

Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

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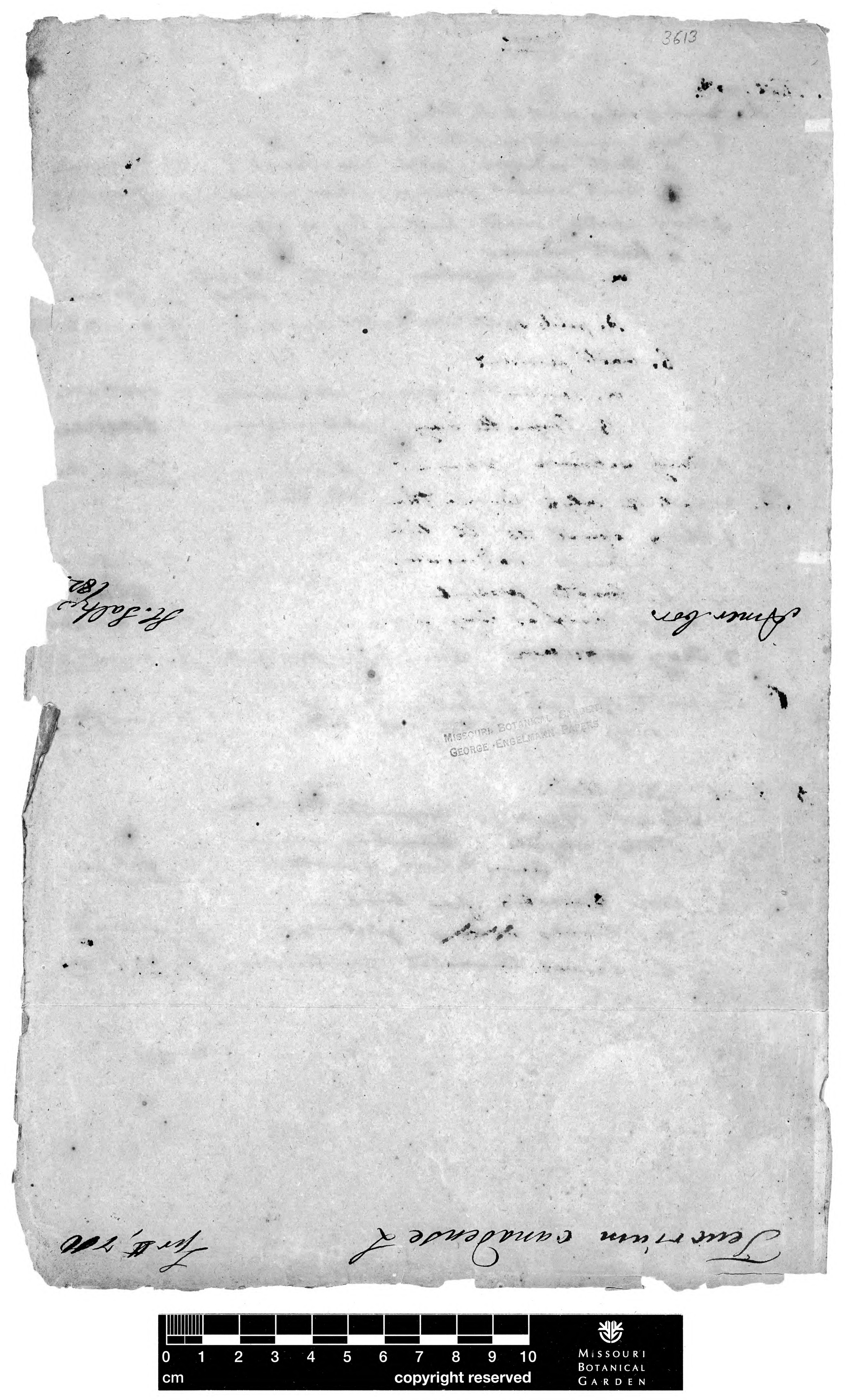
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
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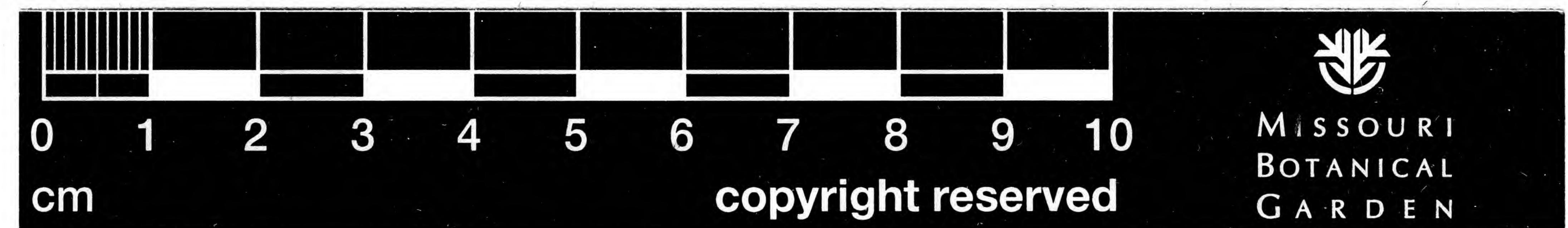
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
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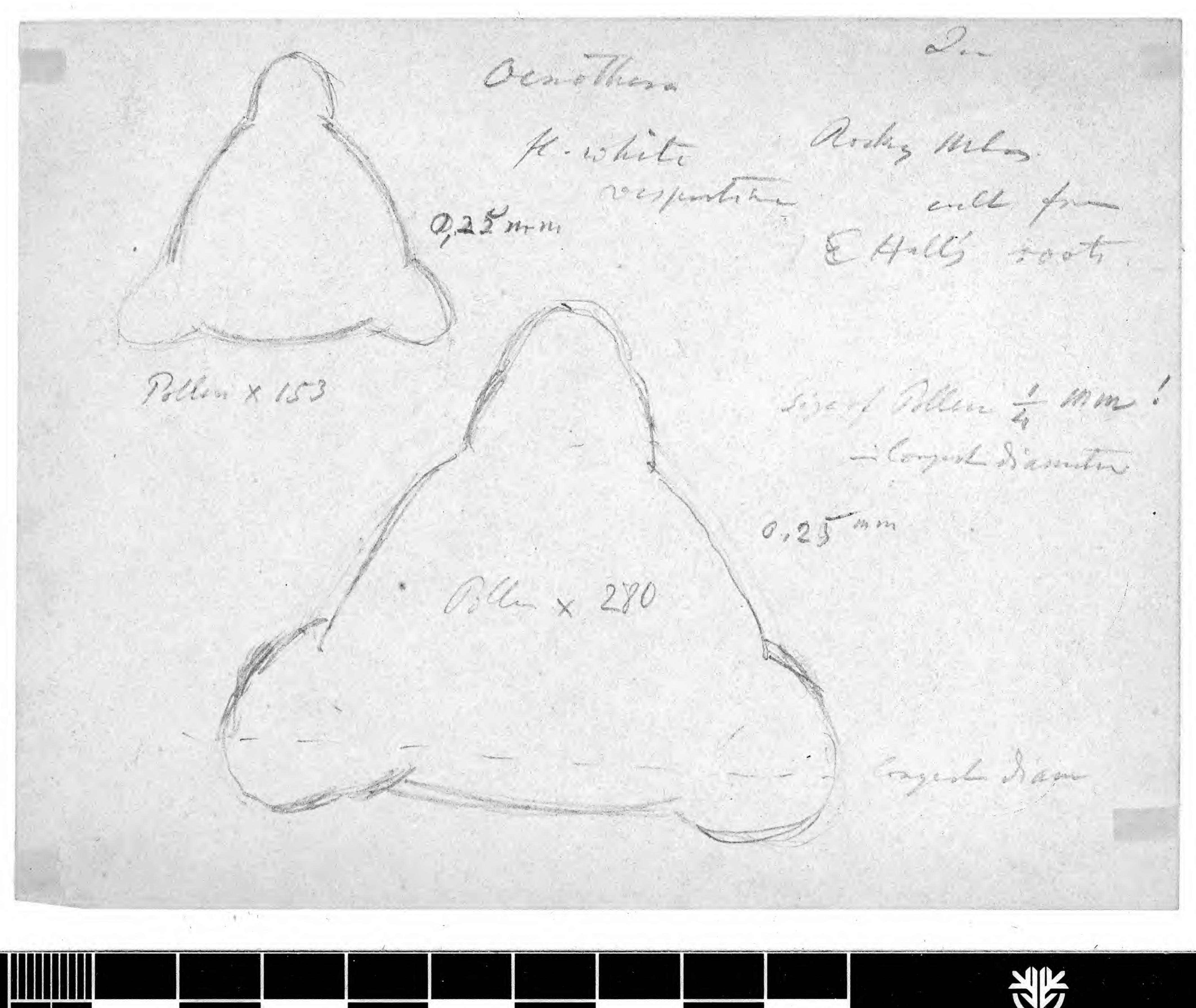
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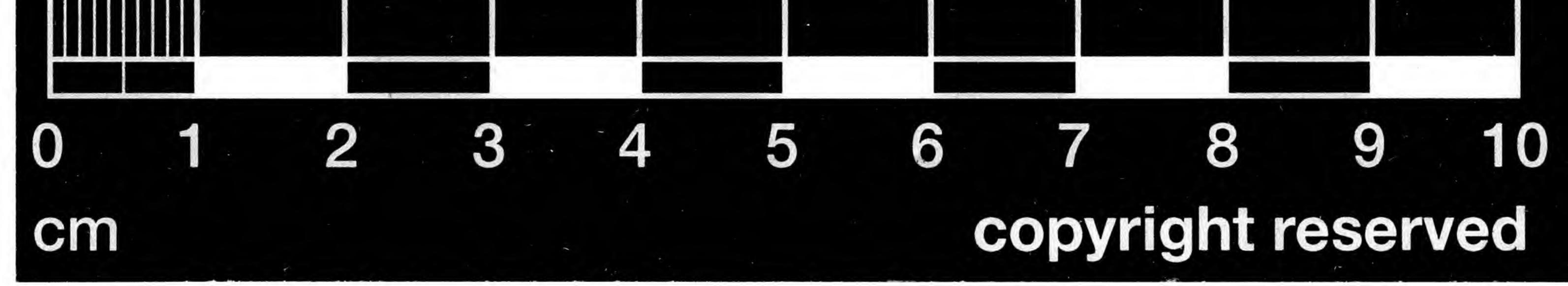






