

PLATE 91.

CYATHOPHYLLUM COLLIGATUM.

Devonian.

1. Under surface of a corallum from the ferruginous clay of the Lower Devonian, near Louisville.
2. Upper surface of a corallum from the same horizon and neighborhood.
Collection of the author.

KENTUCKY GEOLOGICAL SURVEY.

PLATE 91.

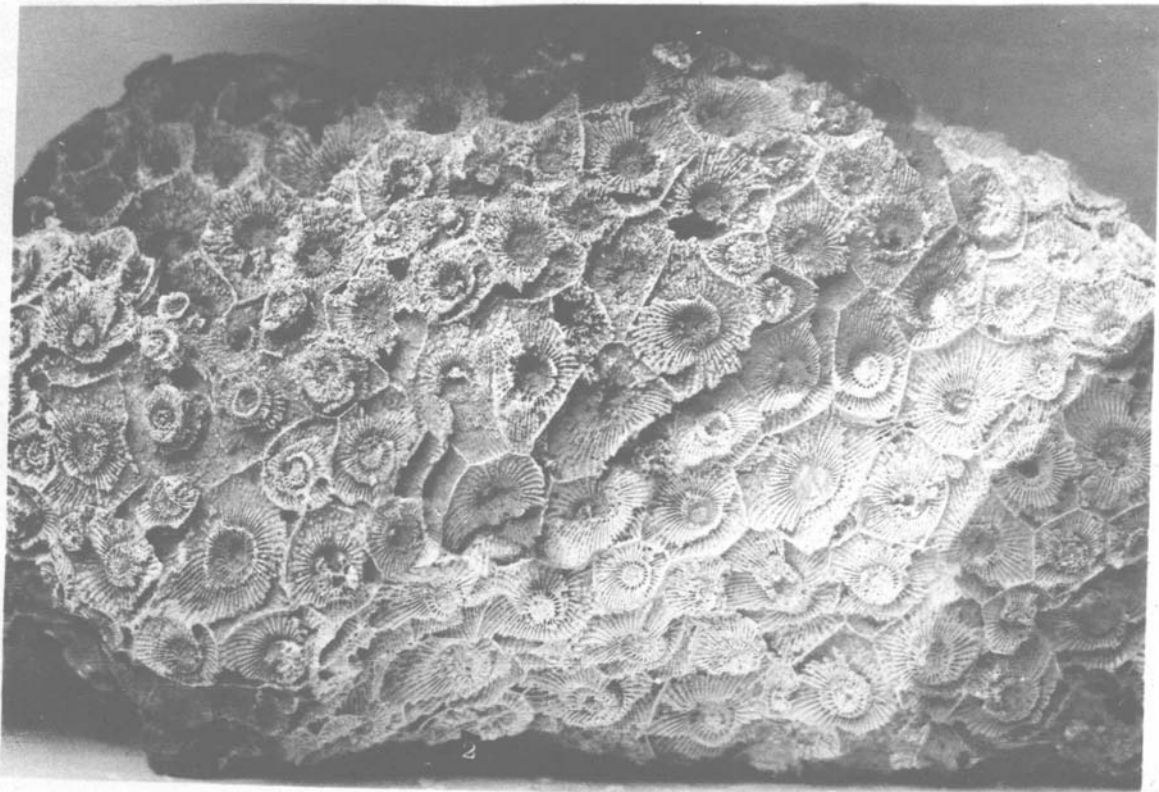
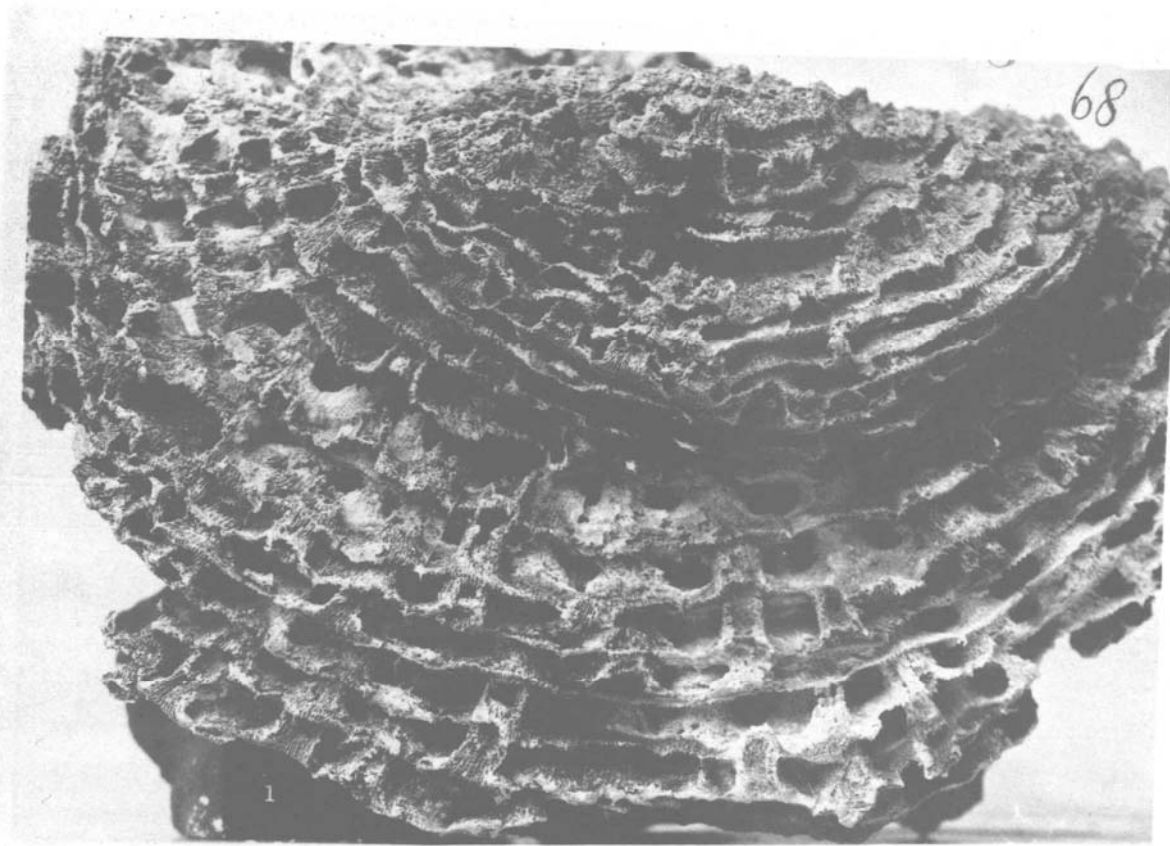


PLATE 92.

