1-15

11 Cruciferae

0 1 2 3 4 5 6 7 8 9 10
cm
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MO

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

0 1 2 3 4 5 6 7 8 9 10
cm
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GERANIUMS—continued.

Geraniums, Acme, light scarlet, white eye, fine.
Conqueror, deep rose.
Cyclops, rosy scarlet, suffused with shaded purple, with vivid amaranth carmine flame on upper petals, new color, of fine form.
Donald Beaton, orange scarlet, good truss.
Dr. Muret, orange scarlet, with immense truss, very free blooming, one of the finest for winter, extra fine.
Father Moltke, white, scarlet stripe, novel, good.
Forester, rosy pink.
Formosa, white, with salmon stripes, novel.
Gen'l Grant, bright scarlet, large truss, free blooming; it has proved to be the best bedding geranium we have seen.
Gen. Lee, shaded crimson, with immense truss.
Gen. Sheridan, bright scarlet, free blooming, large truss.
George W. Earl, pure white, with deep pink centre, very large truss, free blooming, extra fine.
Geo. Peabody, dark crimson scarlet, white eye, fine.
Gem of the West, soft rose, very free, fine for bedding.
Glorie de Corbeny, shaded salmon, fine.
Iago, orange scarlet, fine strong grower, free blooming.
Jean Sisley, bright scarlet, with conspicuous large white eye, very free flowering; extra fine.
Karl Koch, extra fine scarlet.

Geraniums—continued.
Louis Vieullot, crimson scarlet, very fine.
Madam Dureau, pink, free blooming, good form and large truss, extra.
Madame Vaucher, pure white.
Madame Werle, white, pink eye.
Miss Nilsson, salmon rose, immense truss, free blooming.
Mrs. Elliott, pure white.
Master Christine, pink, very free bloomer.
Purity, style Madame Werle, very free flowering.
Reine Blanche, large white, suffused with rosy tint.
Snowball, pure white.
Beauty of Kingsessing, white centre and margin, with a fine salmon belt, large and full truss.
Daniel Webster, light crimson, fine large truss.
Henry Clay, dark crimson, fine.
Indian Chief, bright copper color, fine large truss.
James Taylor, magenta color, large truss.
Marksman, violet rose color, immense truss.
Martha, violet crimson color, with fine large truss.
Rosy Gem, bright rose, very large truss.
Red Man, compact grower, pale red, fine truss.
Surprise, peach color, shading off to white, large truss.
Wm. K. Harris, blush, pale red centre, large truss.
Wm. Makemson, upper petals salmon, lower petals violet rose, pure white eye.

MISSOURI BOTANICAL GARDEN
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GERANIUMS—DOUBLE.

25 cents each; $2.50 per dozen.

Andrew Henderson, clear scarlet lake, strong grower.
Asa Gray, dwarf, free flowering habit, flowers salmon edged with white, very full and double.
Captain L'Hermite, amaranth, tinted with rose.
Charles Lyell, fine dwarf variety, flowers rich apricot, bordered with white; good.
De Tocqueville, scarlet crimson, darkest of all the doubles.
E. G. Henderson, carmine.
Glorie de Nancy, rosy red.
Goliath, strong habit, immense truss of amaranth scarlet.
La Vesuve, brilliant scarlet.
Madame Lemoine, clear rose color, very fine.
Terre Promise, immense trusses, large and full, bright satiny red color.
Triumph, bright scarlet, large truss.
Victor Lemoine, vivid scarlet, free blooming, dwarf grower.
Wilhelm Pfitzer, orange scarlet, bright and very double.

GERANIUMS—GOLDEN AND SILVER VARIEGATED.

25 cents each; $2 50 per dozen.

Alma, broad white margin.
Brilliant, scarlet flowers, very free blooming.
Bijou, pure white border, good grower.
Castlemilk, fine bedder.
Fontainebleu, creamy edge, with rosy flamed zone.
Flower of the Day, sulphur edge, green centre.
Miss Hunter, a good old bedder.
Mountain of Snow, pure white edge, lively green centre.
Shottesham Pet, free growing.
Rose Queen, silver tricolor, with rose zone, creamy white border.
Italia Unita, white margin, with carmine zone, beautiful silver tricolor.
Mrs. John Clutton, well defined crimson zone, sulphur edge, free grower.
Quadricolor, a bold grower, with bright rosy red zone.

25 cents each, $2.50 per dozen, except where noted.

Circlet, narrow brown zone, yellowish surface.
Marshal MacMahon, dark zone.
Miss Polock. 50 cents each.
Prince of Wales, neat habit, finely delineated zone of dark bronzy brown.
Southern Belle, fine broad dark zone, on hirsute golden surface; bold, strong grower.

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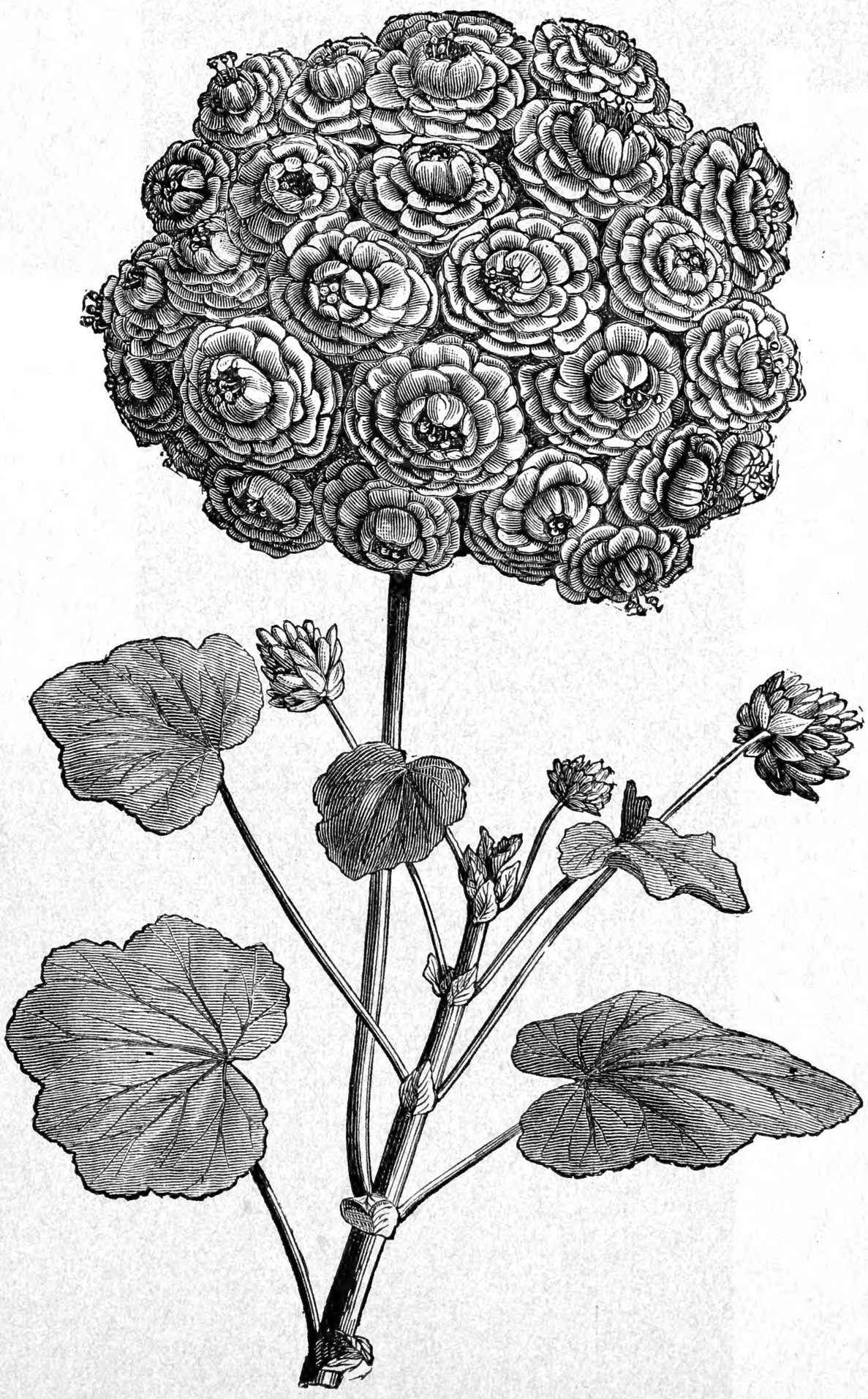
Hothouse & Greenhouse Plants—continued.

	Each.	Per doz.
Fuschia; of this class we grow all the leading varieties of both double and single. Annexed is a partial list of what is grown by us.		
Arabella, white, rose corolla	25	$2 50
Avalanche, bri't carmine, violet corolla, fine double	25	2 50
Coccinea rosea, species	25	2 50
Elm City, bright scarlet, dark purple corolla	25	2 50
Fulgens, red	25	2 50
Mazeppa, pink, deep red corolla	25	2 50
Napoleon, blush, crimson corolla	25	2 50
Purple Prince, tube and sepals, waxy carmine, corolla deep violet	25	2 50
Queen of Whites, double	25	2 50
Rose of Castile, white, violet corolla	25	2 50
Sunray, beautiful variegated variety,		

	Each.	Per doz.
Fuschia—continued.		
leaves white and green; flower scarlet tube with purple corolla	25	$2 50
Speciosa, carnation color, fine for winter blooming	25	2 50
Sir Colin Campbell, crimson sepals, dark purple corolla	25	2 50
White Lady, crimson sepal, w'te corollo	25	2 50
Gardenia (Cape Jessamine), hothouse evergreen, having beautifully sweet-scented flowers of a pure white color.		
Florida	25	
Florida Fortunii	50	3 00
Florida Multiflora	50	
Florida Radicans	25	
Gazania splendens, large orange flowers; good plants for bedding; stands sun well	15	1 50

GERANIUMS, for Summer Blooming.



There is no class of plants which give so much satisfaction when bedded out. In this country they succeed to perfection, flowering profusely during the heat and drought of our summer. They are equally valuable in the plant house during winter.

25 cts. each, $2.50 per doz.
Second size, 15 cents each, $1.50 per doz.

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Cells of Diaphragma of Leavenworthia ×150 May 6 1882

1. L. stylosa

2. L. torulosa

3. L. aurea (Alabama)

4 L. Michauxii
Gattinger

5. L.
Missouri

Inside:
3 small masses
1
4
2
5 large.

168

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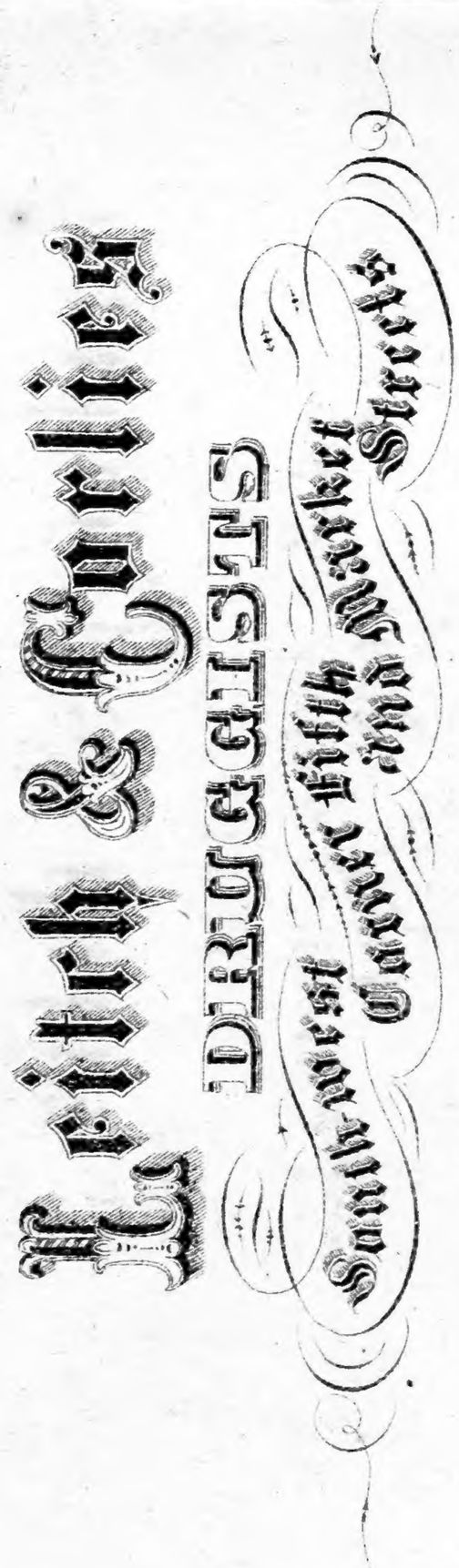

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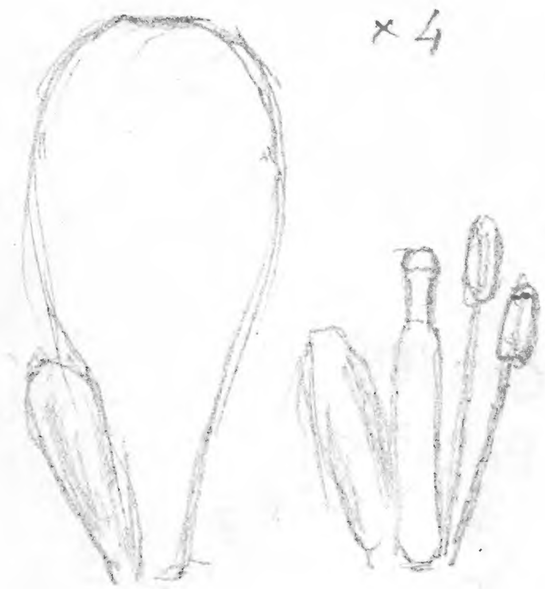
169

