæ; 19-21, three views of a larger specimen from later collections at the same locality.

ATHYRIS TRINUCLEUS.

Page 329.

- Figs. 22-27. Figs. 22 and 23, views of two specimens from Bloomington, showing variation of form; 24-27, views of a larger specimen more recently obtained from Spergen Hill.

EUMETRIA VERNEUILIANA.

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- Figs. 28-30. Fig. 28, view of a specimen (2x) from Spergen Hill; fig. 29 is from a specimen more recently obtained from Paynter's Hill, Ind.; fig. 30, enlargement of hinge from one of the originals.

SPERGEN HILL FOSSILS.

(Brachiopoda)

ST. LOUIS GROUP

PLATE 29.

Indiana Geol. Survey.

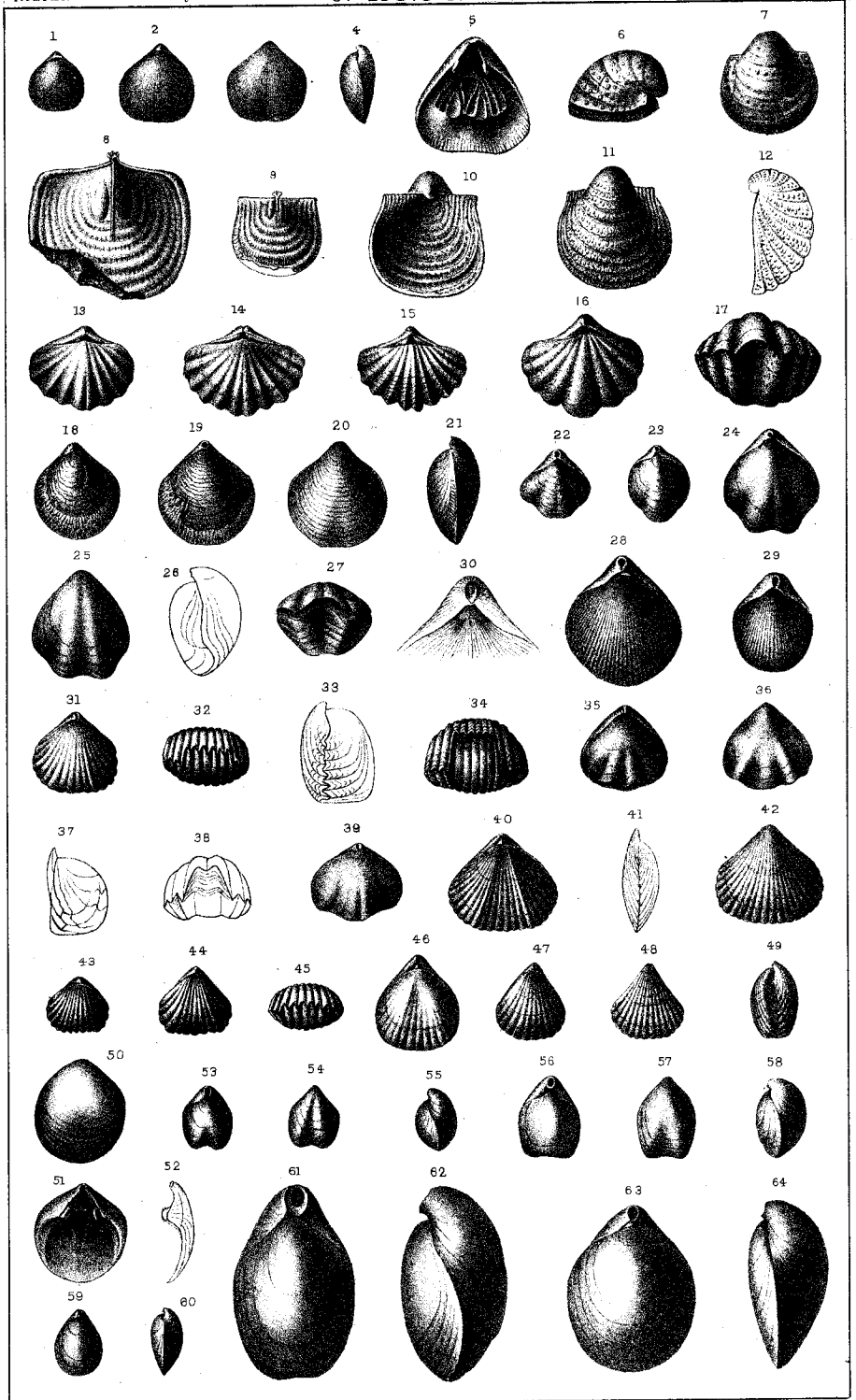


PLATE 29—Continued.

RHYNCHONELLA GROSVENORI.

Page 331.

- Figs. 31-34. Figs. 31 and 32, views (2x) of a large rotund specimen, 33 and 34, of a smaller one (3x), from Bloomington, Ind.

CAMAROPHORIA WORTHENI.

Page 334.

- Figs. 35-39. Figs. 35-38, four views (2x) of the type specimen, showing strong plications, and 39, of one (2x) showing a different form of plication.

RHYNCHONELLA MACRA.

Page 334.

- Figs. 40-42. Three views (2x) of a large specimen from Alton, Ill.

RHYNCHONELLA MUTATA.

Page 332.

- Figs. 43-45. Fig. 43, dorsal view of a specimen of medium size; 44 and 45, dorsal and front views of a large one. Alton, Ill.

RHYNCHONELLA RICINULA.

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- Fig. 46. Dorsal view (6x) of one of the originals from Spergen Hill.

RHYNCHONELLA SUBCUNEATA.

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- Figs. 47-49. Dorsal, ventral and profile views of a specimen from Bloomington, Ind.

CENTRONELLA CRASSICARDINALIS, *Whitfield*.

- Figs. 50-52. Exterior, interior and profile views of a separated ventral valve of a specimen from Spergen Hill, Ind.

TEREBRATULA TURGIDA.

Page 336.

- Figs. 53-58. Figs. 53-55, three views of a specimen of medium size from Bloomington, Ind., and 56-58, similar views of a larger specimen from Ellettsville, Ind., from later collections.

TEREBRATULA FORMOSA.

Page 337.

- Figs. 59-64. Figs. 59 and 60, two views of a small specimen from the original collection; figs. 61 to 64, similar views of larger specimens subsequently obtained. Spergen Hill, Ind.

PLATE 30.

PTERONITES SPERGENENSIS, *Whitfield.*

Fig. 1. View of a left valve of the species (2x) from Spergen Hill.

NUCULA SHUMARDANA.

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Figs. 2-6. Figs. 2 and 3, lateral and cardinal views (2x) of a specimen of normal form; figs. 4 and 5, lateral and dorsal views of a more elongate specimen (2x) from later collections; fig. 6, outline view, showing hinge (3x).

LEDA NASUTA.

Page 344.

Figs. 7-9. Figs. 7 and 8, similar views (4x) of two original specimens; fig. 9, a view (3x) of a specimen subsequently obtained from Spergen Hill, Ind.

CYPRICARDINIA INDIANENSIS.

Page 342.

Figs. 10-14. Fig. 10, cardinal view (4x) of a specimen from a later collection, showing both valves; fig. 11, end view, showing the inequality of the valves; fig. 12, view of the hinge (3x) as shown on a specimen from later collections from Spergen Hill; figs. 13 and 14, cardinal and lateral views (2x) of original specimens from Bloomington, Ind.