CYATHOPHYLLUM COLLIGATUM.

Devonian.

1. Vertical section of specimen Fig. 2, Plate 91.

CYATHOPHYLLUM HALLI.

Devonian.

2. Calyx of corallum Fig. 1, Plate 77.
3. Calyx of a corallum of medium size, bell-shaped, from the red clay of the Middle Devonian, near Louisville. Collection of the author.

CYATHOPHYLLUM MULTIGEMMATUM, Nov. Spec.

Devonian.

4. Three small inosculated gems fortuitously detached from the inferior corallet; from the Middle Devonian waste, Lincoln county, Kentucky. Collection of Mr. Linney.

KENTUCKY .GEOLOGICAL SURVEY.

PLATE 92.

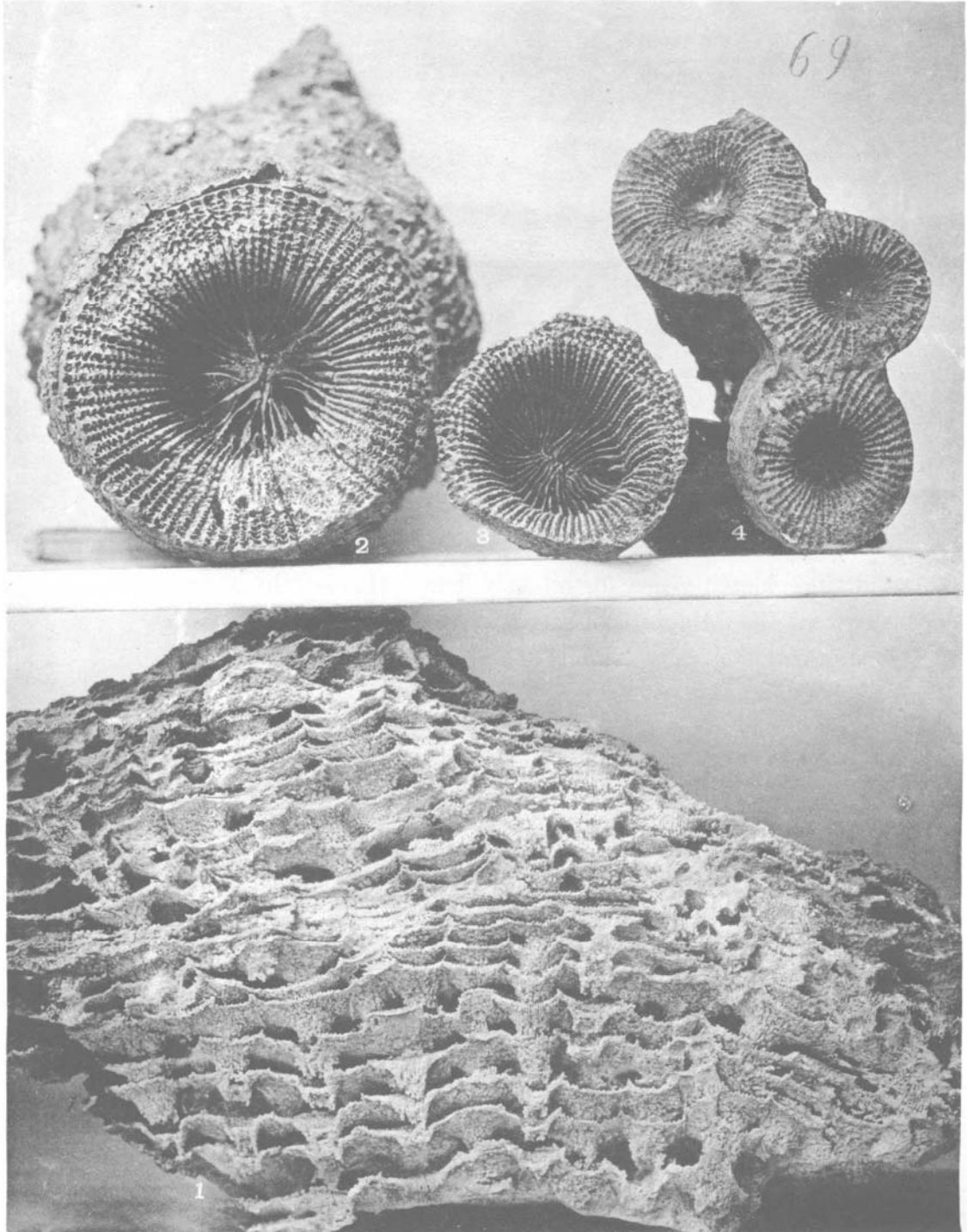


PLATE 93.

CYATHOPHYLLUM OVOIDEUM, Nov. Spec. *Devonian.*

1. Upper surface of a corallum from the decomposed chert of the Middle Devonian, near Louisville.

CYATHOPHYLLUM DAVIDSONI. *Devonian.*

2. Upper surface of a corallum from the rotten chert of the Middle Devonian, Falls of the Ohio.

CYATHOPHYLLUM RUGOSUM. *Devonian.*

3. Upper surface of a fragment showing cristate calyx-walls, from the Middle Devonian red clay, near Louisville.
Collection of the author.

KENTUCKY GEOLOGICAL SURVEY.

PLATE 93.

