

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

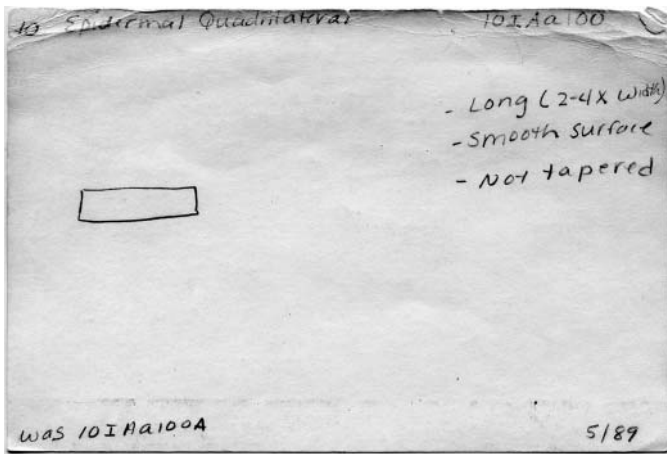
10IID. One finely serrated edge; three smooth edges

10IIE. Surface with projections

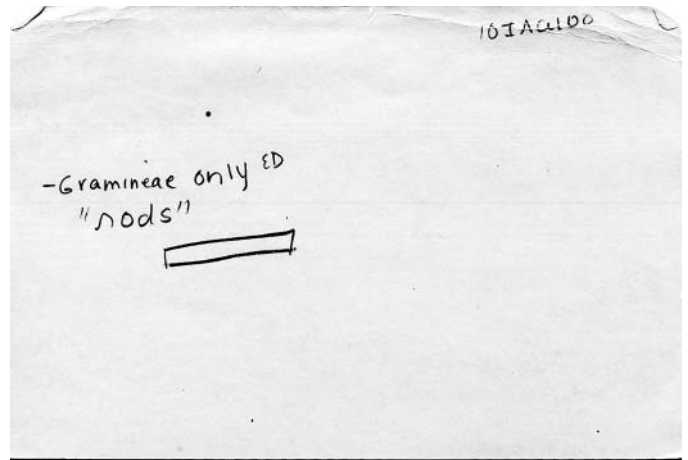
- a. long, thin projections
- b. short projections
 - 1. smooth edges
 - 2. sinuous edges
- c. many small thin projections
- d. small projections with wide bases
- e. thick projections with flat surfaces
- f. small, somewhat rounded or bumpy projections (Oryza type)
- g. medium-sized, rounded and/or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

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

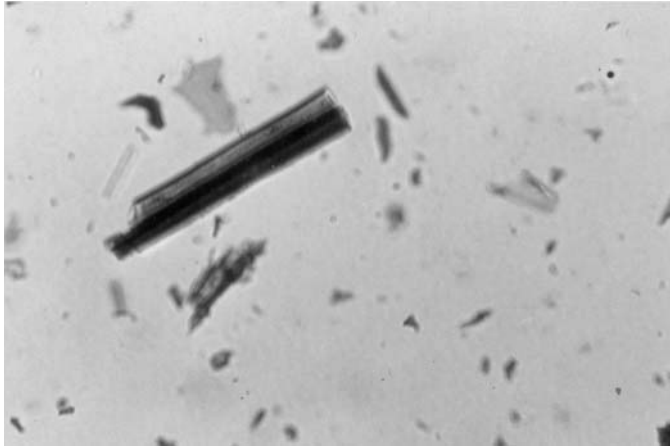
- A. edges smooth and straight