CONOCARDIUM CATASTOMUM.

Page 344.

Figs. 15-17. Figs. 15 and 17, lateral views of specimens from Spergen Hill (4 and 3x); fig. 16, basal view of the specimen fig. 15.

CONOCARDIUM CARINATUM.

Page 345.

Figs. 18-19. Posterior and lateral views (2x) of an imperfect specimen. Spergen Hill.

CONOCARDIUM PRATTENANUM.

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Fig. 20. Enlarged lateral view (4x) of the only example of the species obtained. Alton, Ill.

CONOCARDIUM MEEKANUM.

Page 347.

Figs. 21-23. Three views (3x) of a specimen from Alton, Ill.

SPERGEN HILL FOSSILS.

(Lamellibranchiata.)  
ST. LOUIS GROUP.

Indiana Geol. Survey.

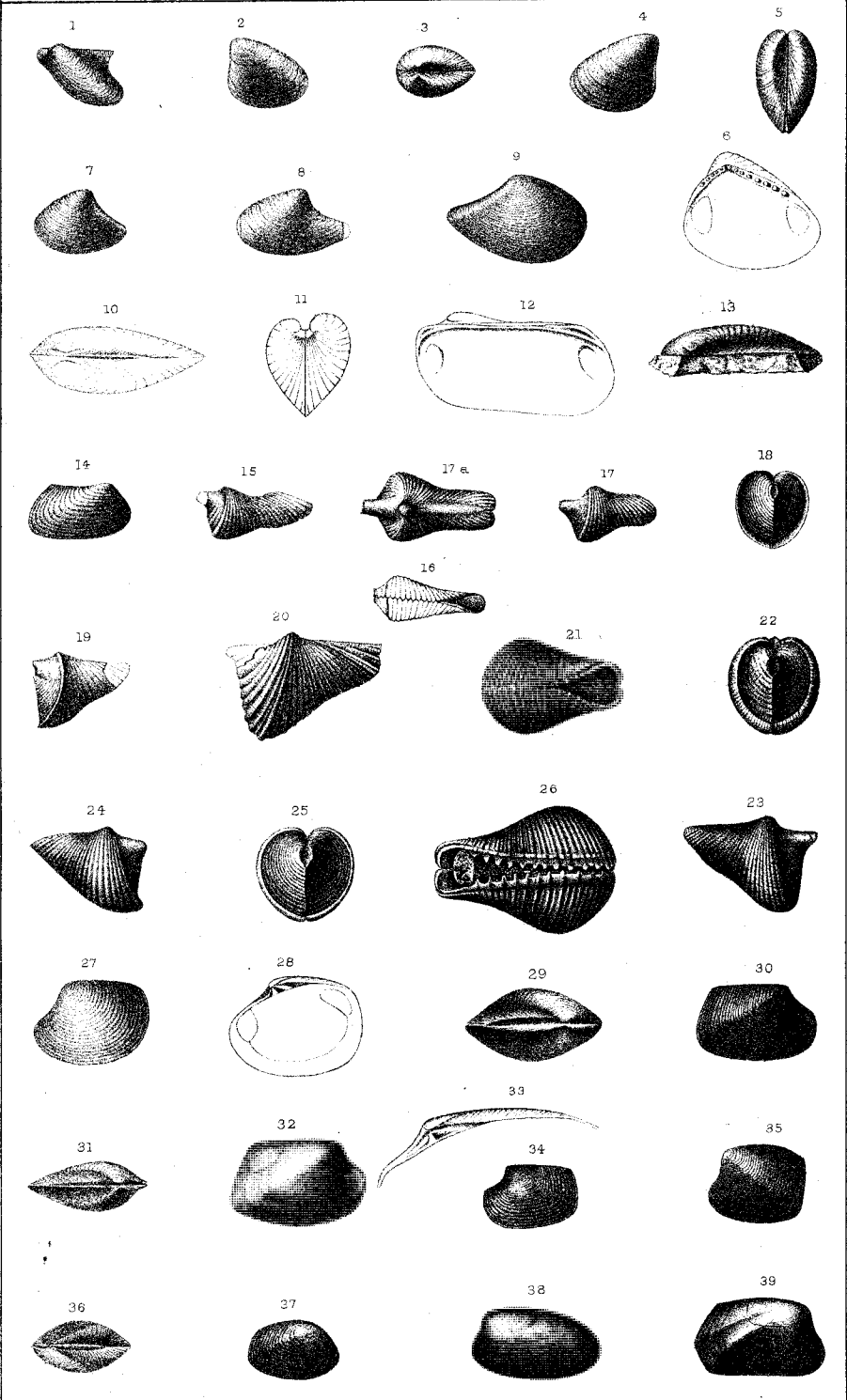


PLATE 30—Continued.

CONOCARDIUM CUNEATUM.

Page 345.

Figs. 24-26. Figs. 24 and 25, lateral and posterior views (2x) of a specimen from Bloomington; fig. 26, basal view (2x) of one from Spergen Hill, Ind.

CYPRICARDELLA SUBELLIPTICA.

Page 339.

Figs. 27-29. Figs. 27 and 29, lateral and cardinal views (3x) of a specimen from Spergen Hill; fig. 28, view (3x) of another specimen, showing hinge.

CYPRICARDELLA OBLONGA.

Page 340.

Figs. 30-34. Figs. 30 and 31, lateral and cardinal views (2x) of the principal type specimen. This specimen was given in the Iowa Geol. Rept. as *C. nucleata*; fig. 32, view (2x) of a cast showing muscular imprints; fig. 33, enlargement of the hinge from a separated valve, subsequently collected; fig. 34, view of a very large valve (natural size), subsequently collected. Spergen Hill, Ind.

CYPRICARDELLA NUCLEATA.

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Figs. 35-36. Lateral and cardinal views of a specimen (4x) from Spergen Hill.

MICRODON ELLIPTICUS, *Whitfield*.

Fig. 37. Lateral view of the specimen (2x). Spergen Hill, Ind.—*Microdon* (*Cypricardella*) sp.?

EDMONDIA (?) SUBPLANA.

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Fig. 38. Lateral view of the type specimen, natural size.

SANGUINOLITES (GONIOPHORA) (??) PLICATA.

Page 341.

Fig. 39. Lateral view (3x) of one of the original specimens.

EXPLANATION OF PLATES.

PLATE 31.

NAUTILUS CLARKANUS.

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Fig. 1. Lateral view of the specimen described.

ORTHOCERAS EPIGRUS.

Page 373.

Fig. 2. View of the type specimen, twice enlarged.

CONULARIA SUBULATA.

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Fig. 3. Lateral view, twice enlarged, of the most perfect individual.

BELLEROPHON TEXTILIS.

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Fig. 4-5. Dorsal and lateral views, twice enlarged, Bloomington, Ind.

BELLEROPHON SUBLEVIS.

Page 371.

Figs. 6-7. View of the aperture of a more recently acquired specimen, and lateral view of one of the originals.

LEPETOPSIS LEVETTEI, *White*.

Figs. 8-12. Fig 8, lateral view of a young specimen, doubtfully of this species, four diam.; fig. 9, vertical view of a large individual, and fig. 10, the same with the shell removed to show the muscular scar; fig. 11, view of a second individual; fig. 12, profiles of figs. 10 and 11.

PLATYCERAS ACUTIROSTRIS.

Page 370.

Figs. 13-15. Figs. 13 and 14, lateral and dorsal views of the same specimen; 15, lateral view of a second specimen, both from Bloomington, Ind.

