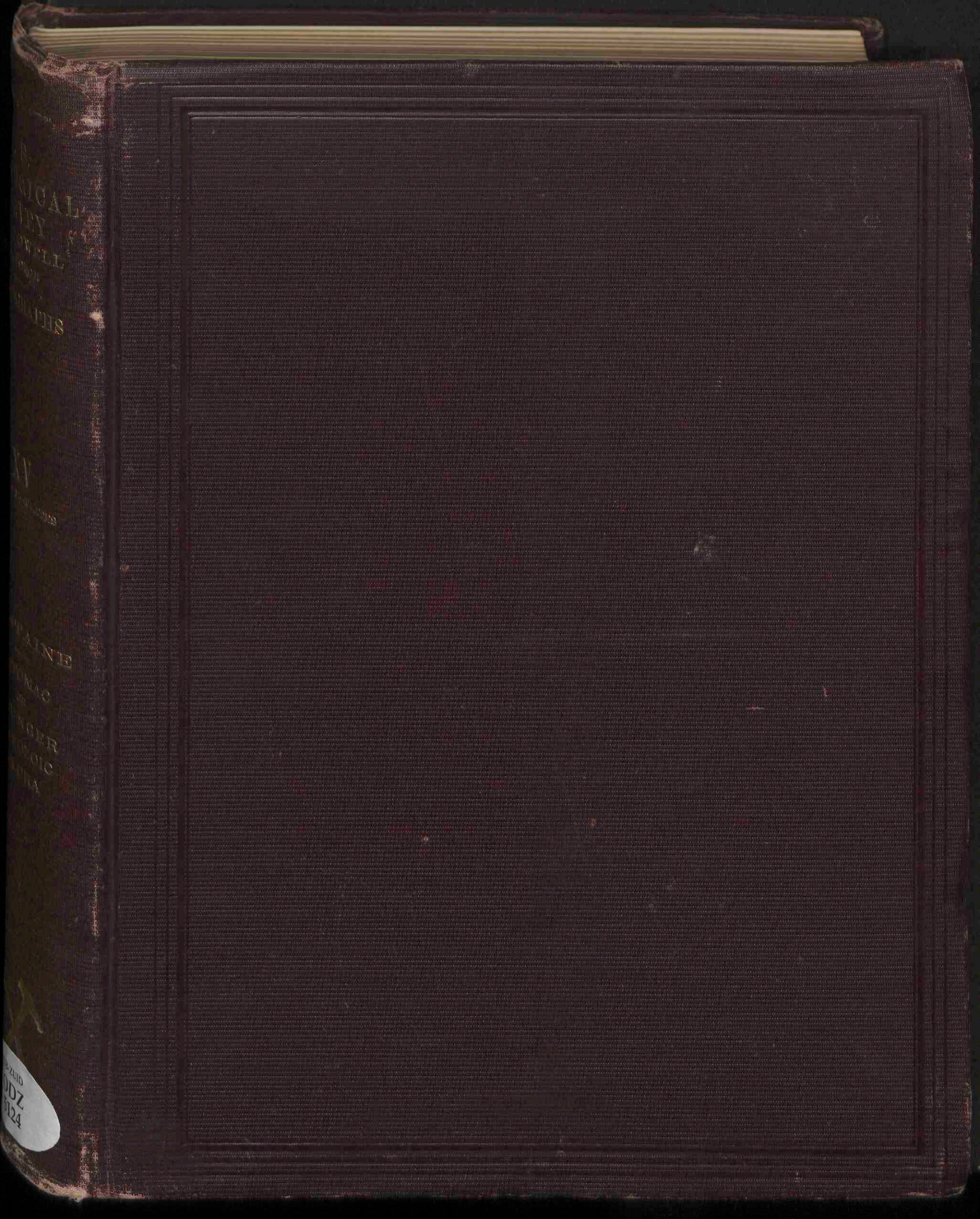




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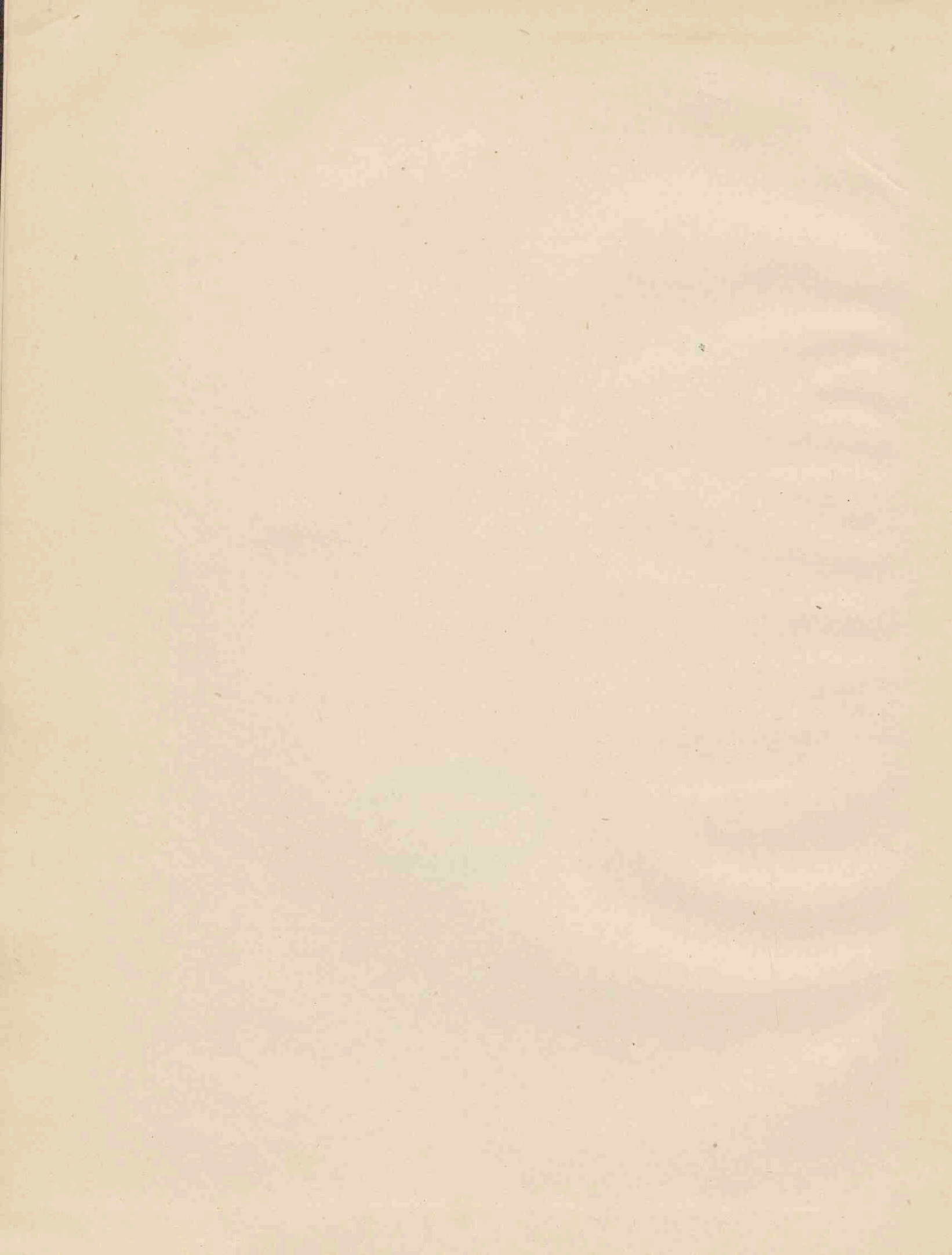
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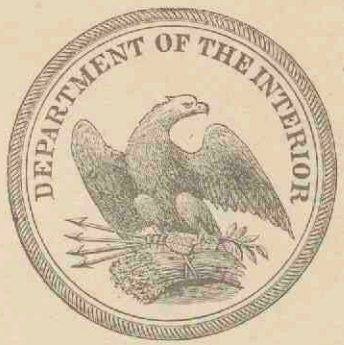
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UNITED STATES GEOLOGICAL SURVEY

J. W. POWELL, DIRECTOR

THE POTOMAC

OR

YOUNGER MESOZOIC FLORA

BY

WILLIAM MORRIS FONTAINE



WASHINGTON
GOVERNMENT PRINTING OFFICE
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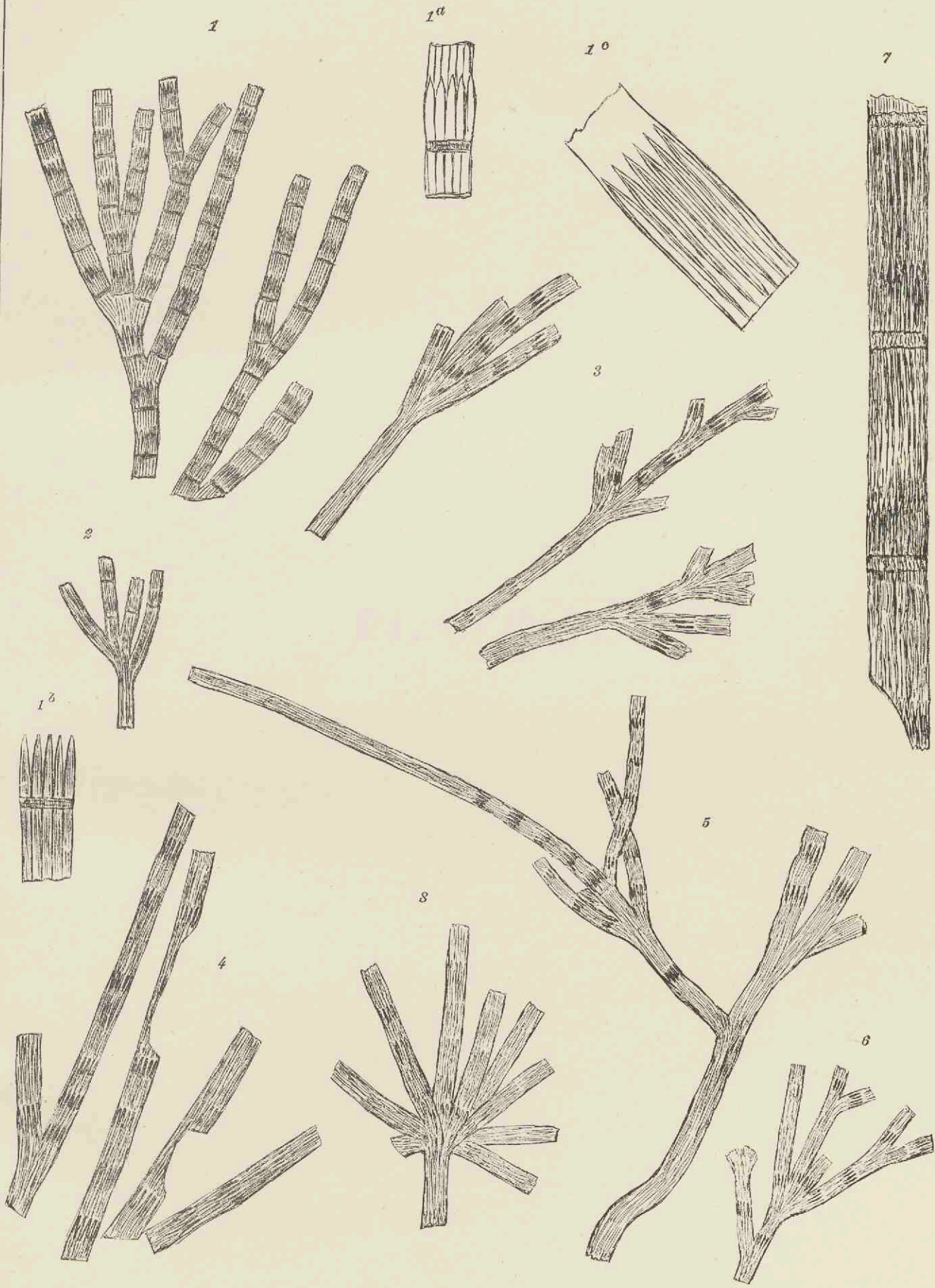


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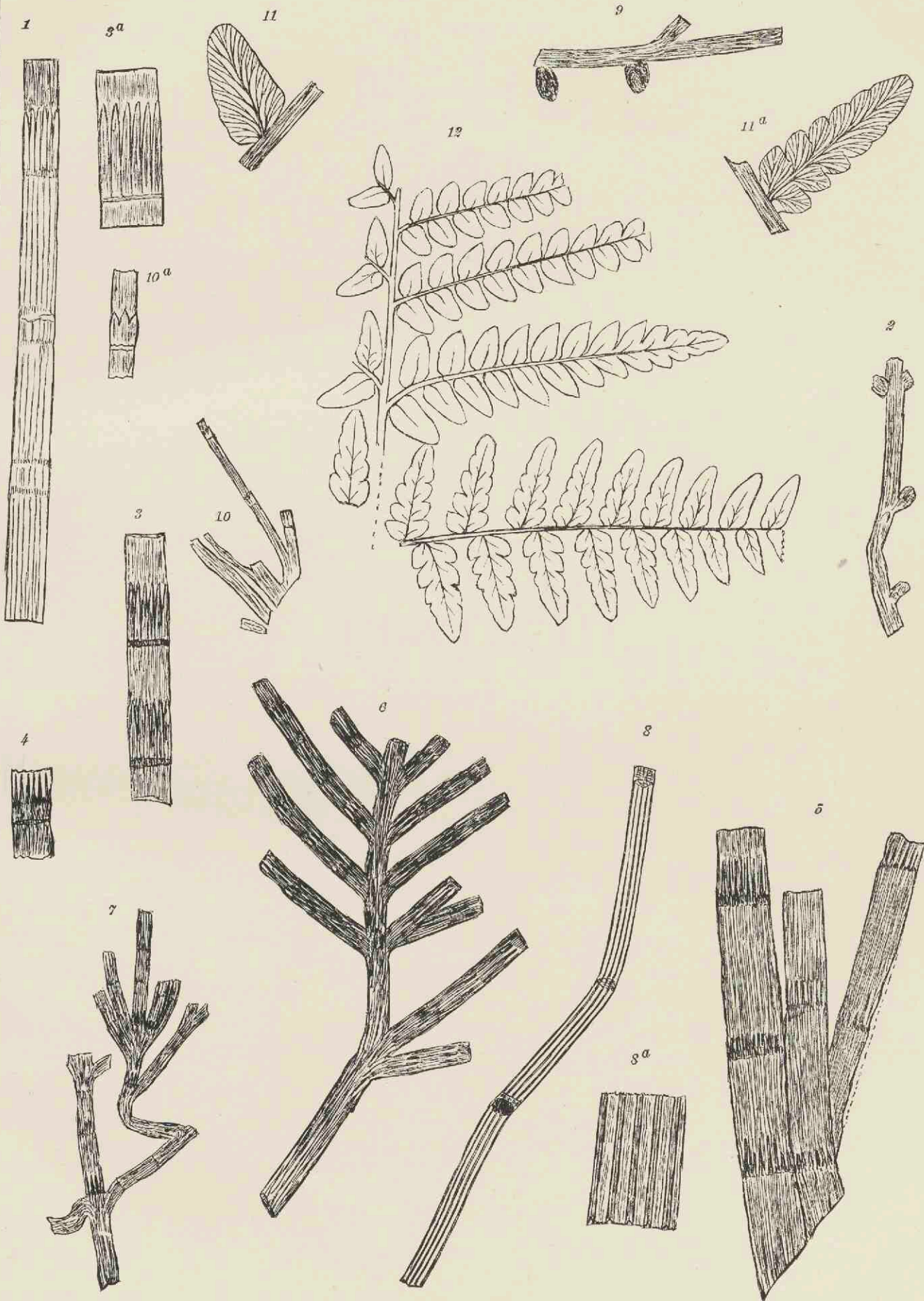


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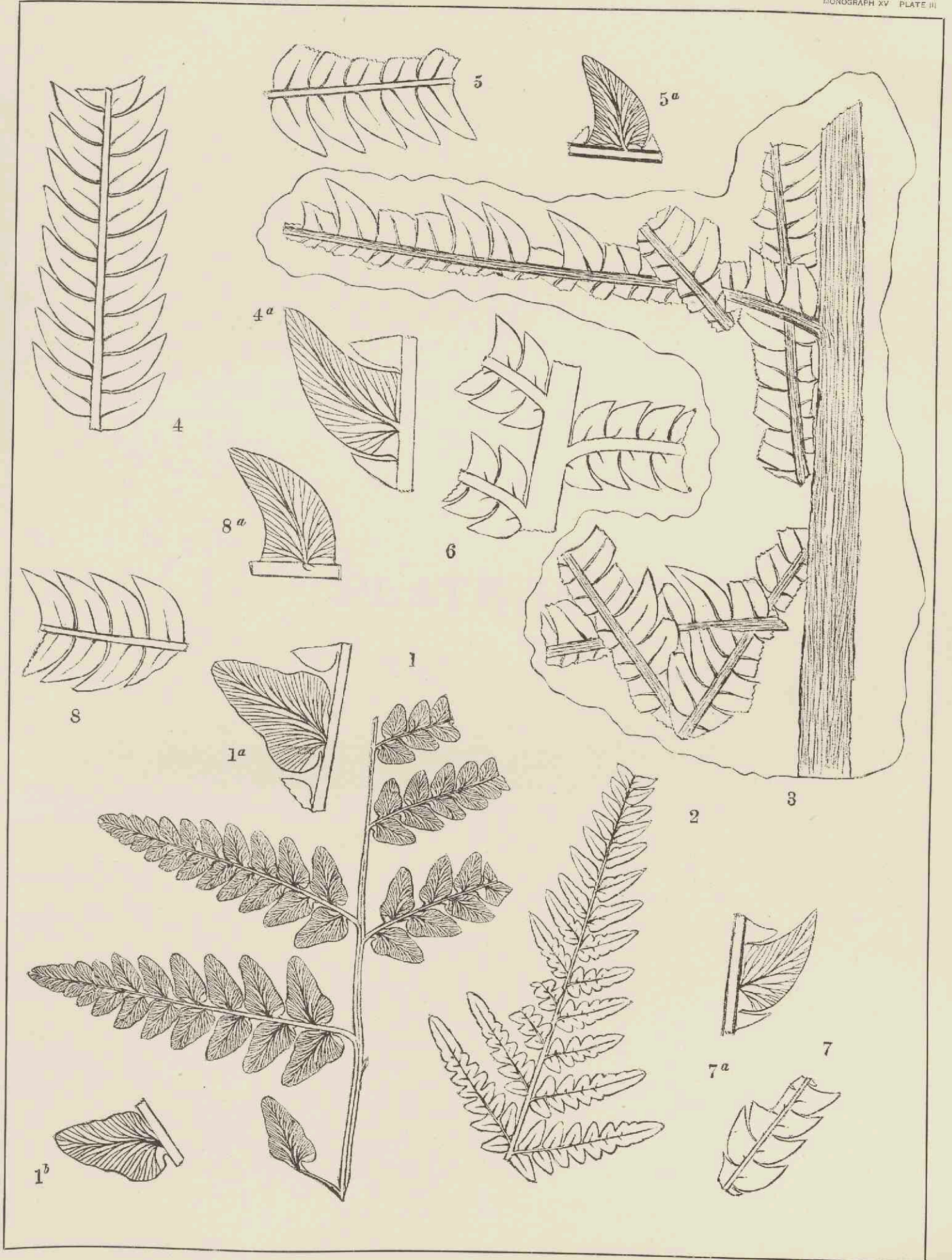


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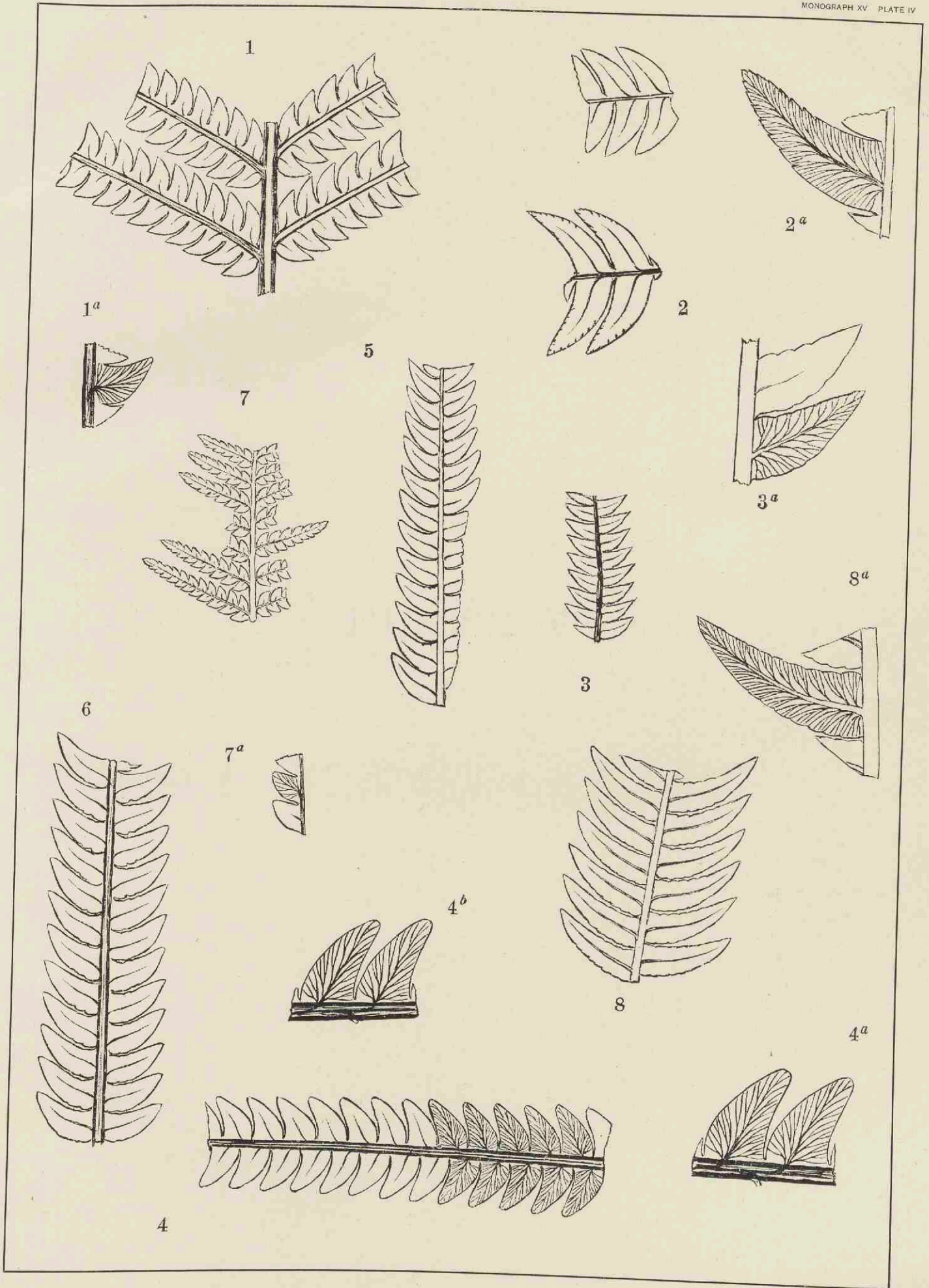
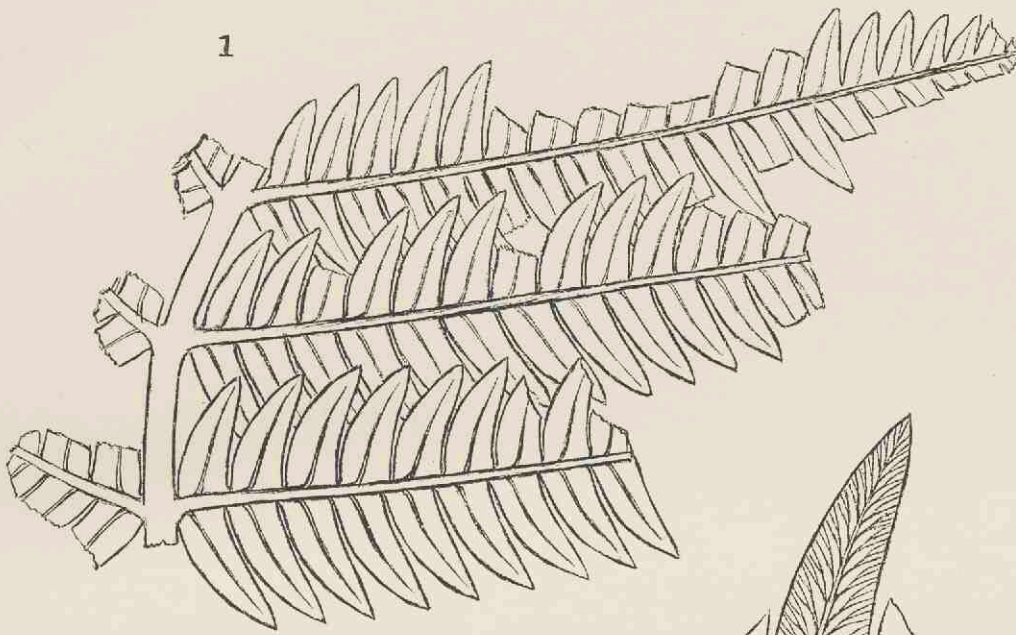


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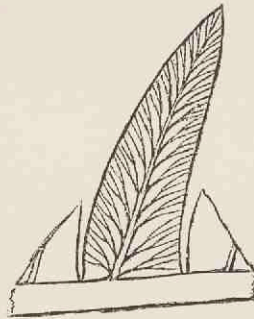
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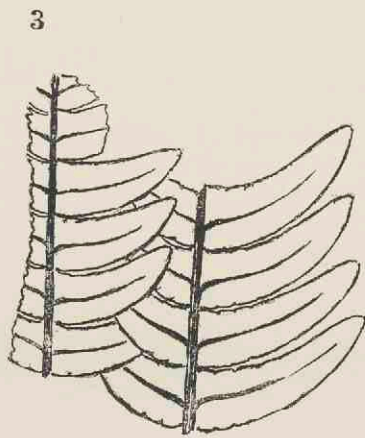
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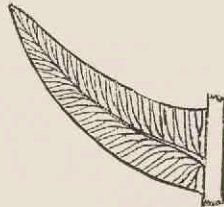
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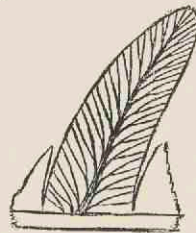
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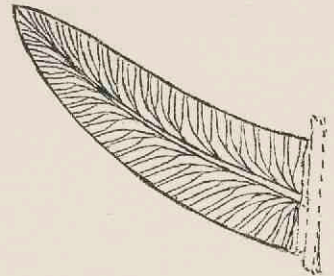
7^a



6



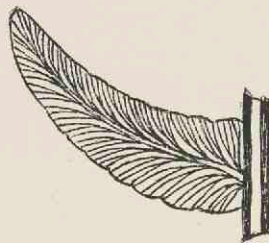
5^a



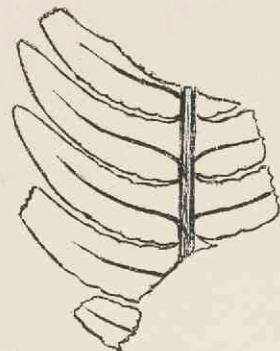
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	6 ^a . Pinnules of 6 magnified to show nervation	68
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	7 ^a . Portion of a pinnule of 7 magnified to show nervation	72

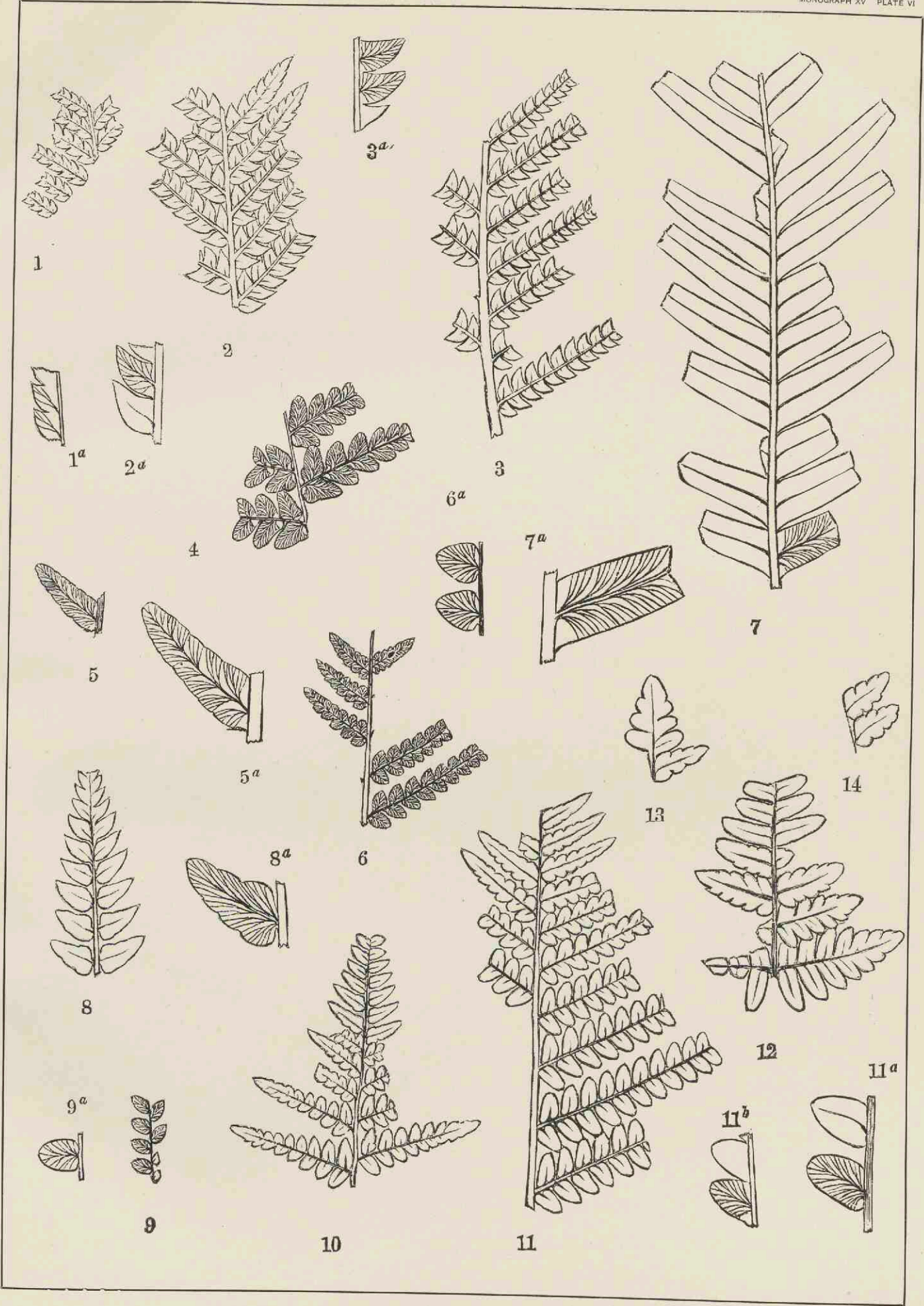
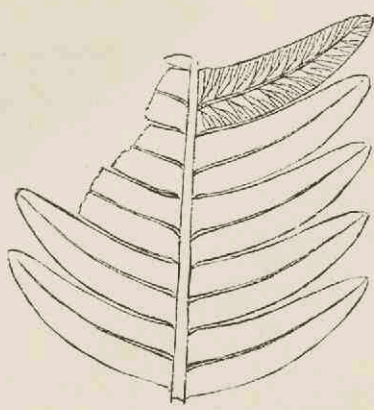


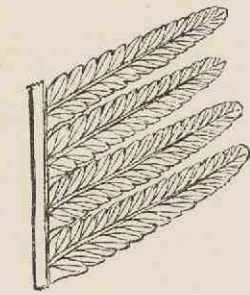
PLATE VII.

PLATE VII.

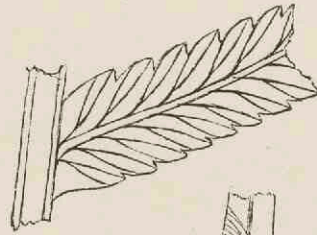
	Page.
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1. Ultimate pinna with large and very obtuse pinnules, probably from the upper part of the frond.	72
1 ^a . Pinnule of 1 magnified to show nervation.	72
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10 ^b . Nerves from the upper part of 10 magnified.	113
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1



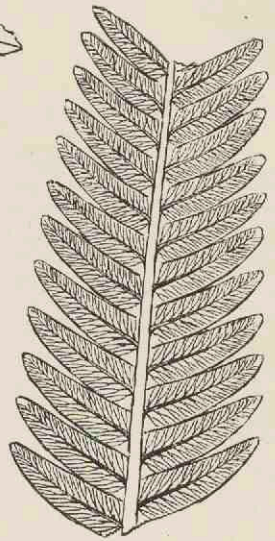
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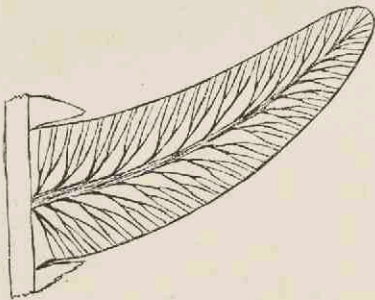
5^a



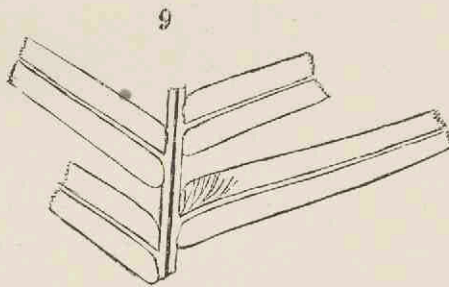
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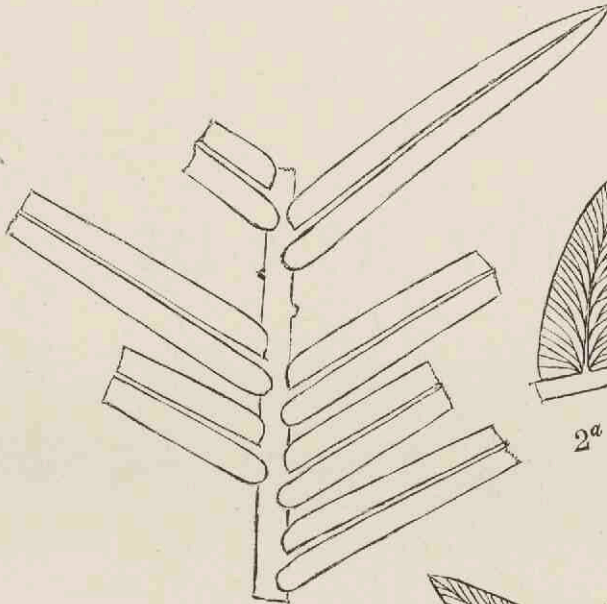
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1^a



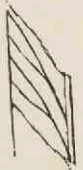
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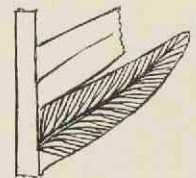
8



2^a



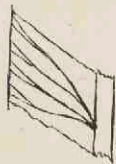
10^b



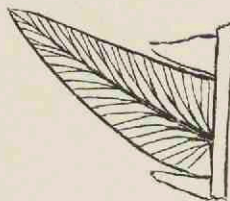
3^a



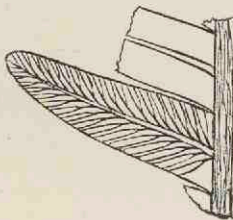
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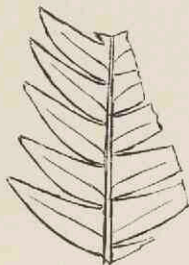
10^a



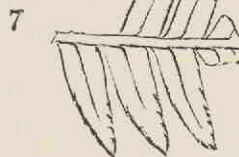
6^a



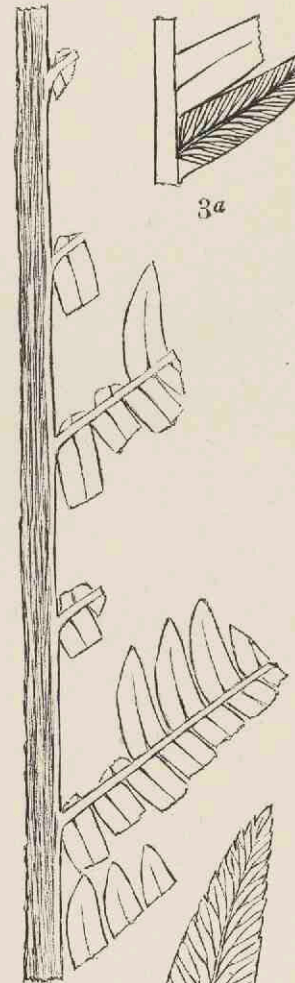
4



6



7



2



7^a

PLATE VIII.

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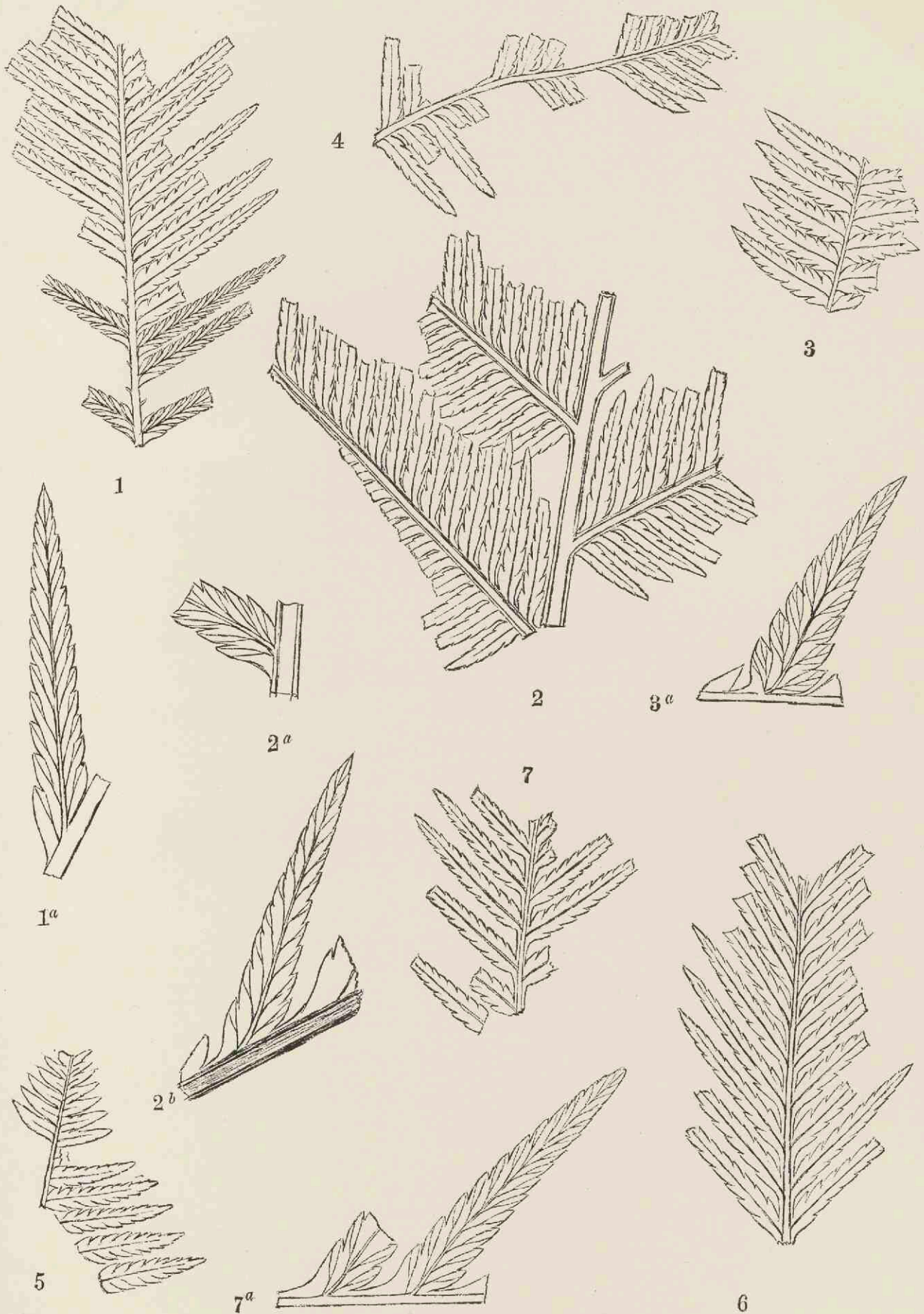


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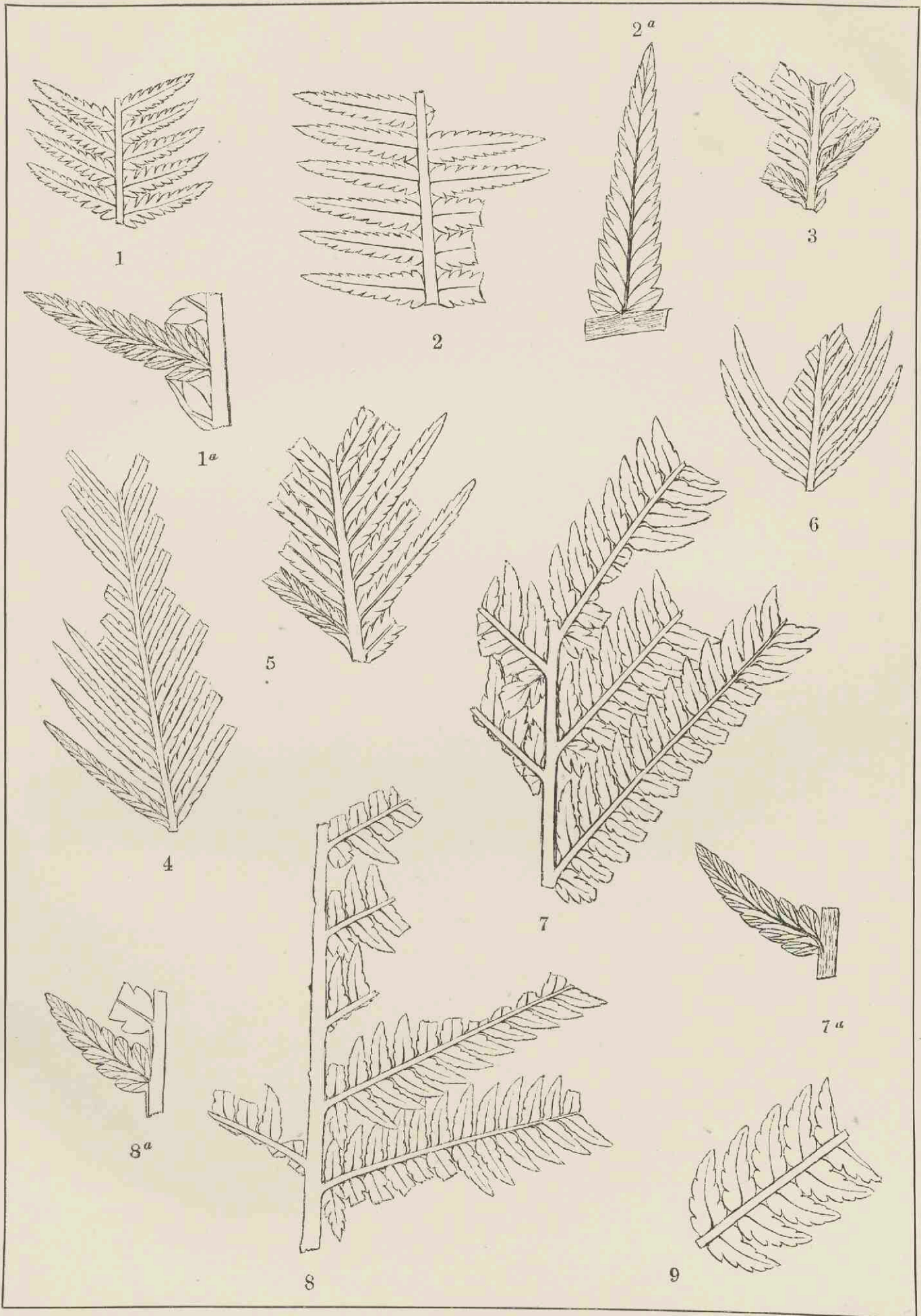


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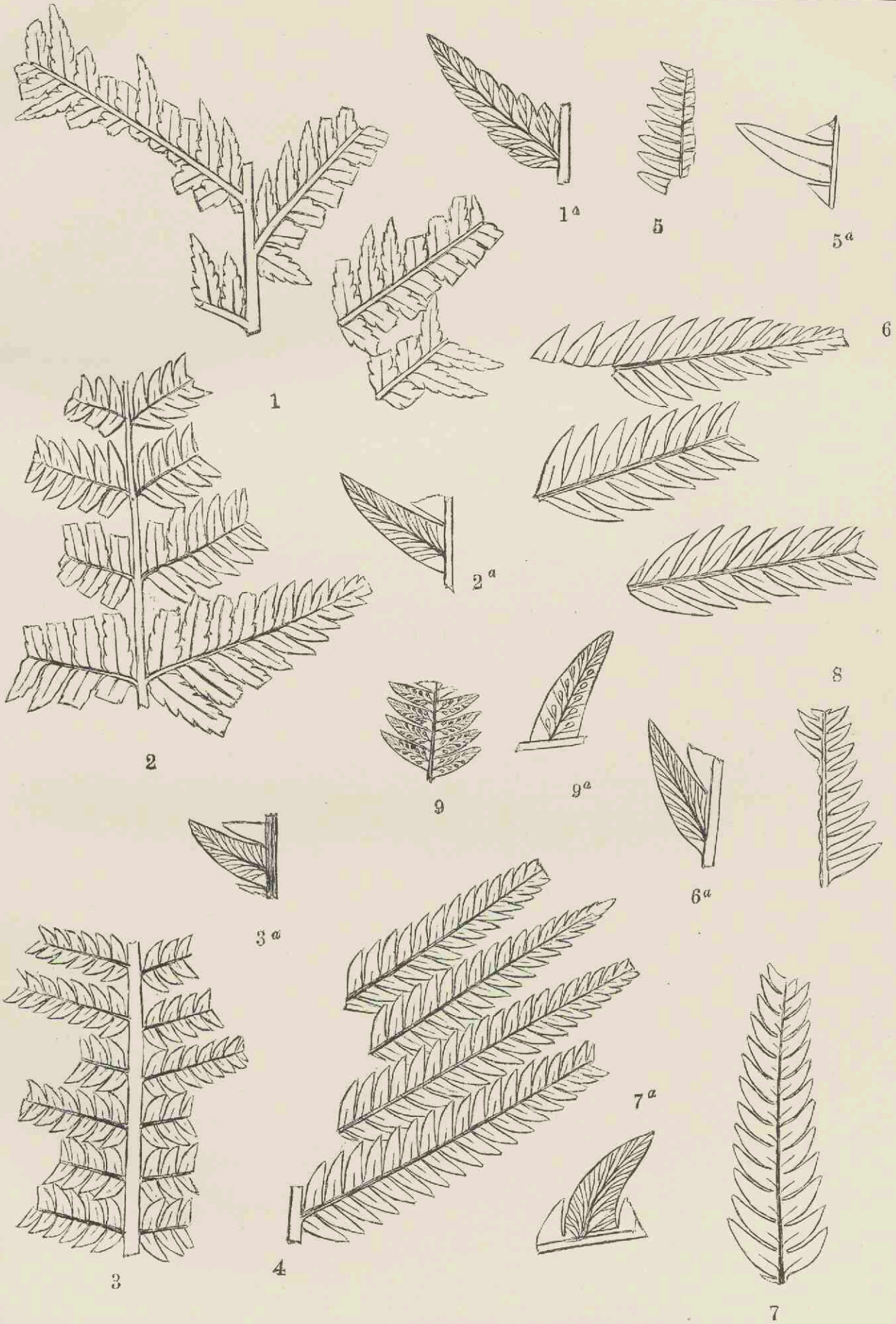


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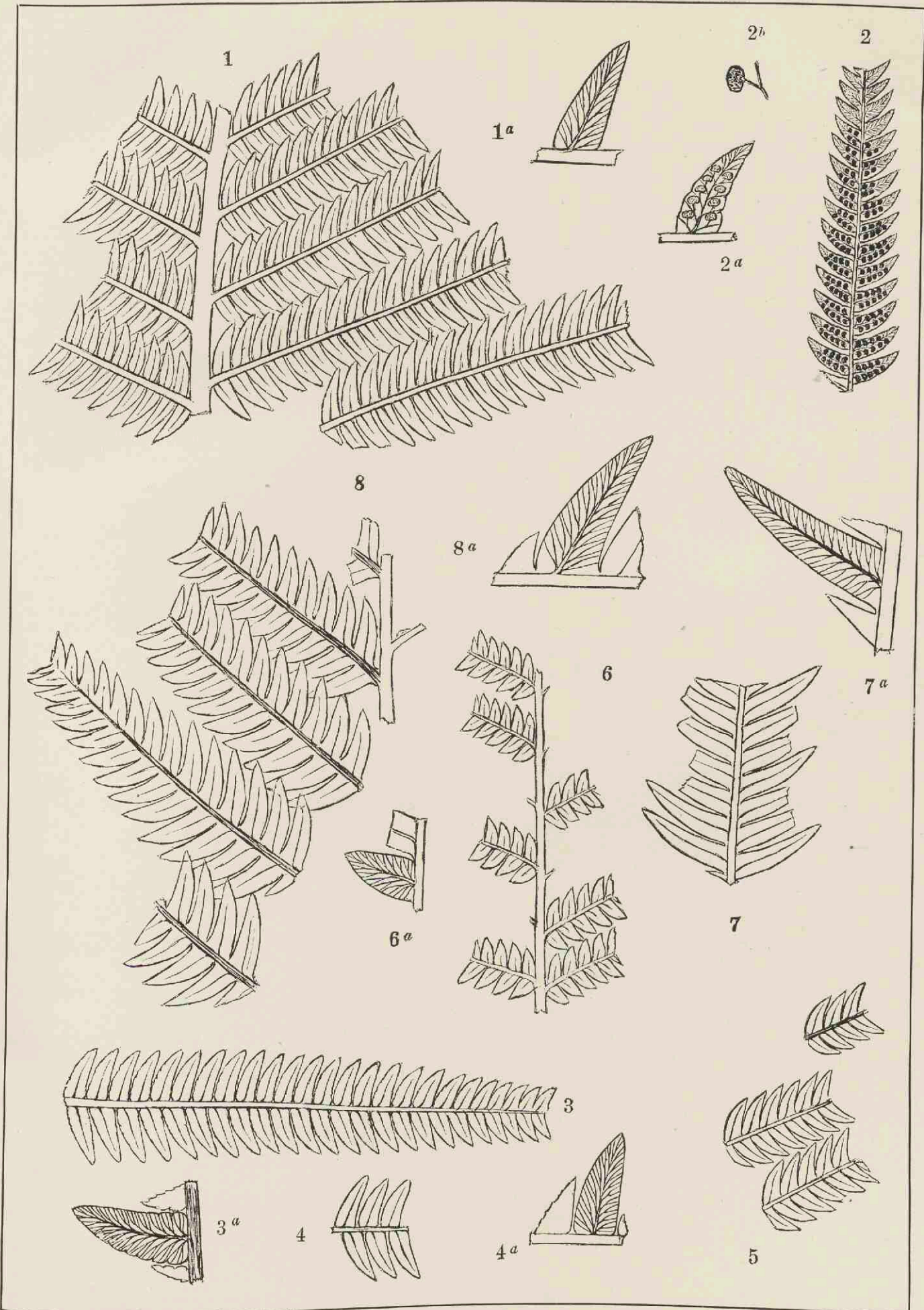


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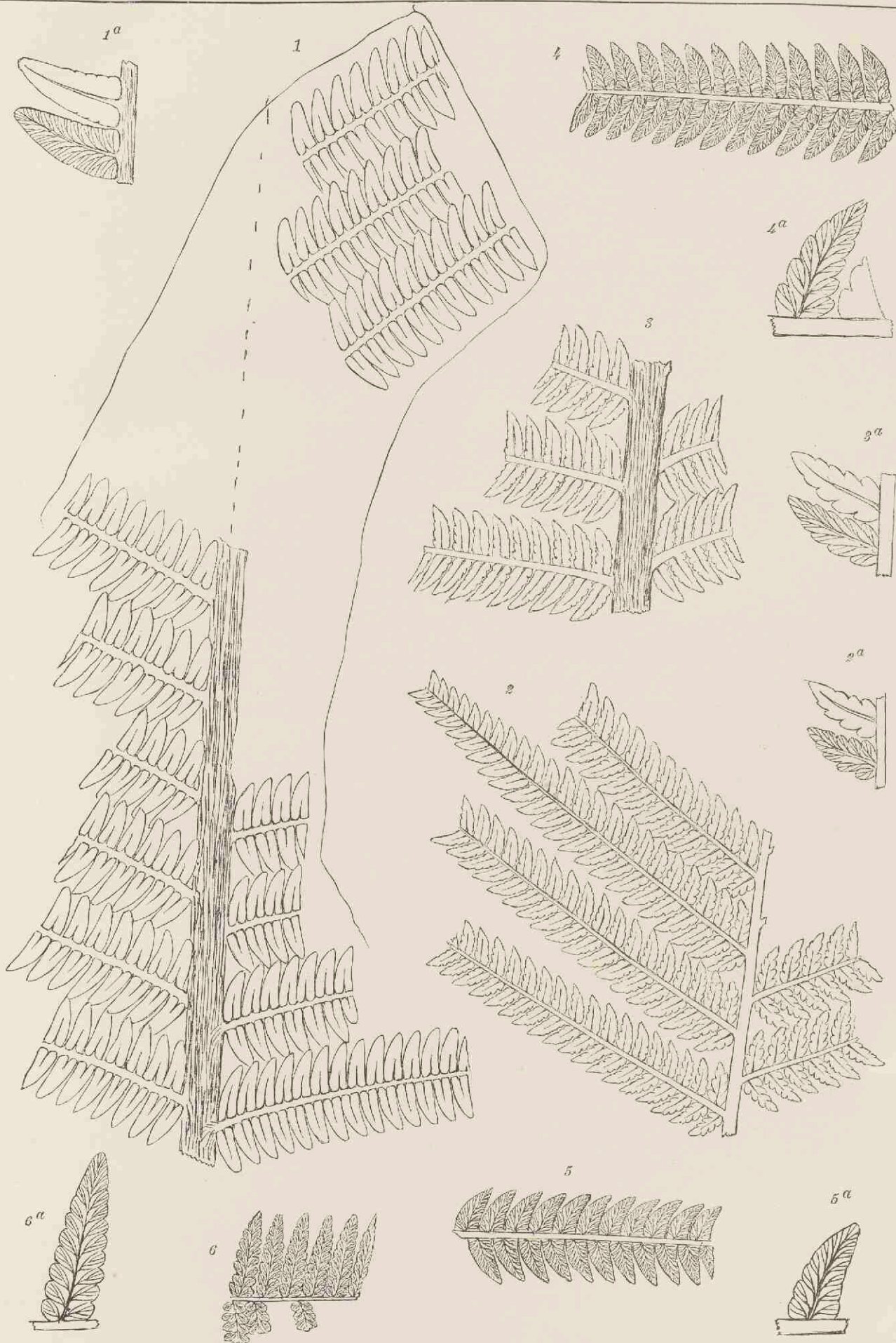


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1 ^a . Pinnule of 1 magnified, to show nervation	75
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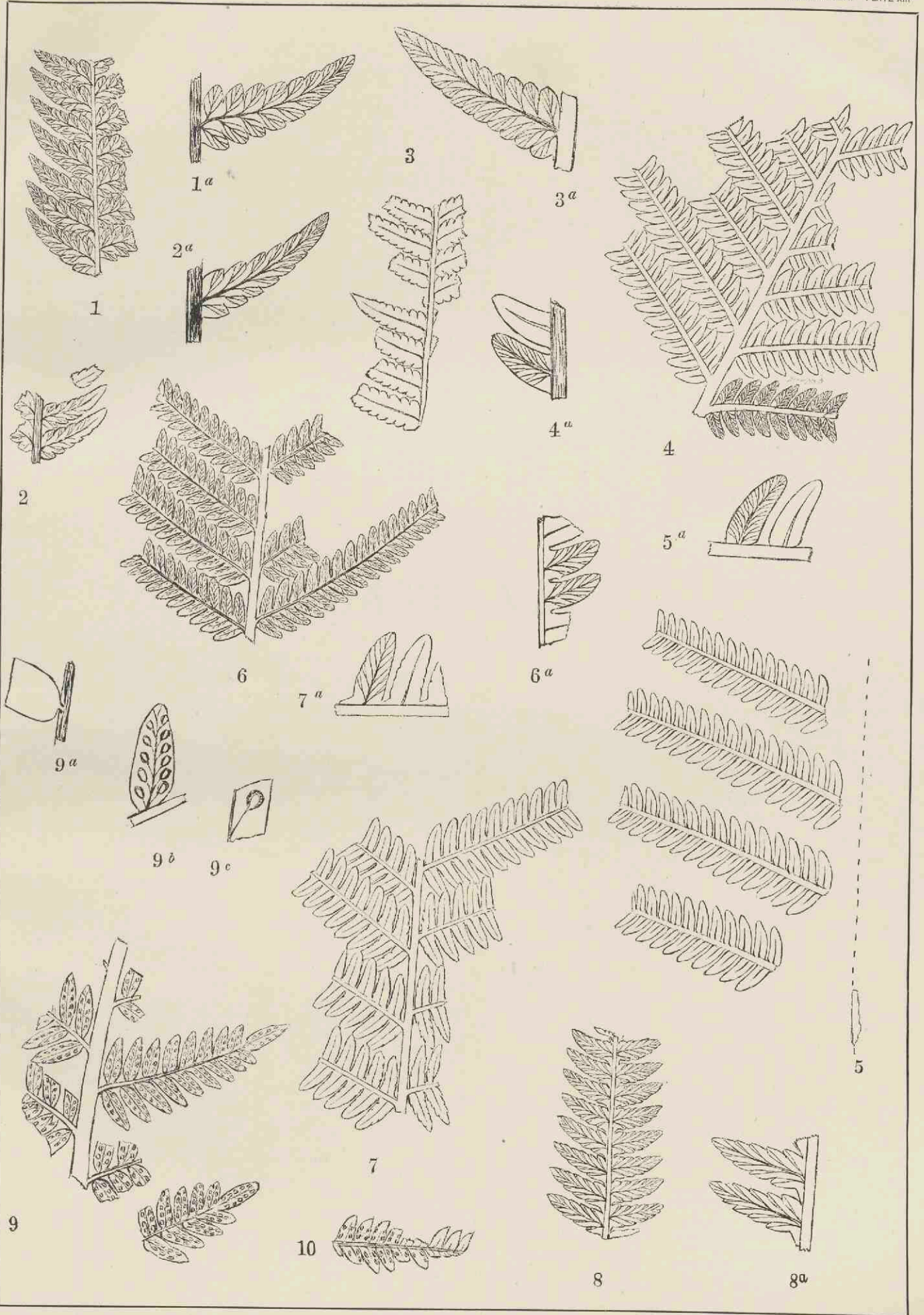


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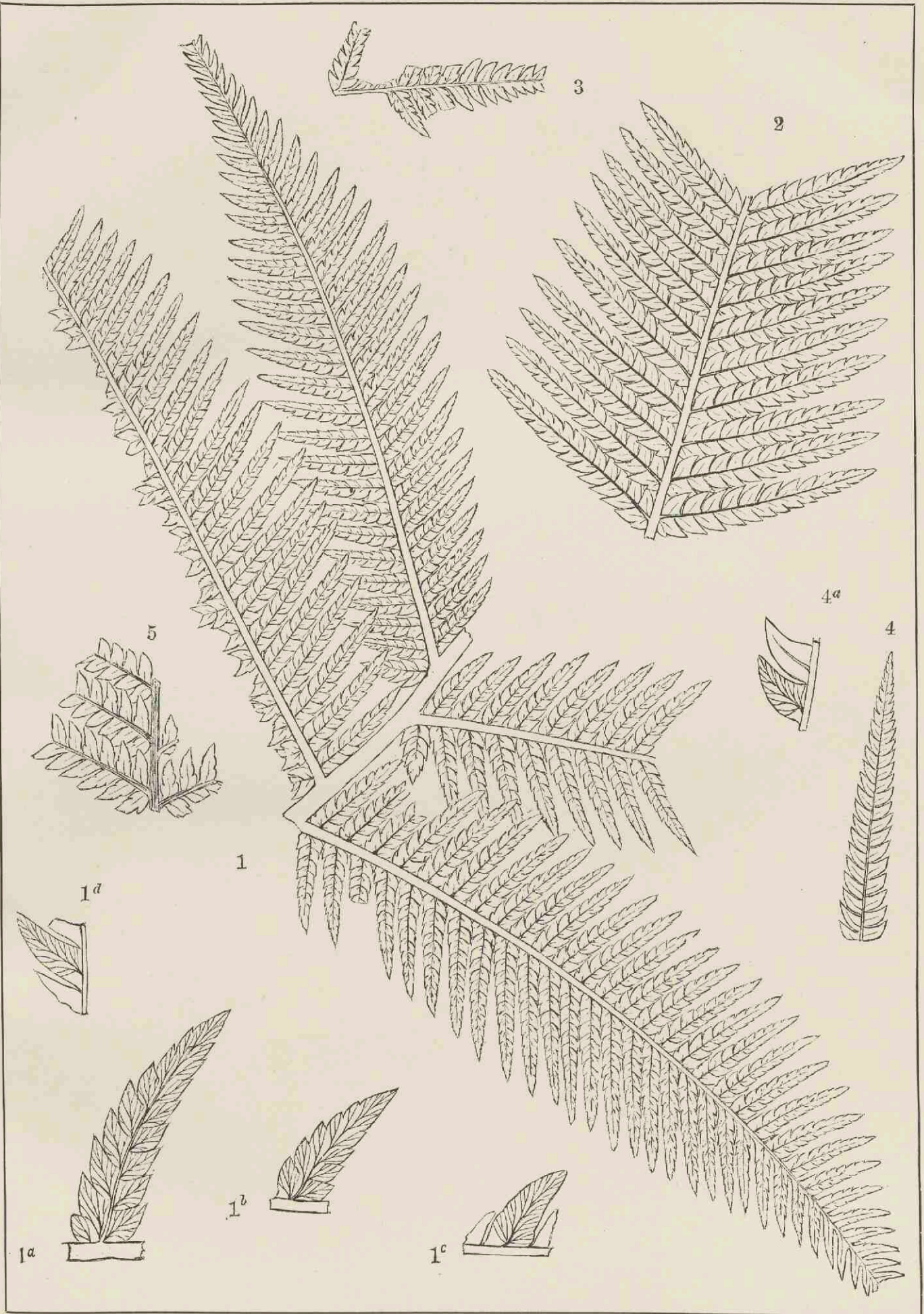


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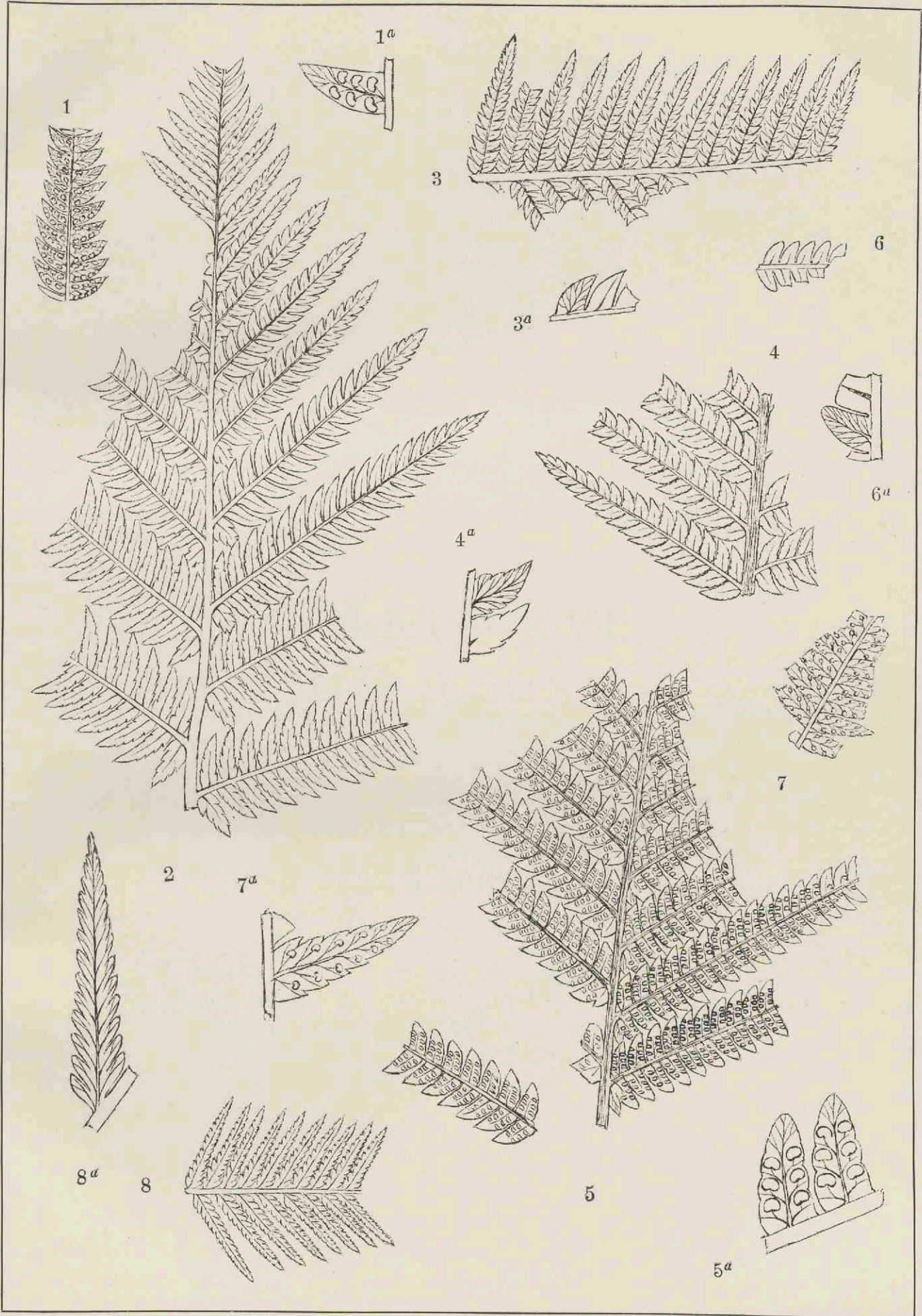


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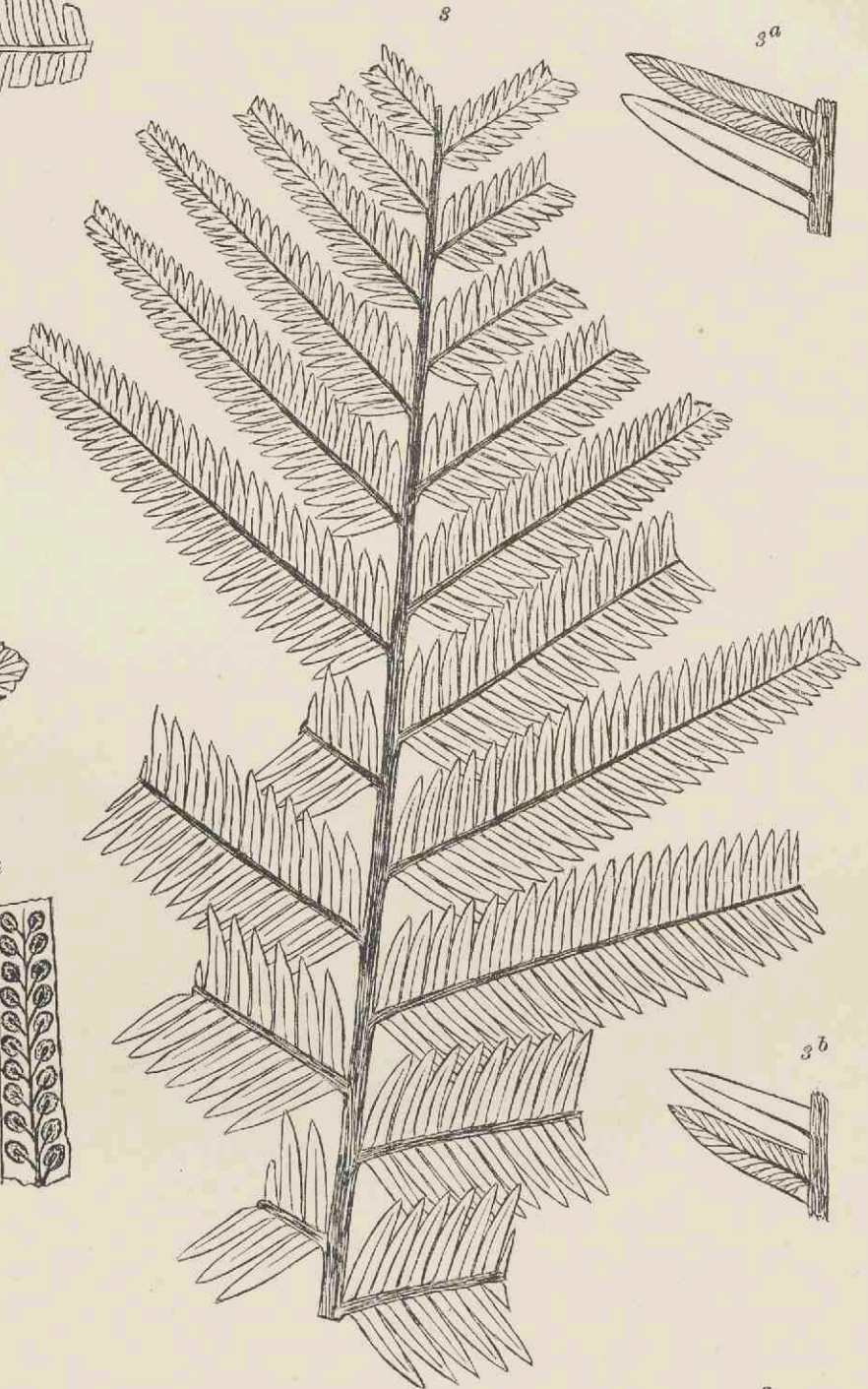
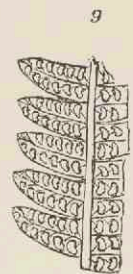
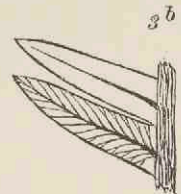
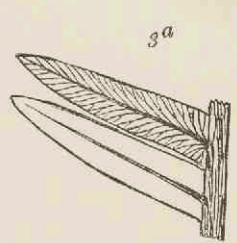
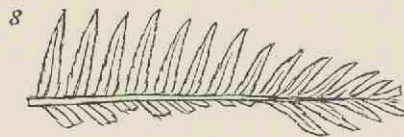
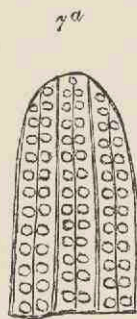
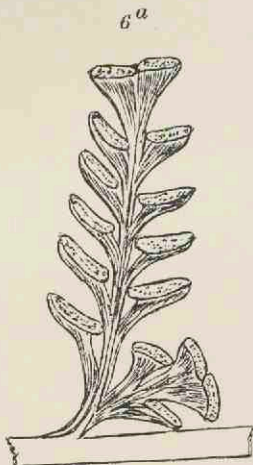
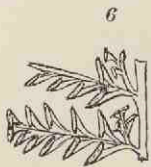
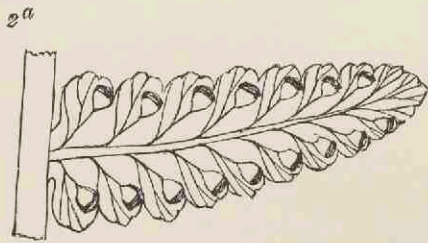
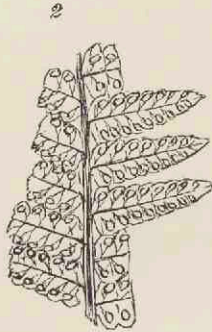
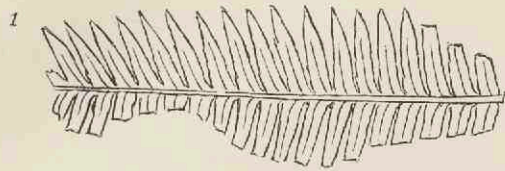


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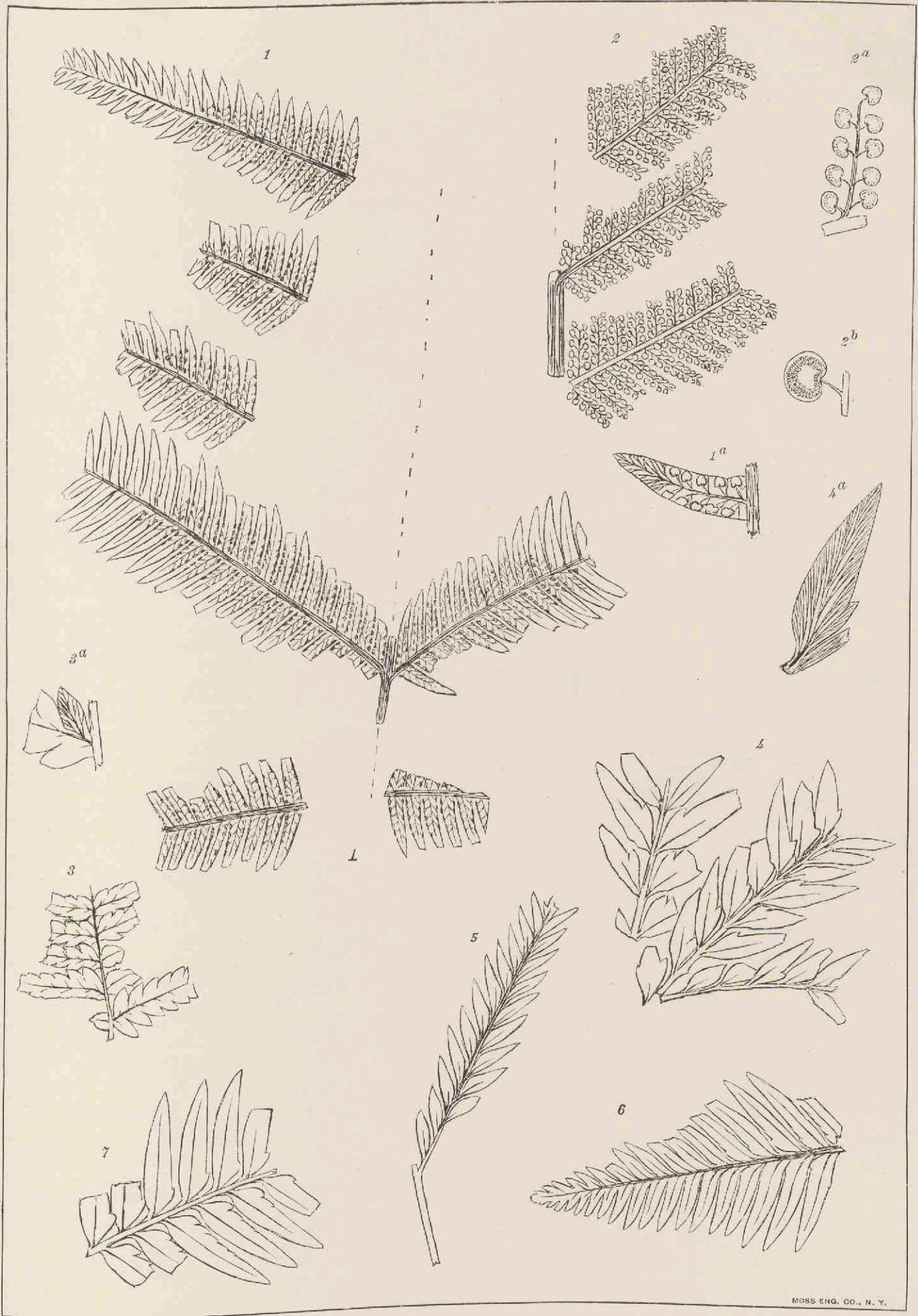


PLATE XVIII.

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5. Upper part of an ultimate pinna	110
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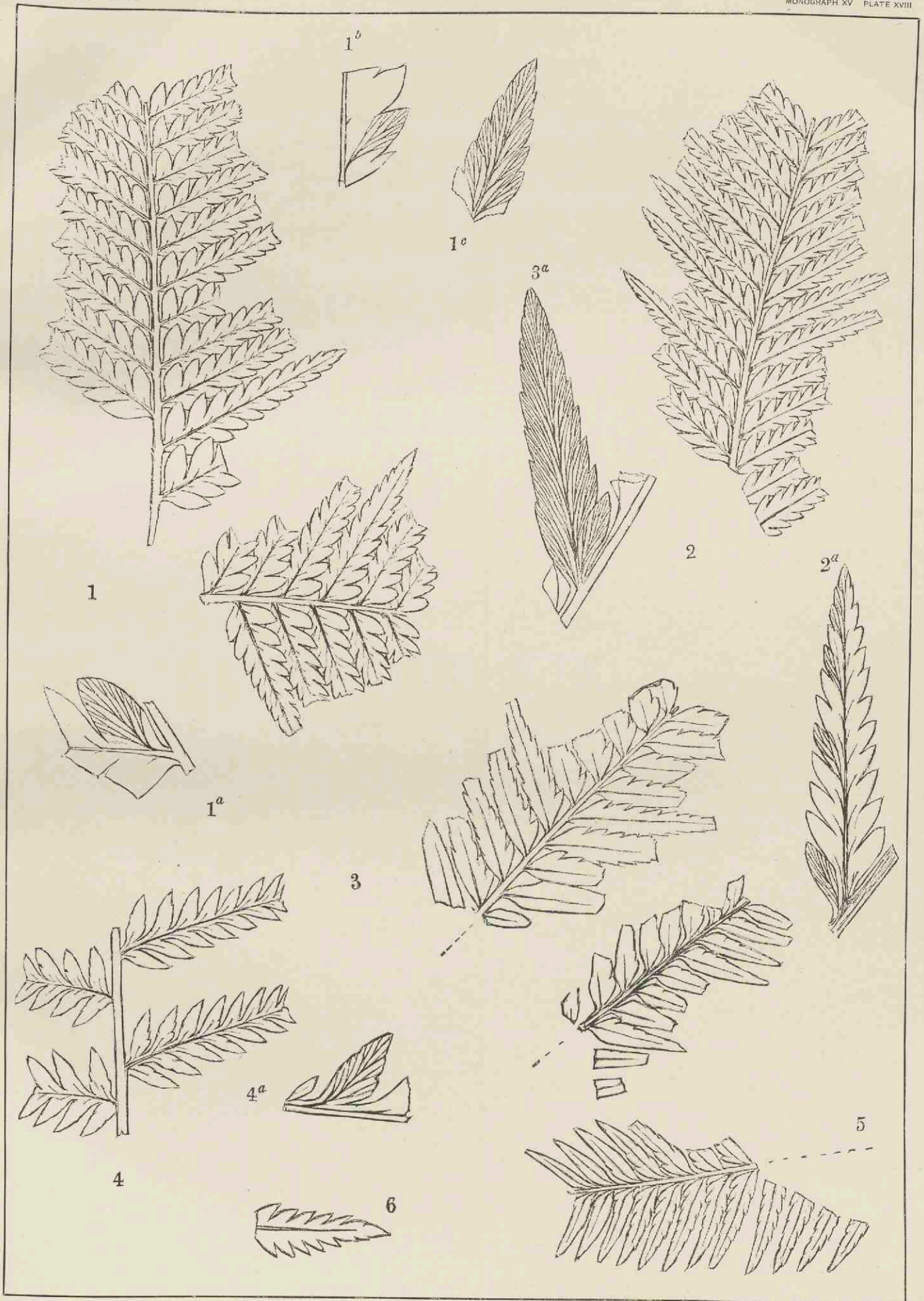


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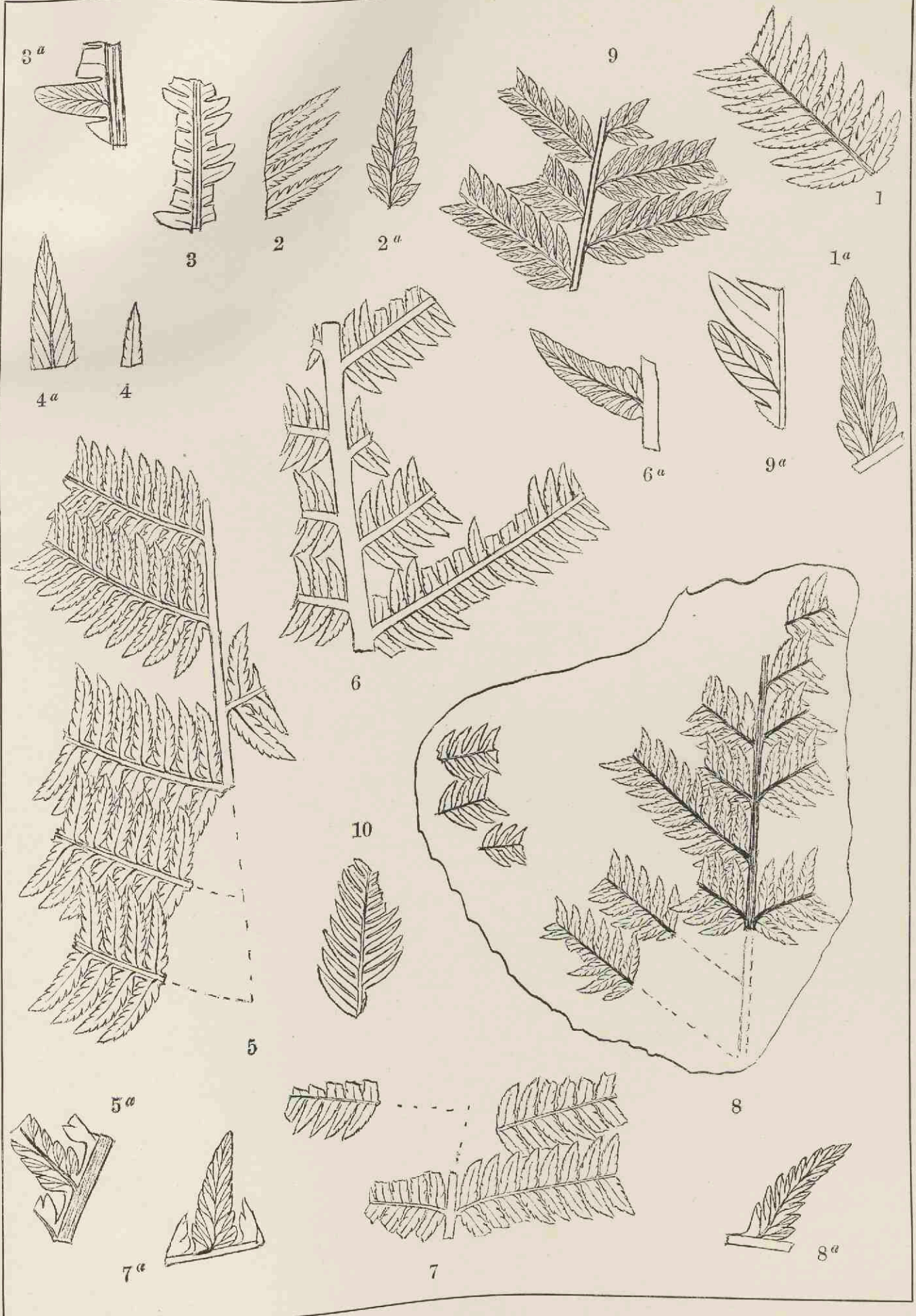


PLATE XX.