 - a. surface smooth
 - b. surface grainy
- B. some edges pointed and interdigitating
- C. all edges moderately sinuous
 - a. surface smooth
 - b. surface with rounded bumps
- D. all edges highly sinuous
- E. 3 edges sinuous; 1 edge straight (UC Riverside type)



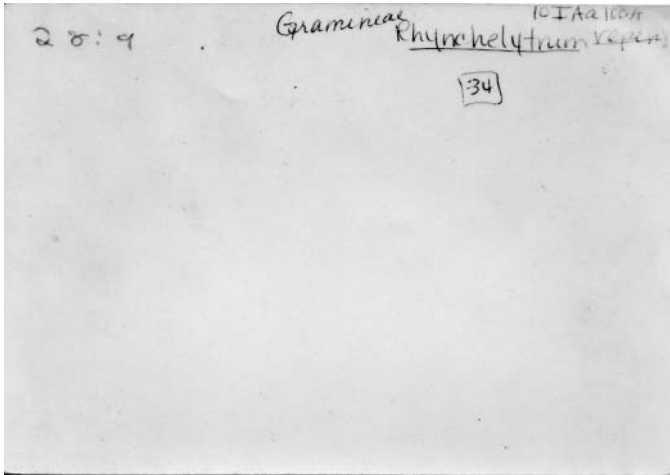
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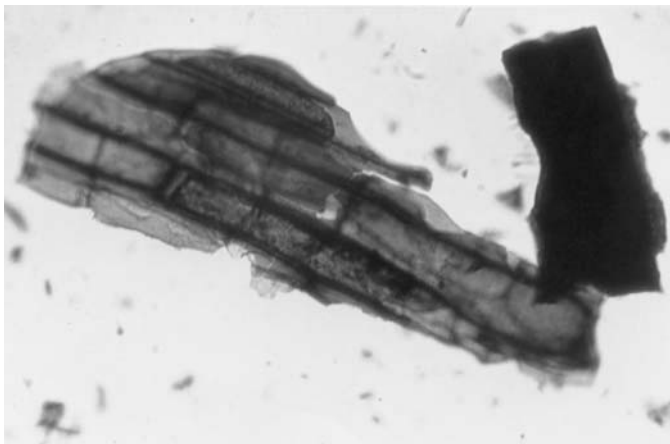
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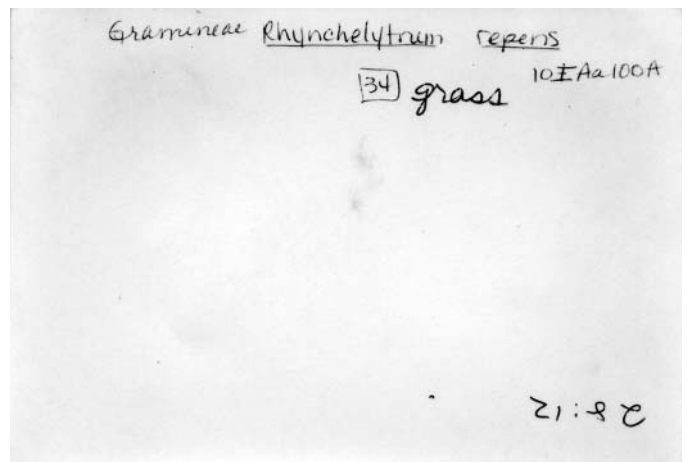
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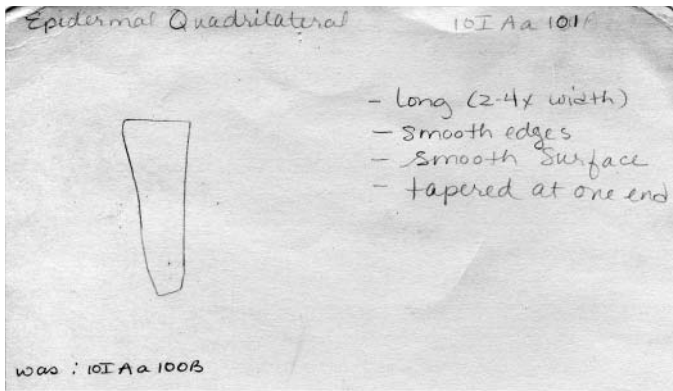
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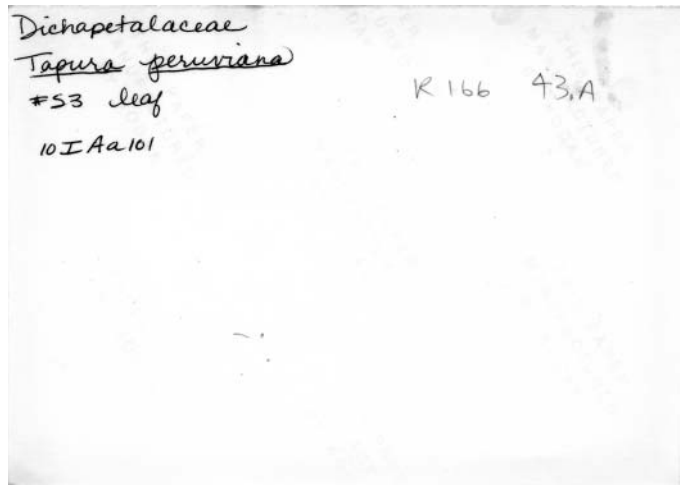
