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Part II.—PLATES.

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1905

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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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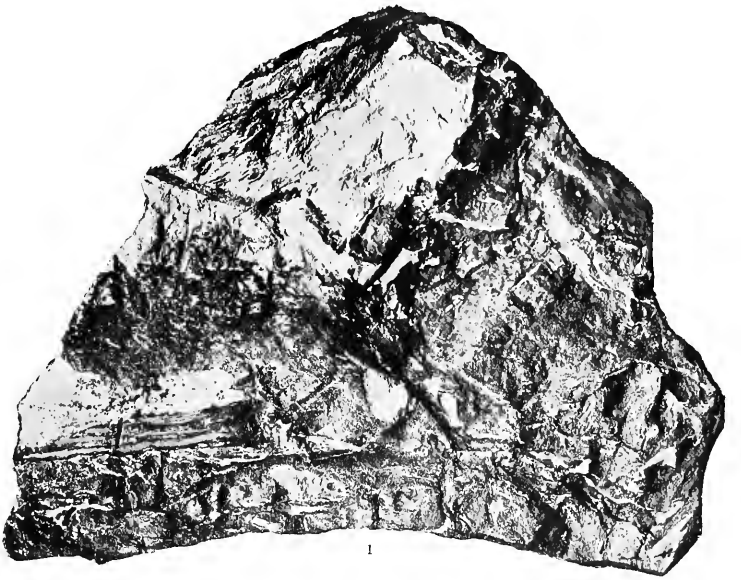

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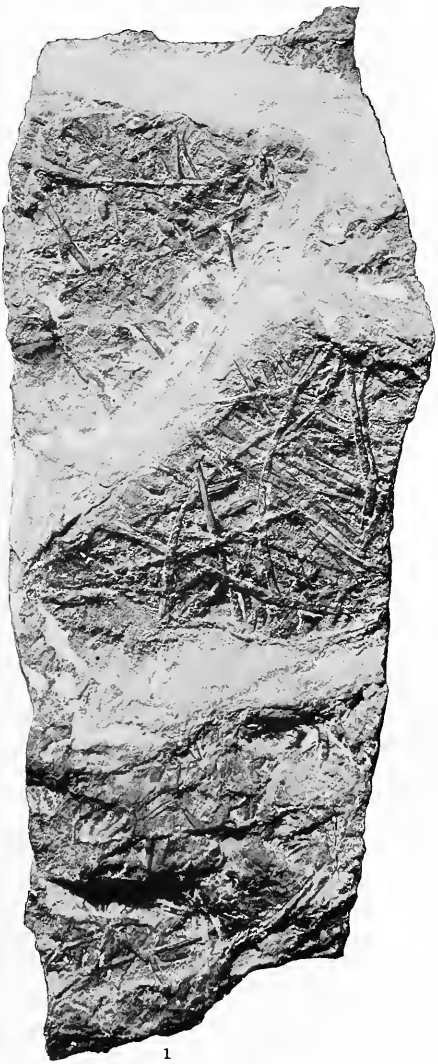

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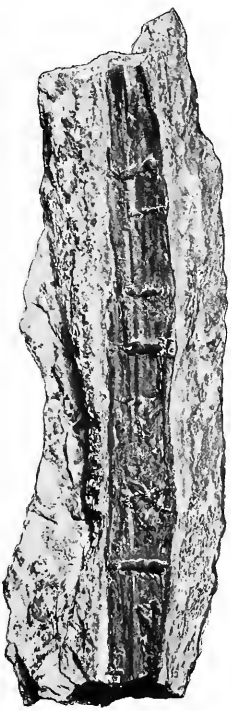

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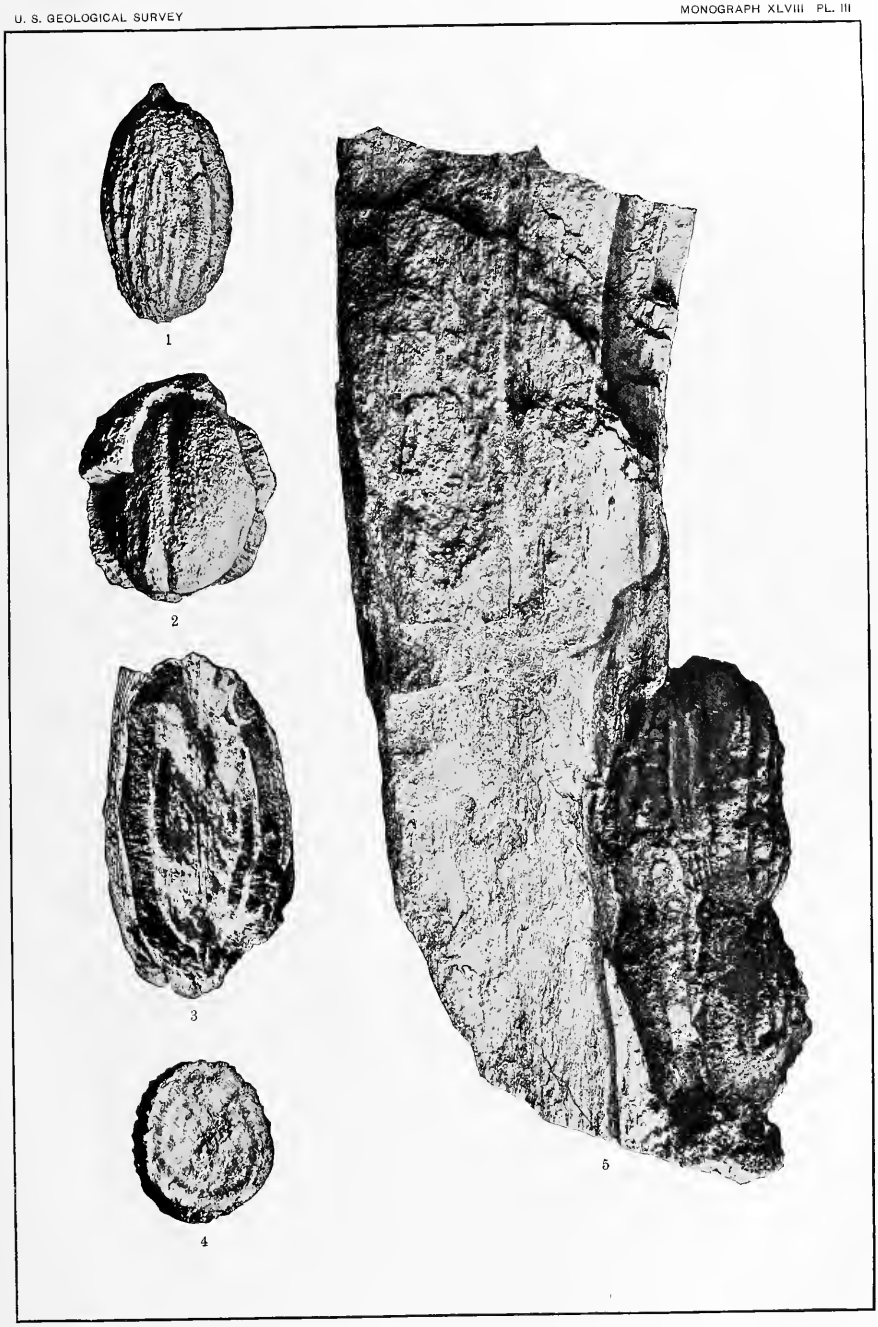

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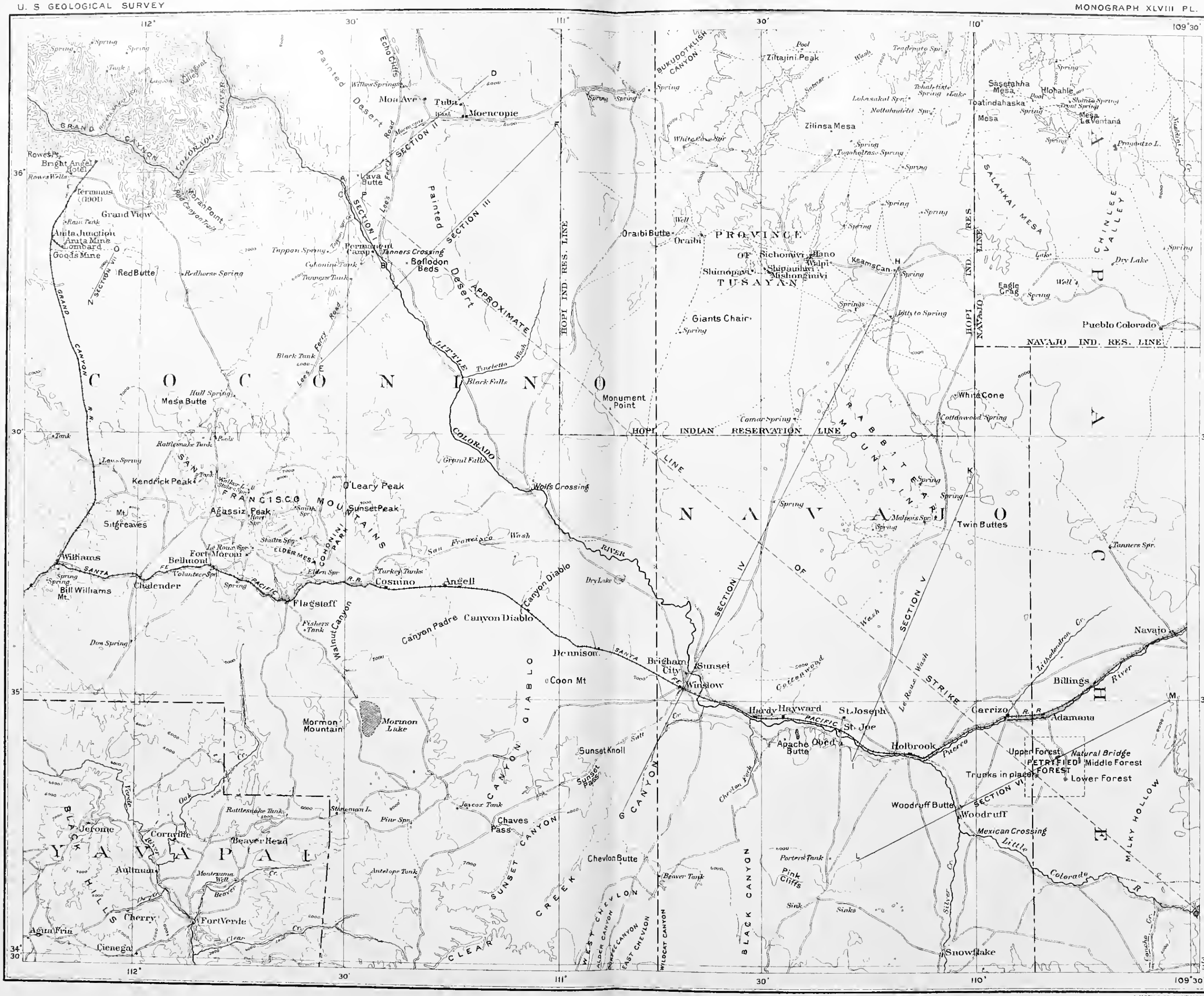

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Scale 0 10 20 30 40 50 60 miles

Contour interval 1000 feet

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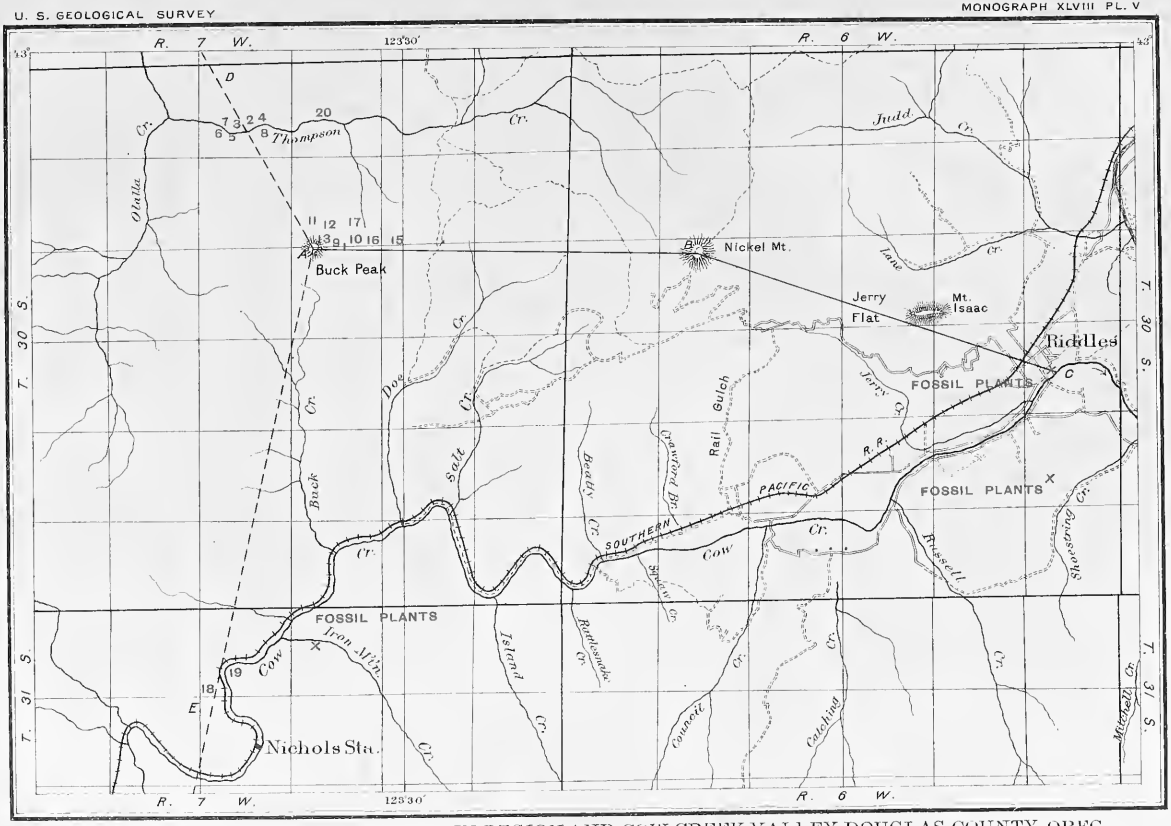

SKETCH MAP OF THE BUCK MOUNTAIN REGION AND COW CREEK VALLEY, DOUGLAS COUNTY, OREG. showing fossil-plant localities, approximate strike of the Jurassic (*DA-AE*), and sections *AB* and *BC*

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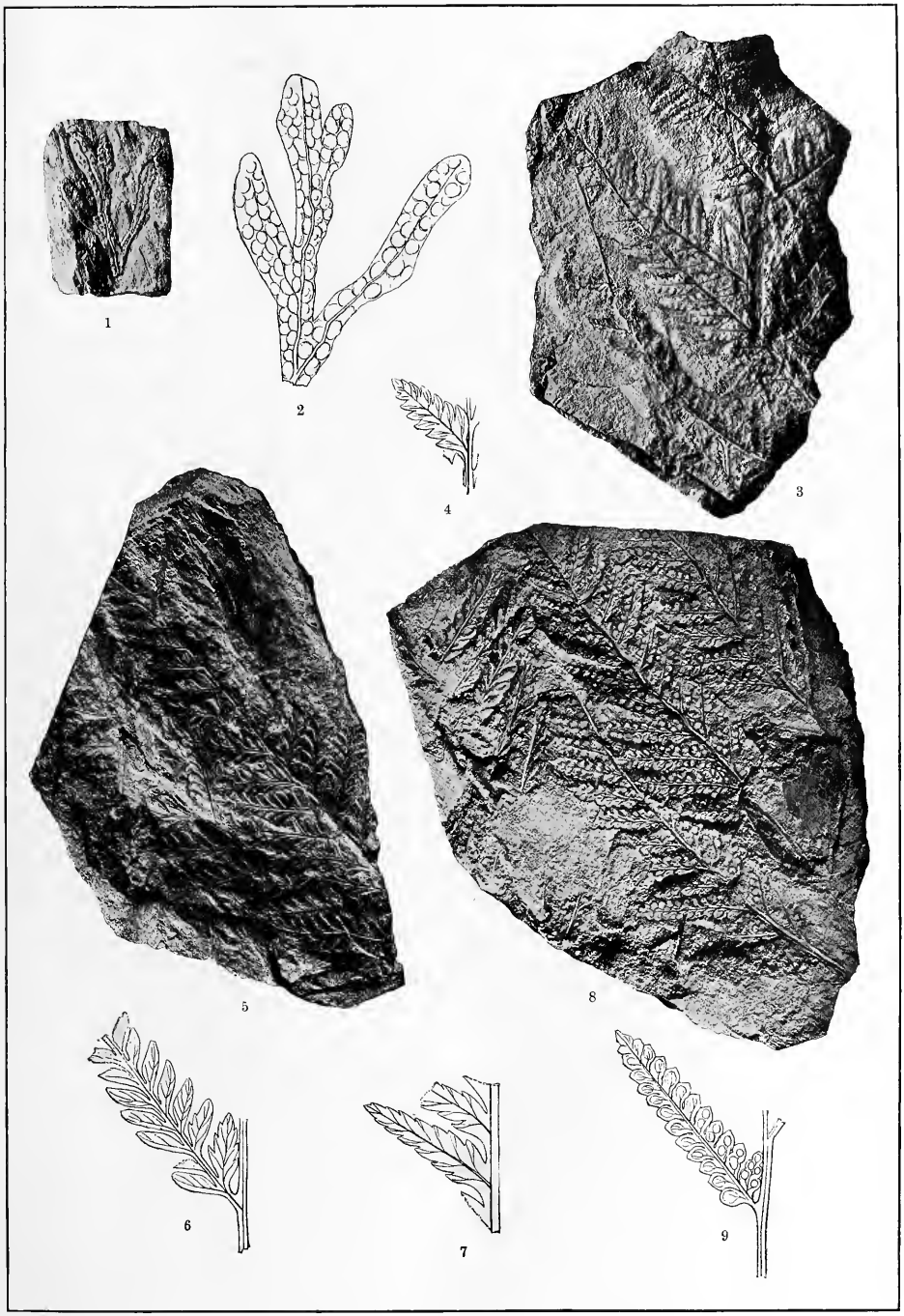

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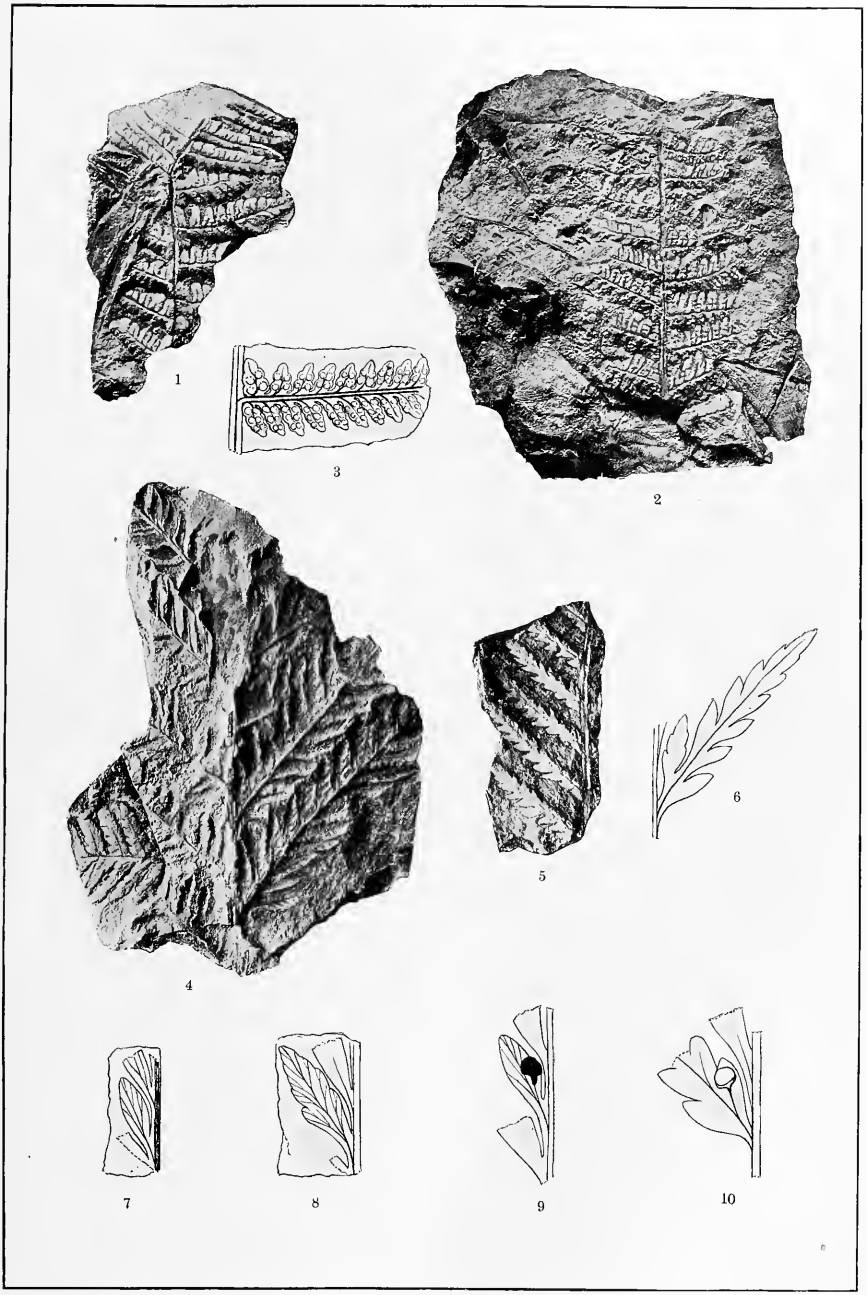

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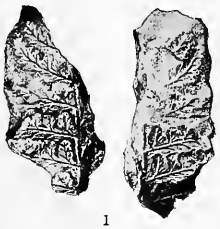

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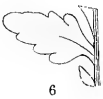

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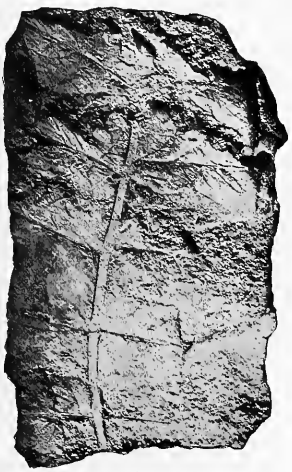

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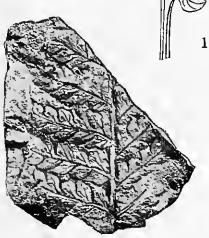

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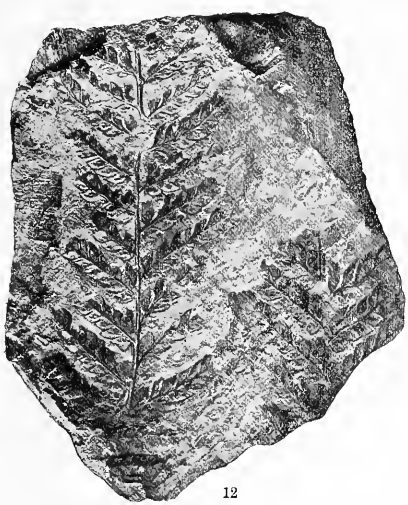

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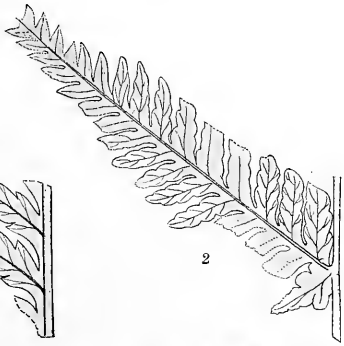
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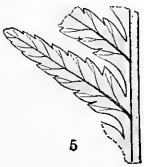
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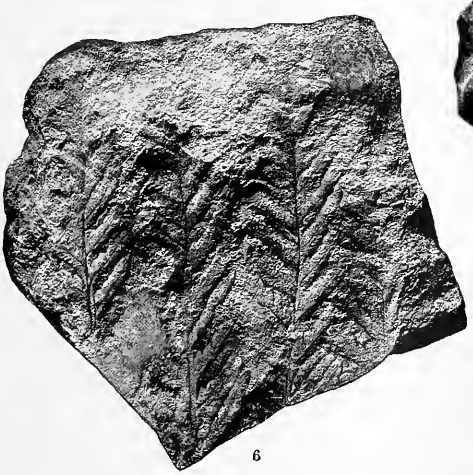
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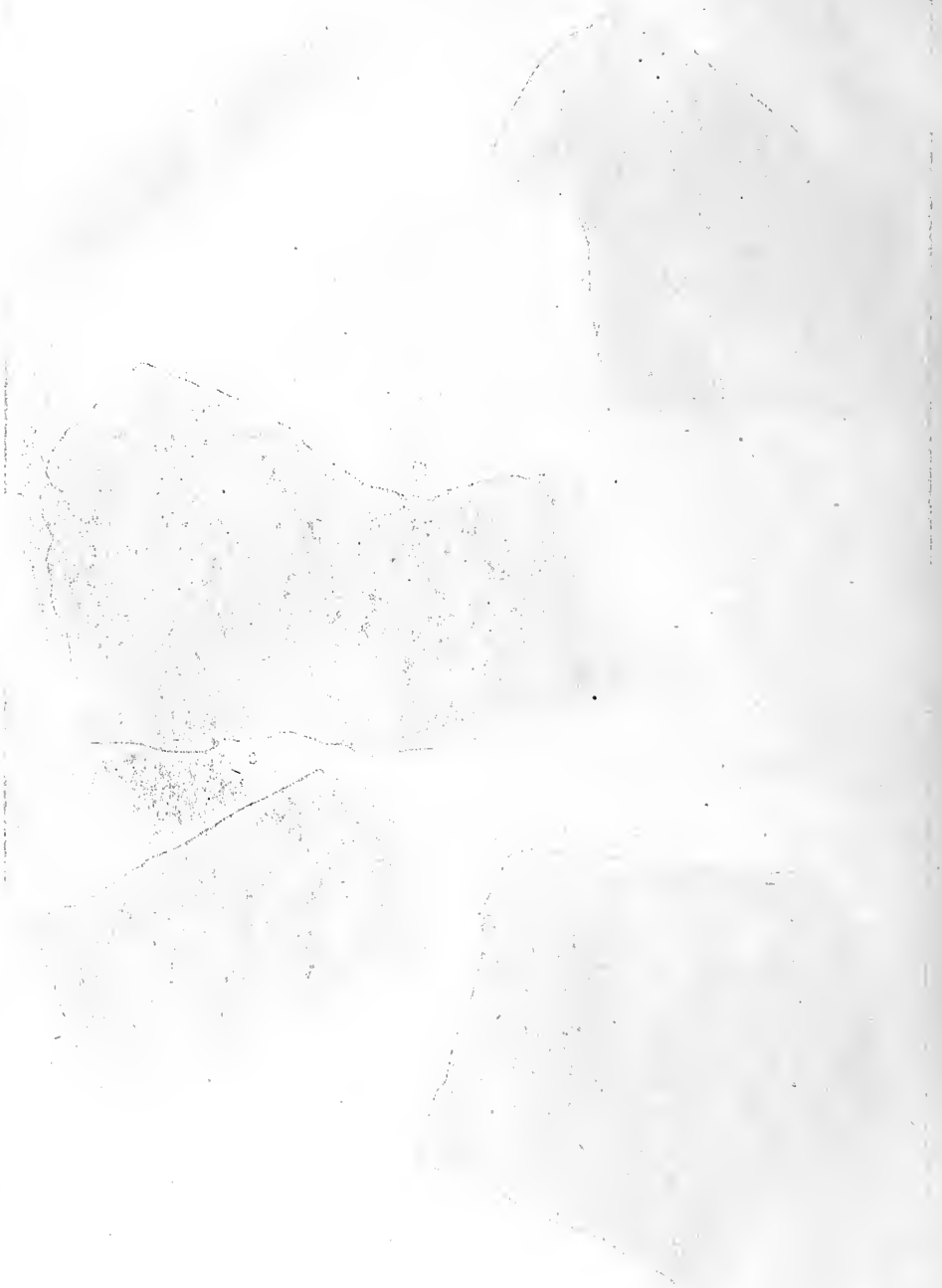

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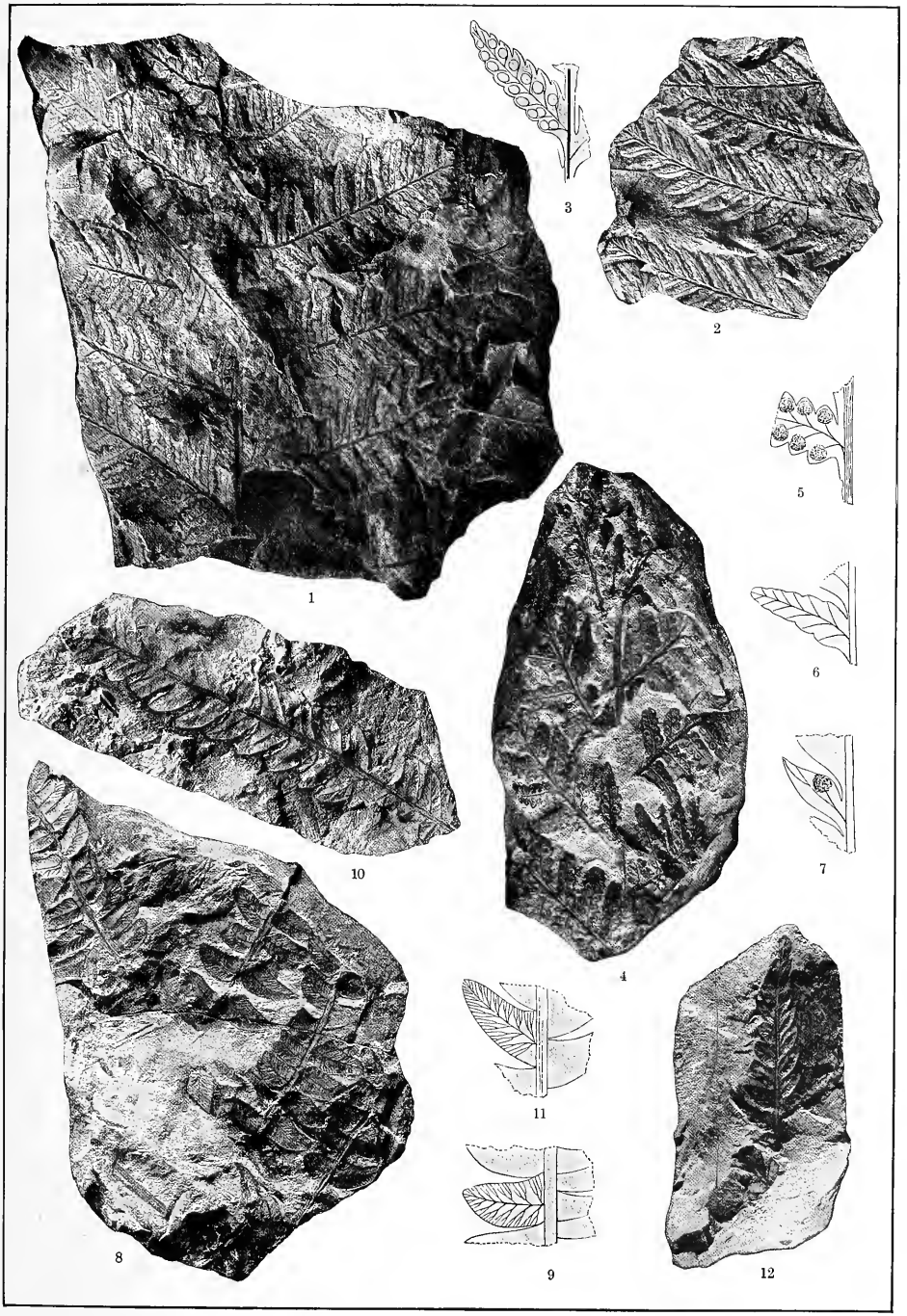

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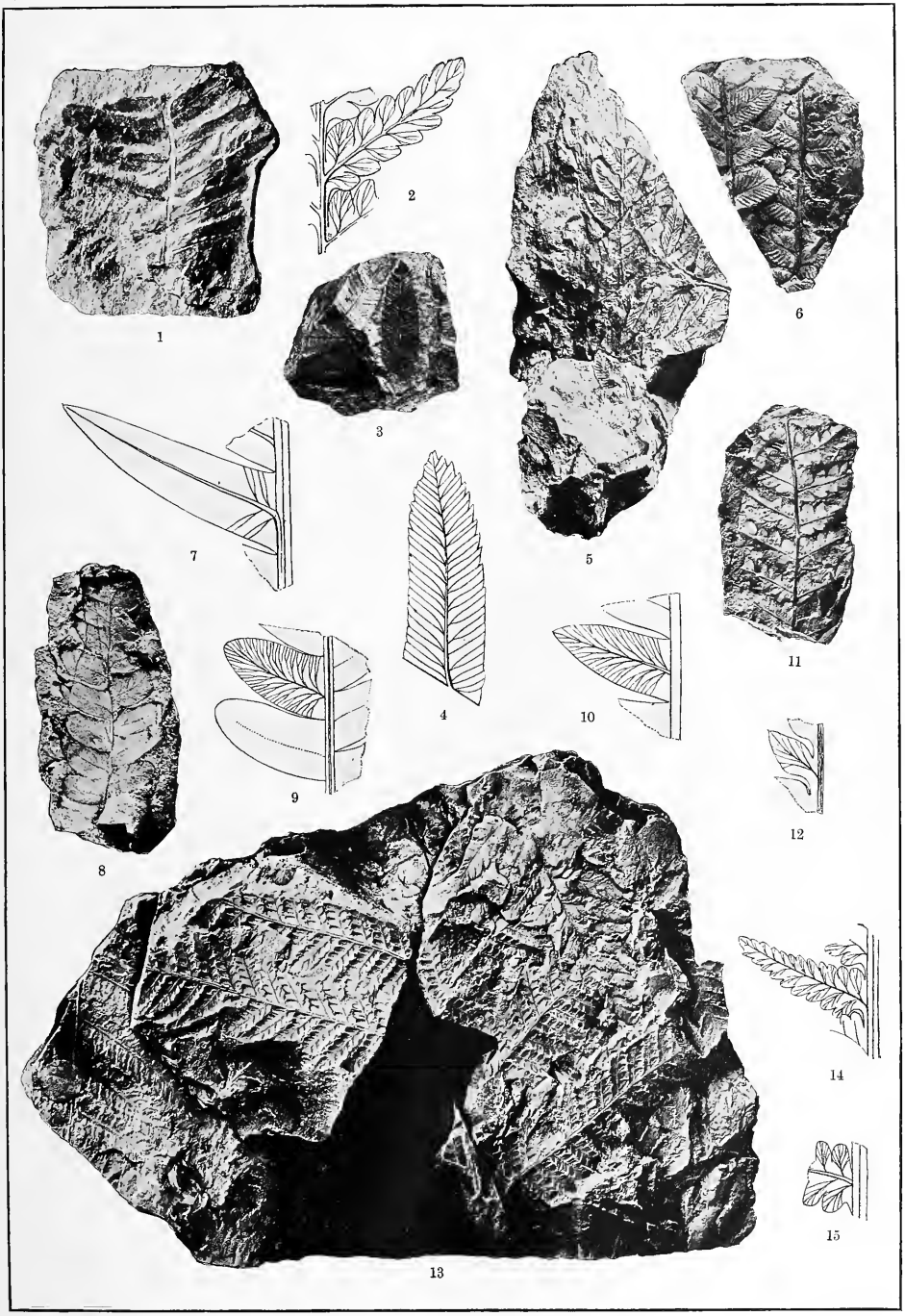

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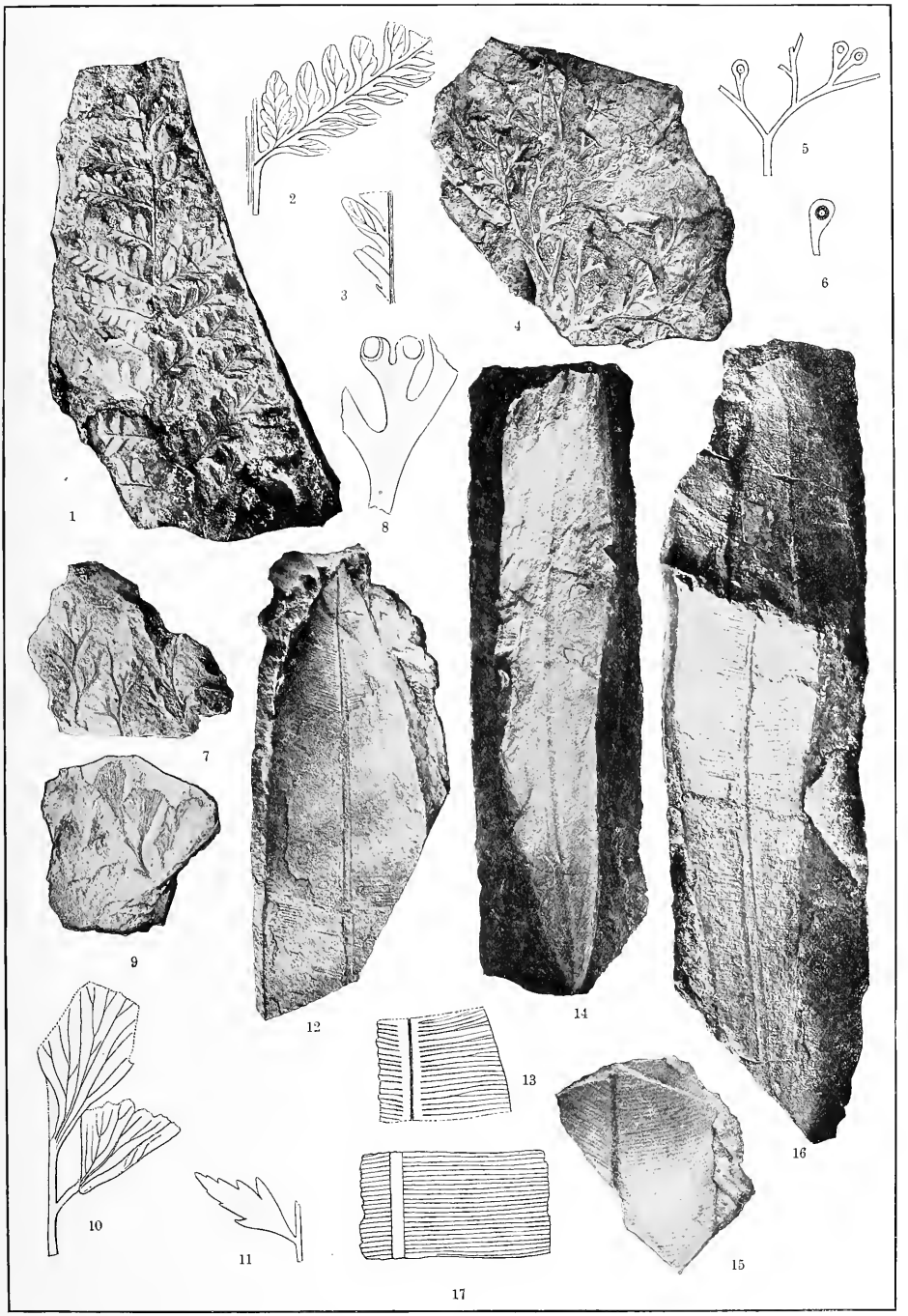

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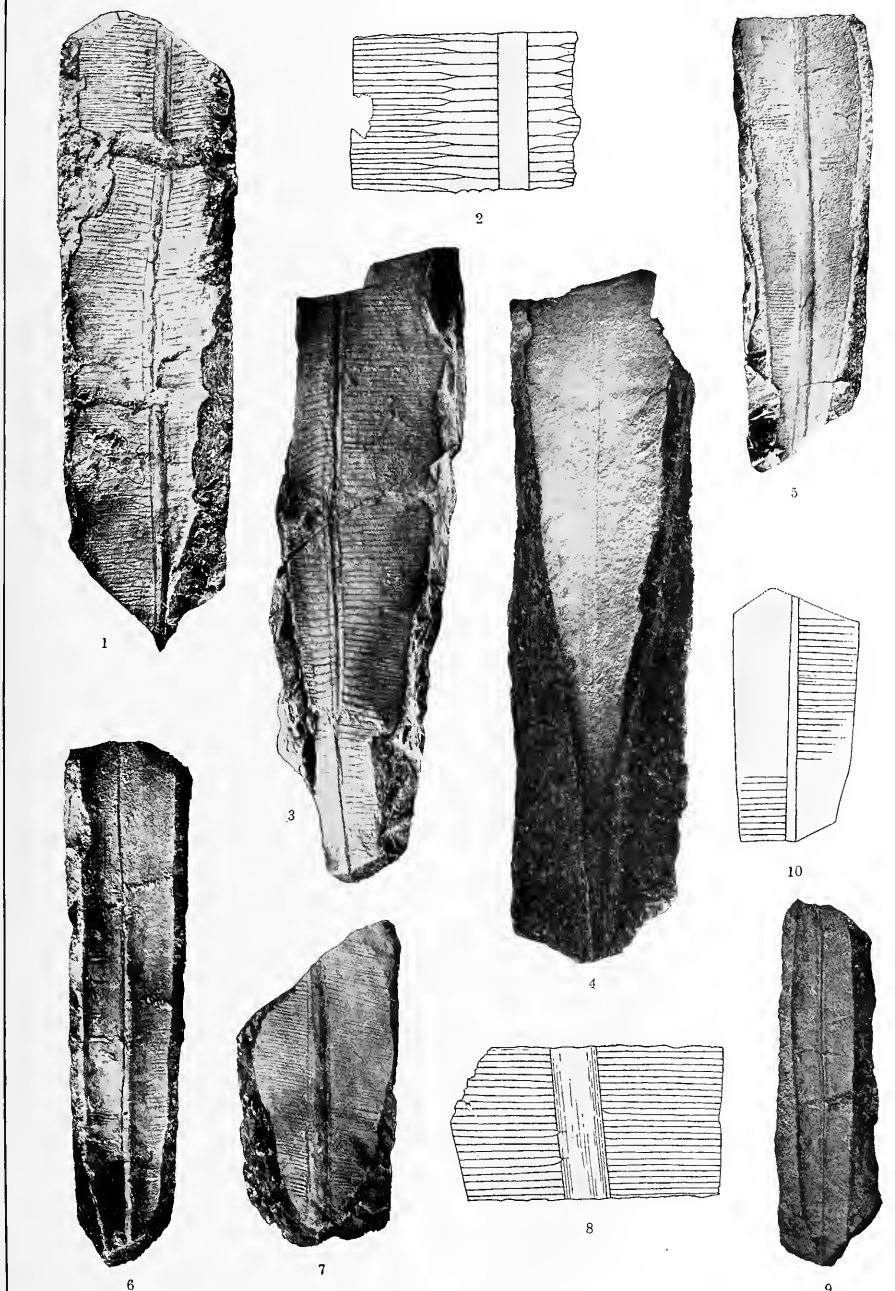

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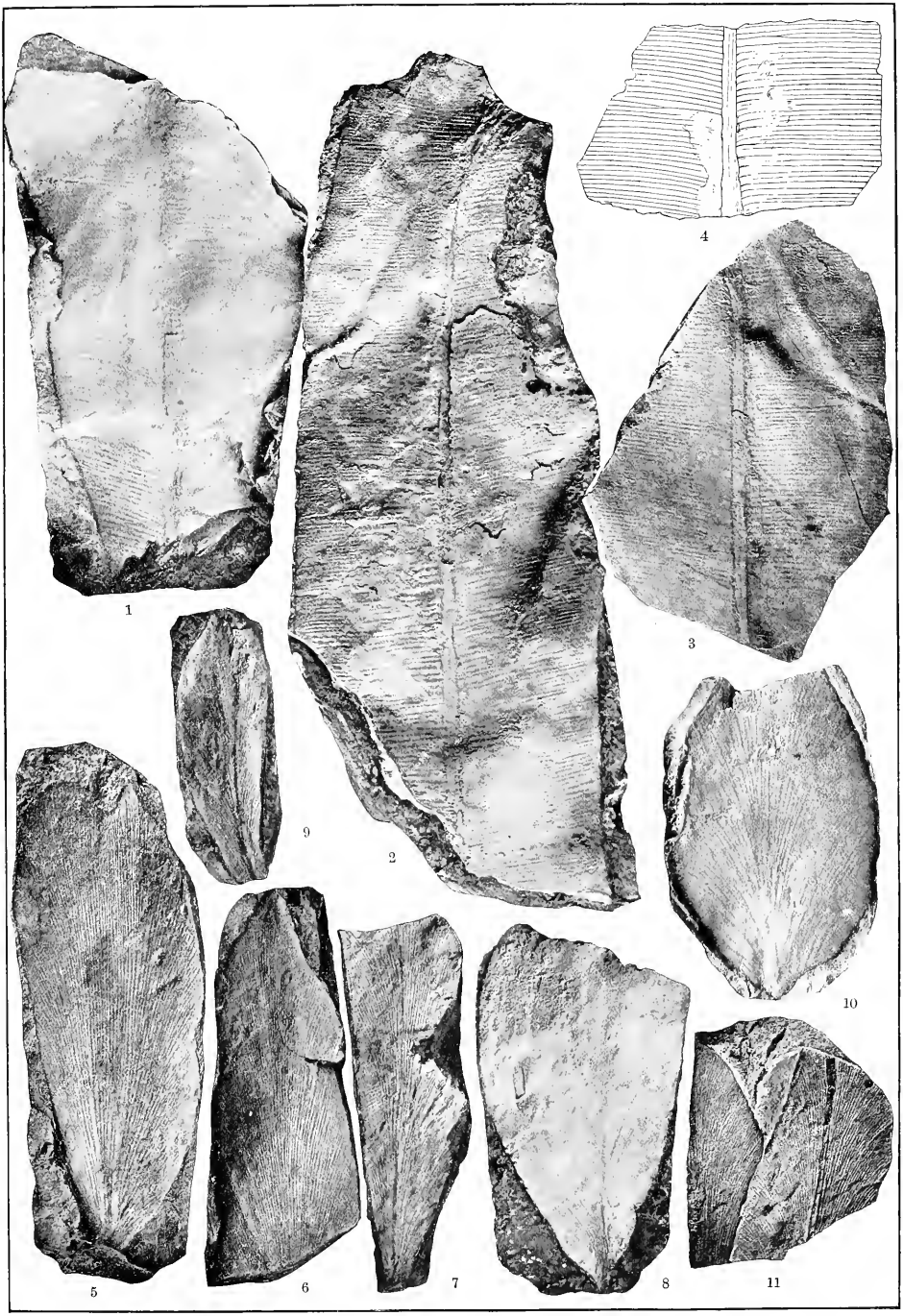

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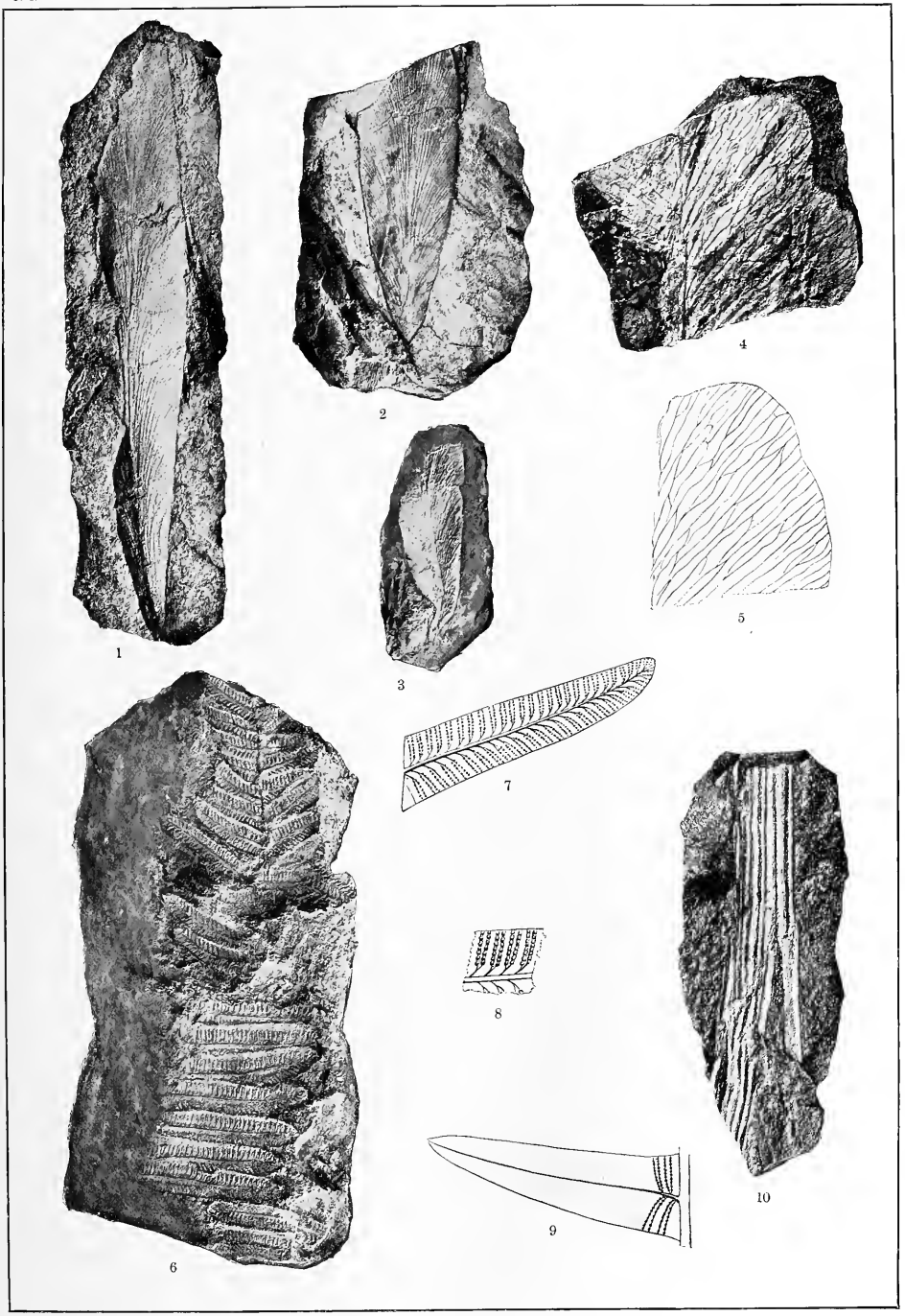