EUOMPHALUS SPERGENENSIS.

Page 350.

Figs. 16-19. Figs. 16-18, views of a large specimen from later collections, and 19, a view of one of the types, all from Spergen Hill.

EUOMPHALUS SPERGENENSIS, var. PLANORBIFORMIS.

Page 351.

Figs. 20-21. From Bloomington, Ind.

EUOMPHALUS PLANISPIRA.

Page 351.

Figs. 22-23. Upper and lower views of two specimens from Bloomington, Ind.

SPERGEN HILL FOSSILS.

(Univalves)

ST LOUIS GROUP.

Indiana Geol. Survey.

PLATE 31.

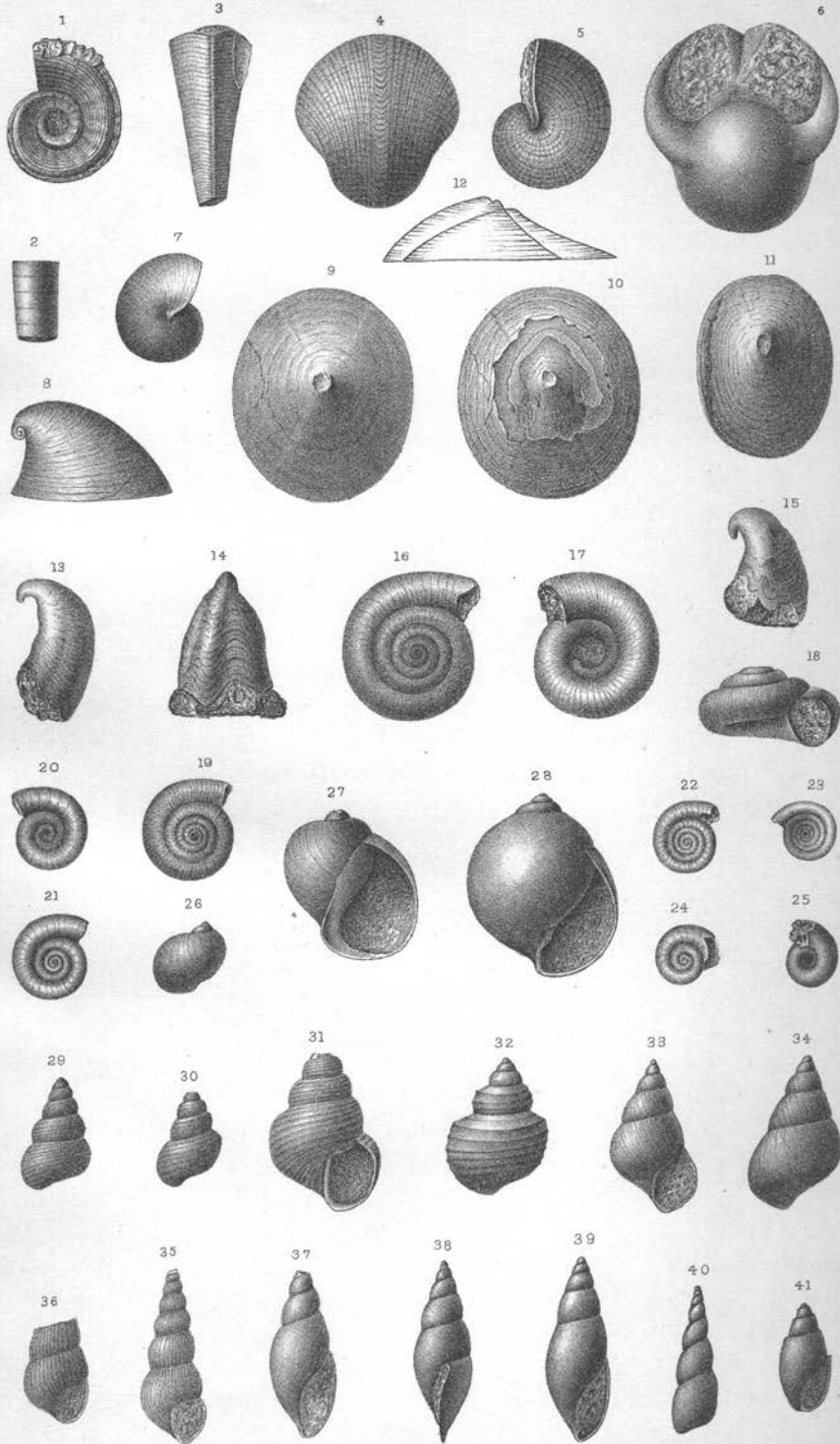


PLATE 31—Continued.

*EUOMPHALUS QUADRIVOLVIS.*

Page 349.

Figs. 24-25. Upper and lower sides of two specimens from Bloomington, Ind.

*NATICOPSIS CARLEYANA.*

Page 369.

Figs. 26-27. Back view, natural size, and view of the aperture (2x), Bloomington, Ind.

*MACROCHEILUS LITTONANUS.*

Page 369.

Fig. 28. Front view of the specimen enlarged four diameters.

*CYCLONEMA LEAVENWORTHANA.*

Page 363.

Figs. 29-31. Fig. 29, view of a specimen from Spergen Hill, (2 diam.); fig. 30, view of one from Bloomington, Ind., natural size, and fig. 31, view of the aperture of one from Spergen Hill, (2 diam.)

*CYCLONEMA SUBANGULATUM.*

Page 364.

Fig. 32. Back view of the type specimens, (2 diam.)

*HOLOPEA PROUTANA.*

Page 368.

Figs. 33-34. Front and back views (2 diam.) of a specimen from Spergen Hill, Ind.

*LOXONEMA YANDELLANA.*

Page 365.

Figs. 35-36. Fig. 36, enlargement (3 diam.) of a fragment showing the striae; fig. 35, view of a second specimen (3 diam.)

*BULIMORPHA BULIMIFORMIS.*

Page 366.

Figs. 37-39. Fig. 37, view of a specimen from Bloomington, Ind. (2 diam.), showing the columella; fig. 38, side view of a smaller shell (3 diam.) from Spergen Hill, showing sinus in upper part of lip; fig. 39, front view (3 diam.) of another Spergen Hill specimen.

*BULIMORPHA ELONGATA.*

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Fig. 40. View of the type specimen twice enlarged.

*BULIMORPHA CANALICULATA.*

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Fig. 41. View of the type specimen enlarged to three diameters, showing the channeled sutures.

PLATE 32.

PLEUROTOMARIA SWALLOVANA.

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Figs. 1-2. Vertical and lateral views (4 diam.) of a specimen from Spergen Hill, Ind.

PLEUROTOMARIA HUMILIS.

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Fig. 3. Vertical view (4 diam.) of a specimen showing surface features.

PLEUROTOMARIA WORTHENI.

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Fig. 4. Apertural view of the type. (See other figs. Geol. Iowa, 1858.)

PLEUROTOMARIA NODULOSTRIATA.

Page 352.

Fig. 5. Apertural view (4 diam.) of a specimen of medium height.

PLEUROTOMARIA PIASAENSIS.

Page 354.

Figs. 6-7. Lateral and vertical views (3 diams.) of a specimen with sharp periphery.

PLEUROTOMARIA (?) MEEKANA.

Page 353.

Figs. 8-9. Lateral and vertical views of the type specimen (3 diams.) slightly restored.

PLEUROTOMARIA SUBGLOBOSA.