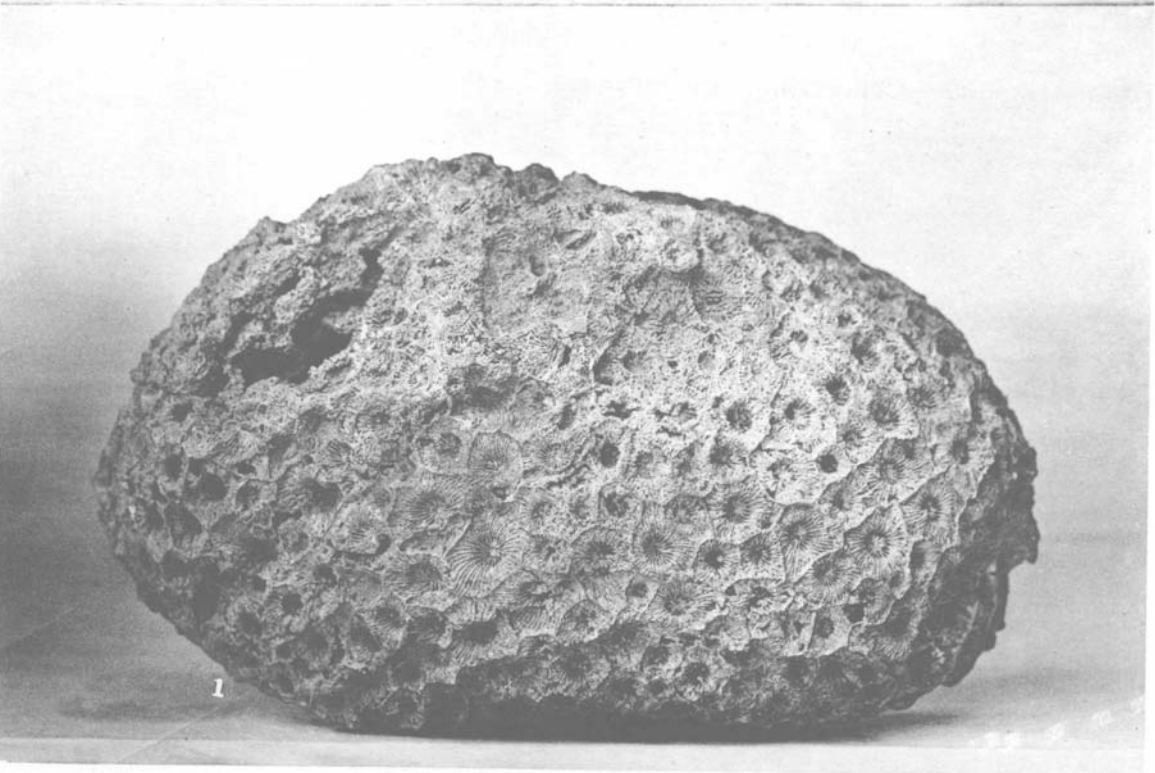
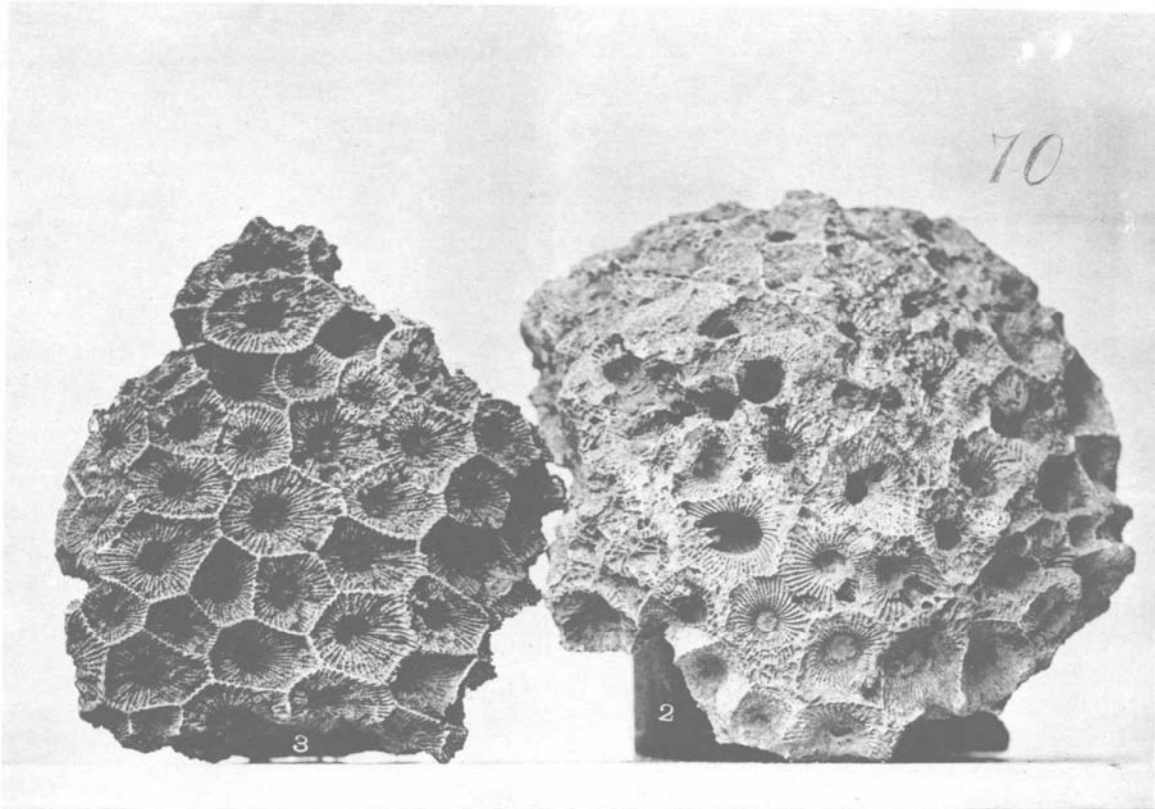


PLATE 94.

ACROPHYLLUM ONEIDAENSE.

Devonian.

1. (Oblique) anterior, or central-gap view of a corallum of average size, with calyx wall broken so as to show the cone-shaped diaphragm; from the Lower Devonian, Falls of the Ohio.
2. Right lateral view (prostrate) of a small corallum, more conical than the typical specimens. From the horizon and locality of the preceding example.