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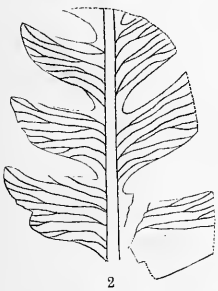
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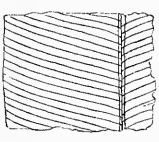
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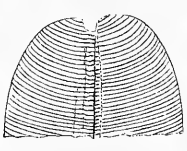
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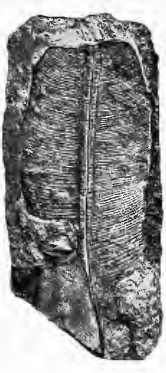
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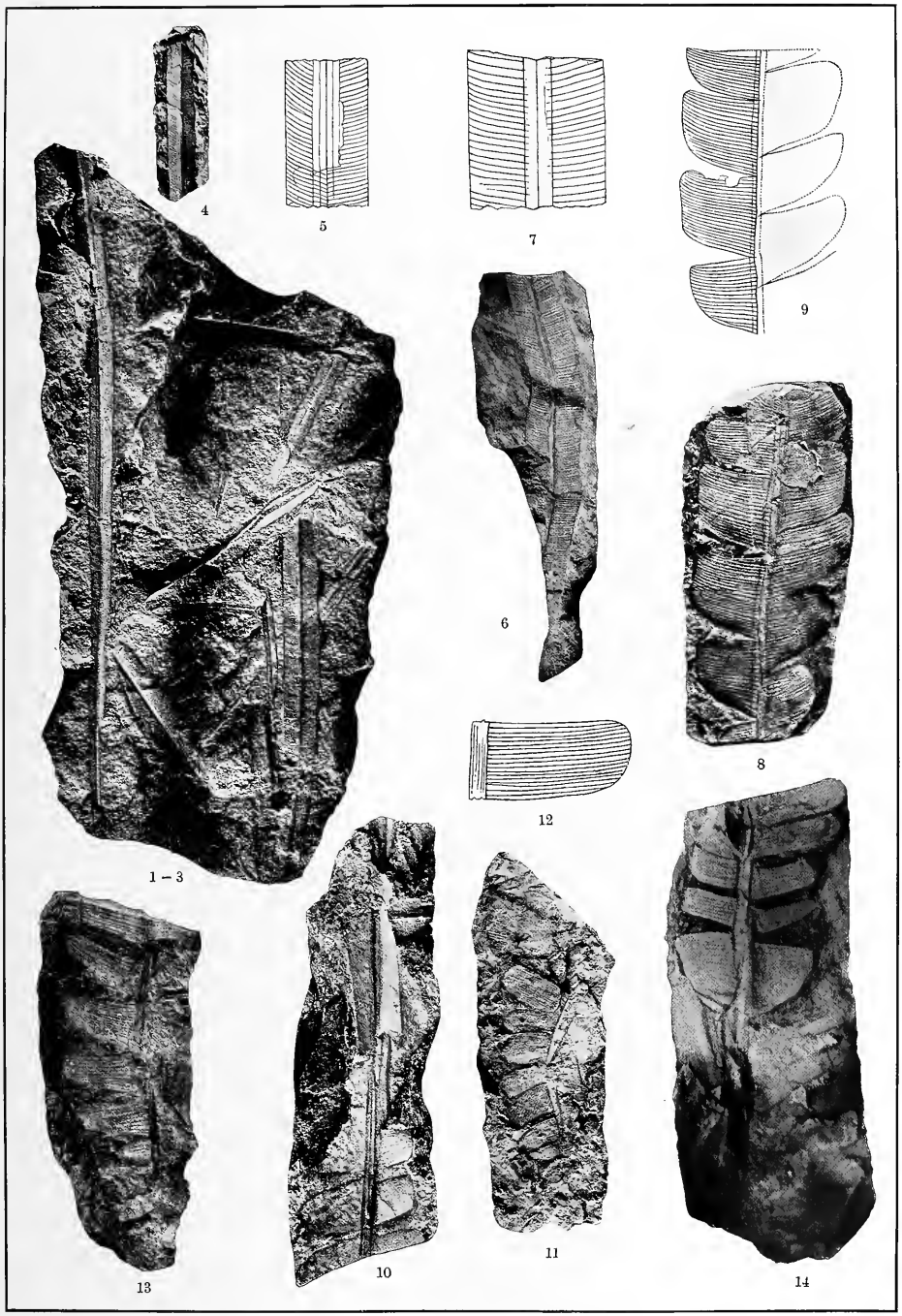

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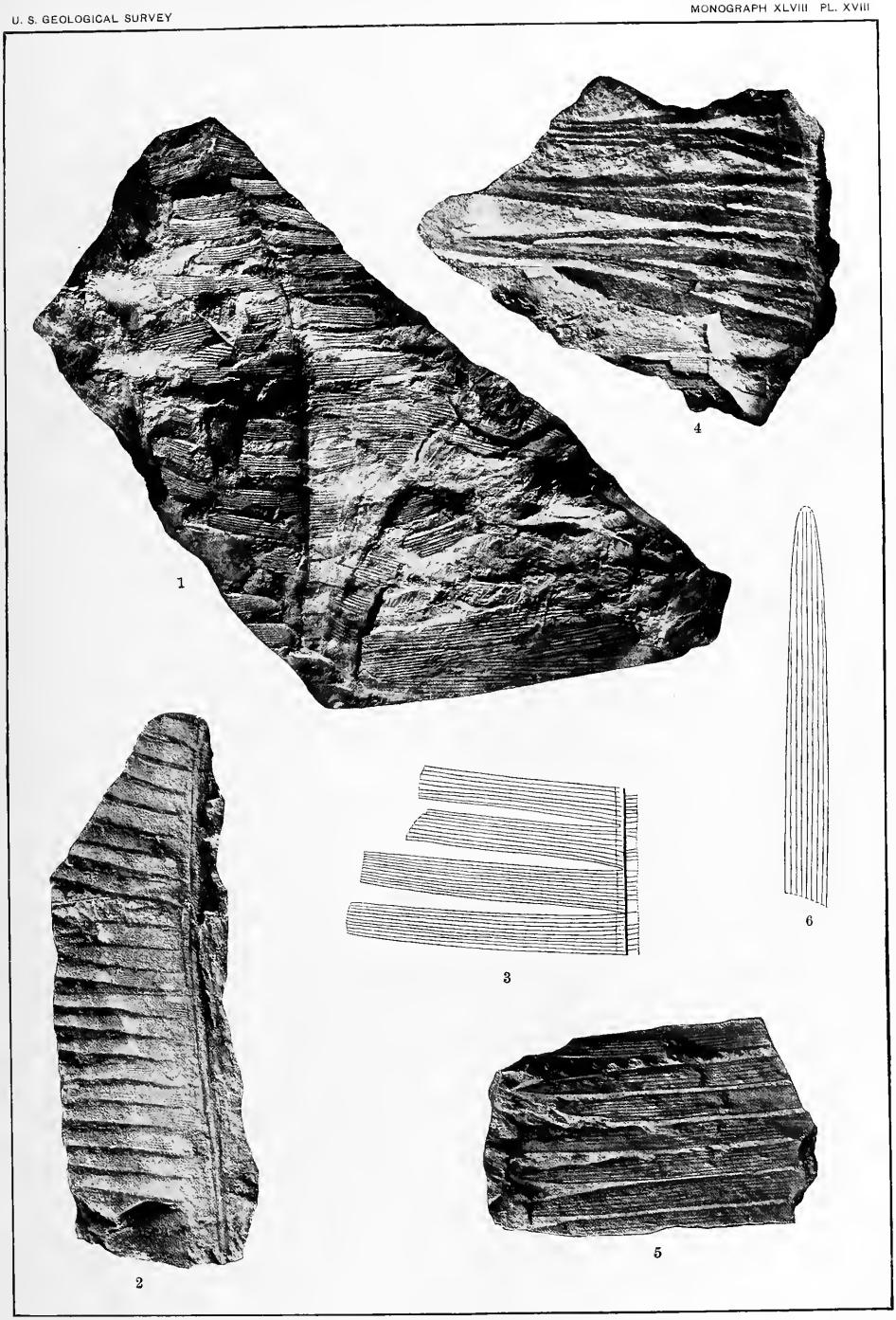

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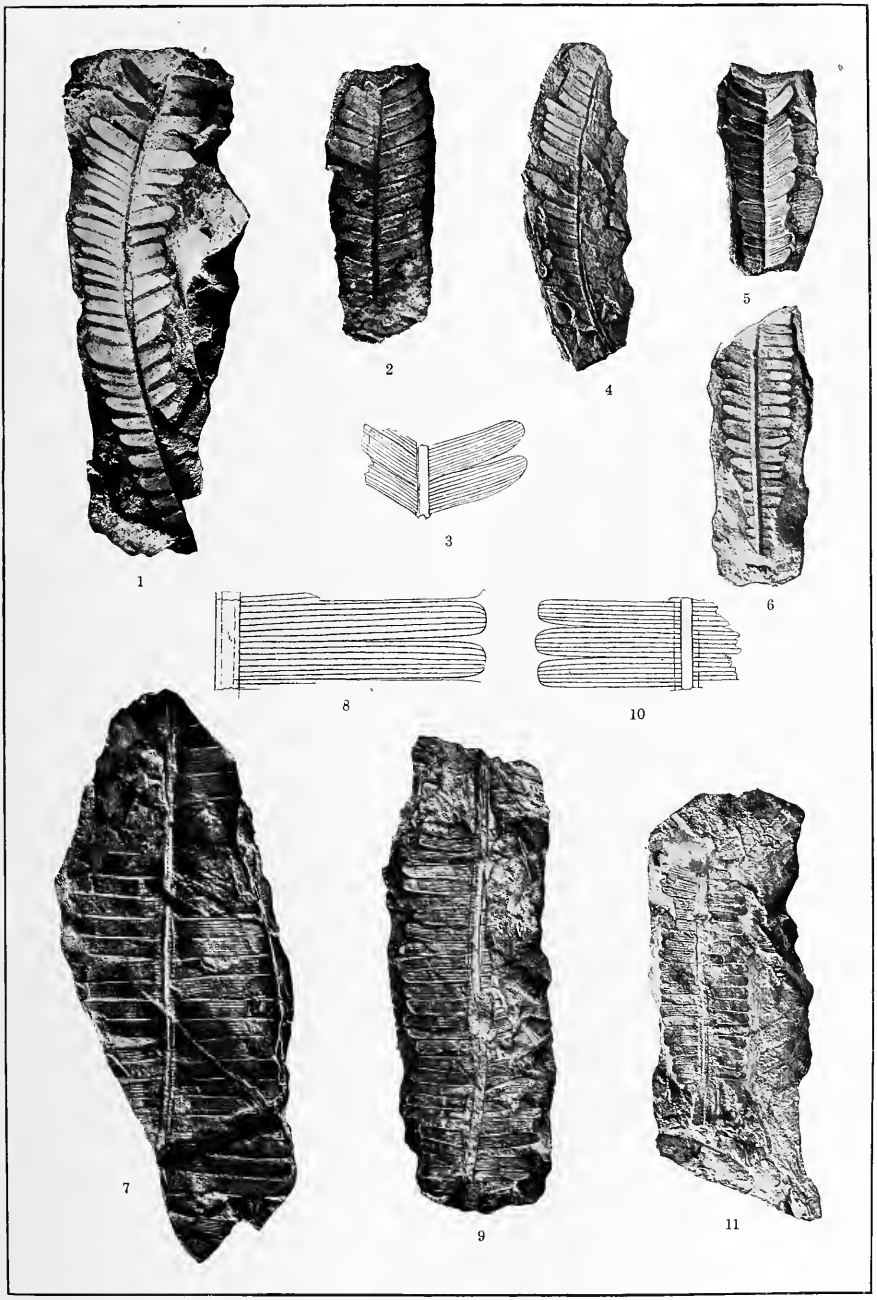

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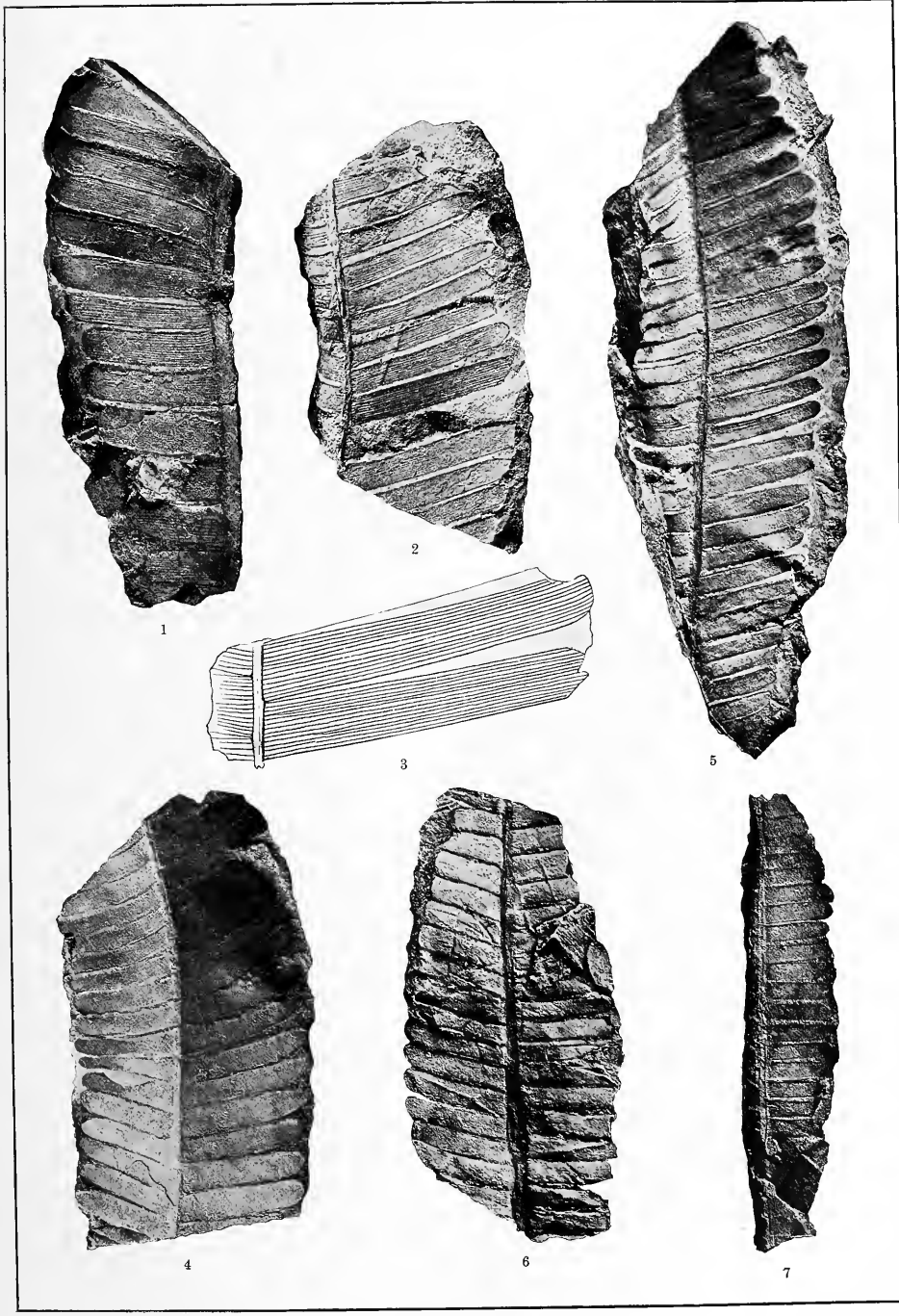

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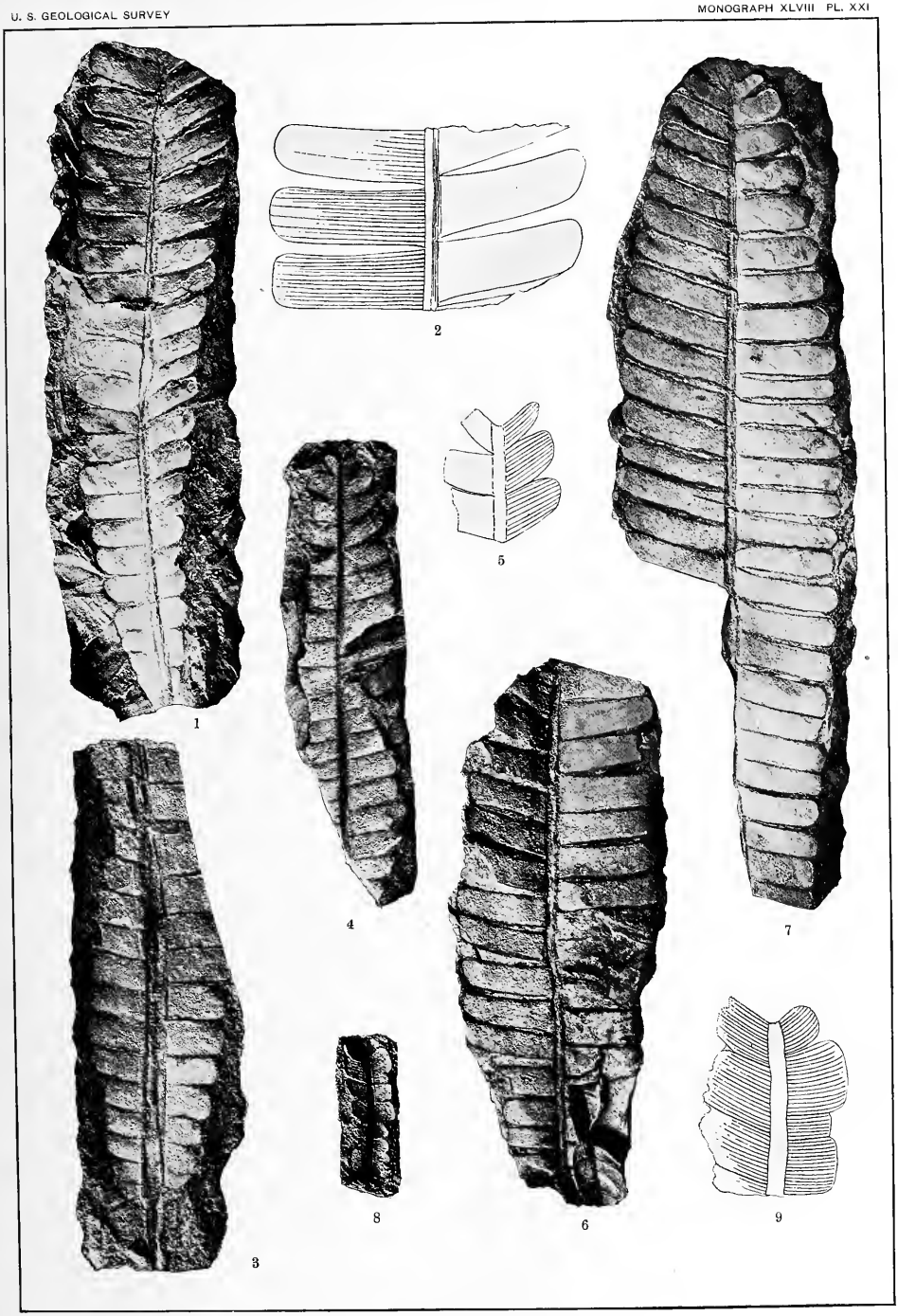

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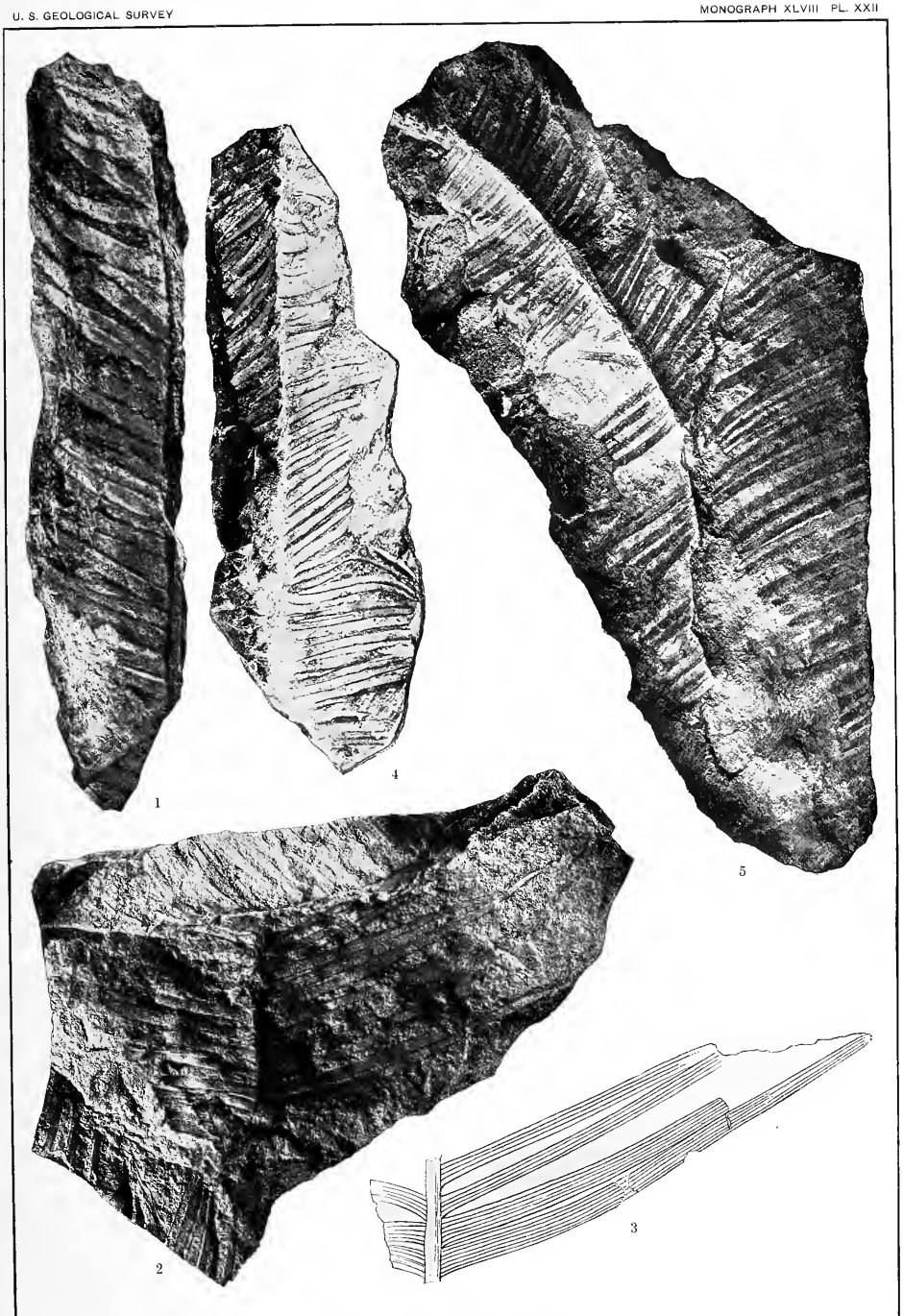

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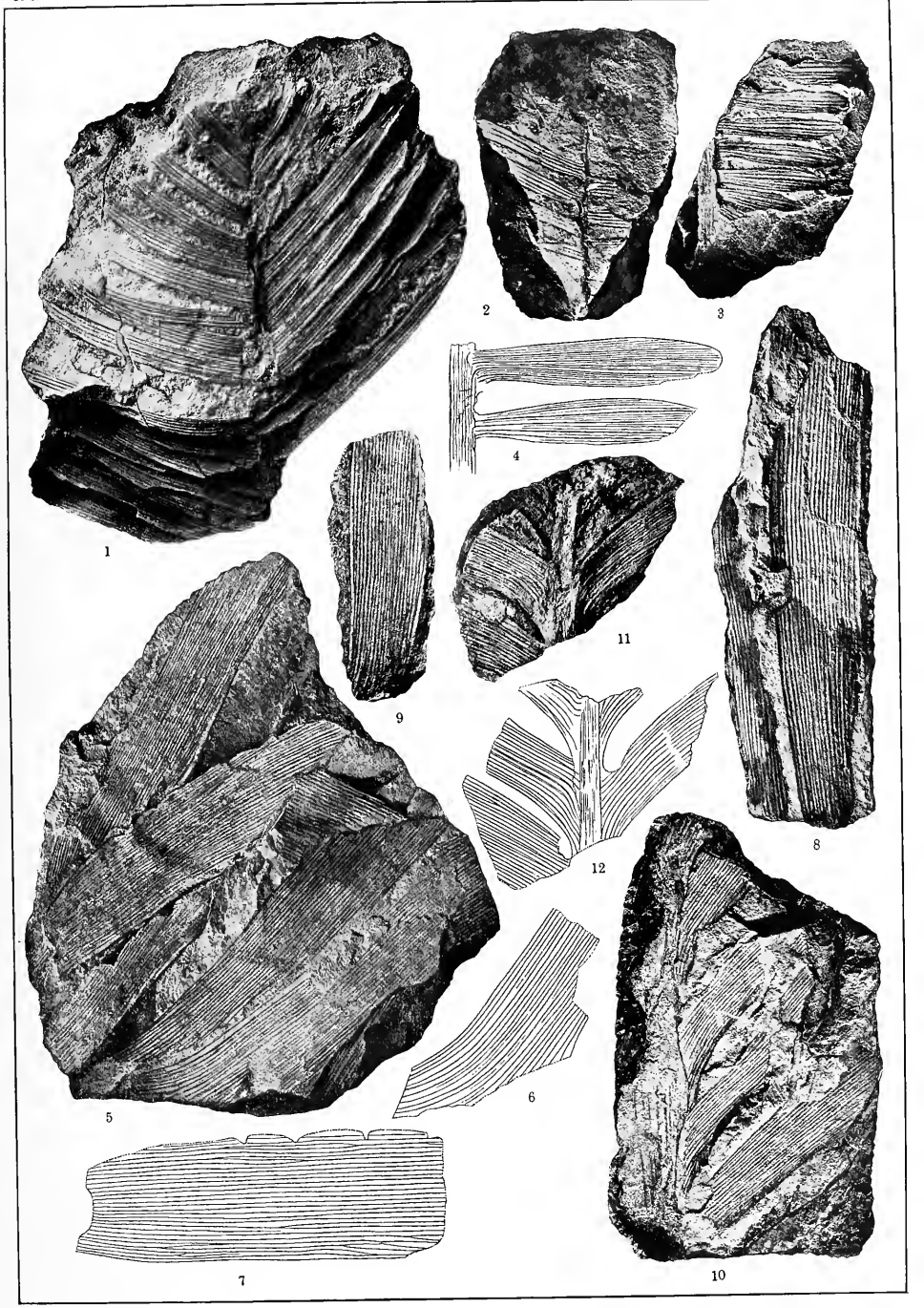

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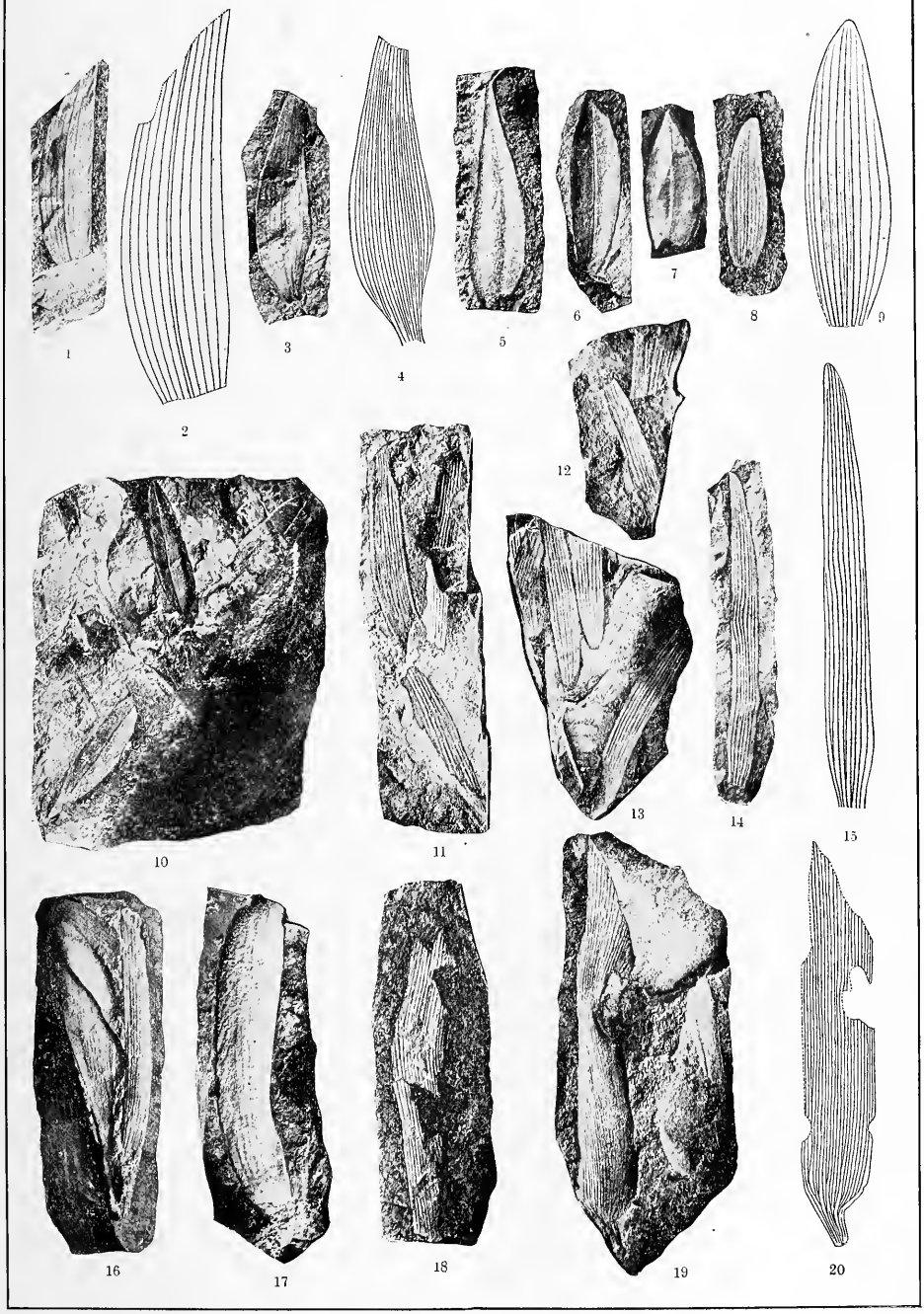

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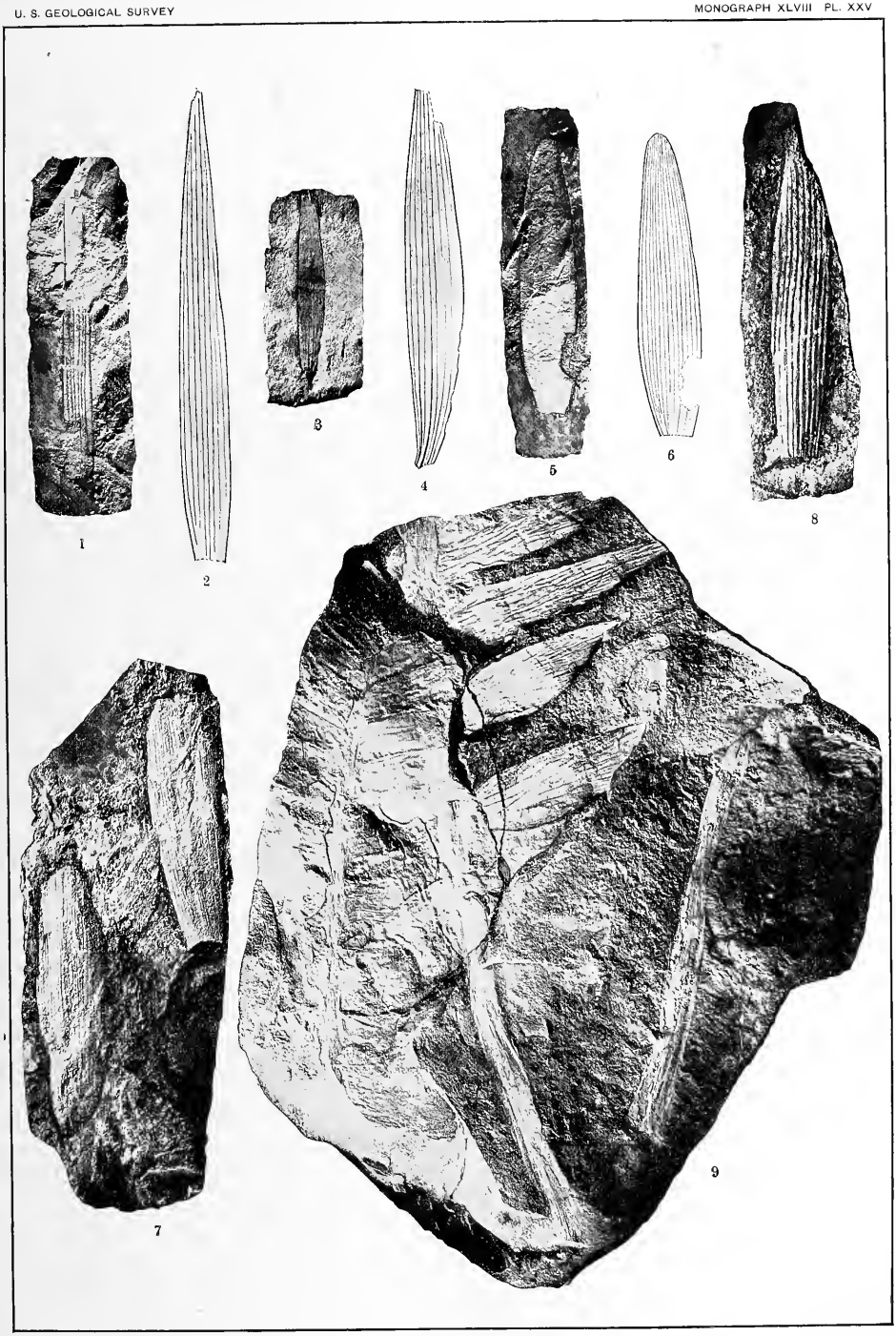

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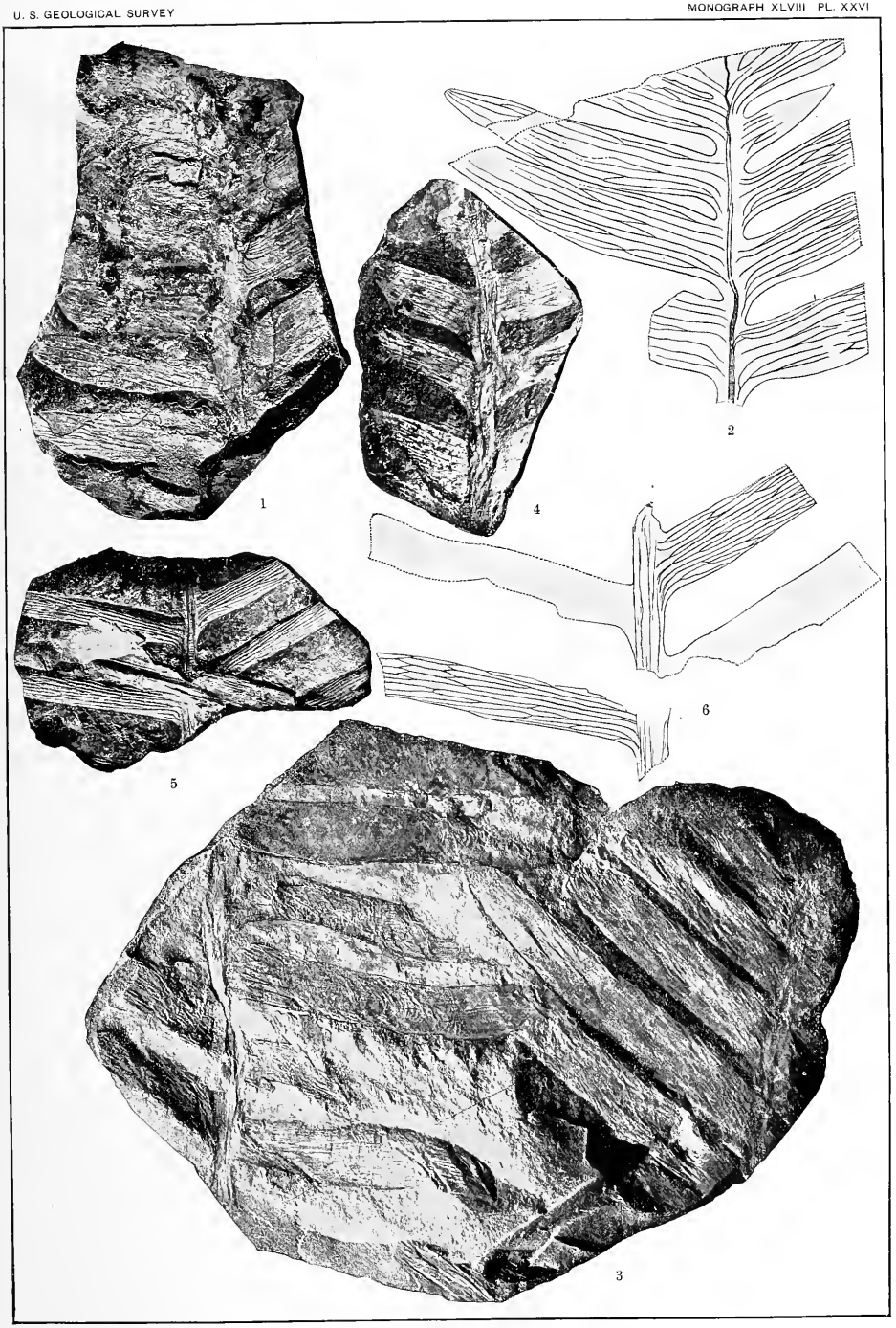

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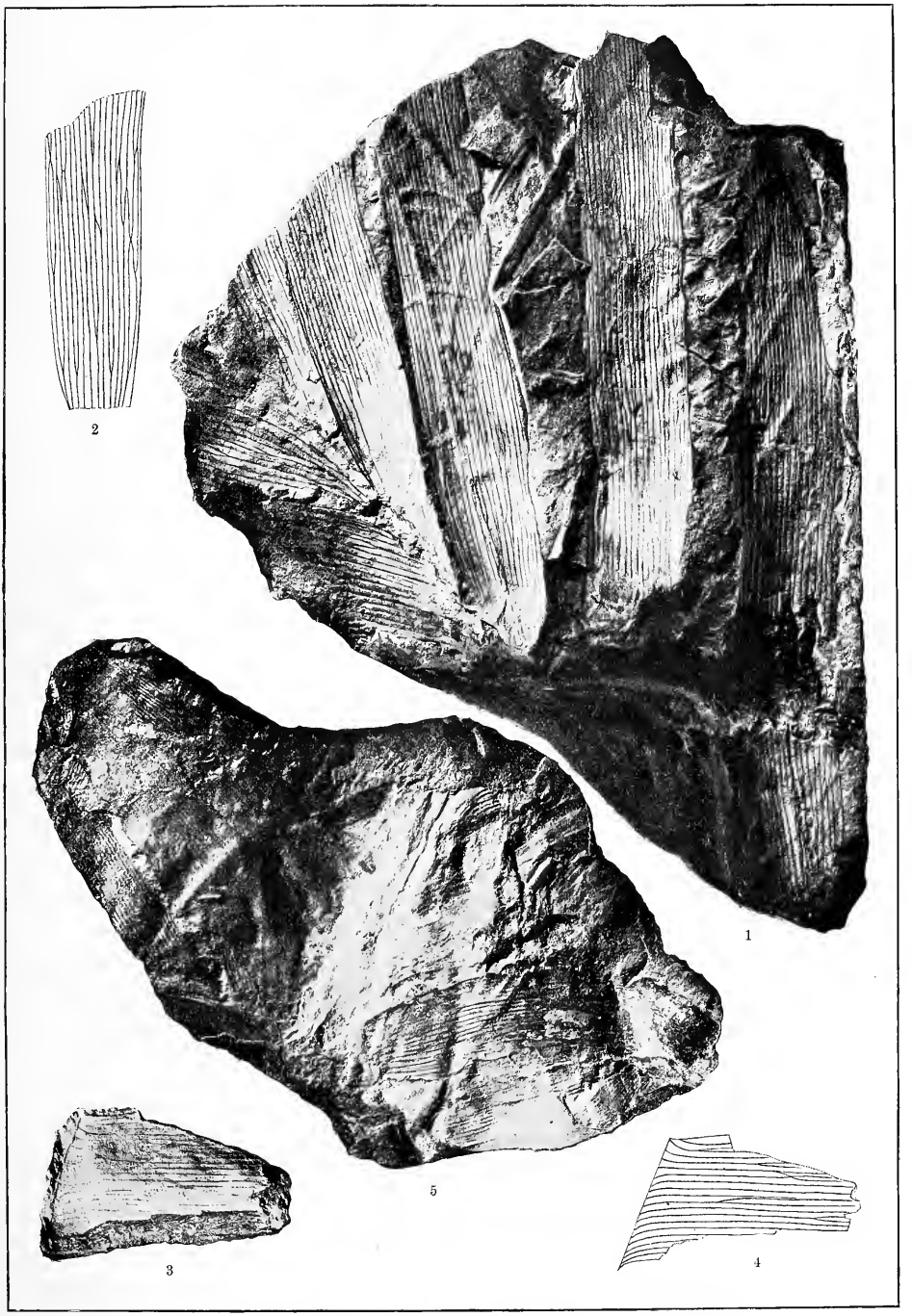

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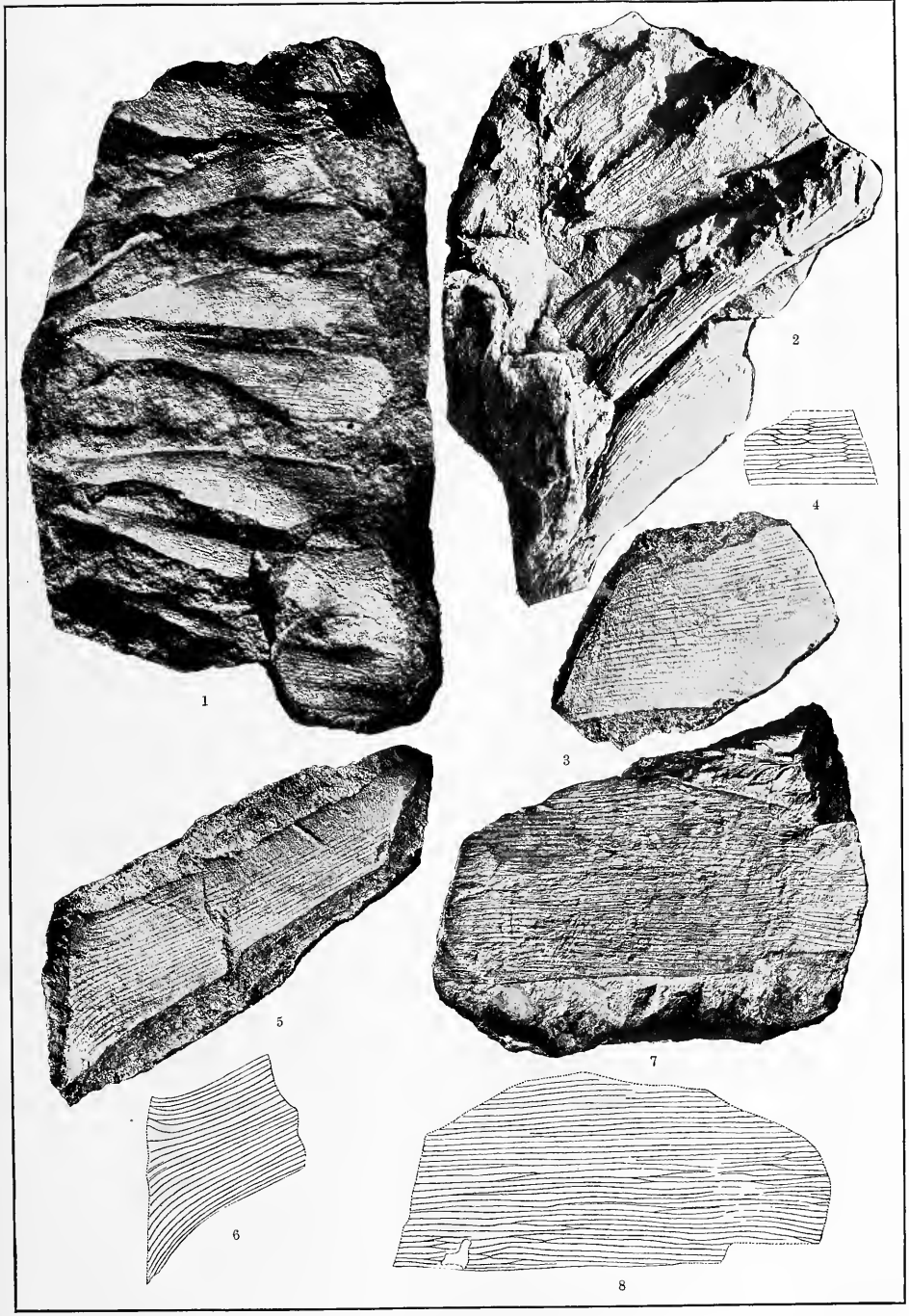
PLATE XXVIII.

Jurassic Flora of Oregon.

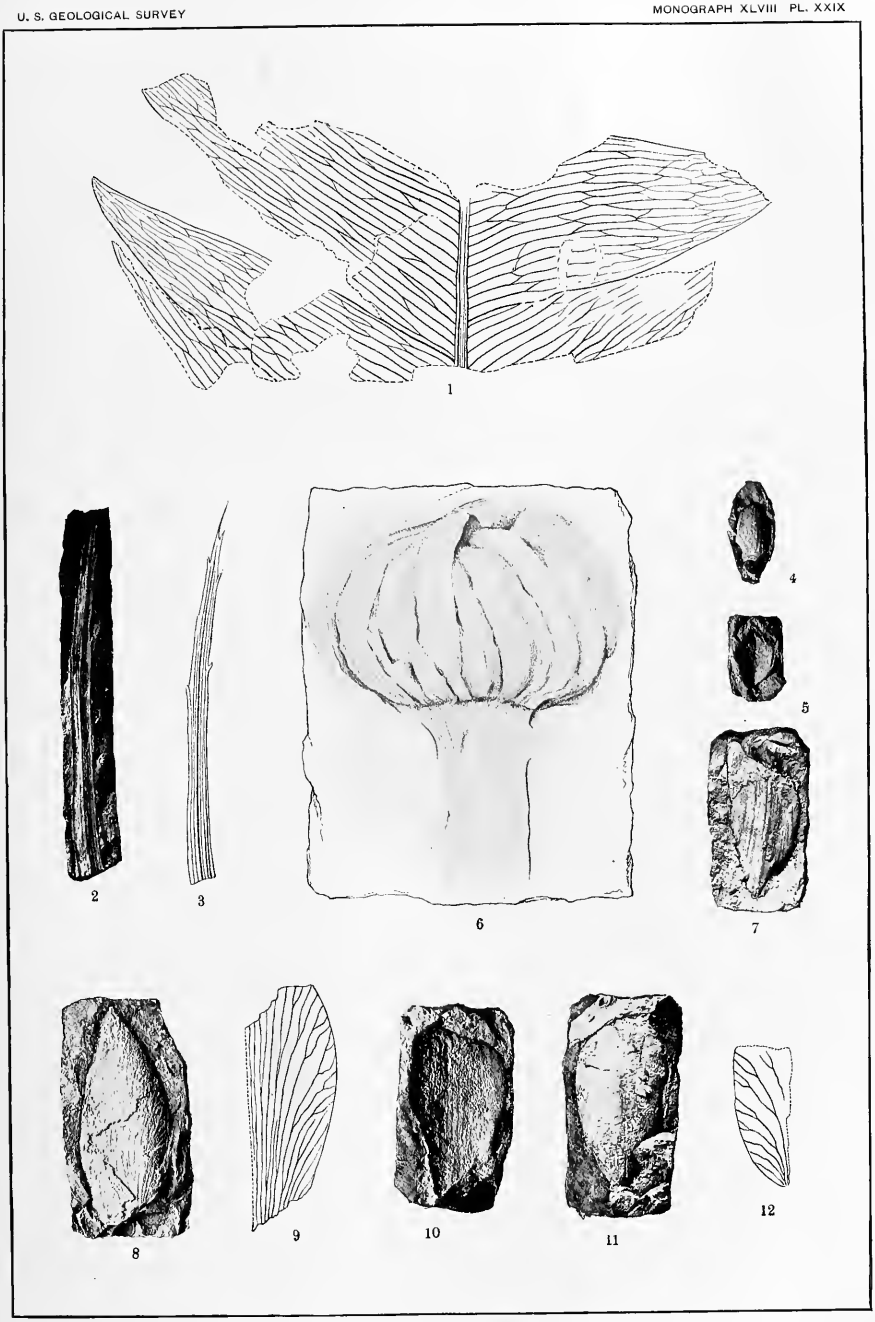


JURASSIC CYCADS FROM OREGON.