Page 355.

Fig. 10. Lateral view (2 diams.) showing aperture; Spergen Hill, Ind.

MURCHISONIA VERMICULA.

Page 361.

Fig. 11. View of a specimen, five diameters, Spergen Hill, Ind.

MURCHISONIA TURRITELLA.

Page 361.

Fig. 12. View of a specimen twice enlarged, Spergen Hill, Ind.

MURCHISONIA ATTENUATA.

Page 360.

Fig. 13. View of the type, enlarged six times.

MURCHISONIA VINCTA.

Page 363.

Fig. 14. View of the most perfect of the type specimens, (2 diams.)

MURCHISONIA TEREBRIFORMIS.

Page 362.

Figs. 15-16. Fig. 15, view of the type (2 diams.); fig. 16, view of the last volution further enlarged and restored in lower part.

SPERGEN HILL FOSSILS.  
 (Gasteropoda &c.)  
 ST. LOUIS GROUP.

Indiana Geol. Survey.

PLATE 32.

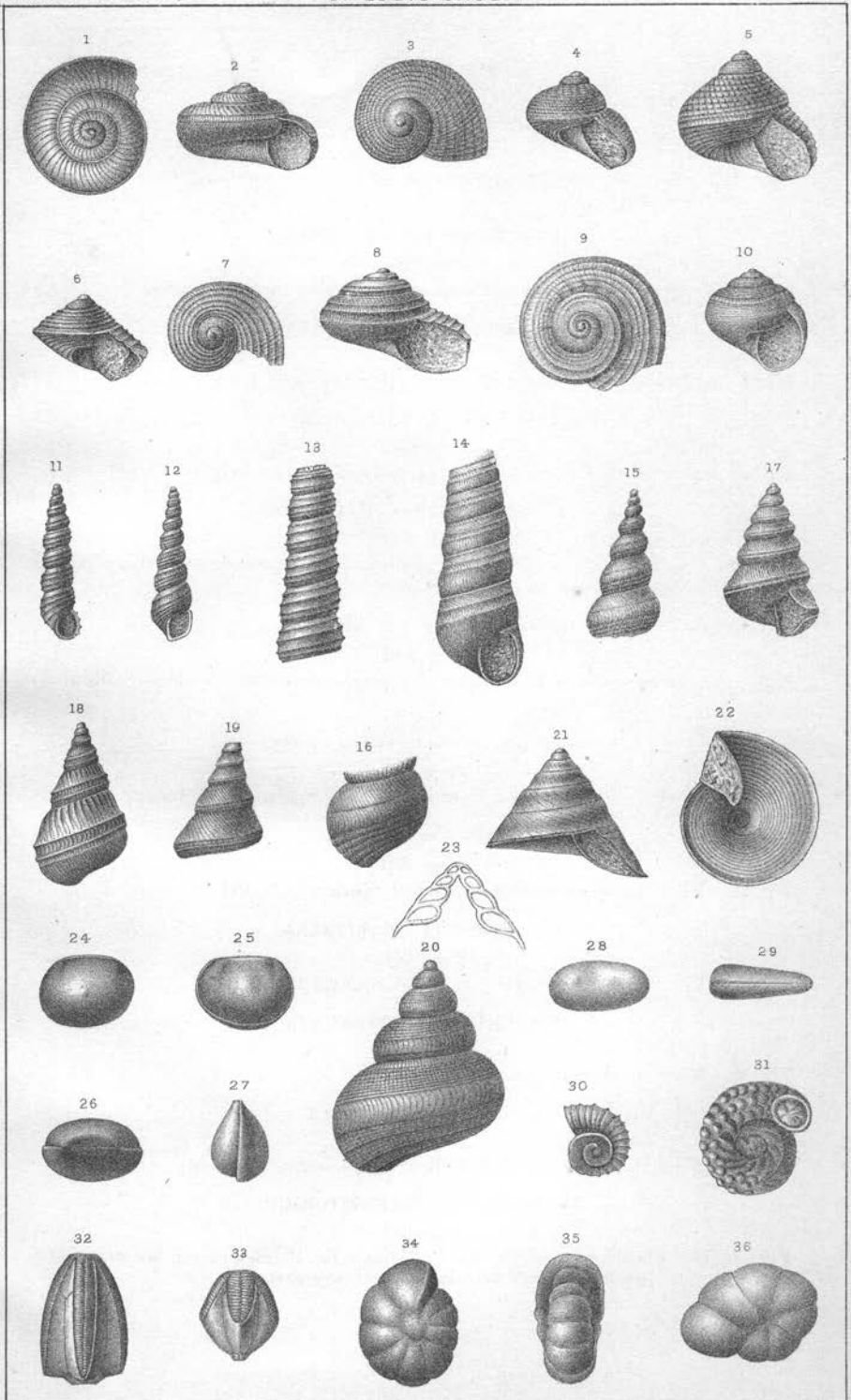


PLATE 32—Continued.

PLEUROTOMARIA CONULA.

Page 358.

- Fig. 17. View showing the aperture of the most perfect type specimen (4 diams.), showing slit in the aperture.

MURCHISONIA INSCULPTA.

Page 359.

- Fig. 18. View of a specimen from Spergen Hill, enlarged four times.

PLEUROTOMARIA ELEGANTULA.

Page 358.

- Fig. 19. View of the type specimen, enlarged twice.

PLEUROTOMARIA TRILINEATA.

Page 357.

- Fig. 20. Enlargement to three diameters, of a specimen from Bloomington, showing the features of the species.

EOTROCHUS CONCAVUS.

Page 365.

- Figs. 21-23. Figs. 21 and 22, lateral and basal views (2 diams.) of a specimen from Spergen Hill, showing the form and surface features; fig. 23, section of a shell enlarged.

LEPERDITIA CARBONARIA.

Page 375.

- Figs. 24-27. Views of a specimen, greatly enlarged, showing the features of the species.

CYTHERELLINA GLANDELLA, *Whitfield*.

- Figs. 28-29. Lateral and profile views of a specimen greatly enlarged.

SPIRORBIS ANNULATUS.

Page 374.

- Fig. 30. View of the lower side of a specimen from Alton, Ill., (2 diams.)

SPIRORBIS NODULOSUS.

Page 375.

- Fig. 31. Enlarged view of the type specimen (4 diams.)

PENTREMITES CONOIDEUS.

Page 323.

- Fig. 32. Lateral view of a specimen, nat. size, Spergen Hill. For other figures, see Geol. Rept. Iowa, 1858.

PENTREMITES KONINCKANA.

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- Fig. 33. View of one of the types from Spergen Hill (2 diams.) For other figures, see Geol. Rept. Iowa, 1858.