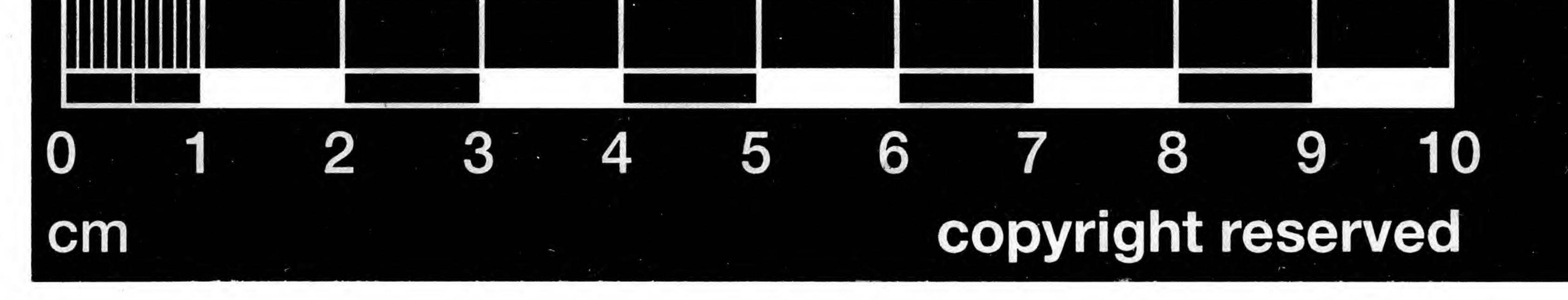


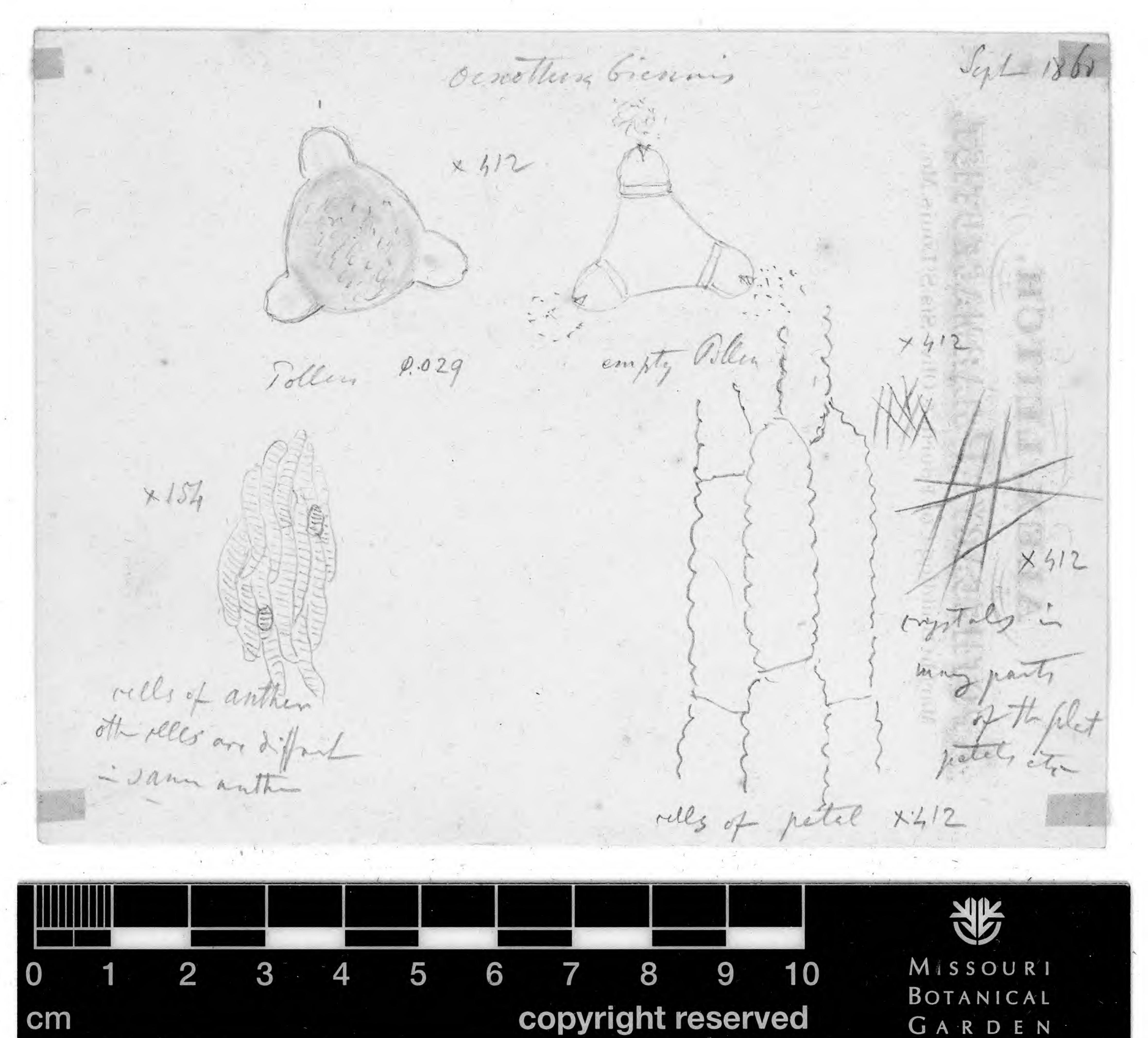






MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PARERS







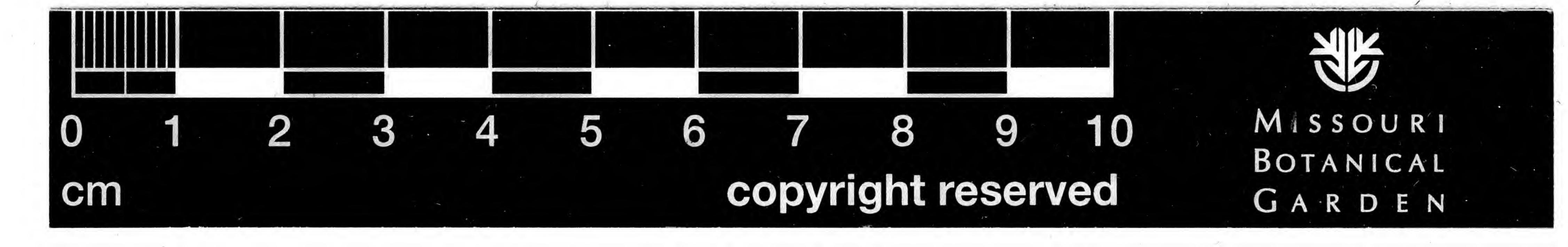
MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS



Enother Manch 1862

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GARDEN

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GARDEN

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)

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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.

