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MONOGRAPHS

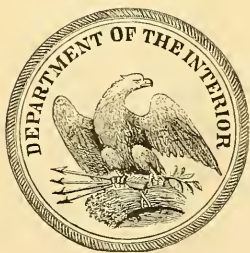
OF THE

UNITED STATES GEOLOGICAL SURVEY

VOLUME XLVIII

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Part II.—PLATES.



WASHINGTON  
GOVERNMENT PRINTING OFFICE

1905





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UNITED STATES GEOLOGICAL SURVEY

CHARLES D. WALCOTT, DIRECTOR

STATUS

OF THE

MESOZOIC FLORAS OF THE UNITED STATES

SECOND PAPER

BY

LESTER F. WARD

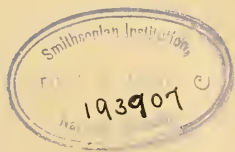
WITH THE COLLABORATION OF

WILLIAM M. FONTAINE, ARTHUR BIBBINS, AND G. R. WIELAND

Part II.—PLATES.



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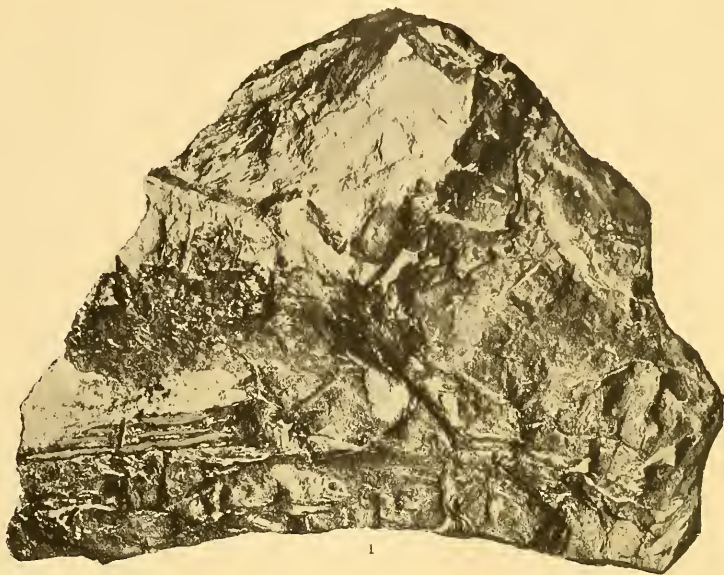
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TRIASSIC FLORA OF ARIZONA.

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CONIFEROUS PLANTS FROM THE TRIAS OF ARIZONA.





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PLATE II.

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PLATE II.

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CONIFEROUS PLANTS FROM THE TRIAS OF ARIZONA.



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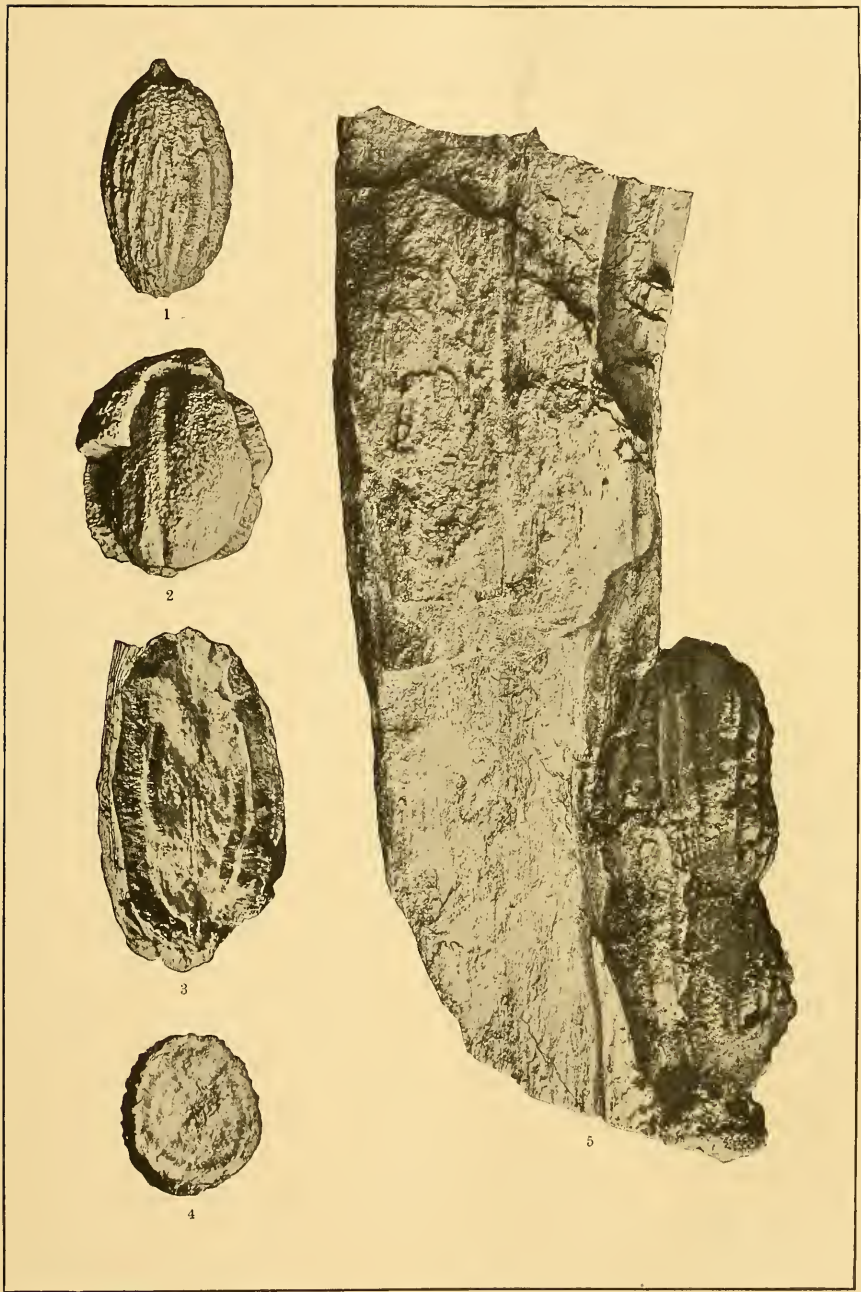
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CONIFEROUS PLANTS FROM THE TRIAS OF ARIZONA.





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PLATE IV.

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SKETCH MAP OF LITTLE COLORADO



Contour



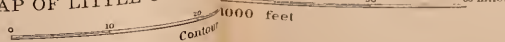
ARIZONA, AND ADJACENT REGION



A. H. H. & CO. BALTIMORE



SKETCH MAP OF LITTLE COLORADO, ARIZONA, AND ADJACENT REGION









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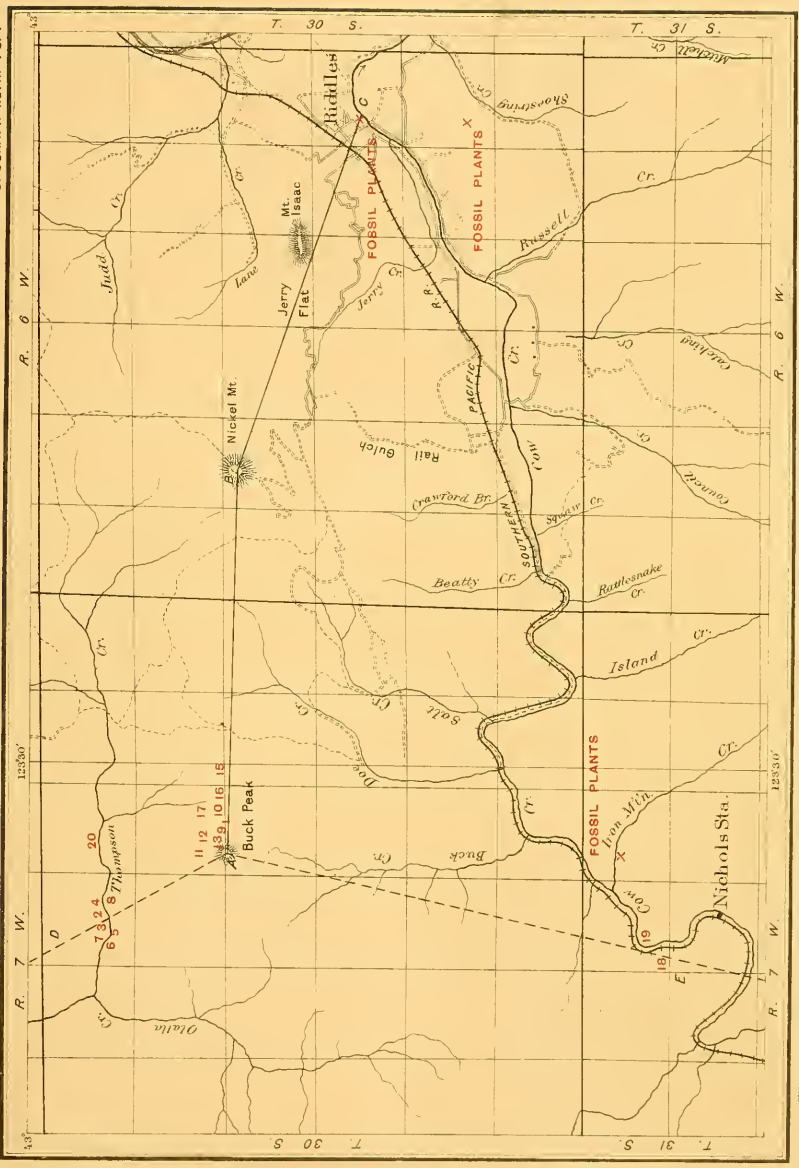
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 showing fossil-plant localities, approximate strike of the Jurassic (DA-AE), and sections AB and BC



A. HERRICK CO. BOSTON



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PLATE VI.

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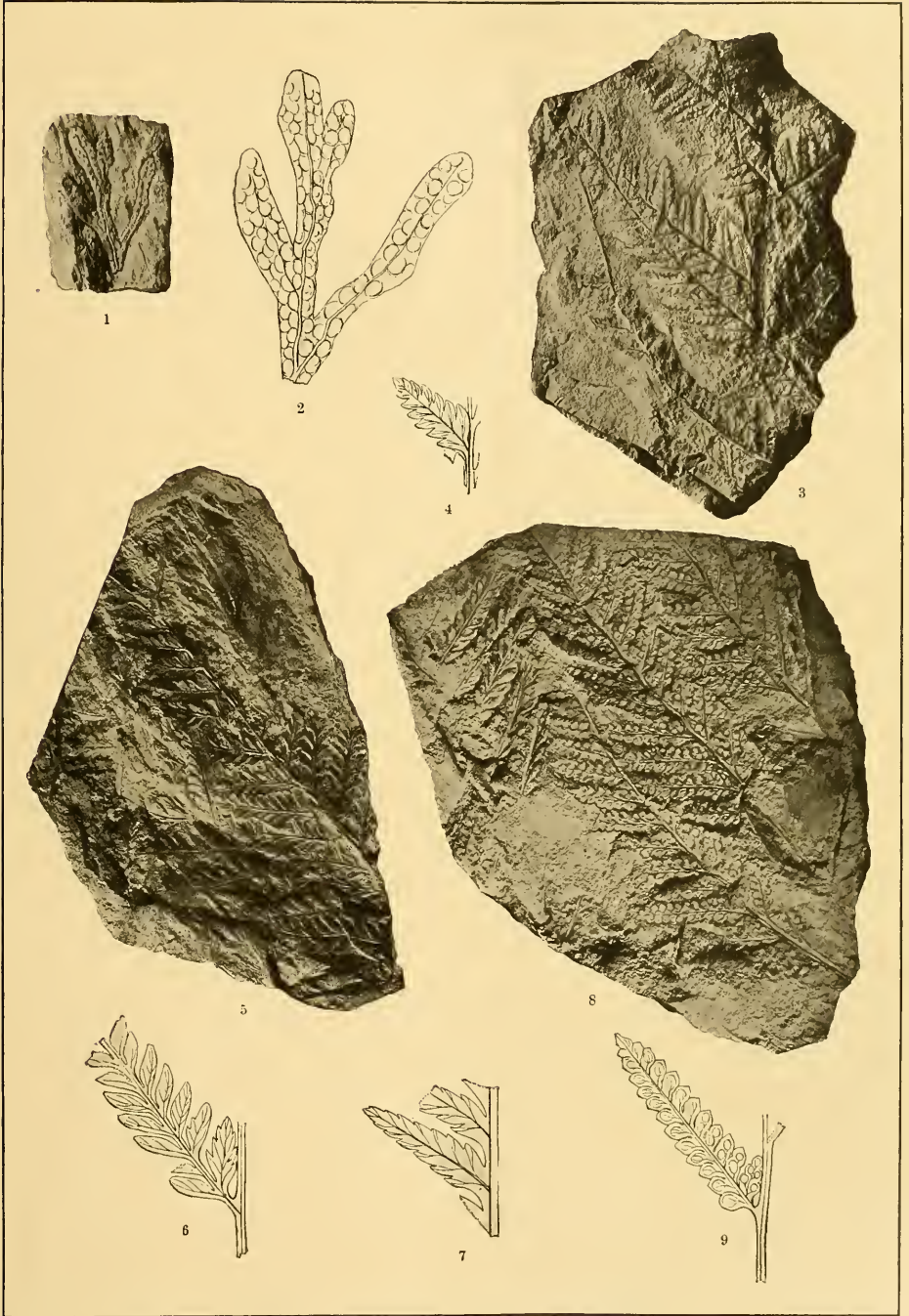
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JURASSIC LIVERWORTS AND FERNS FROM OREGON.





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PLATE VII.

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JURASSIC FERNS FROM OREGON.



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PLATE VIII.

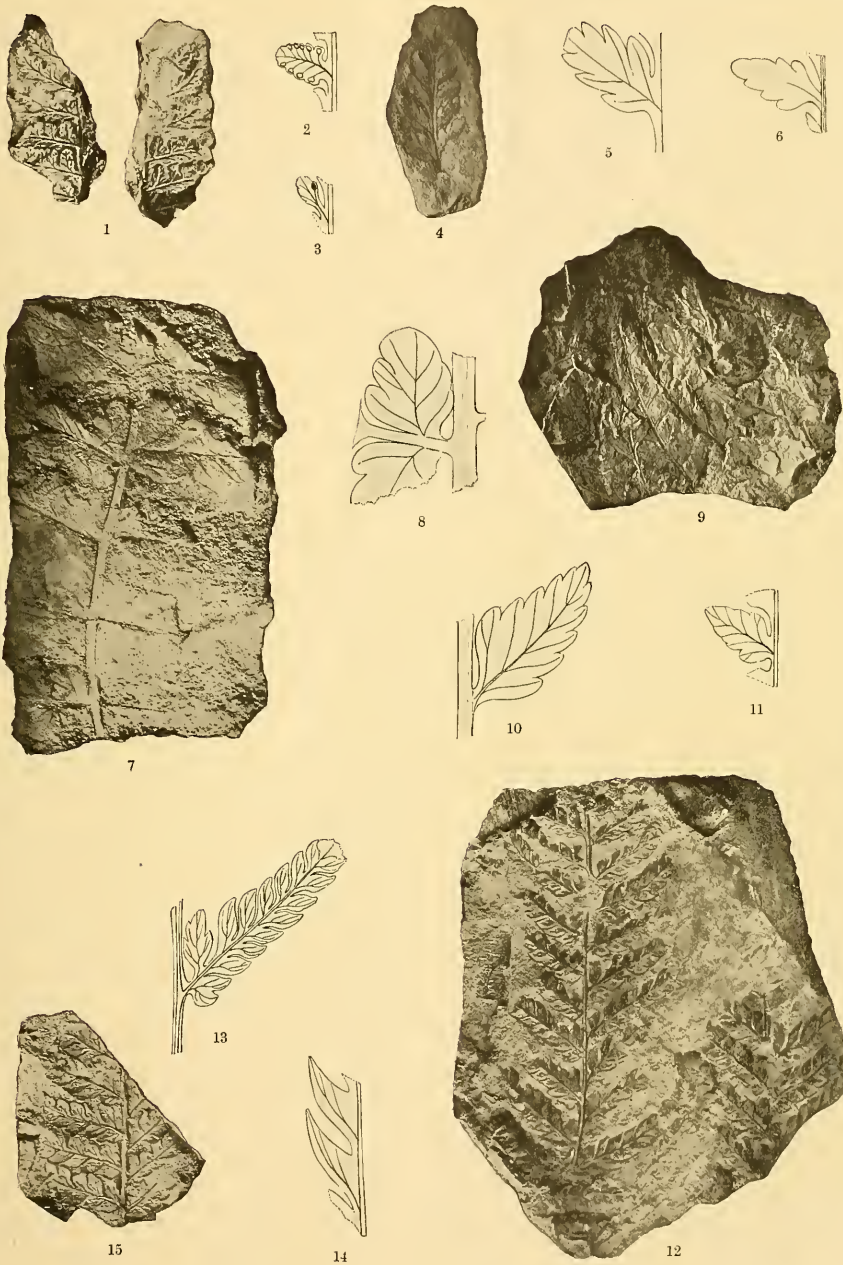
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JURASSIC FERNS FROM OREGON.





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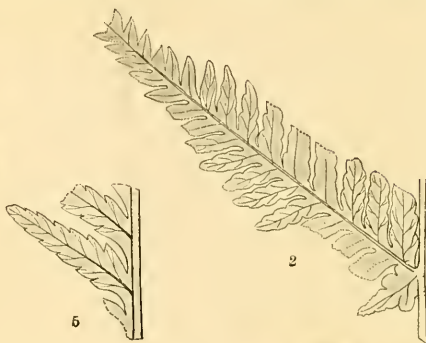
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JURASSIC FERNS FROM OREGON.



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PLATE X.

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PLATE X.

JURASSIC FLORA OF OREGON.

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PLATE XI.

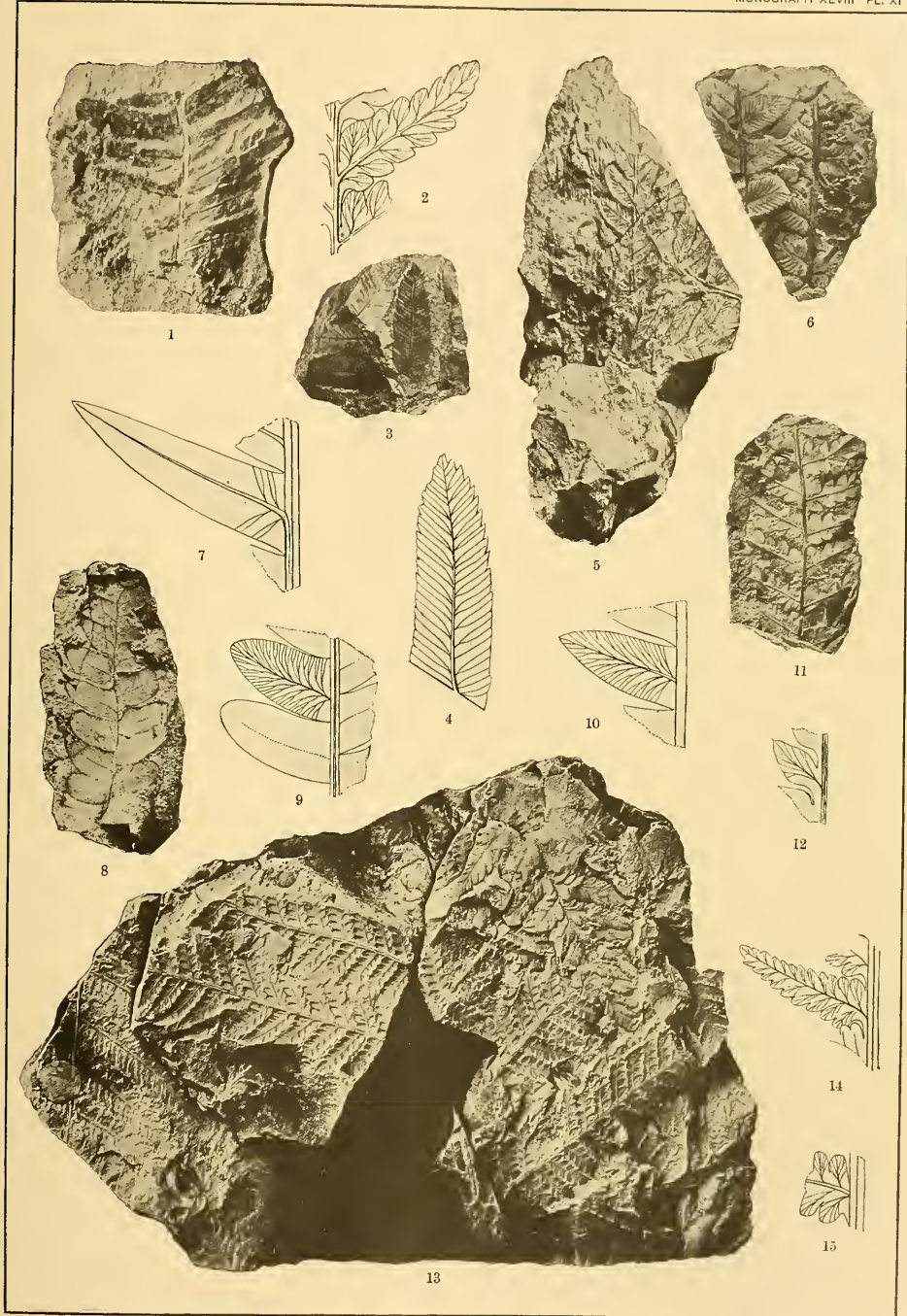
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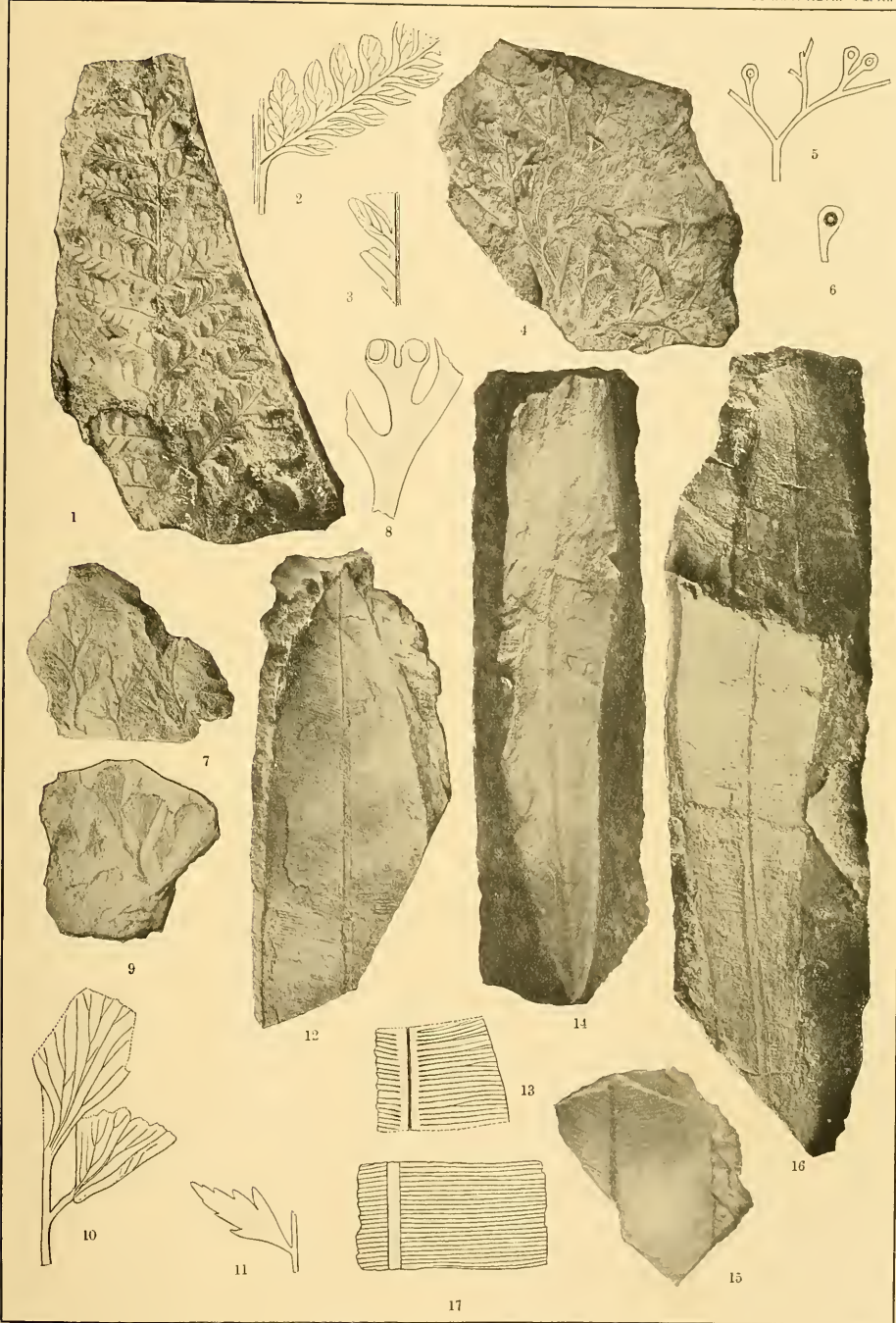
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## PLATE XII.

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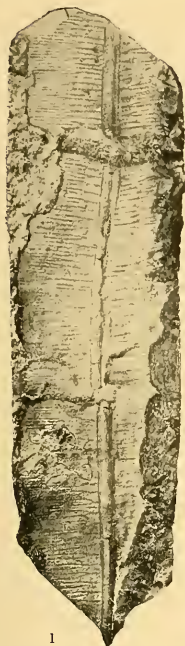
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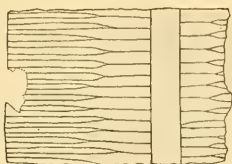
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JURASSIC FLORA OF OREGON.

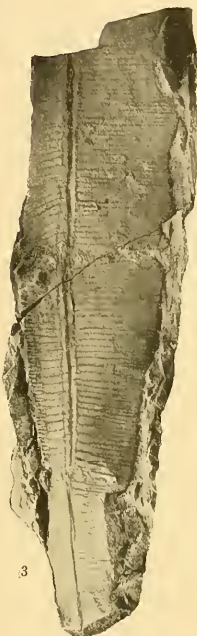
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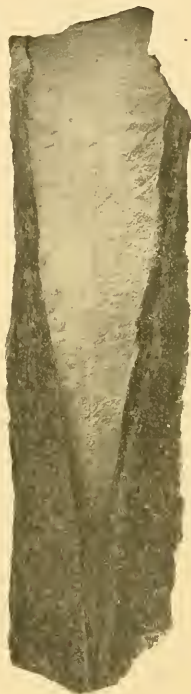
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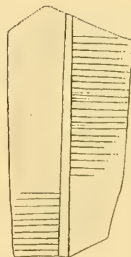
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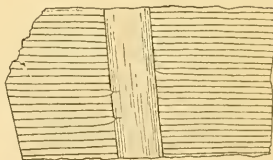
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JURASSIC FERNS FROM OREGON.



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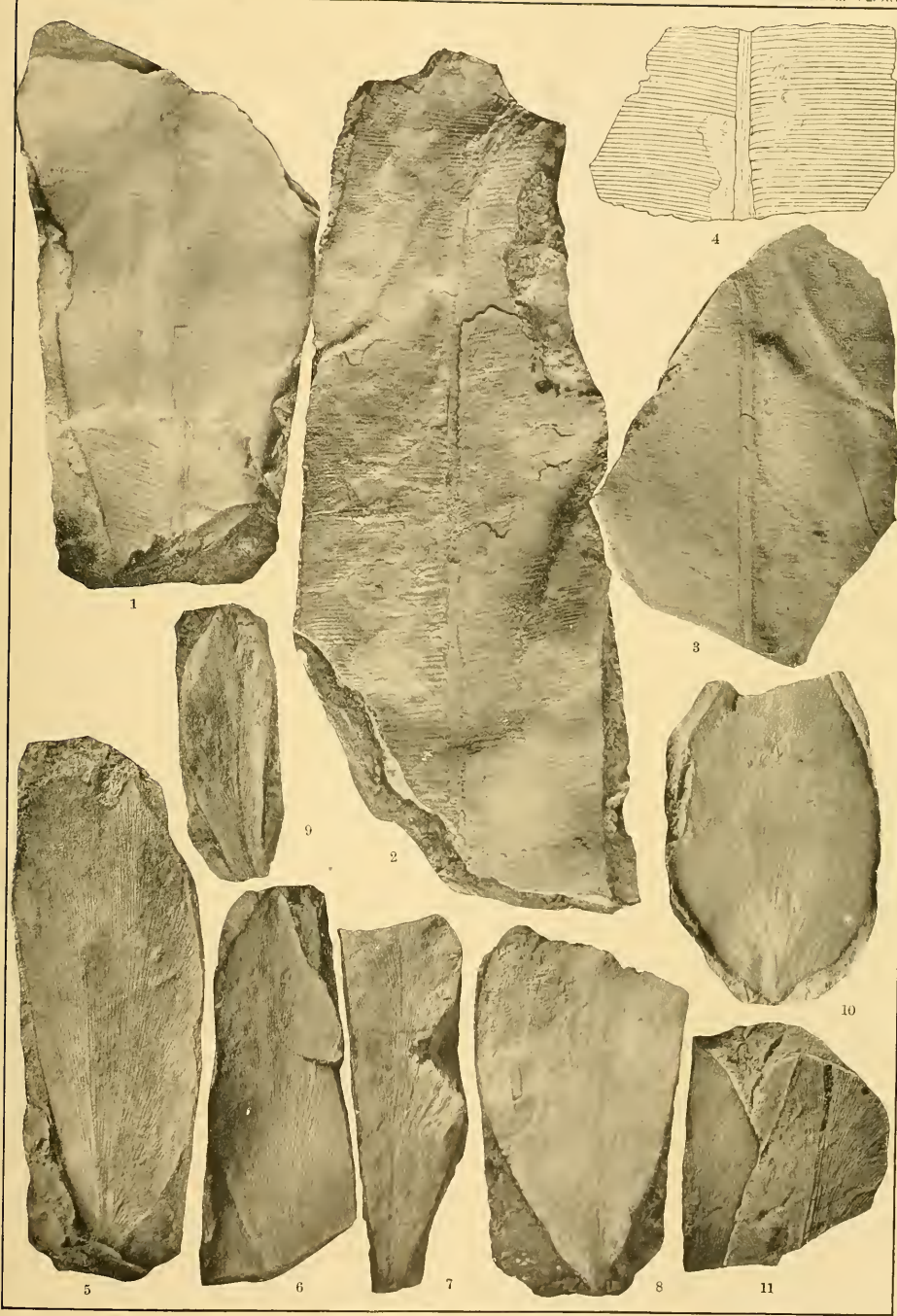
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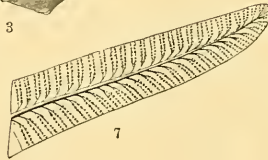
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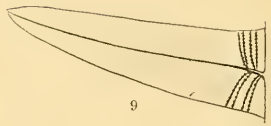
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PLATE XVI.