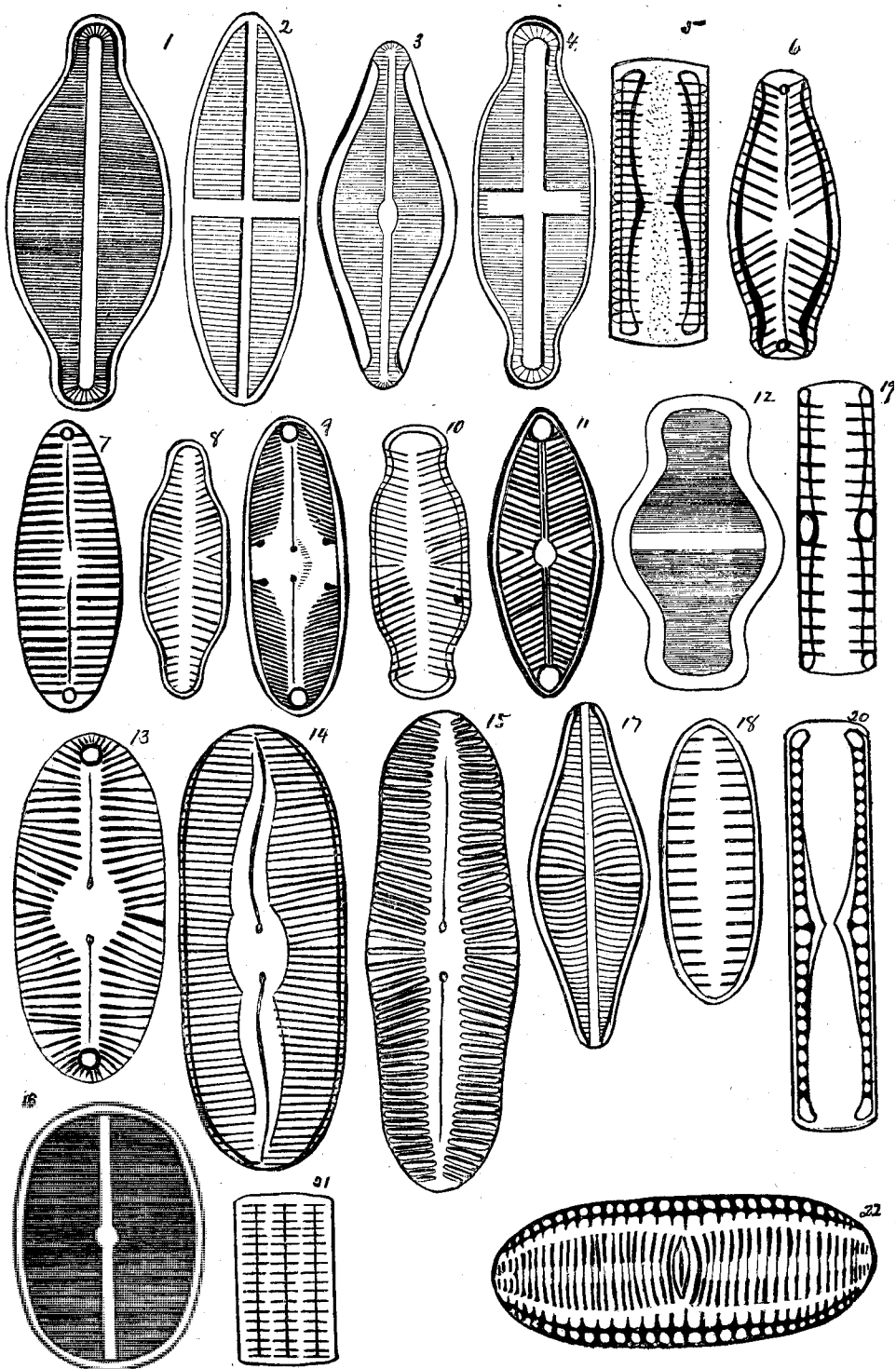
ENDOTHYRA BALEYI.

Page 321.

- Figs. 34-36. Figs. 34 and 35, two views of the same specimen greatly enlarged, showing the prevailing form; fig. 36, view similarly enlarged, of a less symmetrical form.

PLATE 33.

- Fig. 1. *Navicula Placentula* (?)
- Fig. 2. *Navicula* ————? Possibly a *Stauroneis*. (Vorce.)
- Fig. 3. *Navicula* (*Cuspidata*). Variety.
- Fig. 4. *Navicula* ————?
- Fig. 5. *Navicula Major* (Variety) Kg.
- Fig. 6. *Navicula* (*Slesvicensis*) *Dicephala*. Variety.
- Fig. 7. *Navicula* ————?
- Fig. 8. *Navicula Dicephala*. (C. M. Vorce.) *Ambigua*? (Ehr.).
- Fig. 9. *Navicula Roteana*? This form often varies in the spaces of the cross, sometimes being quite small.
- Fig. 10. *Navicula Dicephala*, a variety of No. 8.
- Fig. 11. *Navicula Lanceolata*. (Pritchard.)
- Fig. 12. *Navicula* ————? (With Bands).
- Fig. 13. *Navicula* ————?
- Fig. 14. *Navicula Viridis* (?). Vorce.
- Fig. 15. *Navicula* (possibly a variety of No. 14).
- Fig. 16. *Navicula Lucidula*. (Variety.) Grunow.
- Fig. 17. *Navicula Cryptocephala*.
- Fig. 18. *Navicula* (*Lata*?). Its character is obscure.
- Fig. 19. *Navicula Atoneoides*. (By some called a *Stauroneis*).
- Fig. 20. *Navicula Borealis*. Variety. Ehr. Kg.
- Fig. 21. *Navicula* ————. (Evidently a fragment. It is no uncommon occurrence to find fragments of diatoms which can not be named while in a fragmentary state).
- Fig. 22. *Navicula* (?). There is some doubt as to its class. Vorce prefers to class it among the *Surirella*, and in that case the drawing is of the inside of a compound valve, "showing the inner plate".