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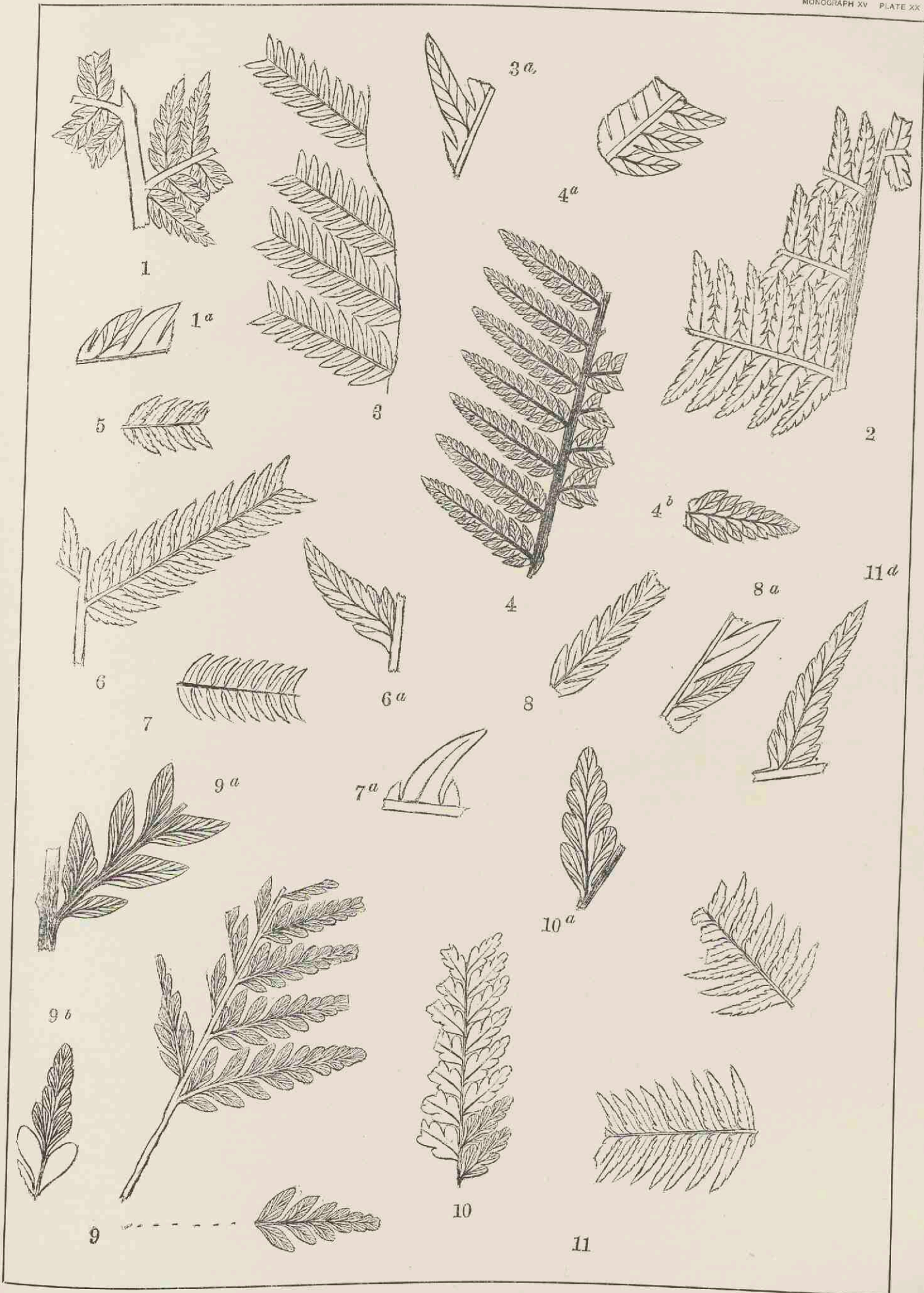


PLATE XXI.

PLATE XXI.

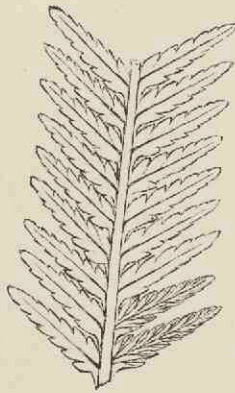
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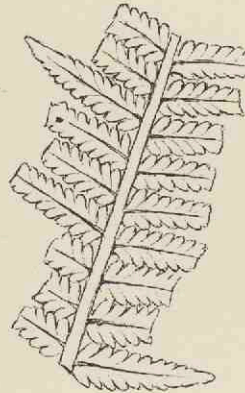
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4^a



2



1



6^a



3



3



2^a



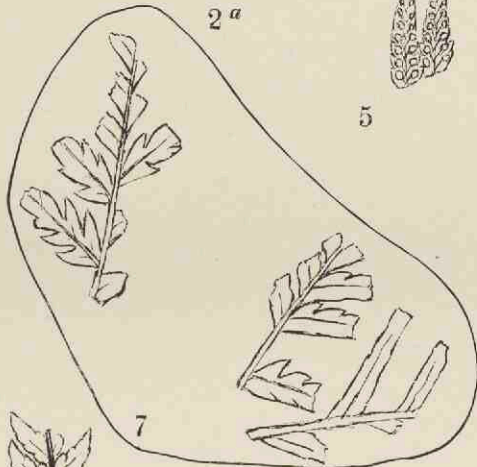
1^a



6



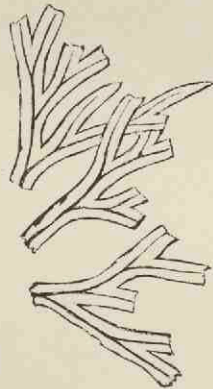
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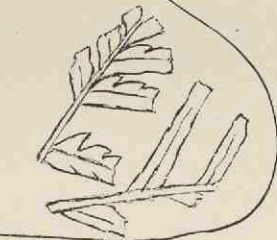
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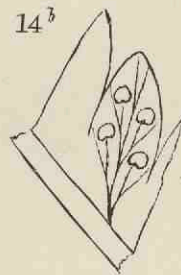
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9



10^a



14^b



6^b



15^a

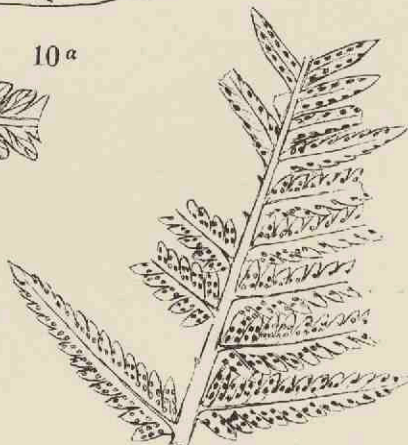
12

11

11^a



10



14



13

14^a



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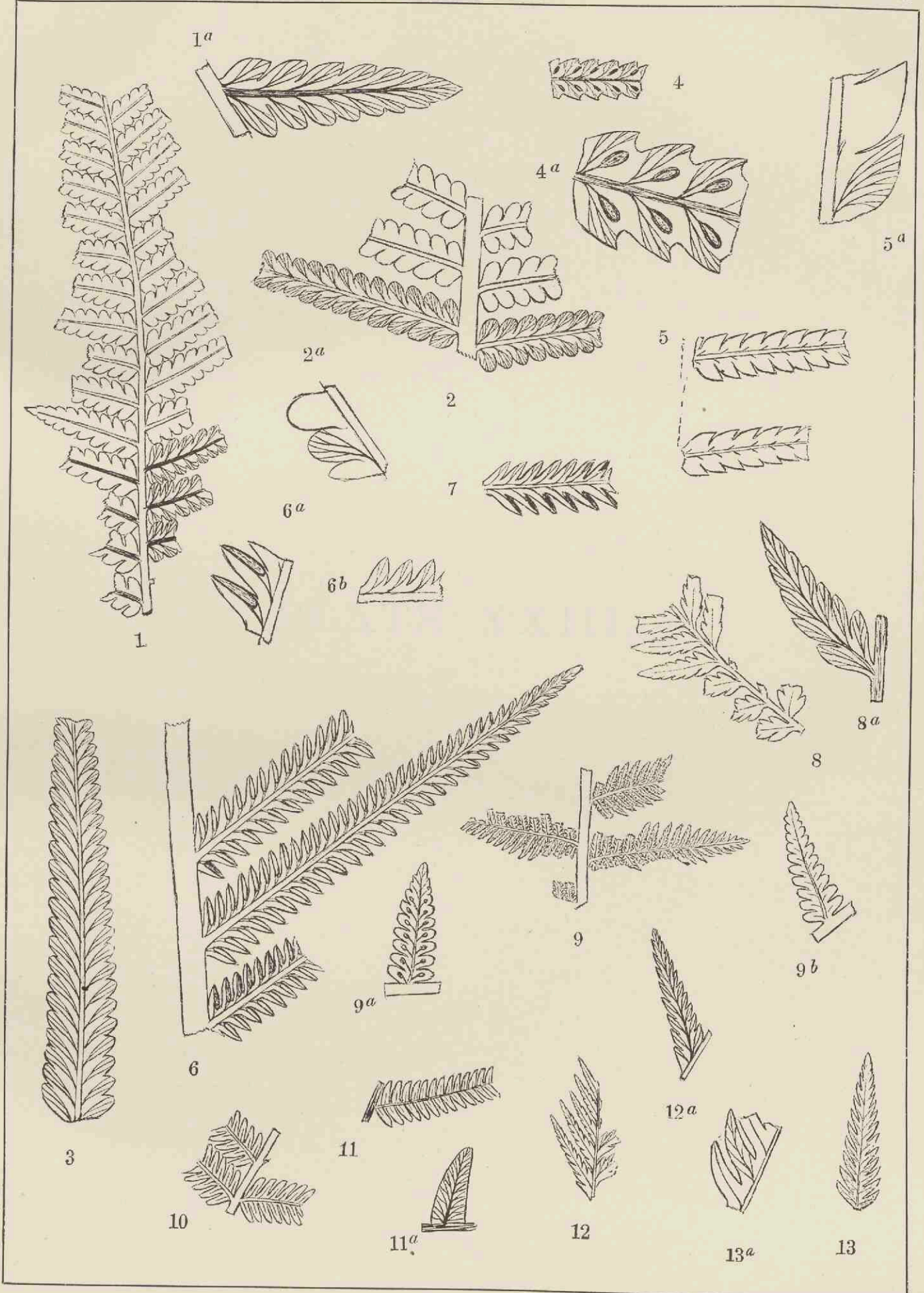


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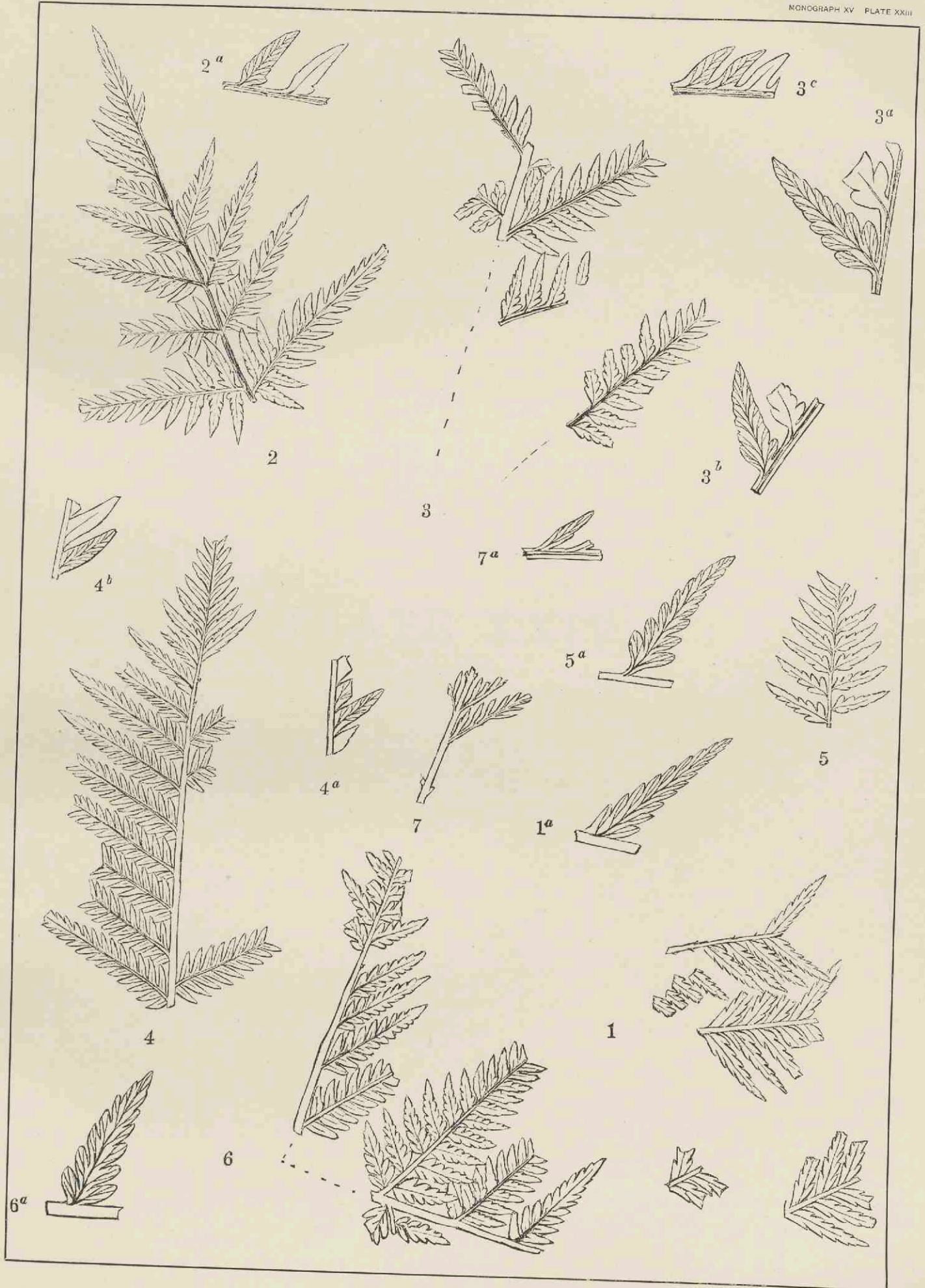


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8 ^a . Pinnule magnified.....	100

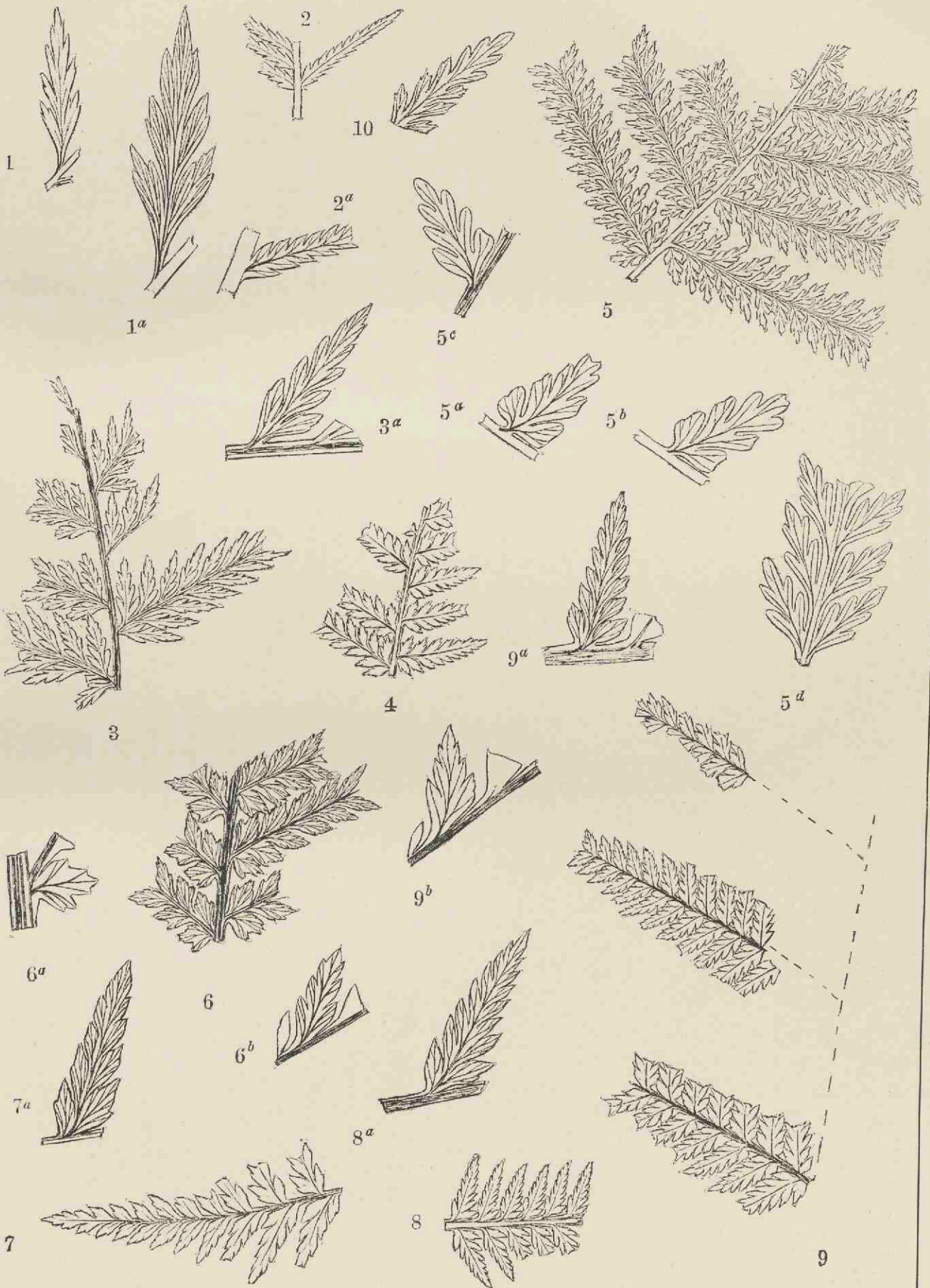
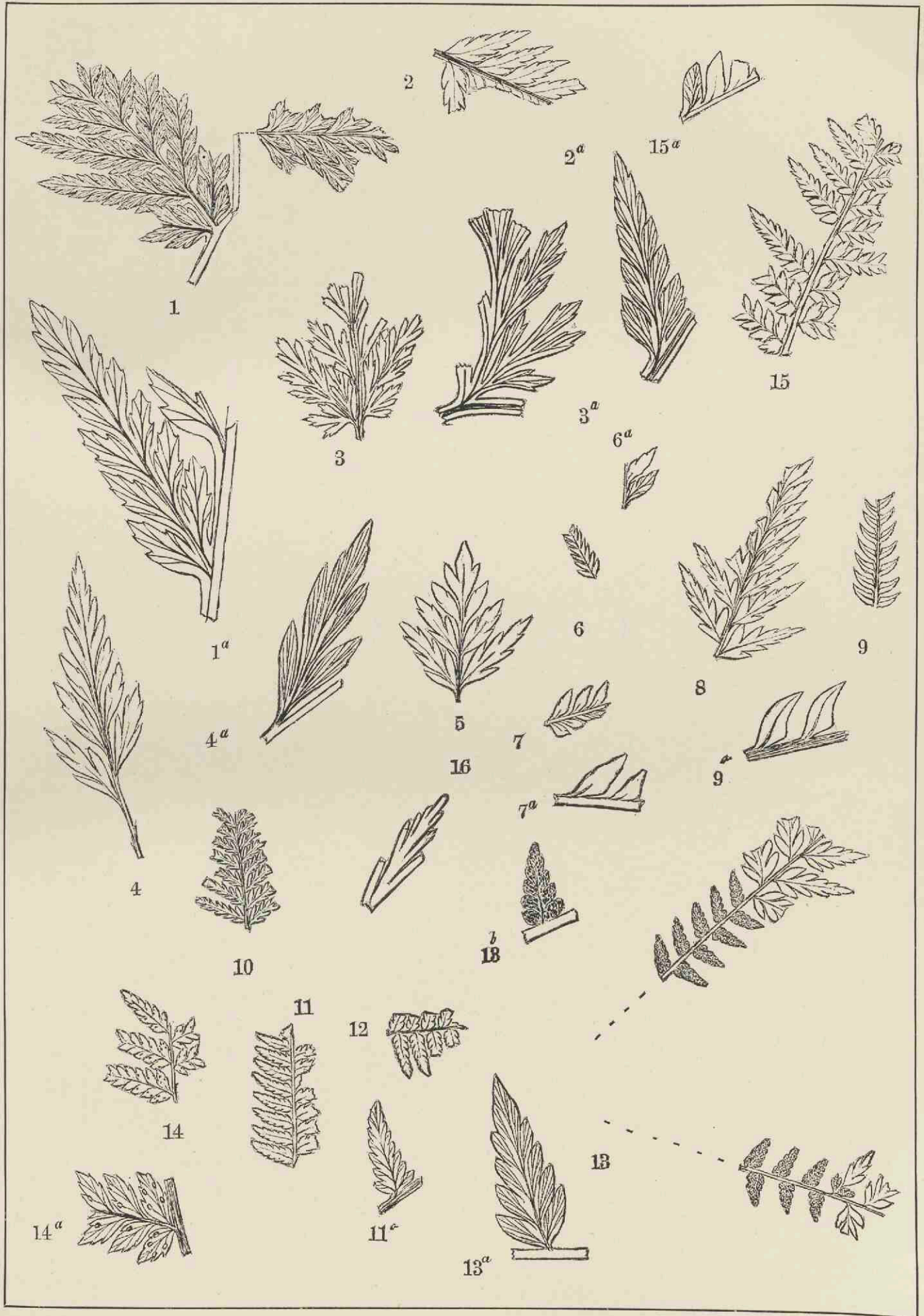


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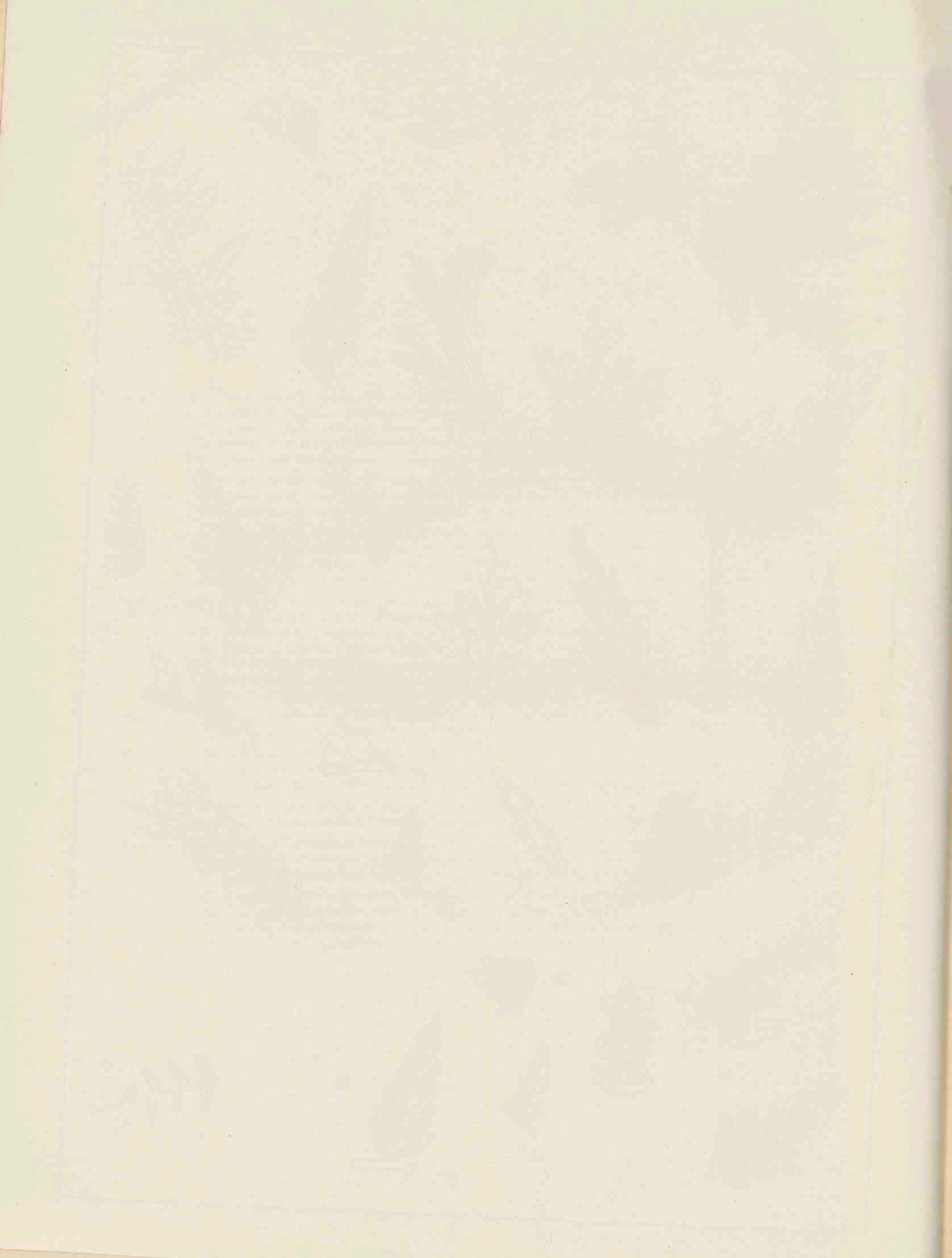


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8 ^a . Pinnule of 8 magnified.....	101
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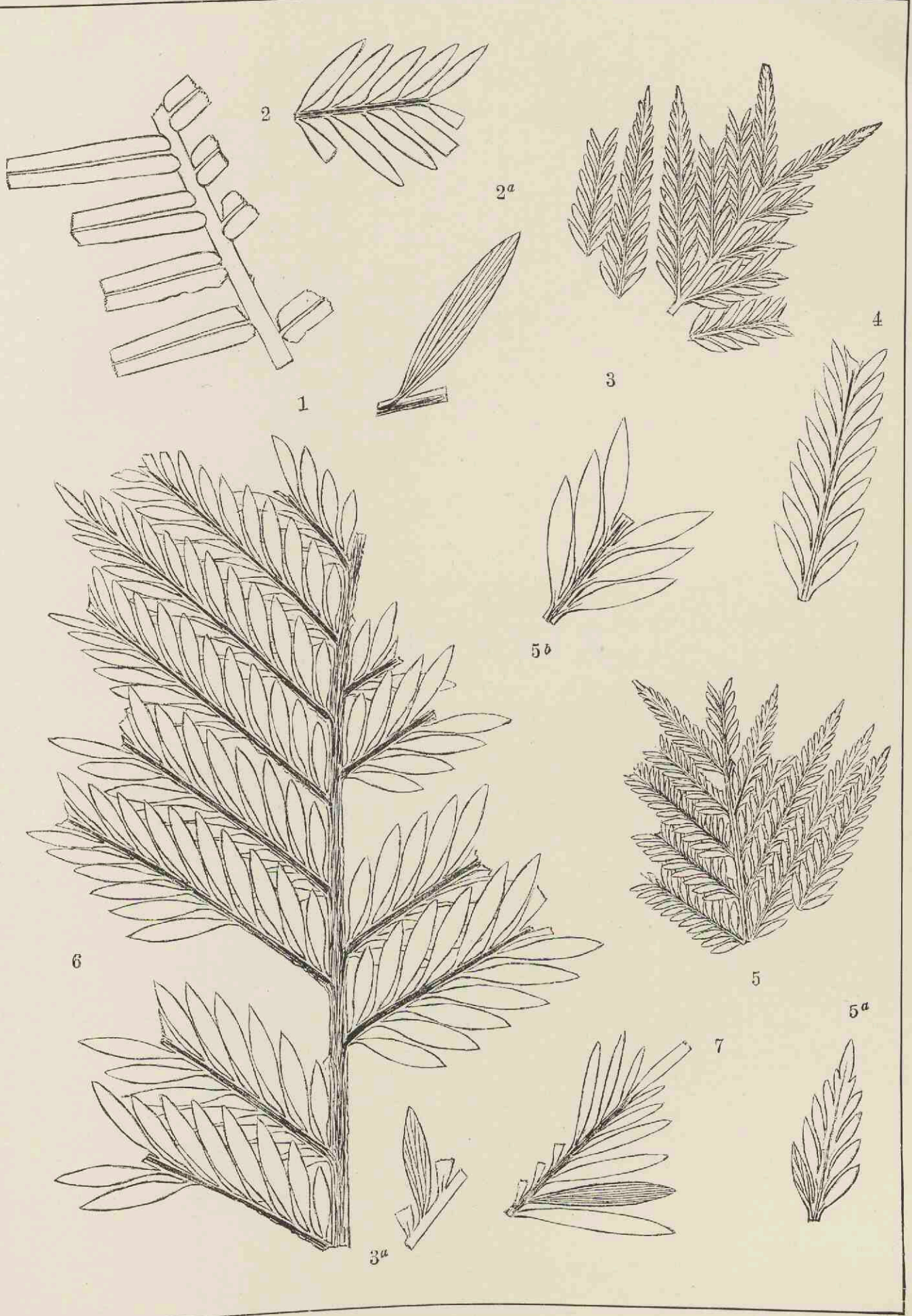


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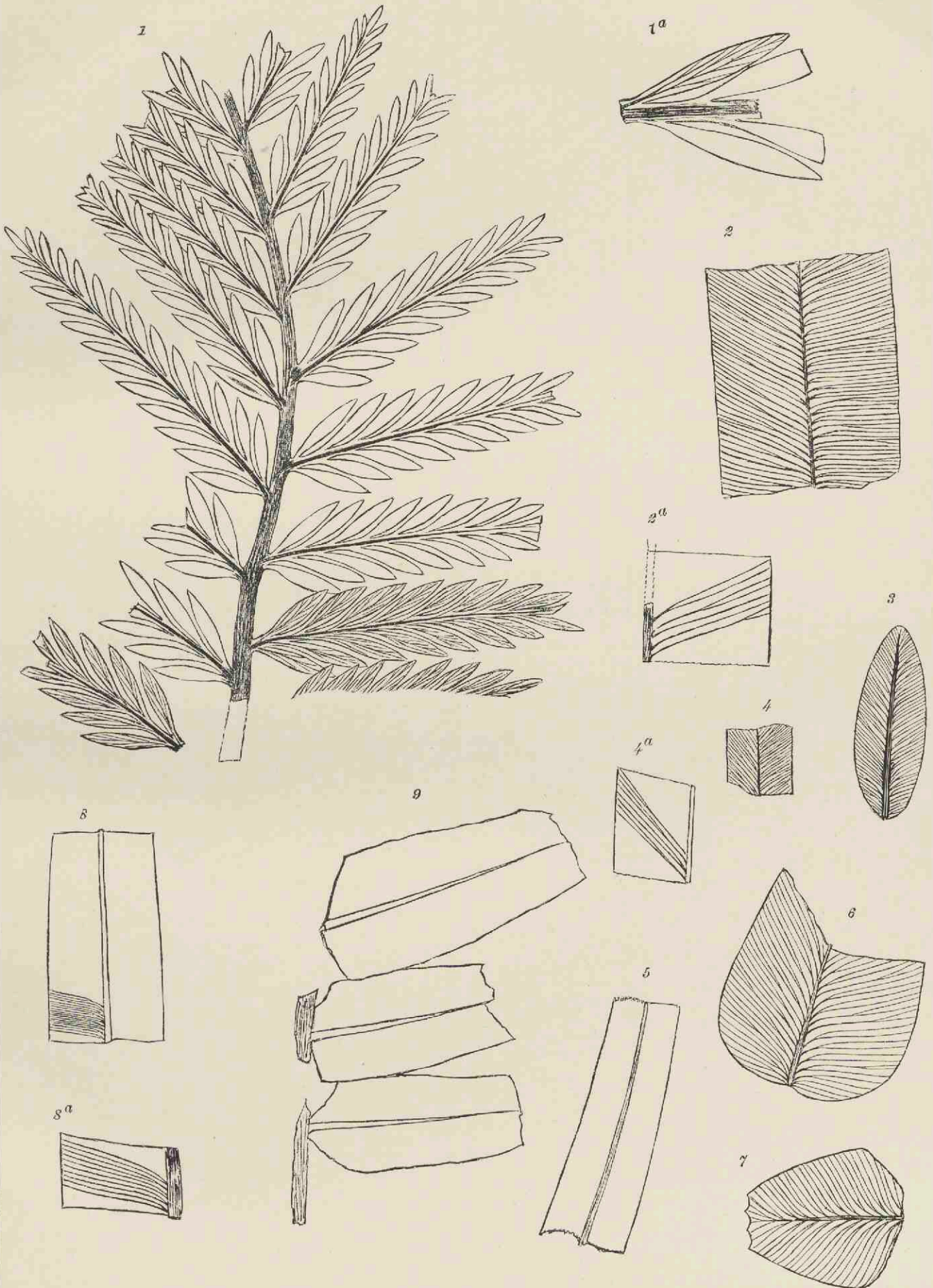
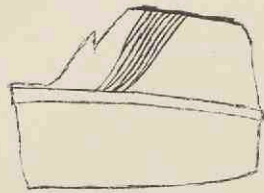


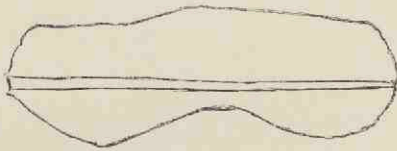
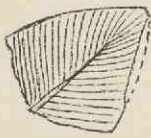
PLATE XXX.

PLATE XXX.

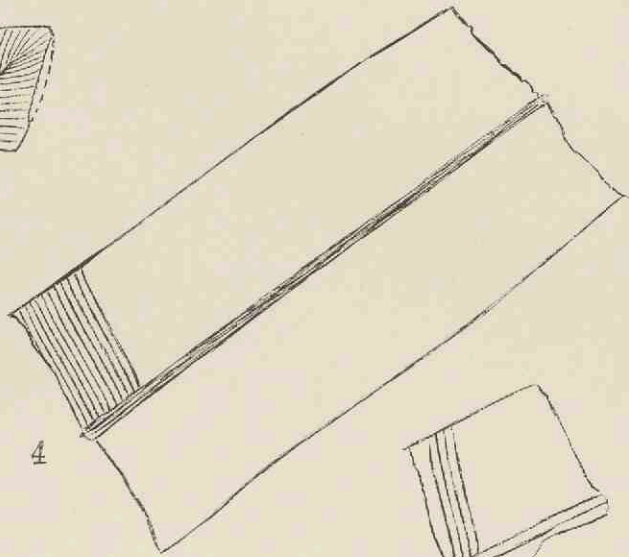
	Page.
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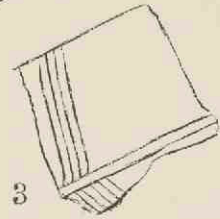
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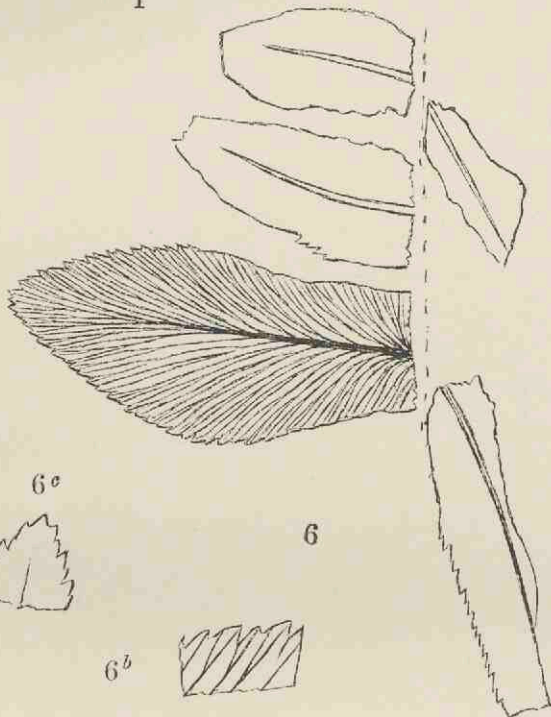
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4



3



6



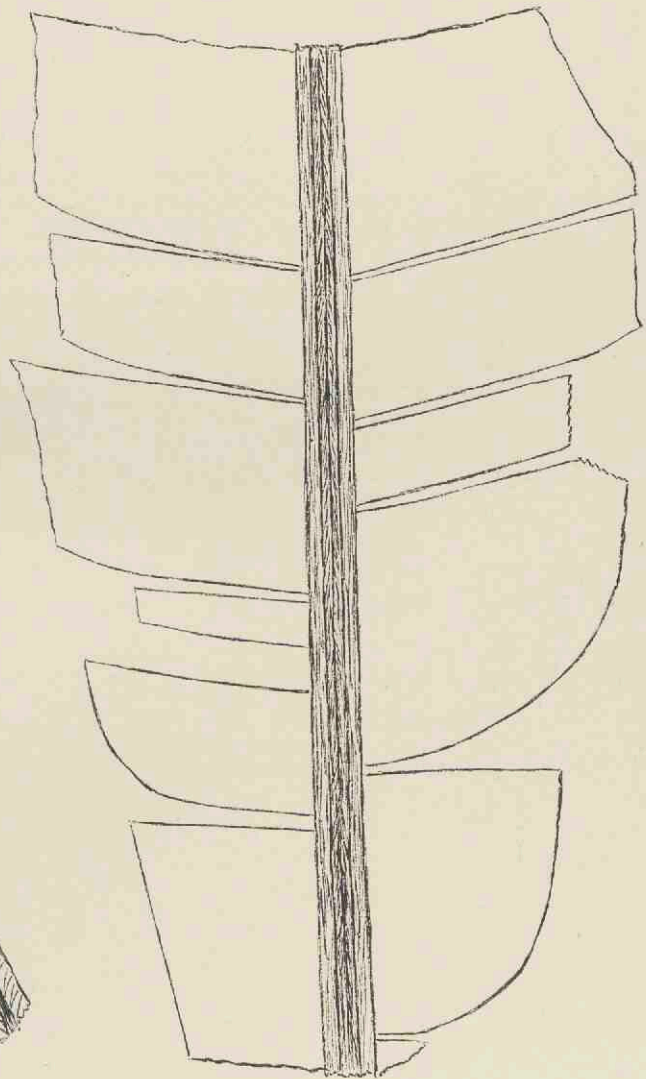
6^c



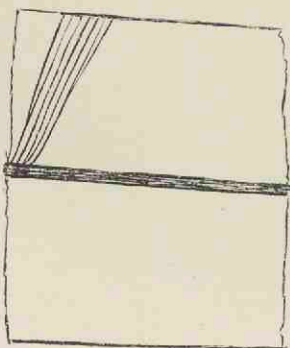
6^b



6^a



8



5



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PLATE XXXI.

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FIG. 2. PLATYPTERIGIUM ROGERSIANUM, sp. nov.	171
2. Portion of the lower part of the leaf.	171
FIG. 3. ANOMOZAMITES VIRGINICUS, sp. nov.	168
3. Portion of a leaf.	168

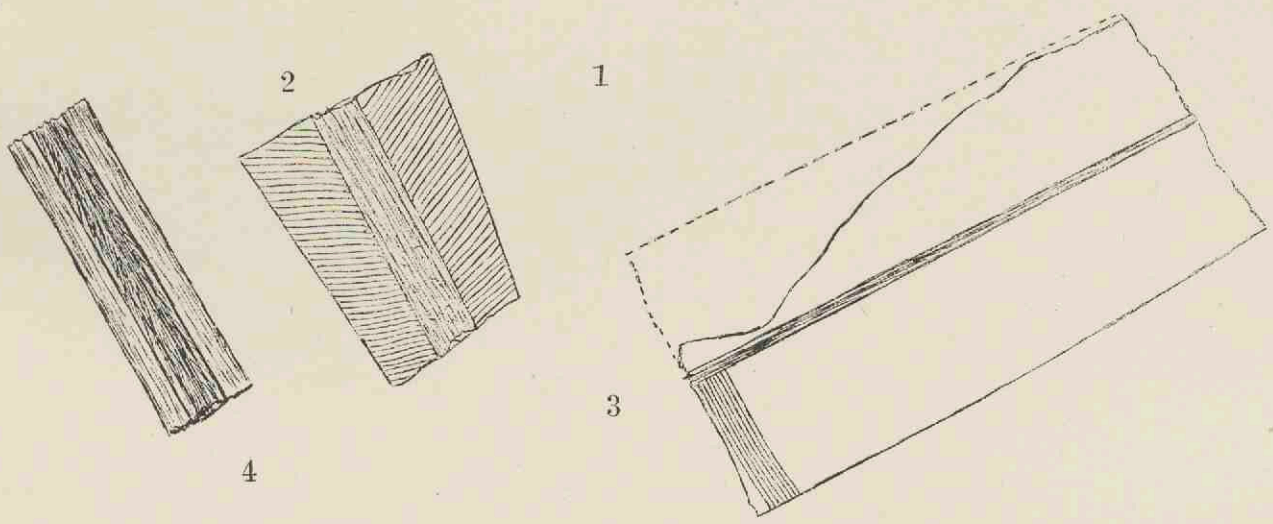
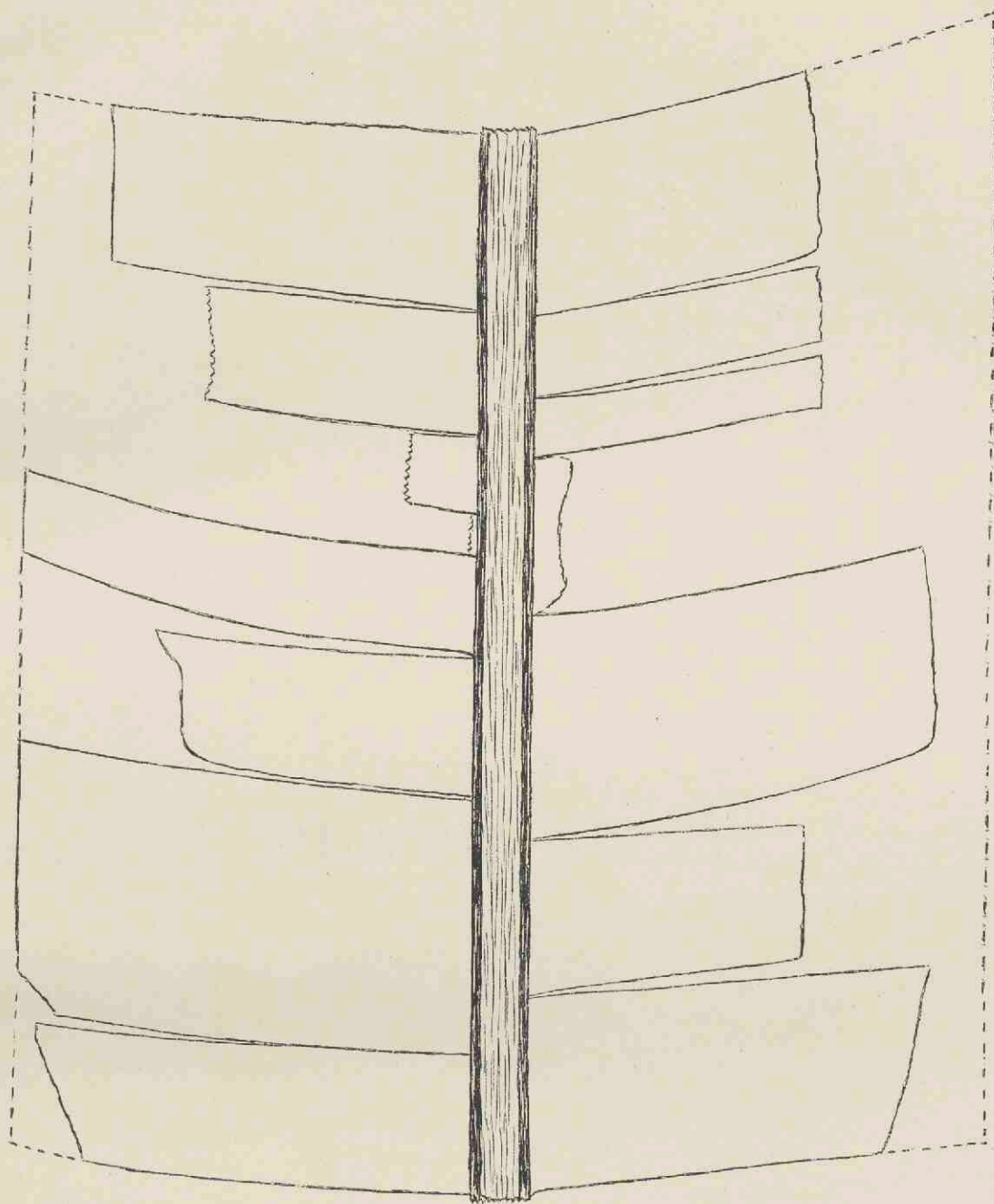
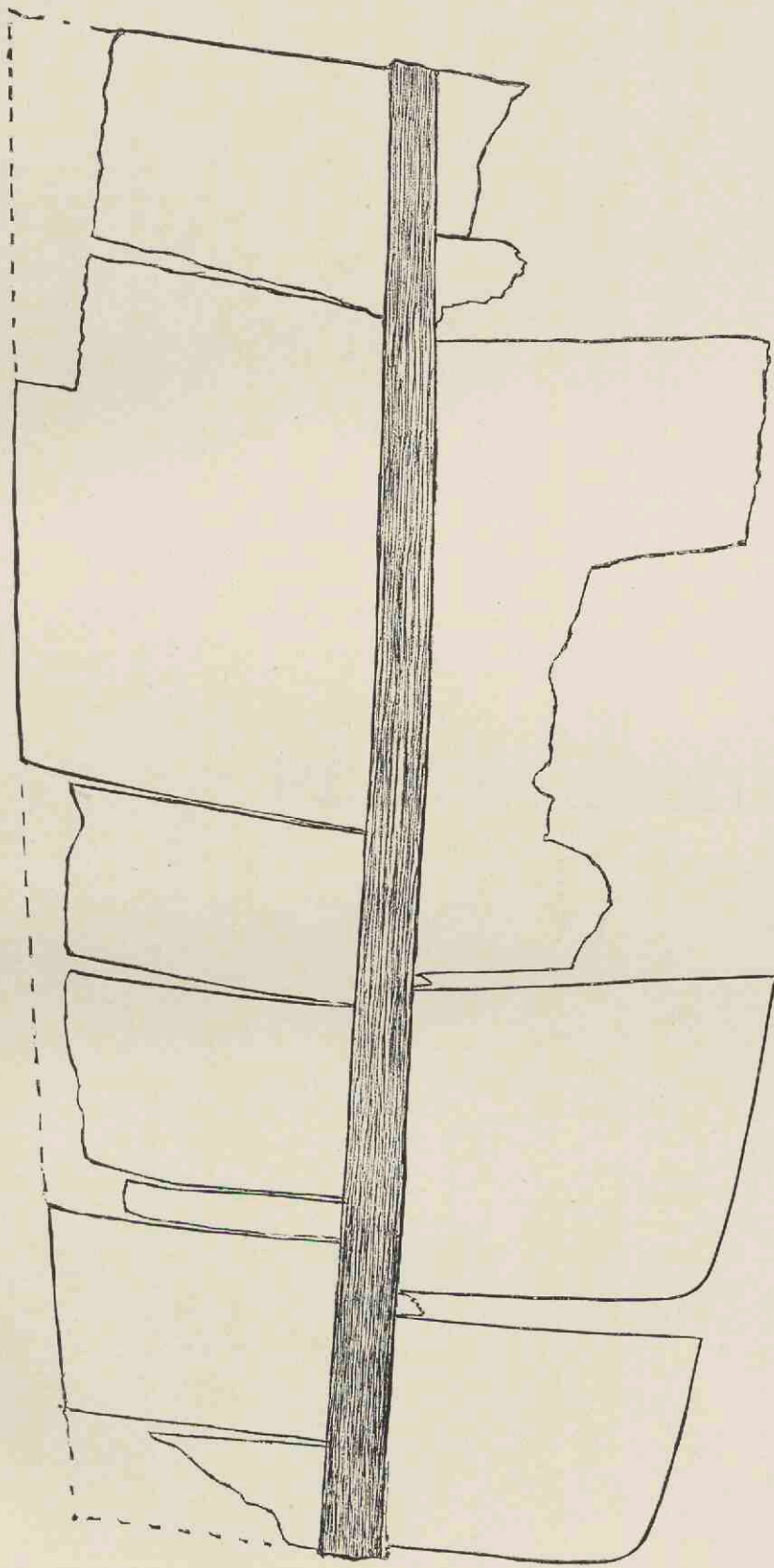


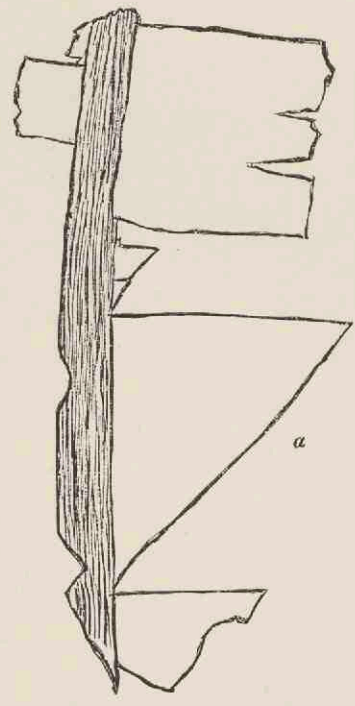
PLATE XXXII.

PLATE XXXII.

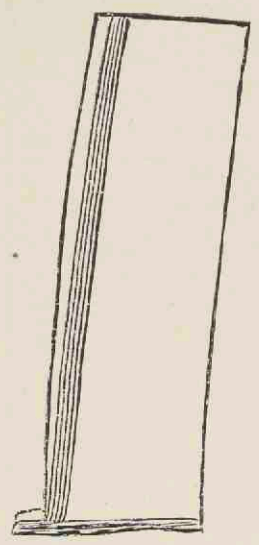
	Page.
FIGS. 1, 2. PLATYPTERIGIUM DENSINERVE, sp. nov.	169
1. Portion of the lower part of a leaf of large size.....	169
1 ^a . Portion of 1 slightly enlarged to show the nerves	169
2. Portion of the lower part of a leaf, showing a segment at <i>a</i> , triangular in shape...	169



1



2



1a

PLATE XXXIII.

PLATE XXXIII.

	Page.
FIG. 1. PLATYPTERIGIUM DENSINERVE, sp. nov.	169
1. Portion of a large leaf seen with upper surface uppermost, and showing ridges on the margin of the midrib.	169
1 ^a . Portion of 1 magnified to show the nerves.	169
FIG. 2. PLATYPTERIGIUM ROGERSIANUM, sp. nov.	171
2. Fragment of the middle (?) portion of a large leaf.	171

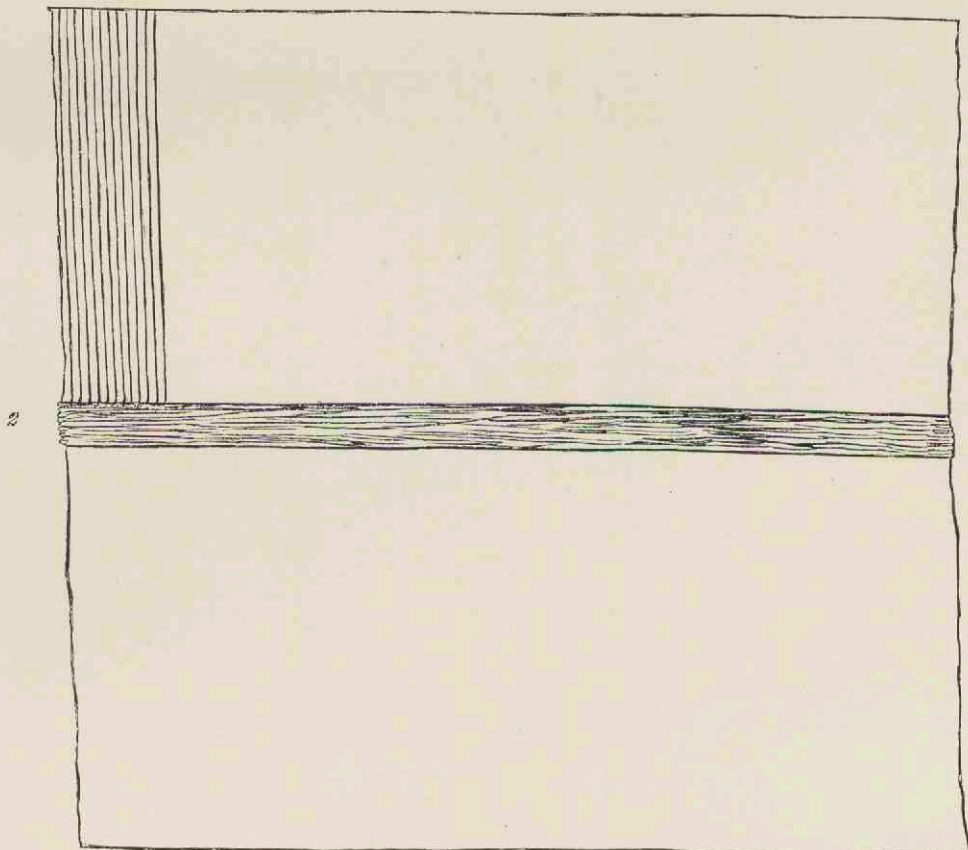
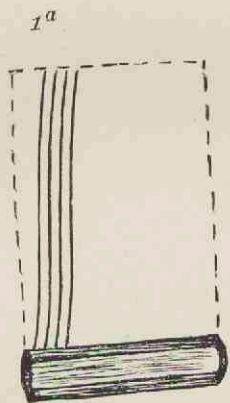
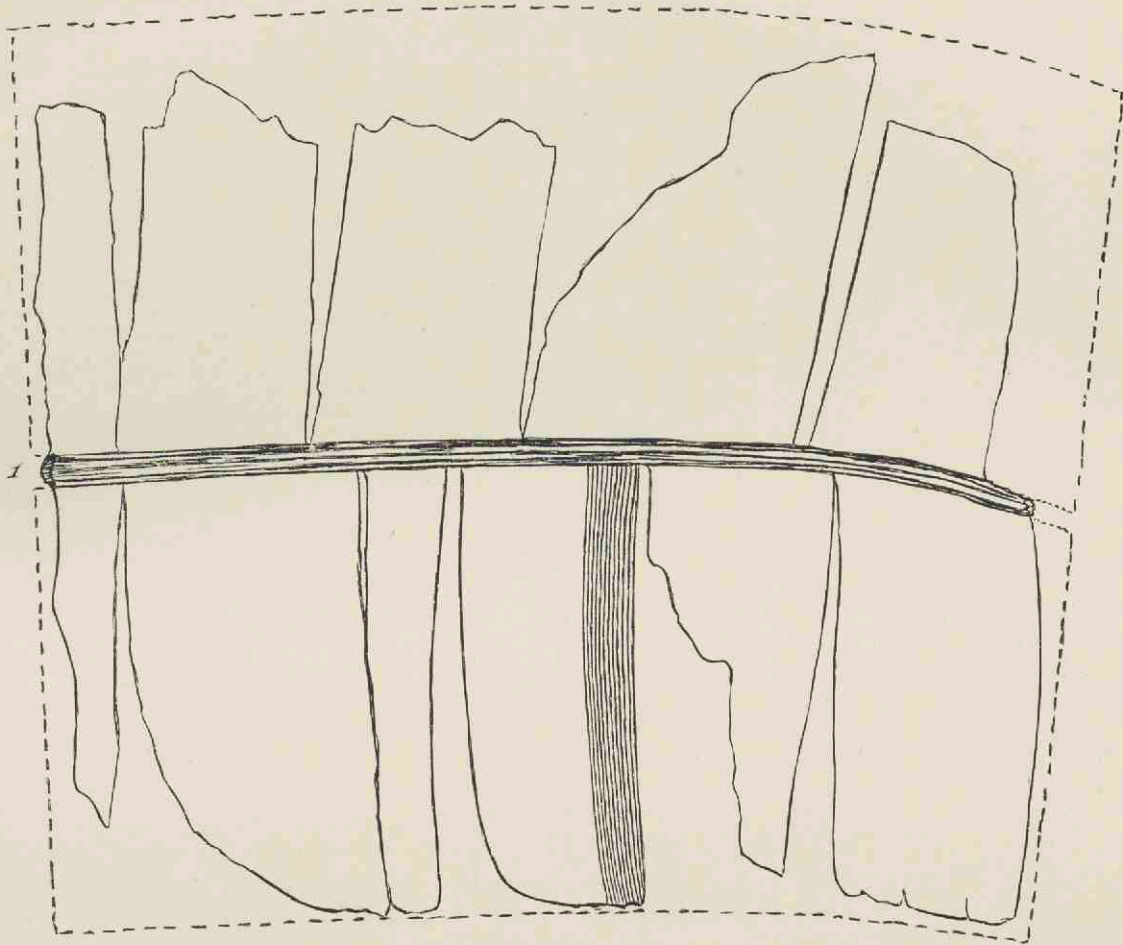
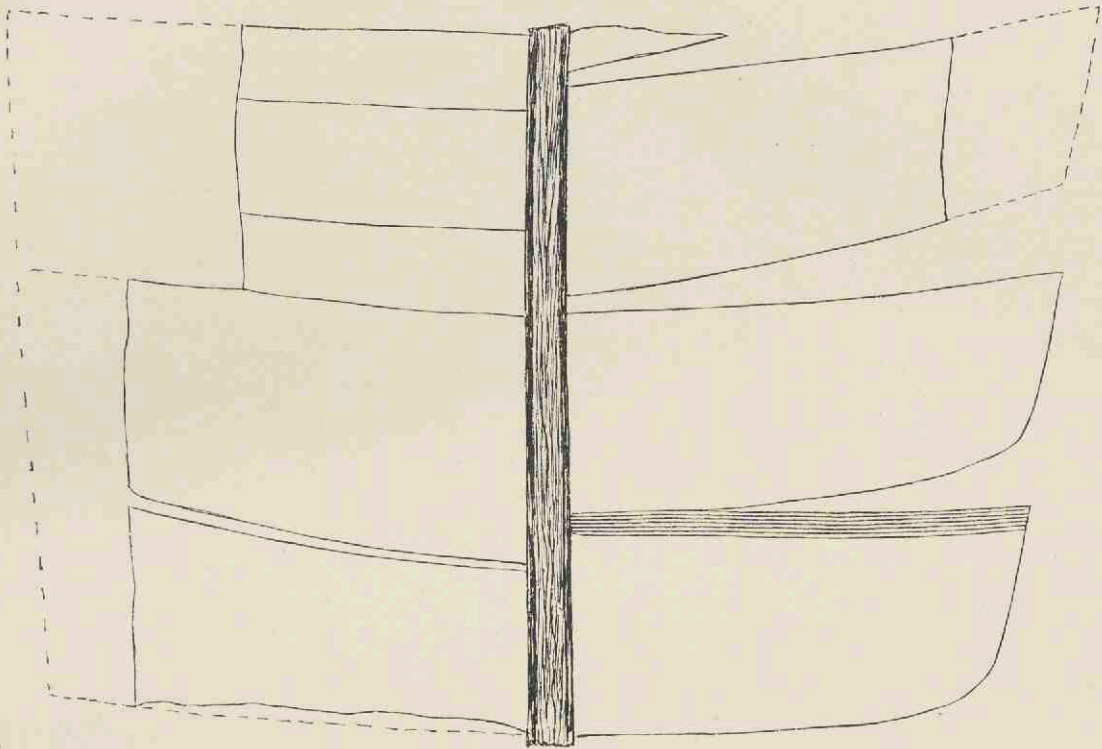


PLATE XXXIV.

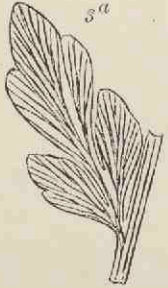
PLATE XXXIV.

	Page.
FIG. 1. PLATYPTERIGIUM DENSINERVE, sp. nov.	169
1. Portion of the leaf, showing the upper surface	169
FIG. 2. PLATYPTERIGIUM ROGERSIANUM, sp. nov.	171
2. Portion of the leaf, showing segments	171
FIG. 3. THYRSOPTERIS BREVIPENNIS, sp. nov.	124
3. Upper part of a compound pinna or of the frond	124
3 ^a . Pinnule of 3 magnified	124
FIG. 4. SPHENOPTERIS ACRODENTATA, sp. nov.	90
4. Portion of a compound pinna or of the frond	90
4 ^a . Pinnule of 4 magnified	90

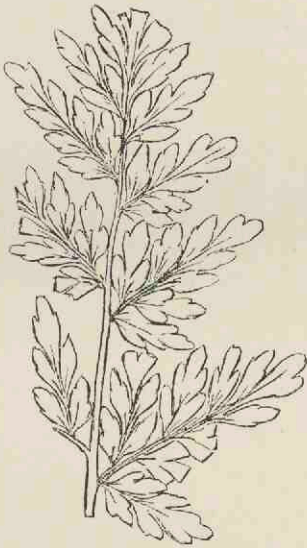
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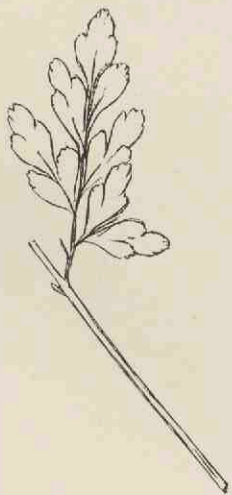
3a



3



4



4a



2

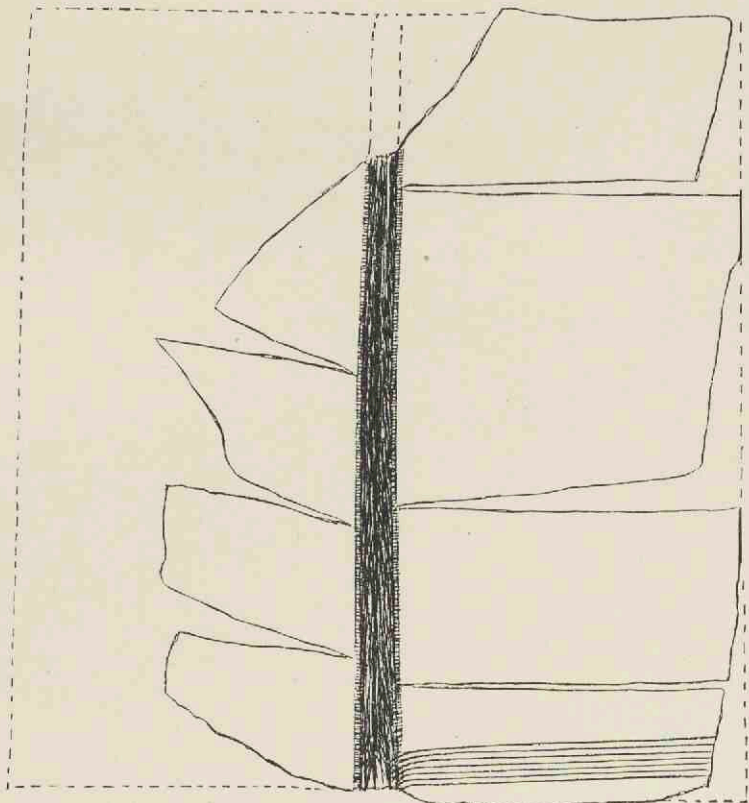


PLATE XXXV.

PLATE XXXV.

	Page.
FIGS. 1, 2. <i>PLATYPTERIGIUM DENSINERVE</i> , sp. nov.	169
1. Portion of a leaf, showing the under surface	169
2. Portion of a very wide leaf	169
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3 ^a . Pinnule magnified	90
4. Portion of a compound pinna, showing some variation from the normal forms.....	90
4 ^a . Pinnule of 4 magnified.....	90
5. Tip of a compound pinna	90

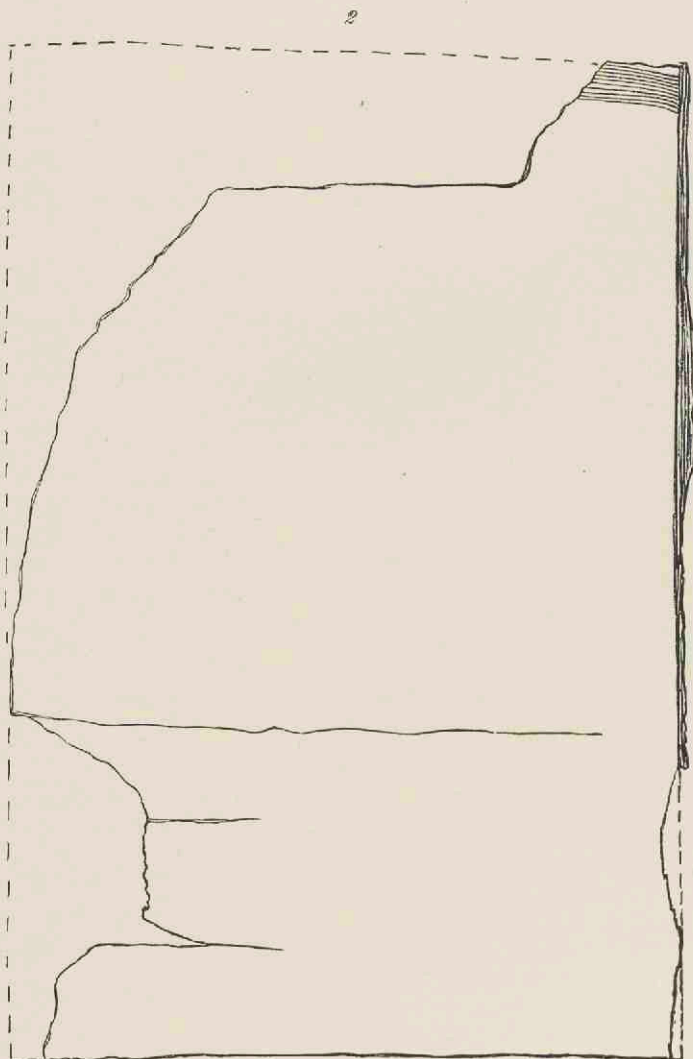
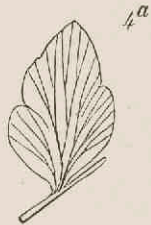
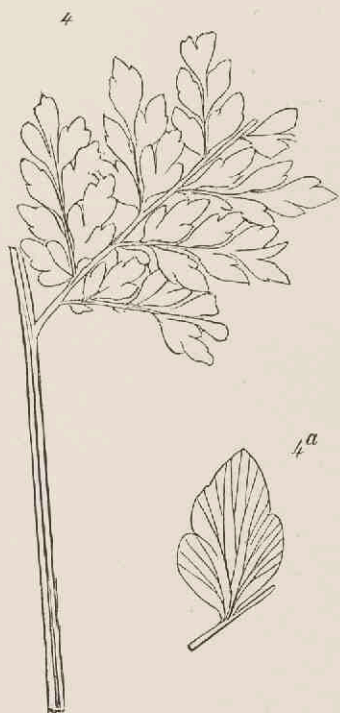
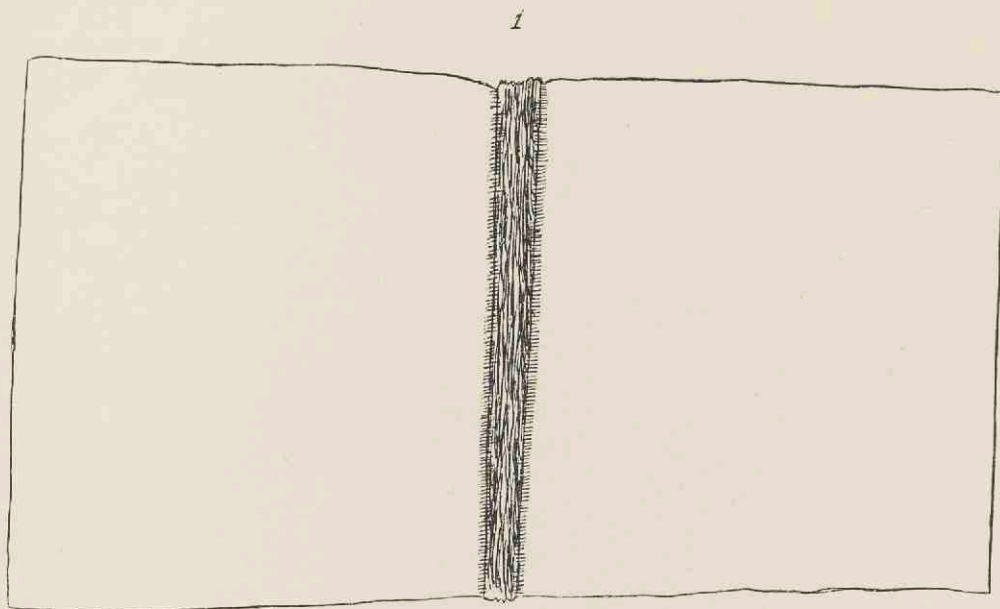


PLATE XXXVI.

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PLATE XXXVI.

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FIG. 2. THYRSOPTERIS BREVIPENNIS, sp. nov.....	124
2. Upper part of a compound pinna.....	124
2 ^a . Pinnule of 2 magnified.....	124
FIG. 3. THYRSOPTERIS ALATA, sp. nov.....	124
3. Portion of a compound pinna.....	124
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5. Upper part of a flexuous compound pinna.....	90
5 ^a . Pinnule from the lower part of 5 magnified.....	90
6. Portion of frond or compound pinna, showing opposite compound pinnae, pinnules mostly entire.....	90
7. Upper part of a compound pinna.....	90
7 ^a . Lower pinnule of 7 magnified.....	90
7 ^b . Upper pinnule of 7 magnified.....	90
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PLATE XXXVII.

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FIG. 1. SPHENOPTERIS LATILOBA, sp. nov.	90
1. Summit of a compound pinna from Deep Bottom	90
FIGS. 2, 4. THYRSOPTERIS NERVOSA, sp. nov.	122
2. Fragments of a large compound pinna or of the frond.	122
2 ^a . Pinnule magnified	122
4. Upper part of a pinna	122
4 ^a . Pinnule magnified	122
FIGS. 3, 9. THYRSOPTERIS BREVIPENNIS, sp. nov.	124
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FIGS. 5-8. THYRSOPTERIS DIVARICATA, sp. nov.	125
5. Summit of a compound pinna or of a frond	125
6. Upper portion of a compound pinna or a frond	125
6 ^a . Lower pinnule of 6 magnified	125
6 ^b . Upper pinnule of 6 magnified	125
7. Fragment of a compound pinna	125
7 ^a . Pinnule of 7 magnified	125
8. Upper part of a compound pinna or of a frond	125

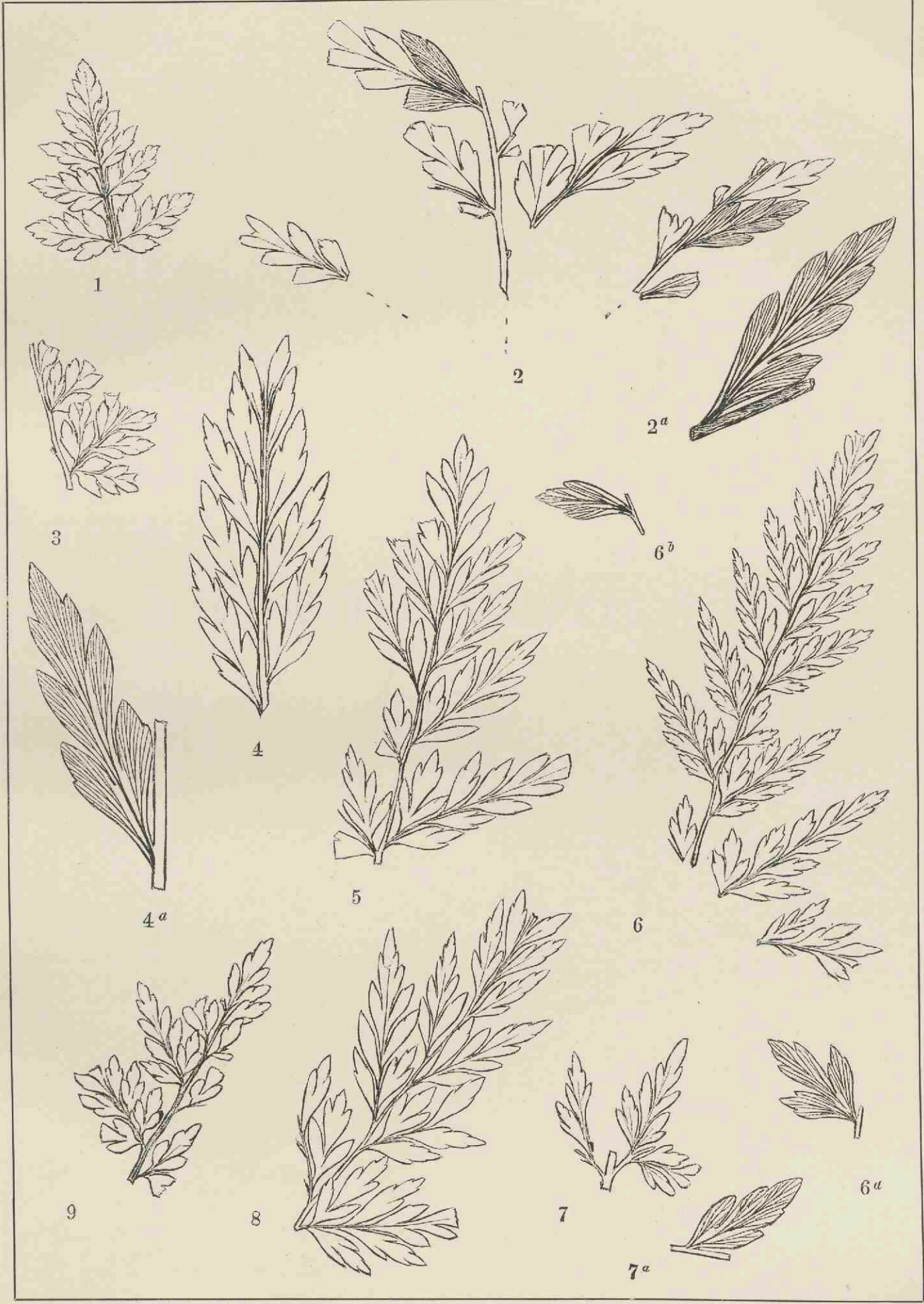


PLATE XXXVIII.

PLATE XXXVIII.

	Page.
FIG. 1. THYRSOPTERIS BREVIPENNIS, sp. nov	124
1. Portion of a compound primary pinna or of the frond	124
1 ^a . A lower pinnule of 1 magnified	124
1 ^b . Upper pinnule magnified	124
FIGS. 2-4, 8. THYRSOPTERIS MEEKIANA, sp. nov	125
2. Portion of a primary pinna or of the frond	125
2 ^a . Lower pinnule of 2 magnified	125
2 ^b . Upper pinnule magnified	125
3. Portion of the upper part of the frond	125
3 ^a . Pinnule magnified	125
4. Upper part of a compound pinna	125
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FIGS. 5-7, 9. THYRSOPTERIS MEEKIANA, var. ANGUSTILOBA, sp. nov	126
5. Portion of a compound pinna	126
5 ^a . Pinna magnified	126
6. Portion of a small compound pinna	126
7. Upper part of an ultimate pinna	126
9. Portion from near the end of an ultimate pinna	126
9 ^a . Pinnule magnified	126

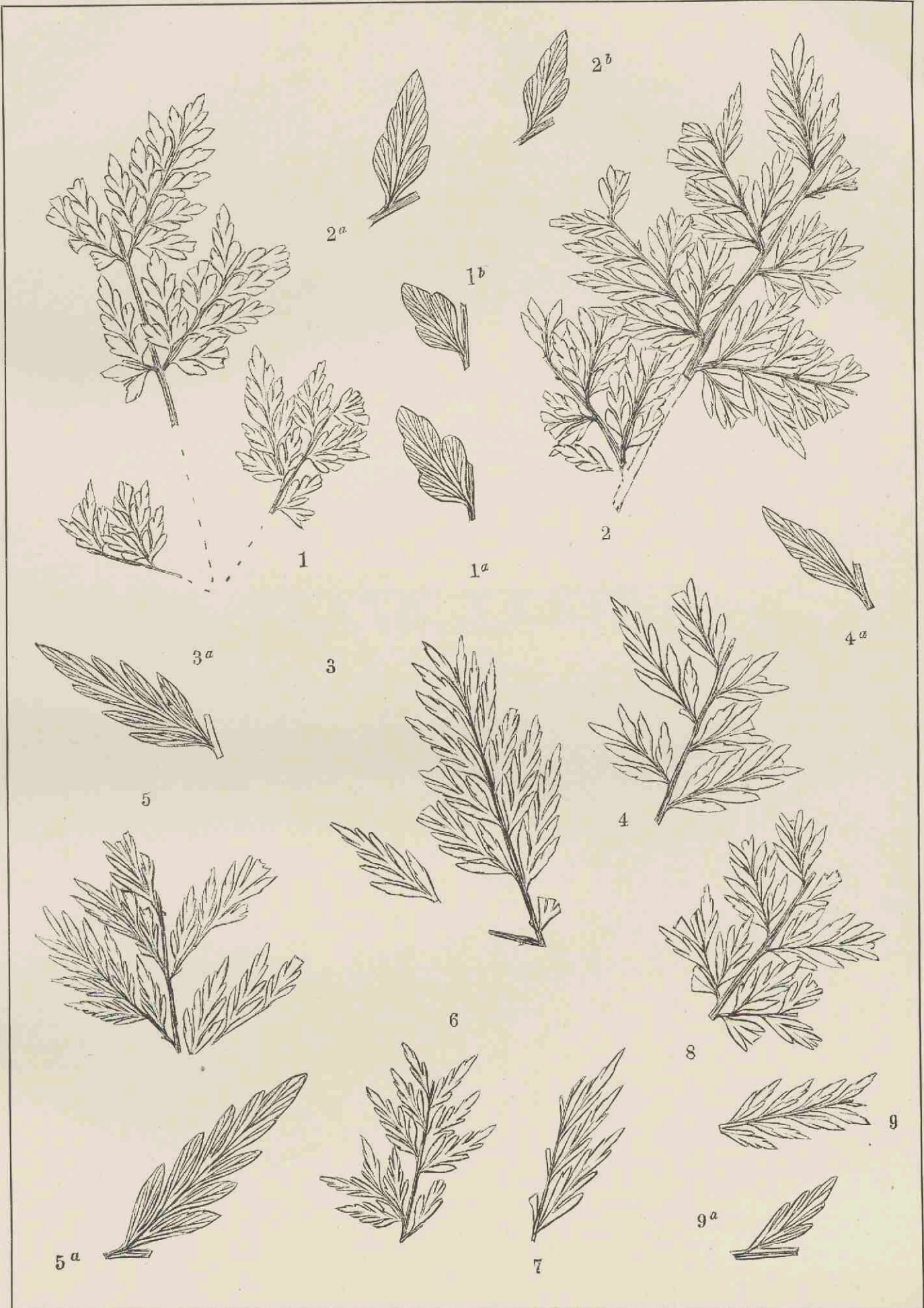


PLATE XXXIX.