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PLATE XVI.

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JURASSIC CYCADS FROM OREGON.





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JURASSIC CYCADS FROM OREGON.



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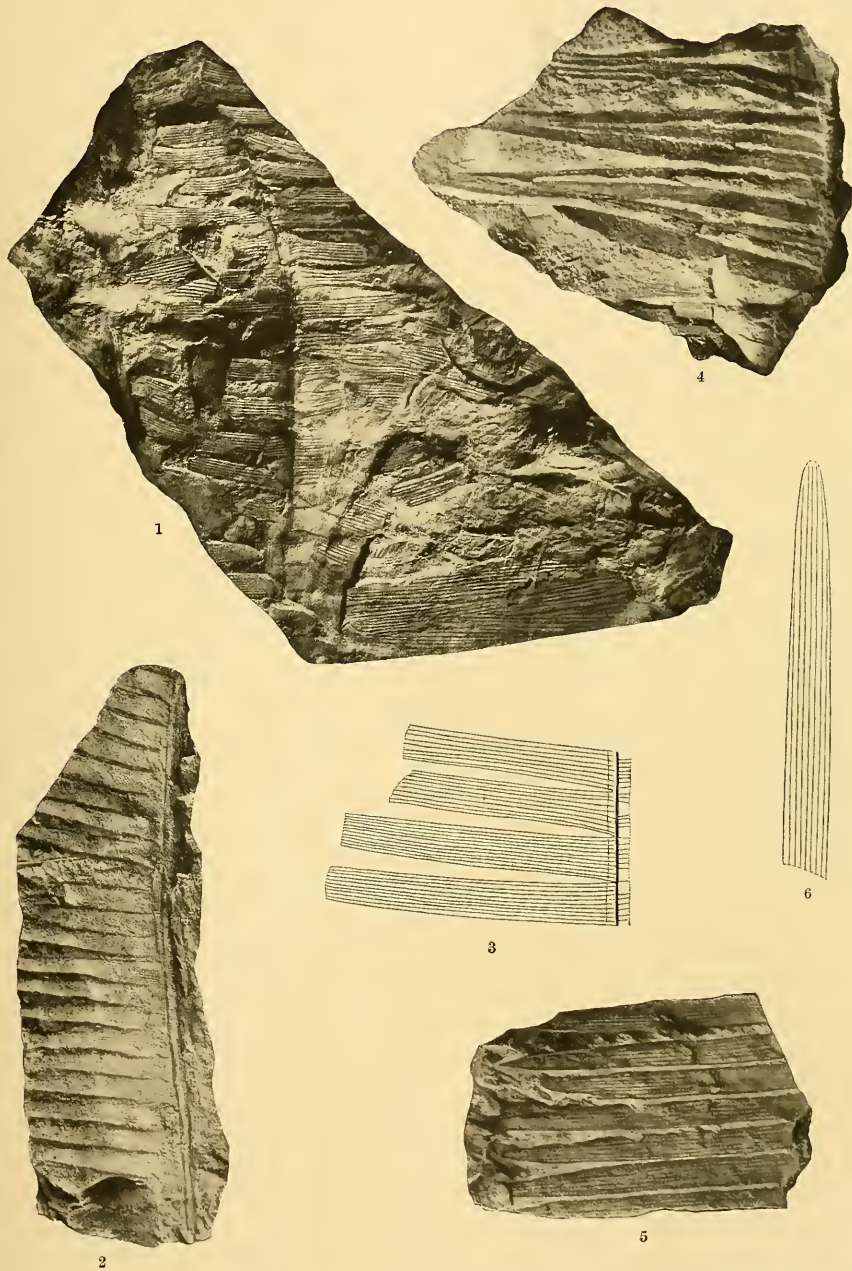
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PLATE XVIII.

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JURASSIC CYCADS FROM OREGON.





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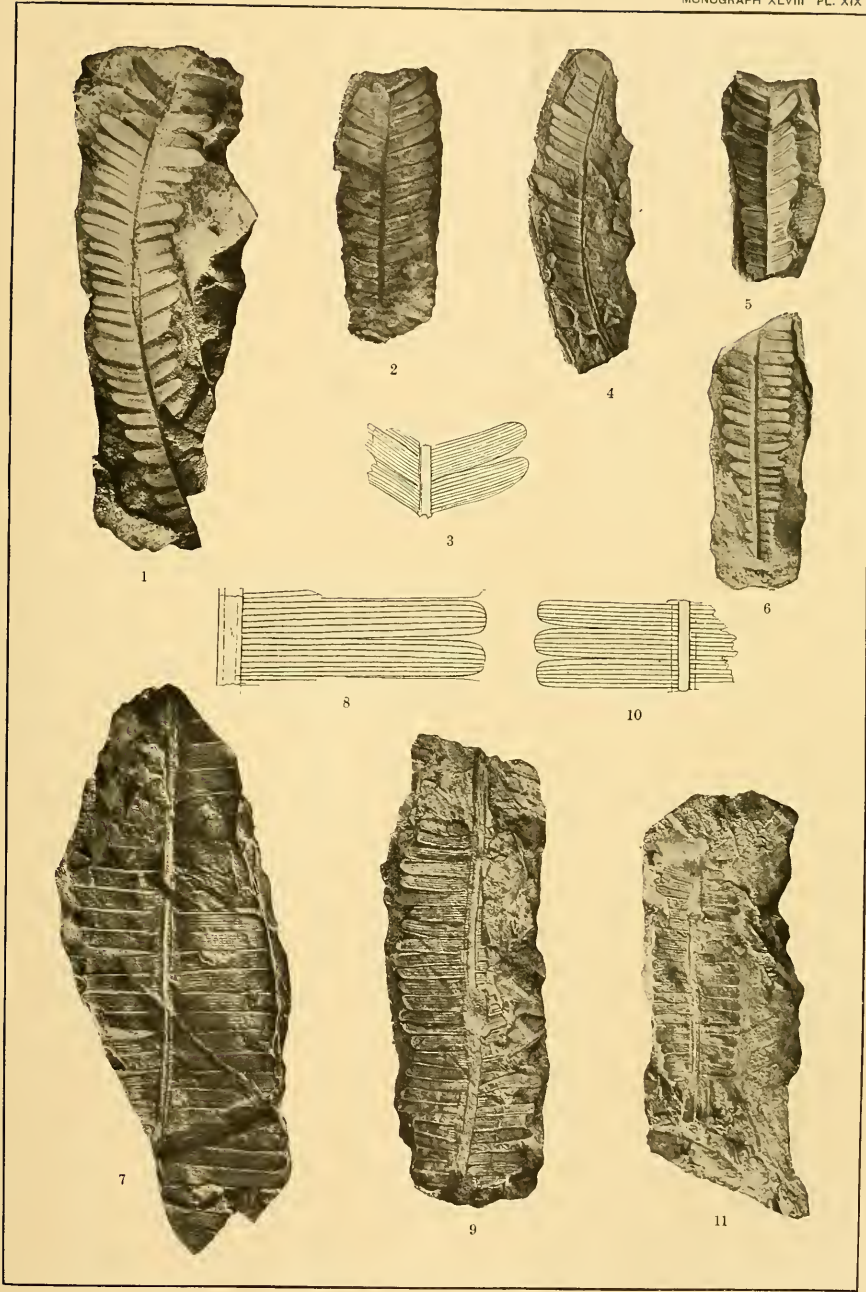
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JURASSIC CYCADS FROM OREGON.



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PLATE XX.

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PLATE XX.

JURASSIC FLORA OF OREGON.

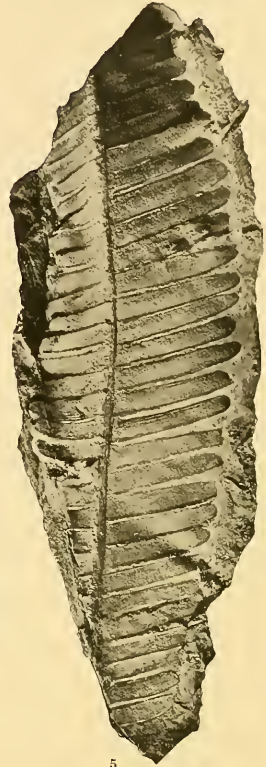
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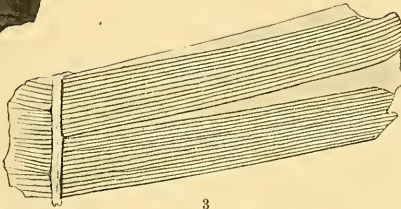
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JURASSIC CYCADS FROM OREGON.





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PLATE XXI.

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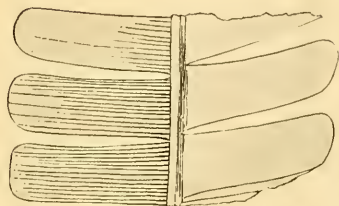
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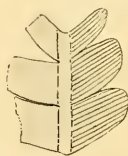
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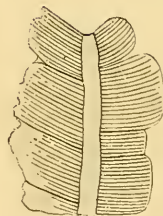
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PLATE XXII.

JURASSIC FLORA OF OREGON.

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JURASSIC CYCADS FROM OREGON.





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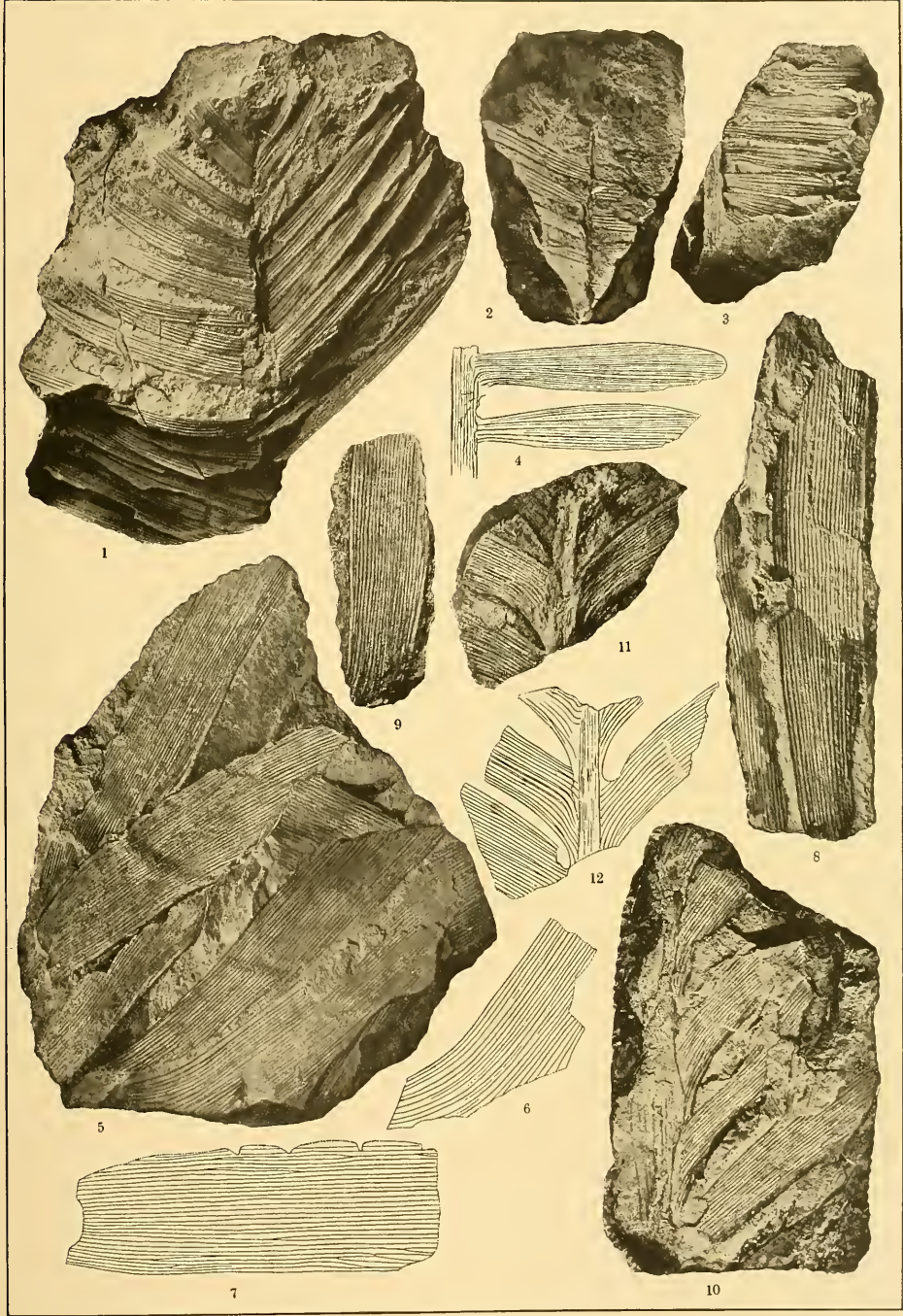
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JURASSIC CYCADS FROM OREGON.



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PLATE XXIV.

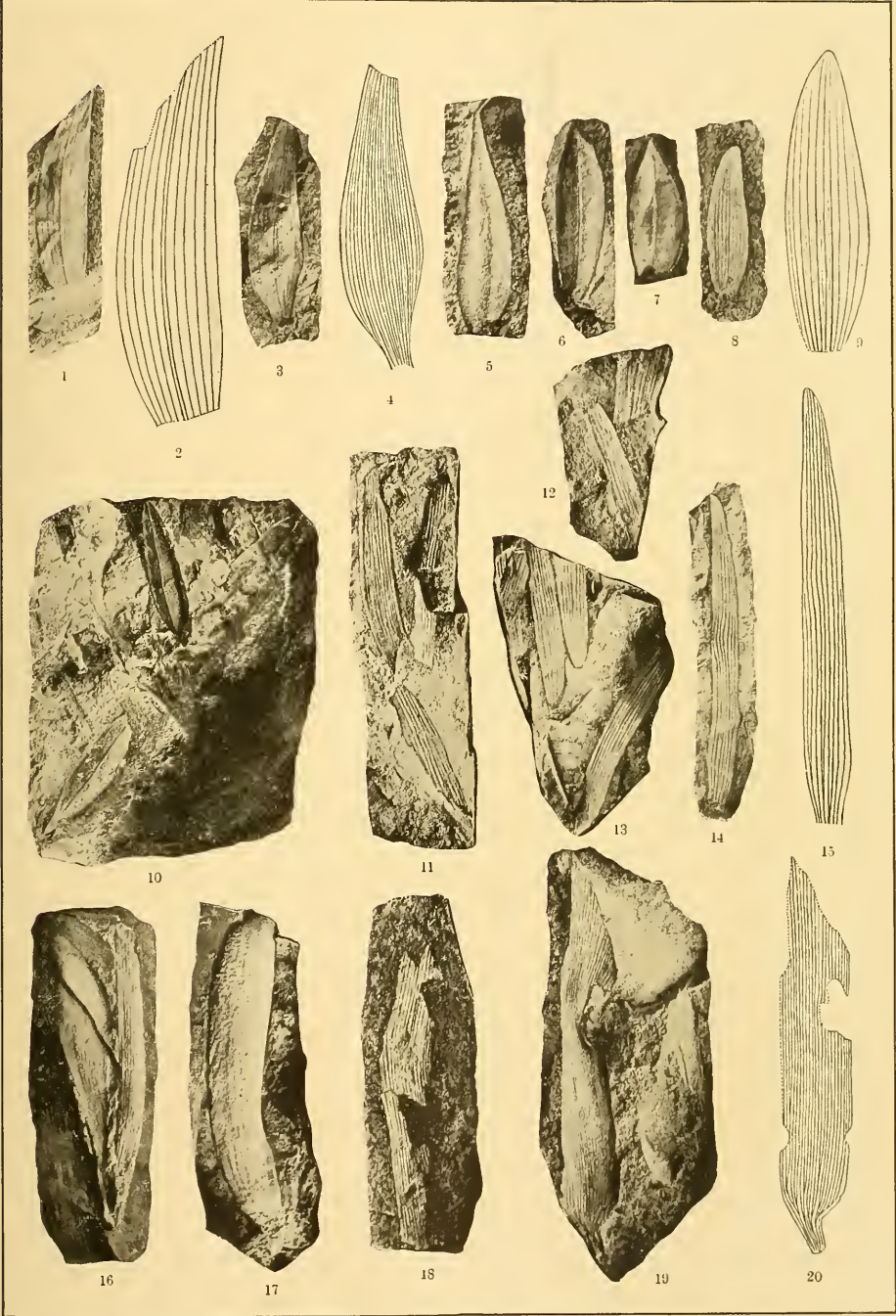
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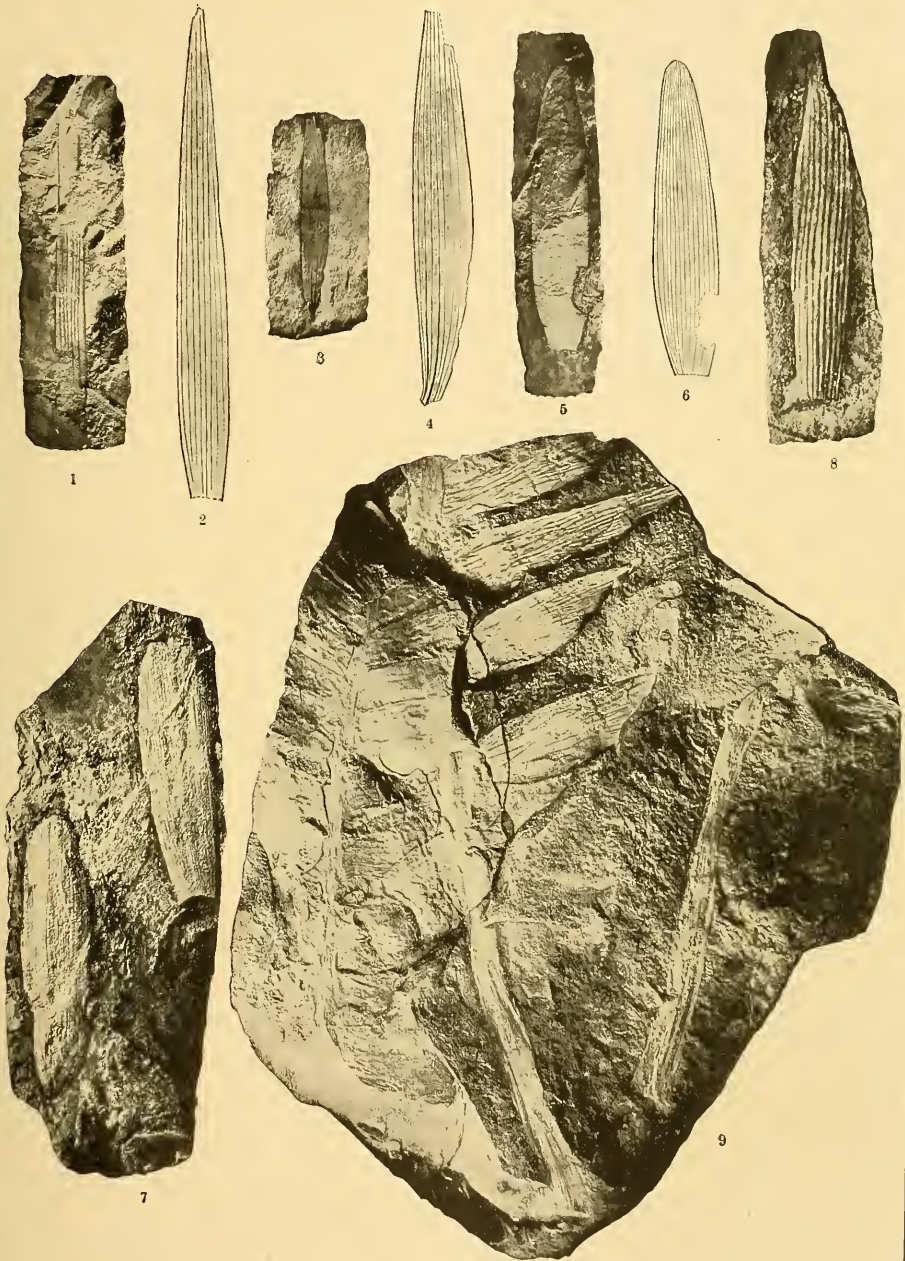
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JURASSIC CYCADS FROM OREGON.



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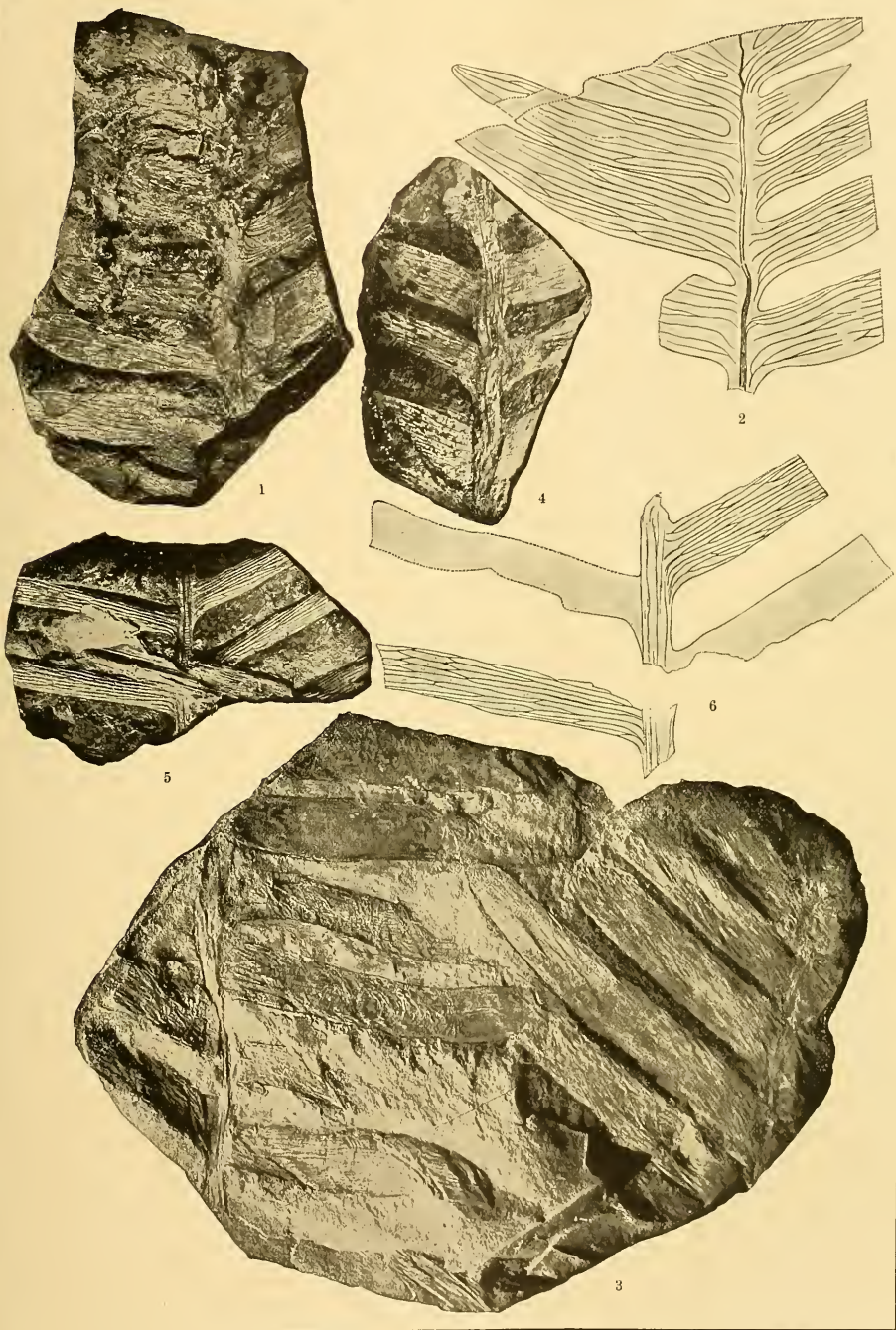
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PLATE XXVII.

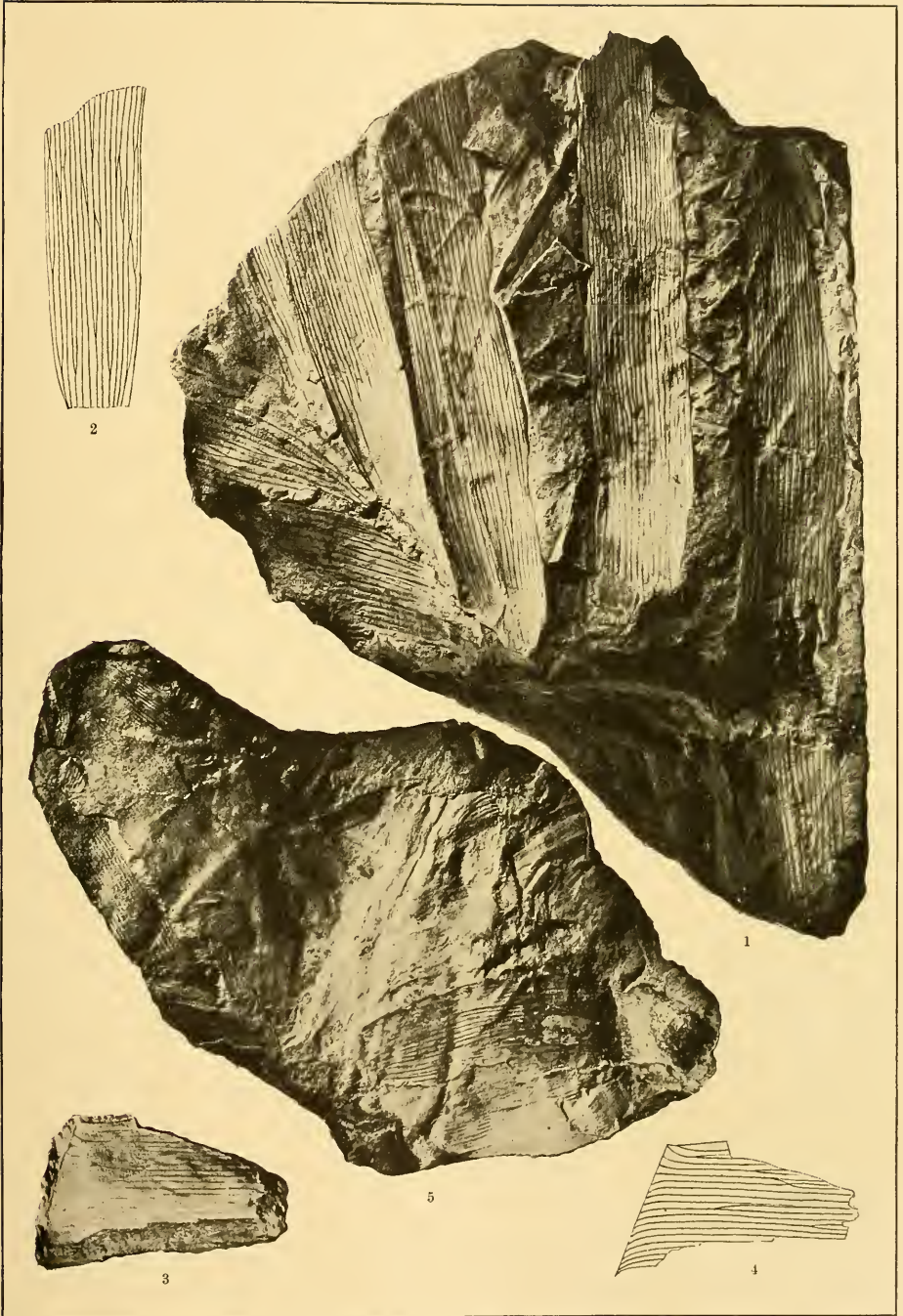
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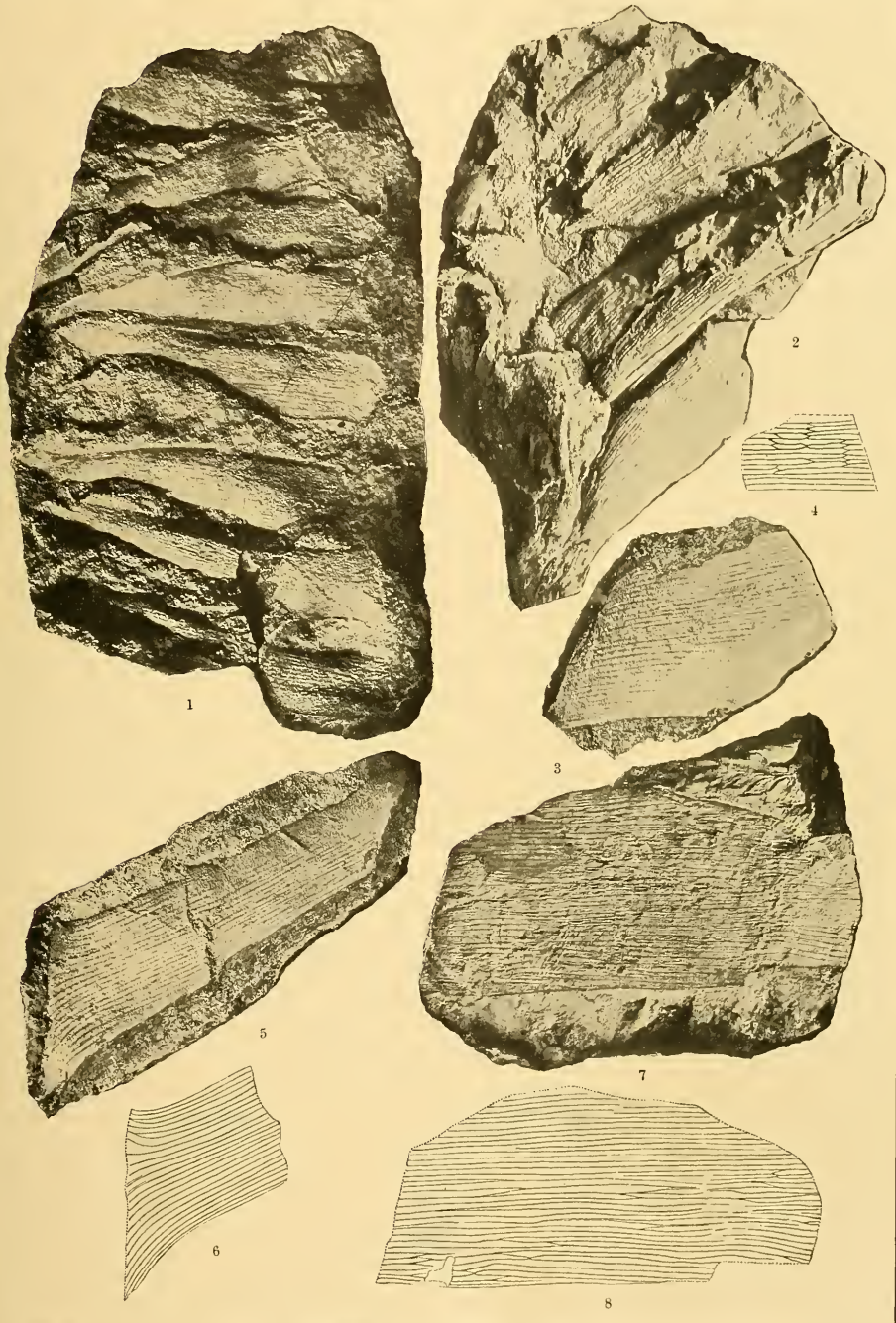
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JURASSIC CYCADS FROM OREGON.