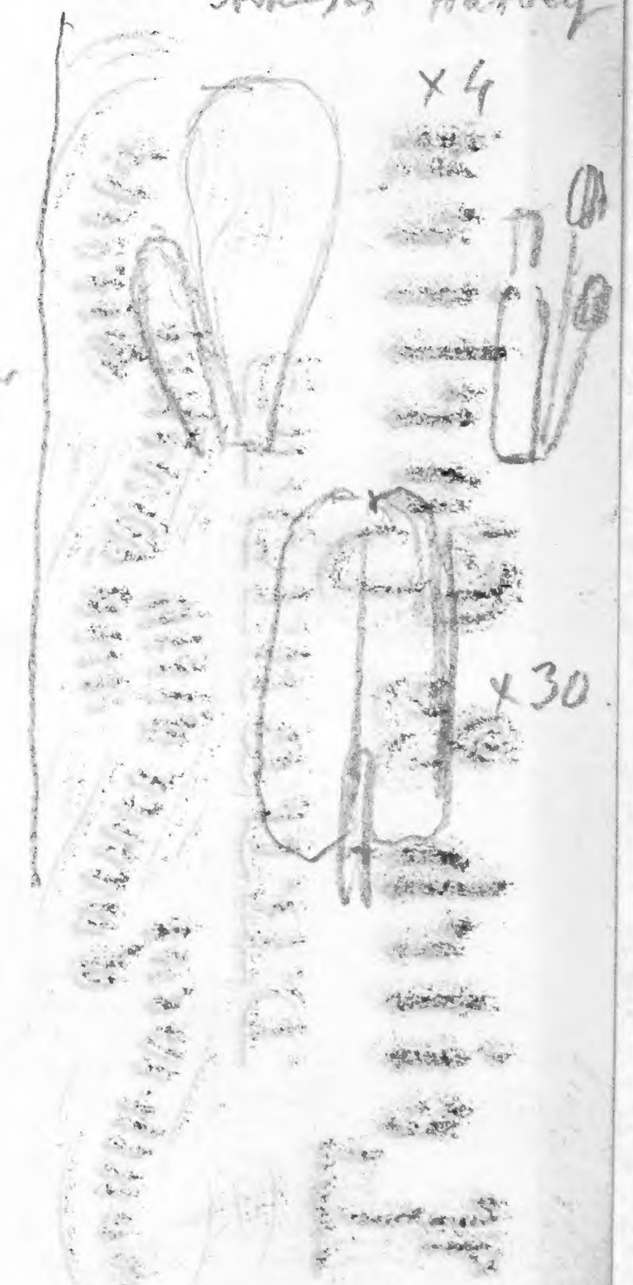
Leavenworthia

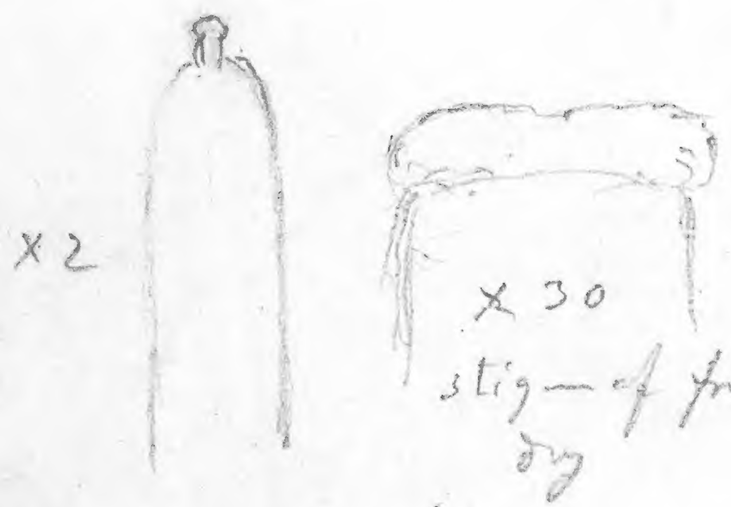
Missouri March 1882

May 6 1882

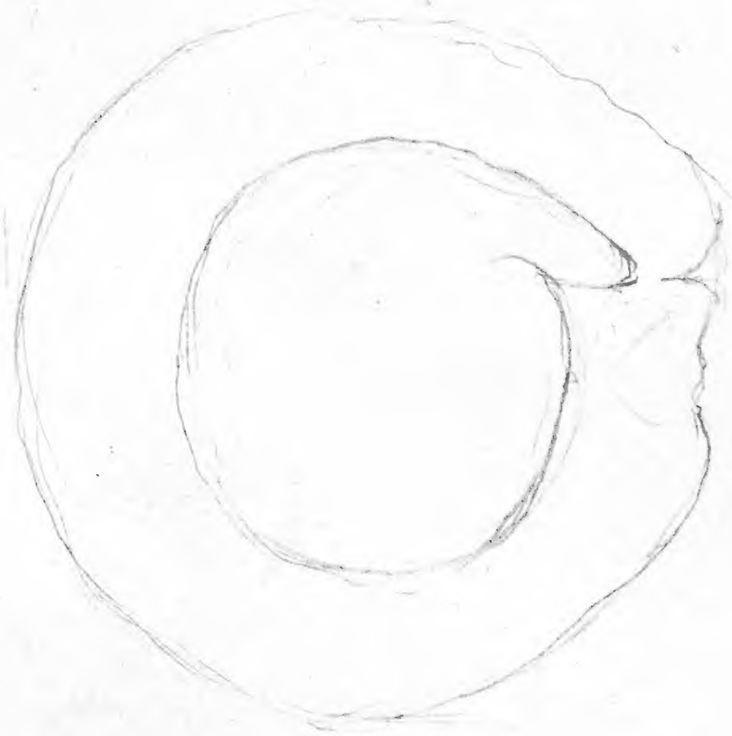
Atkins Harvey







style of fruit 1-2 mm long
usually 1½ mm



x 10 fully ripe seed
with embryo
May 14 1882

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Leitch & Carlies

DRUGGISTS

South-west Corner Fifth and Market Streets

MISSOURI BOTANICAL GARDEN
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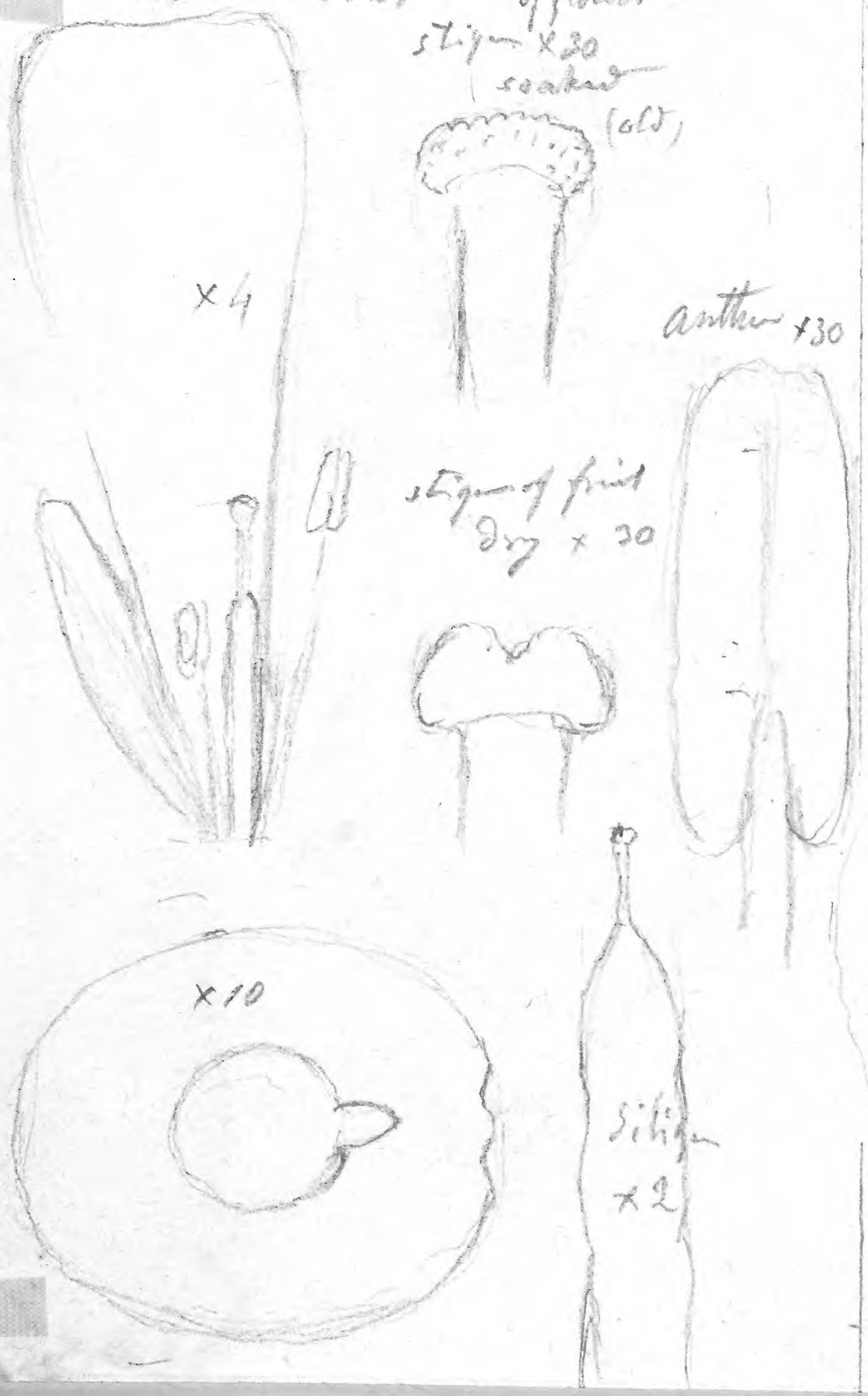
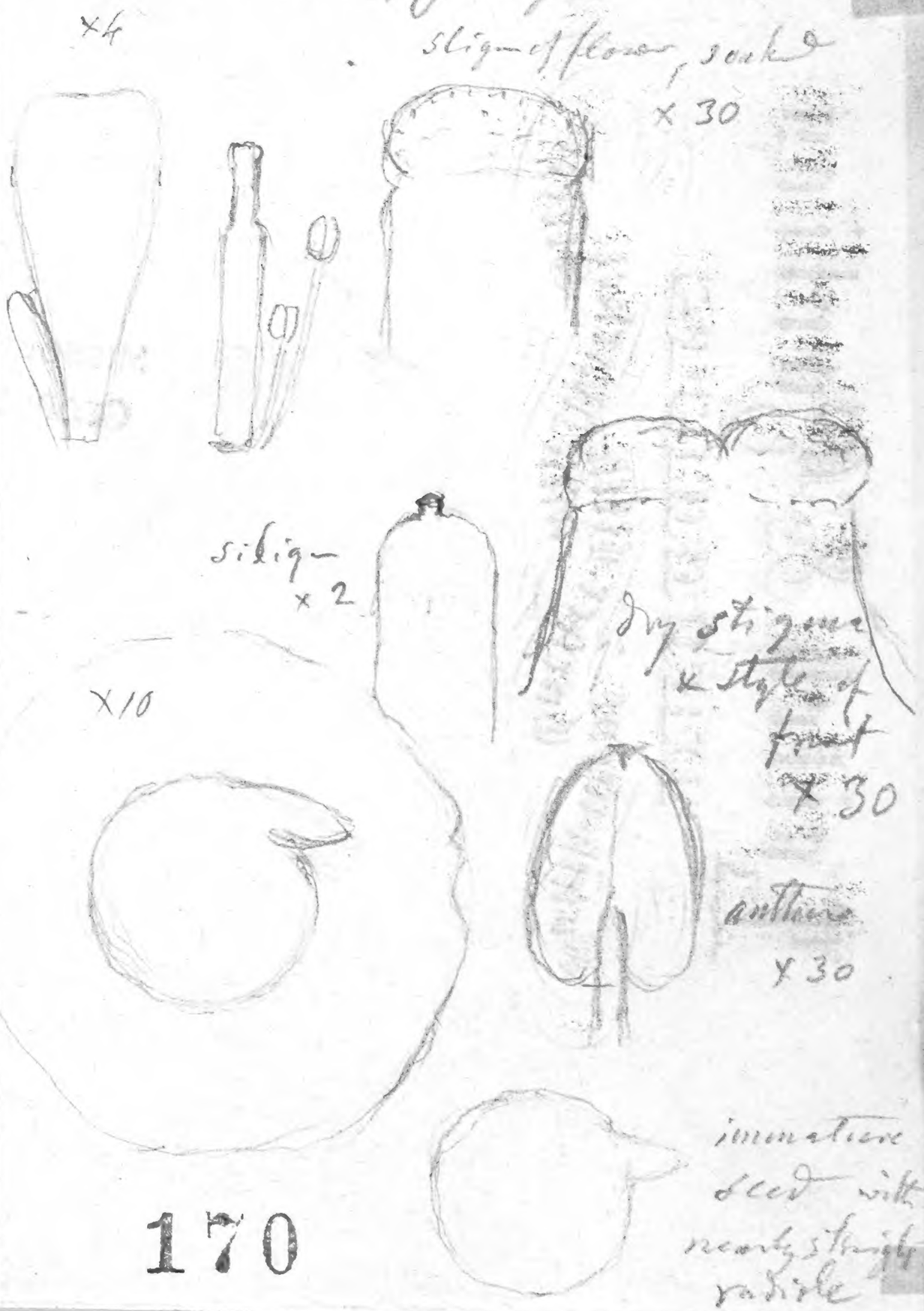
Lemnoritis aurea
Michaux Peters