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FIGS. 1, 2. THYRSOPTERIS CRENATA, sp. nov.	127
1. Upper portion of a primary pinna, or of the frond, slightly restored	127
1 ^a . Lower pinnule magnified	127
2. Upper portion of a compound pinna, slightly restored	127
2 ^a . Lower pinnule of 2 magnified	127
2 ^b . Upper pinnules magnified	127
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3. Upper portion of a compound pinna or of the frond	129
3 ^a . Pinnule magnified	129
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4. Portion of the lower part of the frond or of a large compound pinna	127
4 ^a . Pinnule magnified	127
FIG. 5. THYRSOPTERIS NERVOSA, sp. nov.	122
5. Fragment of an ultimate pinna	122

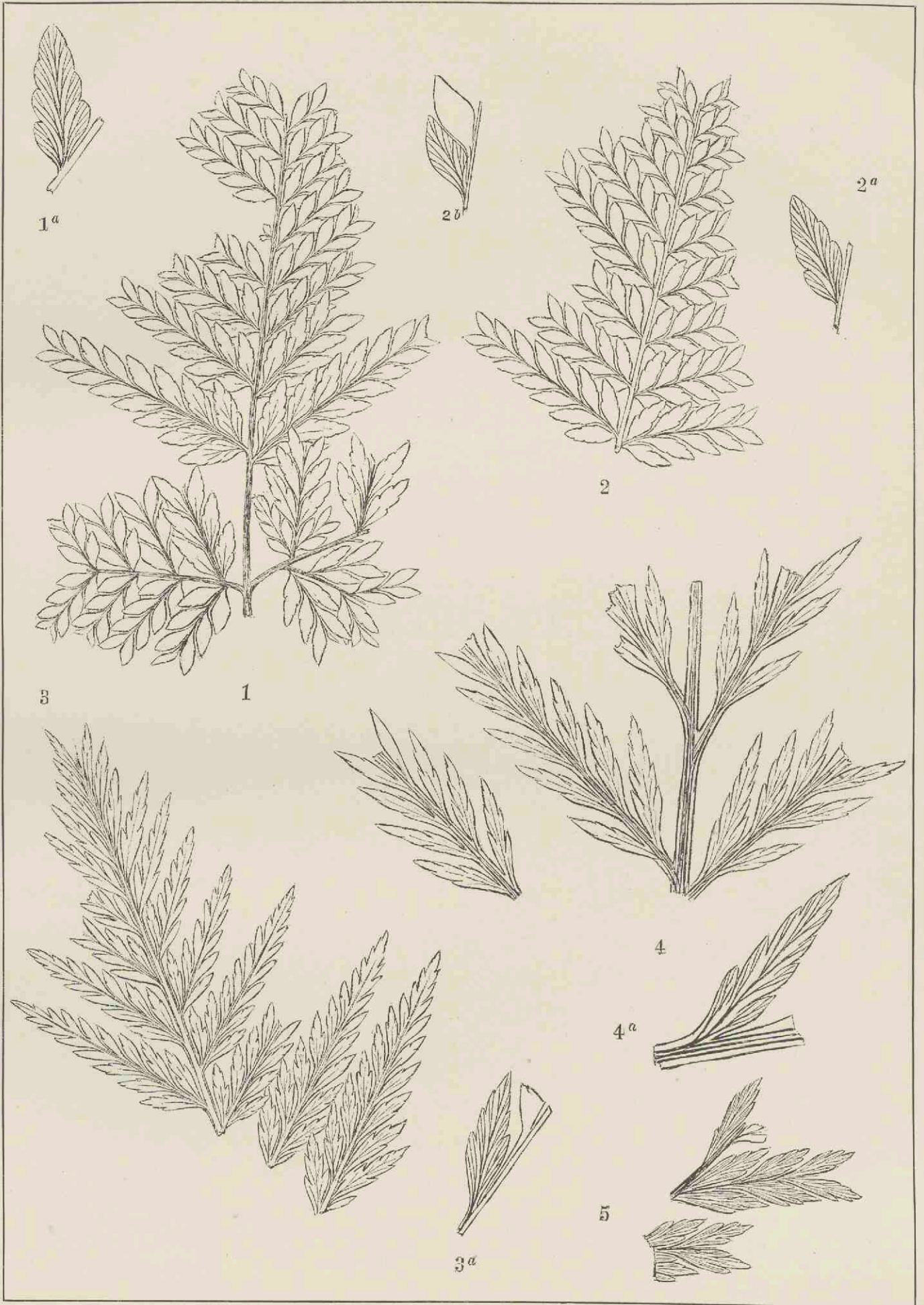


PLATE XL.

PLATE XL.

		Page.
FIG.	1. <i>THYRSOPTERIS INSIGNIS</i> , sp. nov.	127
	1. Fragment of a compound pinna.....	127
	1 ^a . Pinnule magnified, nerves not made out.....	127
FIGS.	2-5. <i>THYRSOPTERIS DENSIFOLIA</i> , sp. nov.	129
	2. Fragment of the frond or of a primary pinna.....	129
	2 ^a . Pinnule magnified.....	129
	3. Upper part of a compound pinna.....	129
	3 ^a . Lower pinnules of 3 magnified.....	129
	3 ^b . Upper pinnule magnified.....	129
	4. Upper portion of a compound pinna, slightly restored.....	129
	5. Upper part of a compound pinna with flexuous rachis.....	129
FIG.	6. <i>THYRSOPTERIS NERVOSA</i> , sp. nov.	122
	6. Fragments of the upper part of a compound pinna.....	122
	6 ^a . Pinnule magnified.....	122



PLATE XLI.

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FIGS. 1-3. THYRSOPTERIS CRASSINERVIS, sp. nov	130
1. Upper part of a compound pinna	130
1 ^a . Lower pinnule magnified	130
1 ^b . Upper pinnule magnified	130
2. Part of a compound pinna	130
2 ^a . Lower pinnule of 2 magnified	130
2 ^b . Upper pinnules of 2 magnified	130
3. Summit of a long compound pinna	130
3 ^a . Lower pinnule of 3 magnified	130
3 ^b . Upper pinnule of 3 magnified	130
FIG. 4. THYRSOPTERIS BREVIPENNIS, sp. nov	124
4. Fragment of a compound pinna	124
4 ^a . Pinnule of 4 magnified	124
FIG. 5. OSMUNDA DICKSONIOIDES, sp. nov	146
5. Small fragment from the upper part of a compound pinna	146
5 ^a . Pinnule magnified	146
FIG. 6. THYRSOPTERIS INSIGNIS, sp. nov	127
6. Fragments of a large primary pinna or of the frond	127
6 ^a . Pinnule magnified	127

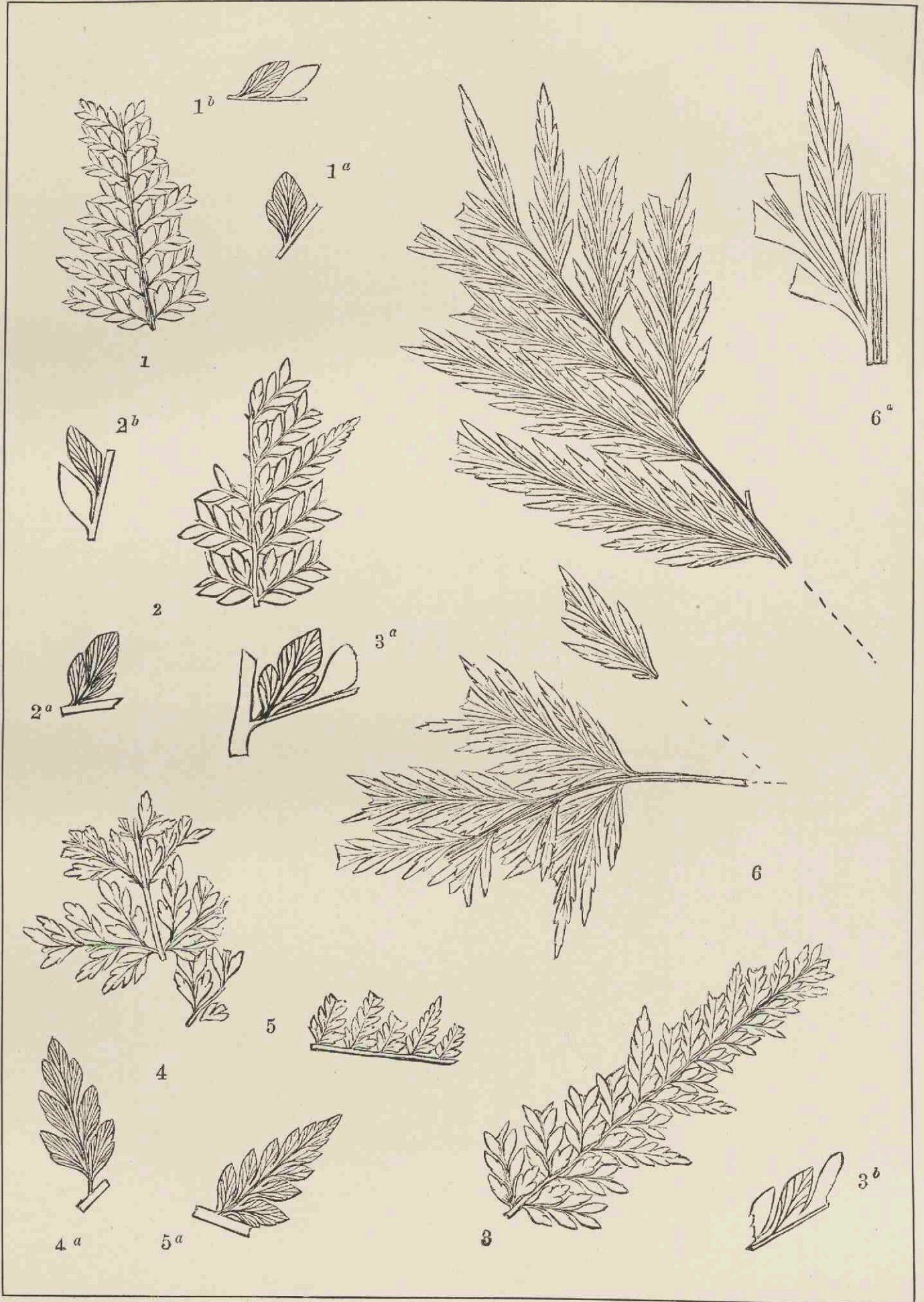


PLATE XLII.

PLATE XLII.

	Page.
FIGS. 1, 2, 4. <i>THYRSOPTERIS INSIGNIS</i> , sp. nov	127
1. Fragment of a large compound pinna, or of the frond, slightly restored	127
2. Fragment of a compound pinna	127
2 ^a . Pinnule of 2 magnified	127
4. Portion of the upper part of a compound pinna	127
4 ^a . Pinnule of 4 enlarged	127
FIG. 3. <i>THYRSOPTERIS INSIGNIS</i> , var. <i>ANGUSTIPENNIS</i> , sp. nov	128
3. Portion of a compound pinna	128
3 ^a . Lower pinnule of 3 magnified	128
3 ^b . Upper pinnule magnified	128



PLATE XLIII.

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FIGS. 1, 3. THYRSOPTERIS INSIGNIS, sp. nov.	127
1. Tip of an ultimate pinna	127
3. Portions of a compound pinna or of the frond	127
FIG. 2. THYRSOPTERIS INSIGNIS, var. ANGUSTIPENNIS, sp. nov.	128
2. Portions of two ultimate pinnae	128
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FIGS. 4-6. THYRSOPTERIS RARINERVIS, sp. nov.	123
4. Upper part of an ultimate pinna	123
4 ^a . Pinnules magnified	123
5. Upper part of a compound pinna, showing pinnules reduced to lobes	123
6. Portion of an ultimate pinna	123
6 ^a . Pinnule magnified	123
FIG. 7. THYRSOPTERIS DECURRENS, sp. nov.	130
7. Fragment of a compound pinna	130
7 ^a . Pinnule magnified	130
FIG. 8. THYRSOPTERIS MEEKIANA, var. ANGUSTILOBA, sp. nov.	126
8. Fragment of a compound pinna	126
8 ^a . Lower pinnule of 8 magnified	126
8 ^b . Upper pinnule magnified	126

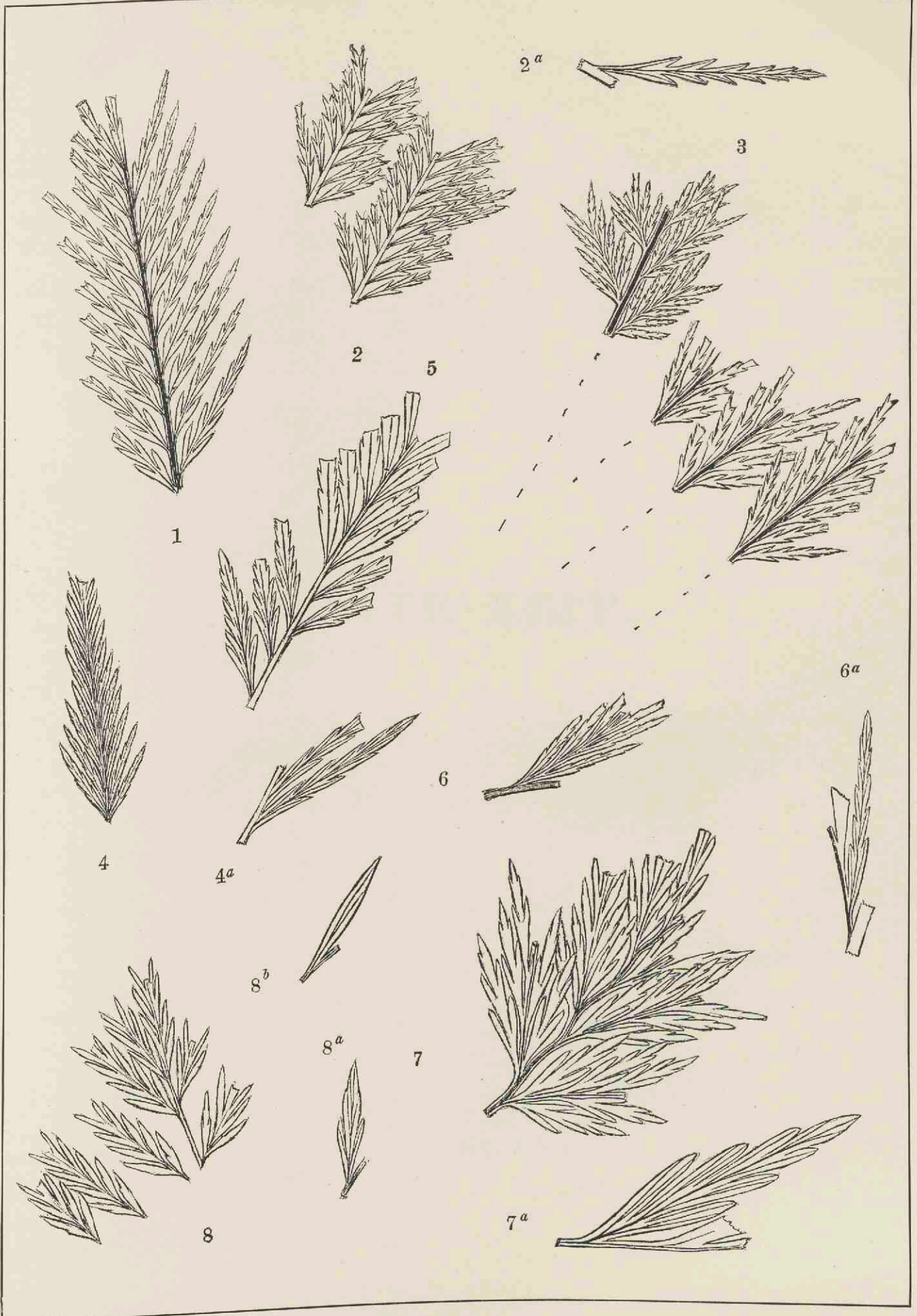


PLATE XLIV.

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		Page.
FIGS. 1, 2, 5.	THYRSOPTERIS RARINERVIS, sp. nov.	123
	1. Upper part of a compound pinna slightly restored	123
	1 ^a . Pinnule of 1 magnified	123
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FIG.	3. THYRSOPTERIS MEEKIANA, var. ANGUSTILOBA, sp. nov.....	126
	3. Fragments of compound pinnae.....	126
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Figs. 1, 2, 4, 5.	<p><i>THYRSOPTERIS MICROPHYLLA</i>, sp. nov</p> <p>1. Portion of a large primary pinna, or of the frond, slightly restored</p> <p>1^a. Upper ultimate pinna or pinnule magnified</p> <p>1^b. Portion of a lower ultimate pinna magnified</p> <p>2. Upper part of a compound pinna, with the pinnules reduced to lobes</p> <p>2^a. Lower pinnule magnified</p> <p>4. Several detached upper ultimate pinnae</p> <p>4^a. Pinnules magnified</p> <p>5. Portion of a small upper ultimate pinna, with the pinnules reduced to lobes...</p> <p>5^a. Pinnules or lobes magnified</p>	<p>131</p> <p>131</p> <p>131</p> <p>131</p> <p>131</p> <p>131</p> <p>131</p> <p>131</p> <p>131</p> <p>131</p>
FIG.	<p>3. <i>THYRSOPTERIS ANGUSTIFOLIA</i>, sp. nov</p> <p>3. Upper part of a compound pinna or of the frond</p> <p>3^a. Pinnule magnified</p>	<p>131</p> <p>131</p> <p>131</p>

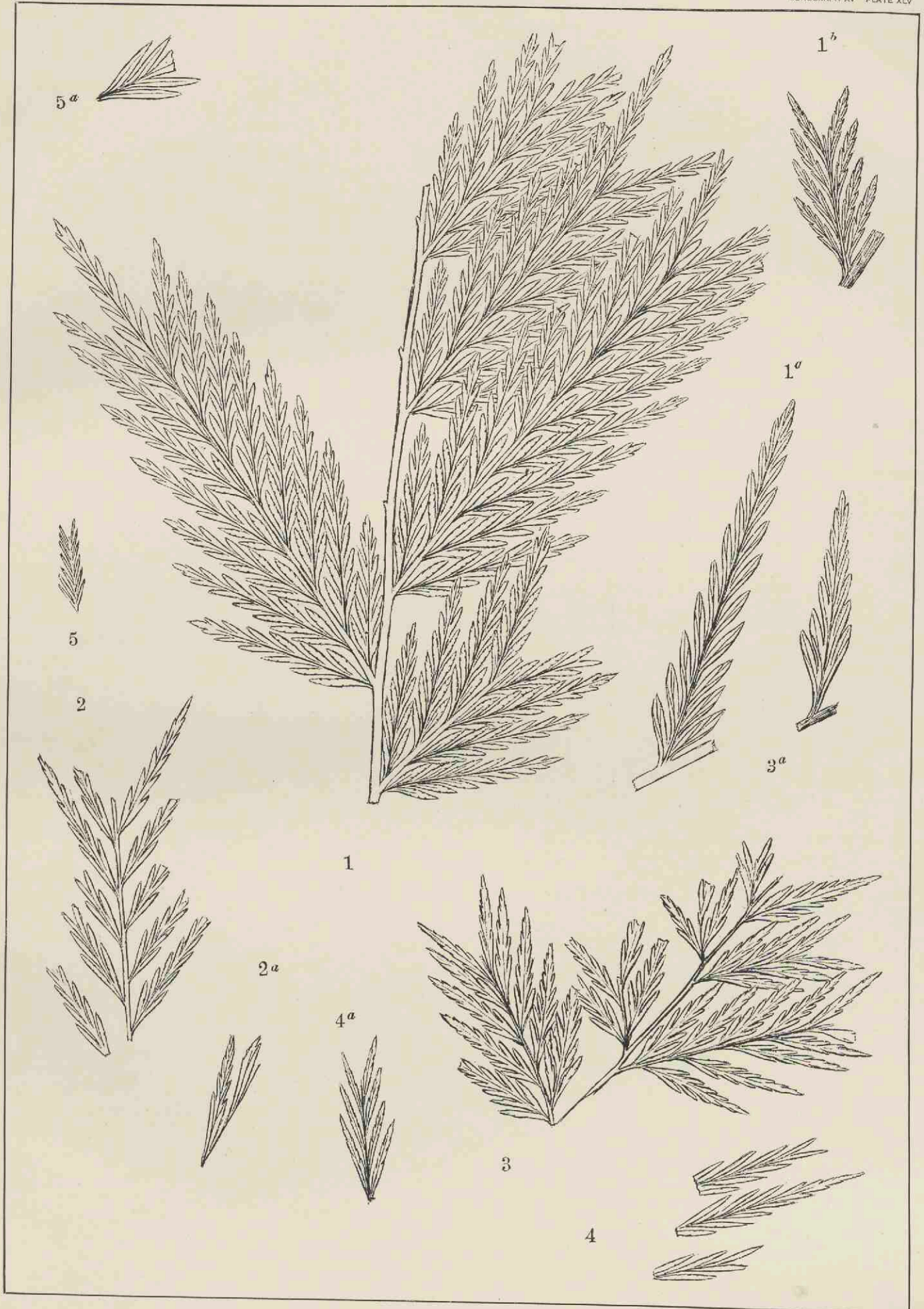


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FIG. 1. THYRSOPTERIS ELLIPTICA, sp. nov.	133
1. Fragments of several compound pinnae, showing apparently a palmate mode of branching	133
1 ^a . Pinnules of 1 magnified	133
FIGS. 2, 4. THYRSOPTERIS DECURRENS, sp. nov.	130
2. Portion of a compound pinna	130
2 ^a . Portion of 2 magnified	130
4. Upper part of a compound pinna	130
FIGS. 3, 5. THYRSOPTERIS PACHYRACHIS, sp. nov.	132
3. Upper part of a large primary pinna, or of the frond, slightly restored	132
3 ^a . Pinnule magnified	132
5. Small fragment of a compound pinna	132

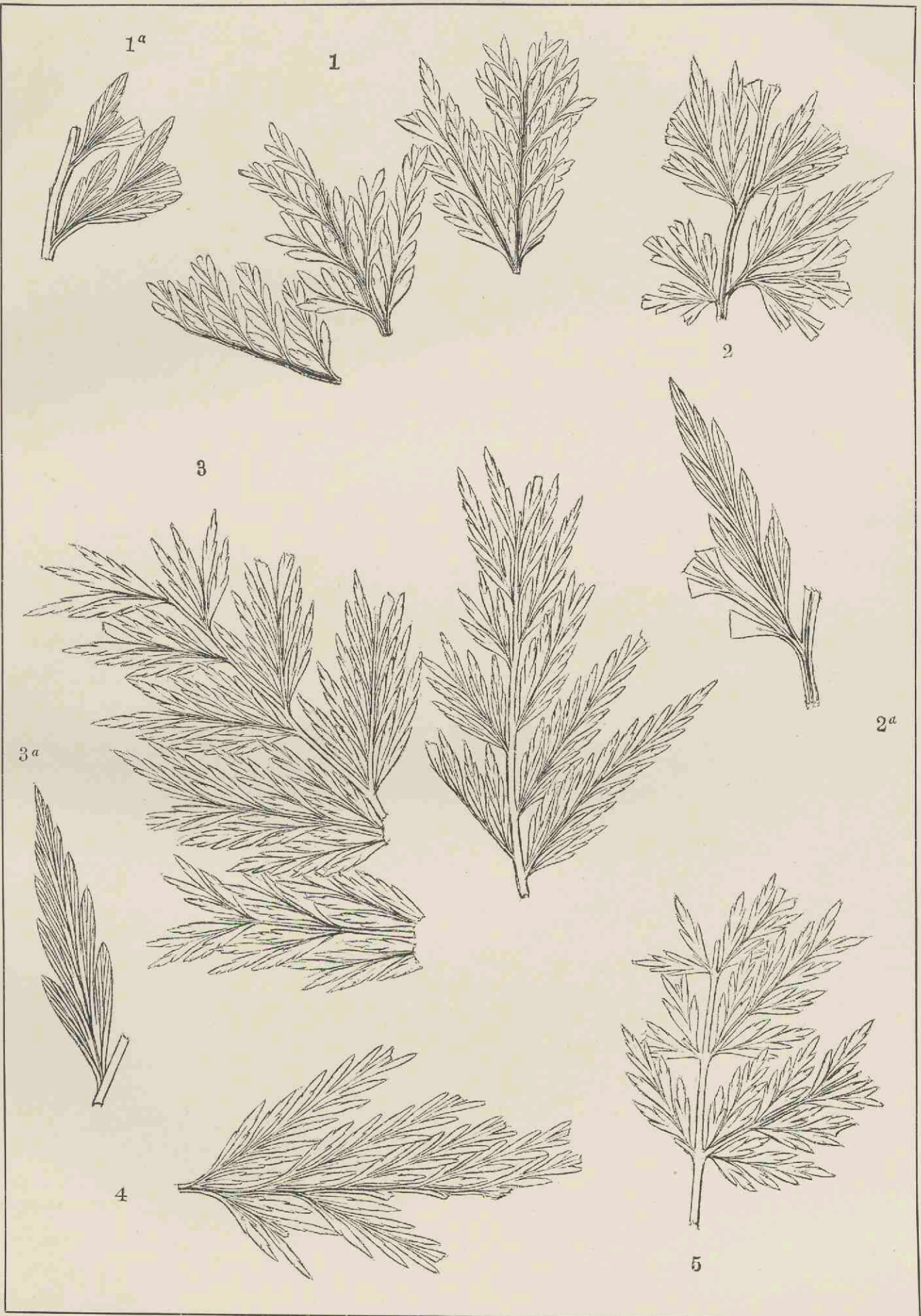


PLATE XLVII.

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	1. Two compound pinnae of a primary pinna or of the frond.....	132
	1 ^a . Lower pinnule of 1 magnified.....	132
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PLATE XLVIII.

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1. Portions of two compound pinnæ	126
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FIG. 2. THYRSOPTERIS ANGUSTIFOLIA, sp. nov	131
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FIGS. 3-5. THYRSOPTERIS ANGUSTILOBA, sp. nov	134
3. Summit of a primary pinna, or of the frond, slightly restored	134
3 ^a . Pinnule magnified	134
4. Fragments of the upper part of a compound pinna or of the frond	134
4 ^a . Pinnule of 4 magnified	134
5. Fragments of ultimate pinnæ	134
5 ^a . Pinnule of 5 magnified	134



PLATE XLIX.

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		Page.
FIG.	1. <i>THYRSOPTERIS PACHYRACHIS</i> , sp. nov.	132
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	1 ^a . Ultimate pinna magnified	123
FIG.	2. <i>THYRSOPTERIS RARINERVIS</i> , sp. nov.	123
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	6. Fragments of a compound pinna	130
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	7. Fragment of the upper part of an ultimate pinna	130

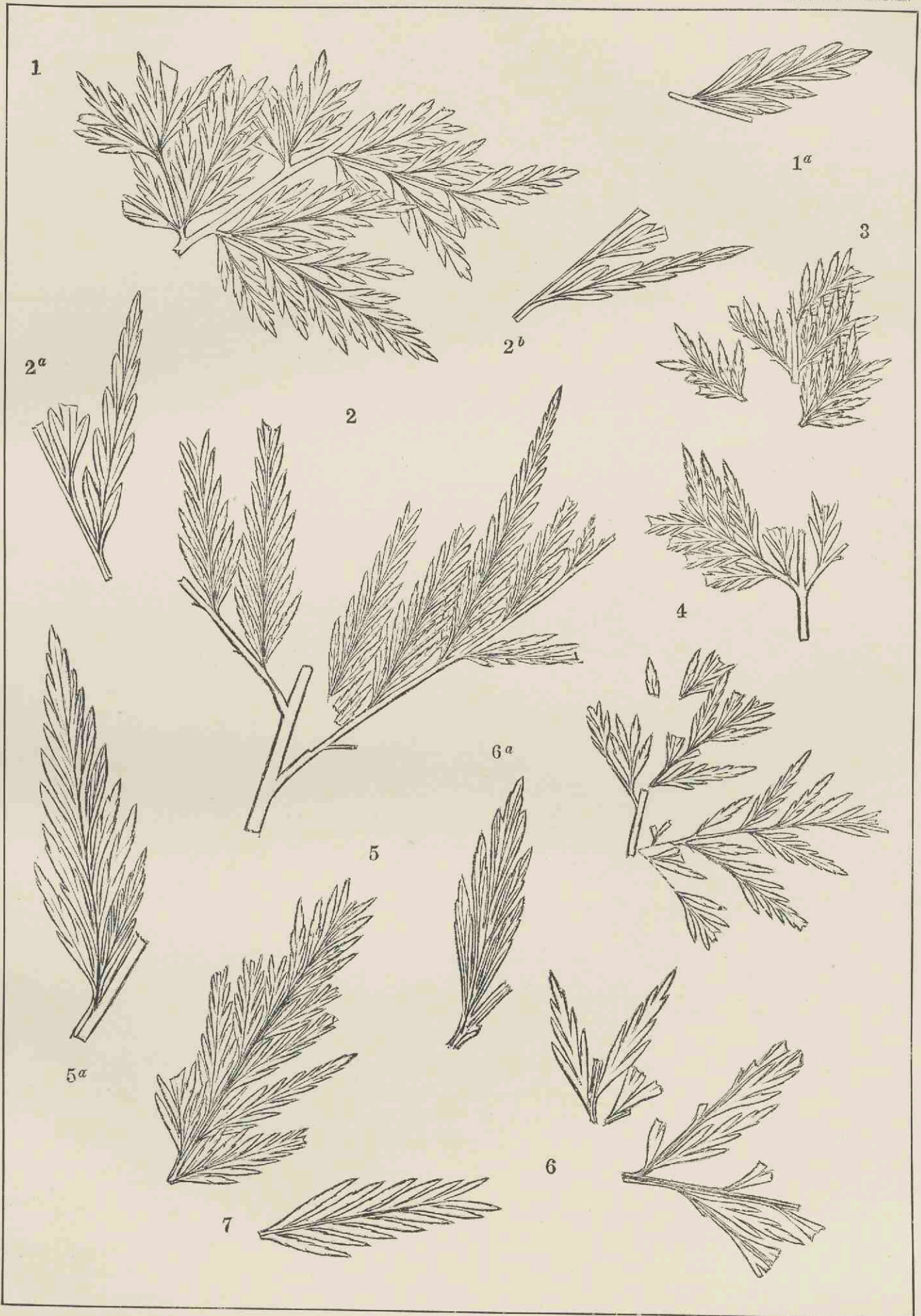


PLATE L.

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FIG. 5. SPHENOPTERIS PACHYPHYLLA, sp. nov	93
5. Small fragment of a compound pinna	93
5 ^a . Ultimate pinna magnified	93
FIGS. 6, 9. THYRSOPTERIS ELLIPTICA, sp. nov	133
6. Fragments of detached compound pinnae	133
6 ^a . Pinnules magnified	133
9. Portion of the upper part of a compound pinna	133
FIGS. 7, 8. THYRSOPTERIS MEEKIANA, sp. nov	125
7. Portion of the upper part of a compound pinna	125
7 ^a . Pinnule magnified	125
8. Upper portion of a long compound pinna	125

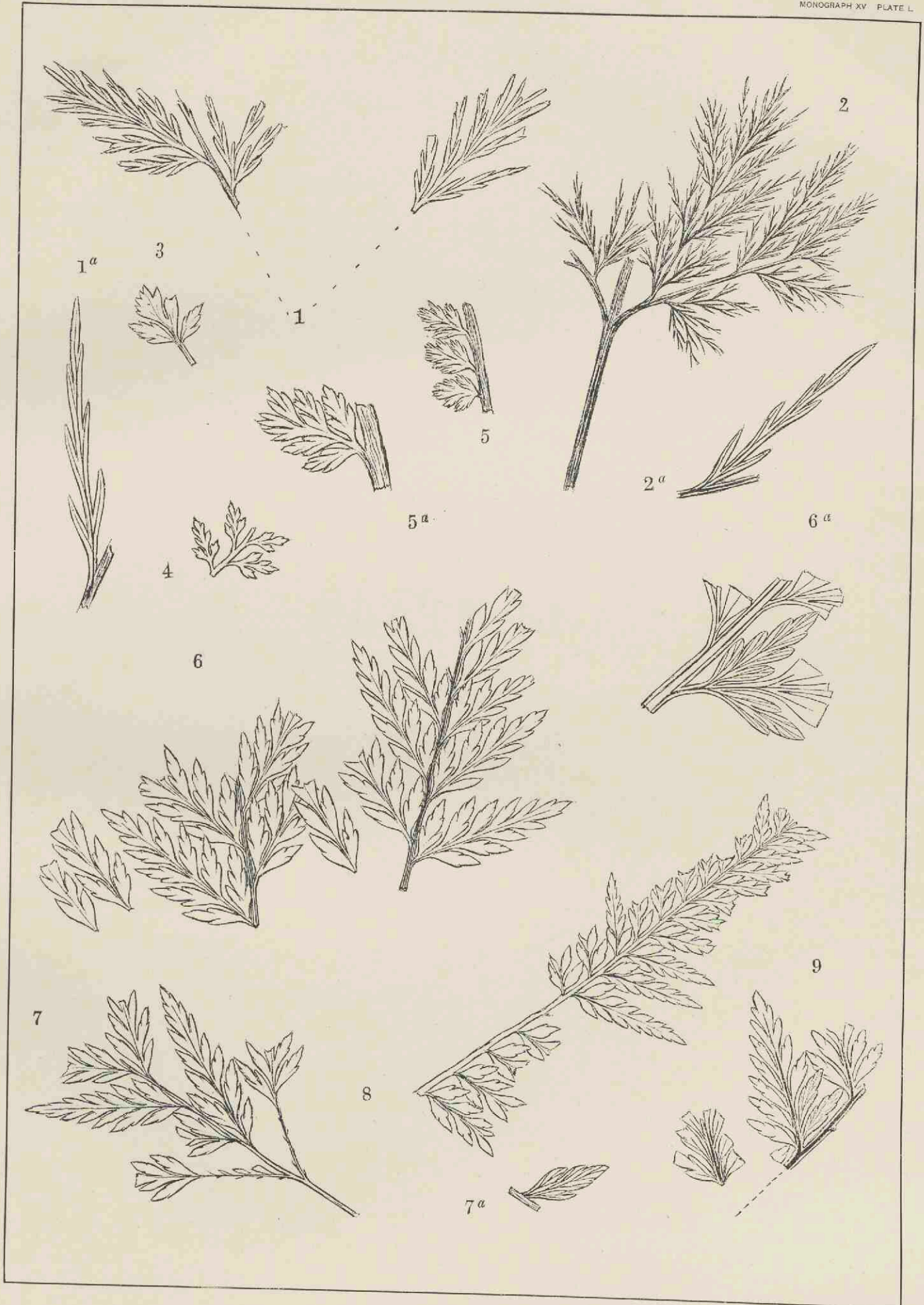


PLATE LI.

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FIG. 1. THYRSOPTERIS PECOPTEROIDES, sp. nov.	135
1. Portion of a compound pinna.	135
1 ^a , 1 ^b . Pinnules of 1 magnified.	135
FIG. 2. THYRSOPTERIS PINNATIFIDA, sp. nov.	136
2. Portion of a large compound pinna, slightly restored.	136
FIG. 3. THYRSOPTERIS MEEKIANA, sp. nov.	125
3. Upper part of a compound pinna.	125
3 ^a . Pinnule of 3 magnified.	125
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4. Small fragment of a compound pinna.	133
6. Fragment of a large primary pinna, or of the frond, slightly restored.	133
6 ^a . Lower pinnules of 6 magnified.	133
6 ^b . Upper pinnule magnified.	133
7. Fragment from the upper part of a compound pinna.	133
FIG. 5. THYRSOPTERIS DENSIFOLIA, sp. nov.	129
5. Upper part of a compound pinna.	129

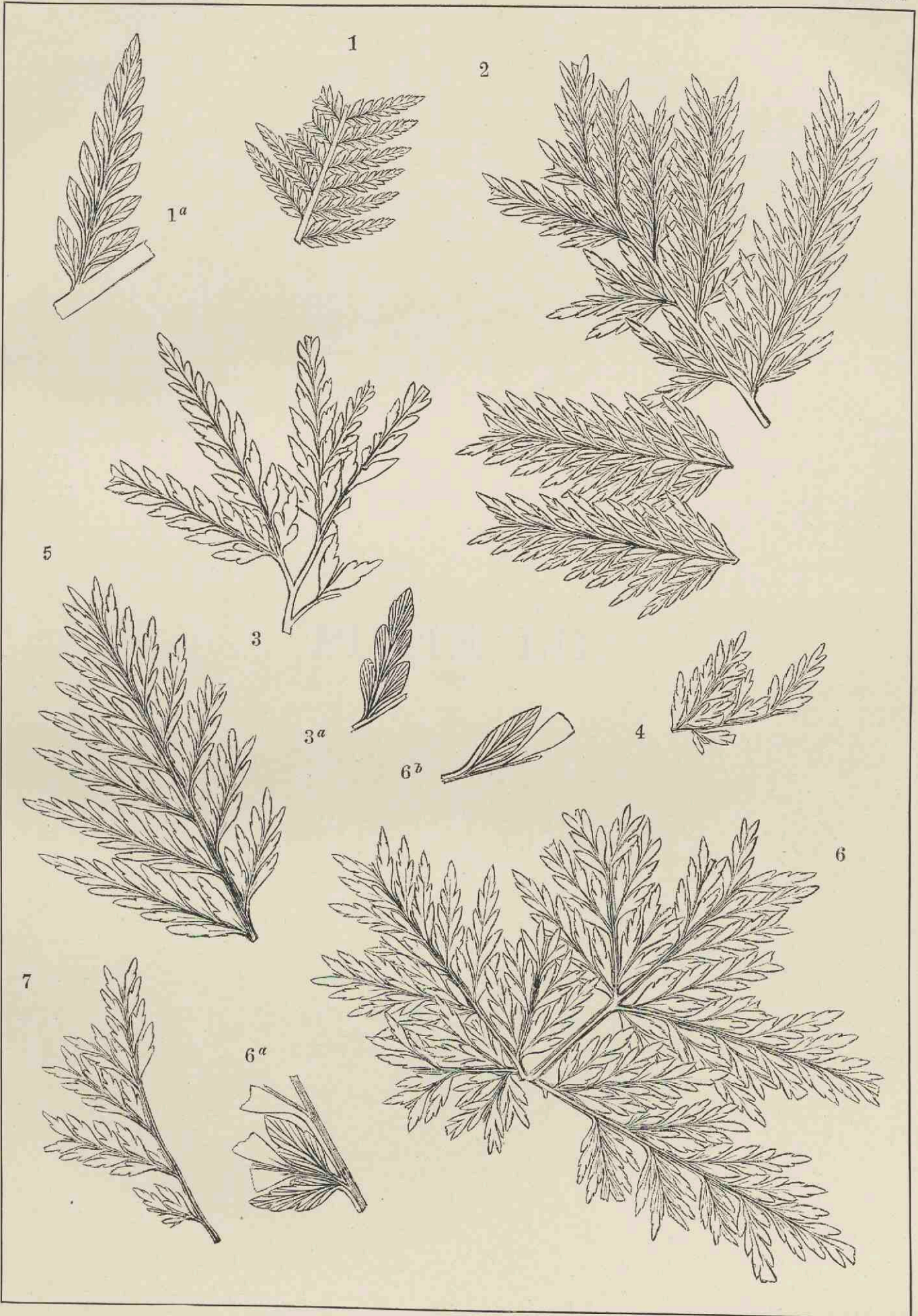


PLATE LII.

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PLATE LII.

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FIG. 1. THYRSOPTERIS HETEROMORPHA, sp. nov.	136
1. This represents what seems to be the entire frond radiating from the top of the stipe.	136
1 ^a . Lower pinnule of 1 magnified	136
1 ^b . Upper pinnule magnified	136
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2. Summit of a compound pinna, slightly restored.....	137
2 ^a . Pinnule of 2 magnified	137
3. Portion of a lower compound pinna, slightly restored.....	137
4. Portion of a lower compound pinna.....	137
4 ^a . Pinnule magnified.....	137
FIG. 5. THYRSOPTERIS RHOMBIFOLIA, sp. nov.....	138
5. Portions of compound pinnae, apparently radiating from a common point, as in a frond palmately divided	138
5 ^a . Ultimate pinna from the lower portion of a compound pinna magnified	138
5 ^b . Upper pinna of the same magnified	138

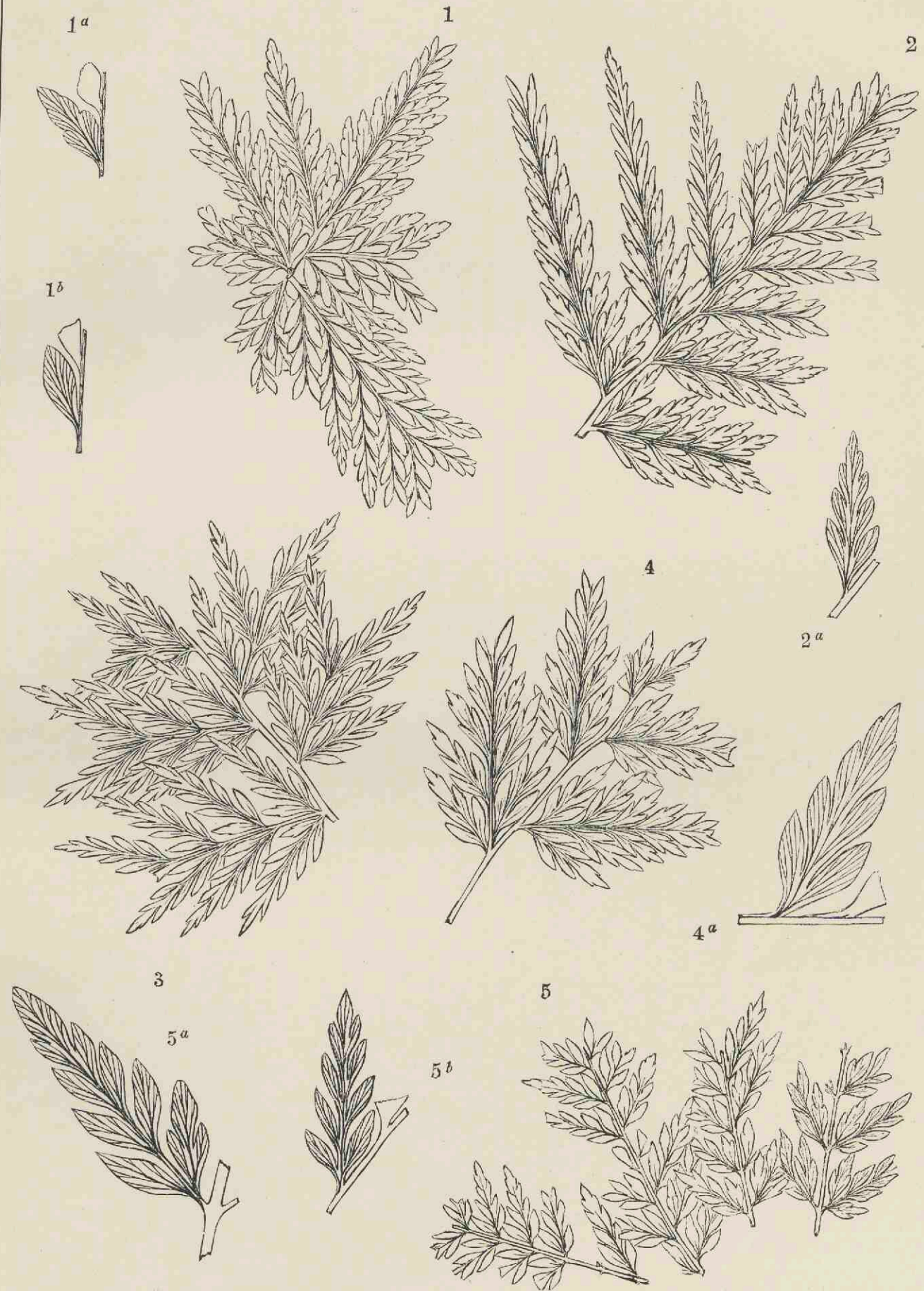


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	1. Portions of a compound pinna from the upper part of the frond, slightly restored ..	137
	1 ^a . Pinnule magnified	137
	2. Portion of a compound pinna from the upper part of the frond	137
	2 ^a . Pinnule magnified	137
	3. Portions of a compound pinna from the lower part of the frond	137
	3 ^a . Pinnules magnified	137
	3 ^b . Tip of a pinna magnified	137
FIG.	4. THYRSOPTERIS HETEROLOBA, sp. nov.	139
	4. Portion of a compound pinna, slightly restored	139
	4 ^a . Pinnules magnified	139
FIG.	5. THYRSOPTERIS BELLA, sp. nov.	139
	5. Fragment of the upper part of a compound pinna	139
	5 ^a . Ultimate pinna of 5 magnified	139

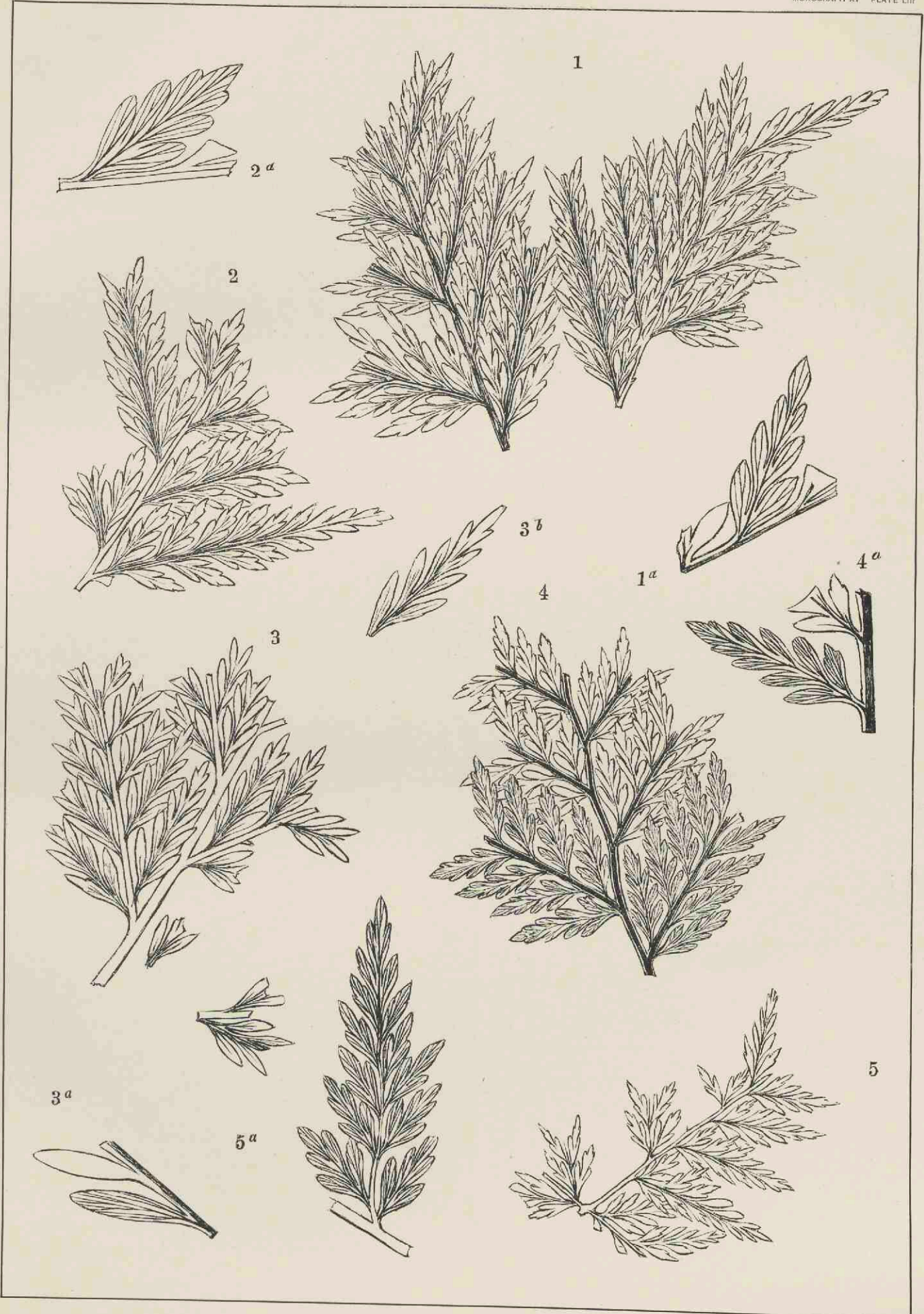


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	1. Upper part of a compound pinna, differing in some respects from the normal form of <i>T. rhombifolia</i>	138
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	1 ^b . Ultimate upper pinna magnified	138
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	2. Small fragment of the upper part of a compound pinna	126
	2 ^a . Pinnule magnified	126
	11. Small fragment of a compound pinna	126
	11 ^a . Pinnule magnified	126
FIGS.	3, 9. ASPIDIUM DUNKERI Schimper, sp	101
	3. Fragment of an upper ultimate pinna	101
	3 ^a . Pinnules magnified	101
	9. Fragment of an upper ultimate pinna	101
	9 ^a . Pinnules magnified	101
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	4. Fragment of a lower compound pinna	136
	5. Portion of an upper compound pinna	136
	7. Upper part of a compound pinna, slightly restored	136
	7 ^a . Lower ultimate pinna magnified	136
	7 ^b . Upper pinna magnified	136
FIG.	6. THYRSOPTERIS ELLIPTICA, sp. nov	133
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	8 ^a . Pinnule of 8 magnified	134
FIG.	10. THYRSOPTERIS VARIANS, sp. nov	137
	10. Upper part of a compound pinna, showing unusually narrow and remote pin- nules	137
	10 ^a . Pinnules of 10 magnified	137

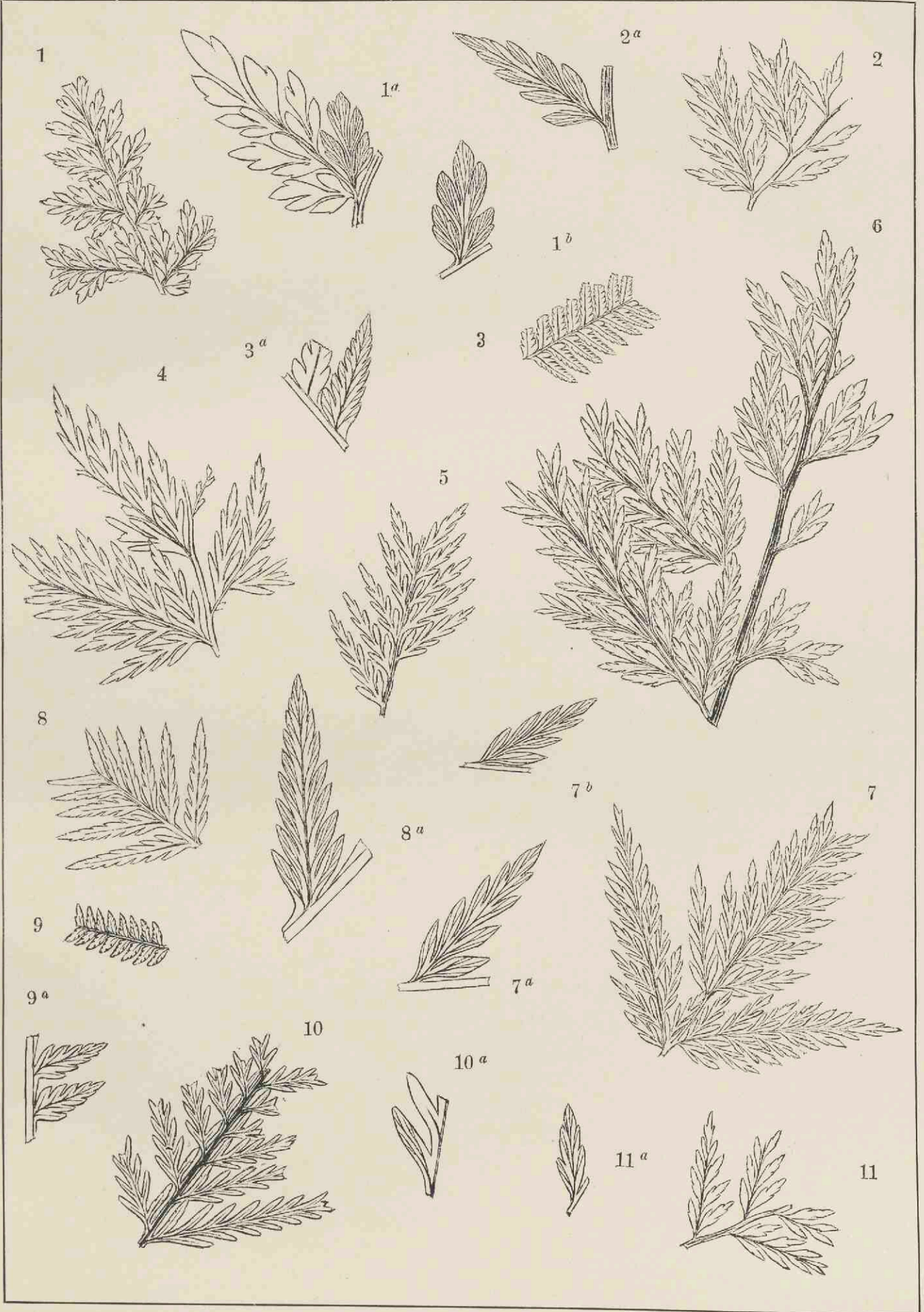


PLATE LV.

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1 ^a . Pinnule magnified.	126
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2 ^a . Lower pinnule magnified.	131
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3 ^a . Lower pinnule magnified.	134
3 ^b . Upper pinnule magnified.	134
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5 ^b . Upper pinna magnified.	140
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6 ^a . Lower pinnule magnified.	139
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7 ^a . Several pinnules magnified.	139



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7. Fragments of compound pinnae	133

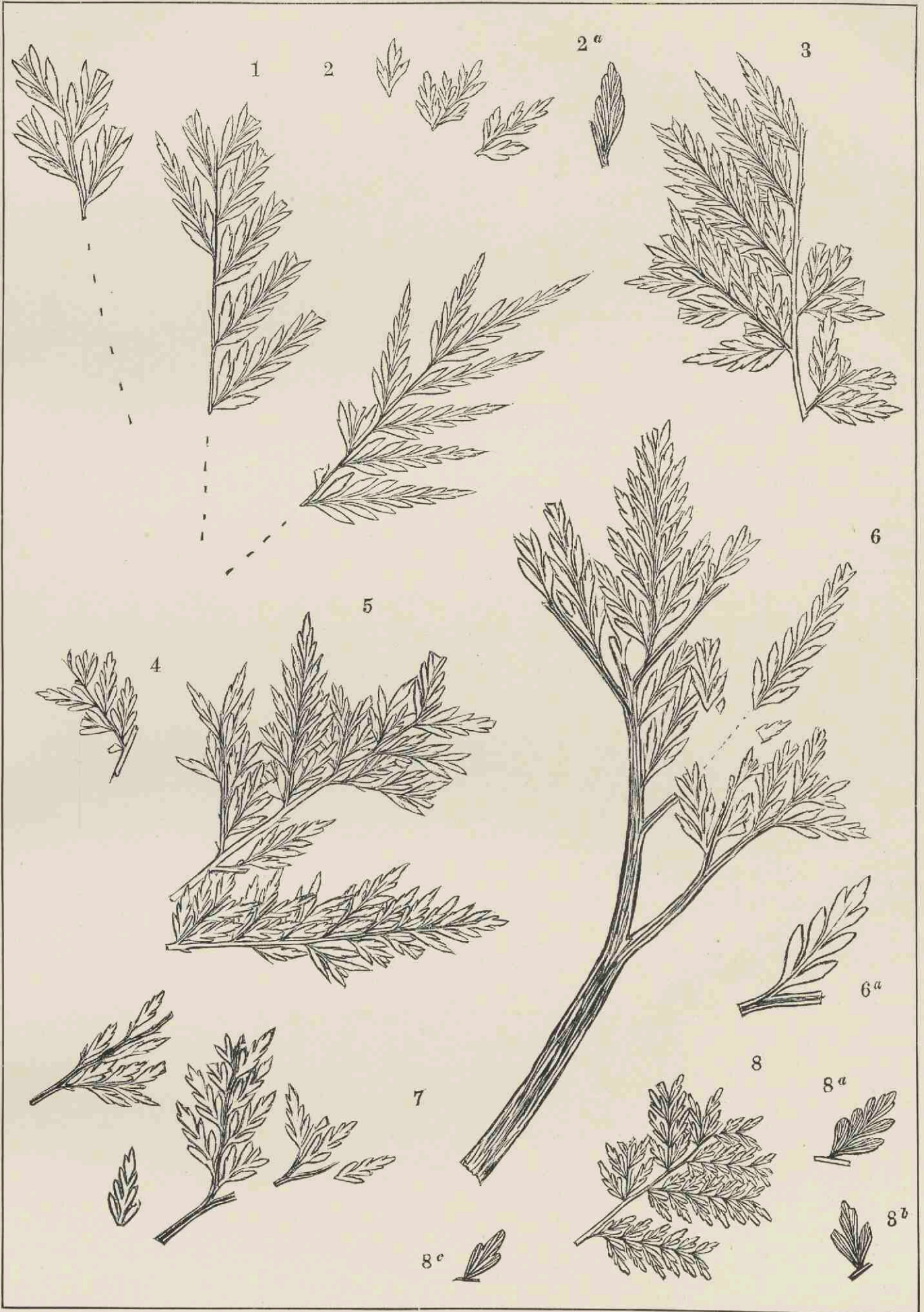


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7. Portion of a compound pinna	136
7 ^a . Pinnule magnified	136



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1. Upper part of a primary pinna or of the frond.	140
1 ^a . Pinnules magnified.	140
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2. Fragment of a compound pinna.	133
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	10. Portion of the frond	144
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	10 ^b . Upper pinnule magnified	144
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1. Upper part of a compound pinna	146
1 ^a . Lower pinnule magnified	146
1 ^b . Upper pinnule magnified	146
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7. Portion of a compound pinna	161
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8. Upper part of a pinnule	164

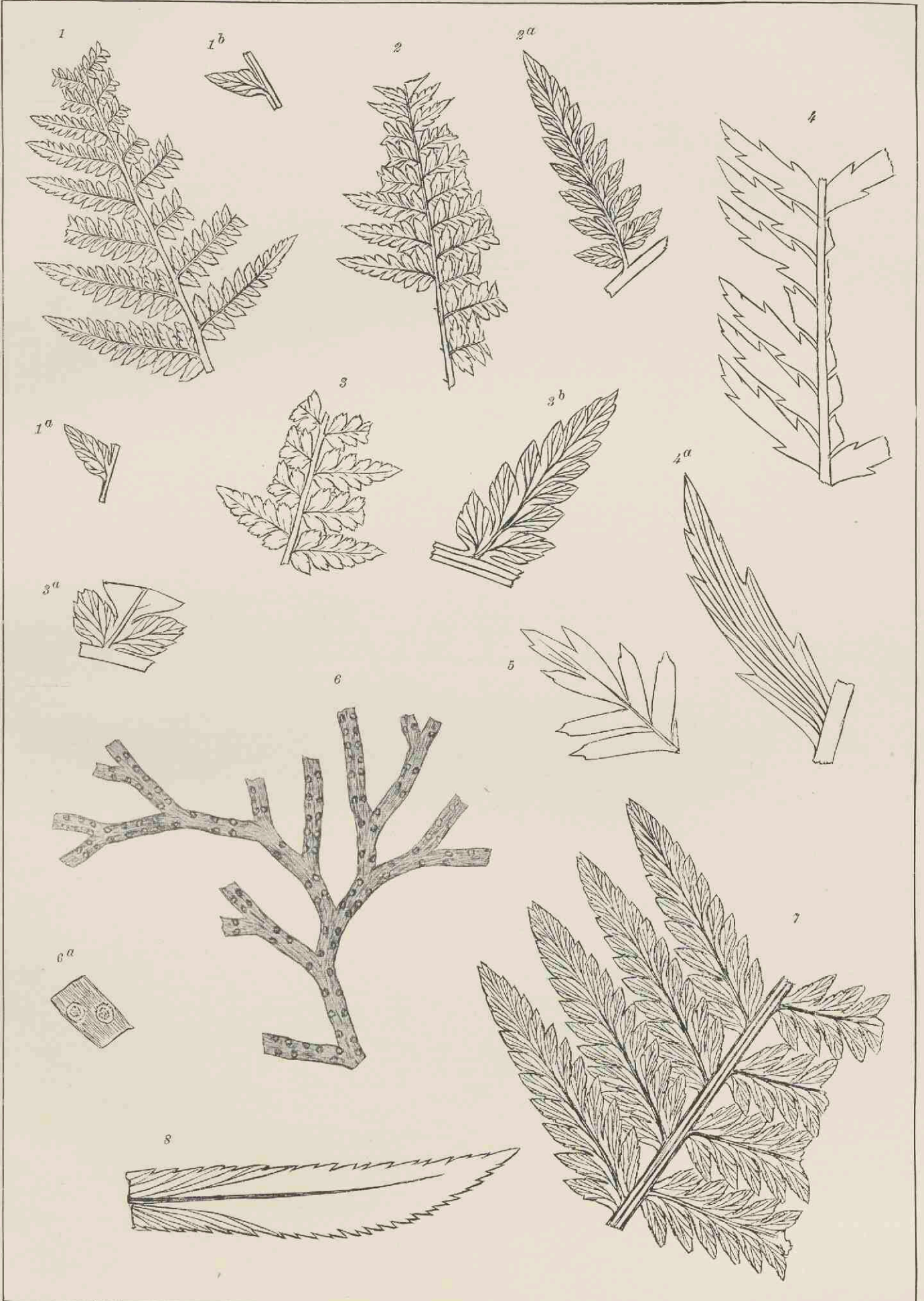


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2. Small fragment of an ultimate pinna.....	162
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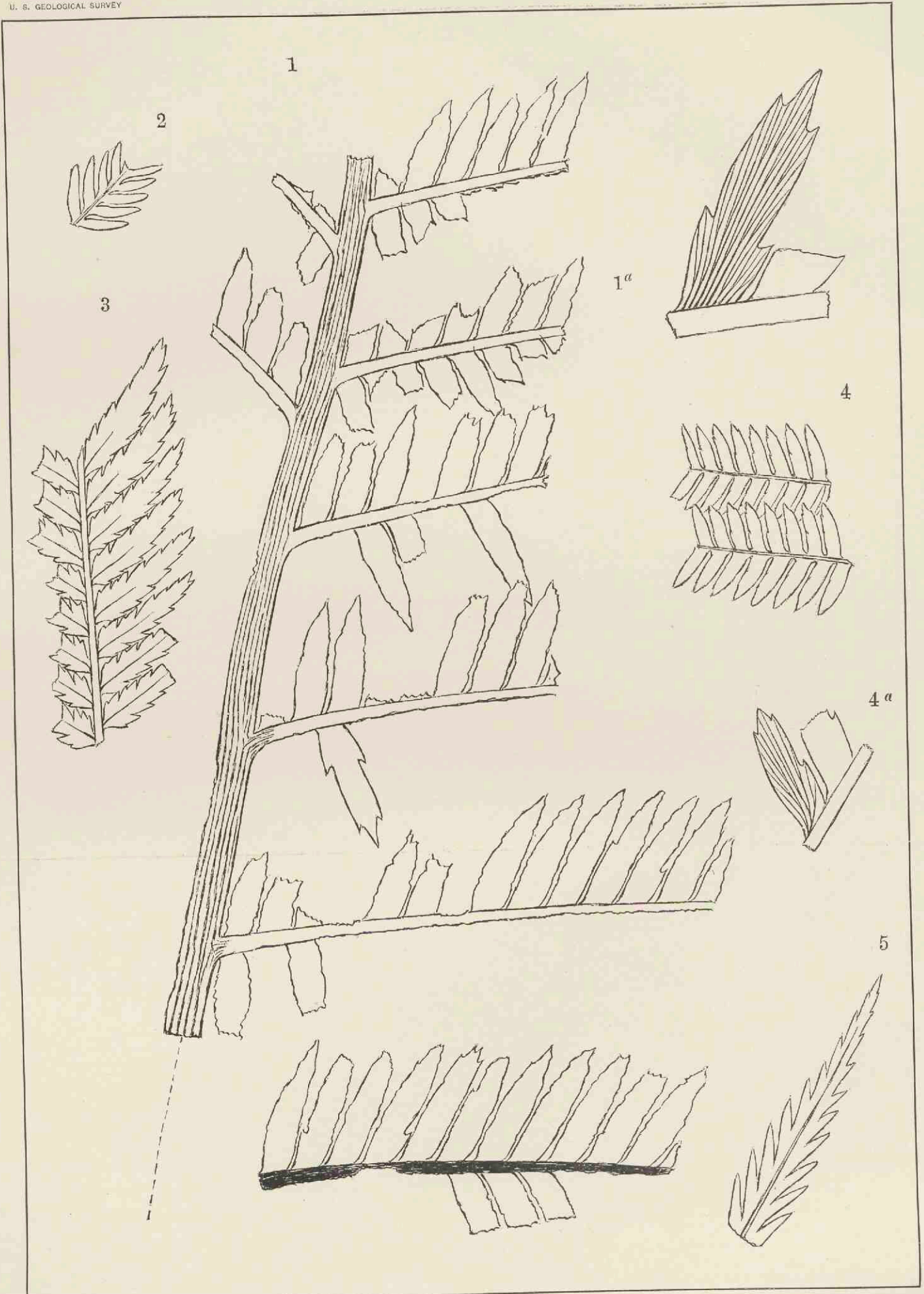


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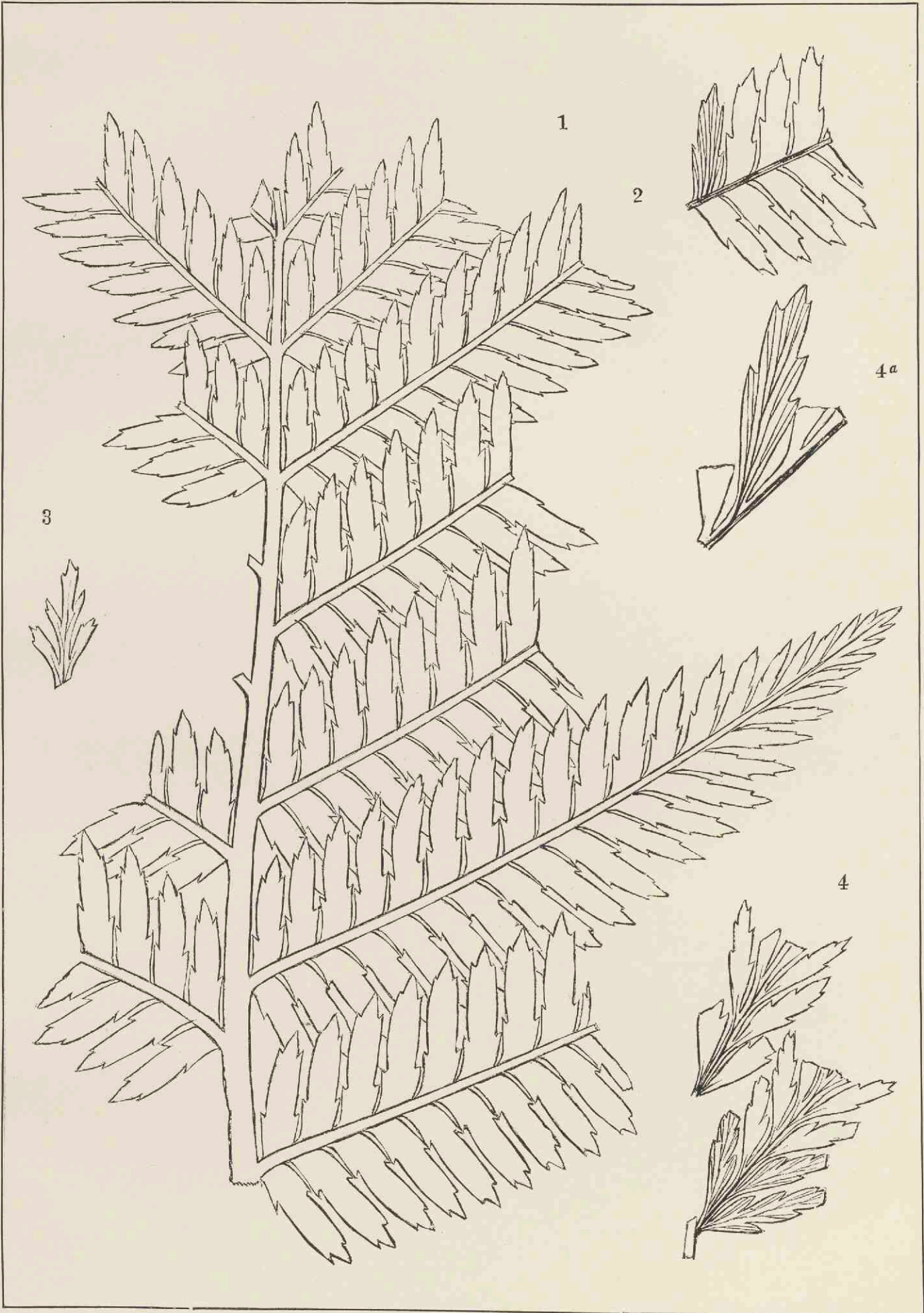


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FIGS. 1, 3. ZAMIOPSIS INSIGNIS, sp. nov	162
1. Portion of a large compound pinna or of the frond	162
1 ^a . Lower pinnule magnified	162
1 ^b . Upper pinnule magnified	162
3. Portion of a compound pinna slightly restored	162
FIG. 2. ZAMIOPSIS PINNATIFIDA, sp. nov	161
2. Portion of a compound pinna	161
2 ^a . Pinnules or lobes magnified	161

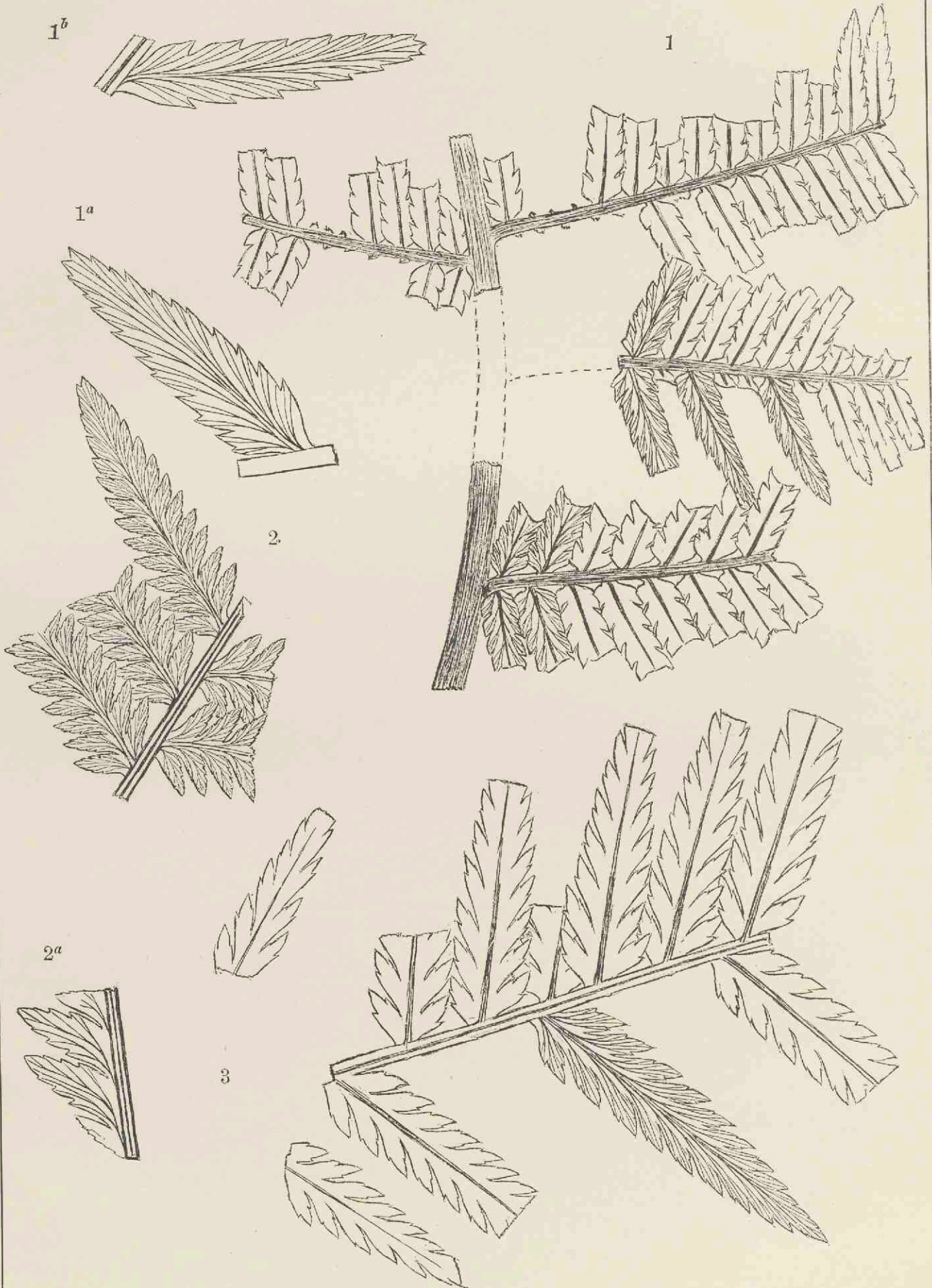


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	5. Fragment of the lower part of a compound pinna	162
	5 ^a . Pinnules enlarged	162
	6. Upper part of an ultimate pinna	162

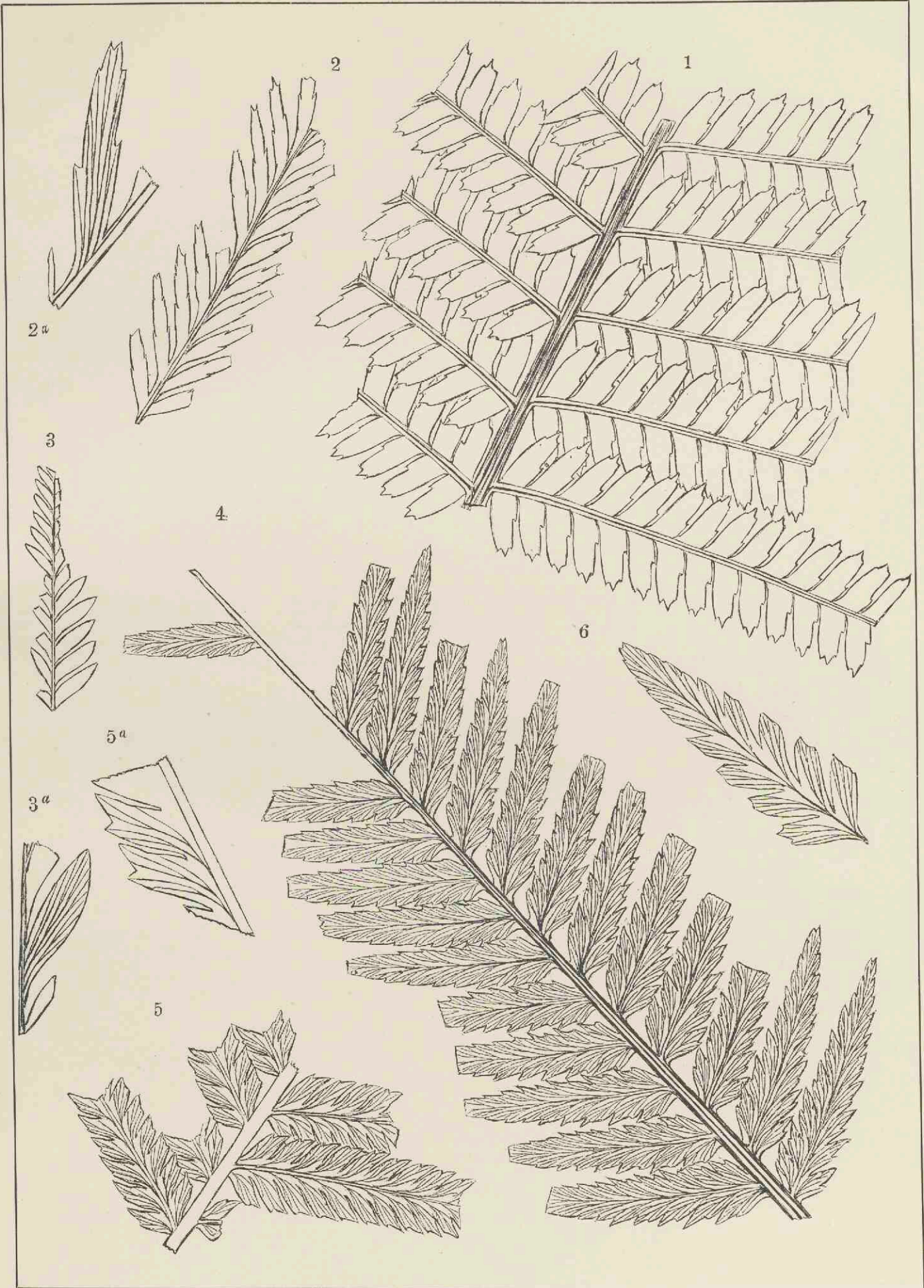


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	1 ^a . Portion of a long pinnule magnified.	164
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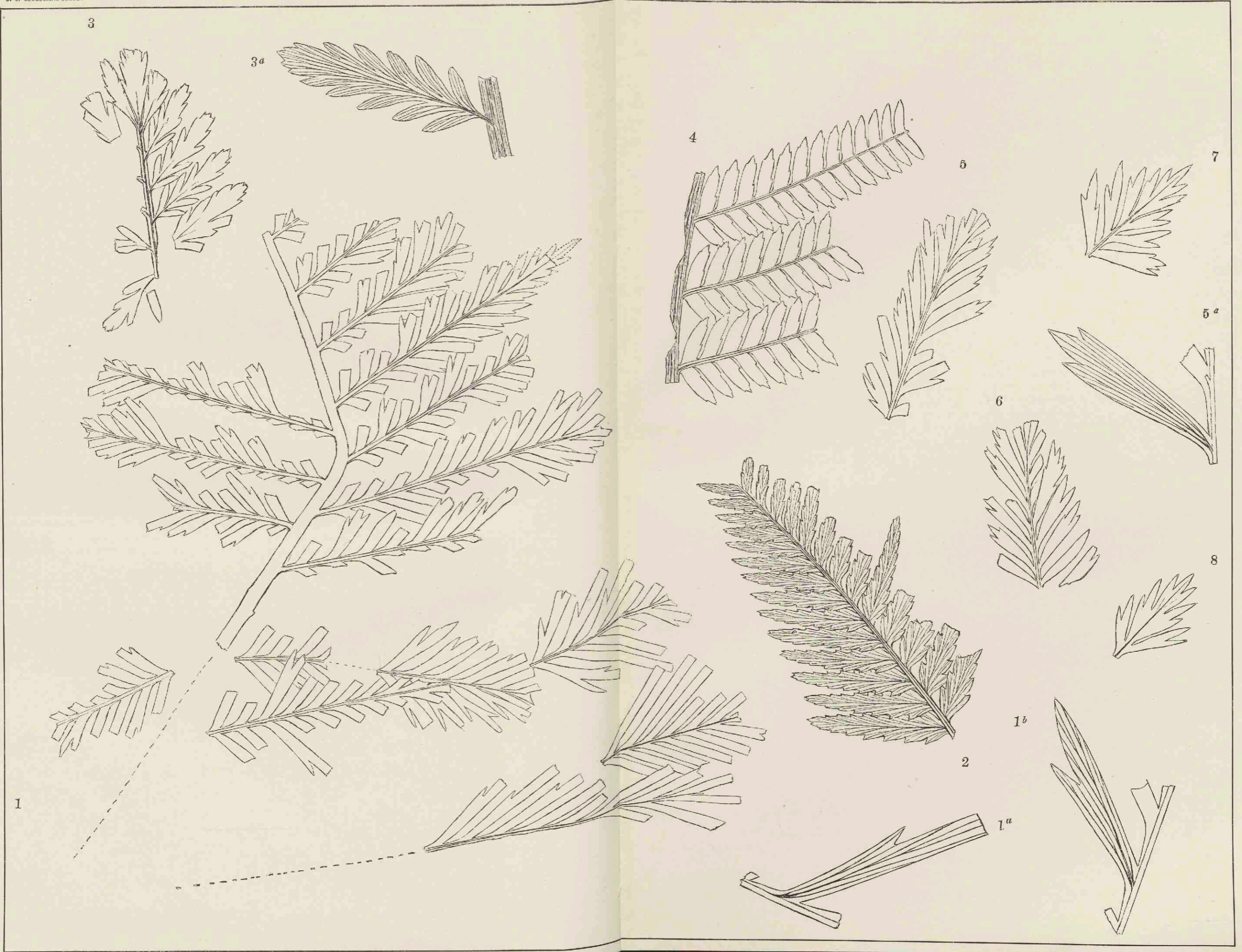