ACROPHYLLUM ELLIPTICUM, Nov. Spec.

Devonian.

3. Anterior, or central-gap view of a corallum, with wall removed so as to show the bottom of the calyx; from the horizon and place of *C. oneidaense*. The specimens belong to the collection of the author.

KENTUCKY GEOLOGICAL SURVEY.

PLATE 94.

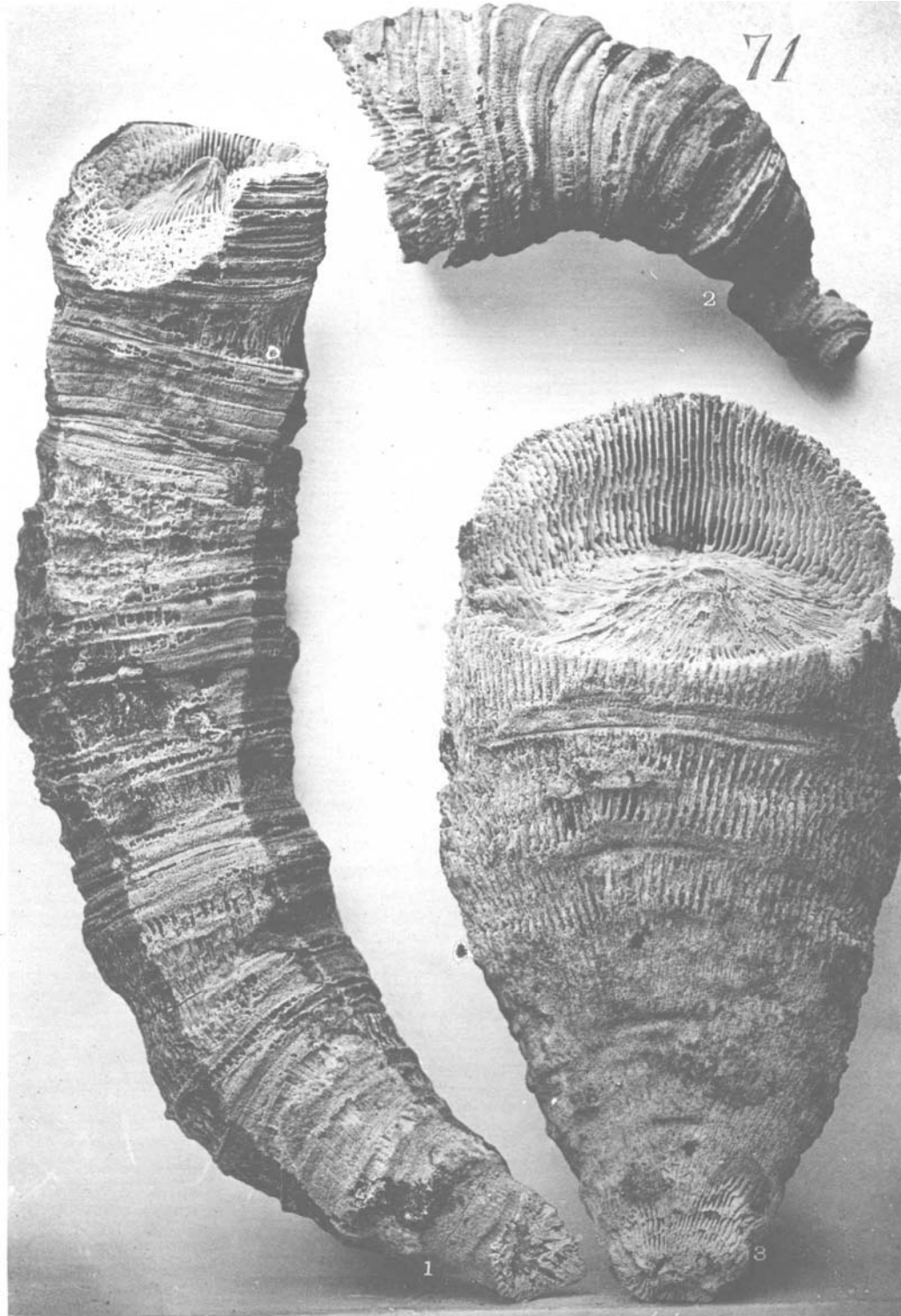


PLATE 95.

AULACOPHYLLUM SULCATUM.

Devonian.

1. Anterior, or central-gap view and view of the calyx of a corallum, from the Middle Devonian rocks, Falls of the Ohio.
2. Left lateral view of a weathered corallum, from the Middle Devonian red clay, near Louisville.
3. Posterior, or apertural-gap view of a weathered corallum, from the Middle Devonian red clay, near Louisville.

[note.—The arrangement of the lamella; about the line of the apertural-gap may be observed.]

AULACOPHYLLUM PARVUM, Nov. Spec.

Devonian.

4. View of the central-gap line and of the calyx of a corallum, from the red clay of the Middle Devonian, near Louisville.

AULACOPHYLLUM UNGULOIDEUM, Nov. Spec.

Devonian.

5. View of central-gap line and of the calyx of a corallum of medium size, from the Lower Devonian rocks, Falls of the Ohio.

[note.—In this specimen are conspicuously shown the four gaps proper to Cyathophylloids, and the consequent fascicular grouping of the lamellae.]

6. Similar view of a corallum, in which the central and lateral gaps are obscure, but showing the lamella occupying the center of the apertural-gap fovea.
7. Left lateral-gap view of a corallum (prone). This and example 6 are from the same horizon and place as example 5.

[note.—The arrangement of the lamellae about the line of the left lateral gap is noticeable.]

8. View of the calyx of a weathered corallum, from the Lower Devonian ferruginous clay, near Louisville.

[note.—In this example some of the lamellae beyond the lateral gaps remain erect, and by their co-incident meeting have the appearance of continuous plications from opposite margins of the wall.]

AULACOPHYLLUM INSIGNE.

Devonian.