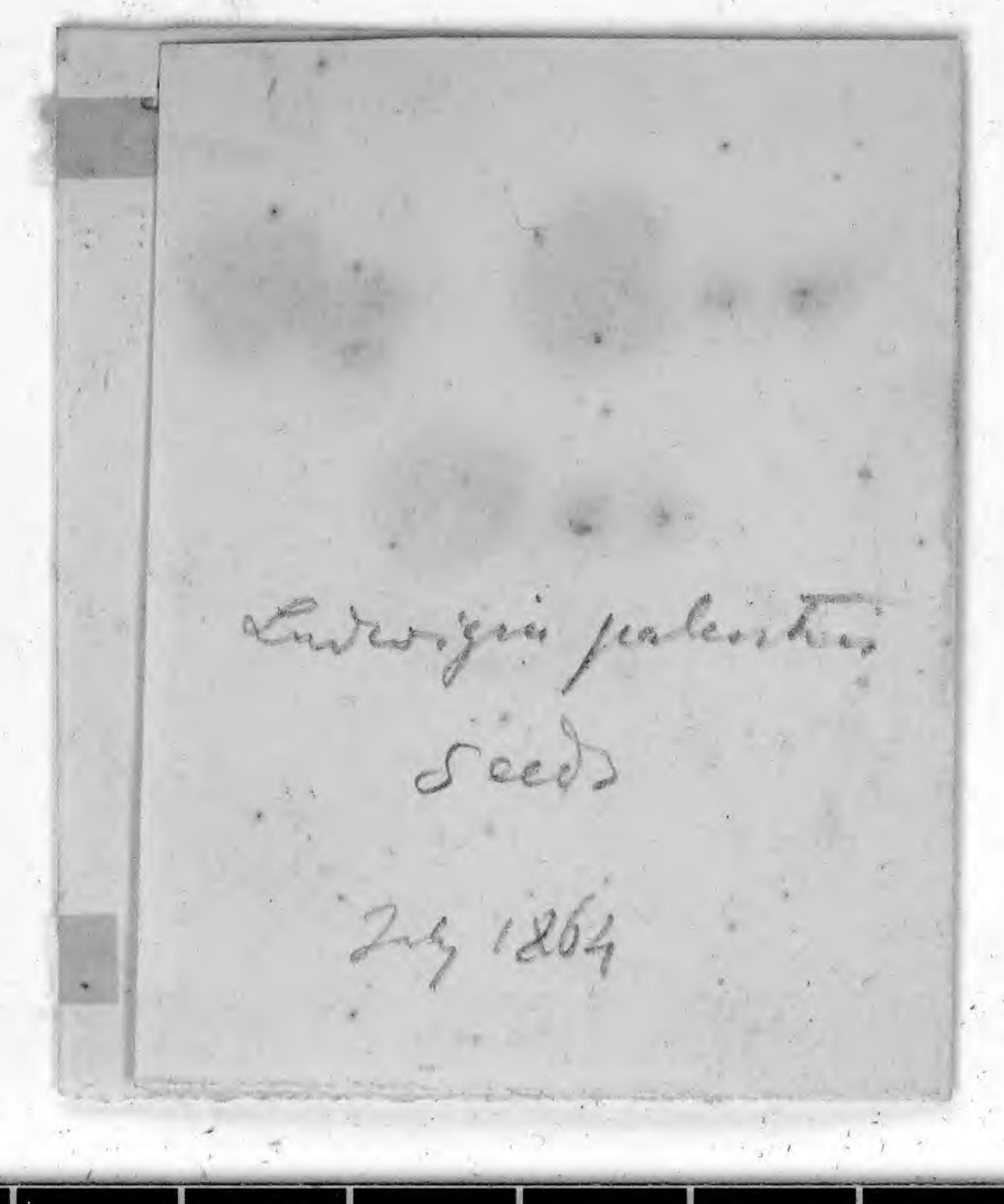
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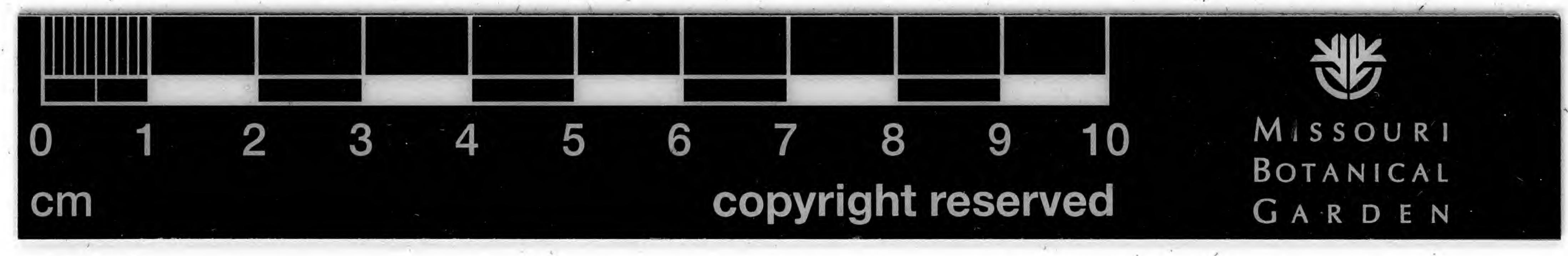
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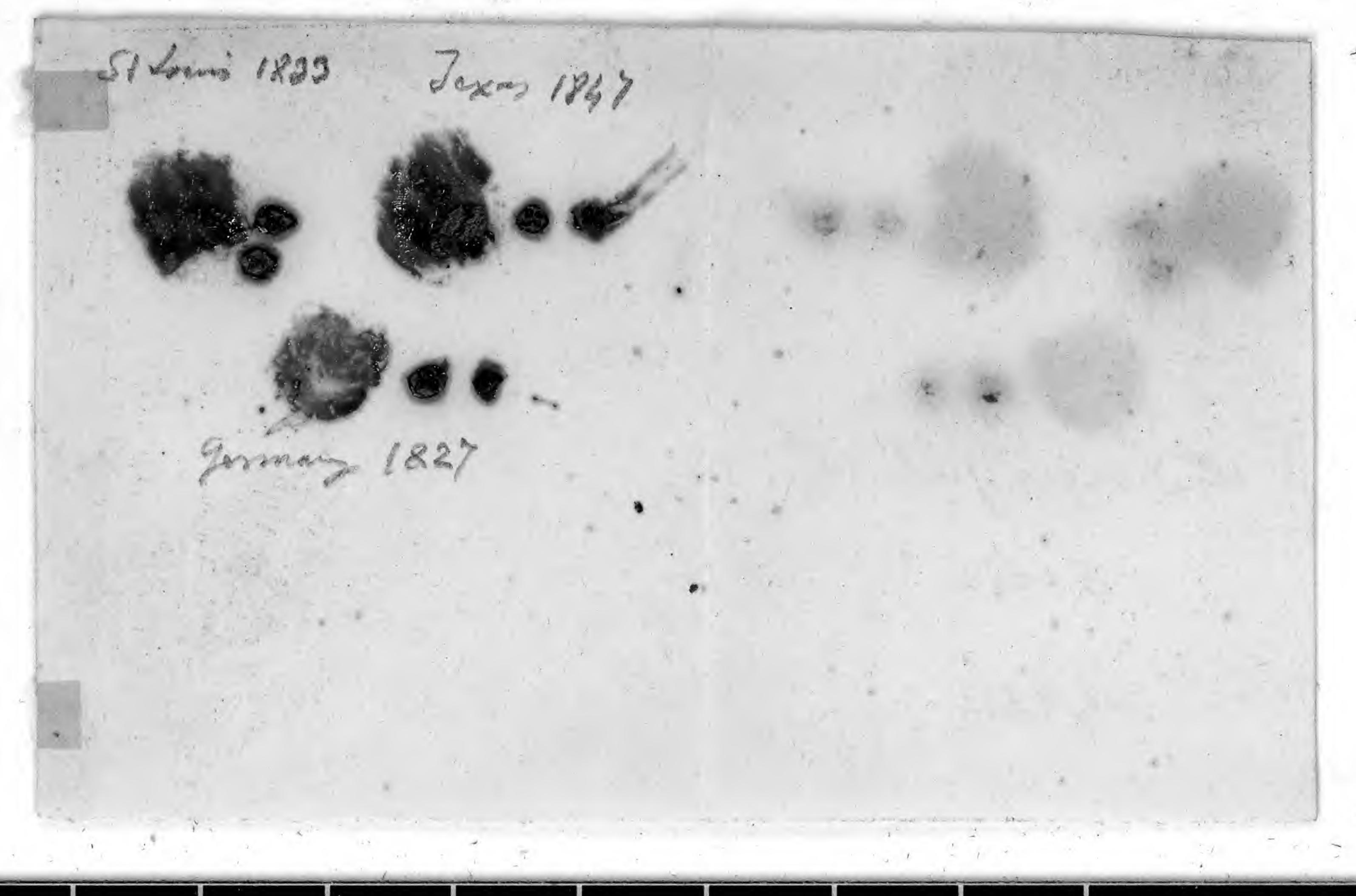
LEACRINUS KIRKWOODENSIS, n.