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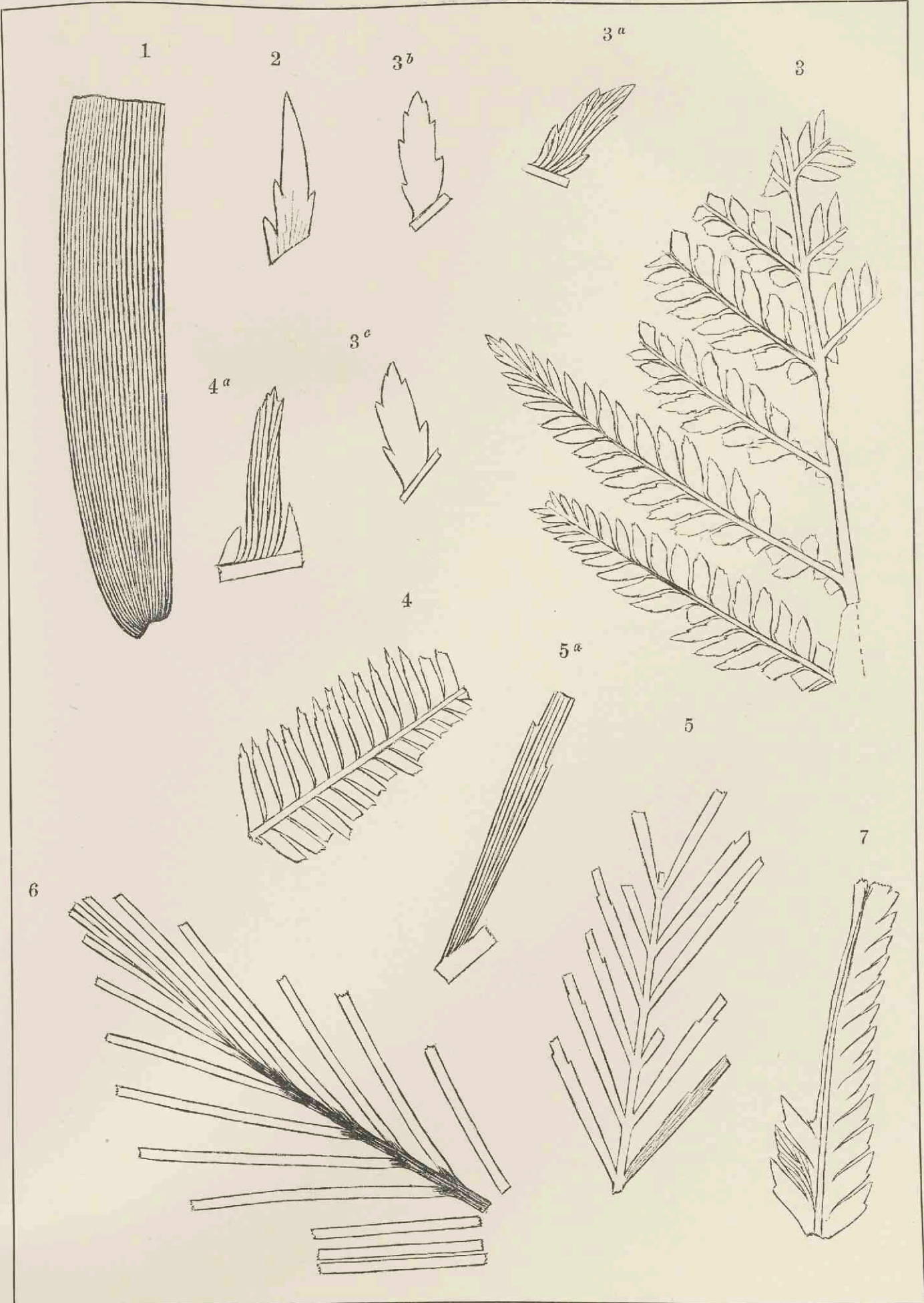


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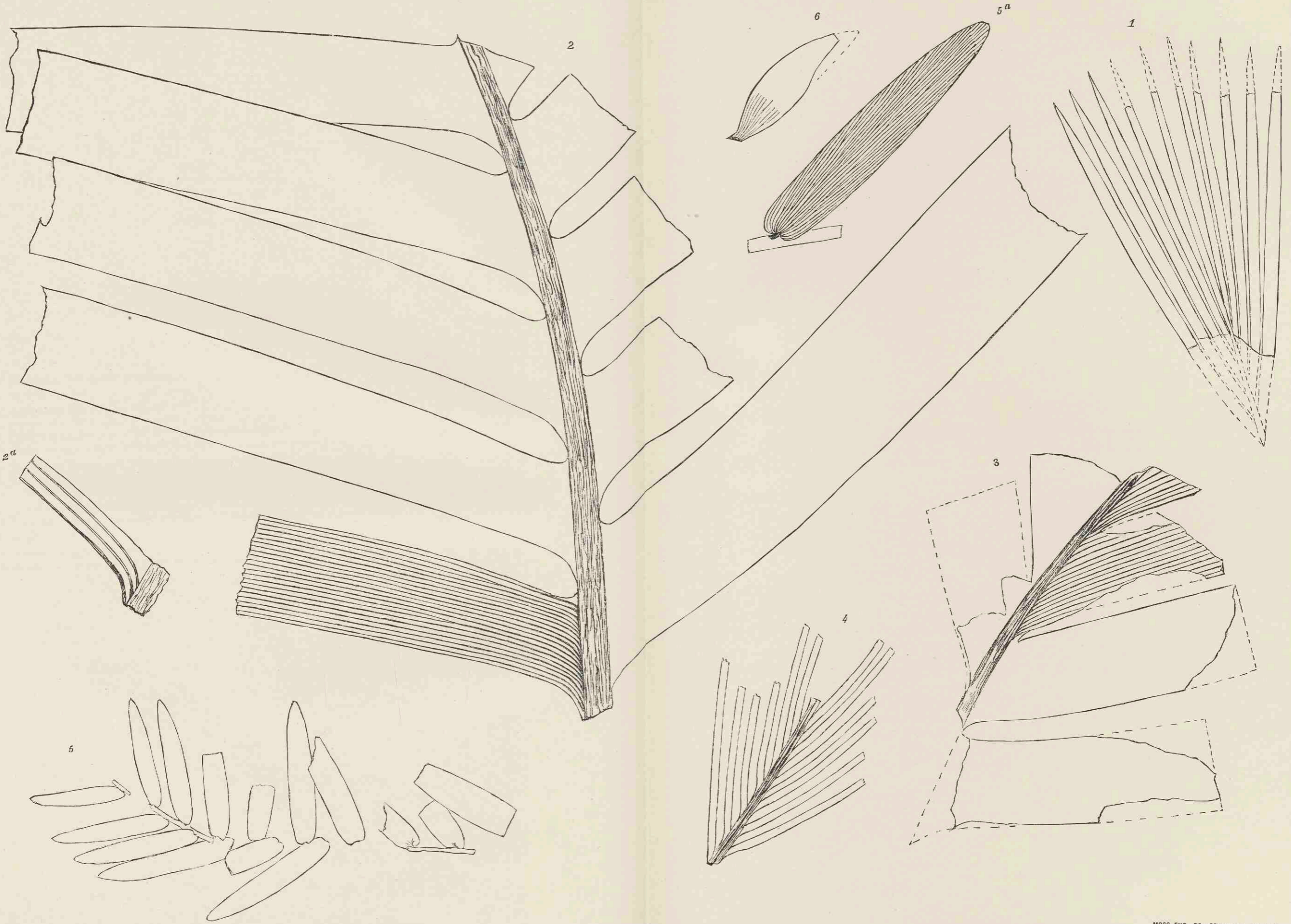


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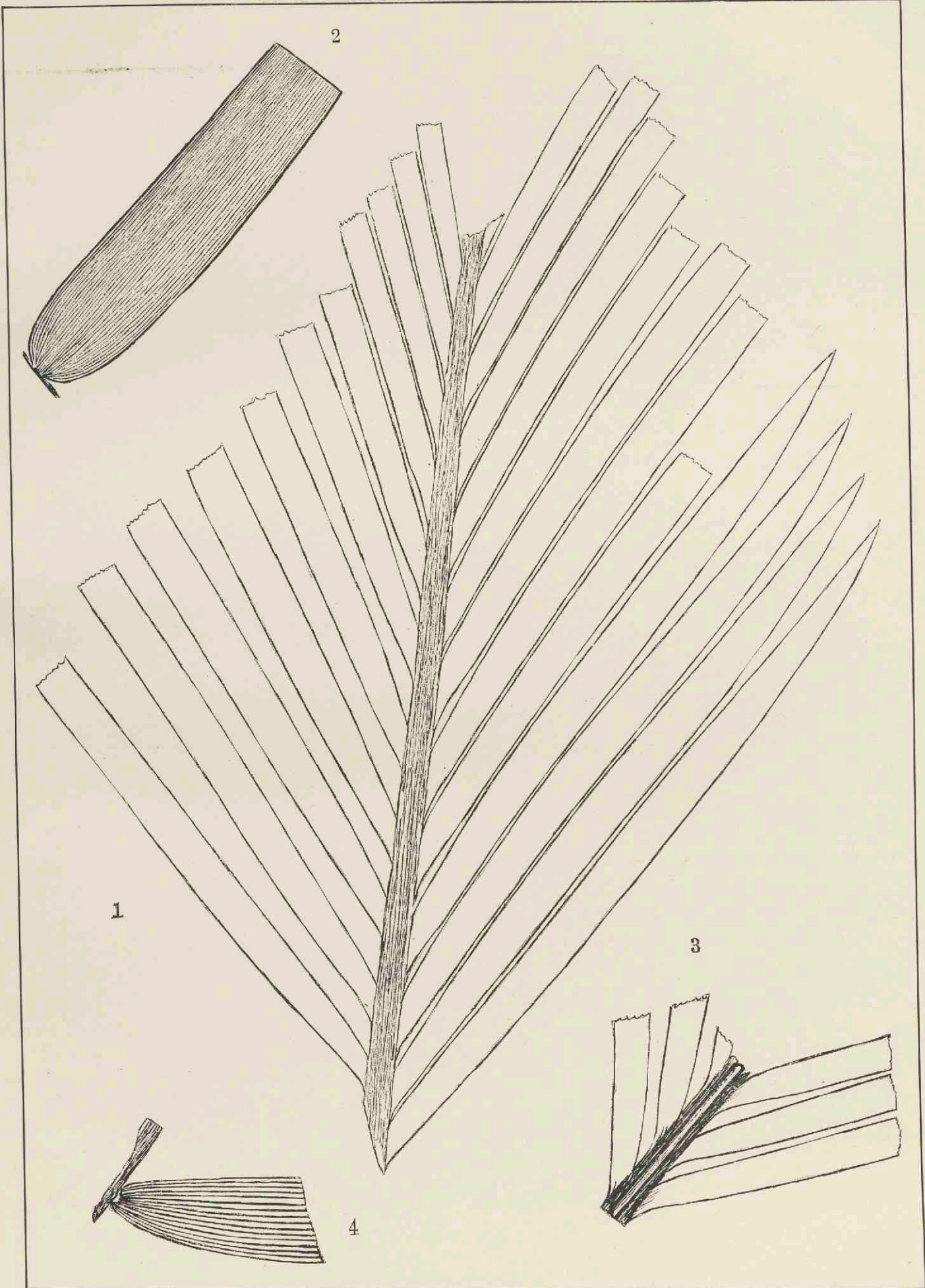


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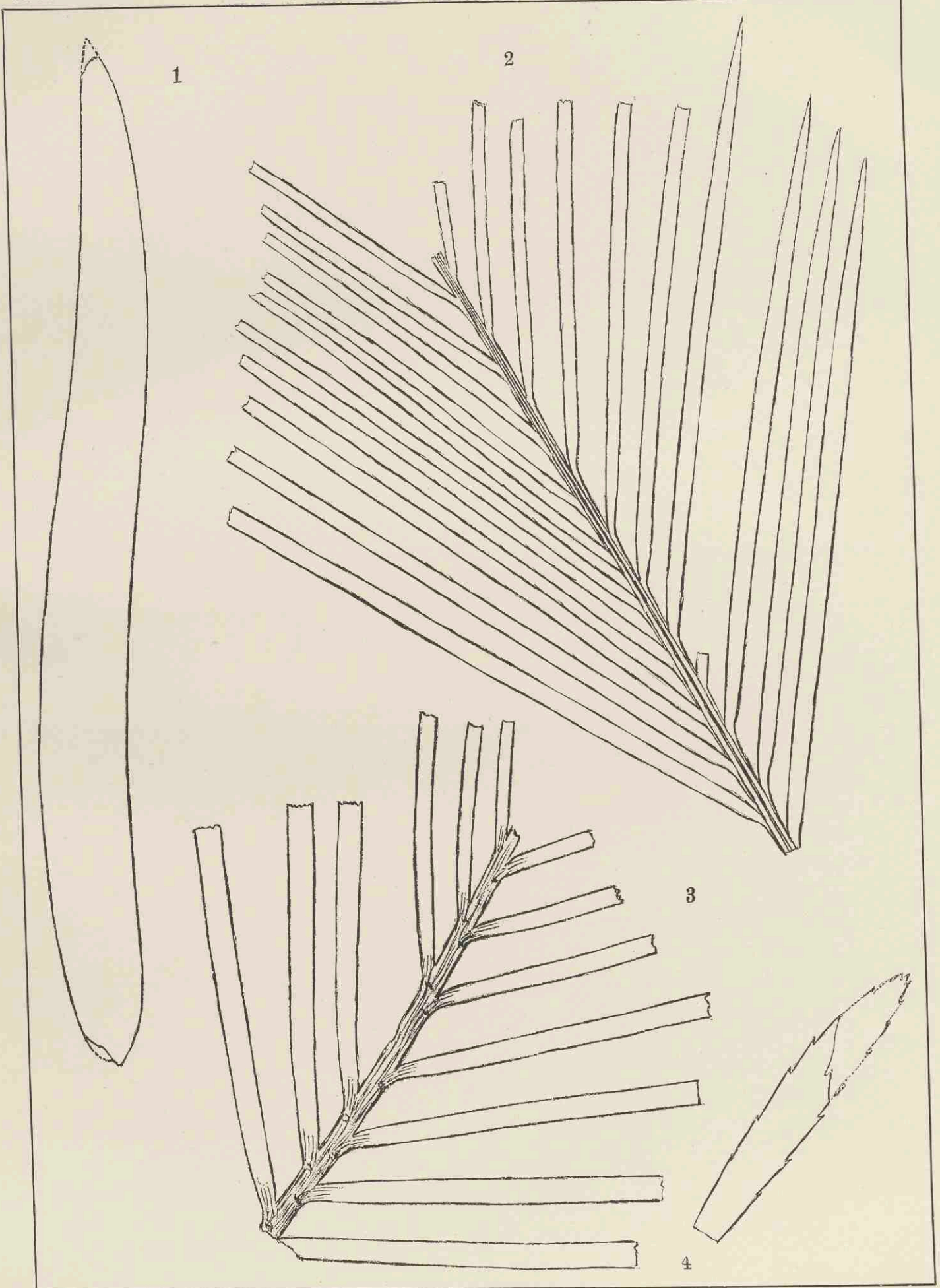
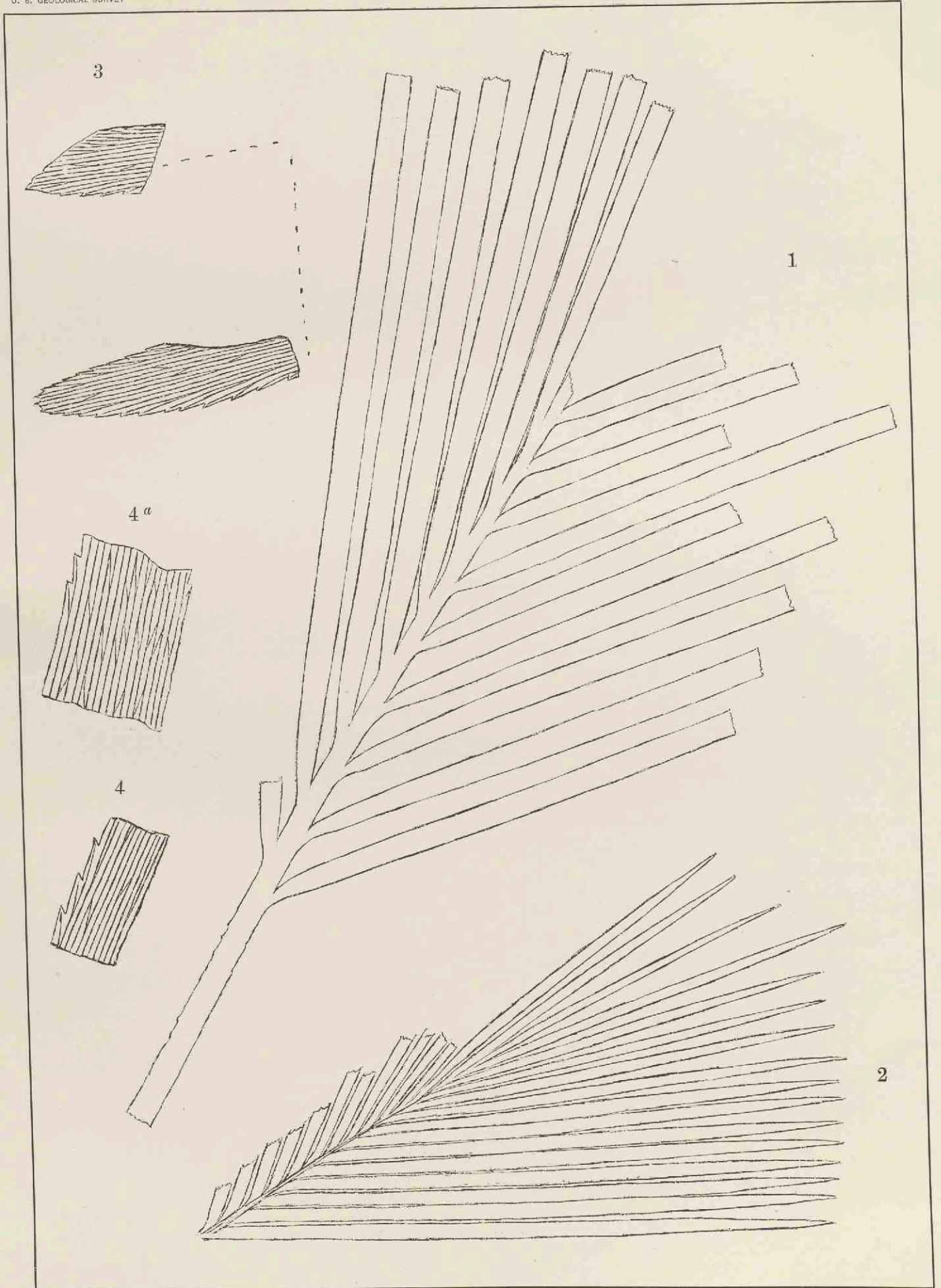


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3

1

4^a

4

2

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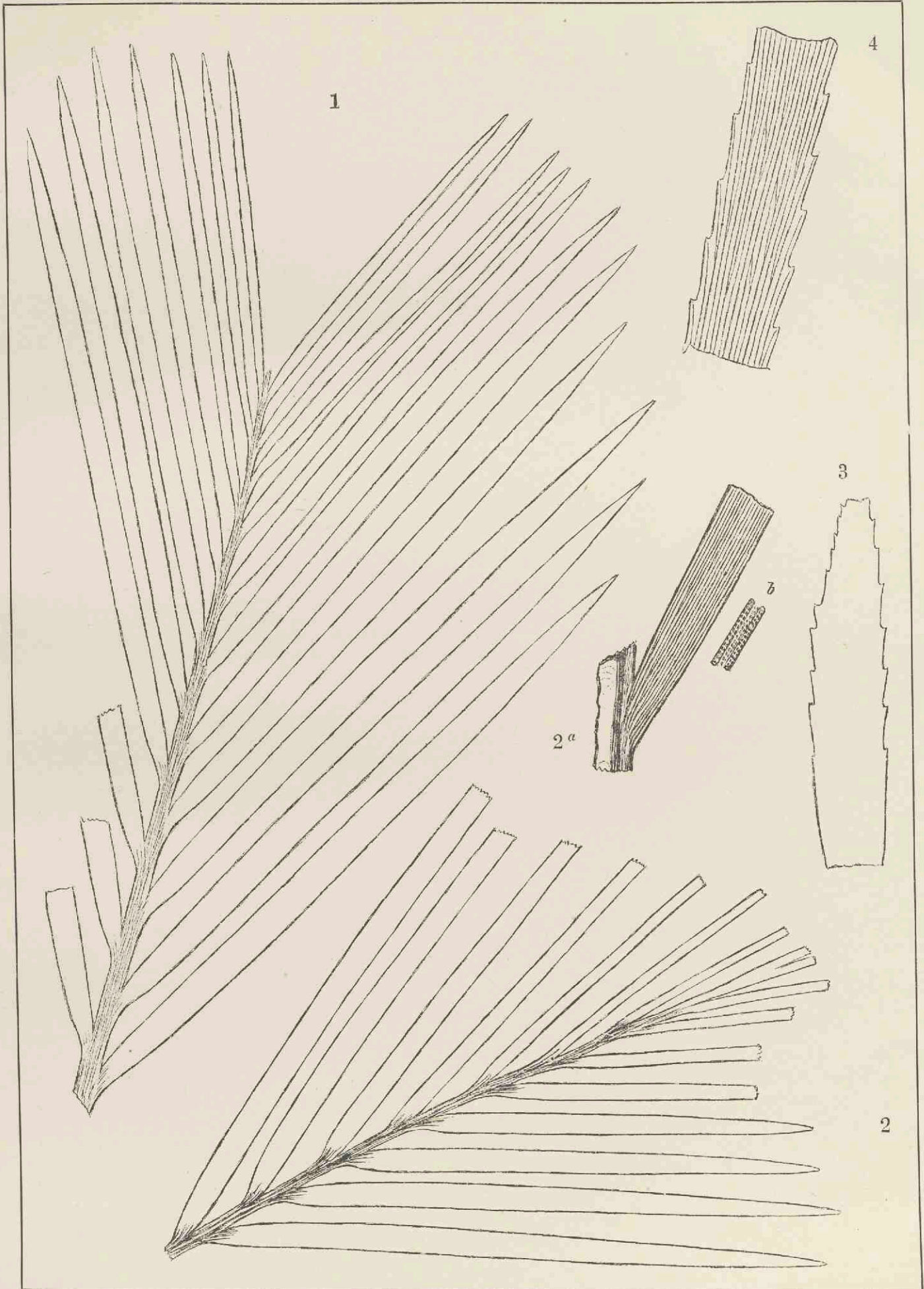


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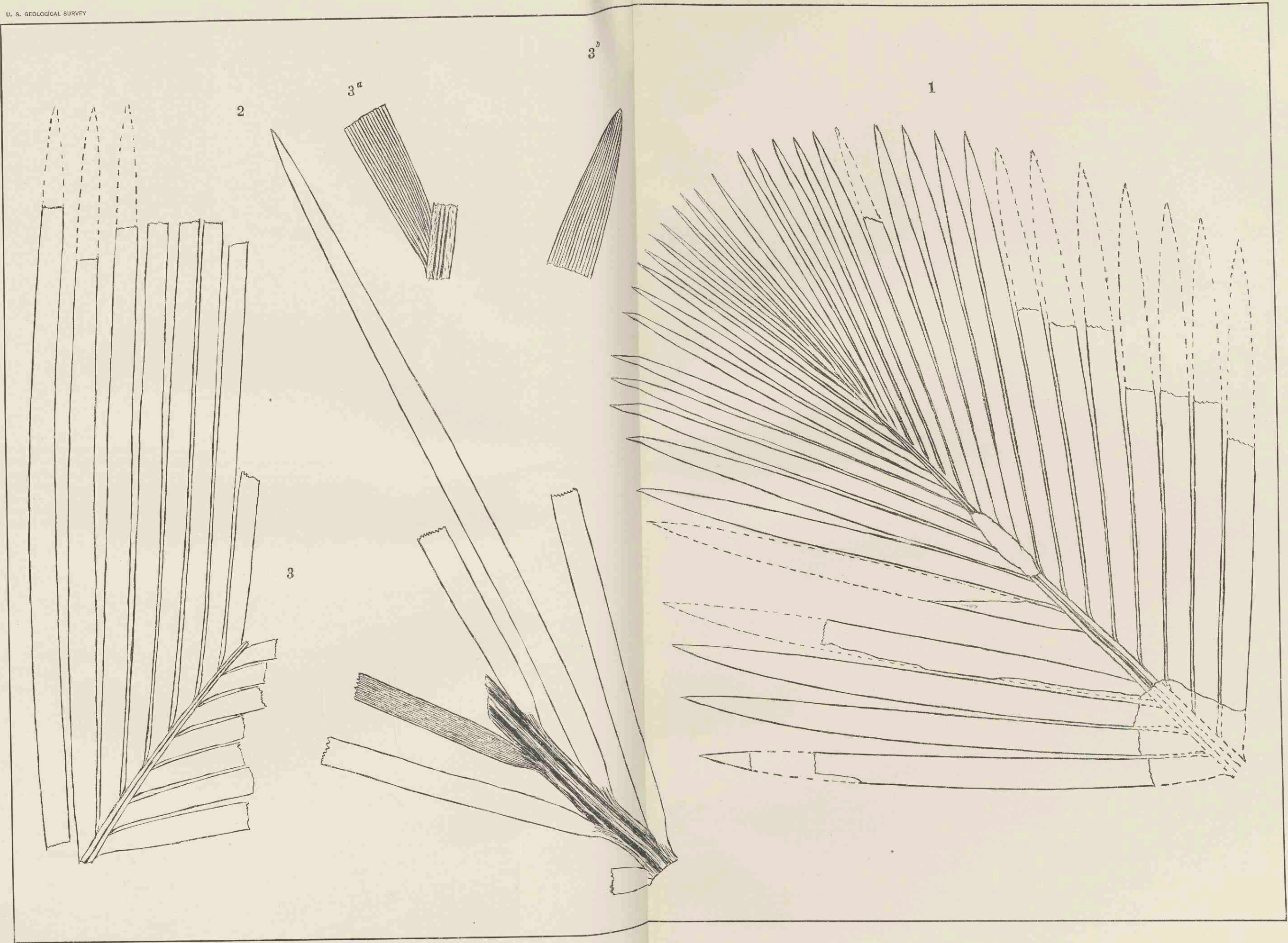


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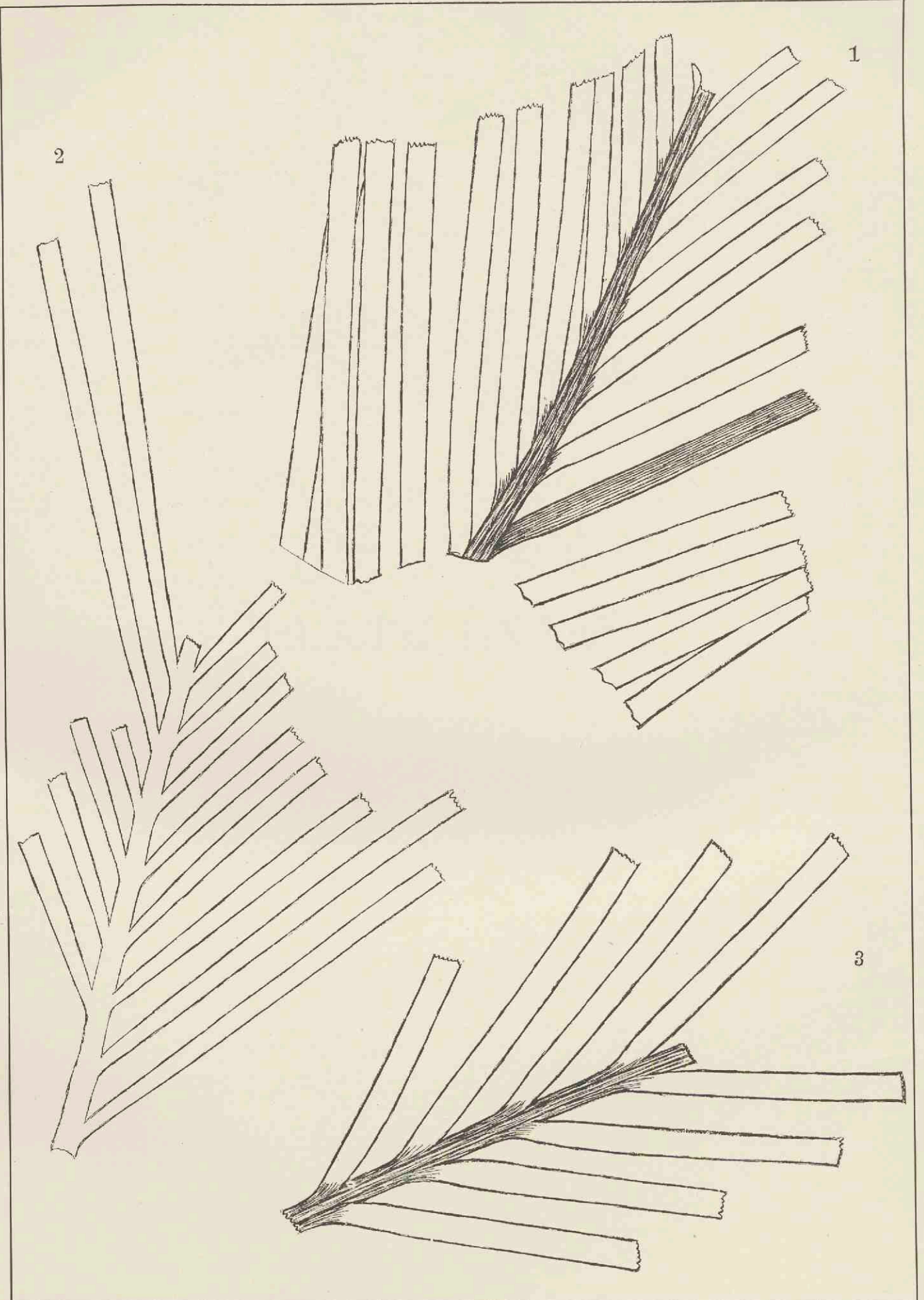


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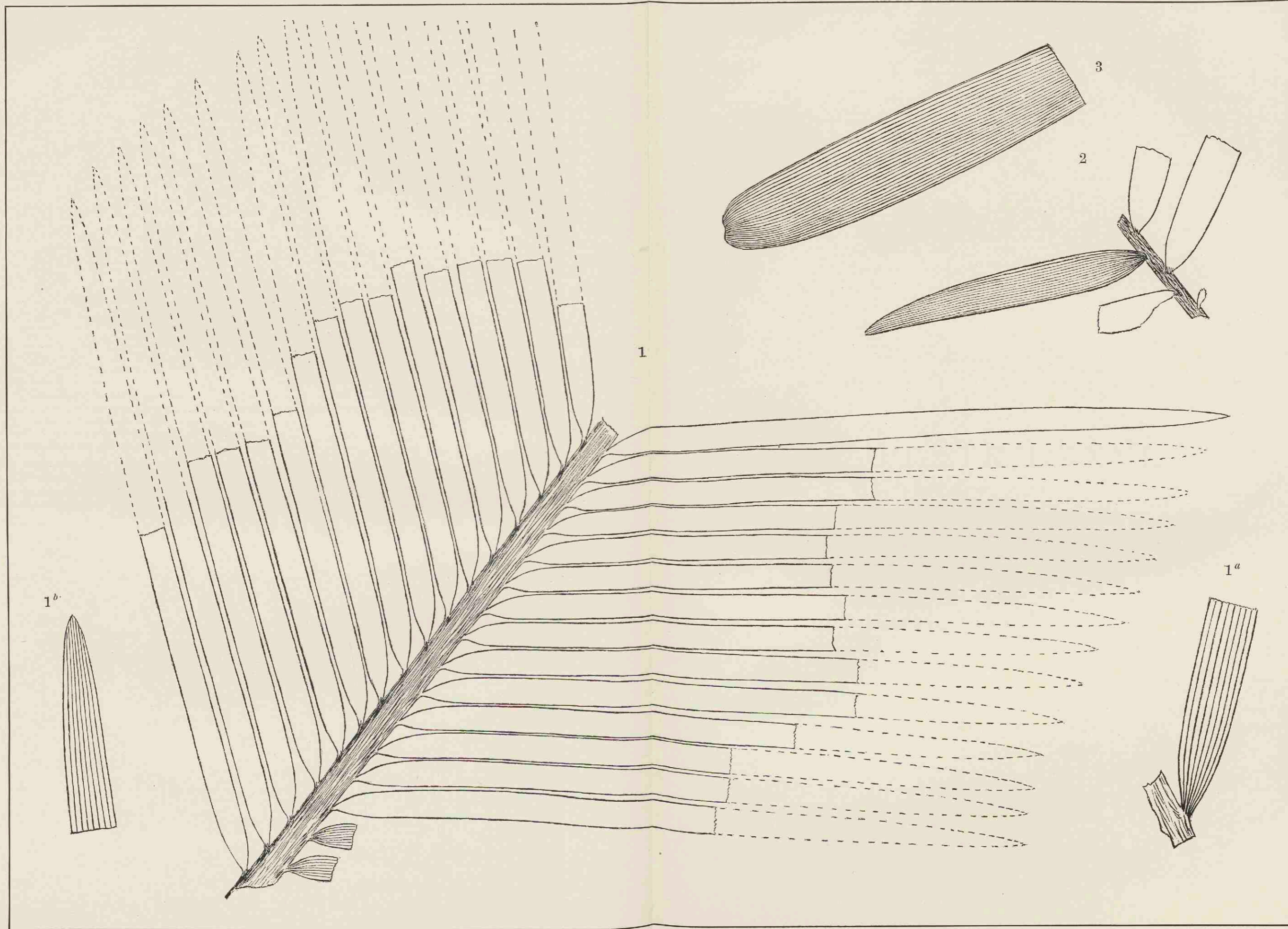


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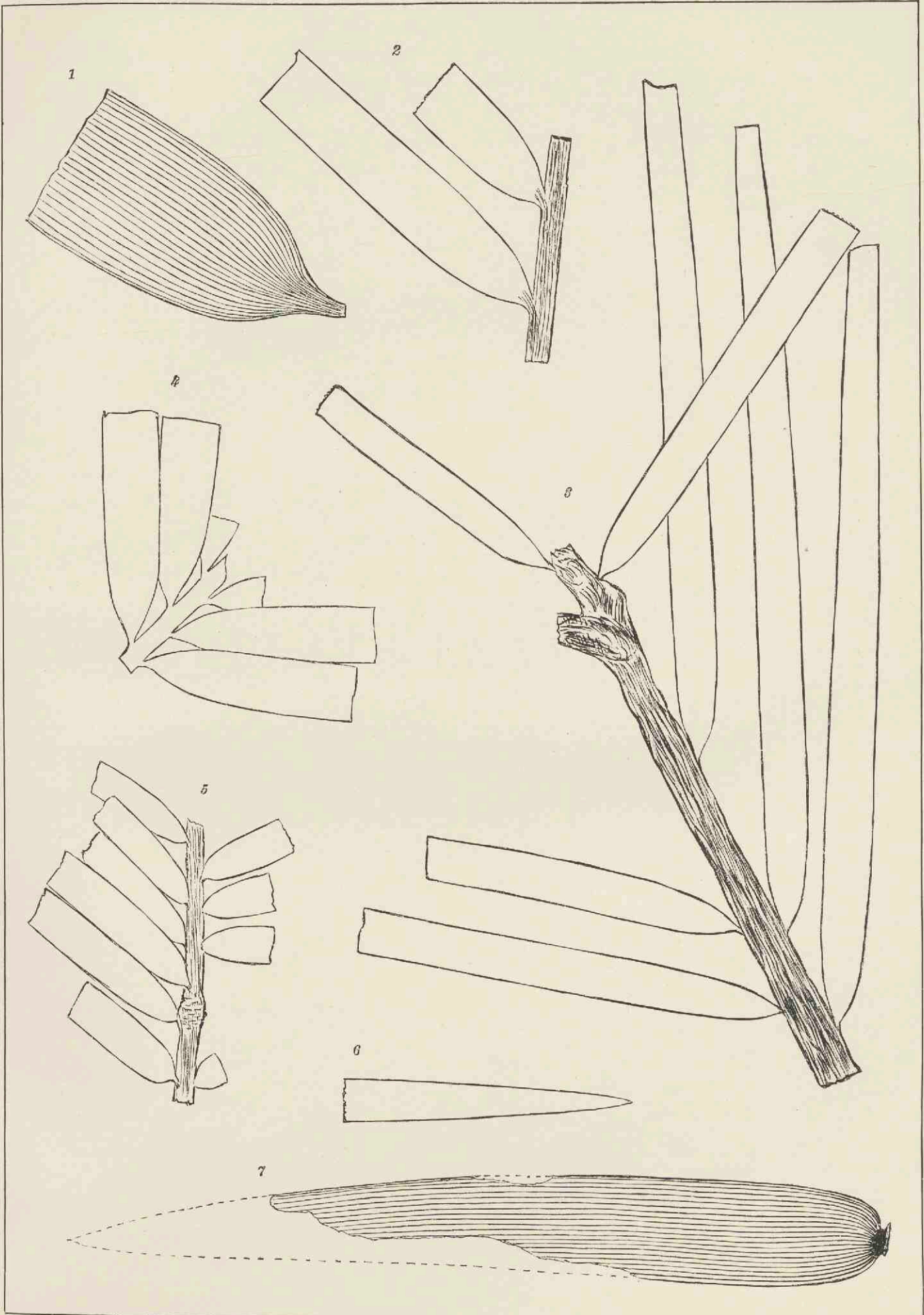


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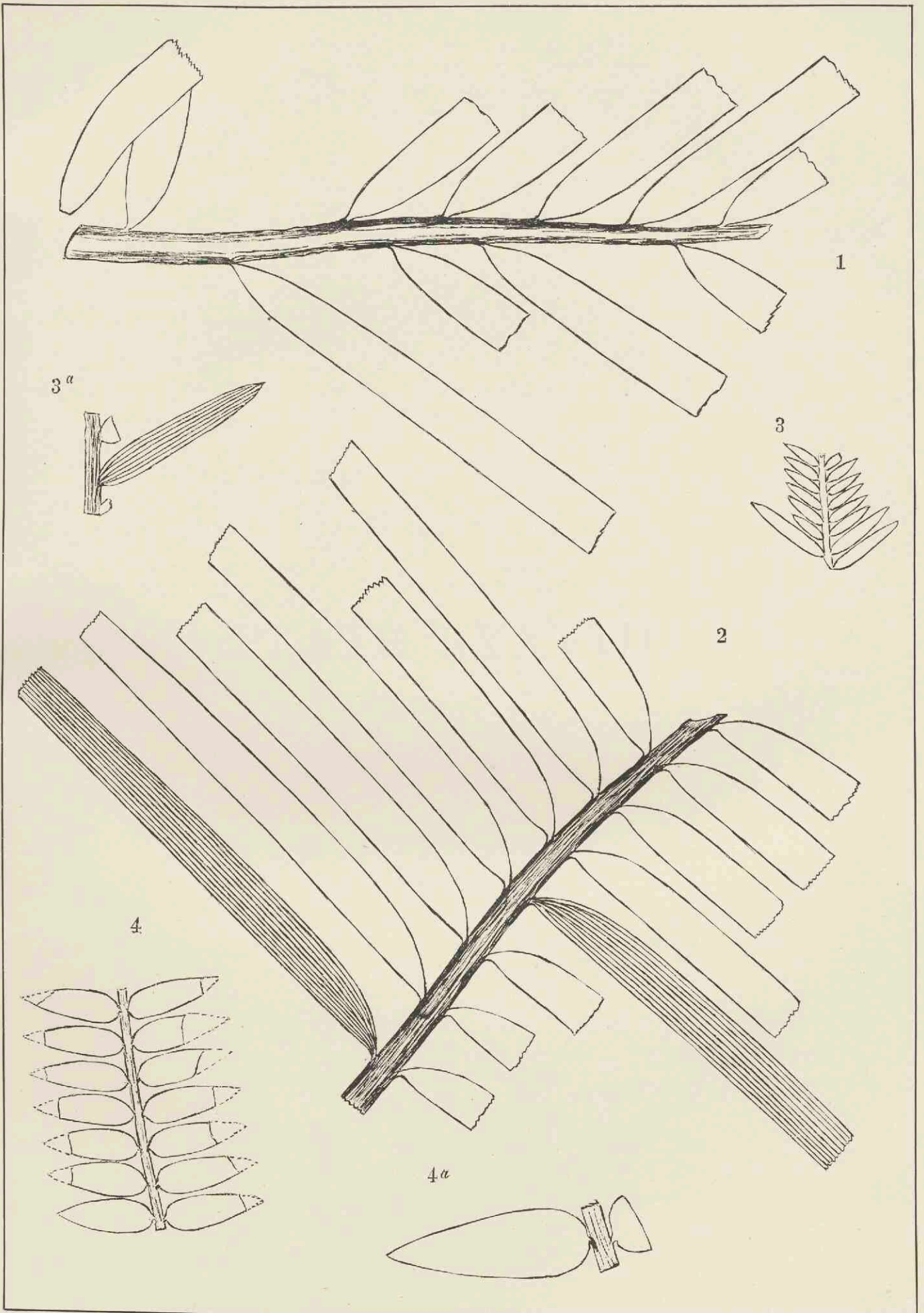


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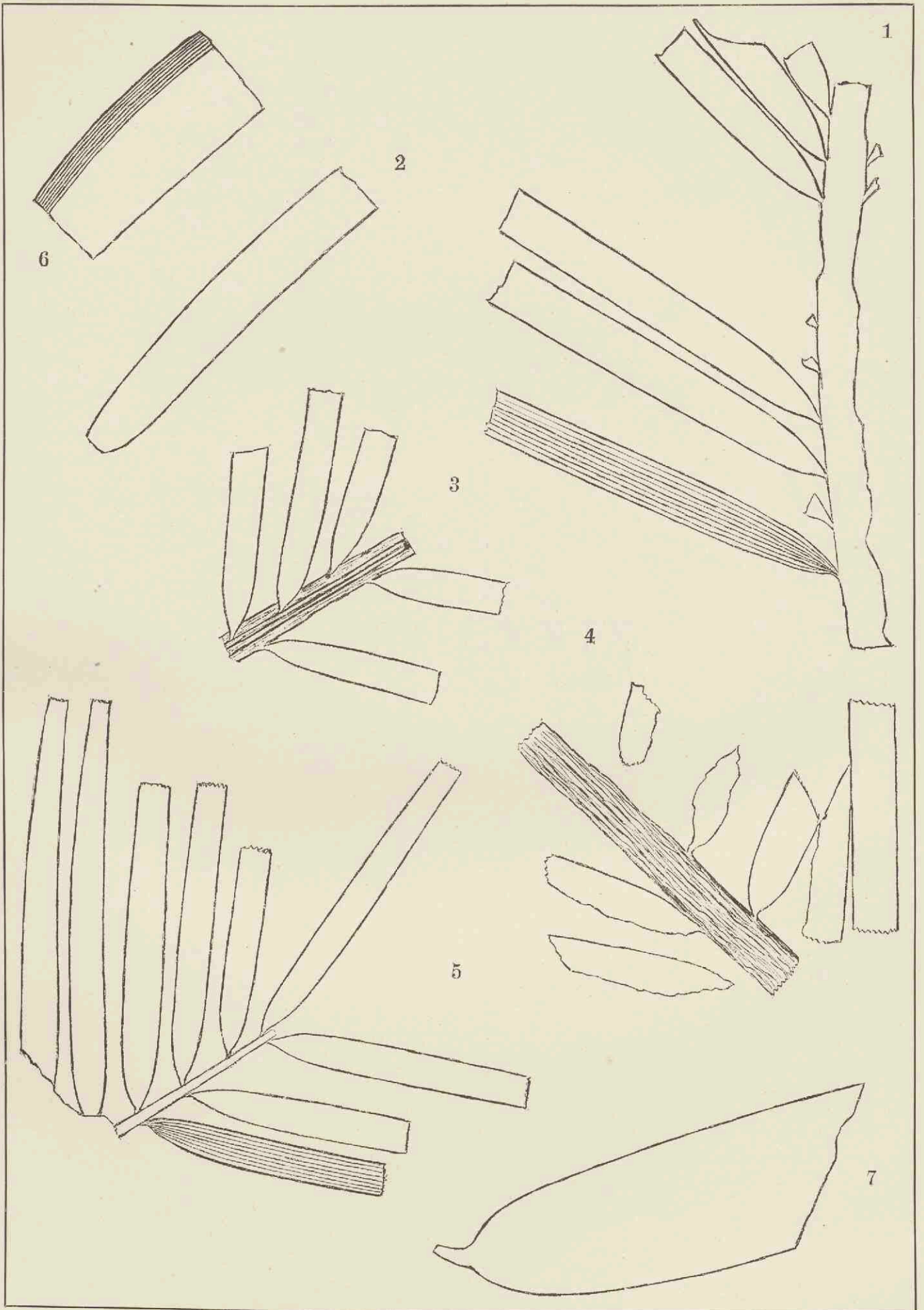


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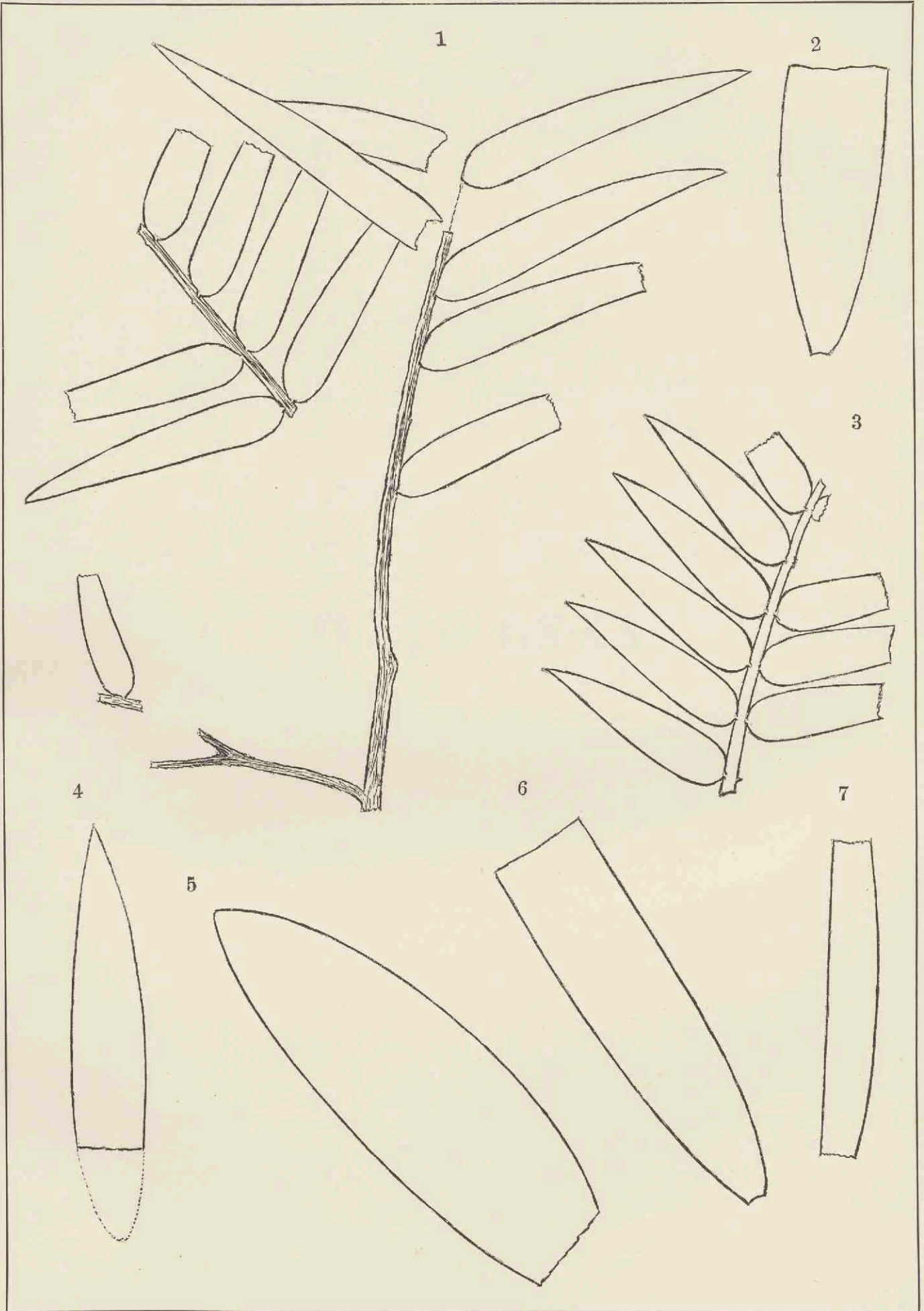


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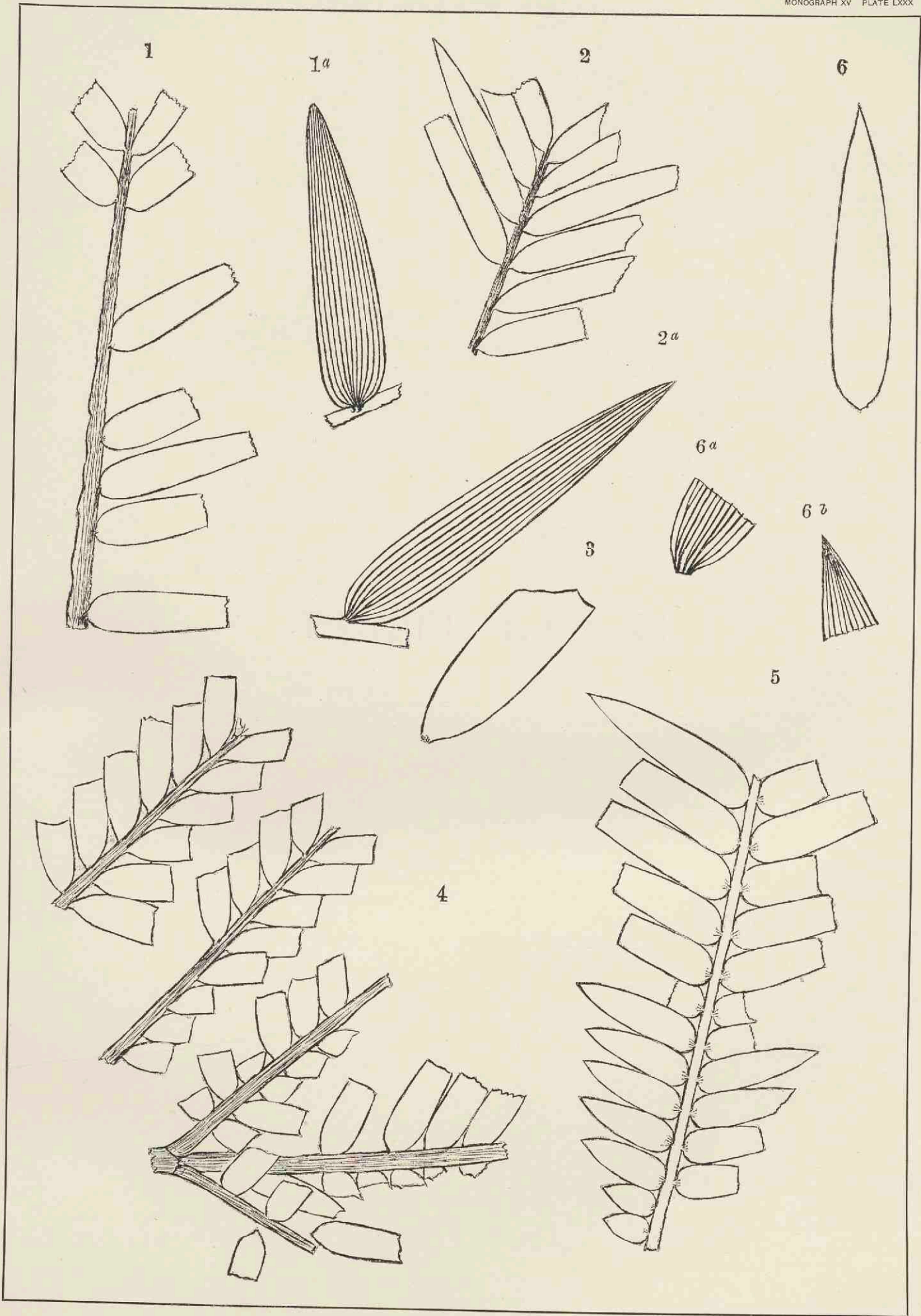


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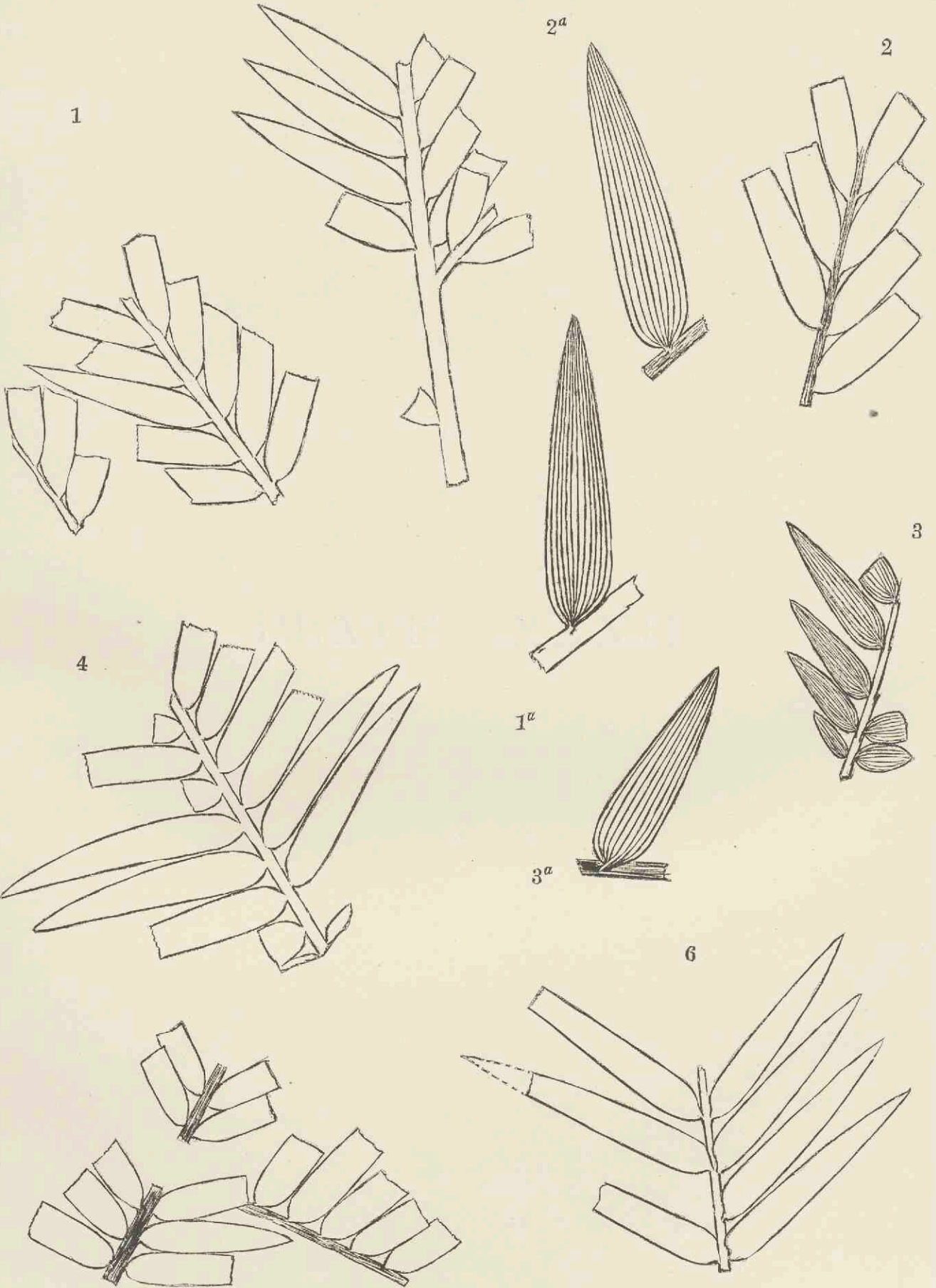
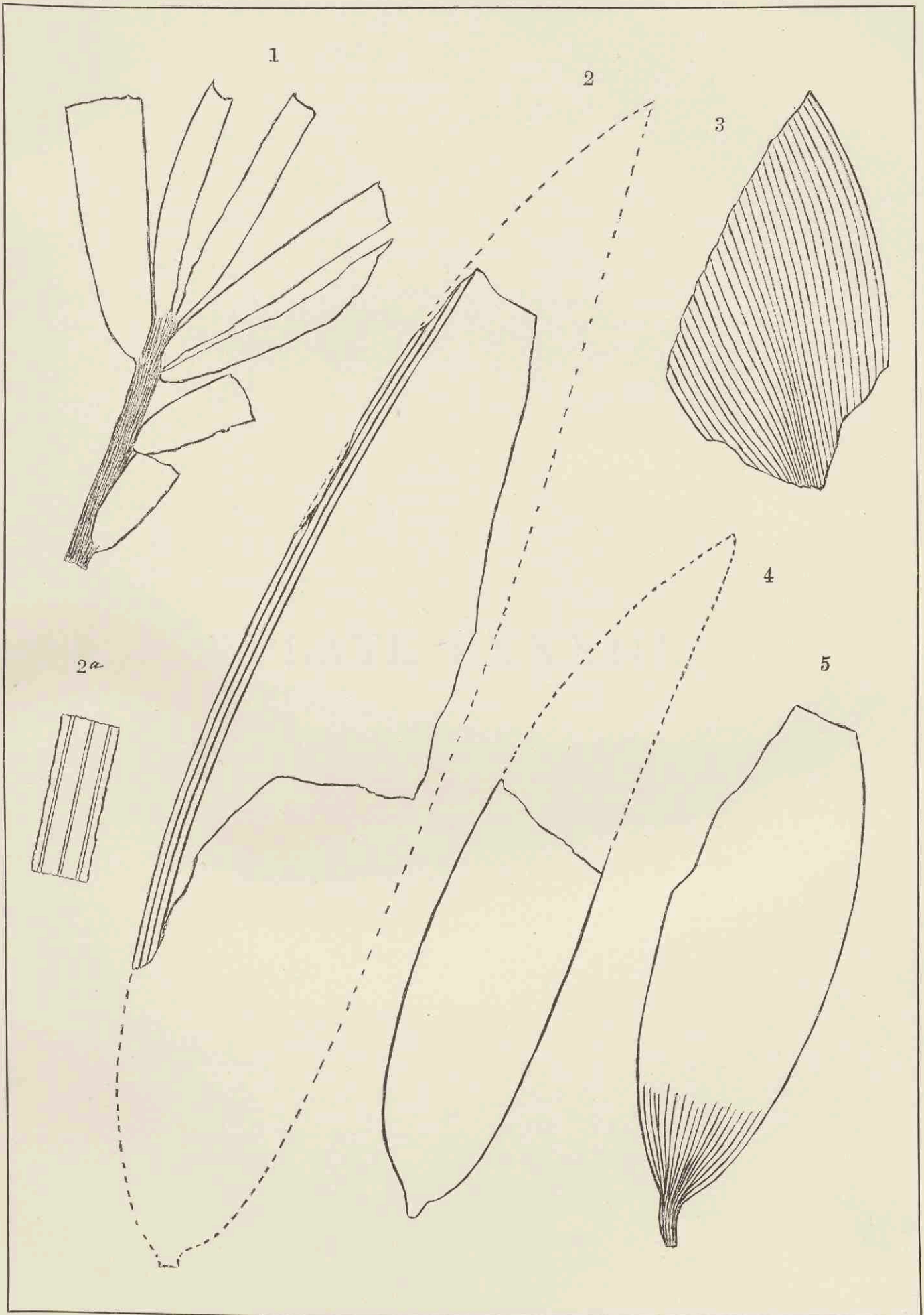




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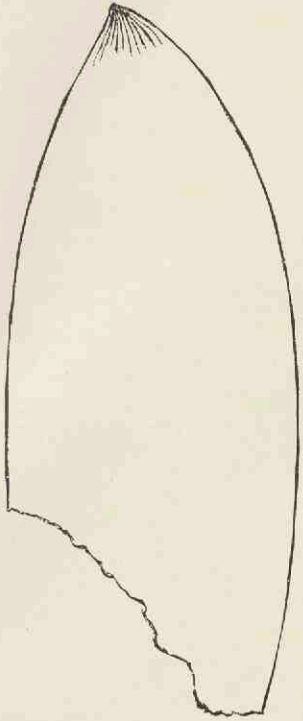


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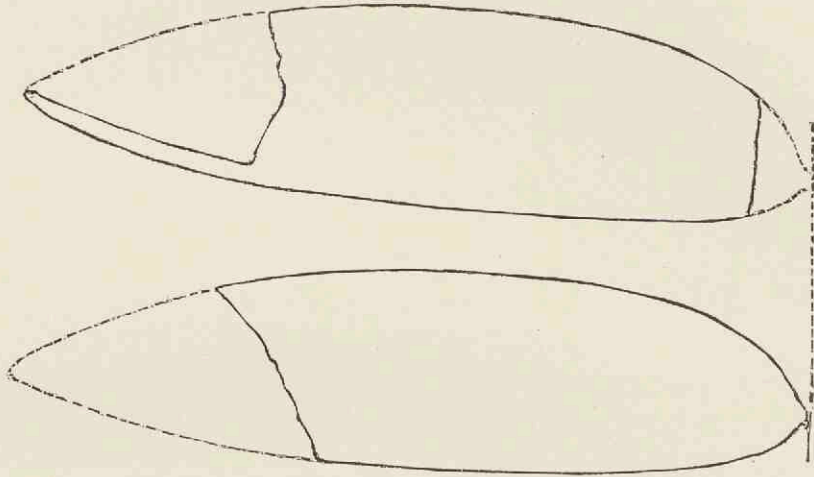
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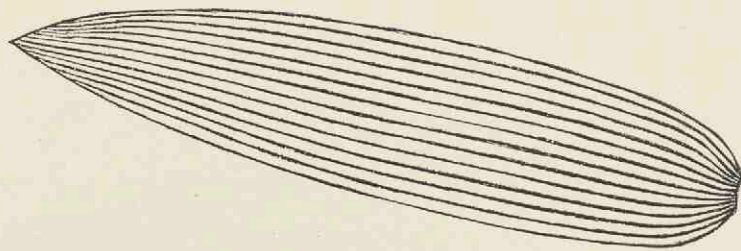
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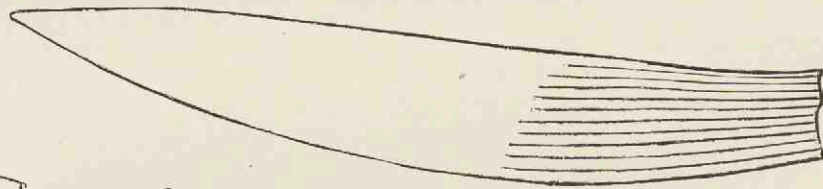
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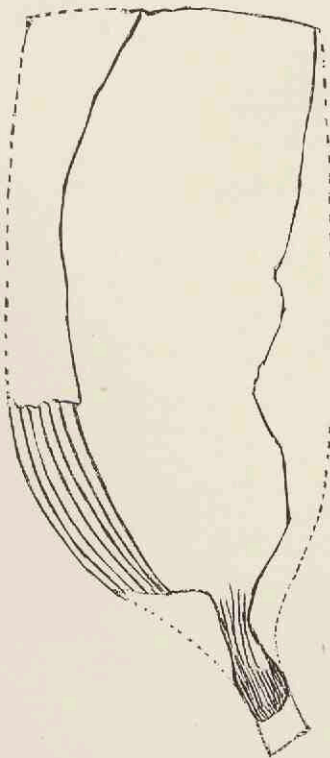
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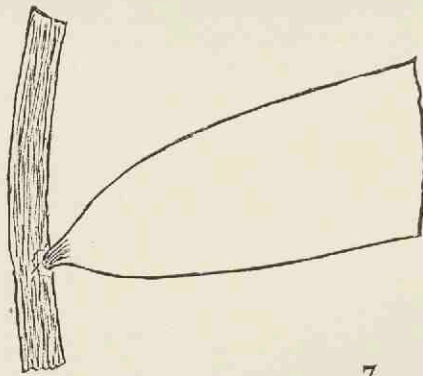
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6



7

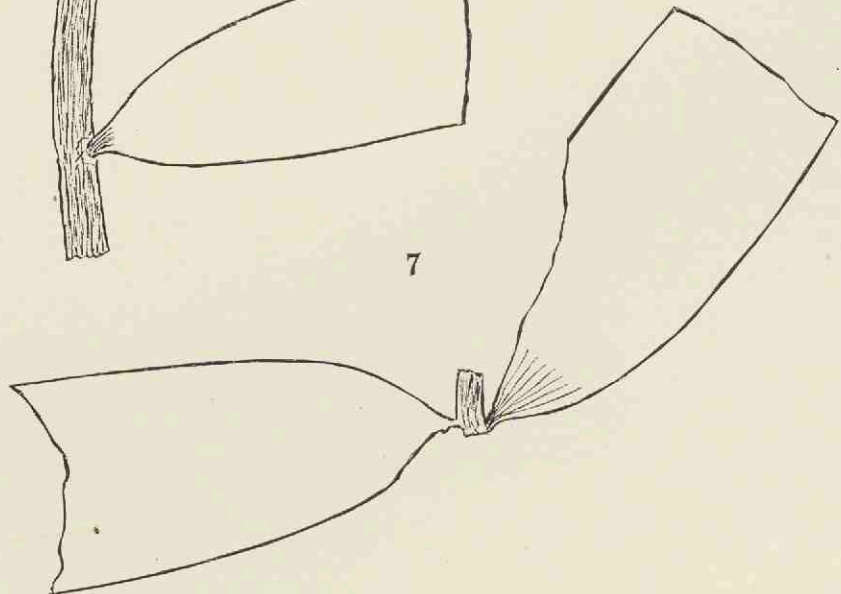


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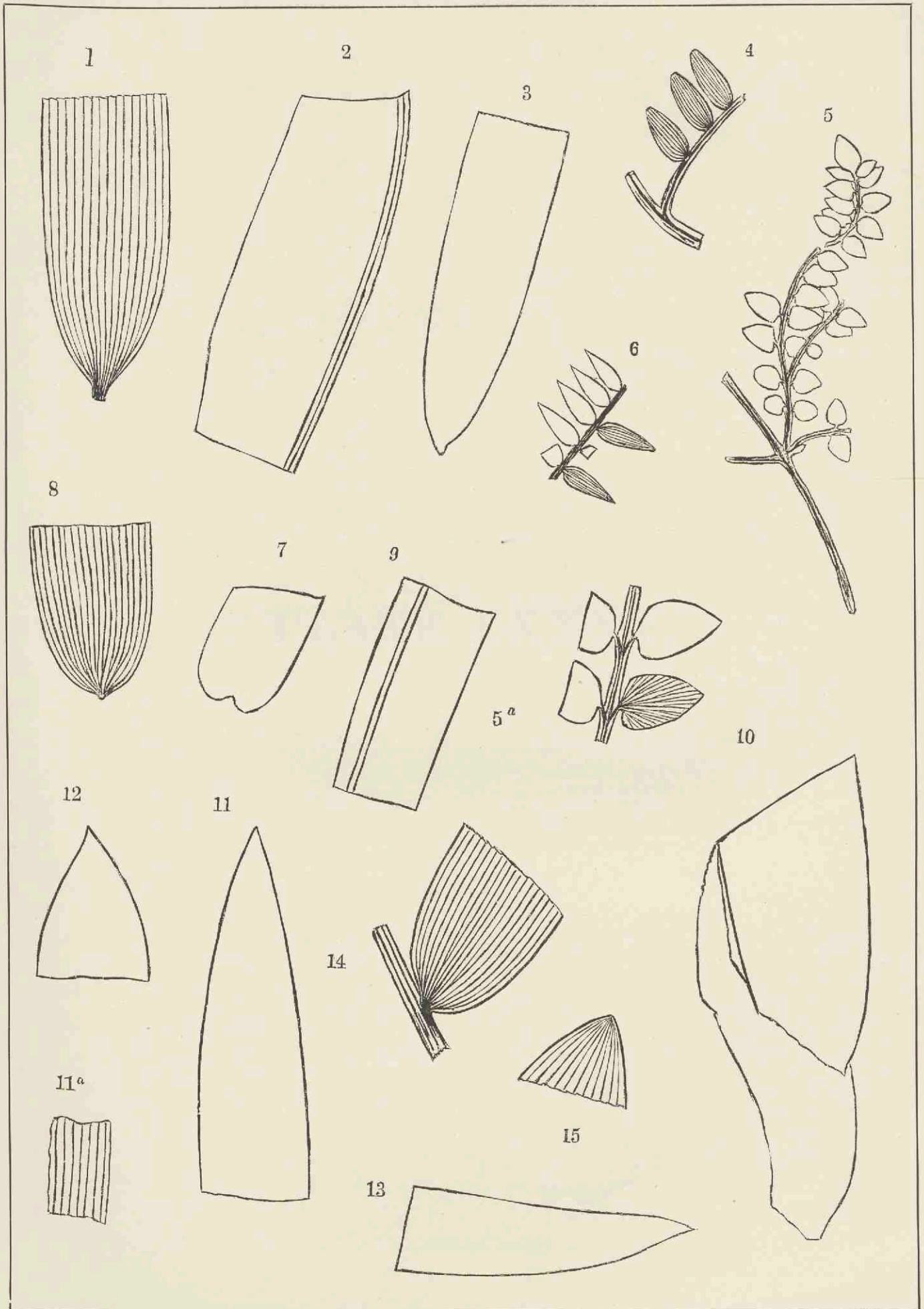


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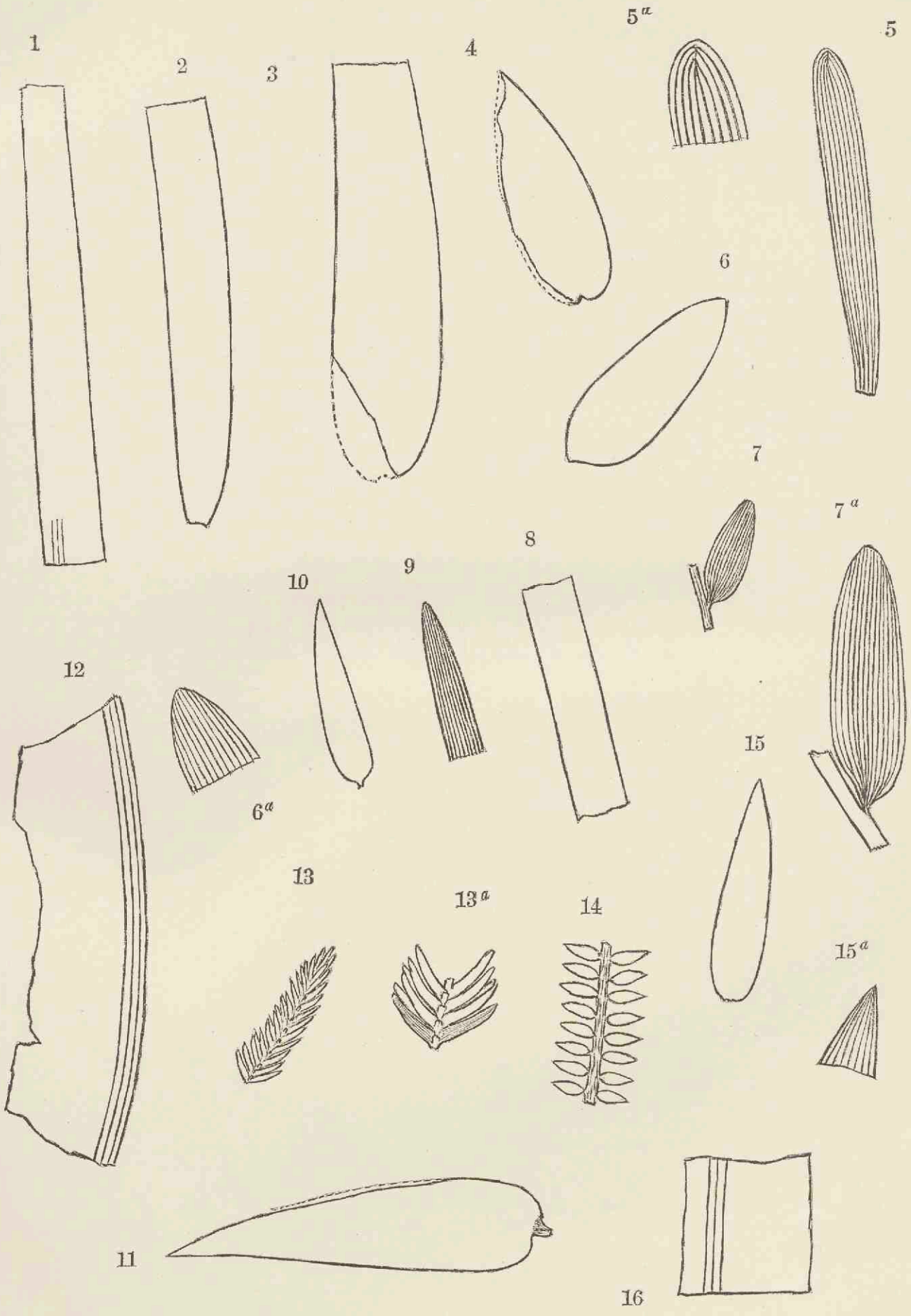


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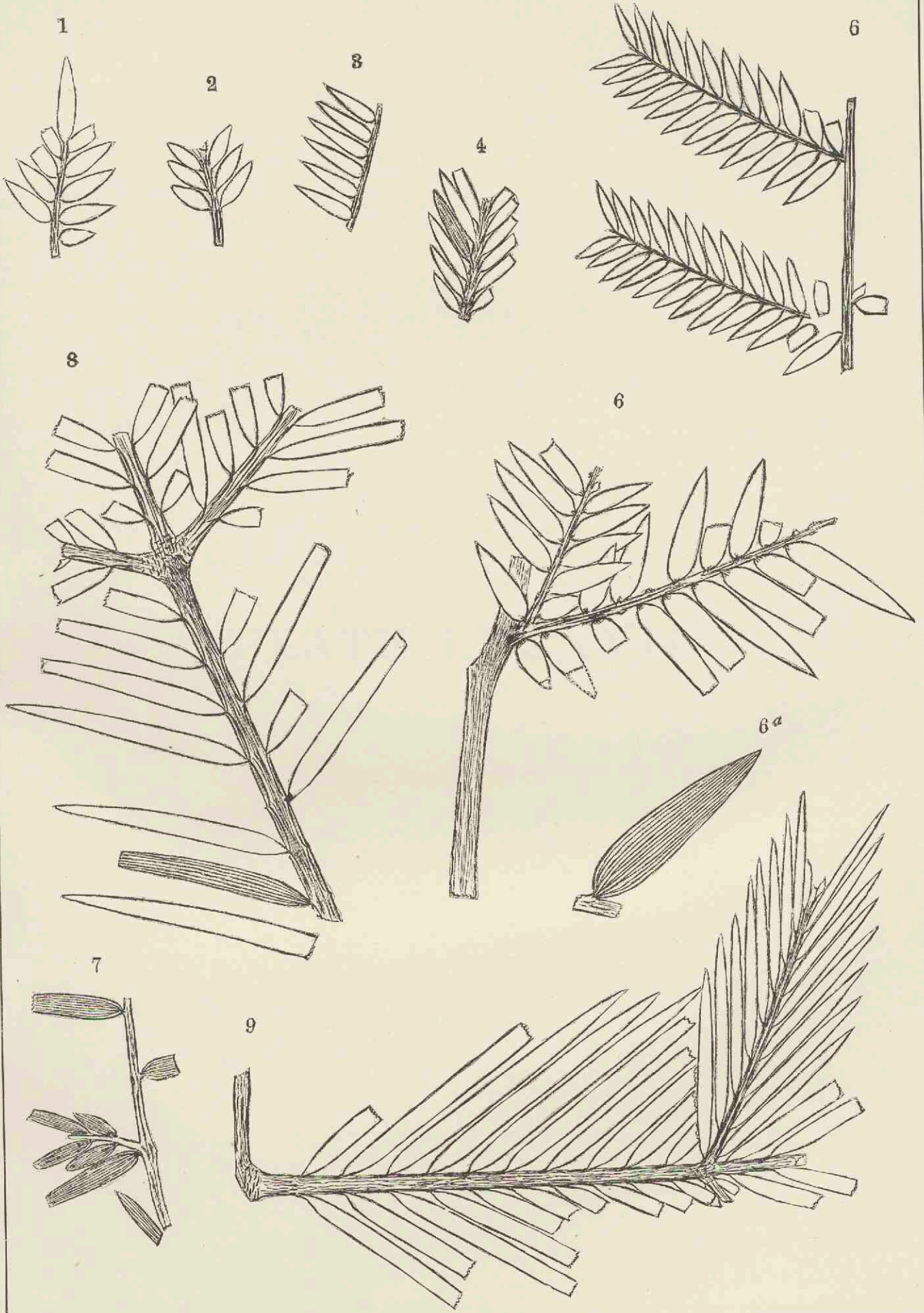


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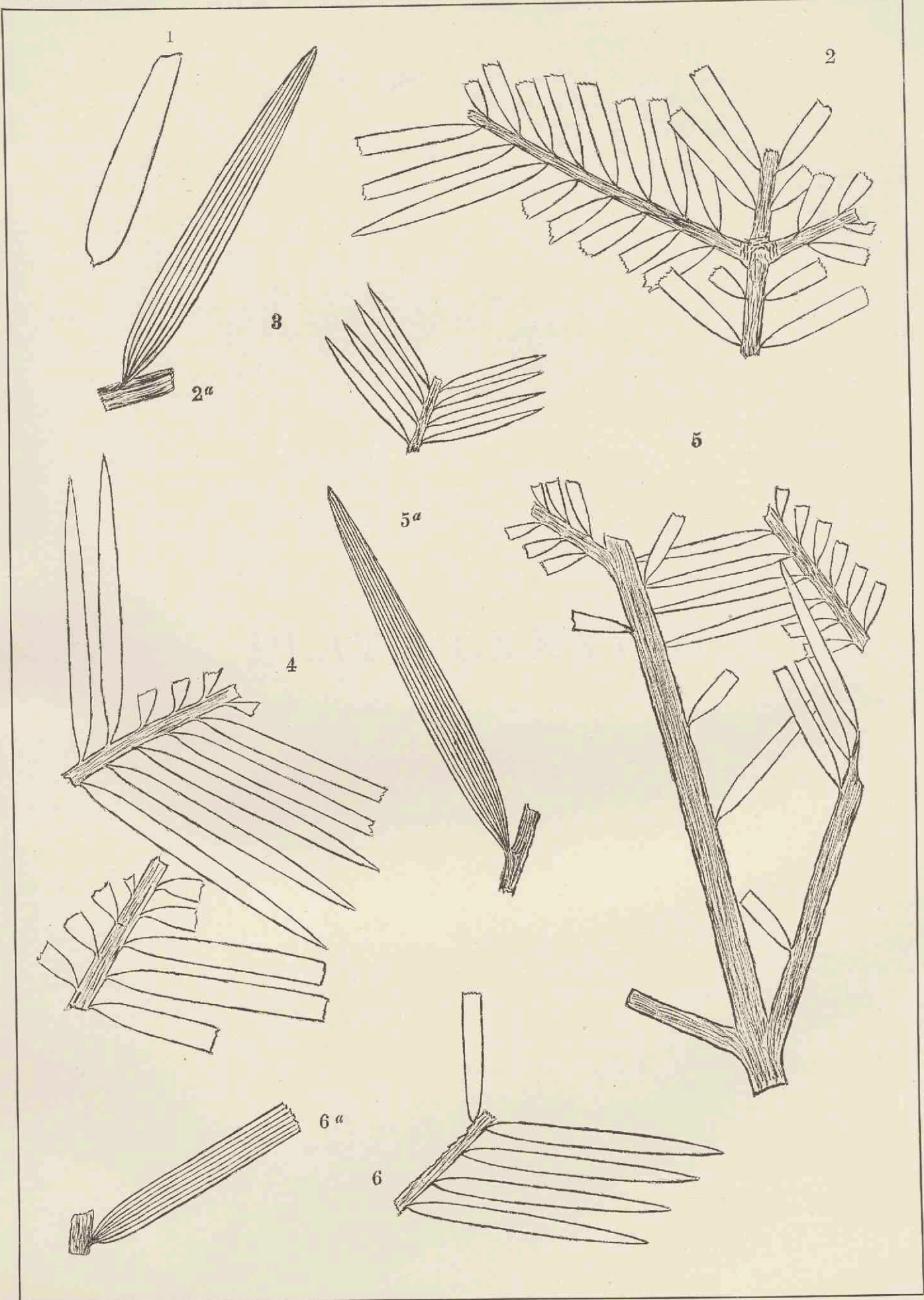