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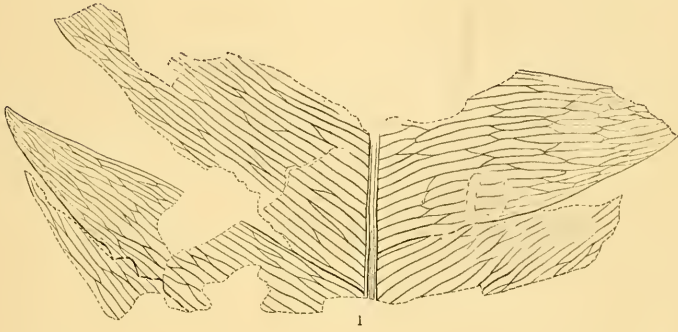
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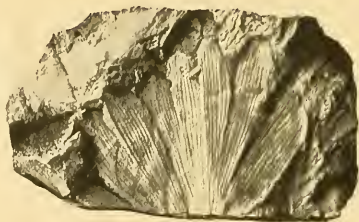
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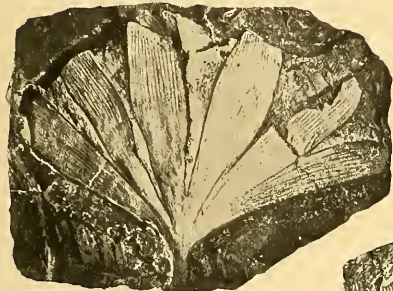
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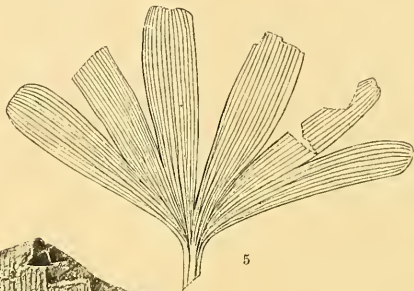
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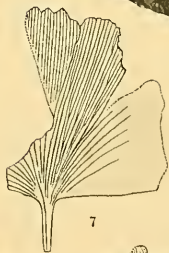
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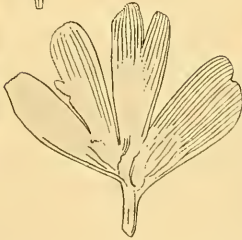
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JURASSIC GINGKOS FROM OREGON.





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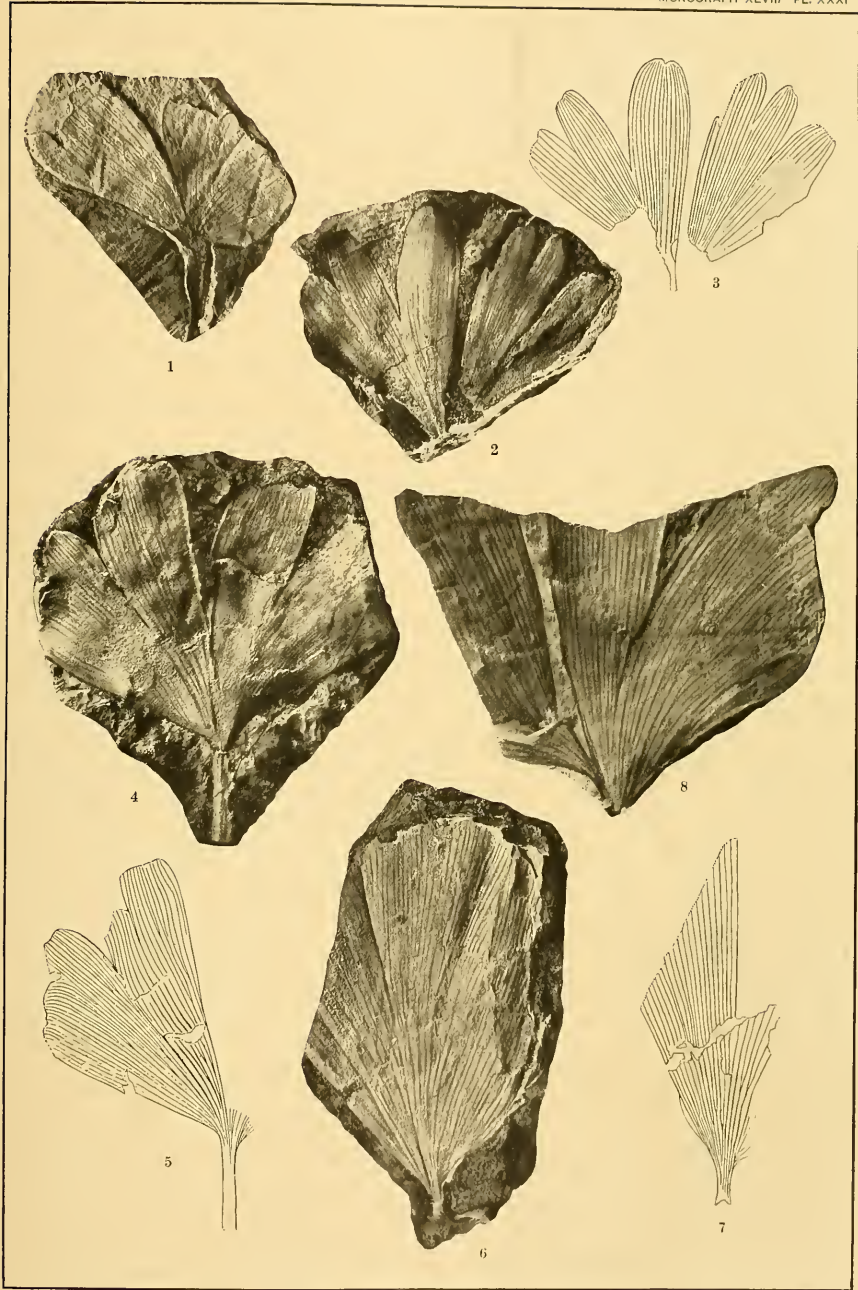
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PLATE XXXI.

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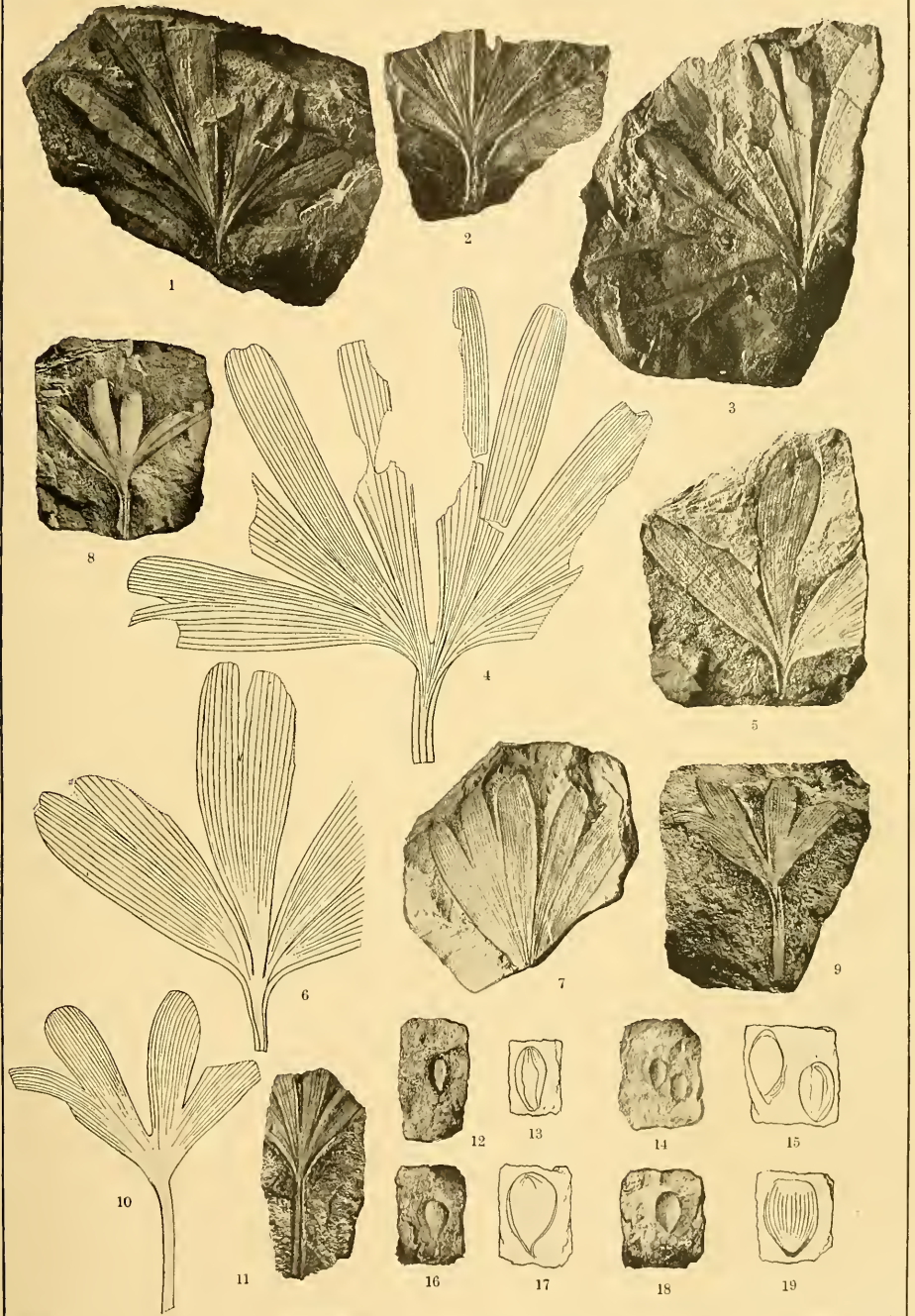
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JURASSIC GINGKOS FROM OREGON.



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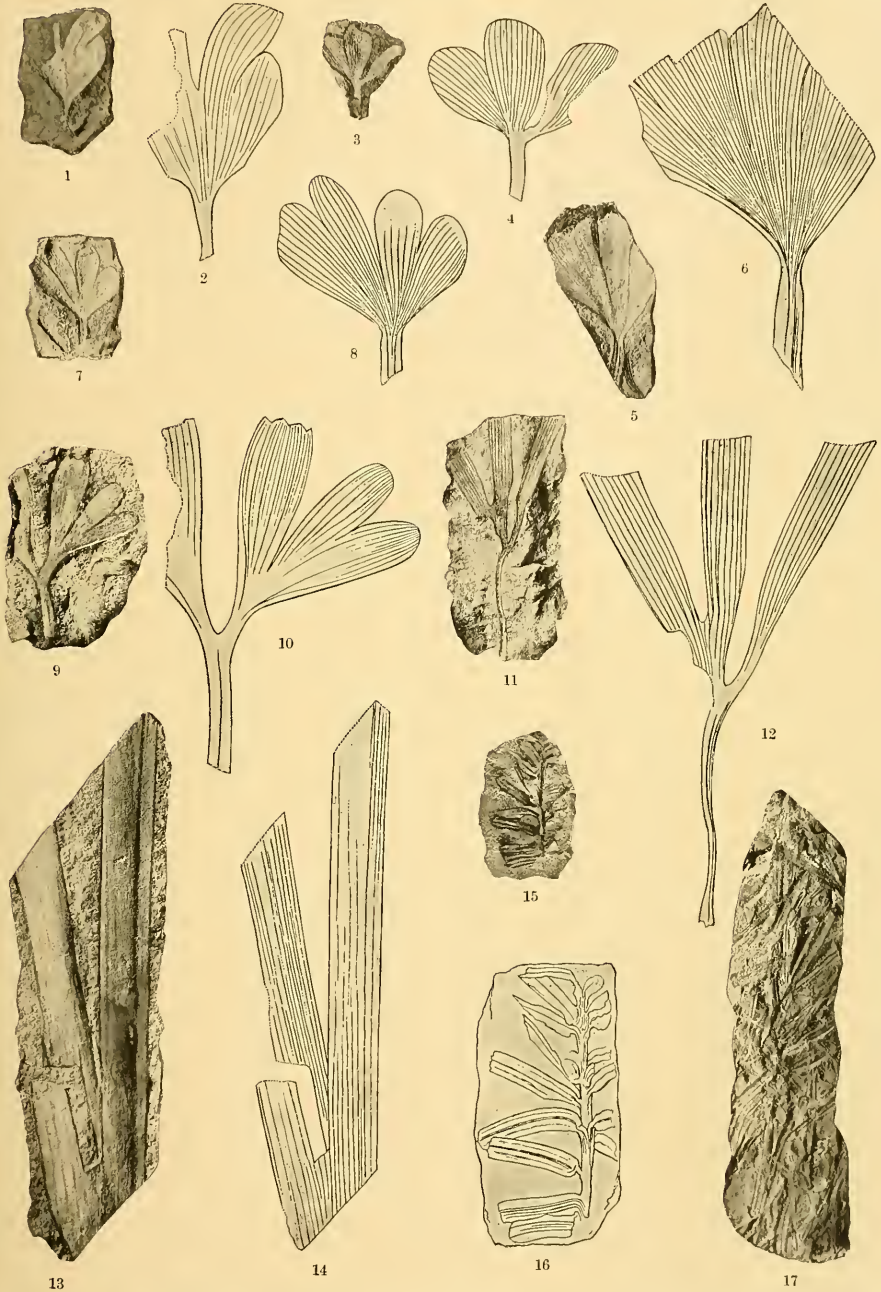
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JURASSIC GINGKOACEÆ AND TAXACEÆ FROM OREGON.





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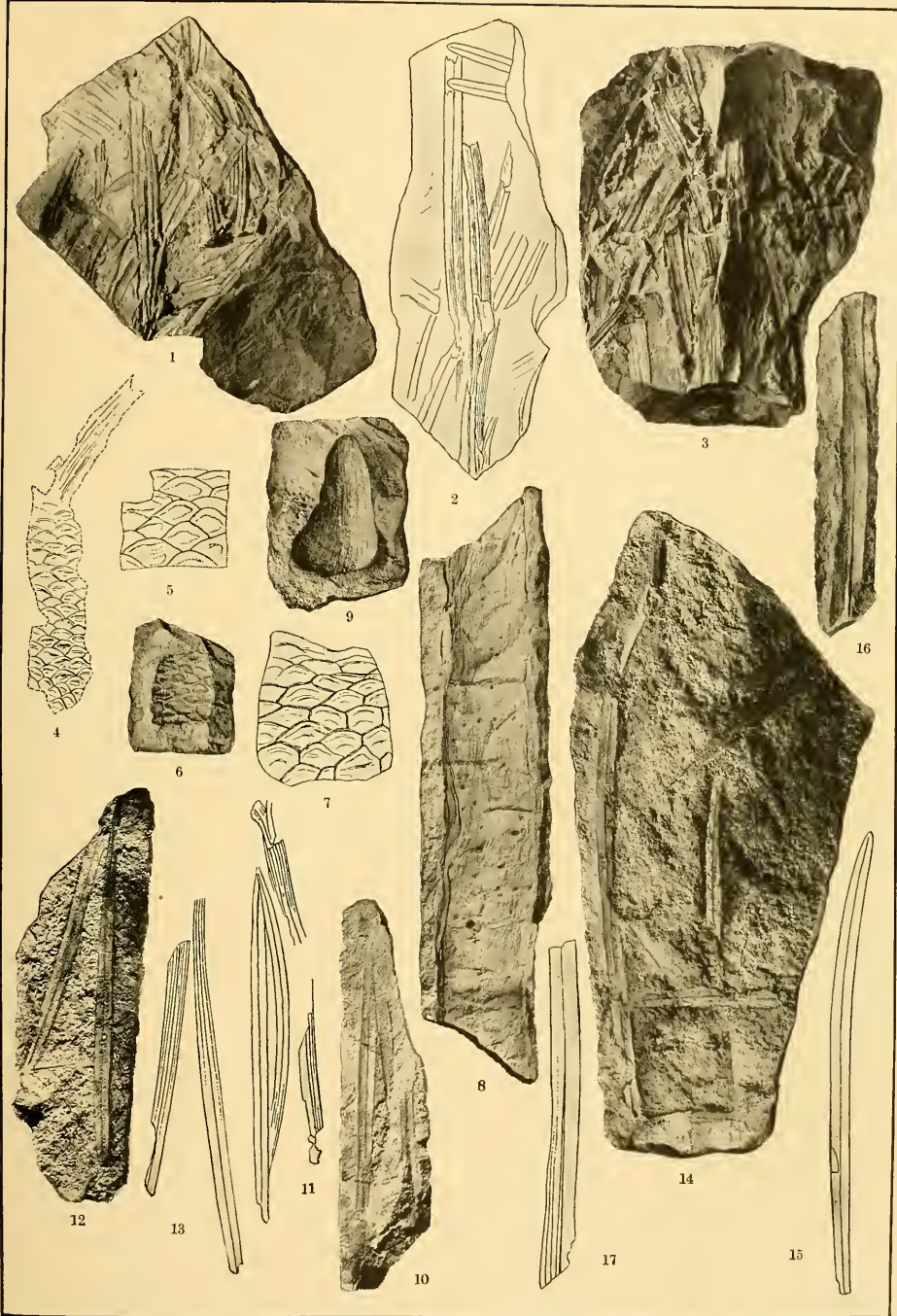
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JURASSIC CONIFERS FROM OREGON.



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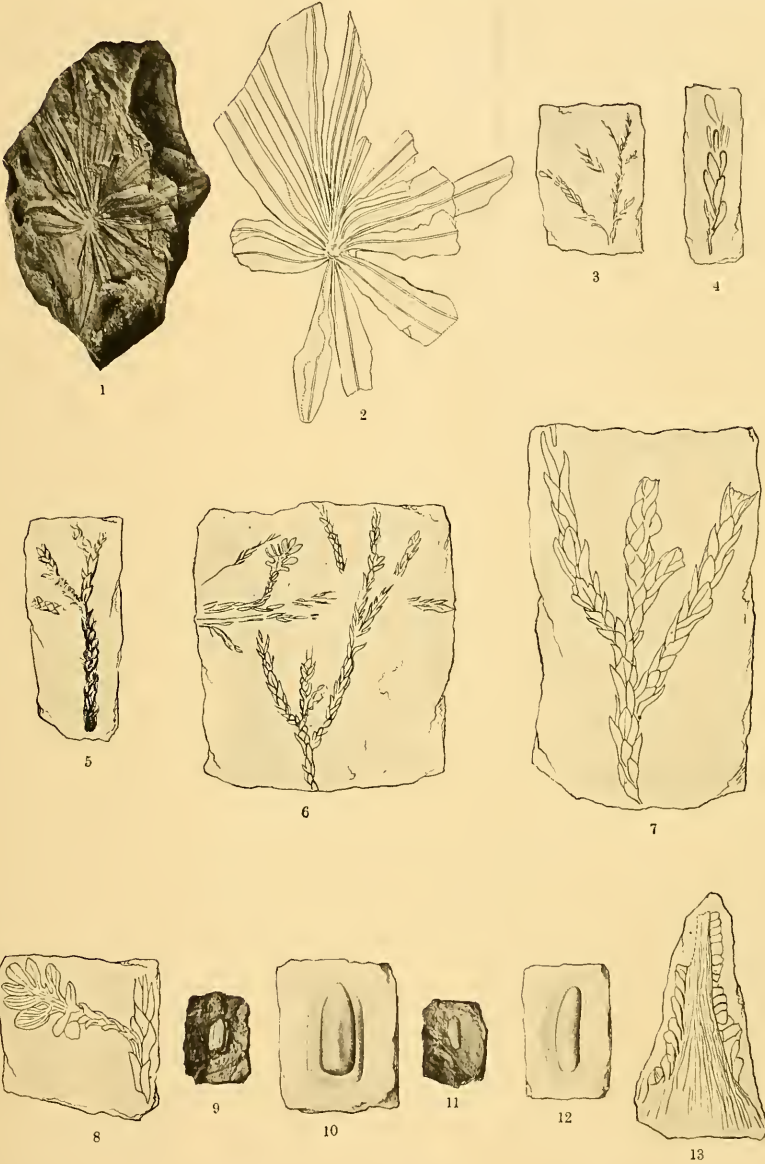
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## PLATE XXXVI.

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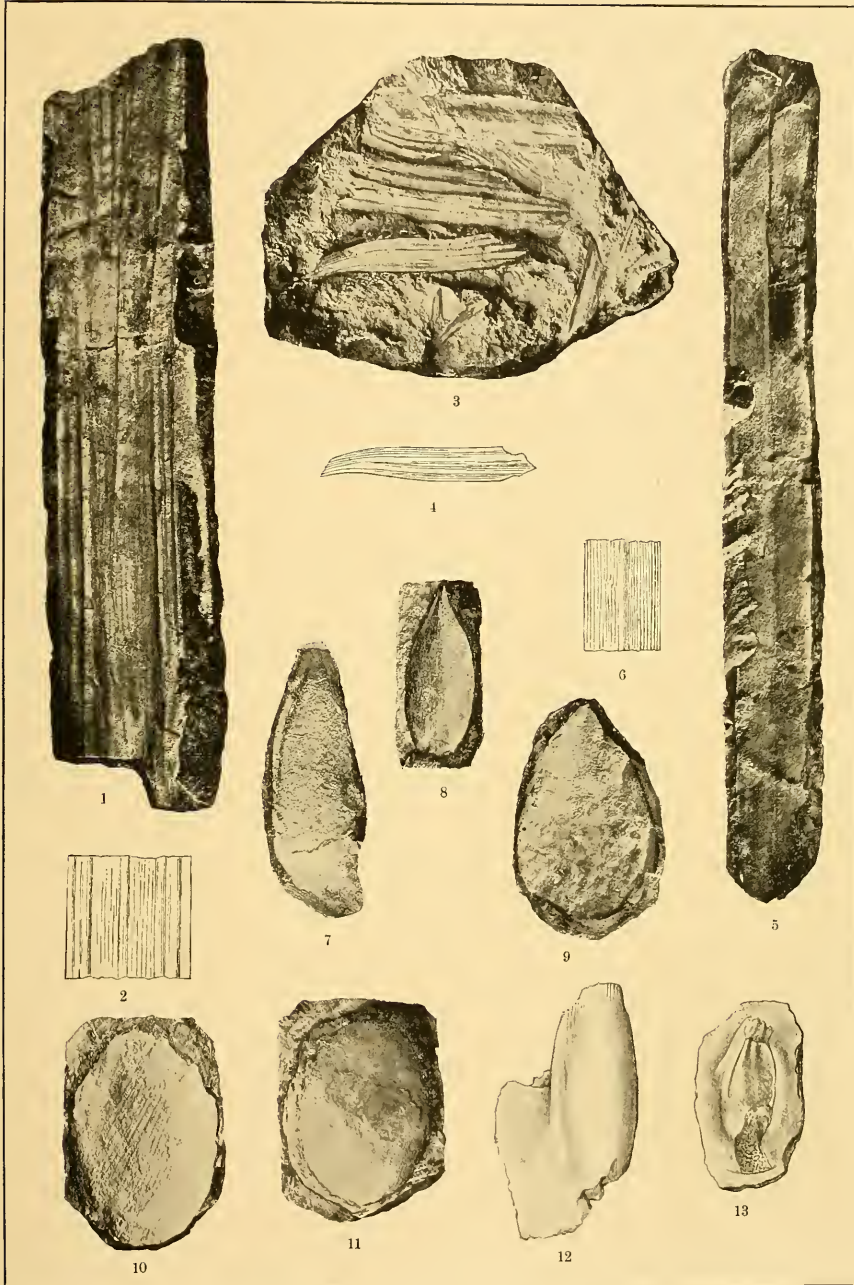
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MISCELLANEOUS JURASSIC PLANTS FROM OREGON.



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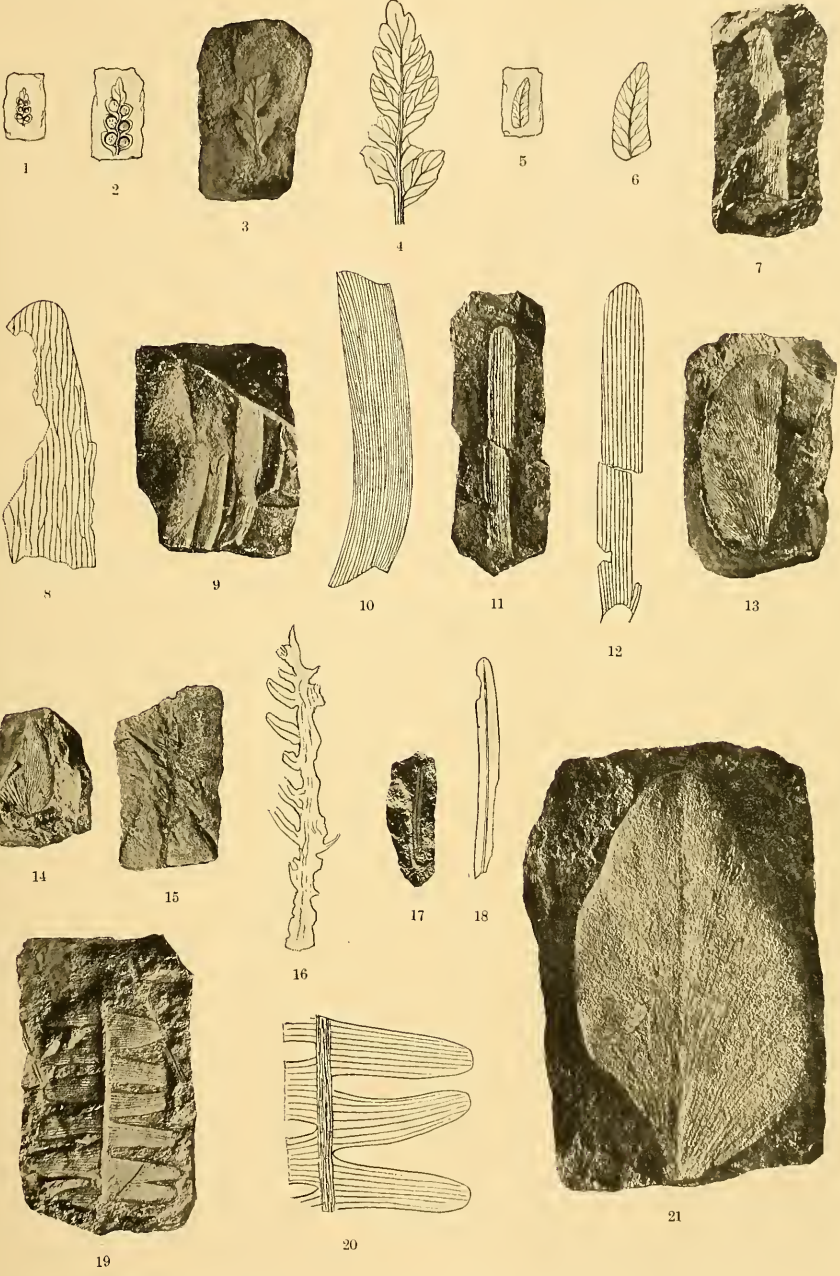
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JURASSO-CRETACEOUS PLANTS FROM OREGON AND ALASKA.