Lemnoritis Michaux May 6 1882
Tennessee, Gattinger



170

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DRUGGISTS

South-West Fifth and Market Streets

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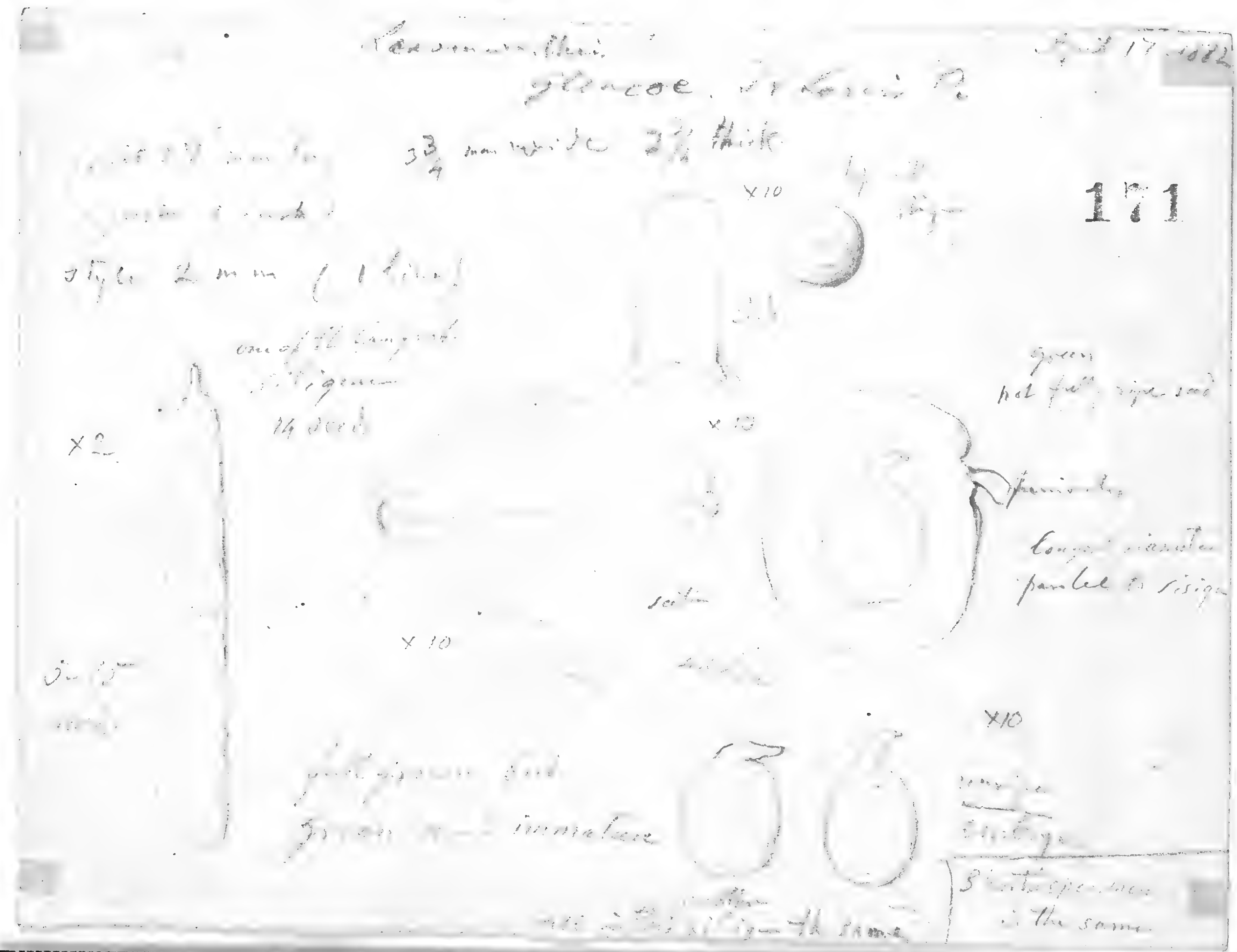
171



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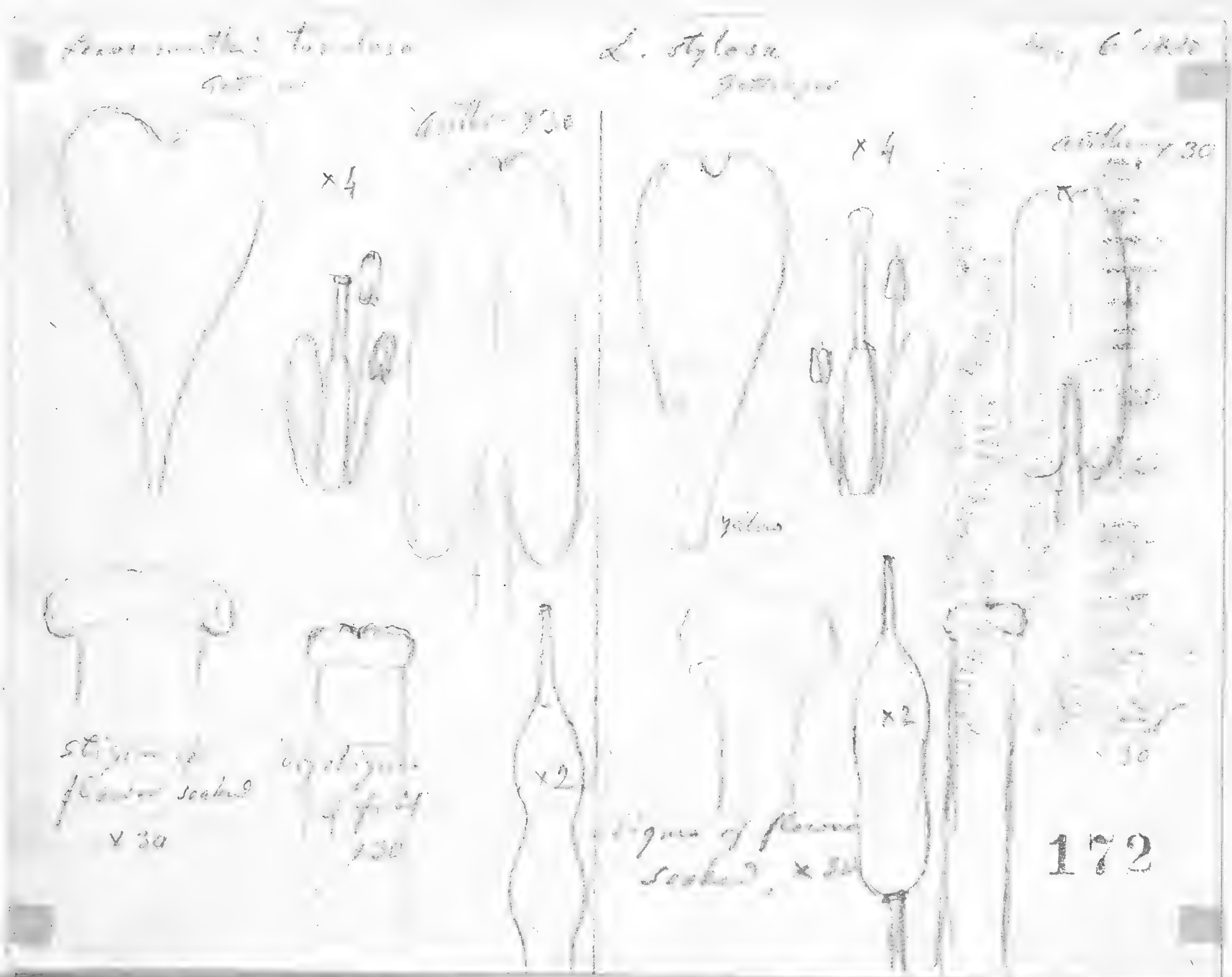

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South-west Corner Fifth and Market Streets

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Lonicera Alabama, Peters

×10

L. Ta[illegible]
Gattinger

×10

May 6th 1882
L. sylosa
Gattinger

×10

Comp. diameter of seed
Transverse

173

0 1 2 3 4 5 6 7 8 9 10
cm
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ALEX. LEITCH,
APOTHECARY & PHARMACEUTIST,
Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN FUND

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cm
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ELÆACRINUS KIRKWOODENSIS, n. sp.

Body very small, subglobose, a little longer than wide, flattened above and below. Basal pieces very gently concave, with their edges on a level with the plane of the under side. Radial pieces (fork pieces) reaching to the base and occupying more than four fifths the entire length of the body, narrow below and widest in the middle, sides gently arched. Interradial pieces subdeltoid, very prominent towards the apex, much longer than wide, obtusely angulated below, acutely angulated above, and notched on either side a short distance below the summit. Pseudo-ambulacral areas extending from base to summit, narrow, deeply impressed; sides nearly parallel; pore pieces amounting to about fifty in each field. A longitudinal fissure or slit extends from the central summit opening downwards, separating the pore pieces of one side from their fellows of the opposite for the distance of about one fifth the length of the field, thence their inner edges are united in the median line to the base. Pseudo-ambulacral spaces lanceolate, sloping gently from their edges to the sutures. Ovarial apertures eight, very minute, situated at the notches of the interradial plates. Anal opening large, circular or very slightly elliptical. The surface markings are not plainly exhibited in any of the specimens I have collected of this species. On several of them I observe, more or less distinctly, irregular coarse rugæ or pittings, which, however, may be due to weathering.

Dimensions.—Length, 0.20 of an inch; width, 0.18.

The *Elæacrinus Kirkwoodensis* is nearly allied to *E.* (*Pentremites*) *melo*, from which it is distinguished by its much smaller size and less deeply excavated base. It also occupies a higher geological position.

Occurs in the St. Louis Limestone (Carboniferous) on the Pacific railroad near Kirkwood, St. Louis county, Missouri.

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Topaz in Utah. By Henry Engelmann.

During my explorations in Utah as Geologist of the Expedition under Capt. J. H. Simpson, Top. Eng'rs. U. S. A., in 1858 and 1859, I observed some remarkably beautiful crystals of Topaz among some detritus of trachytic porphyry. They were perfectly colorless, transparent, sharply developed, and of great lustre. They were all short columnar. The largest of them measured scarcely one third of an inch in the direction of the basal cleavage, which was highly perfect. I observed ten modifications: all crystals exhibited (according to Prof. Rose's designation)

$\infty c : b : a$,	$\infty c : b : 2a$,	$c : \infty b : : \infty a\ 1$,
$4\ c : b : \infty a$,	$2\ c : b : a$;	
most of them also	$2\ c : b : \infty a$,	$c : b : a$;
a few only	$2\ c : \infty b : a$, and	$4\,(?)\ c : b : a$.

As in none of the crystals were both ends developed, I could not ascertain whether they were hemihedral, as is most common with topaz. The hardness of the mineral is =8. It is infusible before the blowpipe; and when strongly heat ed is coated with small blisters, but does not show any change of color. It exhibits the reactions of fluorine, alumina, and silex. No tests were made for other elements, nor were the crystals examined in regard to pyro-electricity and polarization of light. They exhibit double refraction quite plainly.

The locality of the mineral is near lat. 39° 40′, long. 113° 30′ west of Greenwich, west of south of Salt Lake, in Thomas' range of mountains, on Capt. Simpson's return trail. Circumstances prevented me from obtaining more than a few crystals, which are now deposited in the collection of the Smithsonian Institute; a few others are also in the hands of members of the party. We were travelling at the time by forced night marches with nearly worn out animals, seeking to gain a spring of water in a distant range of mountains. This desert was then entirely unexplored. I have but little doubt that more interesting materials are to be found at the same point.

The mountains of the former Territory of Utah promise a rich yield to the mineralogist. We know already of gold and silver ores in the east, west and south part of that district; of copper and lead ores in the south, and I have discovered the latter also in the centre of it; of specular iron ores and native sulphur in the Rocky Mountains and near Little Salt Lake; of rock salt in the mountains south-east of Utah Lake; of native alum near Salt Lake; of various other salts in the deserts; and of silicates, composing the granites, porphyries, diorites, trachytes, and lavas, nearly over the whole area.

0 1 2 3 4 5 6 7 8 9 10
cm
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MO

Cotyl. incumb.

Samen von
Kalkhügel bei Washington
Franklin Cty Mo — Schröfe —
4-5 mal vergrößert.

Siliqua
zweimal vergrößert.

Cotyl. incumb.

Samen von Silenia aurea
4-5 mal vergrößert.

Silicula
2 mal vergr.

174

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GEORGE ENGELMANN

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Sagittaria

Sagittaria [illegible] [illegible] flavescens Enge

Perennis

stylus e stigmate brevissimus, longitudine latitudine

laminae marginis (1 mm et ultra longum)

unicuique

Caroline [illegible] corpuscula flavescens acuta

[illegible]

stylus e stigmate longior, longitudine

latitudinem aequans vel superans

laminae marginis (1 mm et ultra longum)

unicuique

var. leptocarpa var. [illegible]

Hungaria [illegible] — stylus e stigmate [illegible] gracilis

[illegible] 2/3 mm longus laminae

unicuique

175

Alex. Leitch,

APOTHECARY & CHEMIST,

Cor 4th & Olive Sts. St. Louis.