Body very small, subglobose, a little longer than wide, it tened above and below. Basal pieces very gently concawith their edges on a level with the plane of the under sing Radial pieces (fork pieces) reaching to the base and occur ing more than four fifths the entire length of the body, narrelelow and widest in the middle, sides gently arched. Interdial pieces subdeltoid, very prominent towards the apex, mulonger than wide, obtusely angulated below, acutely angulat above, and notched on either side a short distance below summit. Pseudo-ambulacral areas extending from base summit, narrow, deeply impressed; sides nearly parallel; popieces amounting to about fifty in each field. A longitudifissure or slit extends from the central summit opening dow wards, separating the pore pieces of one side from their lows of the opposite for the distance of about one fifth length of the field, thence their inner edges are united in median line, to the base. Pseudo-ambulacral spaces lanclate, sloping gently from their edges to the sutures. Ovan apertures eight, very minute, situated at the notches of tinterradial plates. Anal opening large, circular or very sligily elliptical. The surface markings are not plainly exhibit in any of the specimens I have collected of this species. several of them I observe, more or less distinctly, irregucourse rugæ or pittings, which, however, may be due to wear

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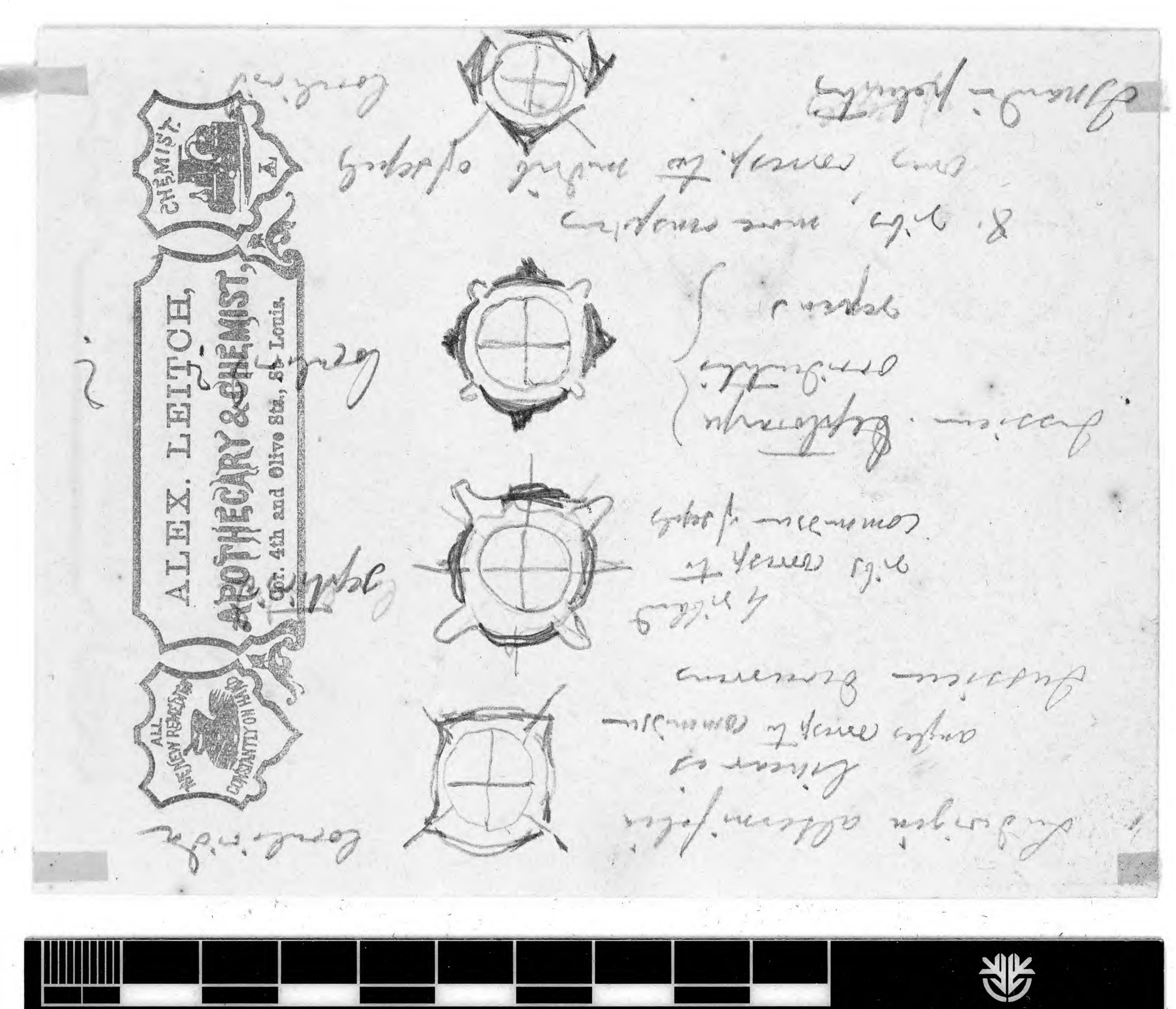




