

# CATEGORY 10

## Epidermal Quadrilateral Two-Dimensional

10I. long (two to four times width)

10IA. Four smooth edges

a. smooth surface

1. no projections

00. not tapered

01. tapered one edge

02. short edges pointed and interdigitating (Arecaceae)

03. long edges pointed and interdigitating

b. grainy surface

1. tapered

2. not tapered

c. uneven surface

10IB. two irregularly undulating edges; two smooth edges

a. long edges undulating; smooth surface

1. slightly undulating

2. moderately undulating

b. short edges undulating; long edges smooth

c. perforated

d. wrinkled

e. uneven

f. grainy

g. striated (UC Riverside type)

10IC. Two serrated or sinuous edges; two smooth edges

a. smooth surface; long edges serrated or sinuous

1. moderately serrated

2. moderately sinuous

3. slightly sinuous

00. smooth short edges

01. concave short edges

A. slightly concave

B. moderately concave

02. one edge smooth; one edge concave

5. very deeply serrated [sic: no 4]

6. very deeply sinuous

00. rounded sinuous

01. blunt sinuous

7. slightly serrated

b. short edges sinuous; long edges smooth\*

d. perforations [sic: no c]

1. serrated edges

2. sinuous edges\*

e. wrinkled surface; slightly sinuous\*

f. uneven surface; slightly sinuous\*

g. grainy surface; irregularly sinuous edges\*

10ID. Four sinuous, serrated, or undulating edges

a. deeply sinuous or undulating

1. regularly sinuous
2. undulating

b. moderately serrated

c. moderately undulating

1. not tapered
2. tapered

200. double outline with highly silicified body, grainy surface  
(Bambuseae leaf, Old World taxa)

201. double outline but lacks highly silicified body; smooth  
(Bambuseae leaf, Old World taxa)

d. moderately sinuous; 2 to 4 sinuous edges; grainy surface  
(Fabaceae, *Brownea ucayalinia*. Genus level diagnostic)

10IE. One long edge serrated or sinuous; three smooth edges

a. edge deeply serrated

b. edge slightly serrated

c. edge deeply sinuous

10IF. Projections

a. rounded projections on one edge

b. pointed, long projections on one edge

c. large, rounded projections on all surfaces

d. small, rounded projections on all surfaces

e. small, pointed projections on all surfaces

f. highly sinuous, irregular, long, thin projections

10II. Very long (greater than four times width) Note: Consider moving some of these to 140

10IIA. Smooth edges

a. not curving

1. very thin
2. smooth; not very thin
3. rounded short ends; very thin; clusters
4. grainy or uneven surface

b. curving

1. outline distinct

00. not very thin; smooth surface; right-angled edge junctions

01. very thin; smooth surface

03. grainy surface; often fragmented [sic: no 02]

2. outline indistinct; very thin strands

00. clusters

01. singly occurring\*

10IIB. Sinuous, serrated, or undulating edges

a. right-angled junctions

1. slightly undulating, smooth surface

00. very thin

01. not very thin

A. no interior features

B. interior features

- 2. slightly serrated; uneven surface
  - 00. tapering; more serrated at thin end (UC Riverside type)
  - 01. not tapering (UC Riverside type)
- 3. long edges moderately sinuous
- 4. moderately serrated
- b. sinuous to slightly serrated edges; striations parallel to short edges (vascular)
  - 1. thin (vascular type)
  - 2. wide, may be cylindrical, with broken striations
- c. edge junctions irregular; striated parallel to short dimension; curving

10IIC. Short edges smooth; one long sinuous edge; one long serrated edge

- a. smooth surface
- b. striated surface

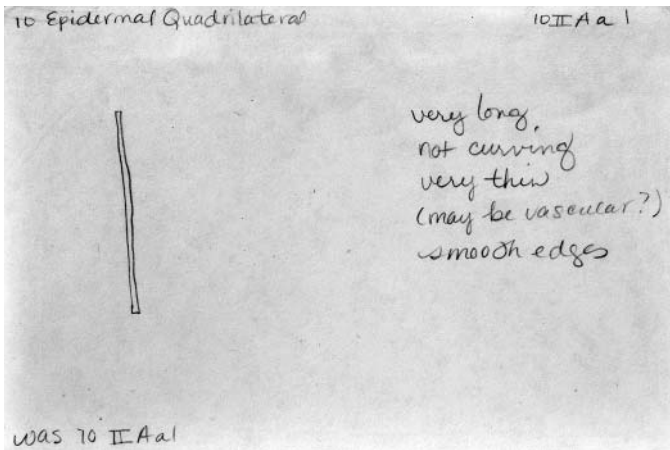
10IID. One finely serrated edge; three smooth edges

10IIE. Surface with projections

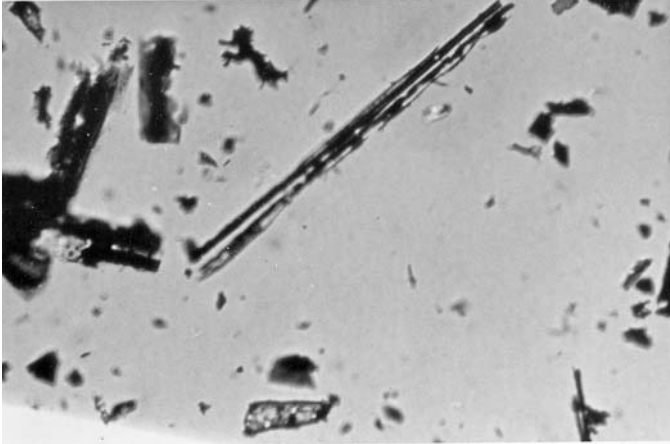
- a. long, thin projections
- b. short projections
  - 1. smooth edges
  - 2. sinuous edges
- c. many small thin projections
- d. small projections with wide bases
- e. thick projections with flat surfaces
- f. small, somewhat rounded or bumpy projections (*Oryza* type)
- g. medium-sized, rounded and/or pointed projections
- h. slightly sinuous with very small rounded bumps (*Oryza* type)

10V. all edges roughly same length [sic: no III or IV]

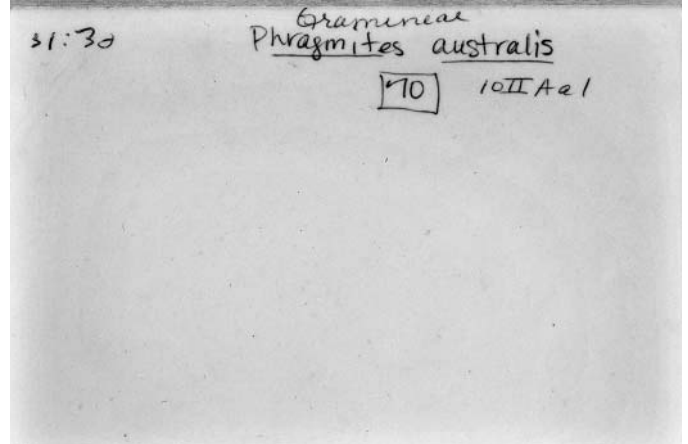
- A. edges smooth and straight
  - a. surface smooth
  - b. surface grainy
- B. some edges pointed and interdigitating
- C. all edges moderately sinuous
  - a. surface smooth
  - b. surface with rounded bumps
- D. all edges highly sinuous
- E. 3 edges sinuous; 1 edge straight (UC Riverside type)



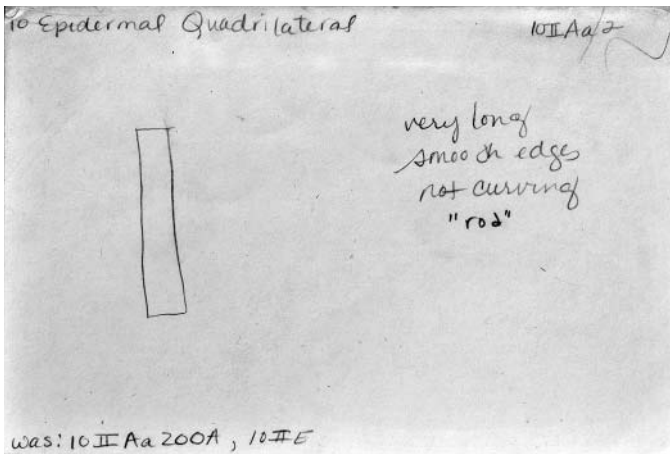
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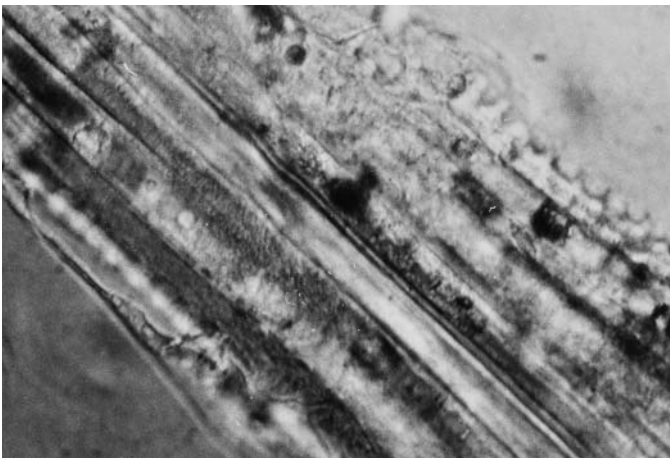
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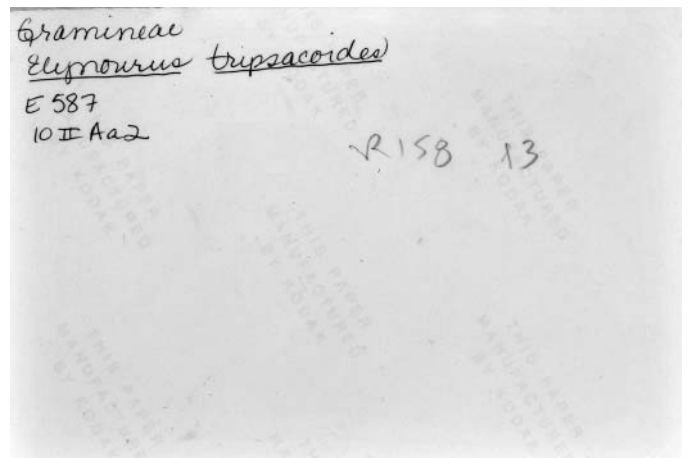
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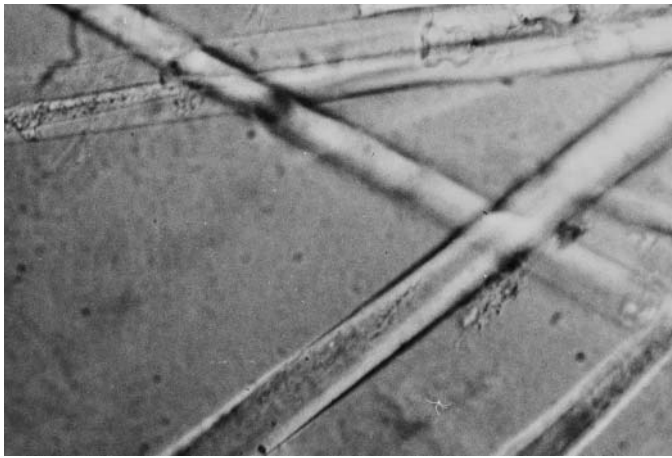
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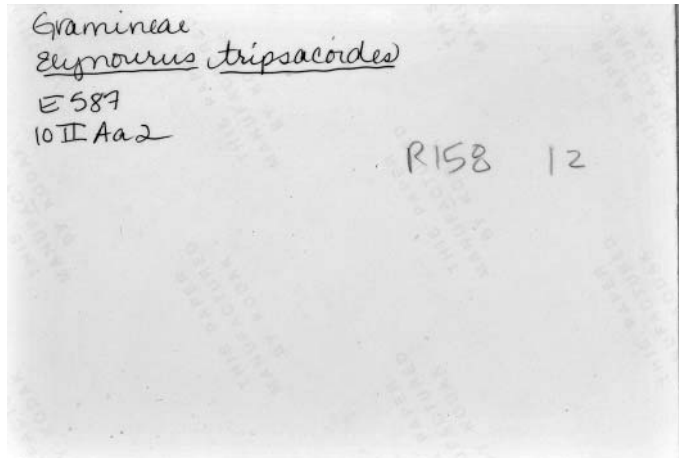
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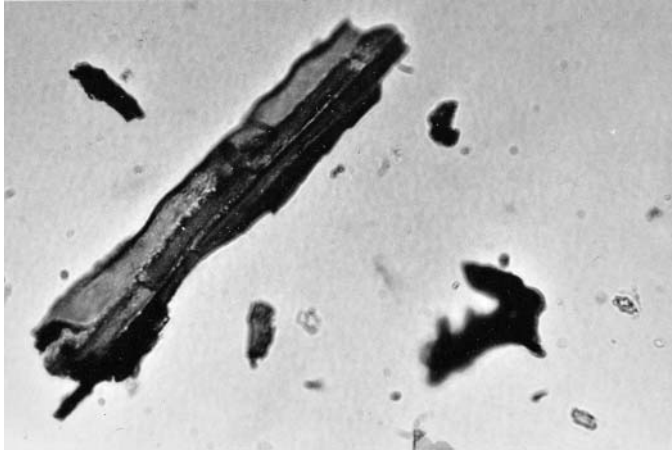
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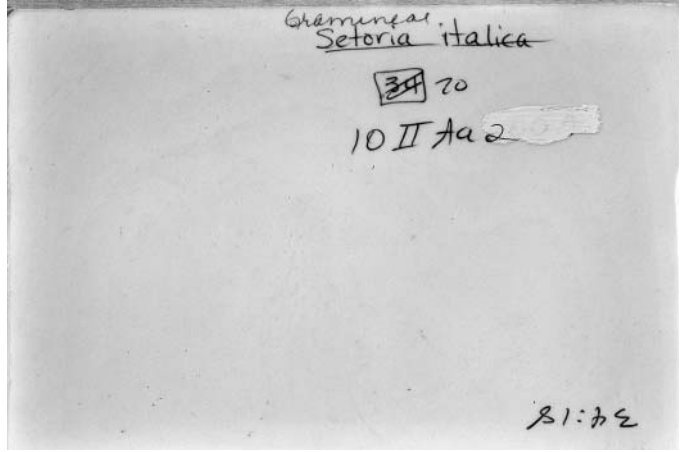
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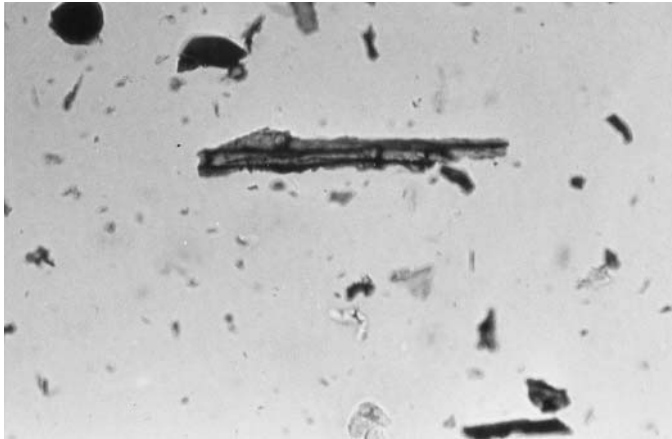
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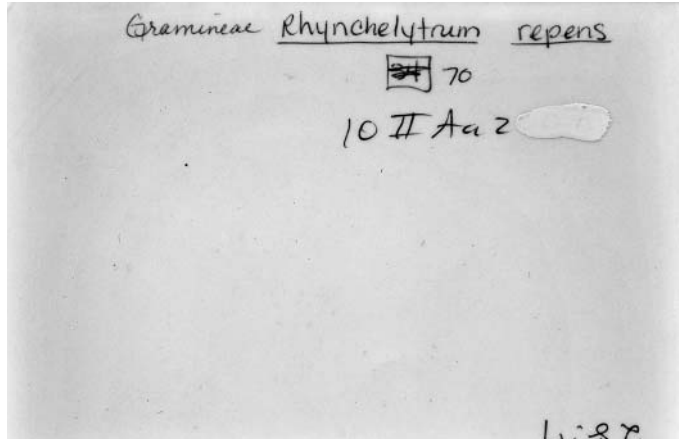
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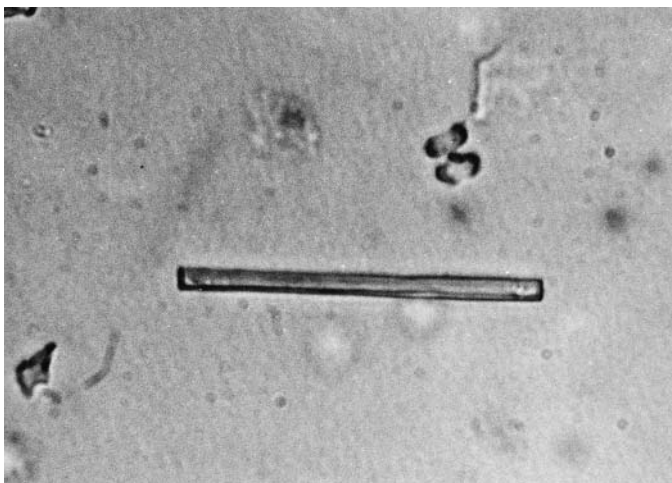
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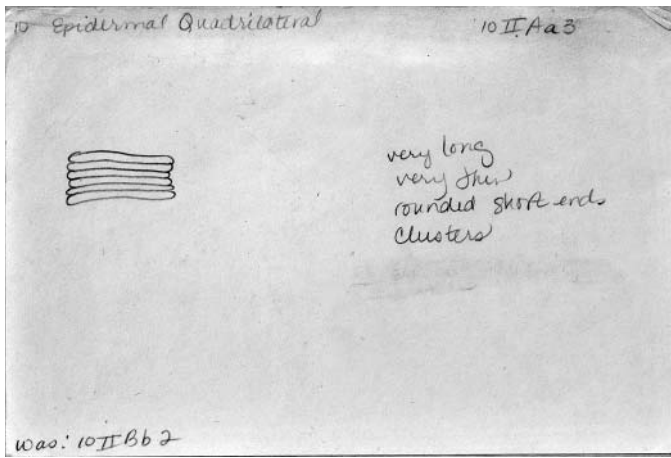
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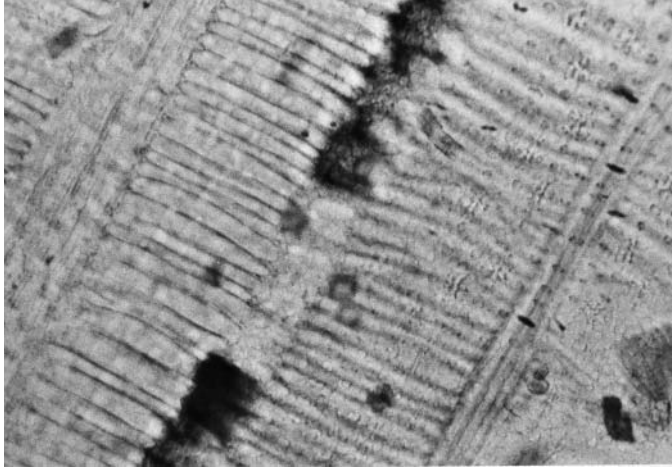
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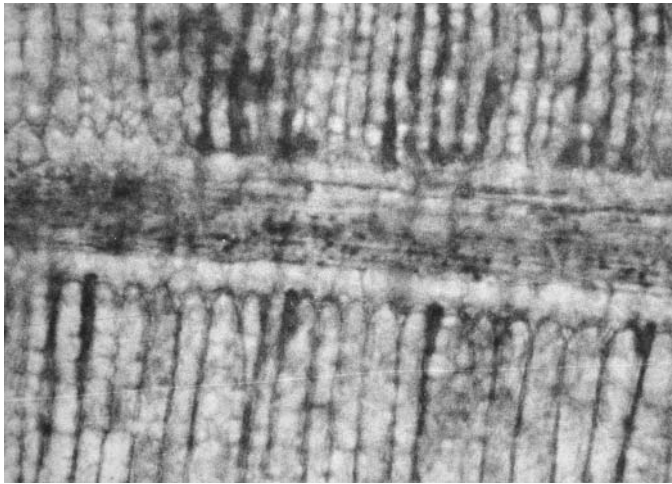
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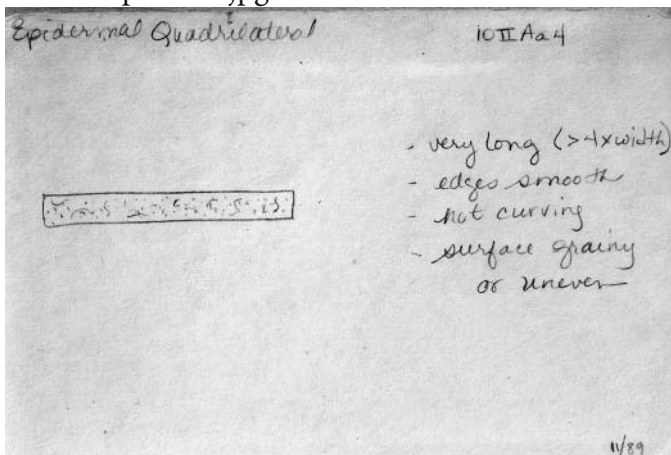
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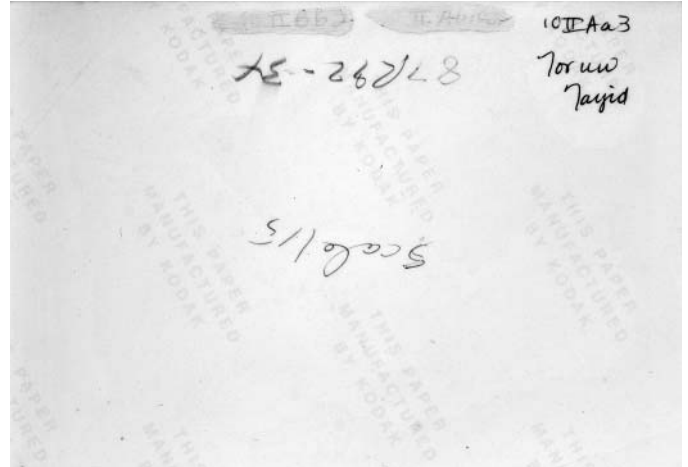
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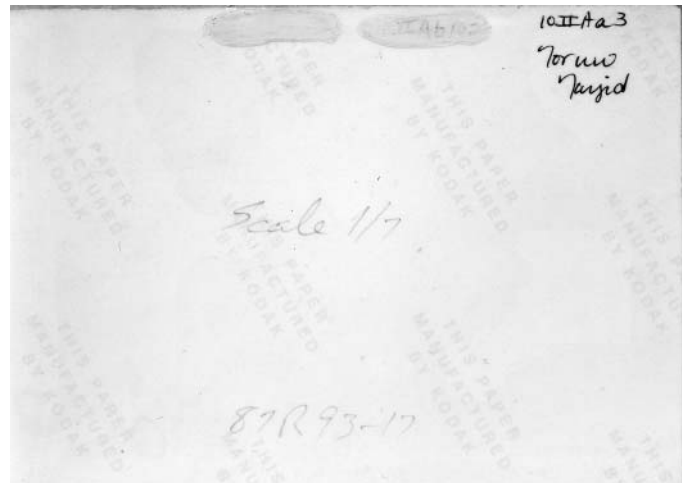
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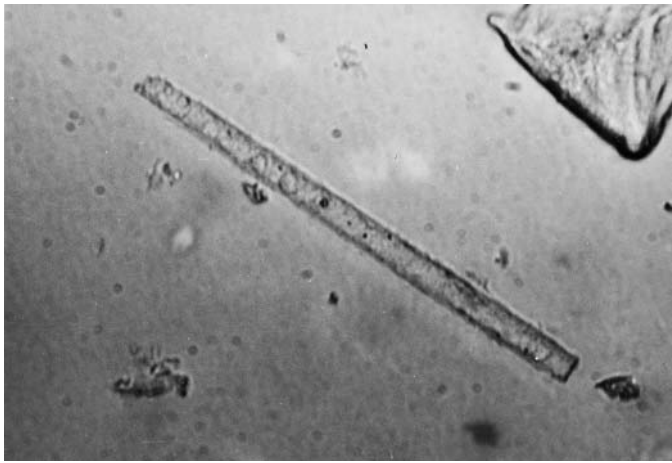
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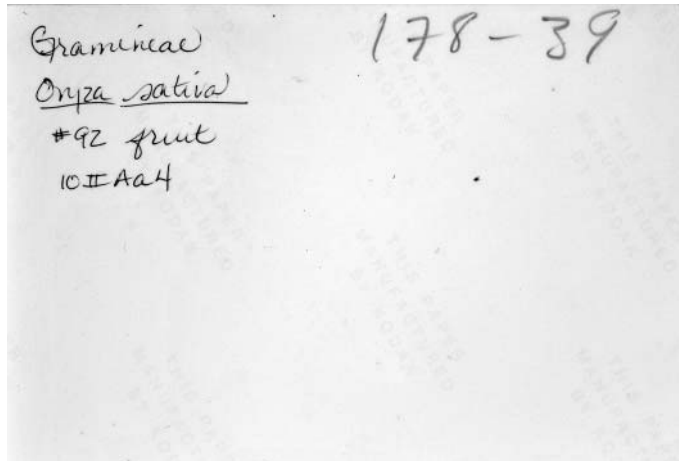
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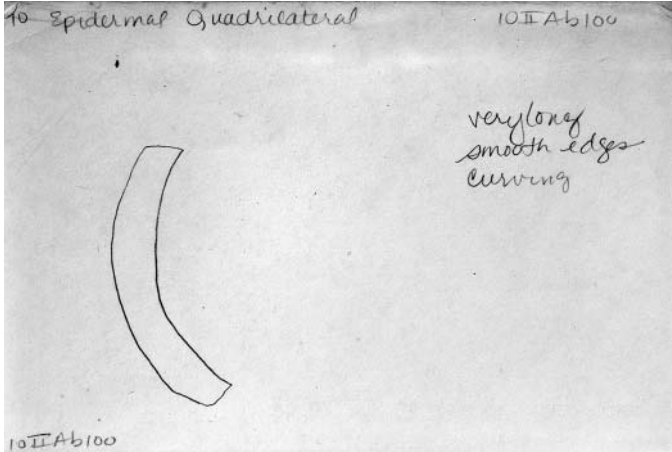
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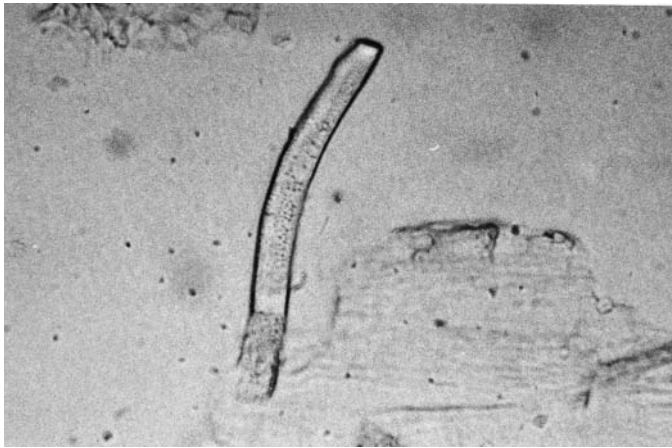
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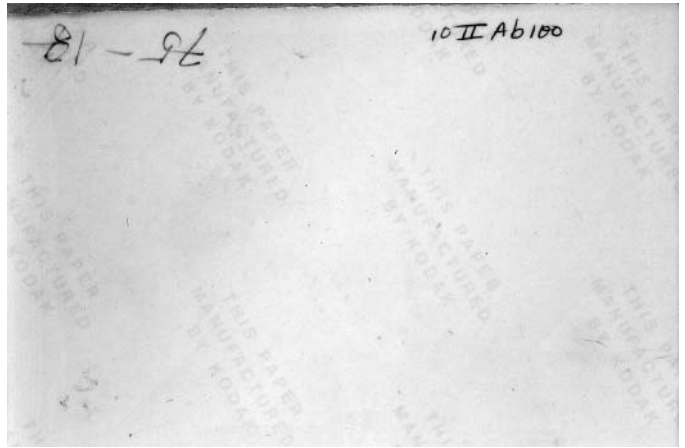
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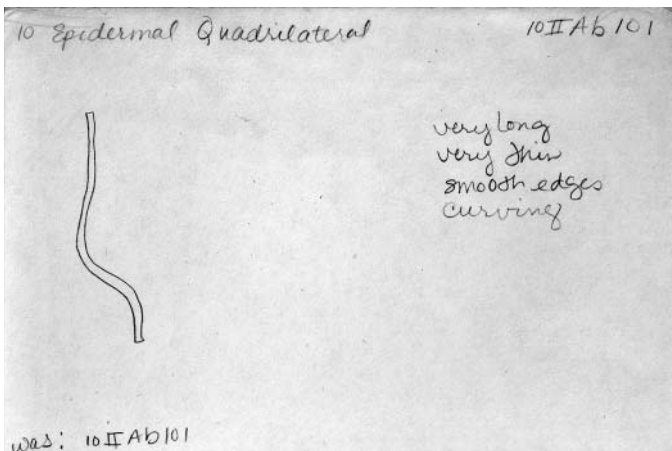
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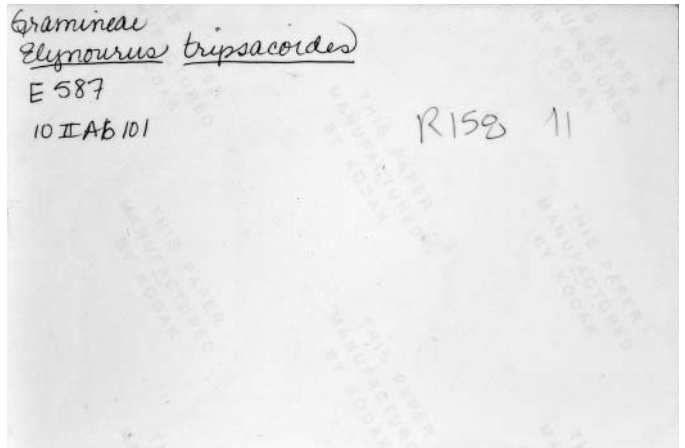