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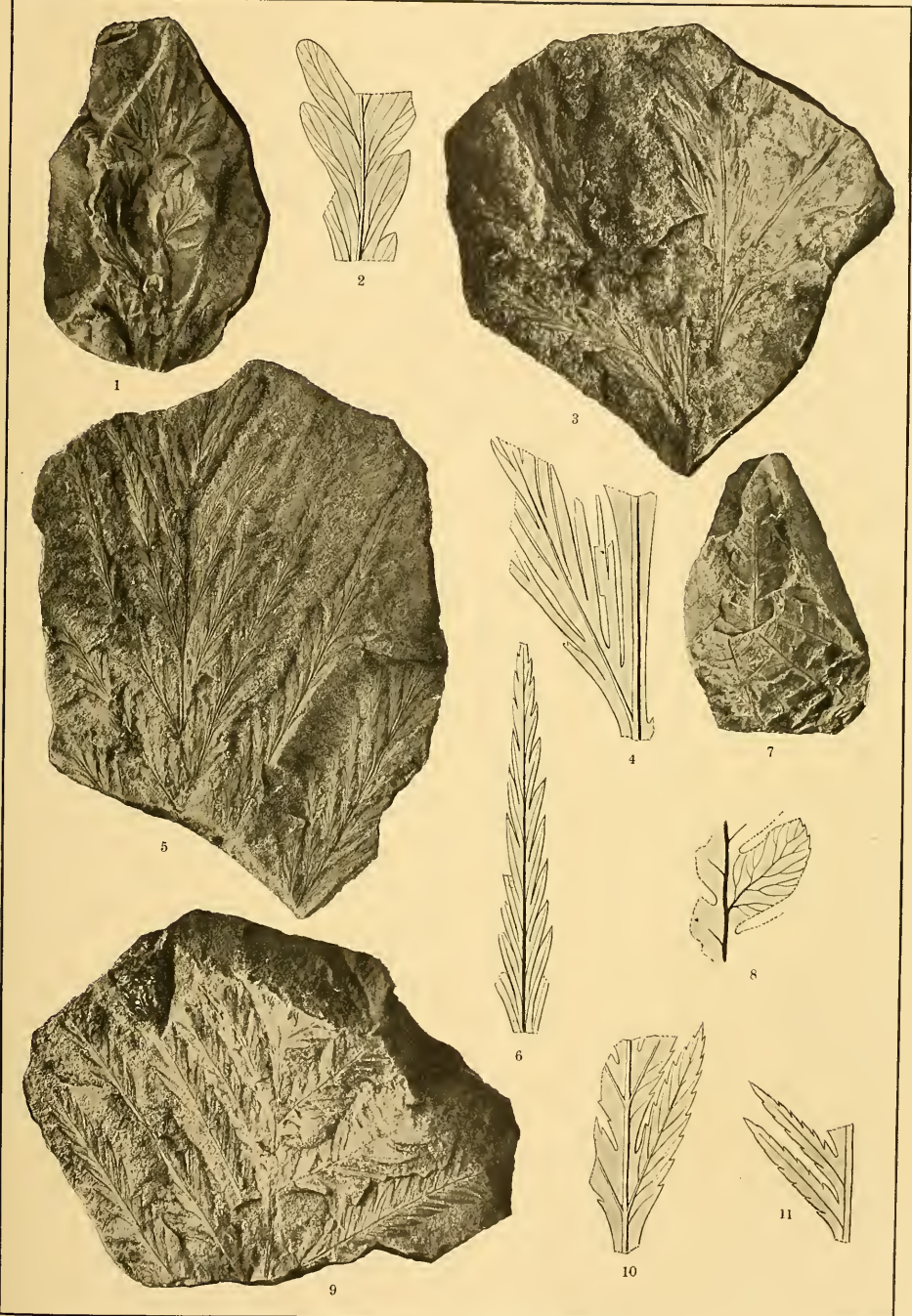
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JURASSO-CRETACEOUS FERNS FROM CAPE LISBURNE, ALASKA.



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PLATE XL.

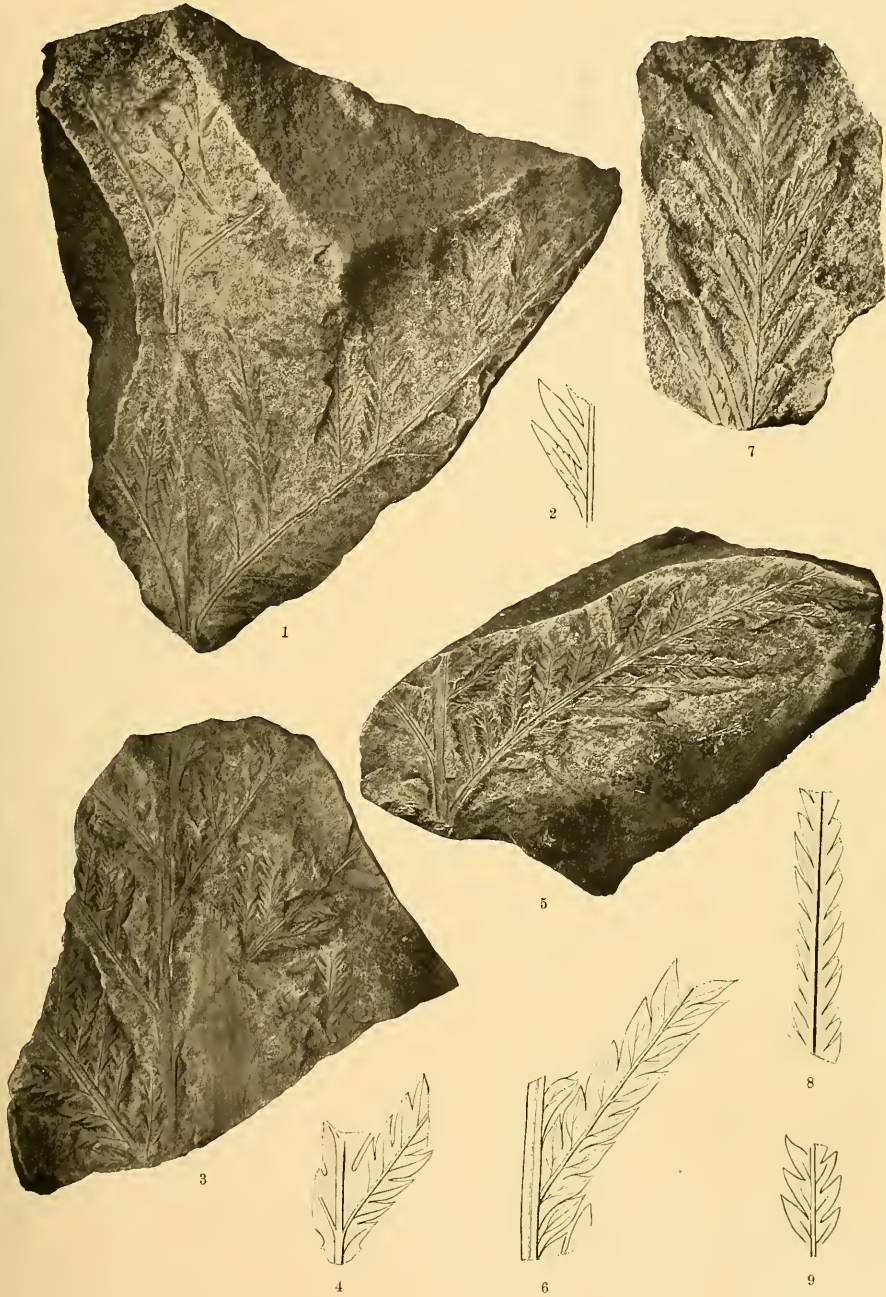
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JURASSO-CRETACEOUS FERNS FROM CAPE LISBURNE, ALASKA.





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PLATE XLI.

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PLATE XLI.

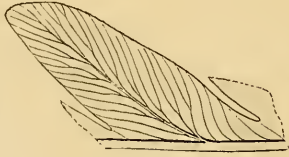
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JURASSO-CRETACEOUS FERNS FROM CAPE LISBURNE, ALASKA.



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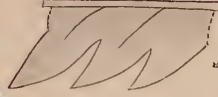
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PLATE XLII.

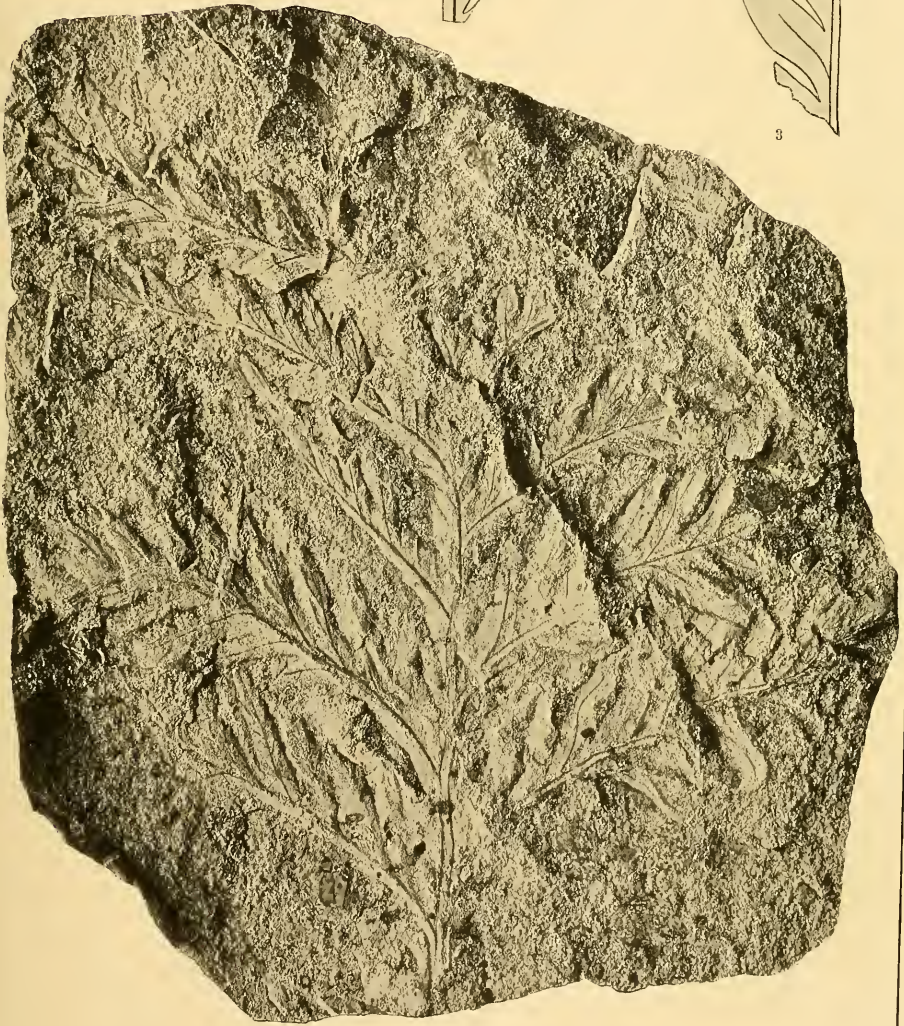
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JURASSO-CRETACEOUS FERNS FROM CAPE LISBURNE, ALASKA.



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PLATE XLIII.

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PLATE XLIII.

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JURASSO-CRETACEOUS FERNS FROM CAPE LISBURNE, ALASKA.





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PLATE XLIV.

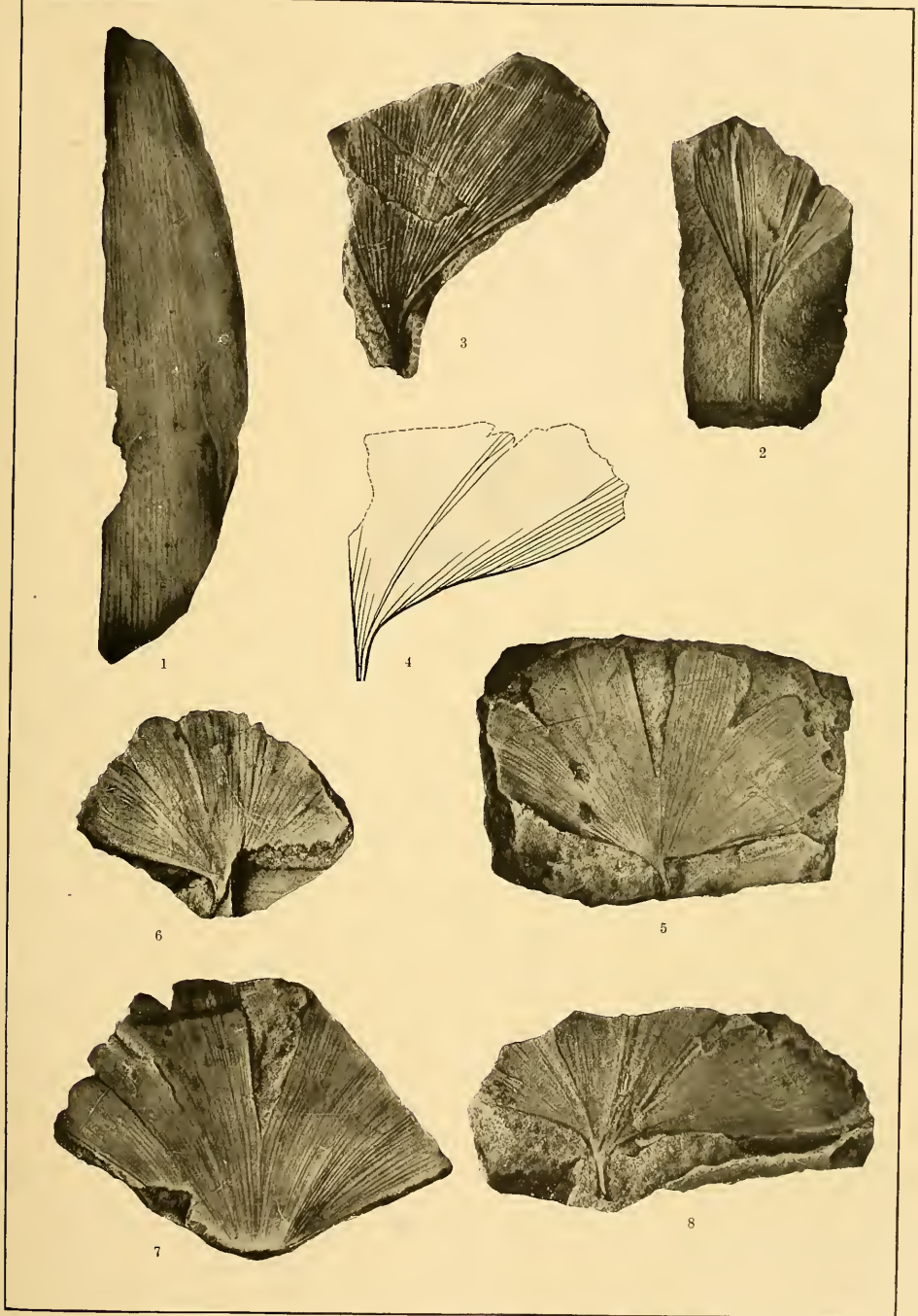
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JURASSO-CRETACEOUS CYCADS AND GINGKOACEÆ FROM CAPE LISBURNE, ALASKA.



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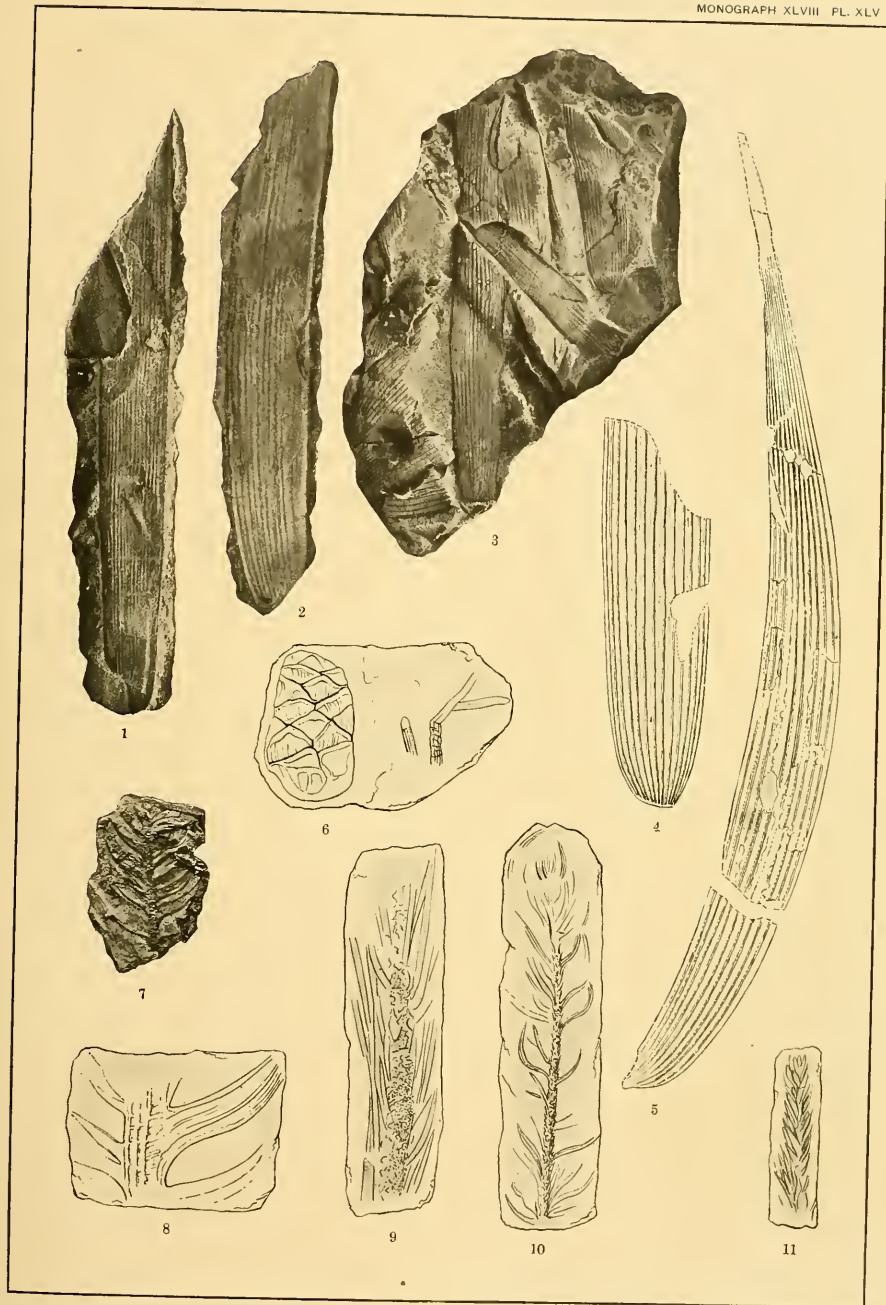
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PLATE XLV.

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JURASSO-CRETACEOUS CONIFERS FROM ALASKA, MONTANA, AND CALIFORNIA.





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PLATE XLVI.

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JURASSIC CYCADS FROM WYOMING.



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PLATE XLVII.

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JURASSIC CYCADS FROM WYOMING.





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PLATE XLVIII.

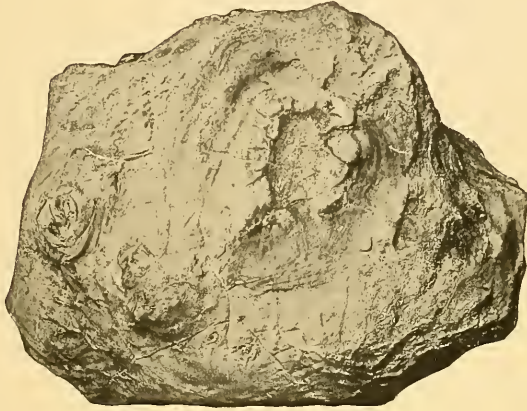
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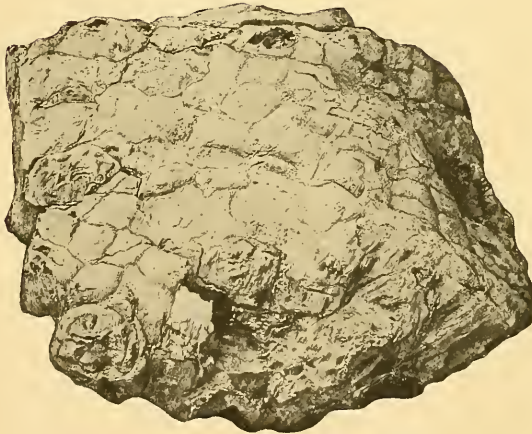
PLATE XLVIII.

JURASSIC CYCADS FROM THE FREEZEOUT HILLS, WYOMING.

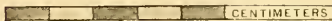
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JURASSIC CYCADS FROM WYOMING.



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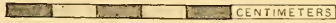
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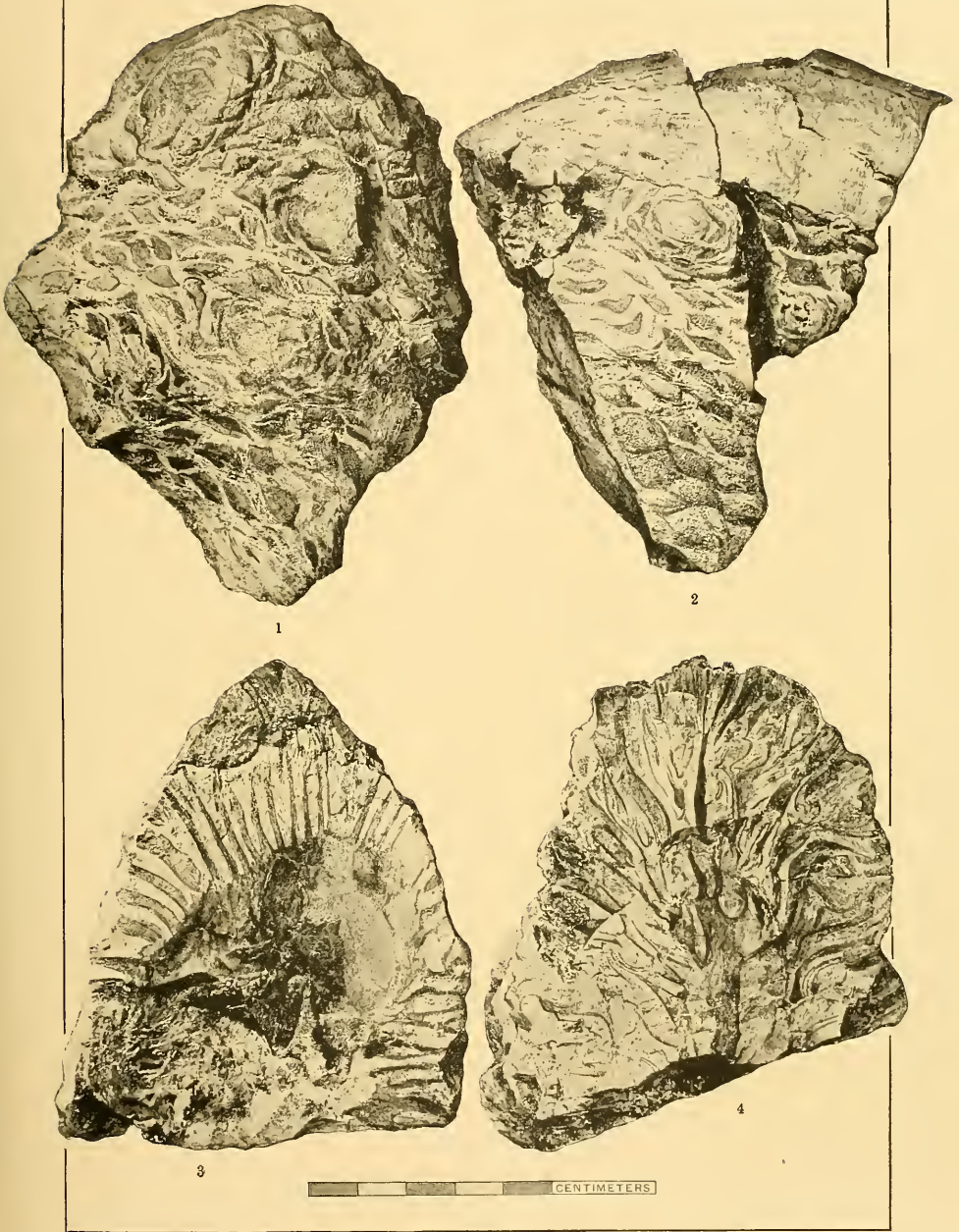
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PLATE LIII.

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JURASSIC CYCADS FROM WYOMING.



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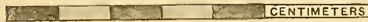
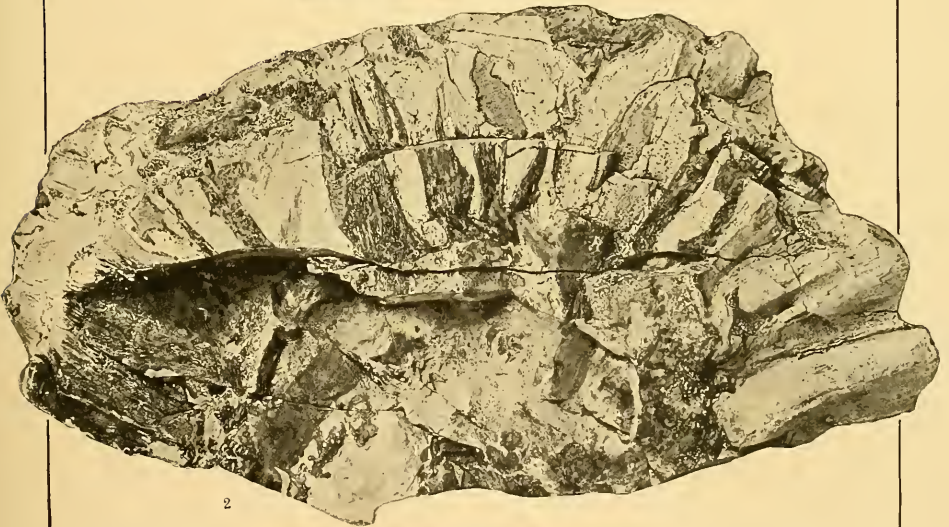
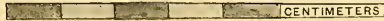
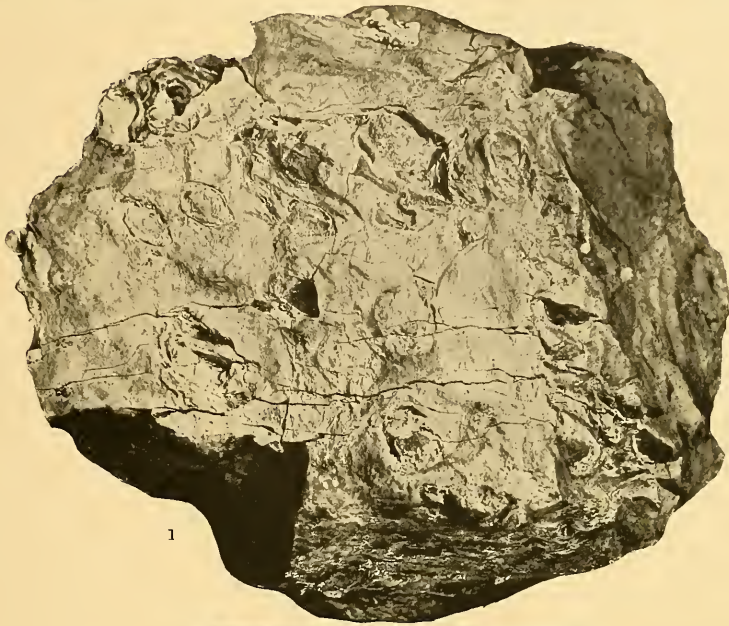
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JURASSIC CYCADS FROM WYOMING.





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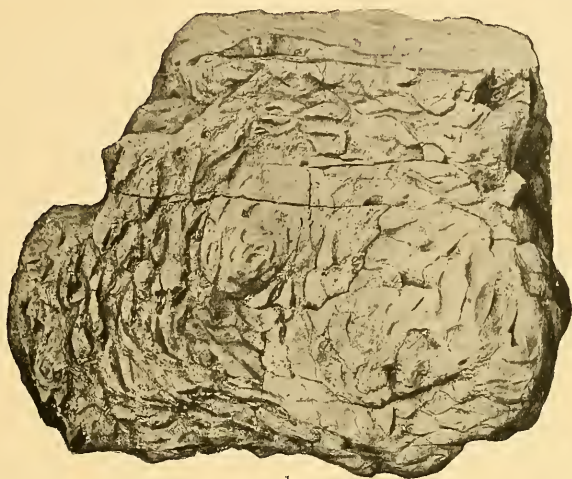
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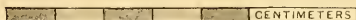
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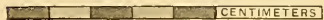
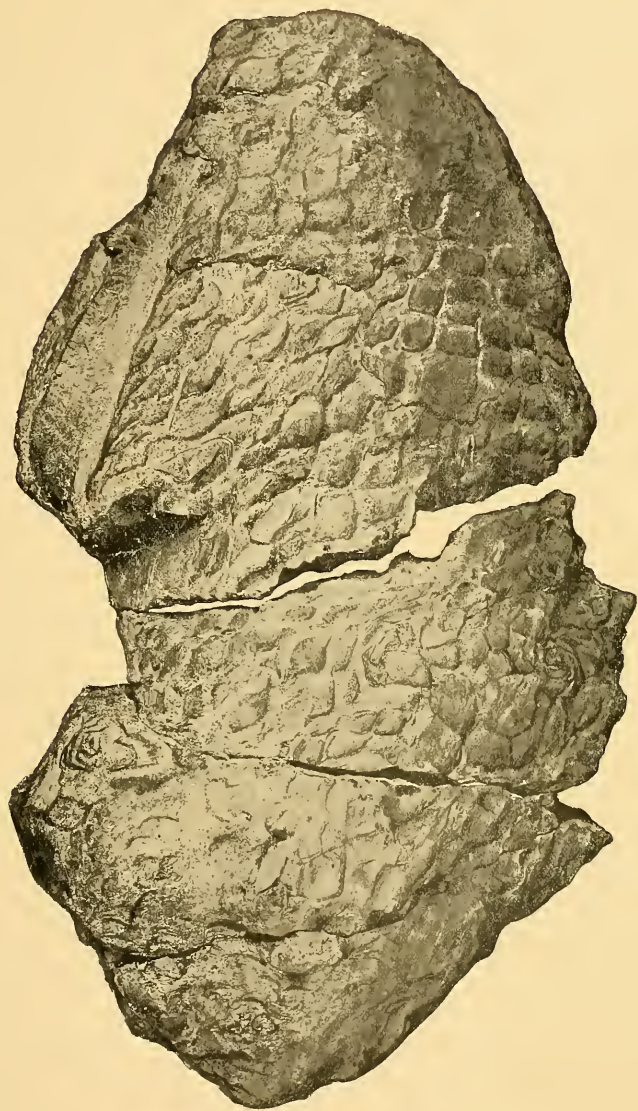
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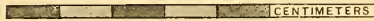
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PLATE LIX.