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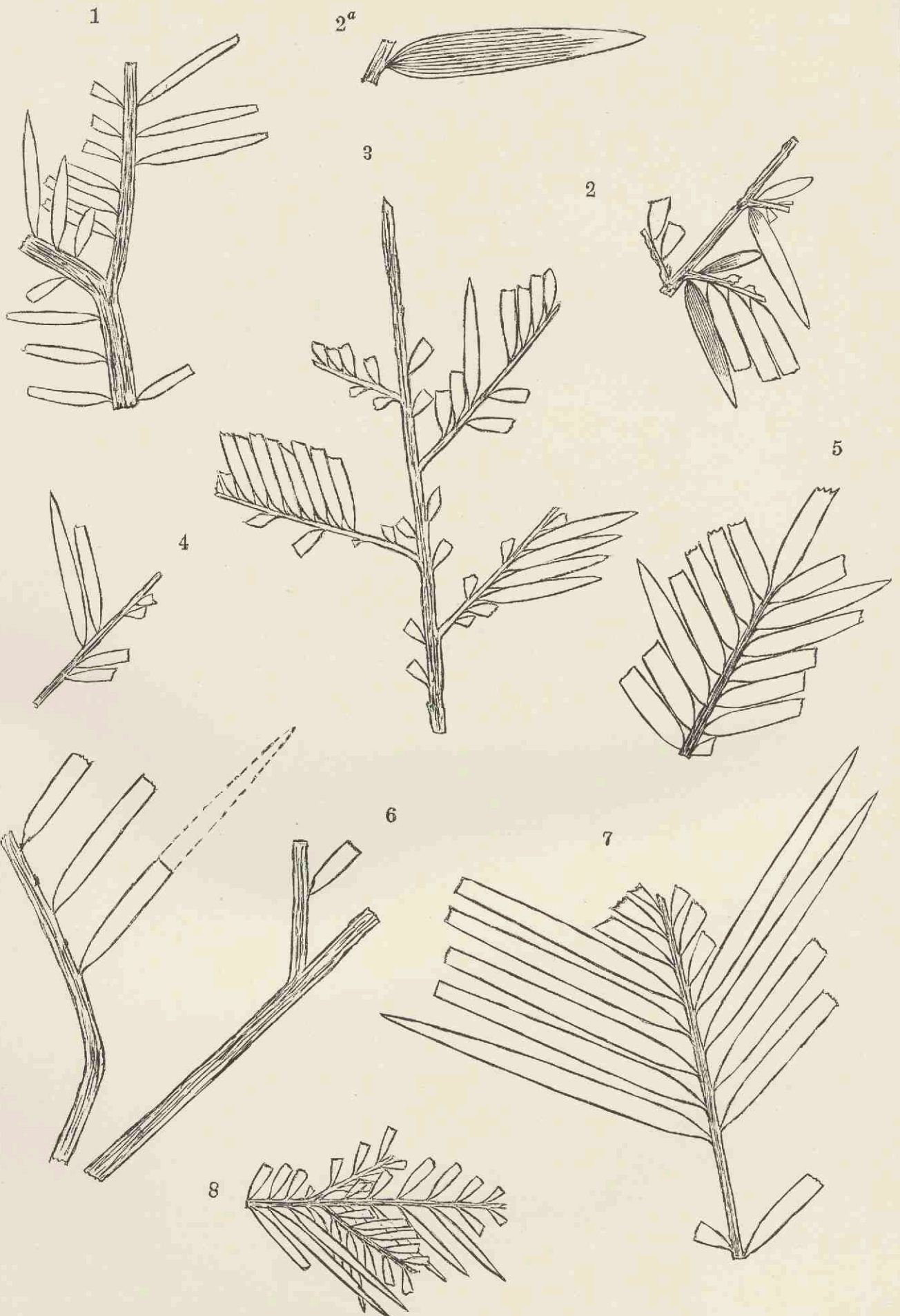


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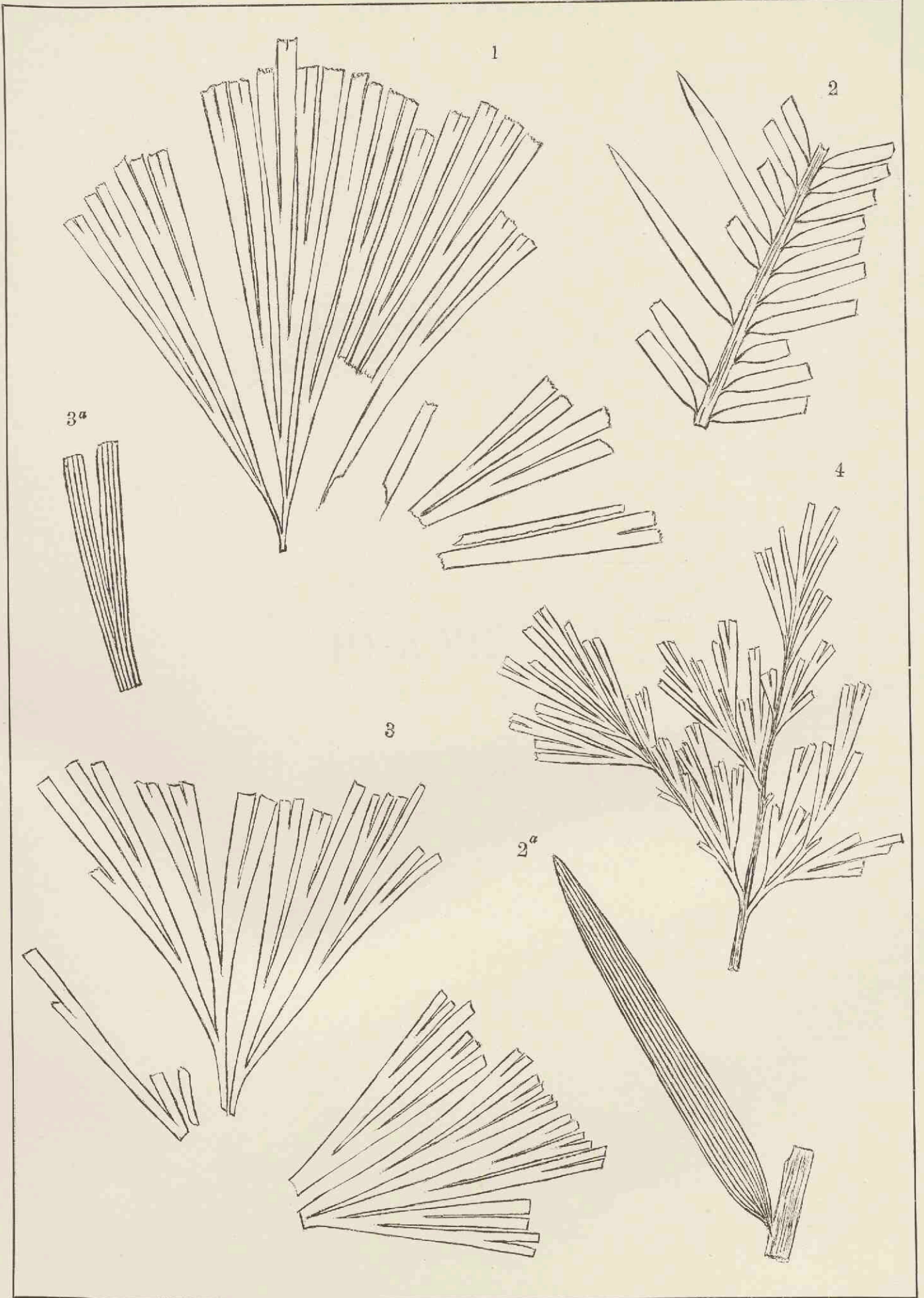


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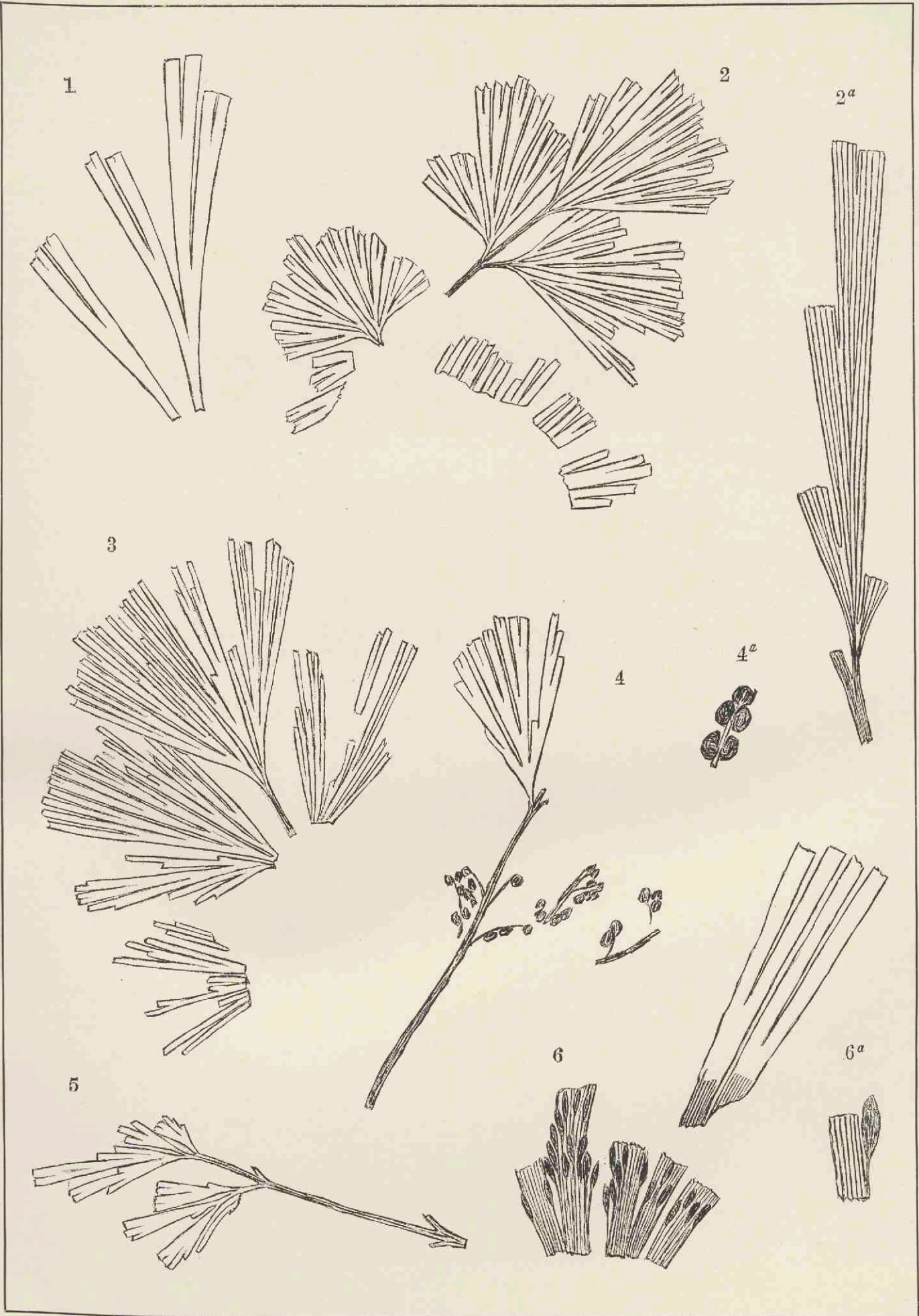


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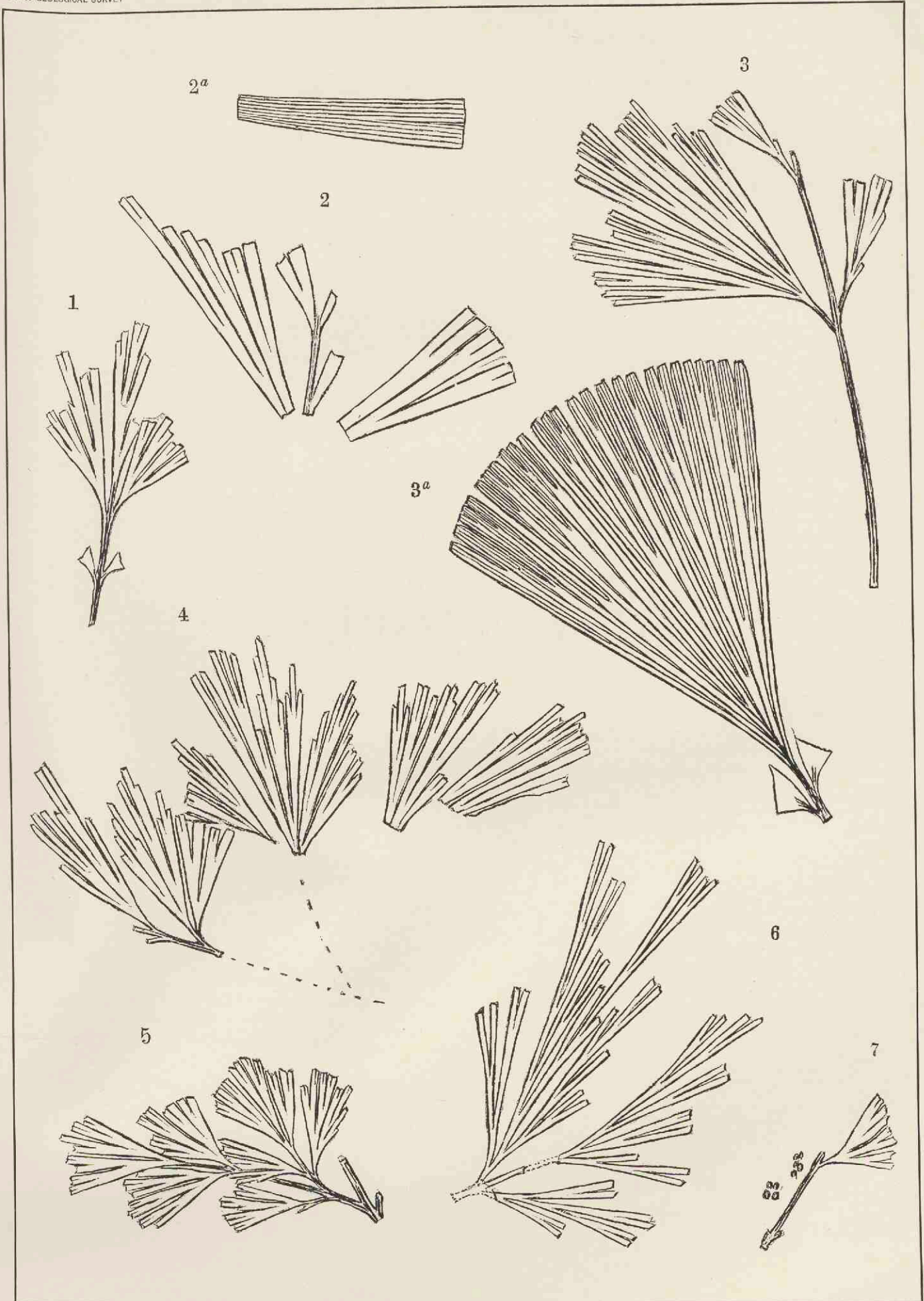




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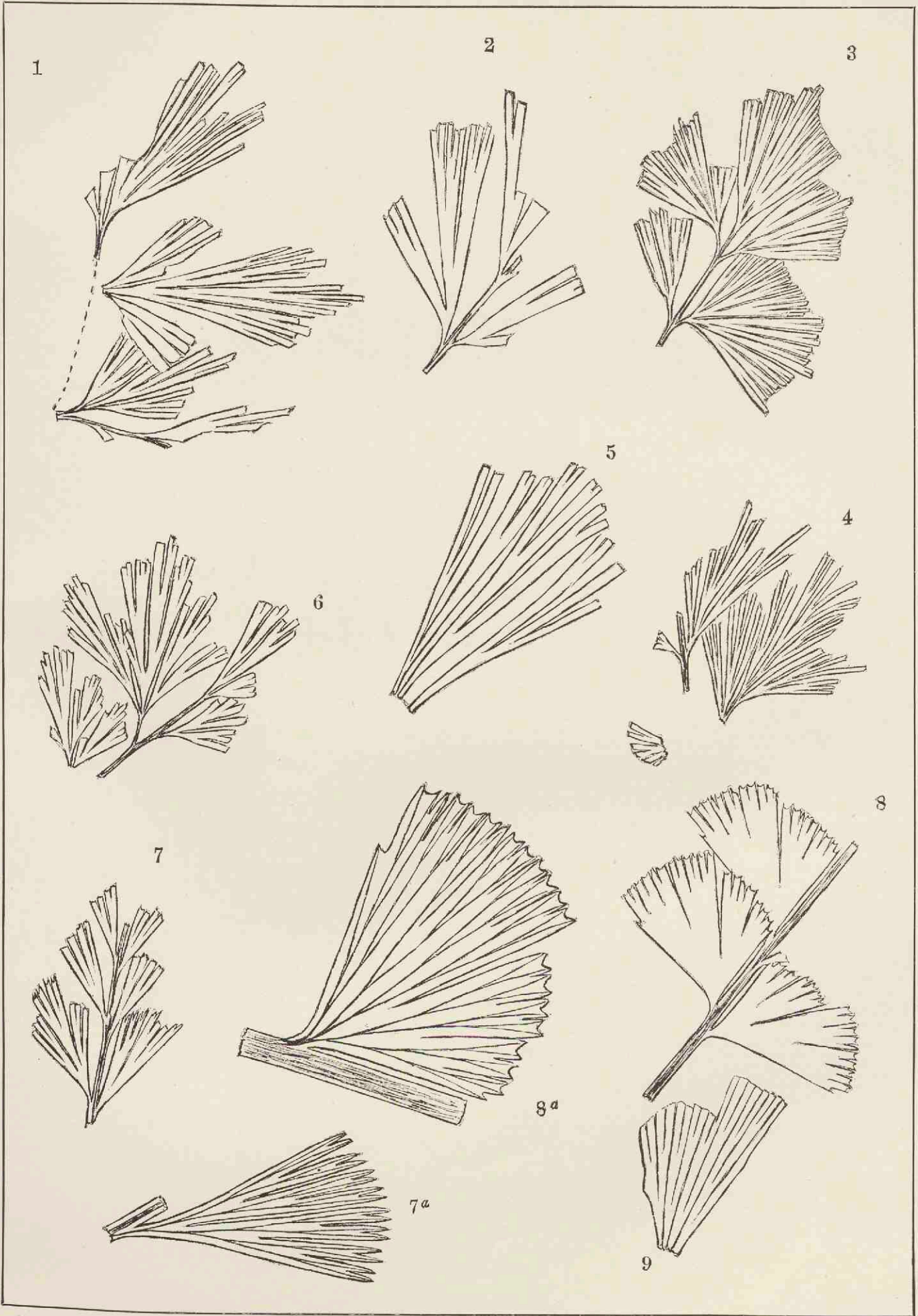


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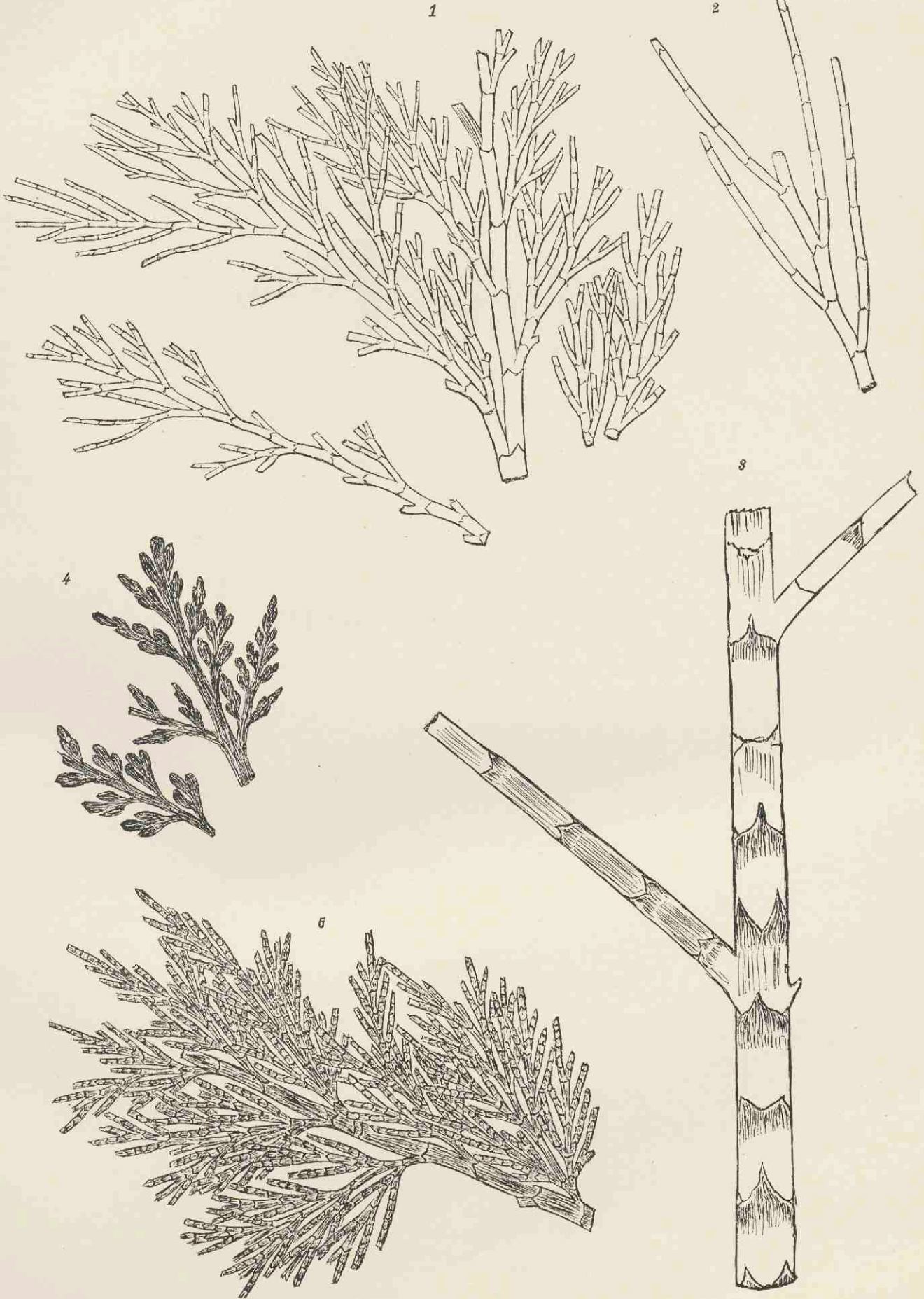


PLATE XCVI.

PLATE XCVI.

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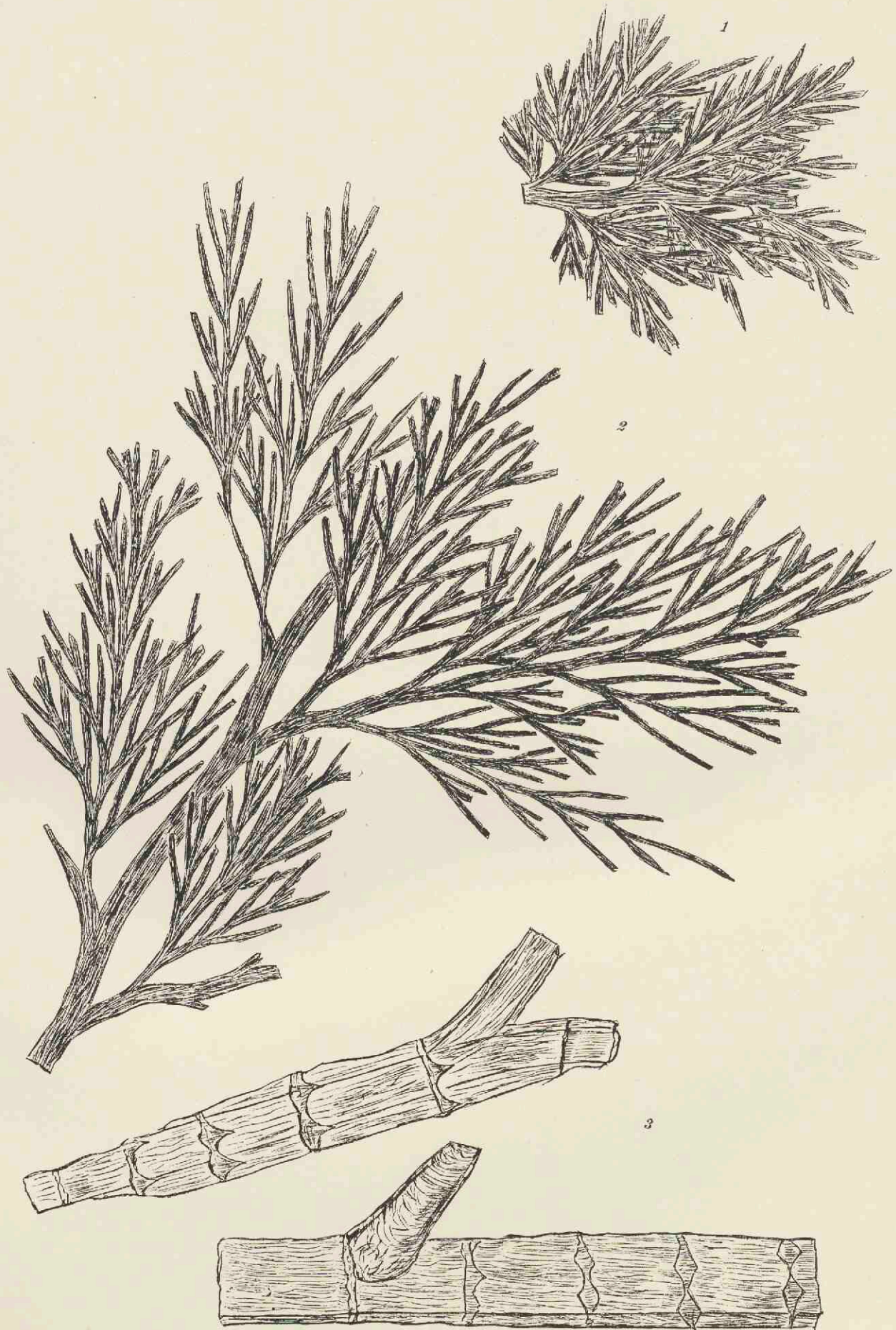


PLATE XCVII.

PLATE XCVII.

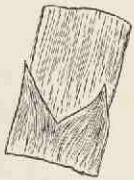
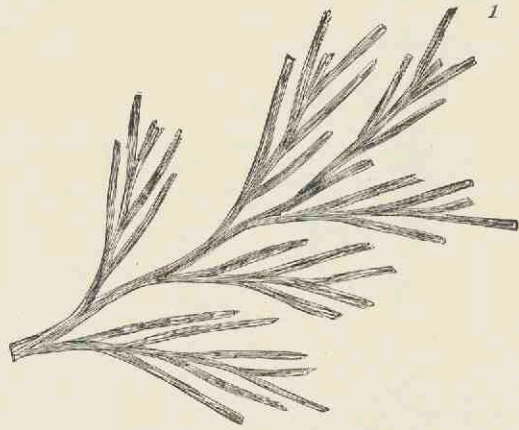
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PLATE XCVIII.

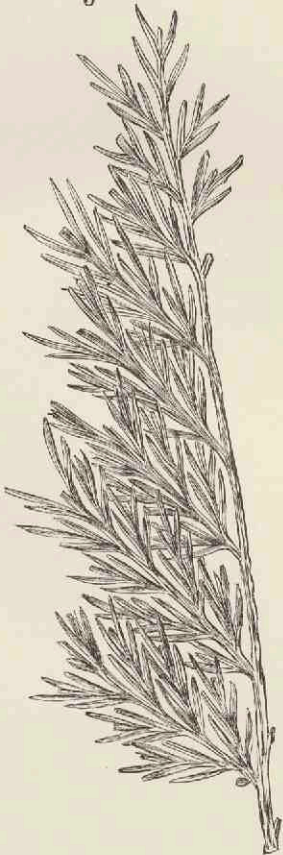
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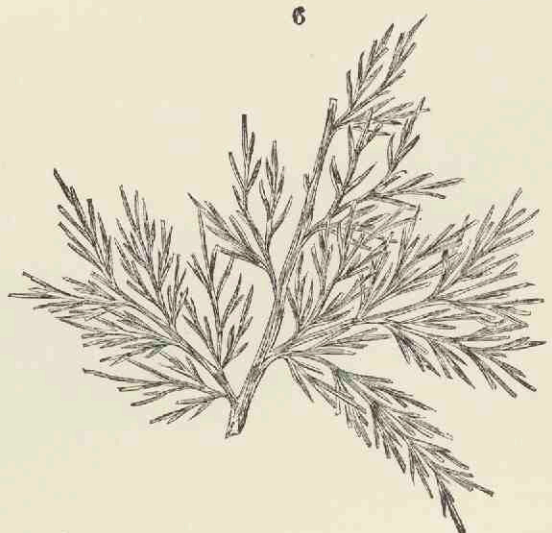


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4



6

PLATE XCIX.

PLATE XCIX.

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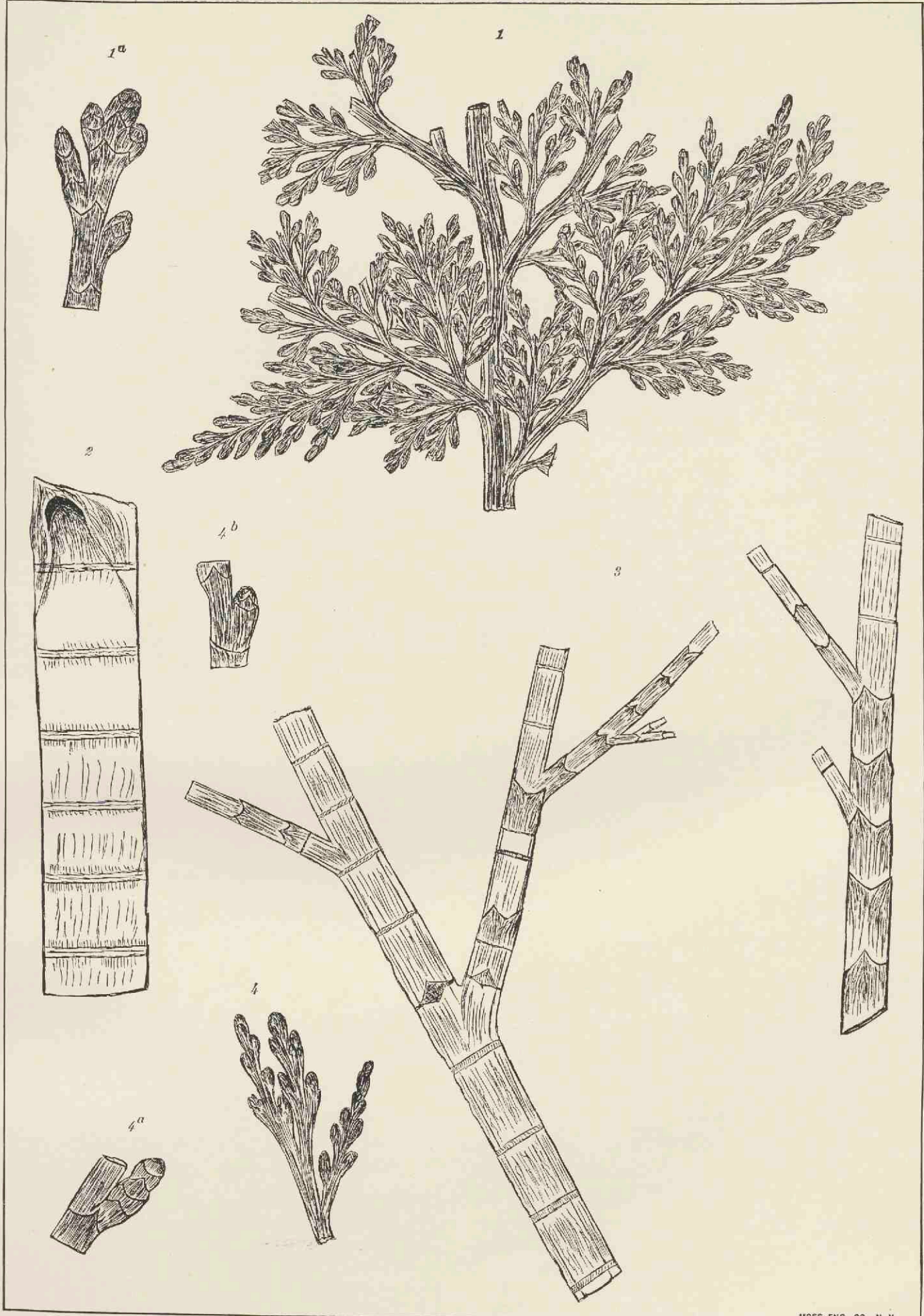




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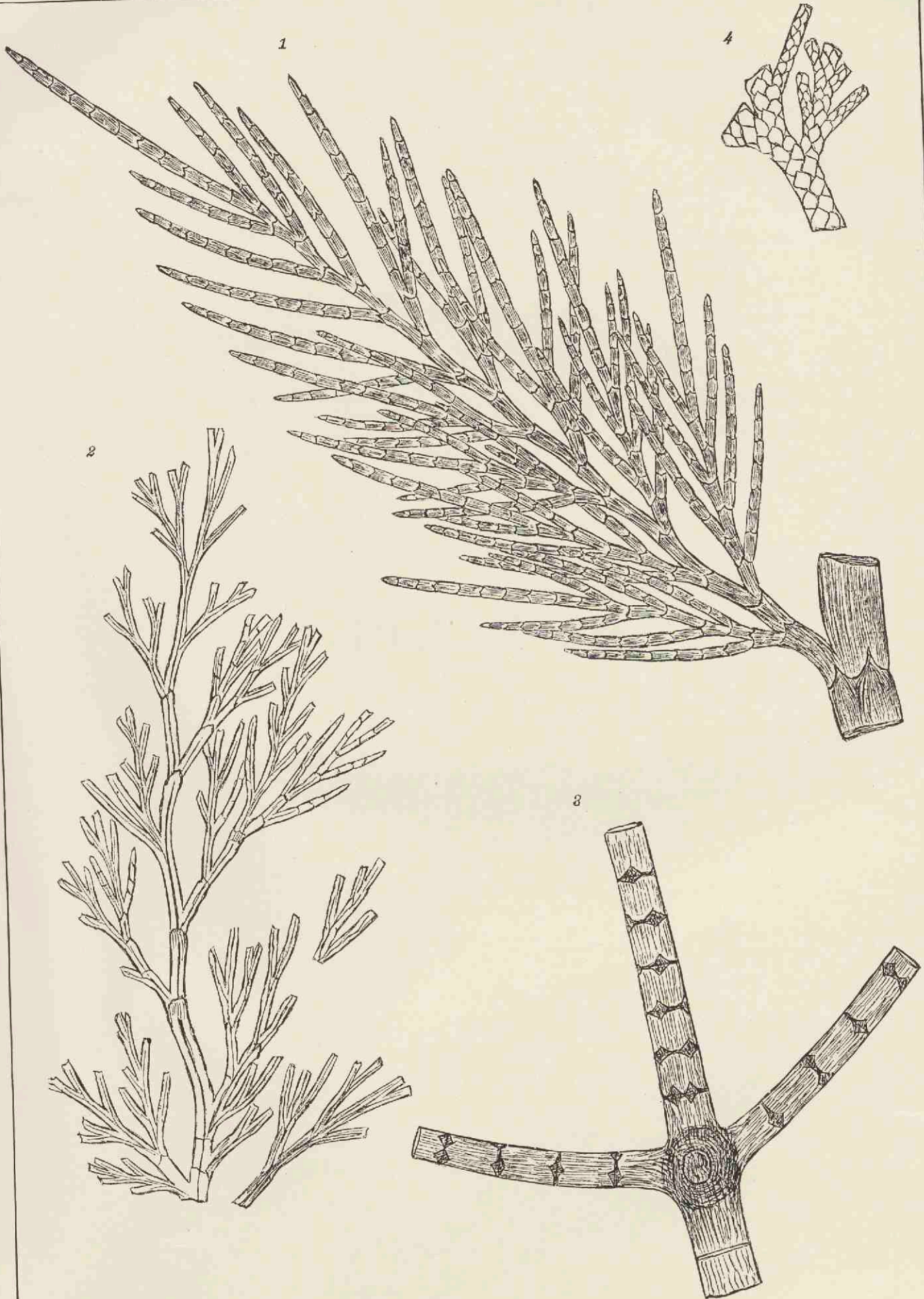


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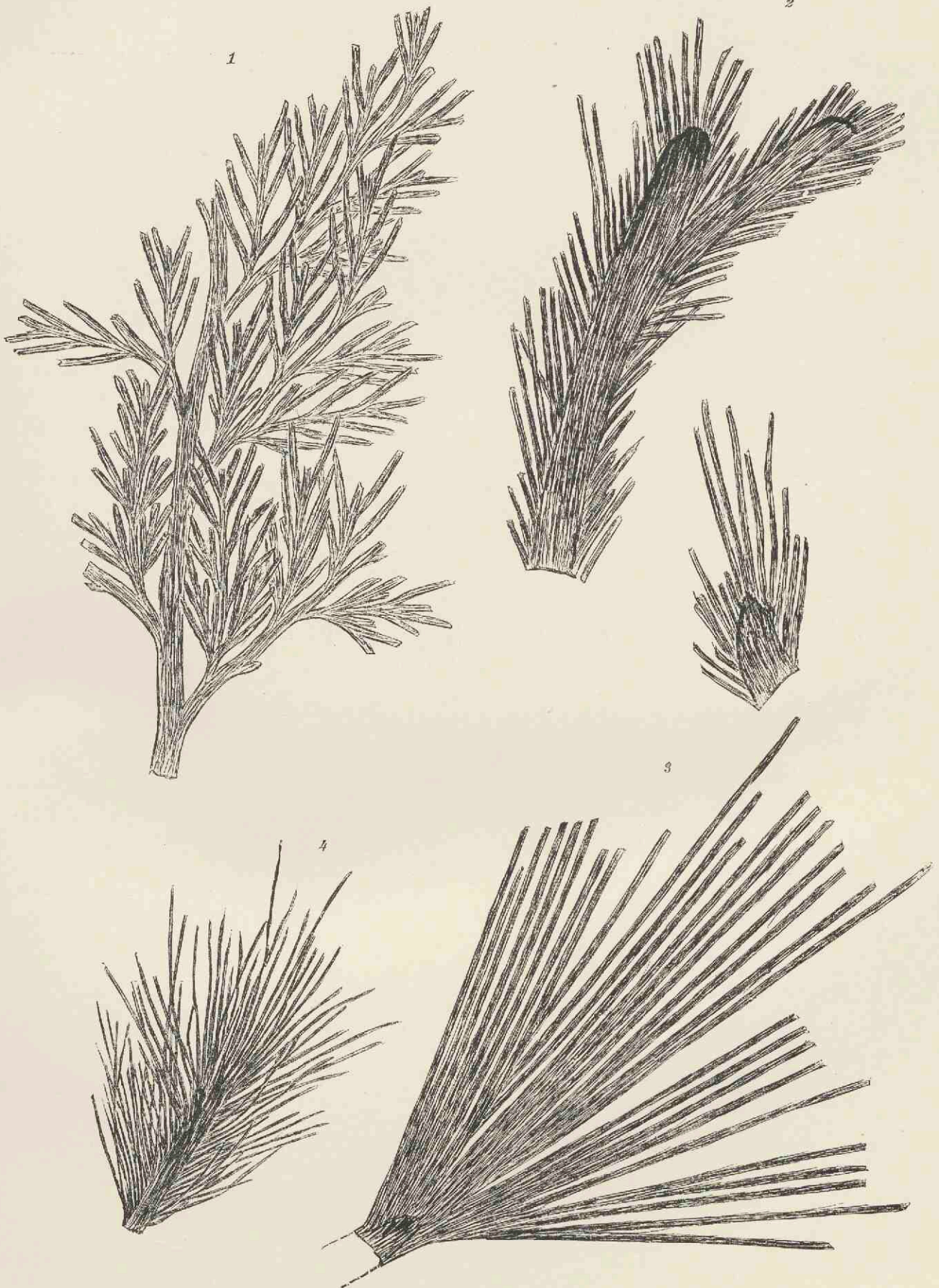


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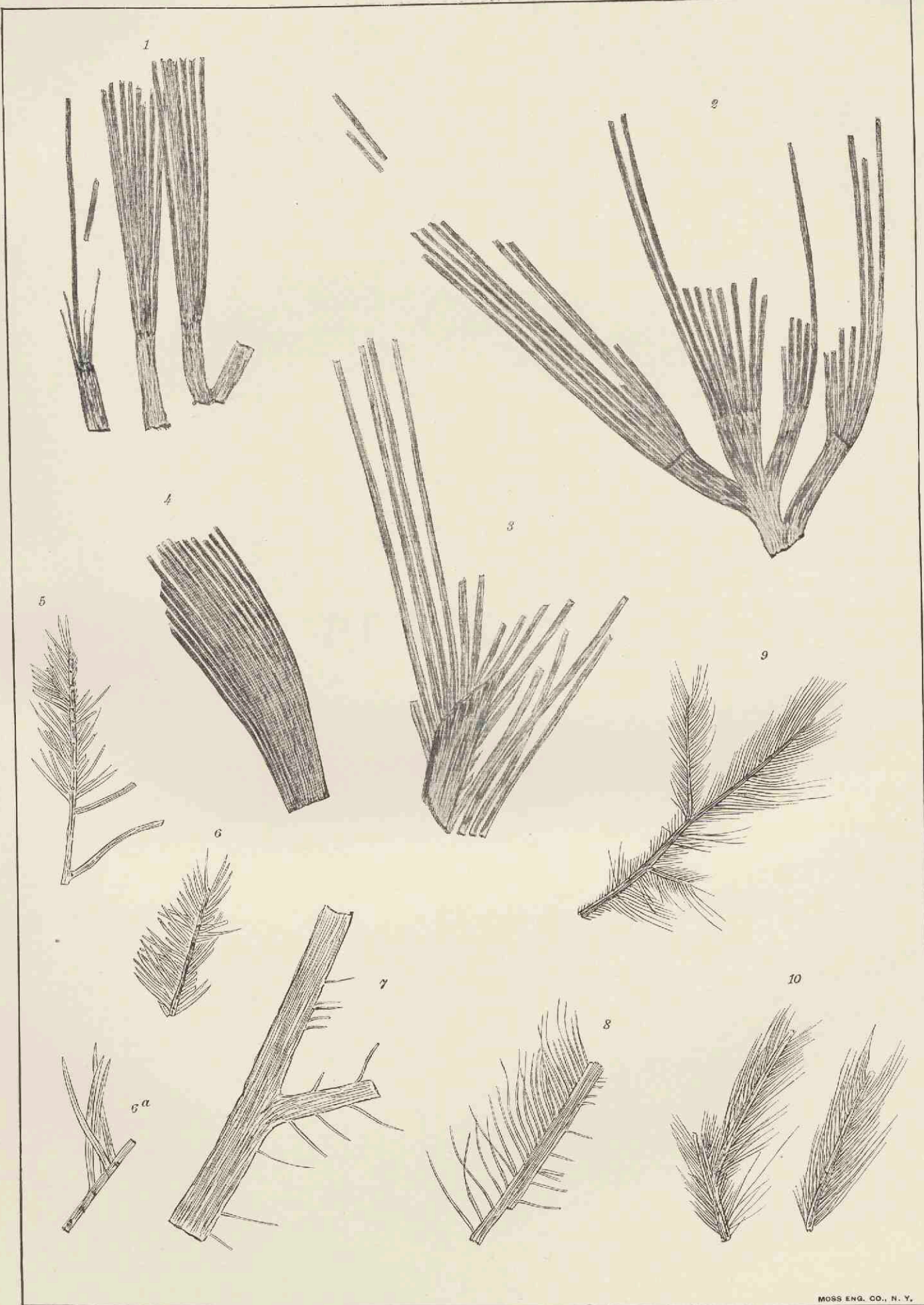


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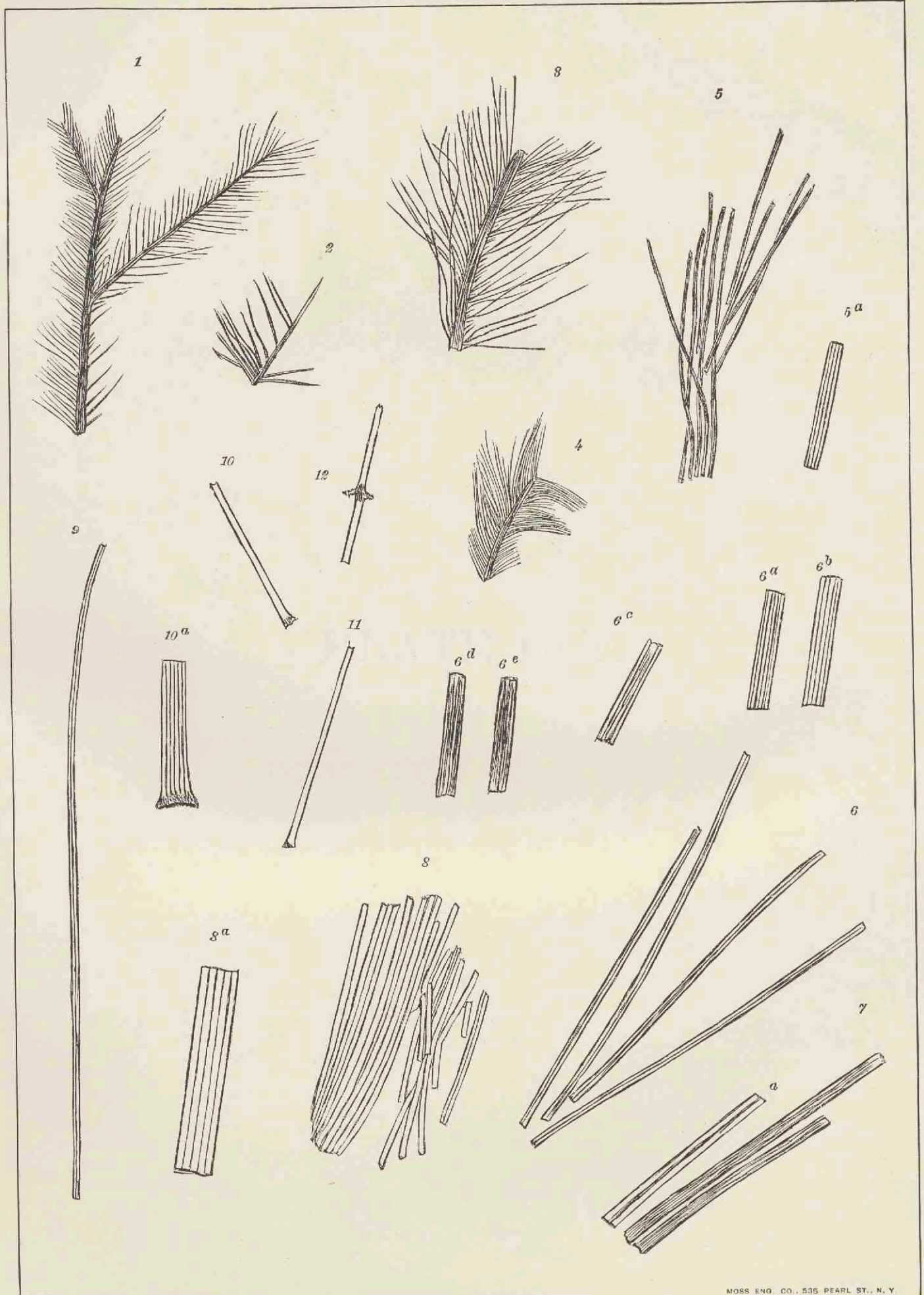


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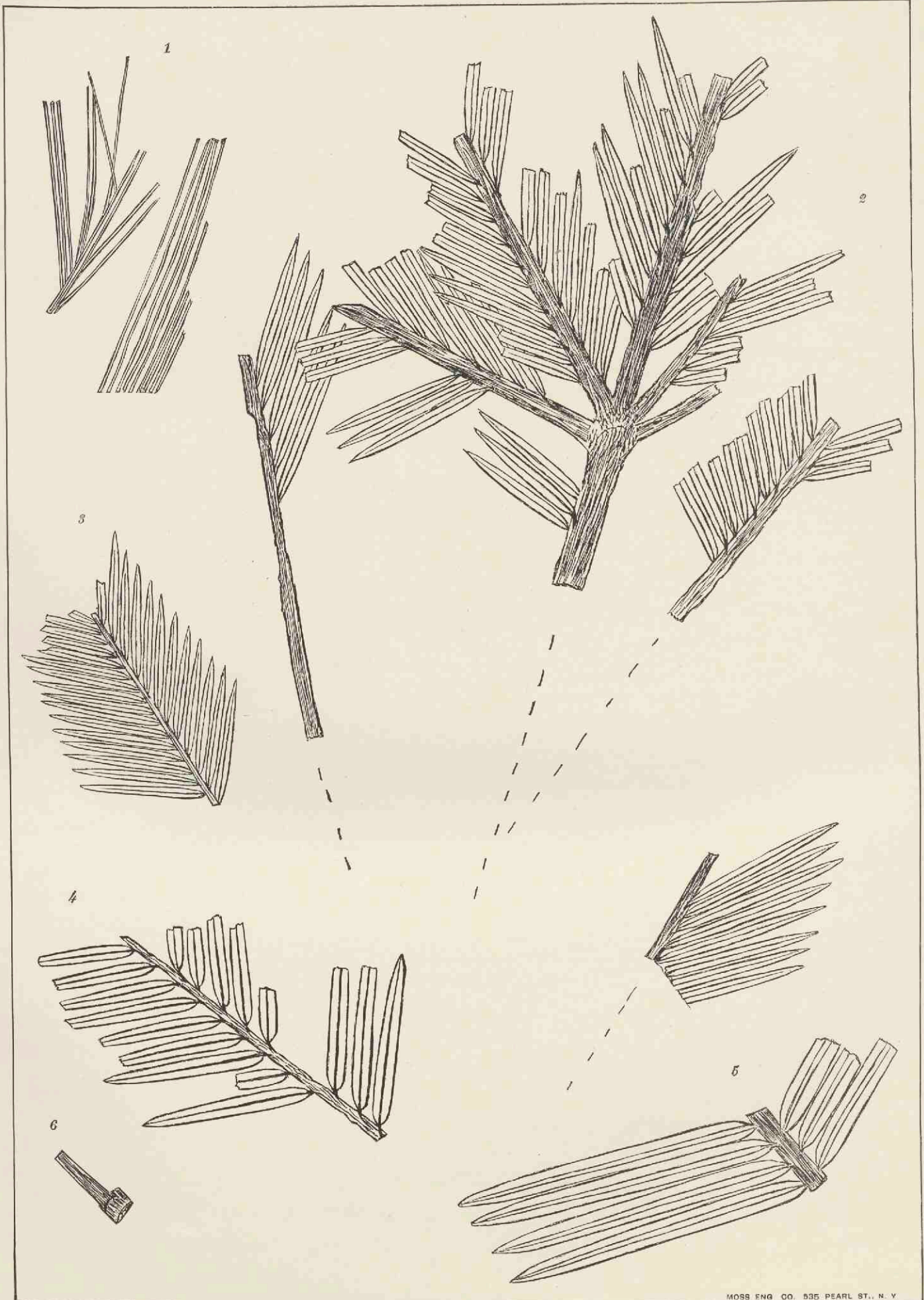
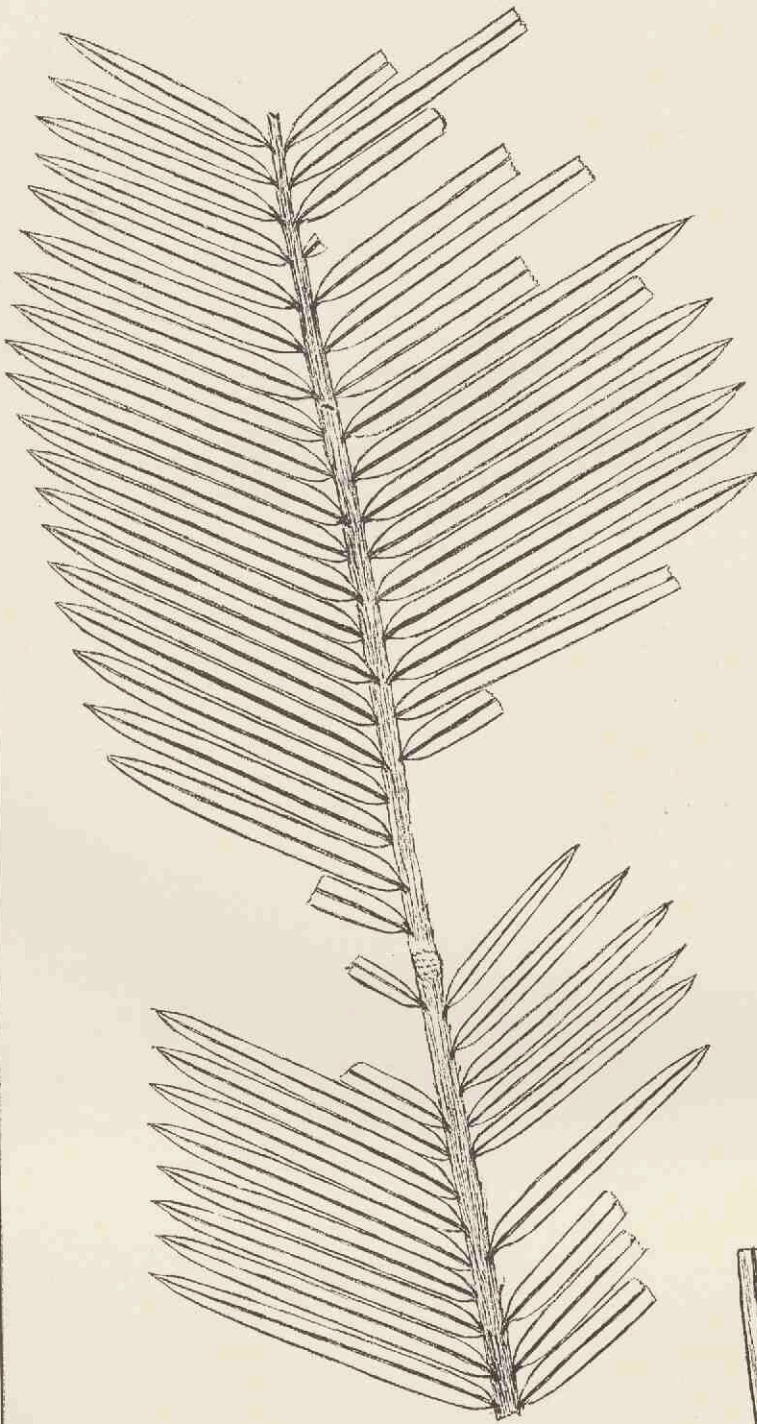


PLATE CV.

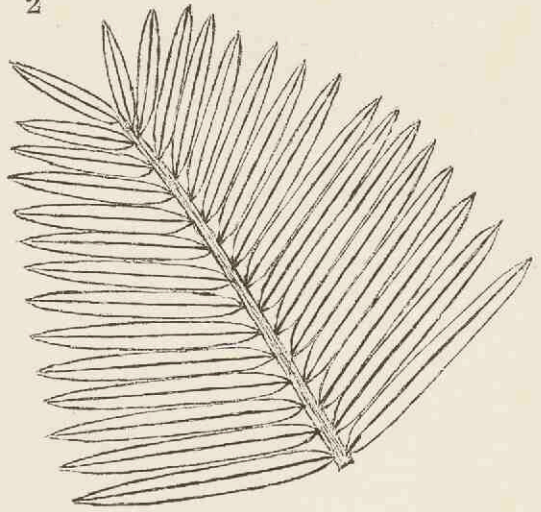
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1



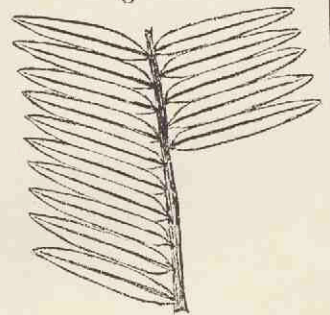
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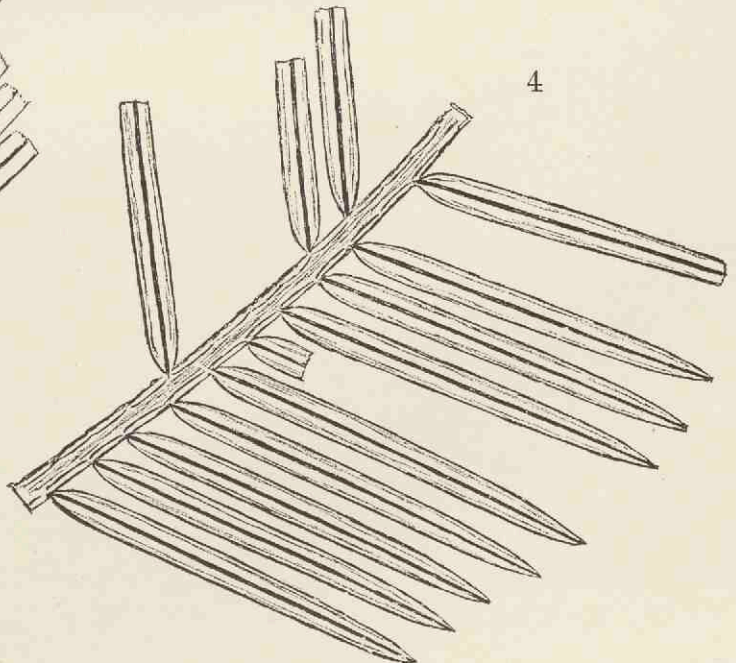
1^b



3



4



1^a

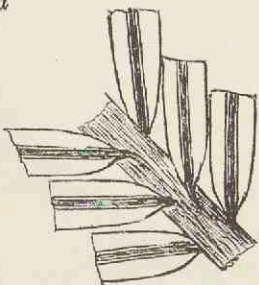
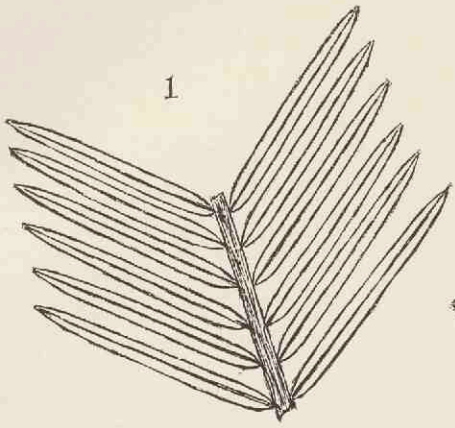


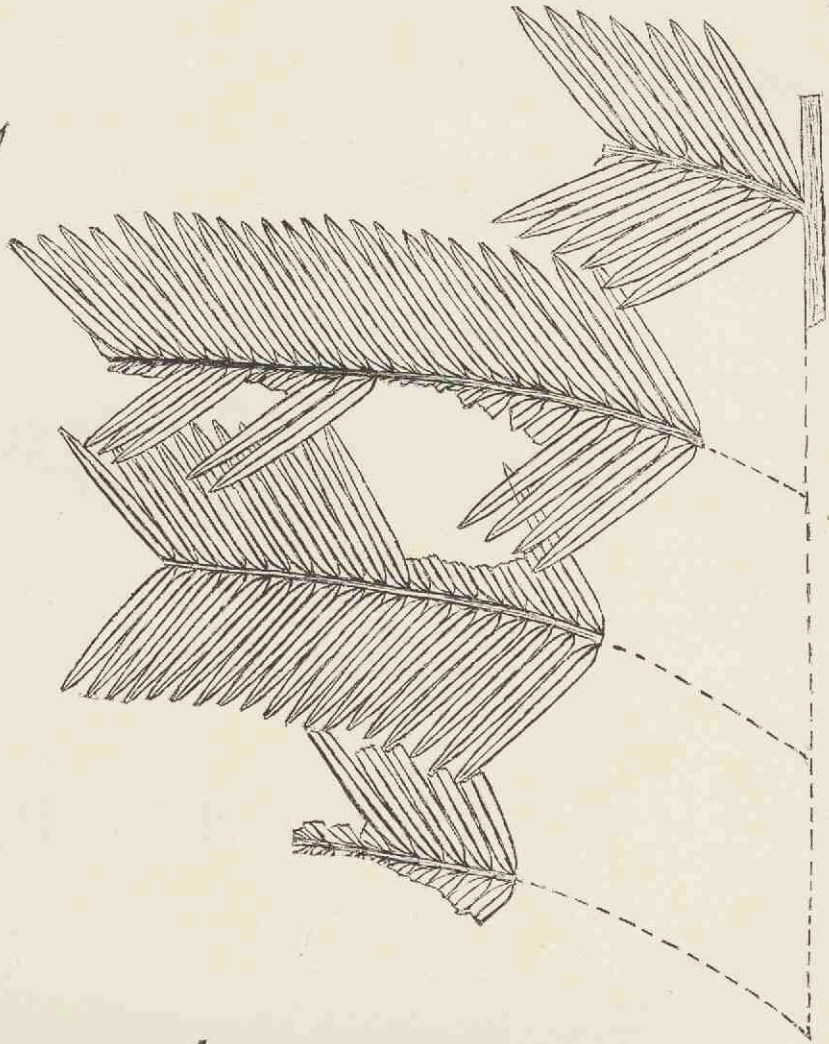
PLATE CVI.

PLATE CVI.

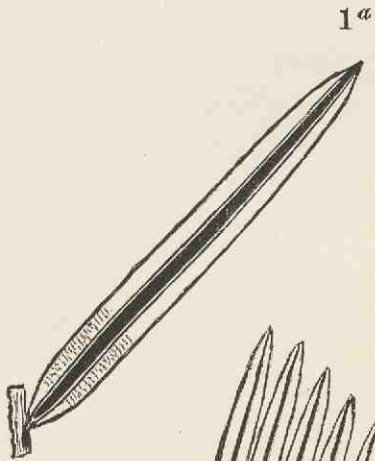
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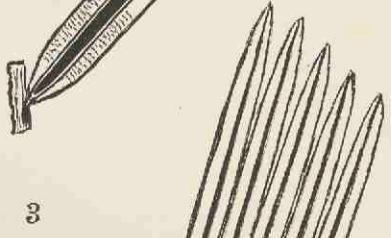
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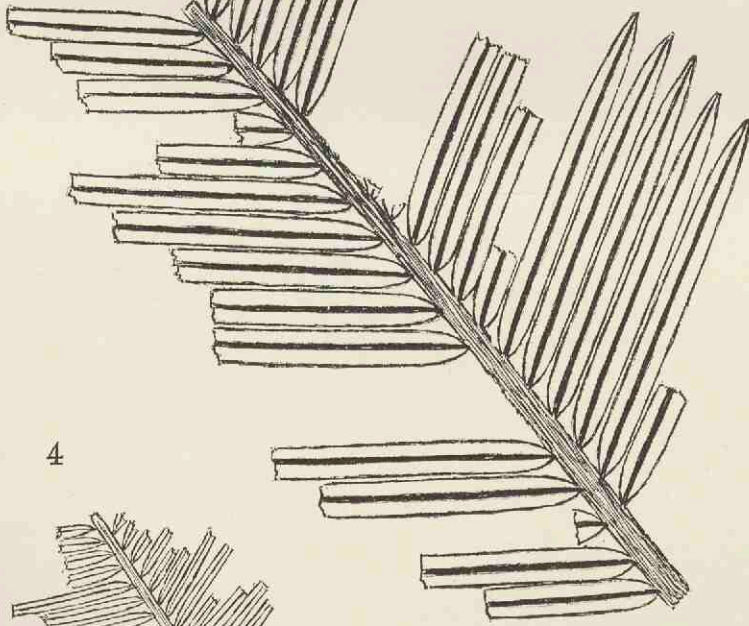
2



1^a



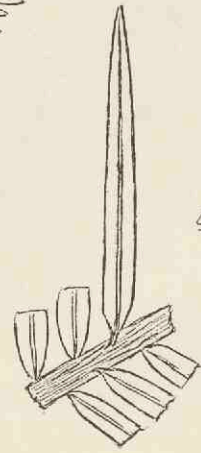
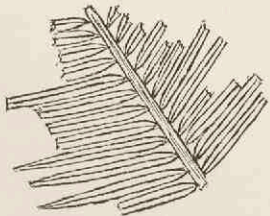
3



4



5



4^a

PLATE CVII.

PLATE CVII.

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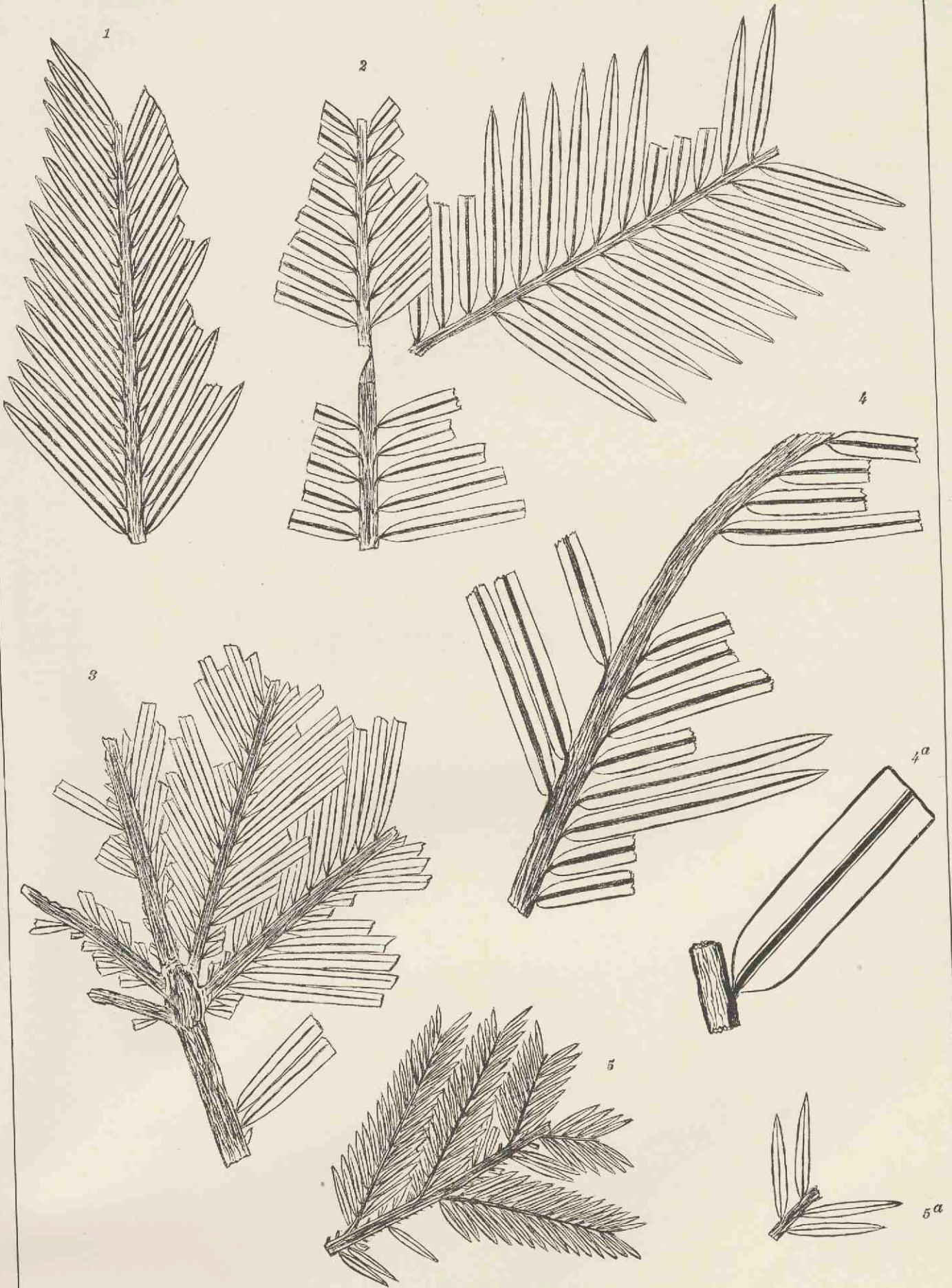
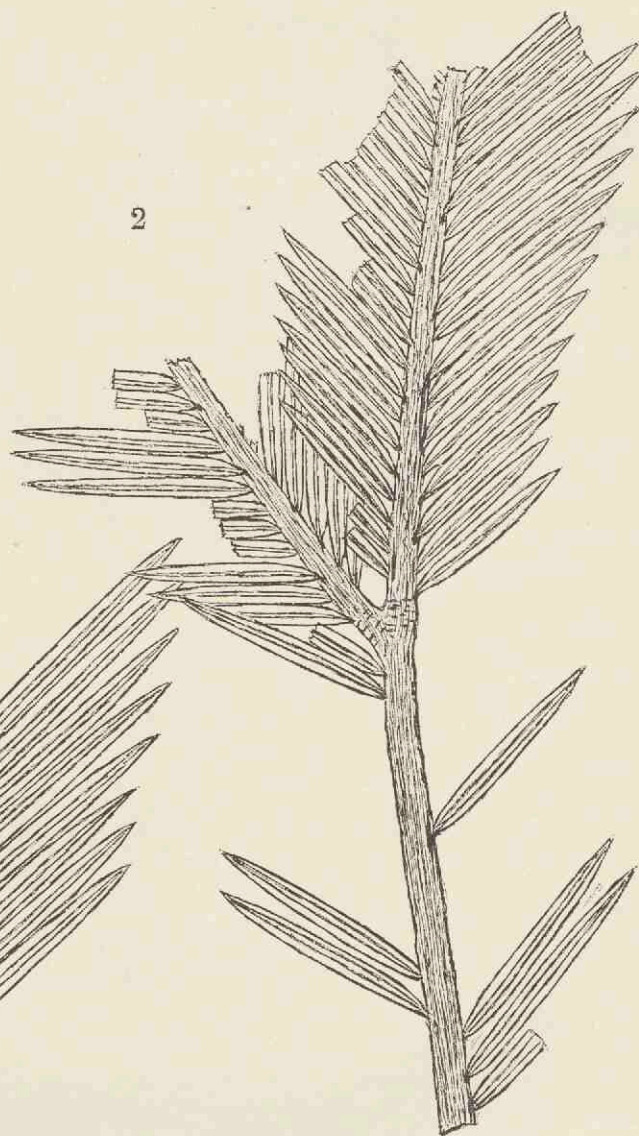
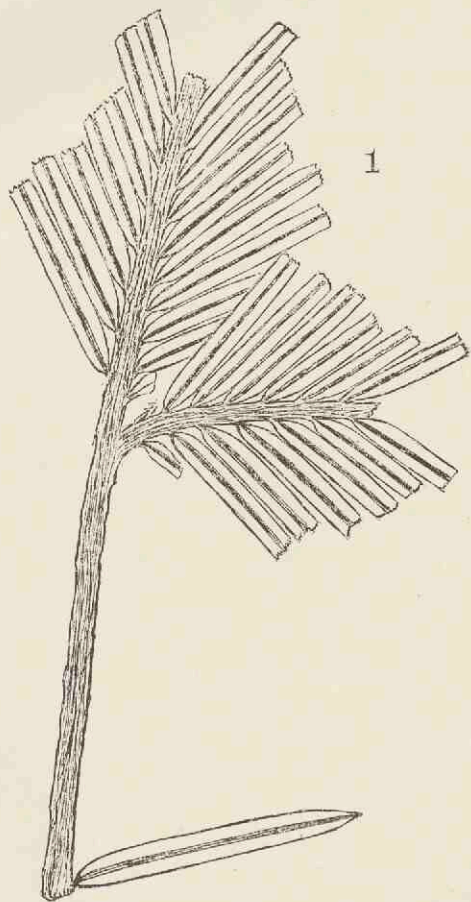


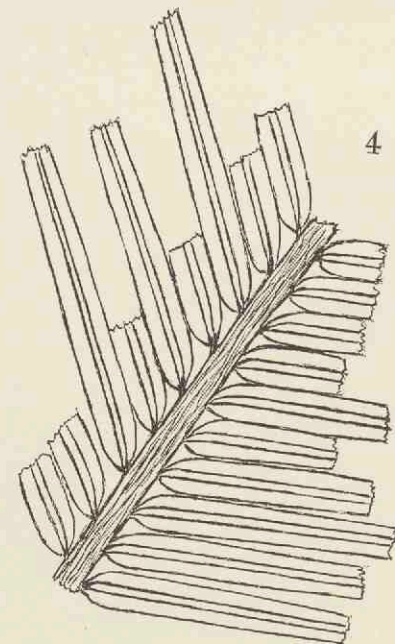
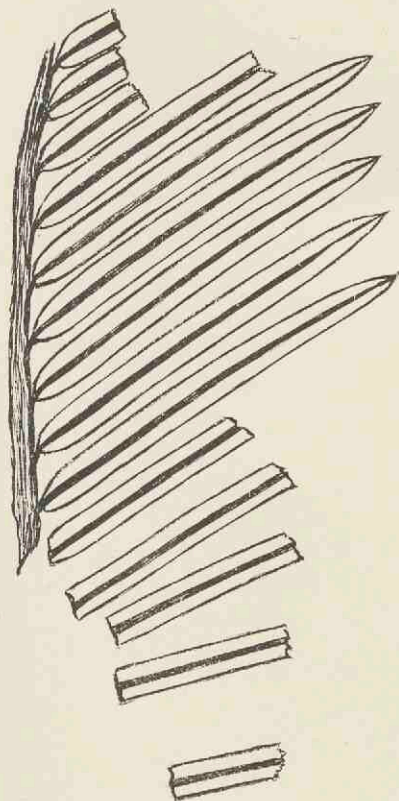
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3



5

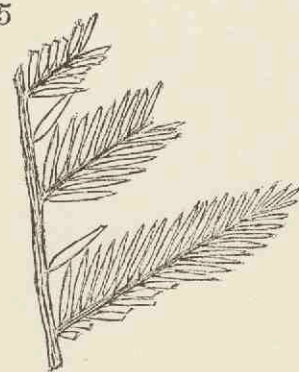


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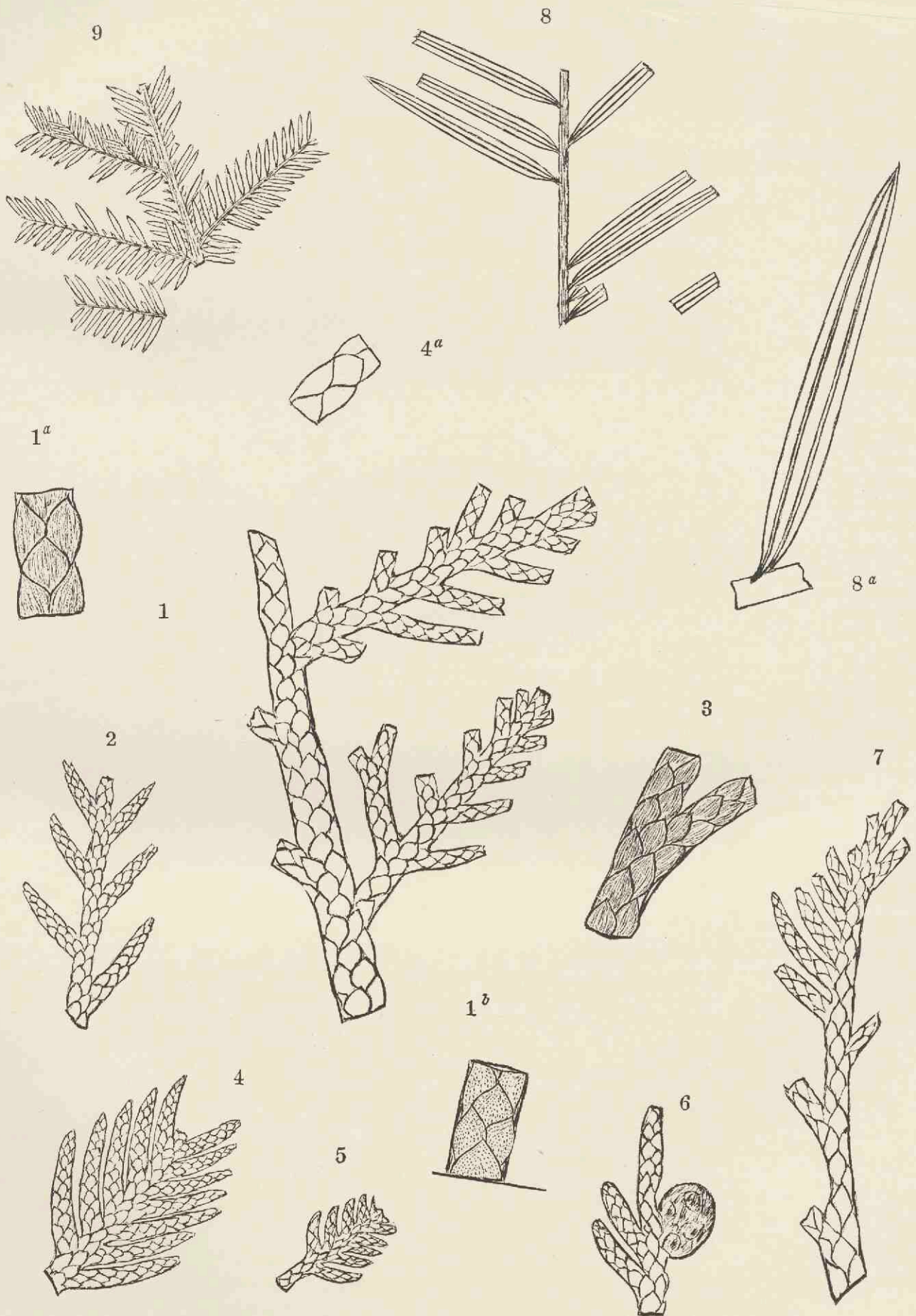


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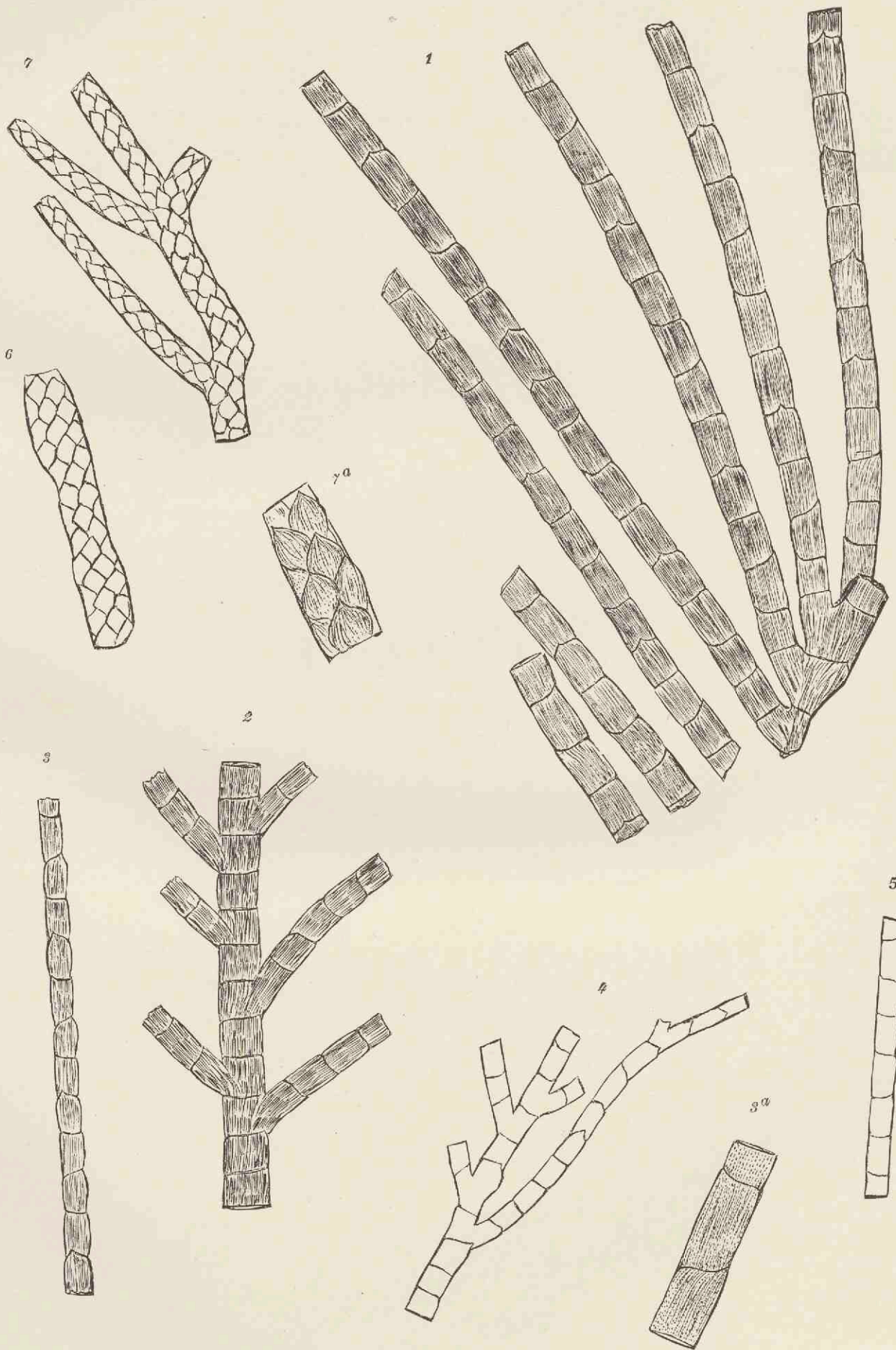
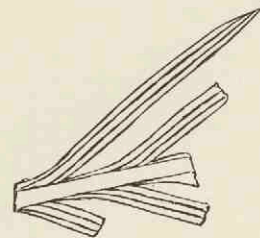
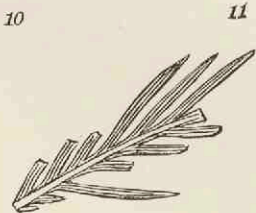
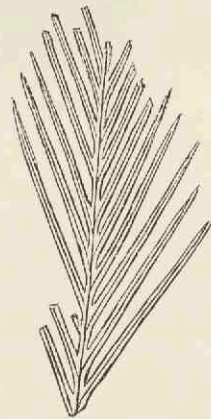
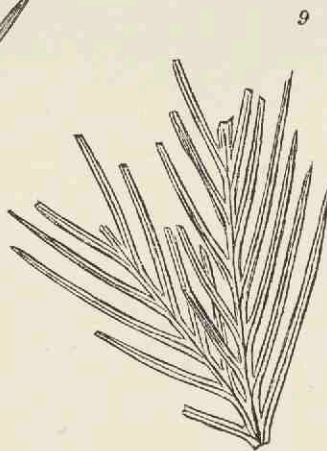
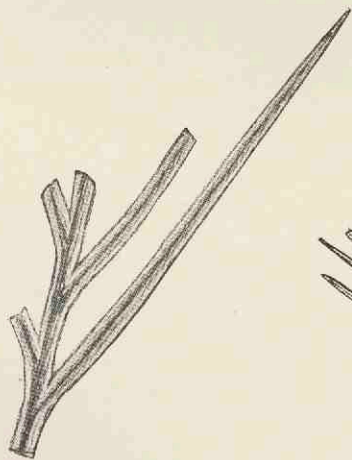
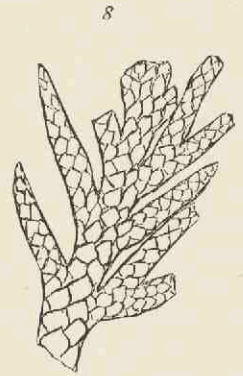
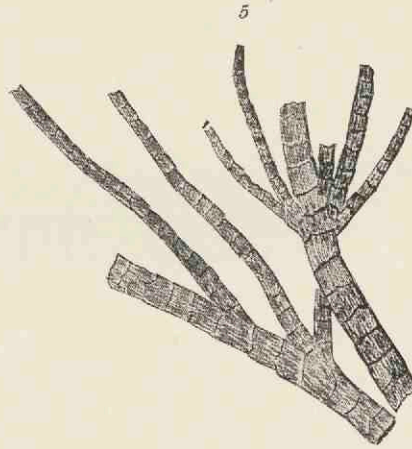
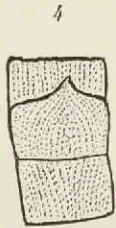
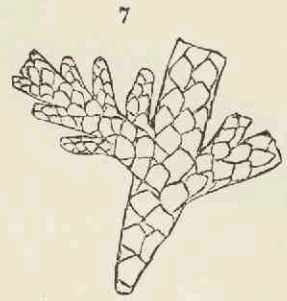
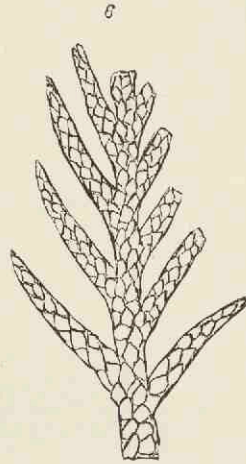
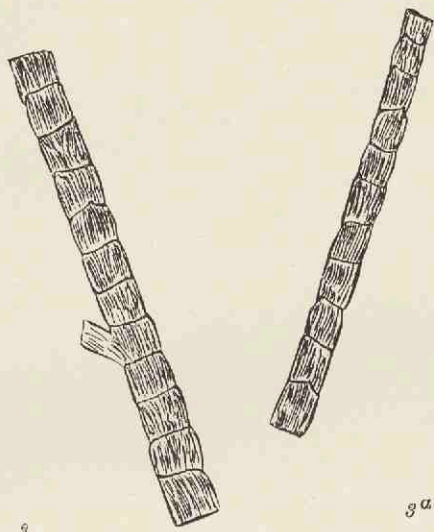