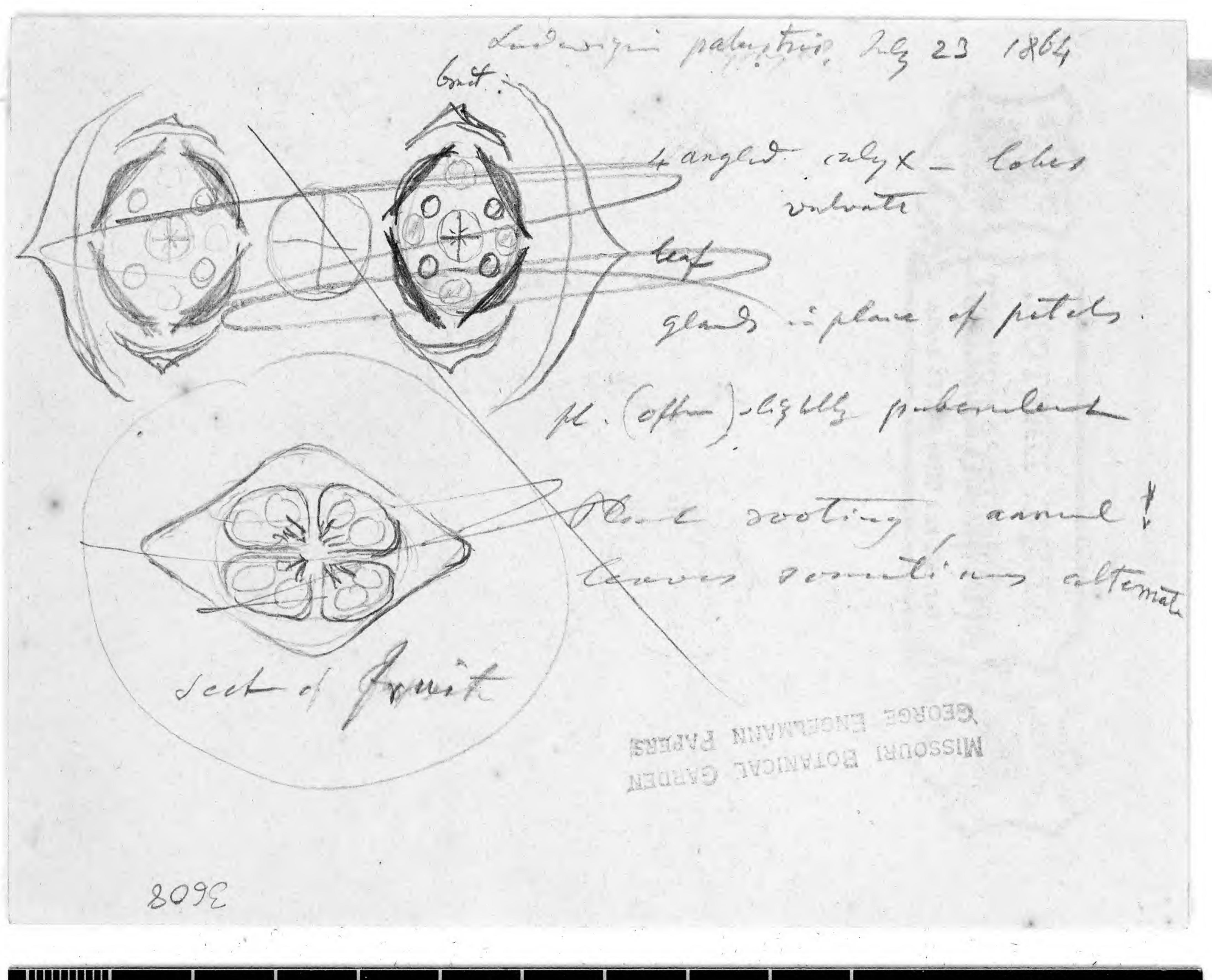


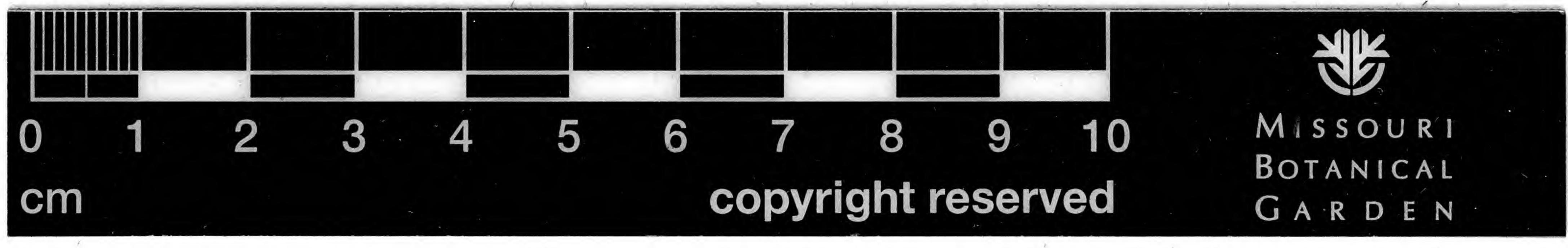


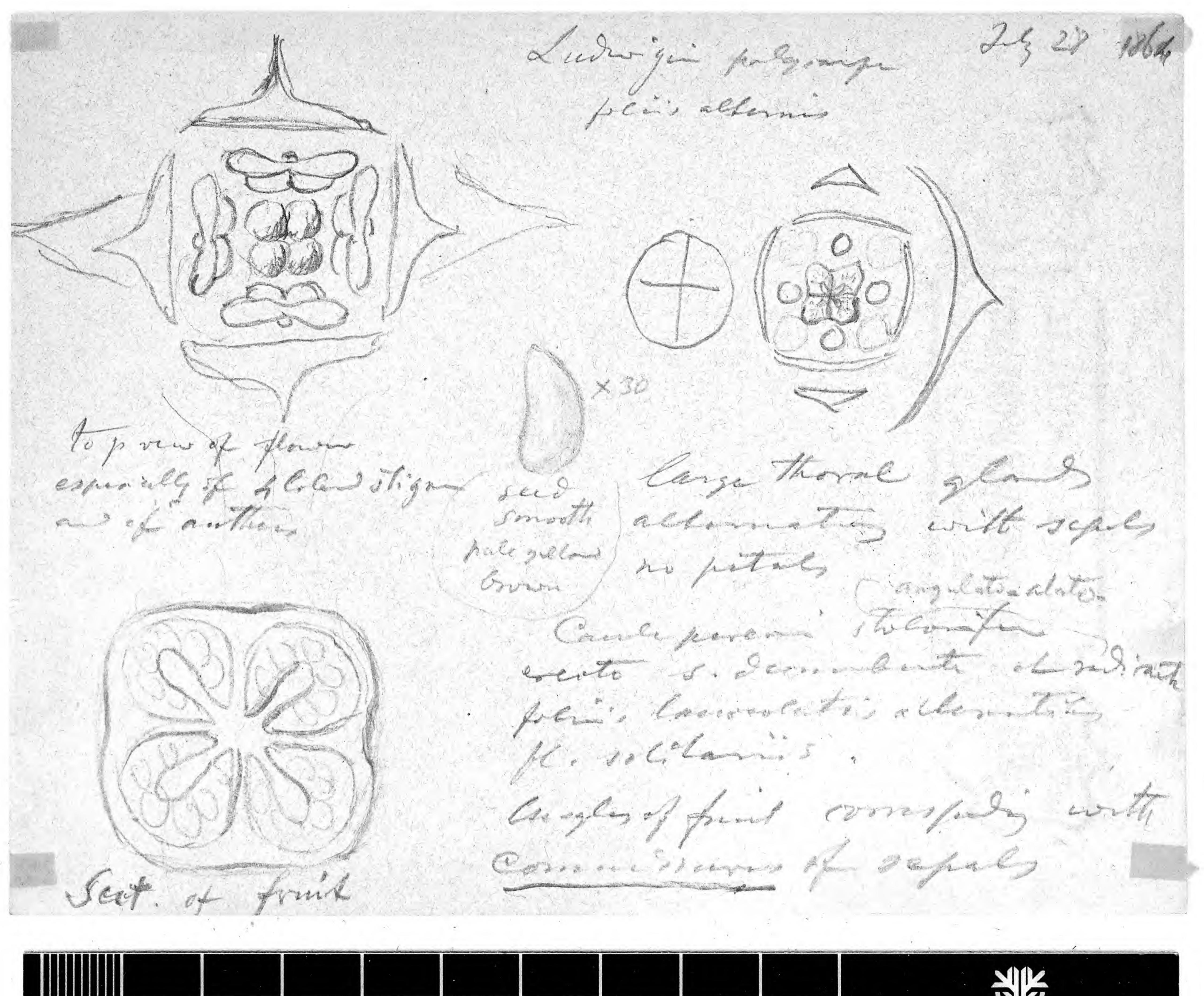


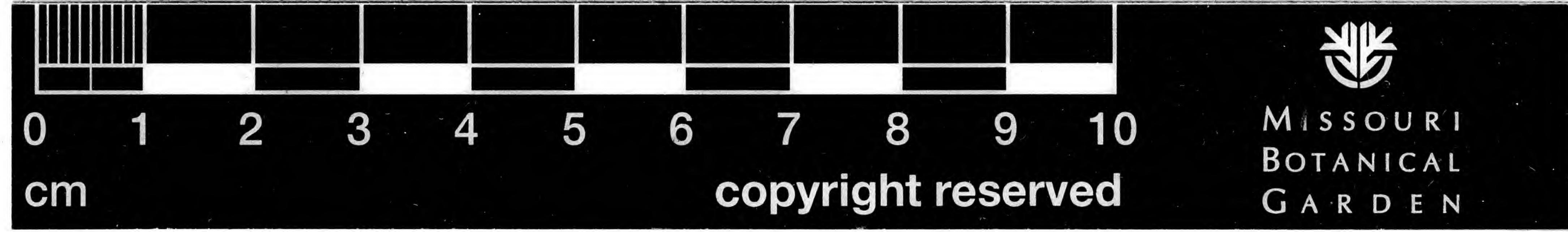


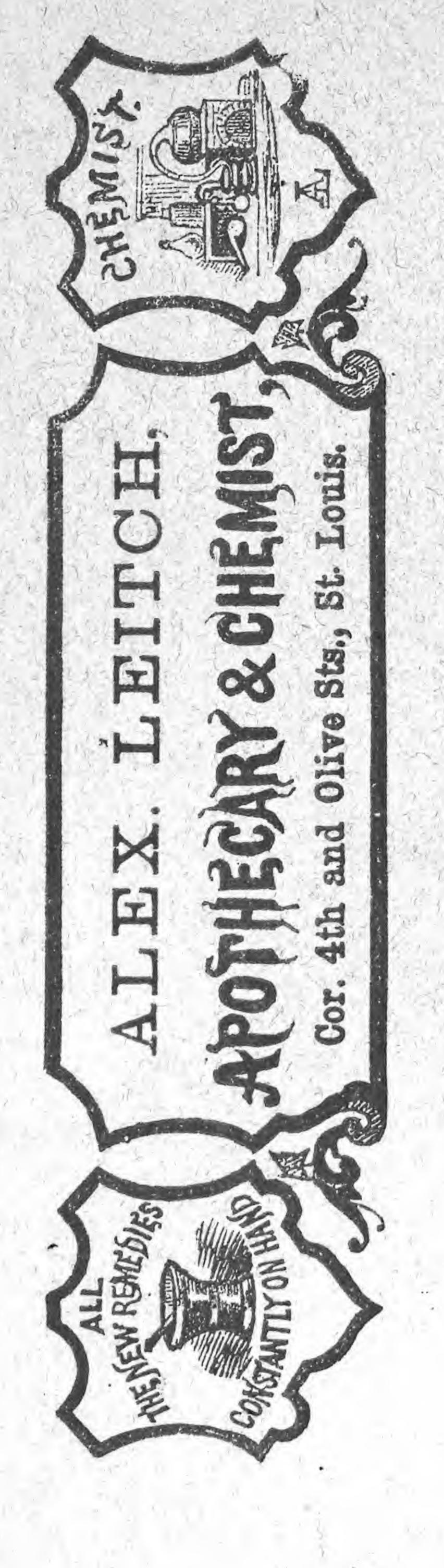