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March 7 1867

Lysimachia Ciliatum

Rocky Mountains No 101

semina bisseriata

176

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177

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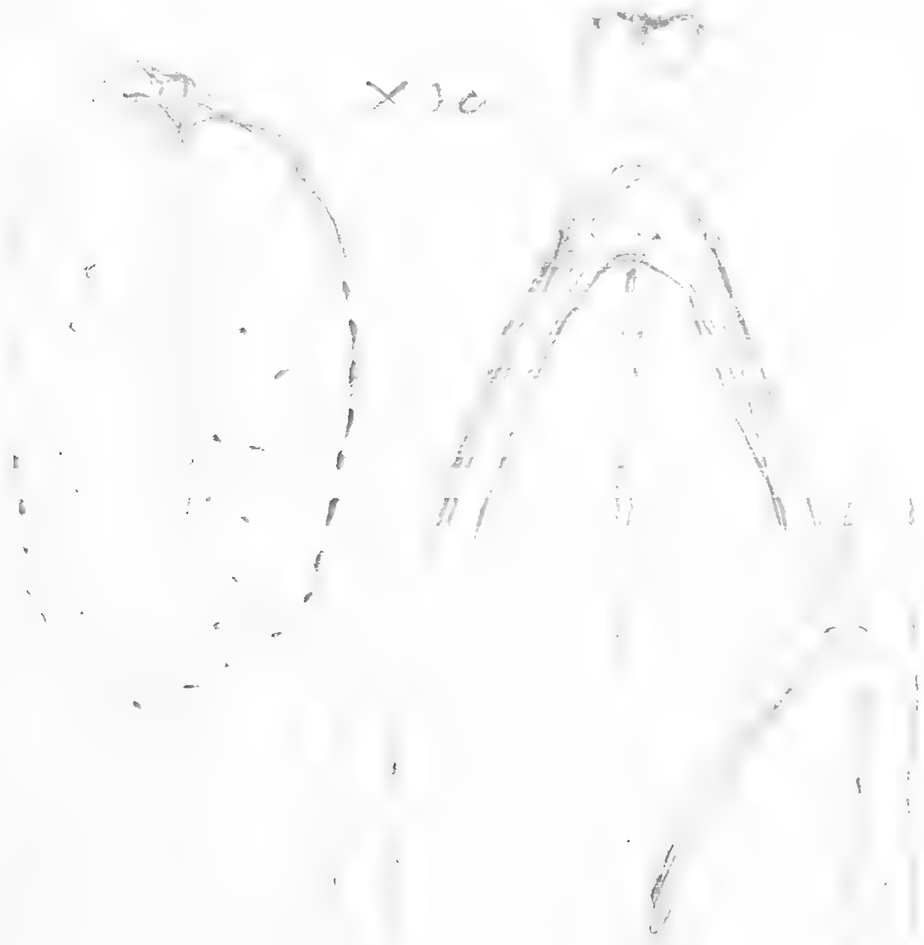
Sisymbrium Sophioides March 7 1867

Samuel Lesquereux, Hayden, No 102

×10



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Singapore Island Pulau Ubin March 7 1967
Fowler, Stella H. 12

Selaginella [illegible]

×10

179

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Sirgentina — March 8 1864
Uruguayan Legion
Fort Hanson, Hayden No 109
Jennie I. Daniels

180

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cm
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March 17 1859

Lithyrhinchus

Snake River, Hayden No 103

Series 1 - Senate

181

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cm
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GEORGE ENGELMANN MEMORIAL

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182

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MISSOURI HISTORICAL SOCIETY
GEORGE KAPPLER MUSEUM

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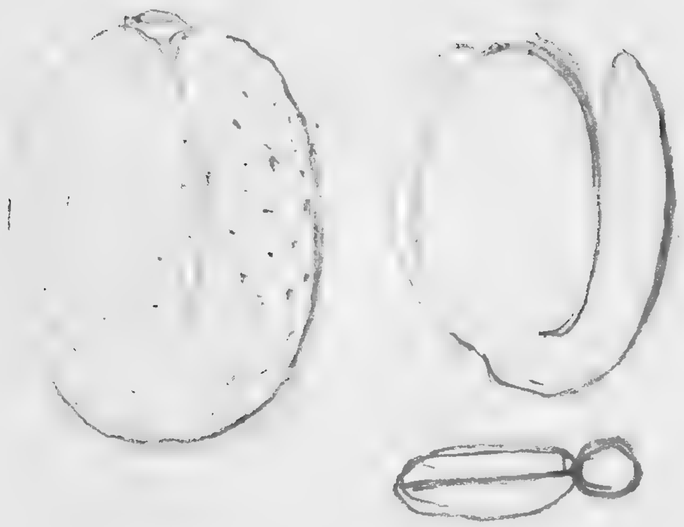
Helosciadium petraea March 14 1867
Germany

x 30



Cotyledons

183

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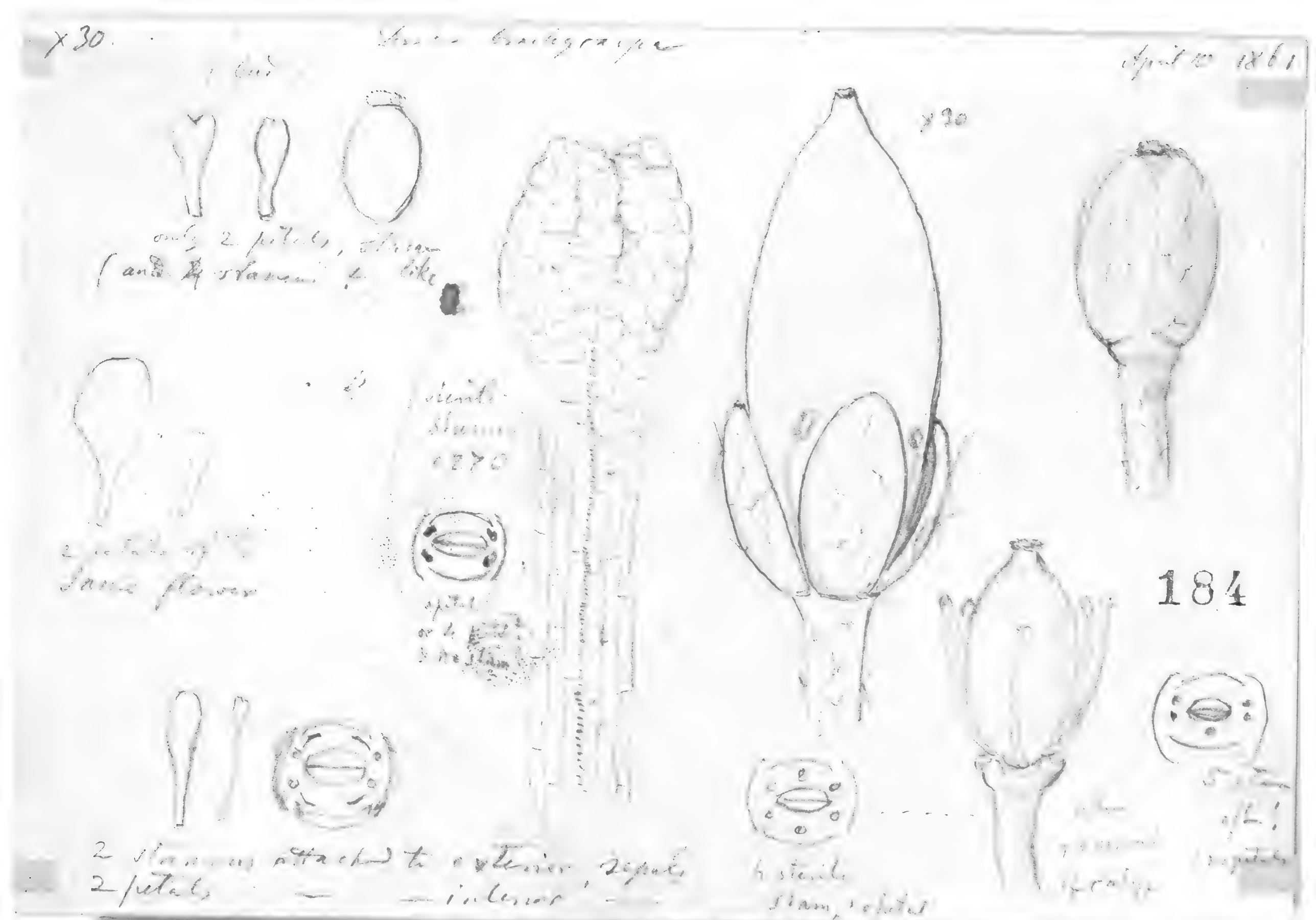

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M. W. ALEXANDER,
SOUTH-EAST CORNER OF FOURTH AND MARKET STREETS,
ST. LOUIS.

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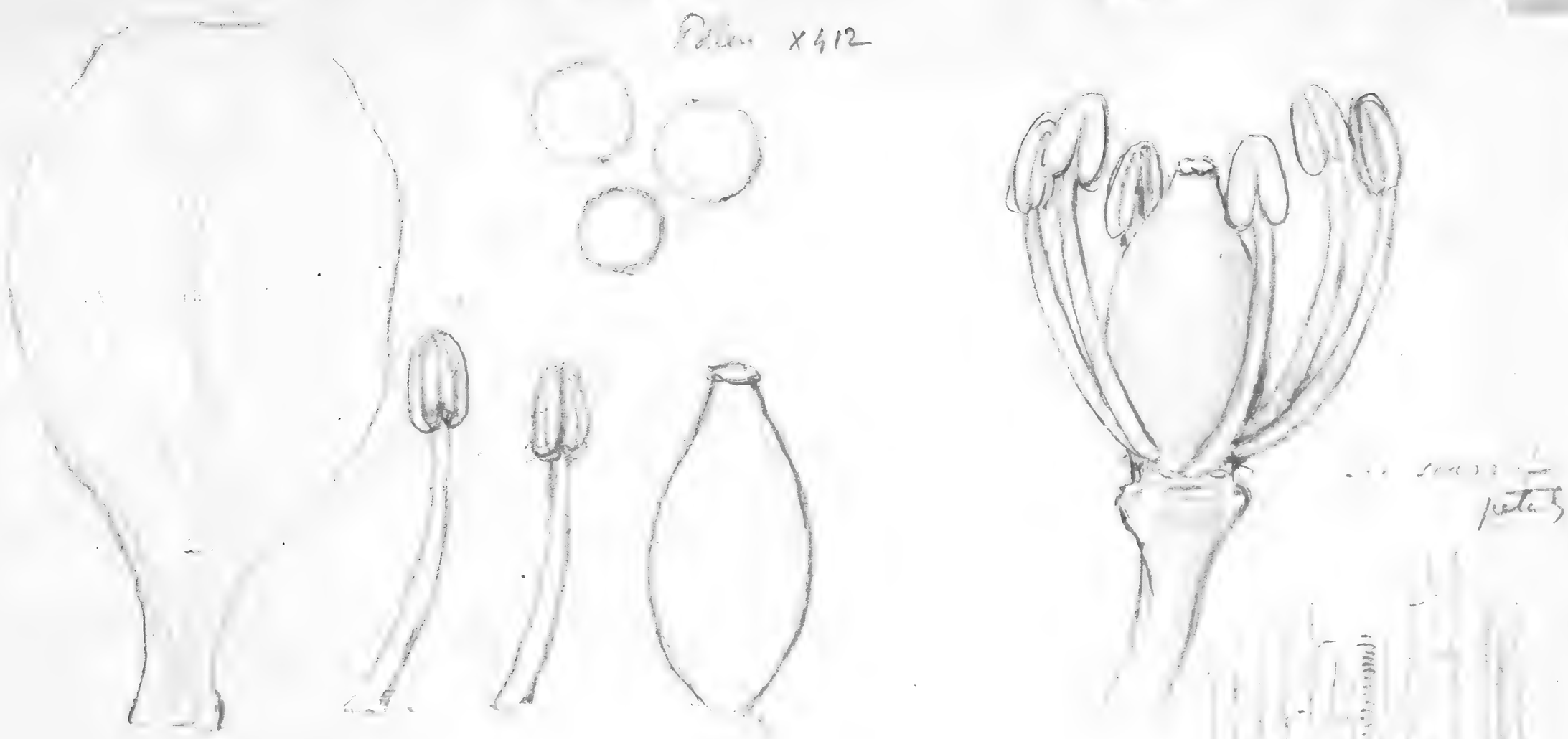
x 30

Sida [illegible]

x 30

April 10 1861

Pollen x 412



x 270

Stamen

185

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M. W. ALEXANDER,
SOUTH-EAST CORNER FOURTH AND MARKET STREETS,
ST. LOUIS.

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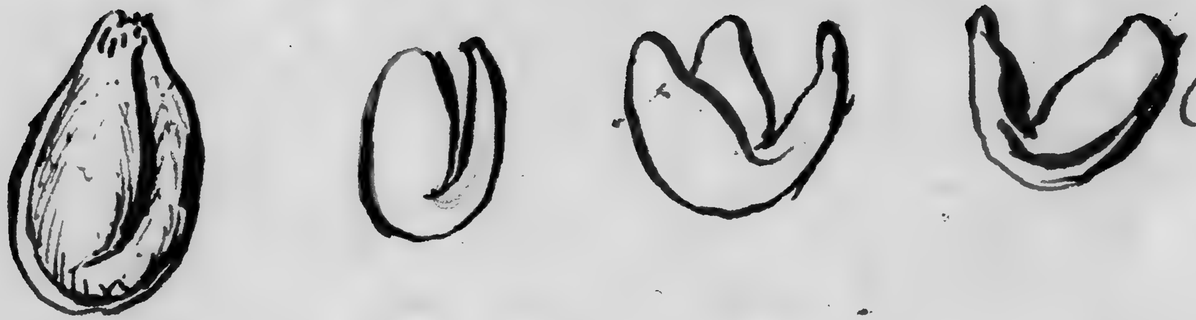
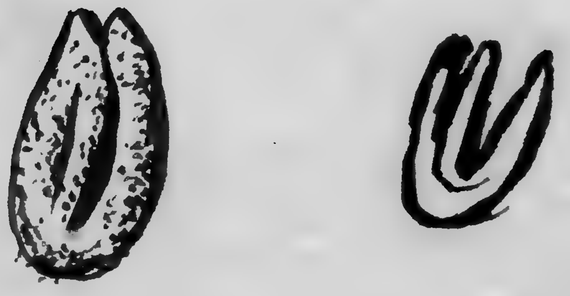


Cotyled accumbent sem subbacc
ad apicem scrobiculato
= O or with = ①

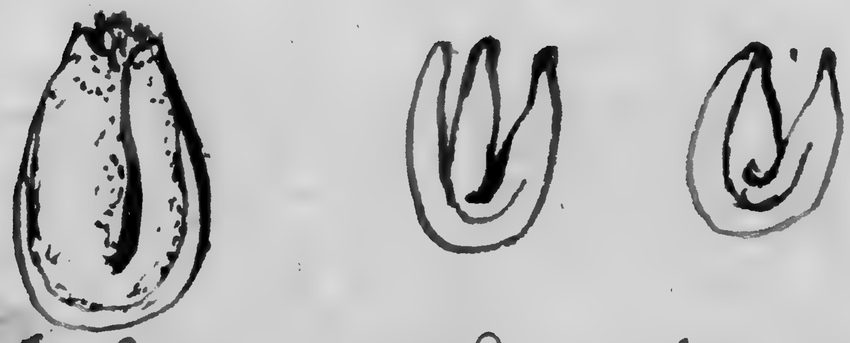
Lepidium virginicum, St Louis sem. subscrobiculato
alatis



