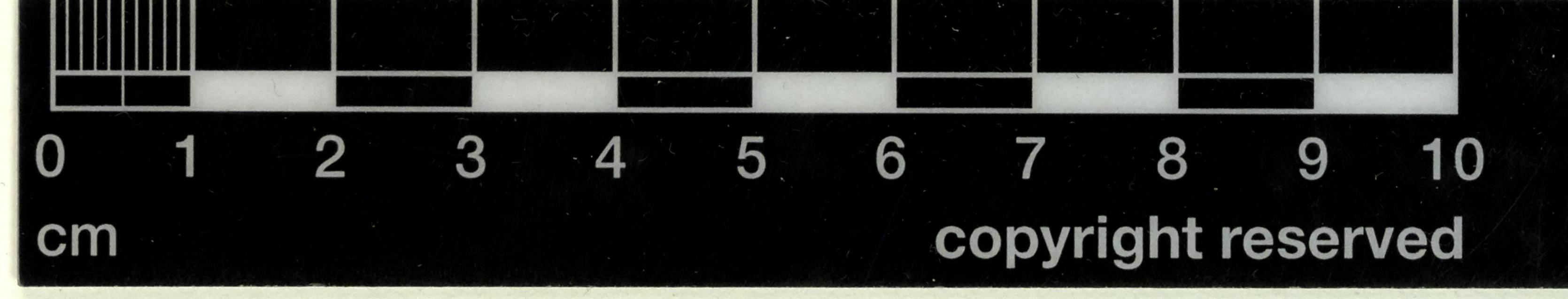


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MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS



Additional Remarks on Atmospheric Electricity. By A. Wislizenus, M.D.

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The delay in the publication of this volume enables me to add to my observations of atmospheric electricity in 1861, the result of my observations in 1862. The latter observations have been made in the same manner and by means of the same fine glass thread, which, after many thousand torsions, proves as good as ever. I present herewith in tabular

I. Monthly mean of Positive Atmospheric Electricity in 1861 and 1862, at St. Louis, Mo., based upon daily observations at 6, 9, 12, 3, 6 and 9 o'clock, from morning till night.

form the general result of my observations in 1861 and 1862.

Jan. Feb. Mar. Ap'l. May. Jun. Jul. Aug. Sept. Oct. Nov. Dec. Year.

1861*.16.5 12.1 9.8 8.8 7.8 4.0 3.7 3.4 3.0 7.1 10.0 14.3 8.4 1862...12.1 16.0 9.4 10.6 7.5 3.0 2.2 2.3 3.0 7.7 12.6 13.9 8.4

* This table of 1861 differs in some decimals from that published on page 66 and in Diagram No. 1. Having discovered some errors, I calculated all my observations once more, and give now the present as the corrected table.

II. Monthly mean of Temperature and of Relative Humidity in 1861 and 1862, at St. Louis, Mo., based upon daily observations, cotemporaneous with those of Atmospheric Electricity.

TEMPERATURE.

Jan. Feb. Mar. Ap'l. May. Jun. Jul. Aug. Sept. Oct. Nov. Dec. Year. 1861...32.2 40.4 44.8 58.1 64.1 76.9 77.5 78.6 69.1 57.9 46.0 39.7 57.1°F. 1862...28.9 30.2 43.2 55.0 69.7 75.1 81.2 80.7 72.1 57.3 42.6 41.3 56.4°F.

RELATIVE HUMIDITY.

Jan. Feb. Mar. Ap'l. May. Jun. Jul. Aug. Sept. Oct. Nov. Dec. Year.

1861...72.2 63.3 64.5 61.5 66.3 70.8 66.3 69.6 77.3 76.6 69.0 74.3 69.5 1862...85.3 73.9 70.8 67.0 57.3 67.0 66.8 64.3 74.2 67.2 69.5 74.6 69.8

III. Yearly mean of Positive Electricity of Temperature, and of Relative Humidity of the Atmosphere, at the hours of 6, 9, 12, 3, 6 and 9, from morning till night, based upon daily observations at these hours through the years 1861 and 1862, at St. Louis, Mo.

ELECTRICITY.

At 12 M.

At 9 A.M.

At 6 A. M.

At 3 P.M.

					8.7							
1802	0.9	10.0			8.1	0.0						
			TEMPERATURE.									
1861	48.9° F	54.9	61.6	63.6	59.3	54.3						
1862	48.9	55.0	60.9	62.3	58.0	53.6						
RELATIVE HUMIDITY.												
					65.1							
1862	5.3	70.6	60.0	57.5	67.6	. 78.0						



At 6 P.M. At 9 P.M.

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IV. Direction of Winds and number of Thunderstorms in '61 & '62.

1861.		E.	N.	N.E.	s.w.	N.W.	s.	w.	S.E.	Prevailing Winds.	Thunder- storms.	
January		11	3	12	22	38	18	28	61	S.E	0	
February		4	2	2	35	24	19	41	60	S.E	2	
March		12	11	10	23	30	19	42	40	W. & S.E	3	
April		16	10	9	26	21	35	34	26	S. & W	2	
May		26	10	23	21	8	13	49	35	W. & S.E	5	
June		12	21	22	20	25	26	8	41	S.E	7	
July		3	31	14	21	26	46	15	29	S	3	
August		18	24	58	17	11	18	3	37	N.E	5	
					The state of the s					S.E. & N.W.		
						The state of the s				S.E. & S		
November		7	15	8	22	27	20	36	44	S.E. & W	1	
December		9	19	9	25	23	33	17	51	S.E. & S	0	
136 169 190 279 293 29					293	324	522	S.E	32			
1862.	E.	s.w.	N.	N.E.	w.	s.	N.W.	s.E		Prevailing Winds	Th. st's.	
Jan.	19	6	19	23	29	3	38	5]	S.	E	1	
Feb	14	9	18	16	22	7	39	43	S S.	E. & N.W		
March	9	14	3	15	59	10	34	43	W	., S.E. & N.W	4	
April	12	13	18	31	18	11	34	47	S.	E., N.W. & N.	E 6	
May	12	18	14	38	18	30	14	44	IS.	S.E. & N.E. S., S.W., N.W., N.		
June	3	29	24	16	8	36	26	23	S.	, S.W., N.W.,	N.	
		44.0		176						& S.E.	6	
July 5		25	17 7		2	24	31	77	S.	E	10	
August 6 16		16	16 45		22	28	48	3 S.	E. & N.E	7		
Sept	16	10	21	18	11	18	13	72	2 S.	E	6	
	A second					THE RESERVE AND ADDRESS OF THE PARTY OF THE		THE RESERVE OF THE PARTY OF THE		W. & S.E		
		The state of the s	THE RESERVE AND PARTY OF THE PA	THE RESERVE THE PARTY OF THE PA	THE RESERVE AND THE PROPERTY OF THE PARTY OF		The state of the s			W. & N.W		
Dec	11	17	21	5	34	45	13	38	S.	, S.E. & W	4	
	112	191	211	230	259	265	351	550	S.	E	50	