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3a

5

9a

10

11

9

11a

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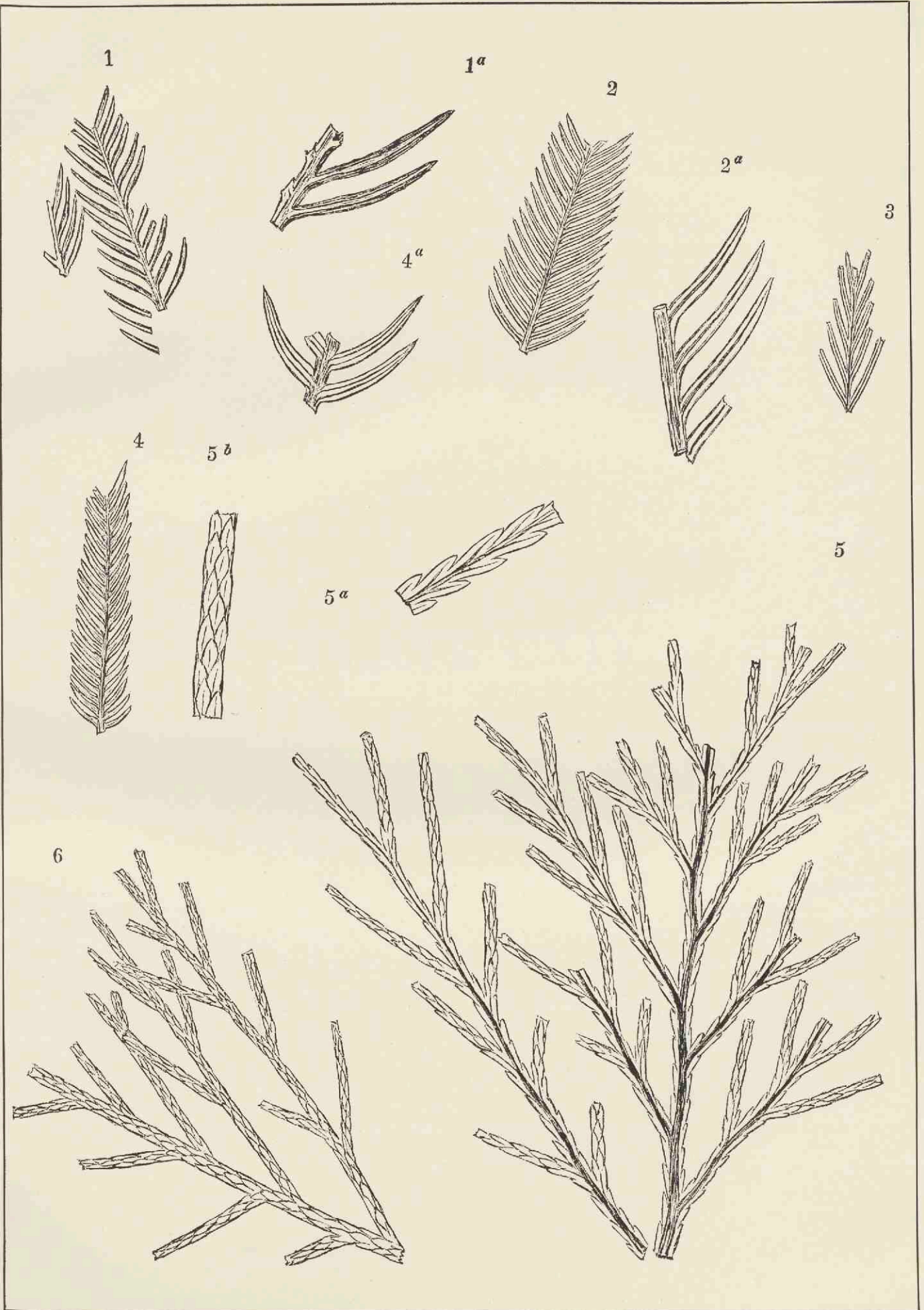


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5

1

2

3

3a

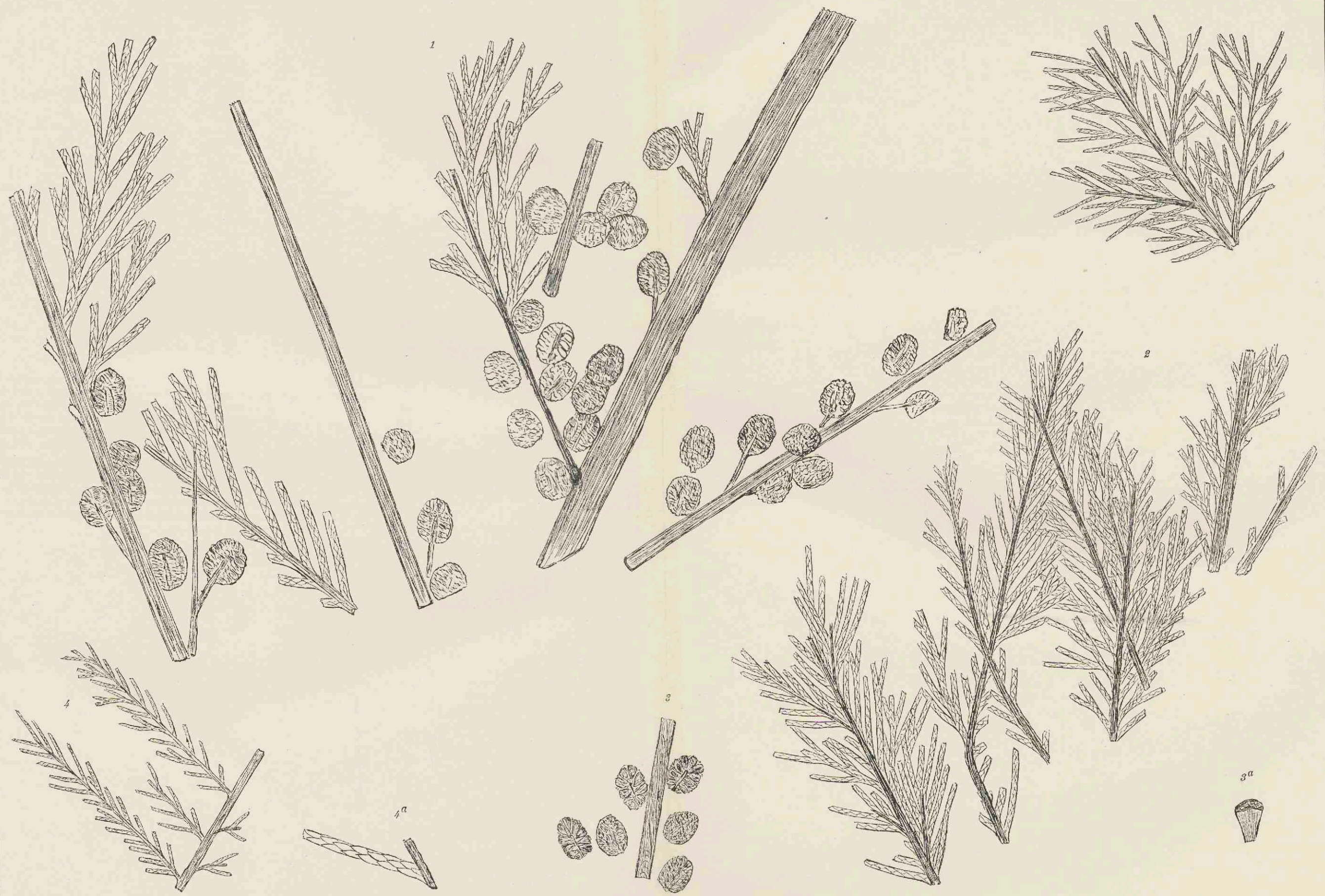


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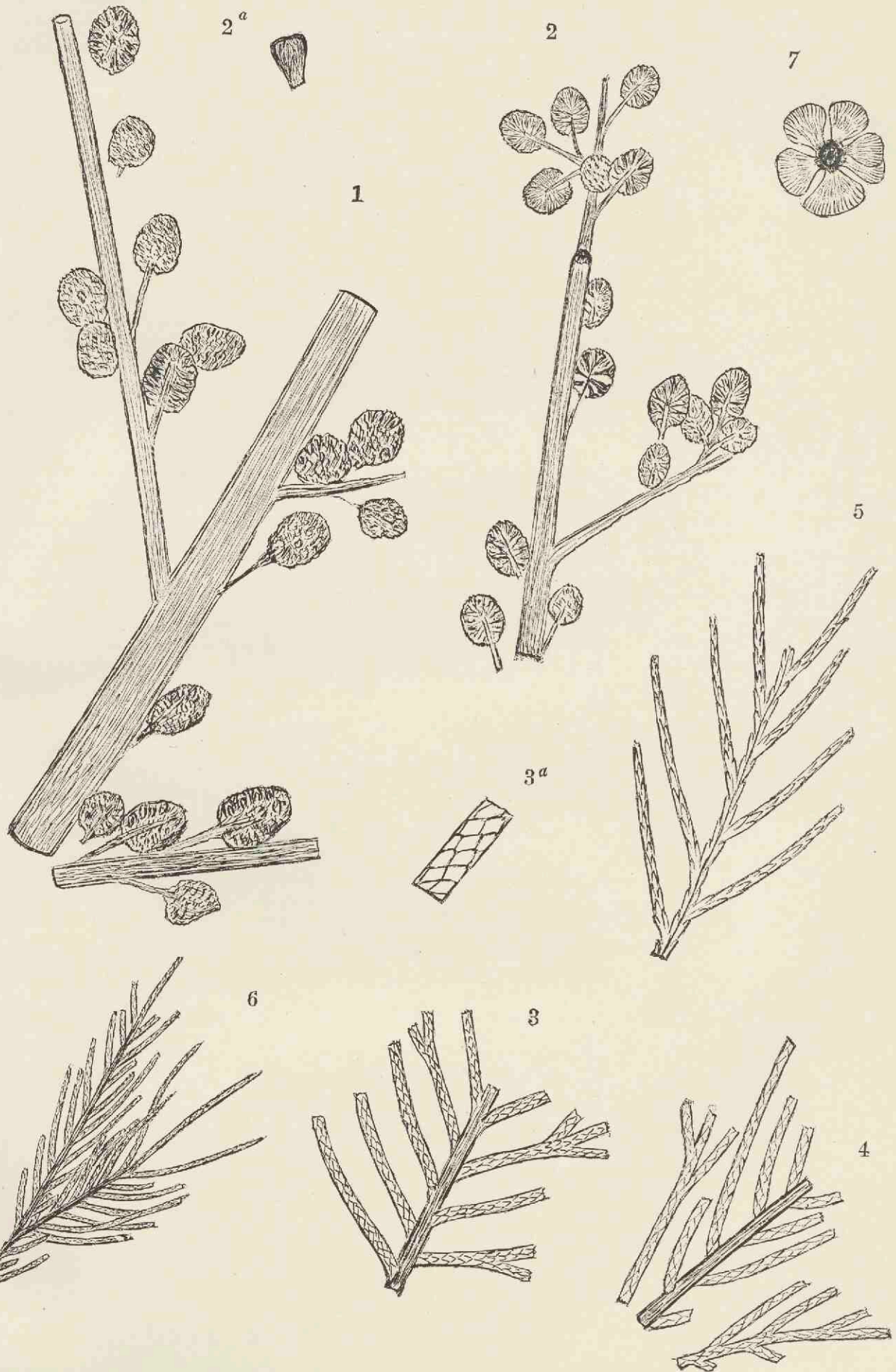


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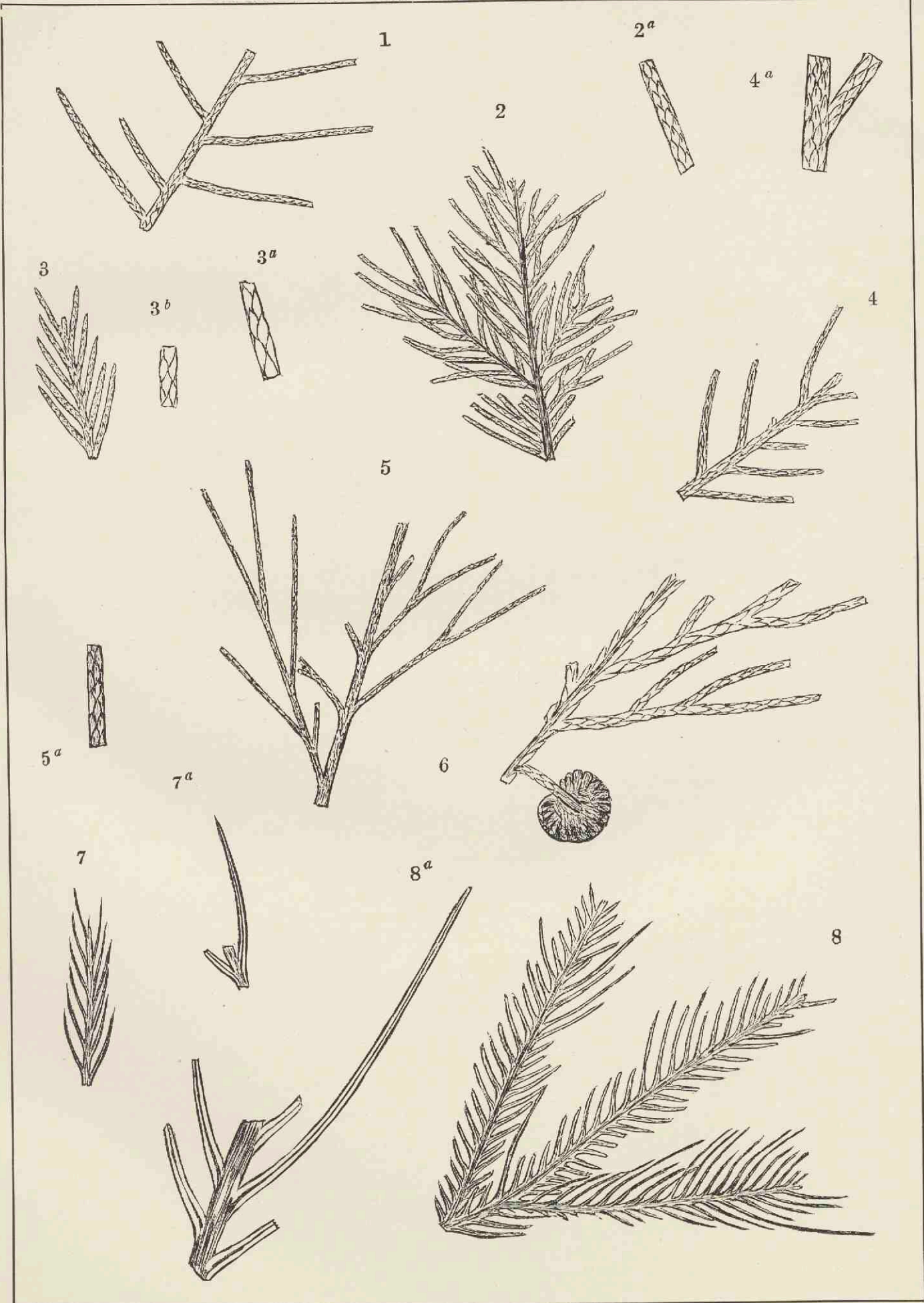


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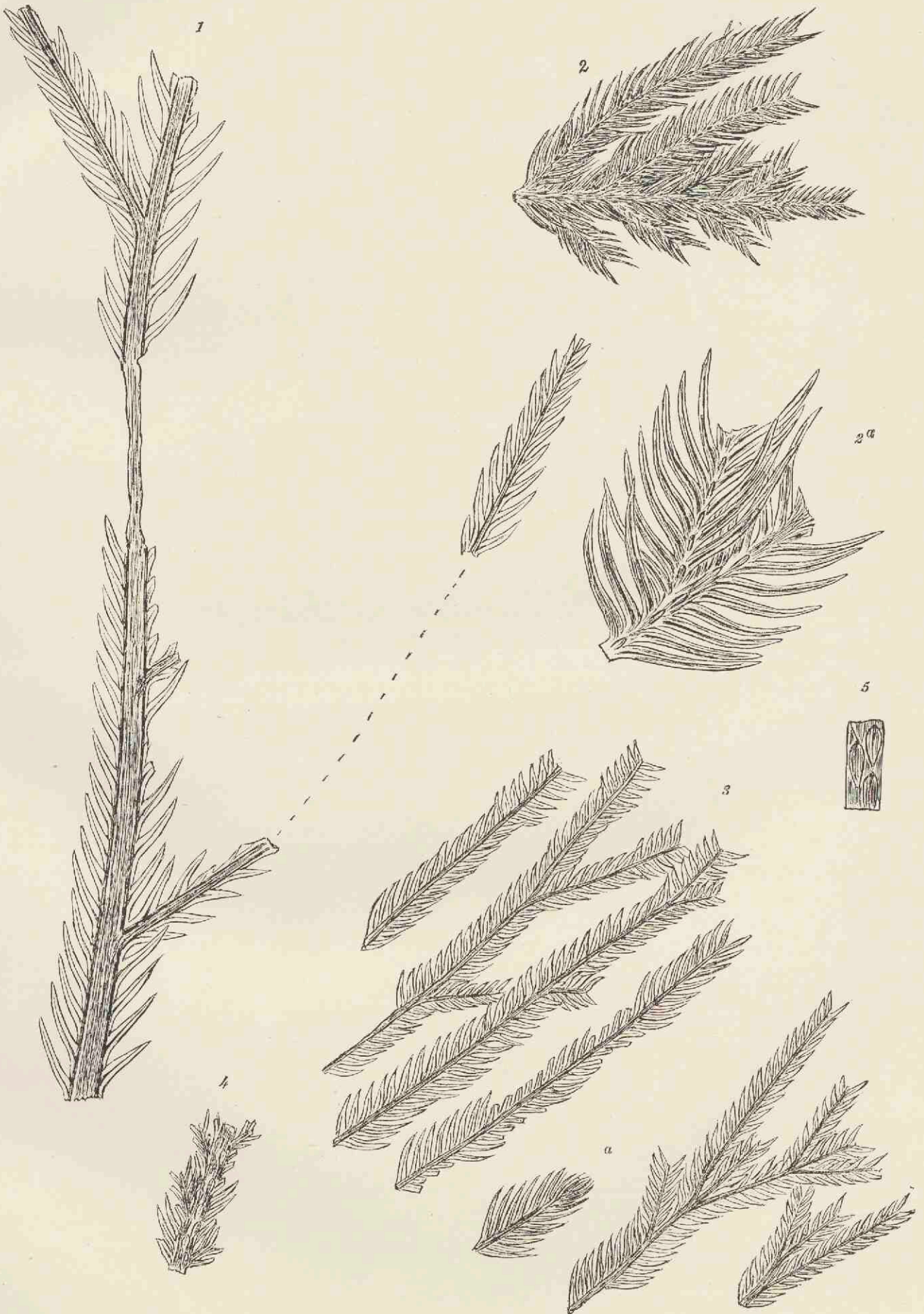


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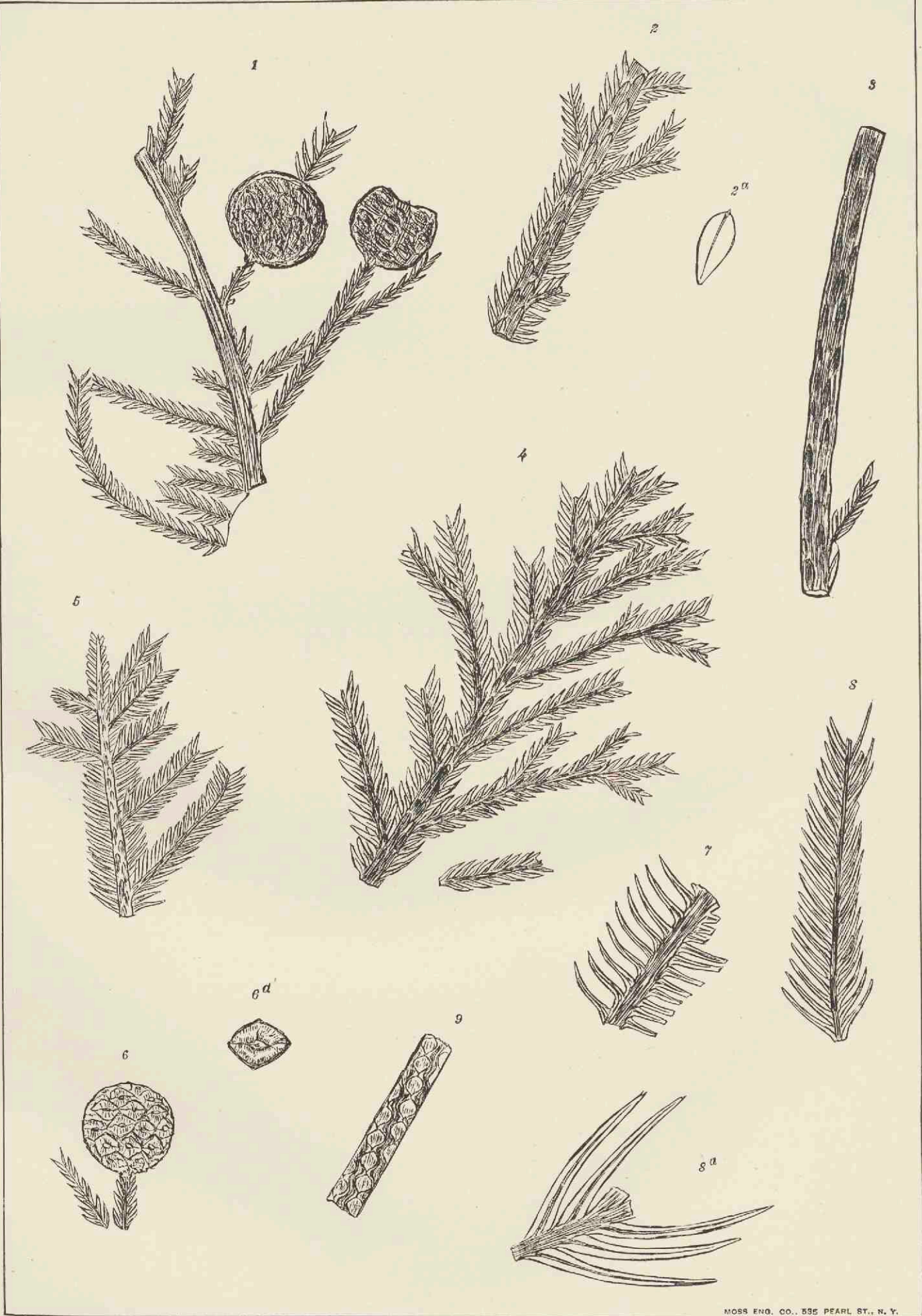


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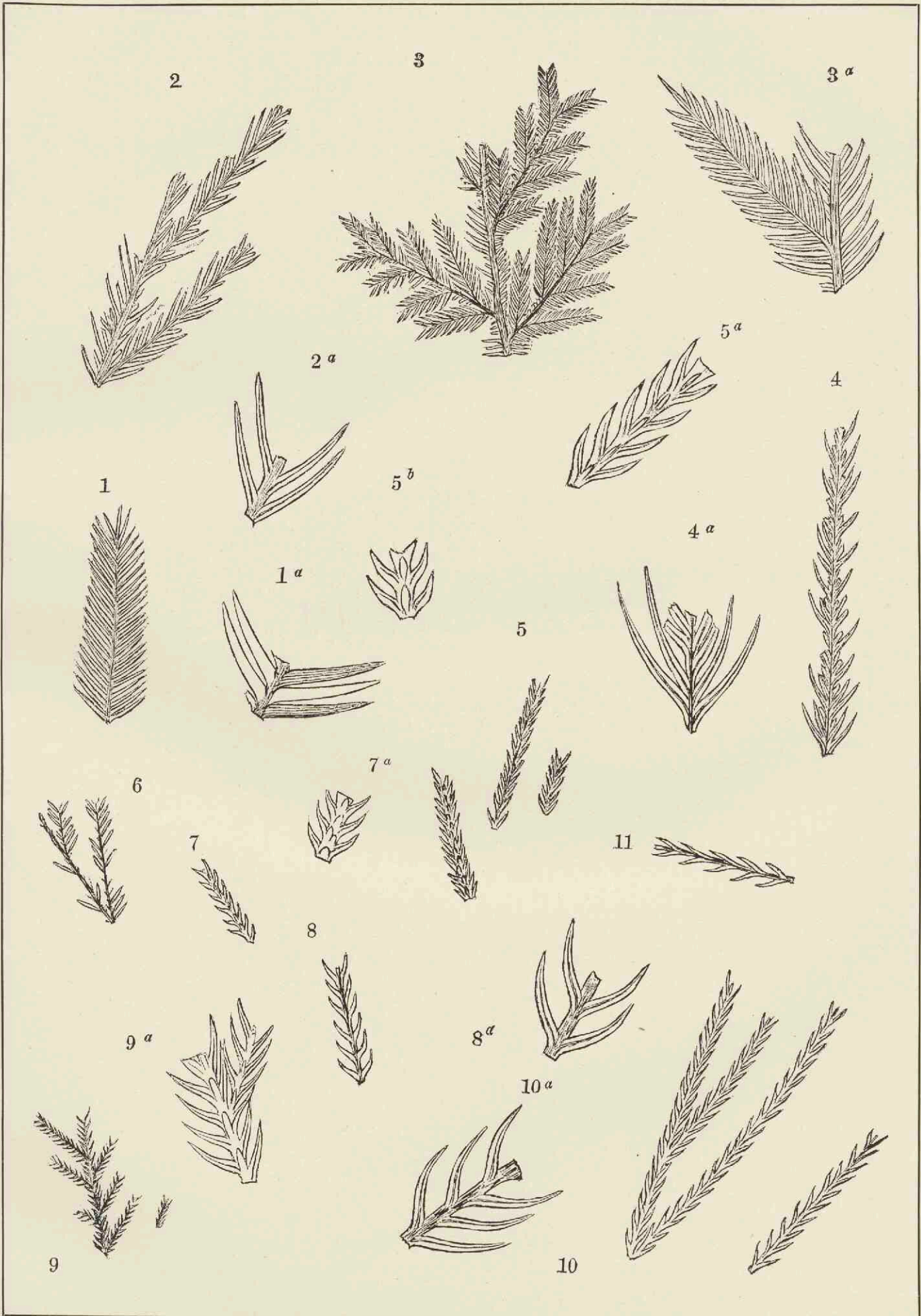


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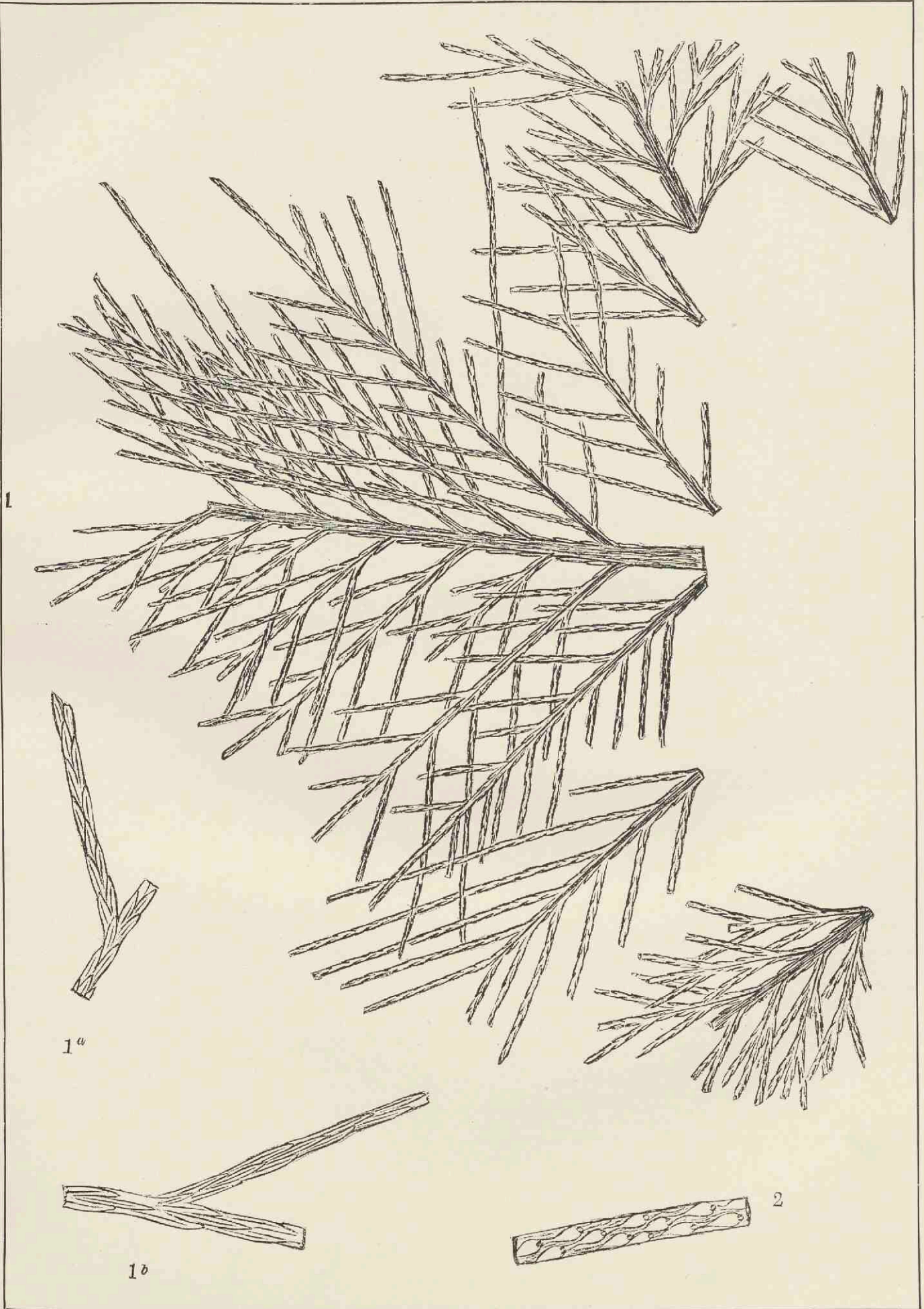


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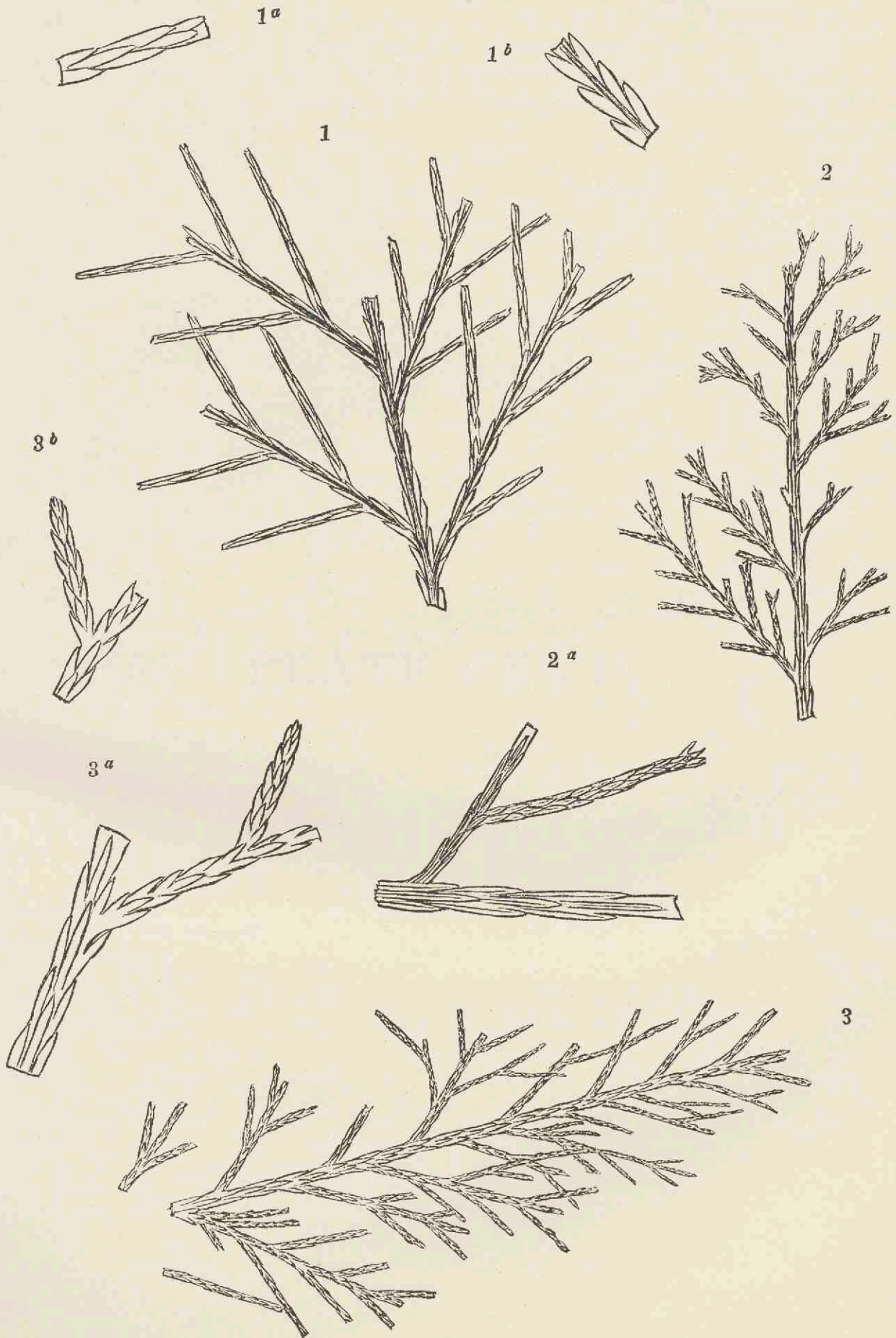


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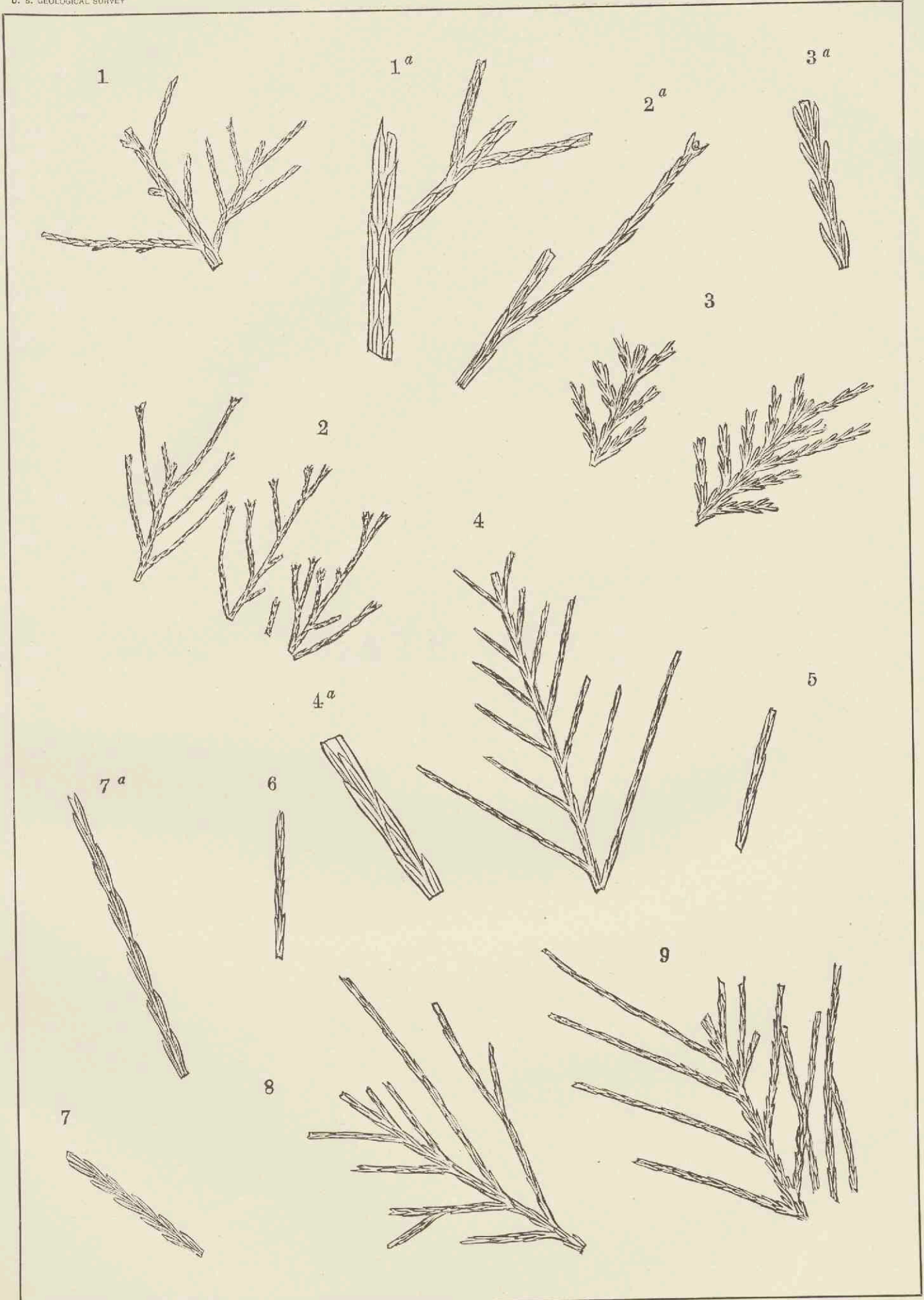


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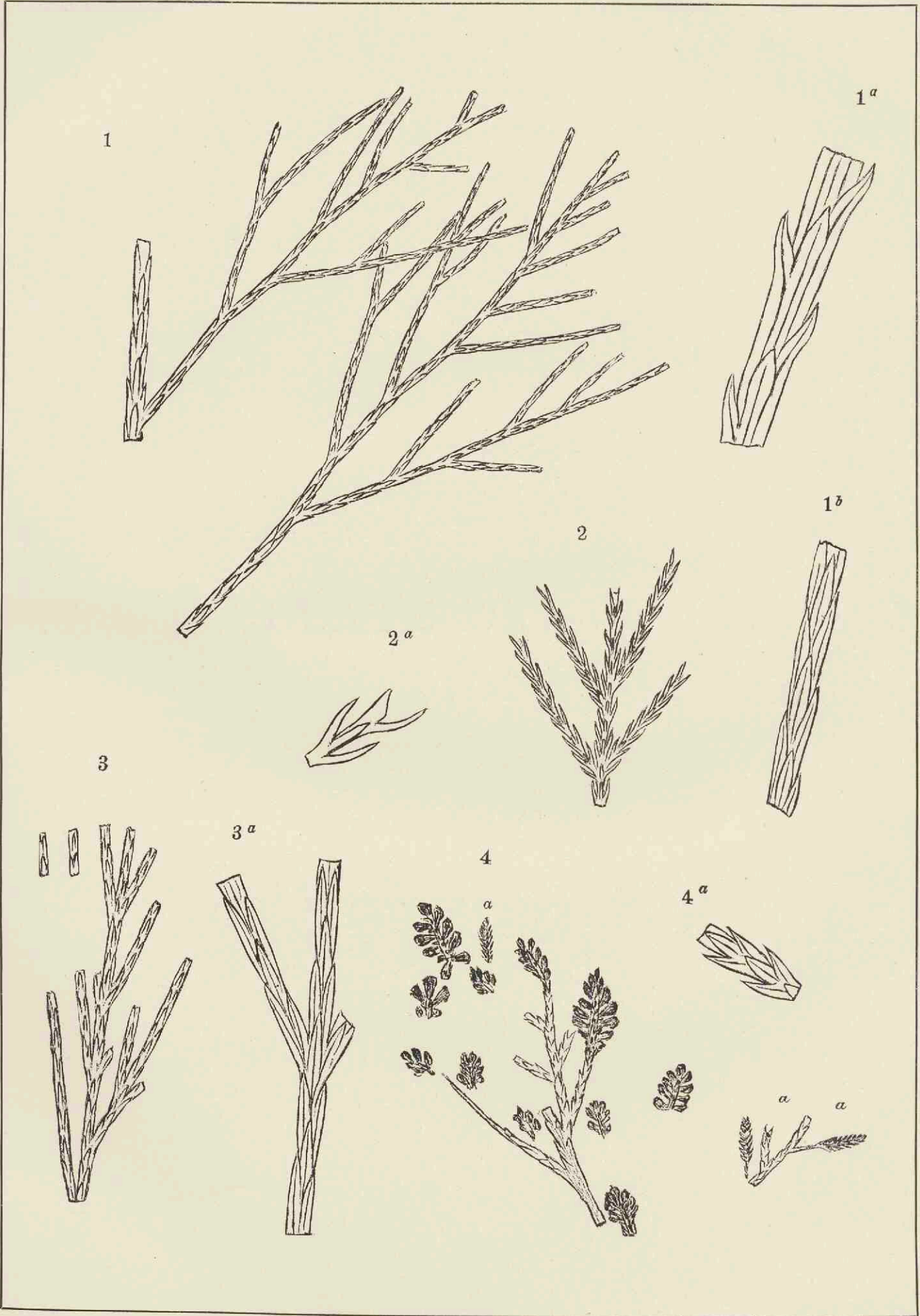


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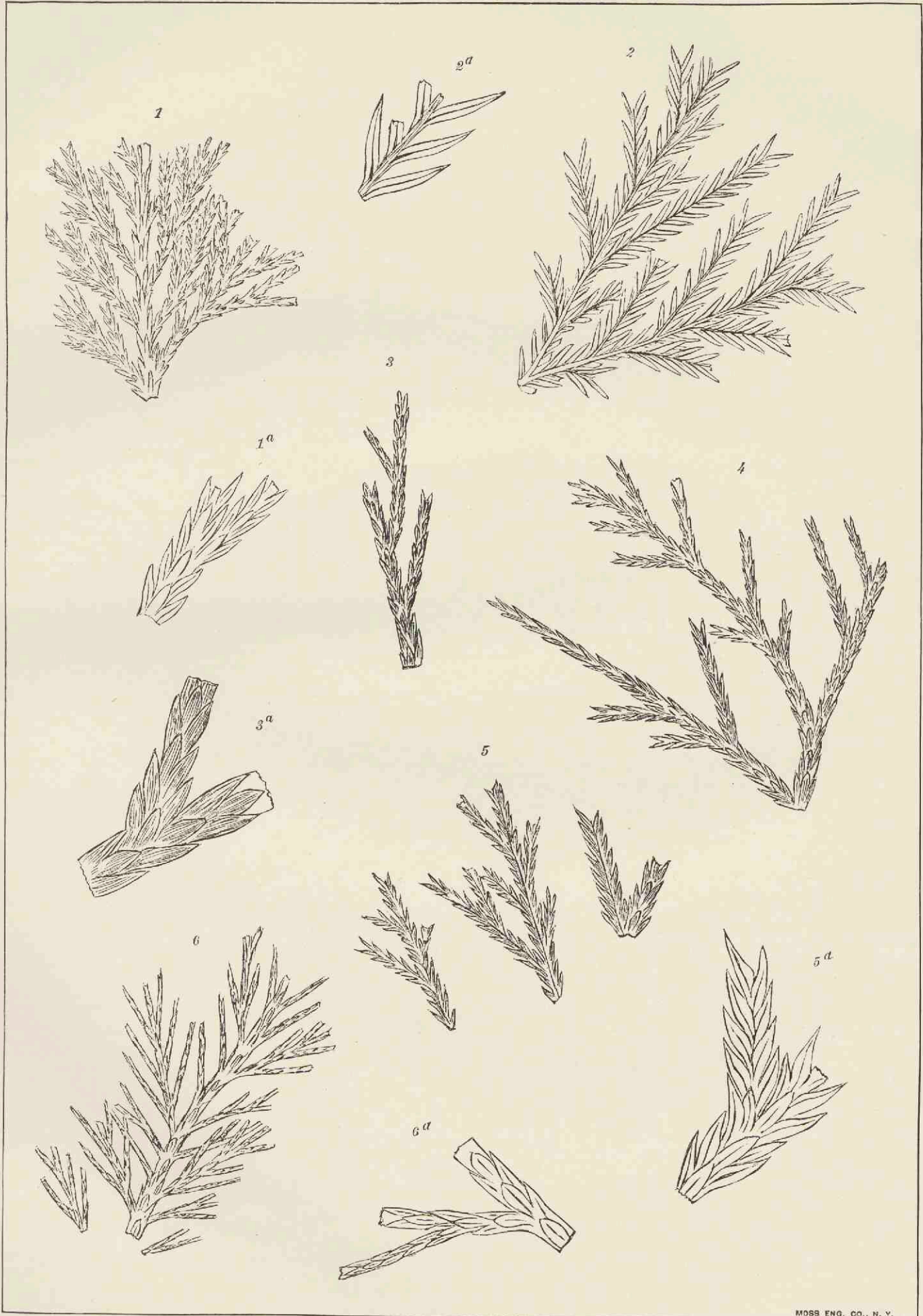


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1



2



4



2^a



3



a

5



5^a

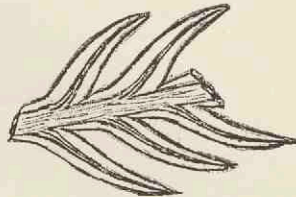


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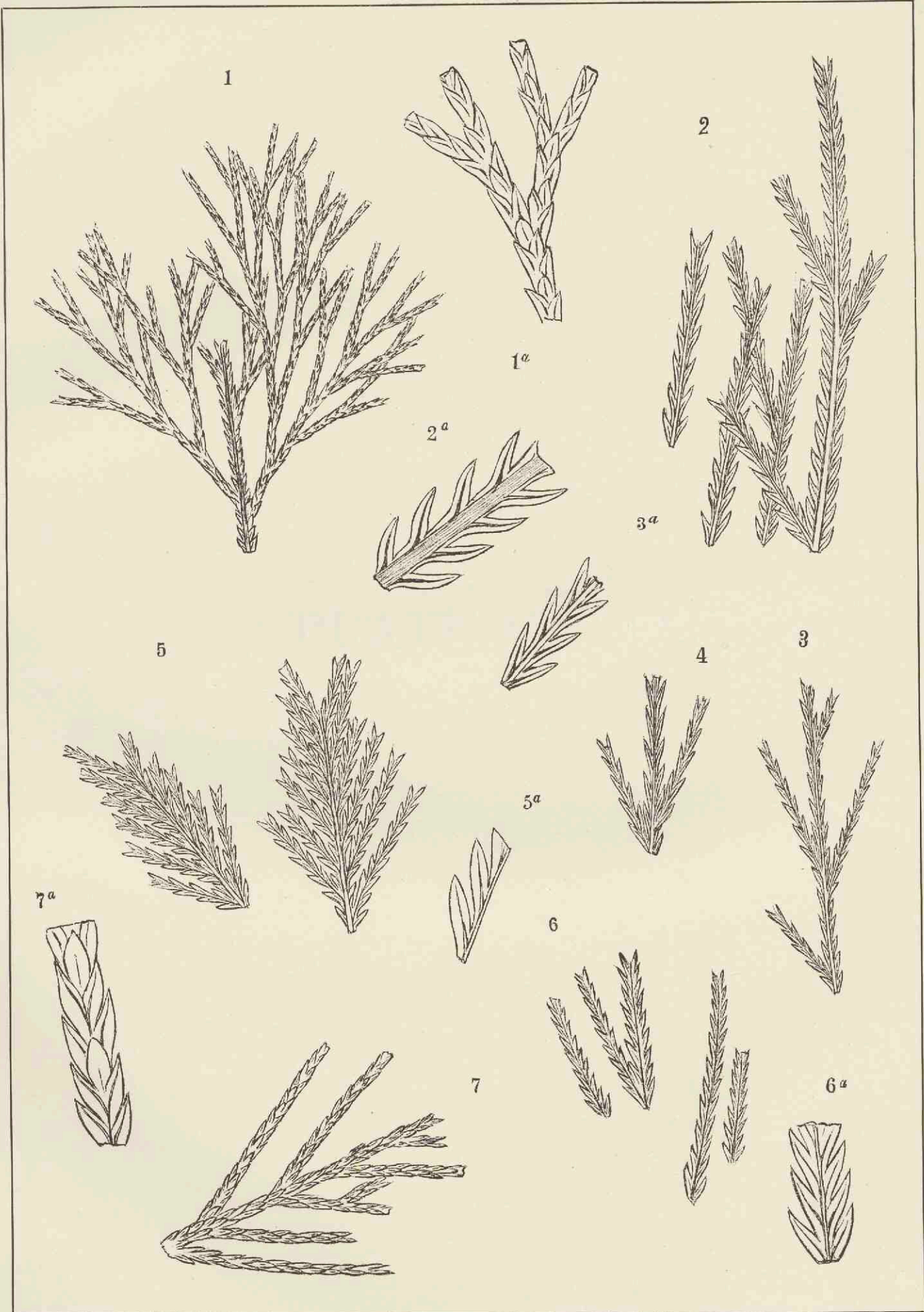


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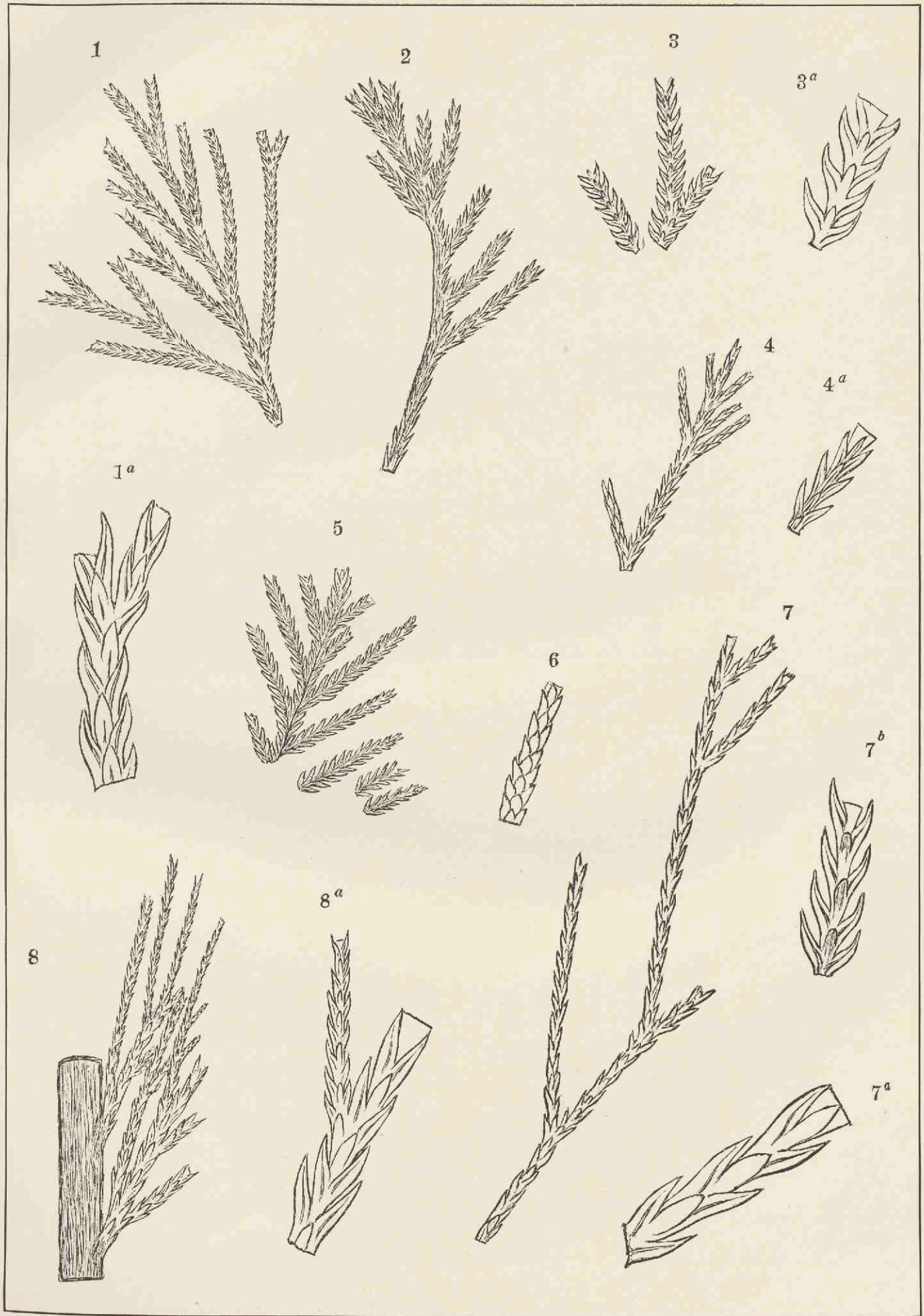


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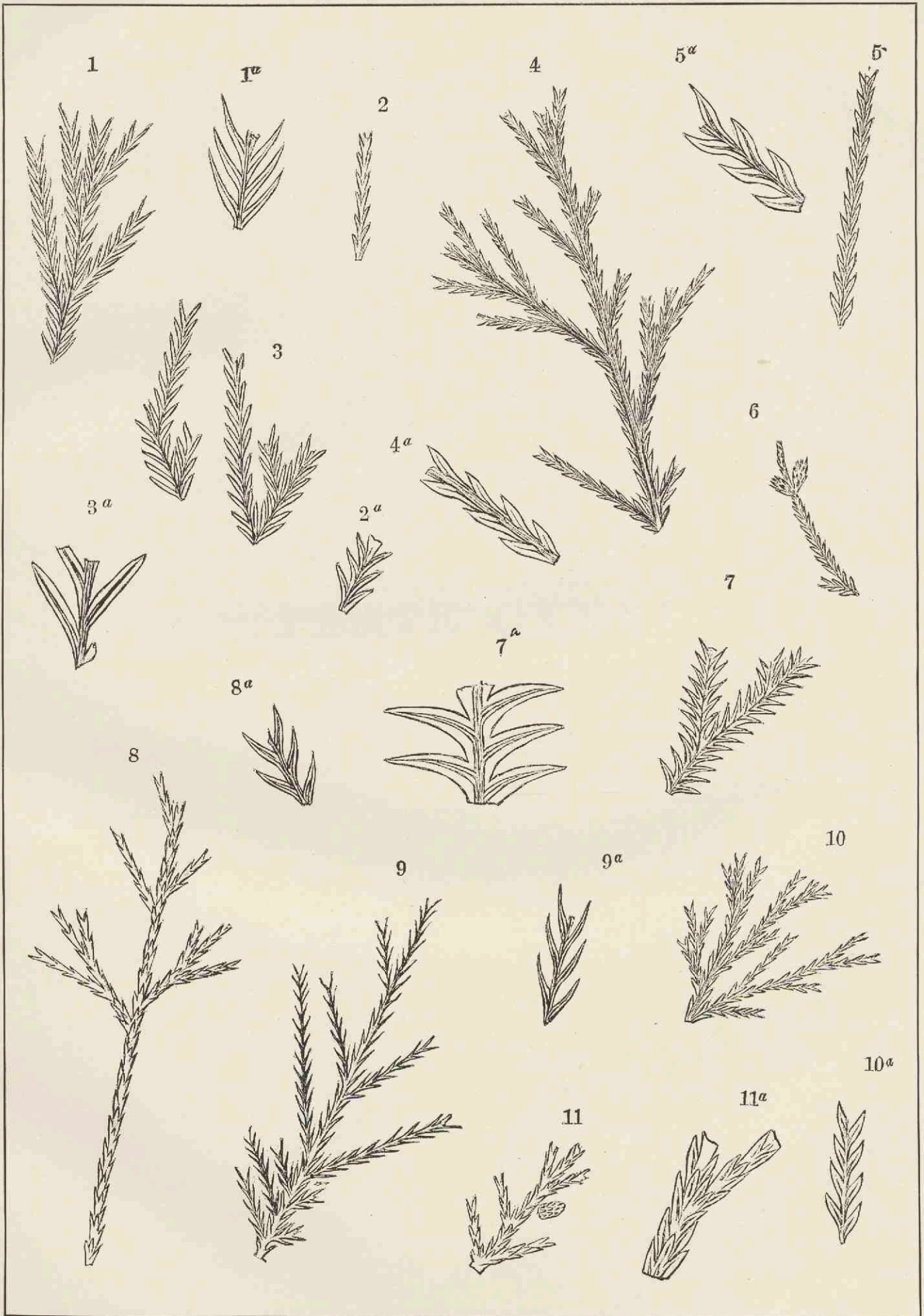


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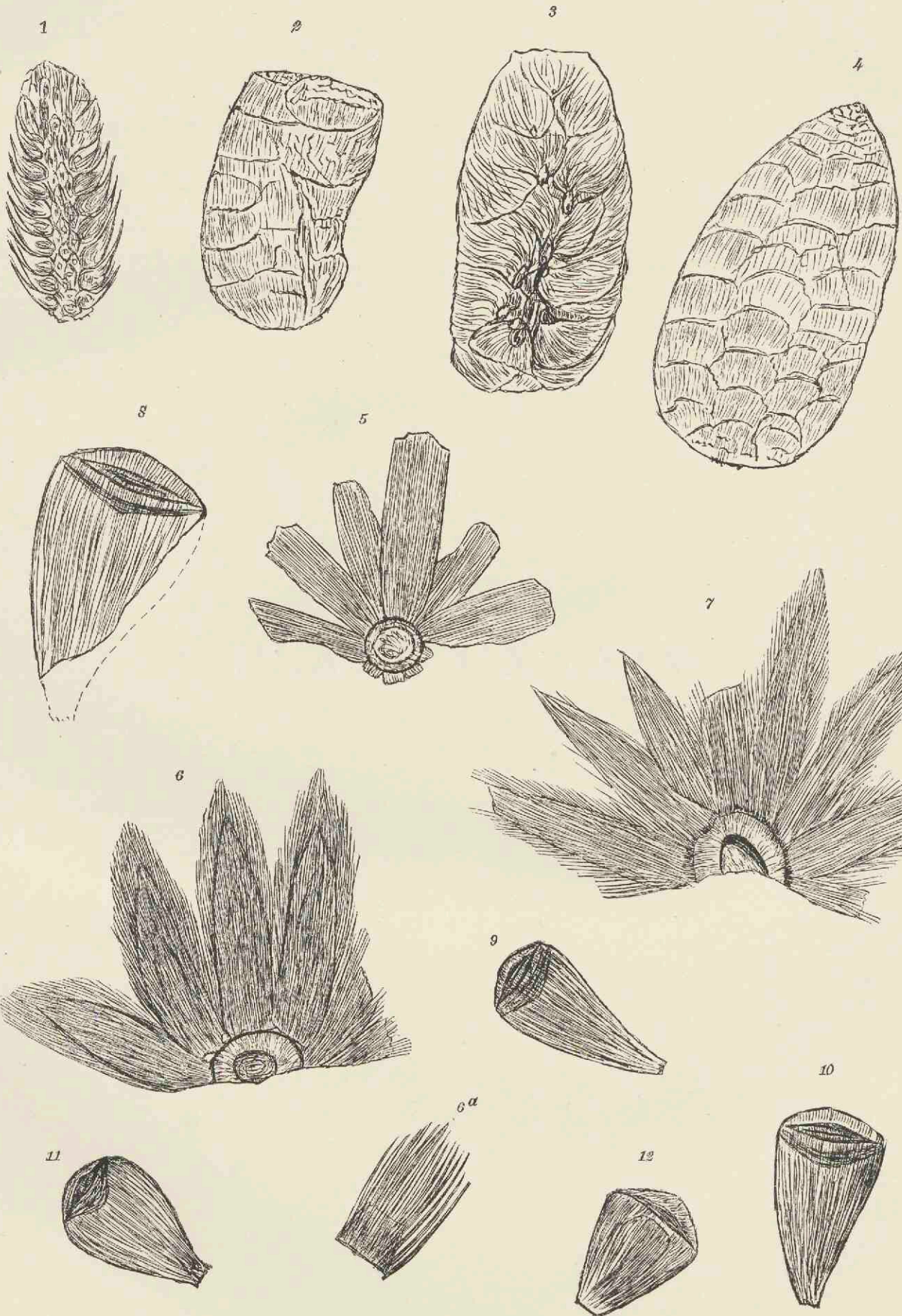


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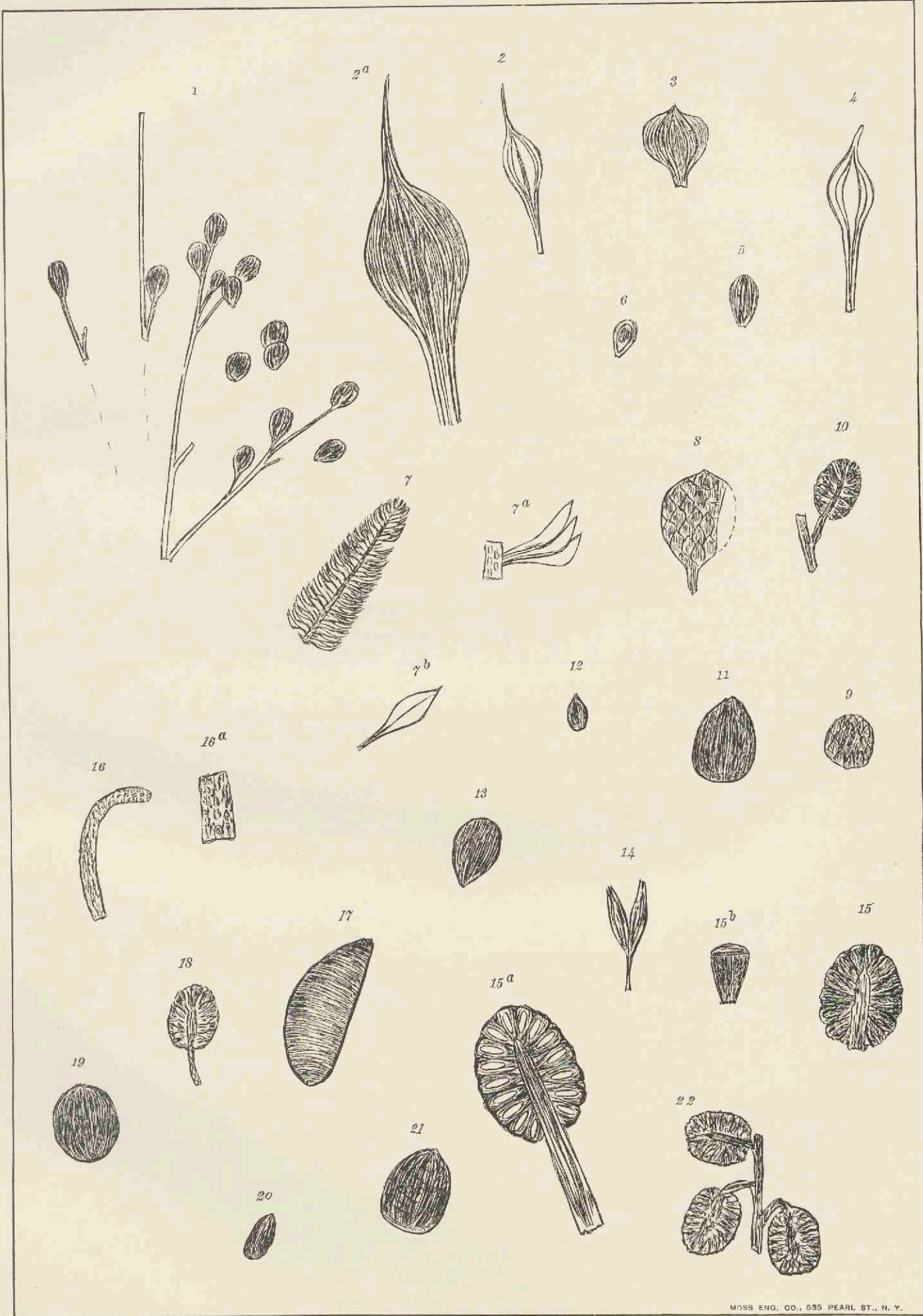


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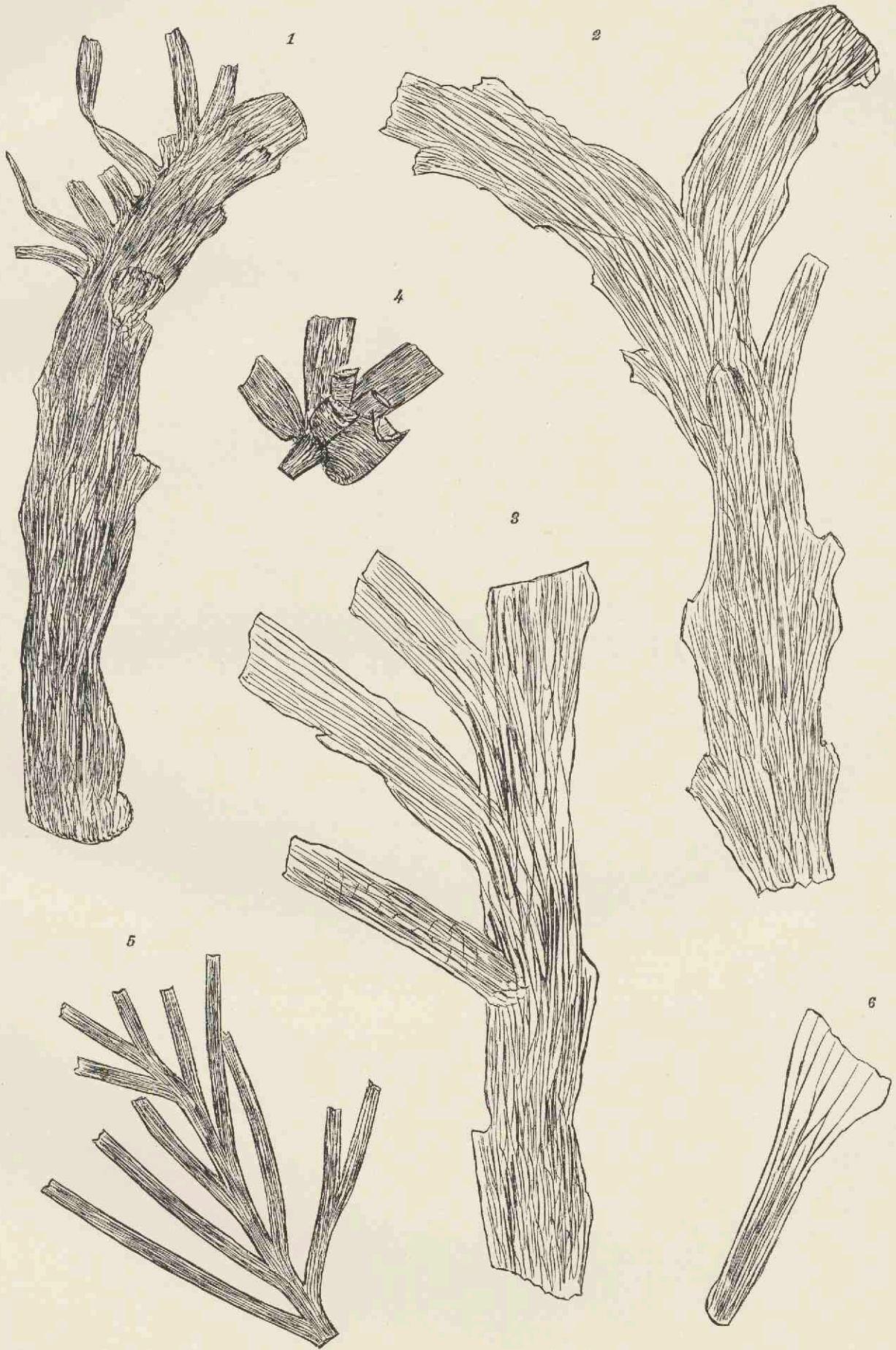


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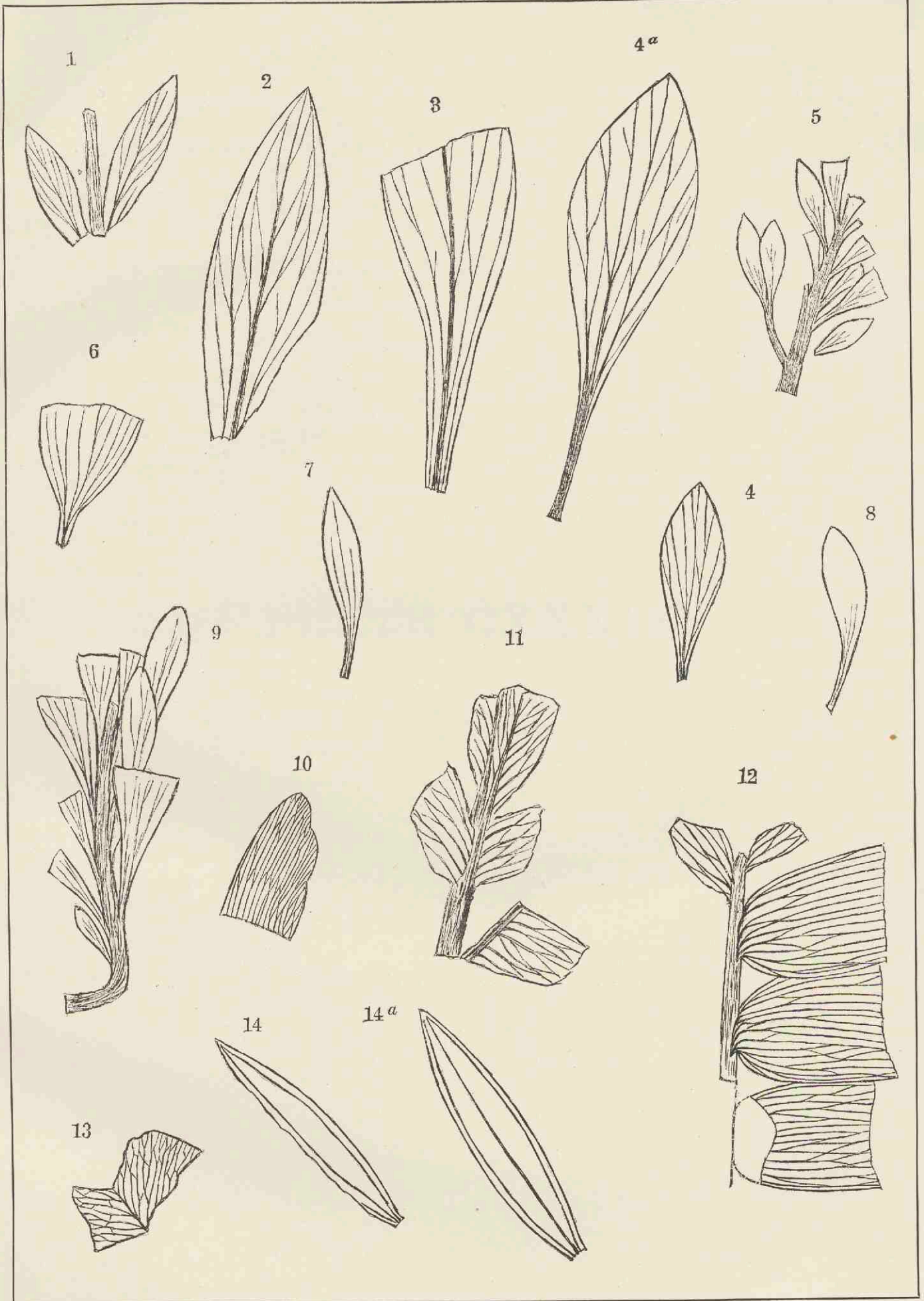


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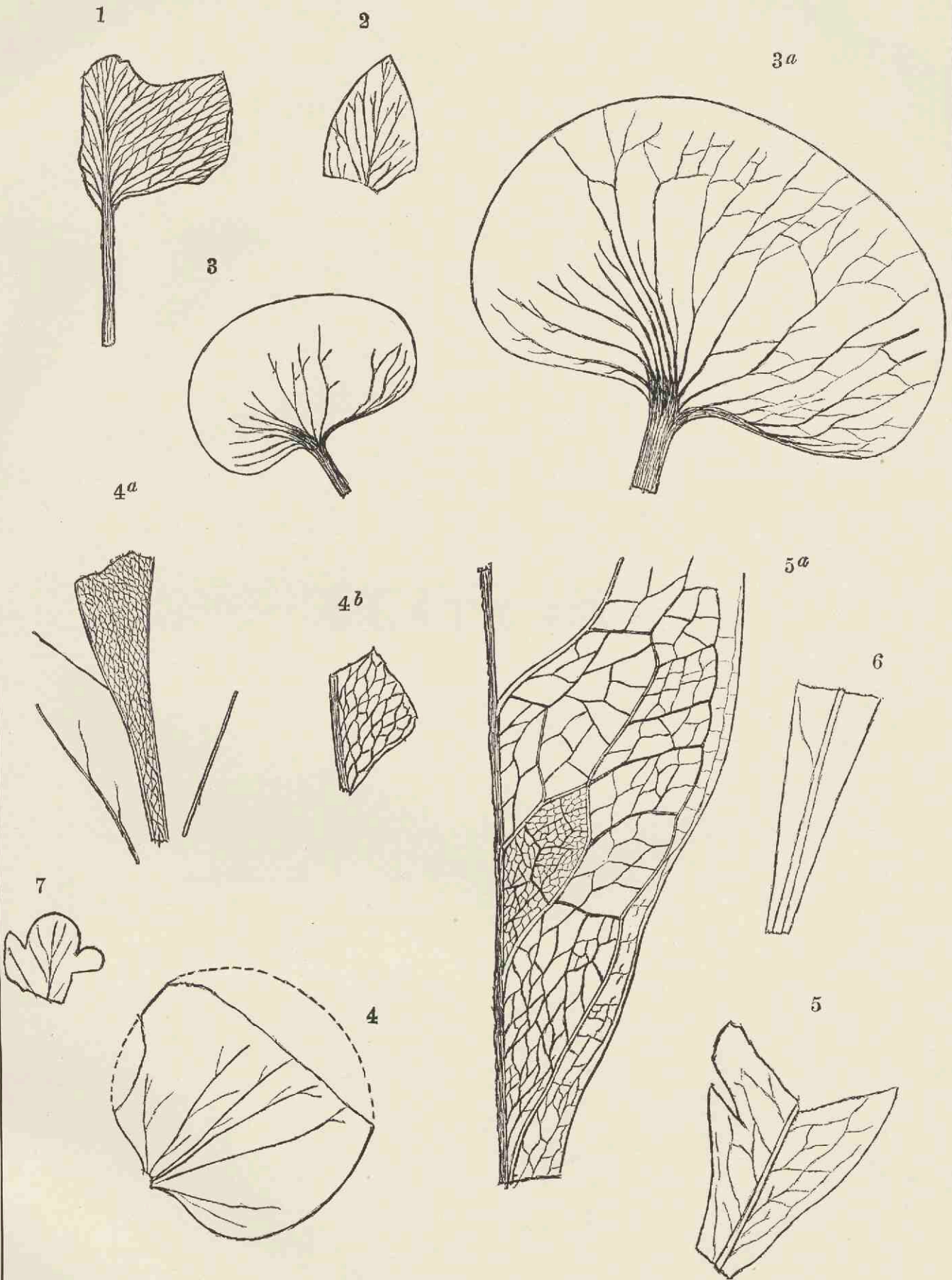
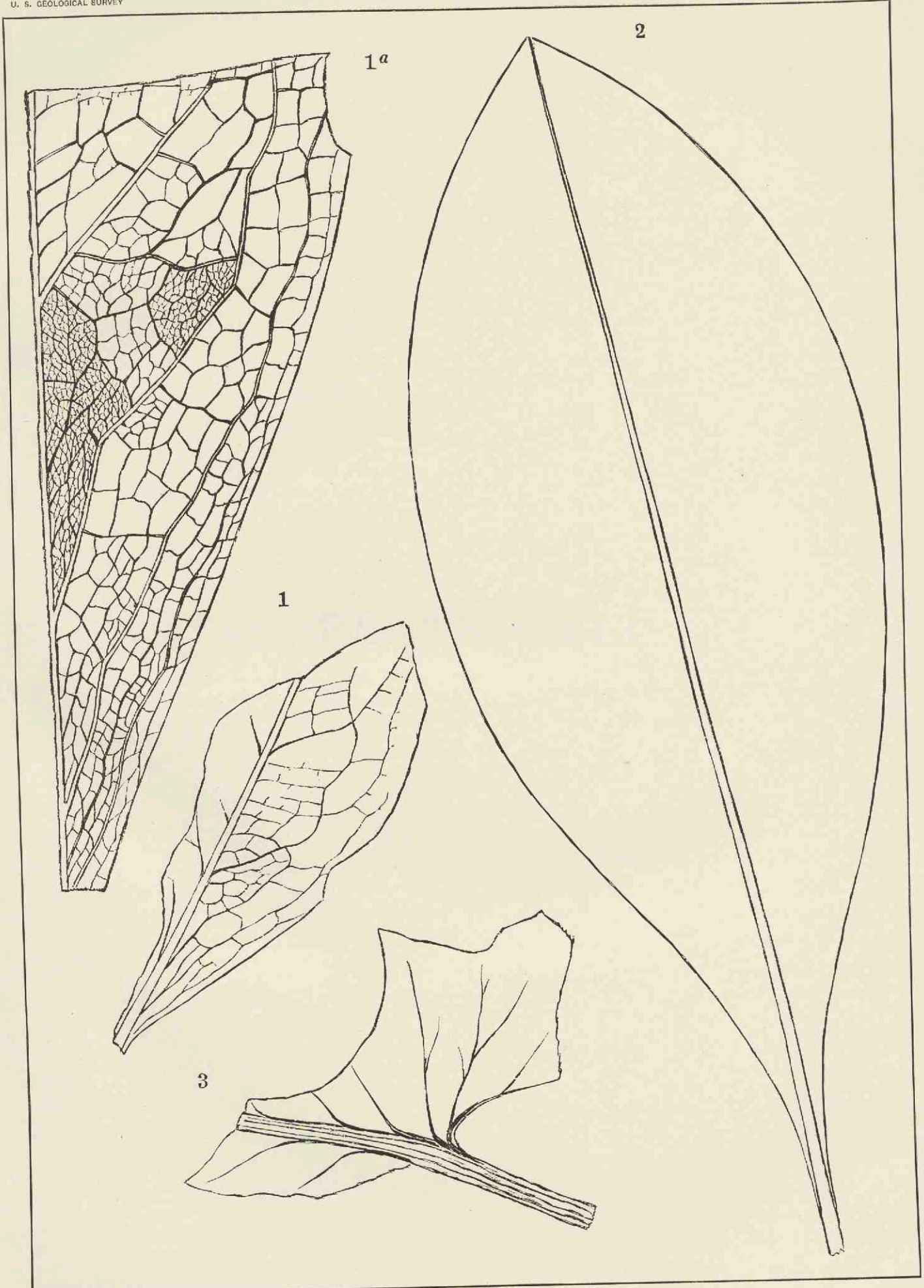


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1^a

2

1

3

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PLATE CXLI.