110 cotyl incumb. sem. scrobiculat
not alatis

Lepidium ruderale, Germany

186



110 Cotyl incumb sem. scrobicul.
alatis

Lepidium ruderale Prairie upper Mississippi

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MISSOURI BO
GEORGE ENGEL

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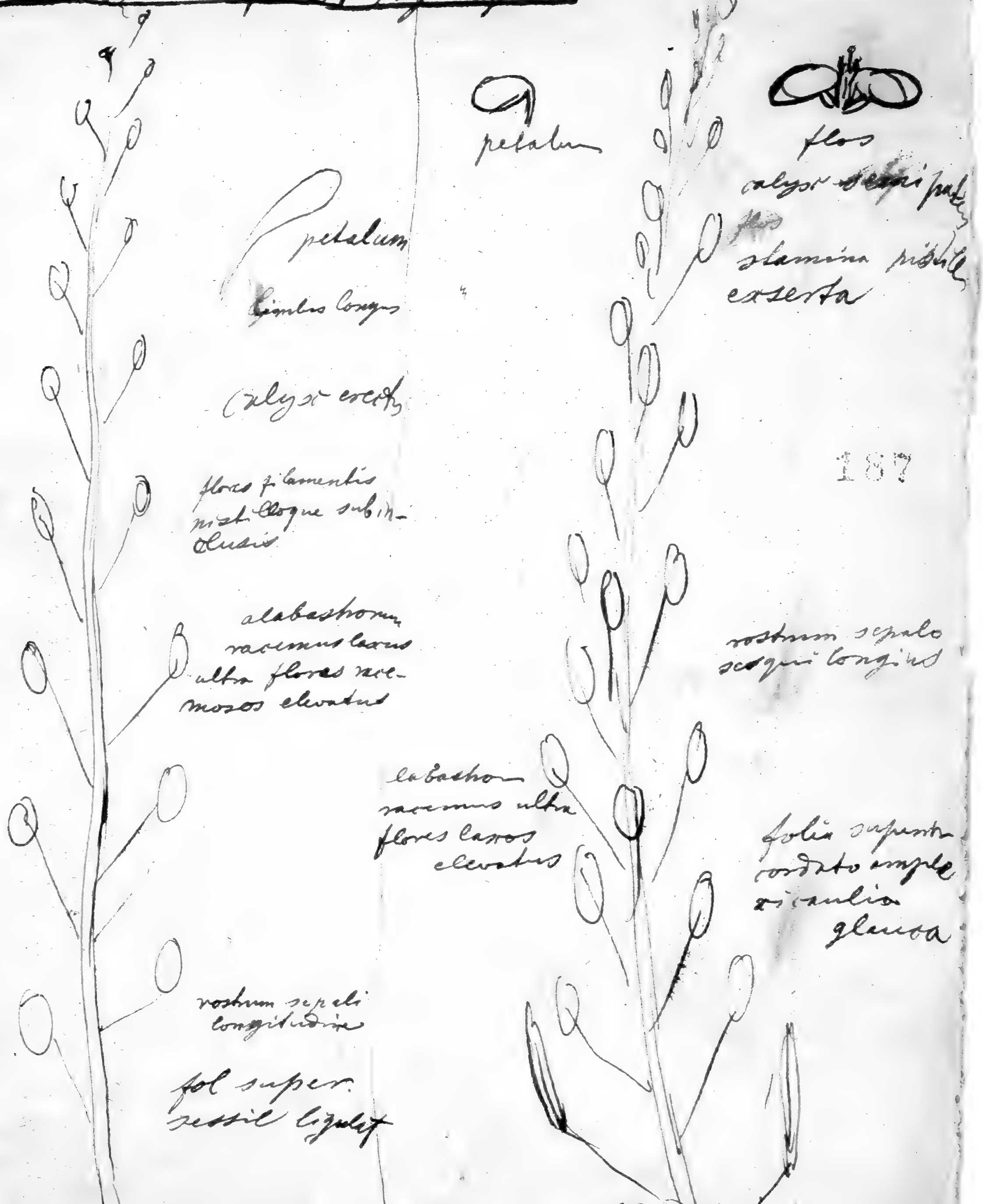
Algunas cosas Cruciferas del Mexicano



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pistill stamina brevius

calyx patens
stamina, pistill
longe exserta

P
petal

rostrum sepala
triplo longius

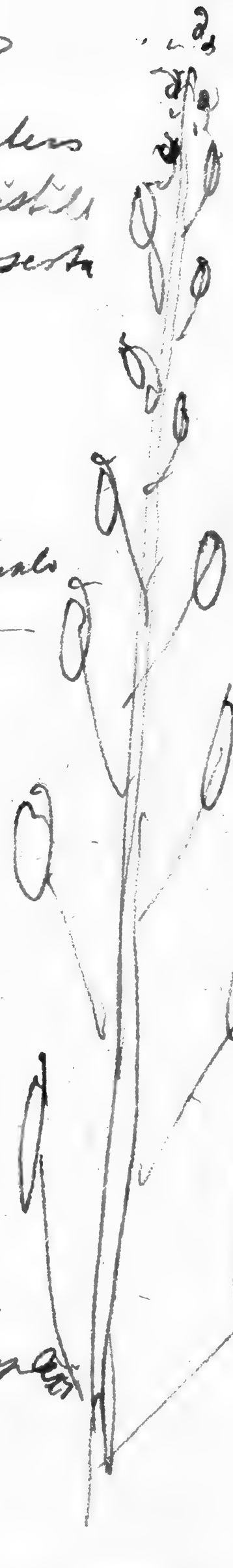
floribus subfastigiatis
alabastra conferta
superantibus

fol super
cordat amplex
aul. glauc

Brassica Rapa L
Napus Rapa Sch et Sp.
Münchrüb – Mostrüb
Gemüse

calyx patens
stam pistill
longe exserta

P
petal



rostrum sepala
triplo long

alabast racemo
elevat ultra
flores racemos

fol super
oblong amplex
aulia

Napus campestris Sch et Sp
Brassica campestris Linnaeus
Ad napobrassica
Schin und Endlicher

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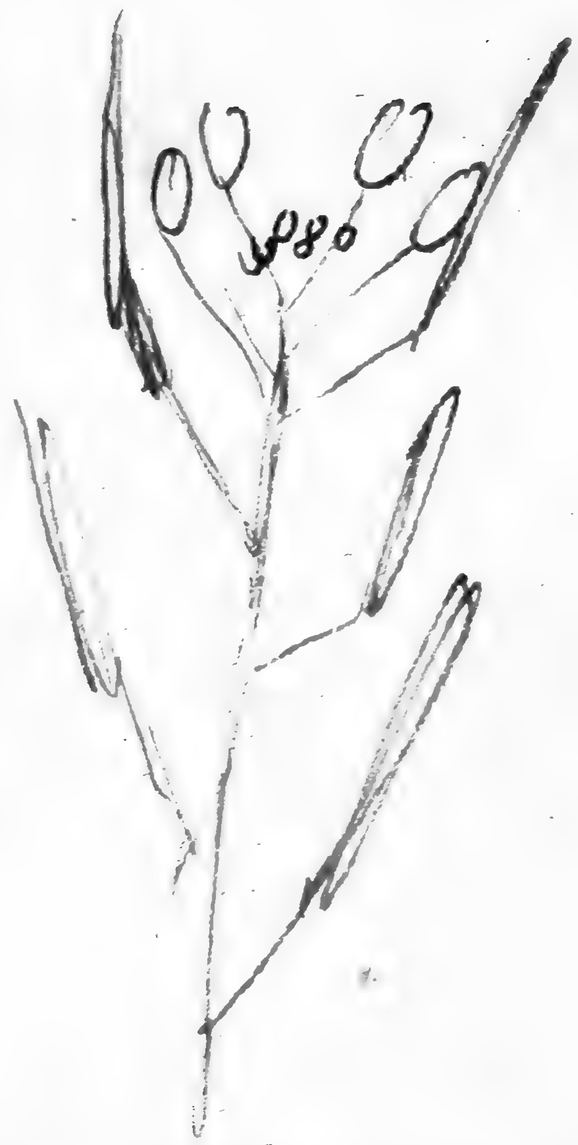
Diplotaxis tenuifolia



Diplotaxis muralis
hum Dipl. viminea nostra

Dissepiment folia magis laevia

Semin fusco-fusca, paucioribus ea sculpta

Camelina linicola Sth et Sp
Myagrum sativum β-dentatum

Dissepiment folia scabra

Semen luteo rufa laevia

pubescens

Camelina campestris
Myagrum sativum Sth et Sp

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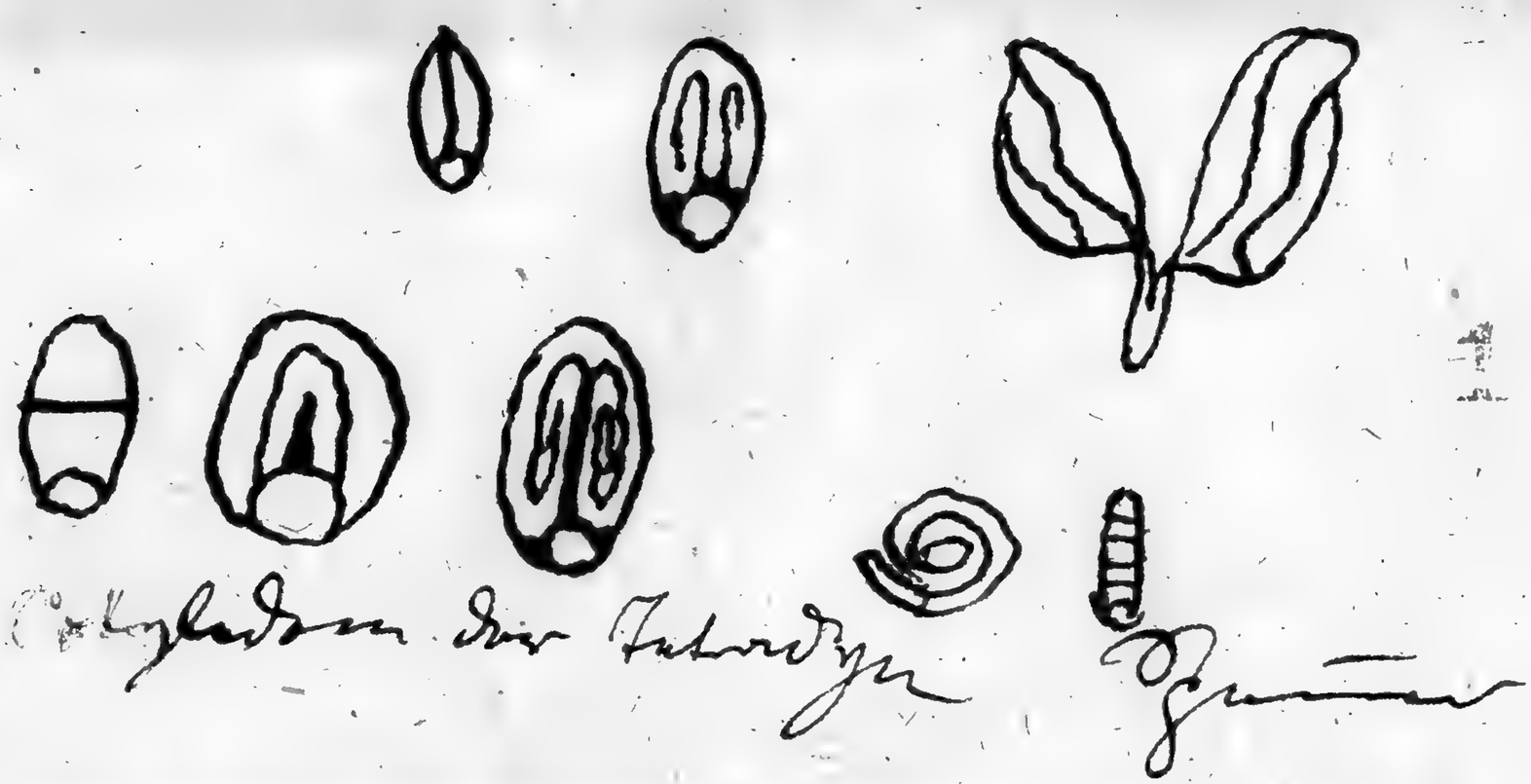

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MISSOURI PACIFIC RAILROAD.

GENERAL OFFICES—23 and 25 South Fourth Street, St. Louis.

A. Peirce, Jr., President, A.P.R.R.Co., New York.
Sam'l Hays, President. Mo. Pac. R.R., St. Louis.
D. R. Garrison, Ass't Man'gr, A.&P.R.R.Co. St. Louis.
Jas. E. Yeatman, V. Pres't, Mo.Pac.R.R., St. Louis.
John L. Dearborn, Cashier, St. Louis.
C. B. Fisk, Sec'y & Treasurer, New York,
C. L. White, Auditor, St. Louis.
A. A. Talmage, Gen'l Sup't, St. Louis.
E. A. Ford, Gen'l Pass. Agent, St. Louis.
G. H. Heafford, Ass't Gen'l Pass. Agent, St. Louis.
W. Cumming, Sup't Sedalia Sec. Eastern Div., Sedalia
A. W. Dickinson, Sup't, Western Div., Kansas City.
C. H. Welch, Sup't E. Div., St. Louis.
J. W. King, Paymaster, St. Louis.
J. A. Hill, General Freight Agent, St. Louis.
W. H. Patriarche, Gen'l Purchasing Agt, St. Louis.