V. Positive or Negative Electricity in the Observations of '61 & '62.

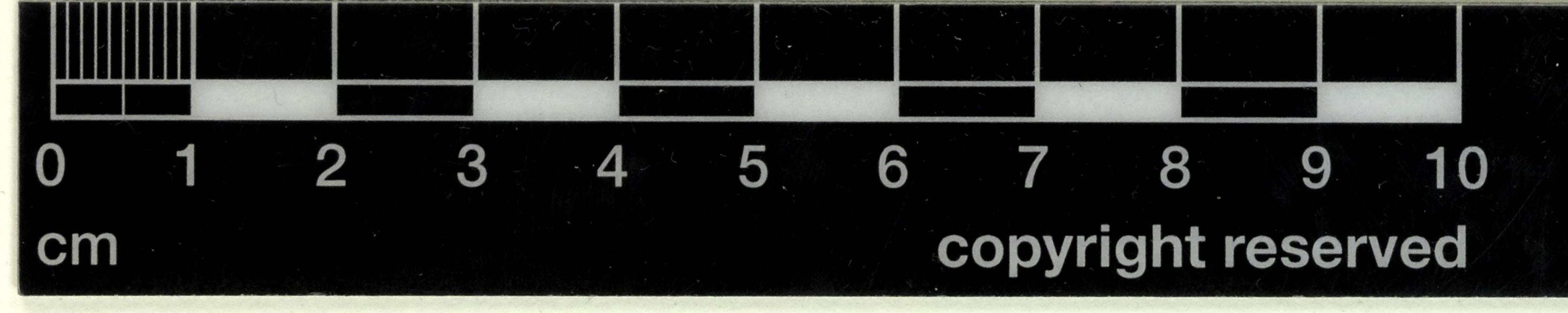
	Positive Electricity.		A STATE OF THE PARTY OF THE PAR	ative ricity.		ctricity, 0.	Highest Positive Electricity.	
	1861.	1862.	1861.	1862.	1861.	1862.	1861.	1862.
Jan	179	179	3	5		2	400	400
Feb	162	166	6	2			34	33
March	168	179	15	8			30	48
April	157	157	12	22	1	1	33	52
May	171	180	17	5	1	3	25	32
June		143	5	2	8	20	16	21
July		153	3	8	1	24	14	11-
August		143	5	4	6	40	15	19
Sept		117	1	1	10	61	18	23
Oct	162	143	4	3	20	41	33	35
Nov	172	157	2	7	6	16	42	42
Dec	175	166	5	0	6	17	37	35
	2046	1883	78	67	59	225	42°	52°

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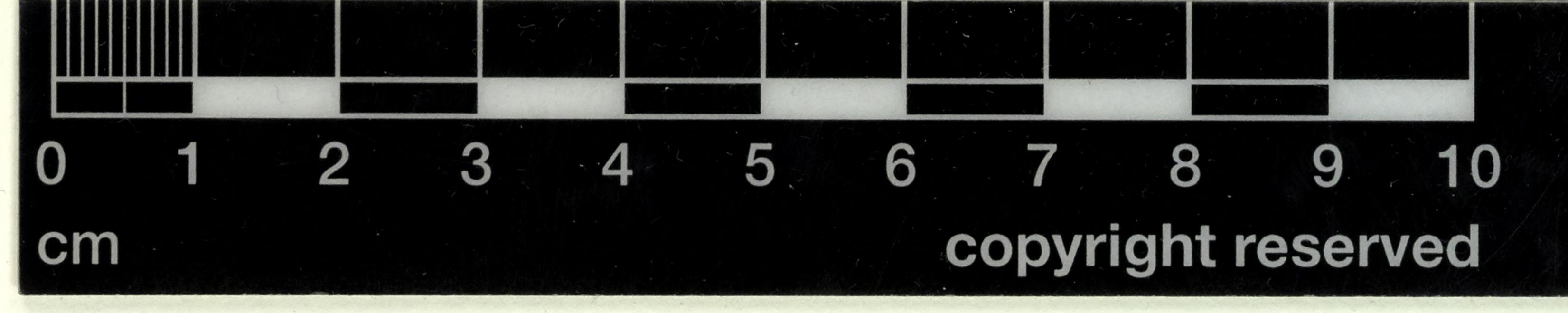




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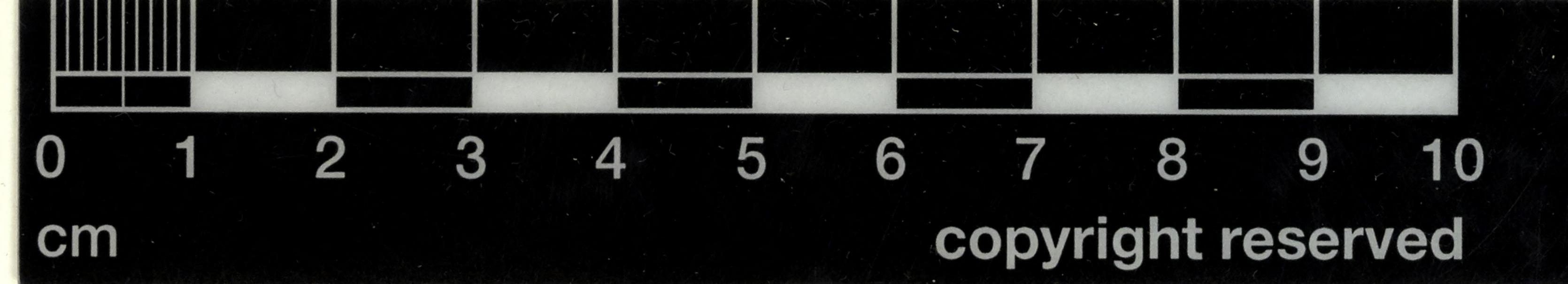