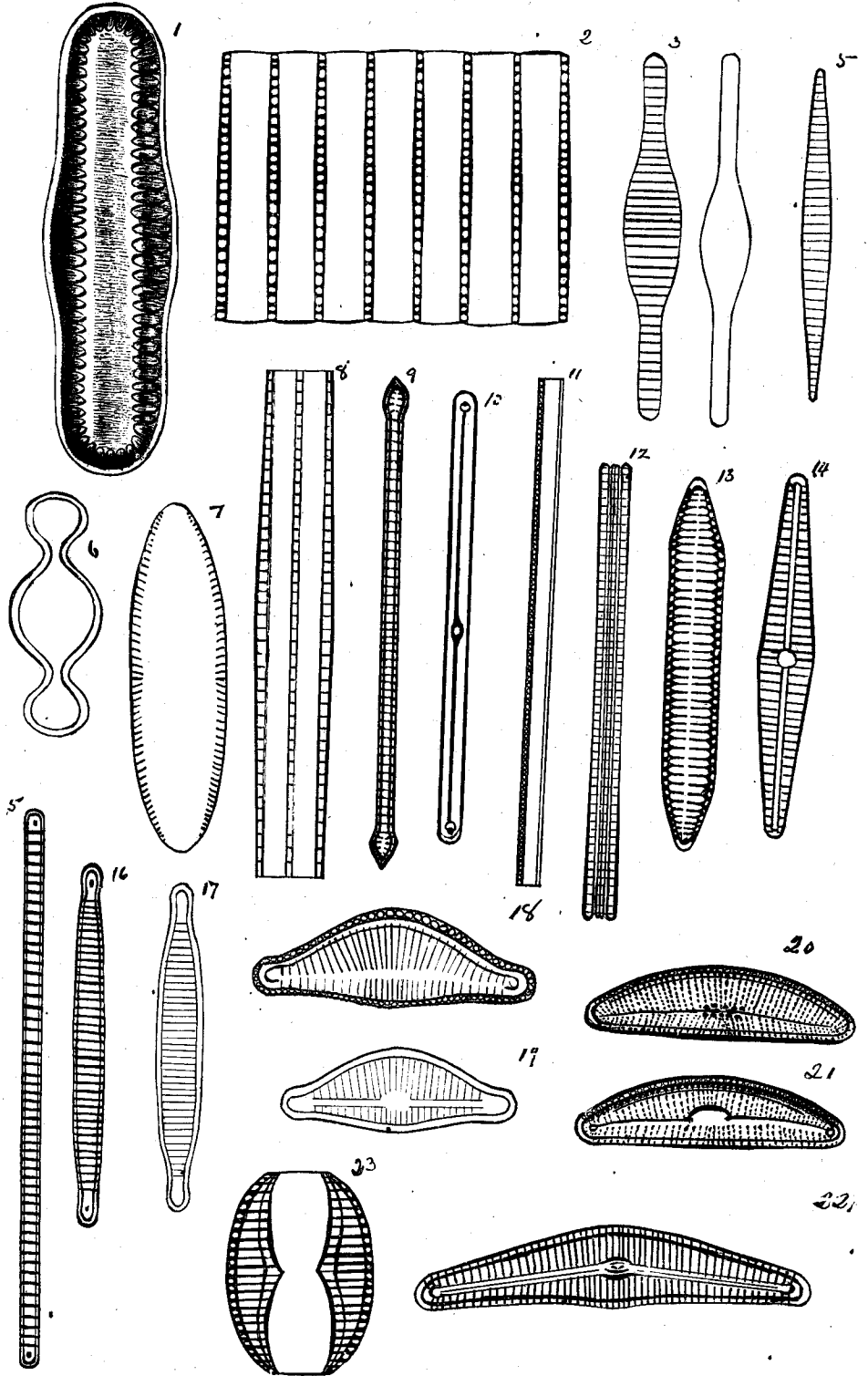


EXPLANATION OF PLATES.

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PLATE 34.

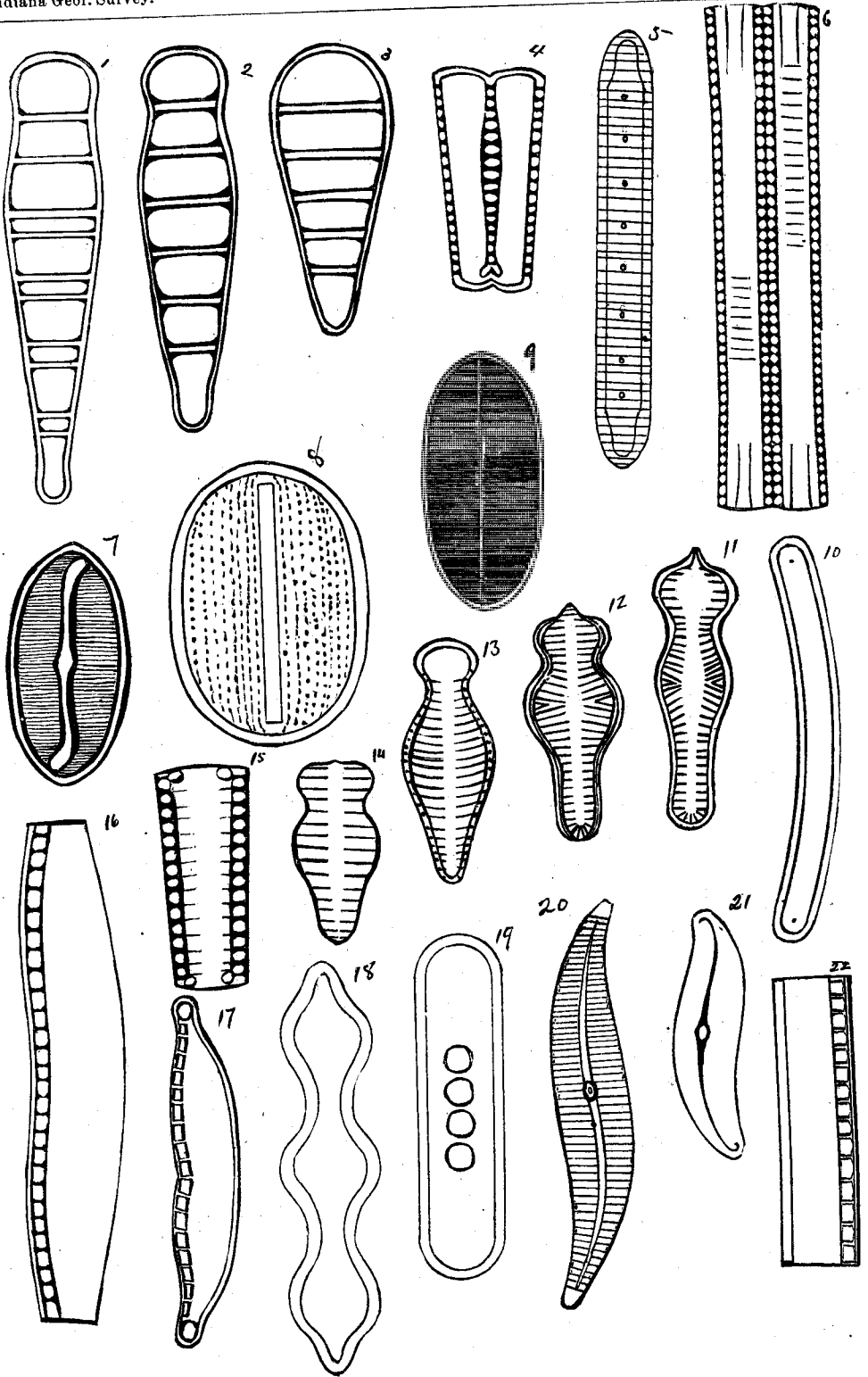
- Fig. 1. *Epithemia Gibba* (?) Kutz. This bears a striking resemblance to certain *Navicula*. The difference lies in the center stripe.
- Fig. 2. *Fragilaria Virescus*. (A cluster) 1,000  $\times$ . Found in a pond west of Indianapolis.
- Figs. 3, 4. *Fragilaria (Staurosira) Smithiana*. Grun. Variety. They are difficult to name. No. 3 bears marks of the *Cymatosira Lorenziana*, while No. 4 bears resemblance to *Fragilaria Capensis* of Grun. & Heurck.
- Fig. 5. *Fragilaria Lanceolata* (Northumbrian).
- Fig. 6. *Fragilaria Construens* (var)? Possibly *Tabellaria Flocculosa* var.
- Fig. 7. *Fragilaria Brevastriata*. (Var. Subacute of Grun.)
- Fig. 8. *Fragilaria Ungeriana*. (Grun. Van Heurck.)
- Fig. 9. *Synedra Spathulifaris*. Grun. (Capitata of Ehr.)
- Fig. 10. *Synedra* or *Fragillaria*?
- Fig. 11. *Nitzschia*. A fragment.
- Fig. 12. *Synedra Parallelogram*. (Radiens of Smith.) From the Cold Springs, four miles northwest of Indianapolis.
- Fig. 13. *Synedra Acuti*? It bears some resemblance to the *Oxyrhyncus* (var.) which is described by Kutzung, and is reported as found in Germany only, while the *Acuti* is widely diffused, being found in Asia, Africa and America.
- Fig. 14. *Synedra Lanceolata*.
- Fig. 15. *Synedra Obtusa*. Van Heurck.
- Fig. 16. *Synedra Dicephala*.
- Fig. 17. *Synedra Amphicephala*? (Var. of 16.) Ktz. It bears a resemblance to *Synedra Fulgens*. Var. (Dalmatica. Grun.)
- Fig. 18. *Cymbella Gastroides*. (Kamtschatica? Van Heurck).
- Fig. 19. Possibly same as No. 18, in different view.
- Figs. 20, 21. *Cymbella (Cocconema) Helvetica*. Var. Van Heurck.
- Fig. 22. *Cymbella (Cocconema) Lanceolata*. Ehr.
- Fig. 23. *Amphora Ovalis*. Van Heurck and Kutzung.