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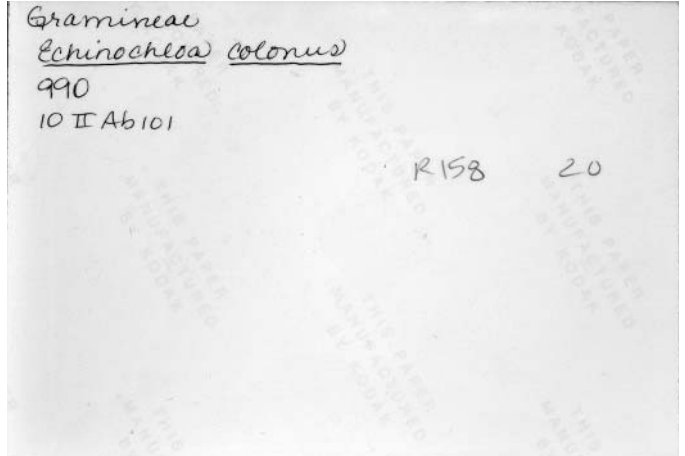
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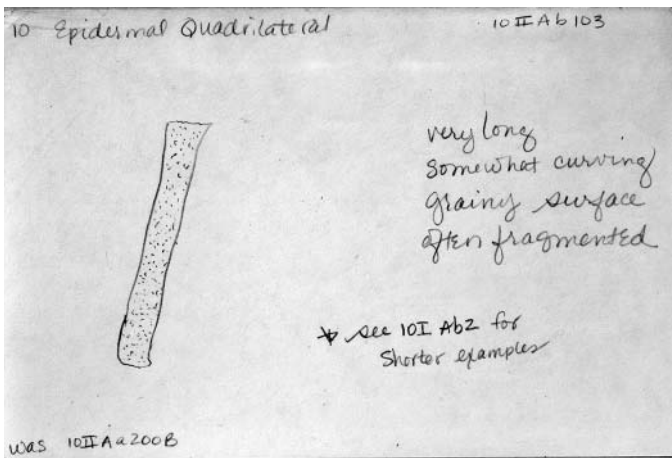
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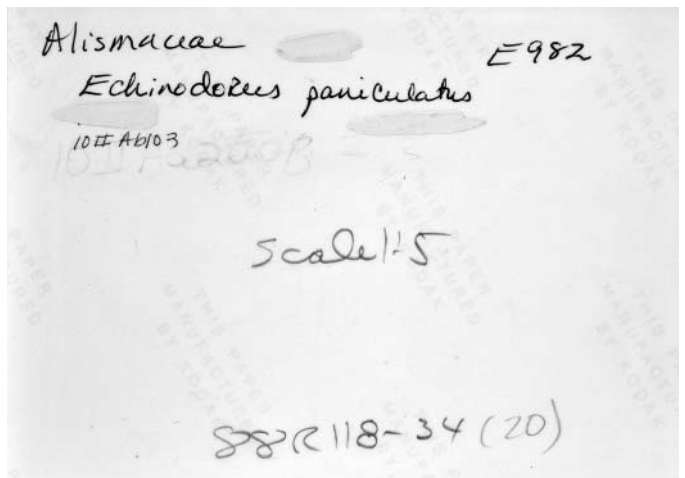
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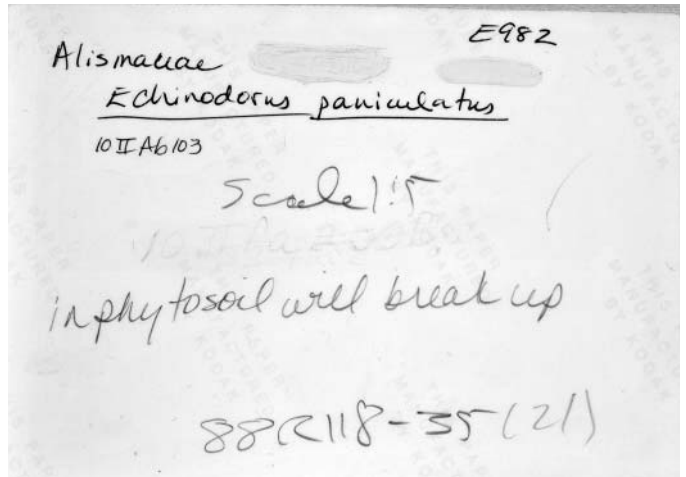


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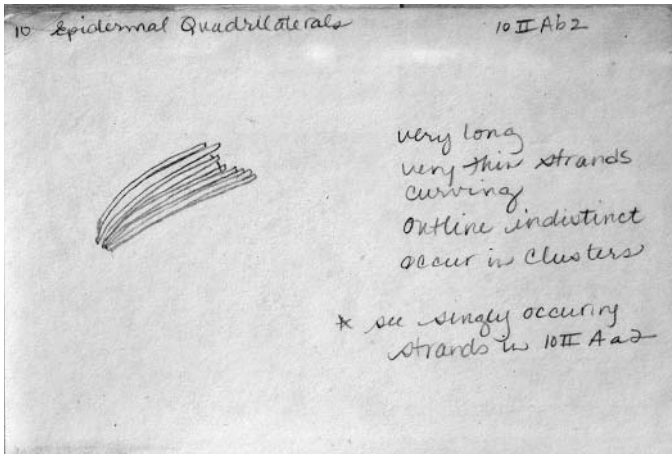