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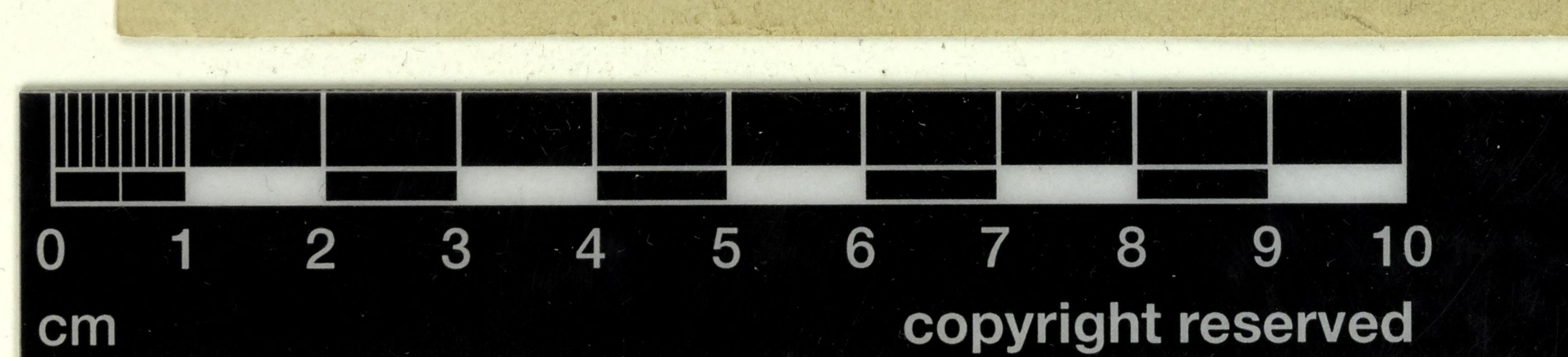