St. Louis Ticket Office, 115 N. Fourth St.—D. Wishart, Agent.

Going West. No19 Exp	No.9 Acc.	No.3 Exp	No.1 Mail	Miles.	Tkt Fare	May 23, 1875. STATIONS.		Pop. 1870	Going East. No.2 Mail	No.4 Exp	No10 Acc.	No20 Acc.
A. M.	P. M.	P. M.	A. M.						P. M	A. M.	A. M.	P. M.
10 30	4 40	8 08	8 53	....	.....	Lv. **St. Louis U. D.**	Ar.	310864	6 23	6 13	8 30	4 00
11 06	5 39	.....	9 20	13	60	" Kirkwood	"	500	5 35	.....	7 40	3 25
.....	5 41	.....	.....	14	65	" Rose Hill	"	.....	.....	.....	7 30	...
11 13	5 48	.....	9 27	17	75	" Barrett's	"	250	.....	.....	7 22	3 16
11 19	5 54	.....	9 33	19	85	" Meramec	"	.....	.....	.....	7 16	3 10
11 32	6 11	.....	9 47	24	1 10	" St. Paul	"	80	.....	.....	7 00	2 56
11 37	6 18	.....	9 52	27	1 20	" Glencoe	"	200	.....	.....	6 52	2 50
11 45	6 28	.....	10 01	30	1 35	" Eureka	"	400	.....	.....	6 43	2 42
11 52	6 35	.....	10 07	33	1 45	" Allenton	"	250	.....	.....	6 35	2 36
12 02	6 48	9 35	10 20	37	1 65	" Pacific	"	.....	4 38	4 30	6 22	2 25
P.M.	7 02	.....	10 33	41	1 85	" Gray's Summit	"	500	4 27	.....	5 53	P. M.
	7 12	.....	10 42	45	2 00	" Labadie	"	.....	4 15	.....	5 42	
	7 22	.....	10 51	48	2 15	" Augusta	"	.....	4 06	.....	5 32	
	7 33	.....	11 02	52	2 35	" South Point	"	350	3 54	.....	5 18	
	7 40	10 25	11 09	55	2 45	" Washington	"	3500	3 47	3 40	5 12	
	P. M.	.....	11 31	62	2 75	" Newport	"	75	3 25	.....	A. M.	
		.....	11 45	67	3 00	" Miller's Landing	"	500	3 10	.....		
		.....	11 55	71	3 15	" Etlah	"	25	3 00	.....		
		.....	12 08	75	3 35	" Berger	"	100	2 47	.....		
		11 38	12 41	81	3 65	" *Hermann	"	1335	2 30	2 24		
		.....	1 02	88	3 95	" Gasconade	"	100	2 07	.....		
		.....	1 14	93	4 15	" Morrison	"	450	1 56	.....		
		12 41	1 36	100	4 50	" Chamois	"	400	1 36	1 30		
		.....	1 50	105	4 70	" St. Aubert	"	200	1 20	.....		
		.....	2 12	113	5 05	" Bonnot's	"	60	12 58	.....		
		.....	2 23	117	5 25	" Osage	"	.....	12 47	12 41		
		1 52	2 45	125	5 60	" **Jefferson City,**	"	4420	12 25	12 19		
		.....	3 03	132	5 95	" Scott	"	.....	11 50	.....		
		.....	3 13	135	6 05	" Elston	"	.....	11 43	.....		
		.....	3 29	140	6 30	" Centretown	"	100	11 30	.....		
		3 01	3 55	150	6 75	" **California**	"	1300	11 04	11 15		
		.....	4 12	156	7 00	" Moniteau	"	110	10 48	.....		
		3 33	4 28	163	7 30	" Tipton	"	800	10 33	10 43		
		.....	5 02	175	7 90	" Otterville	"	953	9 55	.....		
		.....	5 17	181	8 10	" Smithton	"	400	9 40	.....		
		4 45	5 37	189	8 50	Ar. *Sedalia	Lv.	4560	9 15	9 25		
		4 50	6 10			Lv.	Ar.		9 12	9 25		
		.....	6 28	195	8 80	" Dresden	"	600	8 54	.....		
		5 36	7 03	208	9 30	" Kr bnoster	"	2000	8 23	8 33		
		.....	7 12	210	9 45	" Clear Fork	"	.....	8 14	.....		
		6 00	7 30	218	9 80	" **Warrensburg,**	"	2945	7 58	8 07		
		6 15	7 50	224	10 10	" Centreview	"	250	7 42	.....		
		6 36	8 13	232	10 40	" Holden	"	1400	7 20	7 29		
		6 50	8 25	237	10 65	" Kingsville	"	400	6 50	.....		
		7 05	8 40	243	10 70	" Strasburg	"	.....	6 35	7 05		
		7 40	8 57	249	10 75	" ***Pleasant Hill.**	"	2554	6 15	6 48		
		7 56	9 12	254	10 80	" Greenwood	"	400	5 55	6 13		
		8 09	9 25	259	10 85	" Lee's Summit	"	1490	5 40	6 00		
		8 25	9 41	265	.....	" Little Blue	"	.....	5 18	5 40		
		8 48	10 03	273	11 00	" **Independence**	"	3184	4 58	5 18		
		9 20	10 35	282	11 00	Ar. **Kansas Cy.**	Lv.	32260	4 25	4 45		
		9 30	10 45			Lv.	Ar.		4 15	4 35		
		9 40	10 55	283	11 00	" *State Line	"	400	4 05	4 30		
		9 50	11 05	286	11 00	" **Wyandotte**	"	2940	3 55	4 15		
		10 18	11 33	295	11 40	" Pomeroy	"	250	3 23	3 47		
		11 00	12 10	309	11 50	" **Leavenworth,**	"	17873	2 42	3 10		
		11 11	12 20	312	11 60	" Ft. Leavenworth	"	.....	2 34	3 00		
		12 05	1 10	330	12 00	Ar. **Atchison**	Lv.	7054	1 40	2 10		
		P. M.	A. M.			Jeff. City time.—U. S. Exp.			A. M.	P. M.		

*Stop for Meals.

Trains Nos. 3, 4, 19 and 20 daily. All others daily except Sunday.

Coupon Stations black.

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MISSOURI, KANSAS & TEXAS R'Y.

[Main Line.]

General Offices—Sedalia, Mo.

WM. BOND, Receiver.

GEO. J. FORREST, President, New York.
R. S. STEVENS, Gen. Manager, Sedalia, Mo.
C. H. CHAPPELL, Gen'l Sup't Transportation "
JAS. D. BROWN, Gen'l Ticket Agent, "
THOS. DORWIN, Gen. Pass. Agent, Sedalia, Mo.
W. P. ROBINSON, Gen. Freight Agent, Sedalia, Mo.
JOHN CURLEY, Gen. Baggage Agent, "
G. H. HUNTINGTON, Gen'l Agt, No. 4 N. 4th St, St. Louis
St. Louis Ticket Office, No. 4 North Fourth Street.—C. F. FASSETT, Agent.

Going West No.3 Mail	Going West No.1 Exp	Miles.	Tkt. Fare.	May 23, 1875. STATIONS.	Pop. 1870	Going East, No.2 Exp	Going East, No.4 Mail
P.M.	A.M.					P.M.	A.M.
8 08	8 53	...	.....	Lv. **St. Louis U. D.**...Ar.	310864	6 23	6 13
				Via Mo. Pacific R. R.			
A.M.	P.M.					A.M.	P.M.
5 05	6 00	189	8 50	Ar. **Sedalia**.....Lv.	5644	8 55	9 20
P.M.	A.M.					P.M.	A.M.
10 10	10 45	0	.....	Lv. **Hannibal**.....Ar.	10125	4 30	5 45
10 48	11 23	12	.....	" Rensalier..... "	.....	3 55	5 00
11 14	11 47	19	.....	" Monroe ..... "	.....	3 30	4 25
12 15	12 49	44	.....	" Paris..... "	895	2 26	3 05
12 48	1 25	57	.....	" Madison..... "	250	1 55	2 18
1 25	2 15	70	.....	" **Moberly** ..... "	1514	1 15	1 30
1 27	2 18	72	.....	" St.L.,K.C.&N.R'y C."	.....	12 58	1 18
2 30	3 22	95	.....	" Fayette..... "	.....	11 45	12 05
3 08	4 00	108	.....	" **Boonville**..... "	4500	11 05	11 25
3 58	4 50	125	.....	" Pleasant Green..... "	.....	10 10	10 27
5 10	6 05	143	.....	Ar. **Sedalia**.....Lv.	5644	8 50	9 15
5 10	6 05	189	8 50	Lv. **Sedalia**.....Ar.	5644	8 50	9 15
6 10	7 05	210	9 55	" Windsor..... "	1000	7 50	8 07
6 30	7 25	217	9 95	" Calhoun..... "	400	7 30	7 45
7 00	7 55	229	10 50	" **Clinton**..... "	3000	7 00	7 15
7 42	8 32	241	11 15	" Montrose..... "	800	6 20	6 35
8 00	8 48	247	11 45	" Appleton City ..... "	1000	6 05	6 18
8 25	9 12	256	11 85	" Rockville..... "	400	5 40	5 53
9 00	9 25	261	12 10	" Schell City..... "	.....	5 30	5 40
9 55	10 15	279	13 00	" Nevada..... "	2500	4 40	4 30
10 55	11 10	299	14 00	" Mo.R.,Ft.S.&G. Cr "	.....	3 45	3 35
11 00	11 15	300	14 00	" **Ft. Scott**..... "	4174	3 40	3 30
11 55	12 10	319	15 05	" Hepler ..... "	.....	2 45	2 35
12 33	12 50	334	15 75	" **Osage Mission**.. "	200	2 08	1 55
1 15	1 30	348	16 45	Ar. { **Parsons** ..... } Lv.	3000	1 30	1 15
P.M.	1 40		.....	Lv. {		1 20	P.M.
.....	2 05	356	16 90	" Labette..... "	282	12 55	
.....	2 20	361	17 20	" Oswego..... "	200	12 40	.....
.....	2 45	372	17 65	" **Chetopa**..... "	960	12 12	.....
.....	3 25	388	18 50	" Blue Jacket ..... "	100	11 30	.....
.....	4 00	400	19 00	" **Vinita**..... "	50	11 00	.....
.....	5 15	433	21 00	" Chouteau..... "	150	9 40	.....
.....	6 10	456	22 90	" Gibson..... "	500	8 48	.....
.....	7 00	465	23 50	" Mus-ko-gee ..... "	.....	8 20	.....
.....	7 35	488	24 00	" Oke-ta-ha ..... "	.....	7 30	.....
.....	7 55	496	24 25	" Checotah..... "	.....	7 12	.....
.....	8 50	508	24 85	" South Canadian.. "	.....	6 18	.....
.....	9 33	525	25 25	" McAlister..... "	.....	5 36	.....
.....	10 42	552	26 00	" Limestone Gap..... "	.....	4 30	.....
.....	11 45	570	25 65	" Atoka.. ..... "	.....	3 45	.....
.....	12 38	590	26 25	" Caddo ..... "	.....	2 38	.....
.....	2 00	621	27 00	Ar. **Denison** .....Lv.	4000	1 15	.....
	P.M.					P.M.	

Railroad Connections.

At Sedalia and Holden with Mo. Pacific R.R. At Paola and Ft. Scott with Mo. River, Ft. Scott and Gulf R. R. At New Chicago with Leavenworth, Lawrence and Galveston R.R. At Emporia with Atchison, Topeka and Santa Fe R. R. At Junction City with Kansas Pacific R'y. At Denison with Houston and Texas Central Railroad.

Stage Connections.

At Windsor with daily line to Warsaw and Springfield. At Clinton with daily line to Browington, Osceola and Bolivar. At Montrose with daily line to Germantown and Johnstown. At Appleton City with daily line to Butler. At Nevada with daily line to Montevallo, Virgin City, Lamar, Granby, Golden City, Springfield, Bolivar and Carthage. At Parsons with daily line for Independence, Elk Falls and Elk City. At New Chicago with daily line to Fredonia.

At Humboldt for Eureka, Eldorado and Wichita. At Burlington and Muske-gee with El Paso Mail Line for Fort Smith, Van Buren and points in N. W. Arkansas. At Caddo with El Paso Mail Line for Fort Smith Arbuckle, Etc. At Denison with El Paso Mail Line for Bonham, Paris, Clarksville and points in N. E. Texas.

☞ Trains 1 and 2 run daily; 3 and 4 daily, except Sunday

NEOSHO DIVISION.

Exp.	Miles	STATIONS.	Pop.	Exp.
P.M.				P. M.
1 45	0	Lv. **Parsons** Ar.	800	12 45
2 35	18	" Urbana... "	.....	11 55
3 03	25	" **N.Chicago** "	750	11 23
3 30	35	" **Humbolt** "	1202	10 55
4 15	49	" Neosho Fls "	532	10 10
5 10	67	" **Burlng'n** "	960	9 15
6 50	95	" **Emporia** "	2168	7 50
7 18	103	" Americus.. "	300	7 03
8 10	119	" C. Grove.. "	712	6 15
8 45	133	" Parks'ville "	150	5 40
10 00	156	Ar, **Jun.City** Lv	2778	4 30
P. M.				A. M.

☞ Both Trains daily except Sunday.