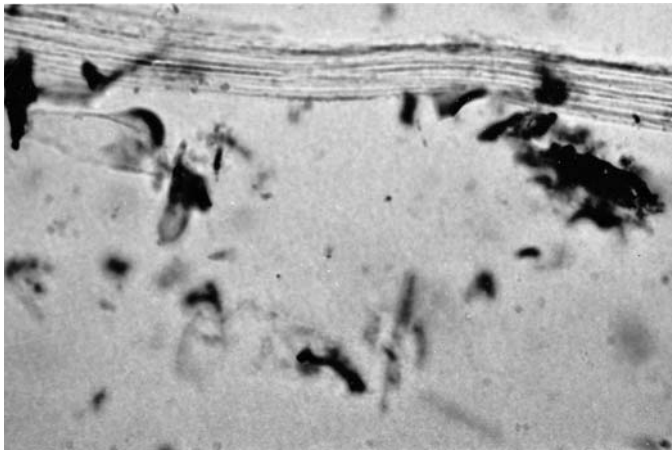
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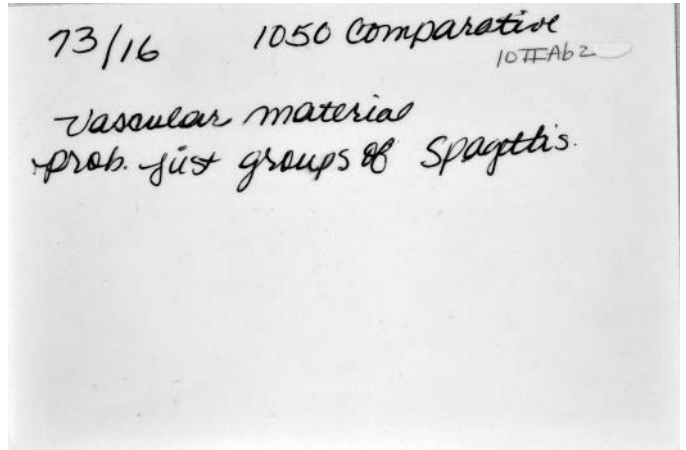
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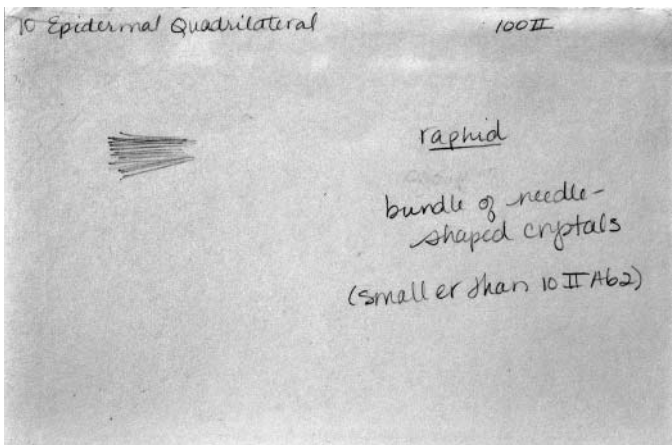
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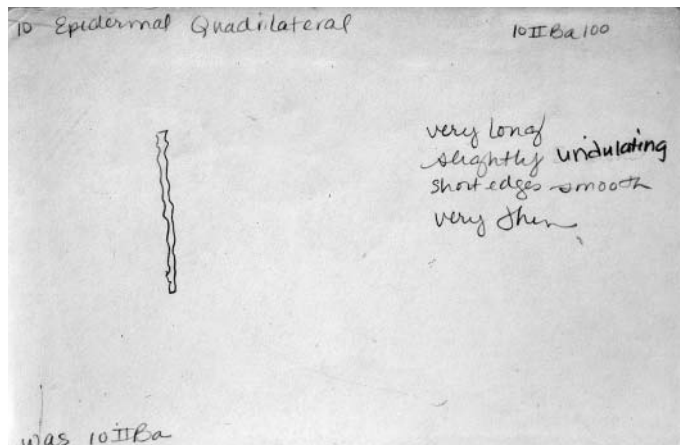
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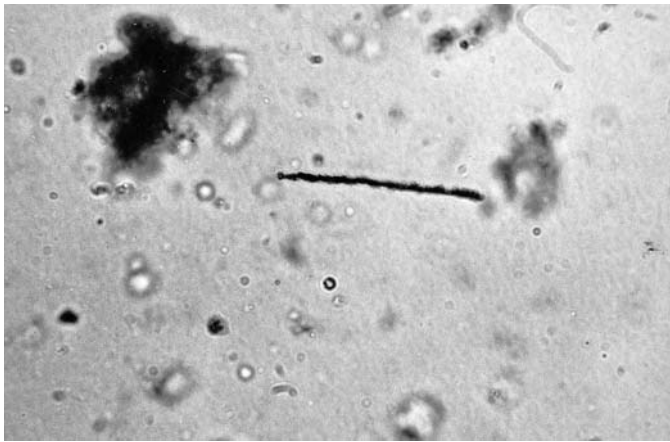
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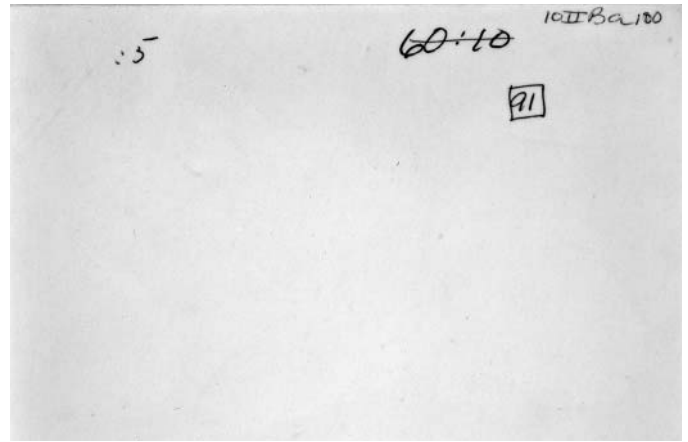
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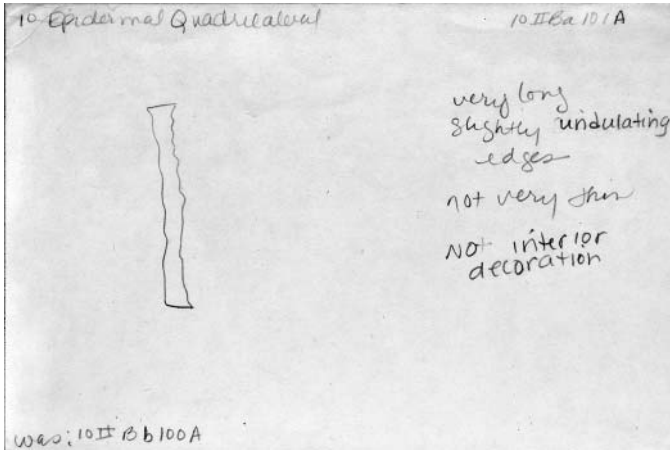
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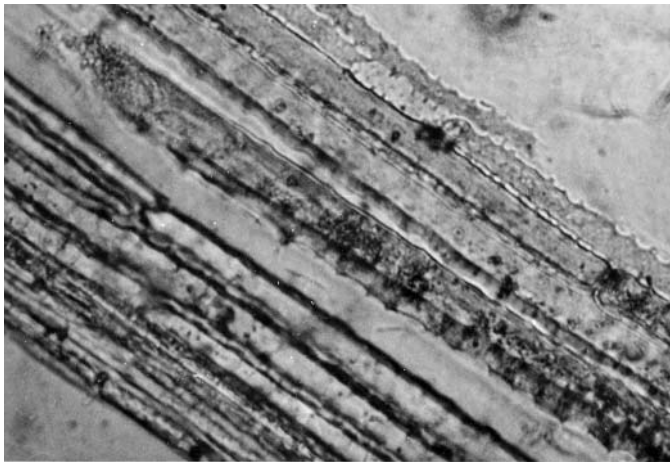
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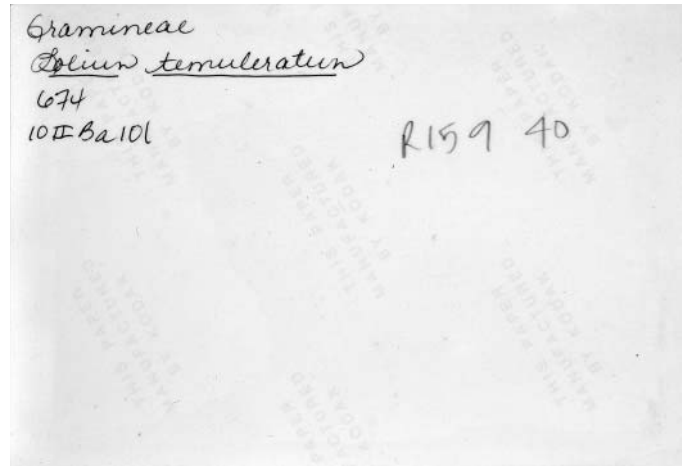
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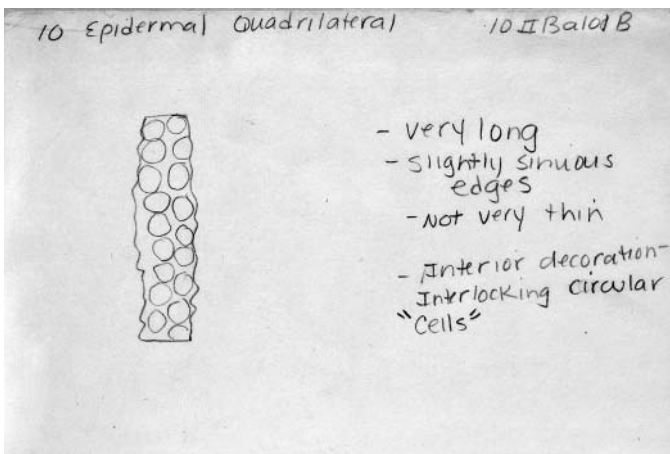
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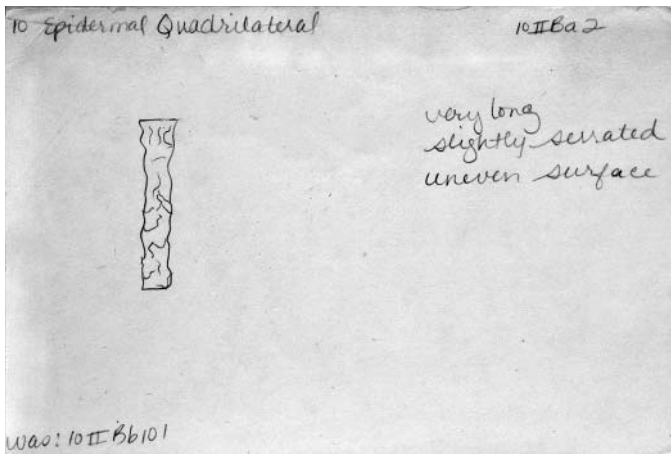
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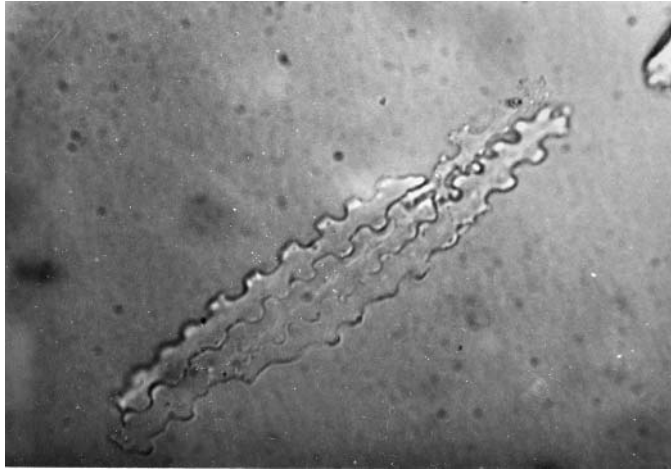
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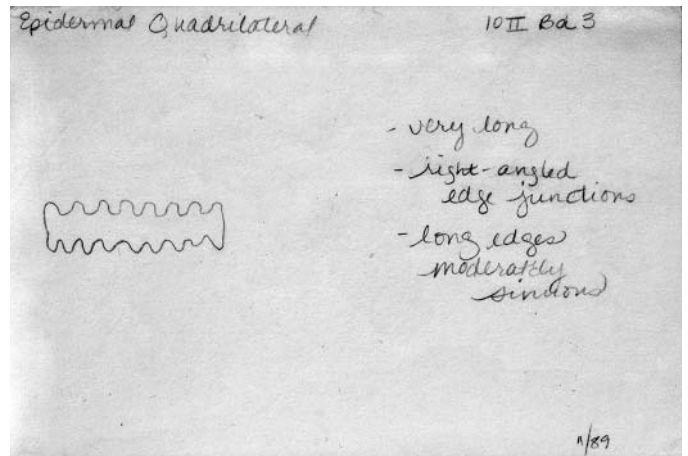
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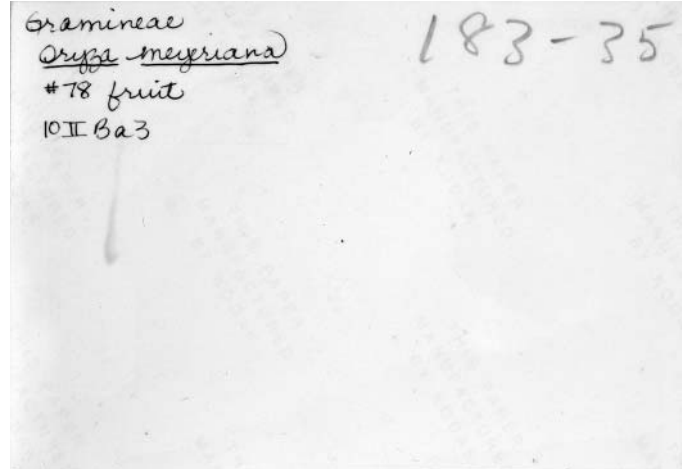
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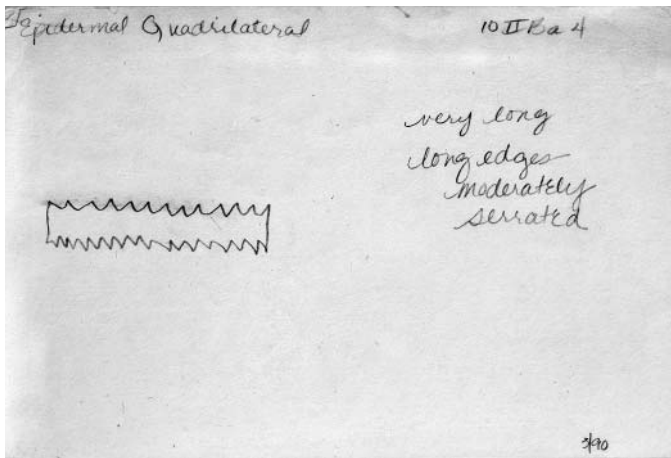
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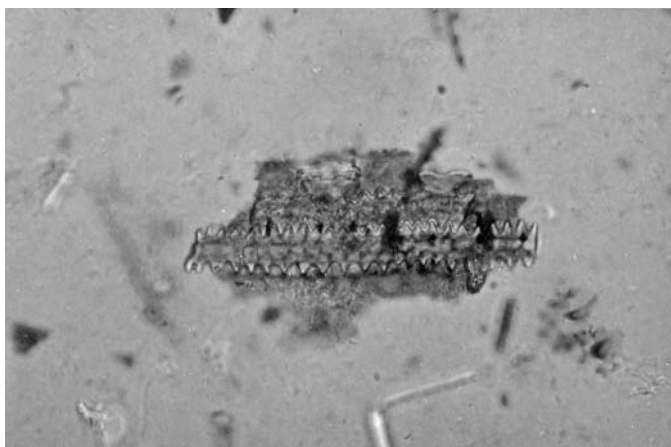
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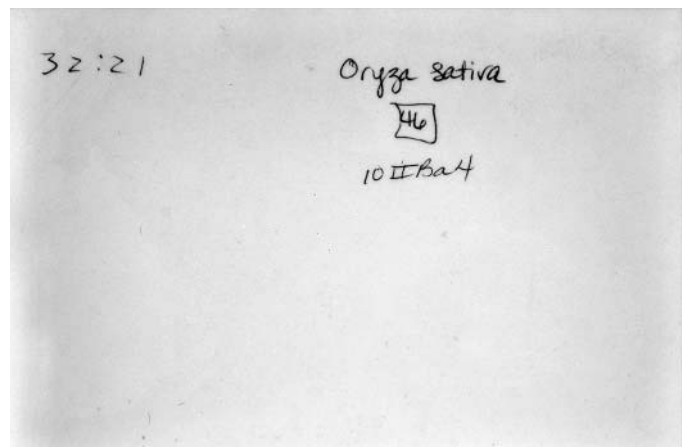
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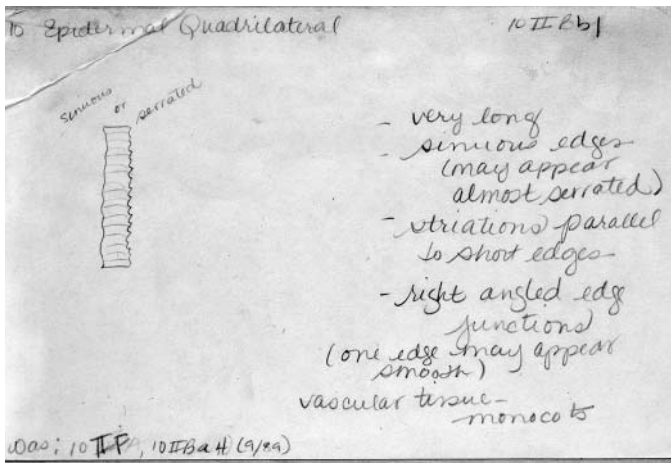
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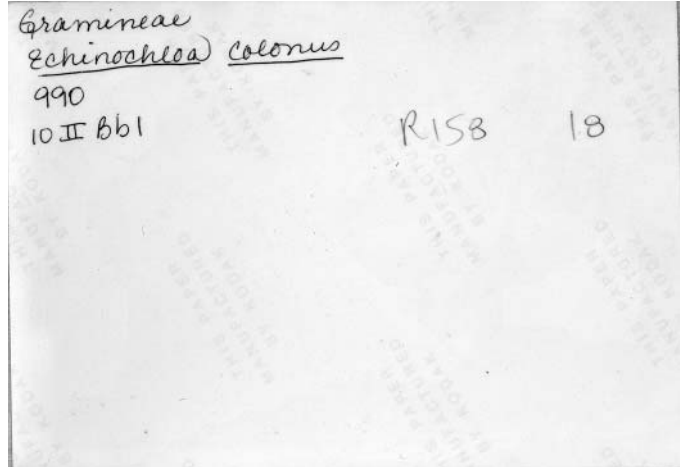
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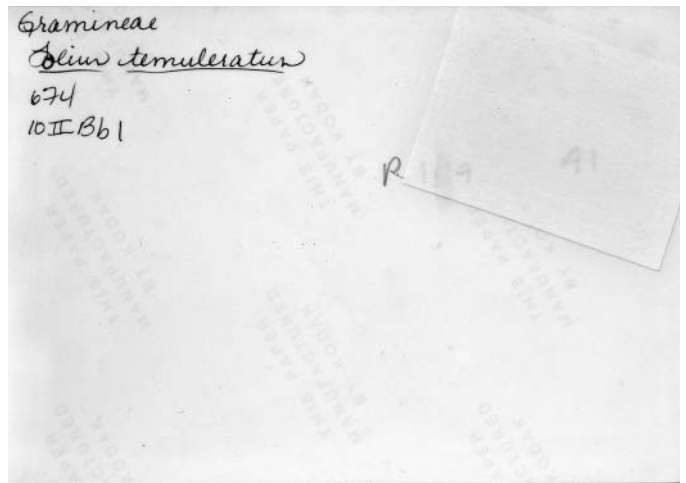
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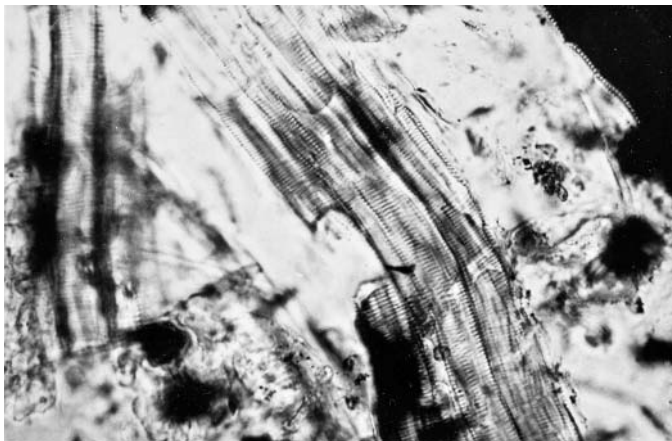
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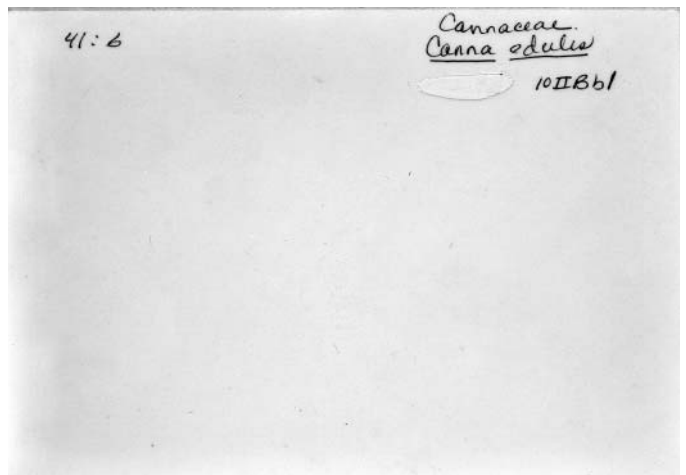
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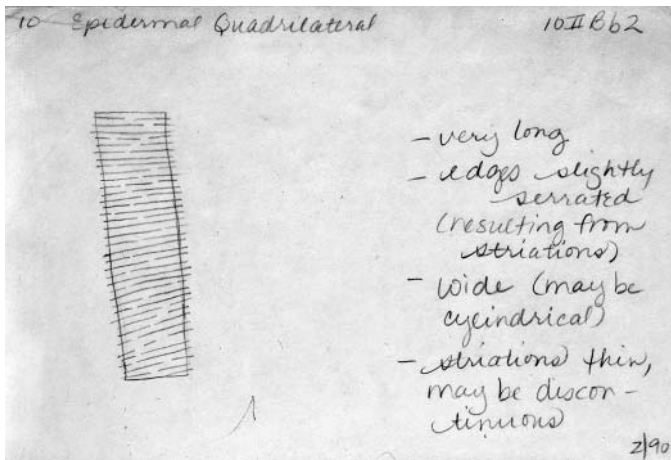