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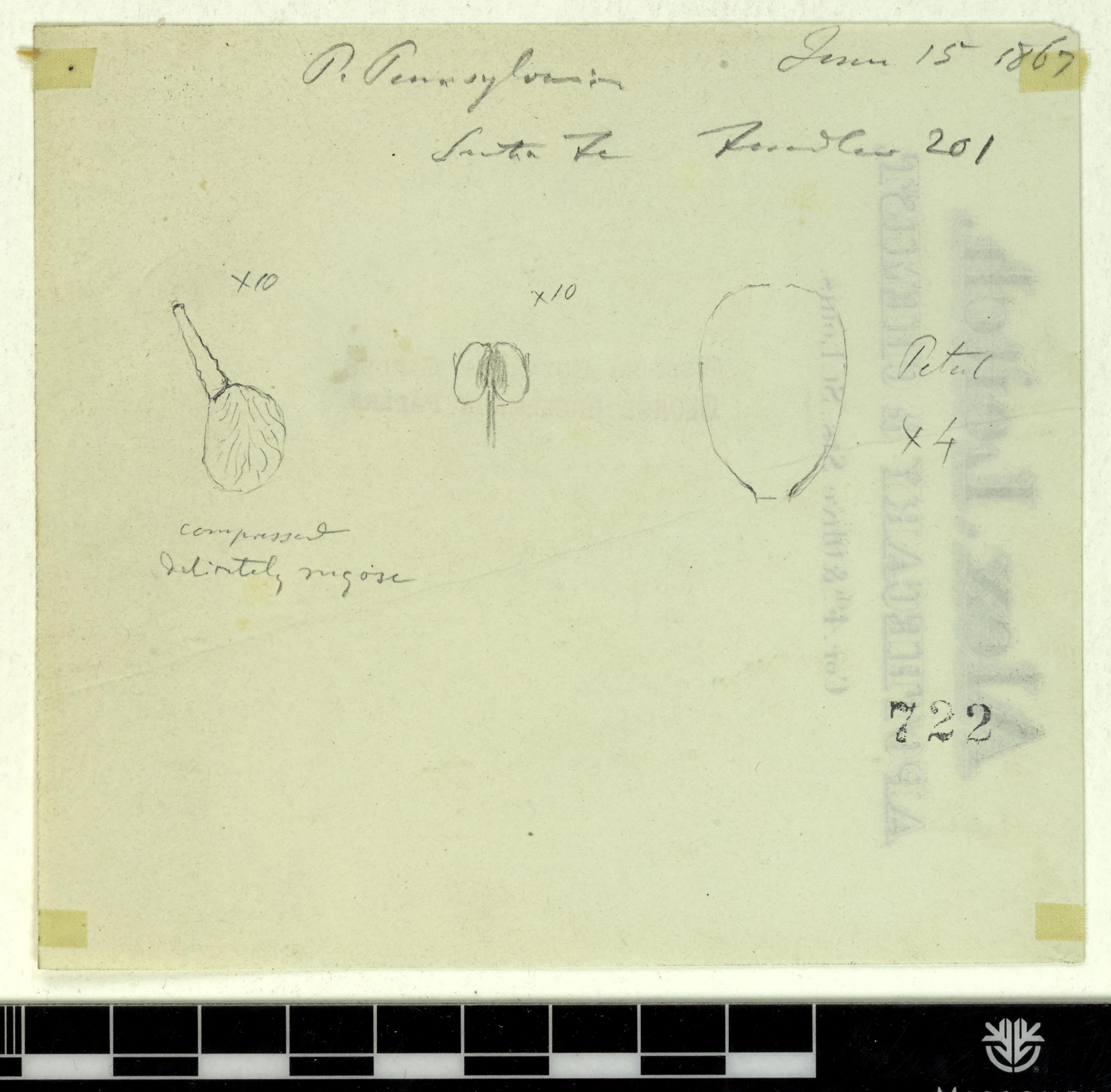
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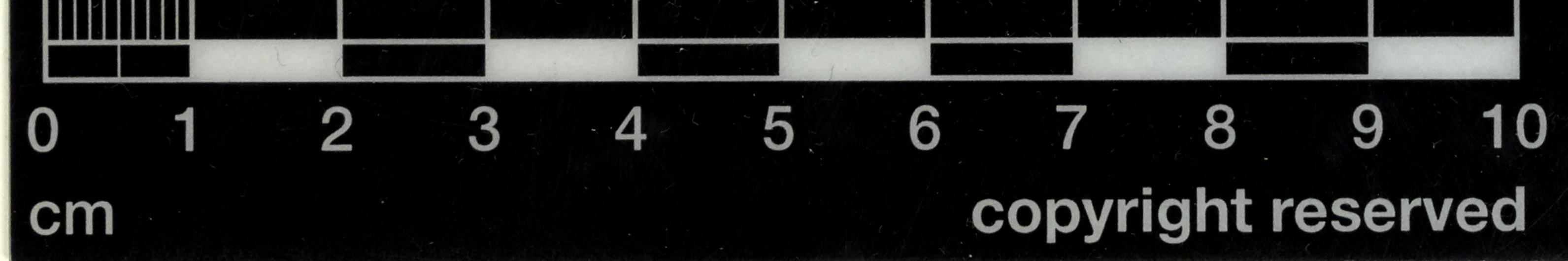
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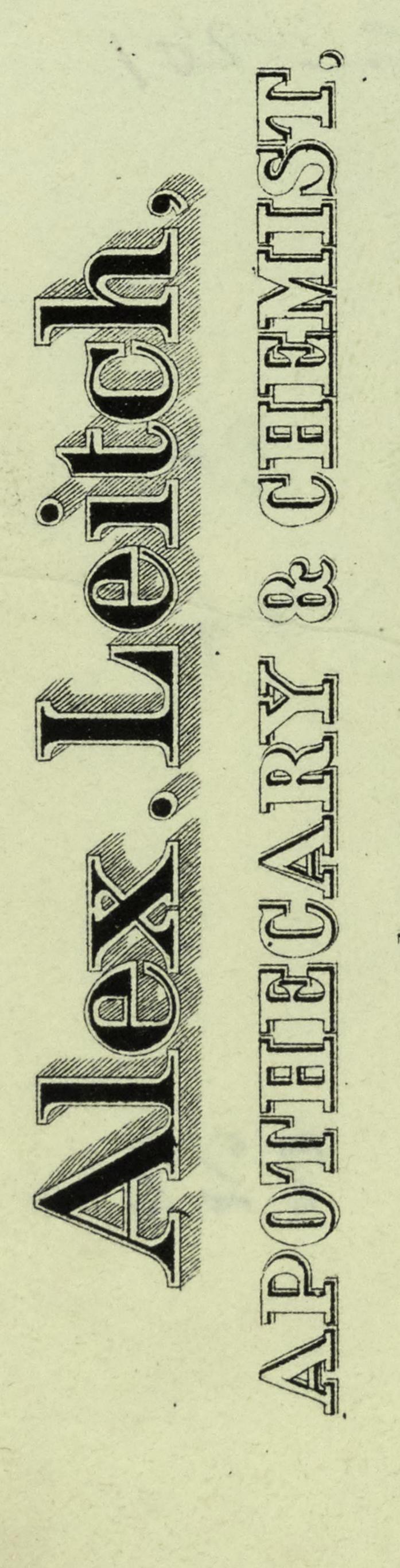
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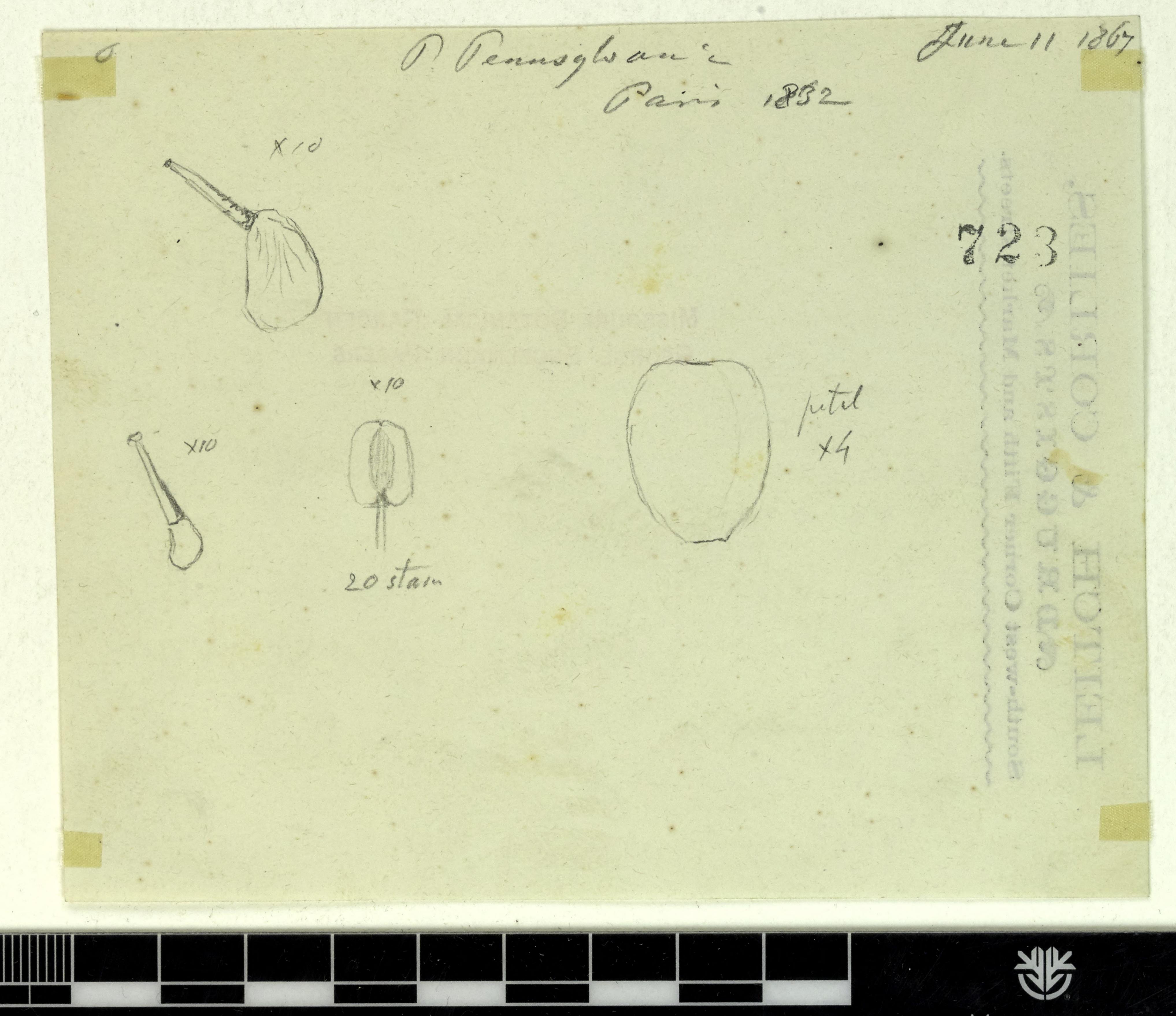