9. View of the central gap and of the calyx of a corallum, whose lamellae are fortuitously broken down in the calyx bottom. From the manganese limestone of the Lower Devonian, Falls of the Ohio.

The examples are from the collection of the author.

KENTUCKY GEOLOGICAL SURVEY.

PLATE 95.

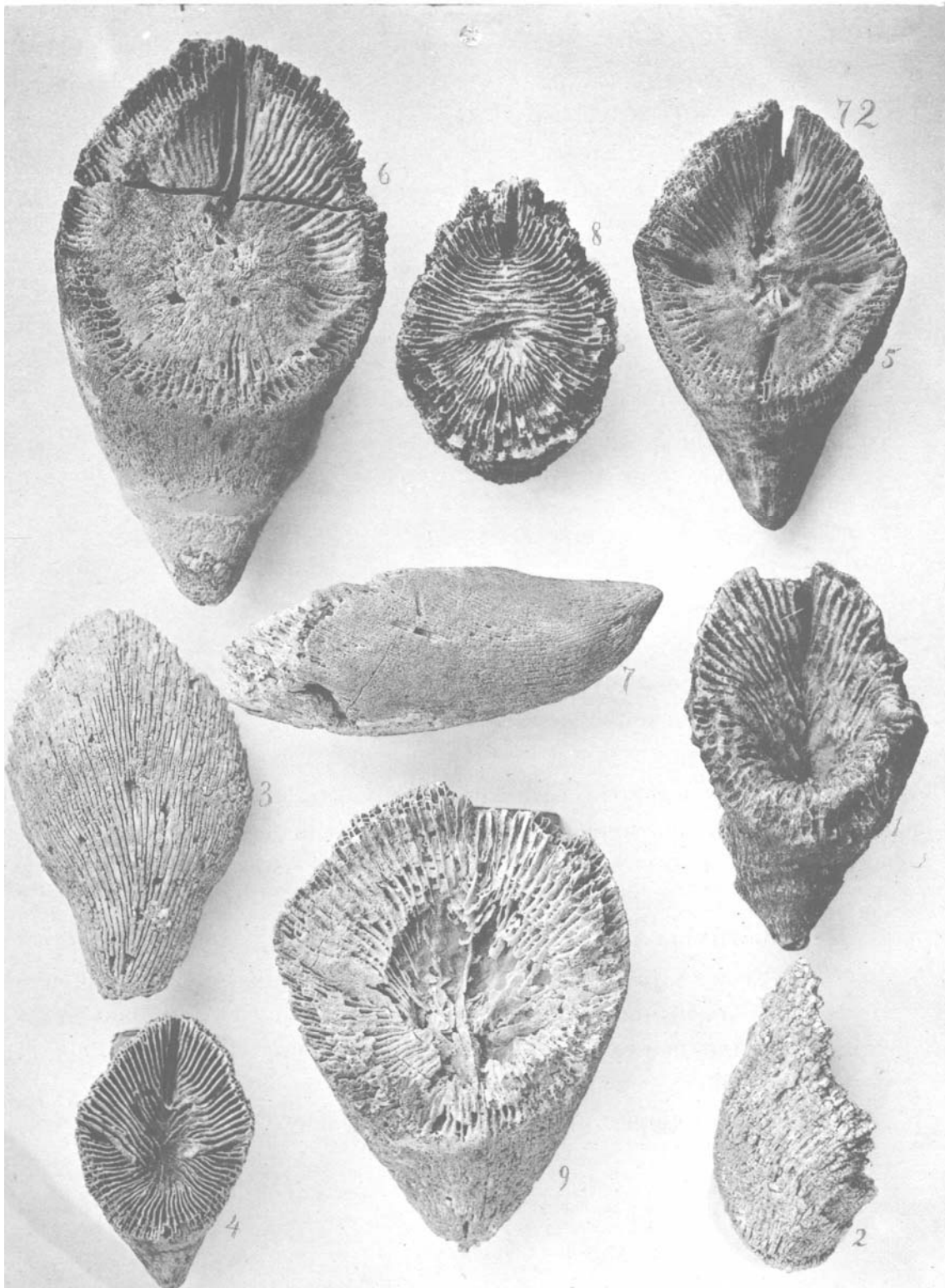


PLATE 96.

AULACOPHYLLUM MUTABILE, Nov. Spec.

Devonian.

1. Left lateral view of a weathered corallum.
2. View of central-gap side and posterior portion of the calyx of a corallum, indicating the formation of the calyx floor.
3. Right lateral view of a corallum with anterior wall broken down.
4. Posterior view of a corallum.
5. Oblique lateral view of a badly weathered corallum, whose lamellae were incrassated by the process of fossilization.
6. Front, or central-gap view of a corallum with anterior wall fortuitously removed, showing the sub-cellulose structure of the wall.
7. View of the calyx of a corallum (prone), showing a secondary calyx of cystose structure.
8. Anterior view of a corallum in which the secondary calyx is laminated.

Specimens 1-6 are found in the Middle Devonian red clay, near Louisville.

Specimens 7 and 8 are found in the Middle Devonian blue clay, Falls of the Ohio.

The examples figured belong to the collection of the author.

KENTUCKY GEOLOGICAL SURVEY.

PLATE 96.