PLATE XXIX.

PLATE XXIX.

Jurassic Flora of Oregon.



JURASSIC CYCADS AND WILLIAMSONIAS FROM OREGON.

PLATE XXX.

PLATE XXX.

Jurassic Flora of Oregon.

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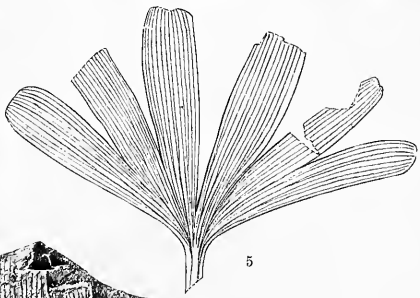

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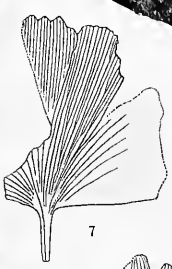

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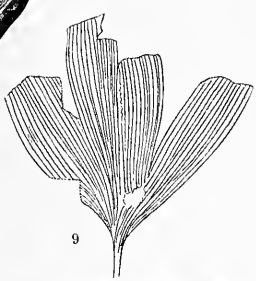

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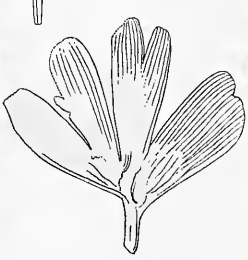

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JURASSIC GINGKOS FROM OREGON.

PLATE XXXI.

PLATE XXXI.

Jurassic Flora of Oregon.

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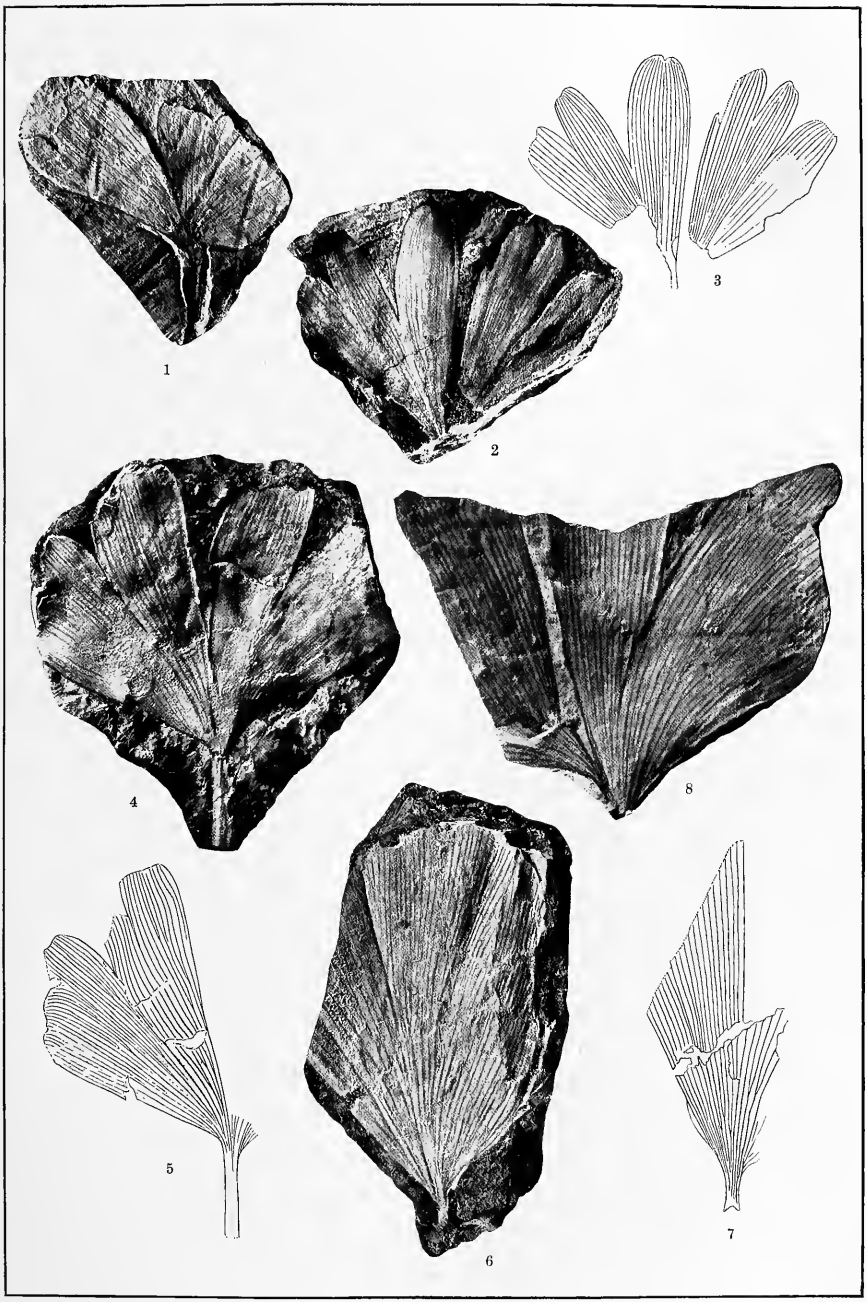
Figs. 1–3. Ginkgo Huttoni (Sternb.) Heer 123

Fig. 3. Pen drawing of Fig. 2, natural size.

Figs. 4–8. Ginkgo Huttoni magnifolia Font. n. var. 124

Fig. 5. Pen drawing of a portion of Fig. 4, natural size.

Fig. 7. Pen drawing of a portion of Fig. 6, natural size.

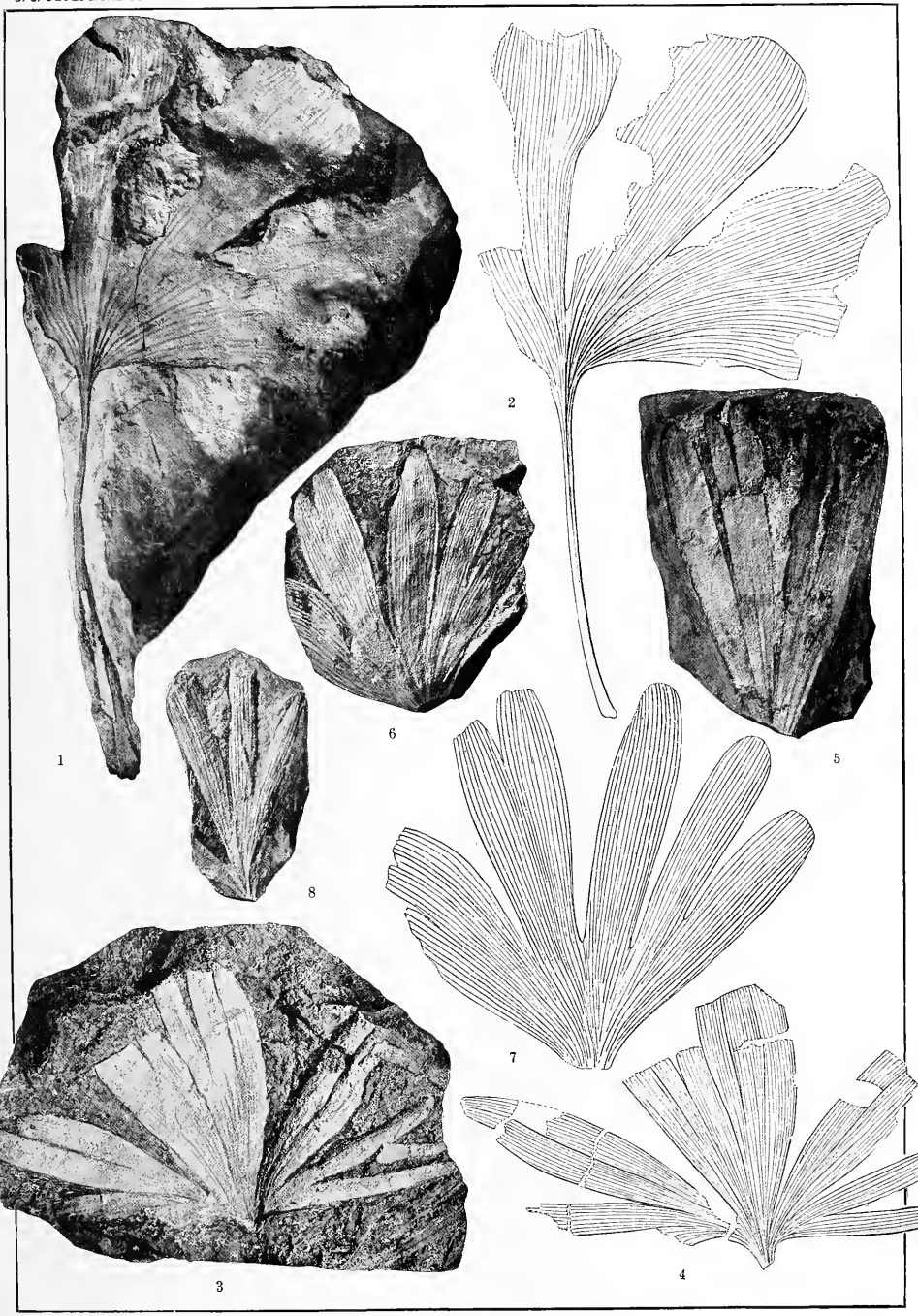


JURASSIC GINGKOS FROM OREGON.

PLATE XXXII.

PLATE XXXII.

Jurassic Flora of Oregon.



JURASSIC GINGKOS FROM OREGON.

PLATE XXXIII.

PLATE XXXIII.

Jurassic Flora of Oregon.

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Figs. 1–19. Ginkgo sibirica Heer 125

Fig. 4. Enlargement of Fig. 3, × $\frac{3}{2}$.

Fig. 6. Enlargement of Fig. 5, × $\frac{3}{2}$.

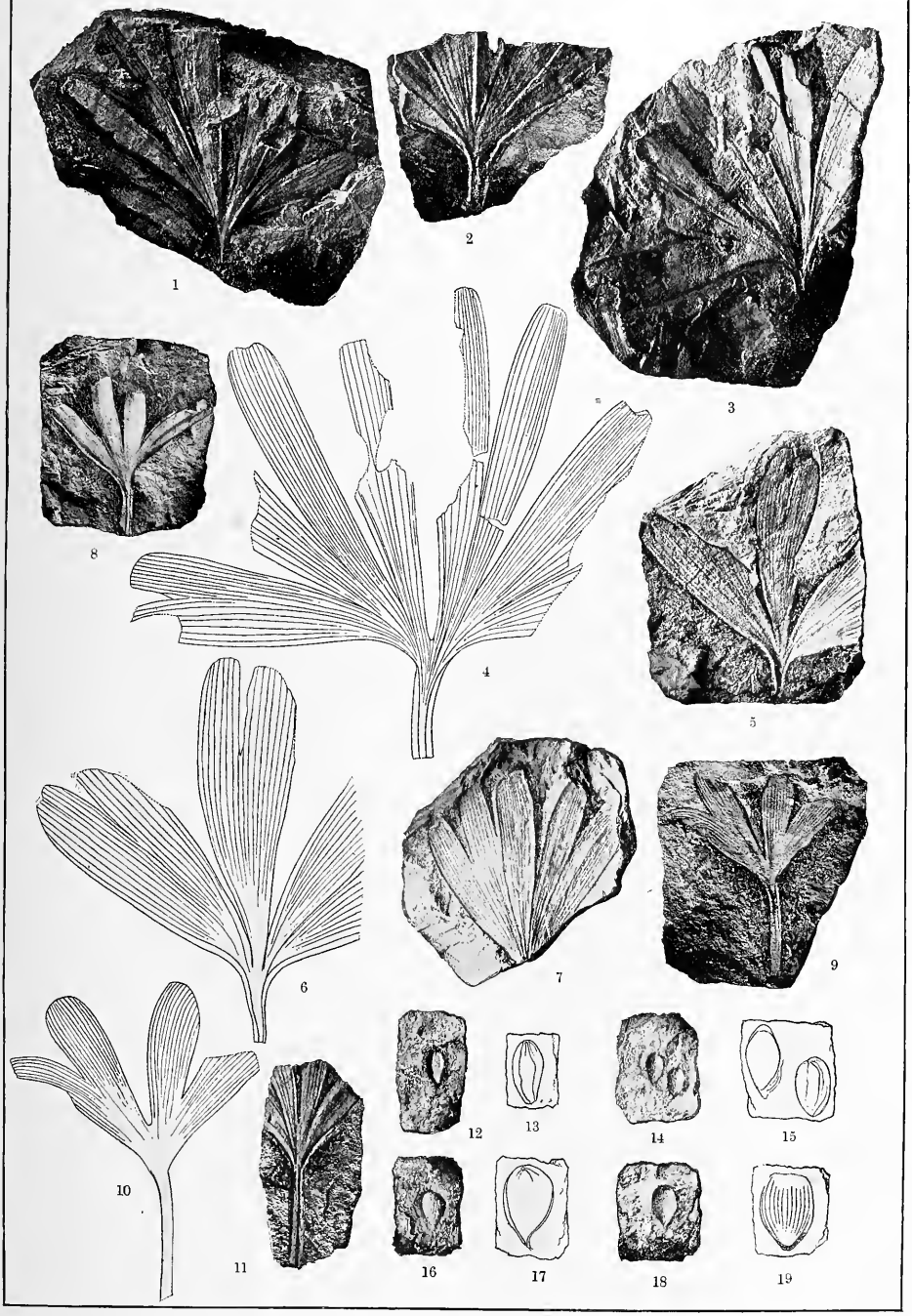
Fig. 10. Enlargement of Fig. 9, × $\frac{3}{2}$.

Fig. 13. Enlargement of Fig. 12, × 2.

Fig. 15. Enlargement of Fig. 14, × 2.

Fig. 17. Enlargement of Fig. 16, × 2.

Fig. 19. Enlargement of Fig. 18, × 2.



JURASSIC GINGKOS FROM OREGON.

PLATE XXXIV.

PLATE XXXIV.

Jurassic Flora of Oregon.

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Figs. 1–12. Ginkgo sp. Font., aberrant forms of leaves 127

Fig. 2. Enlargement of Fig. 1, × 2.

Fig. 4. Enlargement of Fig. 3, × 2.

Fig. 6. Enlargement of Fig. 5, × 2.

Fig. 8. Enlargement of Fig. 7, × 2.

Fig. 10. Enlargement of Fig. 9, × 2.

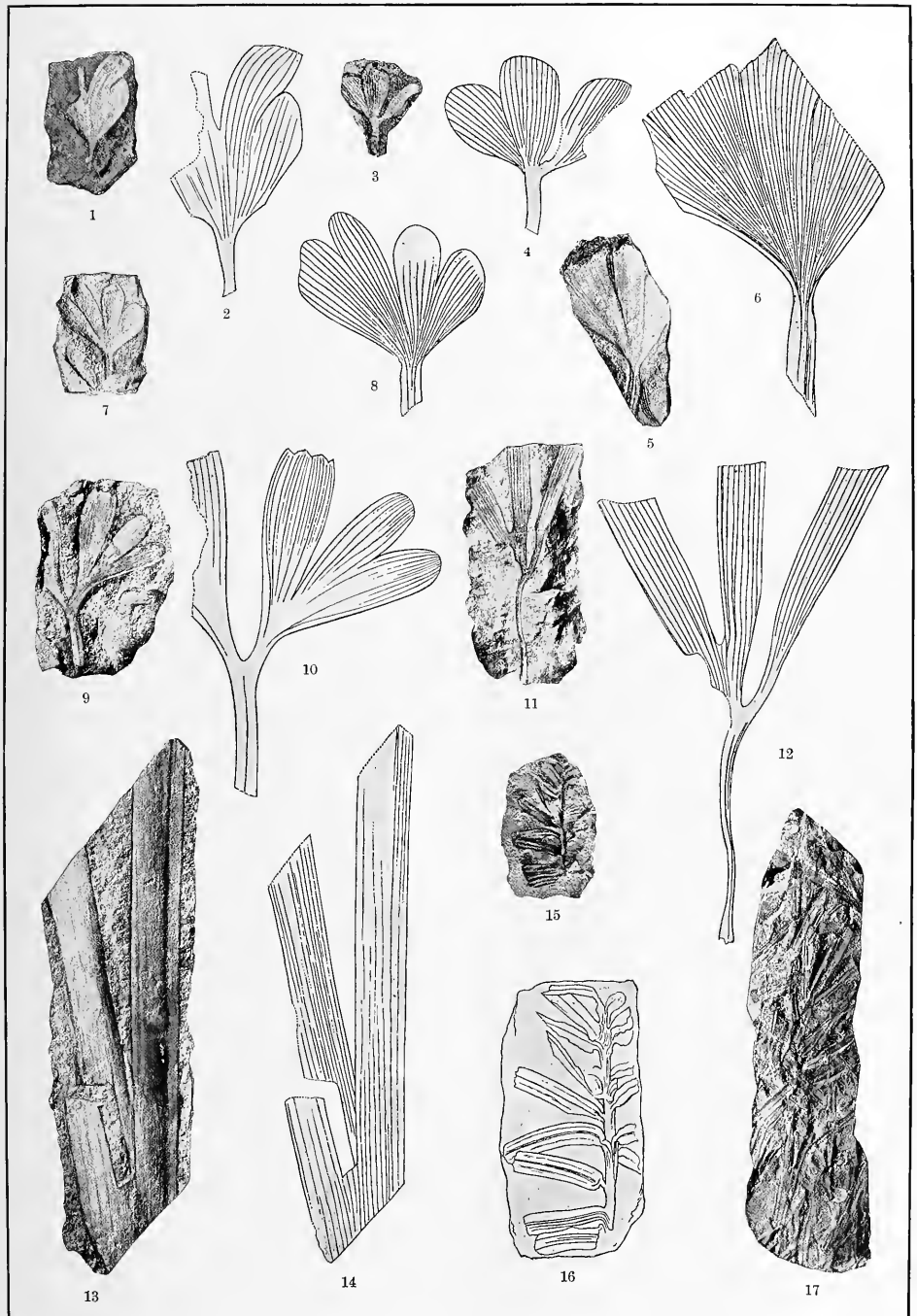
Fig. 12. Enlargement of Fig. 11, × 2.

Figs. 13, 14. Phœnicopsis ? sp. Font 128

Fig. 14. Pen drawing of Fig. 13, natural size.

Figs. 15–17. Taxites zamioides (Leck.) Sew 129

Fig. 16. Enlargement of Fig. 15.

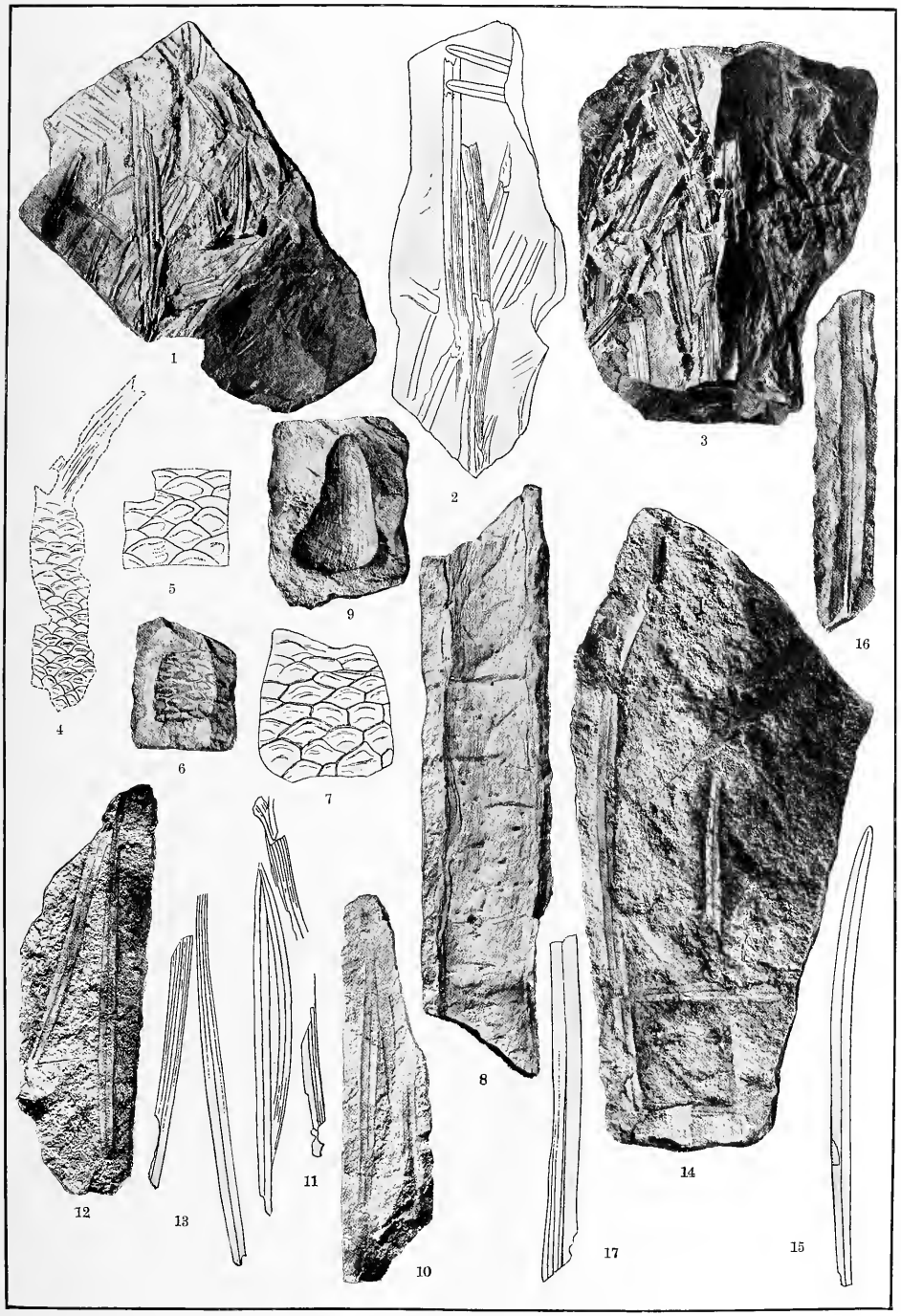


JURASSIC GINGKOACEÆ AND TAXACEÆ FROM OREGON.

PLATE XXXV.

PLATE XXXV.

Jurassic Flora of Oregon.



JURASSIC CONIFERS FROM OREGON.

PLATE XXXVI.

PLATE XXXVI.

Jurassic Flora of Oregon.

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Figs. 1, 2. Cyclopitys oregonensis Font. n. sp. 132

Fig. 2. Enlargement of Fig. 1, × $\frac{3}{2}$.

Figs. 3–8. Sphenolepidium oregonense Font. n. sp. 133

Fig. 4. Enlargement of Fig. 3, × 2.

Fig. 7. Enlargement of the principal branch shown in Fig. 6, × 2.

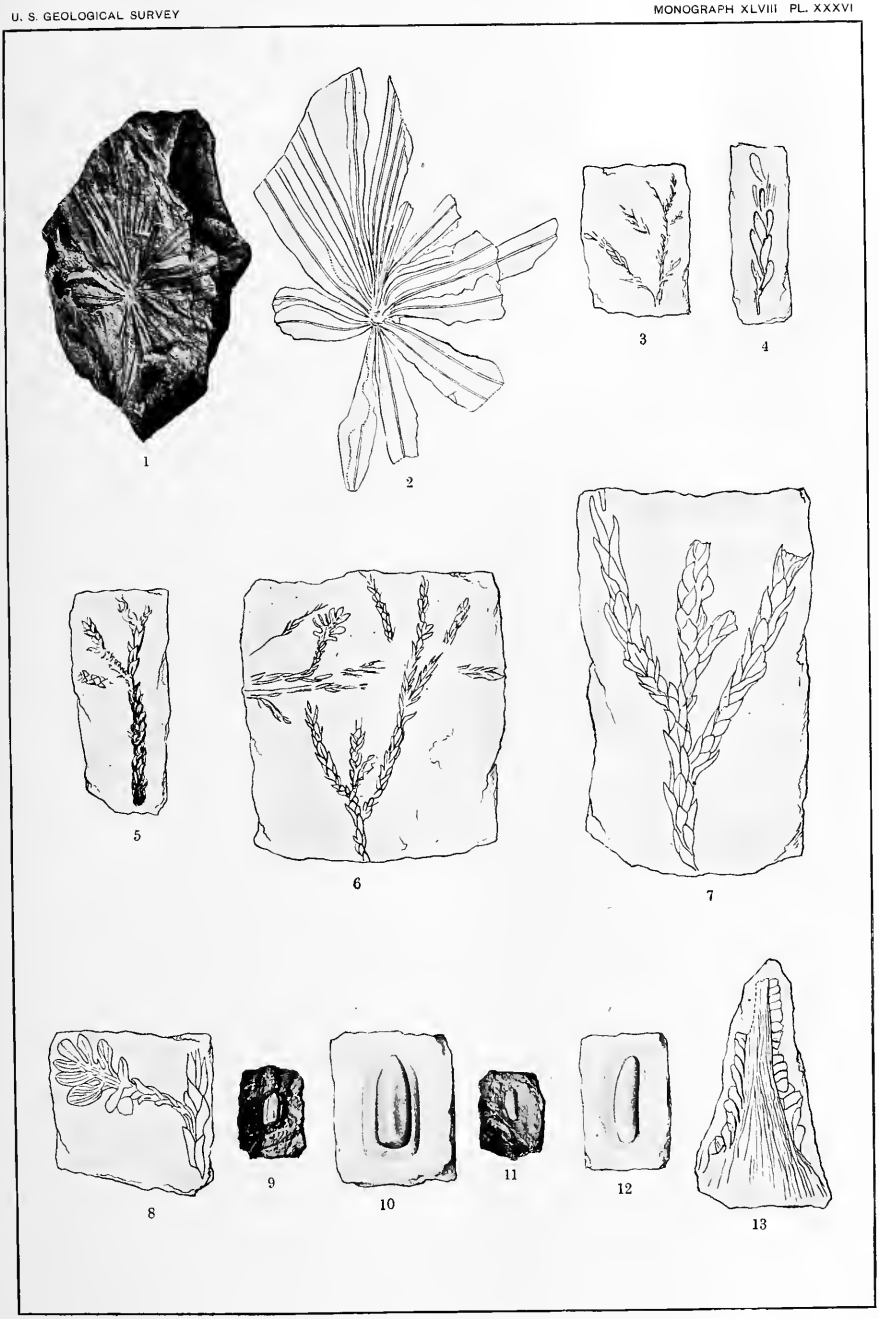
Fig. 8. Enlargement of the cone and twig to which attached shown in Fig. 6, × 2.

Figs. 9–12. Samaropsis ? oregonensis Font. n. sp. 134

Fig. 10. Enlargement of Fig. 9, × 3.

Fig. 12. Enlargement of Fig. 11, × 3.

Fig. 13. Male ament of conifer 135

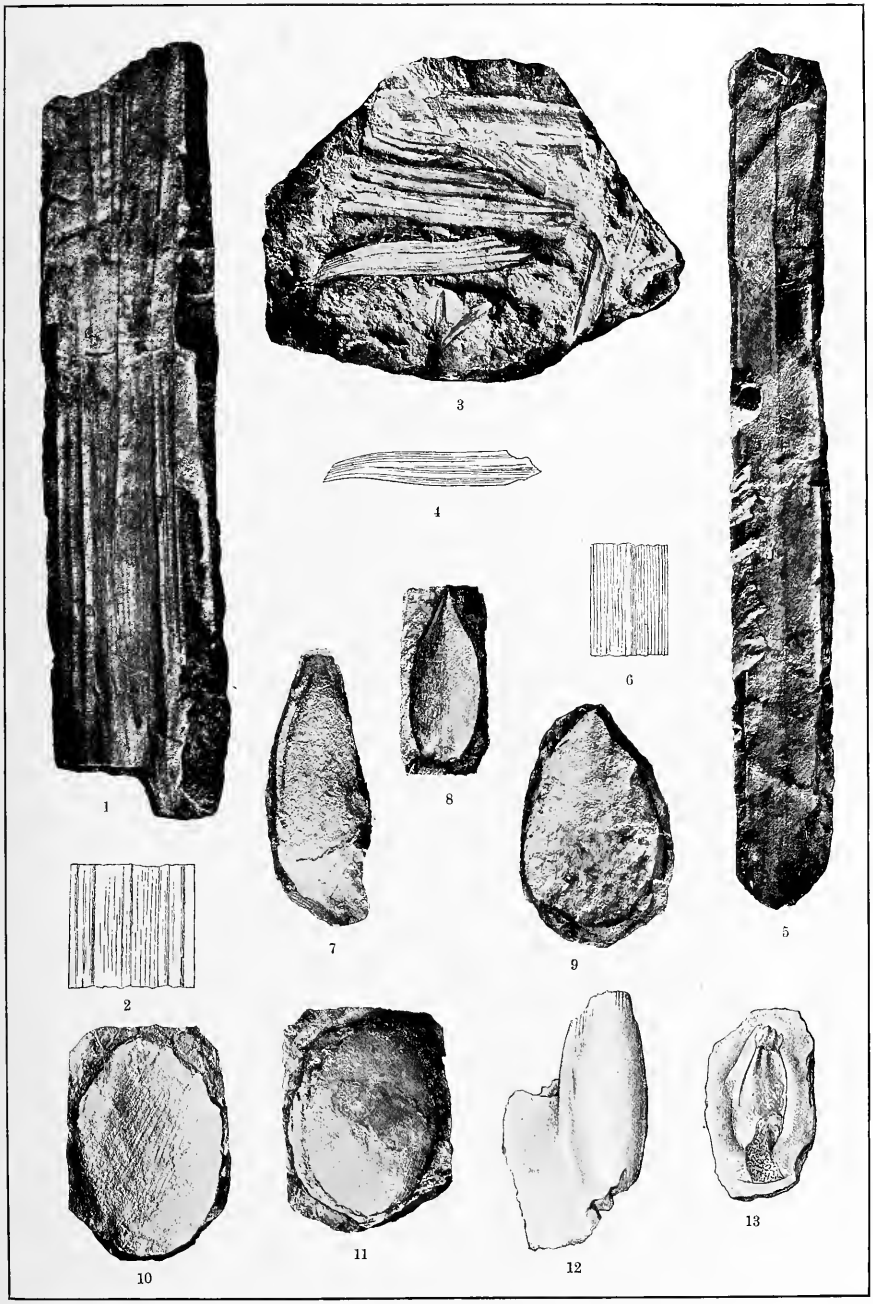


JURASSIC CONIFERS FROM OREGON.

PLATE XXXVII.

PLATE XXXVII.

Jurassic Flora of Oregon.

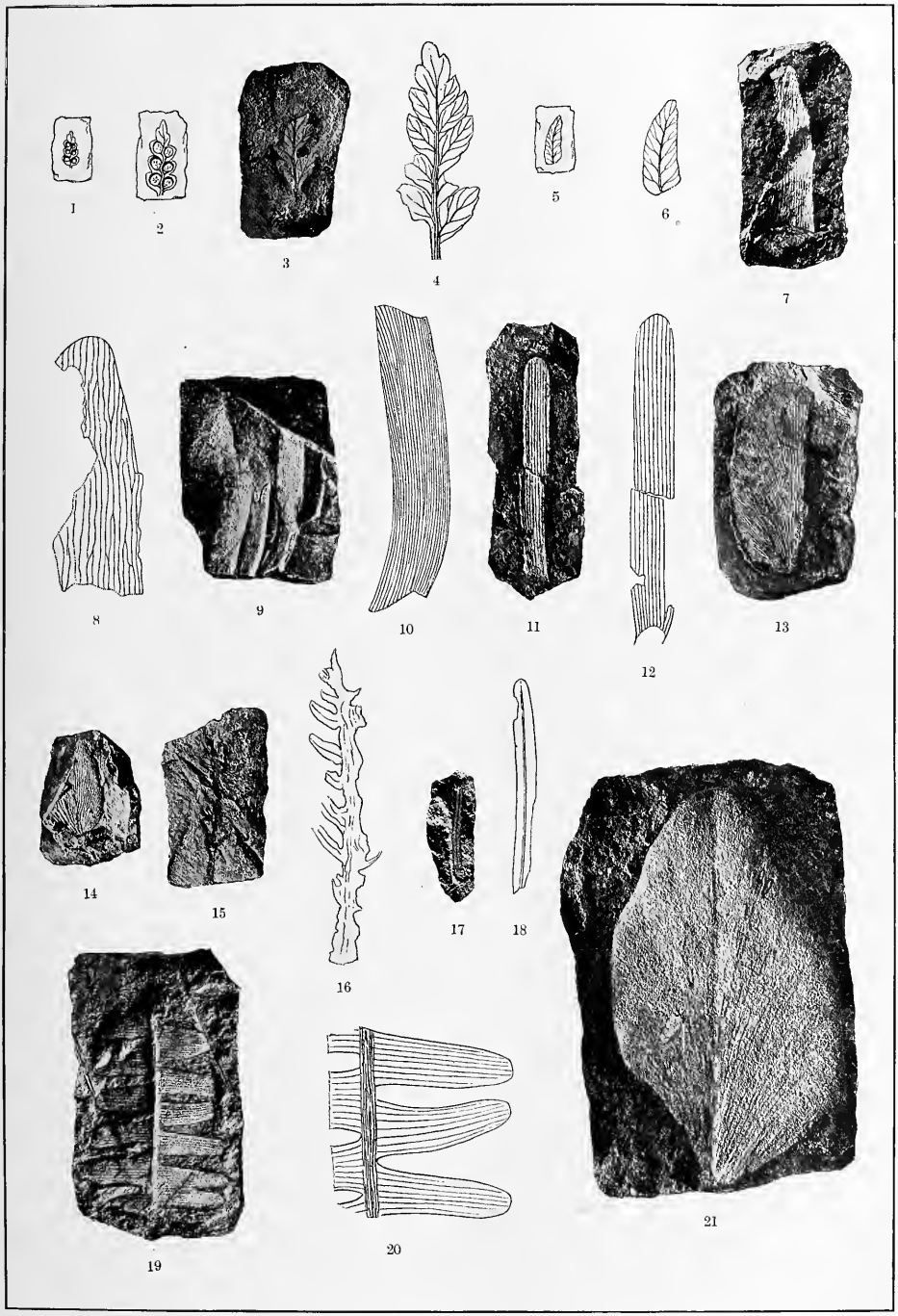


MISCELLANEOUS JURASSIC PLANTS FROM OREGON.

PLATE XXXVIII.

PLATE XXXVIII.

Jurasso-Cretaceous Floras.

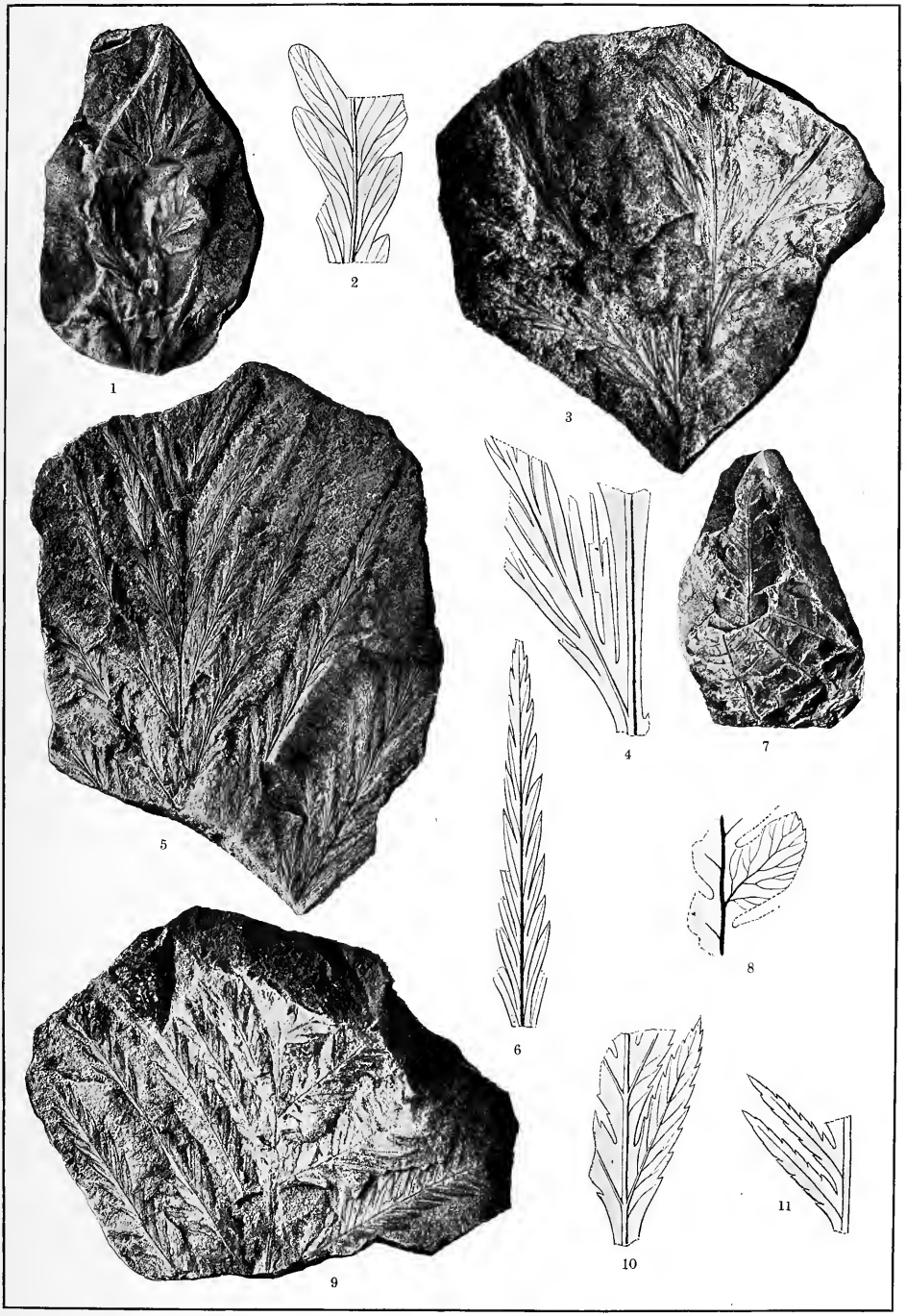


JURASSO-CRETACEOUS PLANTS FROM OREGON AND ALASKA.

PLATE XXXIX.

PLATE XXXIX.

Jurasso-Cretaceous Flora of Cape Lisburne, Alaska.



JURASSO-CRETACEOUS FERNS FROM CAPE LISBURNE, ALASKA.

PLATE XL.

PLATE XL.

Jurasso-Cretaceous Flora of Cape Lisburne, Alaska.

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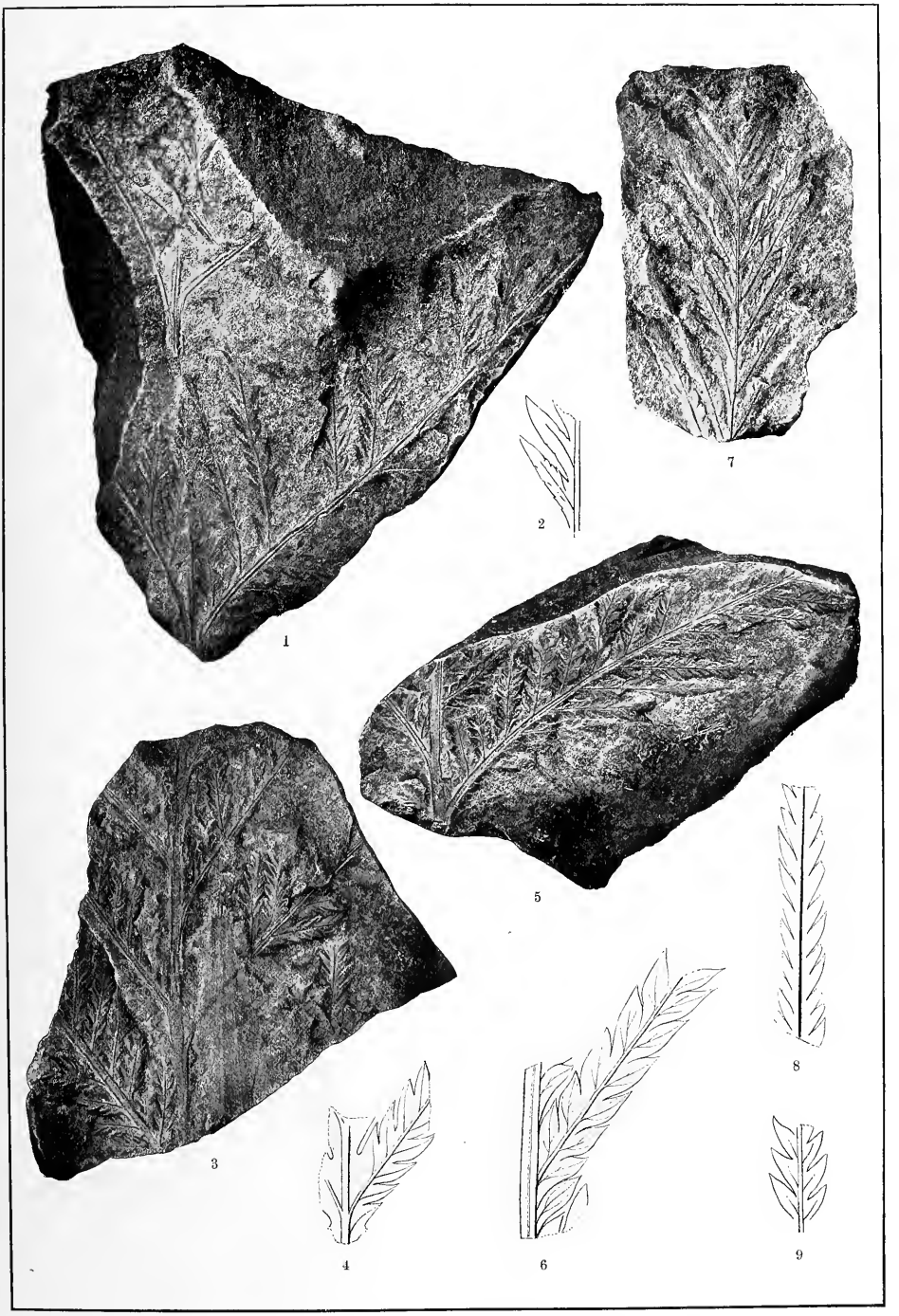
Figs. 1–9. Cladophlebis alata Font 158

Fig. 2. Enlarged portion of Fig. 1, × 2.

Fig. 4. Enlarged portion of Fig. 3, × 2.

Fig. 6. Enlarged portion of Fig. 5, × 3.

Figs. 8, 9. Enlarged pinnules of Fig. 7, × 2.



JURASSO-CRETACEOUS FERNS FROM CAPE LISBURNE, ALASKA.

PLATE XLI.

PLATE XLI.

Jurasso-Cretaceous Flora of Cape Lisburne, Alaska.

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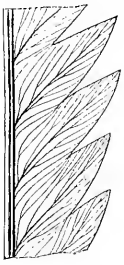
Figs. 1–5. Cladophlebis Huttoni (Dunk.) Font. n. comb 161

Fig. 2. Portion of Fig. 1 enlarged, $\times \frac{4}{3}$.

Fig. 3. Pinnule of Fig. 1 enlarged, $\times 2$.

Fig. 4. Pinnule of Fig. 1 enlarged and restored $\times \frac{3}{2}$.

Fig. 5. Portion of Fig. 1 enlarged and restored $\times \frac{4}{3}$.



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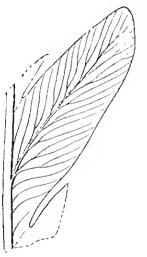

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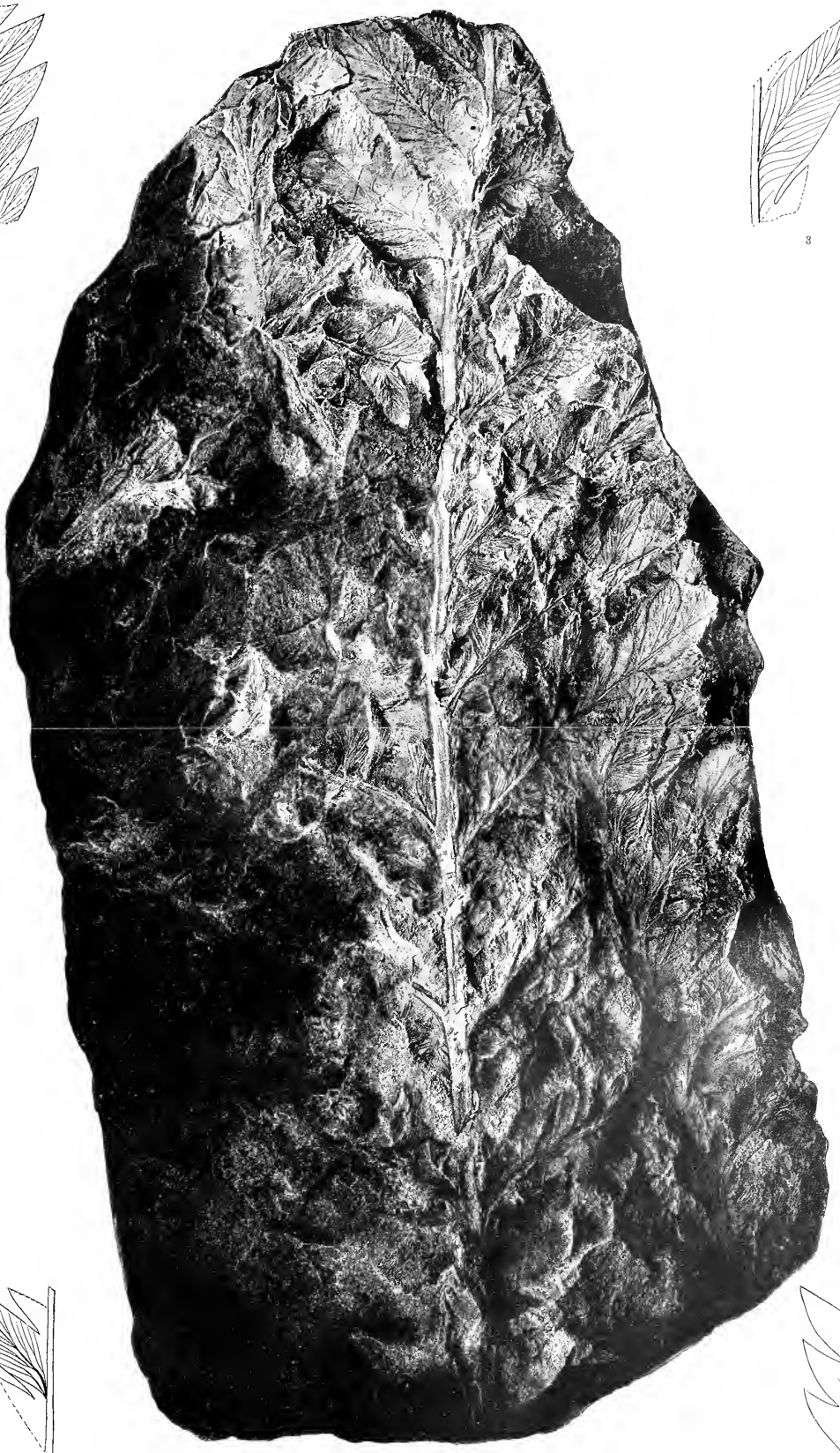

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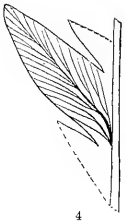

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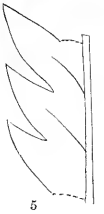

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JURASSO-CRETACEOUS FERNS FROM CAPE LISBURNE, ALASKA.