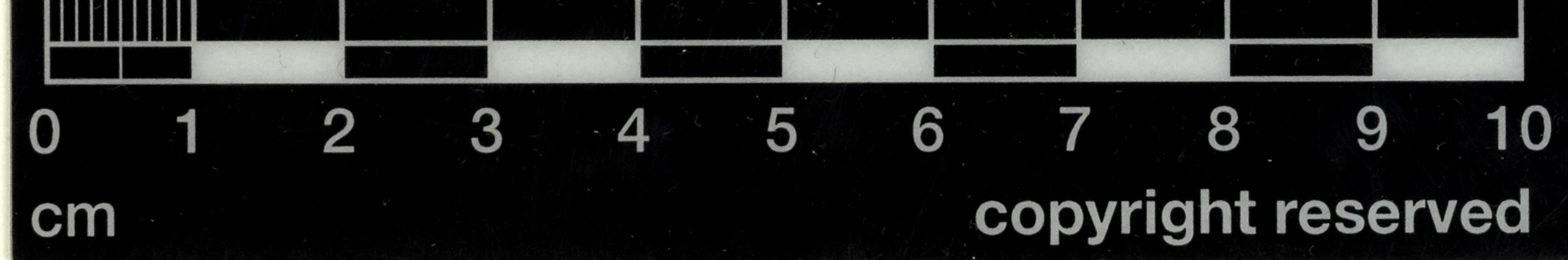




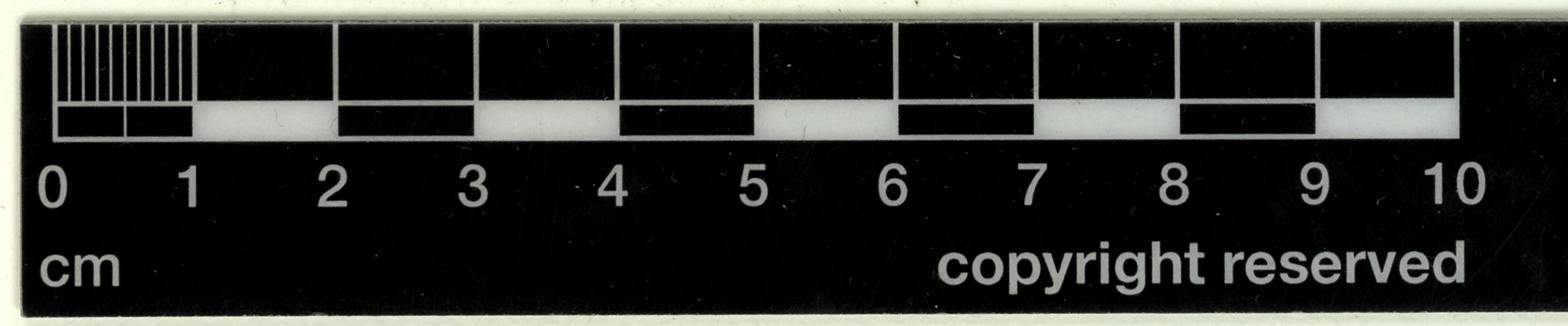
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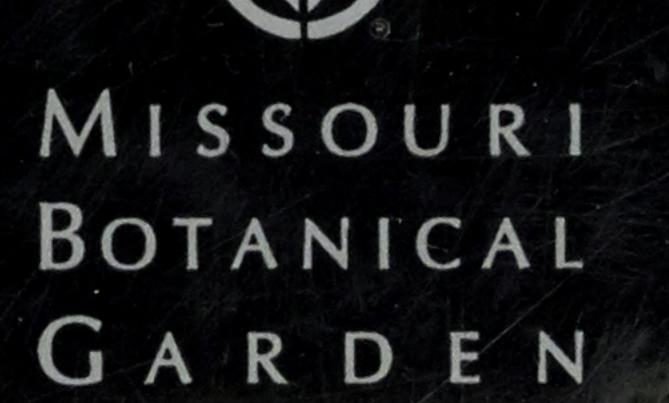