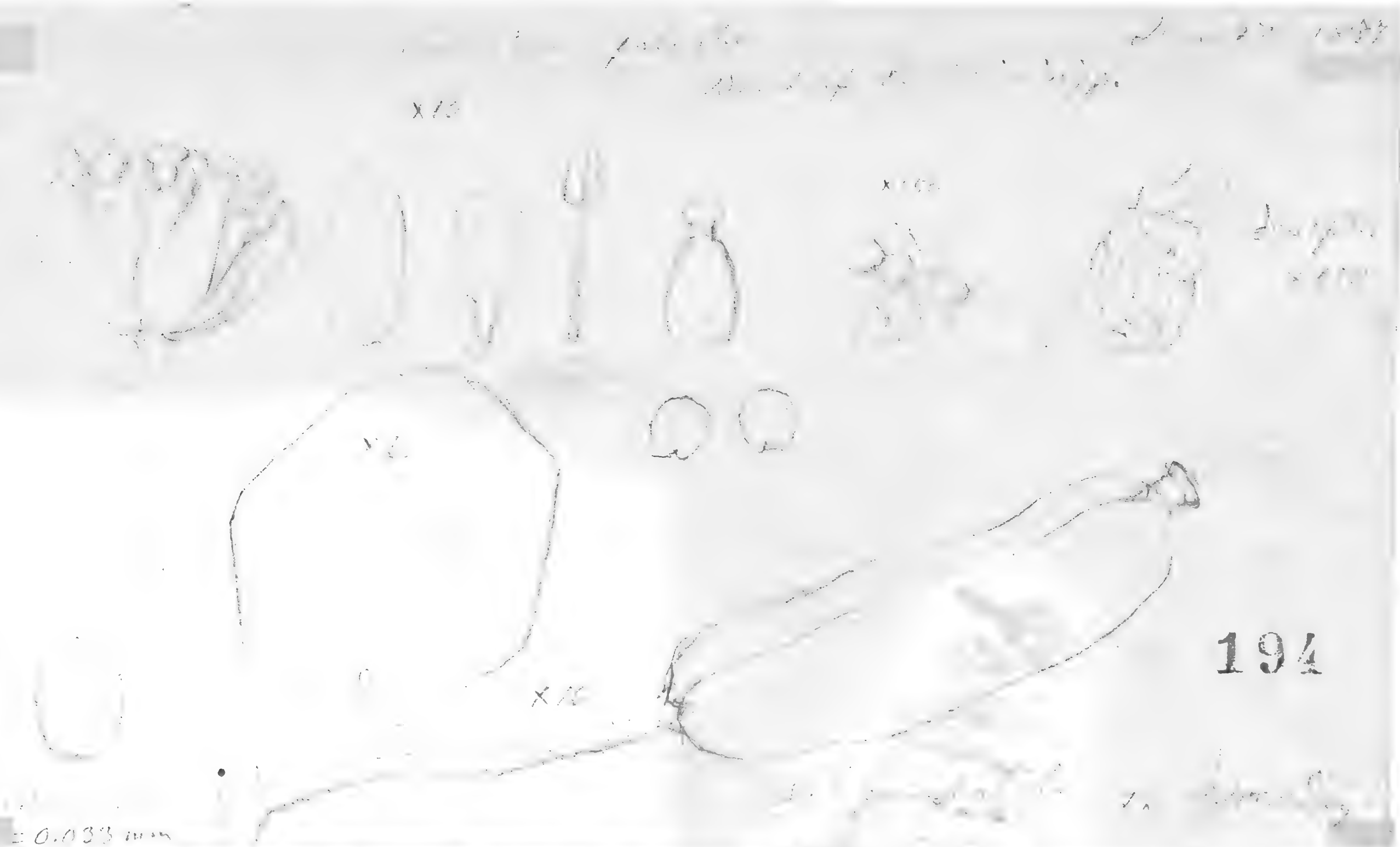
OSAGE DIVISION.

Exp.	Miles	STATIONS.	Pop.	Exp.
				A.M.
8 00	0	Lv. **St. Louis** Ar	310864	6 13
A.M.				P. M.
7 50	232	" Holden .... "	1576	7 05
8 35	240	" Benton..... "	150	6 17
8 55	247	" East Lynn. "	1032	5 55
9 25	253	" Haris'nv'le "	.....	5 21
10 00	263	" Freeman... "	.....	4 40
10 25	269	" West Line. "	.....	4 15
10 50	272	" Louisburg. "	.....	3 47
11 15	278	" Sumerset .. "	.....	3 21
11 45	285	Ar **Paola**....Lv	1811	2 45
A.M.				P.M.

☞ Both Trains Daily except Sunday.

Coupon Stations Black.

MISSOURI PACIFIC RAILWAY
GEORGE



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No. 2600 Laclede Ave., S. W. Cor. Jefferson Ave.,

ST. LOUIS, MO.

No. ..... *Date,* *187*

℞

MISSOURI BOTANICAL
GEORGE ENGELMANN

Geo. Engelmann, M. D.,

No. 3003 Locust Street.

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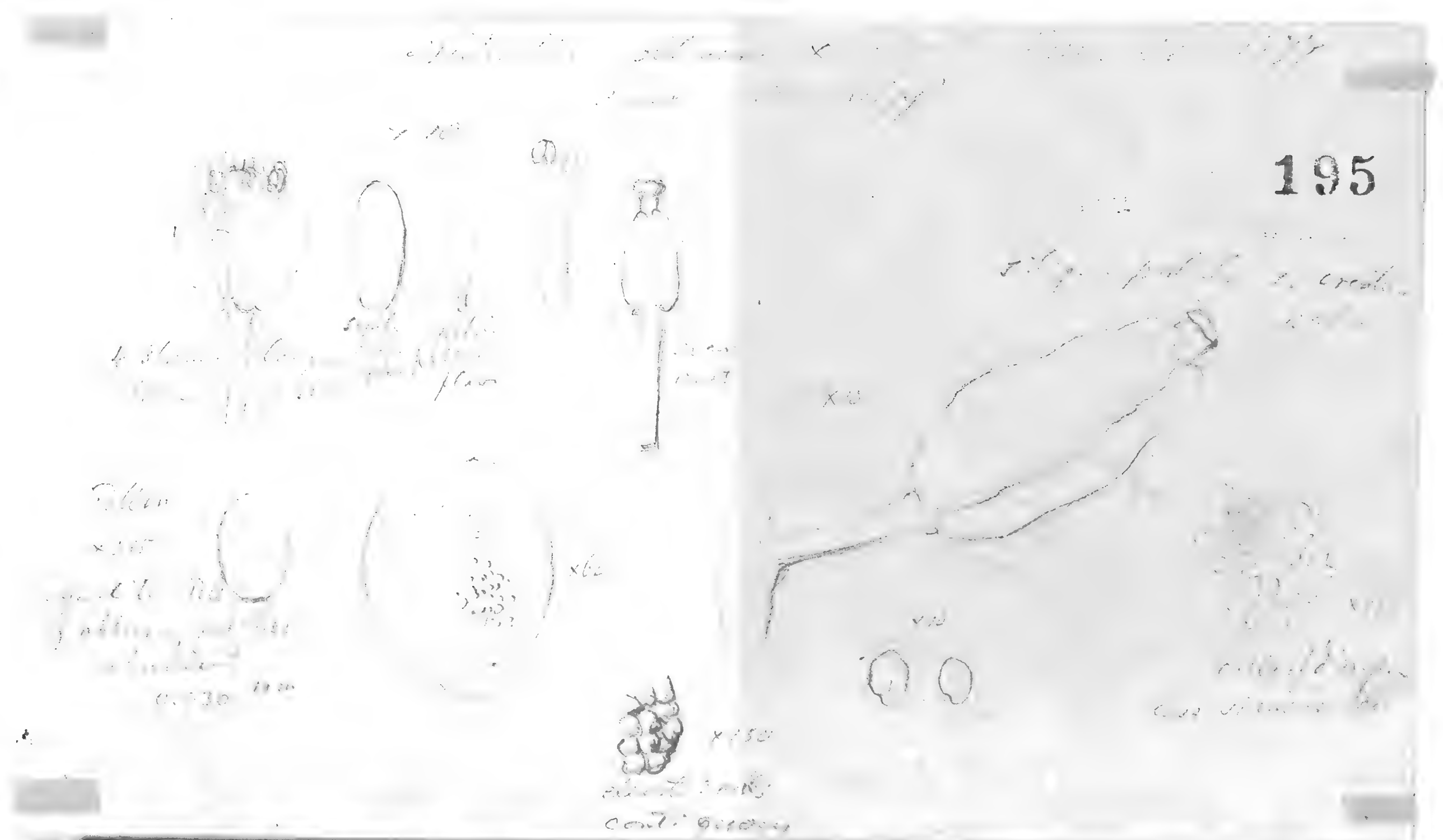

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ST. LOUIS, MO.

No. ..... *Date,* *187*

℞

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN FUND

Geo. Engelmann, M. D.,
No. 3003 Locust Street.

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ST. LOUIS, MO.

No. ..... *Date,* *187*

℞

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN LIBRARY

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No. 3003 Locust Street.

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No. 2600 Laclede Ave., S. W. Cor. Jefferson Ave.,

ST. LOUIS, MO.

No. Date, 187

℞

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN [illegible]

Geo. Engelmann, M. D.,

No. 3003 Locust Street.

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ST. LOUIS, MO.

No. ..... *Date,* *187*

℞

MISSOURI BOTA[illegible]
GEORGE [illegible]

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No. 3003 Locust Street.

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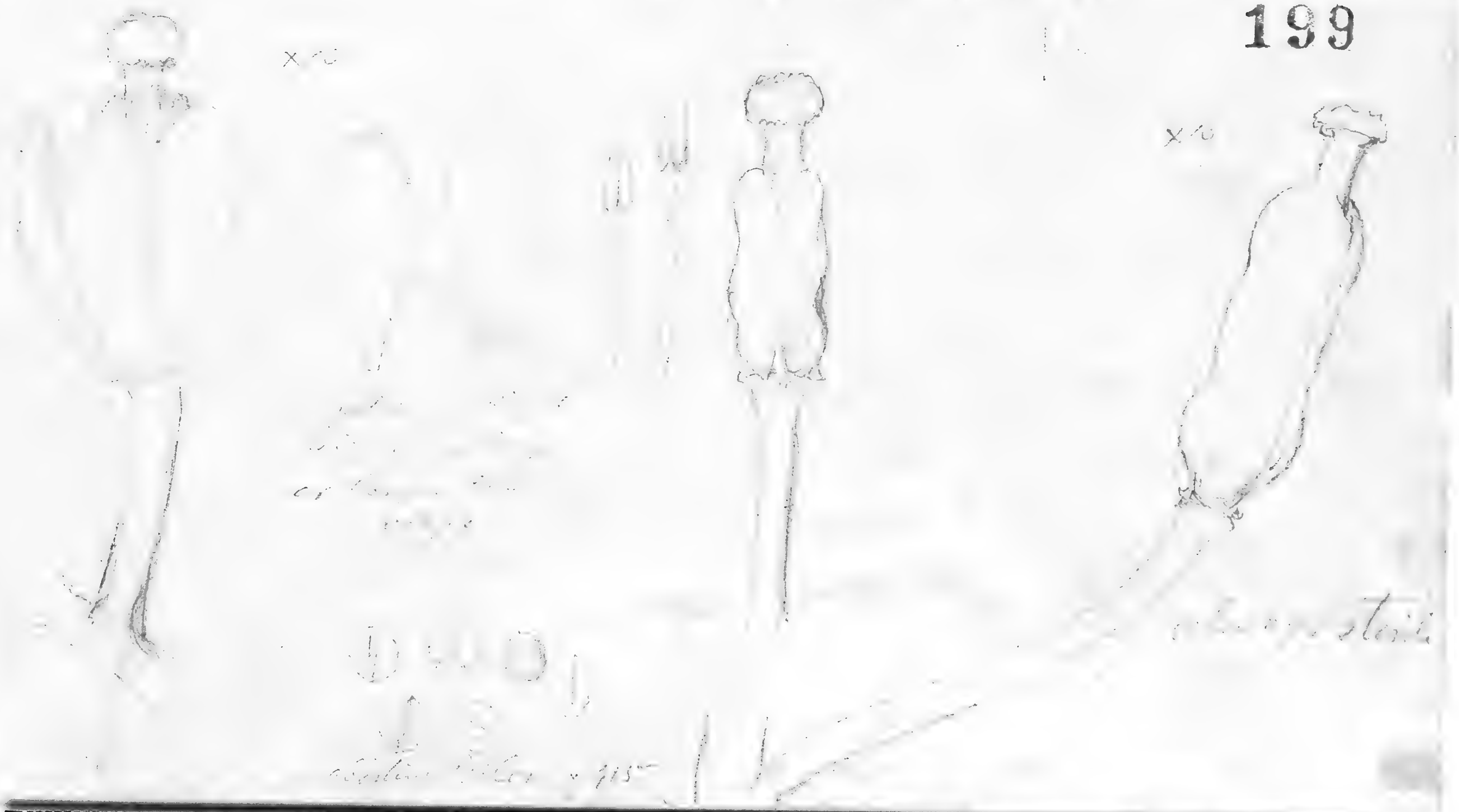

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No. 2600 Laclede Ave., S. W. Cor. Jefferson Ave.,

ST. LOUIS, MO.

No. ..... *Date,* *187*

℞

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN FUND

Geo. Engelmann, M. D.,
No. 3003 Locust Street.

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Theilen, — während bei M. vestita nach Hooker in Greville's Abbildung (ich selbst habe diese Art nur mit unrichtig bestimmter Fructification gesehen) auf jeder Seite nur 7 Sori vorhanden sind.

Ich zweifle nicht, daß zu dieser zweiten noch mehrere Arten von Marsilea in Nordamerica aufgefunden werden!

[Über die Gruppirung der Marsileen nach der Stellung der Früchte, so wie über die eigentlichen Bau der Frucht und den eigenthümlichen Vorgang der natürlichen Aufbruch habe ich in Freiburg bei der Vertheidigung der M. vestita vorgetragen; in den oben angeführten Art der Bot. Zeitung ist eine kurze Darstellung davon zu lesen.]