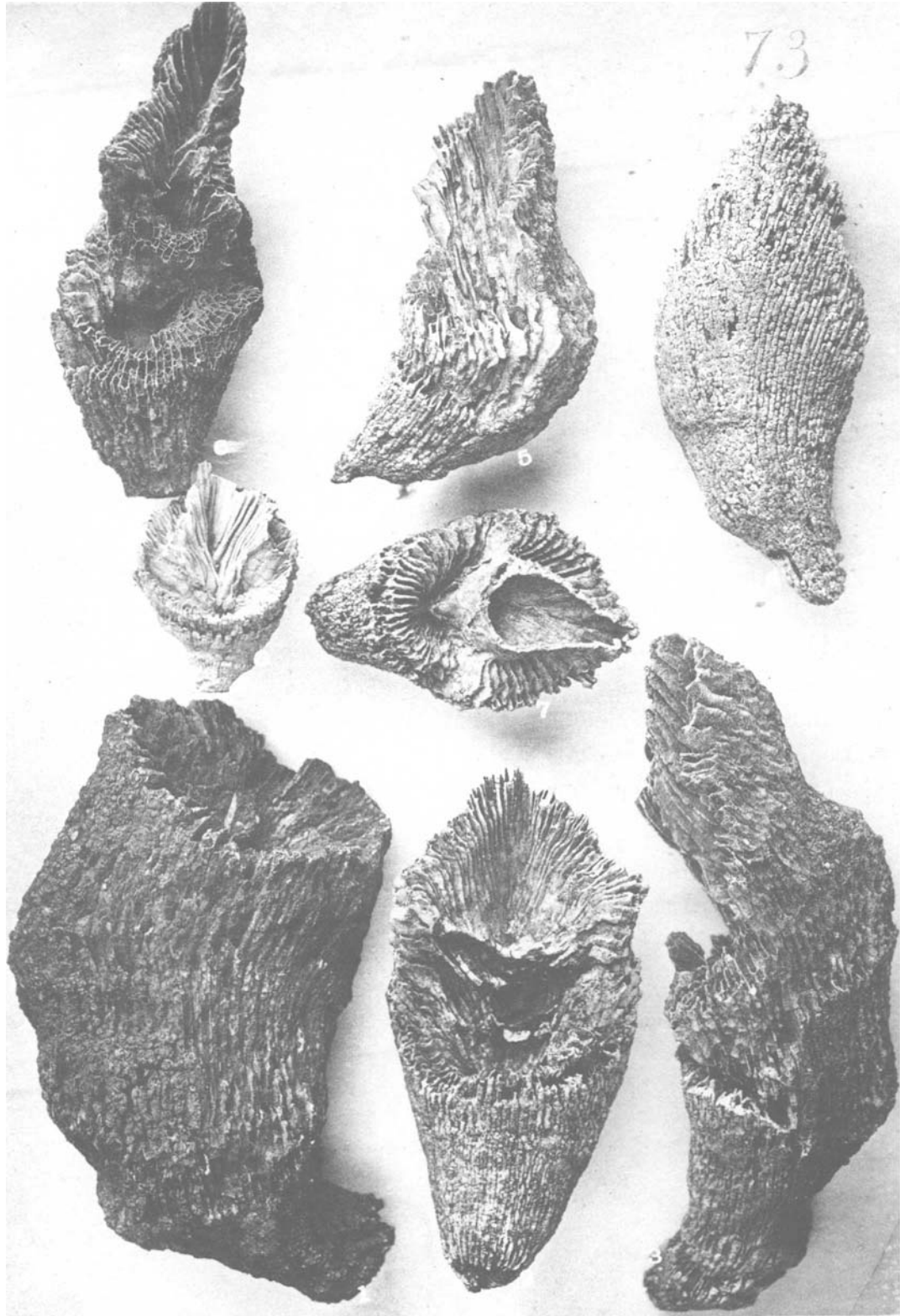


PLATE 97.

BLOTHROPHYLLUM LIRATUM, Nov. Spec. *Devonian.*

1. Left lateral view of a weathered corallum, with epitheca denuded, showing the ridge along the line of the apertural gap; from the blue clay of the Middle Devonian, Falls of the Ohio.

AULACOPHYLLUM CONIGERUM, Nov. Spec. *Devonian.*

2. Calyx of a corallum from the dark-red clay derived from the encrinal limestone of the Upper Devonian, near Louisville.

ACROPHYLLUM CLARKI, Nov. Spec. *Devonian.*

3. Right lateral view of a corallum of medium size, with flattened apex.
4. Left lateral view of a large corallum with flattened apex.
5. Posterior view of a corallum, with apex taking shape from the object to which the corallum attached in the early stages of growth.
6. Posterior view of a corallum from which the epitheca has been removed by weathering.

Examples 3-6 are from the horizon and vicinage of *A. conigerum*, Fig. 2.

CYATHOPHYLLUM INFOVEATUM, Nov. Spec. *Devonian.*

1. View of the calyx and oblique anterior view of a corallum, from the Lower Devonian red clay, near Louisville.
8. Similar view of a corallum, from the Upper Devonian encrinal limestone dark-red clay, near Louisville.

ZAPHRENTIS GALLICALCAR, Nov. Spec. *Devonian.*

9. Posterior view of a corallum of adult size.
10. Anterior view of a corallum.
11. Right lateral view of a corallum.
12. 13. Views of calyces of coralla.
14. Left lateral view of a young specimen.
15. Left lateral view of a jejune corallum of irregular growth. From the horizon and vicinage of *A. conigerum*.

PLATE 97— *Continued.*

ZAPHRENTIS CORNALBA, Nov. Spec.

Devonian.

16. Left lateral view of an adult corallum.
17. View of the calyx and oblique anterior view of a corallum. From the horizon and vicinage of *A. conigerum*.

ZAPHRENTIS NETTELROTHI, Nov. Spec.

Devonian.

18. Left lateral view of an adult corallum.
19. View of the calyx of a corallum.
Found in the vicinage and horizon of *A. conigerum*.

AULOPORA PRECIUS.

Niagara.

20. Corallets incrusting an eroded fragment of *Strombodes pentagonus*. from the Upper Niagara red clay, near Louisville.

CLADOPORA PROBOSCIDALIS, Nov. Spec.

Niagara.

21. Front lateral view of frond partly imbedded in rock matrix, from the white clay strata of the Upper Niagara, near Louisville.

CLADOPORA ALCICORNIS, Nov. Spec.

Devonian.

22. Upper fronds of a corallum.
23. Front lateral view of a frond of typical form. From the horizon and vicinage of *A. conigerum*.

CLADOPORA GULIELMI, Nov. Spec.

Devonian.

24. Front lateral view of fronds partly imbedded in a fragment of decomposing encrinal limestone; from the horizon and neighborhood of *A. conigerum*.