EXPLANATION OF PLATES.

PLATE 35.

- Fig. 1. *Diatoma Constrictum Longatum*. High powers resolve markings on blank spaces between bars.
- Fig. 2. *Diatoma Constrictum*. (Ralfs.)
- Fig. 3. *Diatoma Meridian Circulare* (?) Minor.
- Fig. 4. *Diatoma Meridian Circulare* (?) Variety.
- Fig. 5. *Diatoma* (*Odontidium*?) *hiemal*. Van Heurck. This diatom is from pond near Haughsville. It is not abundant, but in the Cold Spring water at time is abundant.
- Fig. 6. *Diatoma Vulgara*.
- Fig. 7. *Achuanthidium Flexillum*. (C. M. Vorce.) 800 X. Cold Spring.
- Fig. 8. *Cocconeis Pediculus*. Abundant.
- Fig. 9. *Cocconeis Amygdalma*. (*Forma Major*?) Bands very fine. Somewhat rare. May be a good objective test.
- Fig. 10. *Eunotia Parallela*. Variety. Marked with bars under high powers.
- Fig. 11. *Gomphonema Acuminatum*. Ehr. Van Heurck.
- Fig. 12. *Gomphonema Acuminatum*. Variety. Ehr.
- Fig. 13. *Gomphonema Constrictum*. Ehr.
- Fig. 14. *Gomphonema Acuminatum*. Short, abrupt bars.
- Fig. 15. *Gomphonema Symmetrica*. (*Subramosum*?) Variety. Kutz.
- Fig. 16. *Hantzschia Amphioxys*. Variety.
- Fig. 17. *Hantzschia Amphioxys Minor*.
- Fig. 18. *Navicula Timodis* (or *Simosa*?) It bears resemblance to *Stauroneis Legumen*, for which it may be mistaken.
- Fig. 19. *Stauroneis* (?)
- Fig. 20. *Pleurosigma Spenceri*. (*Acuminatum*. Kut.) Under high powers there are seen lines parallel to the border.
- Fig. 21. *Pleurosigma* ————. Found in a pond near Greenwood, Ind.
- Fig. 22. *Nitzschia*. The species not distinguishable.



EXPLANATION OF PLATES.

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PLATE 36.

- Fig. 1. *Surirella Elegans*. Variety. Ehr. Van Heurck.
- Fig. 2. *Cymatopleura Elliptica*. (Moller Typen Platte.) From Cold Spring, the scene of the Young tragedy. This diatom is very beautiful under the glass, and when once observed will be remembered.
- Fig. 3. *Surirella Ovata Radiata*. With bars. From Cold Spring.
- Fig. 4. *Surirella Ovata Radiata*. With dots.
- Fig. 6. *Surirella Ovata*. Variety.
- Fig. 7. *Meridion Constrictum*. From a pond south of Indianapolis. This will break up into single valves.
- Fig. 8. Is a single frustrale of No. 7, but chances to be of a shorter variety.
- Fig. 9. *Surirella Biseriata*. (C. M. Vorce.)
- Fig. 11. *Achuenthidium Flexellum*. Smith.
- Fig. 12. *Surirella* ————. From a pond at Shelbyville, Ind.