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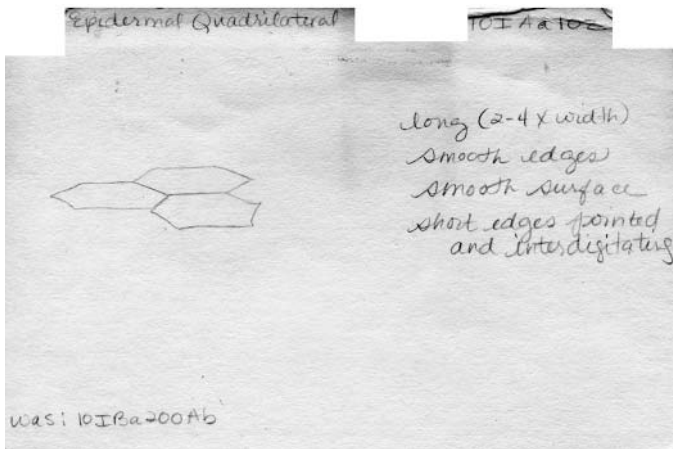
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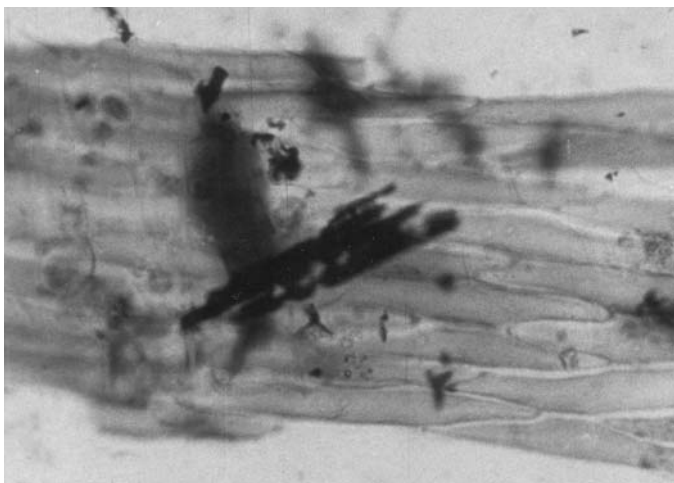
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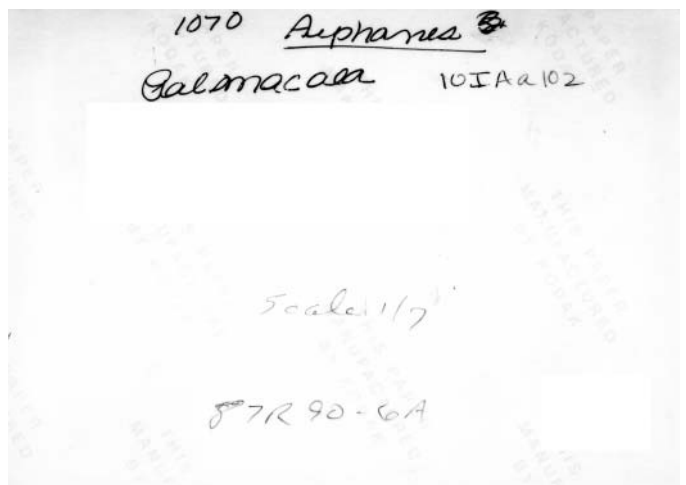
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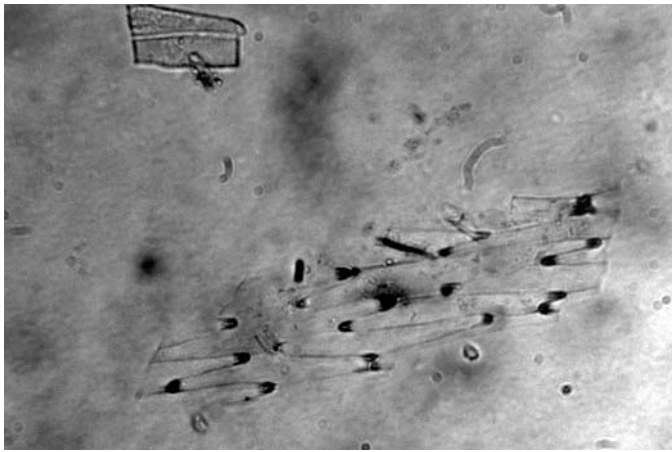
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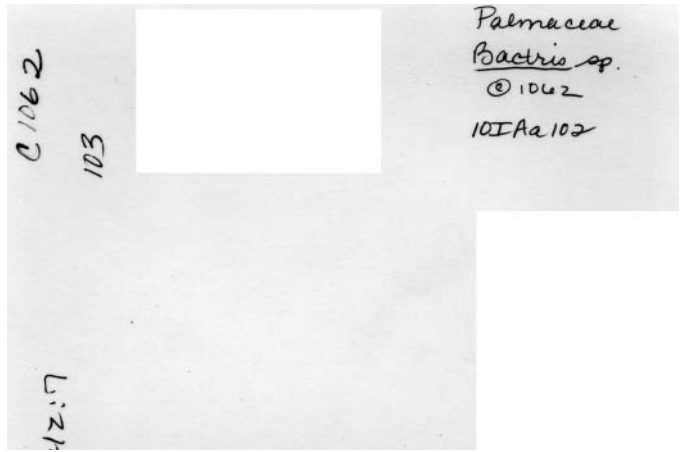
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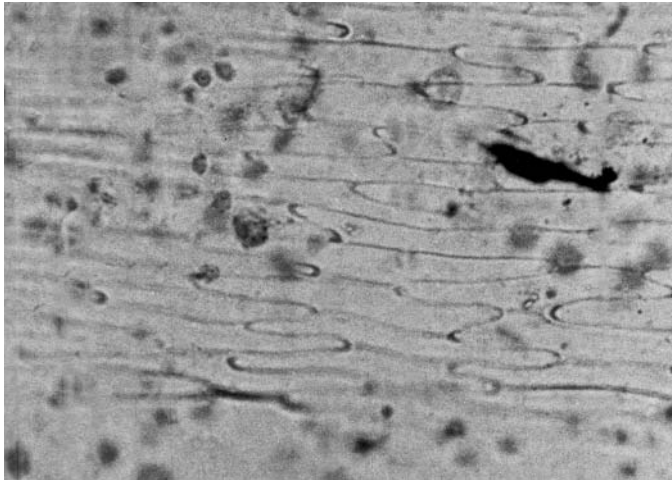
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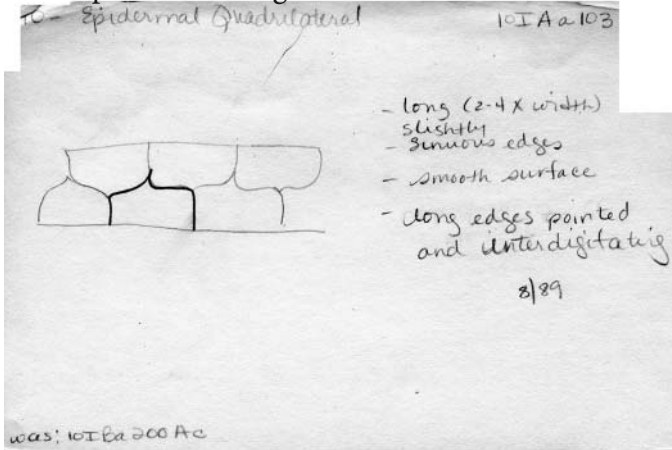
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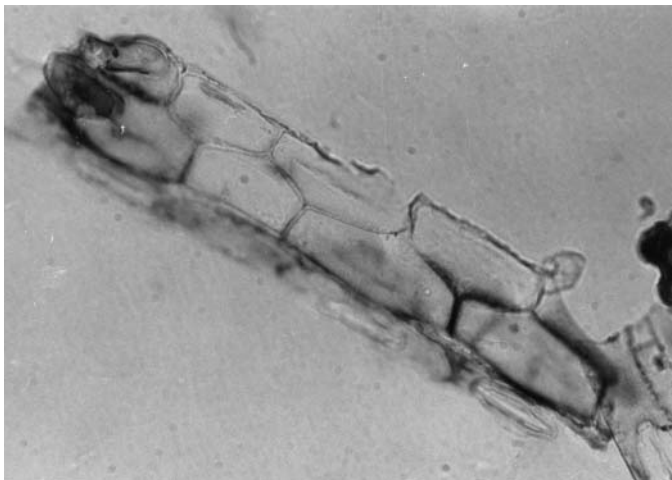