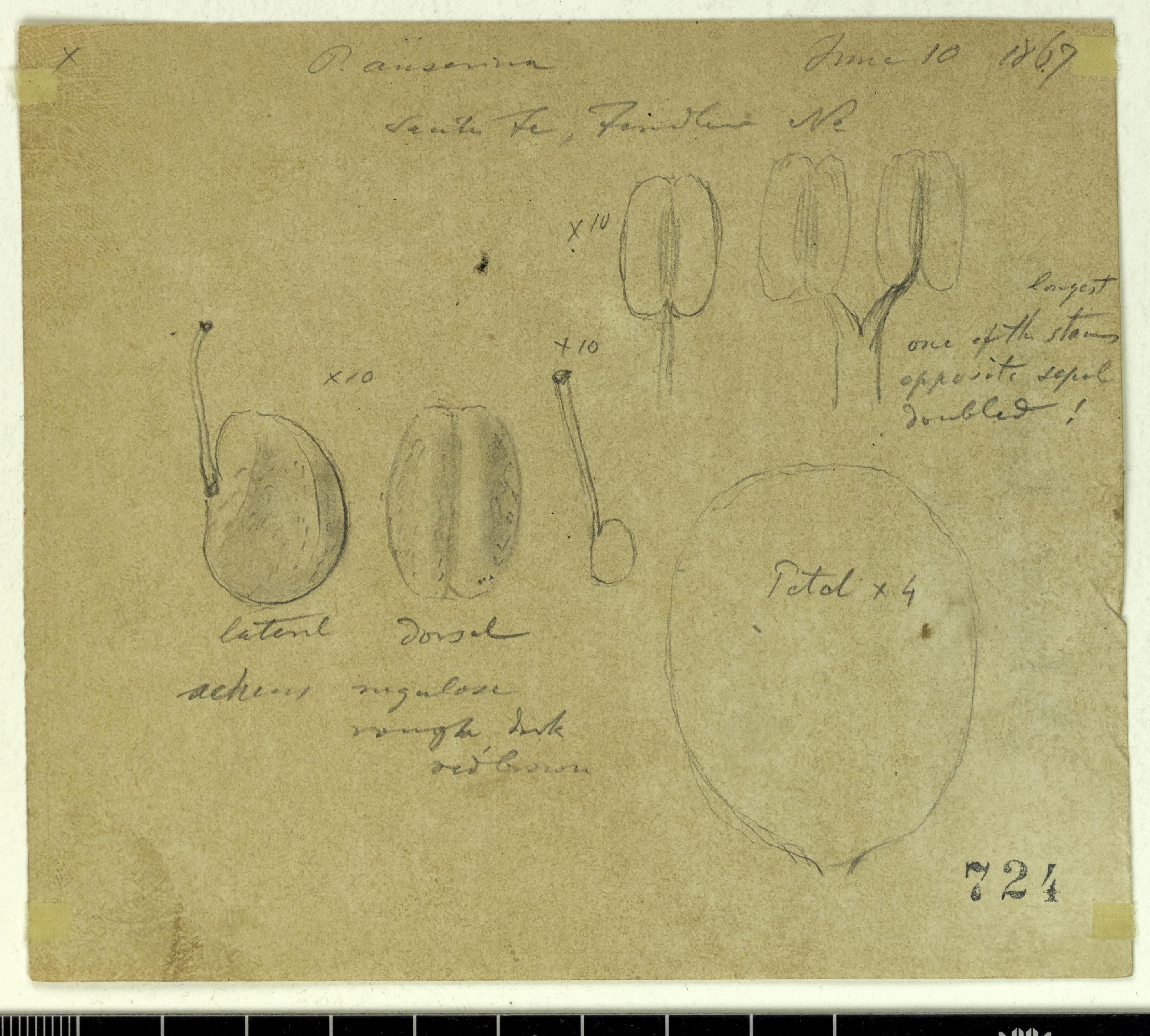




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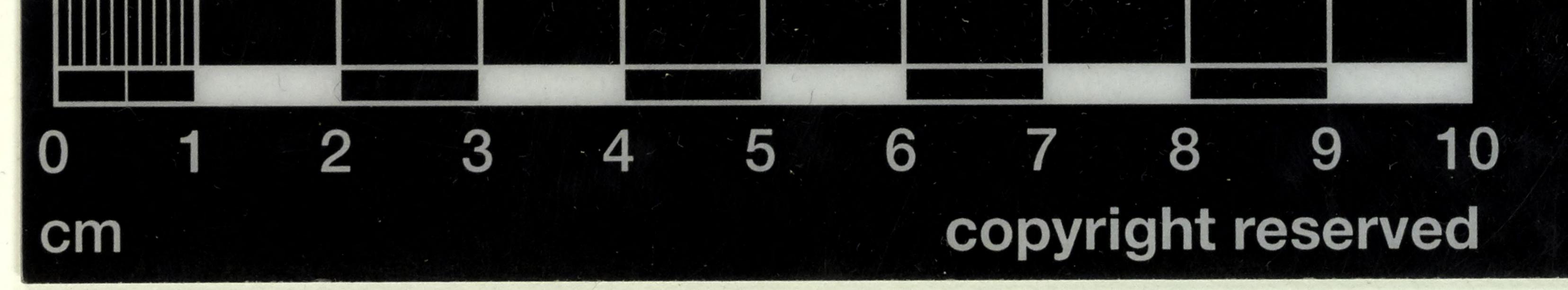