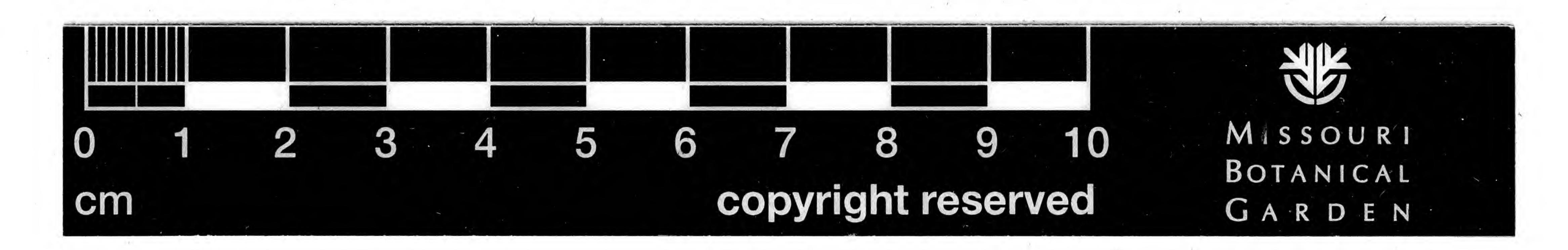


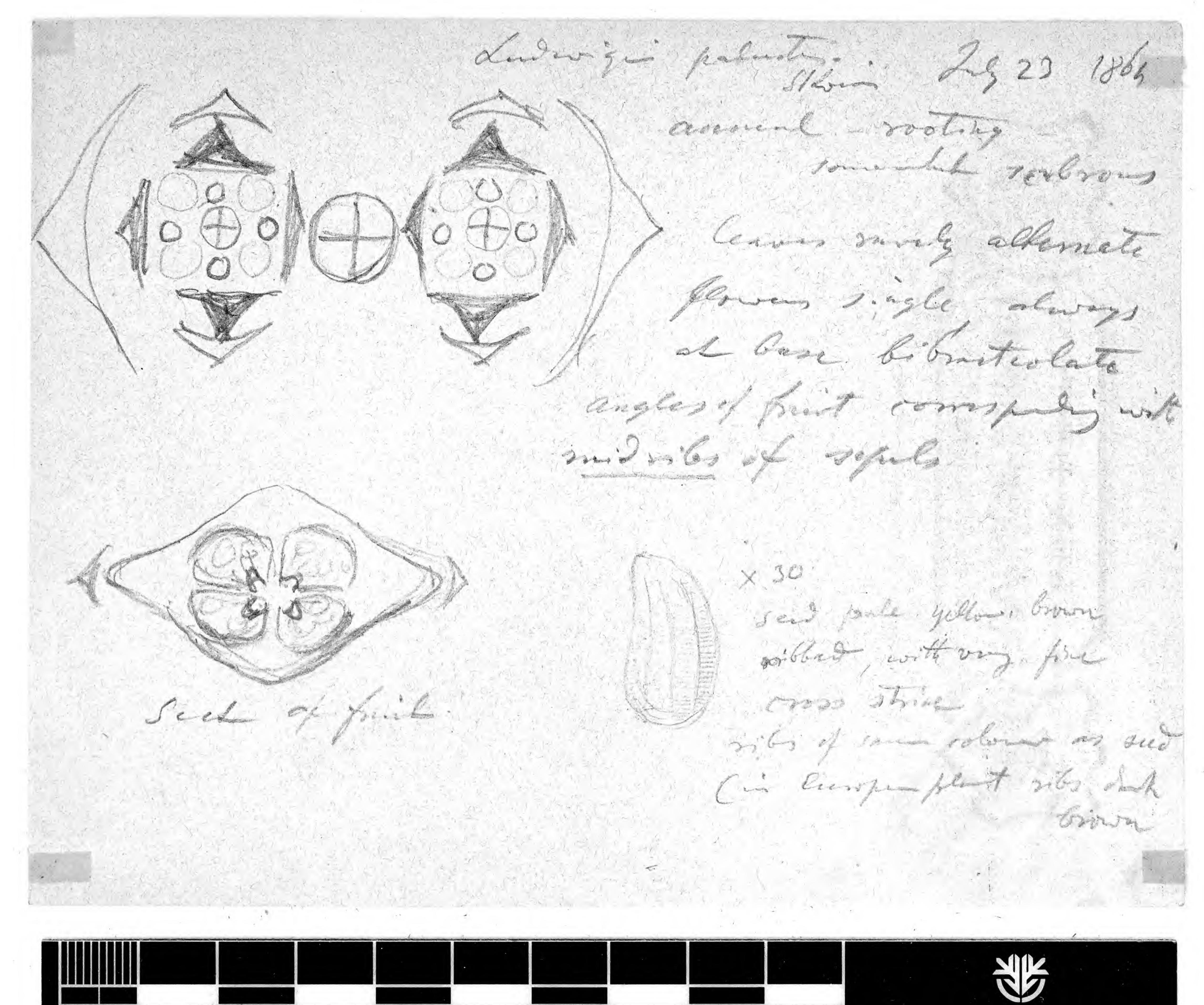


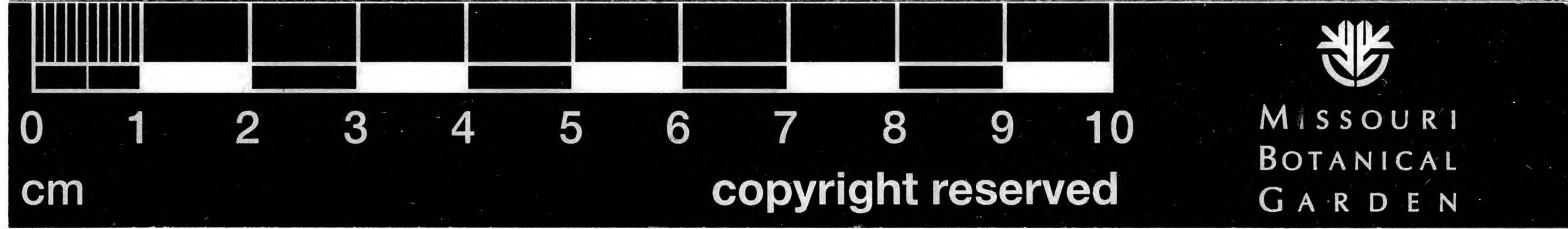




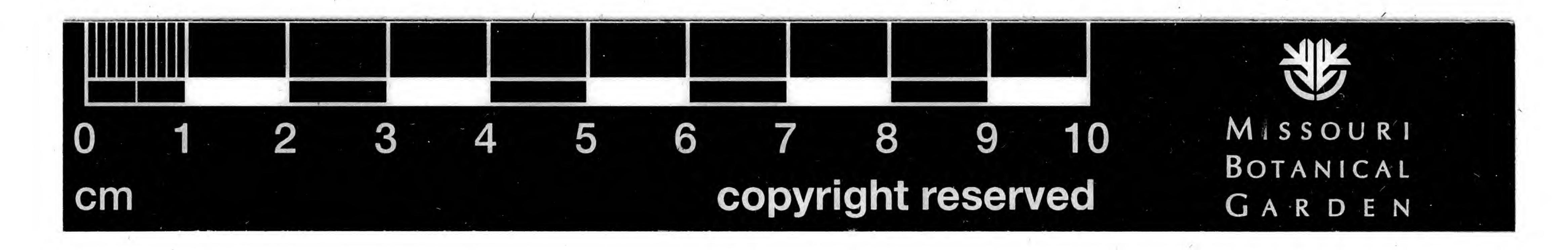












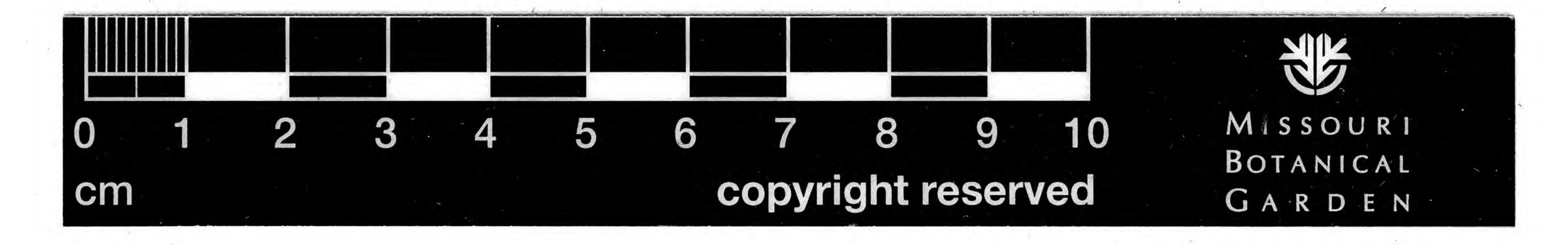