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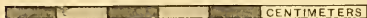
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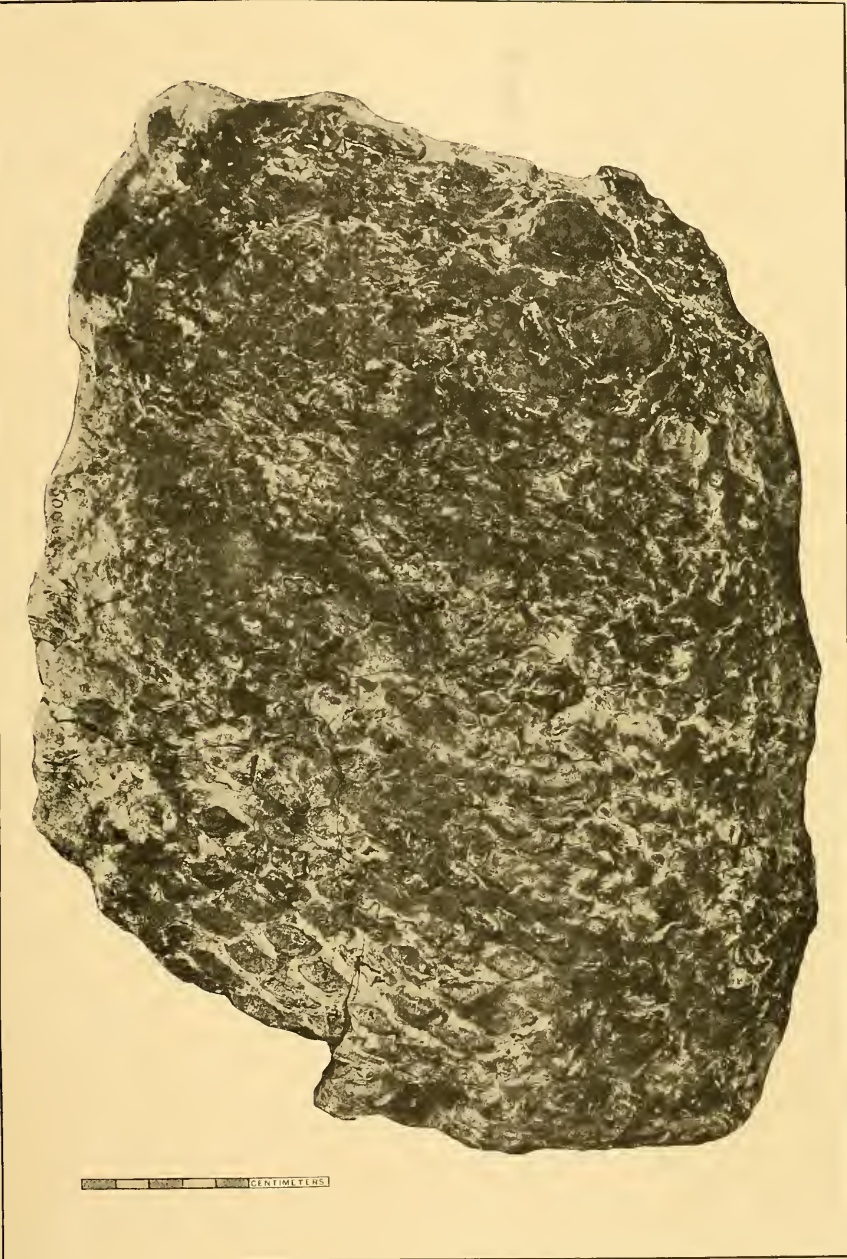
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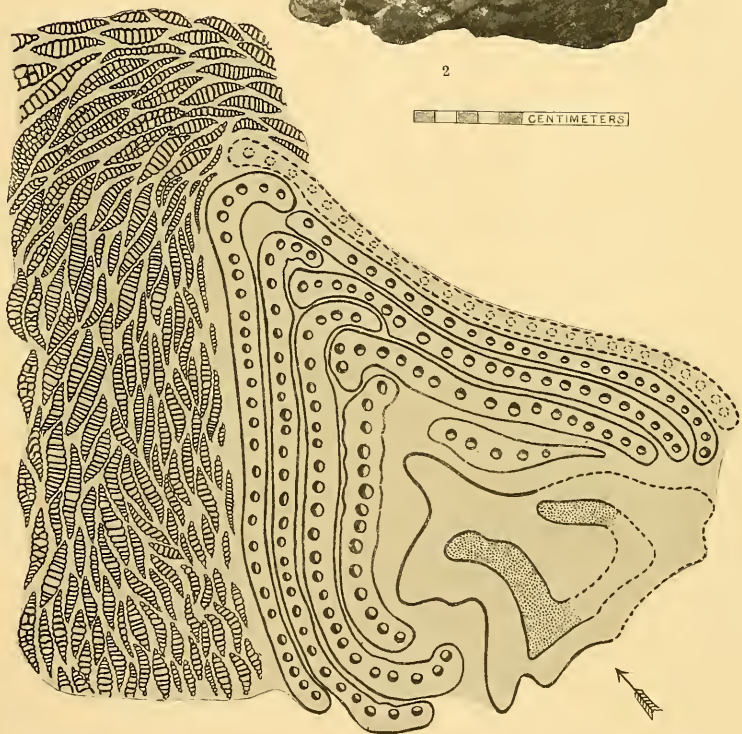
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## PLATE LXV.

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FERNS FROM THE SHASTA FORMATION OF CALIFORNIA AND OREGON.





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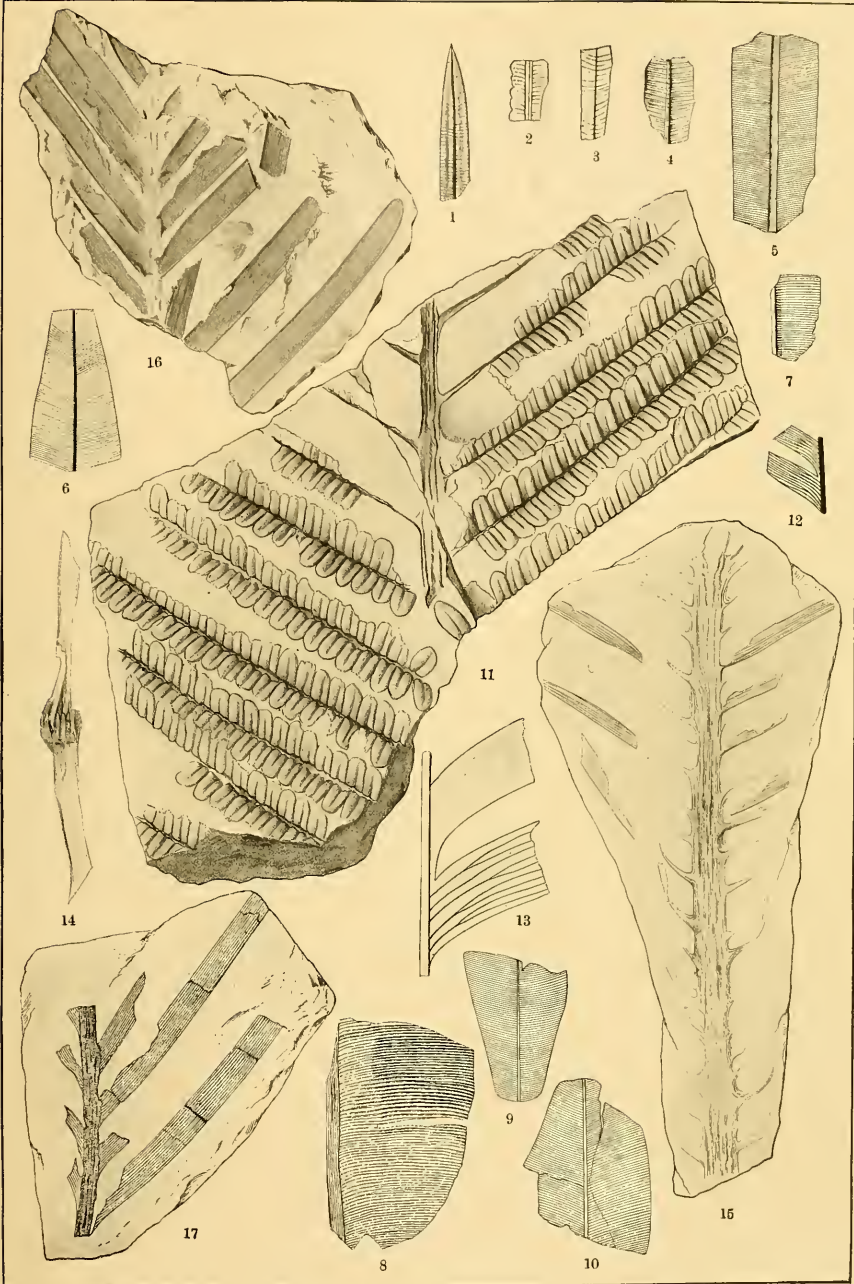
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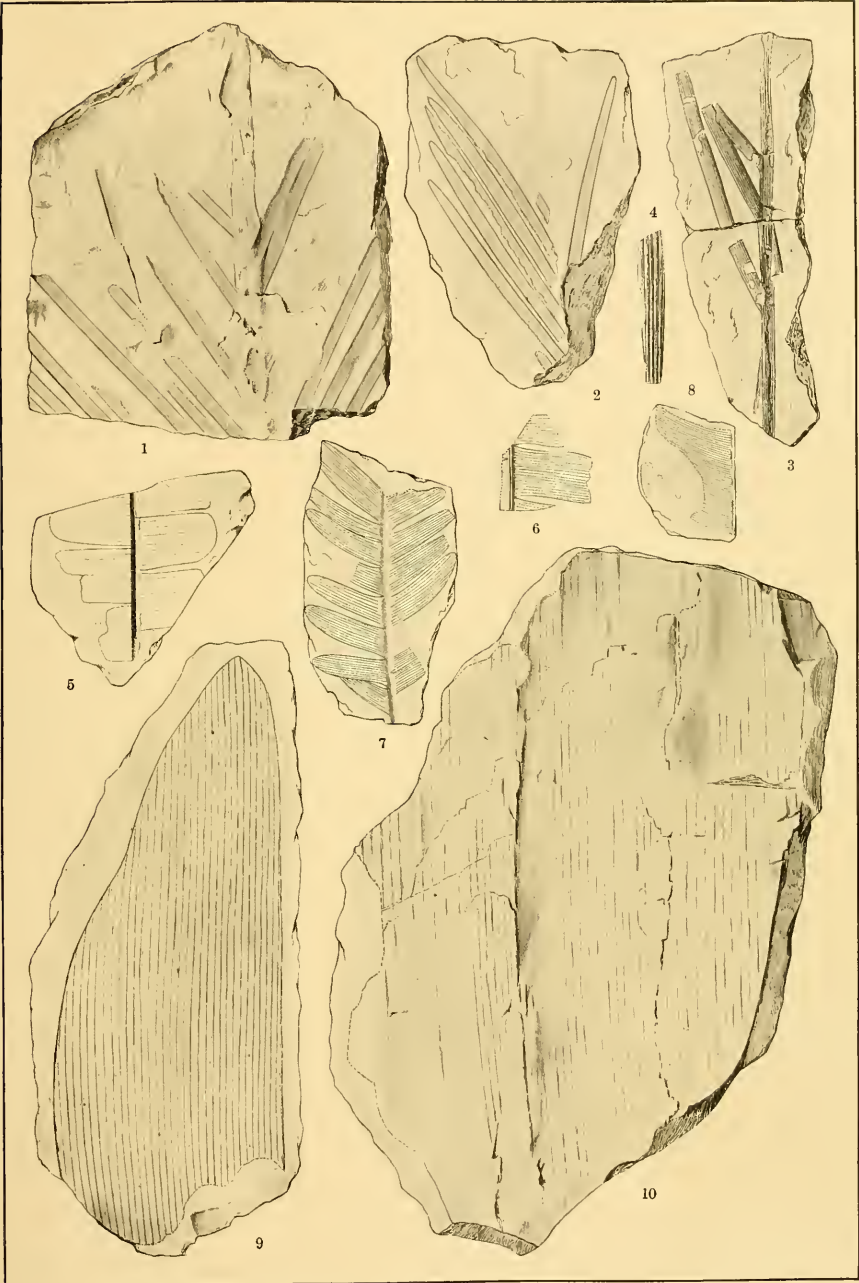
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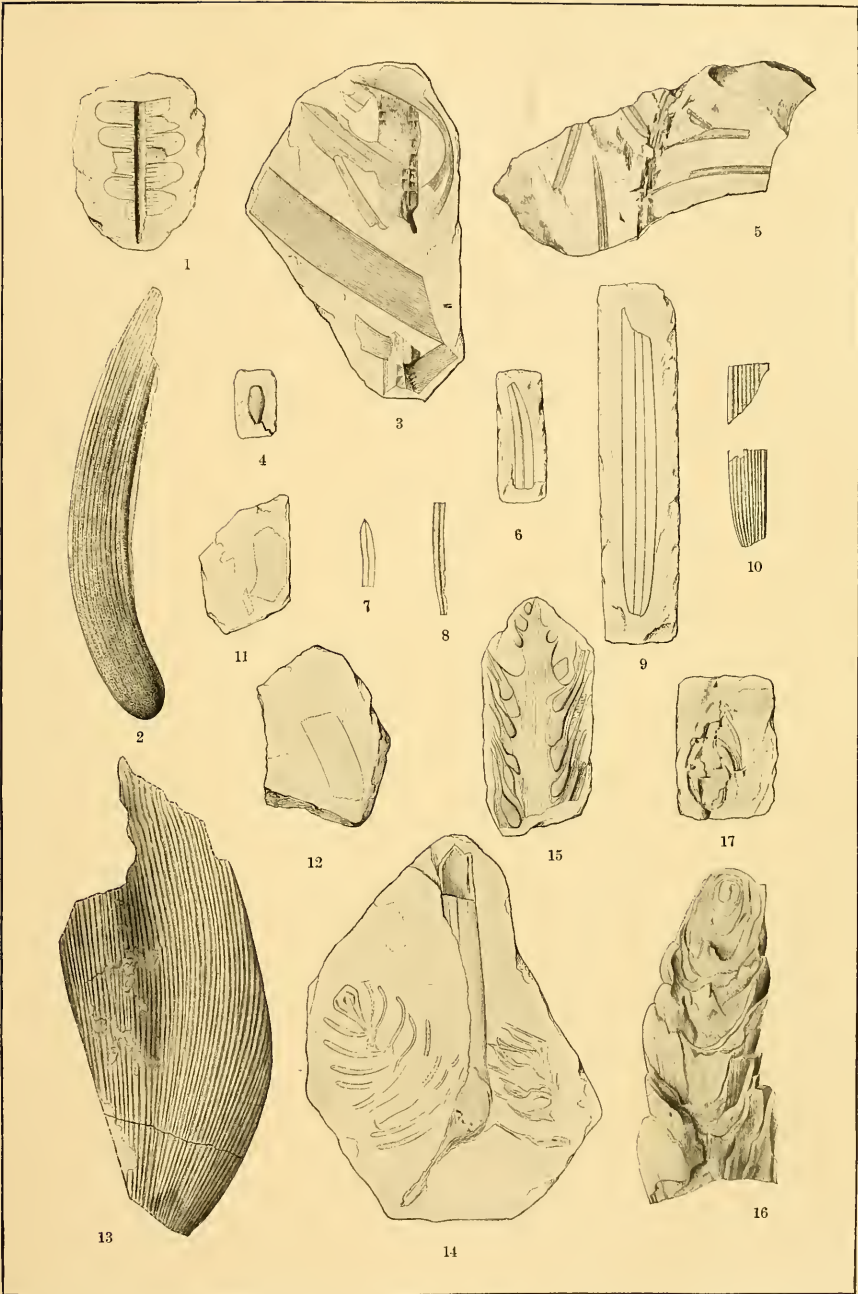
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## PLATE LXVIII.

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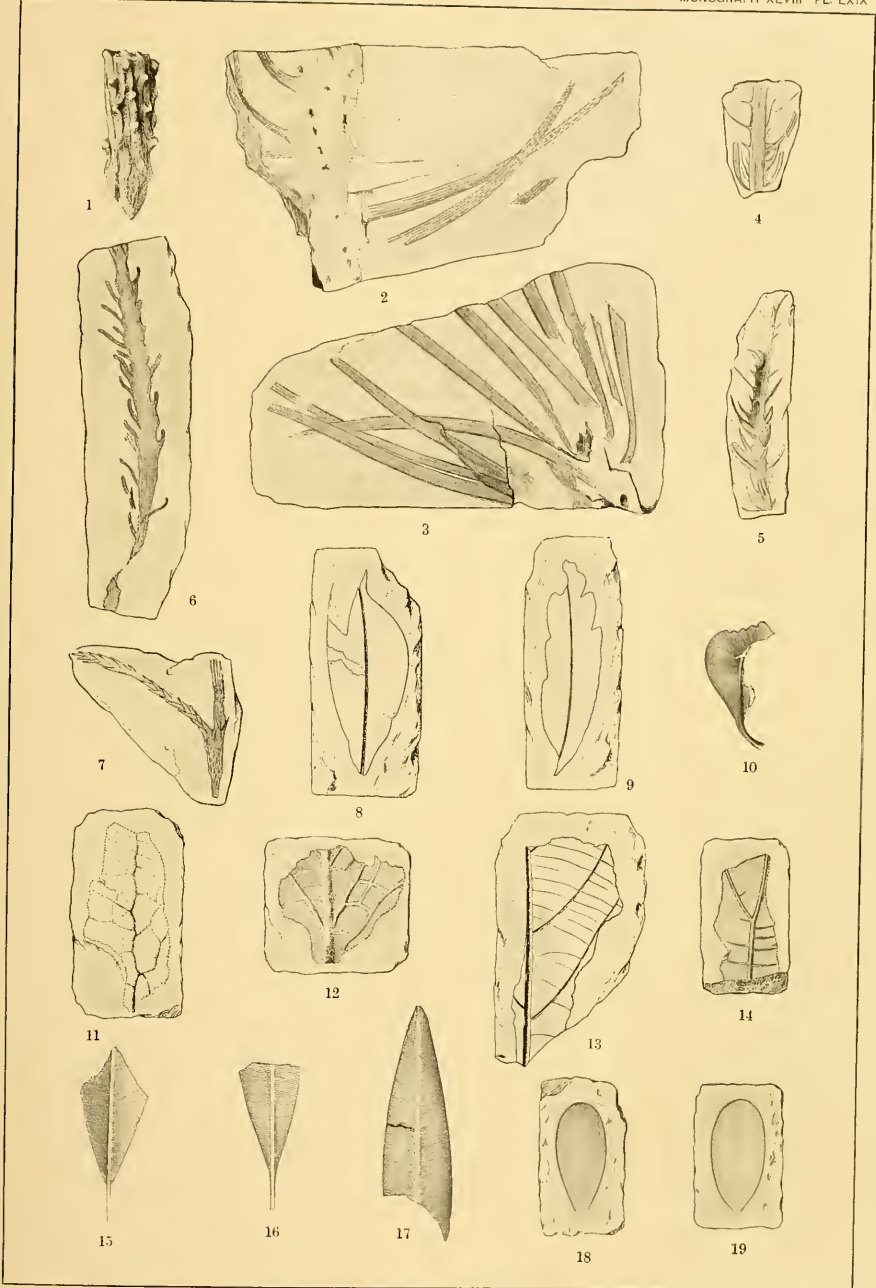
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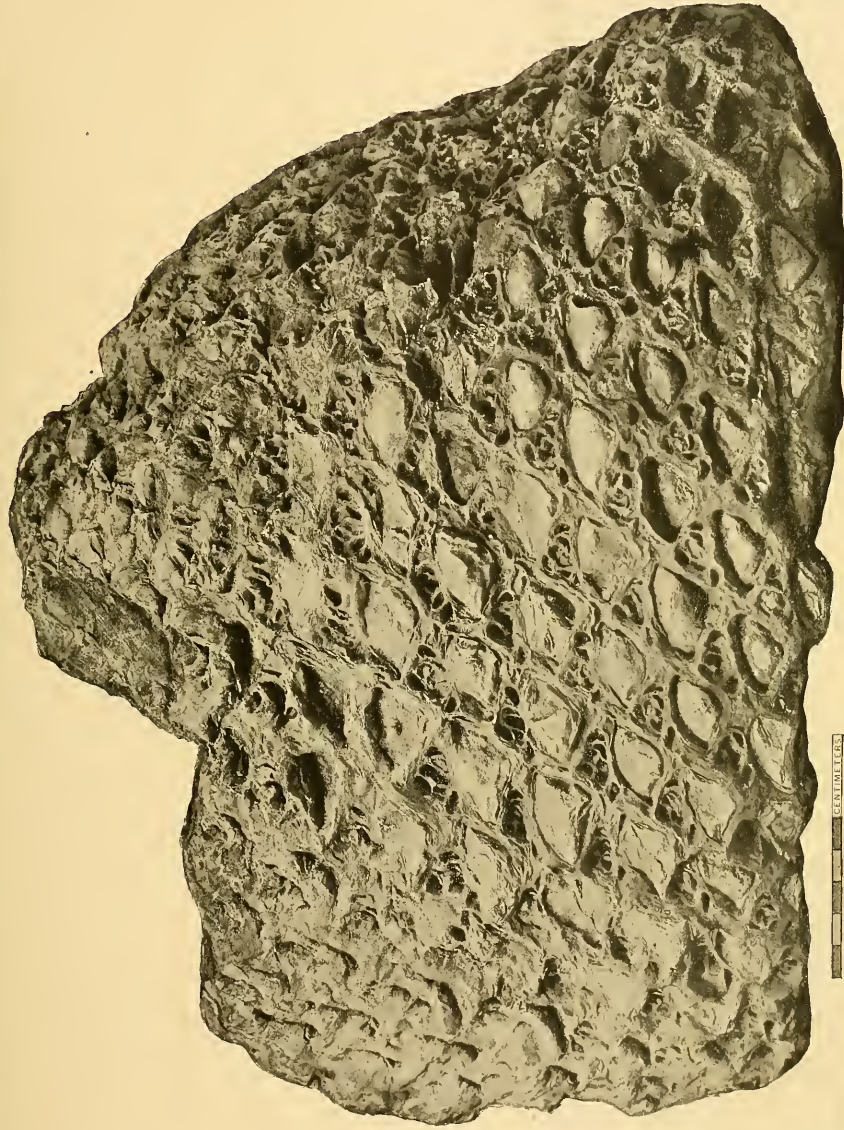
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CYCADEAN TRUNK FROM THE SHASTA FORMATION OF CALIFORNIA.



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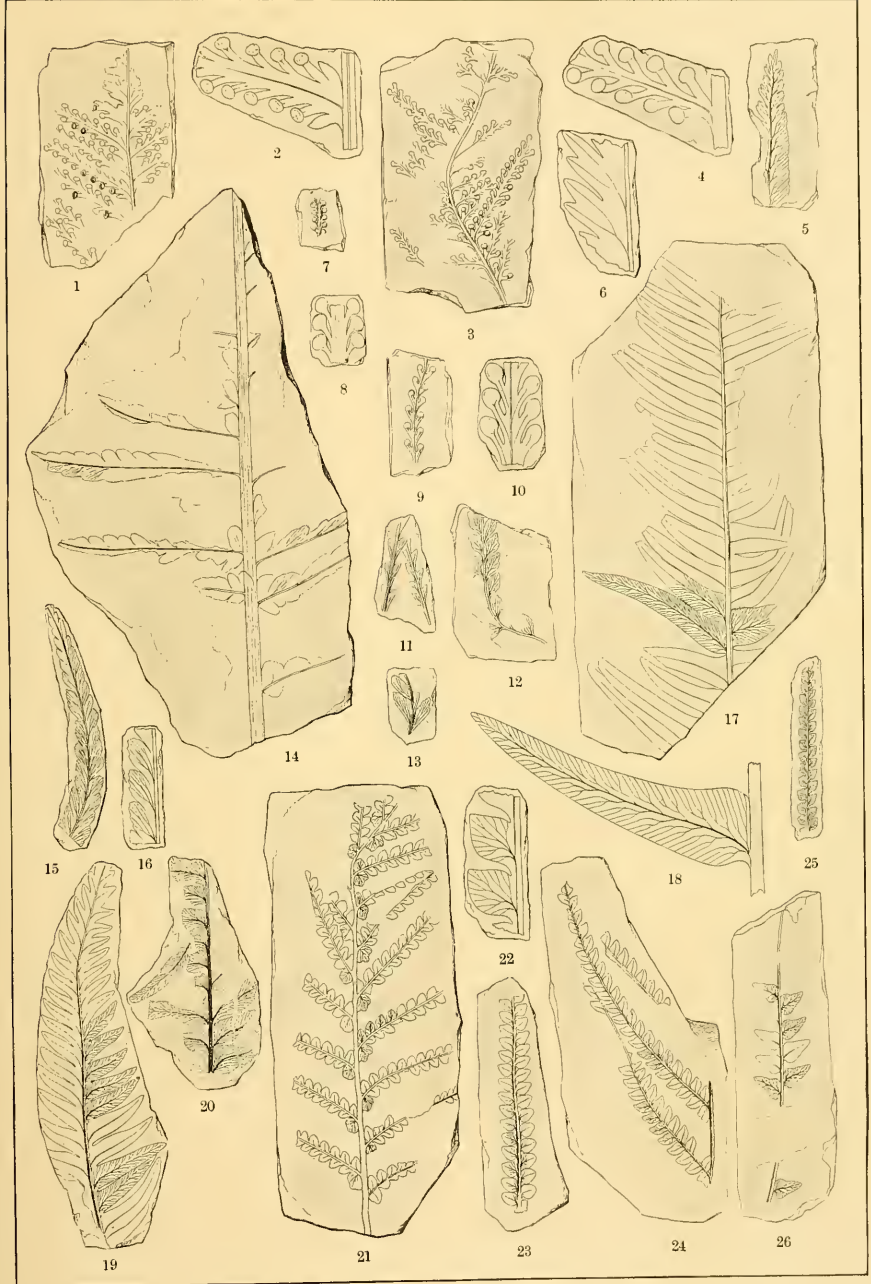
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# PLATE LXXI.

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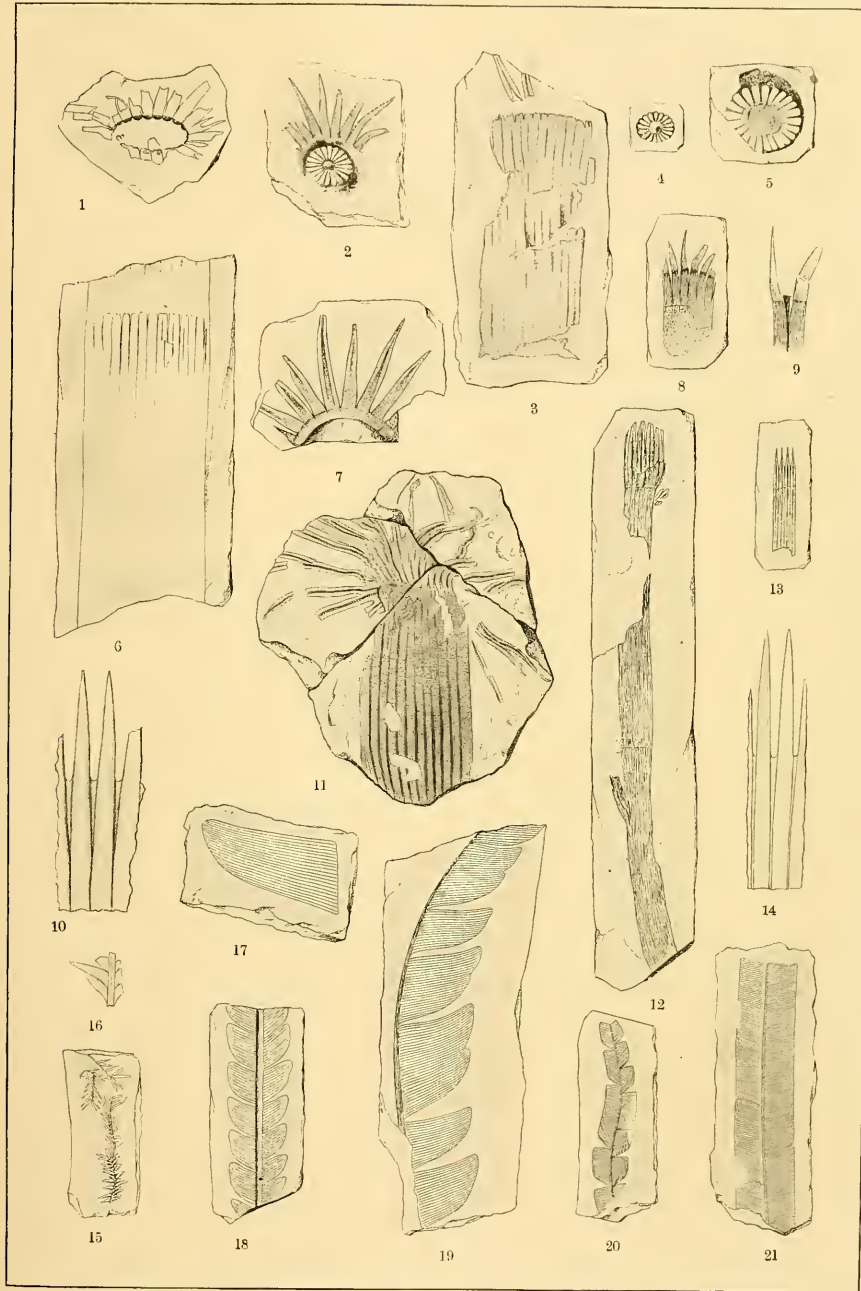
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EQUISETA AND CYCADS FROM THE KOOTANIE FORMATION OF MONTANA.