A. Braun, 1840

Endlich will ich Sie noch mit einer neuen Bestimmung der kleinen Crucifere mittheilen, welche Schütze am St. Johns-Creek in der Gegend von Bartlin im Missouri-Staate gesammelt, und welcher ich vor 2 Jahren den Namen Engelmannia zugedacht hatte. Meine Beschreibung, von einer Zeichnung begleitet, war damals erbeitet, als ich von Ihr die Nachricht erhielt, daß Ihre kleine Pflanzchen sei wahrscheinlich Platyspermum scapigerum Hooker. Da ich mir aber Hooker's Flor. Bor. Amer. hierüber keine Gewißheit verschaffen konnte, so blieb der Aufsatz liegen. Aus der seither erschienenen Flora Nord-americas von Torrey und Gray ersehe ich nun, daß die mitgetheilte Pflänzchen nicht dem Genus Platyspermum angehört, sondern eine Leavenworthia ist, aber, was die Diagnosen der zwei aufgeführten Arten genau sind, eine dritte, neue Art dieses Genus bildet, für welche ich den Namen L. Engelmanni vorschlage.

Das genus Leavenworthia ist von Torrey in der Ann. lyc. New-York 3. p. 87. mit Abbildung auf t. 5. aufgestellt; der in John Torrey and Asa Gray a Flora of North-America Vol I. p. 89. angegebene genuscharacter trifft bei dem überschuchten Pflänzchen genau zu, namentlich der wichtigste Character des genus "Embryo nearly straight, or with the radicle slightly bent towards the edge of the cotyledons", durchaus allein es mir von Cardamine wesentlich verschieden scheint, in welcher Gattung Michaux die mir, ihm bekannte Art gemischt hatte. Während nämlich bei der Gattung Cardamine und ihren Verwandten (Pteroneuron, Arabis etc.) das Bängelchen fast an den Rand der Cotyledonen angeknüpft ist, sodann parallel mit den Rändern der Schote absteigend, letztere in der entgegengesetzten Richtung wieder aufsteigend, steht dagegen bei Leavenworthia Eaglemani das Bängelchen vom Rande der Cotyledonen ab, einen rechten Winkel mit ihnen bildend, zuweilen selbst einen stumpfen; zur Zeiten reife der Schote hat es eine quere oder schief absteigende Lage, wobei die Cotyledonen nicht wieder aufsteigen, sondern gleichfalls, nur in entgegengesetzter Richtung, schief absteigend sind. Dazu kommt dann noch als weiterer Unterschied von Cardamine der breite flügelrand der fast kreisförmigen Samen und die breite Schote mit zwei zellenreichen Samen (4–5 in jedem Fach bei L. Eaglemani.)

In Torr. and Gray's Flora werden 2 Arten des genus Leavenworthia aufgeführt, nämlich

1, L. aurea Torr. l.c. (Cardamine uniflora Leavenworth non Michx.)

2, L. Michauxii Torr. l.c. (Cardamine uniflora Michx. Pursh etc.)

die mitgetheilte Skizze ist Pflanze passt auf keine dieser beiden Arten. L. aurea nämlich soll goldgelben

Petala haben, die Schützer'sche Pflanze nach dieser Beschreibung weiß; der embryon wird als "nearly straight" angegeben, während bei der Sch. Pflanze Radicula und Cotyledonen, wie wohl angegeben, einen fast rechten Winkel bilden. "Silique slightly tomentose" deckt gleichfalls nicht, da die Klappen fast ganz glatt, ohne alle Tomentosität sind. "Flowers in the young plant, or in dwarf specimens, on long erect naked peduncles or scapes; in the advanced state on racemes, which terminate the short ascendent branches." Letzteres scheint nach den vorliegenden Exemplaren gleichfalls nicht eingetreten.

Mit der zweiten Art, stimmt die Schatzer'sche Pflanze durch die "radicle oblique" überein, allein L. Michauxii (L. Michauxii, wird durch "style almost none" charakterisirt, während die Sch. Pflanze einen deutlich verlängerten Griffel hat, wie er bei L. aurea angegeben wird. Die Farbe der Blüte wird bei L. Michauxii nicht aus drücklich angegeben, allein da im Genus-character die Blüten im allgemeinen als gelb bezeichnet werden, so hat sie wohl gleichfalls gelbe Blüten. Vom Wuchs und Blütenstand wird ungefähr dasselbe angeführt, wie bei L. aurea: "Michaux states that the peduncles are radical and one-flowered, but the specimens in his herbarium are caulescent, the racemes terminating short ascendent branches, and the pedicels being greatly elongated, so as to resemble scapes."

Somit scheint sich die Aufstellung einer dritten Species, als L. Engelmannii, zu rechtfertigen; ihre specifischen Unterscheidungscharaktere wären: Unterscheidbarer Griffel, in fast rechtem Winkel zu ebenem Embryon, weiße Blüten und? constant "stengellose" Wurzel.

Was die Leavenworthia dem Morphologen interessant macht, ist aber dieser, wie man es zu nennen pflegt, stengellose Wurzel, der einer Cruciferen ein seltsames

und ungewöhnliches Aussehen zeigt, wiederum in mehreren andern Familien, wo es gleichfalls nahes zu-Identum Buch vorkommt (wenn Arten von Primula acaulis unter den Schlüsselblumen, von Dentaria acaulis u. rhizocarpa unter den Kreuzkräutern) ; doch schon eine bekannte Erscheinung ist. Da selten im Allgemeinen die „stengellosen" Pflanzen unter den Cruciferen sind, so kann man daran jetzt doch noch mehrere Abkürzungen, nämlich

1, aus der Gruppe der Arabideen:

Leavenworthia (u. zwar, wie es scheint, am entschiedensten L. Eaglemanni) ausgezeichnet durch die kurzen, doch über das Laubröschen sich erhebenden Blütenstiele.

2, aus der Gruppe der Alyssineae:

Cochlearia acaulis Desf. (pusilla Prot.) aus Portugal, die einzige Art einer besondern Section der Cochlearien, die kürzlich als genus unterschieden werden darf (Tonopsidium DeCand.) Die Blütenstiele ragen nur wenig über das Laubröschen hervor.

3, aus der Gruppe der Camelineae:

Platyspermum Hook. mit einer einzigen Species: Pl. Scapigerum, deren Blütenstiele wie bei Leavenworthia sehr verkürzt sind.

4, aus der Gruppe der Eucareae

Morisia hypogaea Gay (Eucaria hypogaea Vio.), einzige Art der Genus, aus Corsica und Sardinien, mit der Eigenthümlichkeit die krum über die Rosette sich erhebenden Blütenstiele zwischen die Zahl der kriechenden Hinterbrüderungen.

Als seltsamen Spielart erscheinende acaule Cruciferen ist endlich noch die Cardamine pratensis acaulis s. uniflora, welche Graf Caspar von Sternberg in den Denkschriften der bohmischen Gesellschaft zu Regensburg 1815 p. 157. t. II. abgebildet und beschrieben hat.

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Nasturtium sinuatum Nutt radice bienni, caule ramoso decumbente glabro, foliis sinuato pinnatifidis basi auriculatis; racemis laxis terminalibus et axillaribus floribus (majoribus) albastra ~~superantibus~~ et siliquas juniores superantibus; ~~sepalis erectis~~ sepala erecta ovata dimidio petalis latis spathulatis superantibus; filamentis rotis stylo brevioribus, antheris lanceolatis, acutis; ~~stylo~~ dimidia ovarii cylindrici longitudine pedicellis fructiferis recurvis s. patulis inferioribus s. siliquam cylindricam incurvam acutam aequantibus superioribus brevioribus siliqua longitudine diametro quater superante stylo persistente diametrum s. siliquae ~~aequantibus~~ subsuperante; semina (majora) angulata, laevissima puncticulata

Banks of Mississippi Mai – July

Nasturtium palustre DC radice annua (rarissime bienni) caule erecto ~~patulo~~ ramoso, glabro, foliis lyrato pinnatifidis grosse dentatis basi auriculatis racemis laxis terminalibus et axillaribus floribus (minoribus) albastra et siliquas juniores aequantibus petalis latis spathulatis sepala ovata subpatentia aequantibus; filamentis rotis stylum aequantibus, antheris ovalibus obtusis. stylo quarta ovarii cylindrici retusi ~~quater brevior~~ longitudine, pedicellis fructiferis patulis, siliquam brevem cylindricam retusam subaequantibus; s. siliqua longitudine diametro ter superante stylo persistente vix dimidiam siliquae diametrum aequante. semina (minora) reniformia puncticulata

Banks of stagnant or running water Mai to September

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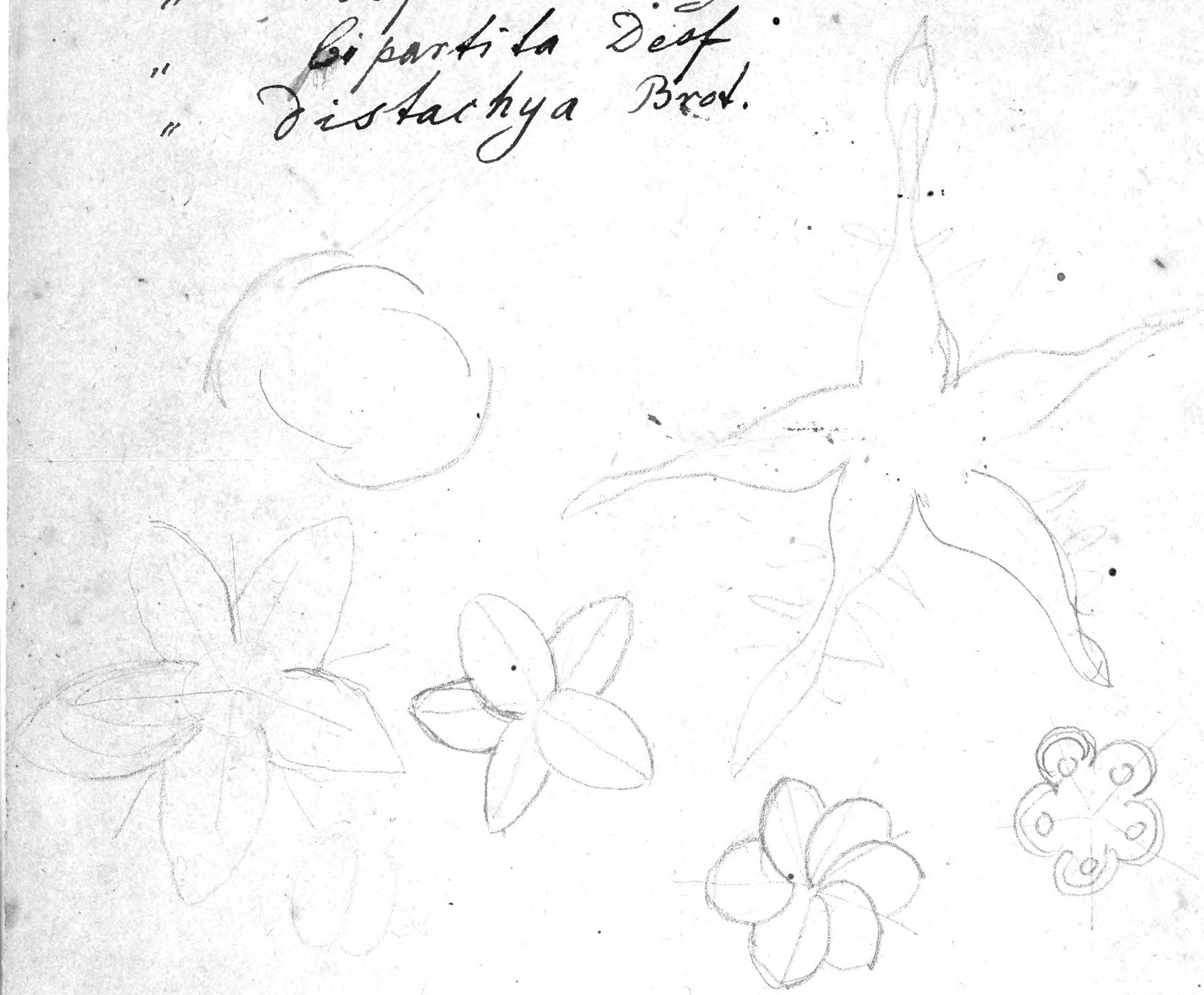
Nasturtium obtusum Nutt radice annua, caule ramoso, ramis repe- erectis folio fasciculatis
patulo, glabro; foliis lyrato pinnatifidis pinnis ovatis
s. rotundatis obtusis, grosse dentatis s. pinnatifidis
racemis ~~oppositis~~ elongatis, terminalibus s.
oppositifoliis, elongatis s. saepe decumbentibus
floribus (minutissimis) alabastris et siliquis
junioribus aequantibus; petalis sulphureis linearis spathulatis
sepalis ovato rotundatis multo minoribus filamentis
erectis stylum superantibus, antheris rotundatis
stylo ~~quadrata~~ ovarii ovati retusi longitudine
pedicellis fructiferis ~~subercete~~ sub petalis
siliqua brevi ovata obtusiuscula dimidio
brevioribus (siliqua longitudine diametro bis superante) stylo mini mo persistente
vix quantum siliquae diametrum aequante
semina (minutissima) reniformia punctatotuberculata

Muddy banks of Mississippi July to September

Nasturtium sessiliflorum Nutt radice annua (s. biennis)
caule erecto ramoso, glabro, ramis erectis; foliis inferioribus
lyrato pinnatifidis, superioribus ovatis, dentatis
in petiolum alatum decurrentibus, vix accrescentibus
racemis elongatis, terminalibus s. axillaribus, erectis
floribus (minimis) alabastris brevioribus, et siliquis
junioribus superantibus (inde racemus apice hemisphaericus)
apetalis; filamentis ovarii ~~stigma~~ sessile
superantibus, antheris ovatis obtusis; pedicellis
fructiferis sub petalis dimidium siliquae cylindricae
obtusae diametrum aequantibus (siliqua longitudine diametro quater superante persistente), stylo minutissimo
semina (minuta) reniformia s. orbiculata.

Banks of stagnant or running water Mai to September

Silene bellidifolia Jacq. Spr. II, 408
" vespertina Retz
" bipartita Desf.
" distachya Brot.



Lusitan. Afric. bor
Prof. maris Aegali

H. B. Wirgb 1822

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