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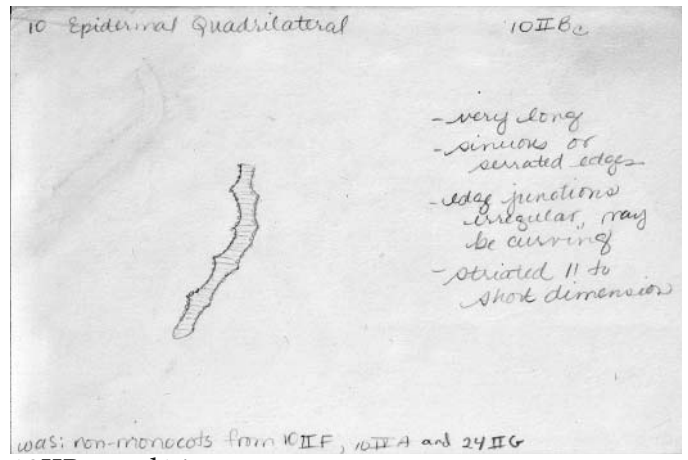


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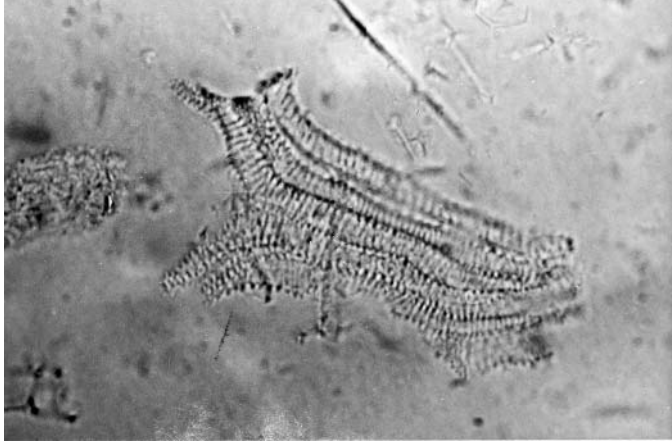




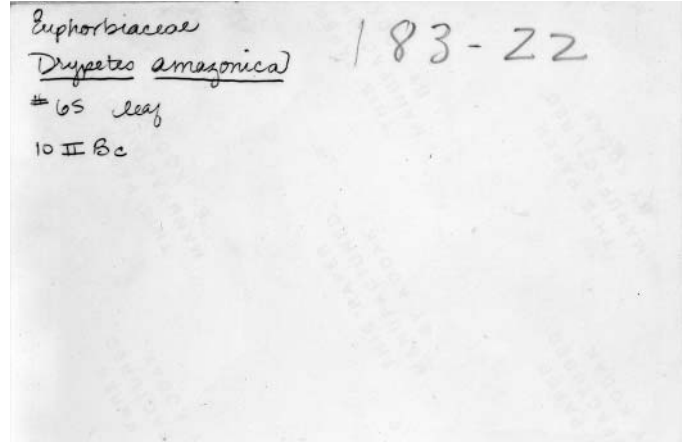
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10IIBc card1.jpg



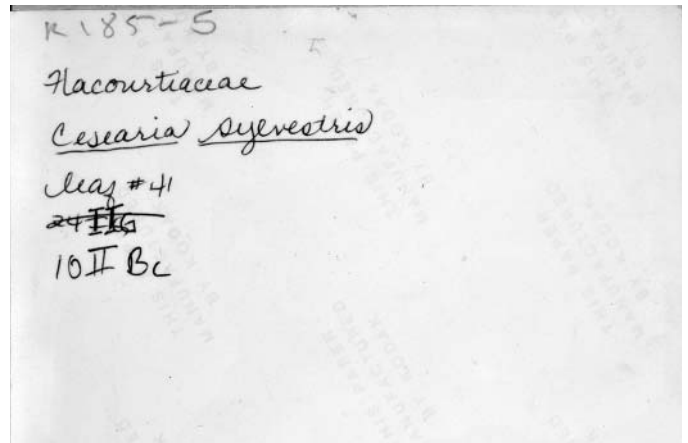
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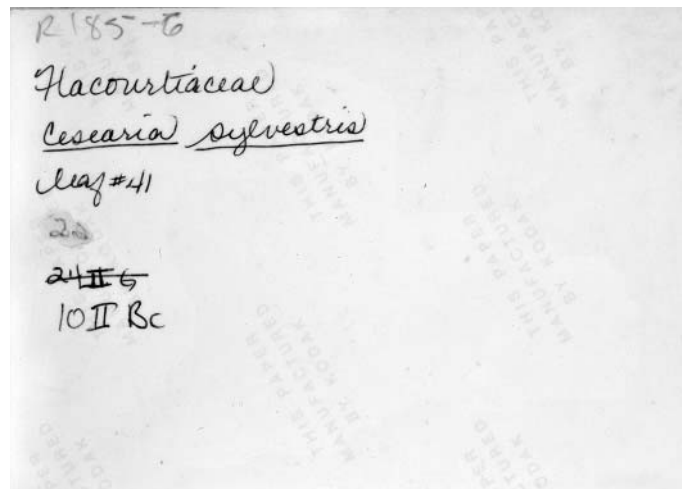
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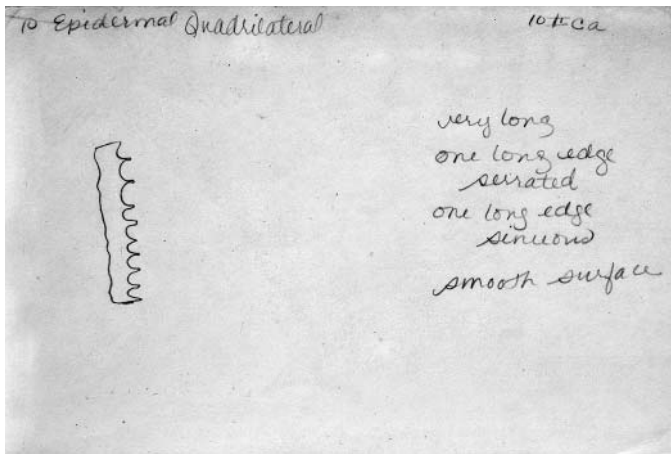
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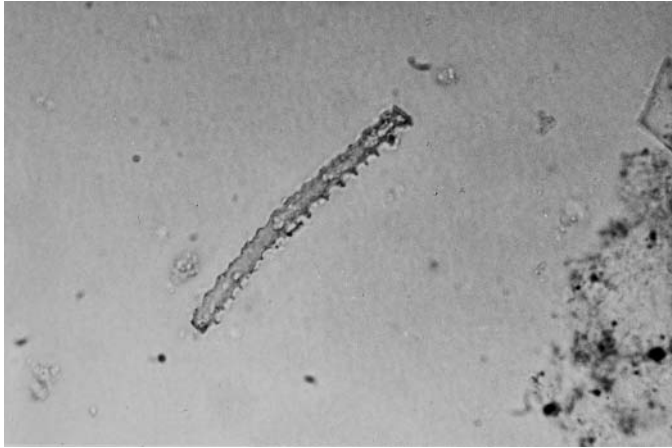
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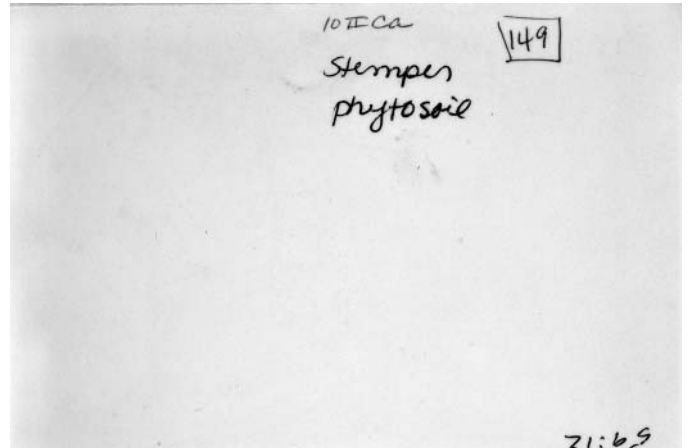
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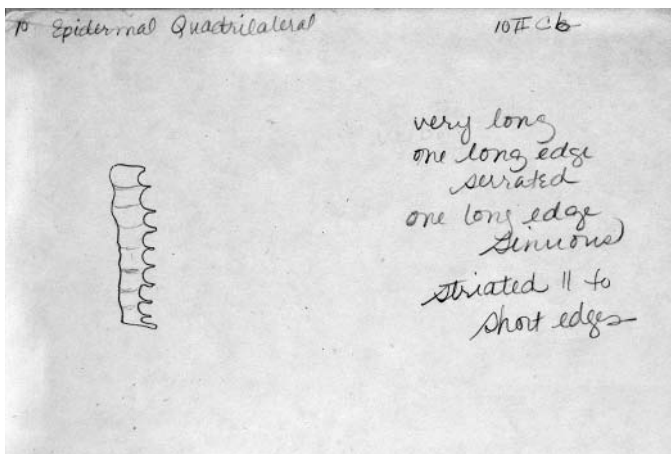
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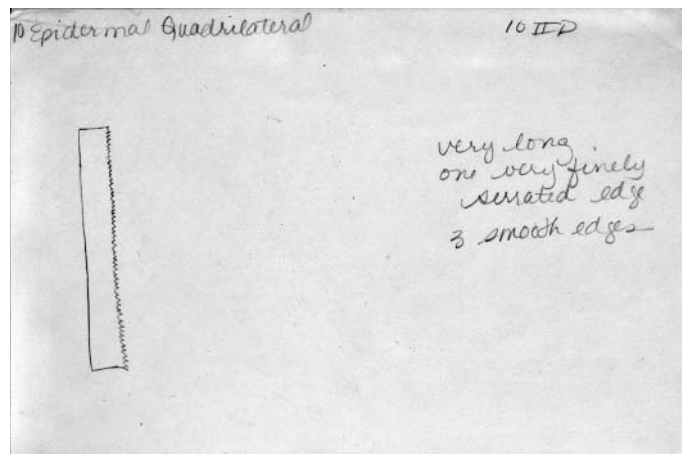
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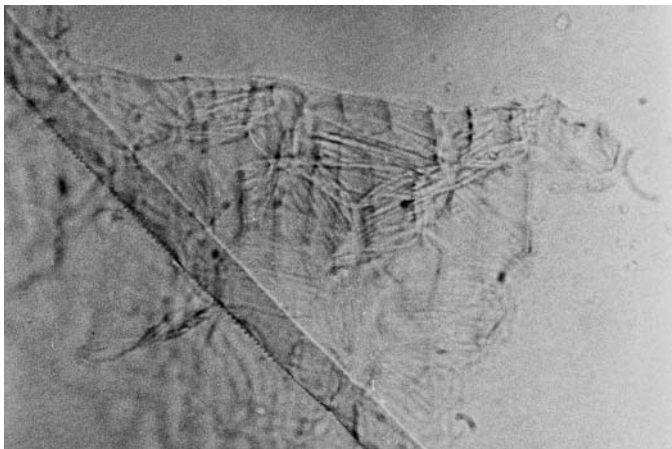
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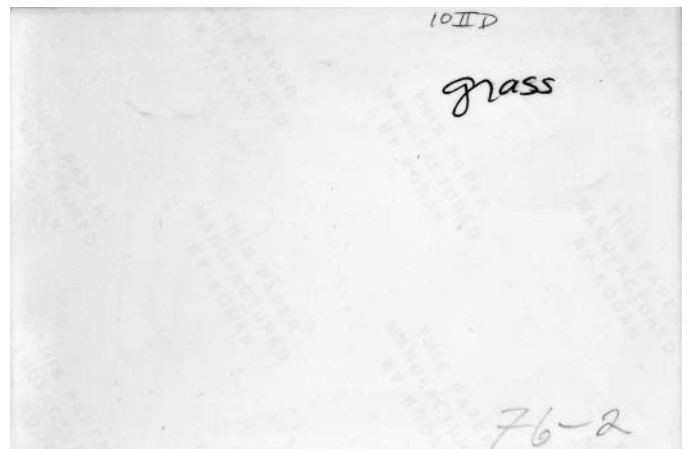
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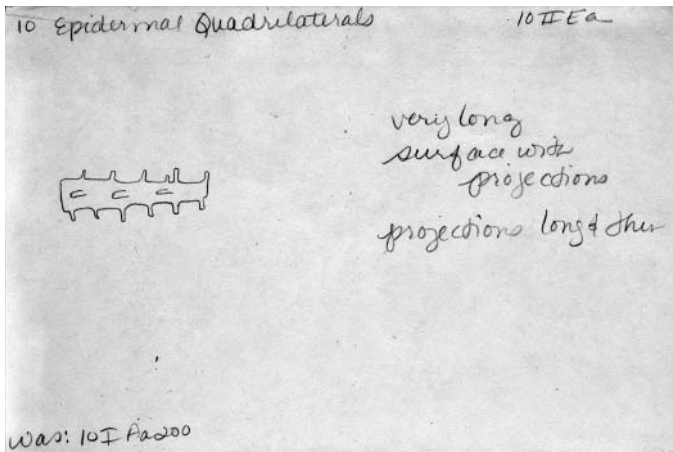
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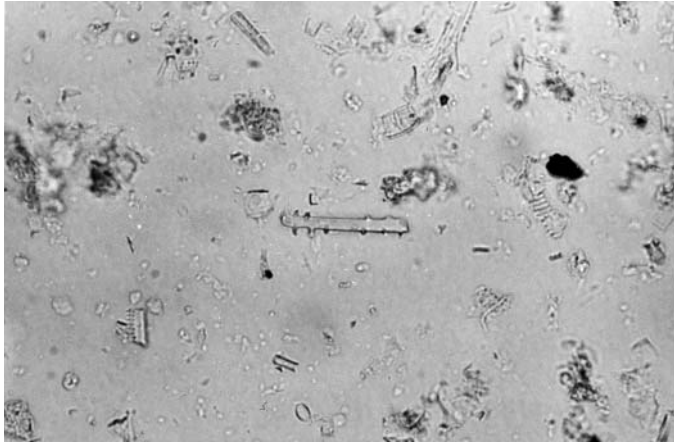
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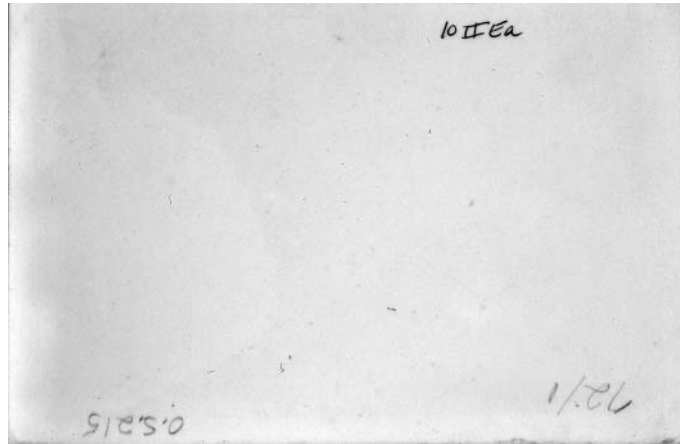
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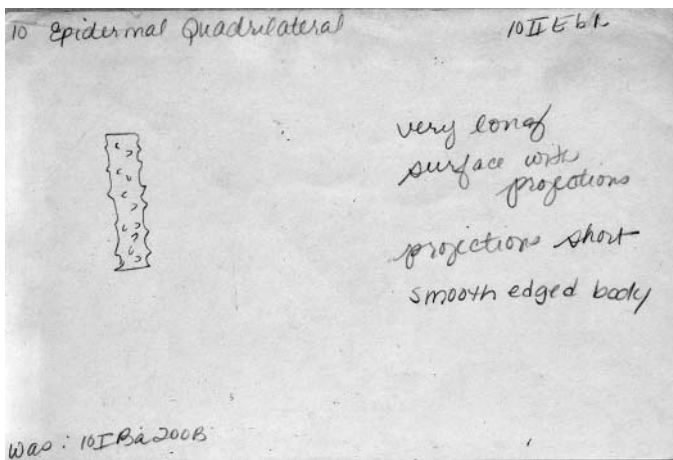
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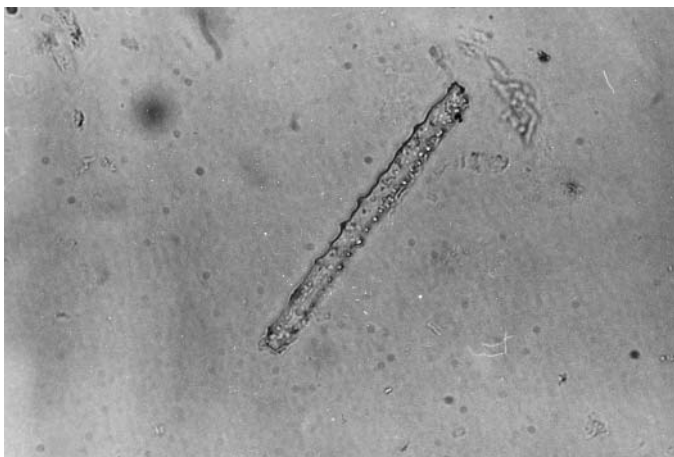
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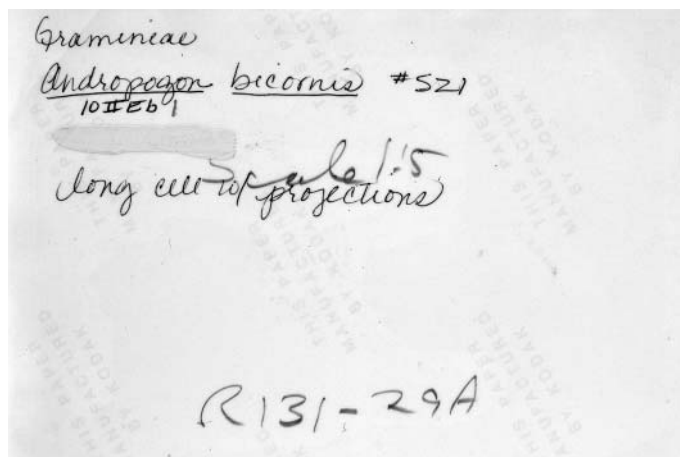
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10IIEb1 card1.jpg