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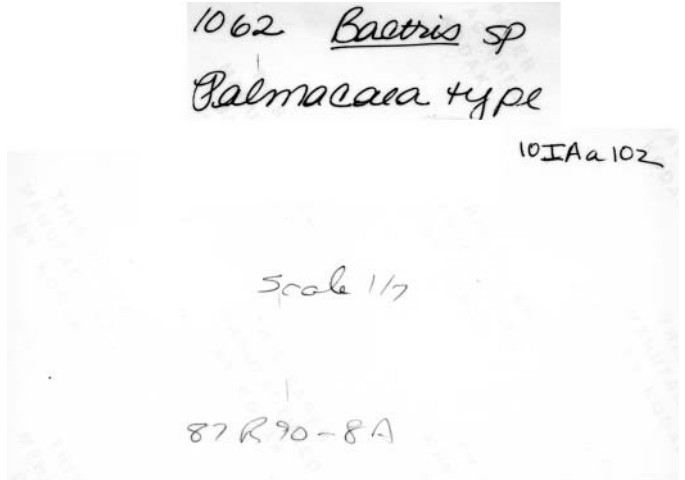
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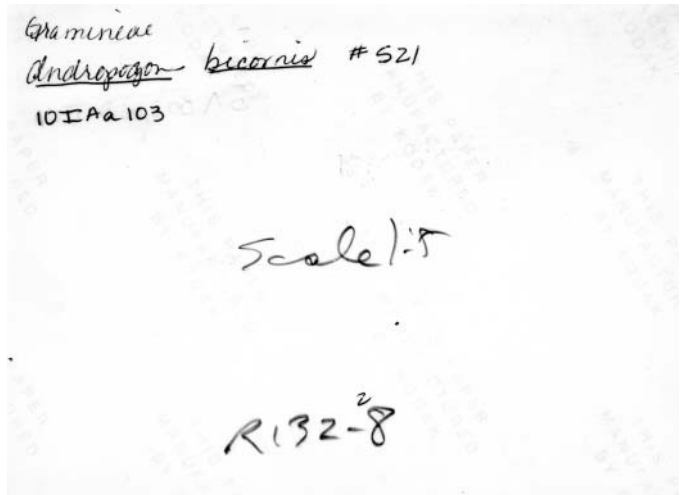
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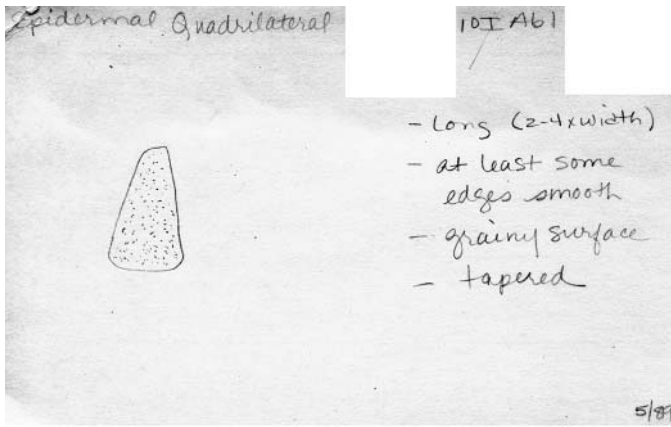
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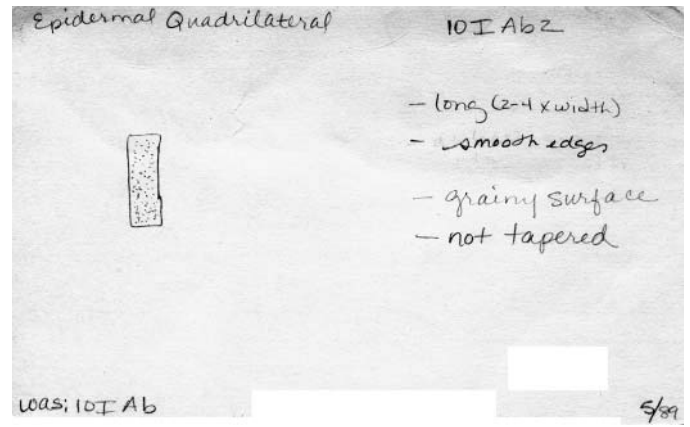
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10IAa103 photo 1b.jpg



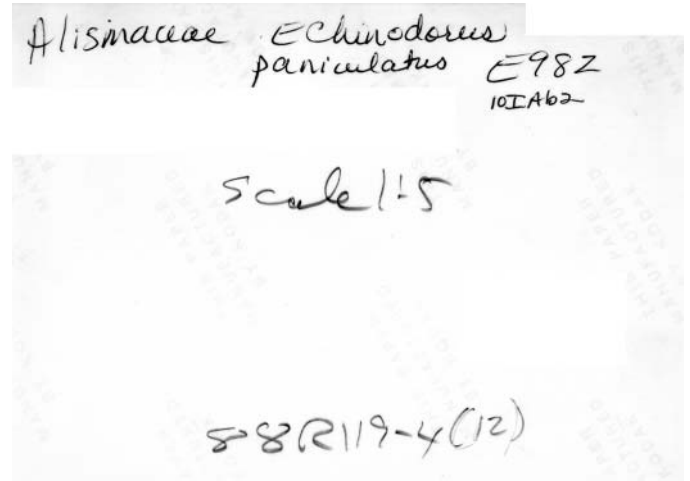
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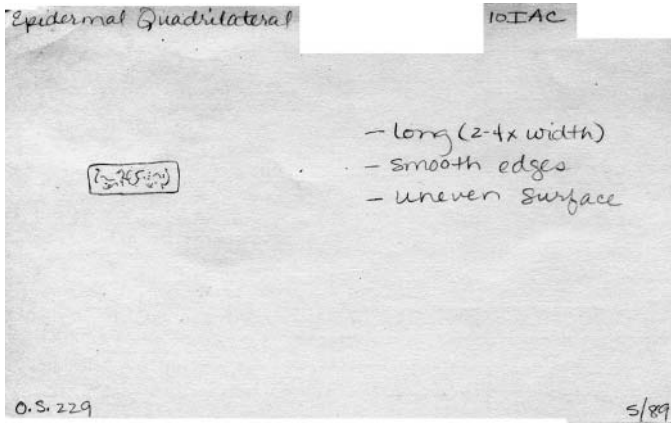
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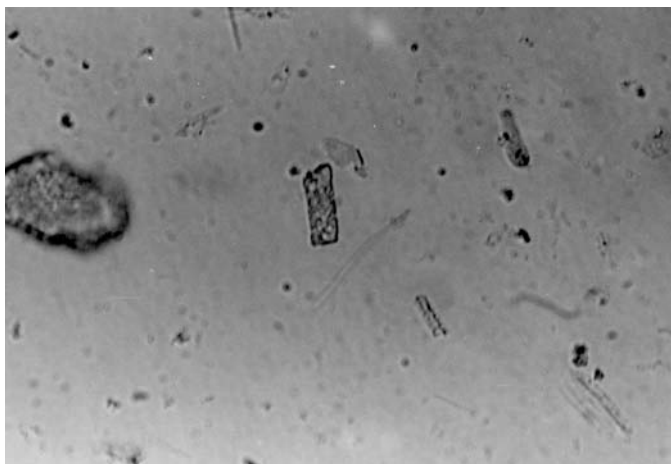