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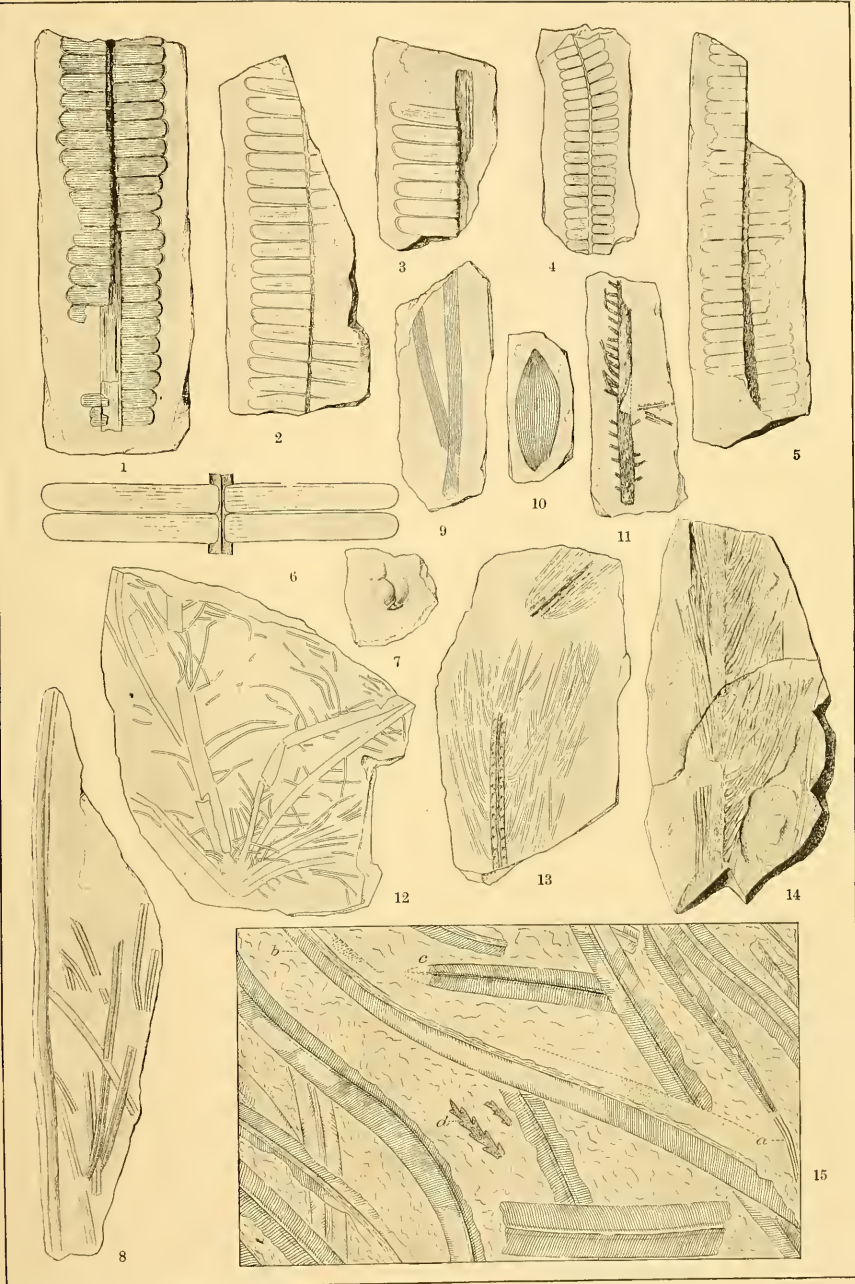
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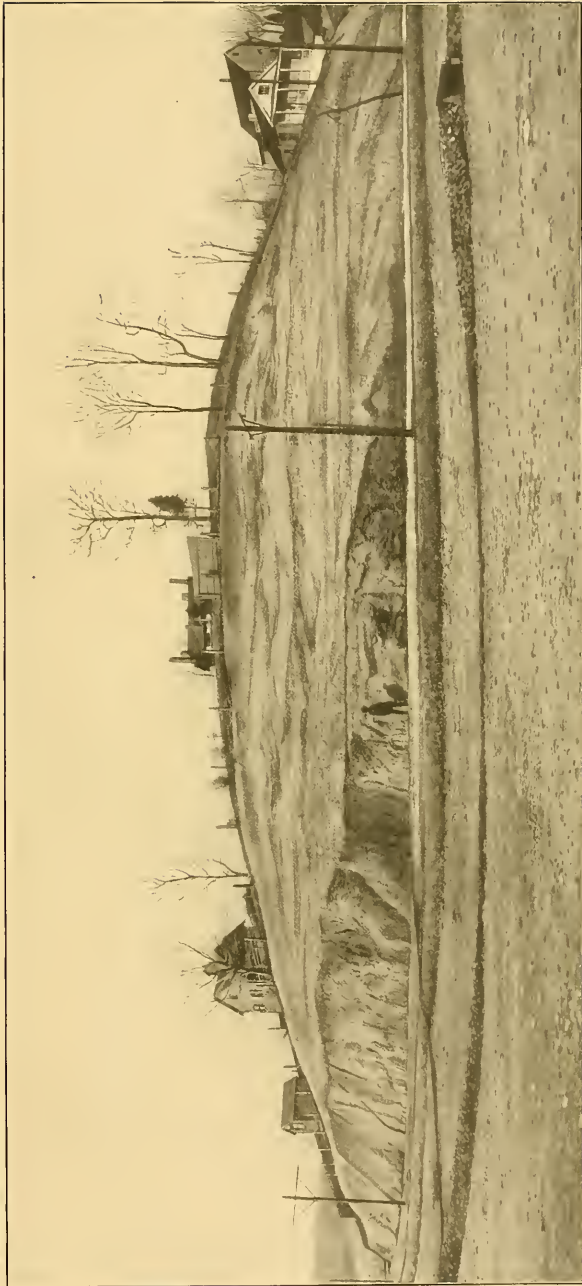
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PLATE LXXIV.

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PLATE LXXIV.

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EXPOSURE OF THE POTOMAC FORMATION ON ONTARIO AVENUE, WASHINGTON, D. C.



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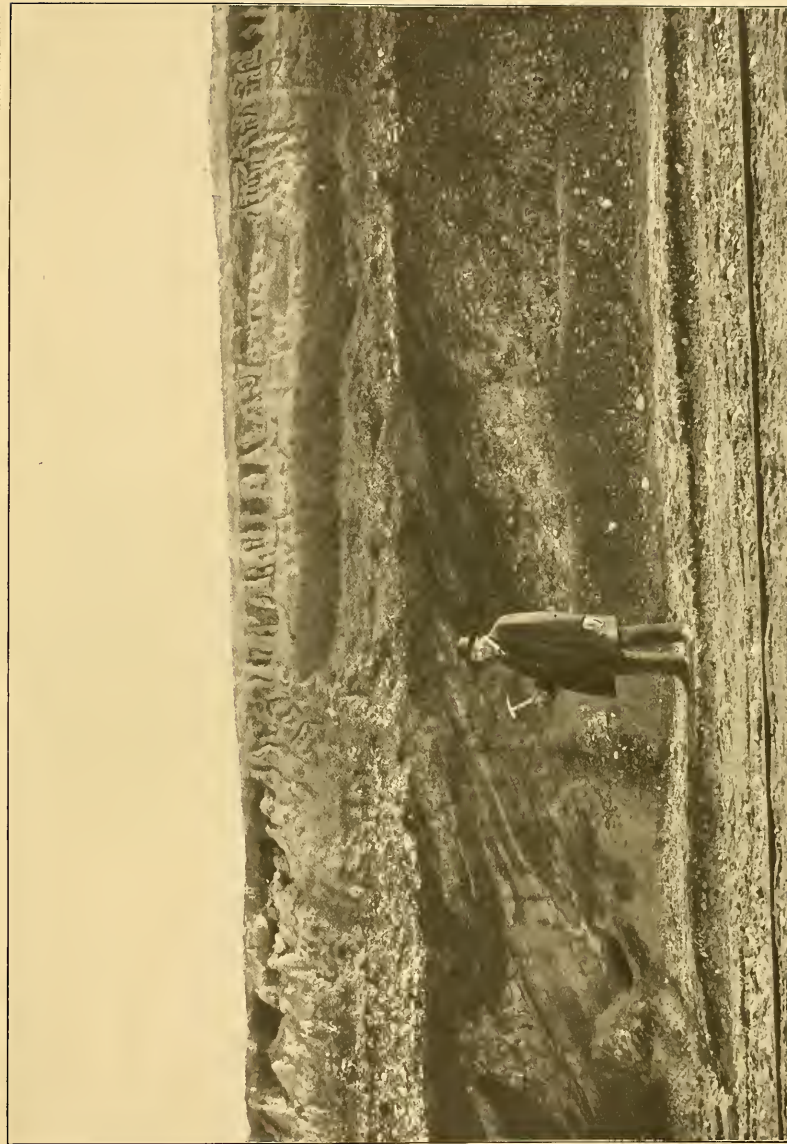
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EXPOSURE OF THE POTOMAC FORMATION ON KANSAS AVENUE, WASHINGTON, D. C.





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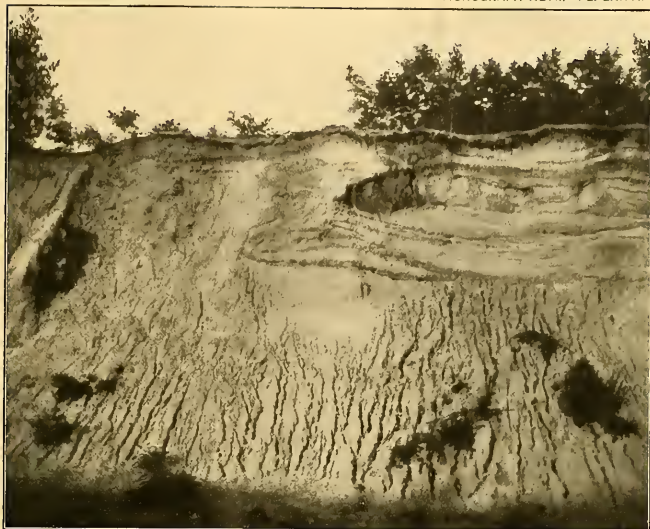
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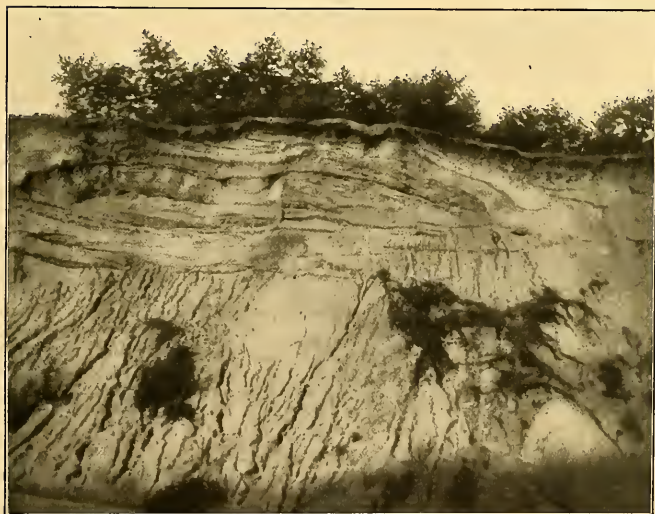
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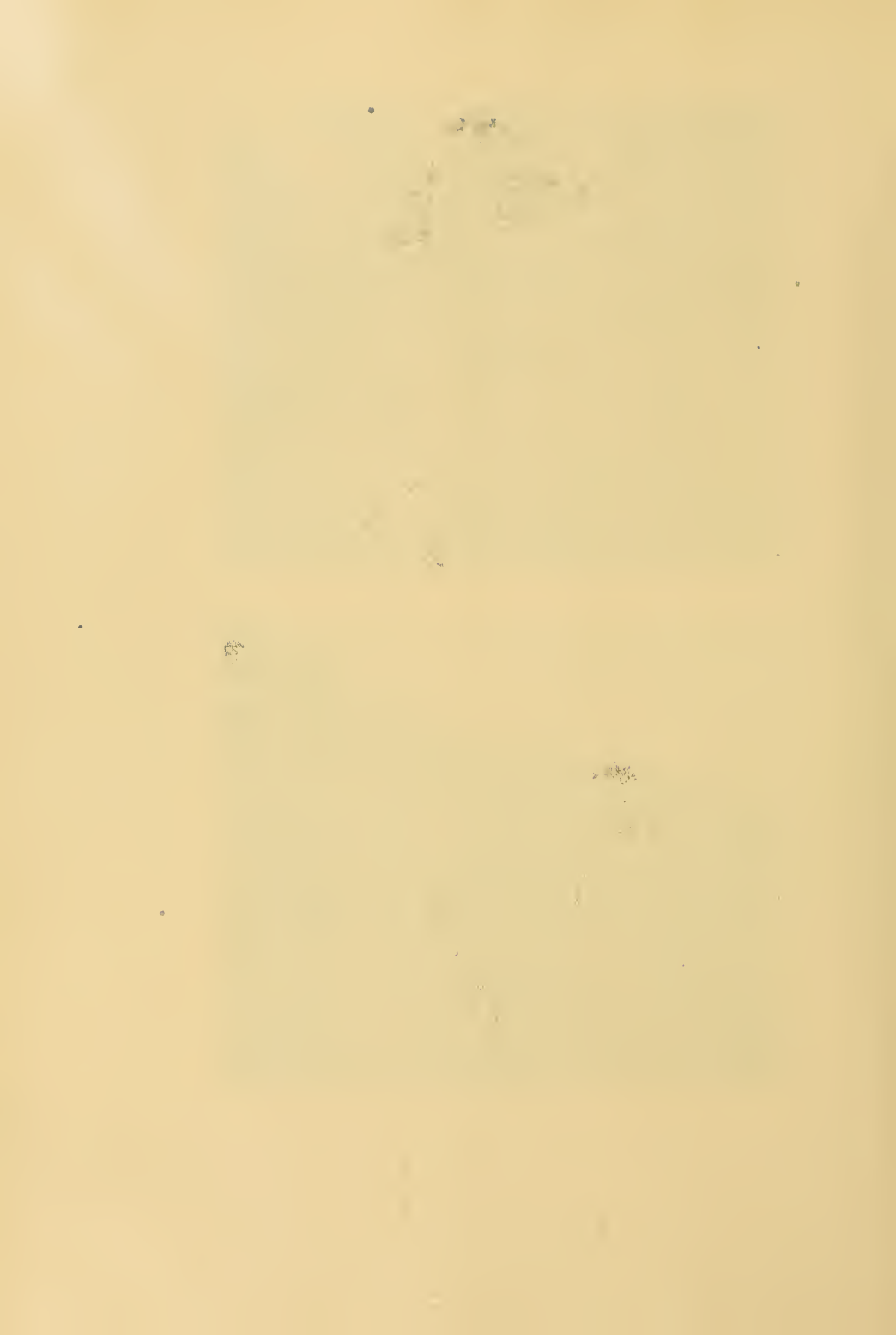


1



2

EXPOSURES OF THE POTOMAC FORMATION AT FREESTONE, VA.



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PLATE LXXIX.

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PLATE LXXIX.

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1



2

EXPOSURES OF THE POTOMAC FORMATION ON BACK LICK RUN, VIRGINIA.





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PLATE LXXX.

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PLATE LXXX.

	Page
Map showing the distribution of the formations of the Potomac group in Maryland, the District of Columbia, and adjacent parts of Virginia, with indication, by numbers, of the localities at which fossils and other objects mentioned in the text have been found.....	412





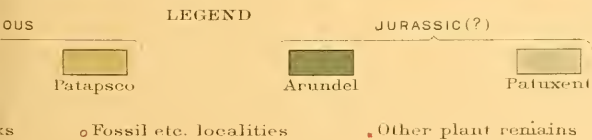


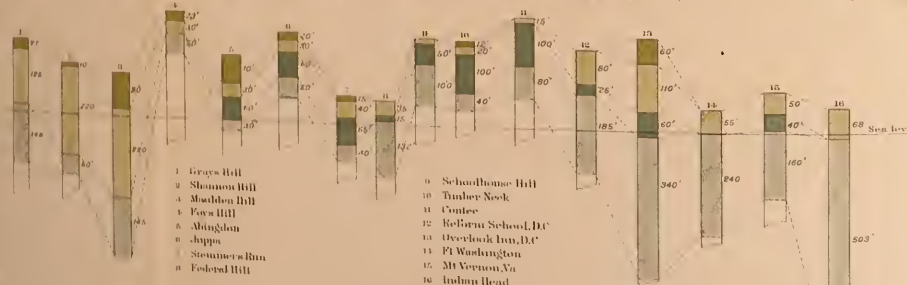
Section A-B

Burtonsville to Devils Branch

Section C-D

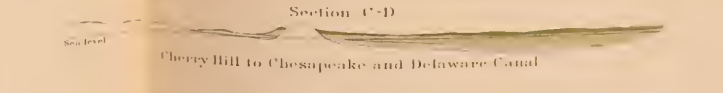
erry Hill to Chesapeake and Delaware Canal





- 1 Grays Hill
- 2 Shomon Hill
- 3 Mutton Hill
- 4 Fox Hill
- 5 Abingdon
- 6 Joppo
- 7 Stearns Hill
- 8 Folsom Hill
- 9 Schoolhouse Hill
- 10 Timber Neck
- 11 Conlee
- 12 Redburn School Hill
- 13 Develock Hill, etc.
- 14 Ft. Washington
- 15 Mt. Vernon, etc.
- 16 Indian Head

LOCAL COLUMNAR SECTIONS



**LEGEND**

Eocene	Paleocene	Jurassic (?)	Paleozoic
Cretaceous	Fossiliferous localities	Other plant remains	

MAP  
SHOWING THE AREAL DISTRIBUTION OF  
THE FORMATIONS  
OF THE  
**POTOMAC GROUP**  
IN  
**MARYLAND**  
BY ALTHEA E. REEDY

Published by the U. S. GEOLOGICAL SURVEY  
Washington, D. C.  
1900







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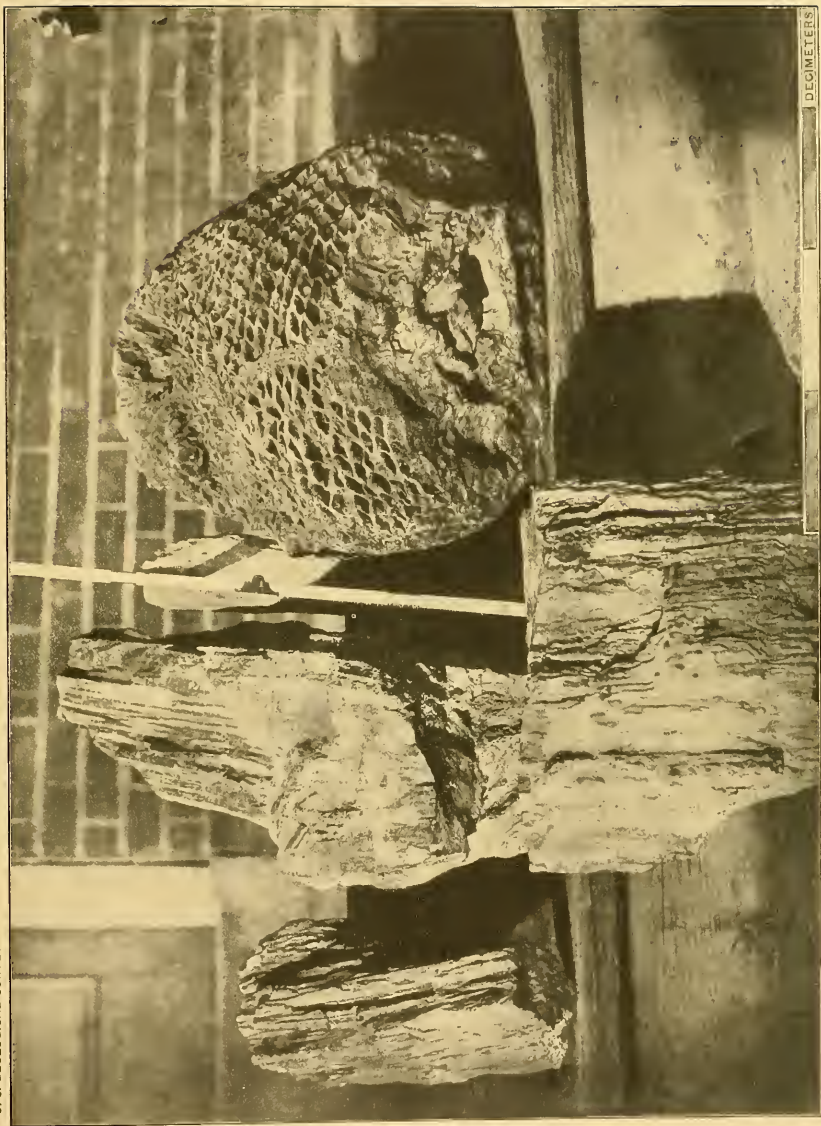
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PLATE LXXXI.

MARYLAND POTOMAC CYCADS.

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(For historical account, see p. 410.)	



CYCAD TRUNK AND SILICIFIED WOOD FROM THE POTOMAC FORMATION OF MARYLAND.



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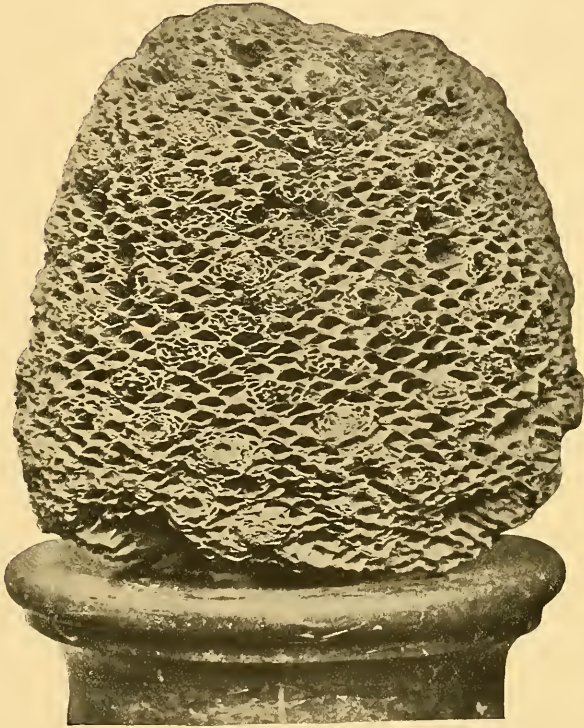
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PLATE LXXXII.

MARYLAND POTOMAC CYCADS.

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CENTIMETERS

TRUNK OF CYCAD EARLY DISCOVERED IN THE POTOMAC FORMATION OF MARYLAND.





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PLATE LXXXIII.

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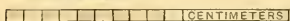
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MARYLAND POTOMAC CYCADS.

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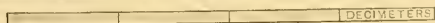
4



2

1

3



TRUNKS OF CYCADS EARLY DISCOVERED IN THE POTOMAC FORMATION OF MARYLAND.



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PLATE LXXXIV.

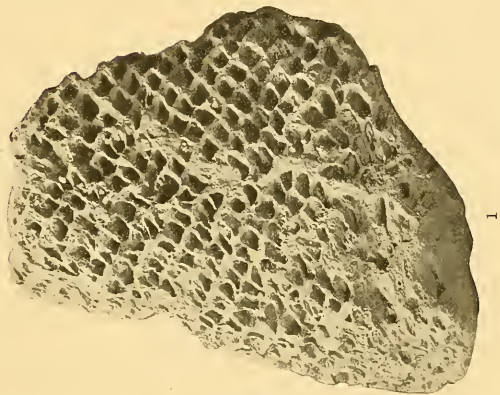
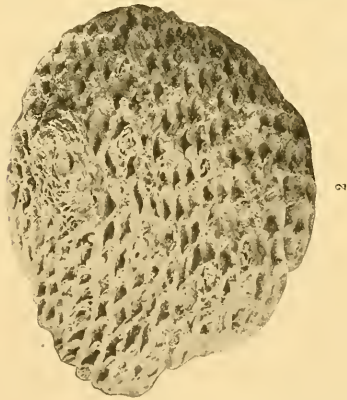
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PLATE LXXXIV.

MARYLAND POTOMAC CYCADS.

Group of cycads in the museum of the Johns Hopkins University, Baltimore.

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TRUNKS OF CYCADS EARLY DISCOVERED IN THE POTOMAC FORMATION OF MARYLAND.





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PLATE LXXXV.

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PLATE LXXXV.

MARYLAND POTOMAC CYCADS.

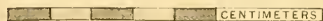
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(For historical account see p. 409.)



TRUNK OF CYCAD EARLY DISCOVERED IN THE POTOMAC FORMATION OF MARYLAND.



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PLATE LXXXVI.

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PLATE LXXXVI.

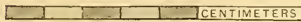
MARYLAND POTOMAC CYCADS.

CYCADEOIDEA FONTAINEANA Ward.

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View of the external surface of the South Carolina College Cycad. .... 442

(For historical account see p. 411.)



TRUNK OF CYCAD EARLY DISCOVERED IN THE POTOMAC FORMATION OF MARYLAND.





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PLATE LXXXVII.

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# PLATE LXXXVII.

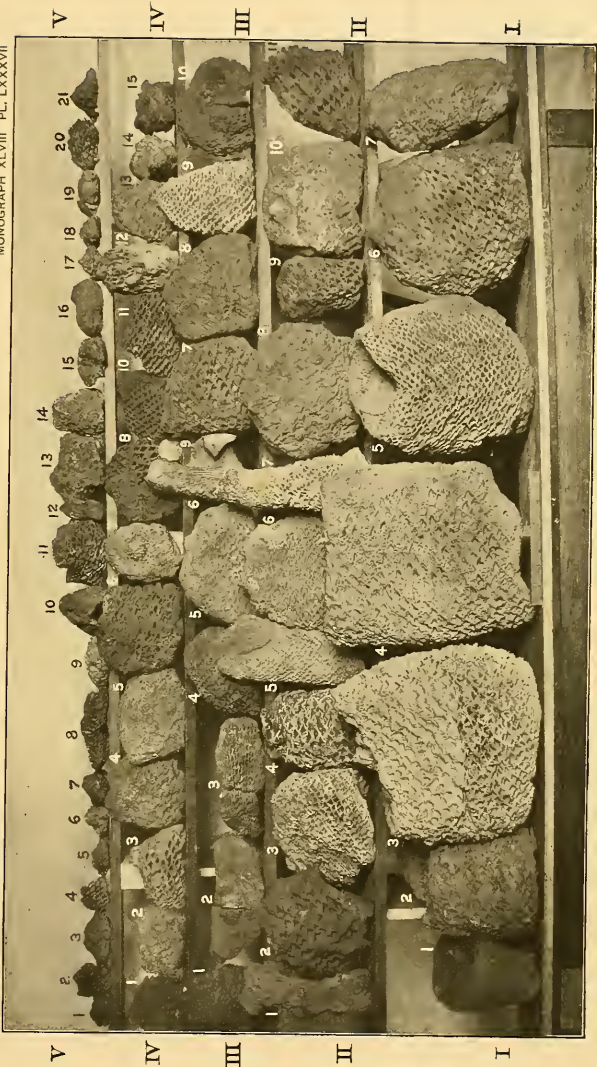
## MARYLAND POTOMAC CYCADS.

GROUP OF CYCADS IN THE MUSEUM OF THE WOMAN'S COLLEGE OF BALTIMORE.

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U. S. GEOLOGICAL SURVEY

MONOGRAPH XLVIII PL. LXXXVII



GROUP OF CYCADS IN THE MUSEUM OF THE WOMAN'S COLLEGE OF BALTIMORE.



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PLATE LXXXVIII.

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PLATE LXXXVIII.

MARYLAND POTOMAC CYCADS.

CYCADEOIDEA MARYLANDICA (Font.) Cap. & Solms.

Page.

View of the Link trunk, No. 1481, of the museum of the Woman's College of Baltimore, restored to its place in the Link Gulch, near Arbutus, Maryland, also showing the exposure as seen from the west side, looking across the gulch. ....

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LINK GULCH WITH THE LINK CYCAD IN PLACE.





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PLATE LXXXIX.

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P L A T E L X X X I X .

MARYLAND POTOMAC CYCADS.

GROUP OF CYCADS IN THE MUSEUM OF THE WOMAN'S COLLEGE OF BALTIMORE.

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GROUP OF CYCADS IN THE MUSEUM OF THE WOMAN'S COLLEGE OF BALTIMORE.