PLATE XLII.

PLATE XLII.

Jurasso-Cretaceous Flora of Cape Lisburne, Alaska.

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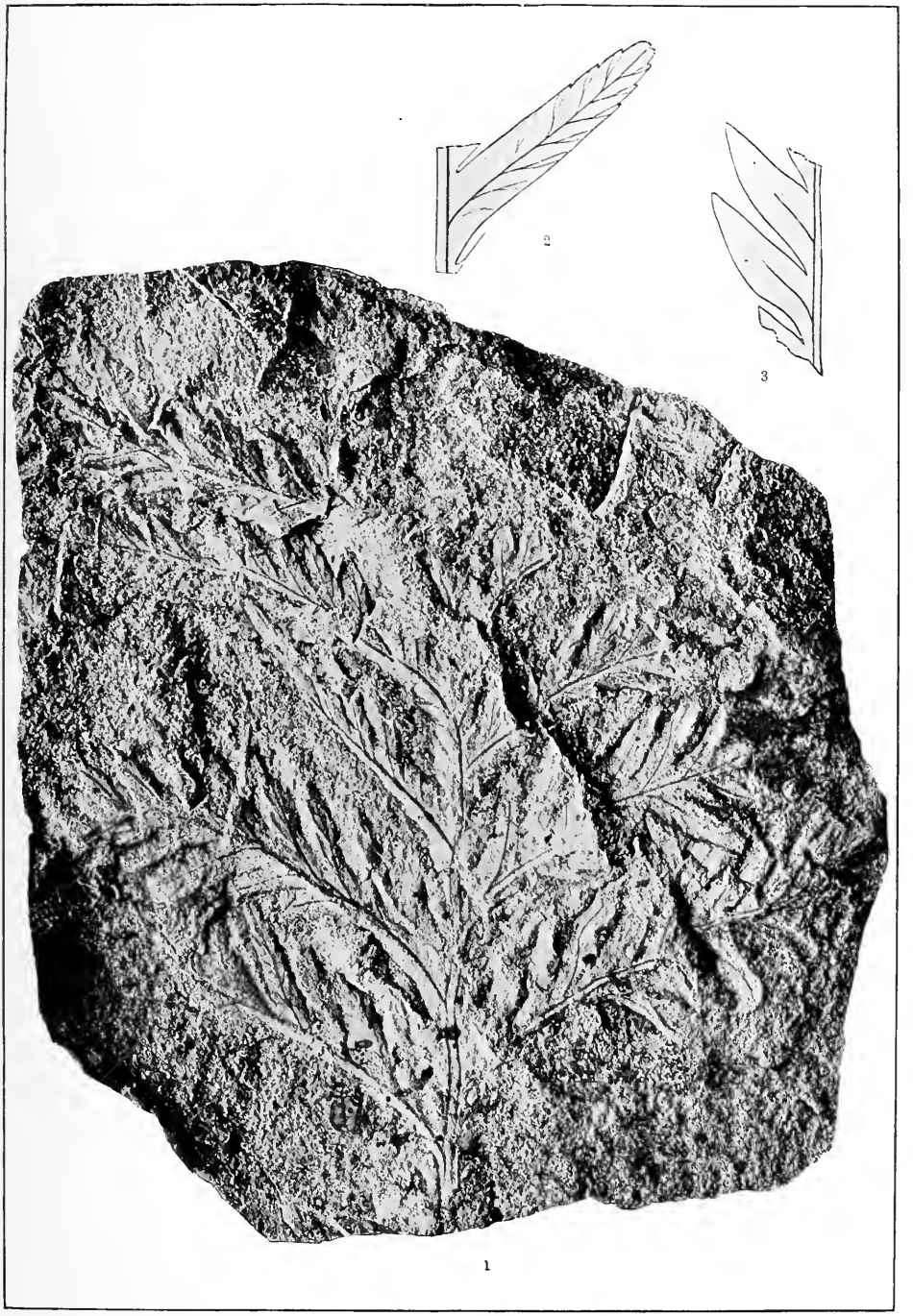
Figs. 1–3 Cladophlebis Huttoni (Dunk.) Font. n. comb 161

Fig. 2. Enlarged pinnule of Fig. 1, × 2.

Fig. 3. Portion of Fig. 1 enlarged and restored, × $\frac{3}{4}$.



JURASSO-CRETACEOUS FERNS FROM CAPE LISBURNE, ALASKA.

PLATE XLIII.

PLATE XLIII.

JURASSO-CRETACEOUS FLORA OF CAPE LISBURNE, ALASKA.

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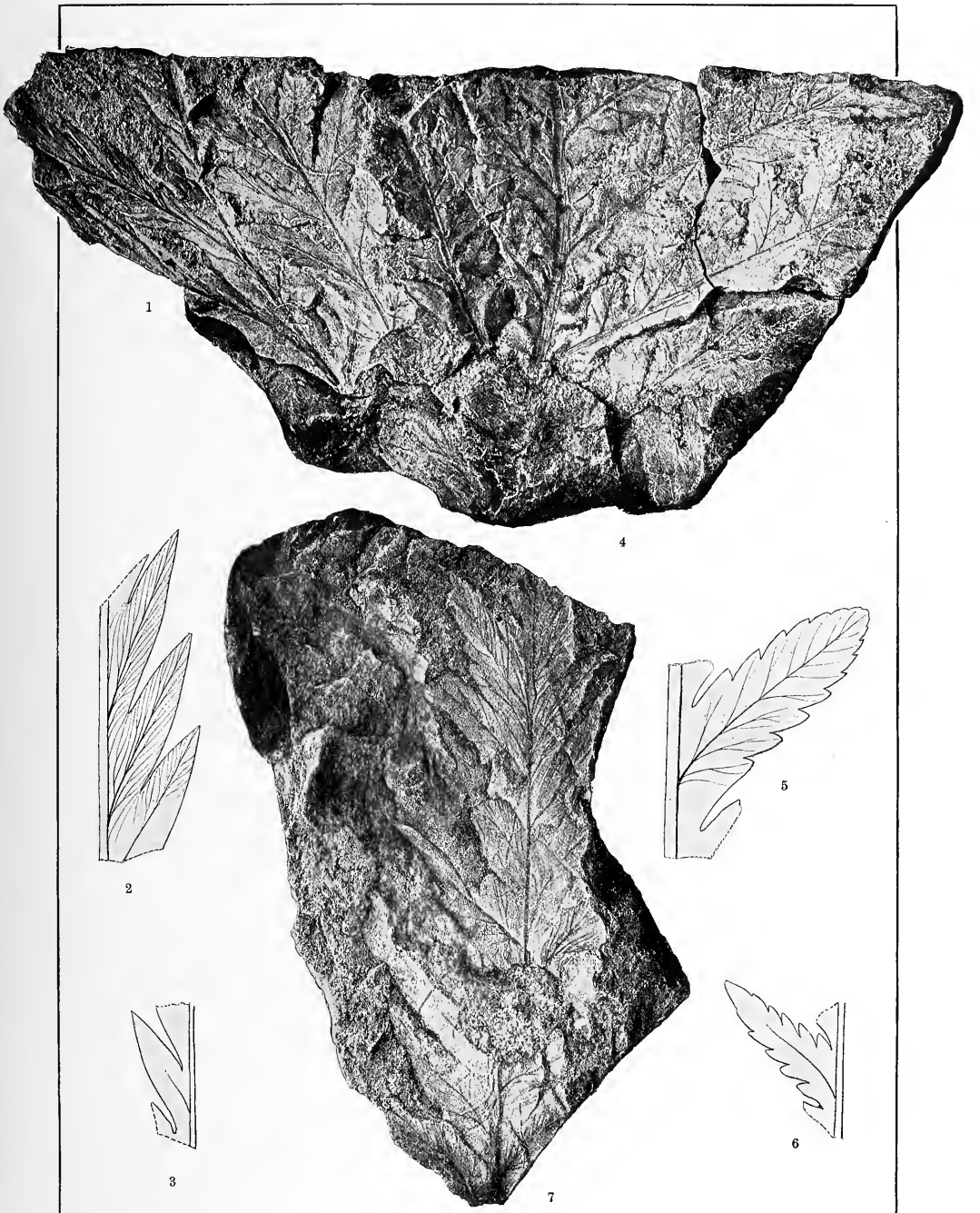
FIGS. 1–7. CLADOPHLEBIS HUTTONI (Dunk.) Font. n. comb 161

Fig. 2. Portion of Fig. 1 enlarged, × 2.

Fig. 3. Pinnule of Fig. 1 restored and slightly enlarged.

Fig. 5. Enlarged pinnule of Fig. 4, × 2.

Fig. 6. Pinnule of Fig. 4 restored and slightly enlarged.

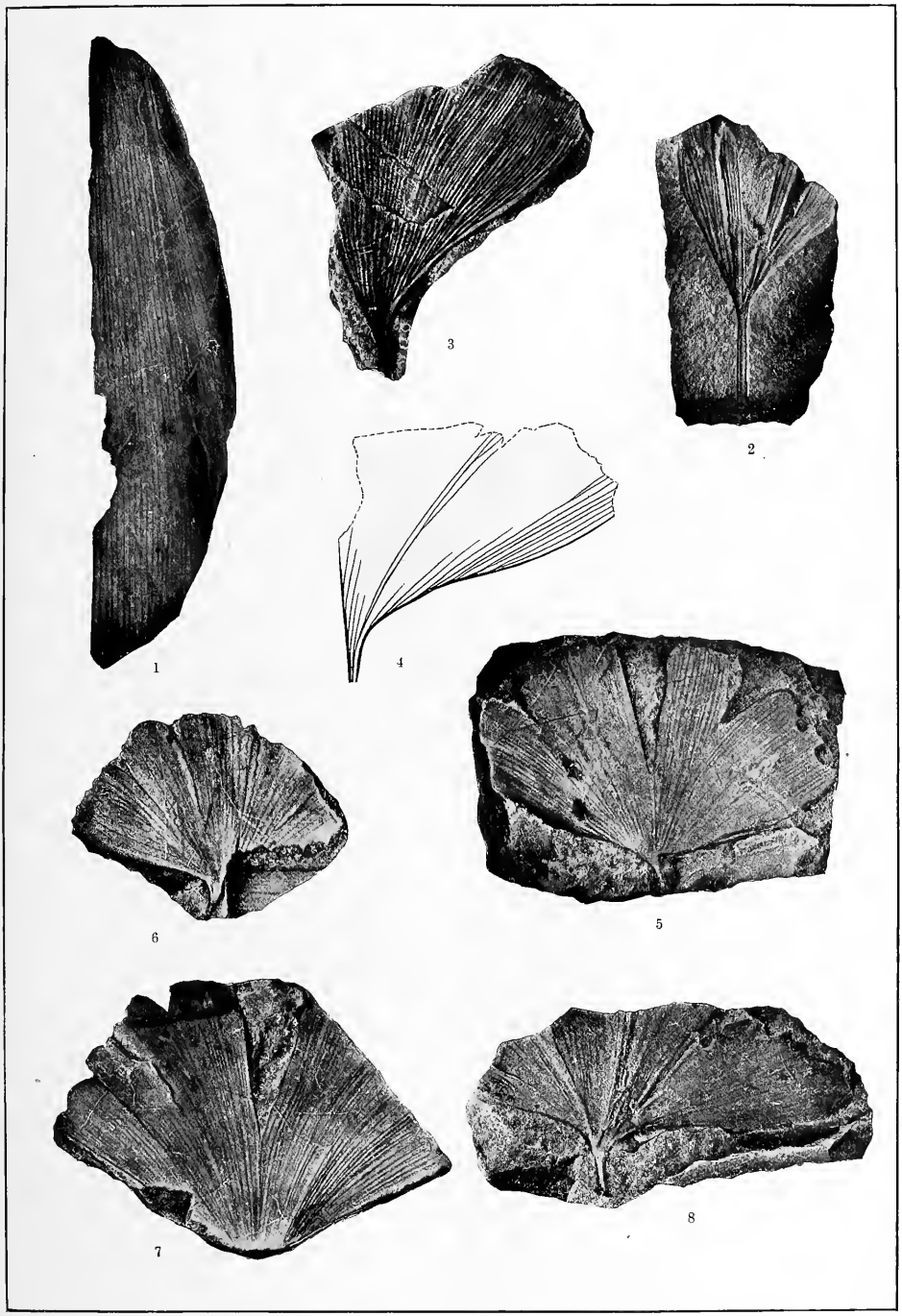


JURASSO-CRETACEOUS FERNS FROM CAPE LISBURNE, ALASKA.

PLATE XLIV.

PLATE XLIV.

Jurasso-Cretaceous Flora of Cape Lisburne, Alaska.



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

PLATE XLV.

PLATE XLV.

Jurasso-Cretaceous Flora of Alaska, Montana, and California.

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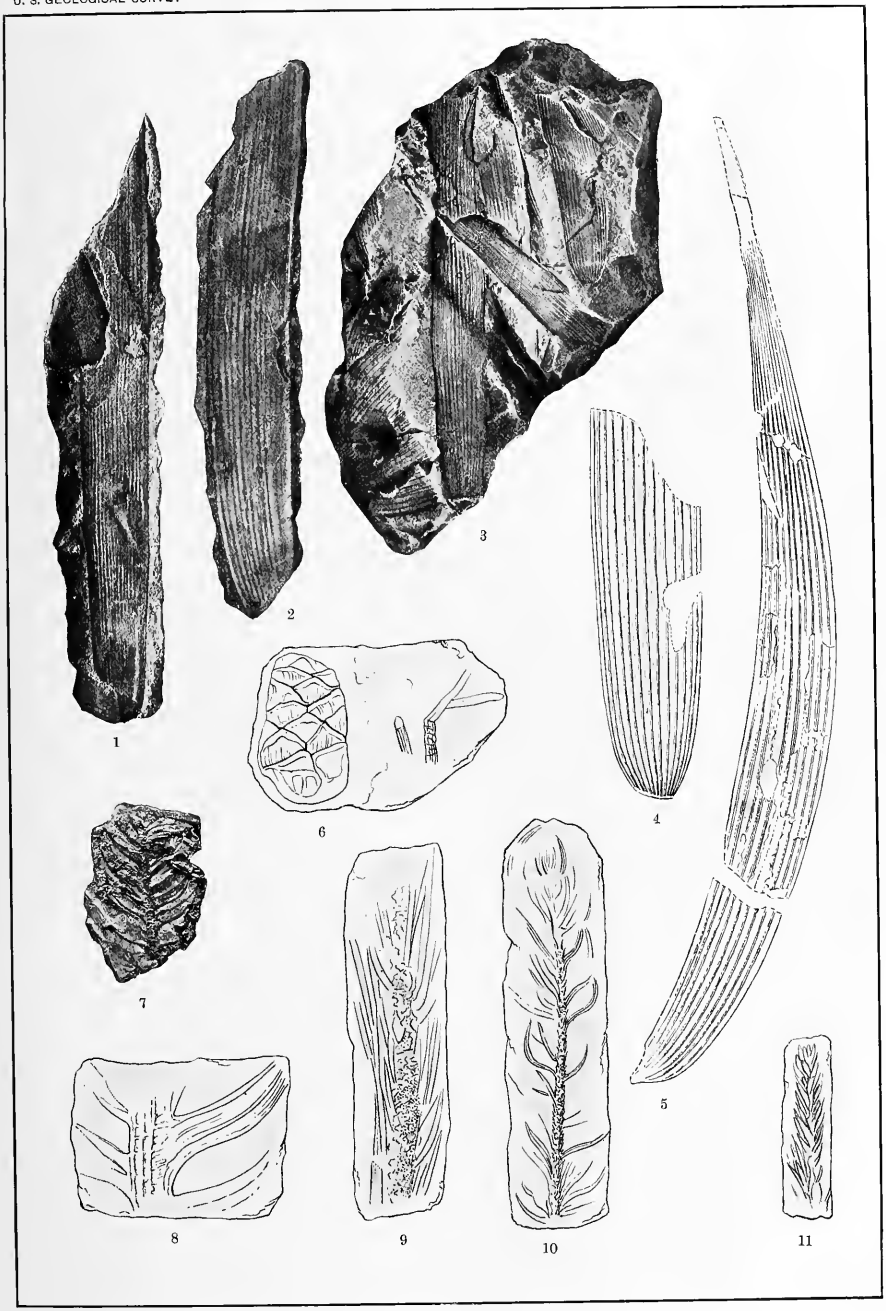
Figs. 1–5. Nageiopsis longifolia Font. ? from the Jurasso-Cretaceous of Cape Lisburne, Alaska.... 171
Fig. 4. Enlarged portion of Fig 3, × $\frac{3}{2}$.

Fig. 6. Brachyphyllum ? Storrsii Ward n. sp 176

Figs. 7, 8. Sequoia Reichenbachi (Gein.) Heer from the Jurassic or Lower Cretaceous of Montana..... 177
Fig. 8. Enlarged portion of Fig. 7.

Figs. 9–11. Sequoia Fairbanksi Font. n. sp. from the Jurasso-Cretaceous of Slate Springs, California..... 178



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

PLATE XLVI.

PLATE XLVI.

Jurassic Cycads from the Freezeout Hills, Wyoming.

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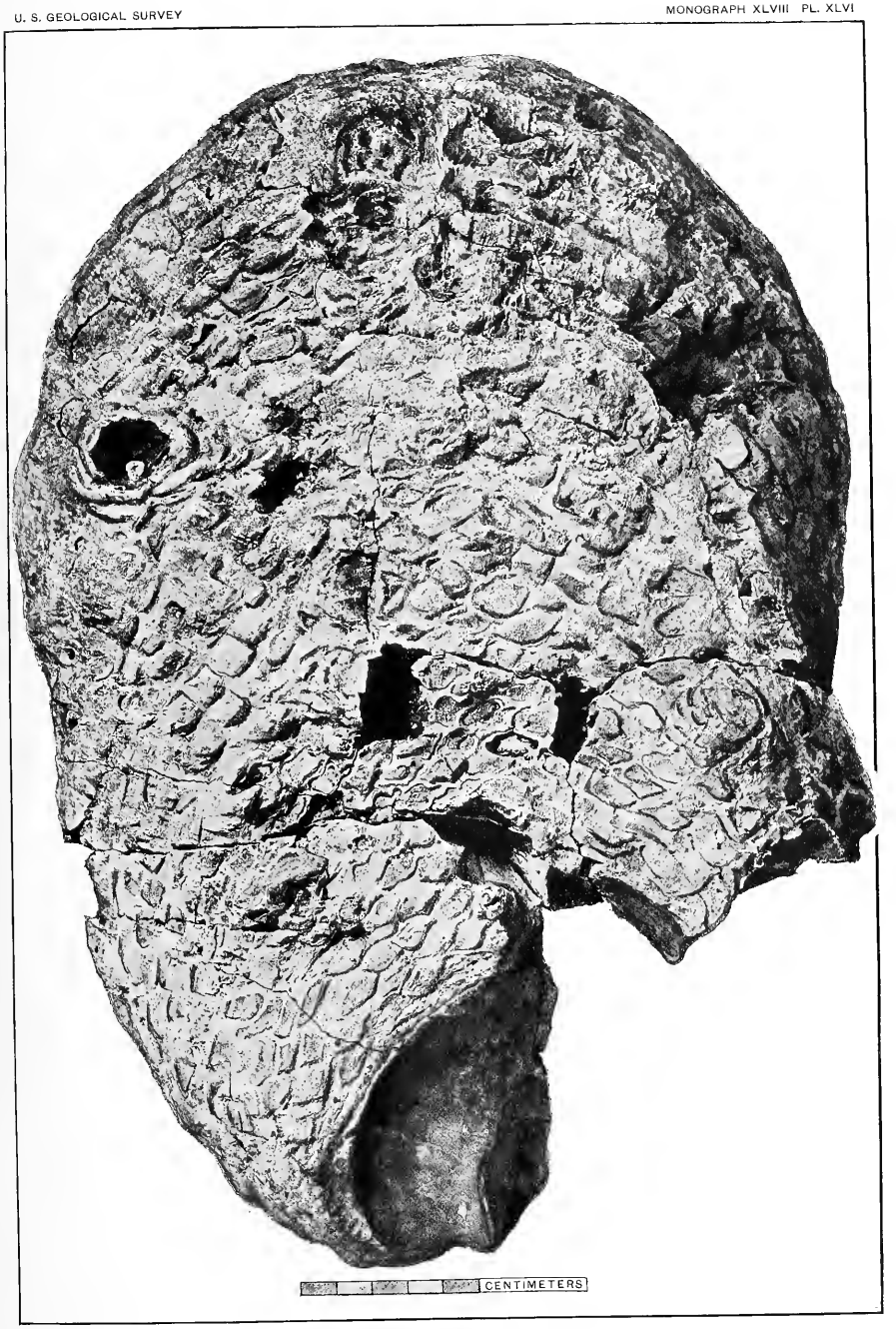
Cycadella wyomingensis Ward..... 183

View of one side and part of the base of the trunk consisting of Nos. 500.88, 500.513, and 500.525 of the museum of the University of Wyoming.



JURASSIC CYCADS FROM WYOMING.

PLATE XLVII.

PLATE XLVII.

Jurassic Cycads from the Freezeout Hills, Wyoming.

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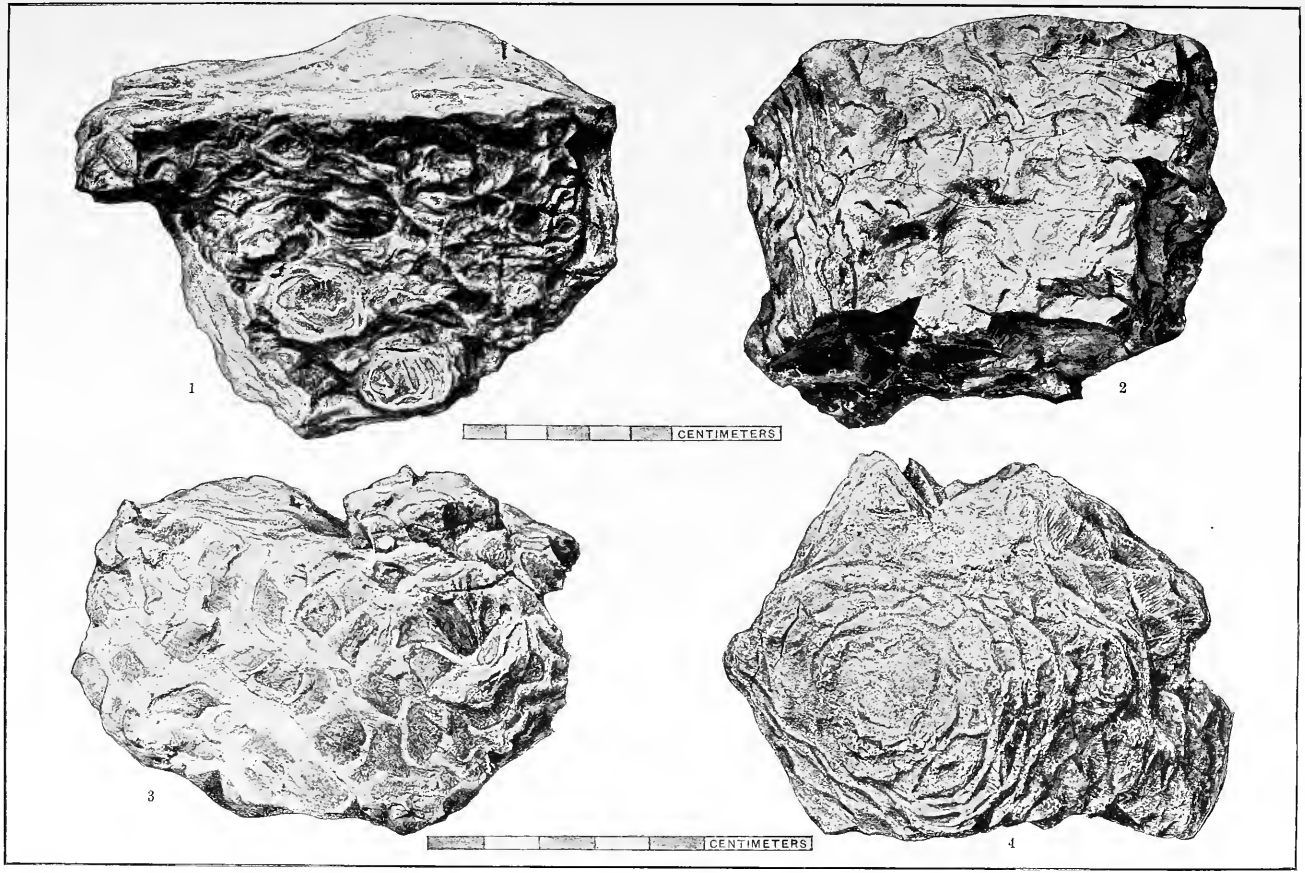
Figs. 1, 2. Cycadella Knowltoniana Ward 185
Side views of the fragments Nos. 500.94 and 500.498, respectively, of the museum of the University of Wyoming.

Fig. 3. Cycadella Reedii Ward..... 182
Side view of the small trunk No. 100.239 of the museum of the University of Wyoming.

Fig. 4. Cycadella compressa Ward..... 186
Side and top view of the small trunk No. 100.264 of the museum of the University of Wyoming.



JURASSIC CYCADS FROM WYOMING.

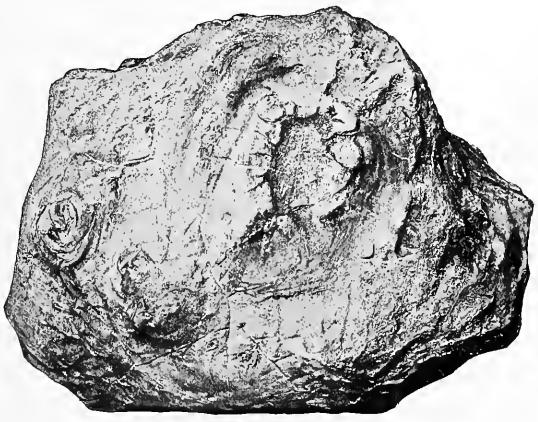
PLATE XLVIII.

PLATE XLVIII.

Jurassic Cycads from the Freezeout Hills, Wyoming.

Fig. 1. Side and top view of the small trunk No. 500.503 of the museum of the University of Wyoming.

Fig. 2. Side view of the small trunk No. 100.228 of the museum of the University of Wyoming.



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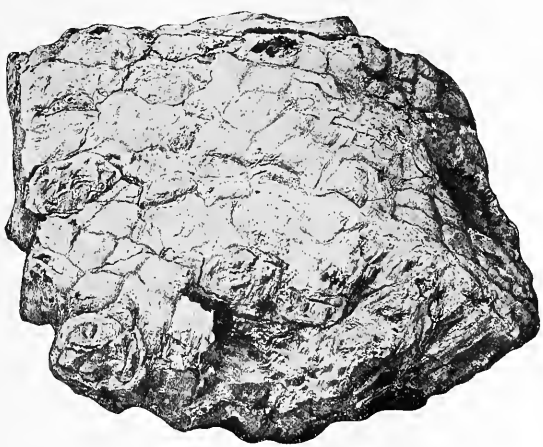

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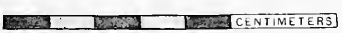
JURASSIC CYCADS FROM WYOMING.

PLATE XLIX.

PLATE XLIX.

Jurassic Cycads from the Freezeout Hills, Wyoming.



JURASSIC CYCADS FROM WYOMING.

PLATE L.

PLATE L.

JURASSIC CYCADS FROM THE FREEZEOUT HILLS, WYOMING.

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CYCADELLA NODOSA Ward..... 187

Side view of the trunk No. 500.509 of the museum of the University of Wyoming.

JURASSIC CYCADS FROM WYOMING.

PLATE LI.

PLATE LI.

Jurassic Cycads from the Freezeout Hills, Wyoming.

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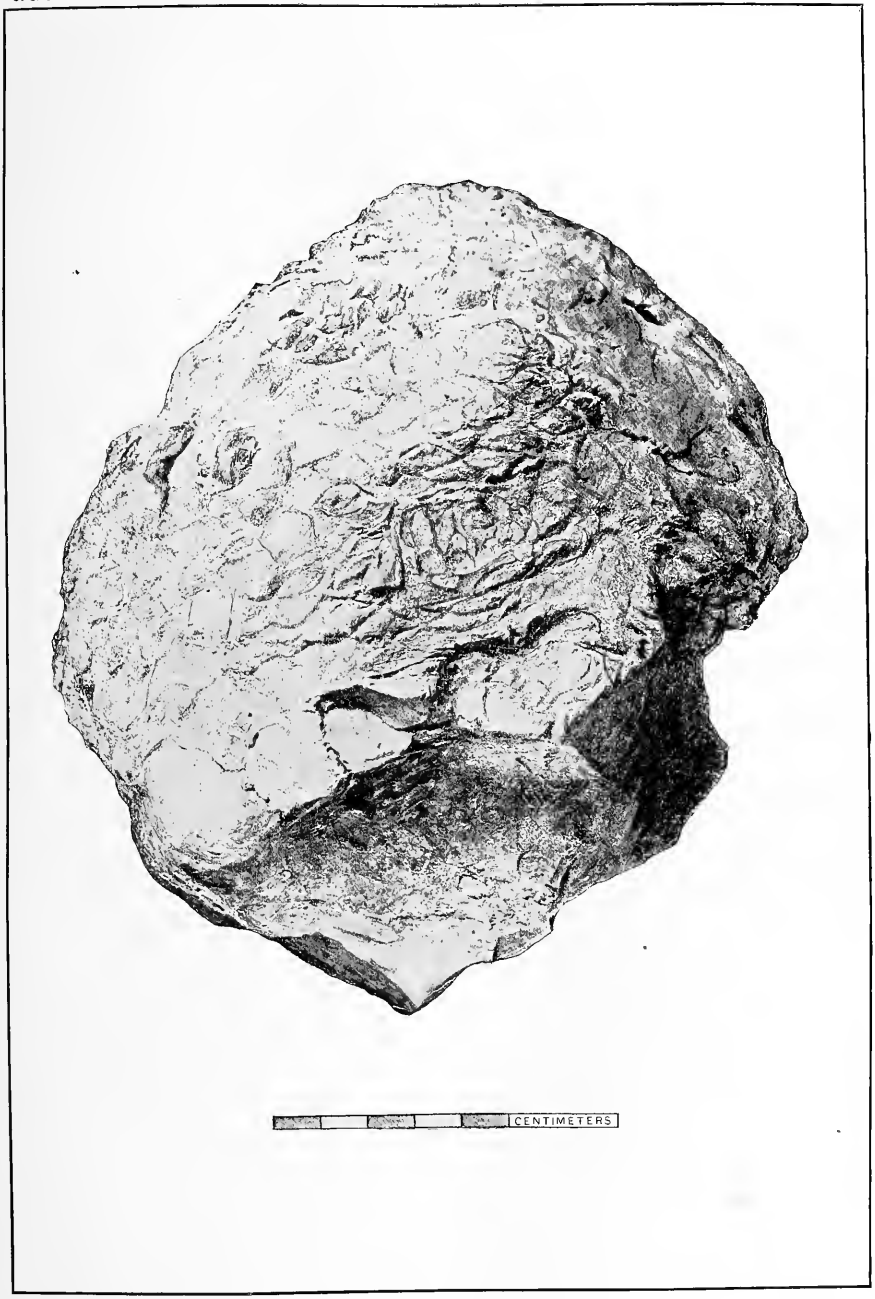
Cycadella nodosa Ward..... 187

Side view showing also part of the base of the trunk No. 100.206 of the museum of the University of Wyoming.



JURASSIC CYCADS FROM WYOMING.

PLATE LII.

PLATE LII.

Jurassic Cycads from the Freezeout Hills, Wyoming.

Page.

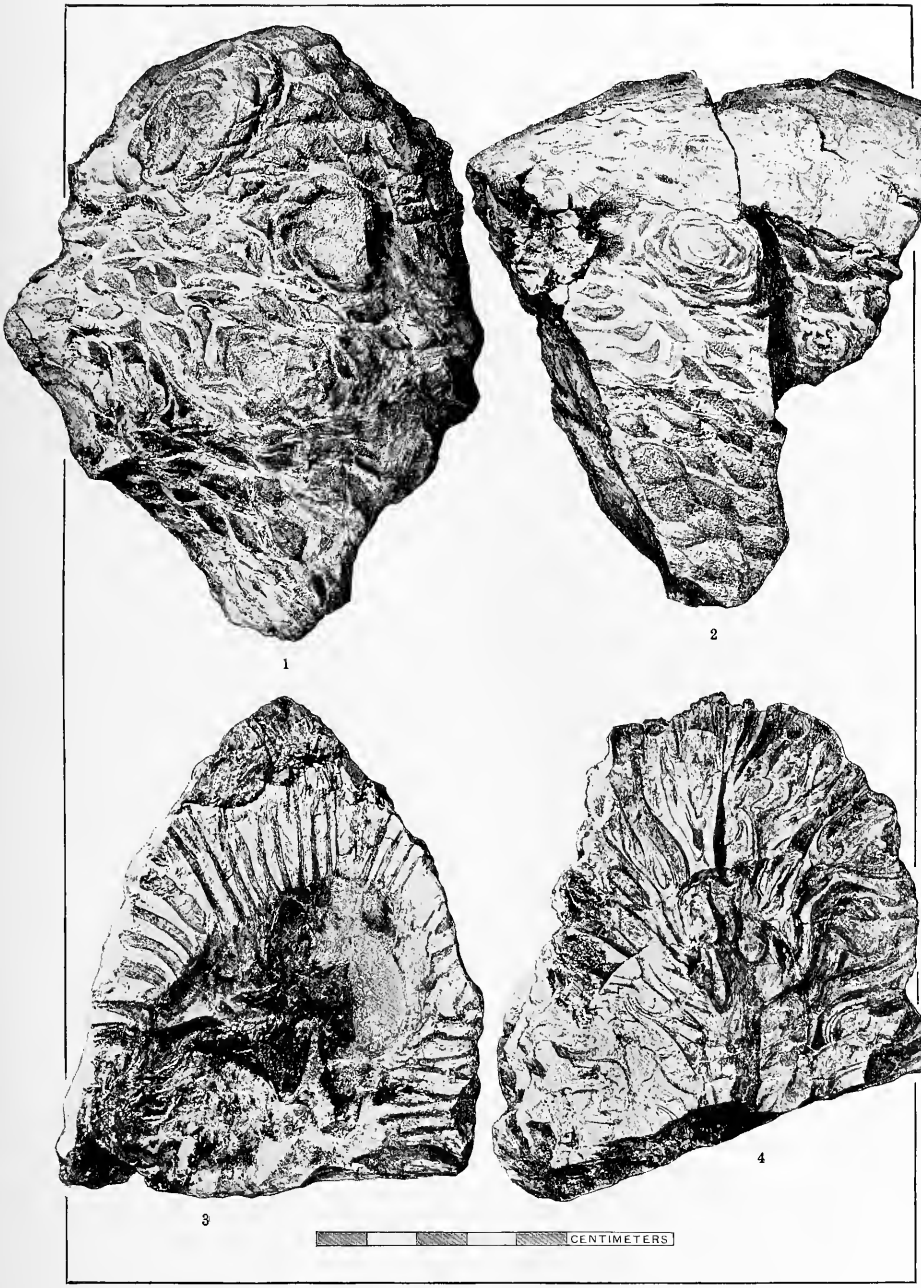
Fig. 1. Cycadella nodosa Ward..... 187

Side view of the small trunk No. 100.229 of the museum of the University of Wyoming.

Figs. 2–4. Cycadella cirrata Ward..... 188

Fig. 2. Side view of the triangular section resulting from joining Nos. 500.178 and 500.422 of the museum of the University of Wyoming.

Figs. 3, 4. Views of the internal structure shown in the fractures of Nos. 500.422 and 500.136, respectively, of the museum of the University of Wyoming.



JURASSIC CYCADS FROM WYOMING.

PLATE LIII.

PLATE LIII.

Jurassic Cycads from the Freezeout Hills, Wyoming.

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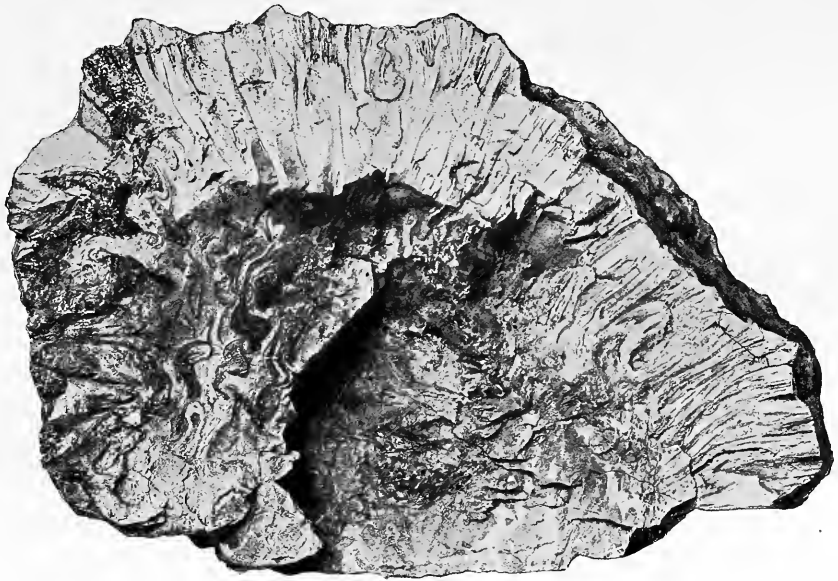
Cycadella cirrata Ward..... 188

View of the internal structure shown in the tangential fracture of the fragment No. 100.245 of the museum of the University of Wyoming.



JURASSIC CYCADS FROM WYOMING.

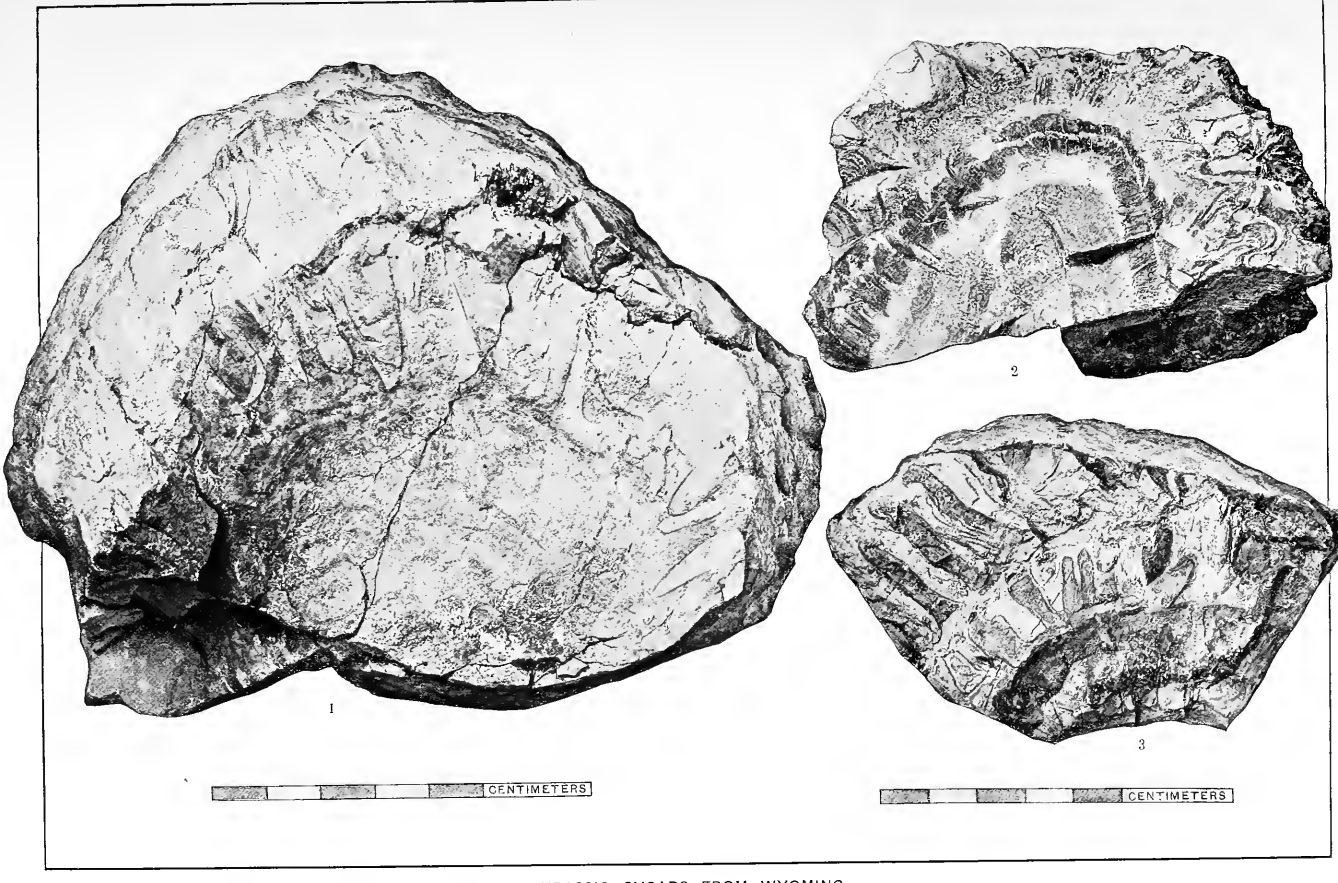
PLATE LIV.

PLATE LIV.

Jurassic Cycads from the Freezeout Hills, Wyoming.

Fig. 1. View of the tangential fracture of the trunk No. 500.514 of the museum of the University of Wyoming.

Figs. 2, 3. Views of the radial fractures of the two fragments Nos. 500.416 and 500.174, respectively, of the museum of the University of Wyoming, showing the exogenous structure and woody wedges.



JURASSIC CYCADS FROM WYOMING.

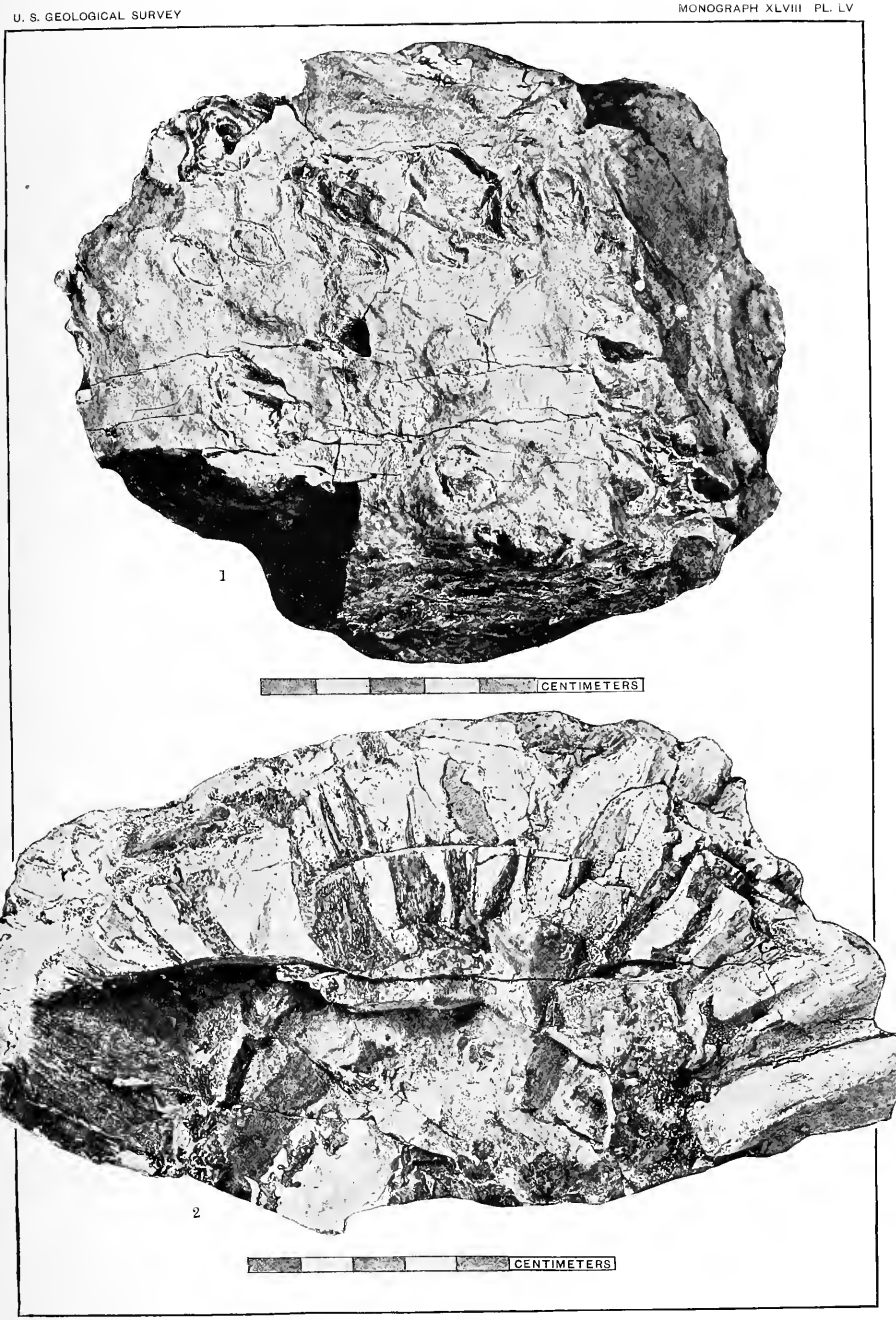
PLATE LV.

PLATE LV.

Jurassic Cycads from the Freezeout Hills, Wyoming.

Fig. 1. Side view of the trunk No. 100.214 of the museum of the University of Wyoming.

Fig. 2. View of the rough radial fracture of the fragment No. 100.201 of the museum of the University of Wyoming.



JURASSIC CYCADS FROM WYOMING.

PLATE LVI.

PLATE LVI.

Jurassic Cycads from the Freezeout Hills, Wyoming.

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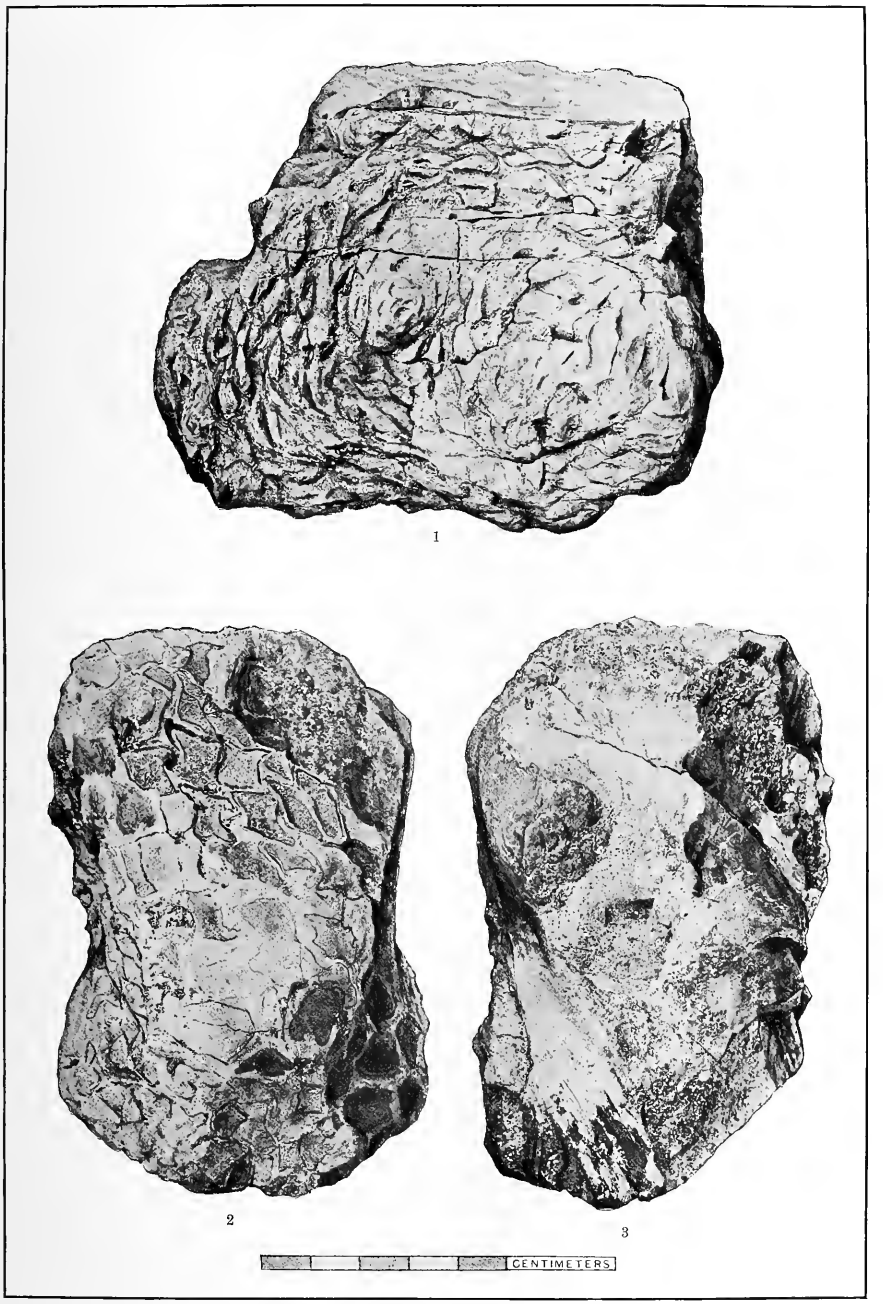
Cycadella contracta Ward..... 192

Fig. 1. Side view of the imperfect trunk No. 100.218 of the museum of the University of Wyoming.