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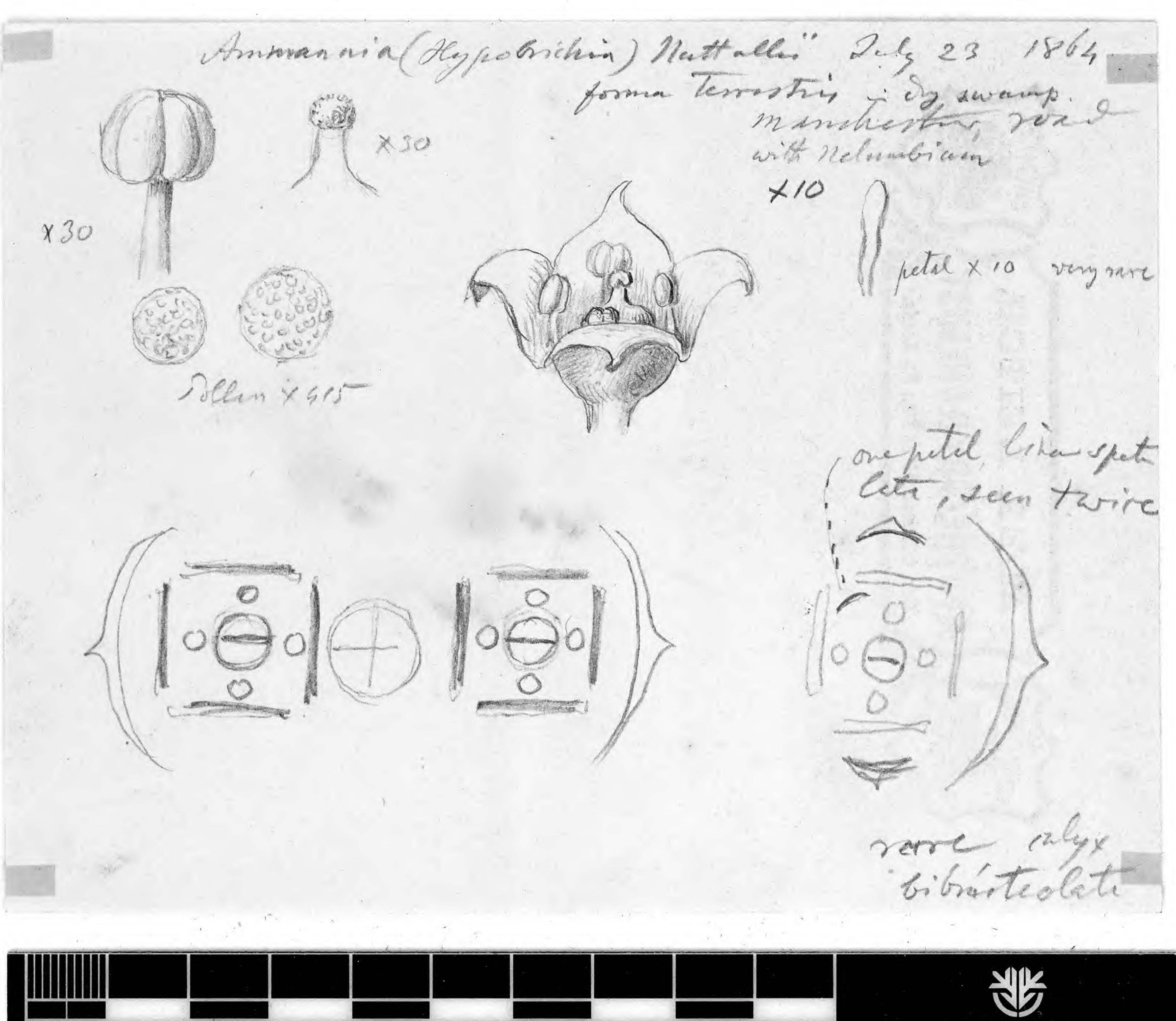


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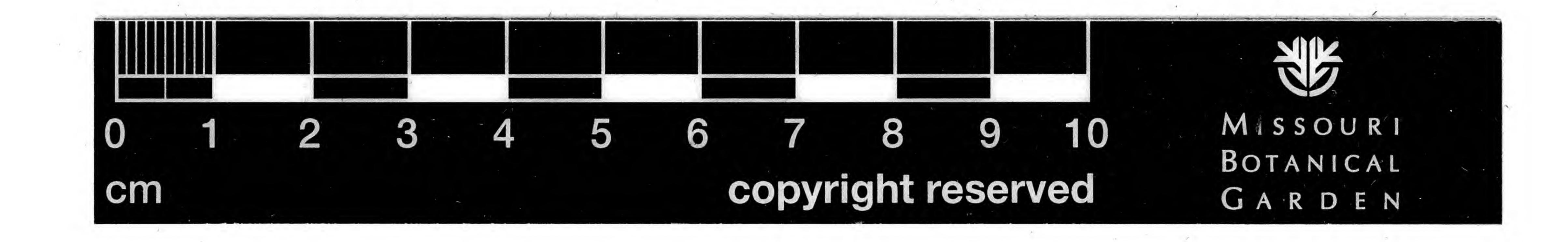