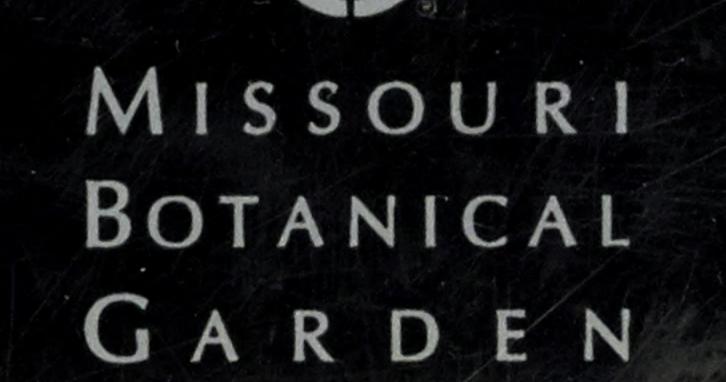






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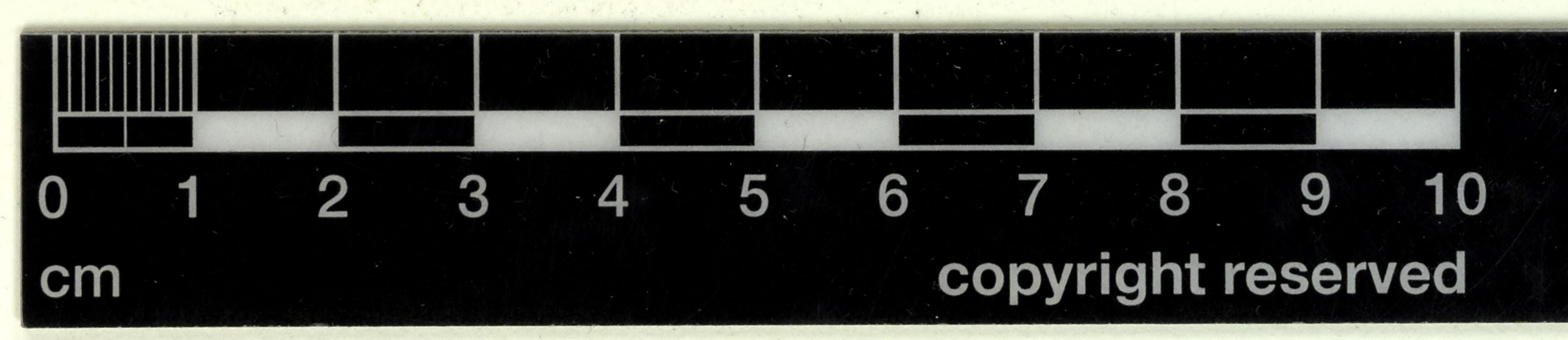
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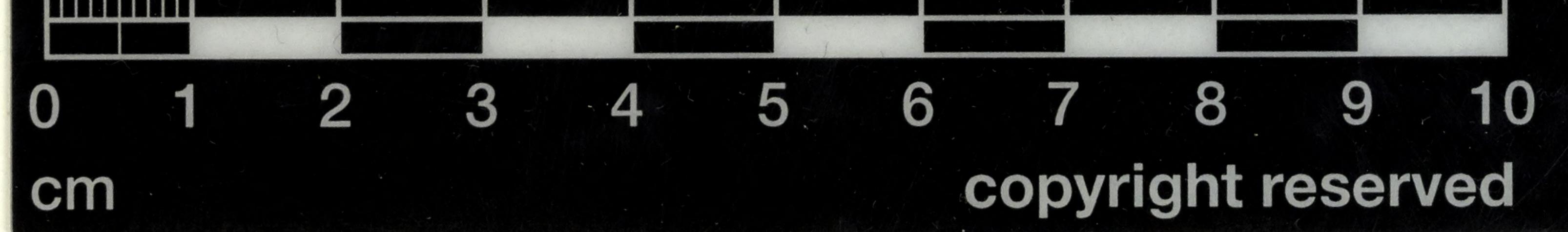
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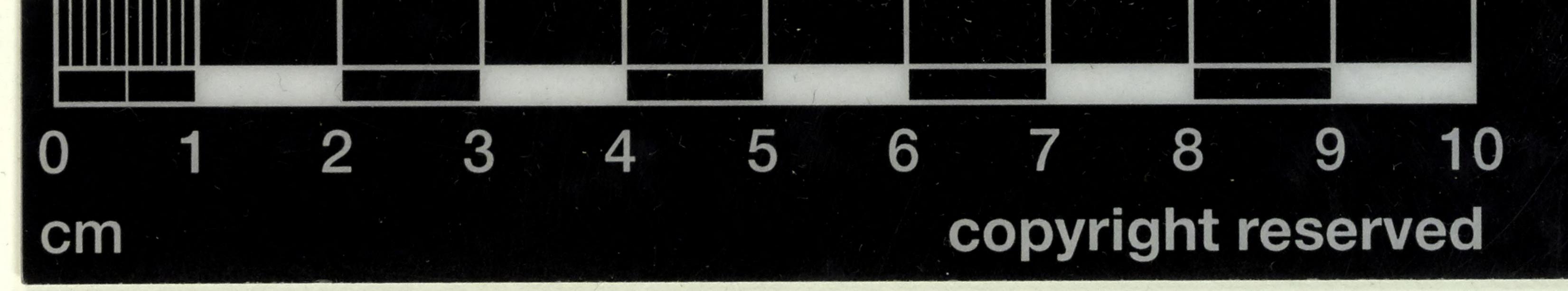


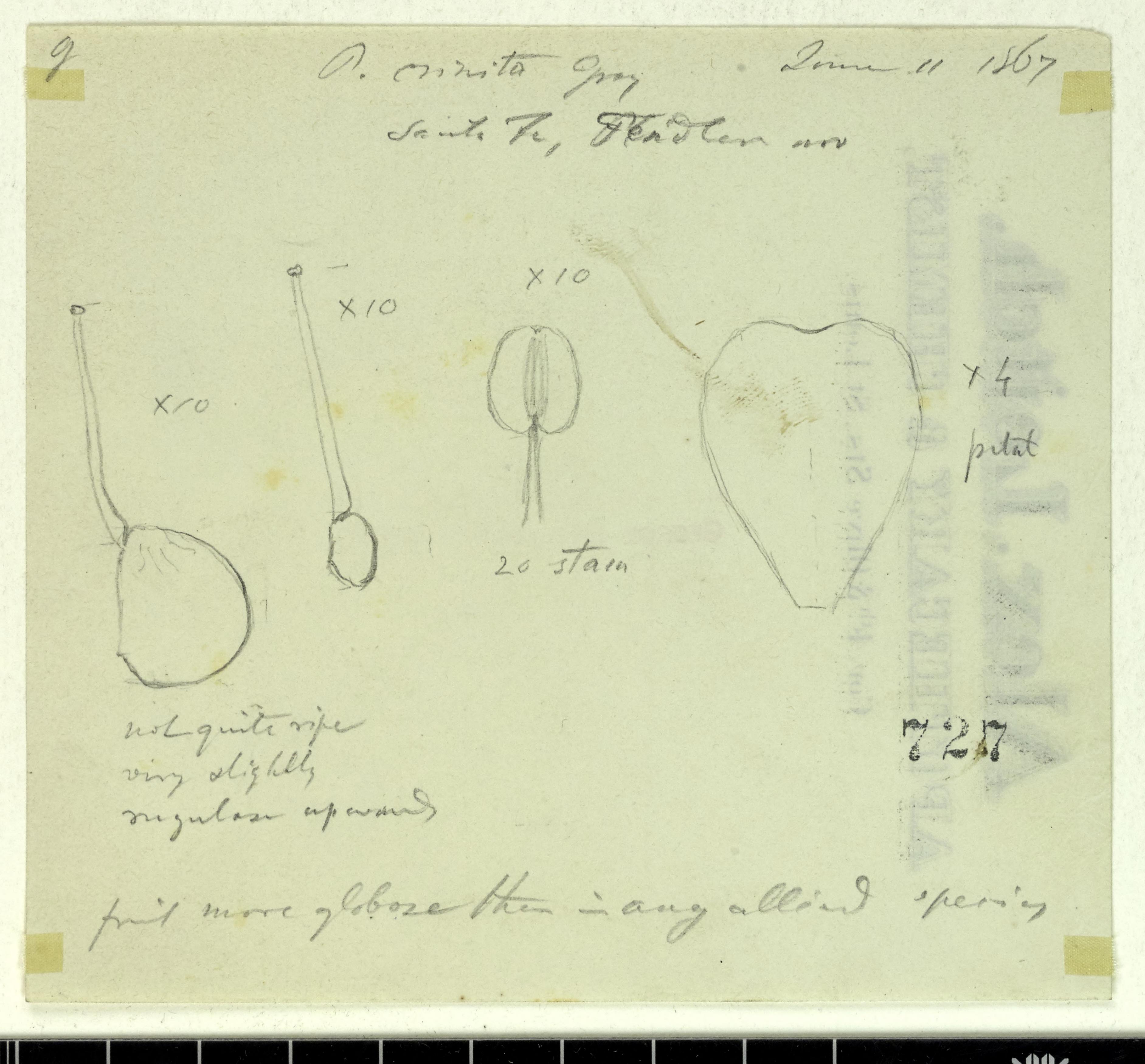
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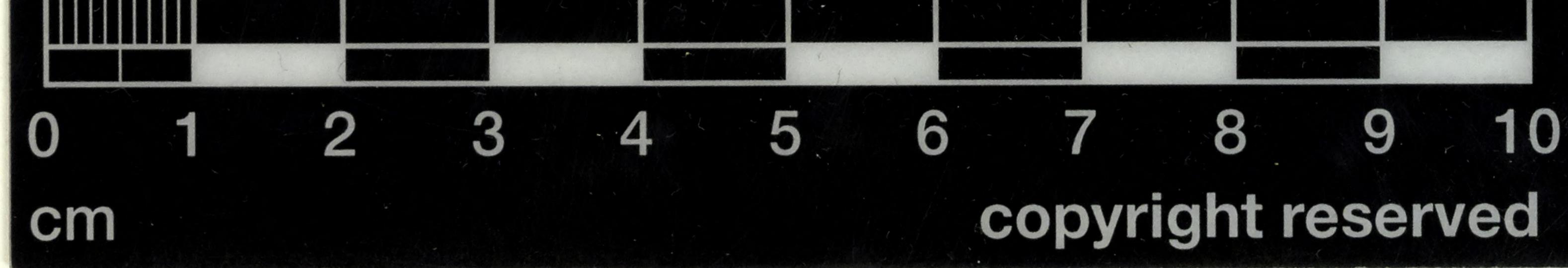