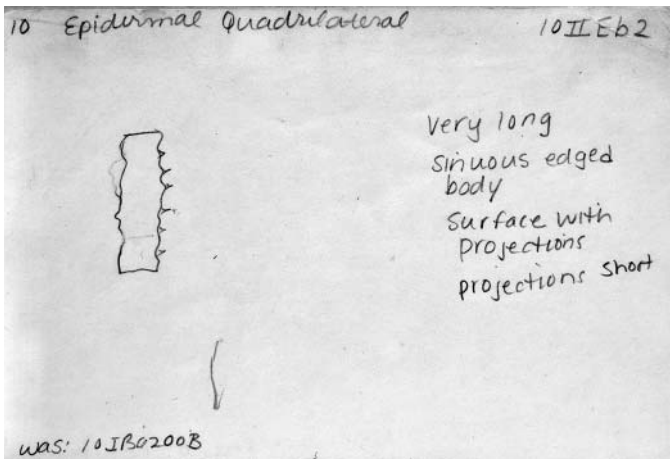


10IIEb1 photo1f.jpg



10IIEb1 photo1b.jpg

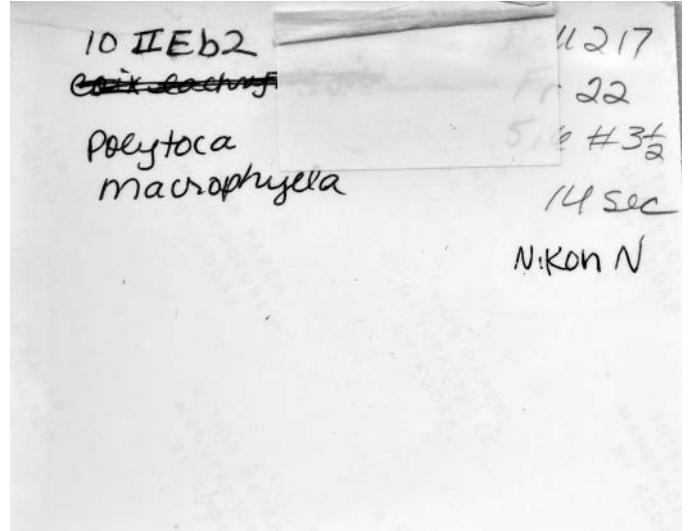




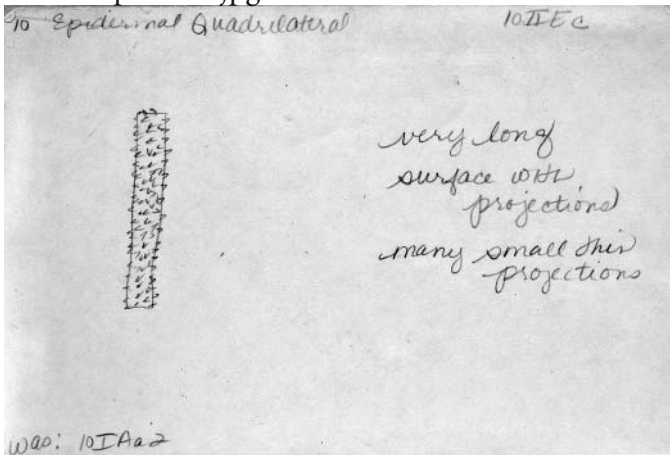
10IIEb2 card1.jpg



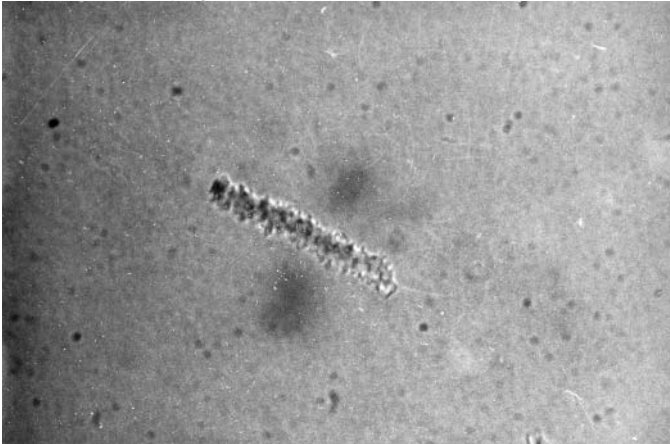
10IIEb2 photo1f.jpg



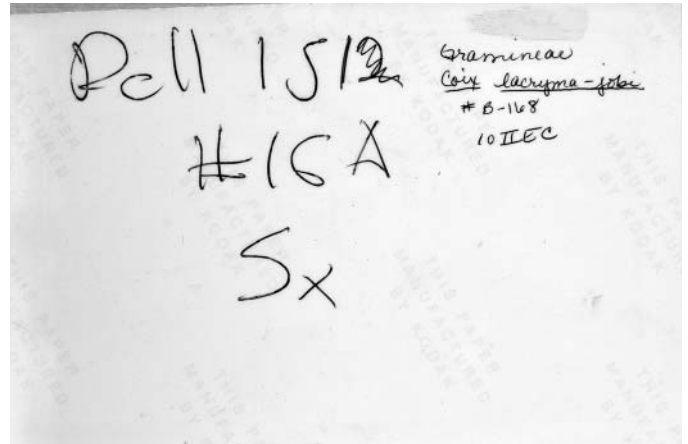
10IIEb2 photo1b.jpg



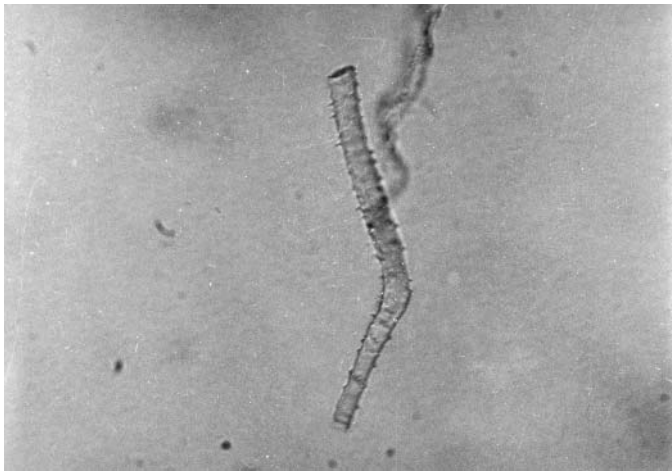
10IIEc card1.jpg



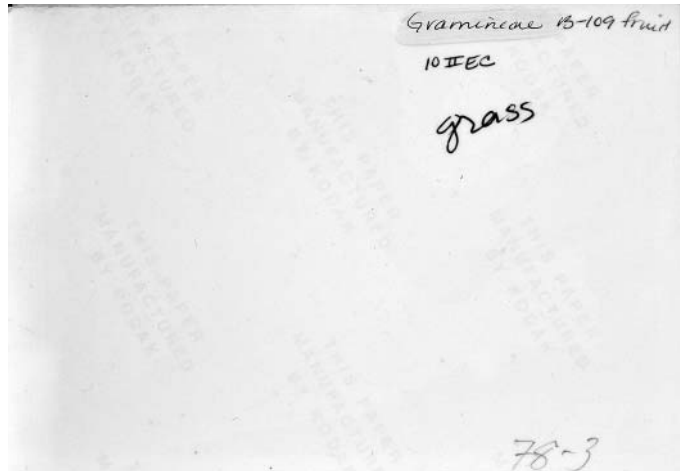
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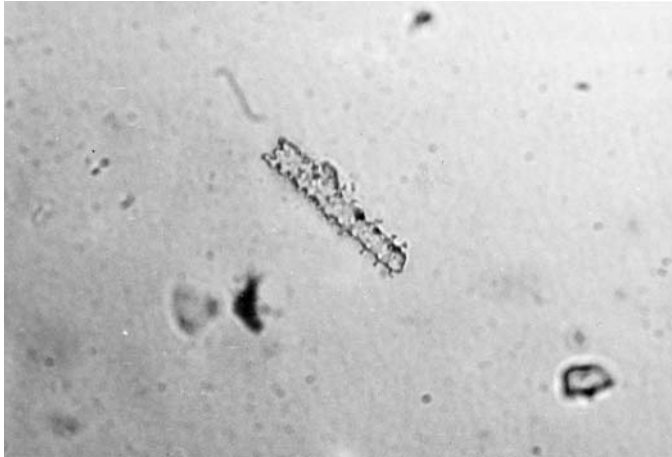
10IIEc photo1b.jpg



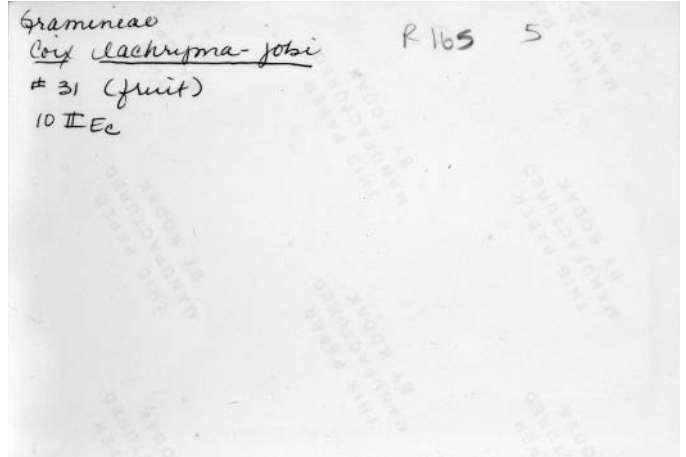
10IIEc photo2f.jpg



10IIEc photo2b.jpg



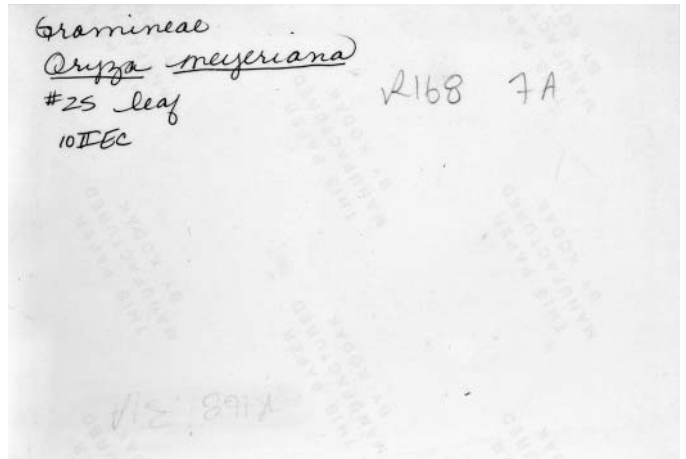
10IIEc photo3f.jpg



10IIEc photo3b.jpg



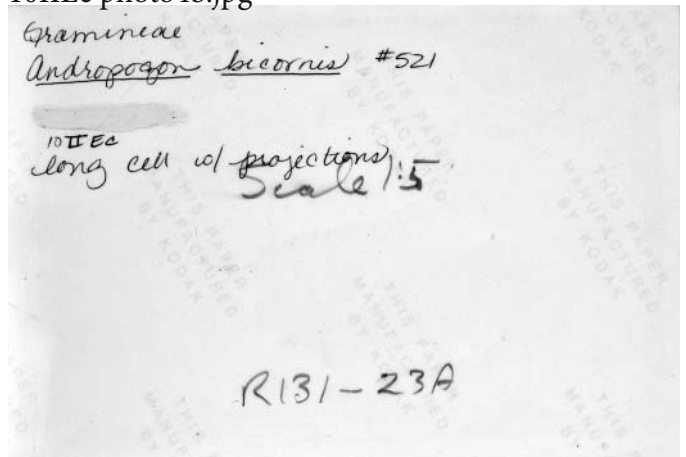
10IIEc photo4f.jpg



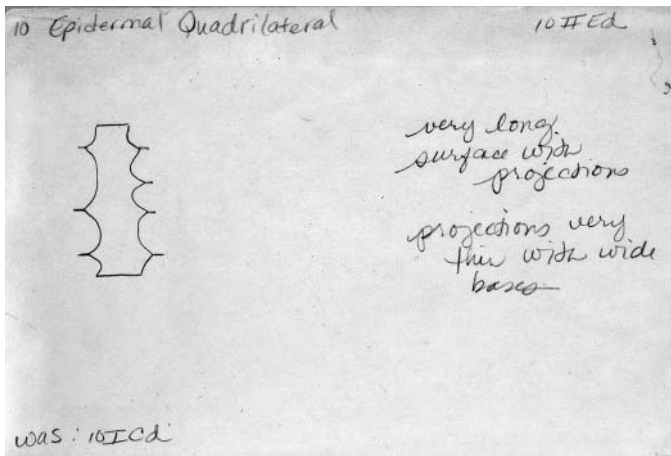
10IIEc photo4b.jpg



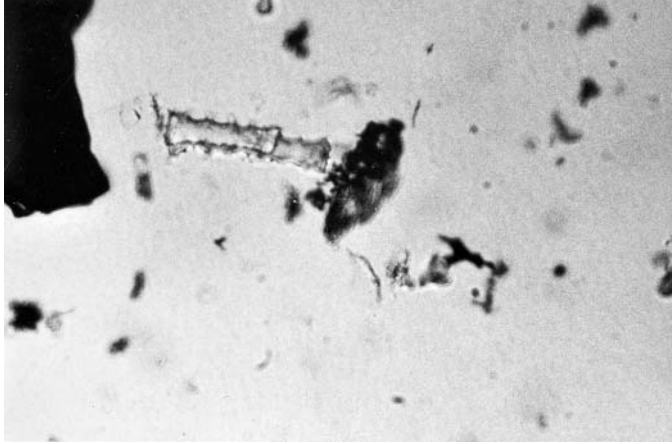
10IIEc photo5f.jpg



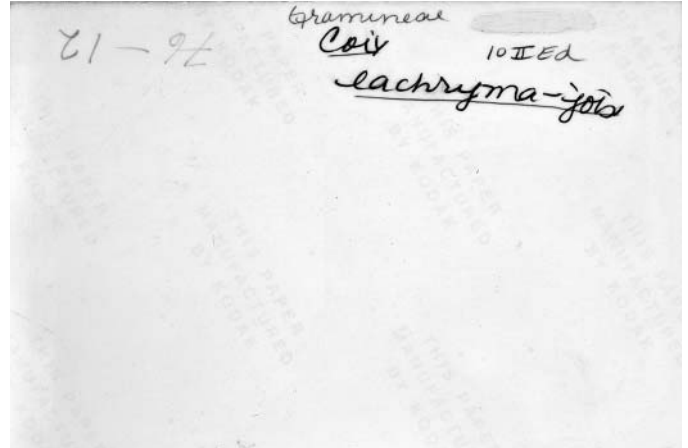
10IIEc photo5b.jpg



10IIEd card1.jpg



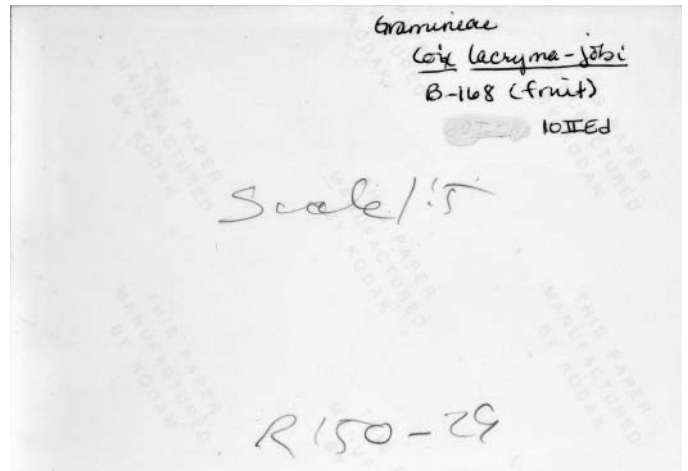
10IIEd photo1f.jpg



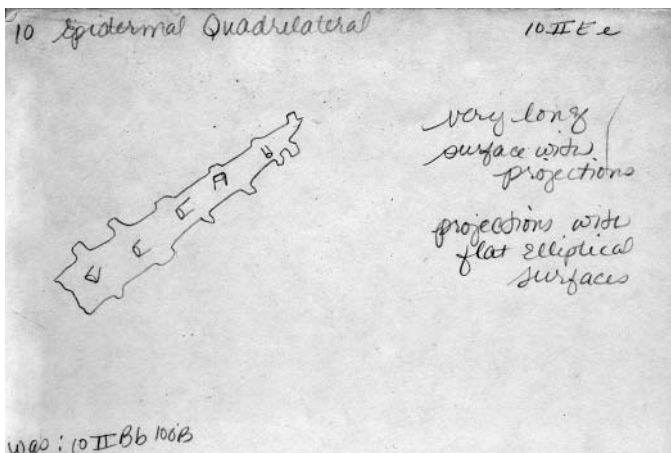
10IIEd photo1b.jpg



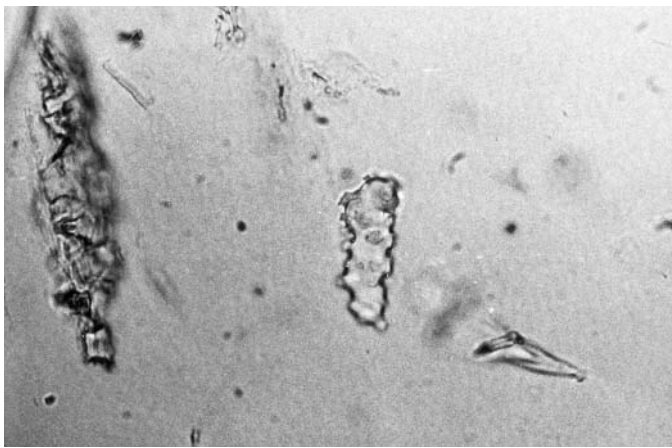
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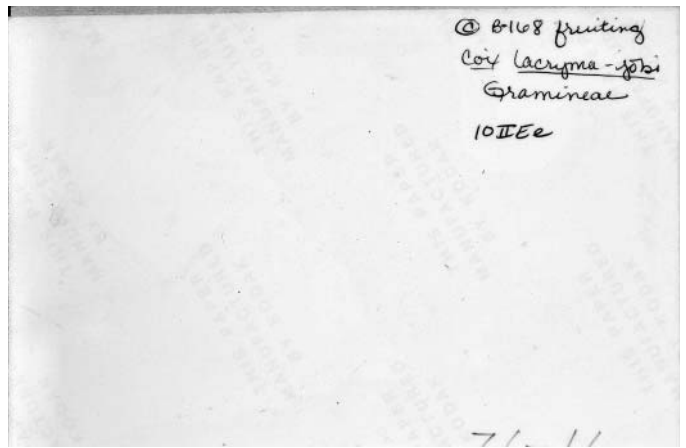
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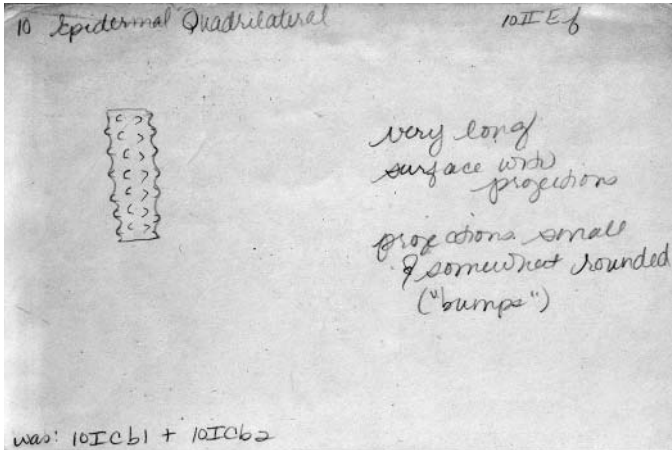
10IIEe card1.jpg