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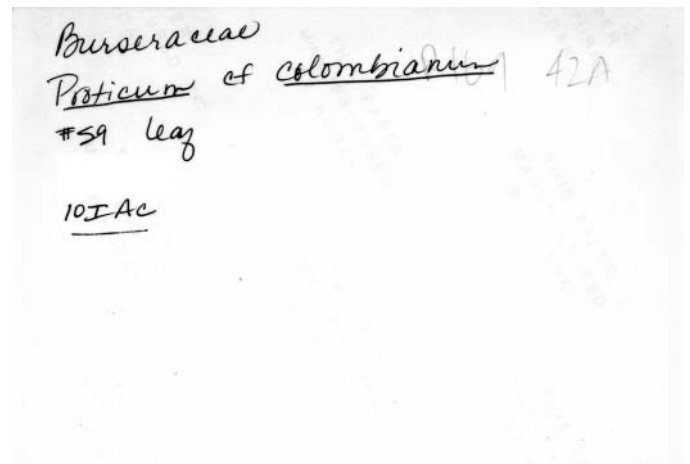
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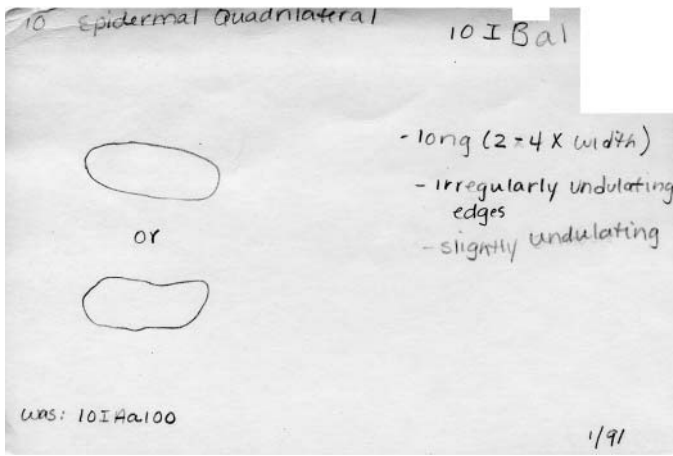
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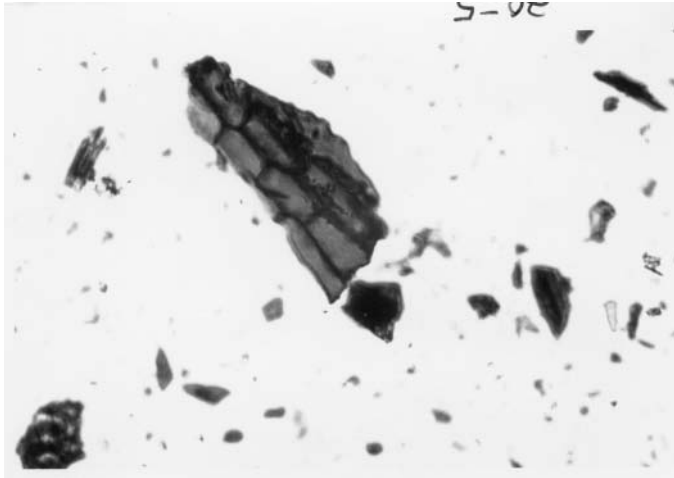
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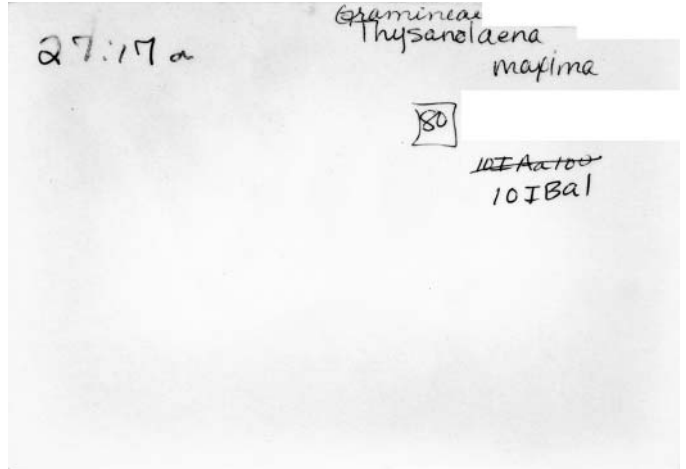
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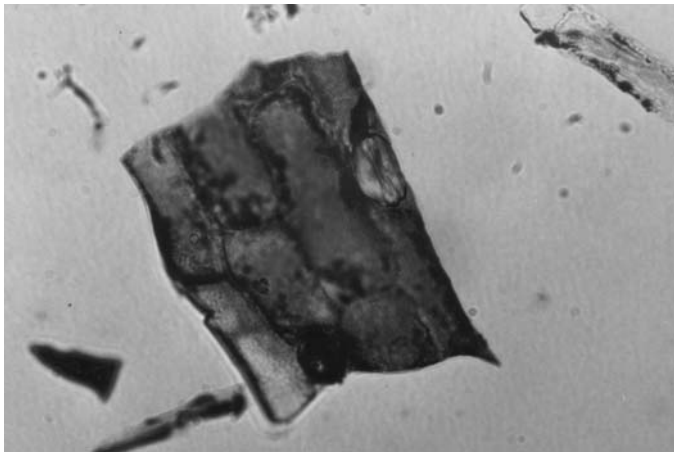
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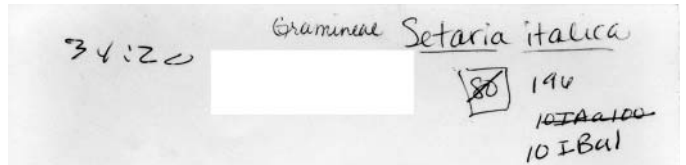
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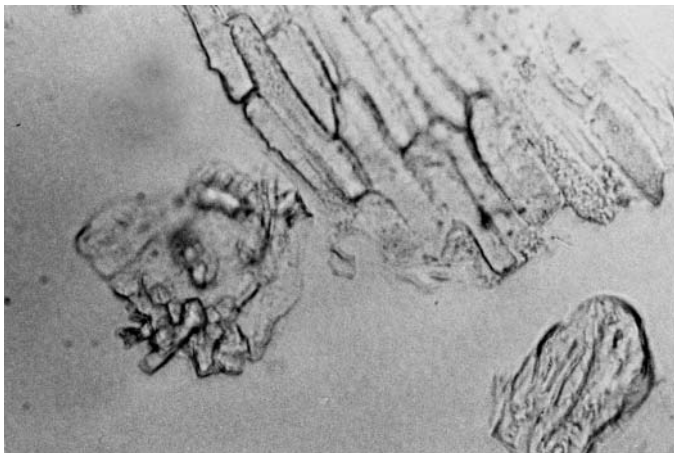
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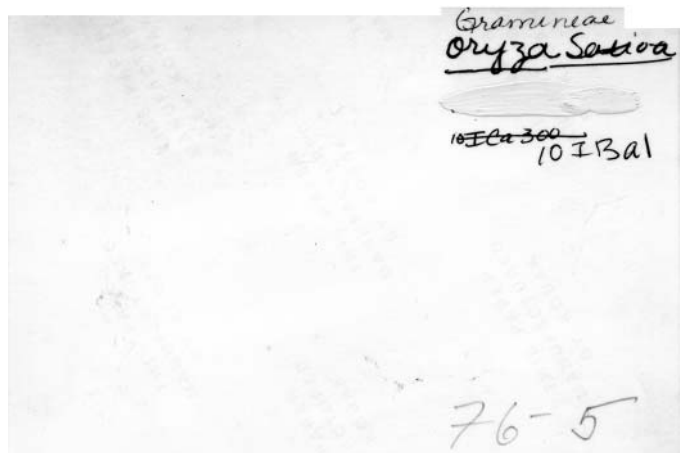