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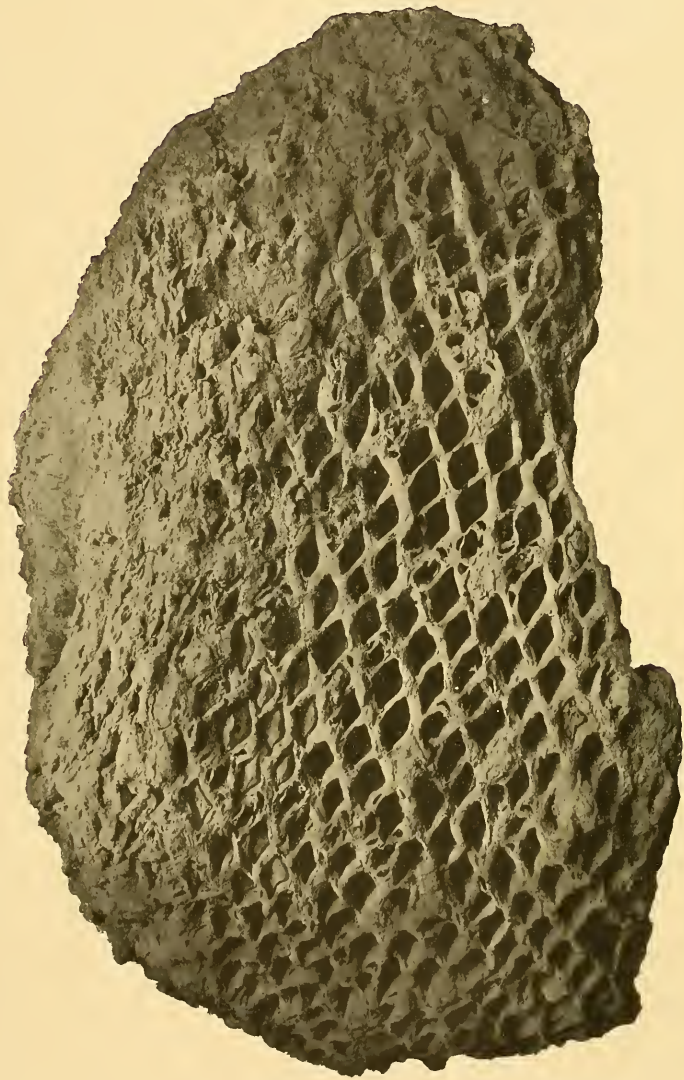
PLATE XC.

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PLATE XC.

MARYLAND POTOMAC CYCADS.

	Page.
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CENTIMETERS

CYCADEOIDEA MARYLANDICA.





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PLATE XCI.

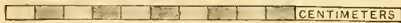
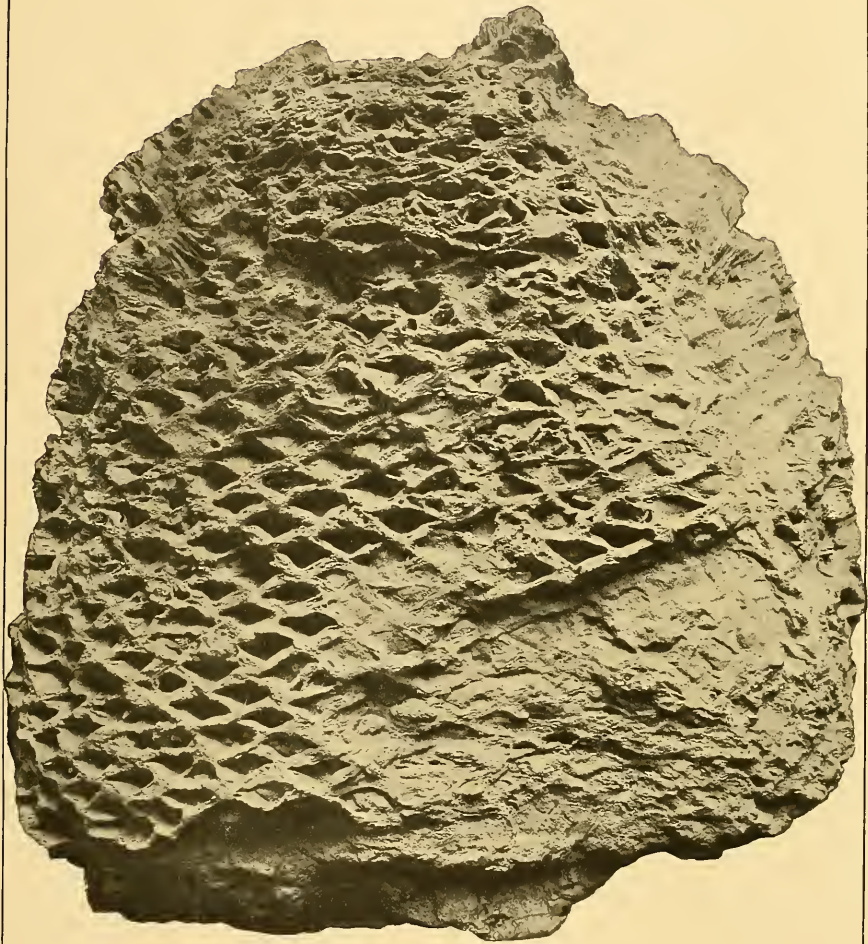
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PLATE XCI.

MARYLAND POTOMAC CYCADS.

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CYCADEOIDEA MARYLANDICA.



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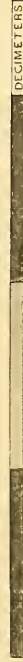
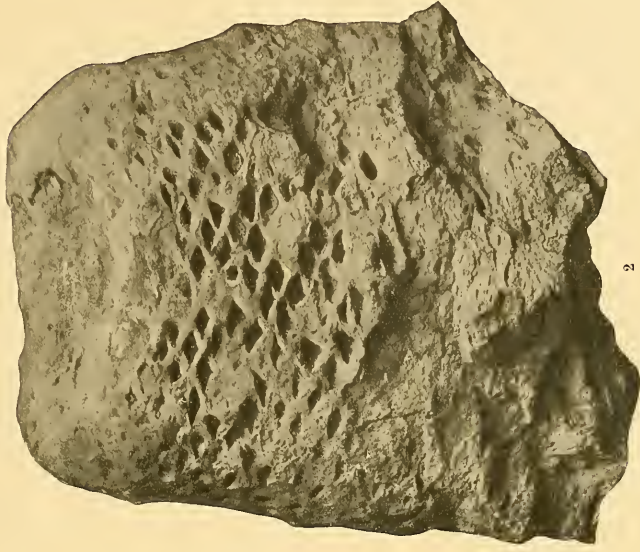
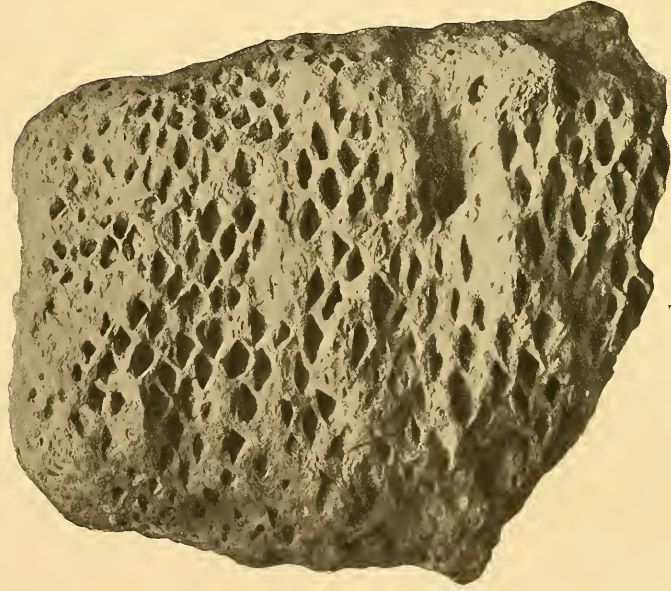
PLATE XCII.

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PLATE XCII.

MARYLAND POTOMAC CYCADS.

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CYCADEOIDEA MARYLANDICA.





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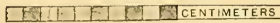
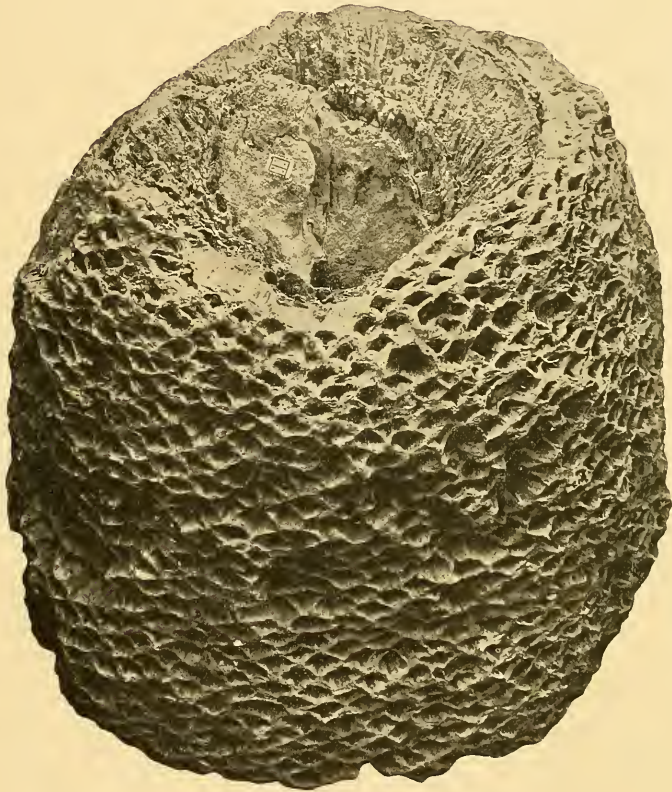
PLATE XCIII.

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PLATE XCIII.

MARYLAND POTOMAC CYCADS.

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The R. T. Donaldson trunk, No. 1, CYCADEOIDEA TYSONIANA Ward, No. 1472, of the Woman's College of Baltimore .....	433



CYCADEOIDEA TYSONIANA.



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PLATE XCIV.

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PLATE XCIV.

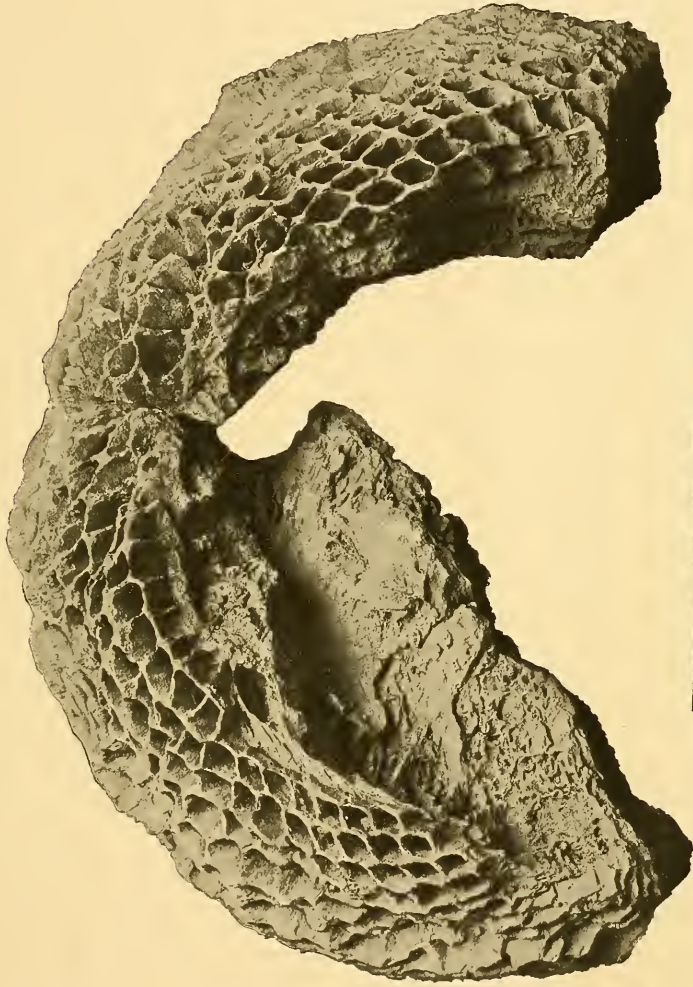
MARYLAND POTOMAC CYCADS.

CYCADEOIDEA MCGEEANA Ward.

Page.

The Clark trunk, otherwise known as the "insect nest," consisting of Nos. 1659 and 1659a of the  
museum of the Woman's College of Baltimore.....

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CENTIMETERS

CYCADEOIDEA MCGEEANA.





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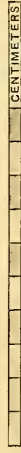
PLATE XCV.

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PLATE XCV.

MARYLAND POTOMAC CYCADS.

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CYCADEOIDEA FONTAINEANA.



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PLATE XCVI.

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PLATE XCVI.

MARYLAND POTOMAC CYCADS.

CYCADEOIDEA FONTAINEANA Ward.

Page.

Longitudinal section through the Griffith trunk, No. 1467 of the museum of the Woman's College of Baltimore, showing the internal structure and terminal bud.....

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CYCADEOIDEA FONTAINEANA.





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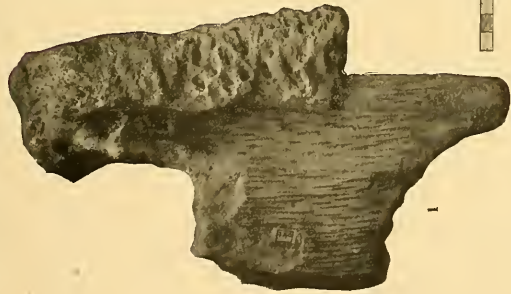
PLATE XCVII.

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PLATE XCVII.

MARYLAND POTOMAC CYCADS.

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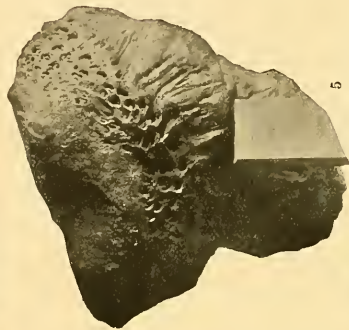
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CYCADEOIDEA FONTAINEANA.



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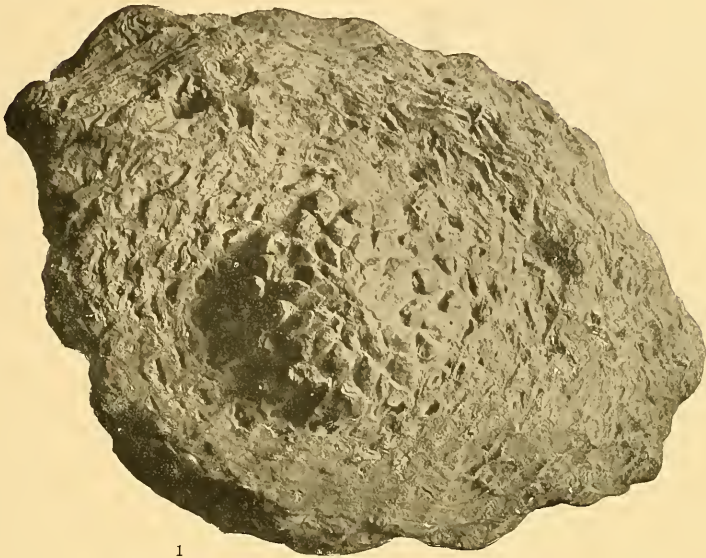
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CYCADEOIDEA FONTAINEANA.





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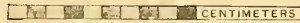
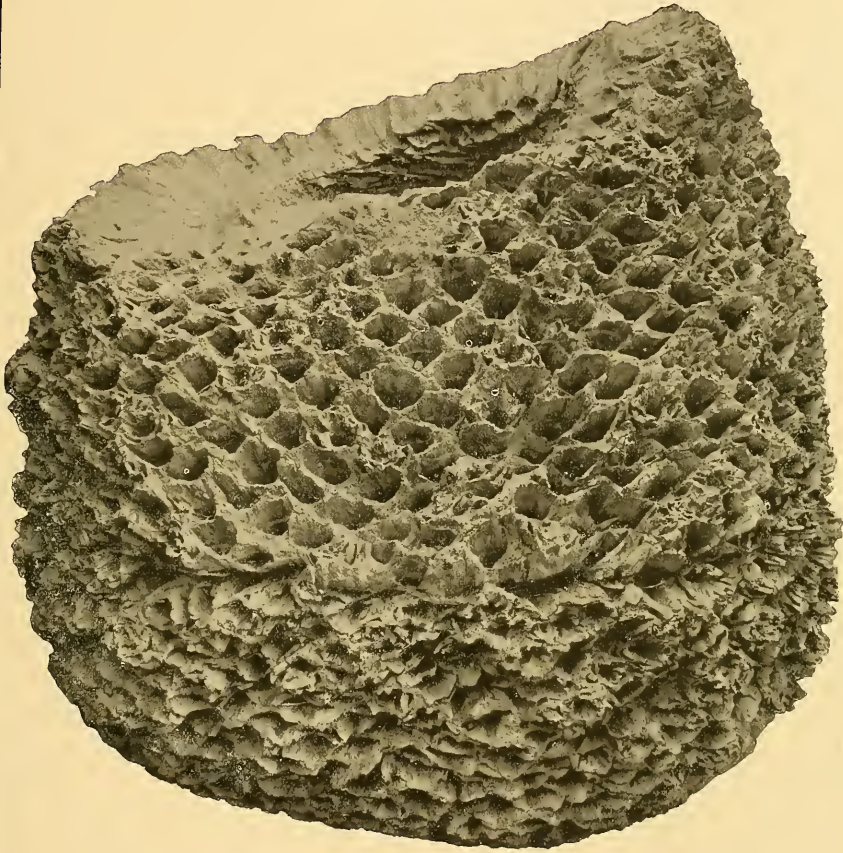
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CYCADEOIDEA GOUCHERIANA.



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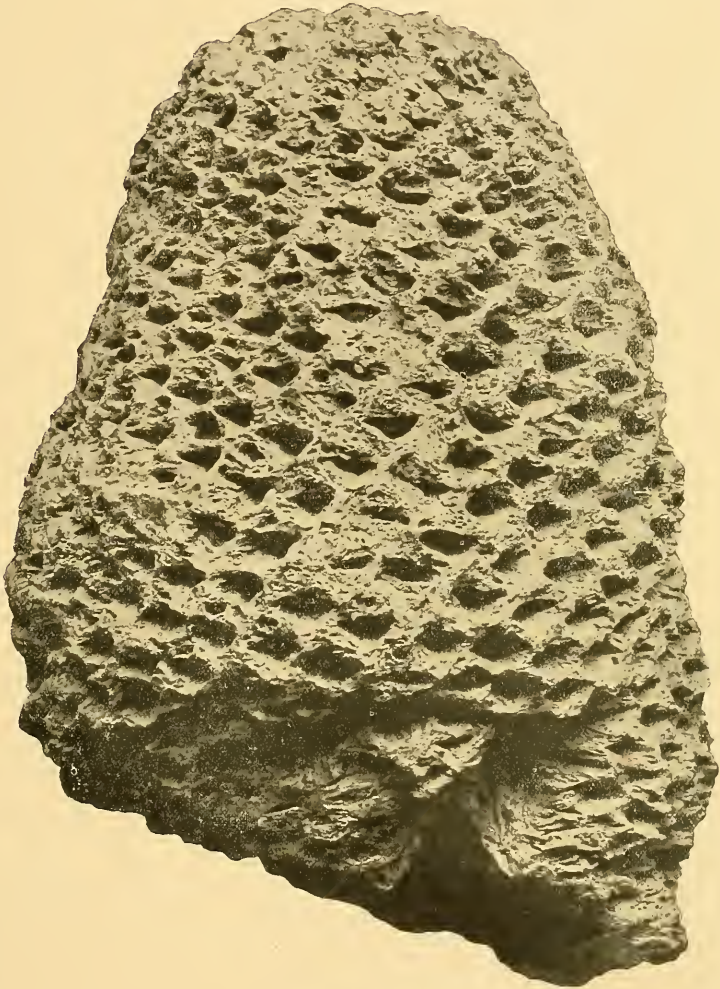
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CYCADEOIDEA UHLERI.





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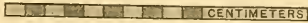
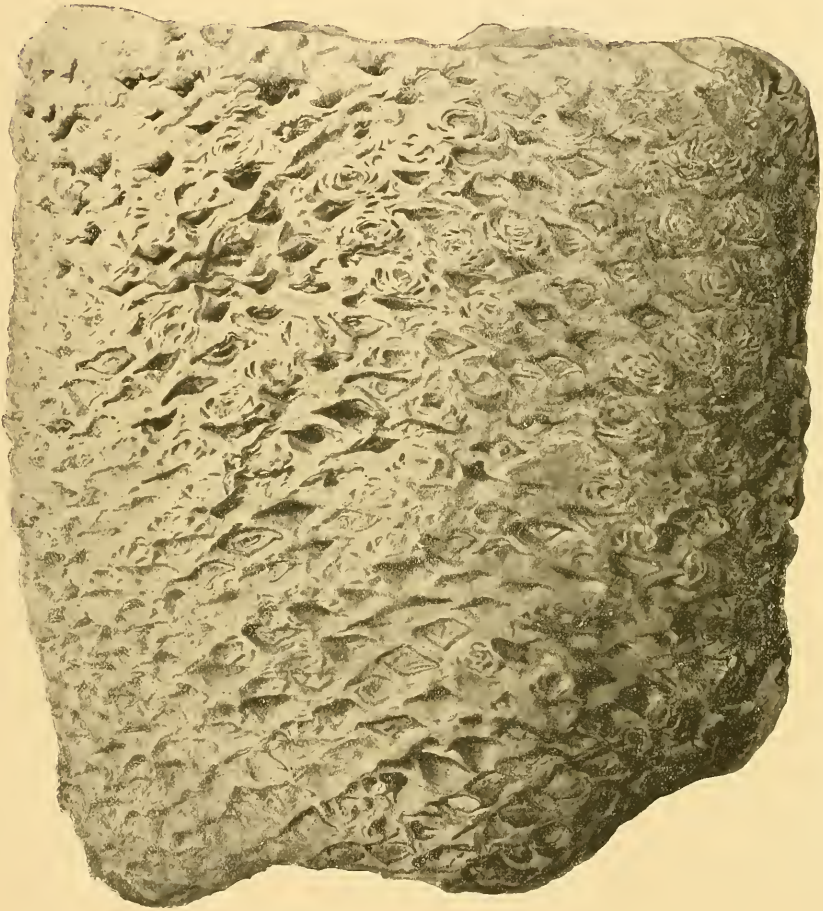
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CYCADEOIDEA BIBBINSI.



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PLATE CII.

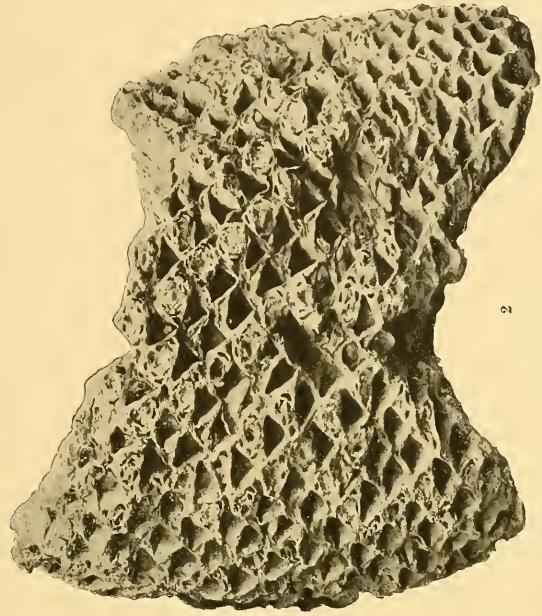
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2



CYCADEOIDEA BIBBINSI.





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PLATE CIII.

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PLATE CIII.

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CYCADEOIDEA BIBBINSI.



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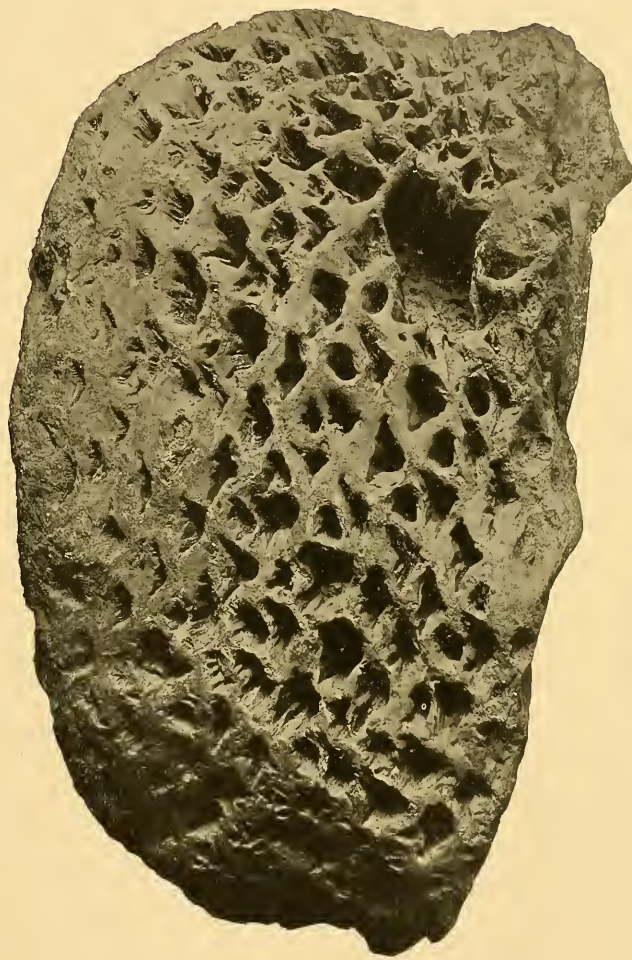
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CYCADEOIDEA BIBBINSI.





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PLATE CV.

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PLATE CV.

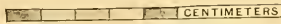
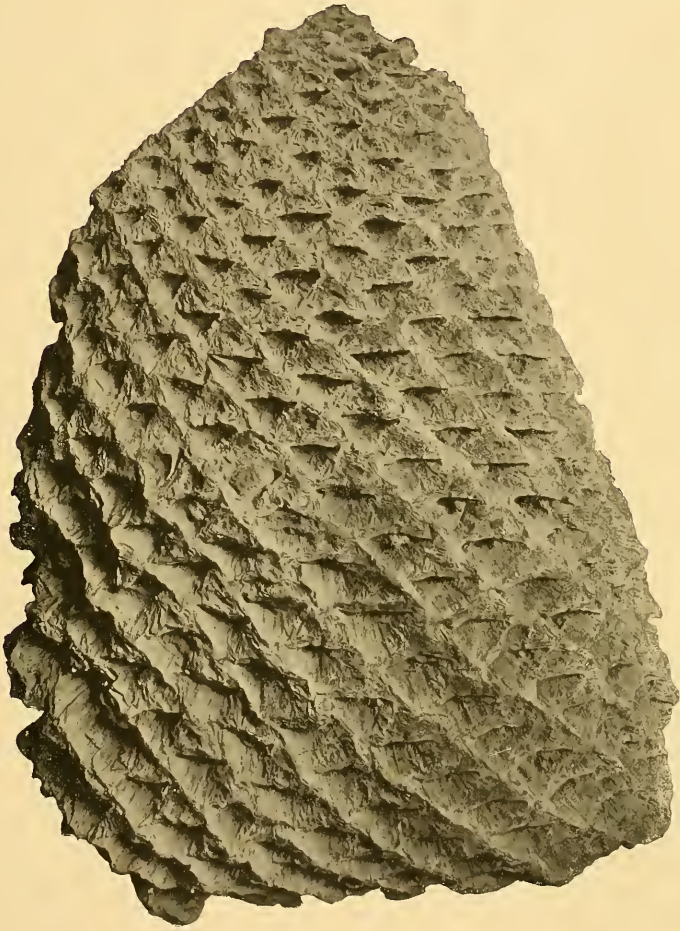
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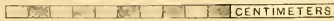
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CYCADEOIDEA CLARKIANA.





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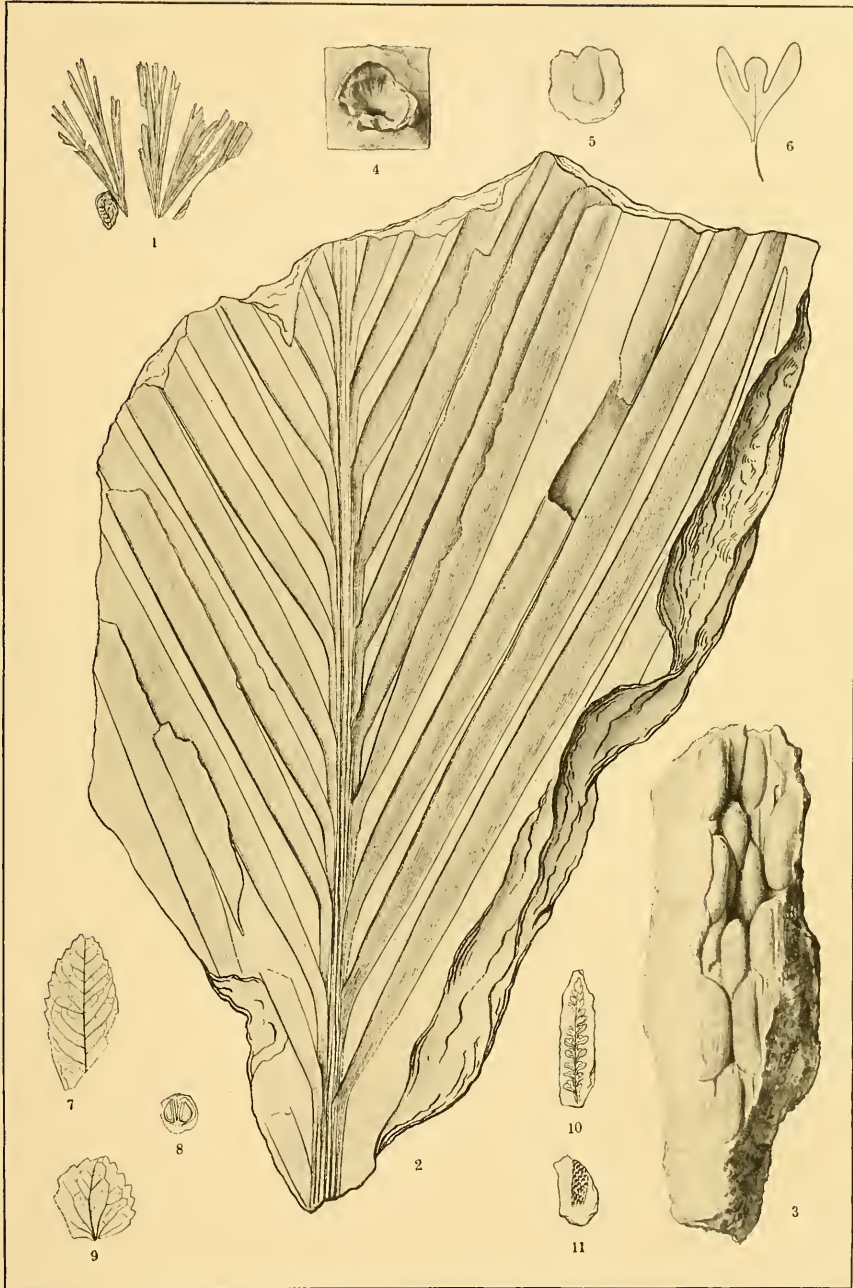
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Fossil Plants from the Potomac Formation of Virginia.