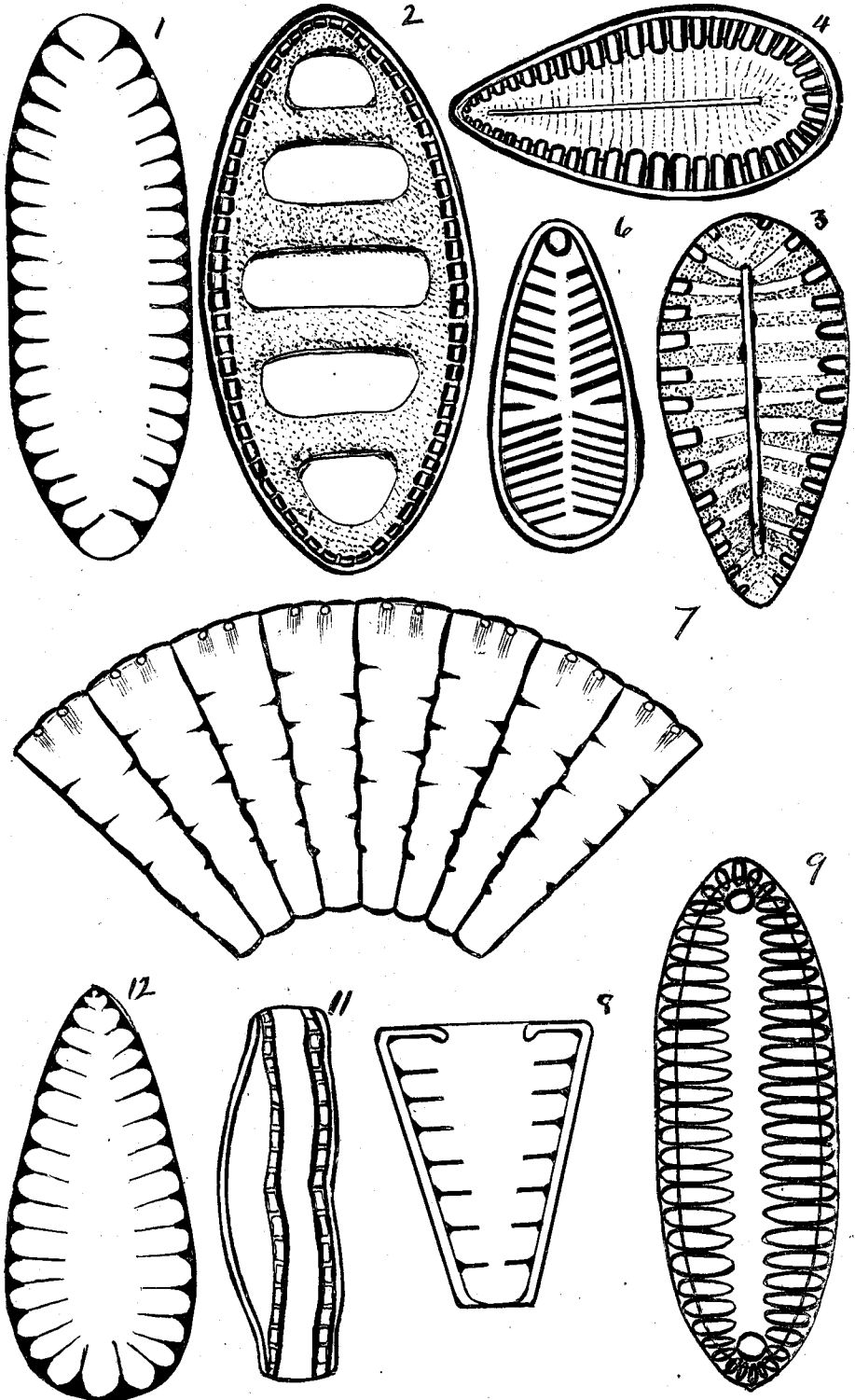
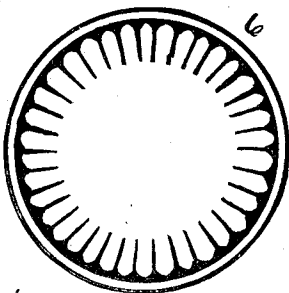
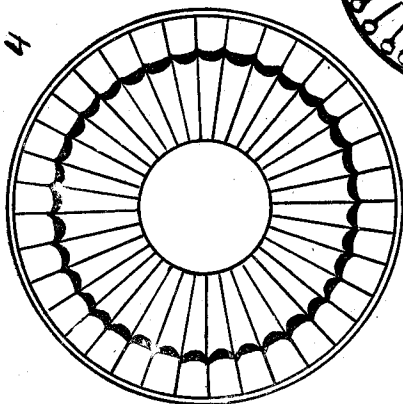
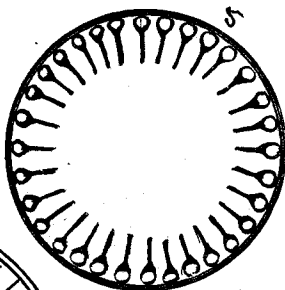
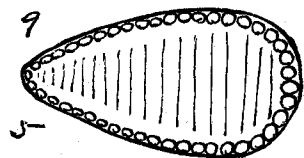
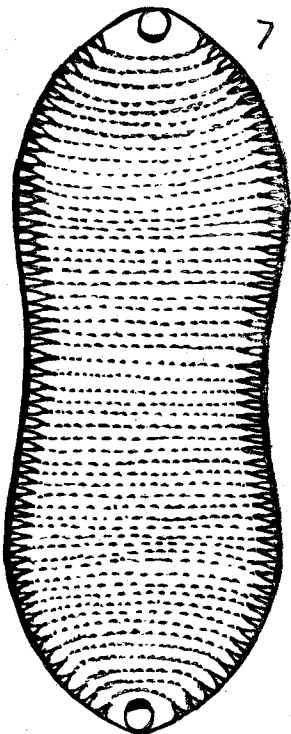
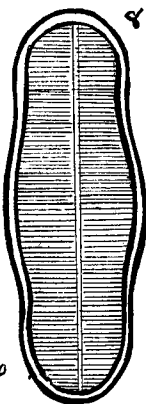
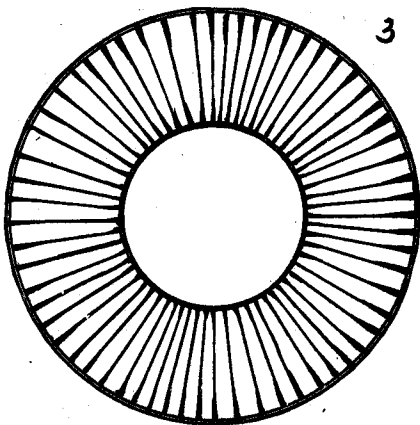
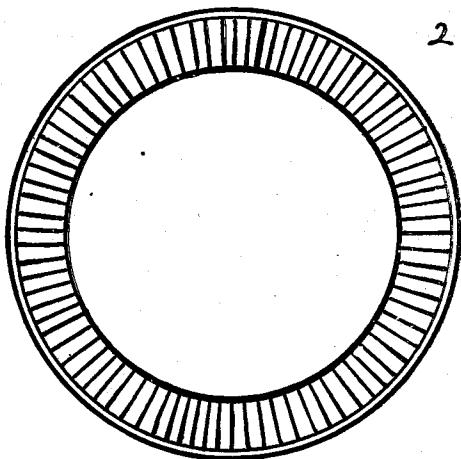
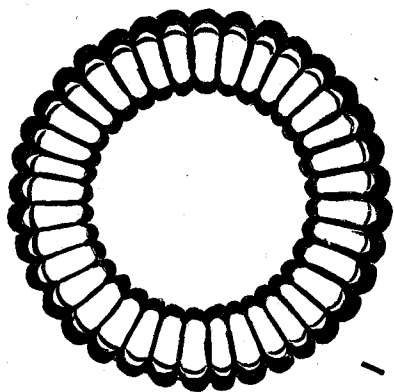


PLATE 37.

- Fig. 1. *Melosira* ————. (Mary?) (Possibly a *Cyclotella* of Van Heurck.)  
Found in a pond between Indianapolis and Haughsville.
- Fig. 2. *Melosira* (Varians?) 1,000 ×. Center marked with dots.
- Fig. 3. *Melosira* (*Gaillonella*?) *Hyporborea*. Grun. 1,000 ×. Found in abundance in ponds around Indianapolis. It will often be overlooked as a grain of sand.
- Fig. 4. *Melosira* (Marion?) 1,000 ×. Smith and Van Heurck have nothing corresponding with this.
- Fig. 5. *Cyclotella Meneghiniana*. (Vorce.) It resembles the *Melosira Spiralis* of Ehr.
- Fig. 6. *Cyclotella Kutzingiana*. (Resembles *Melosira Sol*, a variety of the *Gaillonella Sol* of Ehr. Brightwell calls it the *Cyclotella Radiata*.)
- Fig. 7. *Cymatopleura Solea*. Cold Spring.
- Fig. 8. *Synedra Diacephala*. Bears resemblance to a *Schizonema*.
- Fig. 9. *Surirella Ovata Minor*.



## PLATE 38.

- Fig. 1. *Nitzschia Bicephala*. Large. It seems to be the *N. Debiles* of Van Heurck.
- Fig. 2. *Nitzschia Amphioxys*. Long.
- Fig. 3. *Nitzschia Amphioxys*. Short. Variety.
- Fig. 4. *Nitzschia Coarctata*. Groupe Tryblionella. Van Heurck.
- Fig. 5. *Nitzschia* ————? Curved. From pond west of White river, at Indianapolis. Since have found the same in water from Cold Spring.
- Fig. 6. *Eunotia* (?). Possibly *Himantidium*. Sometimes in pond near Cold Spring. 1,000  $\times$ .
- Fig. 7. *Nitzschia Sigmoida*. Obtusa. With bars and dots.
- Fig. 8. *Nitzschia* ————?
- Fig. 9. *Nitzschia Longa* (?). East of Indianapolis, near Michigan road.
- Fig. 10. *Nitzschia* (*Vermicularis*?).
- Fig. 11. *Triceratium* (*Actinoptychus*?). Vorce calls it *Staurastrum Alternans*, after Ralfs. It generally occurs double.
- Fig. 12. *Bidulphia Decipiens*. Variety. Van Heurck. 1,000  $\times$ . Found at Cold Spring. Rare. (*Fragillaria Construens* (*Odontidium*.) (Vorce).
- Fig. 13. *Staurastrum Asperum* (Ralfs). 1,000  $\times$ . This bears a striking resemblance to the *Triceratium*.
- Fig. 14. *Nitzschia* (*Sinnata* variety). Vorce calls it *Odontidium*.
- Fig. 15. *Hyalodiscus Collettensis*. A few of these are found in the pond on north side of the road leading from Indianapolis to Haughsville, on east side of White river. It is difficult to account for its occurrence here.
- Fig. 16. Is a fragment.
- Fig. 17. *Gomphonema* ————?
- Fig. 18. *Gomphonema Sphaerophorum, turgidum*. Ehr. From a brook near Zionsville, Ind.
- Fig. 19. *Melosira Varians* (?).
- Fig. 20. *Trybleonella* ———— (?).