Figs. 2, 3. Views of the outer and inner surfaces respectively, of the small trunk No. 100.241 of the museum of the University of Wyoming.



JURASSIC CYCADS FROM WYOMING.

PLATE LVII.

PLATE LVII.

Jurassic Cycads from the Freezeout Hills, Wyoming.

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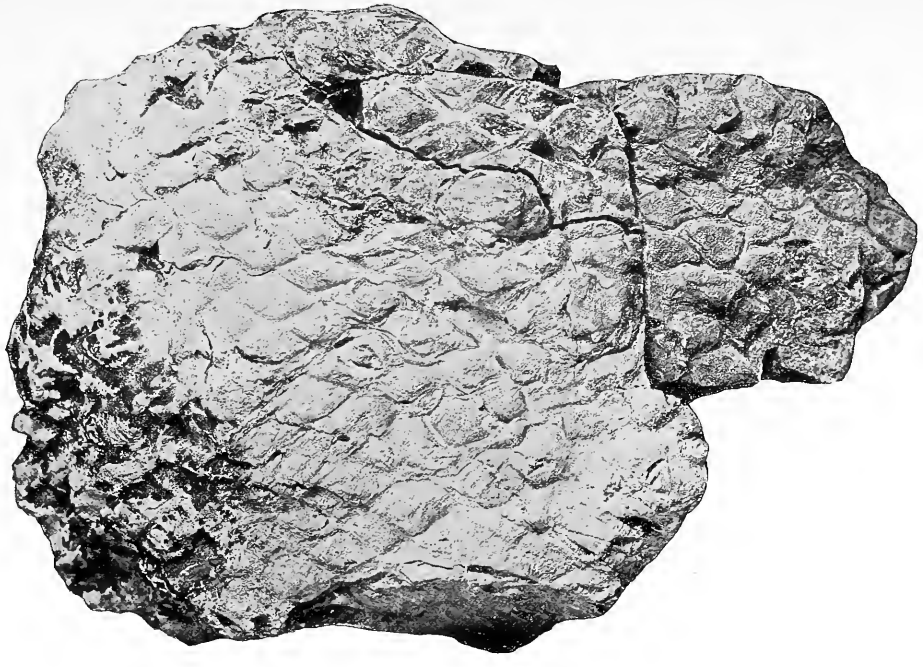
Cycadella jejuna Ward..... 194

Side view of the trunk consisting of Nos. 500.515 and 500.491 of the museum of the University of Wyoming.



JURASSIC CYCADS FROM WYOMING.

PLATE LVIII.

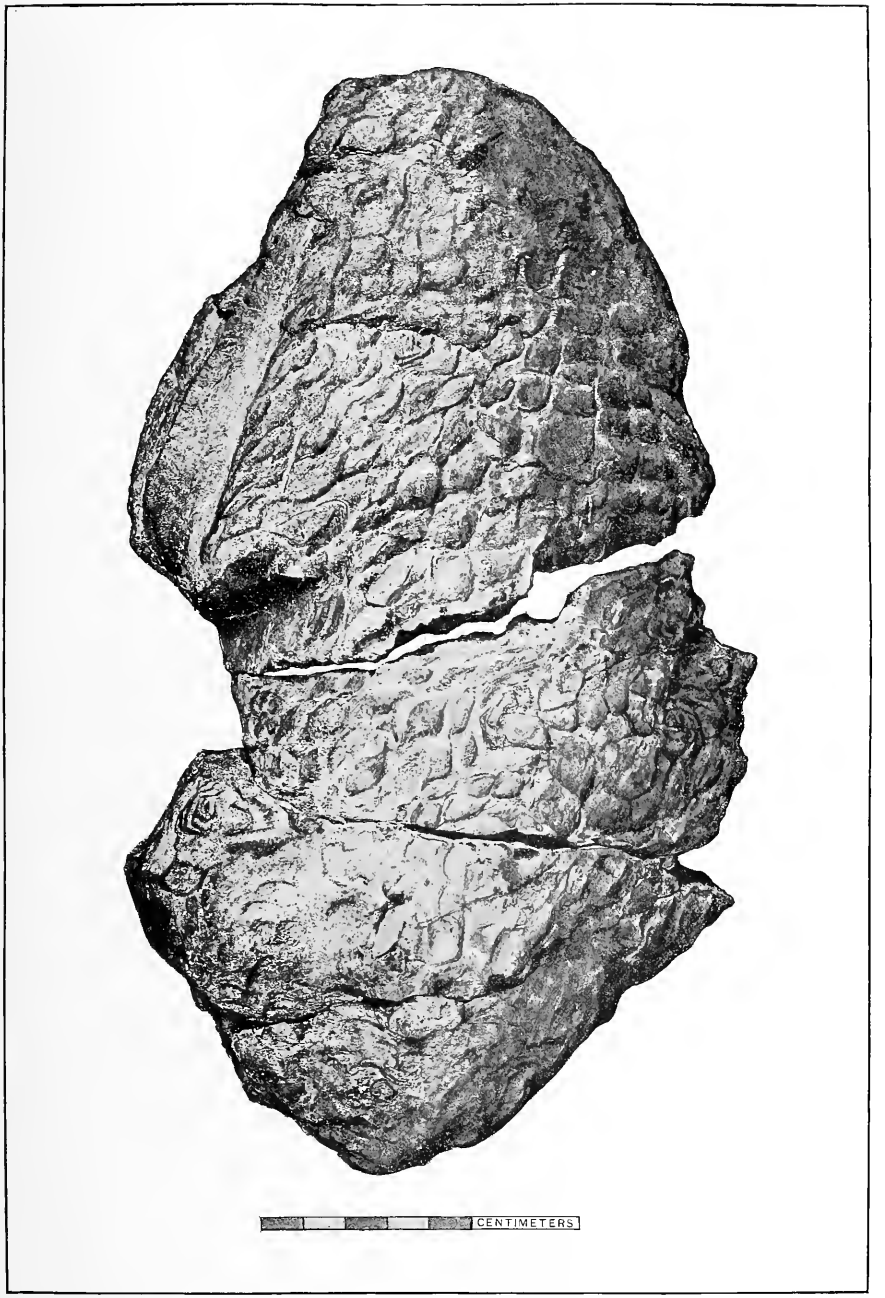
PLATE LVIII.

JURASSIC CYCADS FROM THE FREEZEOUT HILLS, WYOMING.

Page.

CYCADELLA CREPIDARIA Ward..... 195

View of the best preserved side of the trunk, consisting of Nos. 100.202, 100.215 and 100.230 of the museum of the University of Wyoming.



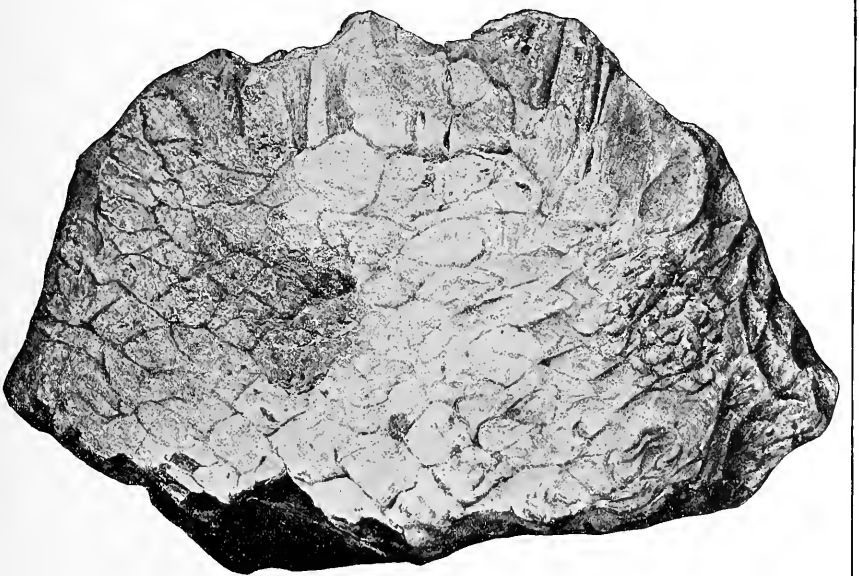
JURASSIC CYCADS FROM WYOMING.

PLATE LIX.

PLATE LIX.

JURASSIC CYCADS FROM THE FREEZEOUT HILLS, WYOMING.

View of one side of the trunk No. 100.203 of the museum of the University of Wyoming.



JURASSIC CYCADS FROM WYOMING.

PLATE LX.

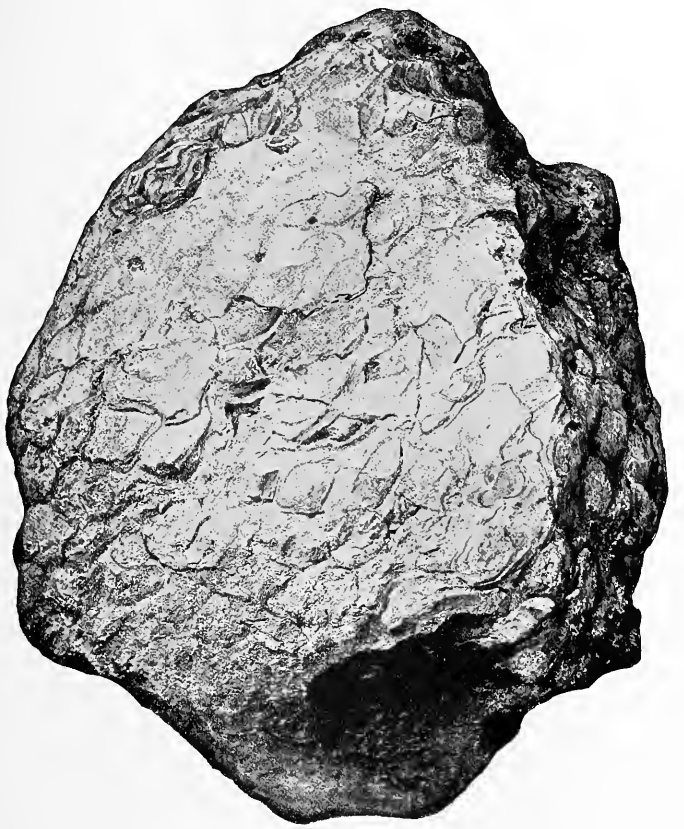
PLATE LX.

Jurassic Cycads from the Freezeout Hills, Wyoming.

Page.

Cycadella crepidaria Ward..... 195

View of the convex side of the trunk No. 100.226 of the museum of the University of Wyoming



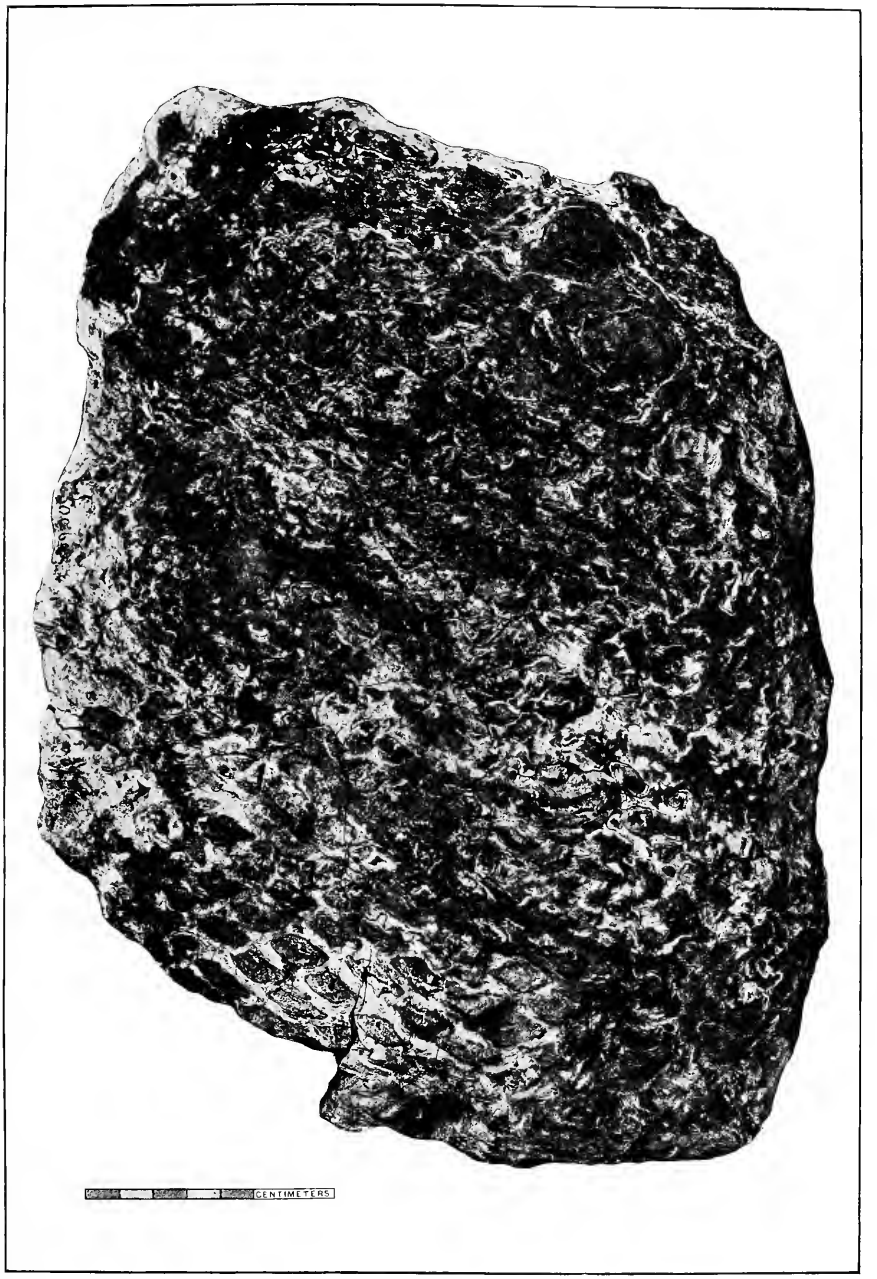
JURASSIC CYCADS FROM WYOMING.

PLATE LXI.

PLATE LXI.

JURASSIC CYCADS FROM THE FREEZEOUT HILLS, WYOMING.

View of the convex side of the trunk No. 500.687 of the museum of the University of Wyoming.



JURASSIC CYCADS FROM WYOMING.

PLATE LXII.

PLATE LXII.

JURASSIC CYCADS FROM THE FREEZEOUT HILLS, WYOMING.

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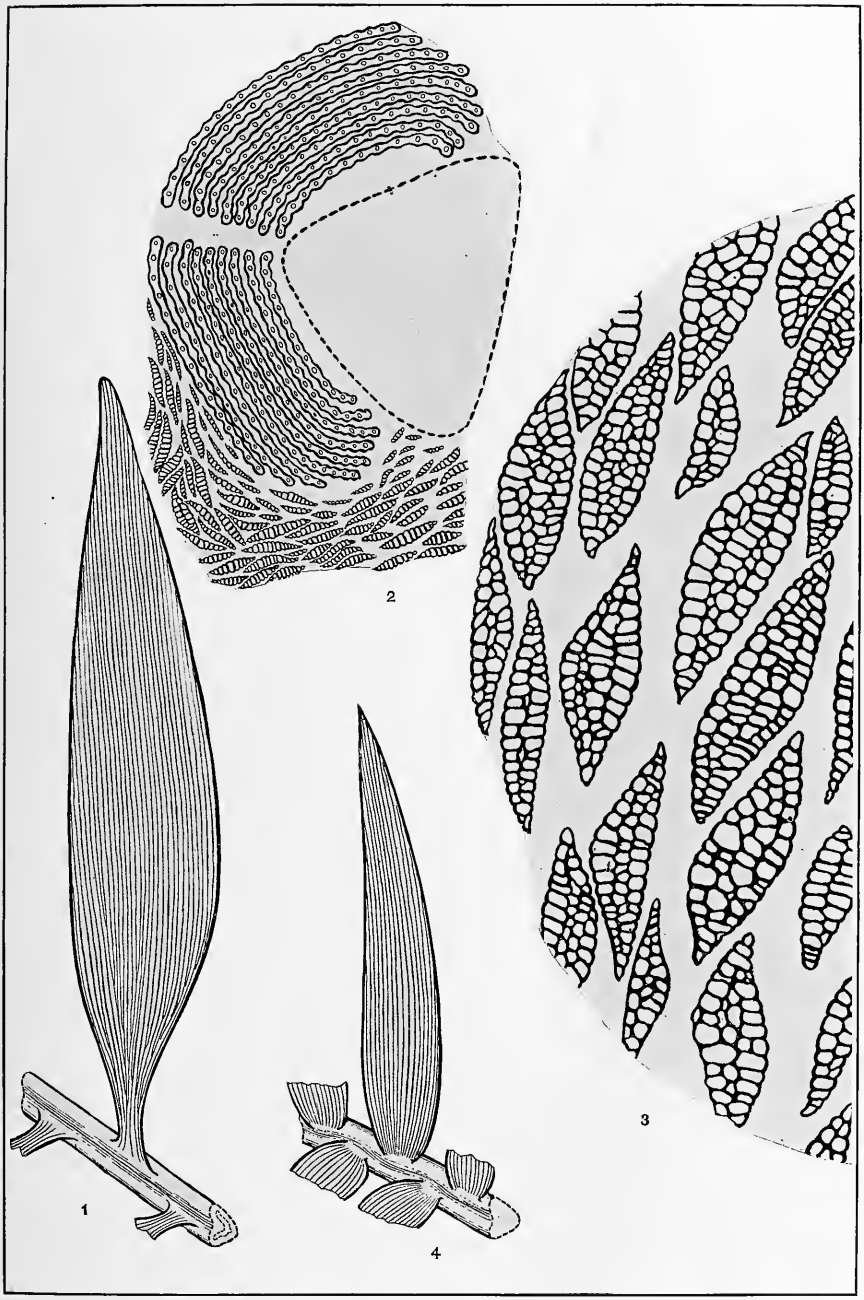
FIGS. 1–3. CYCADELLA RAMENTOSA Ward 191, 200, 201, 202, 203

Fig. 1. Hypothetical form of frond.

Fig. 2. Transverse section of young frond. × 25.

Fig. 3. Transverse section of ramental chaff, × 65.

FIG. 4. WILLIAMSONIA GIGAS (L. & H.) Carr. (introduced for comparison) 201, 204



JURASSIC CYCADS FROM WYOMING.

PLATE LXIII.

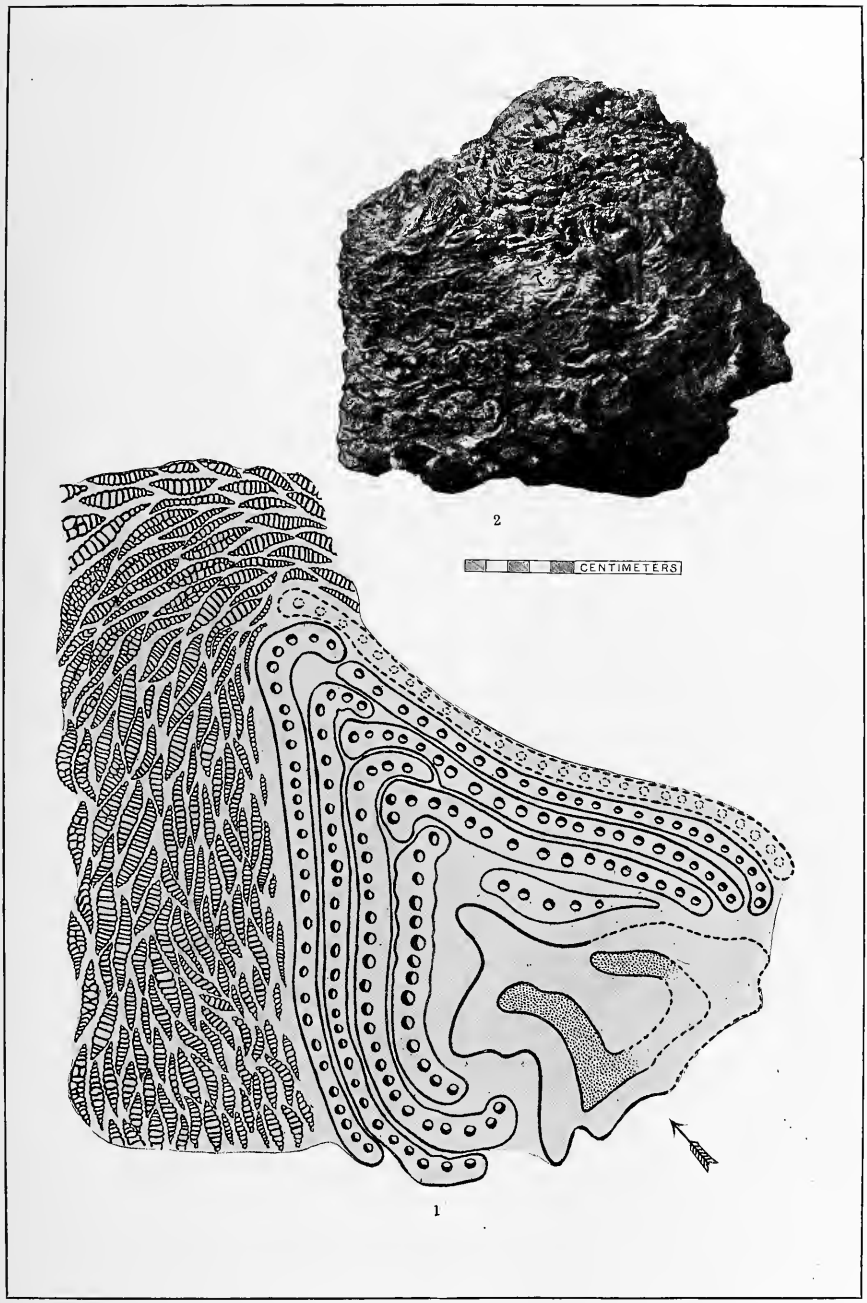
PLATE LXIII.

Jurassic Cycads from Wyoming.

Page.

Fig. 1. Cycadella ramentosa Ward 200, 201, 202
Transverse section of young frond, × 25.

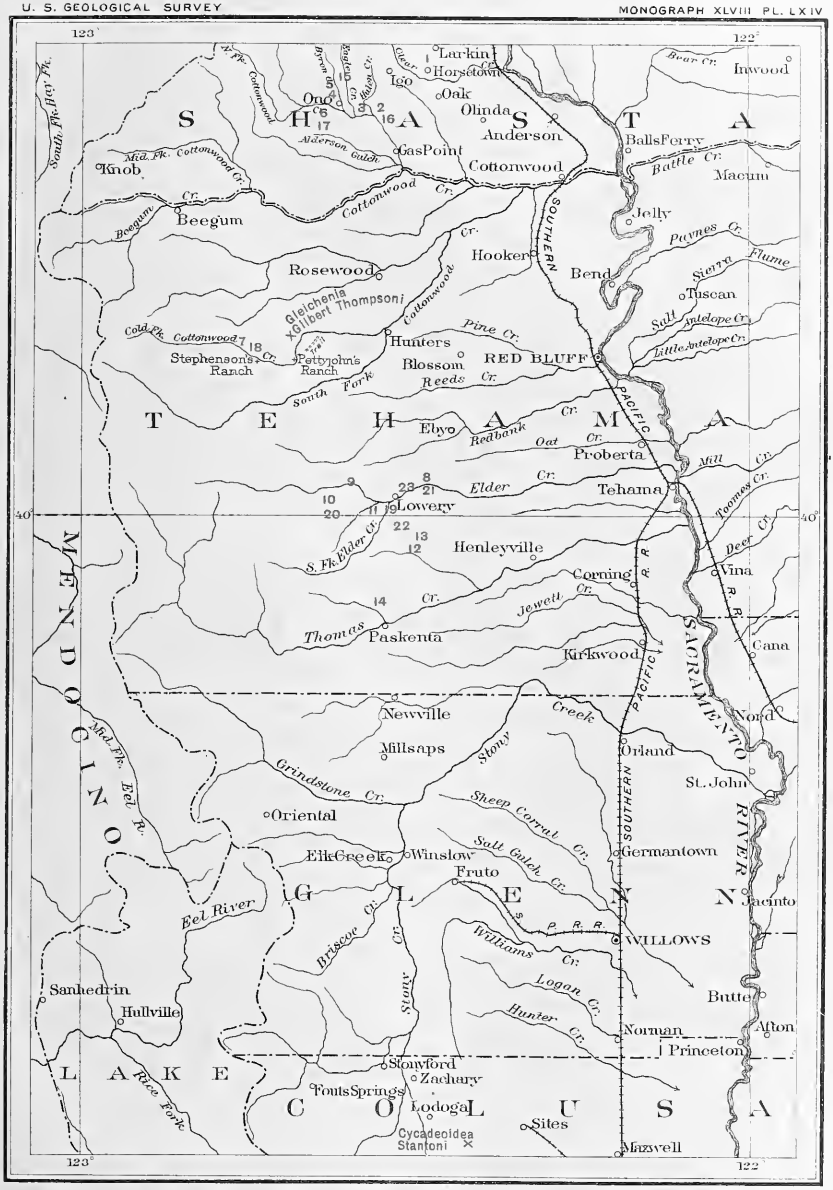
Fig. 2. Cycadella utopiensis Ward 204



JURASSIC CYCADS FROM WYOMING.

PLATE LXIV.

PLATE LXIV.



SKETCH MAP SHOWING FOSSIL LOCALITIES OF THE SHASTA FORMATION
NORTHERN CALIFORNIA

Scale

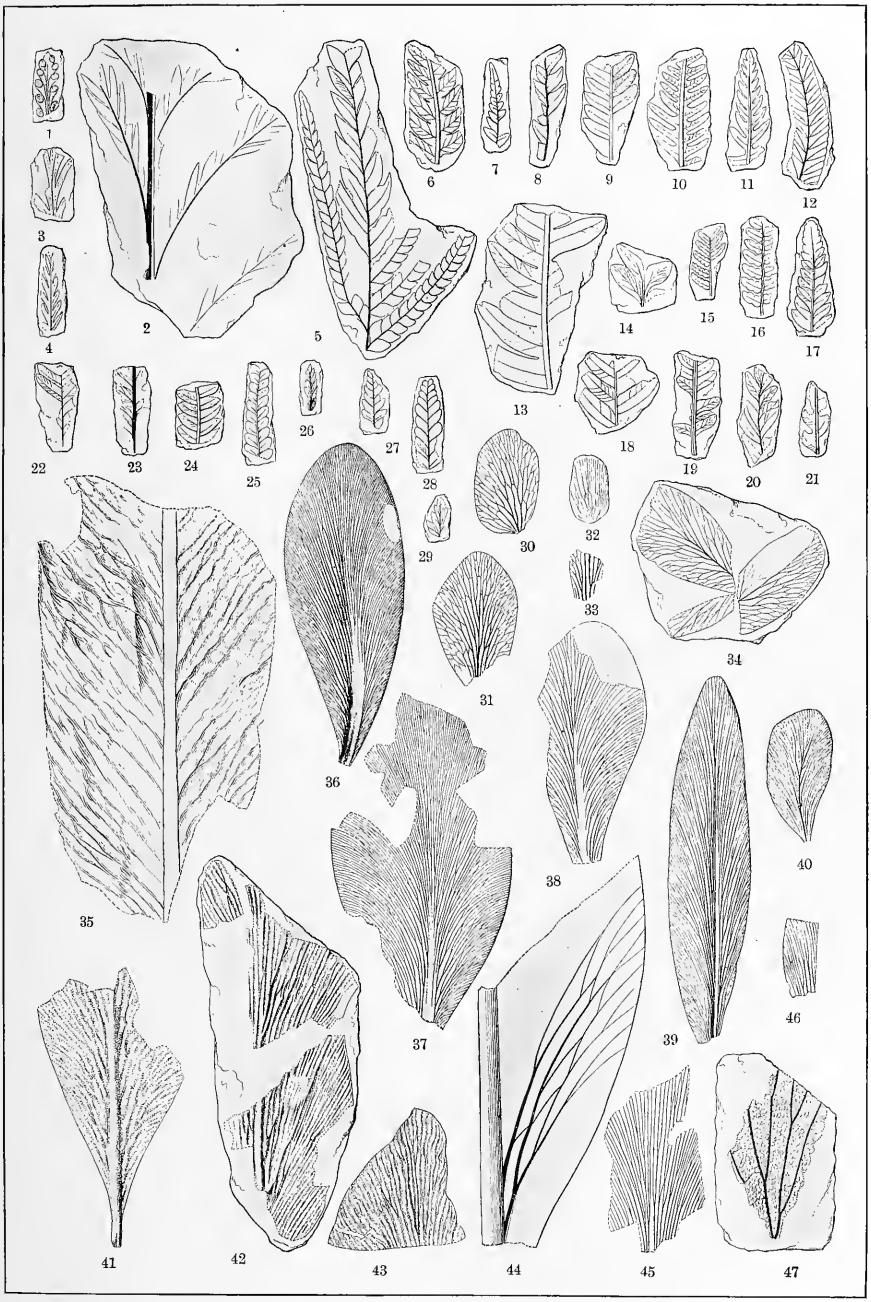
0 10 20 30 miles

A. HOEN & CO. BALTIMORE

PLATE LXV.

PLATE LXV.

Flora of the Shasta Formation.

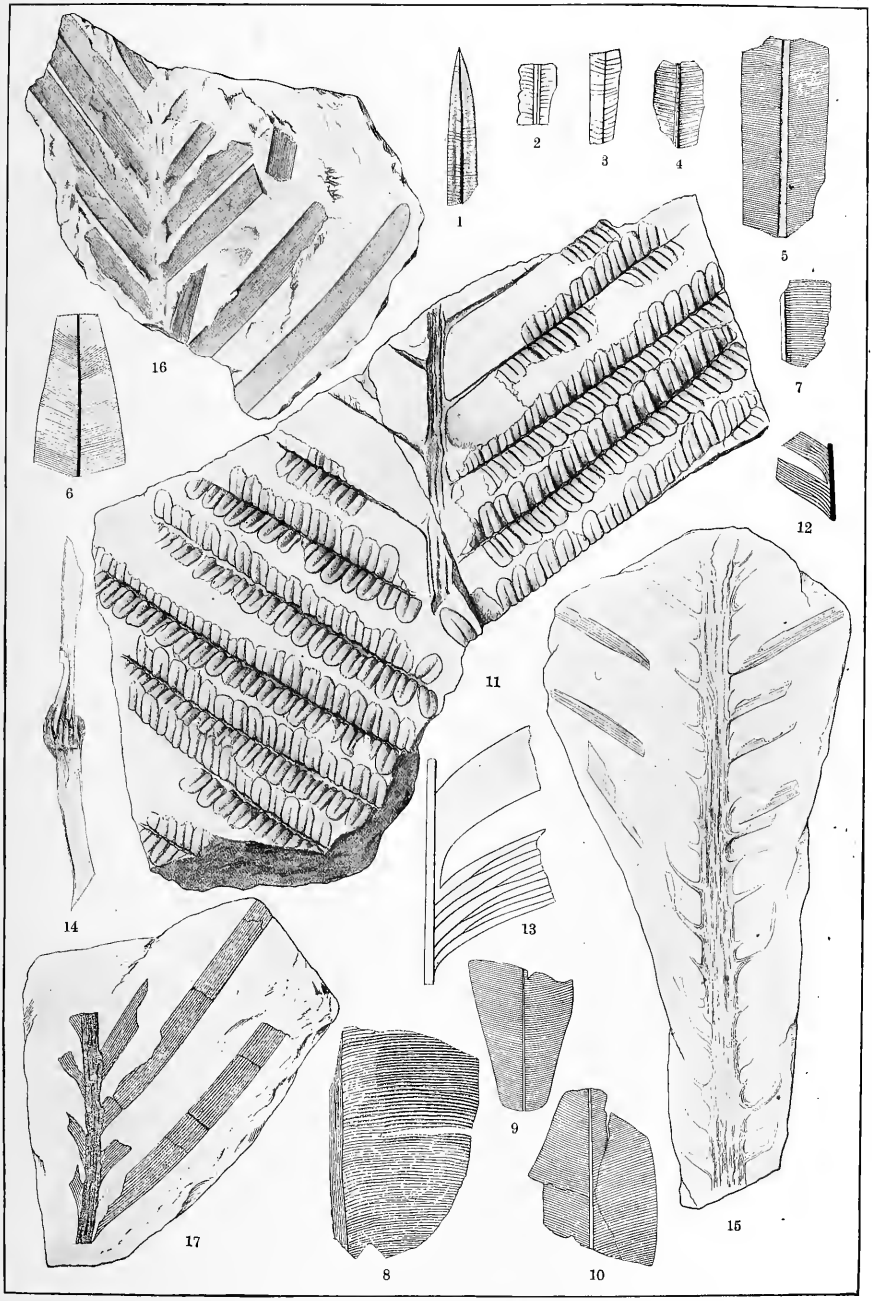


FERNS FROM THE SHASTA FORMATION OF CALIFORNIA AND OREGON.

PLATE LXVI.

PLATE LXVI.

Flora of the Shasta Formation.

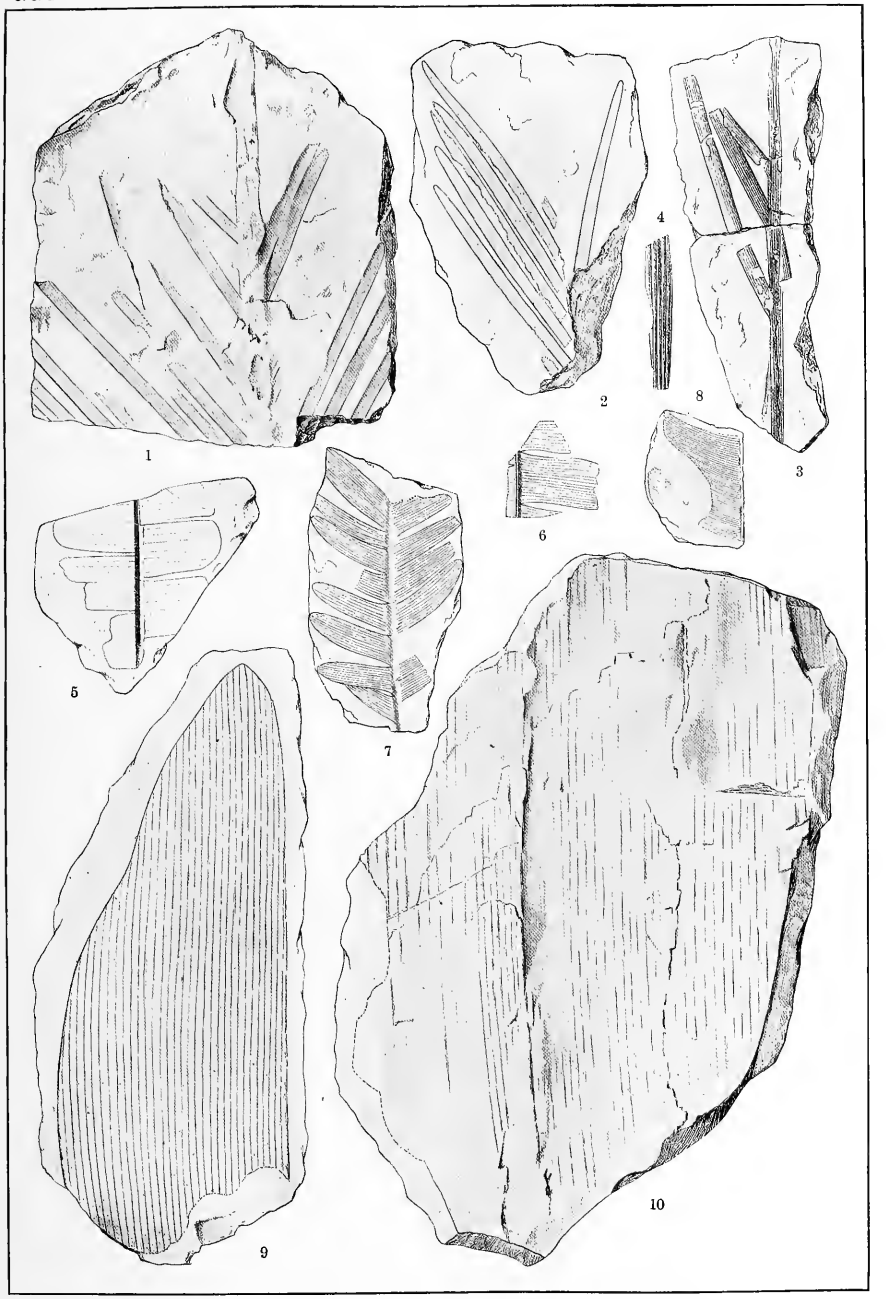


FERNS FROM THE SHASTA FORMATION OF CALIFORNIA AND OREGON.

PLATE LXVII.

PLATE LXVII.

Flora of the Shasta Formation.

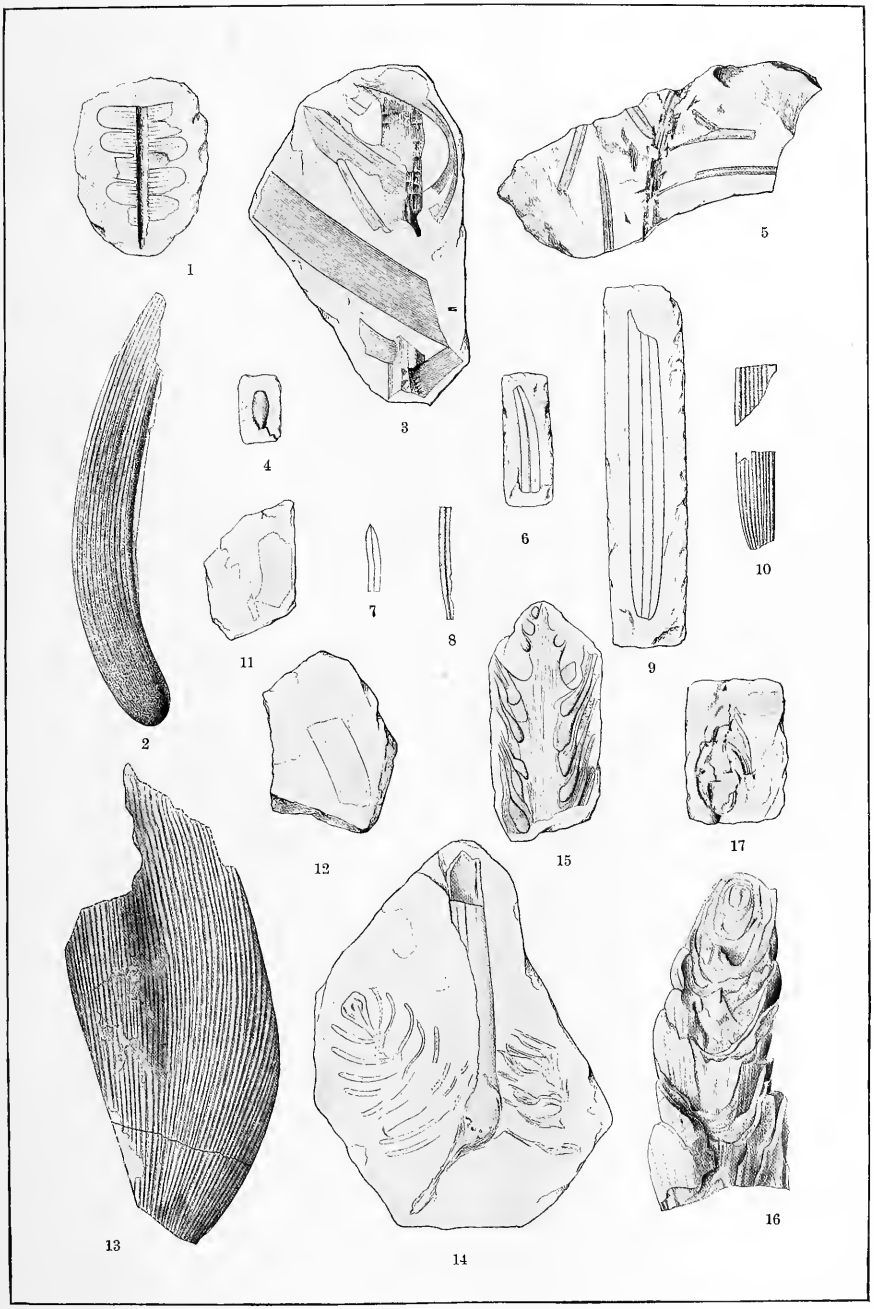


CYCADS FROM THE SHASTA FORMATION OF CALIFORNIA AND OREGON.

PLATE LXVIII.

PLATE LXVIII.

Flora of the Shasta Formation.

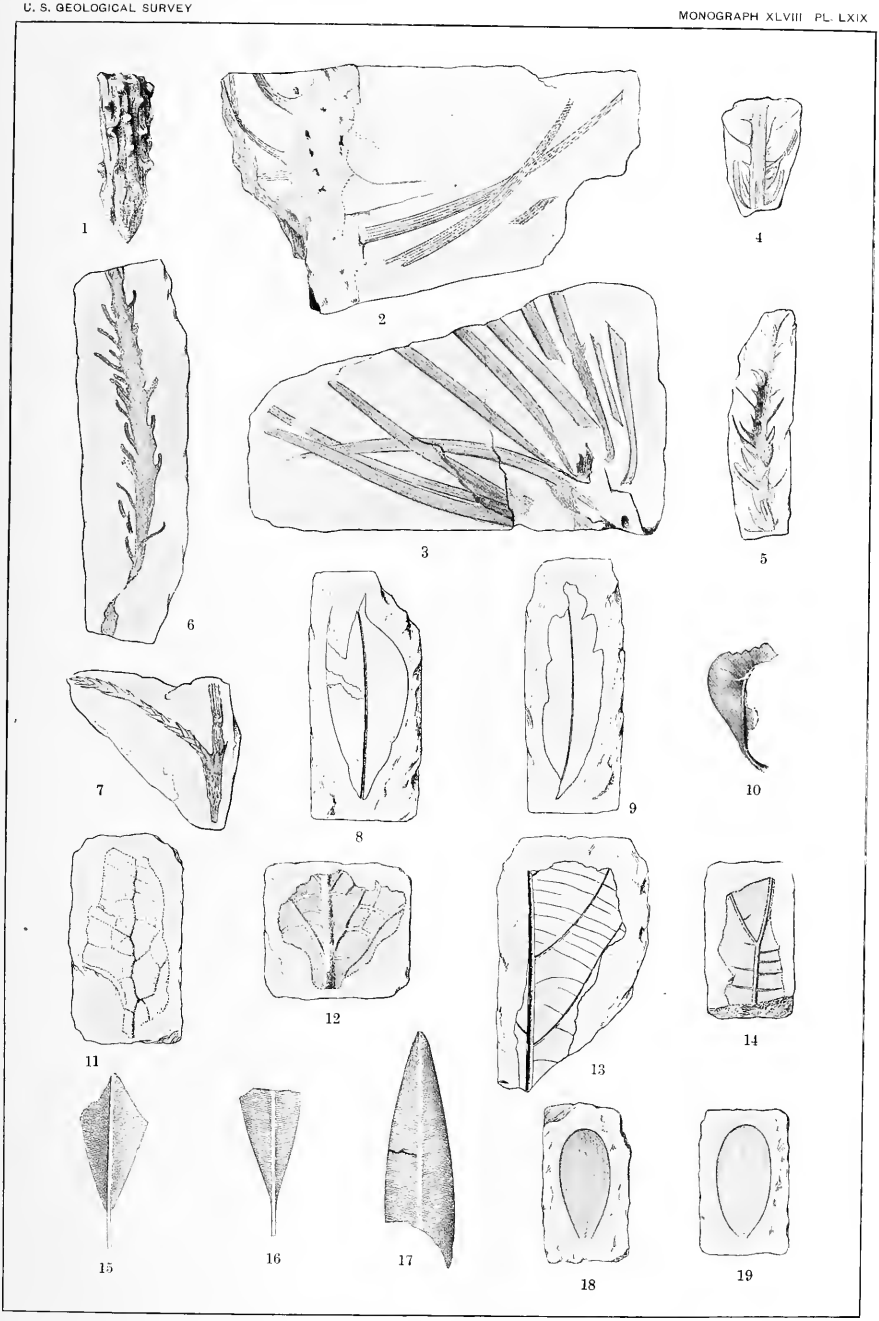


CYCADS AND CONIFERS FROM THE SHASTA FORMATION OF CALIFORNIA AND OREGON.

PLATE LXIX.

PLATE LXIX.

Flora of the Shasta Formation.



CONIFERS AND DICOTYLEDONS FROM THE SHASTA FORMATION OF CALIFORNIA AND OREGON.

PLATE LXX.

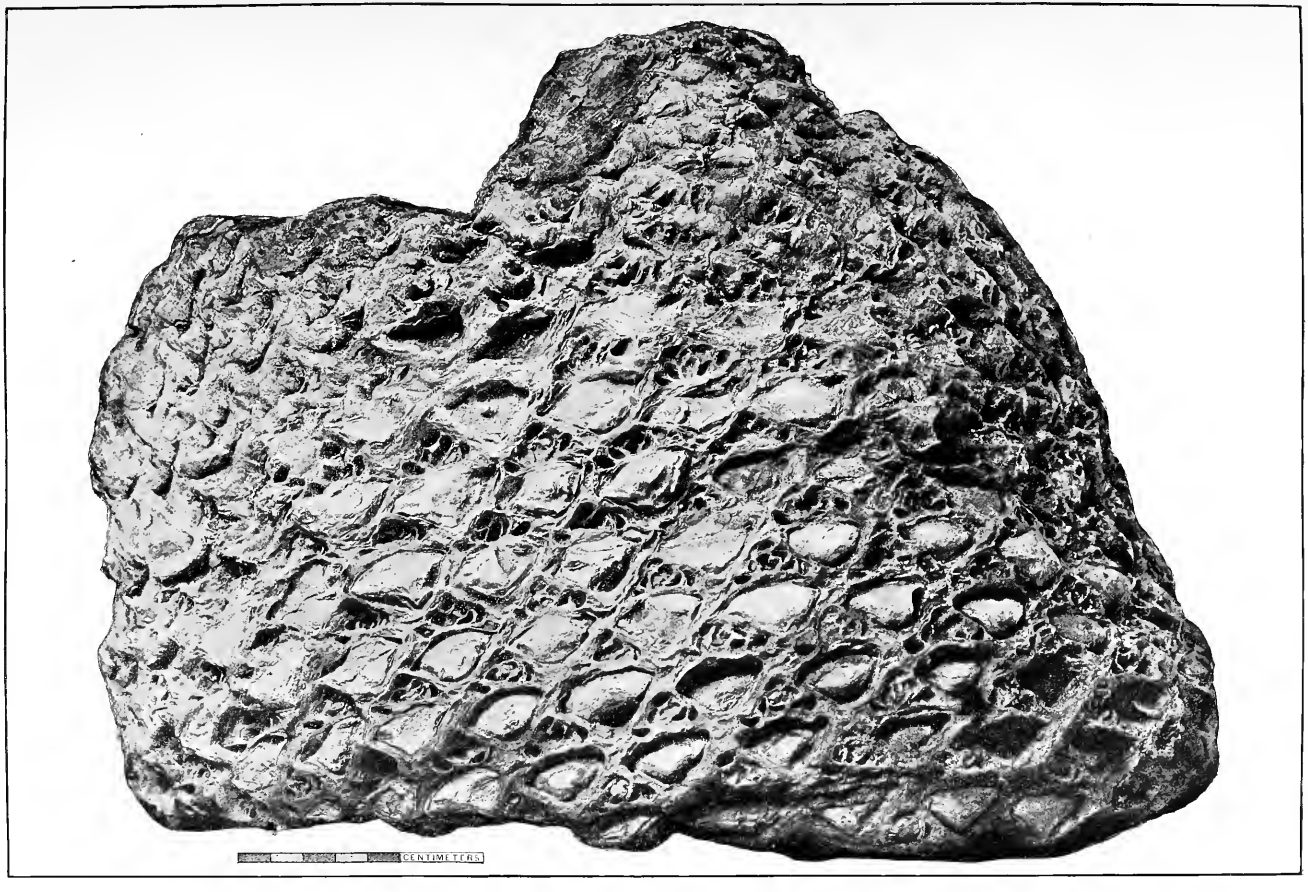
PLATE LXX.

Flora of the Shasta Formation.

Page.

Cycadeoidea Stantoni Ward n. sp. 276

View of the best preserved side.