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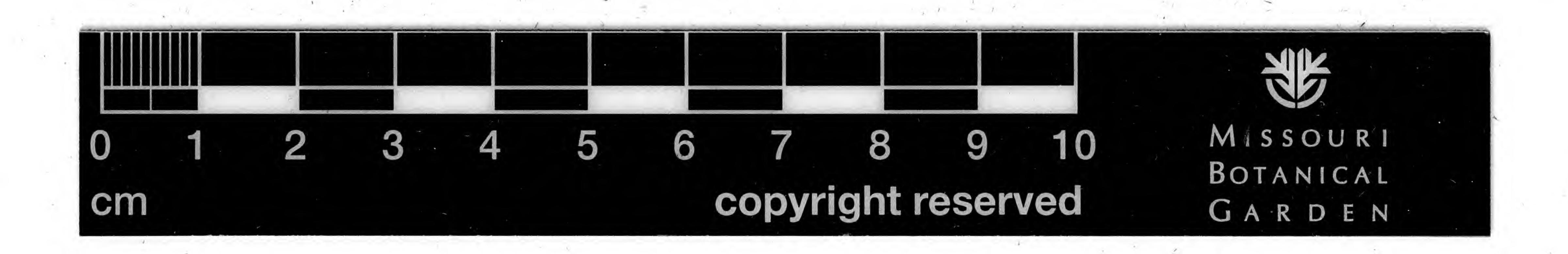
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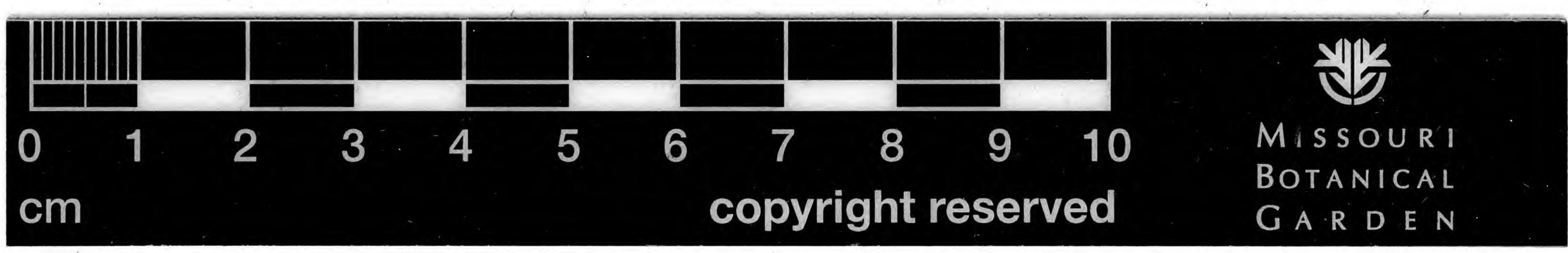


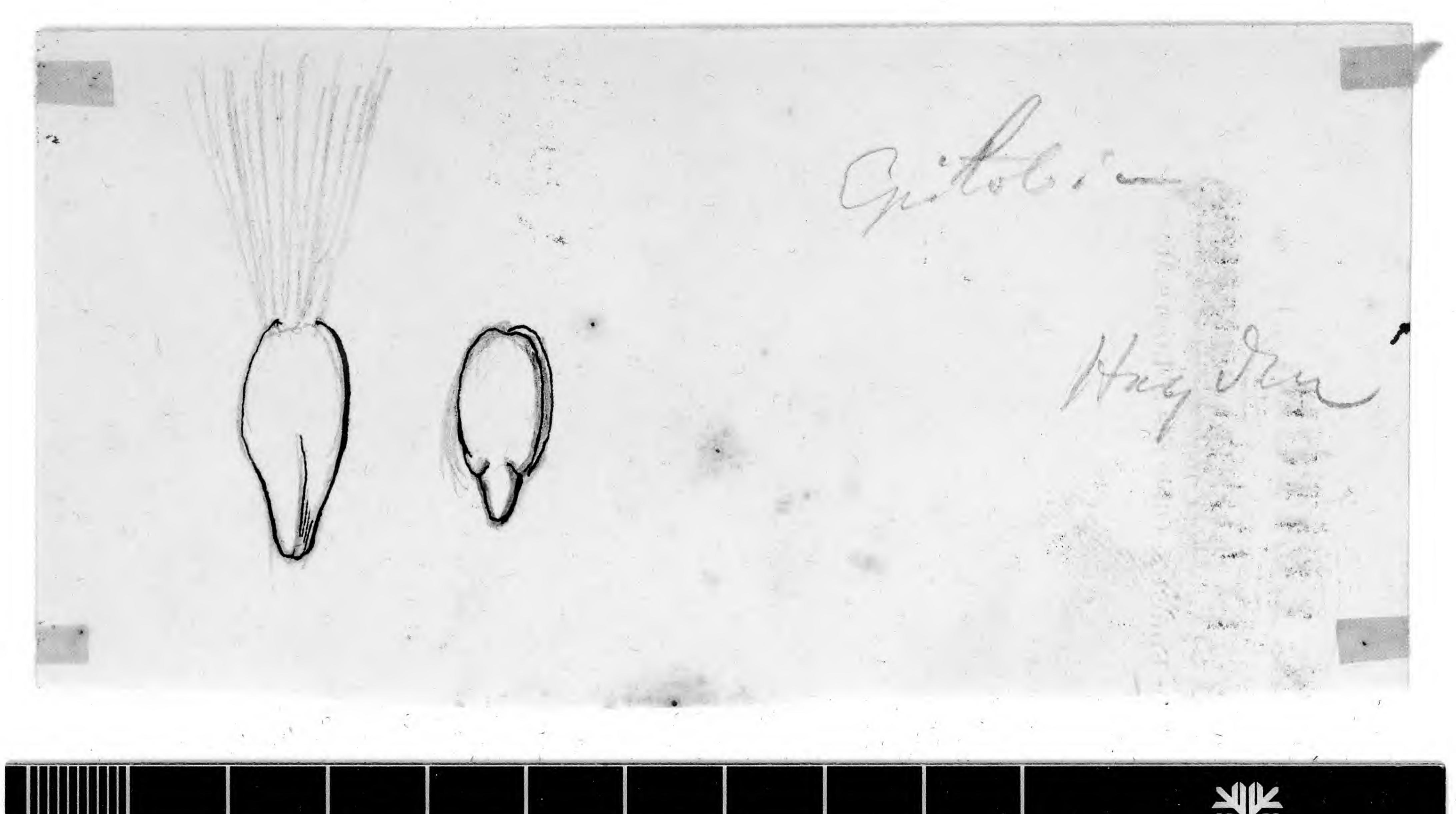
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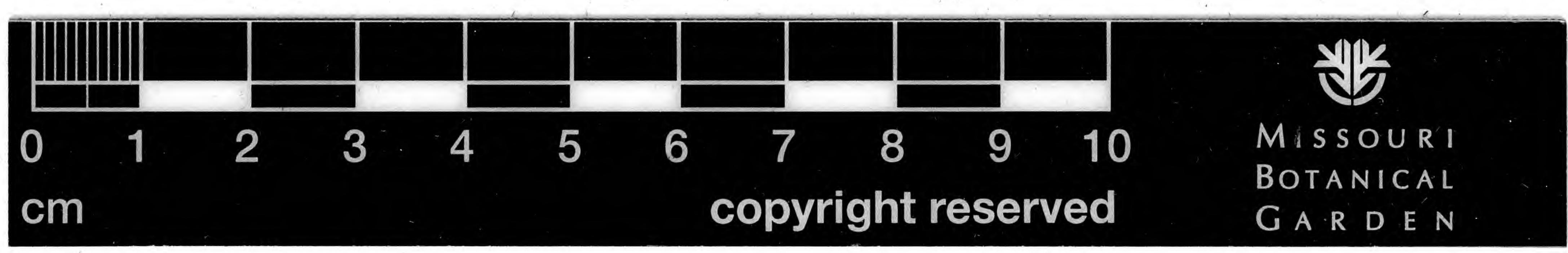


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MISSOURI BOTANICAL GARDEN.

GEORGE ENGELMANN- FARERS