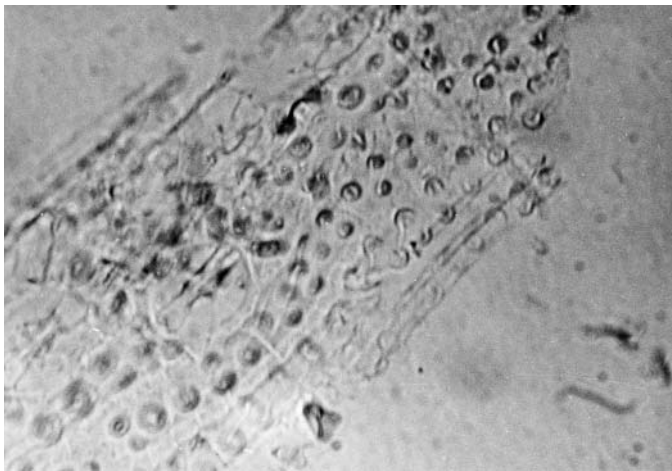
10IIEe photo1f.jpg



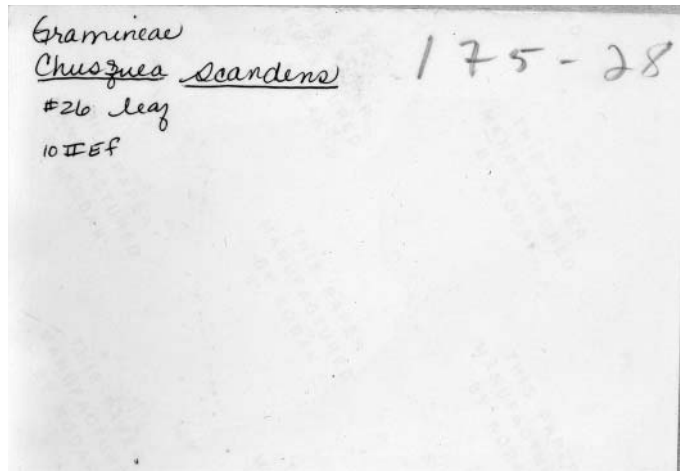
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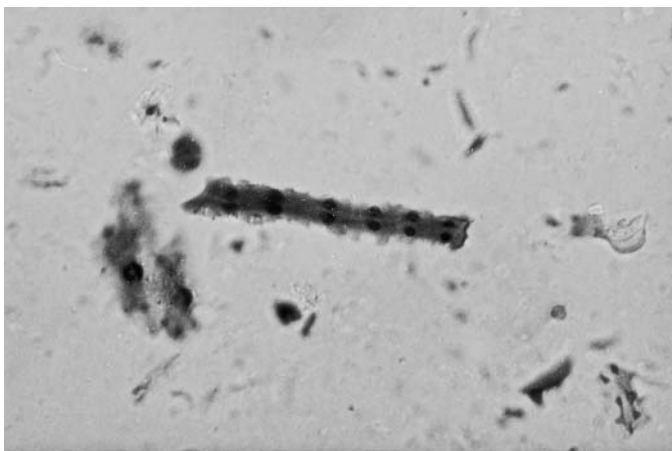
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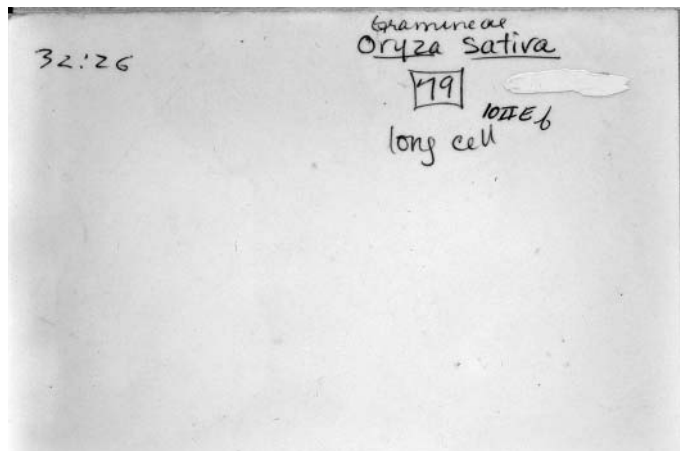
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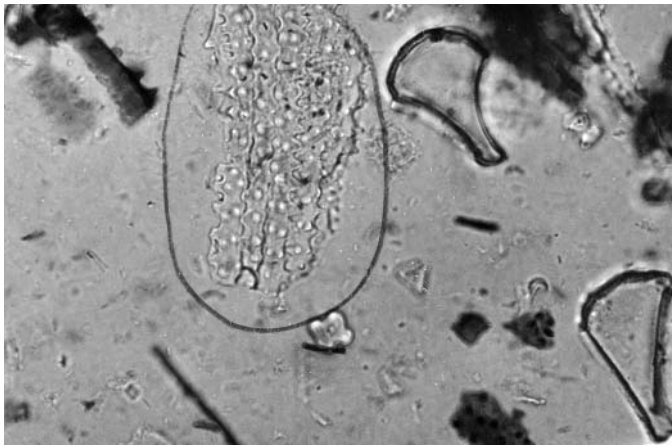
10IIEf photo1b.jpg



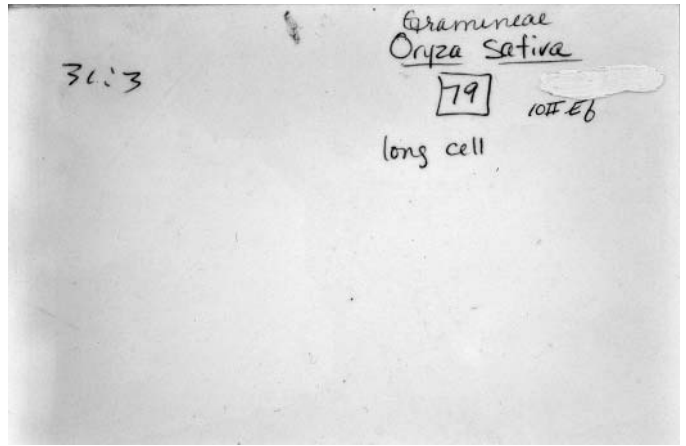
10IIEf photo2f.jpg



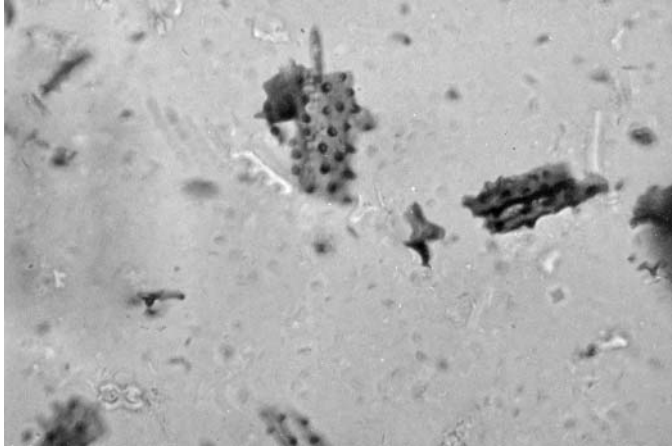
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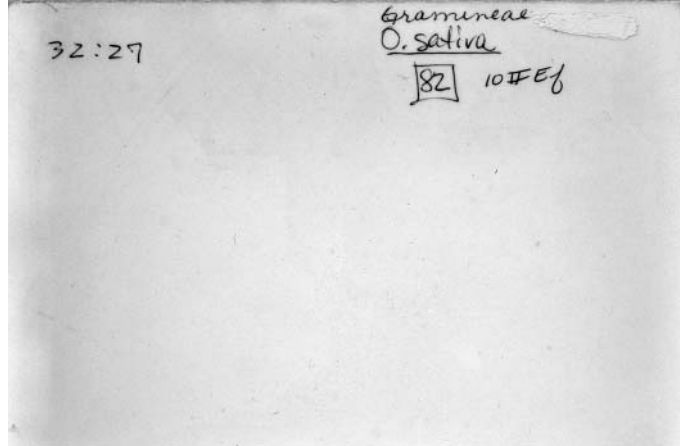
10IIEf photo3f.jpg



10IIEf photo3b.jpg



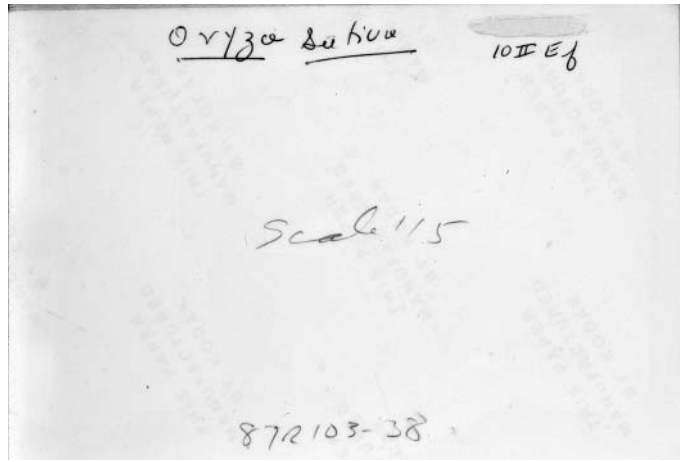
10IIEf photo4f.jpg



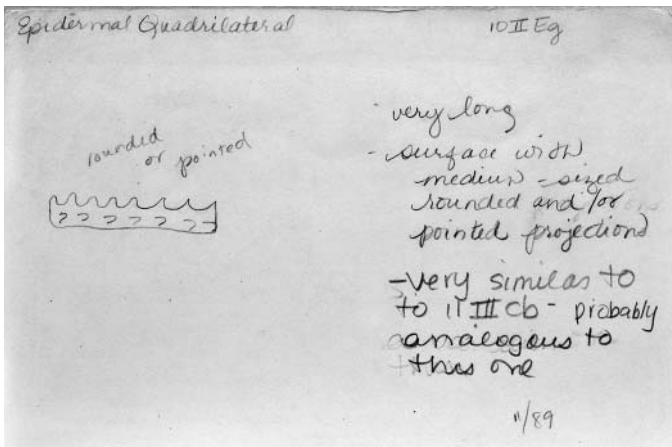
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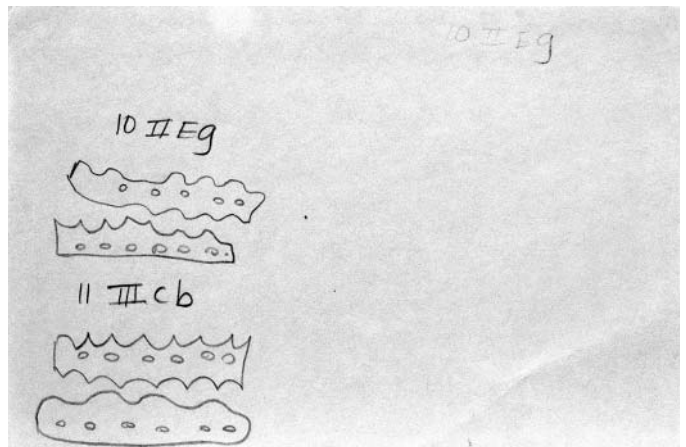
10IIEf photo5f.jpg