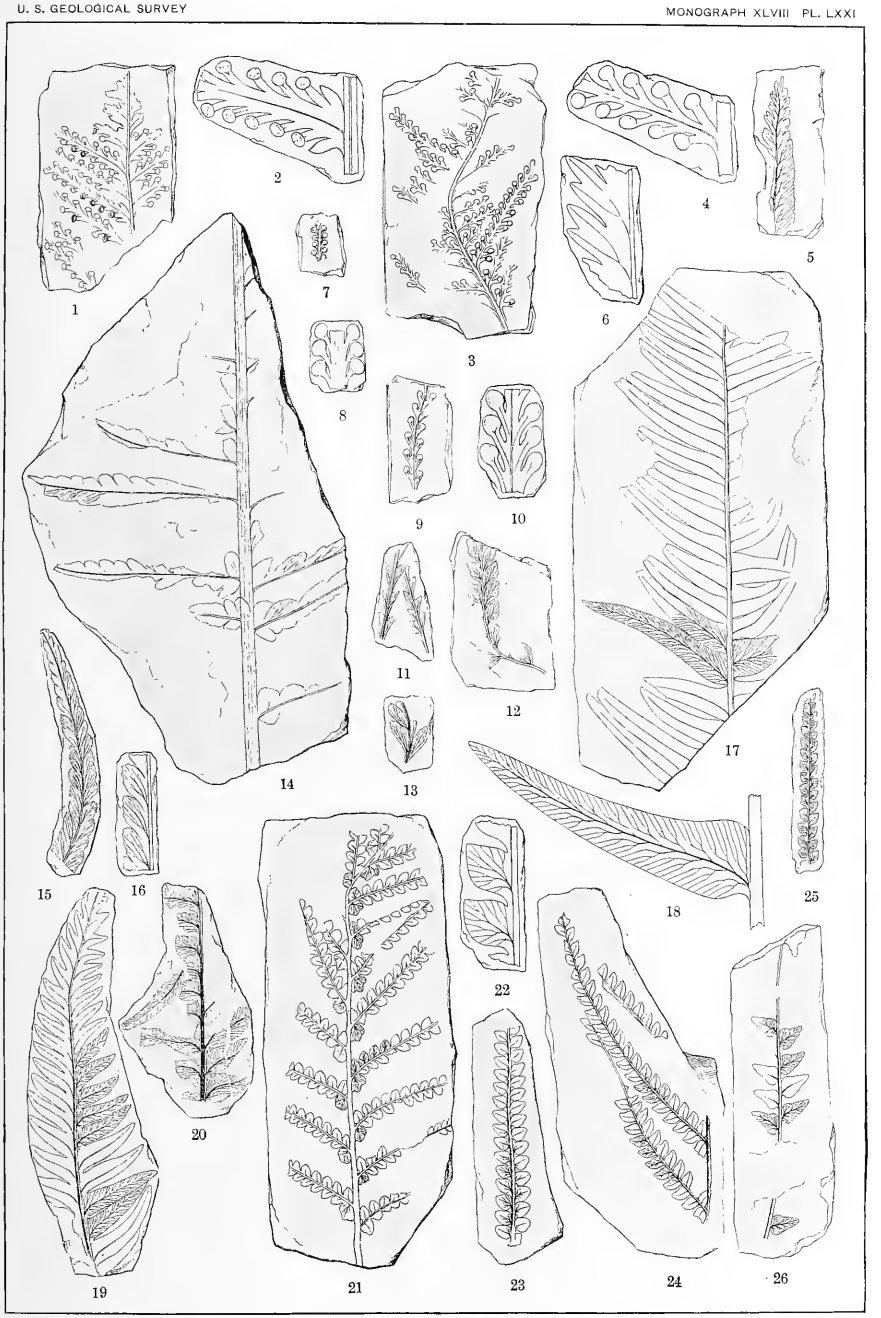


CYCADEAN TRUNK FROM THE SHASTA FORMATION OF CALIFORNIA.

PLATE LXXI.

PLATE LXXI.

Flora of the Kootanie Formation.

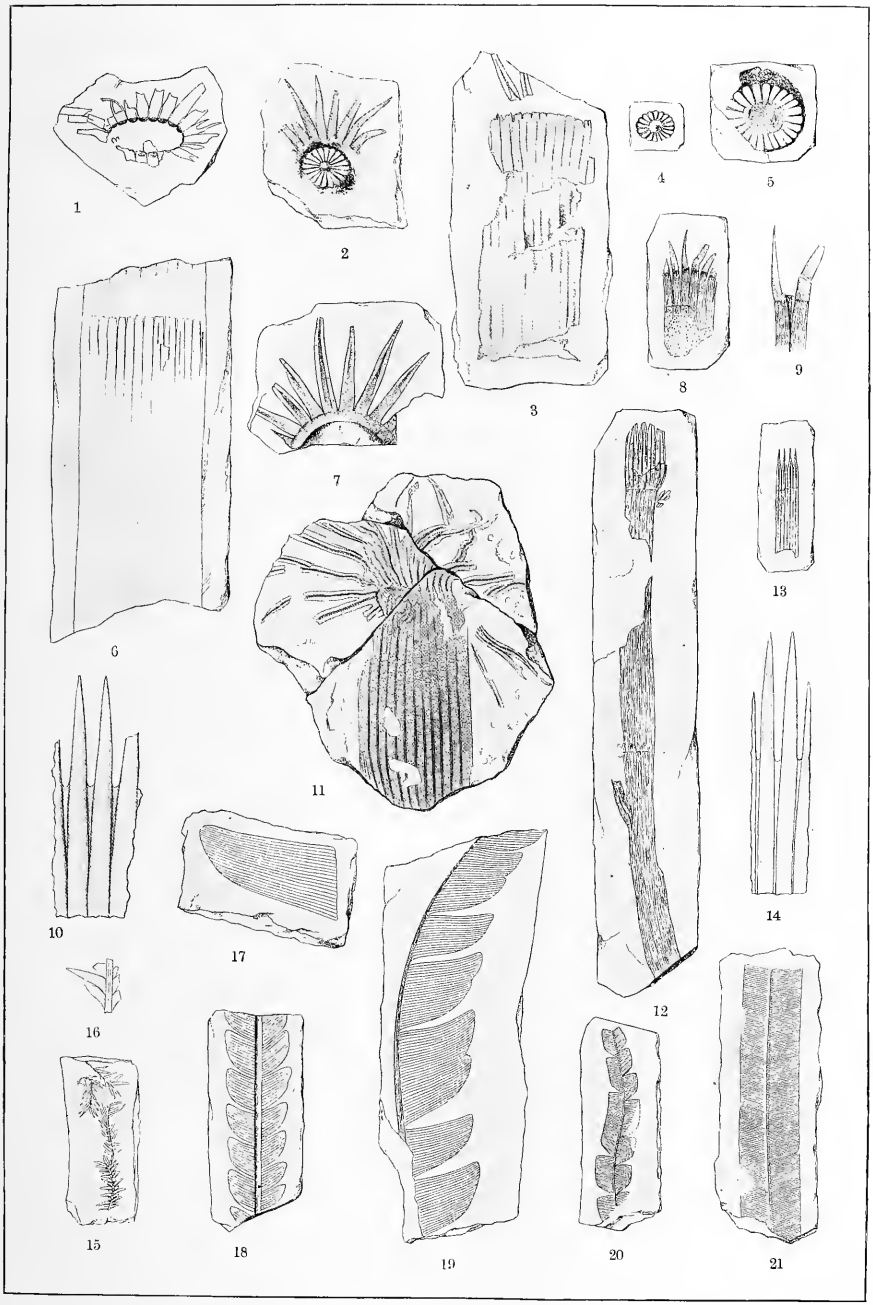


FERNS FROM THE KOOTANIE FORMATION OF MONTANA.

PLATE LXXII.

PLATE LXXII.

Flora of the Kootanie Formation.



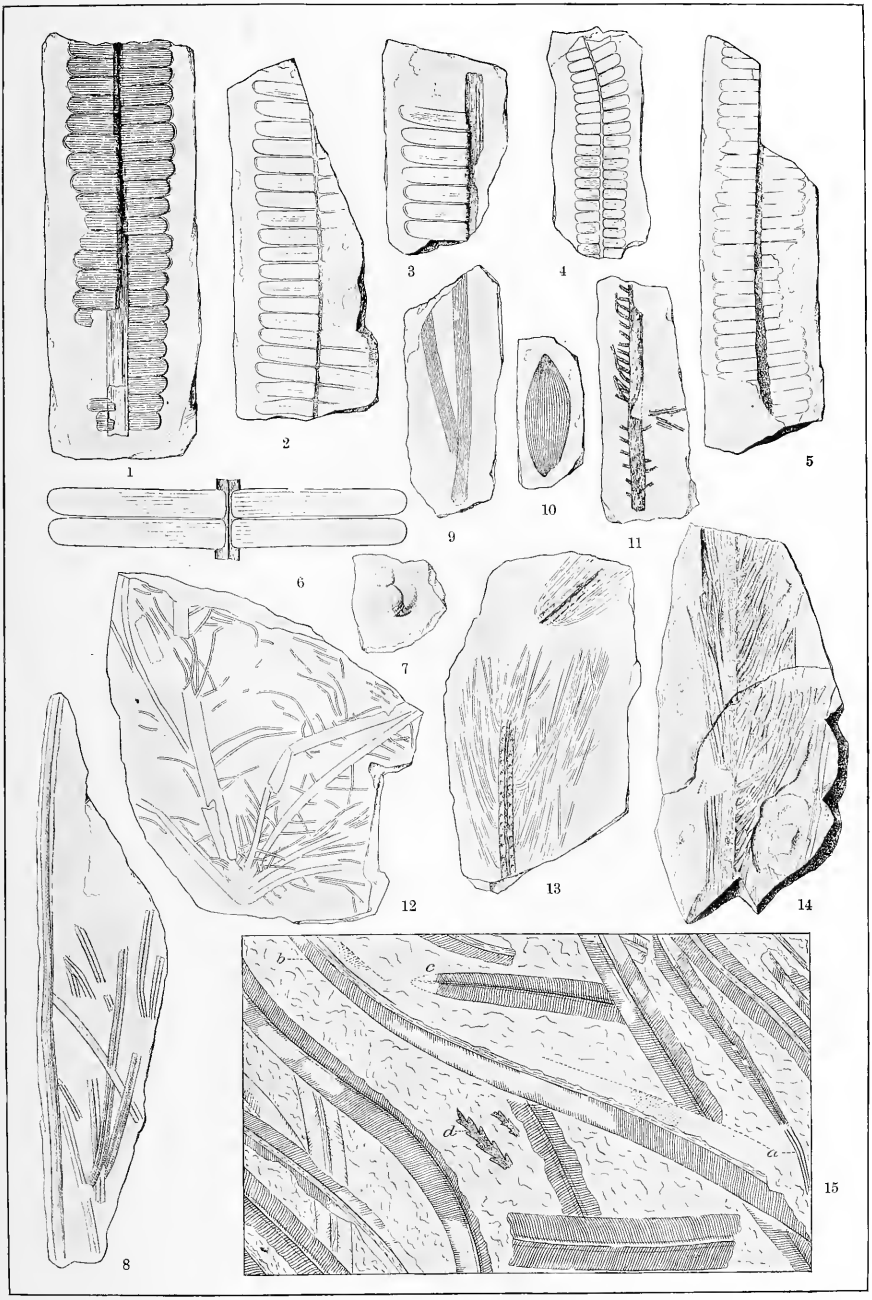
EQUISETA AND CYCADS FROM THE KOOTANIE FORMATION OF MONTANA.

PLATE LXXIII.

PLATE LXXIII.

Flora of the Kootanie Formation.

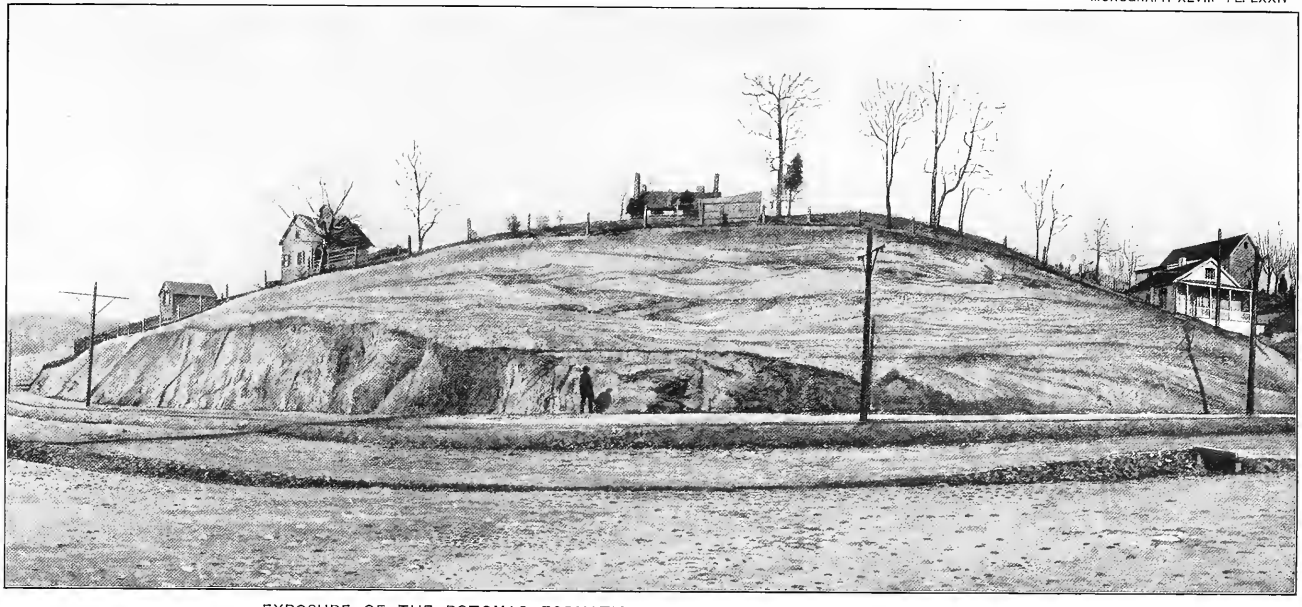
Flora of the Lakota Formation.



CYCADS AND CONIFERS FROM THE KOOTANIE FORMATION OF MONTANA AND THE LAKOTA FORMATION OF SOUTH DAKOTA.

PLATE LXXIV.

PLATE LXXIV.



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

PLATE LXXV.

PLATE LXXV.

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

PLATE LXXVI.

PLATE LXXVI.

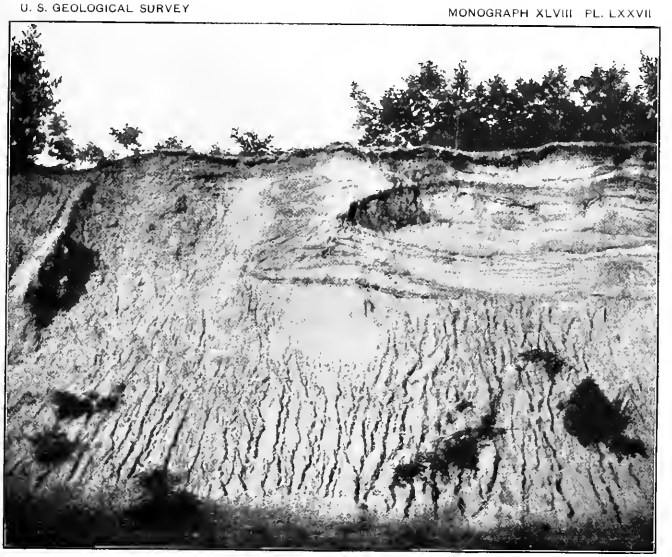
Page.

Exposure on Sixteenth street, opposite Crescent street, Washington, D C., looking northeast, showing basal Potomac clays overlain by superficial deposits (compare section on page 386) 382

EXPOSURE OF THE POTOMAC FORMATION ON SIXTEENTH STREET, WASHINGTON, D. C.

PLATE LXXVII.

PLATE LXXVII.



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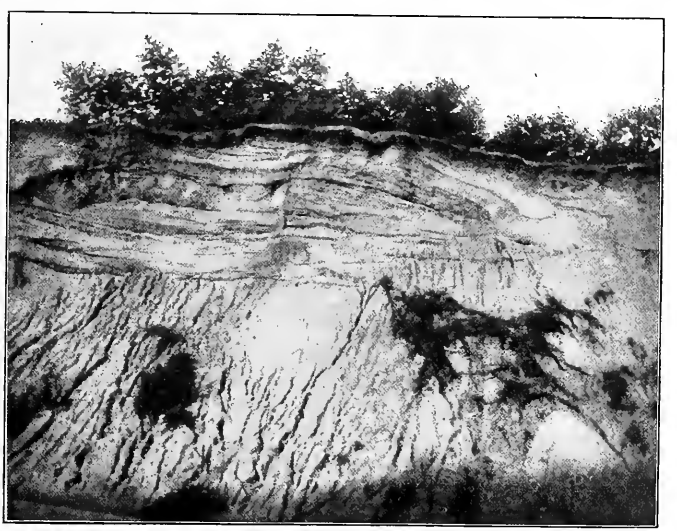
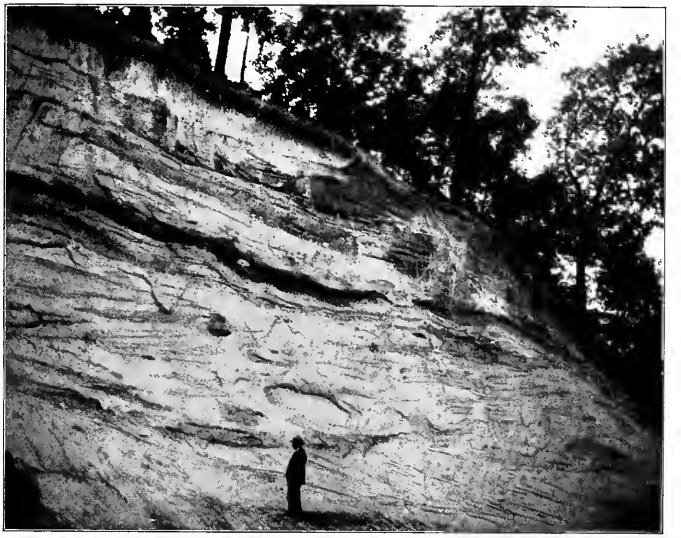


2

EXPOSURES OF THE POTOMAC FORMATION AT TERRA COTTA, D. C.

PLATE LXXVIII.

PLATE LXXVIII.



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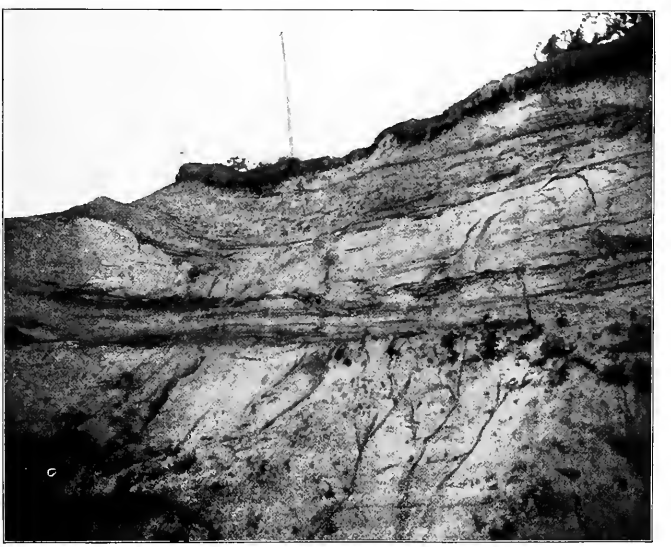


2

EXPOSURES OF THE POTOMAC FORMATION AT FREESTONE, VA.

PLATE LXXIX.

PLATE LXXIX.

FIG. 1. Cross-bedded Rappahannock sands with lenses of green clay.

FIG. 2. Pure white lenticularly bedded Rappahannock sands.

1

2

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

PLATE LXXX.

PLATE LXXX.

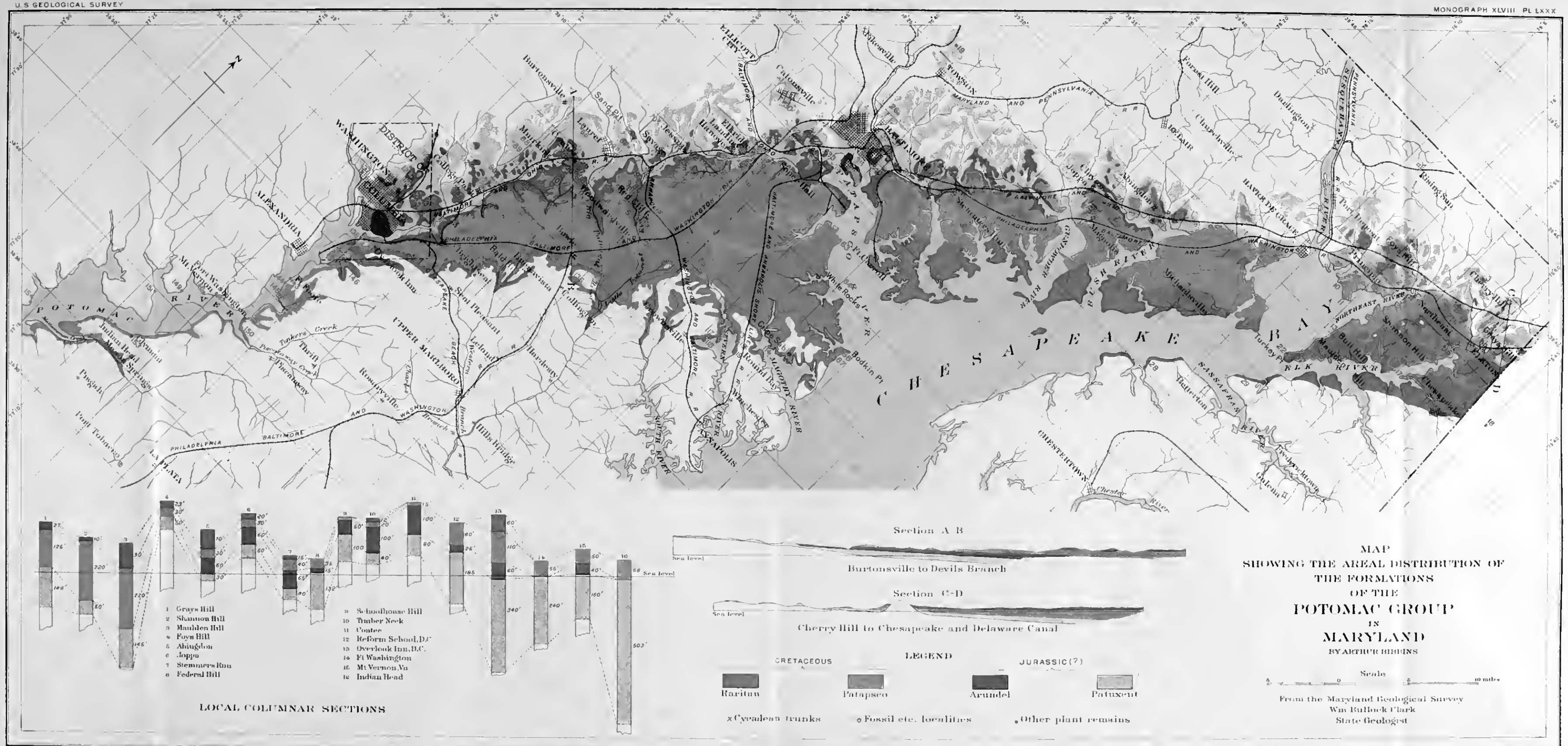

MAP
SHOWING THE AREAL DISTRIBUTION OF
THE FORMATIONS
OF THE
POTOMAC GROUP
IN
MARYLAND
BY ARTHUR BIBBINS
Scale
From the Maryland Geological Survey
Wm Bullock Clark
State Geologist
CHESAPEAKE BAY
POTOMAC RIVER
BALTIMORE
WASHINGTON
ALEXANDRIA
ANNAPOLIS
CHESTERTOWN
HAVRE DE GRACE
Section A B
Sea level
Burtonsville to Devils Branch
Section C-D
Sea level
Cherry Hill to Chesapeake and Delaware Canal
LEGEND
CRETACEOUS
JURASSIC(?)
Raritan
Patapsco
Arundel
Patuxent
x Cycadean trunks
o Fossil etc. localities
• Other plant remains
1 Grays Hill
2 Shannon Hill
3 Maulden Hill
4 Foys Hill
5 Abingdon
6 Joppa
7 Stemmers Run
8 Federal Hill
9 Schoolhouse Hill
10 Timber Neck
11 Contee
12 Reform School, D.C.
13 Overlook Inn, D.C.
14 Ft Washington
15 Mt Vernon, Va
16 Indian Head
LOCAL COLUMNAR SECTIONS

PLATE LXXXI.

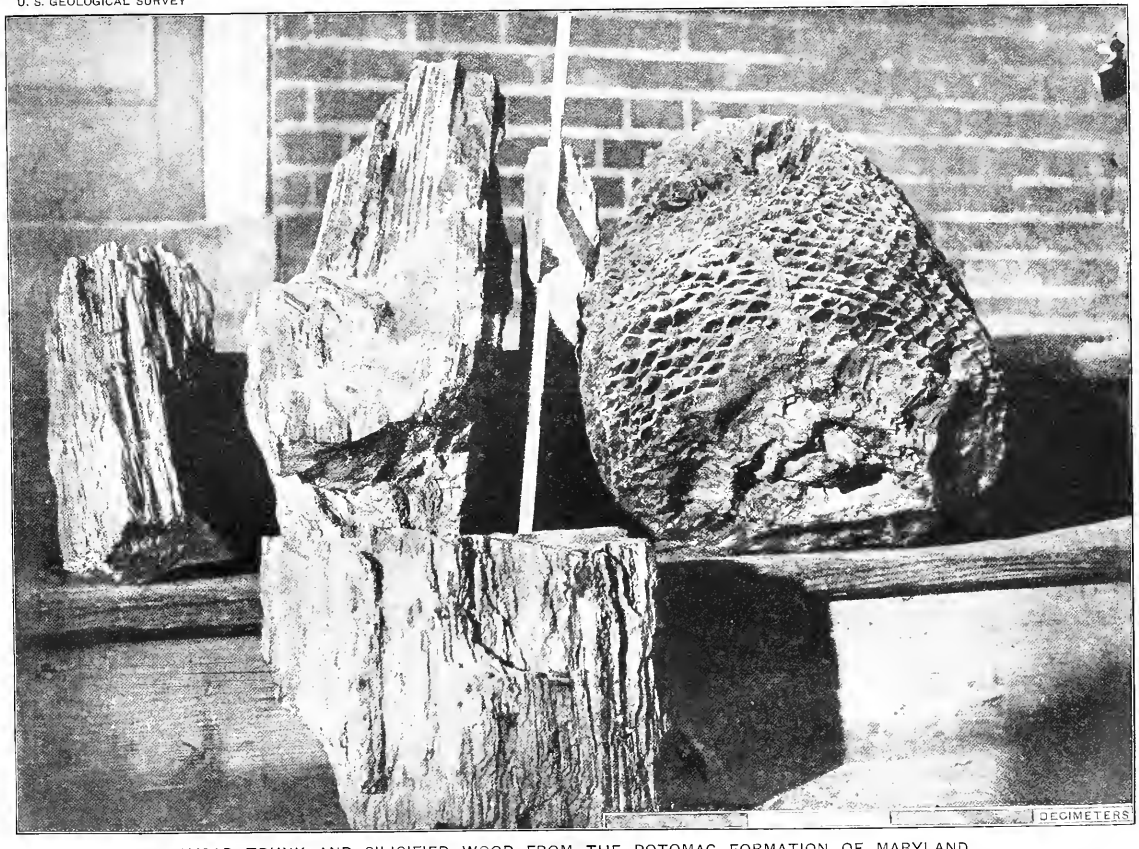
PLATE LXXXI.

Maryland Potomac Cycads.

Page.

Cycadeoidea marylandica (Font.) Cap. & Solms. Side and base view of the Johns Hopkins University Cycad, No. 1; also of silicified wood from the Potomac formation of Maryland, from a photograph by Tyson..... 419

(For historical account, see p. 410.)



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

PLATE LXXXII.

PLATE LXXXII.

Maryland Potomac Cycads.

Page

Cycadeoidea marylandica (Font.) Cap. & Solms. View of Johns Hopkins University Cycad, No. 2, from a photograph by Tyson 421

(For historical account, see p. 410.)

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

PLATE LXXXIII.

PLATE LXXXIII.

Maryland Potomac Cycads.

Page.

Figs. 1–3. Group of cycads, from a photograph by Tyson (for historical account, see p. 414).

Figs. 1, 2. Cycadeoidea marylandica (Font.) Cap. & Solms.

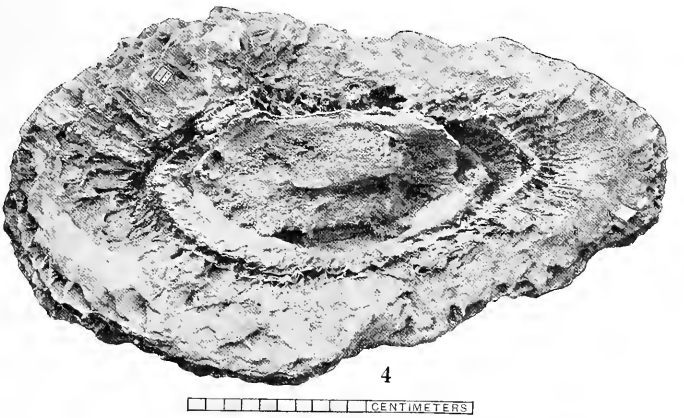
Fig. 1. Side and top view of Johns Hopkins University Cycad, No. 1 422

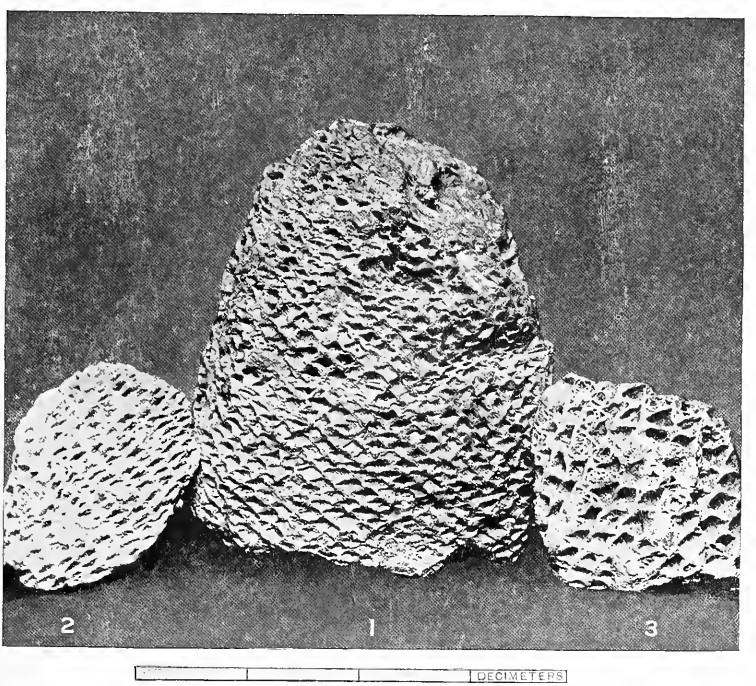
Fig. 2. Side view of Johns Hopkins University Cycad, No. 3 422

Fig. 3. Cycadeoidea Bibbinsi Ward, Johns Hopkins University Cycad, No. 4 458

Fig. 4. Cycadeoidea marylandica (Font.) Cap. & Solms.

View of the base of the Link trunk, No. 1481, of the museum of the Woman's College of Baltimore 422





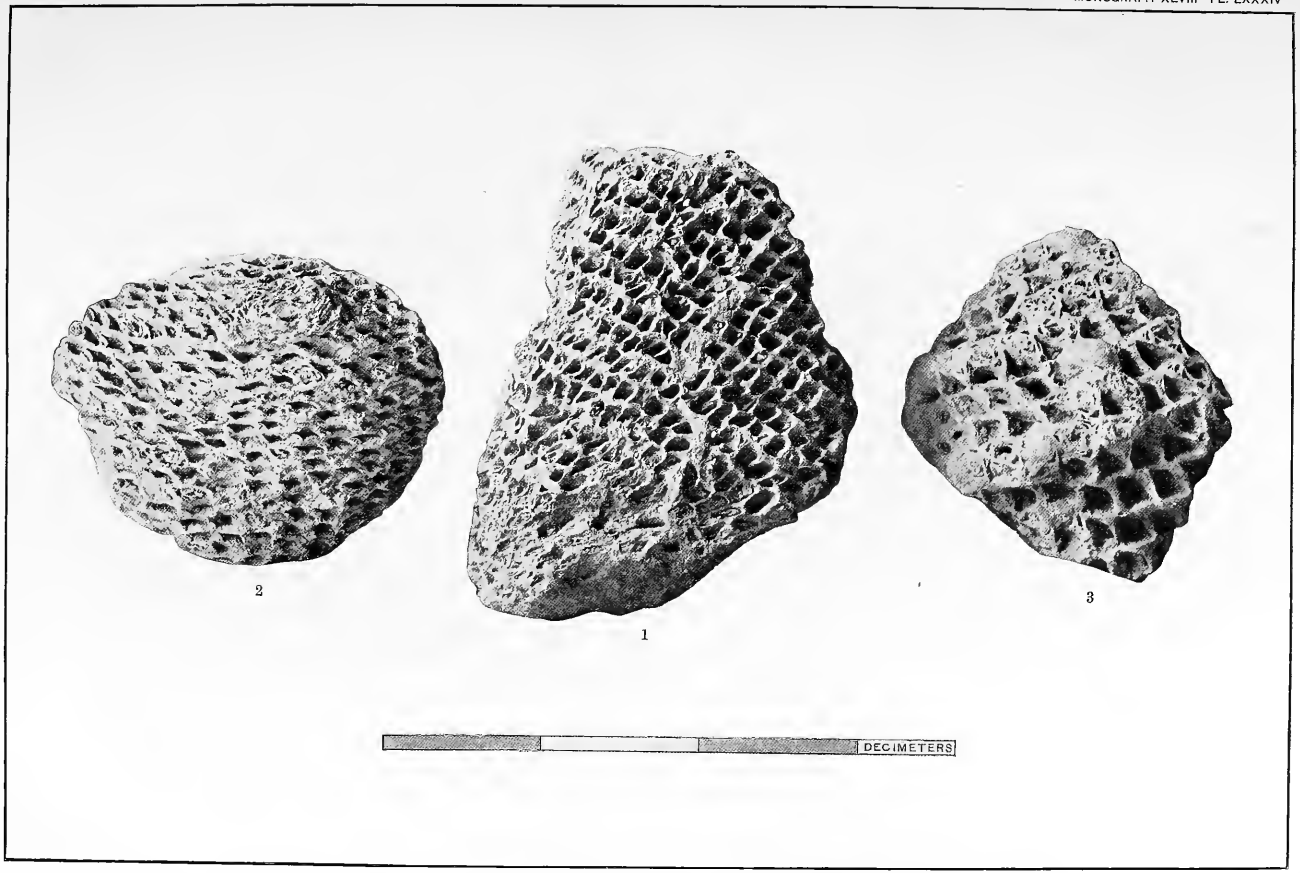
TRUNKS OF CYCADS EARLY DISCOVERED IN THE POTOMAC FORMATION OF MARYLAND.

PLATE LXXXIV.

PLATE LXXXIV.

Maryland Potomac Cycads.

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



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

PLATE LXXXV.

PLATE LXXXV.

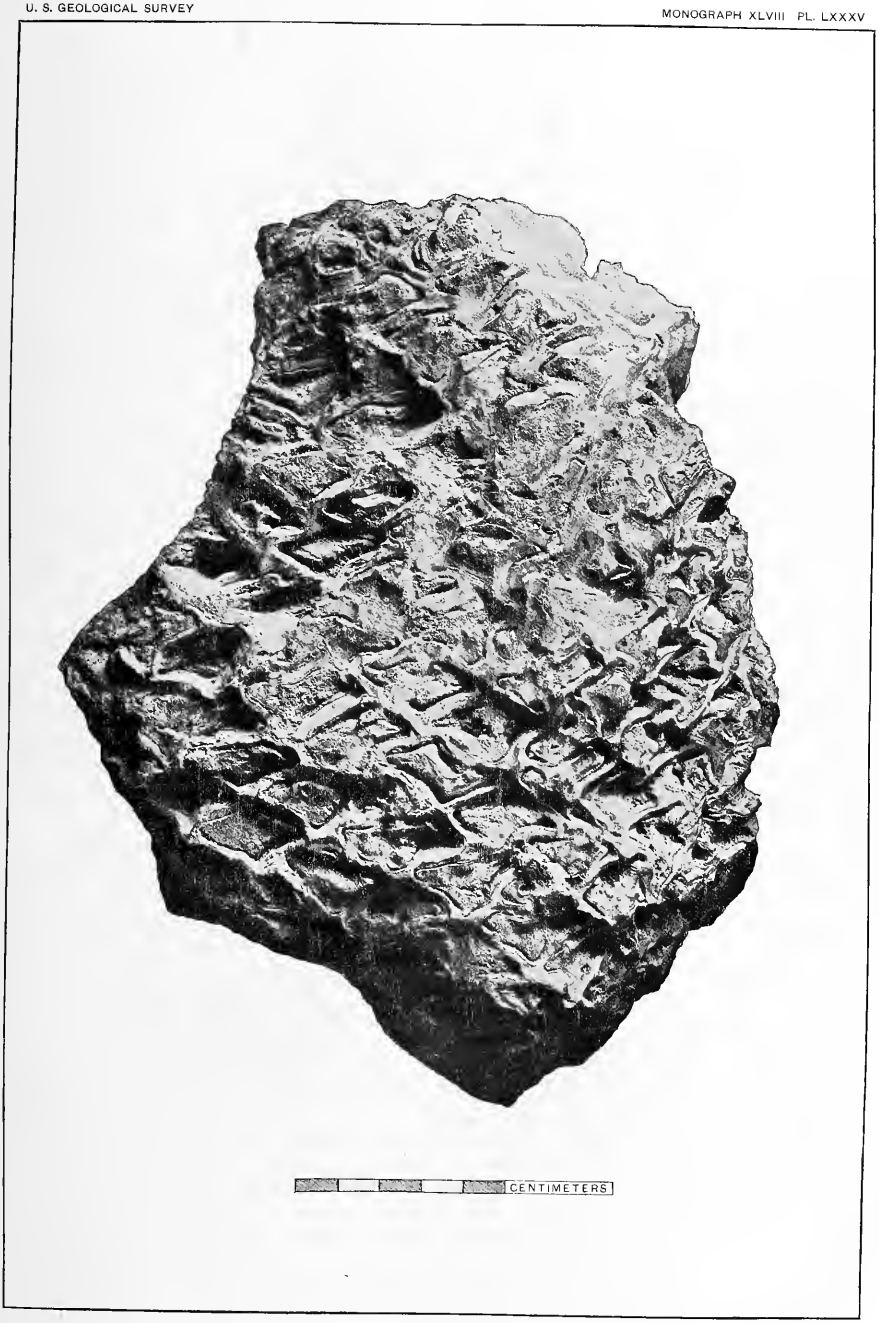
Maryland Potomac Cycads.

Page.

Cycadeoidea Bibbinsi Ward.

View of the external surface of the fragment sent by Philip Tyson to Sir William Dawson, known as the Dawson Cycad..... 459

(For historical account see p. 409.)



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

PLATE LXXXVI.

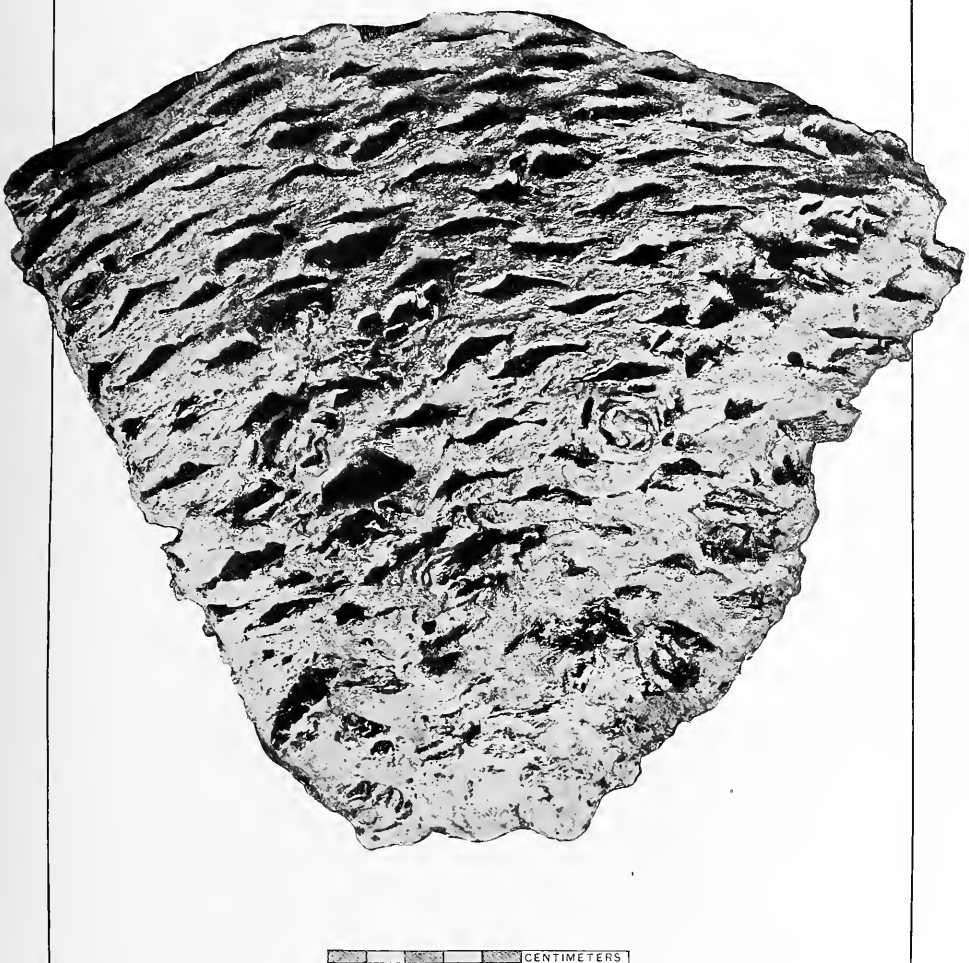
PLATE LXXXVI.

Maryland Potomac Cycads.

Cycadeoidea Fontaineana Ward. Page.

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.

PLATE LXXXVII.

PLATE LXXXVII.

Maryland Potomac Cycads.

Group of Cycads in the Museum of the Woman's College of Baltimore.

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

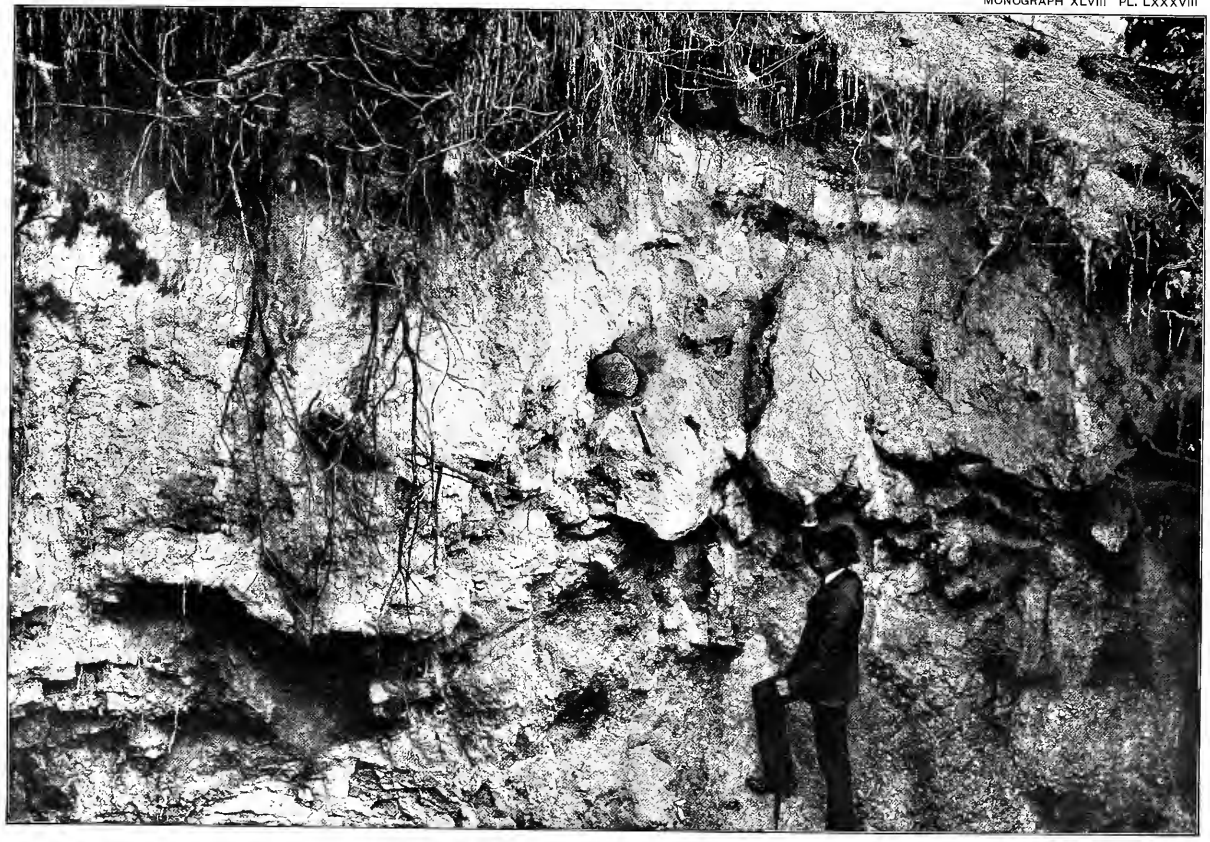
PLATE LXXXVIII.

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 429



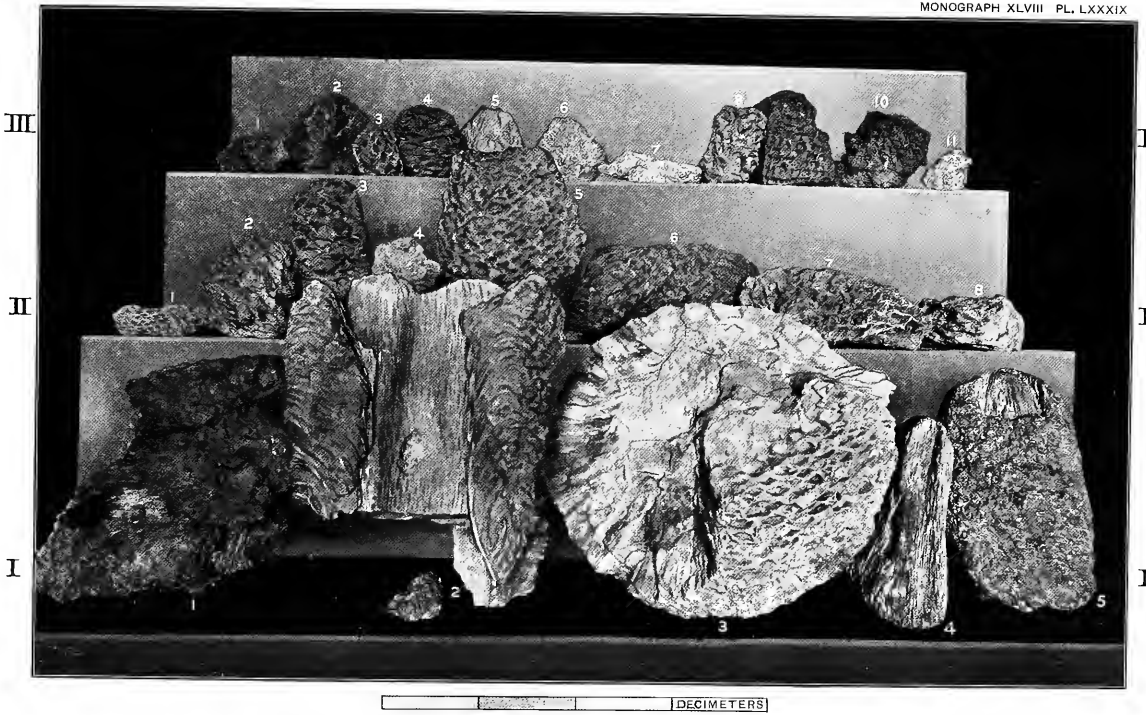
LINK GULCH WITH THE LINK CYCAD IN PLACE.

PLATE LXXXIX.

PLATE LXXXIX.

Maryland Potomac Cycads.

Group of Cycads in the museum of the Woman's College of Baltimore.