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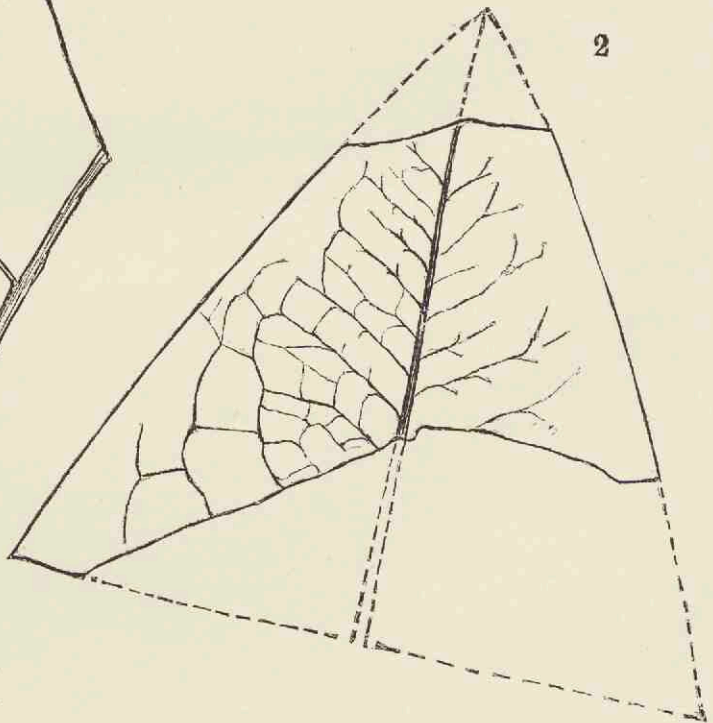
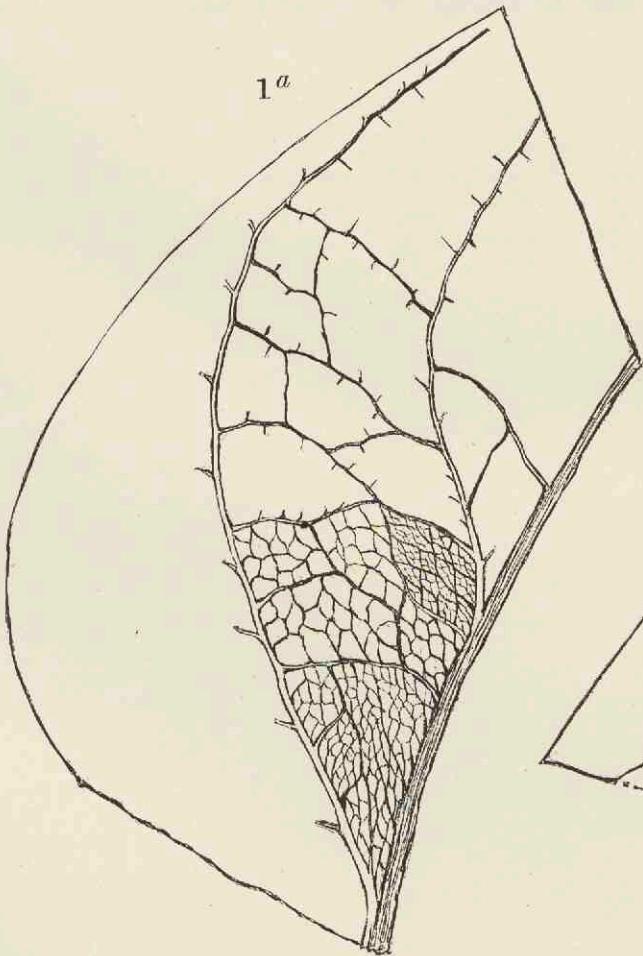
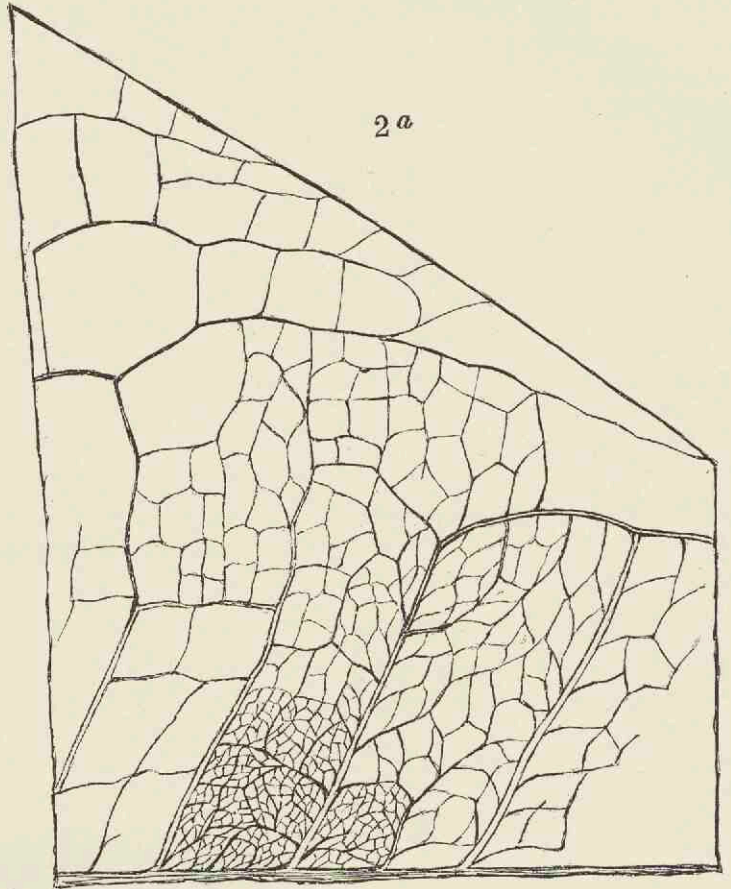
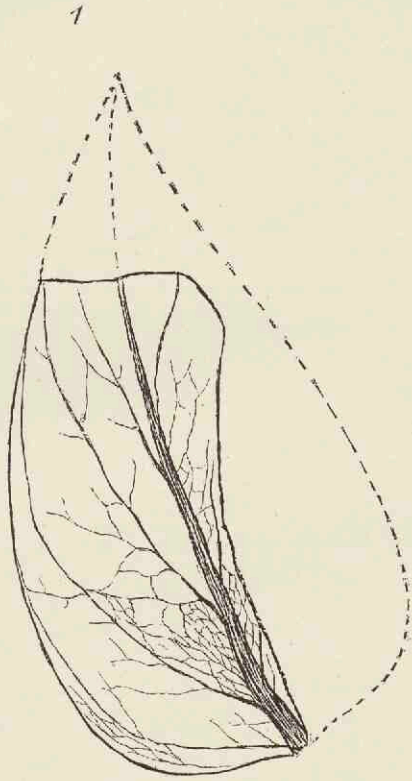
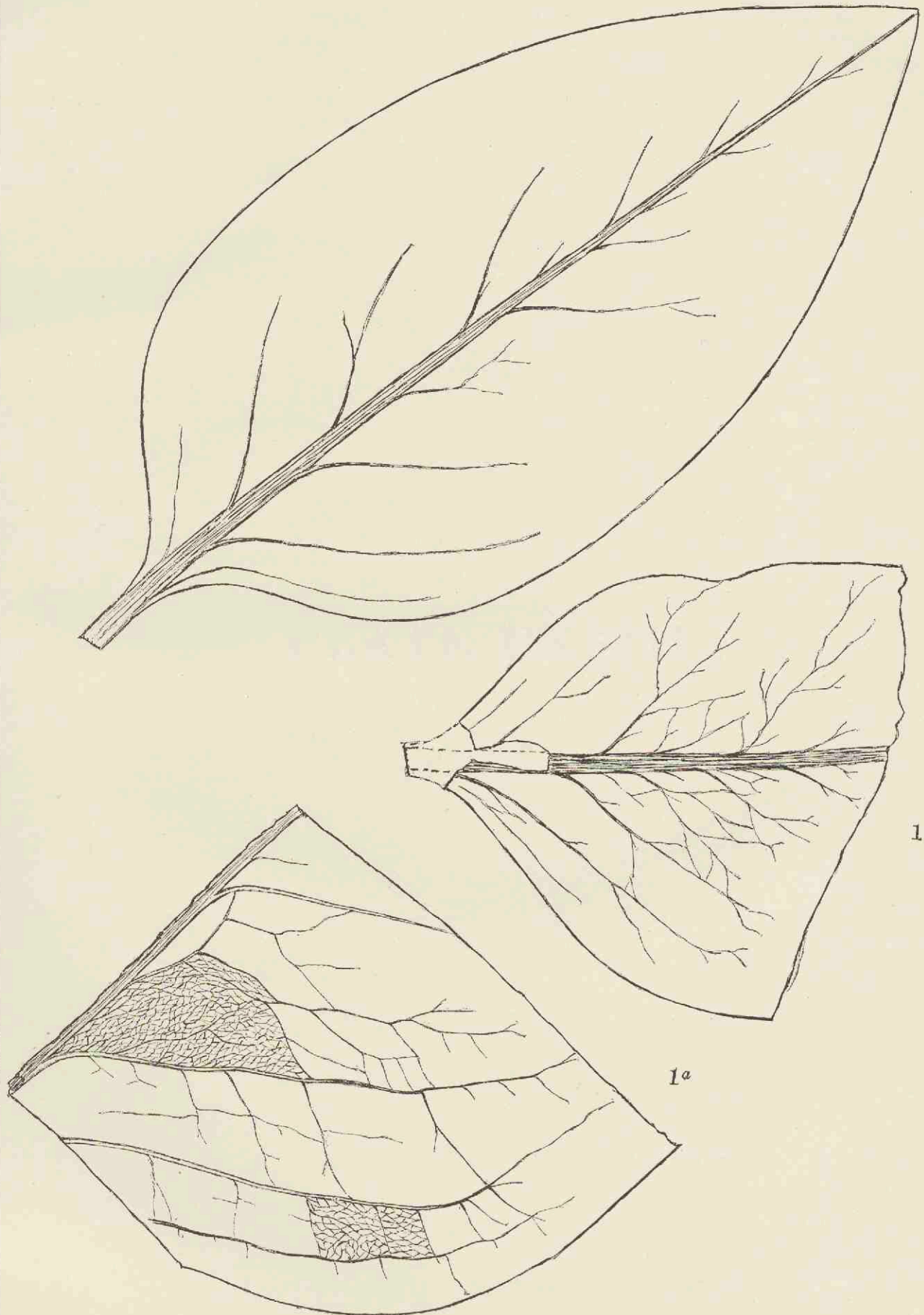


PLATE CXLII.

PLATE CXLII.

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1. Basal portion of a leaf.	285
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2

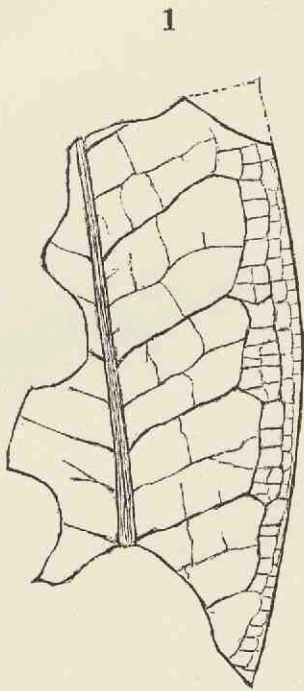
1

1a

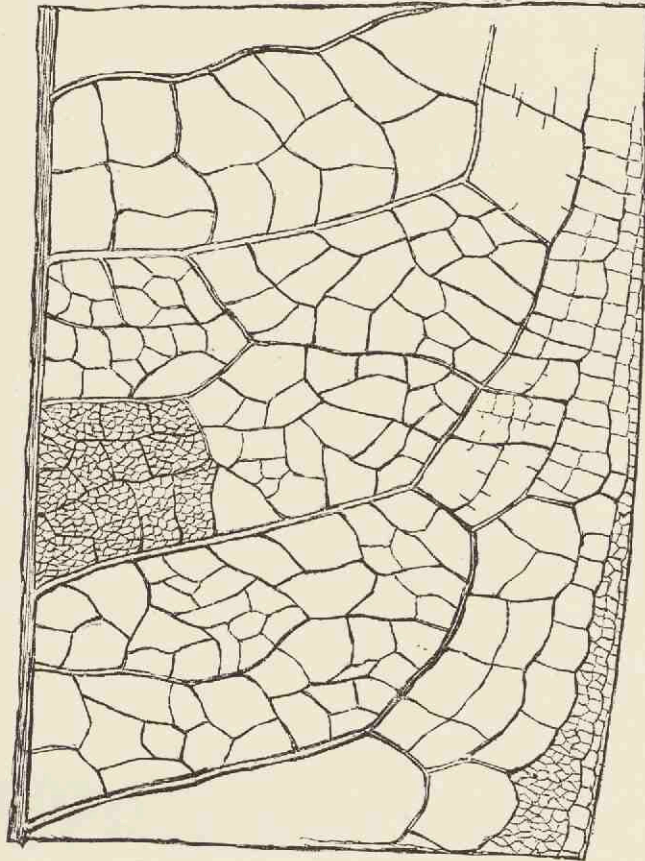
PLATE CXLIII.

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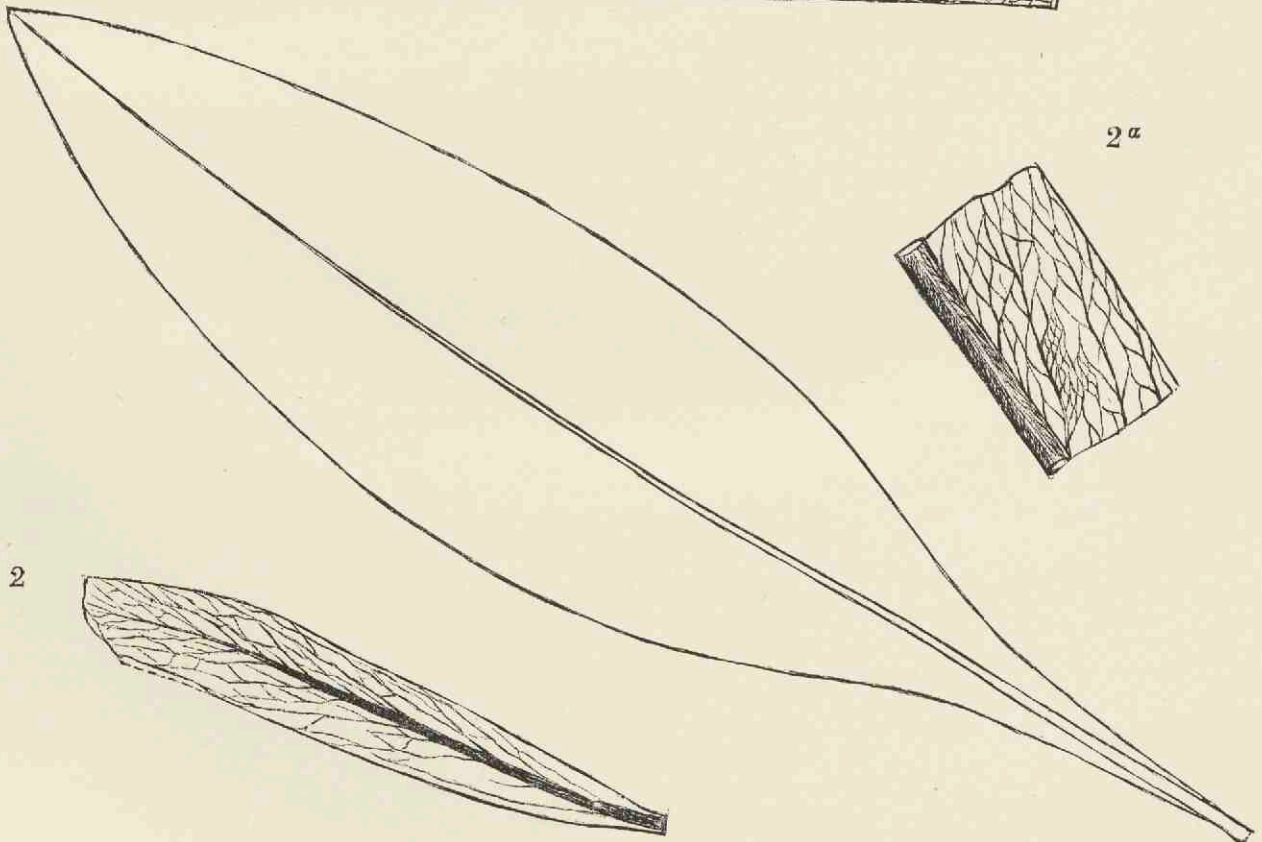
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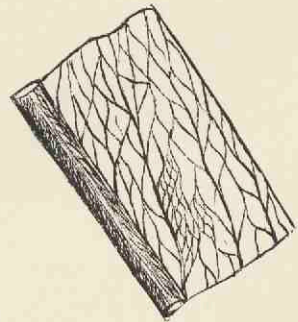
1^a



3



2^a



2

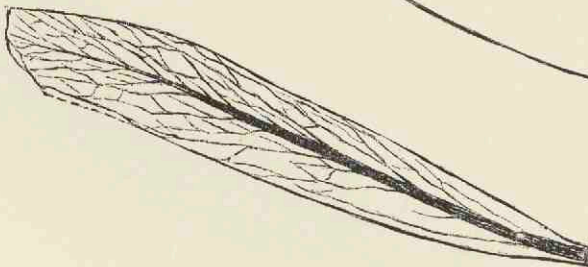


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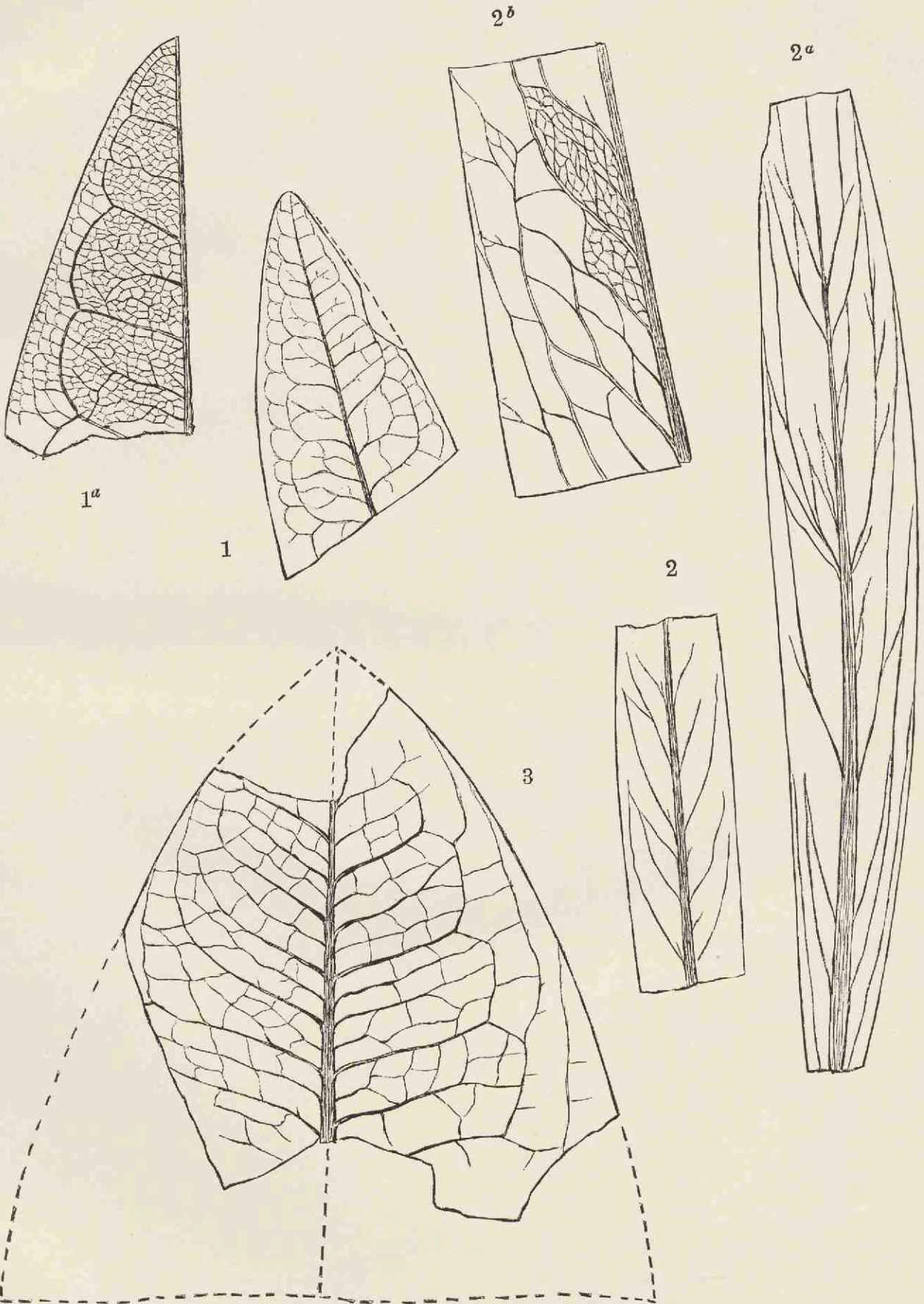
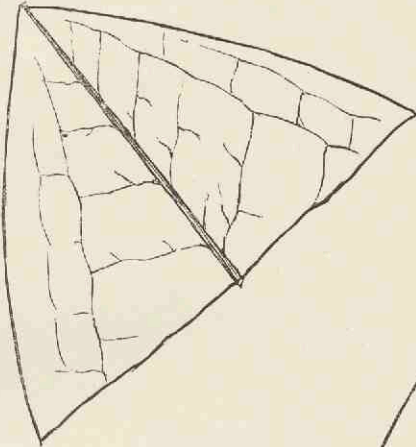


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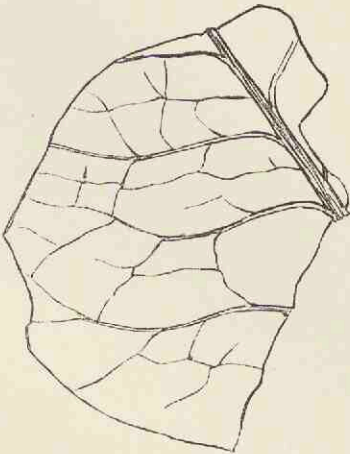
1



2



3



4

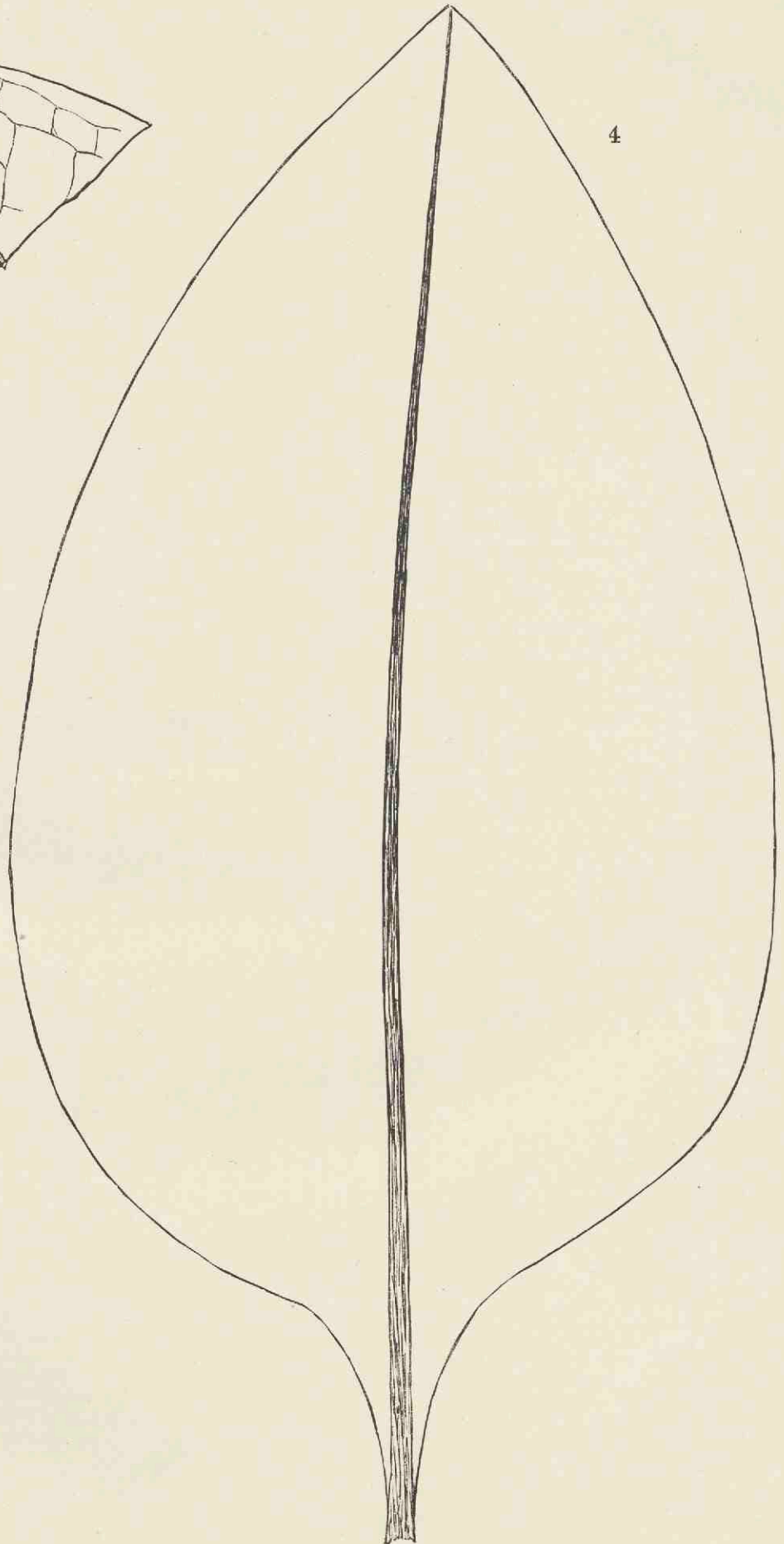
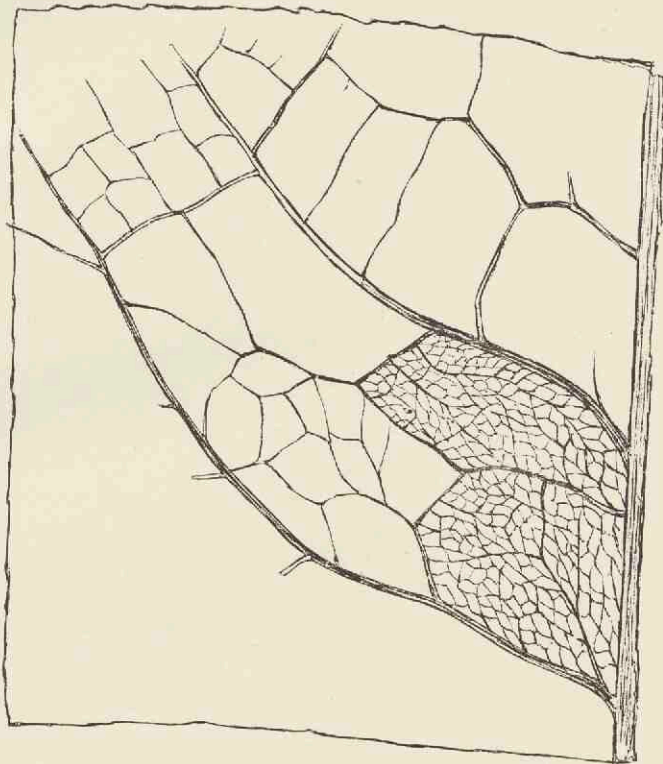


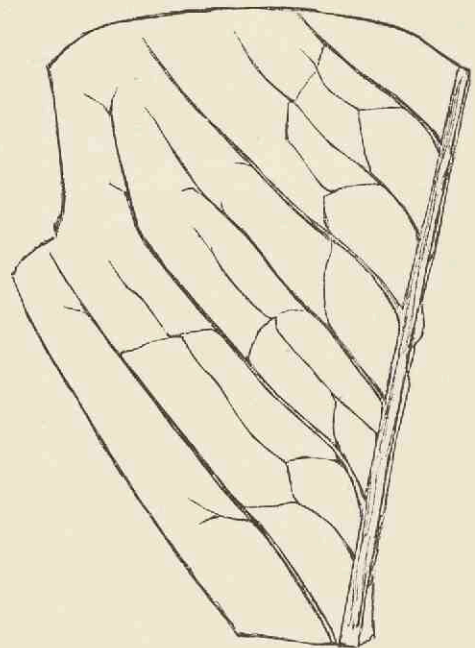
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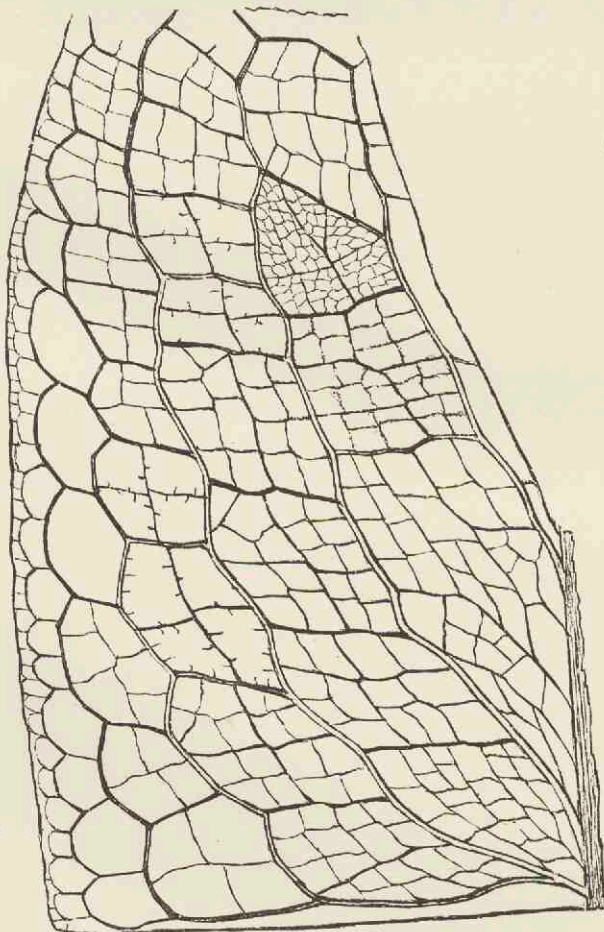
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1^a

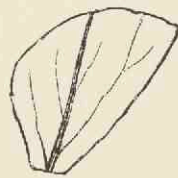


1



3^a

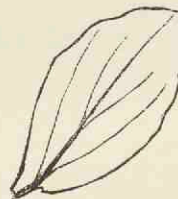
2



5



4



3

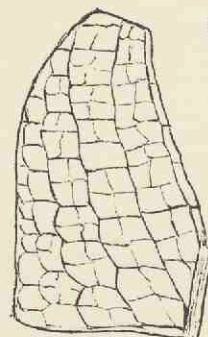


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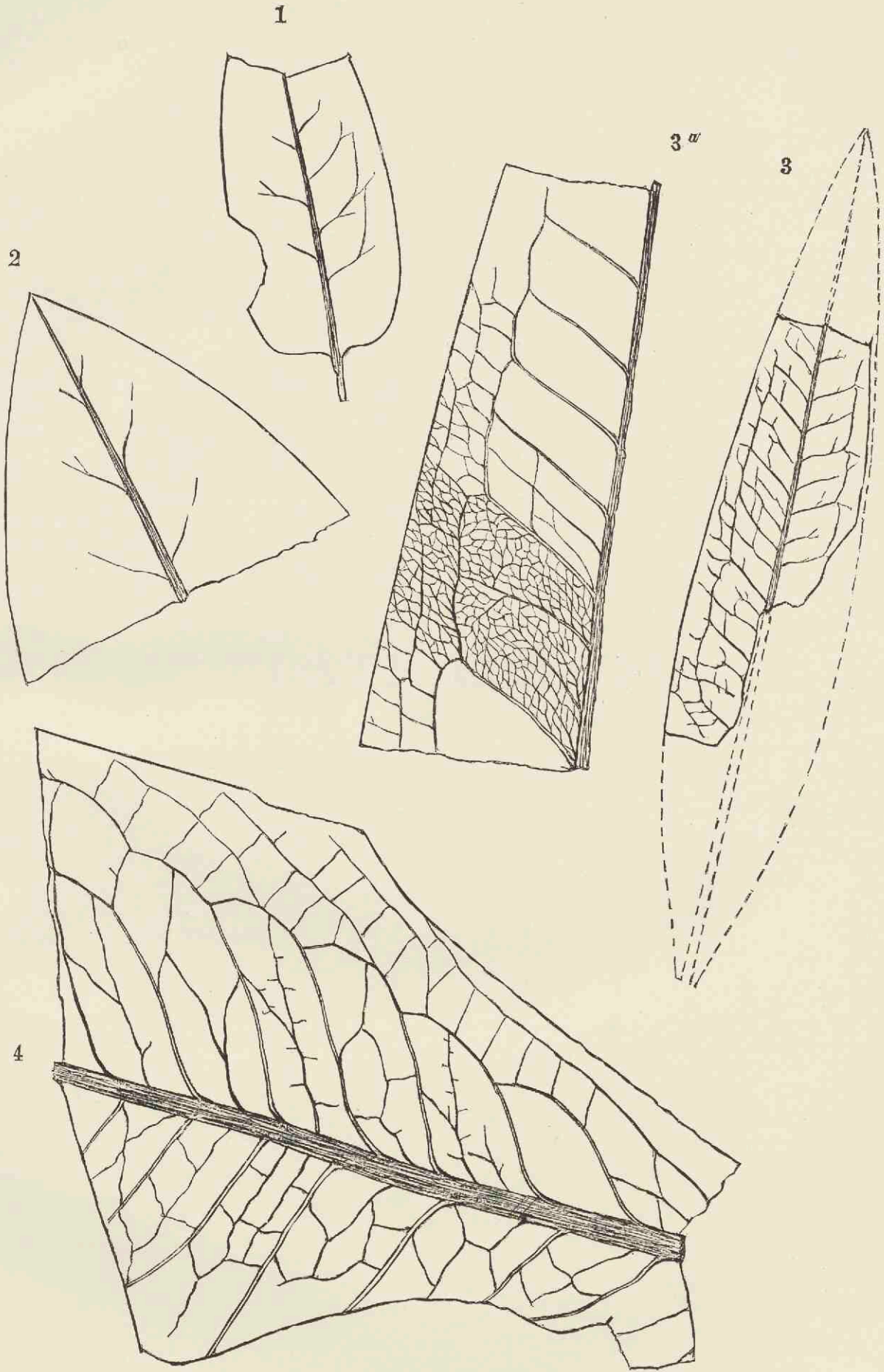


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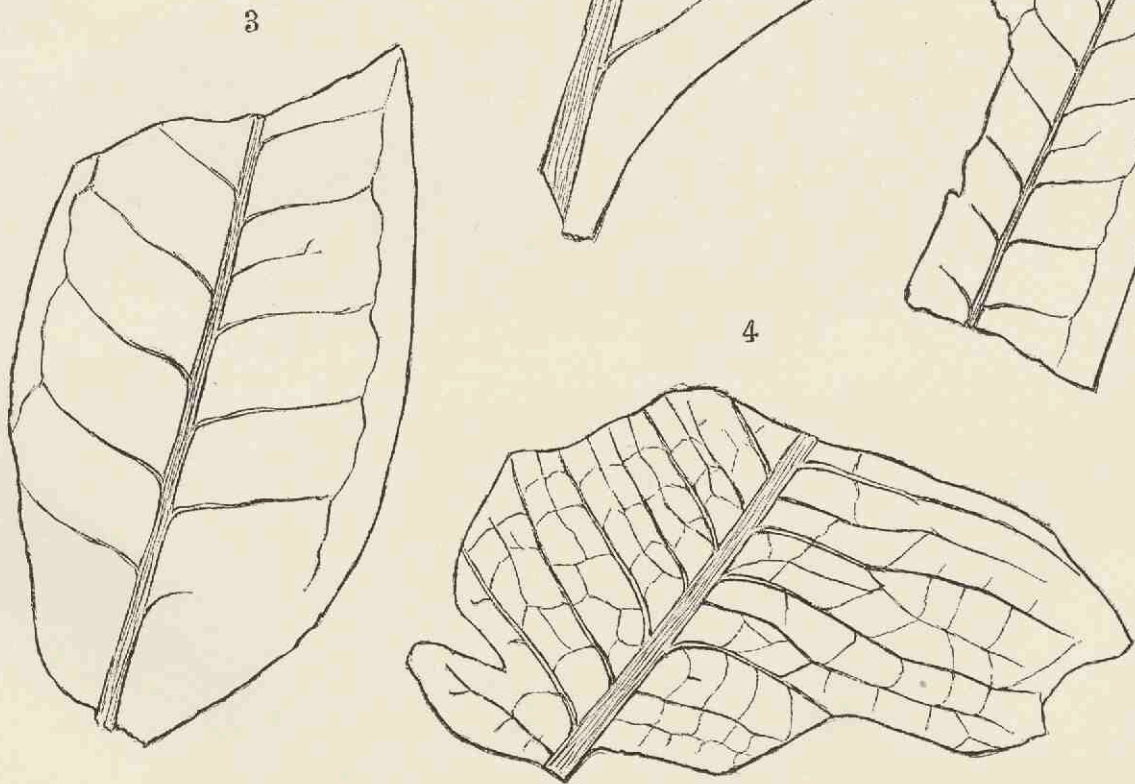
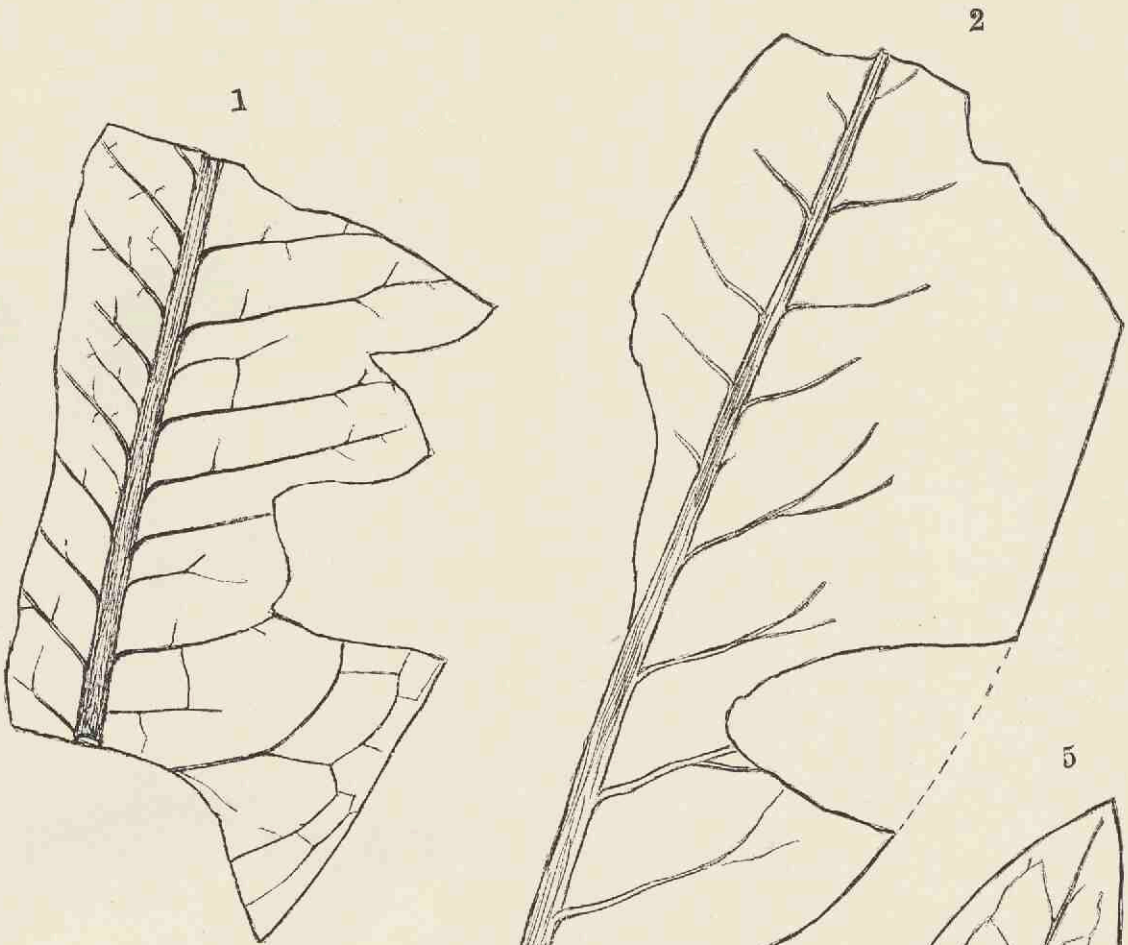


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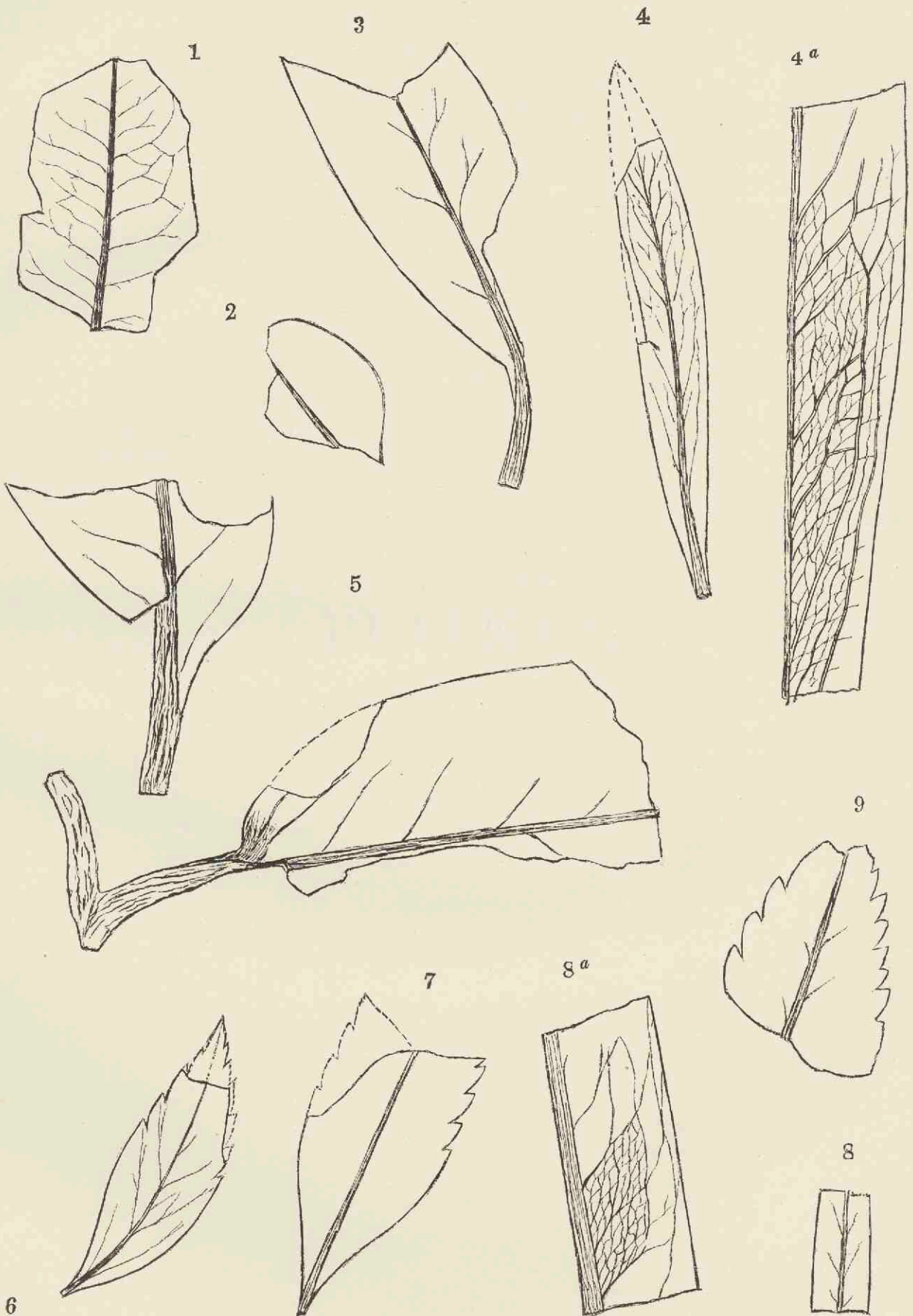


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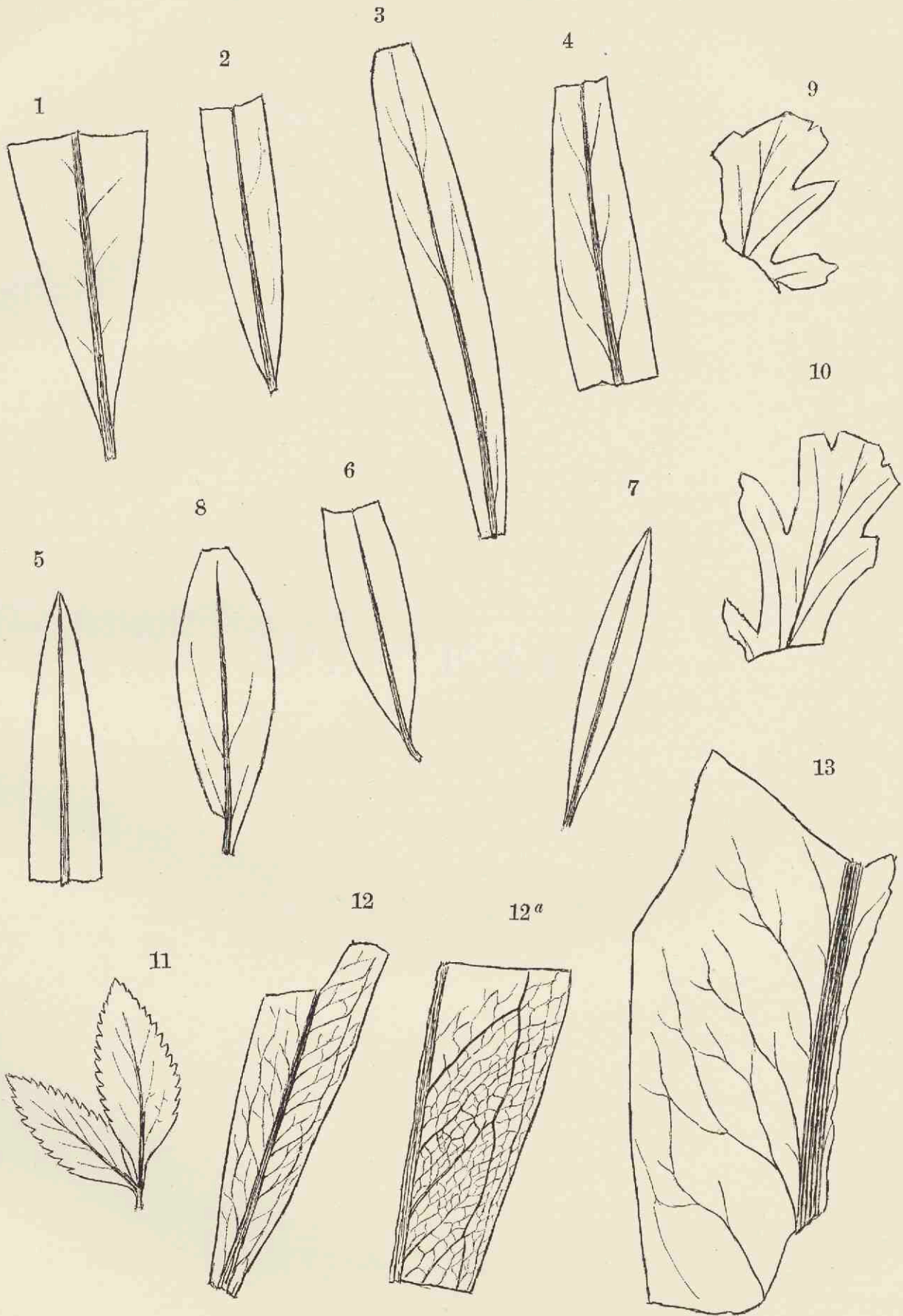


PLATE CLI.

PLATE CLI.

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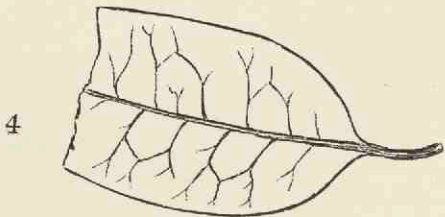
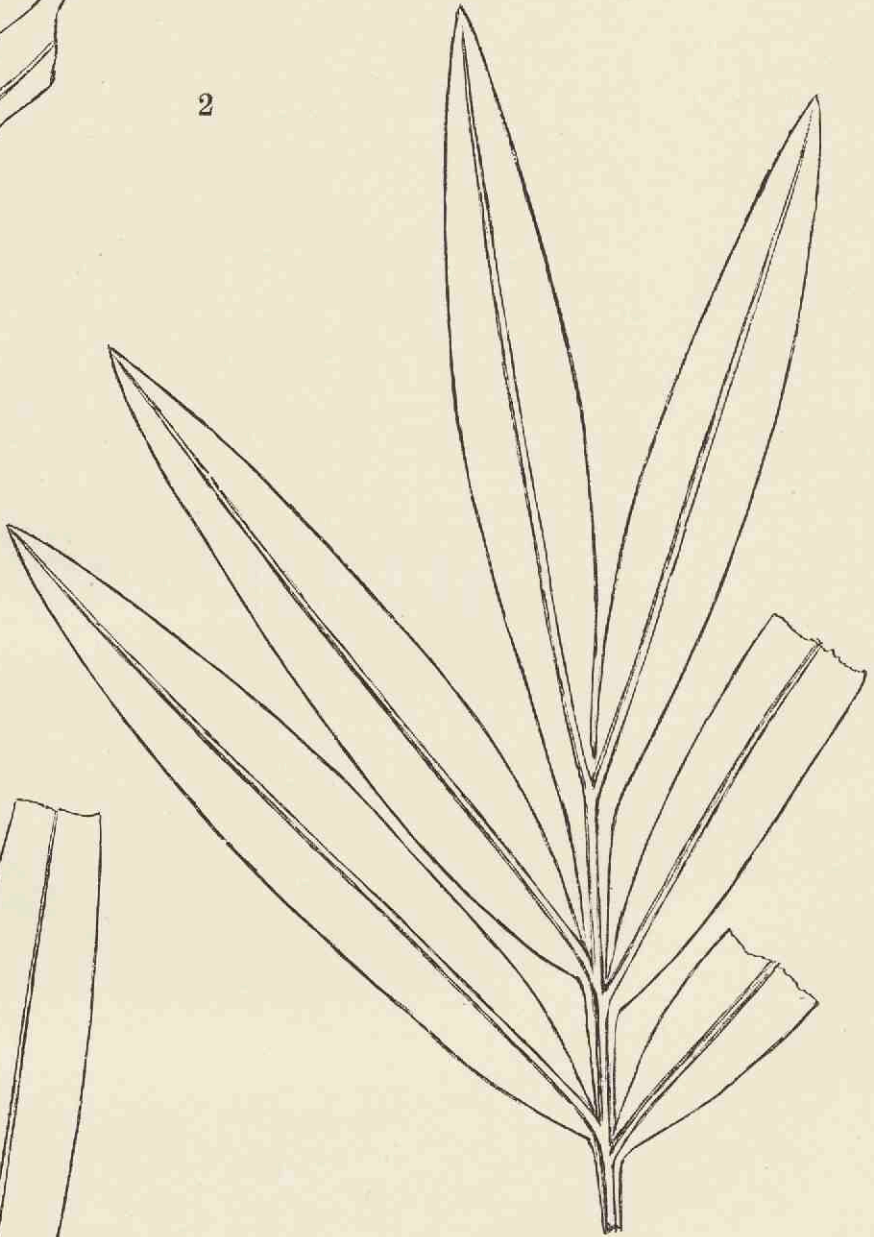
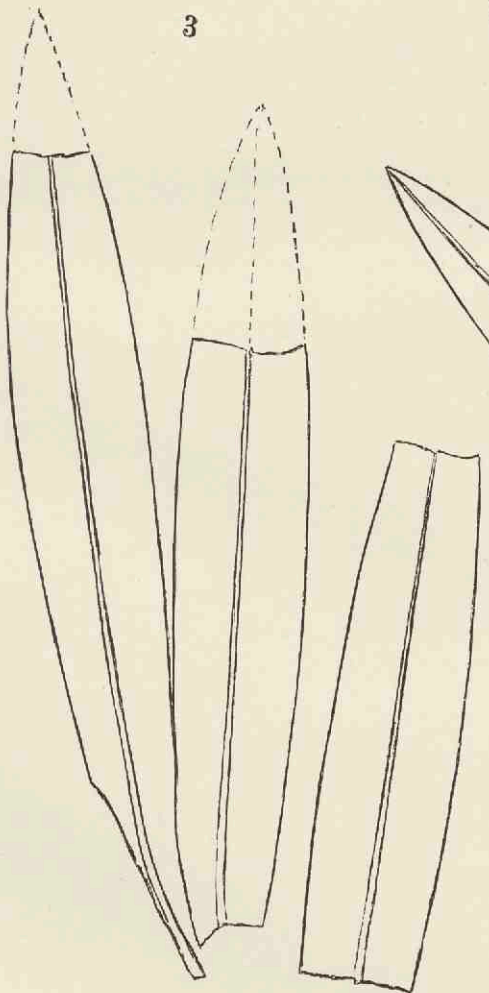
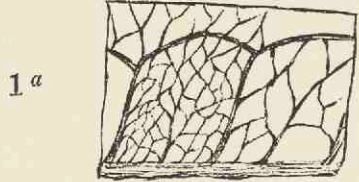
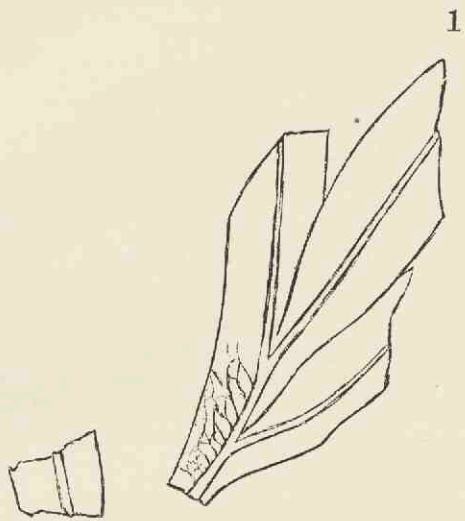
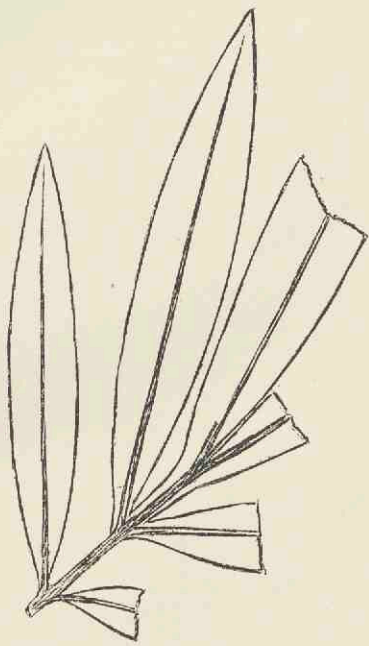


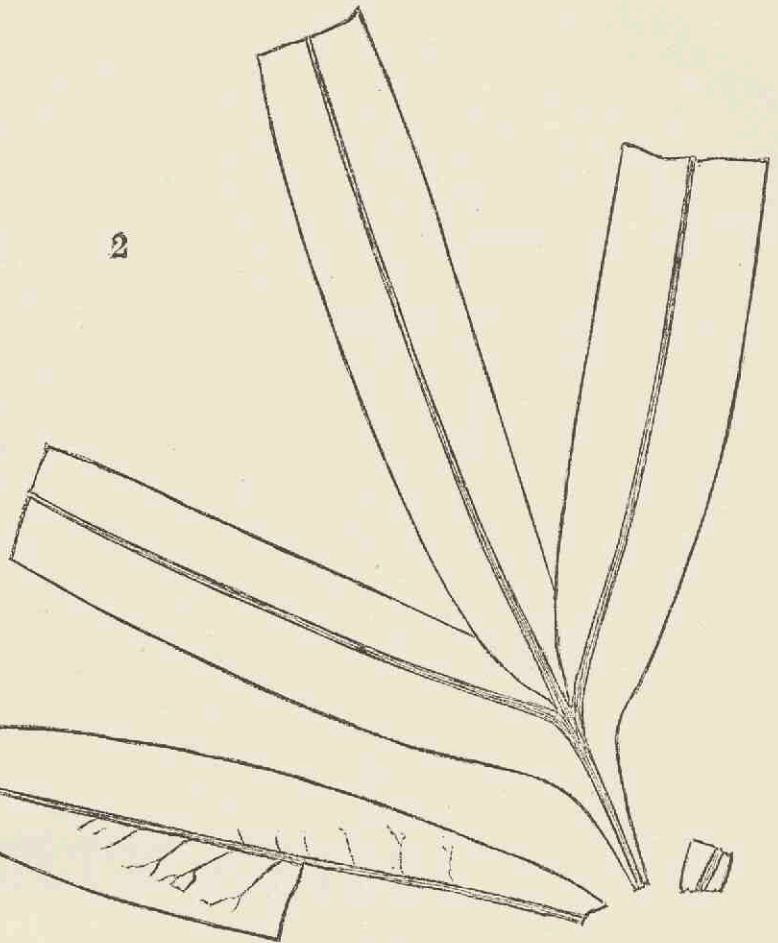
PLATE CLII.

PLATE CLII.

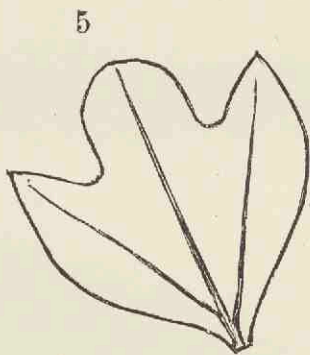
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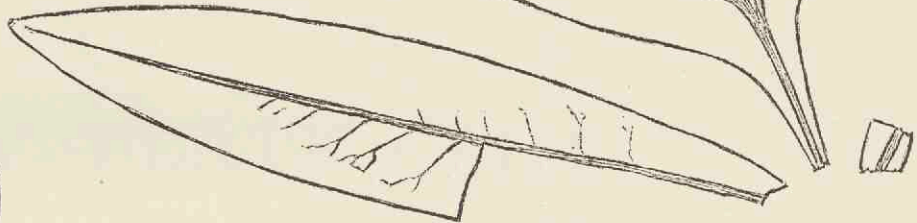
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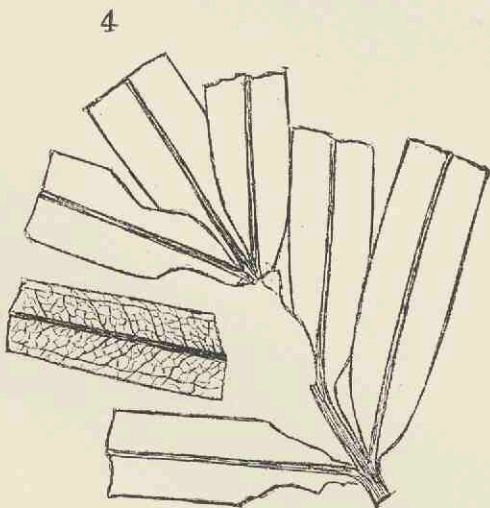
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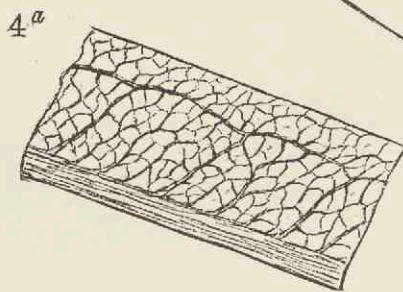
5



3



4



4^a

PLATE CLIII.

PLATE CLIII.

	Page.
FIG. 1. <i>SAPINDOPSIS TENUINERVIS</i> , sp. nov.	301
1. Upper part of a compound leaf	301
1 ^a . Portion of the base of a leaflet magnified three diameters	301
1 ^b . Portion of the middle of a leaflet magnified three diameters	301
FIG. 2. <i>SAPINDOPSIS MAGNIFOLIA</i> , sp. nov.	297
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3. Fragment of a compound leaf	298
FIG. 4. <i>SAPINDOPSIS BREVI-FOLIA</i> , sp. nov.	300
4. Summit of a compound leaf	300

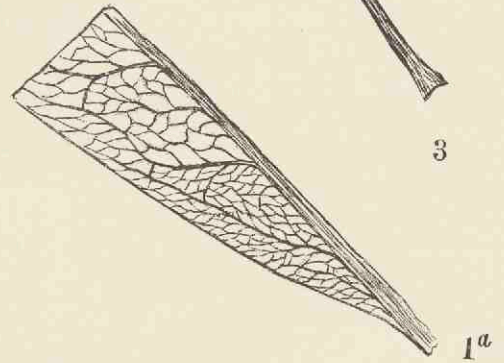
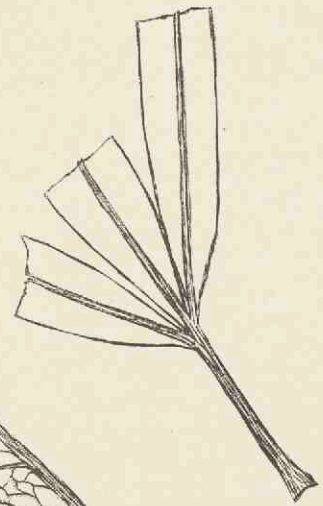
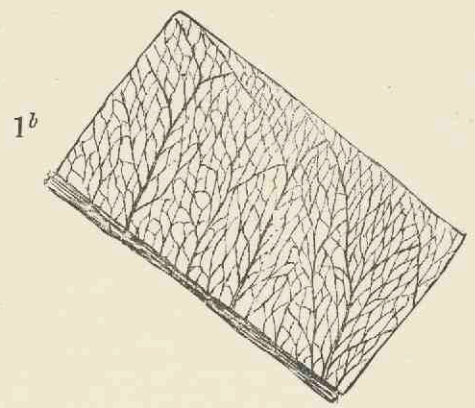
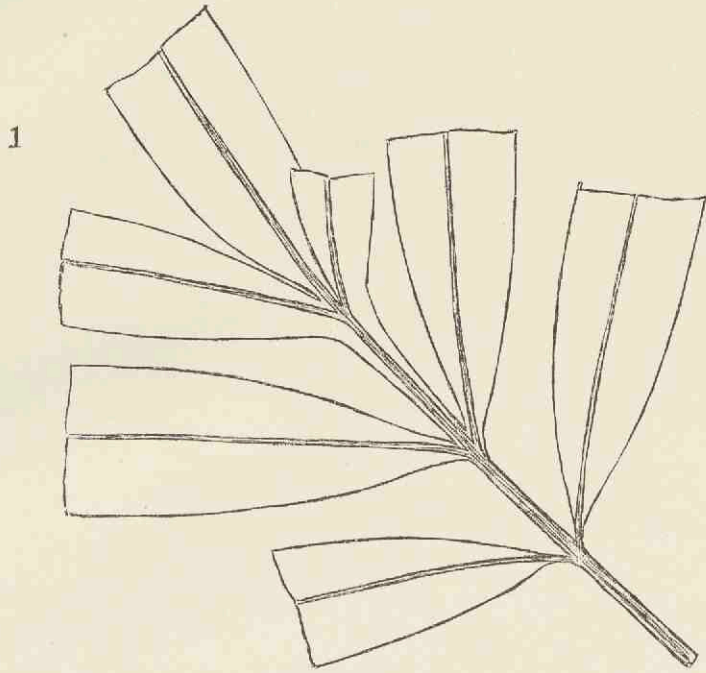


PLATE CLIV.

PLATE CLIV.

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1. Upper part of a small compound leaf.	297
1 ^a . Portion of a leaflet magnified three diameters	297
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6. Upper part of a compound leaf.	300

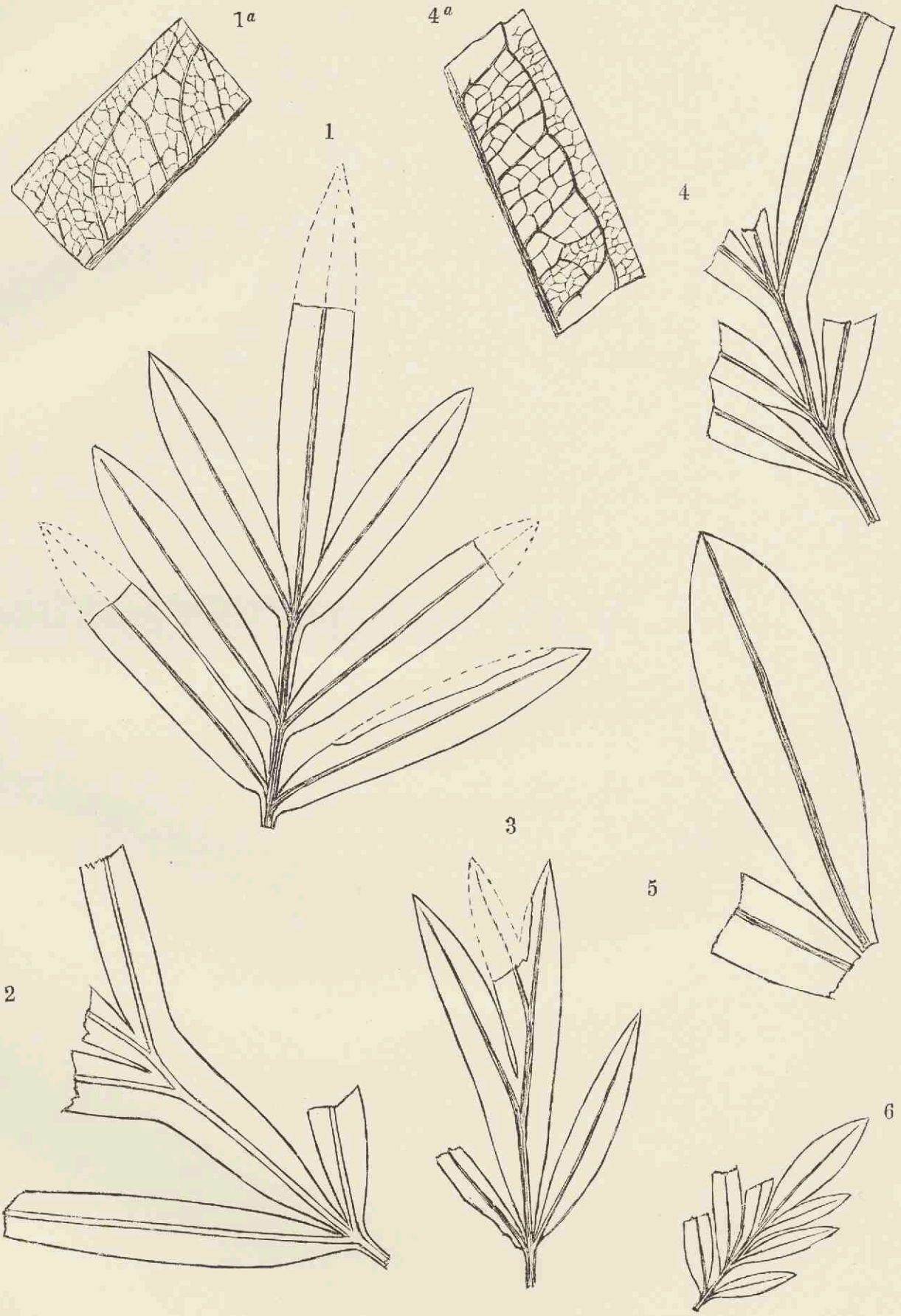


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PLATE CLV.

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FIG. 9. <i>POPULOPHYLLUM RENIFORME</i> , sp. nov.	311
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9 ^a . Portion of 9 magnified three diameters	311

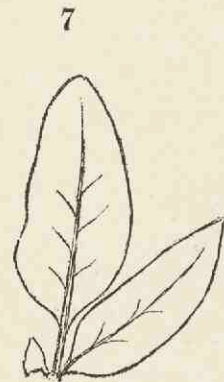
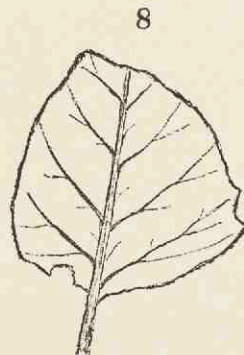
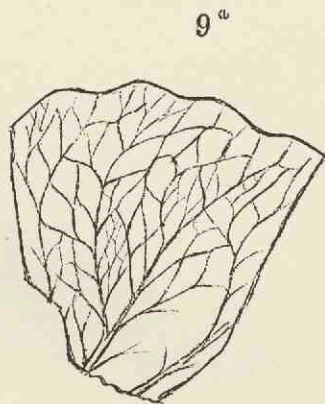
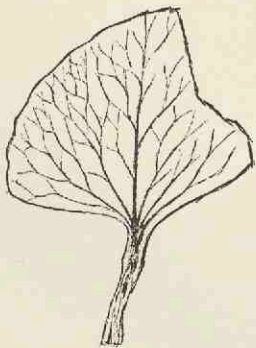
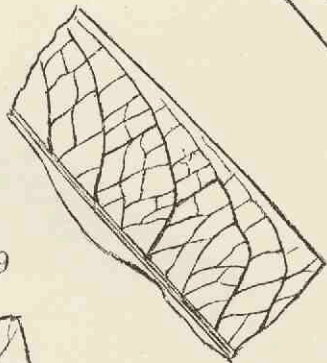
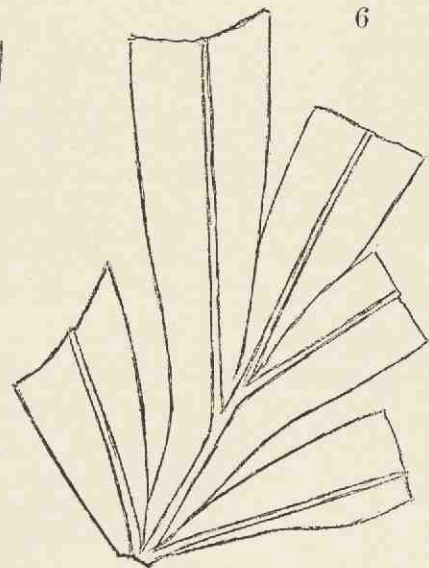
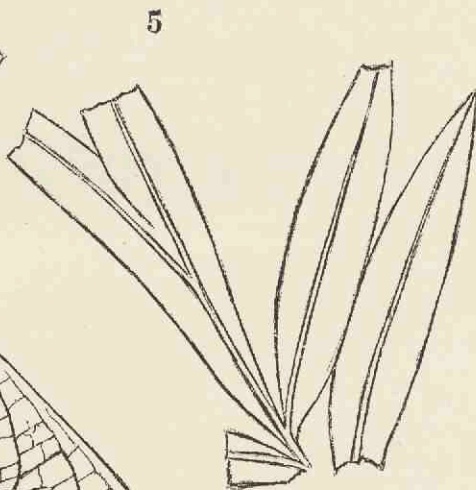
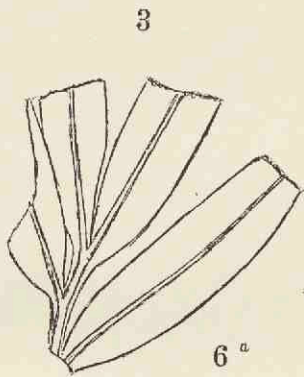
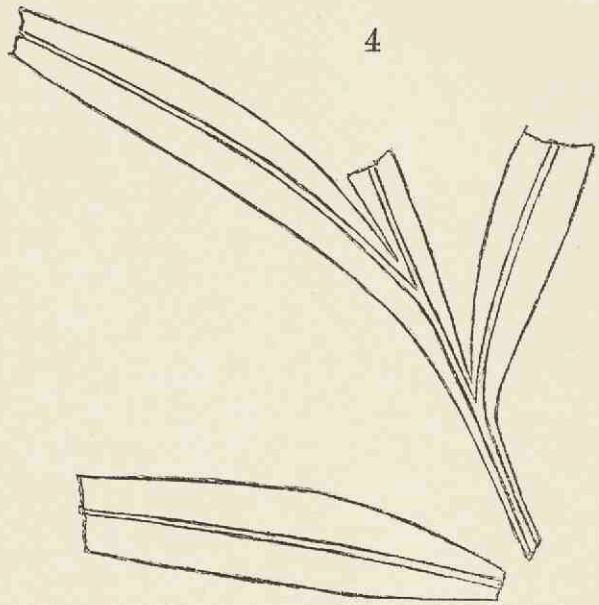
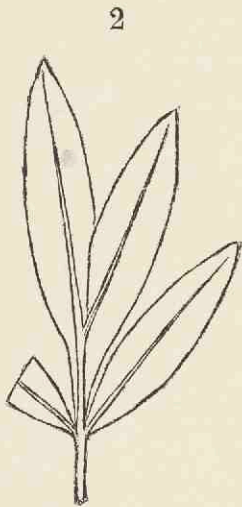
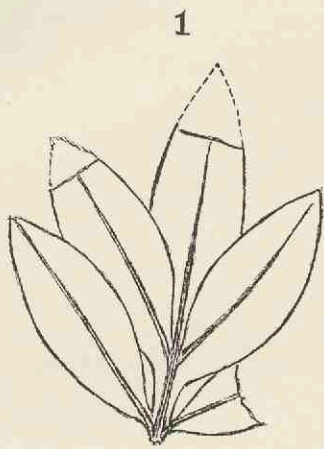


PLATE CLVI.

PLATE CLVI.

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12. Fragment of a leaf	290
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13. Small portion of a leaf	301

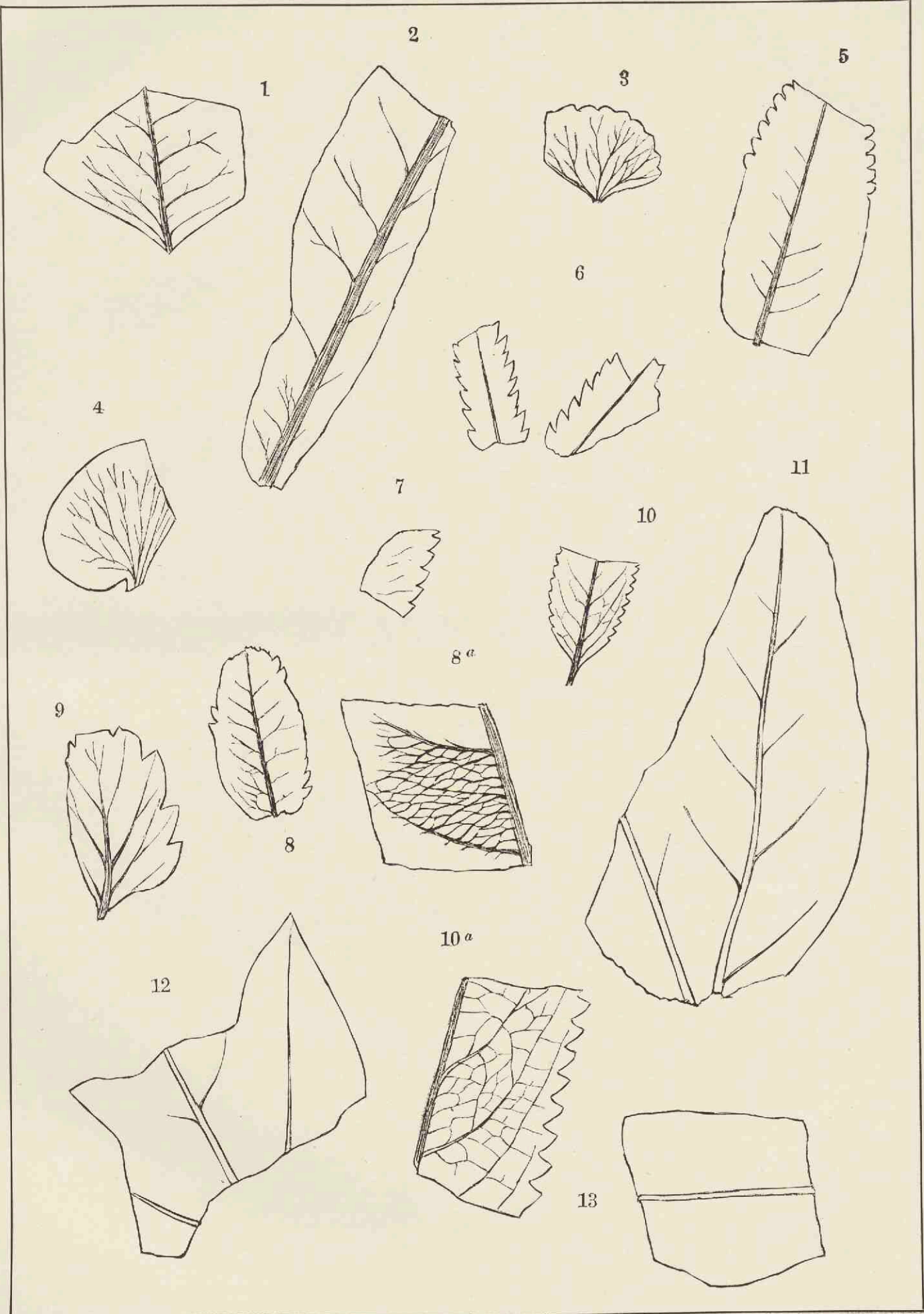


PLATE CLVII.

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4. Tip of a leaf	291

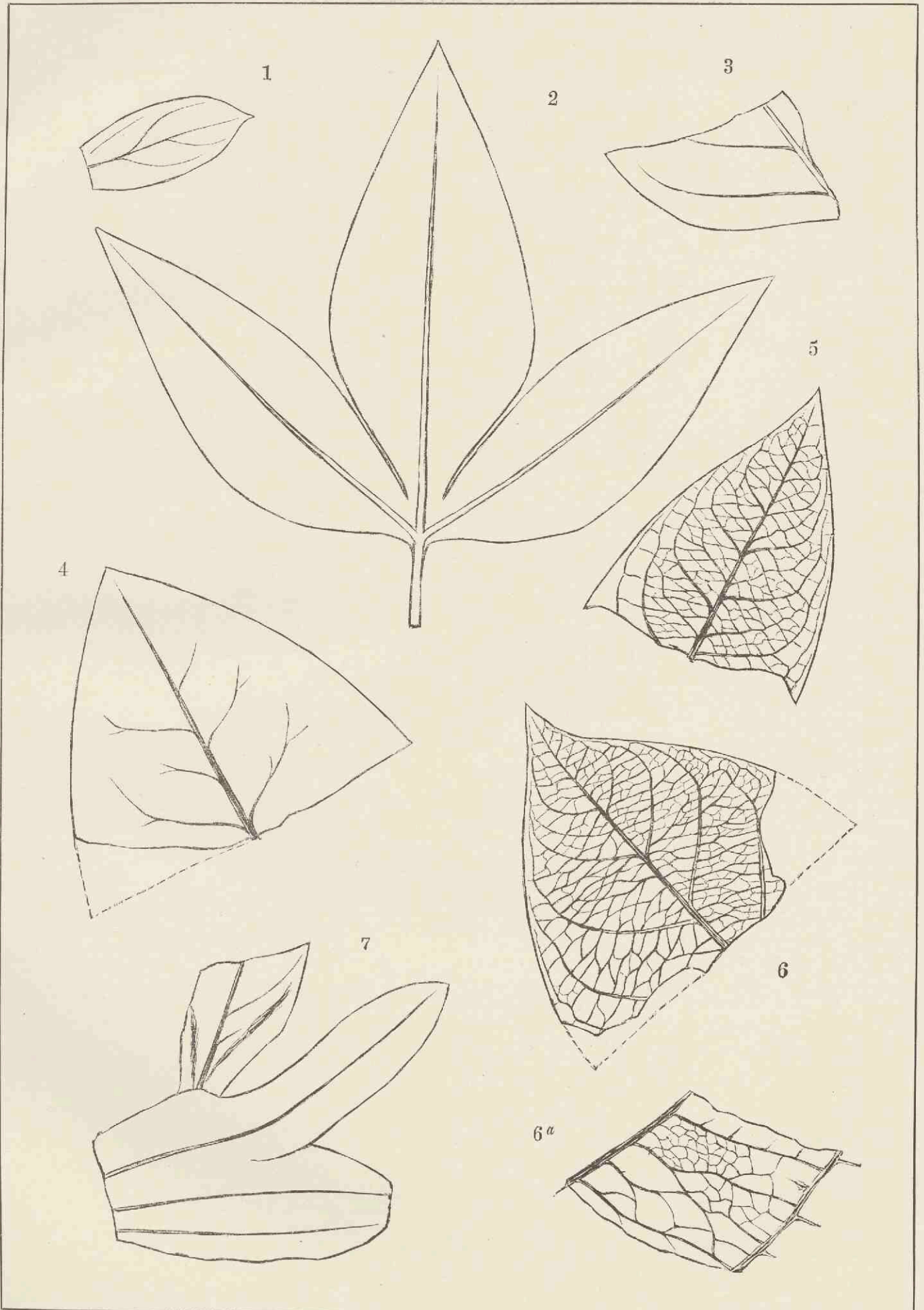


PLATE CLVIII.