10IIEf photo5b.jpg

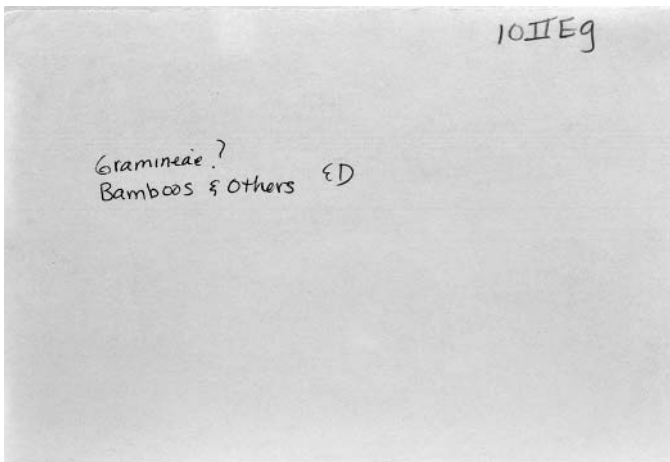


10IIEg card.jpg



10IIEg card2.jpg

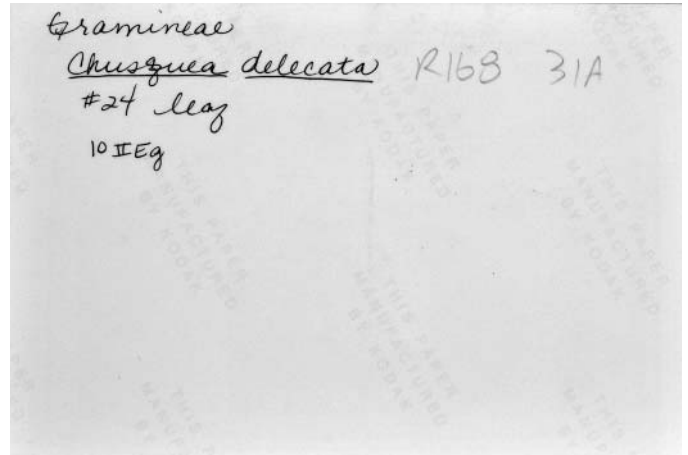




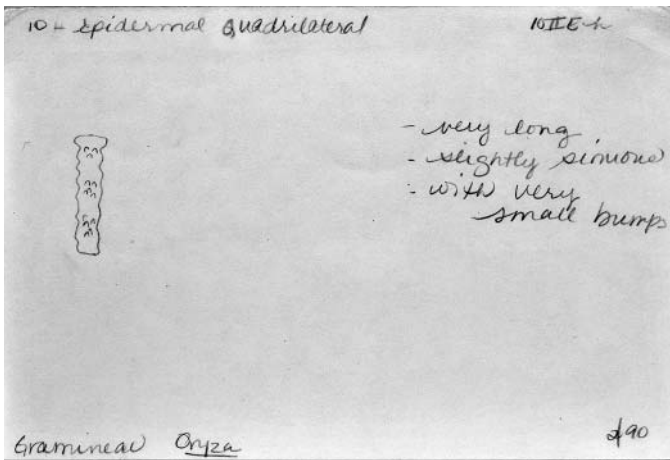
10IIEg card3.jpg



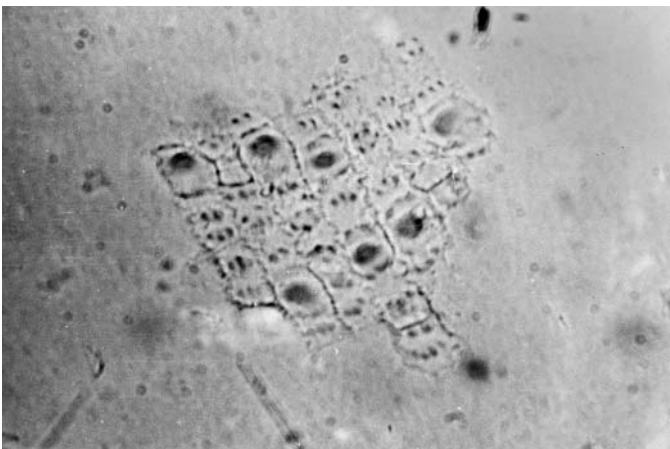
10IIEg photo1f.jpg



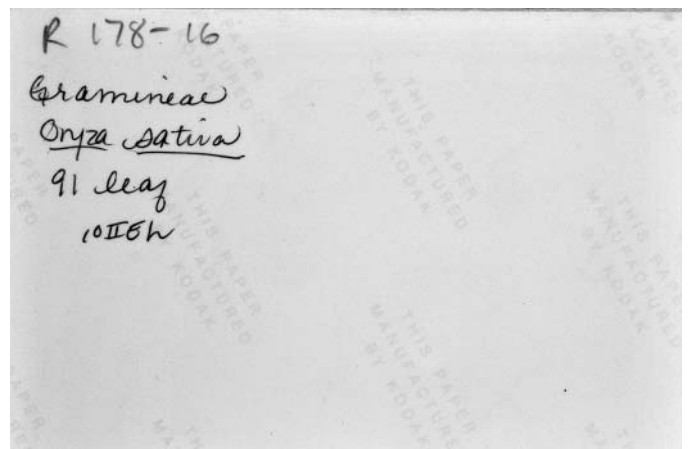
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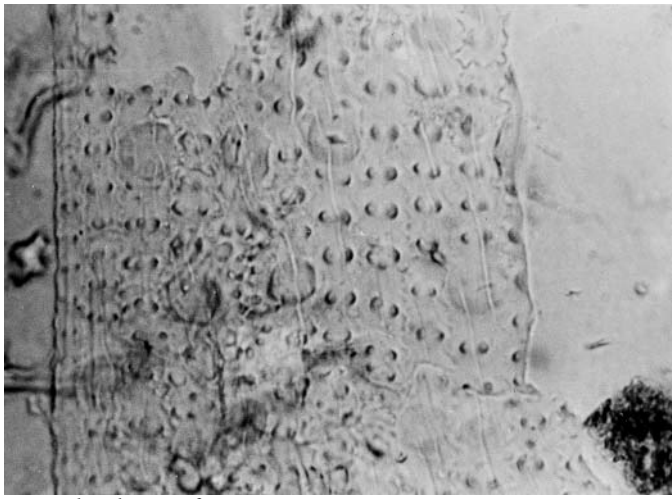
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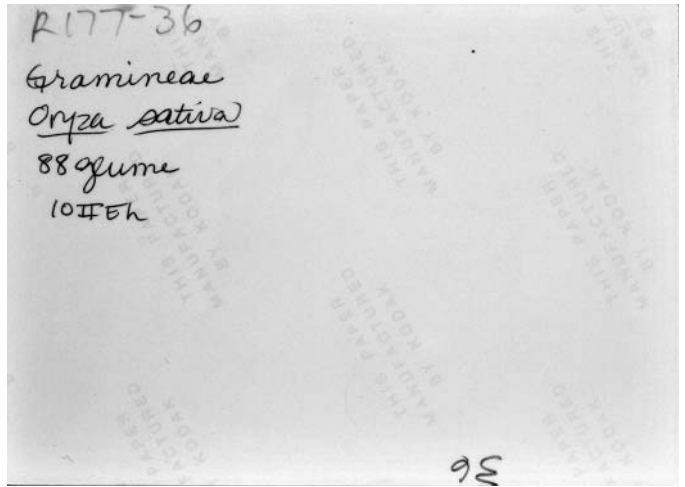
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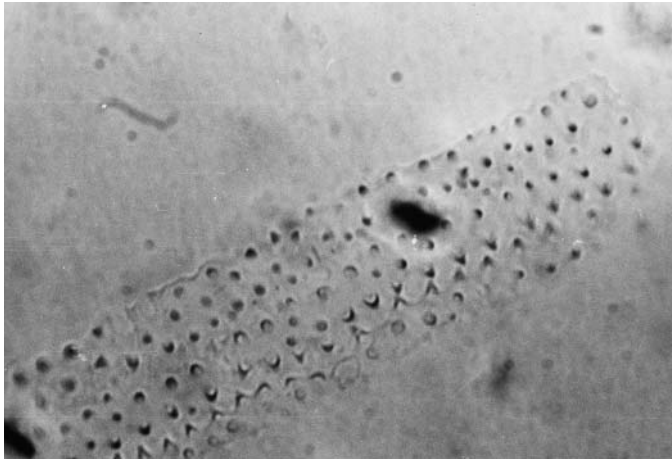
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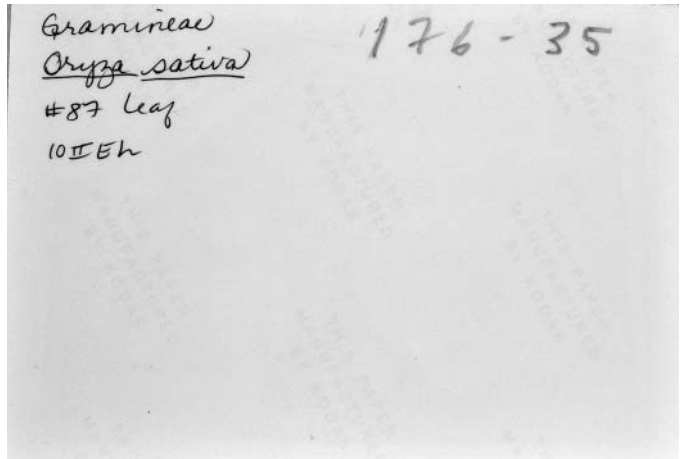
10IIEh photo2f.jpg



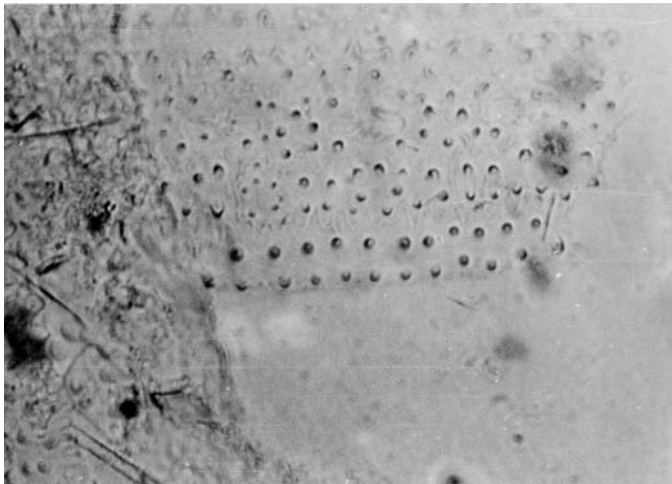
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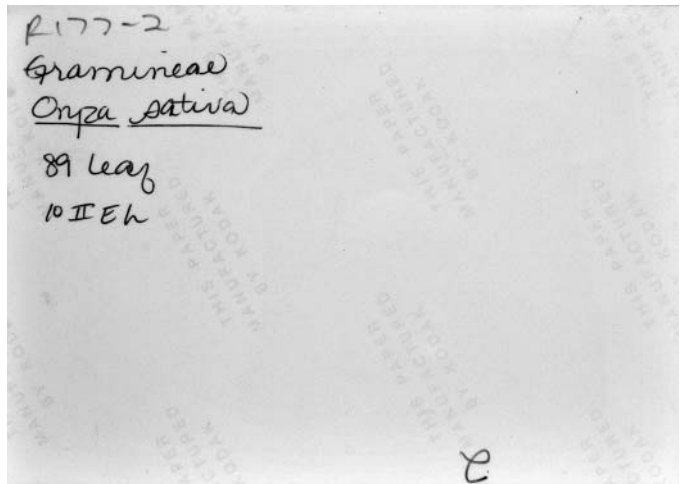
10IIEh photo3f.jpg



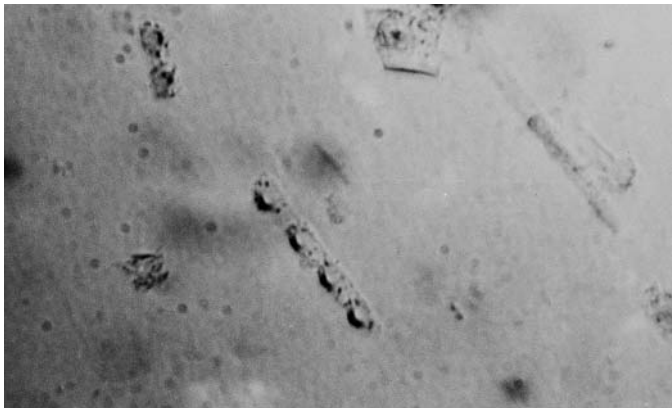
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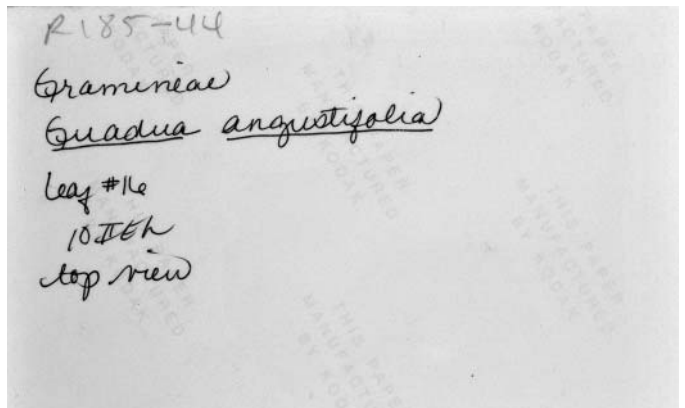
10IIEh photo4f.jpg



10IIEh photo4b.jpg

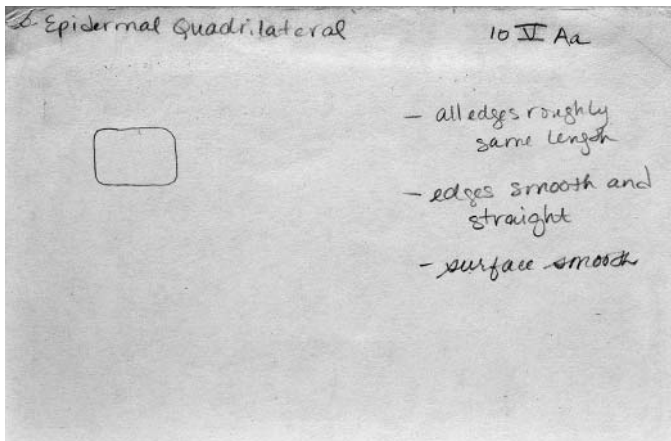


10IIEh photo5f.jpg

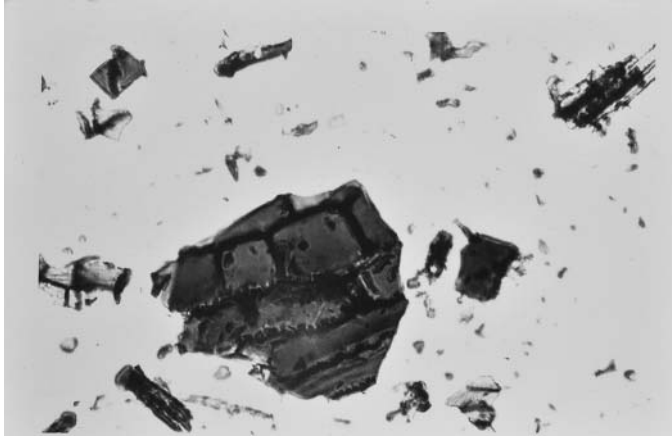


10IIEh photo5b.jpg

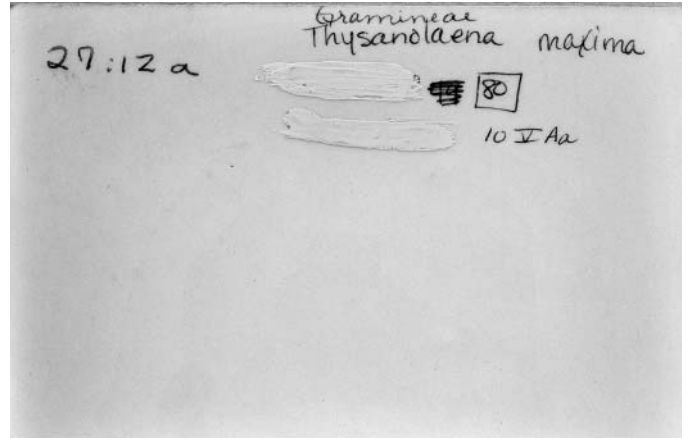




10VAa card1.jpg



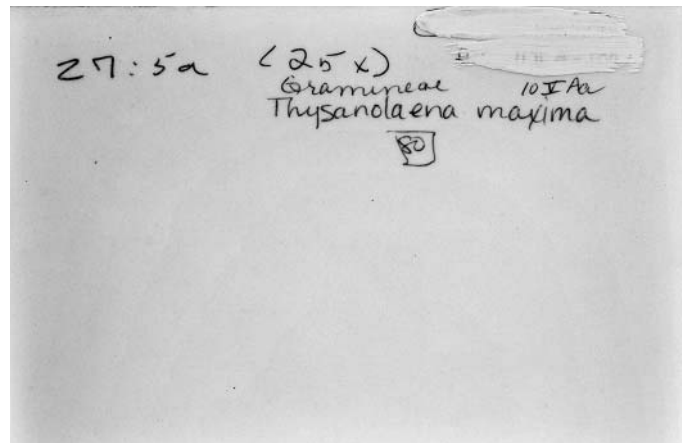
10VAa photo1f.jpg



10VAa photo1b.jpg



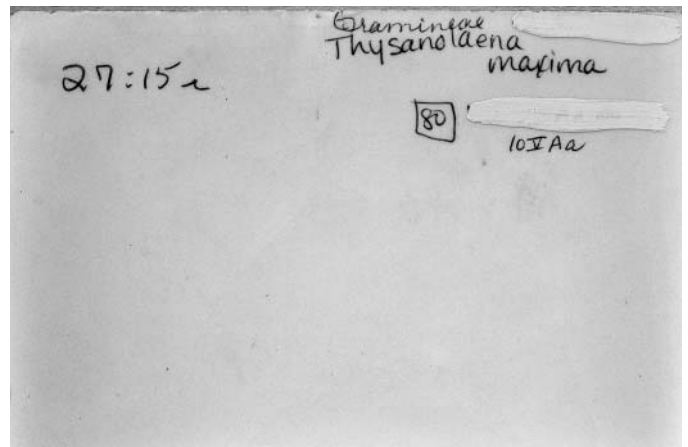
10VAa photo2f.jpg



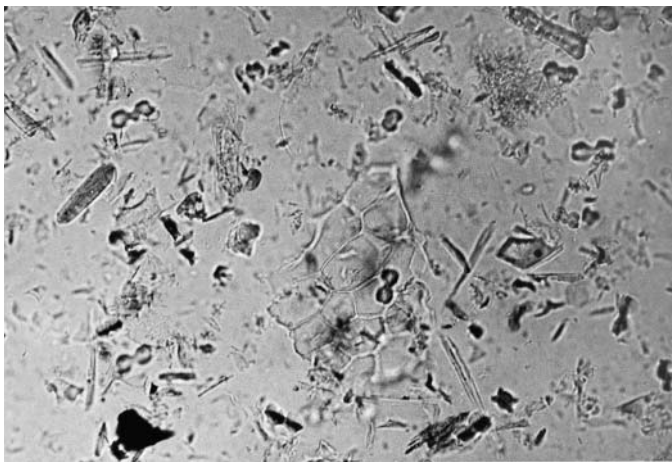
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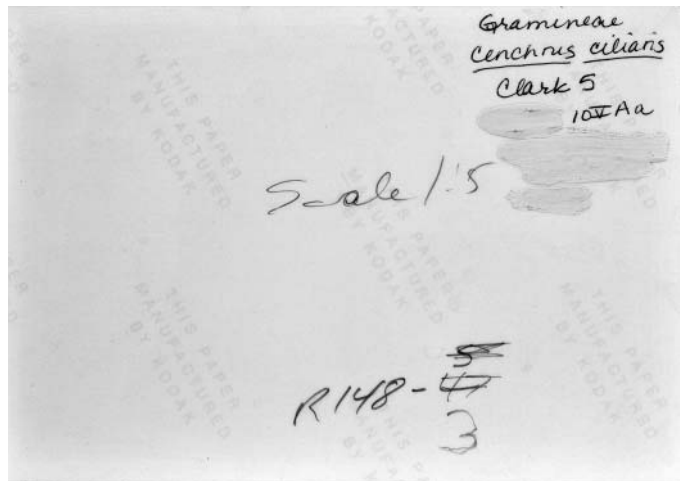
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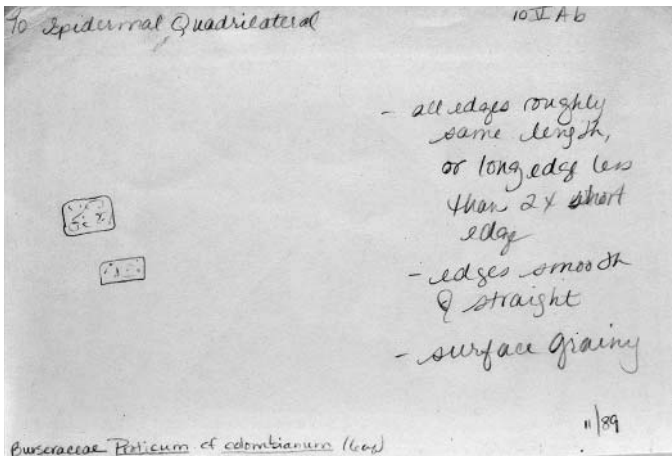
10VAa photo3 b.jpg



10VAa photo4f.jpg



10VAa photo4b.jpg

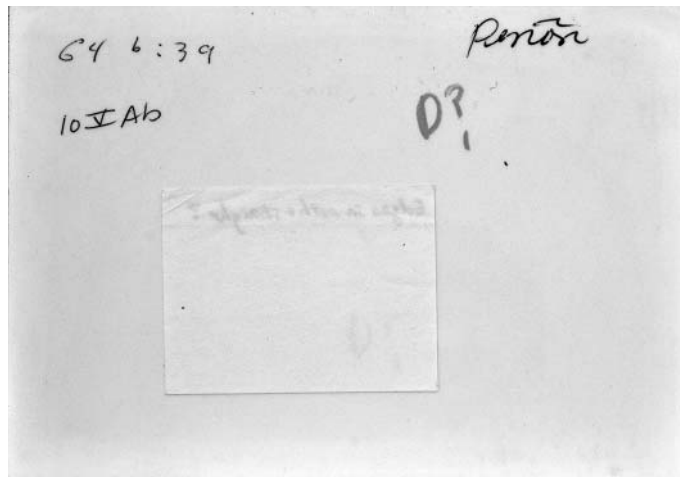


10VAb card1.jpg

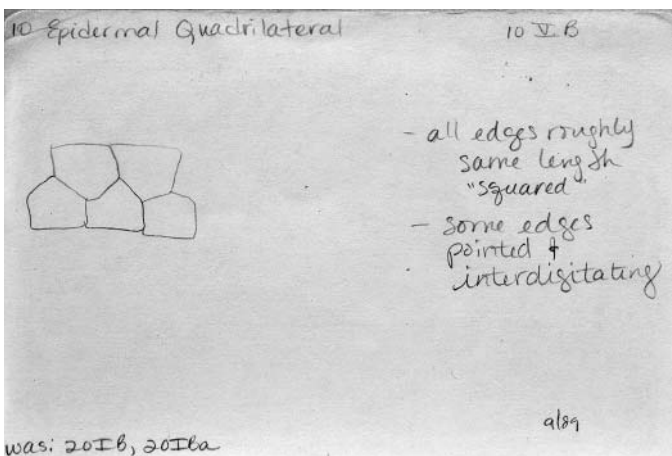
Edges smooth + straight?