MISSOURI EOTANICAL CANDE GEORGE ENGELMANN PAPER GEORGE ENGELMANN







MISSOURI BOTAMES CONSTRUCTION OF STREET STRE





head, the do-nothing plan of Drs. Johnston and Linton might answer very well; and when the symptoms are insomnia, with the peculiar tremors, when the organs are in pretty good condition you can do a great deal of good with opium. I don't, of course, give opium with an idea of eliminating the poison of alcohol from the system, but as a prophylactic against certain conditions which may supervene if quiet and sleep are not procured, viz: passive congestion of the brain or complete exhaustion, when the patient is apt to die. I have in such cases given as much as 80 grains in the course of 24 hours with good effect. I would not, however, continue opium too long if it does not produce sleep. In acute alcoholic poisoning or intoxication, we may have active congestion of the brain, and of course in such cases opium is contra-indicated because it has a tendency to produce congestion of the brain. Here we must use antiphlogistics and arterial sedatives, cold applications, purgatives, counter-irritants, or digitalis or veratrum viride. We must then, of course, make a proper and very careful diagnosis of every case and treat it accordingly.

DR. Boislinere. I saw the case reported to the society, and am very much obliged to Dr. Kennard for giving me the opportunity. It was certainly a most remarkable one and was evidently treated very judiciously and with great care. I merely wish to refer here to a plan of treating this disease with ammonia, on the ground of its antidotal properties, which I think a very rational one. I have long known that ammonia will very rapidly cure drunkenness, have frequently proved it by experiment, and the same idea has been applied in France to the

treatment of delirium tremens.

Dr. Bland. I think Dr. Hammer takes the proper view of the pathology and treatment of this disease; at any rate his views of the pathology accord entirely with mine. In this disease we have two very different pathological conditions. 1st. An exhaustion of nervous power, derangement of the nerve centres, when we have the peculiar delirium, the hallucinations, so varied and characteristic of this disease, and the muscular tremors, the mind becoming entirely deranged from the poisonous effects of the alcohol on the whole system and the brain in particular. In these cases, the judicious use of opium is the proper plan. In the second class of cases we have either a tendency to, or actual congestion or inflammation of the





duced by withdrawal of stimulus, is not true, and that in his large experience every case was produced by continued use of alcohol or abuse of opium; and in his article, to be found in Braithwaite's Retrospect, he clearly demonstrates, to my mind, that continuance, and not withdrawal of stimulus, is the cause of the delirium tremens. He states, from the time the delirium first manifests itself, until it passes off entirely, is generally from 20 to 60 hours, but it may not pass off till a much longer period expires; and that we need not be uneasy about the case until 9 days have passed. Remove the cause of the disease, and it will generally be cured; and hence, by withdrawal of stimulus we will remove the cause, and unless there be some organic lesion of the brain, the case will terminate in bealth.

Dr. Linton said he did not propose entering into a discussion as to the pathology of delirium tremens, but merely wished to state that the treatment which he pursues of late years in this disease is very similar to that which Dr. Johnston recommends; that is, knowing that a great many cases will get well without any treatment, he pursued the expectant plan—left the case pretty much to nature, and was very careful in giving opium. In early life, believing sleep to be necessary to cure the disease, and opium the remedy to produce sleep, he had sometimes given too much opium.

Dr. A. Hammer said he was much interested in the report of the remarkable case detailed before the Society. He could not go so far as Dr. Johnston-to discard all treatment in this disease; but he thought, as in almost everything else, the middle ground was the safest. In this disease, whether it be delirium tremens or mania a potu, we must remember that we may have two very different conditions to deal with; one where there is simply derangement of the nervous centres, irritation or exhaustion, with derangement of the functions of the mind, produced by the poisonous effects of alcohol; all the tissues, the nervous, and the muscular, are saturated with alcohol; the mucous membranes are inflamed by it; and it will take a long time to eliminate this poison, to restore to the proper condition the muscular tissue, the nervous tissue, and the mucous membranes. This is one condition we have; but we may have another and a very different and much more dangerous condition—viz: a passive or even active congestion of the brain; the two requiring very different treatment. In very slight cases, coming under the first

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