PLATE CLVIII.

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FIG. 8. <i>CELASTROPHYLLUM BROOKENSE</i> , sp. nov.	305
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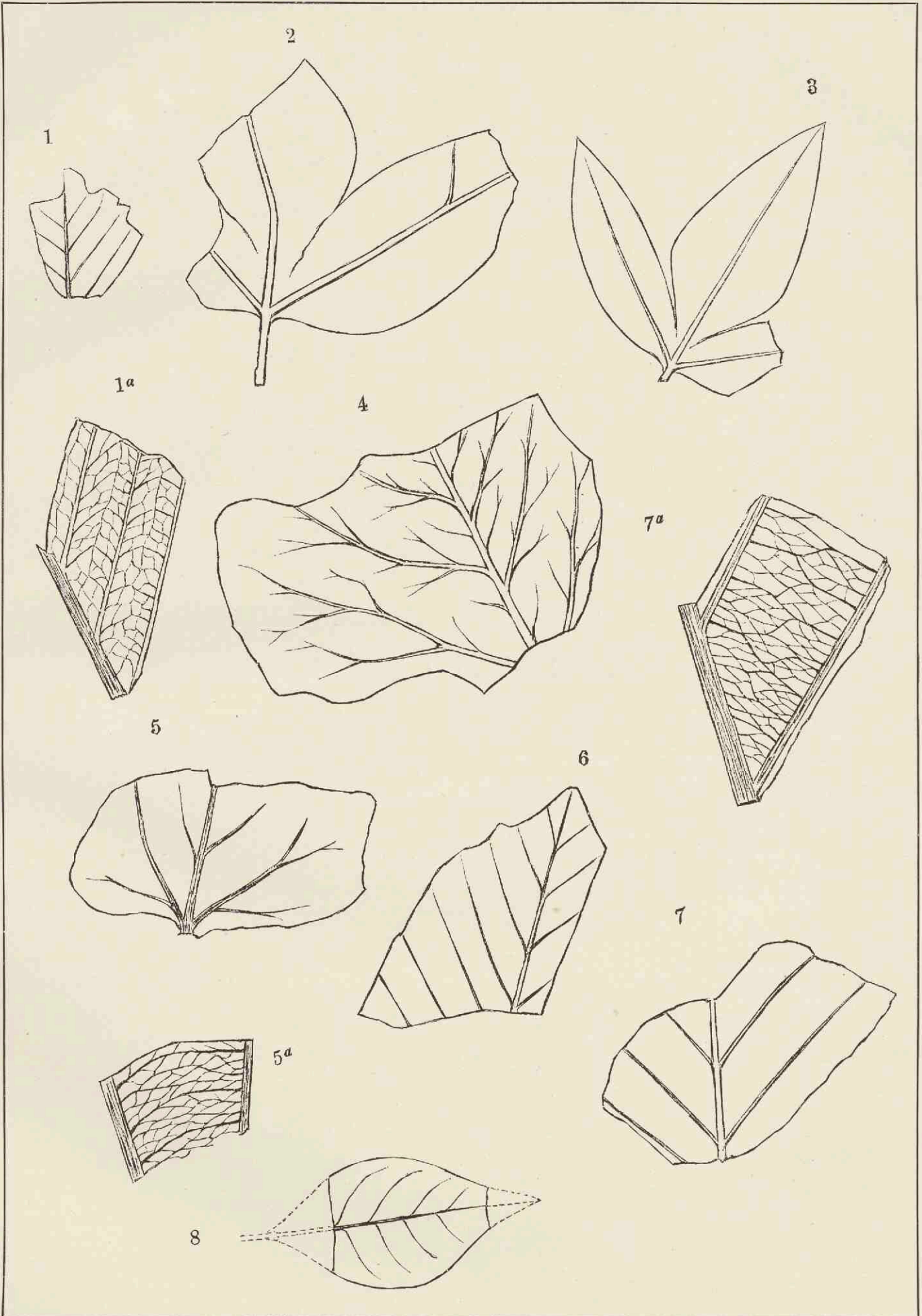
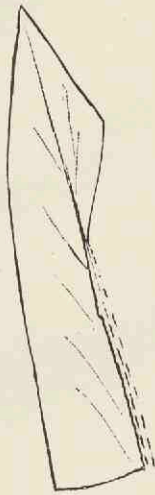


PLATE CLIX.

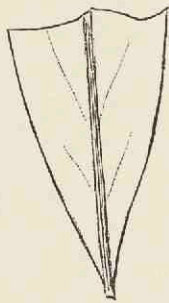
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9, 10. Basal portions of large leaves.	318

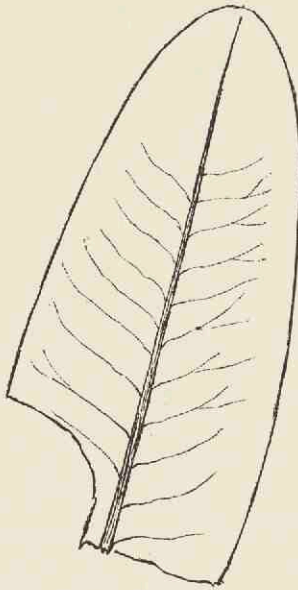
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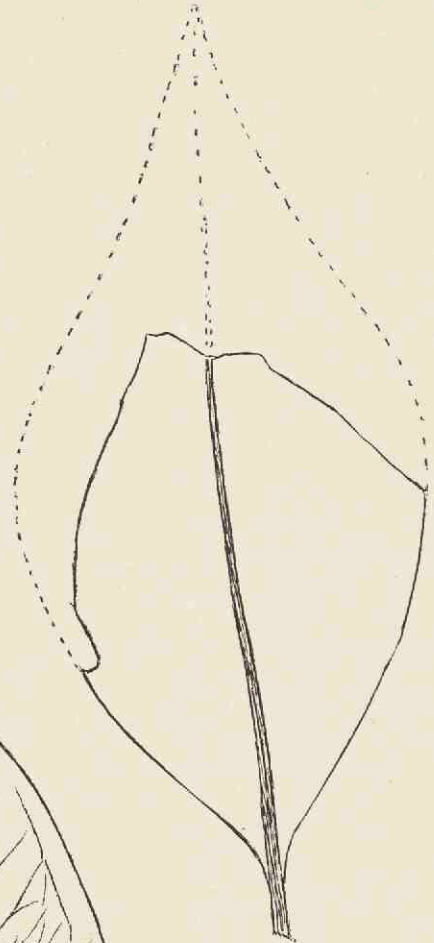
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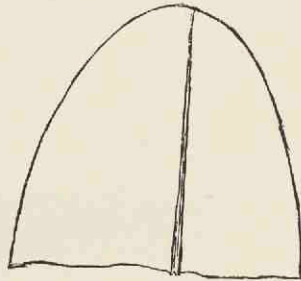
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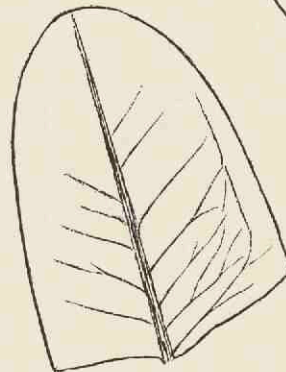
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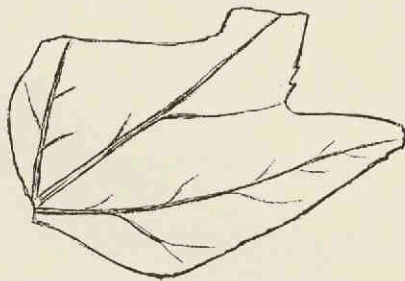
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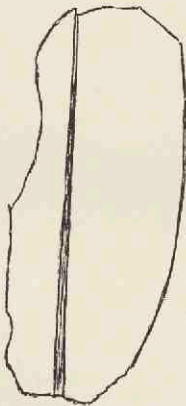
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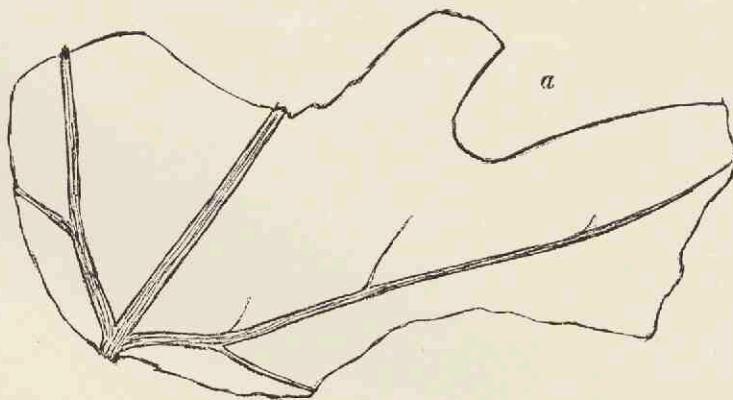
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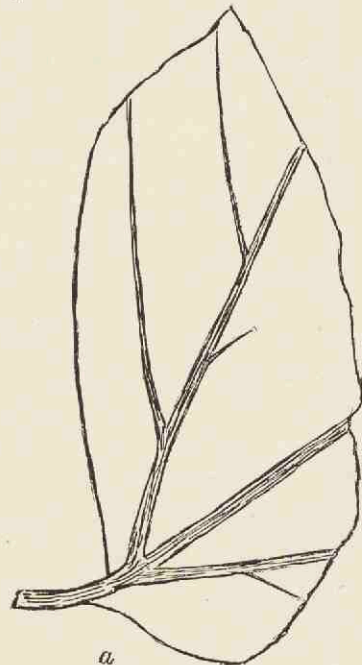
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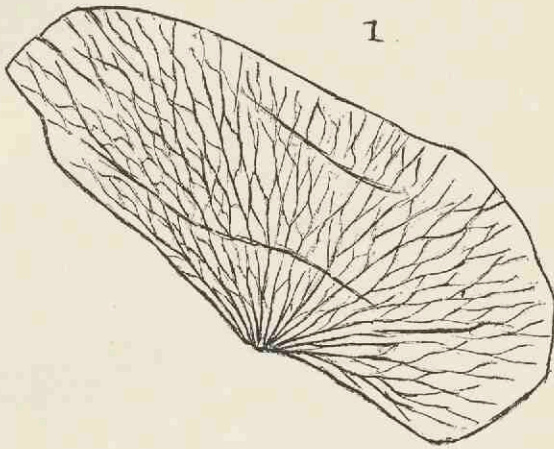


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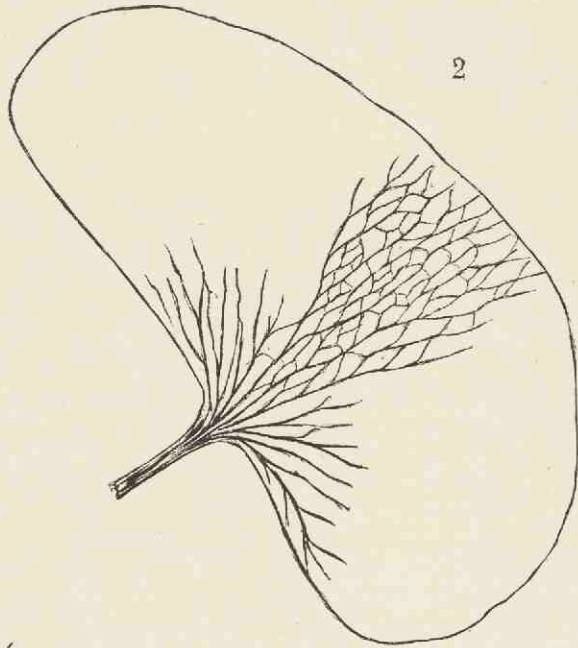
PLATE CLX.

PLATE CLX.

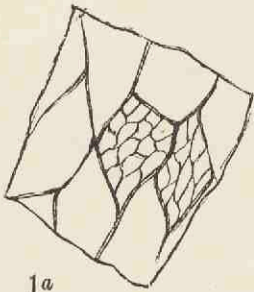
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5. Small fragment showing a primary nerve of large size	322
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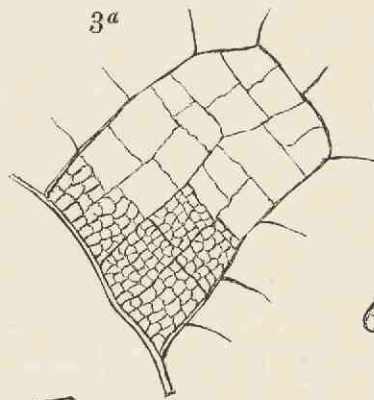
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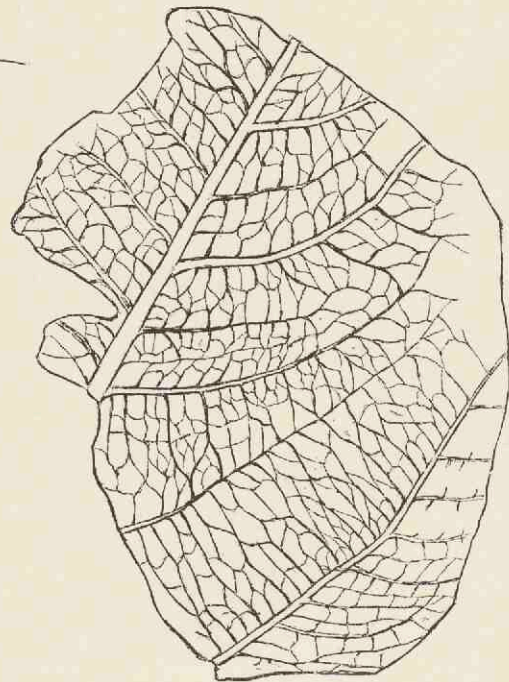
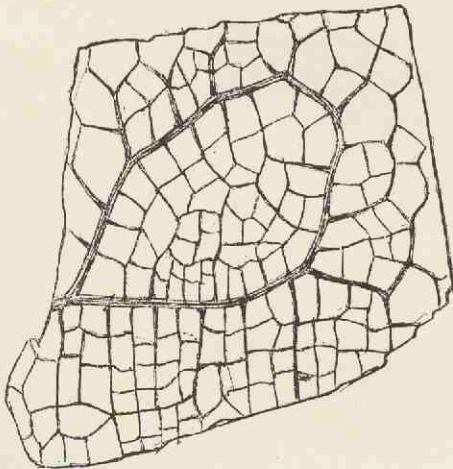


1^a



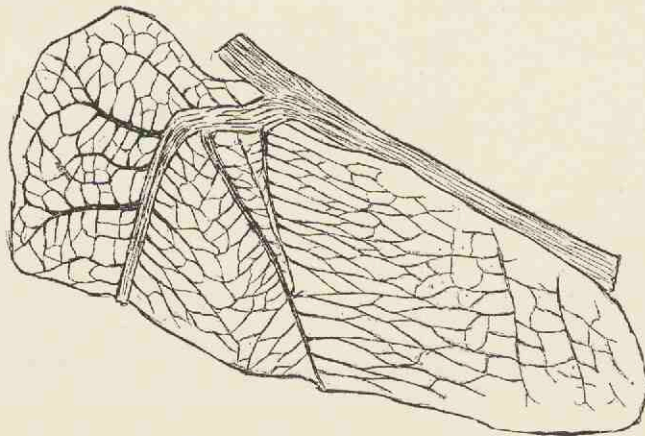
3^a

4



3

6



5

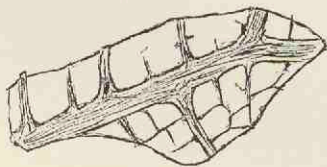


PLATE CLXI.

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1. Fragment of a leaf showing mainly the basal portion	321
1 ^a . Portion of 1 magnified three diameters	321
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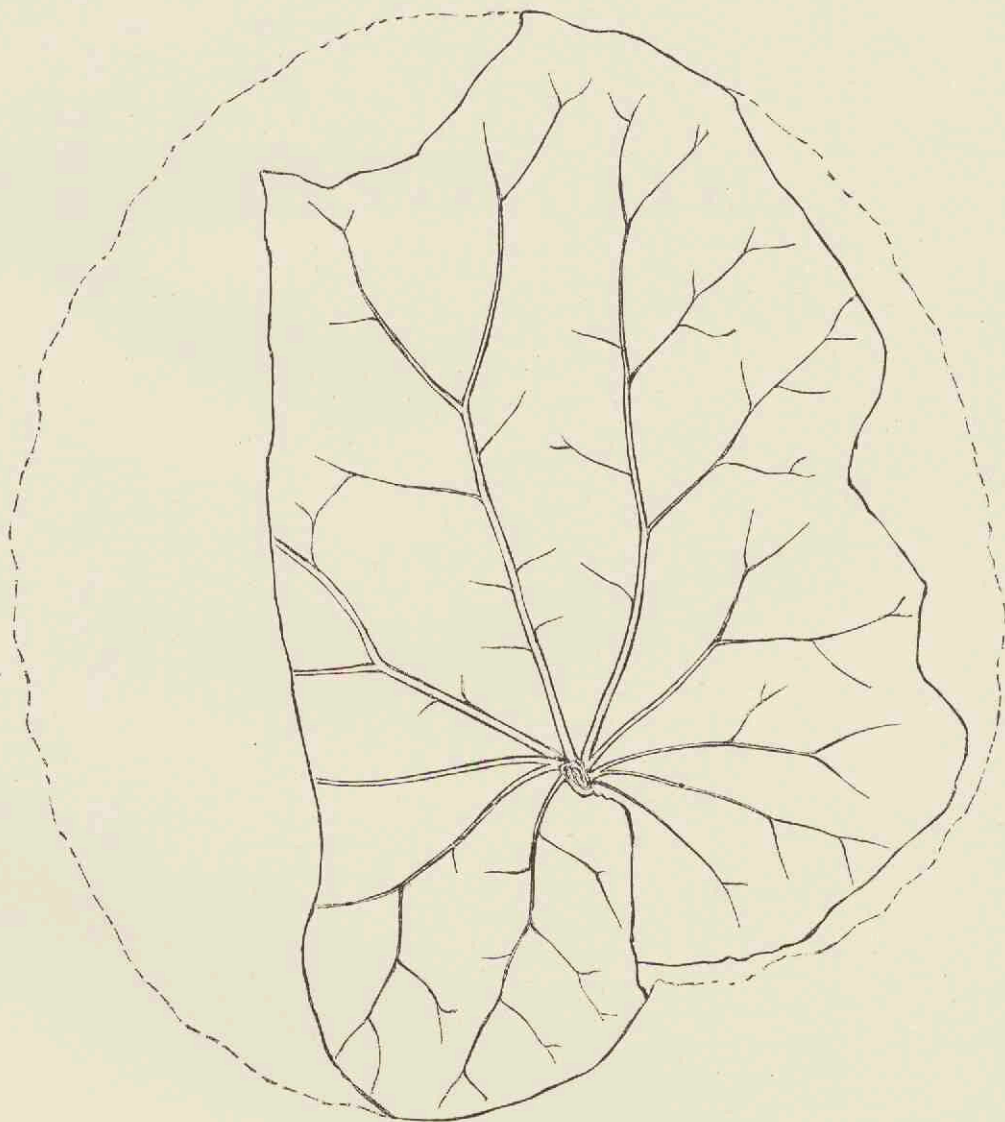
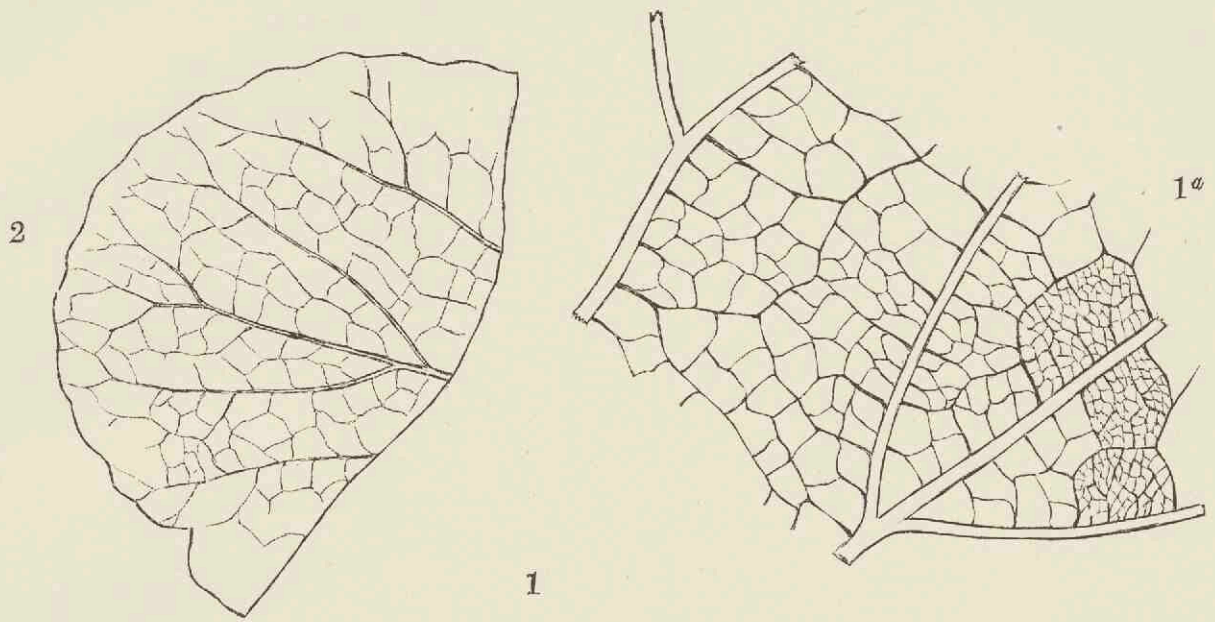


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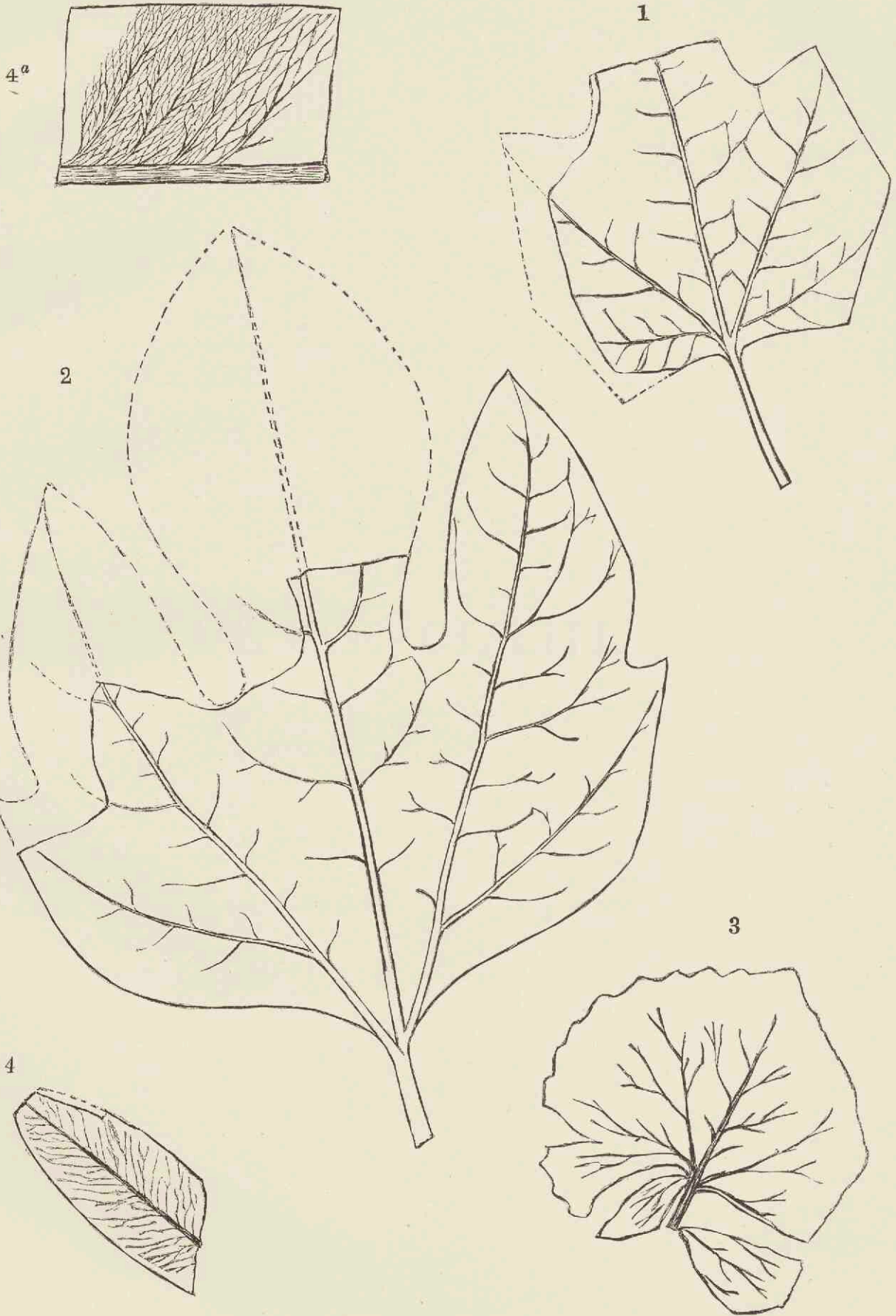


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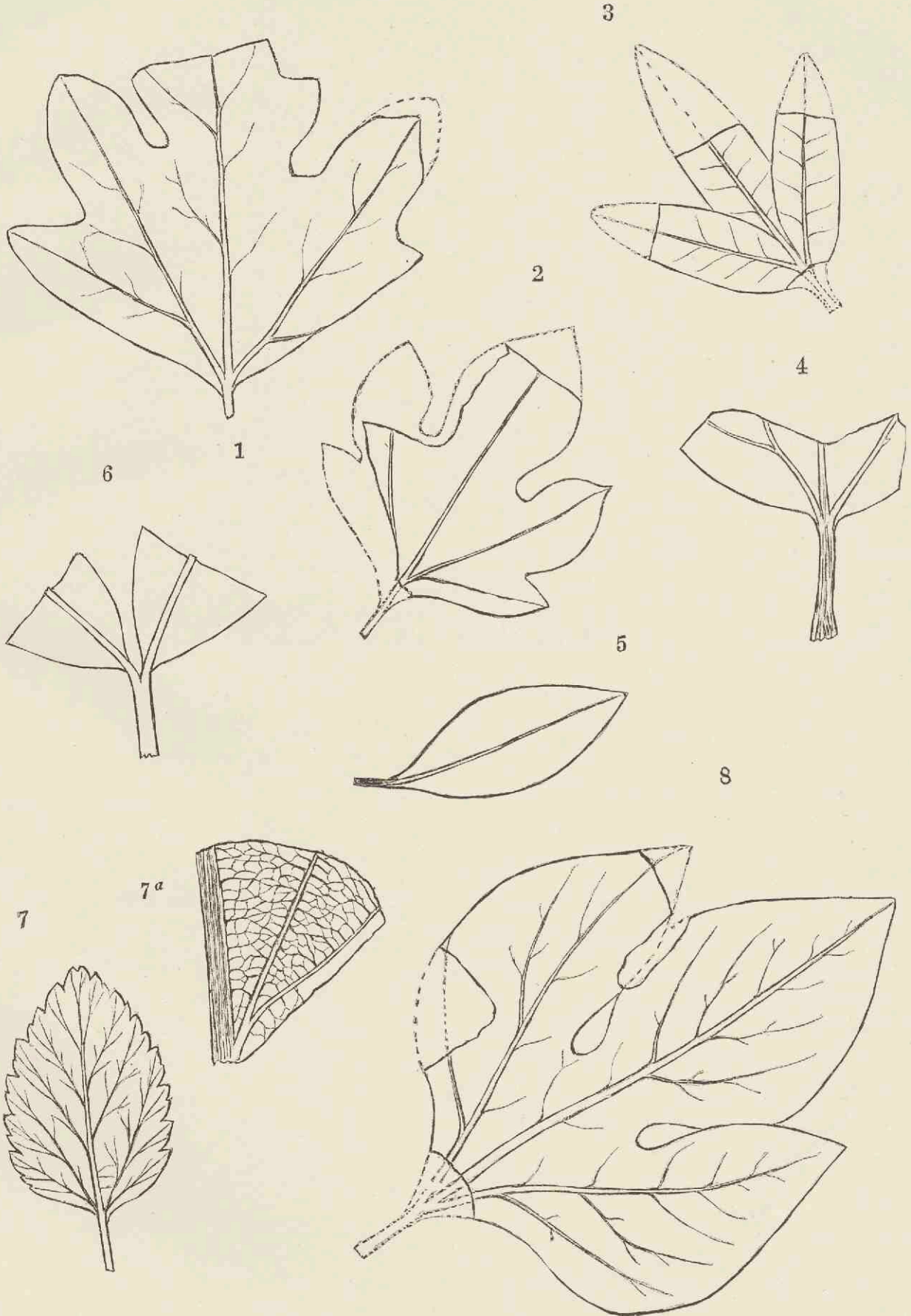


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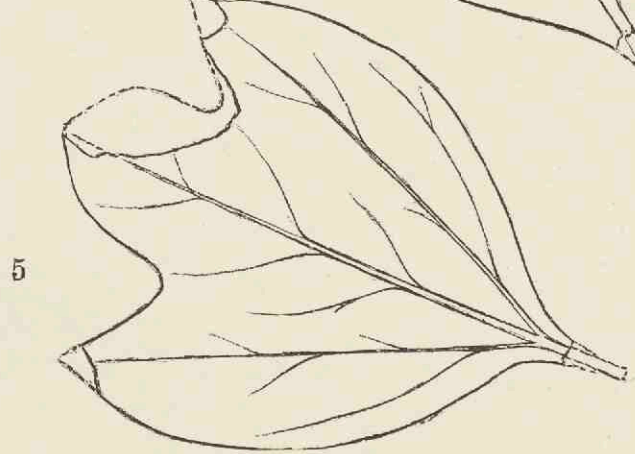
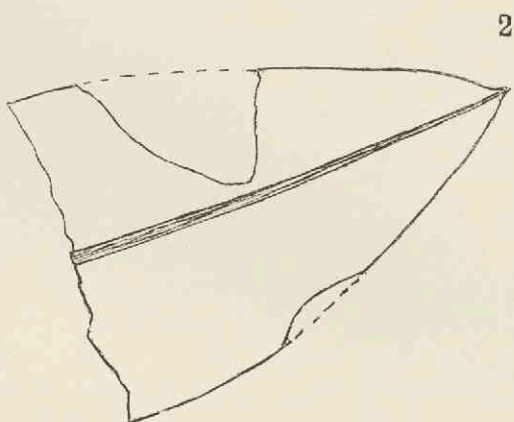
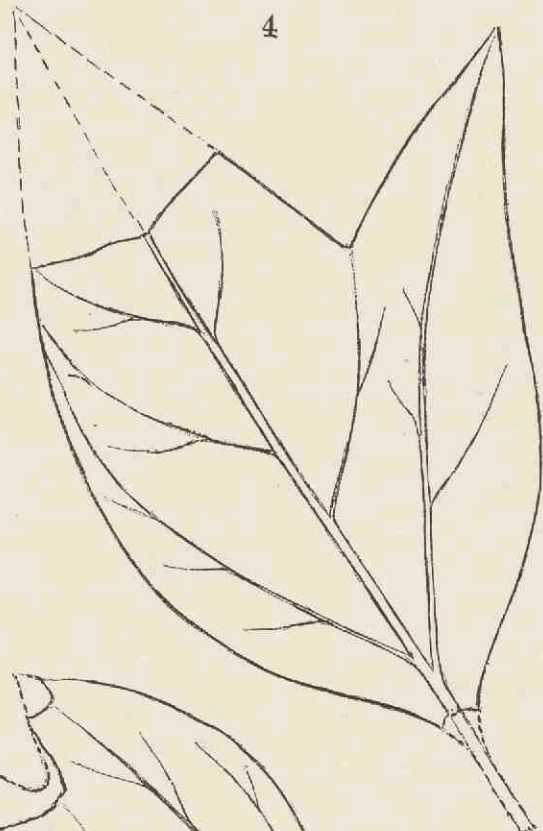
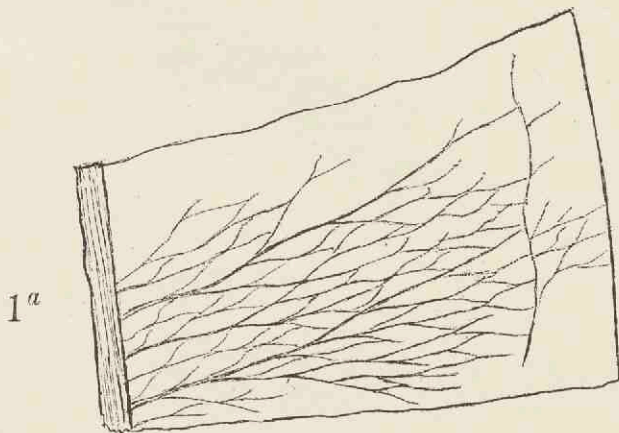
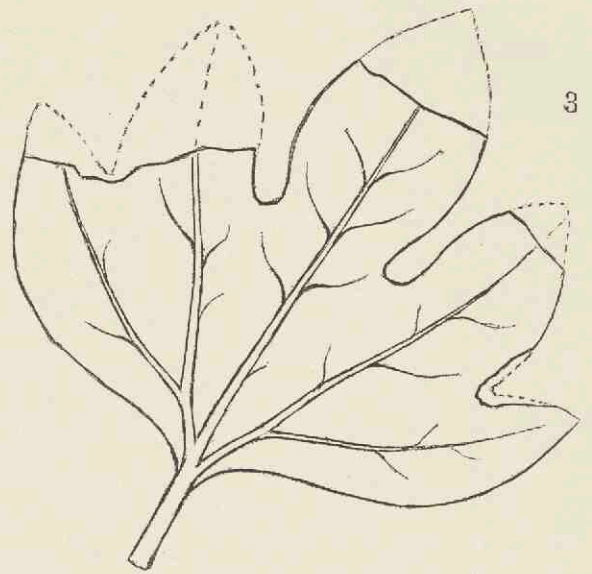
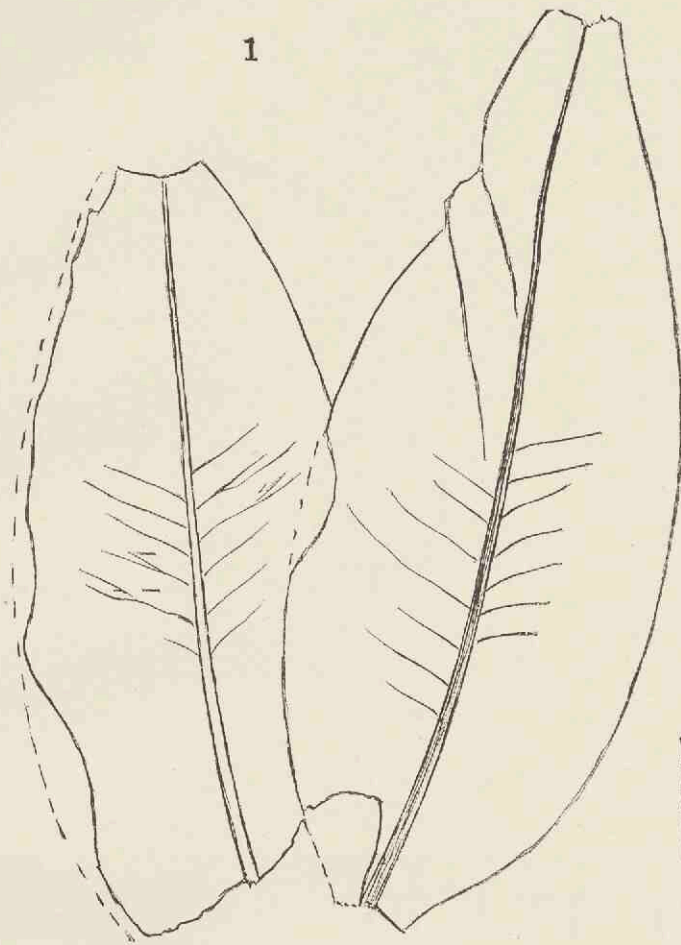


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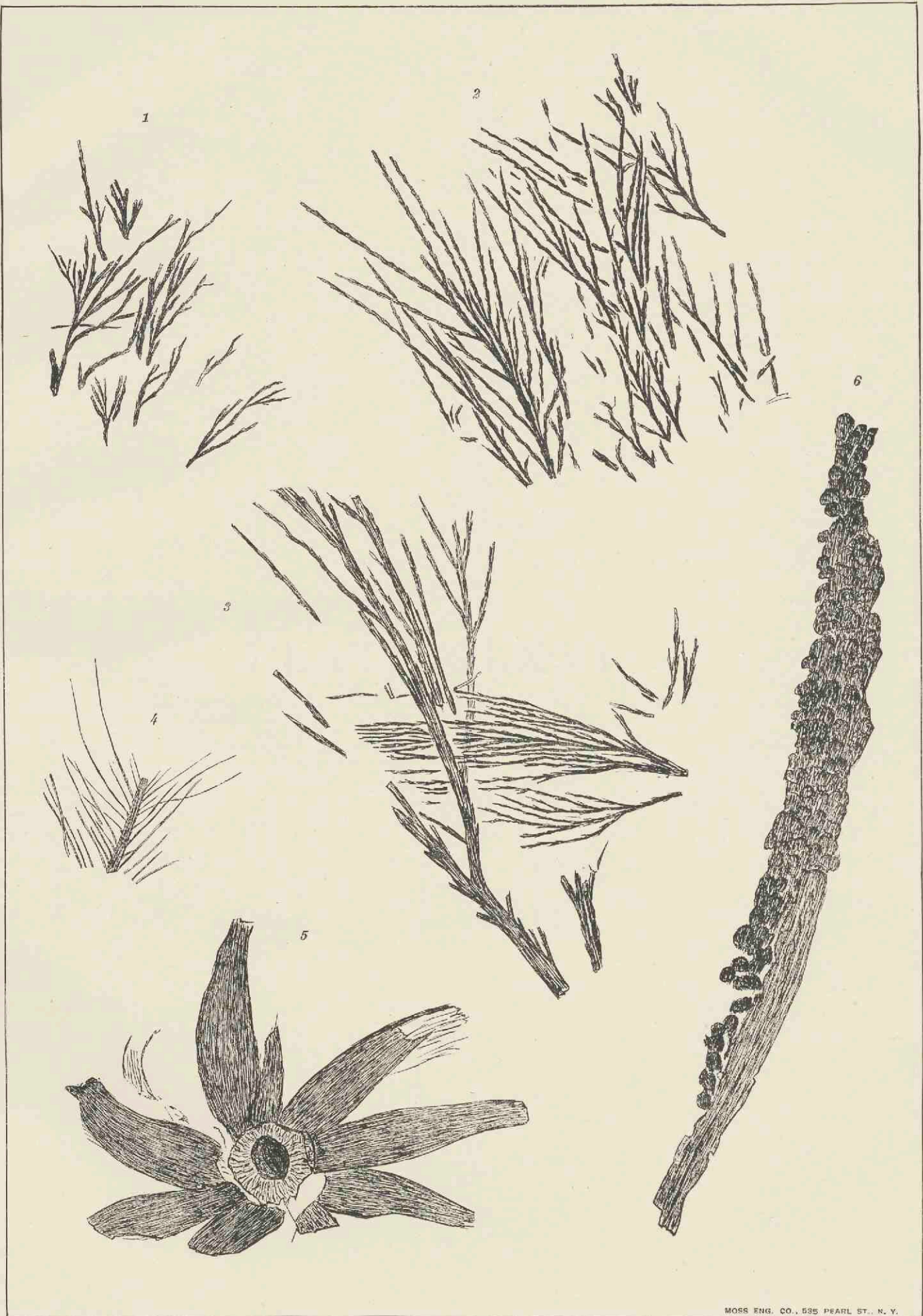


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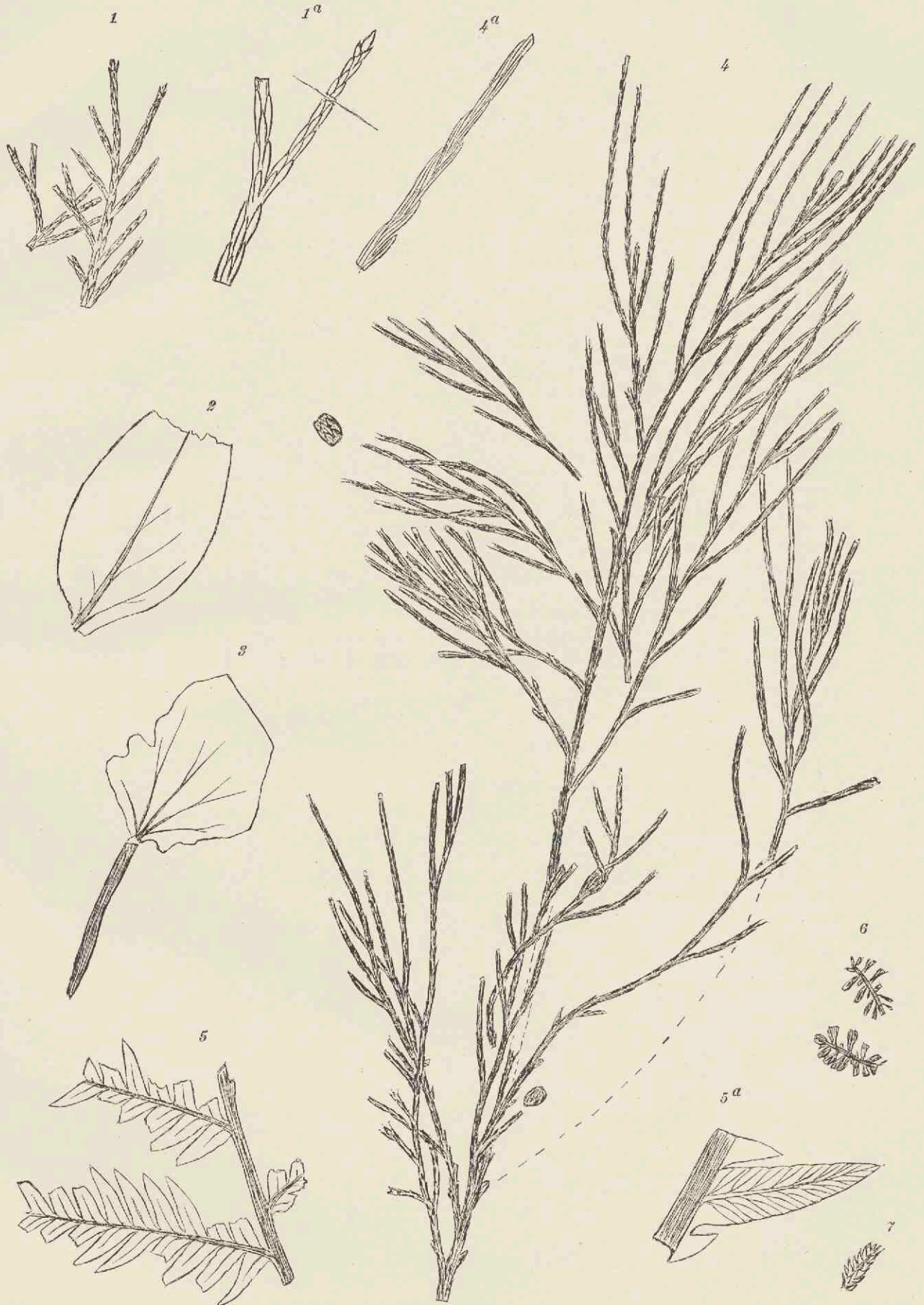


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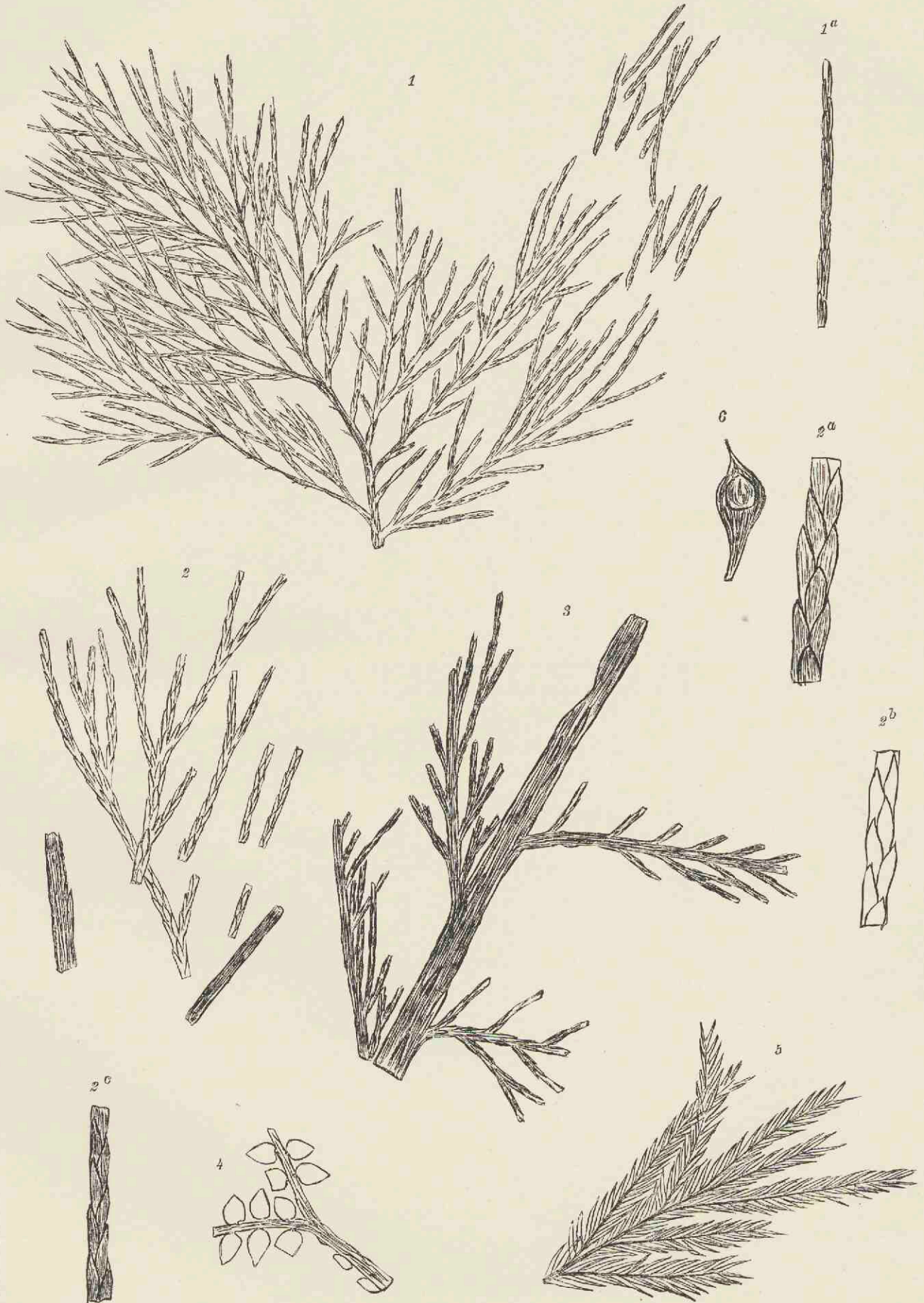


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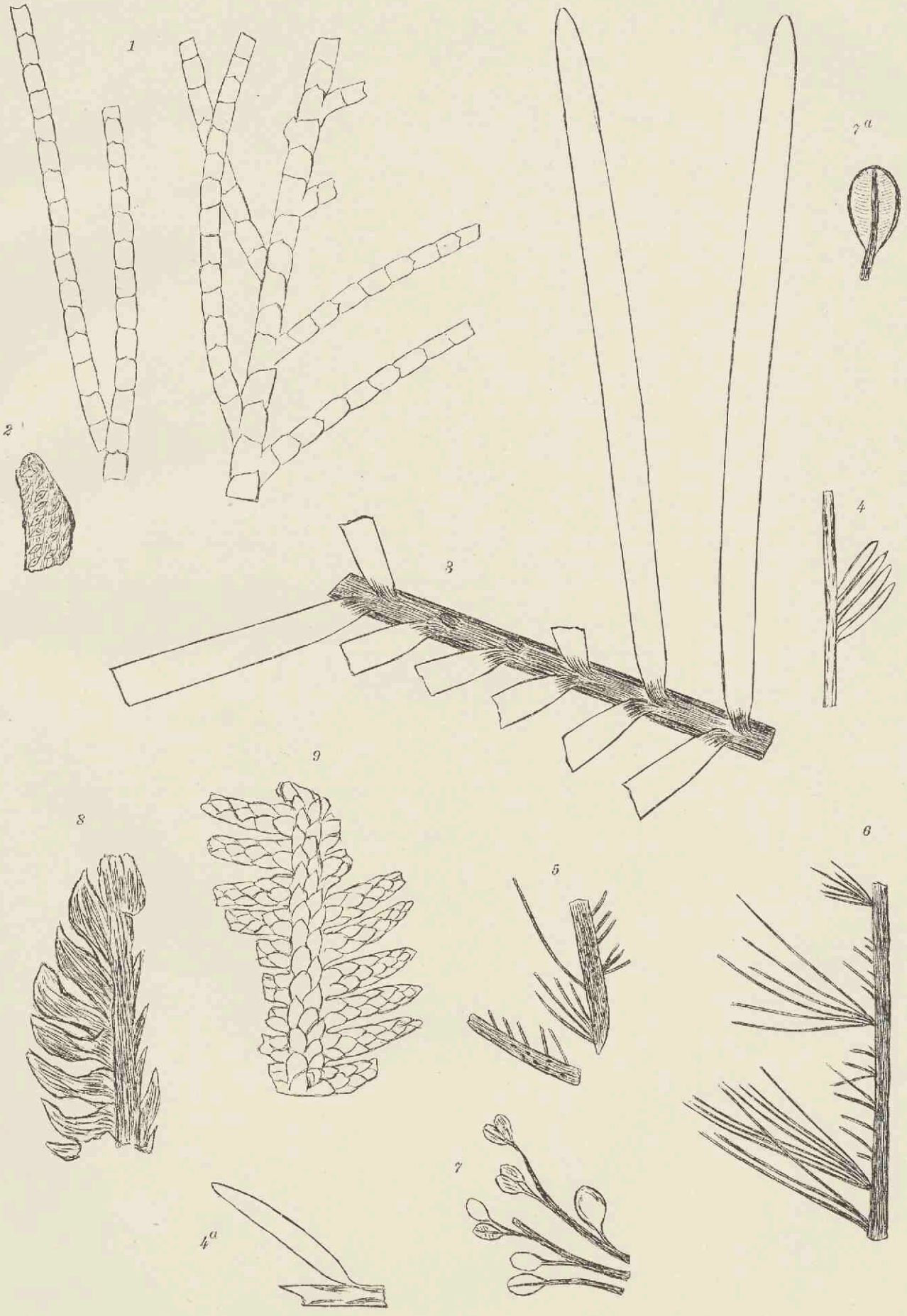


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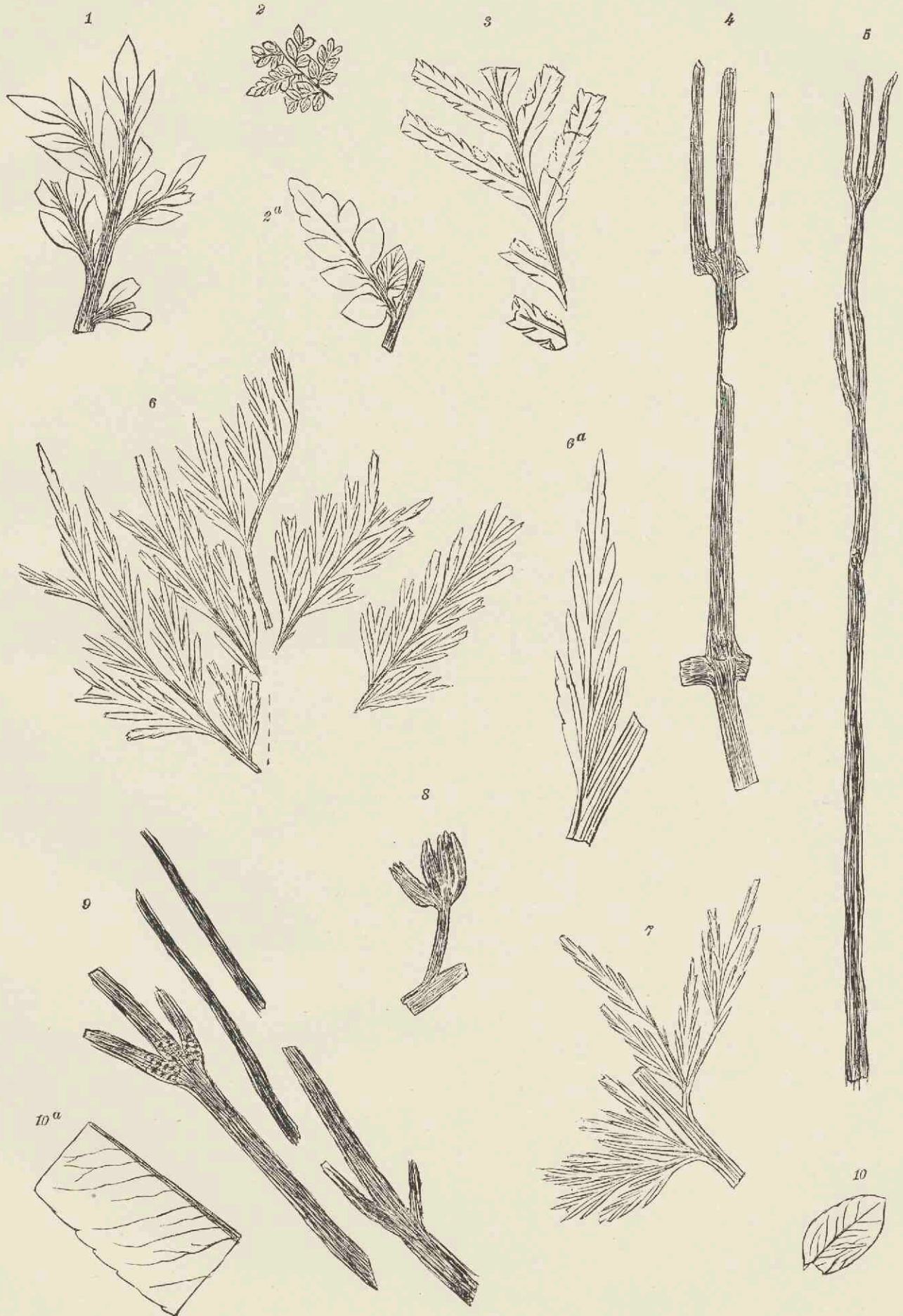


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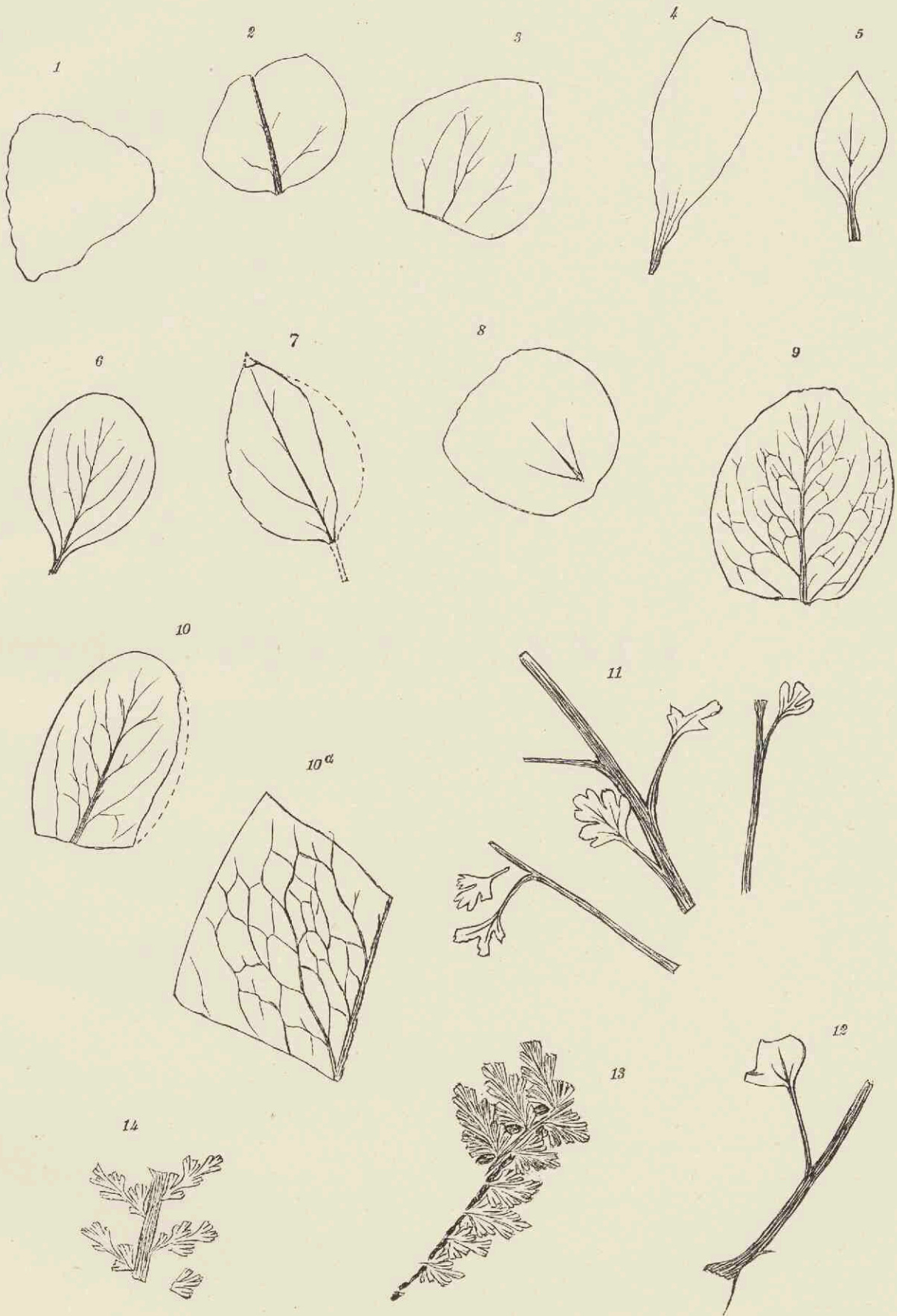
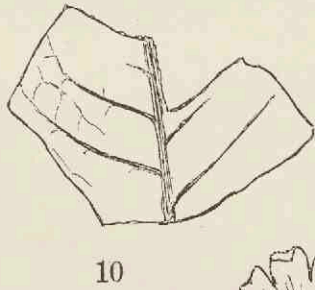
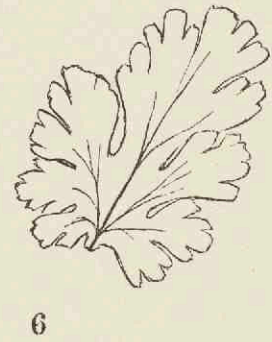
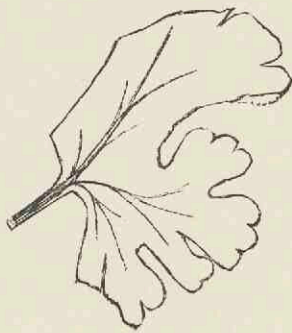
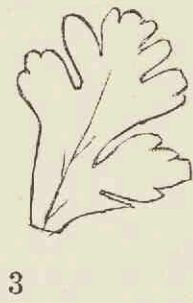
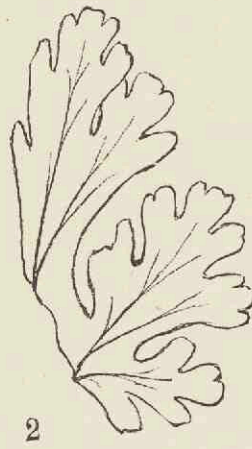
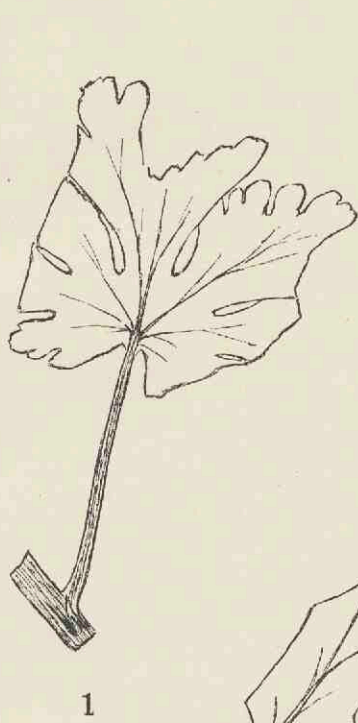


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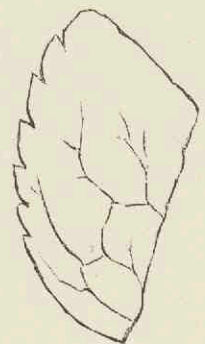
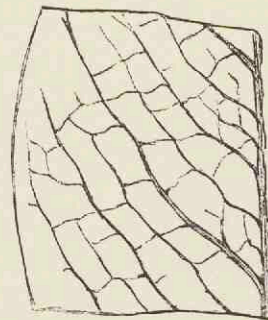
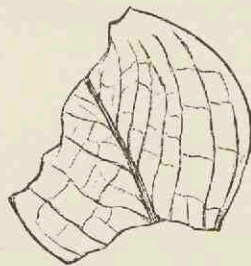
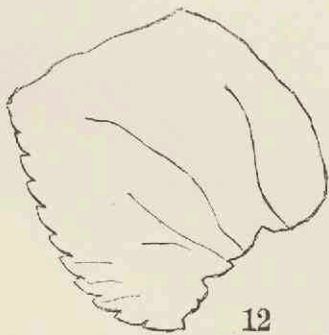
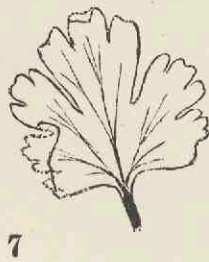
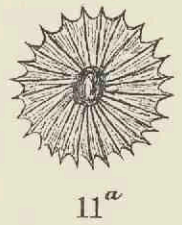
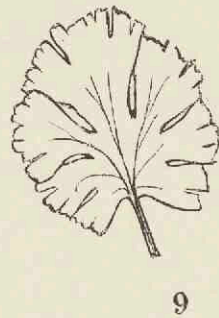
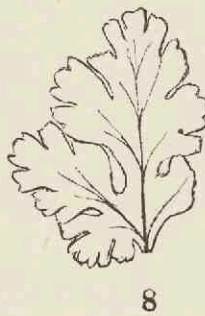
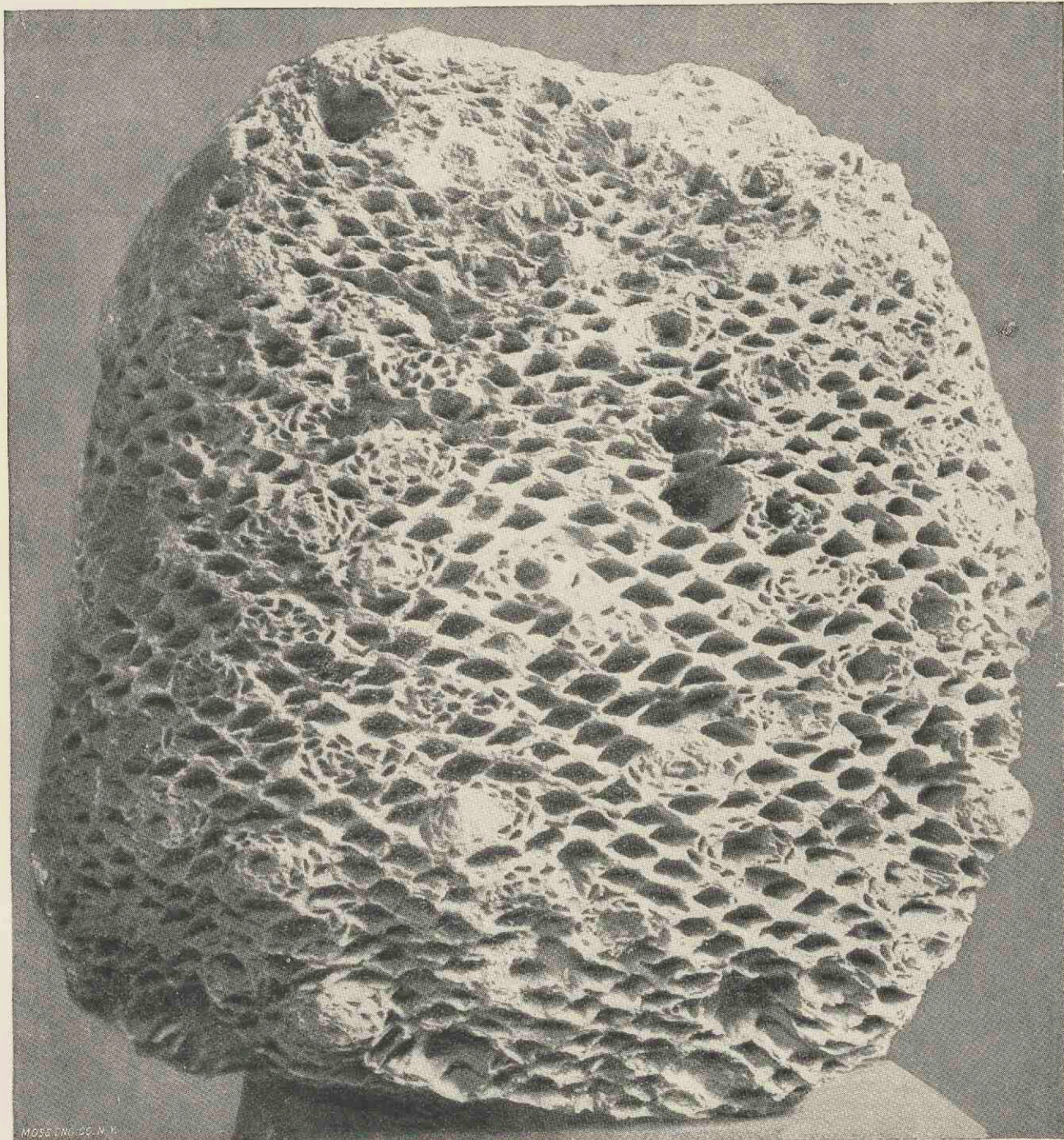


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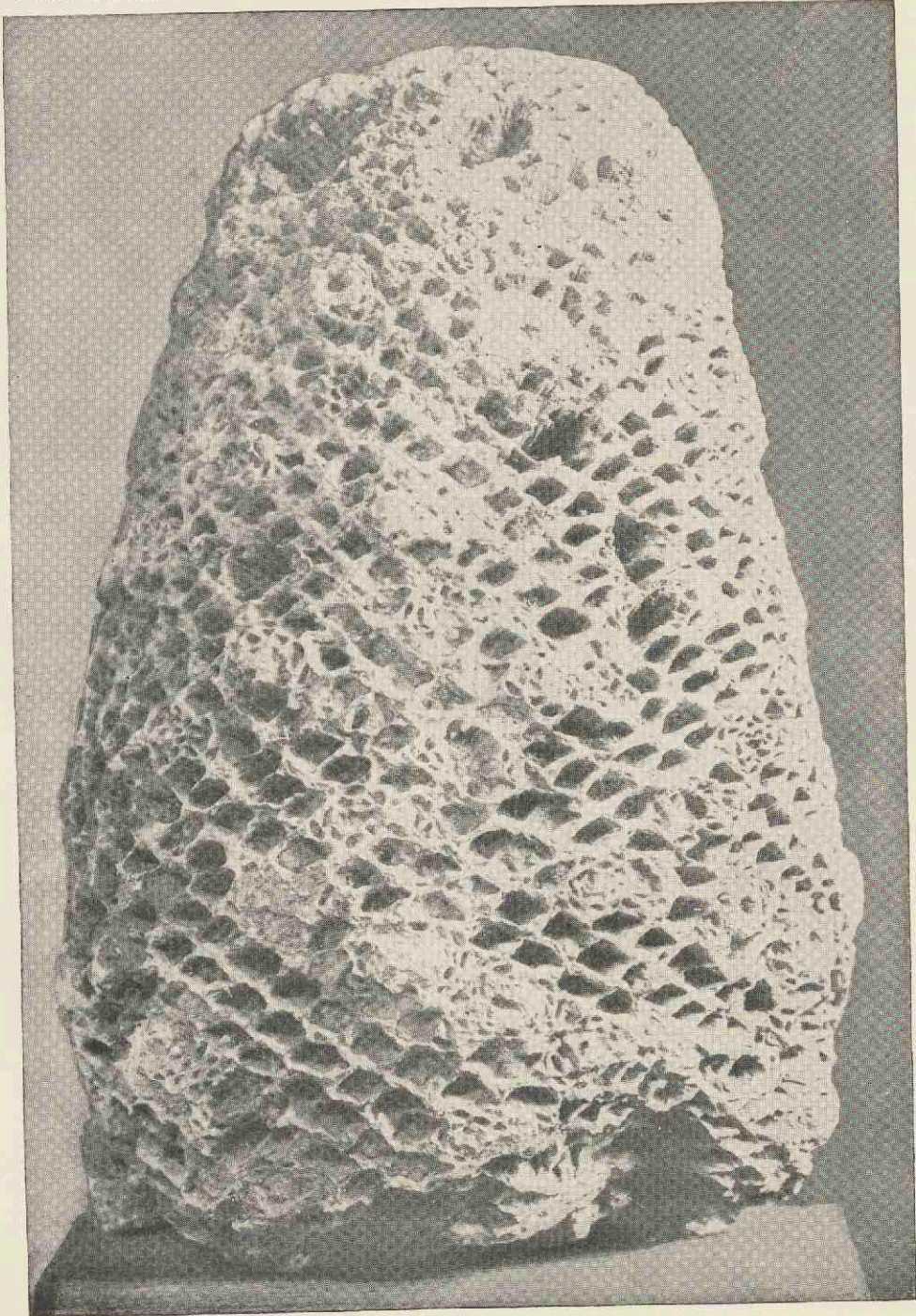


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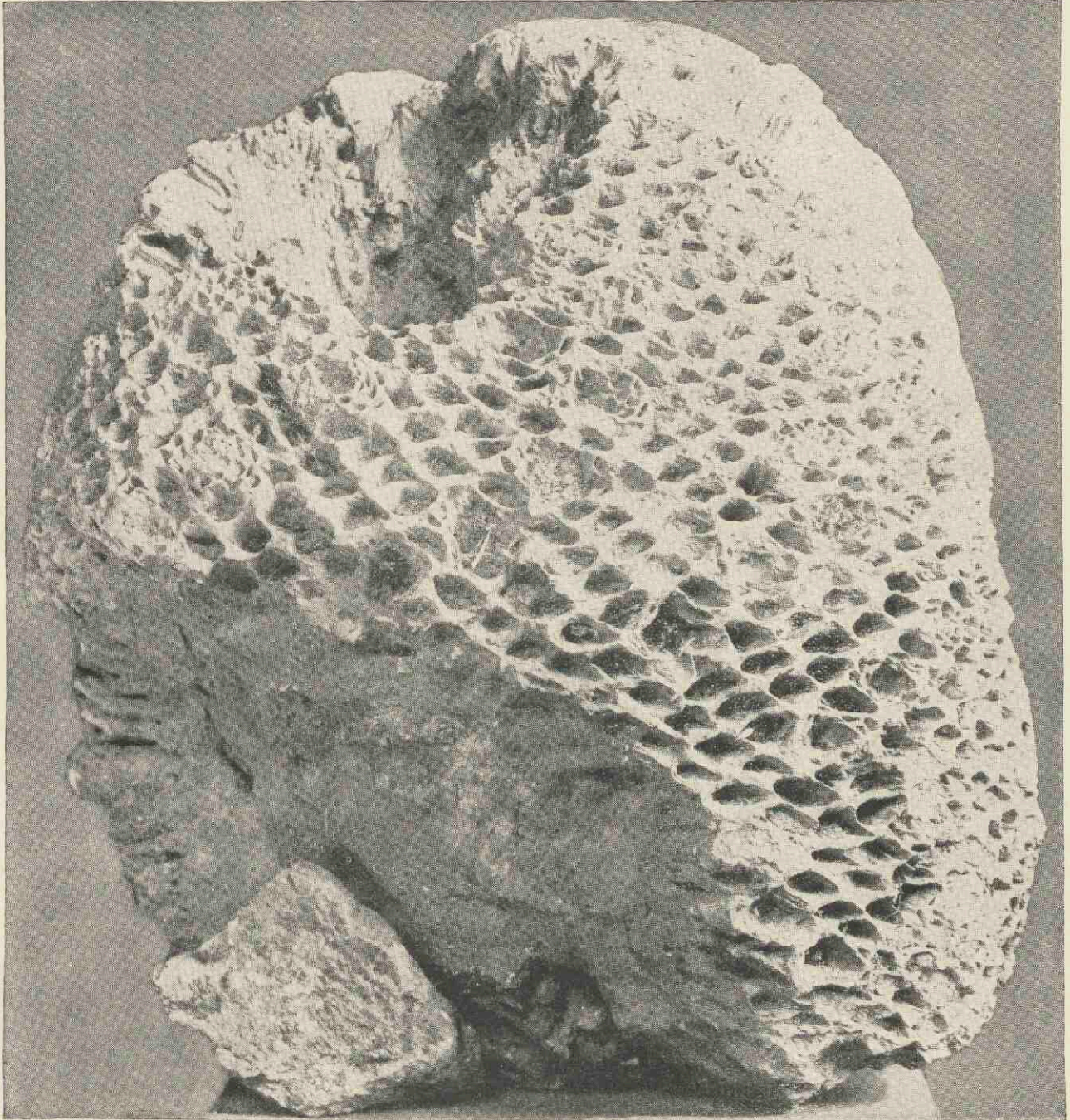


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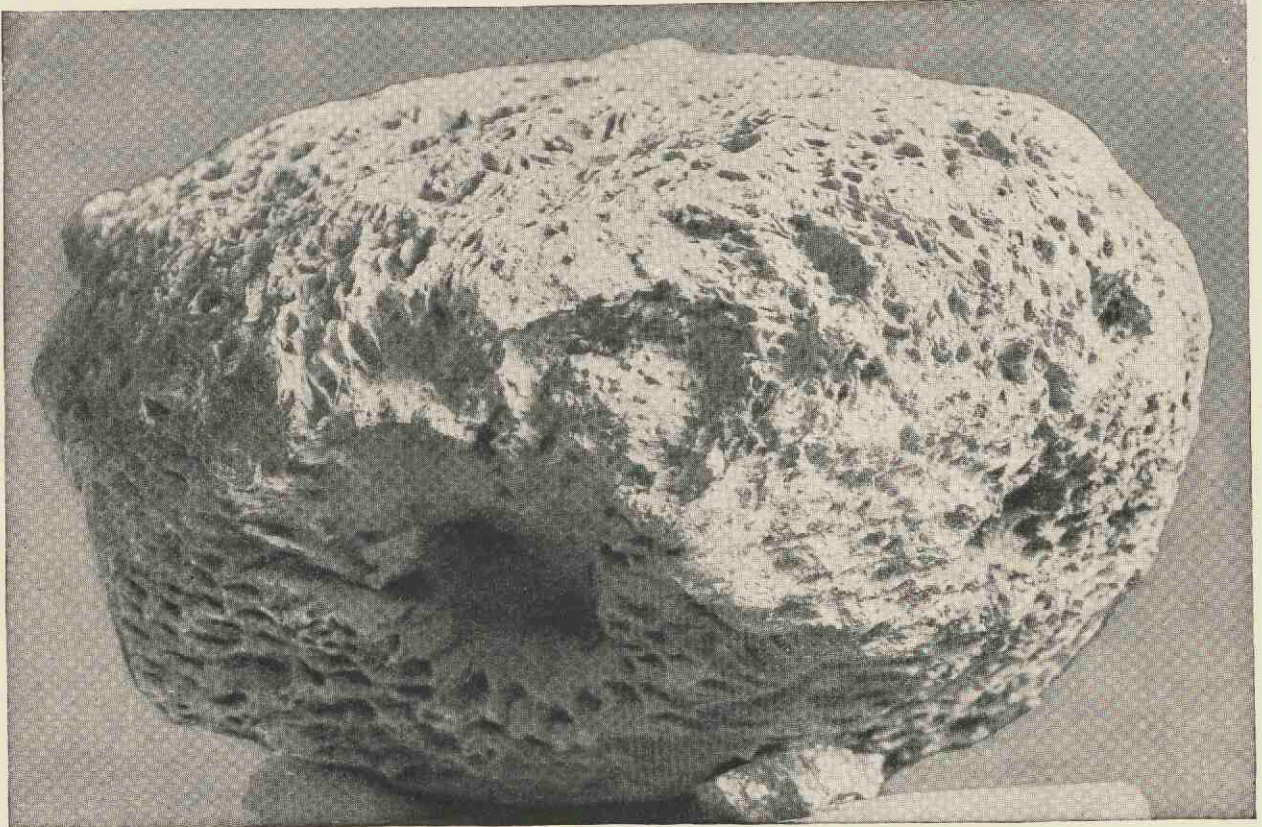


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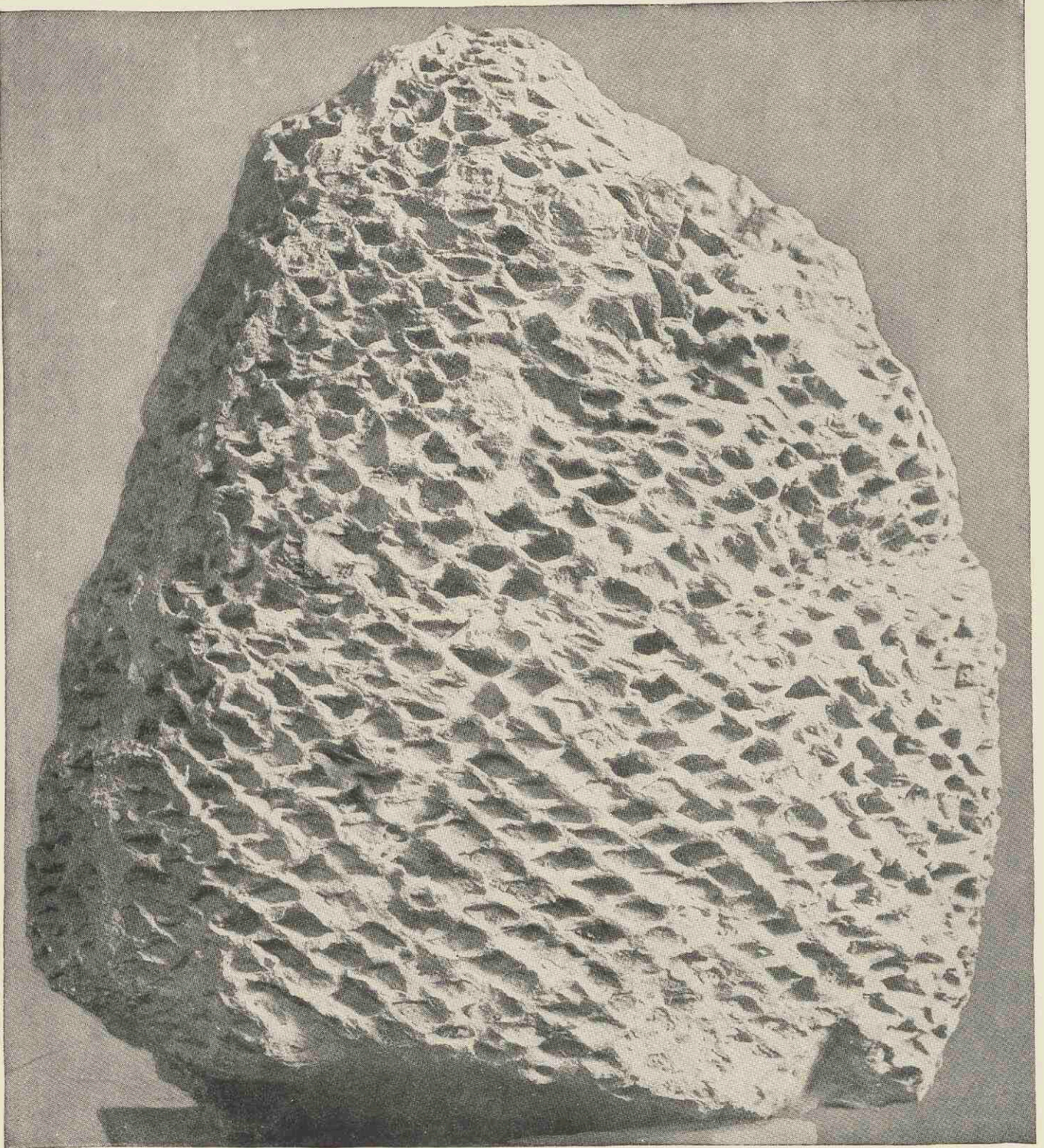


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