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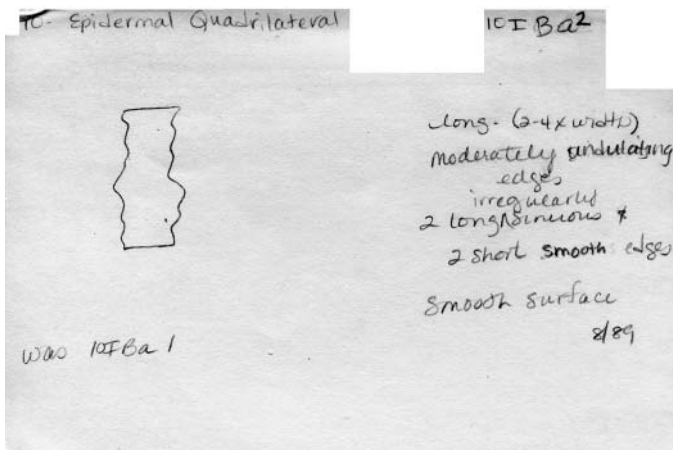
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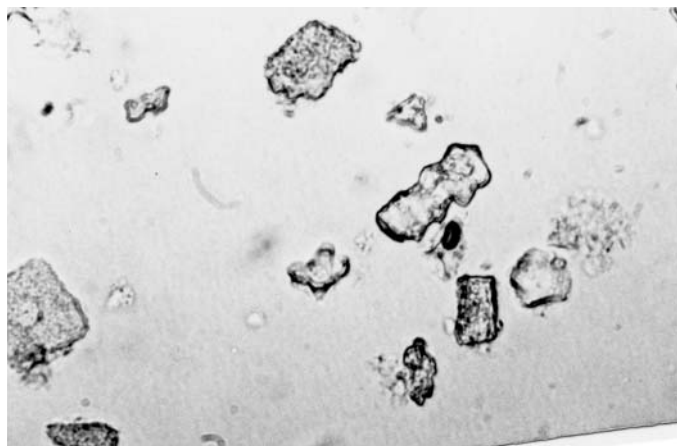
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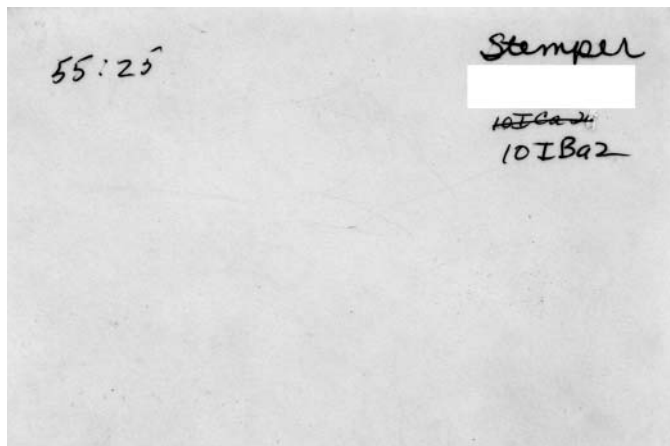
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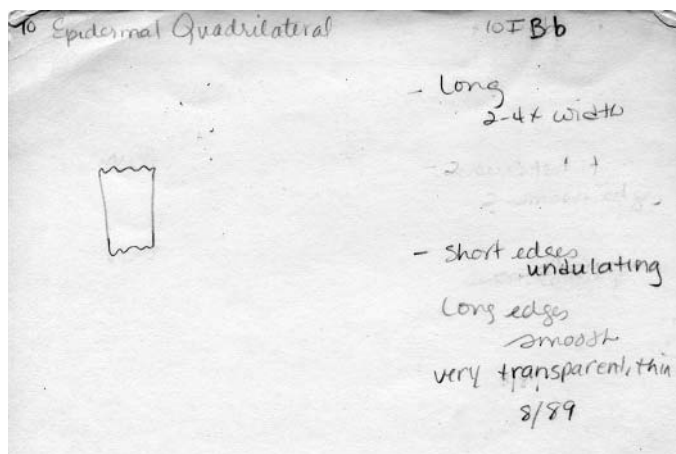
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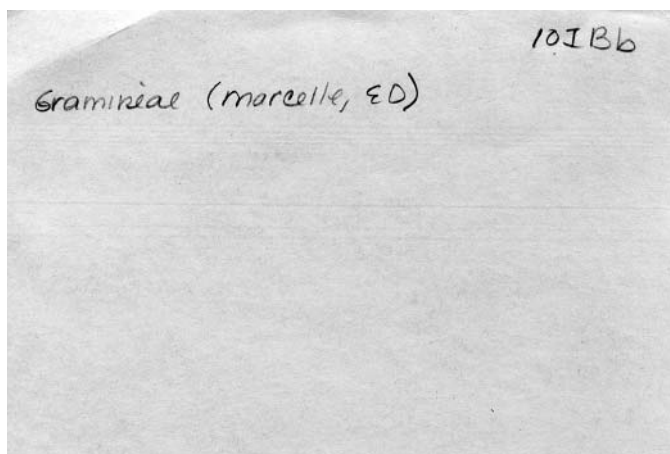
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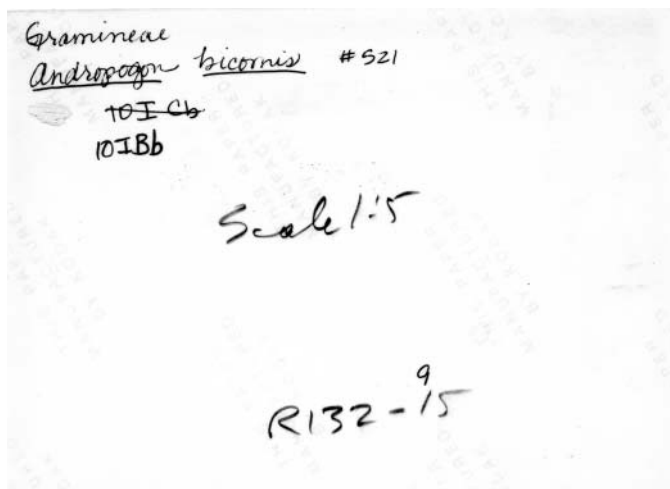
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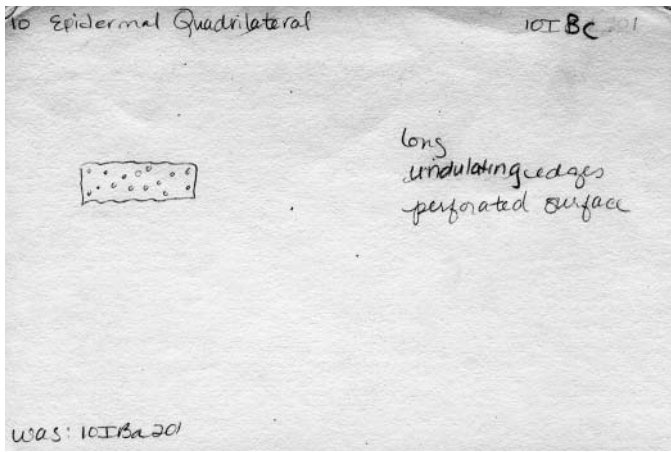