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

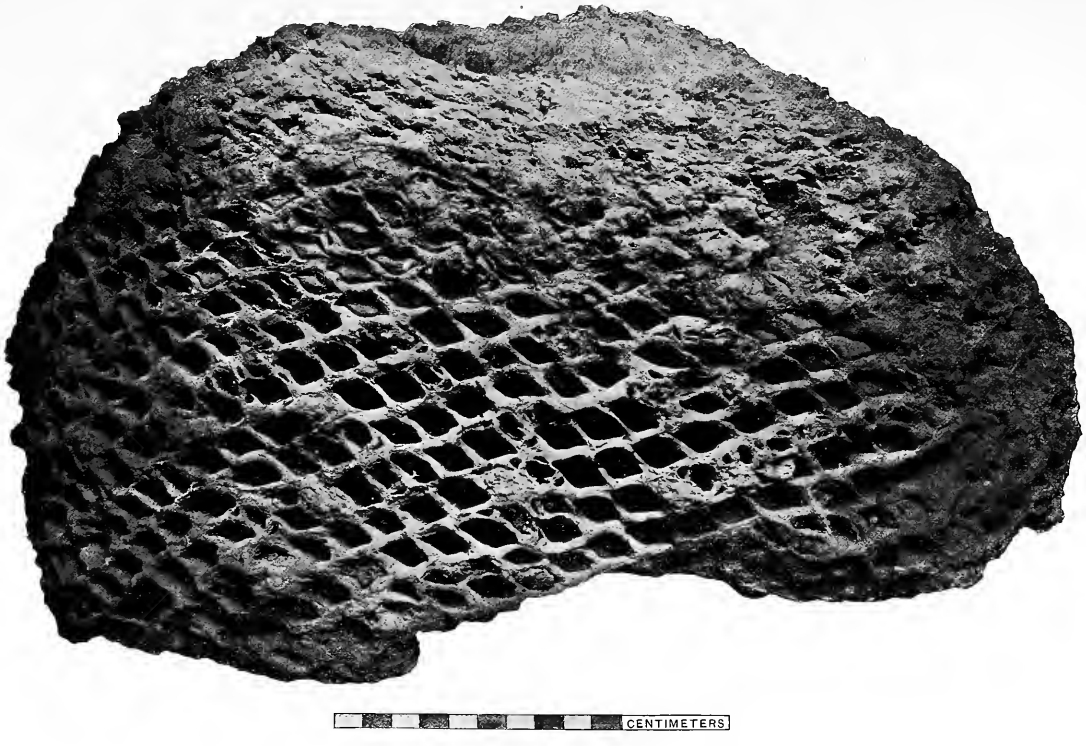
PLATE XC.

PLATE XC.

Maryland Potomac Cycads.

Page.

The Link trunk, Cycadeoidea marylandica (Font.) Cap. & Solms, No. 1481 of the museum of the Woman's College of Baltimore 431

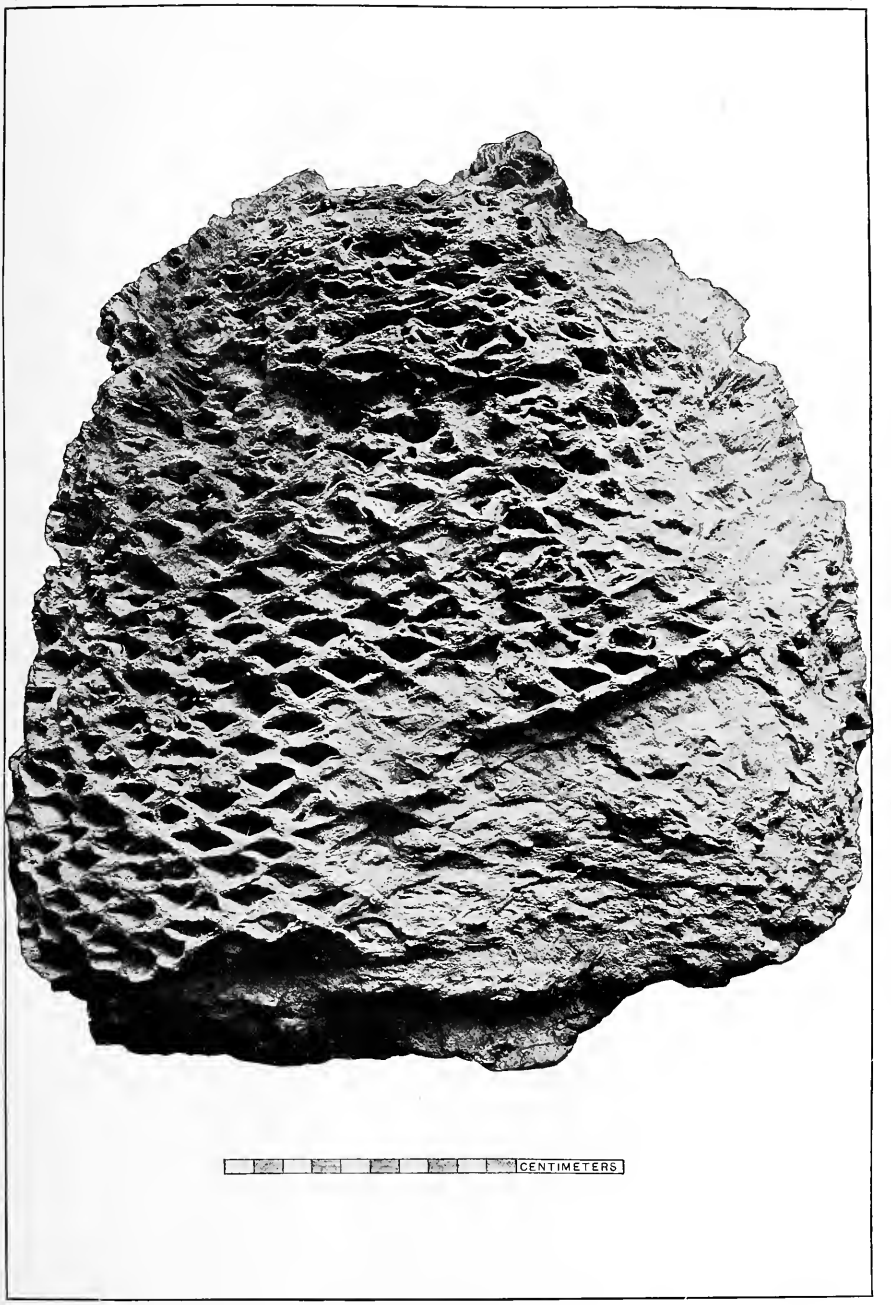


CYCADEOIDEA MARYLANDICA.

PLATE XCI.

PLATE XCI.

Maryland Potomac Cycads.



CYCADEOIDEA MARYLANDICA.

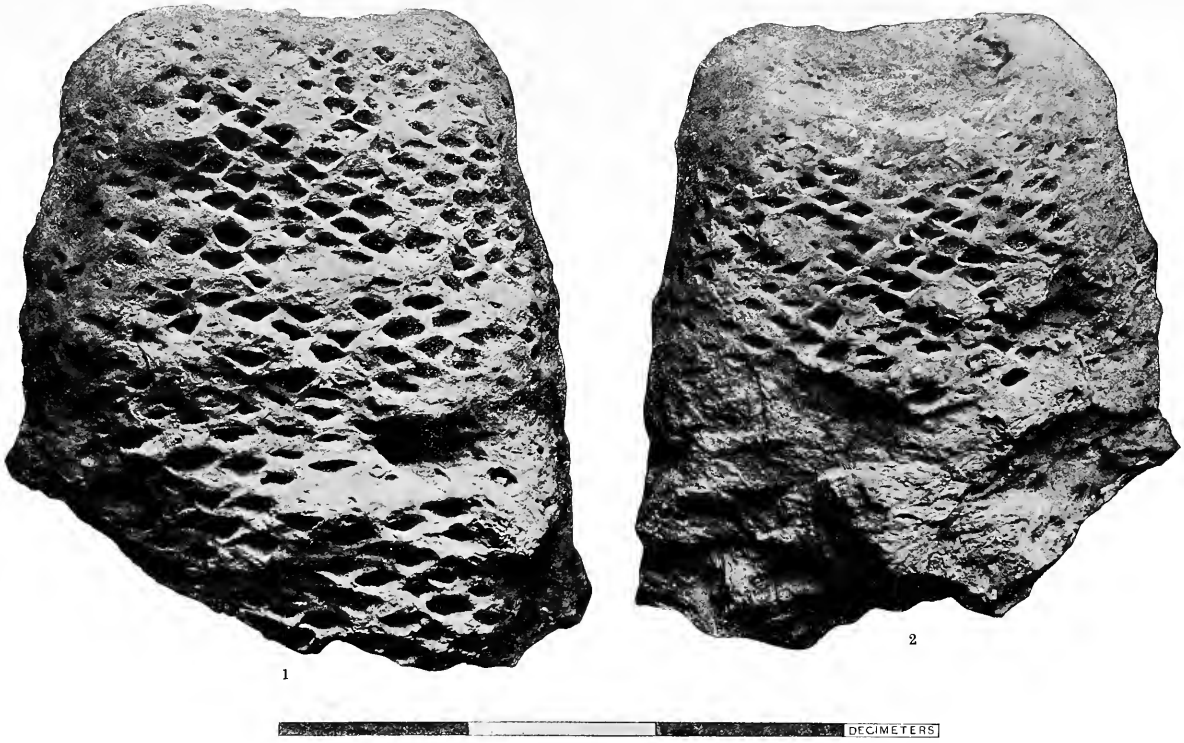
PLATE XCII.

PLATE XCII.

Maryland Potomac Cycads.

Page.

Trunk, No. 1, of the museum of the Maryland Academy of Sciences, Cycadeoidea marylandica (Font.) Cap. & Solms. Two views of opposite sides..... 432



CYCADEOIDEA MARYLANDICA.

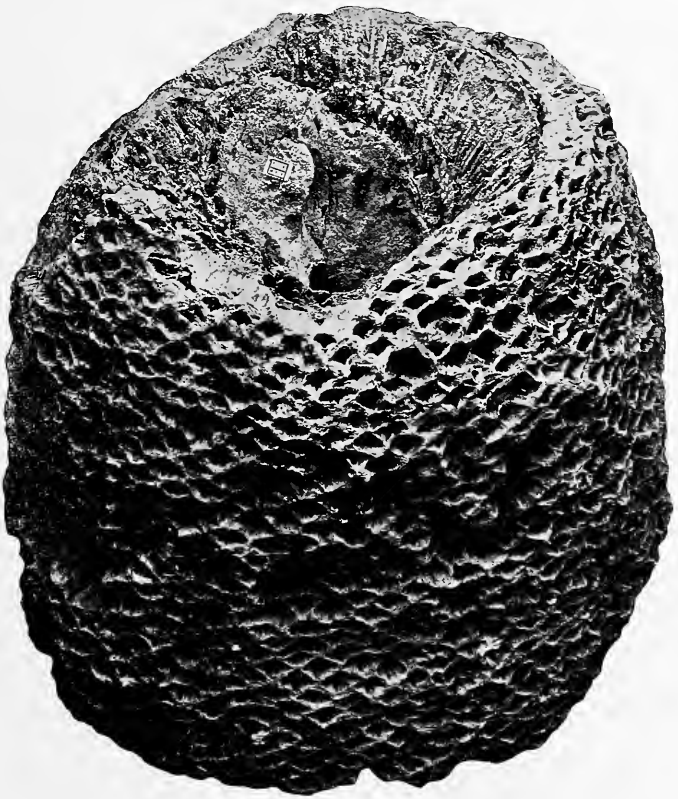
PLATE XCIII.

PLATE XCIII.

Maryland Potomac Cycads.

Page.

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



CYCADEOIDEA TYSONIANA.

PLATE XCIV.

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..... 438

CYCADEOIDEA MCGEEANA.

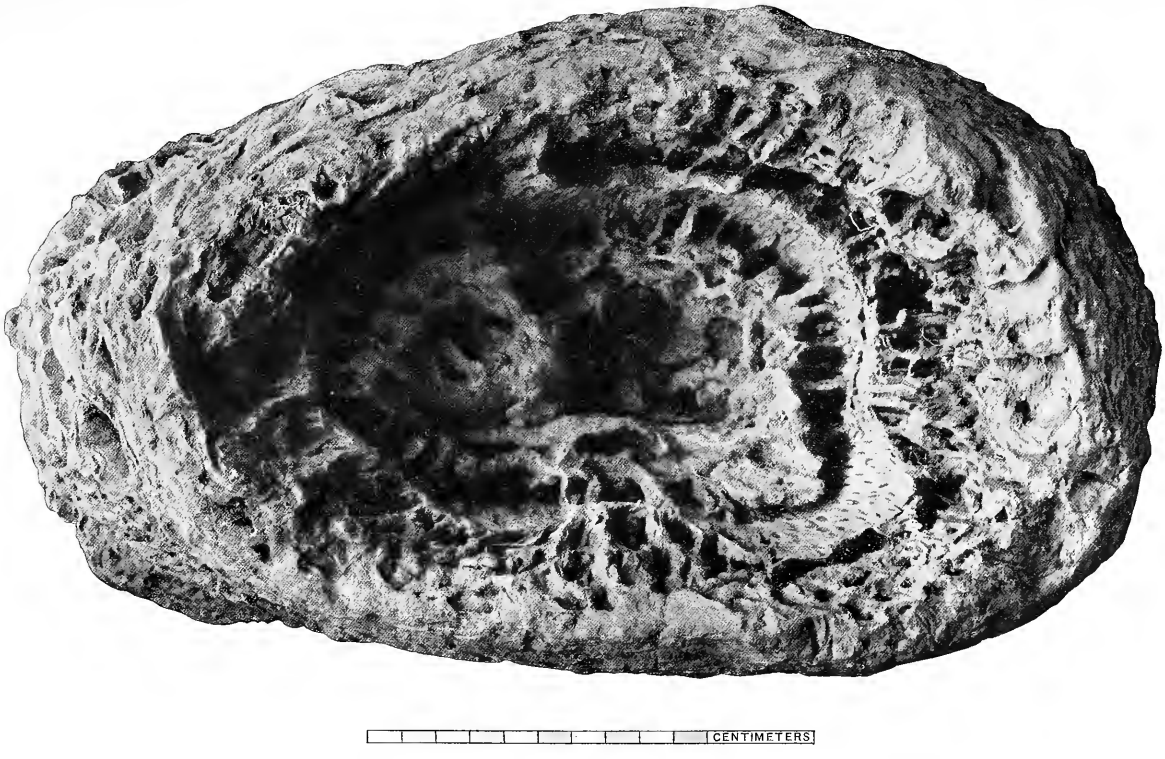
PLATE XCV.

PLATE XCV.

Maryland Potomac Cycads.

Cycadeoidea Fontaineana Ward. Page

View of the top of the Turner trunk or "Chicken trough," No. 3046 of the museum of the Woman's College of Baltimore, showing the deep cavity or "crow's nest" used as a receptacle for water for domestic fowls 447



CYCADEOIDEA FONTAINEANA.

PLATE XCVI.

PLATE XCVI.

Maryland Potomac Cycads.

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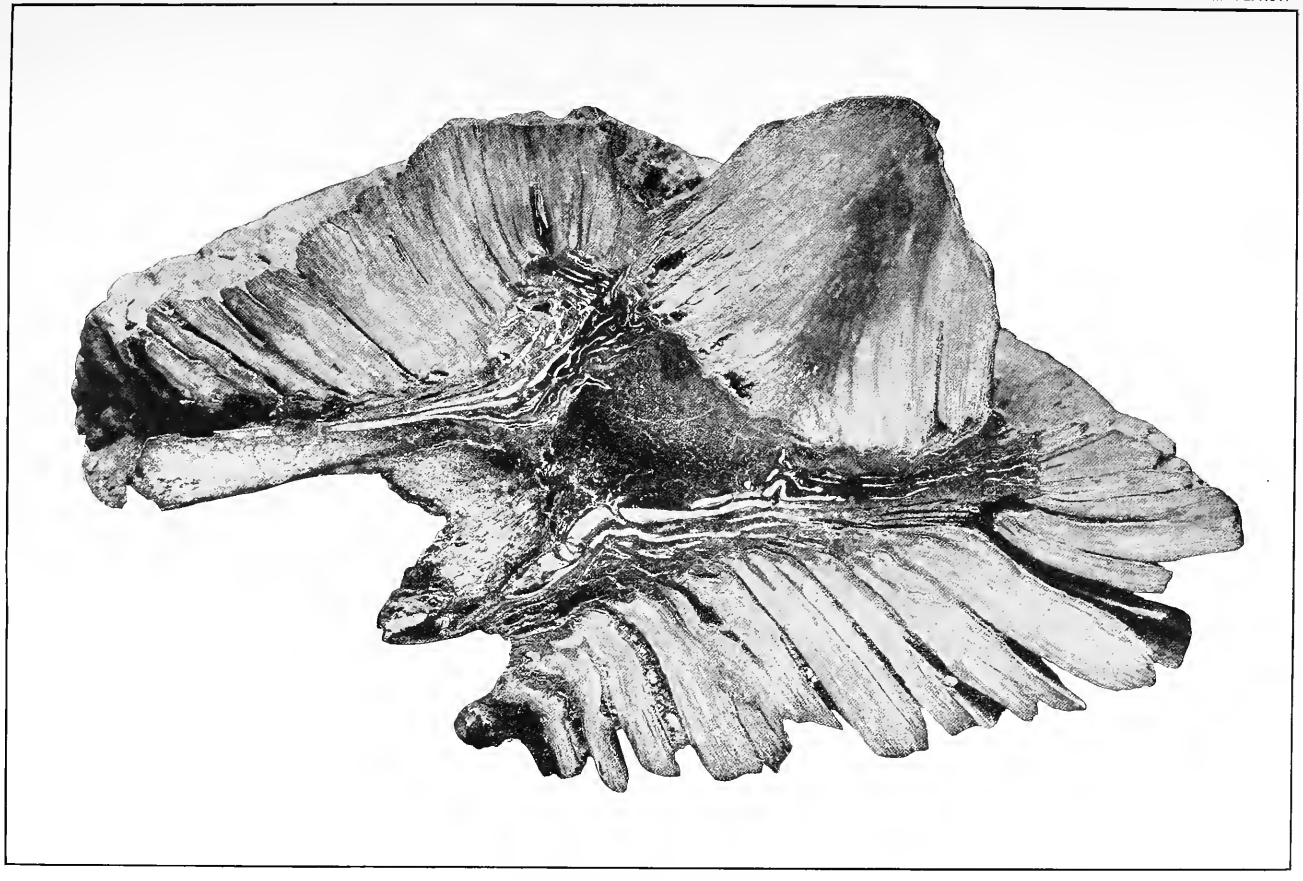
Cycadeoidea Fontaineana Ward.

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..... 447



CYCADEOIDEA FONTAINEANA.

PLATE XCVII.

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Maryland Potomac Cycads.

Cycadeoidea Fontaineana Ward. Page.

Fig. 1. The Noah Donaldson trunk, No. 1470 of the Woman's College of Baltimore 448

Fig. 2. The Cronmiller fragment, No. 1485 of the Woman's College of Baltimore 449

Fig. 3. The Griffith trunk, No. 1467 of the Woman's College of Baltimore 449

Fig. 4. Interior view of the Magruder fragment, No. 1489 of the Woman's College of Baltimore .. 449

Fig. 5. The Anderson fragment, No. 6346 of the Woman's College of Baltimore 450


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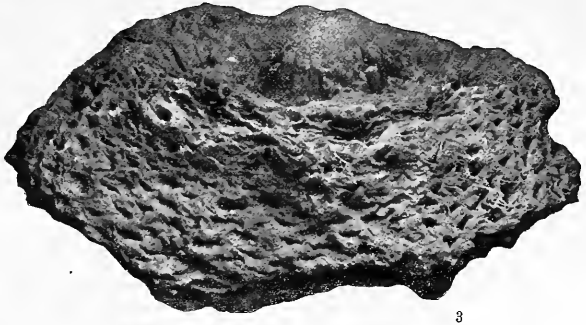
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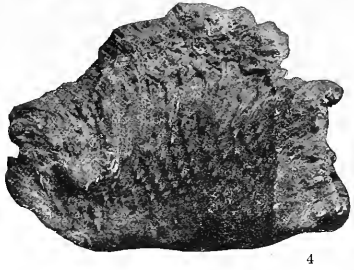
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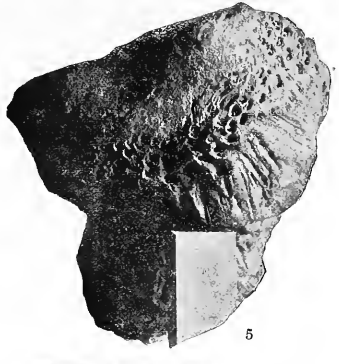
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CYCADEOIDEA FONTAINEANA.

PLATE XCVIII.

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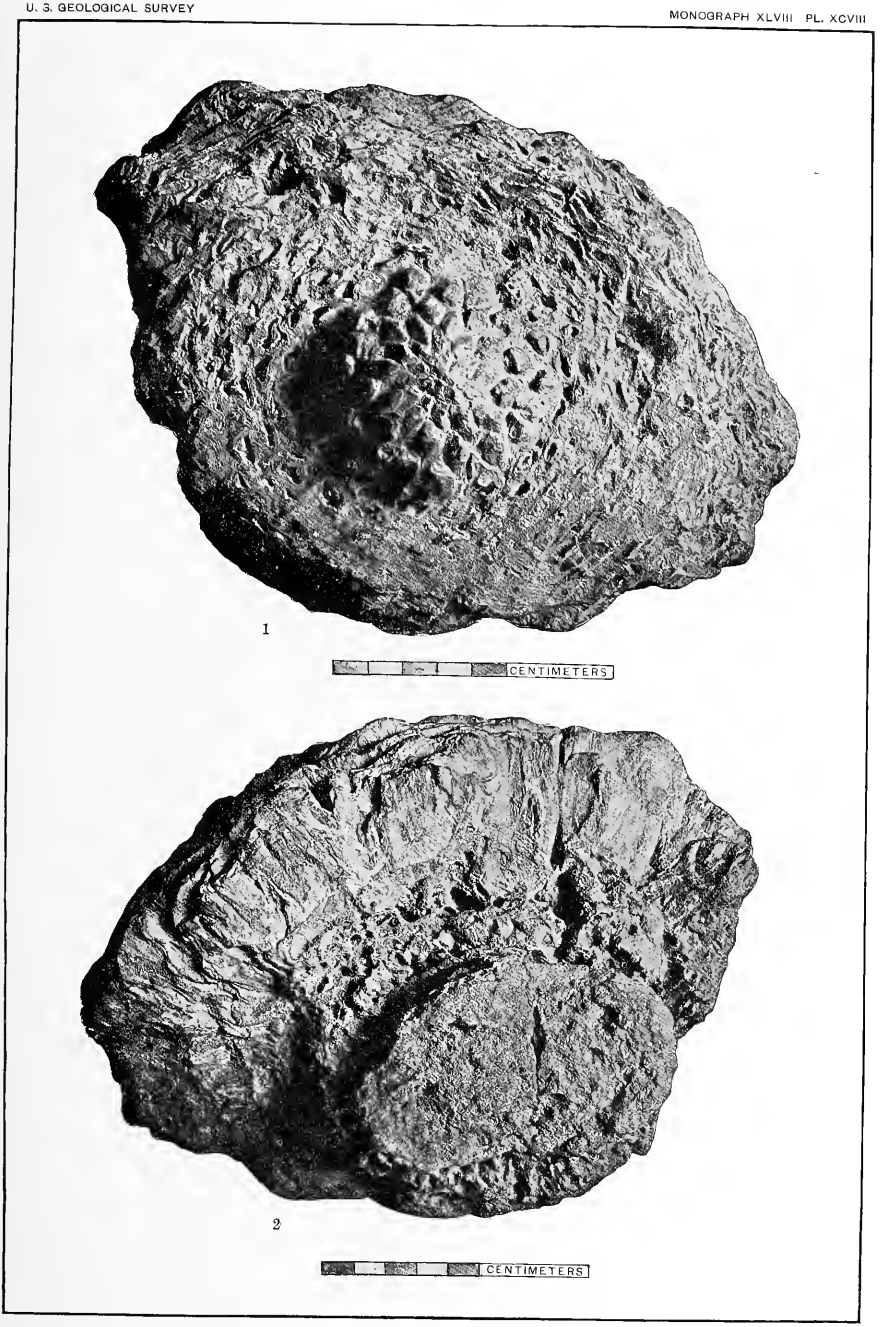
Maryland Potomac Cycads..

Cycadeoidea Fontaineana Ward. Page.

Fig. 1. View from above of the R. P. Disney trunk, No. 2, being No. 6352 of the museum of the Woman's College of Baltimore 450

Fig. 2. View of the base of the same 450



CYCADEOIDEA FONTAINEANA.

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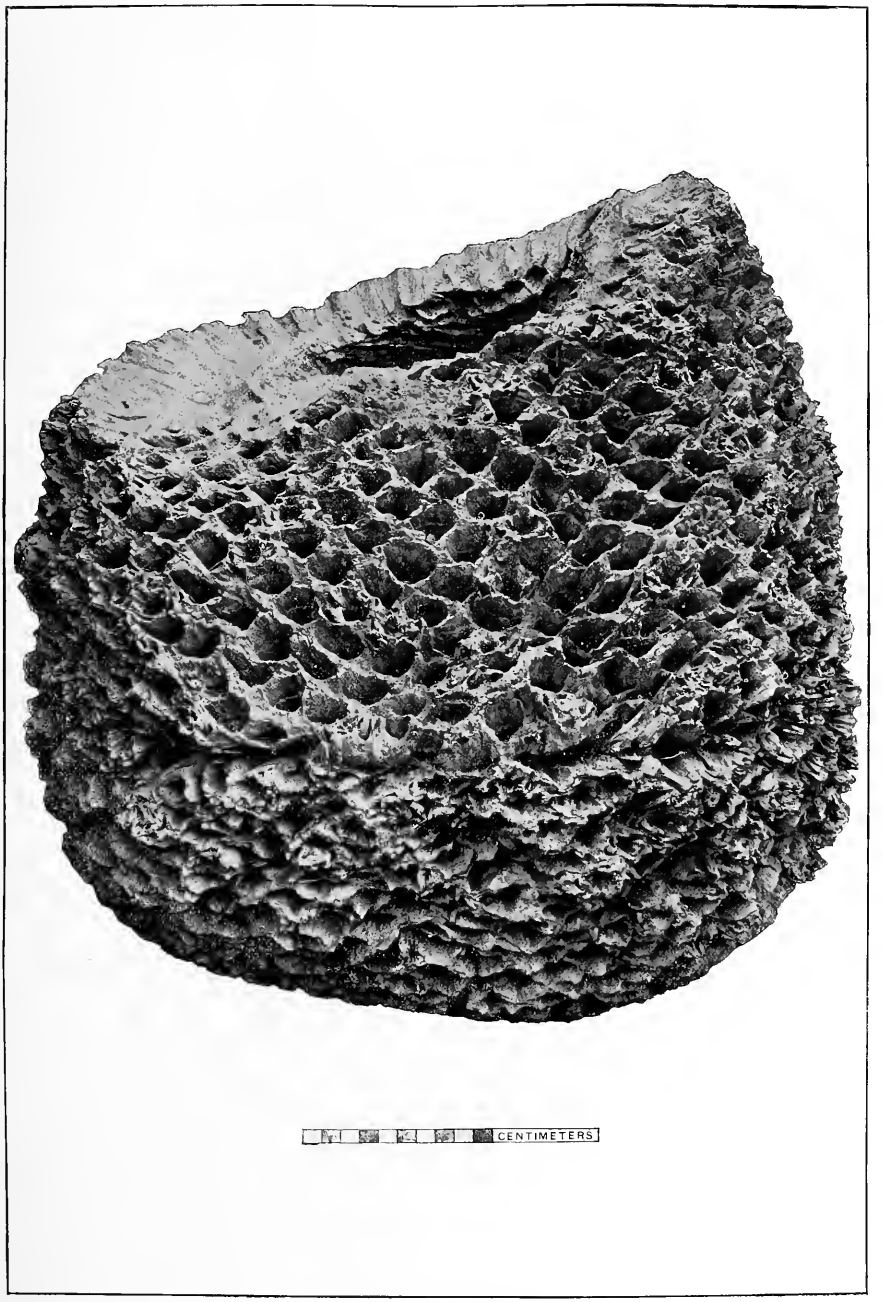
PLATE XCIX.

Maryland Potomac Cycads.

Cycadeoidea Goucheriana Ward. Page.

Side view of the Wilson trunk, No. 1479 of the museum of the Woman's College of Baltimore.... 452



CYCADEOIDEA GOUCHERIANA.

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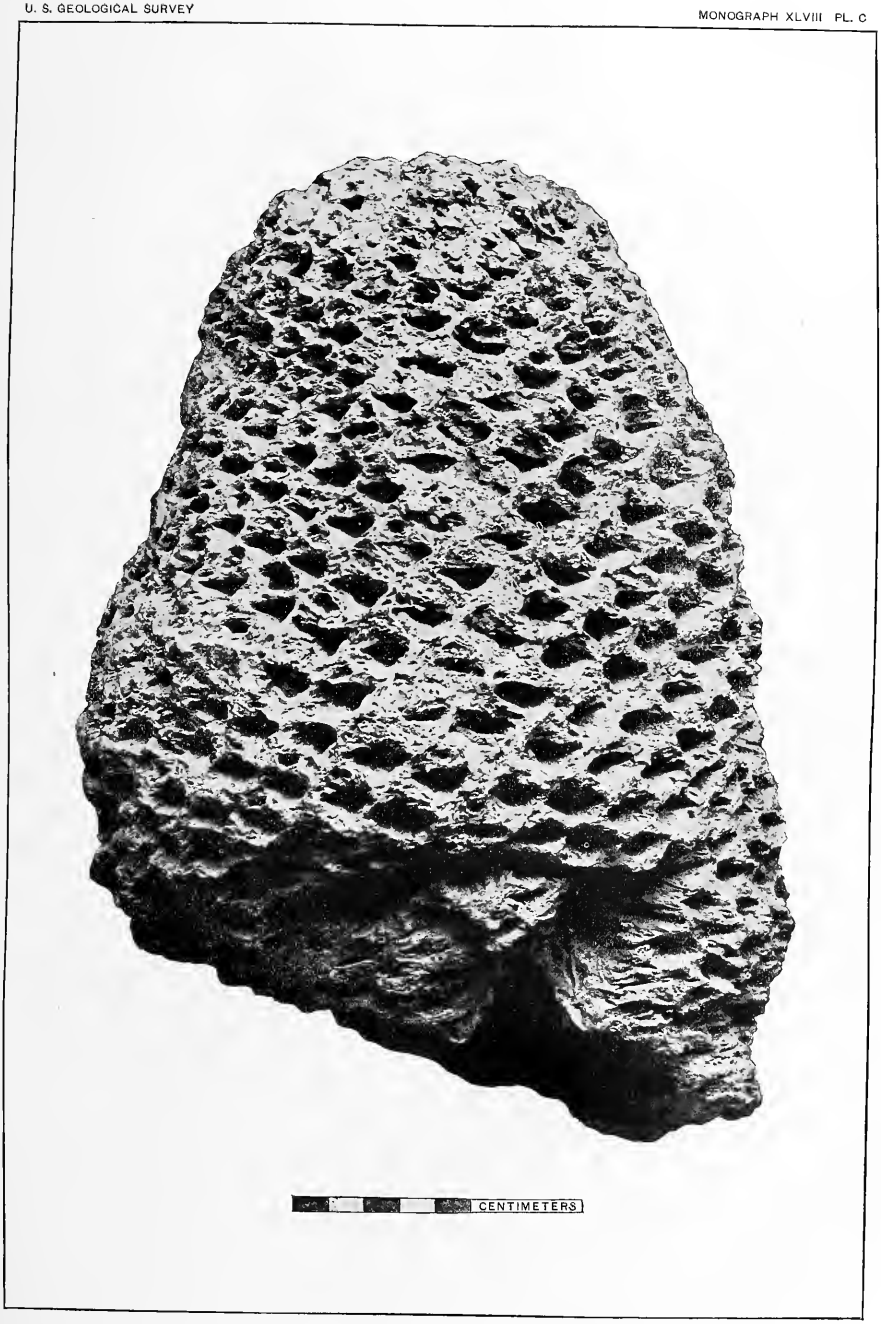
PLATE C.

Maryland Potomac Cycads.

Cycadeoidea Uhleri Ward. Page.

Side view of the Lee trunk, No. 2 of the museum of the Maryland Academy of Sciences..... 455



CYCADEOIDEA UHLERI.

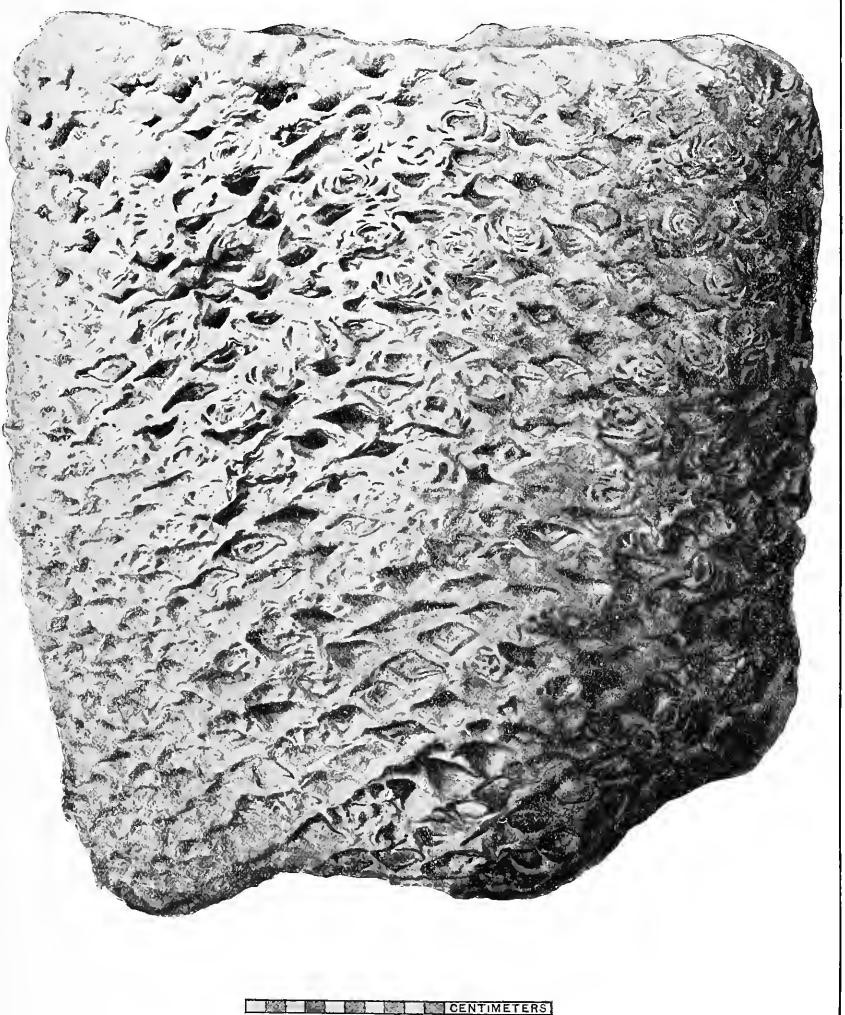
PLATE CI.

PLATE CI.

Maryland Potomac Cycads.

Cycadeoidea Bibbinsi Ward. Page.

Side view of the Polly Jones trunk, No. 1427 of the museum of the Woman's College of Baltimore. 468



CYCADEOIDEA BIBBINSI.

PLATE CII.

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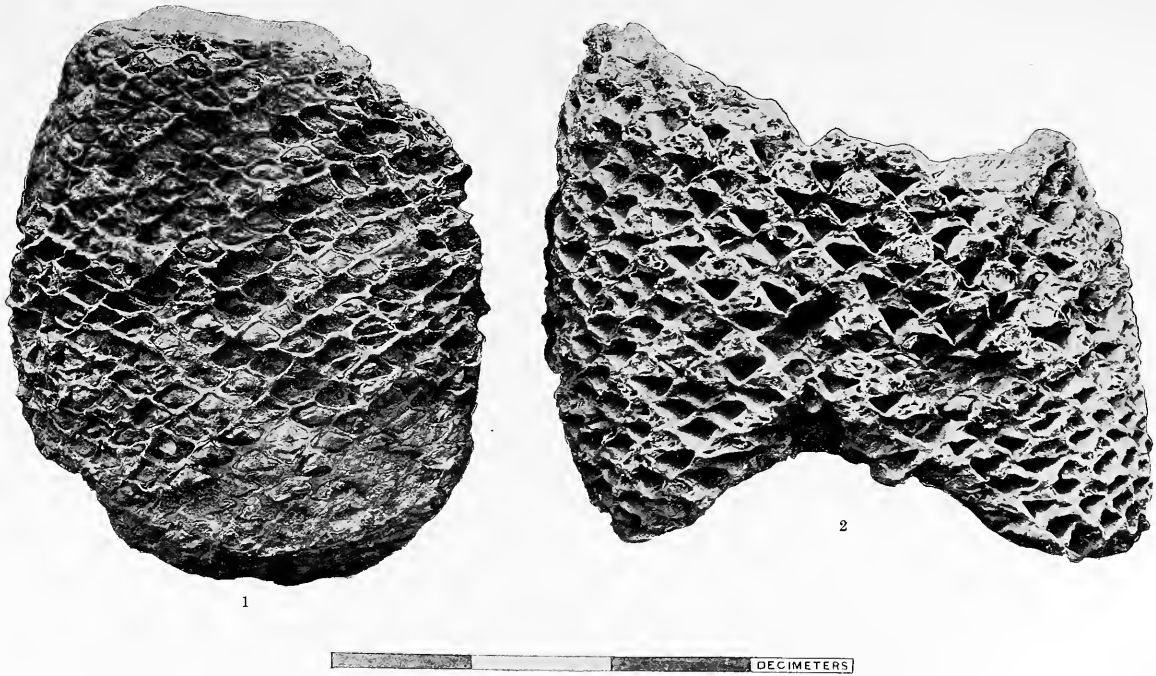
Maryland Potomac Cycads.

Cycadeoidea Bibbinsi Ward. Page.

Fig. 1. Side view of the Dennis Butler trunk, No. 1462 of the museum of the Woman's College of Baltimore..... 469

Fig. 2. Side view of the Tubbs trunk, No. 1465 of the museum of the Woman's College of Baltimore..... 469



CYCADEOIDEA BIBBINSI.

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Maryland Potomac Cycads.

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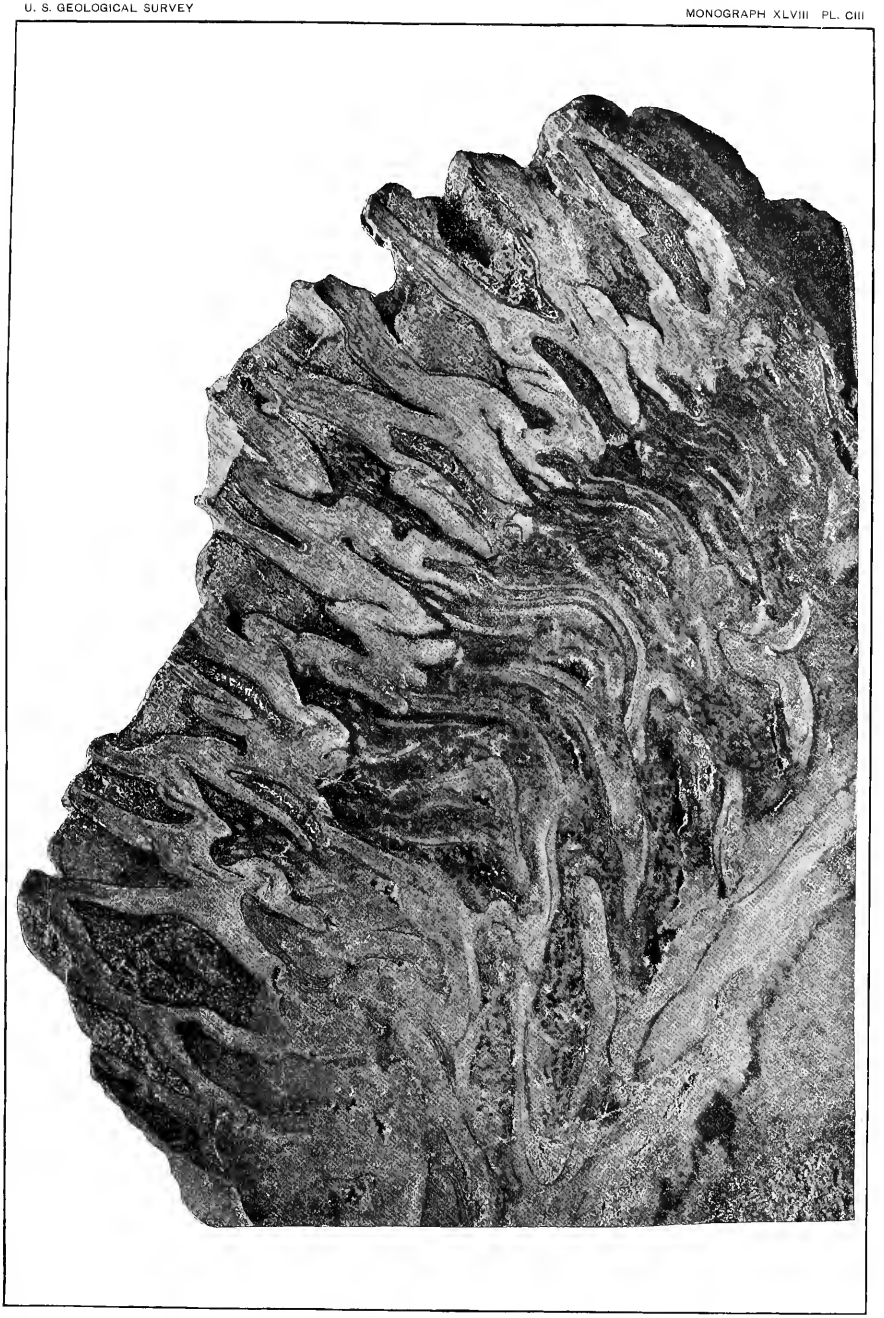
Cycadeoidea Bibbinsi Ward.

View, natural size, of a radial section through the Smith fragment, No. 1483 of the museum of the Woman's College of Baltimore 469



CYCADEOIDEA BIBBINSI.

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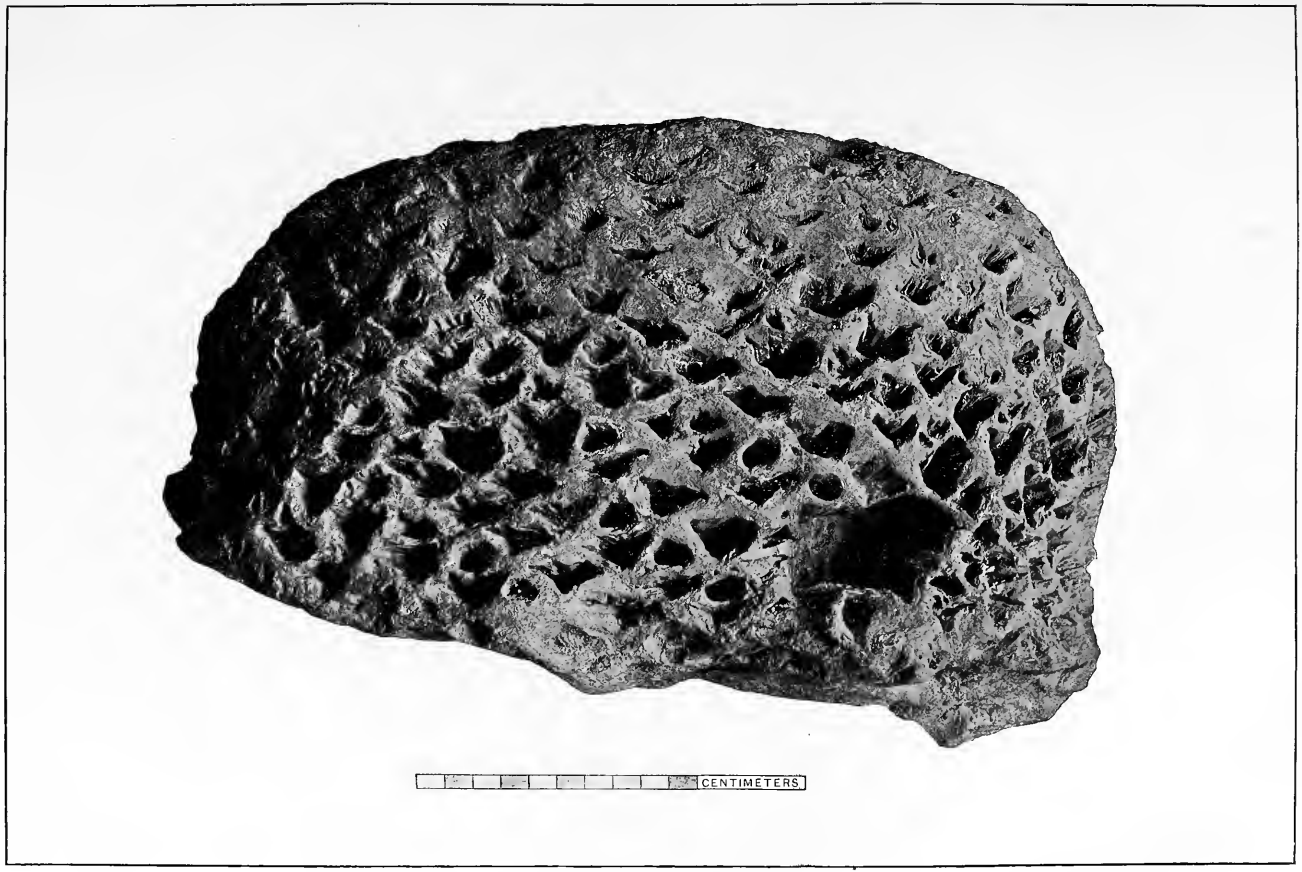
Maryland Potomac Cycads.

Cycadeoidea Bibbinsi Ward. Page.

Side view of the Gray trunk, No. 6354 of the museum of the Woman's College of Baltimore..... 469



CYCADEOIDEA BIBBINSI.

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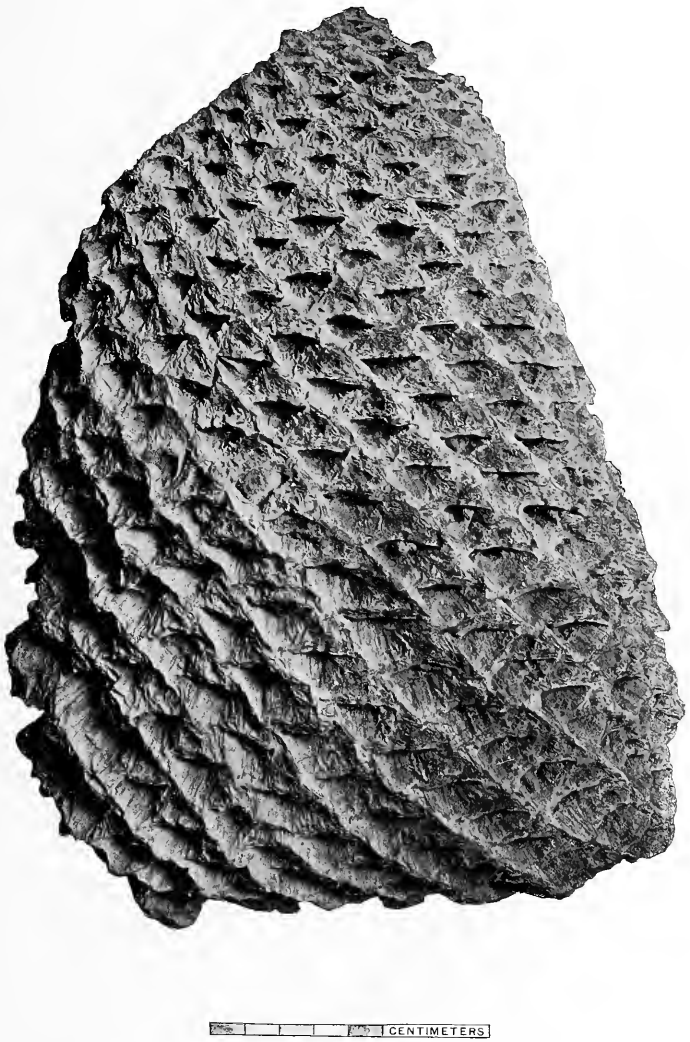
PLATE CV.

Maryland Potomac Cycads.

Cycadeoidea Fisheræ Ward n. sp. Page.

View of the external surface of the Hegeman trunk, No. 6345 of the museum of the Woman's College of Baltimore 471



CYCADEOIDEA FISHERÆ.

PLATE CVI.

PLATE CVI.

Maryland Potomac Cycads.

Cycadeoidea Clarkiana Ward n. sp. Page.