10VAb photo1f.jpg

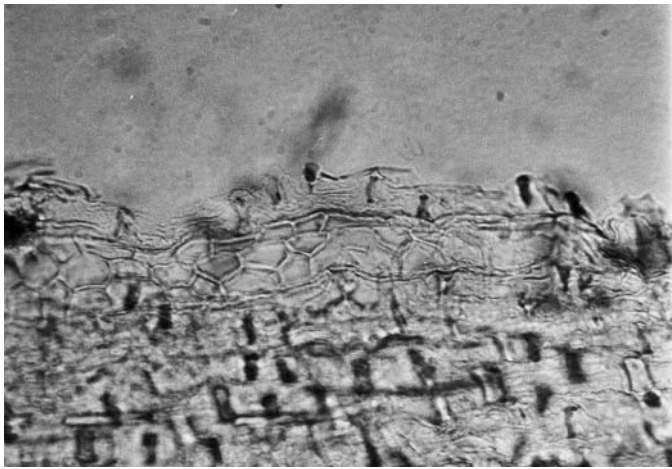


10VAb photo1b.jpg

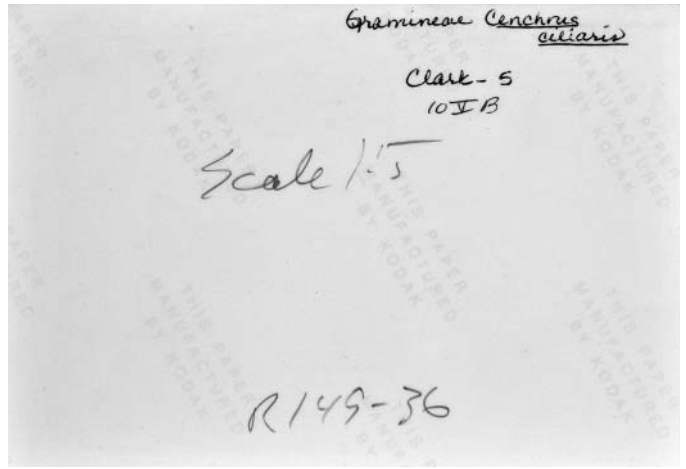


was: 20IB, 20Ila

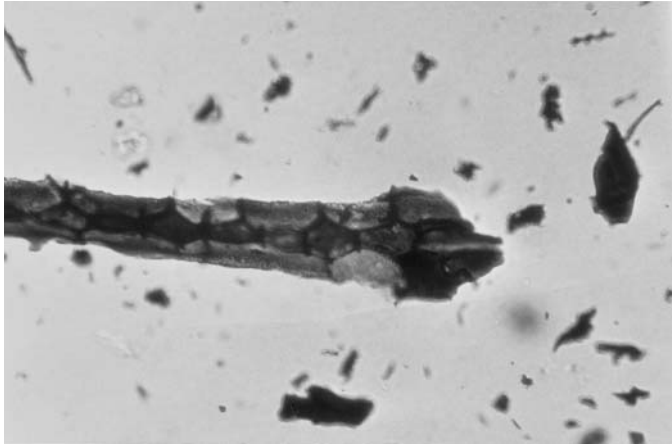
10VB card1.jpg



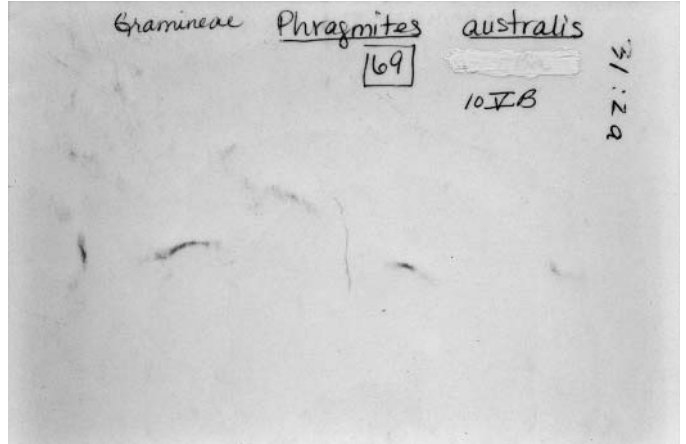
10VB photo1f.jpg



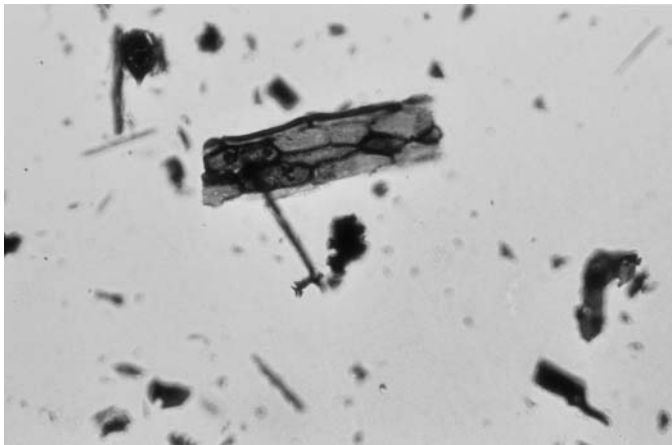
10VB photo1b.jpg



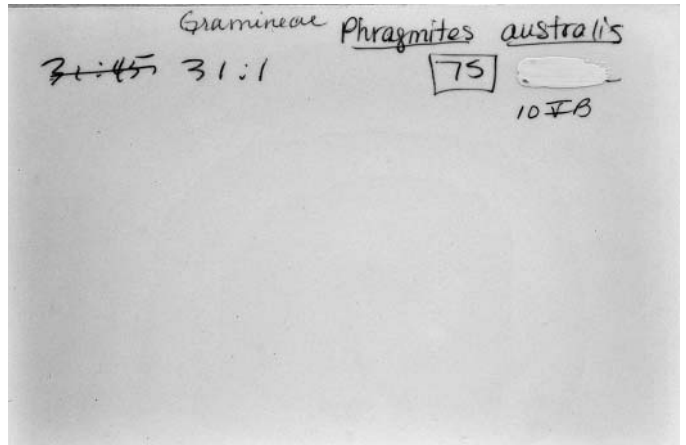
10VB photo2f.jpg



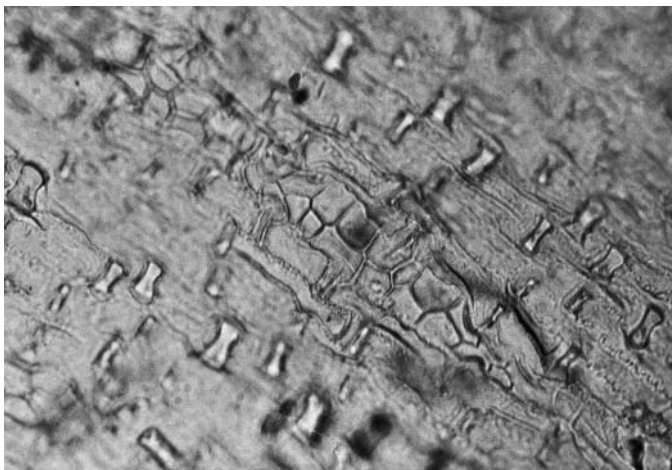
10VB photo2b.jpg



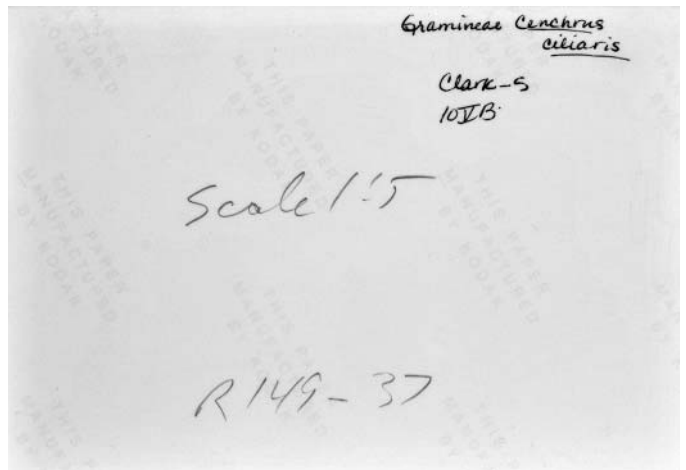
10VB photo3f.jpg



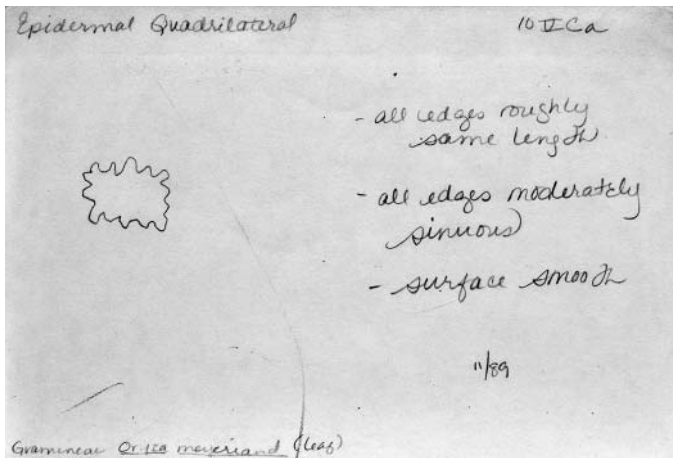
10VB photo3b.jpg



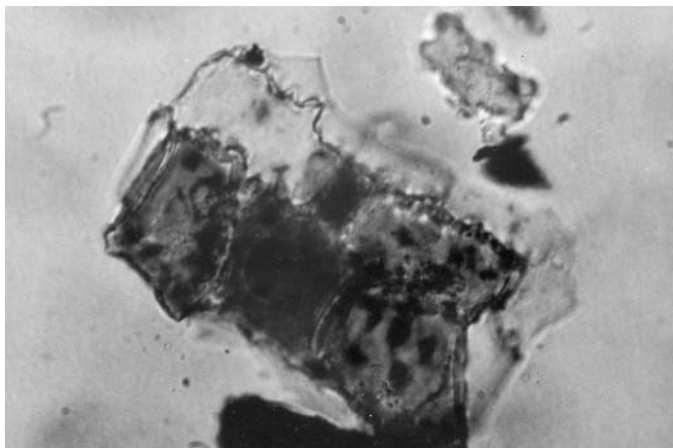
10VB photo4f.jpg



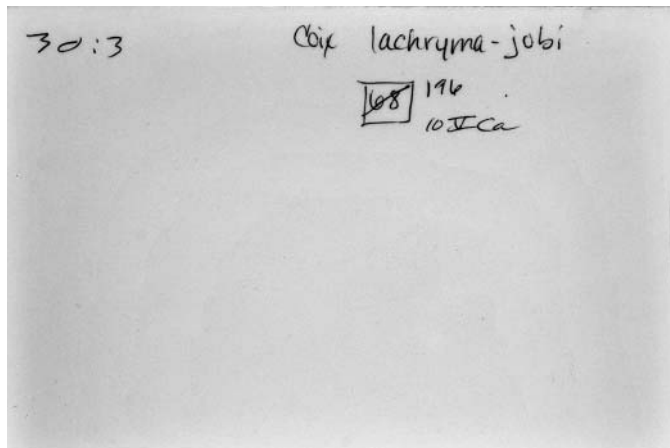
10VB photo4b.jpg



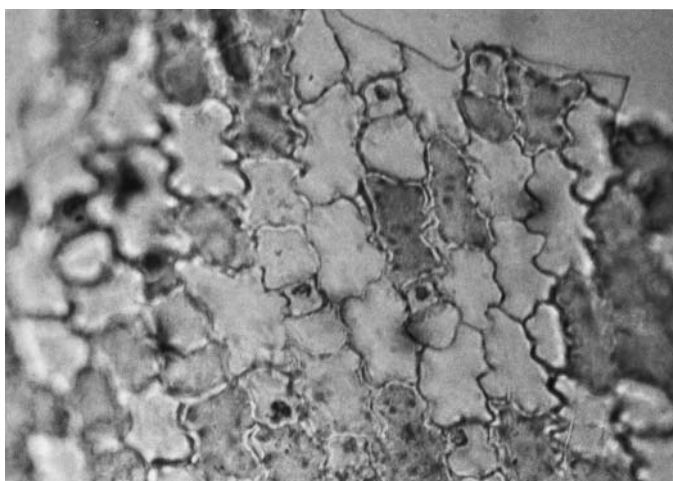
10VCa card1.jpg



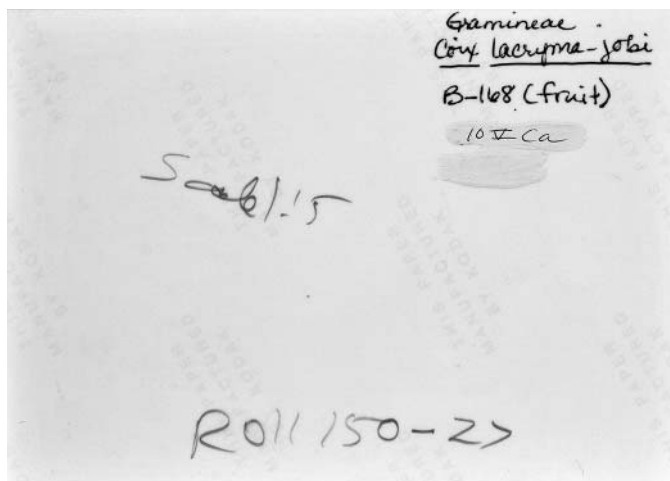
10VCa photo1f.jpg



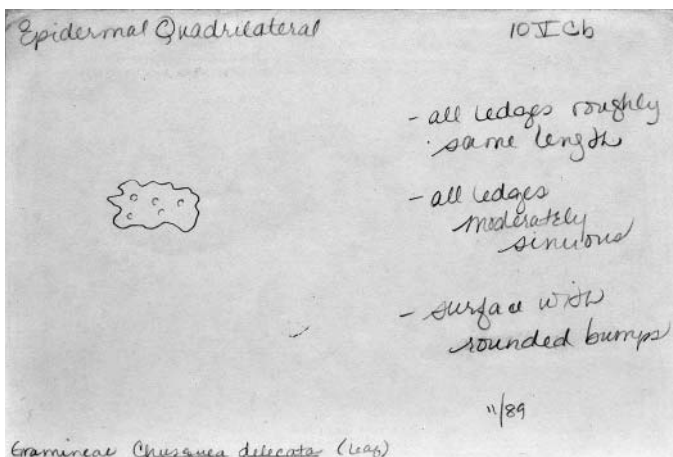
10VCa photo1b.jpg



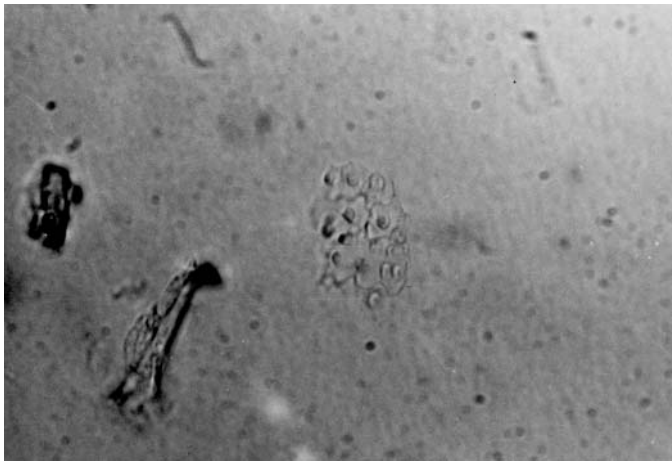
10VCa photo2f.jpg



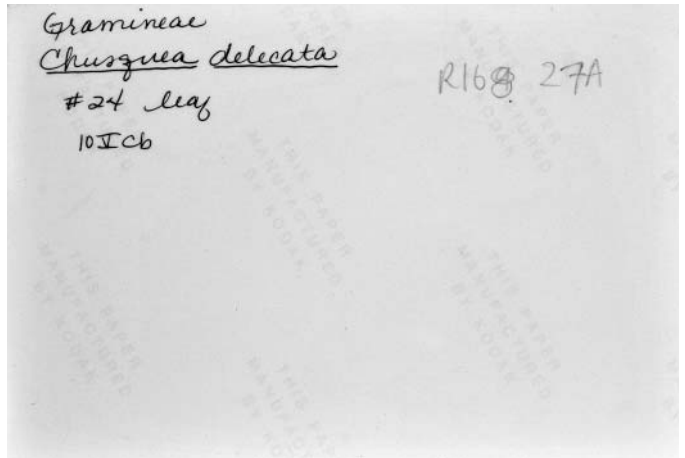
10VCa photo2b.jpg



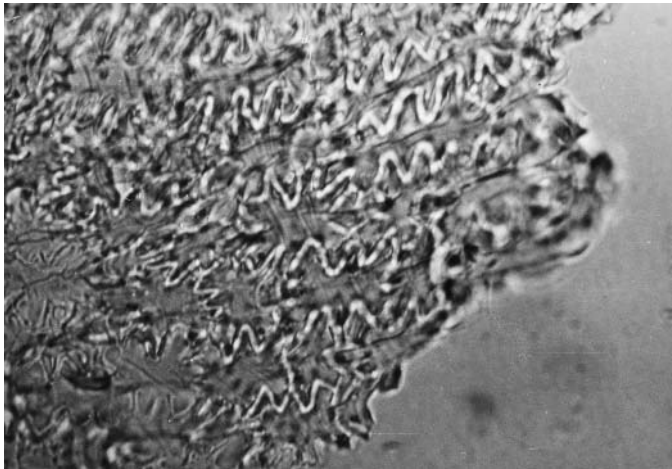
10VCb card1.jpg



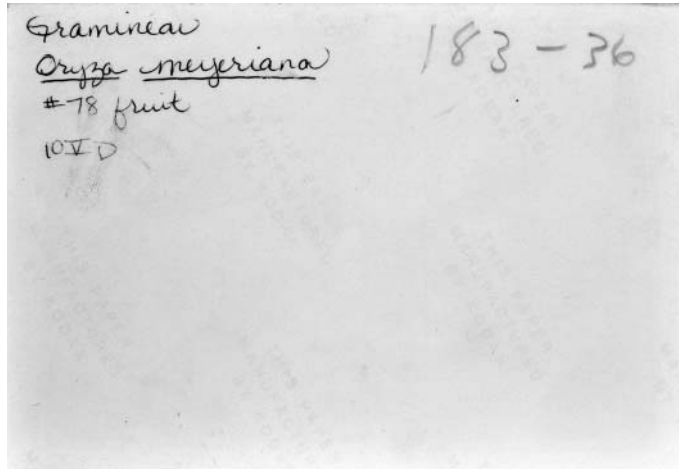
10VCb photo1f.jpg



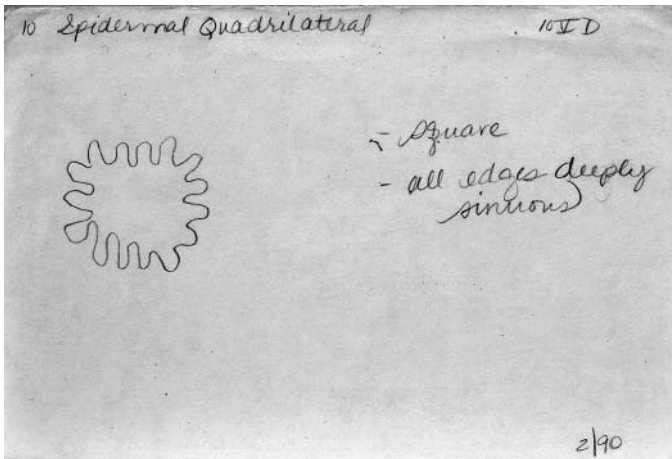
10VCb photo1b.jpg



10VCb photo2f.jpg



10VCb photo2b.jpg



10VD card1.jpg