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10IBb photo 1f.jpg



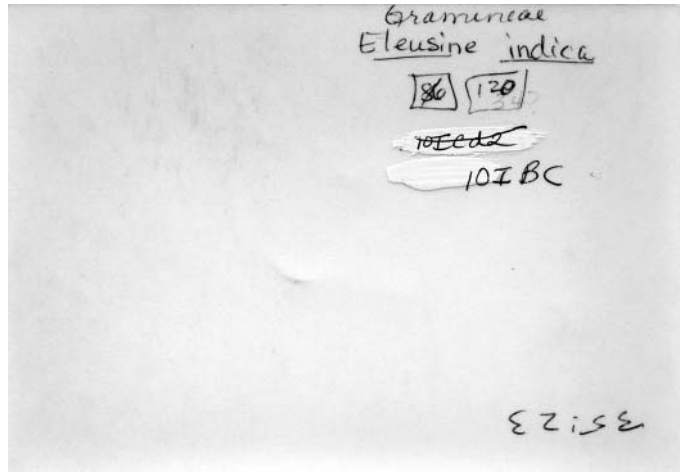
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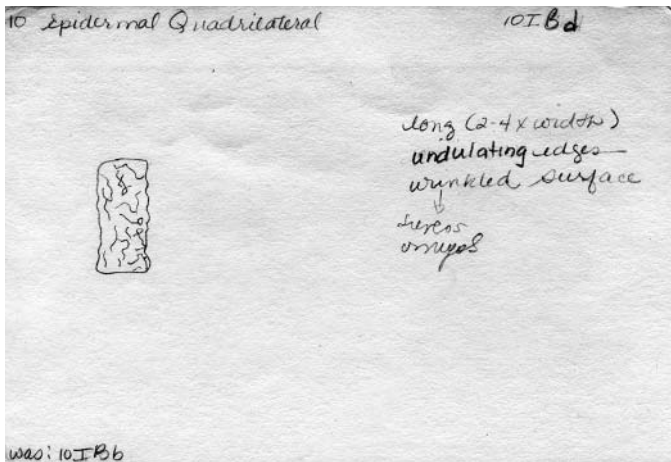
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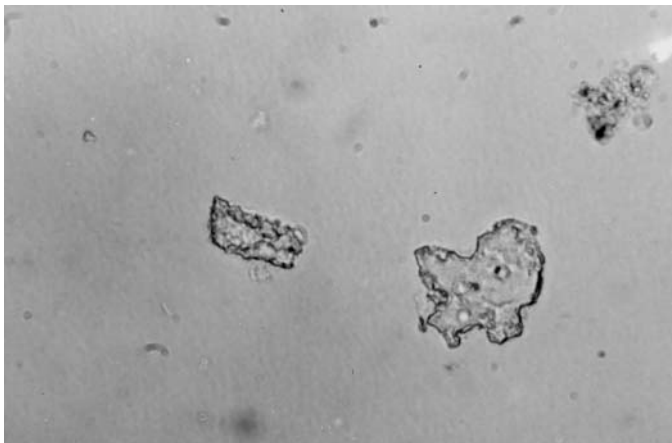
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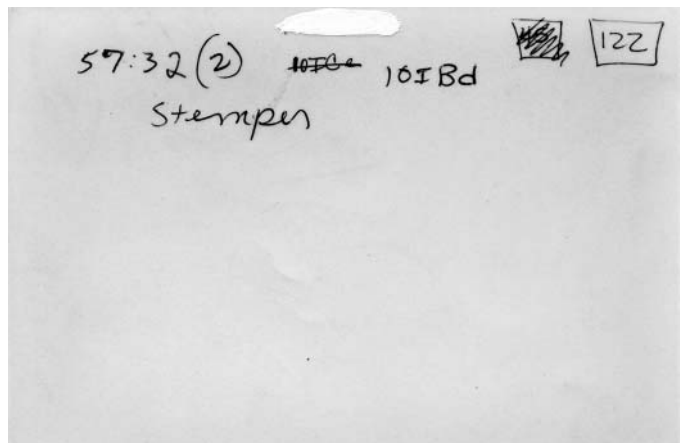
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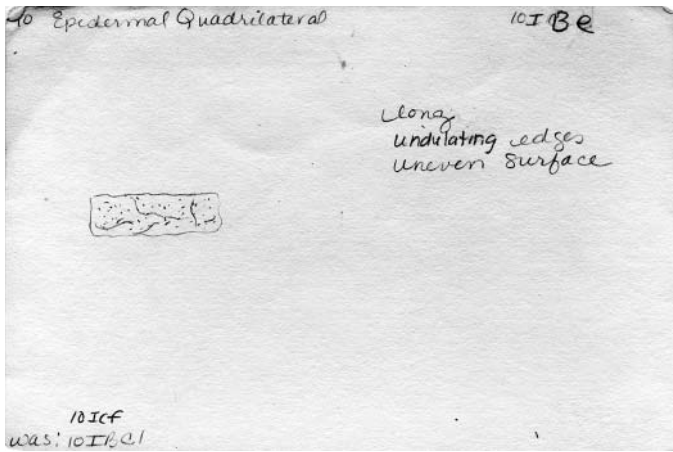
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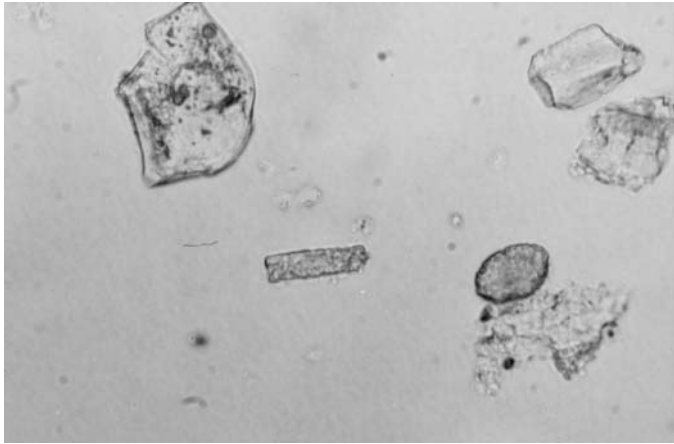
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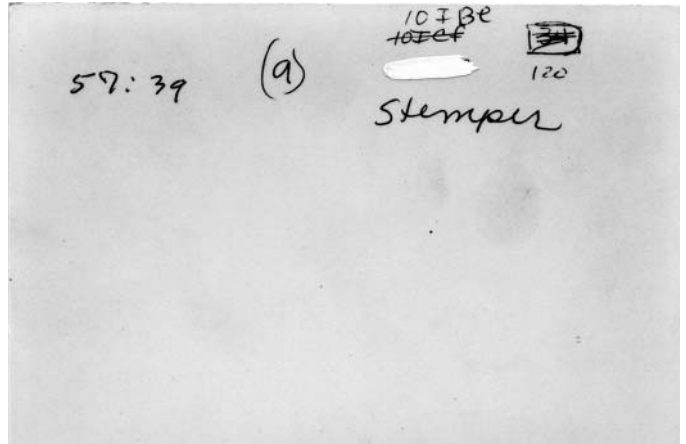