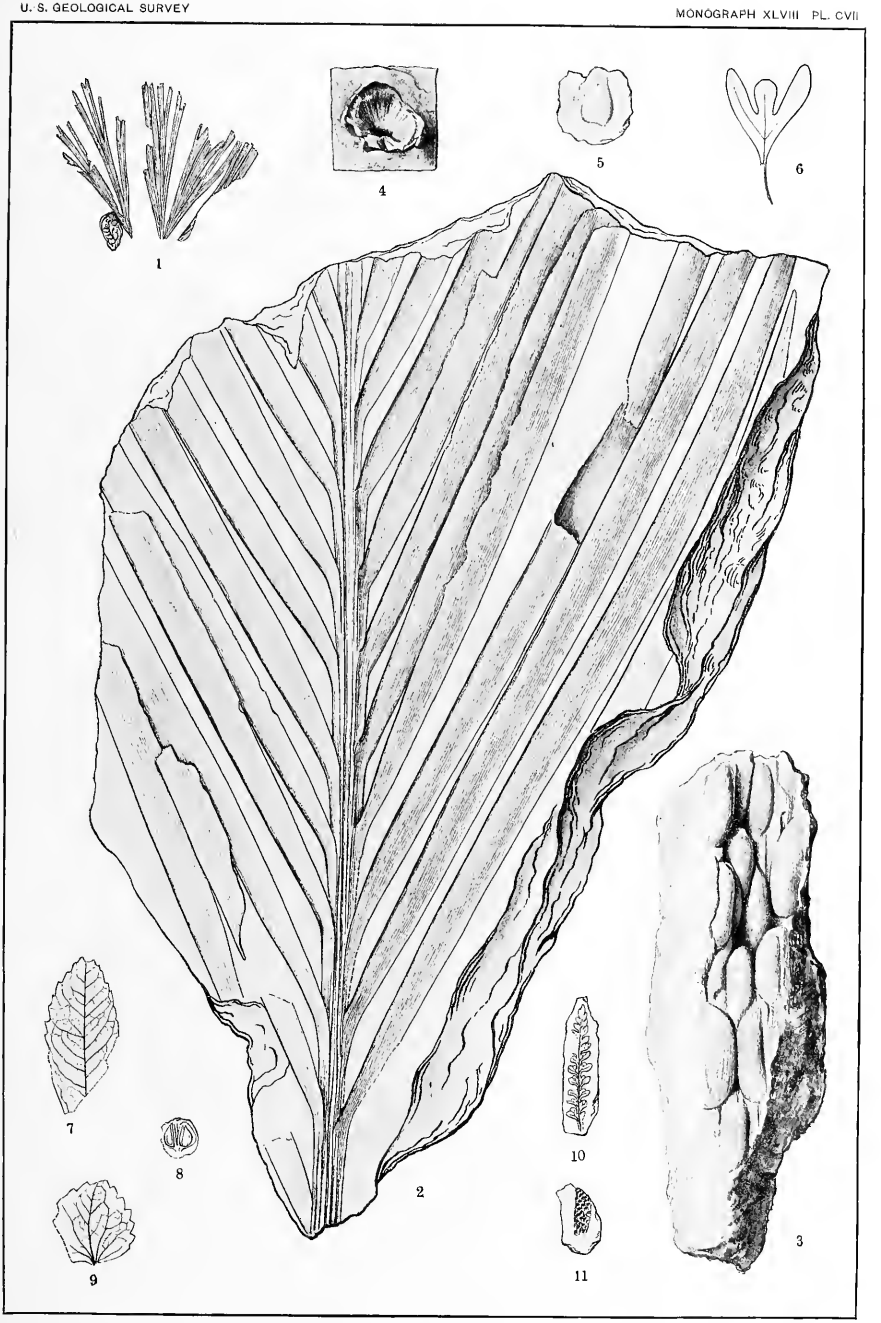
View of the best preserved side of the Whitehead trunk, No. 9050 of the museum of the Woman's College of Baltimore 473

CYCADEOIDEA CLARKIANA.

PLATE CVII.

PLATE CVII.

Flora of the Potomac Formation.

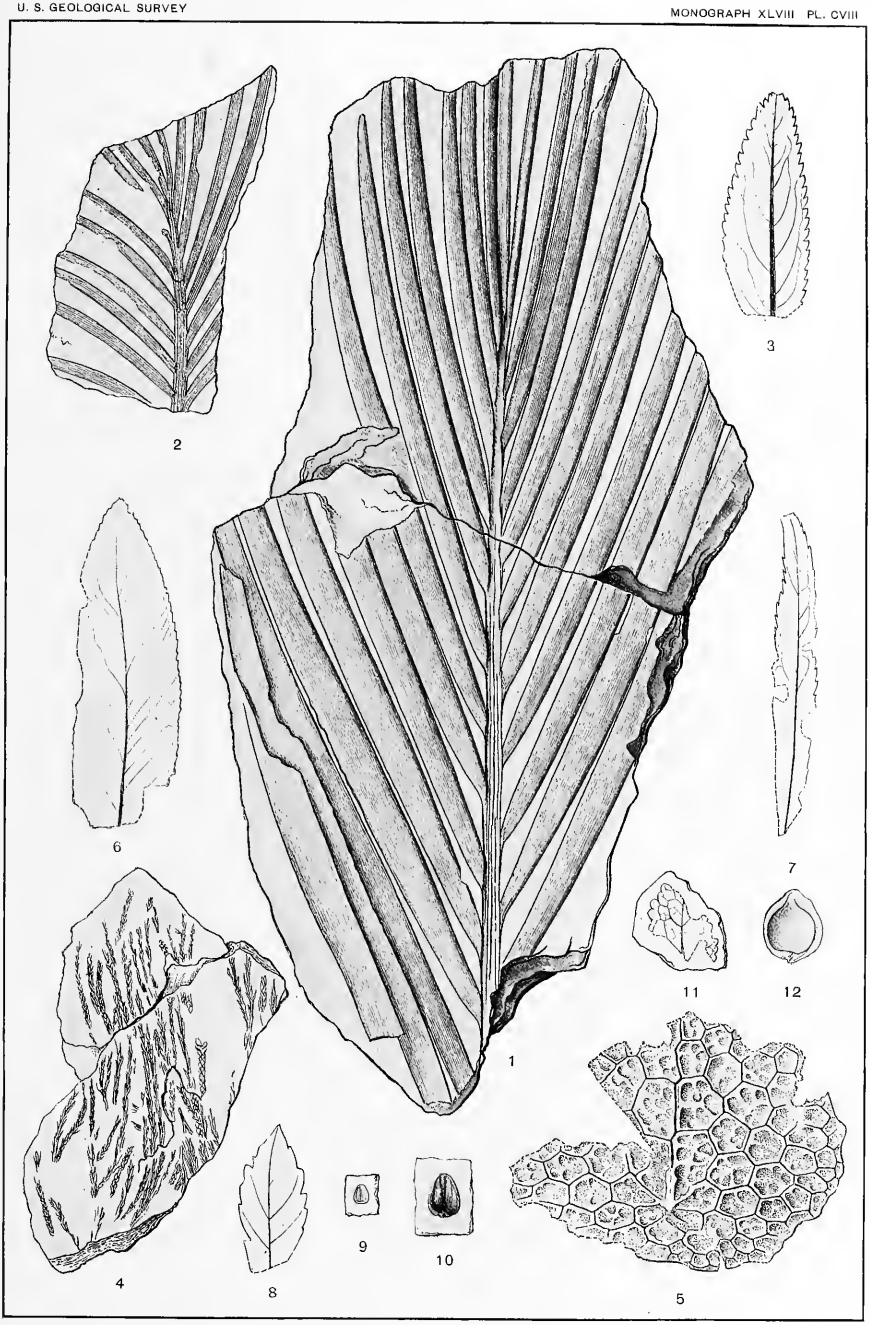


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF VIRGINIA.

PLATE CVIII.

PLATE CVIII.

Flora of the Potomac Formation.

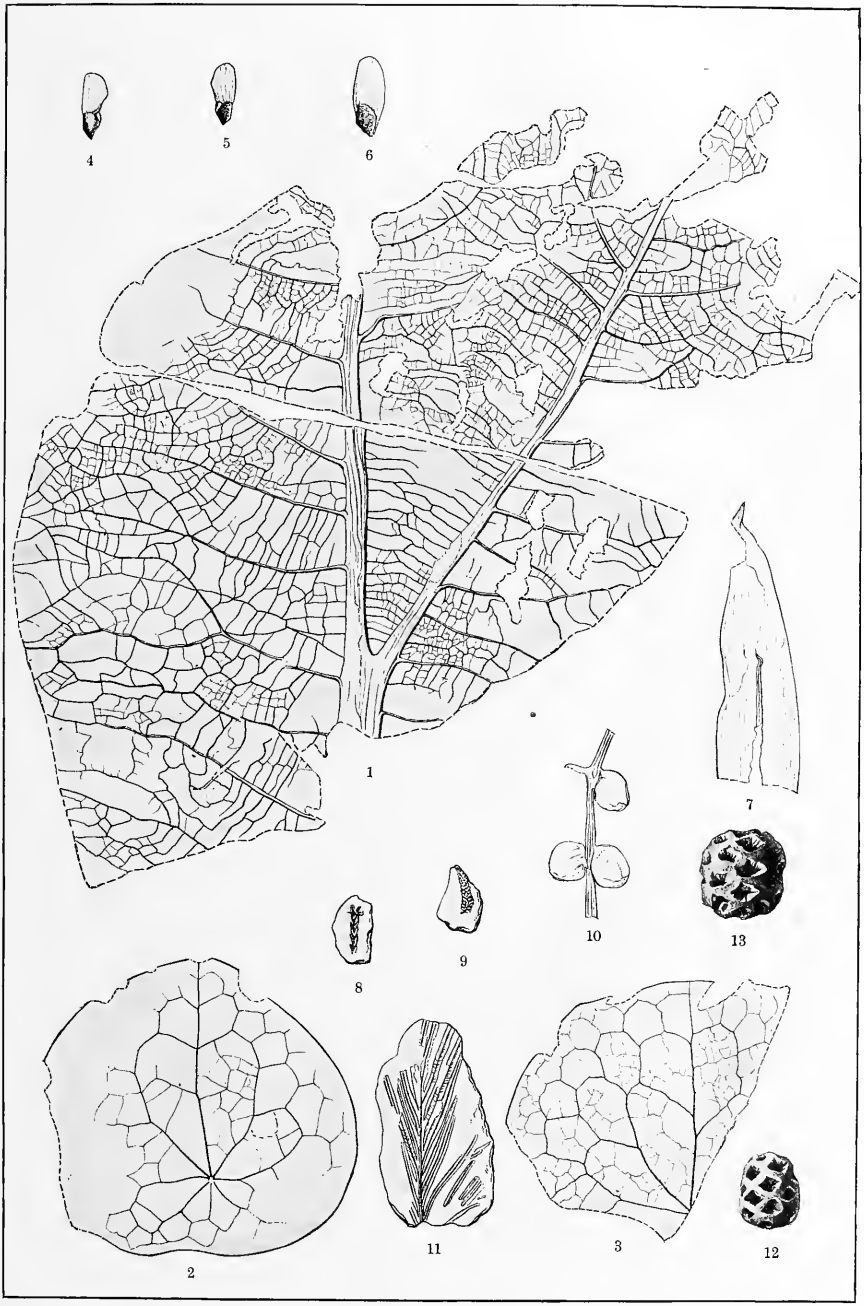


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF VIRGINIA.

PLATE CIX.

PLATE CIX.

Flora of the Potomac Formation.

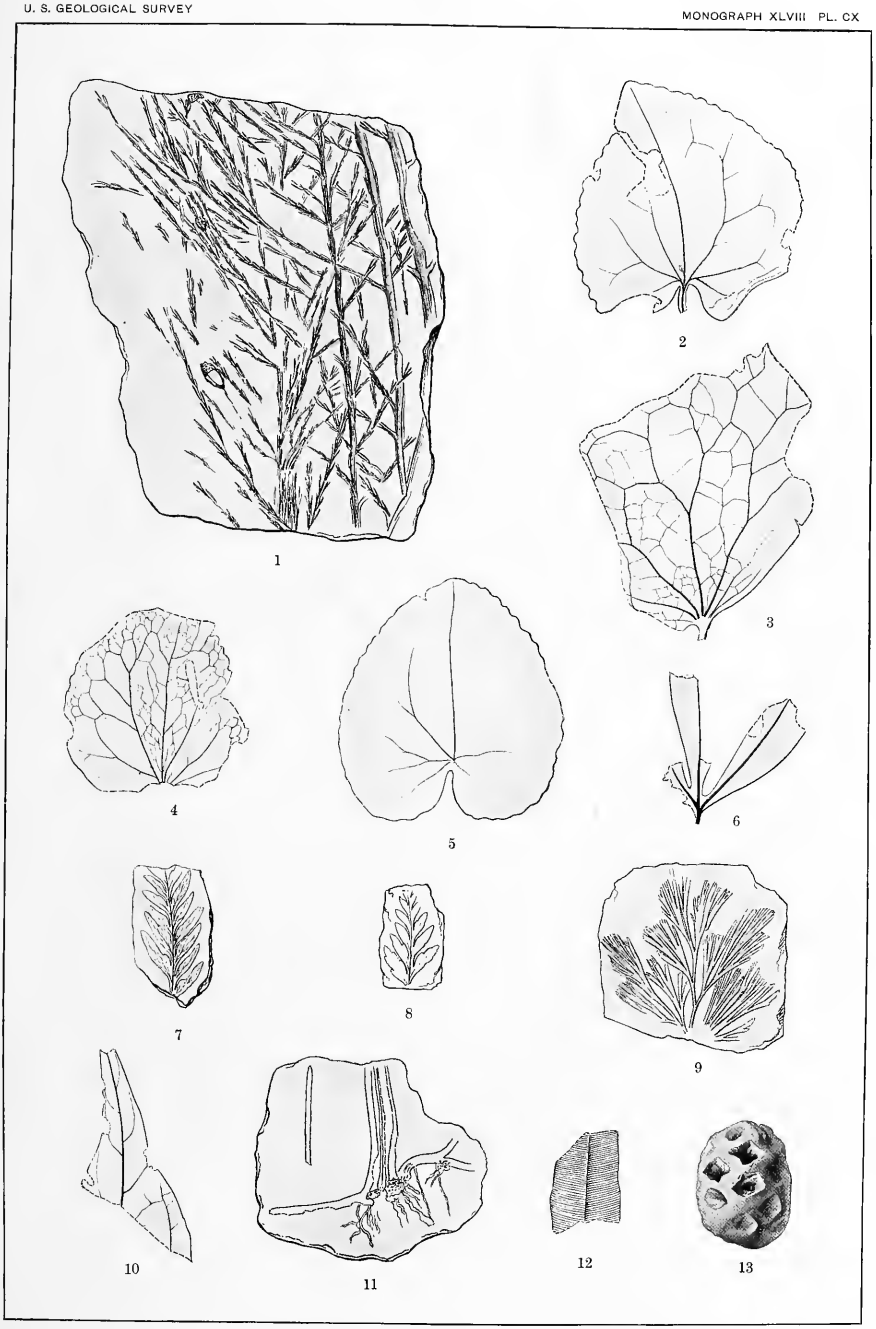


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF VIRGINIA, MARYLAND, AND DISTRICT OF COLUMBIA.

PLATE CX.

PLATE CX.

Flora of the Potomac Formation.

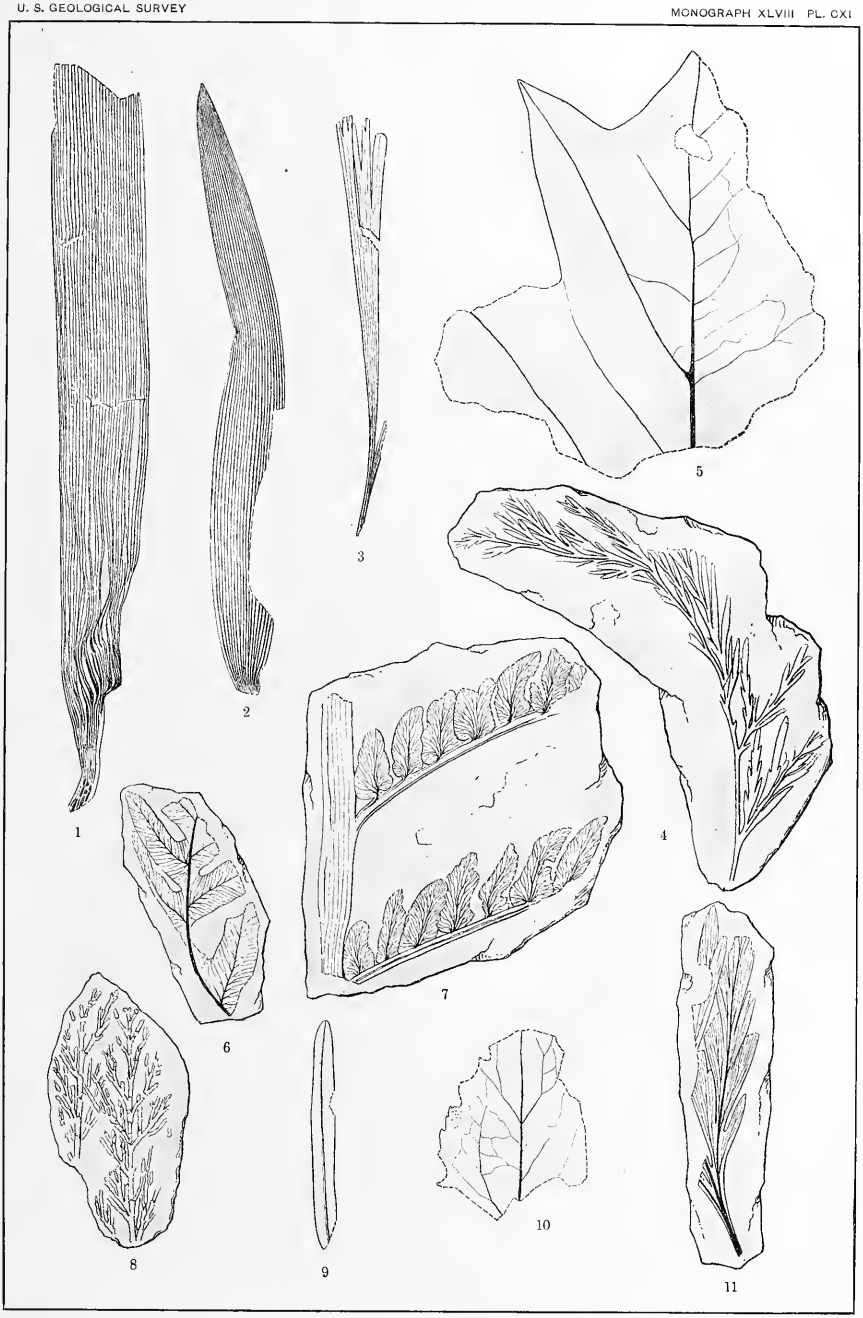


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF VIRGINIA.

PLATE CXI.

PLATE CXI.

Flora of the Potomac Formation.

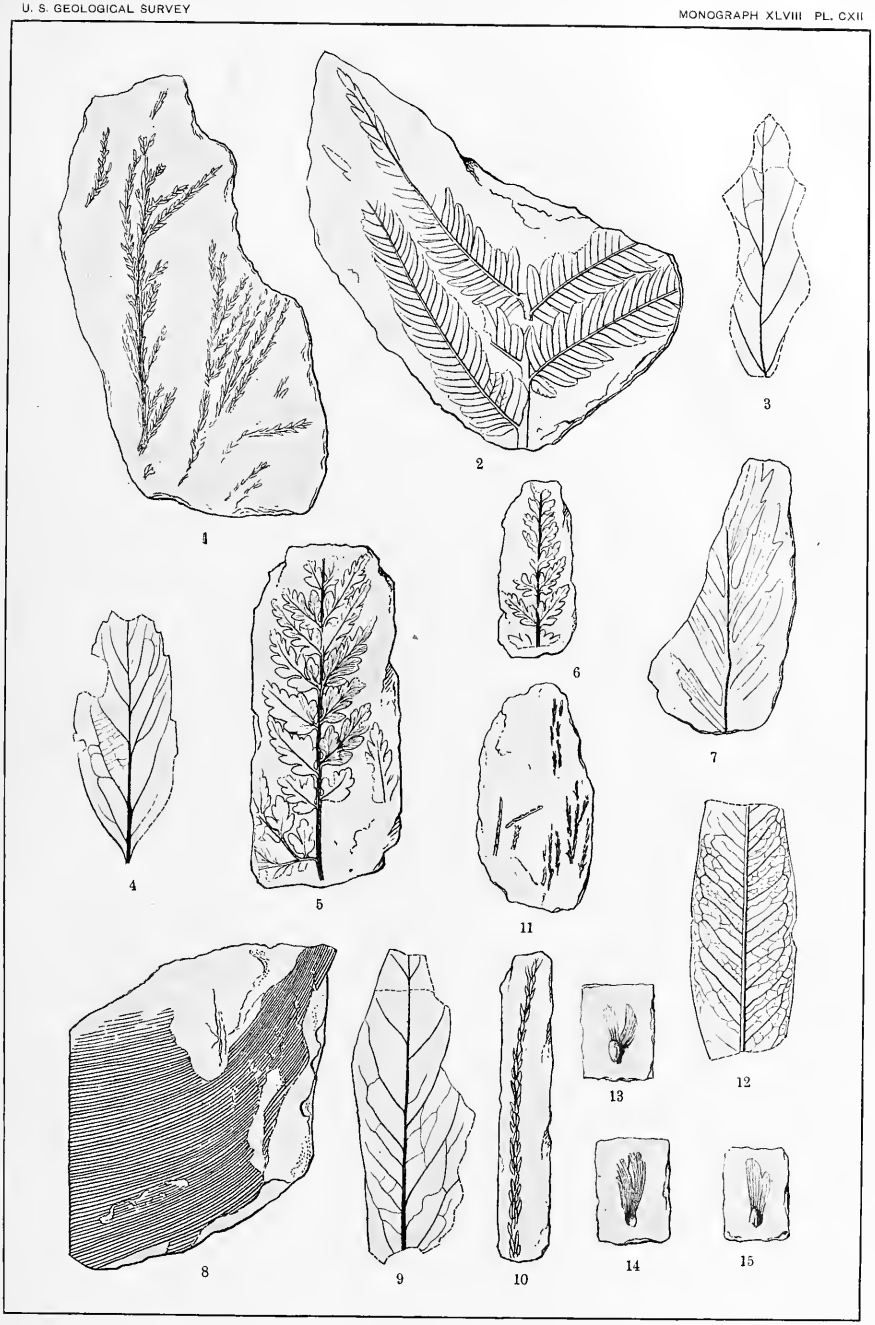


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF VIRGINIA AND MARYLAND.

PLATE CXII.

PLATE CXII.

Flora of the Potomac Formation.

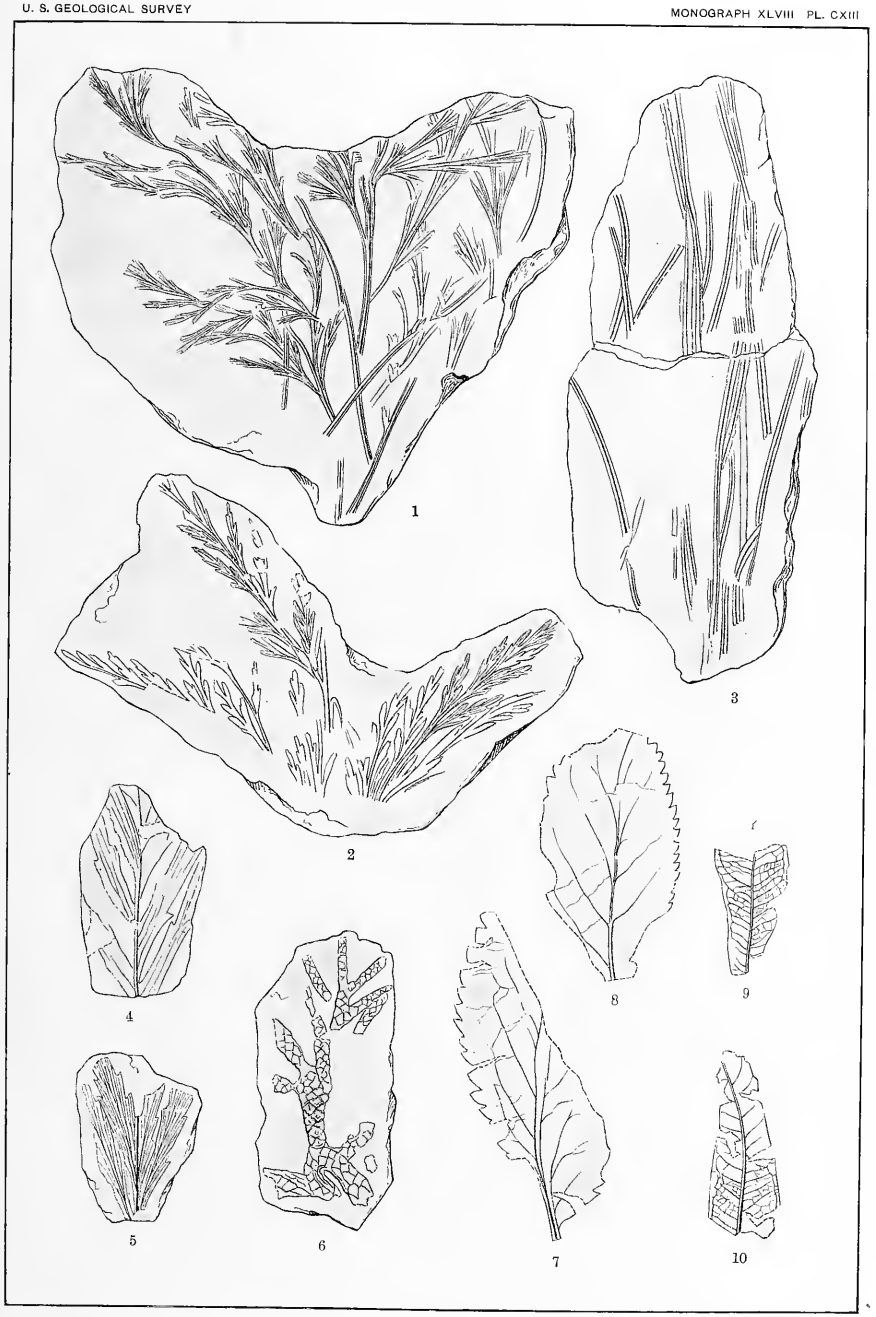


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF VIRGINIA, MARYLAND, AND DISTRICT OF COLUMBIA.

PLATE CXIII.

PLATE CXIII.

Flora of the Potomac Formation.

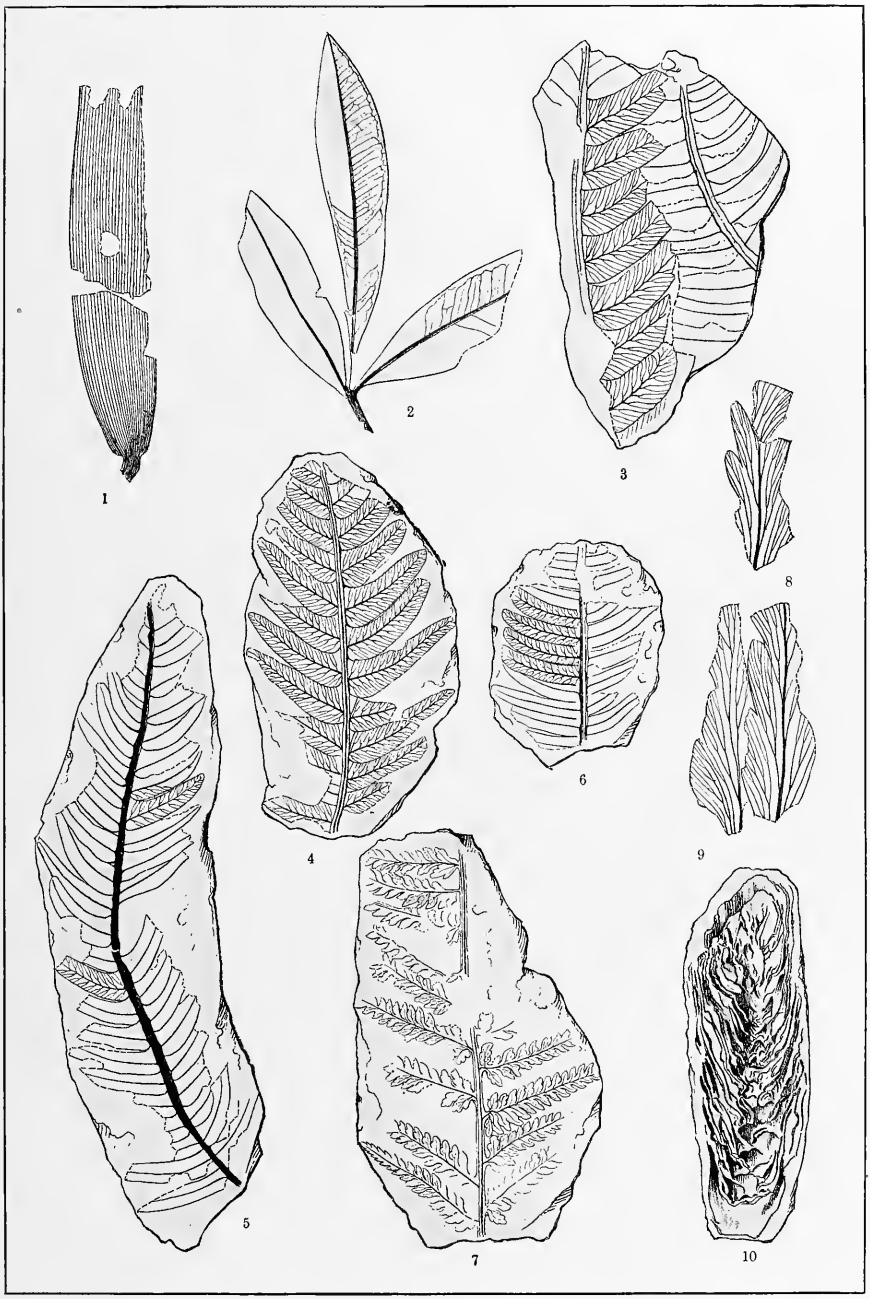


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND AND DISTRICT OF COLUMBIA.

PLATE CXIV.

PLATE CXIV.

Flora of the Potomac Formation.

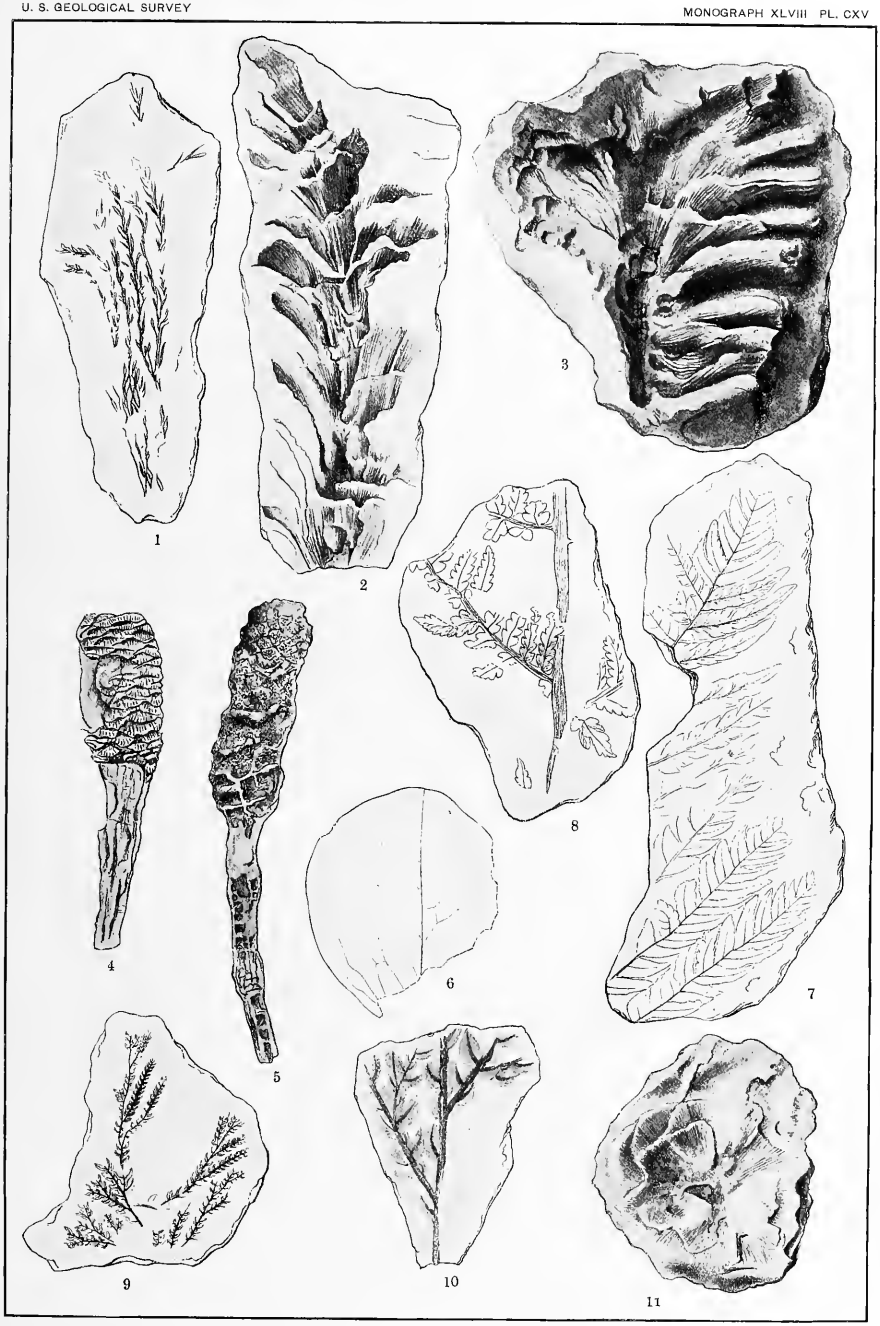


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND.

PLATE CXV.

PLATE CXV.

Flora of the Potomac Formation.

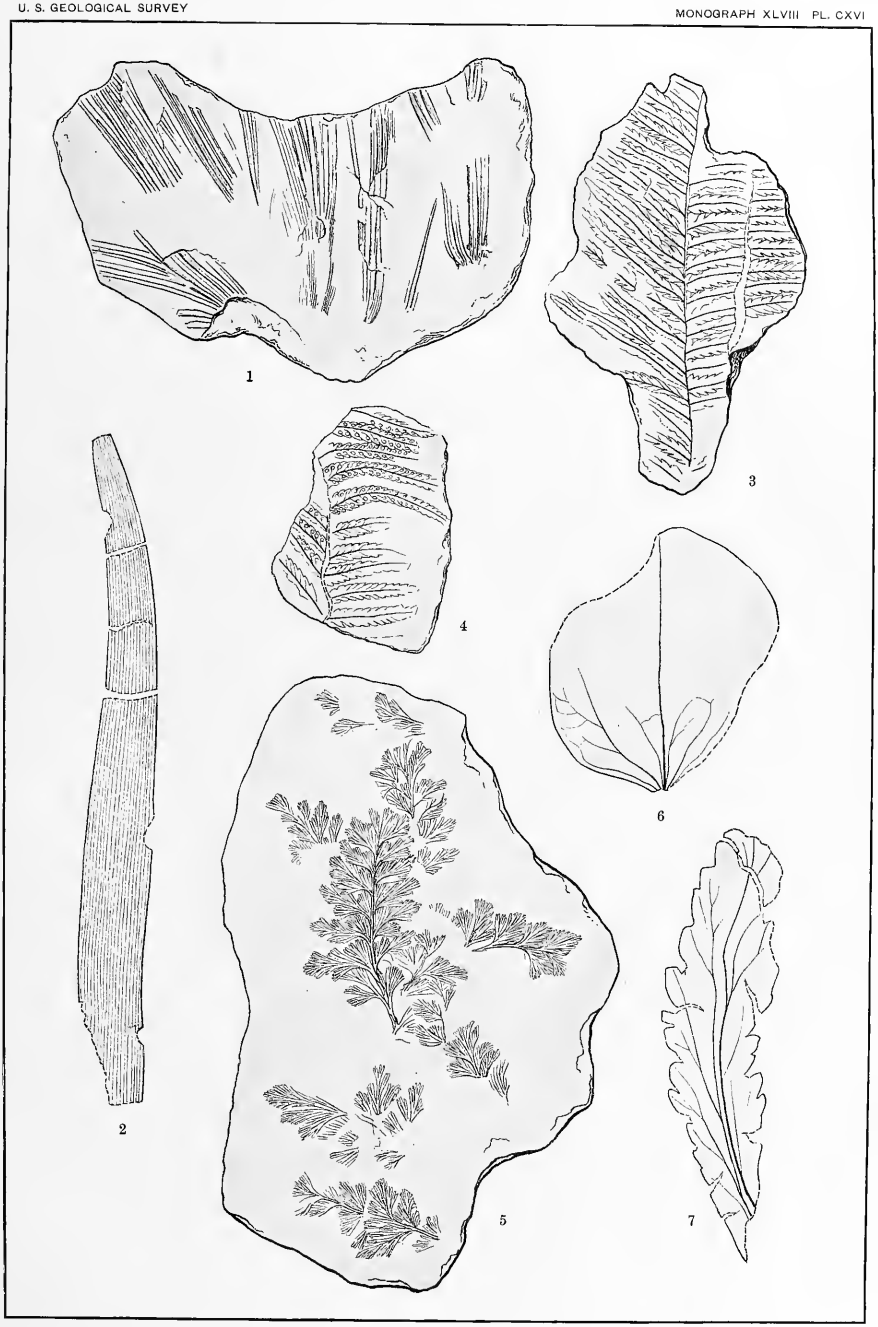


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND.

PLATE CXVI.

PLATE CXVI.

Flora of the Potomac Formation.

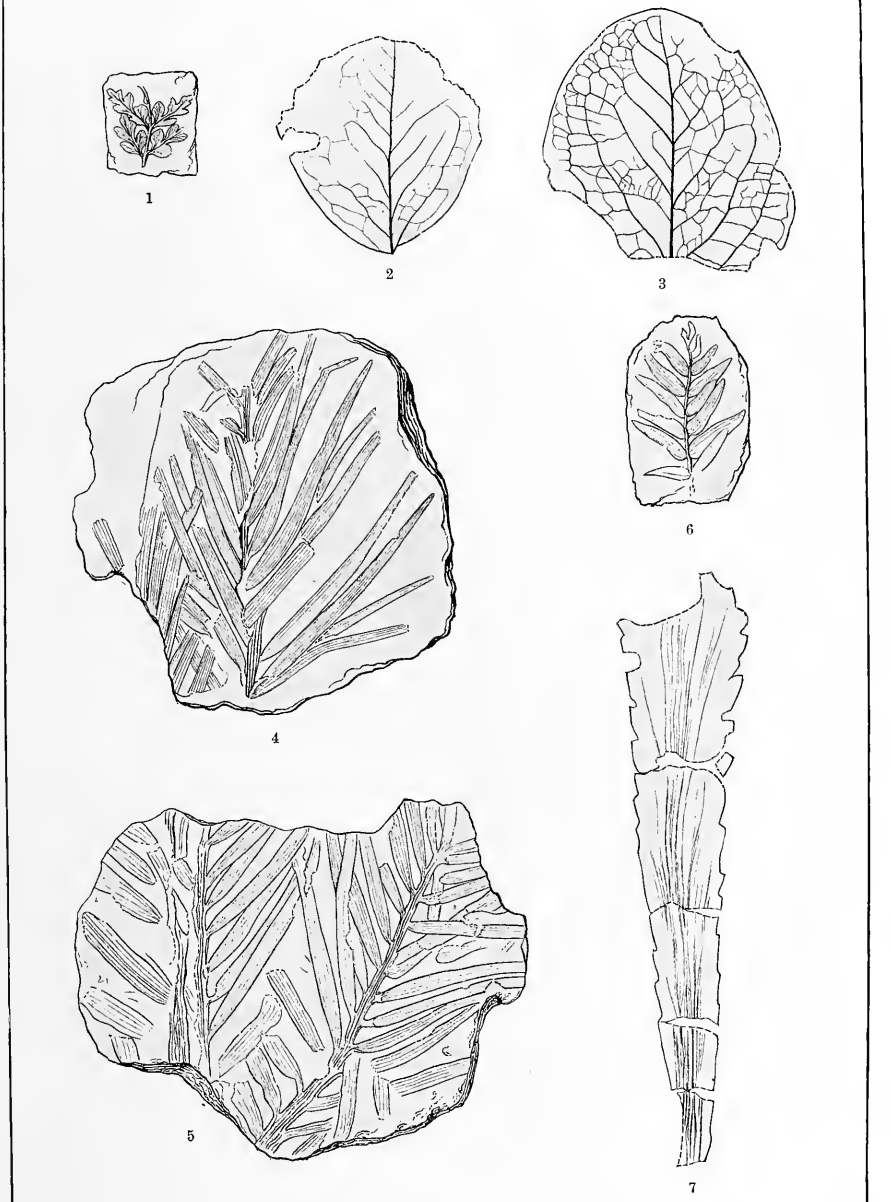


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND.

PLATE CXVII.

PLATE CXVII.

Flora of the Potomac Formation.

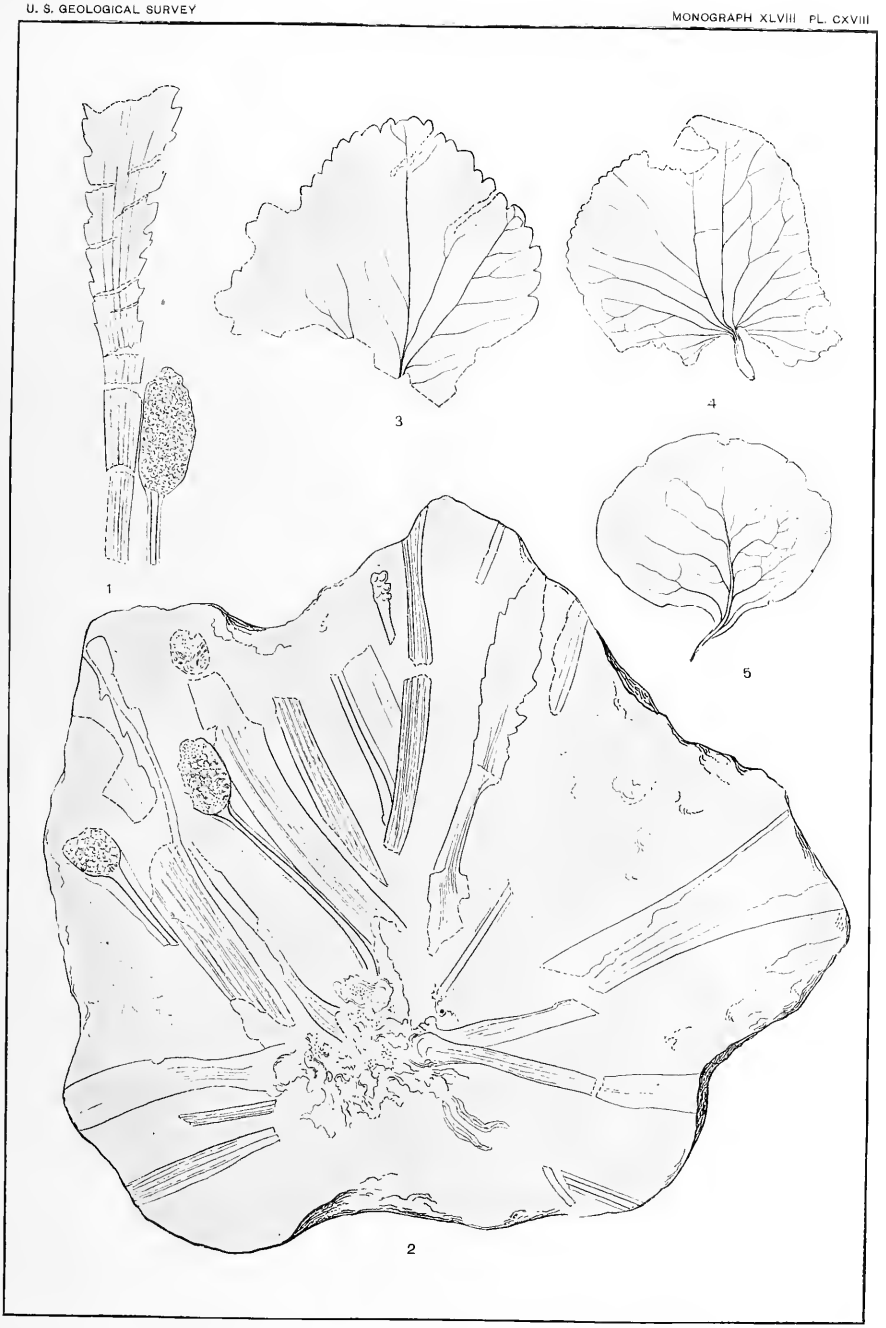


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND.

PLATE CXVIII.

PLATE CXVIII.

Flora of the Potomac Formation.

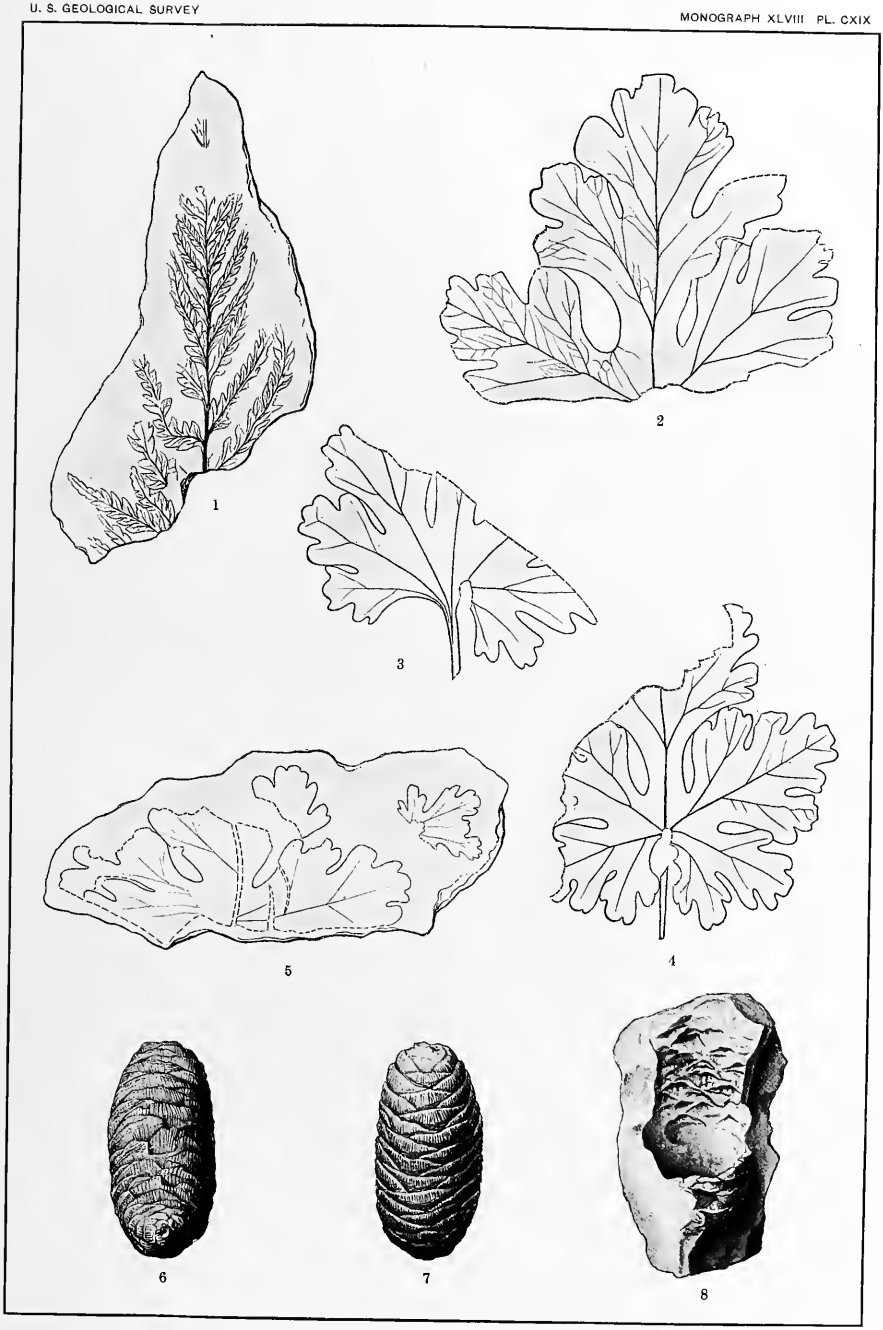


FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND.

PLATE CXIX.

PLATE CXIX.

Flora of the Potomac Formation.



FOSSIL PLANTS FROM THE POTOMAC FORMATION OF MARYLAND.