With the exception of example 4, which was collected by Mr. Gaines, the specimens figured in this Plate belong to the collection of the author.

KENTUCKY GEOLOGICAL SURVEY.

PLATE 97.

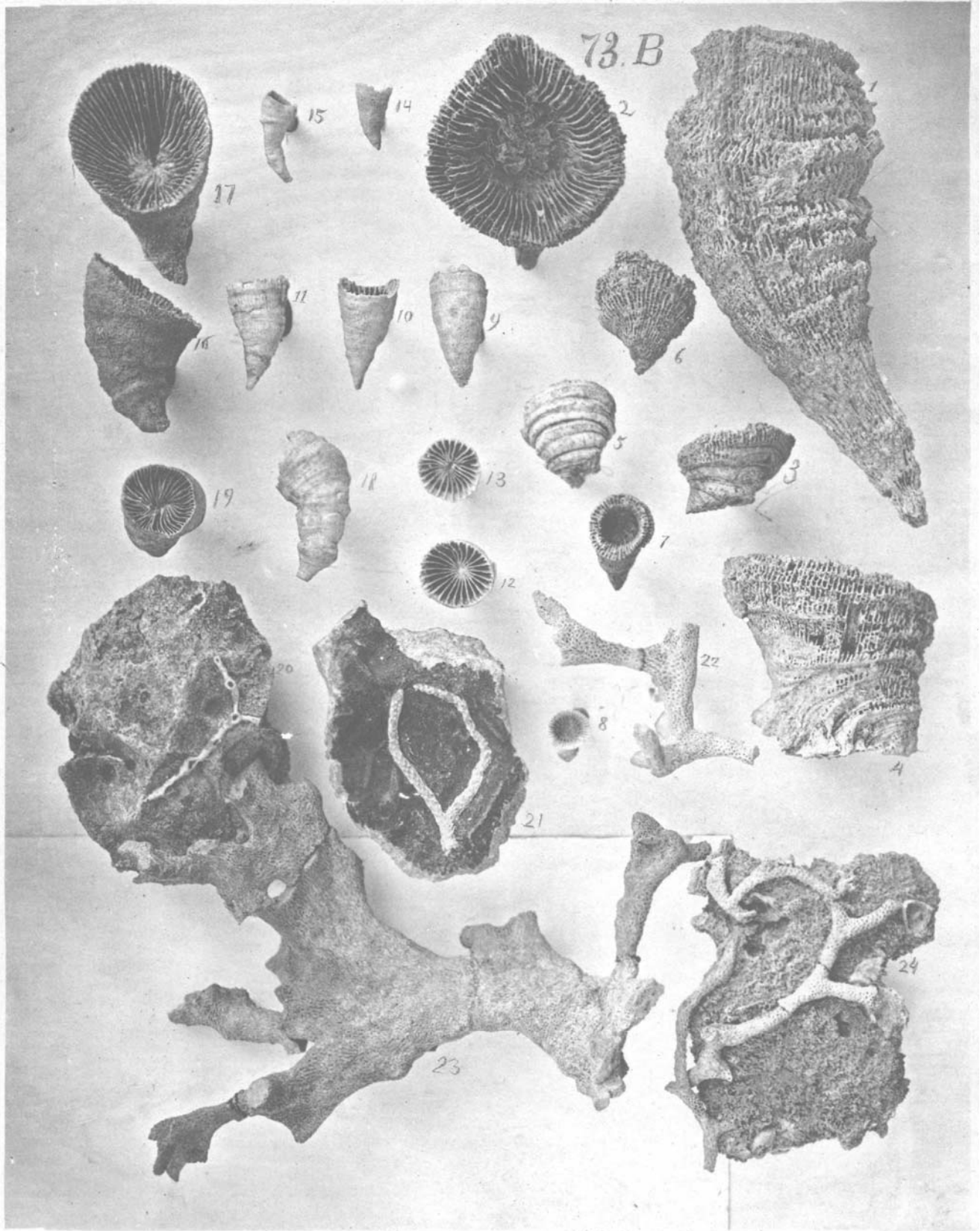


PLATE 98.

BLOTHROPHYLLUM DECORTICATUM.

Devonian.

1. Lateral view of an adult corallum of average size and usual form, from the Lower Devonian rocks, Falls of the Ohio.
2. Lateral view of the upper portion of a corallum partly imbedded in its rock matrix, with closely set explanate rims of the invaginating calyces; from the rocks of the Lower Devonian formation, near Louisville.

Collection of the author.

KENTUCKY GEOLOGICAL SURVEY.

PLATE 98.



PLATE 99.

BLOTHROPYLLUM DECORTICATUM.

Devonian.

1. View of the calyx of a corallum, with depressed floor.
2. View of the calyx of a corallum, without a diaphragm.
3. View of the calyx of a corallum, with the diaphragm as it commonly appears.

From the horizon and vicinage of example Fig. 1, Plate 98.

BLOTHROPHYLLUM SESSILE, Nov. Spec.

Devonian.

4. View of the calyx of a corallum, from the blue clay of the Middle Devonian, Falls of the Ohio.
5. Similar view of the calyx of a corallum, from the same horizon and place.

BLOTHROPHYLLUM LOUISVILLENSE, Nov. Spec. *Devonian.*

6. View of the calyx and oblique anterior view of a corallum, from the horizon and locality of *B. sessile*, Figs. 4. and 5.

BLOTHROPHYLLUM CINCTUTUM, Nov. Spec.

Devonian.

7. View of the calyx of a corallum, from the Middle Devonian blue clay, Falls of the Ohio.
8. Right lateral view of a small corallum, from the same horizon and place.

BLOTHROPHYLLUM APPROXIMATUM.

Devonian.

9. Upper portion of a corallum, from the blue clay of the Middle Devonian, Falls of the Ohio.

BLOTHROPHYLLUM NIAGARENSE, Nov. Spec.

Niagara.

10. Lateral view of a flexuous corallum, from the Upper Niagara white clay stratum, ten feet below the Niagara and Devonian passage-beds, near Louisville.

The specimens figured in this Plate are from the collection of the author.