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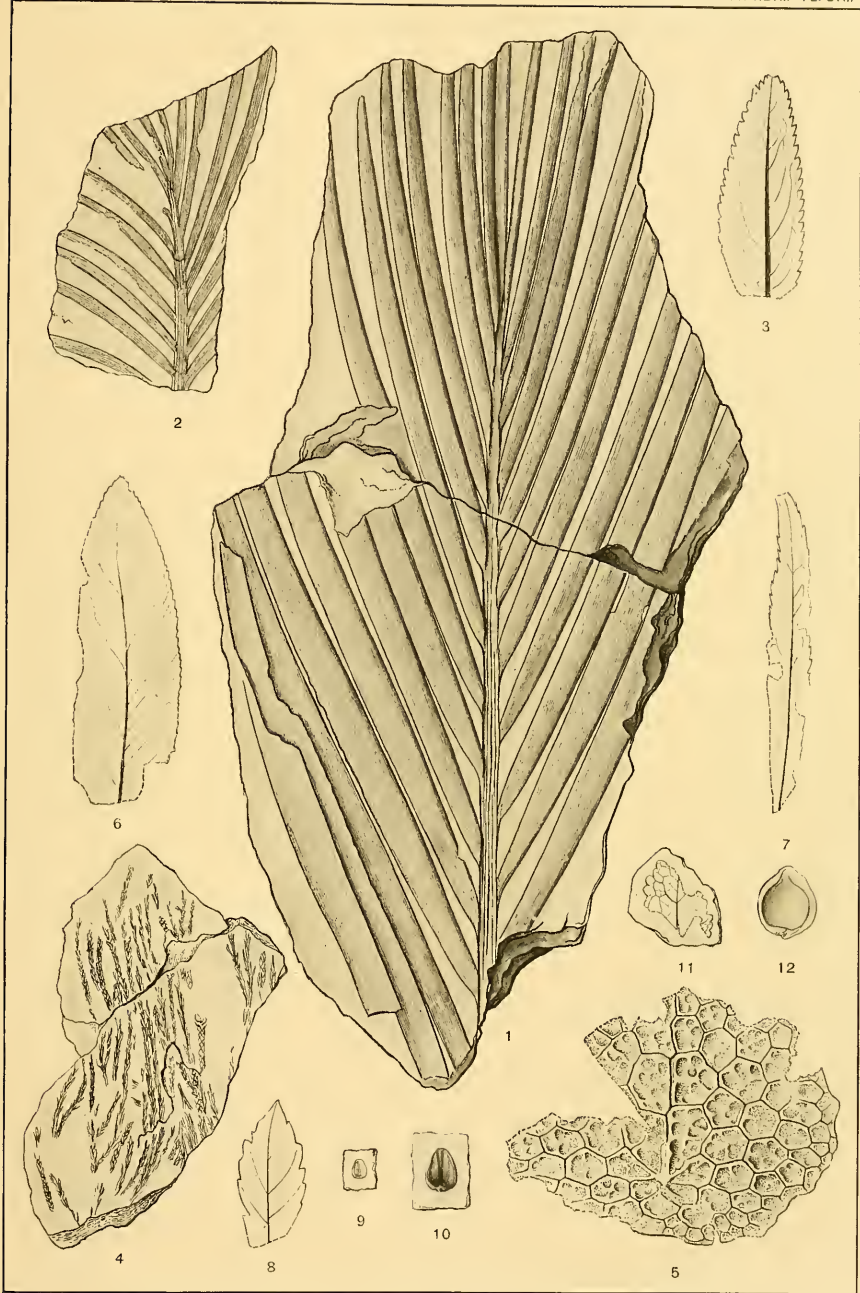
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## PLATE CVIII.

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FOSSIL PLANTS FROM THE POTOMAC FORMATION OF VIRGINIA.





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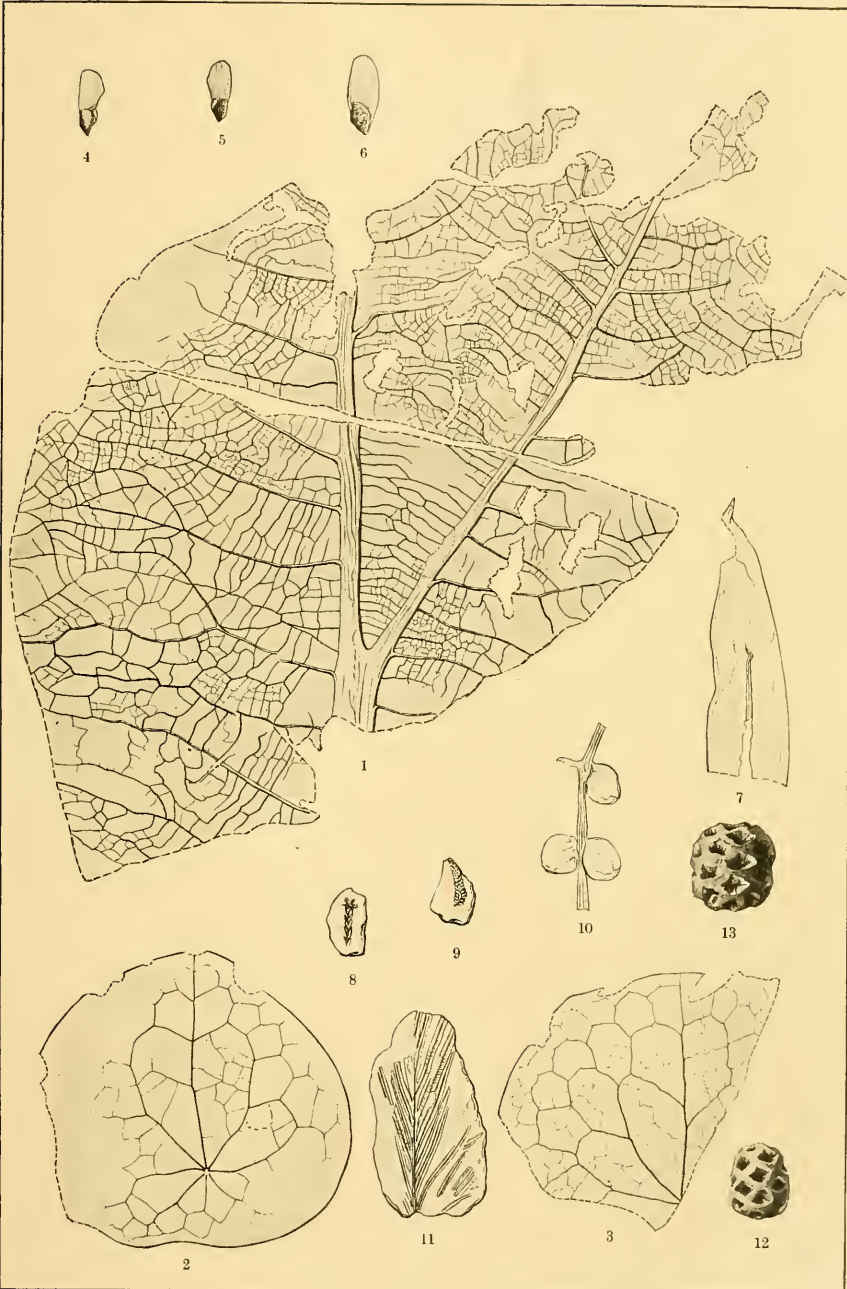
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FOSSIL PLANTS FROM THE POTOMAC FORMATION OF VIRGINIA, MARYLAND, AND DISTRICT OF COLUMBIA.



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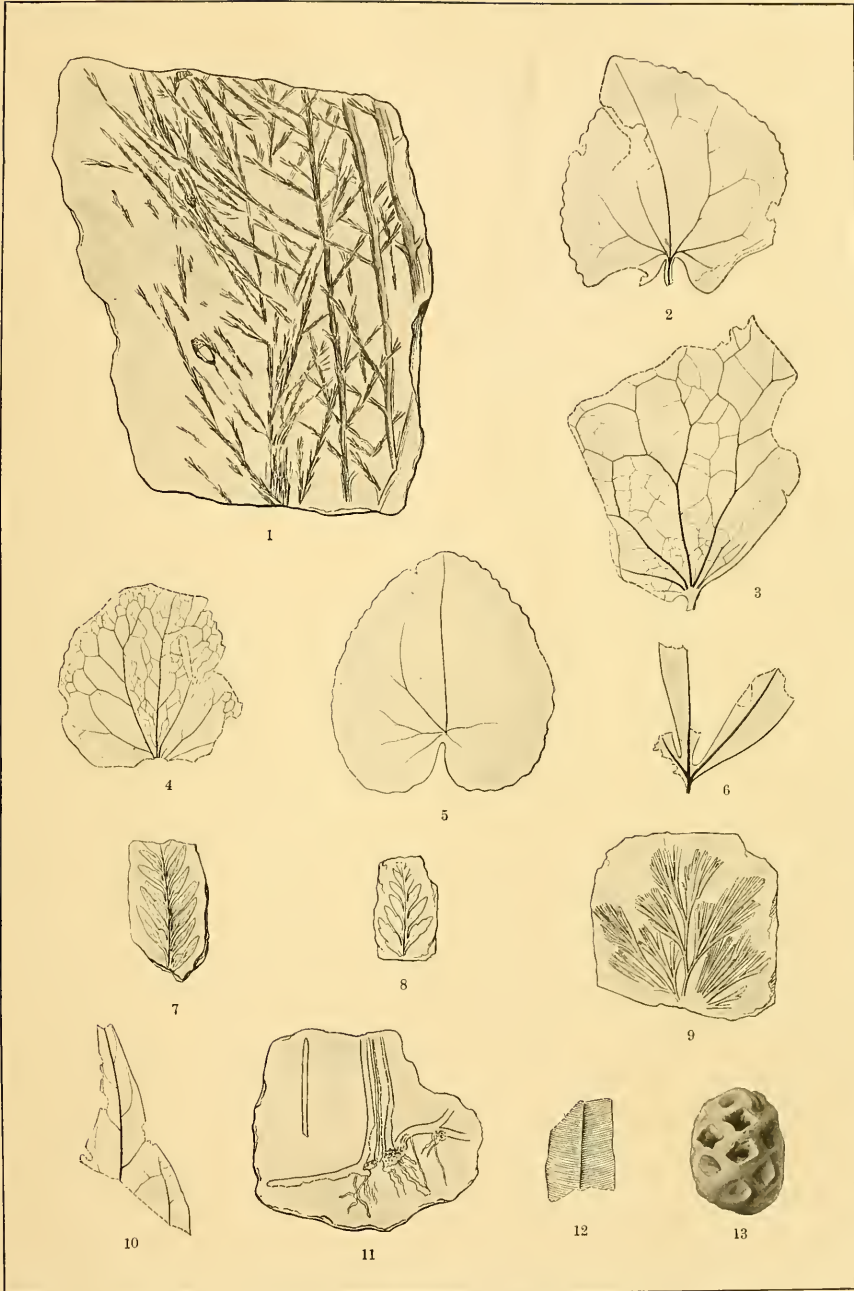
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FOSSIL PLANTS FROM THE POTOMAC FORMATION OF VIRGINIA.





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## PLATE CXI.

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## PLATE CXII.

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FOSSIL PLANTS FROM THE POTOMAC FORMATION OF VIRGINIA, MARYLAND, AND DISTRICT OF COLUMBIA.





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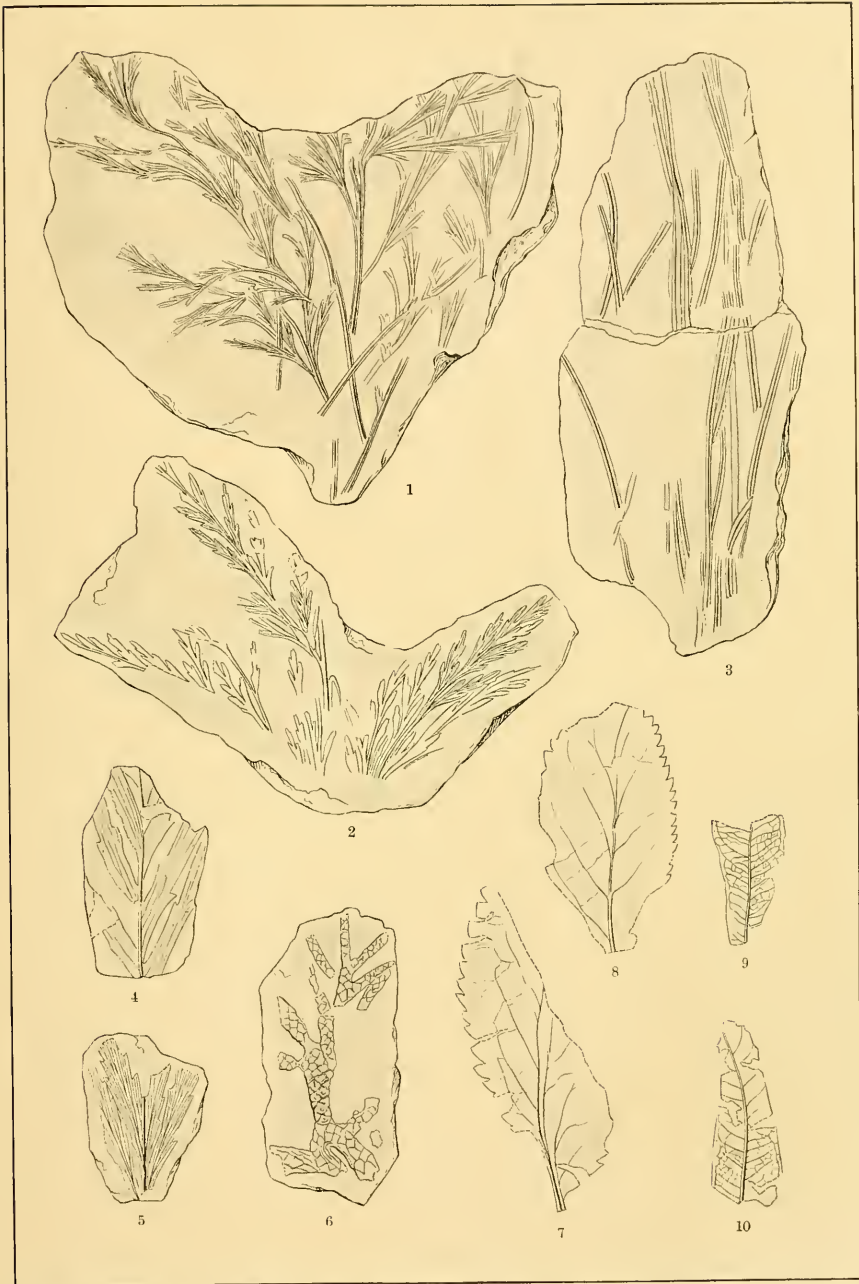
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FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND AND DISTRICT OF COLUMBIA.



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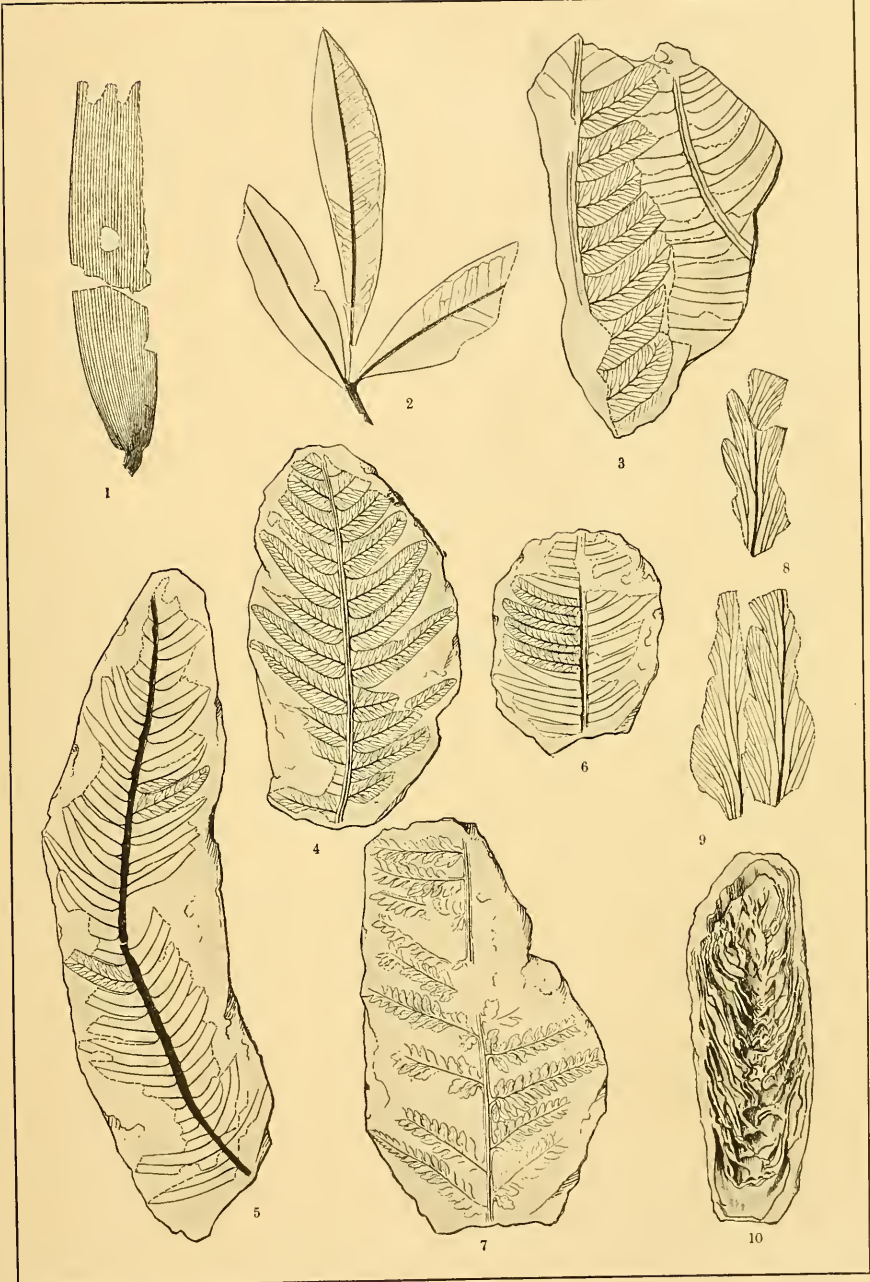
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## PLATE CXIV.

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FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND.





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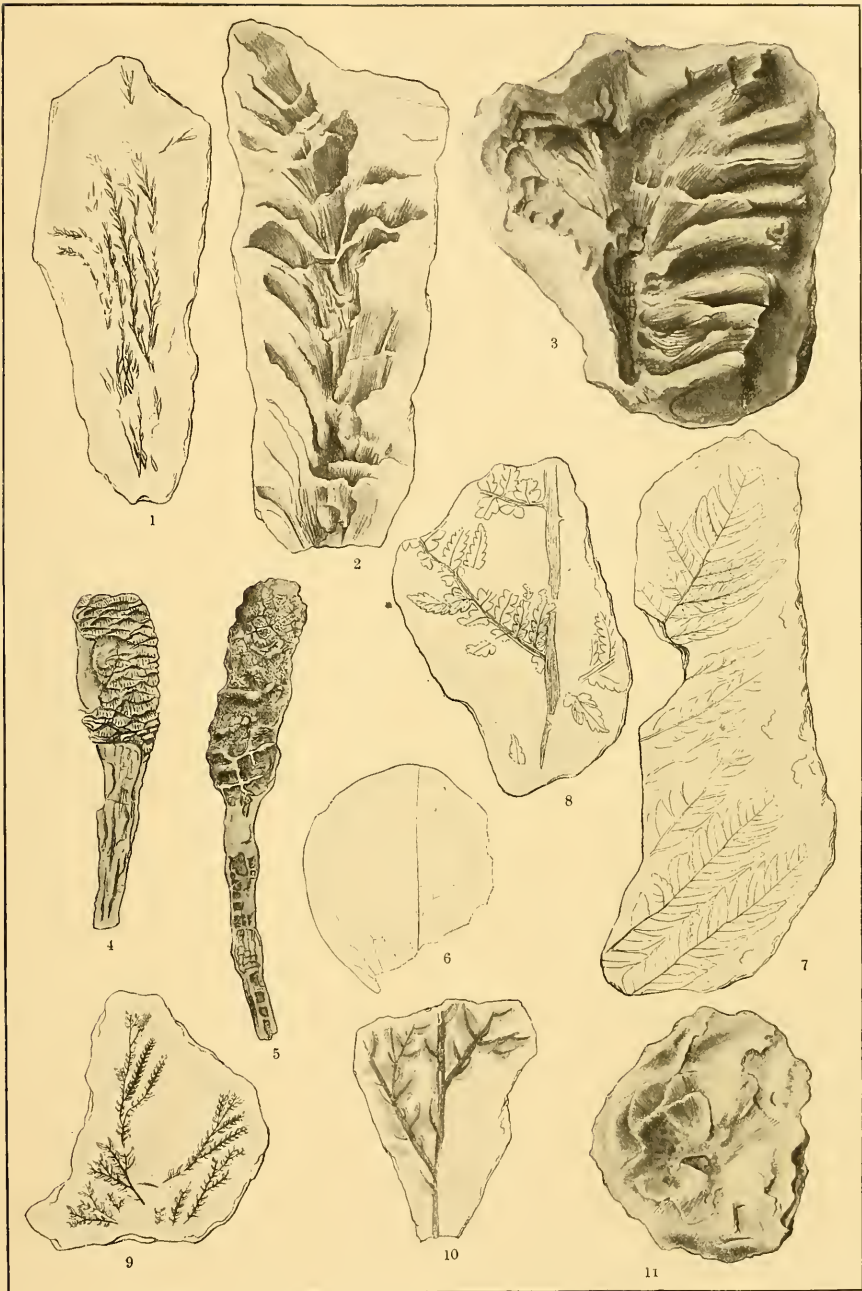
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FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND.





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PLATE CXVII.

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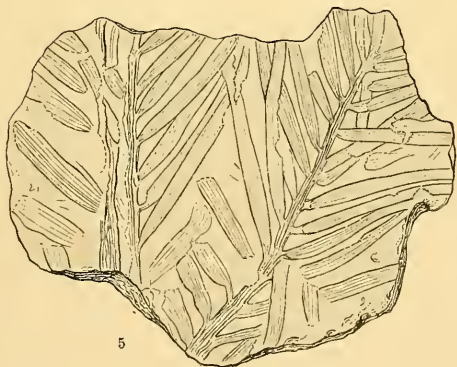
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FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND.



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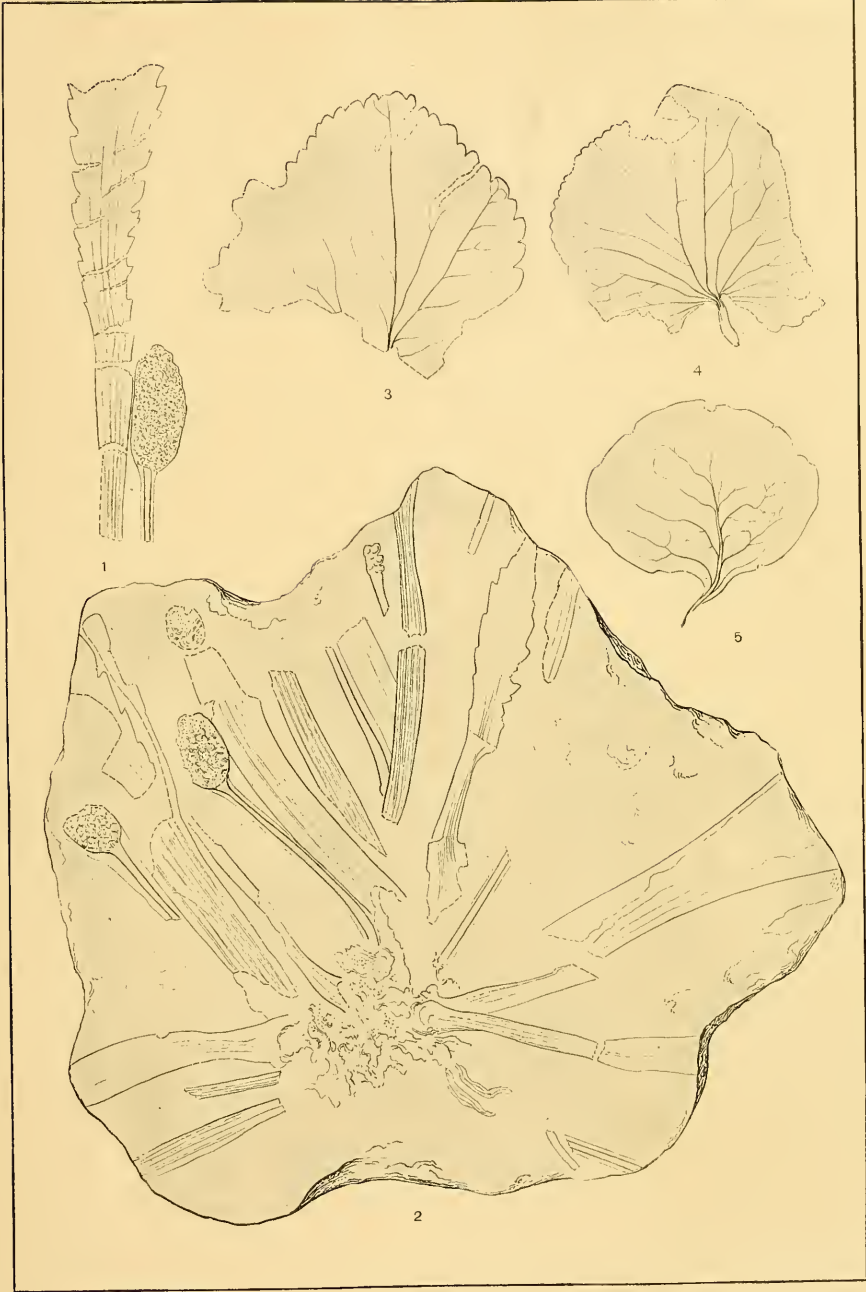
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PLATE CXVIII.

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FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND.





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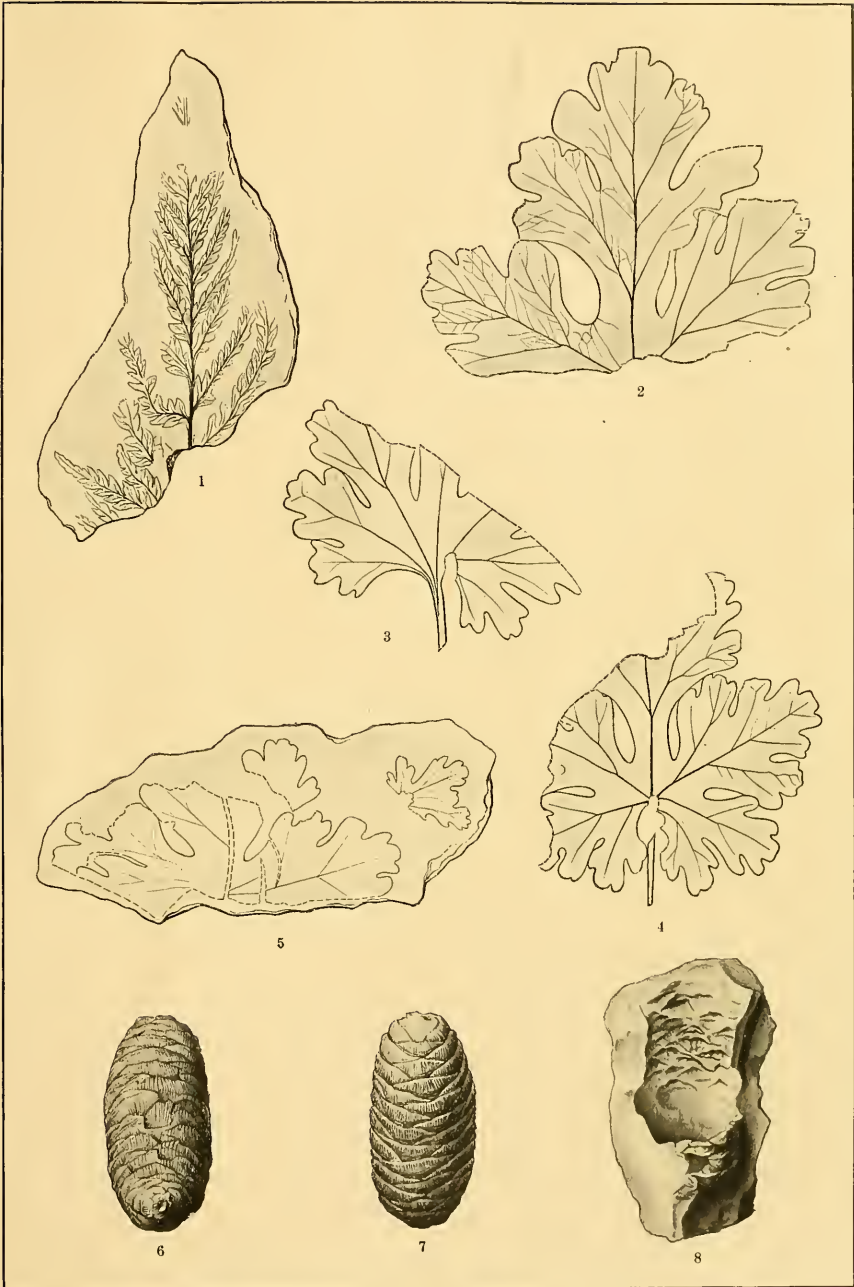
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PLATE CXIX.

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Fossil Plants from the Potomac Formation of Maryland.

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