KENTUCKY GEOLOGICAL SURVEY.

PLATE 99.

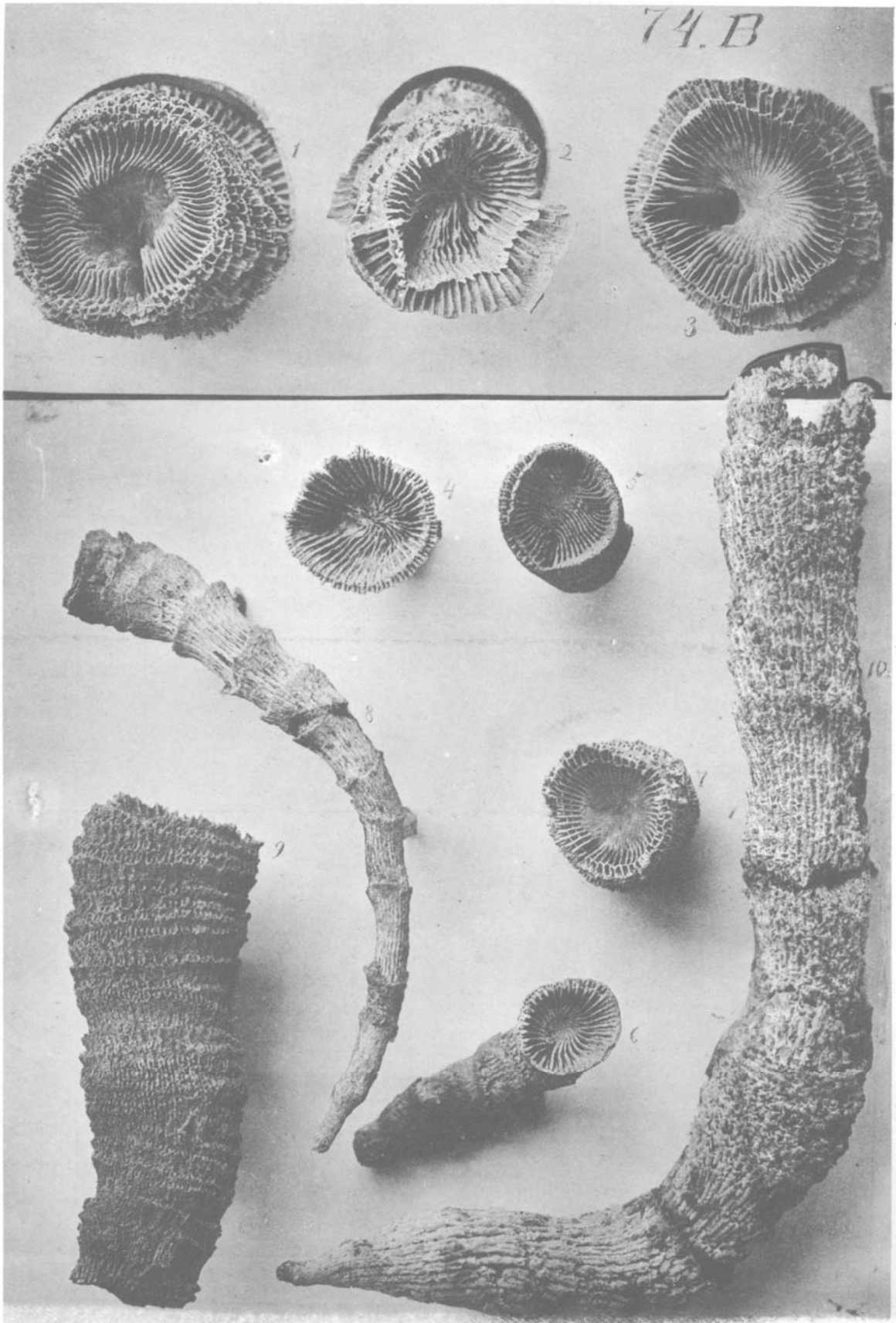


PLATE 100.

BLOTHROPHYLLUM PARVULUM, Nov. Spec. *Devonian.*

1. 2. 3. Lateral views of adult coralla, from the Middle Devonian red clay, near Louisville.

BLOTHROPHYLLUM CINCTUTUM, Nov. Spec. *Devonian.*

4. Lateral view of an adult corallum of flexuous form, from the blue clay of the Middle Devonian, Falls of the Ohio.

[NOTE.—The apex and several inches of the lower part of the corallum are concealed from view by geniculation.]

5. Anterior view and oblique view of the calyx of the upper portion of a corallum, from the same horizon and locality.
6. Calyx of a corallum from the same horizon and locality.

BLOTHROPHYLLUM LOUISVILLENSE, Nov. Spec. *Devonian.*

7. Anterior, or central-gap view of the upper portion of a corallum.
8. View of the calyx of a corallum.
Both from the blue clay beds of the Middle Devonian, Falls of the Ohio.

BLOTHROPHYLLUM SESSILE, Nov. Spec. *Devonian.*

9. Left lateral view of the corallum figured in Plate 99, Fig. 4.
10. Left lateral view of a corallum from the same horizon and locality.
11. Central gap view of a corallum with small apical scar of attachment, from the Middle Devonian red clay, near Louisville.
12. View of the calyx of a corallum from the horizon and neighborhood of the preceding example.

CYSTIPHYLLUM PLICATUM, Nov. Spec. *Devonian.*

13. Posterior view of a corallum from the Lower Devonian rocks, Falls of the Ohio.

[Introduced here for comparison with the Blothrophylla, to which it bears a superficial resemblance.]

BLOTHROPHYLLUM APPROXIMATUM. *Devonian.*

14. Lateral view of the upper portion of a corallum, from the Middle Devonian blue clay, Falls of the Ohio. 15. View of the calyx of a large corallum from the Middle Devonian red clay, near Louisville.

Specimens figured in this plate are from the collection of the author, with the exception of *Cystiphyllum plicatum*, Fig. 13, which belongs to Mr. Gaines.

KENTUCKY GEOLOGICAL SURVEY.

PLATE 100.