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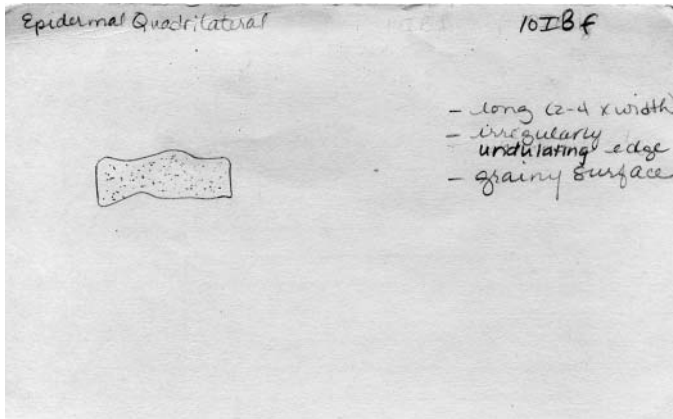
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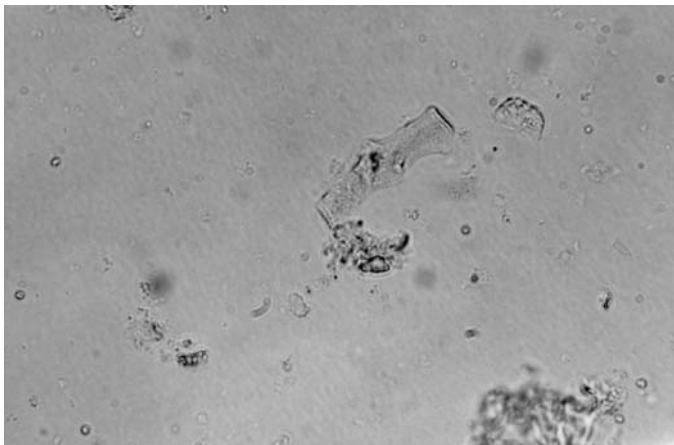
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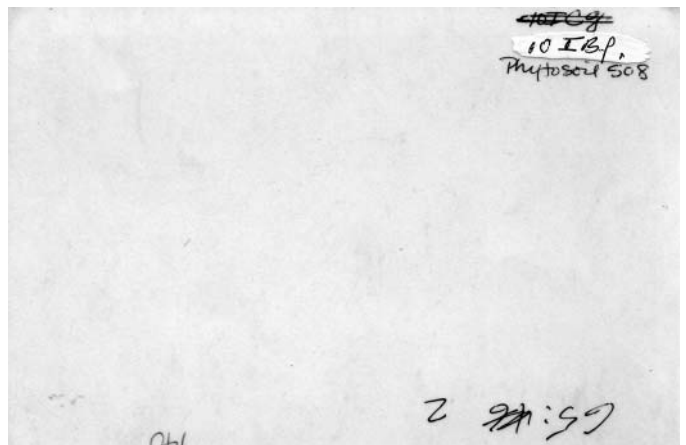
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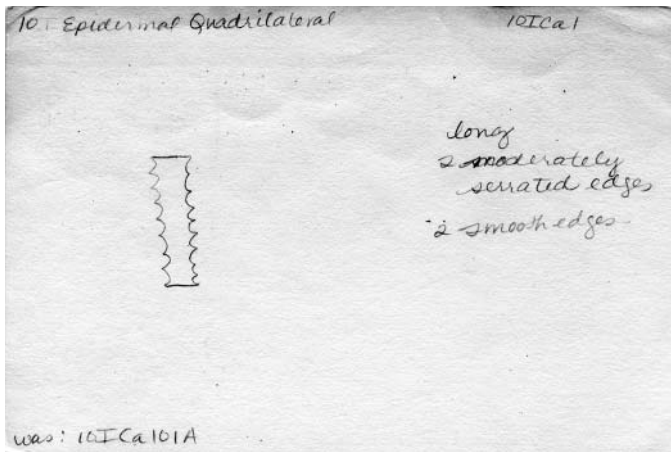
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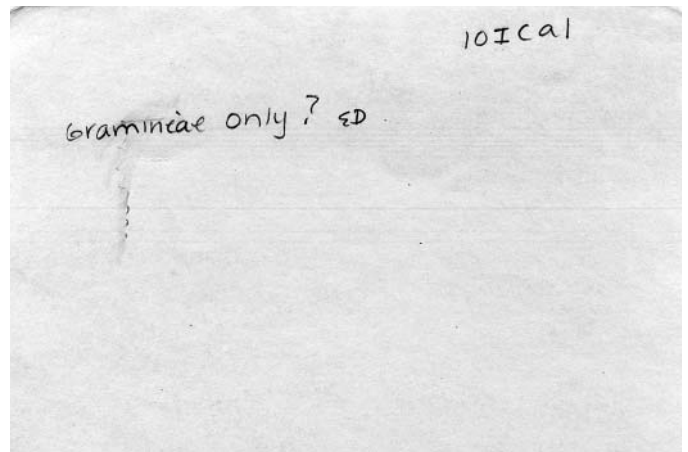
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10IBf photo 1b.jpg



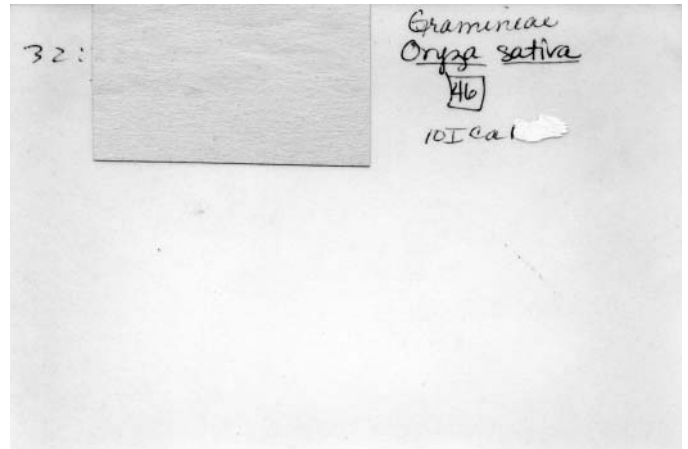
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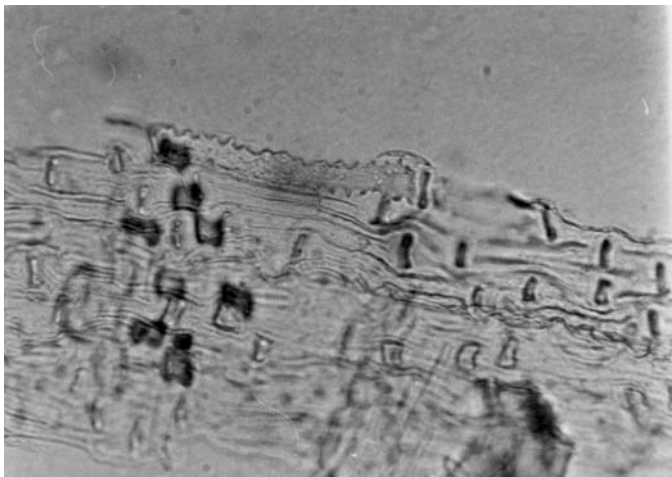
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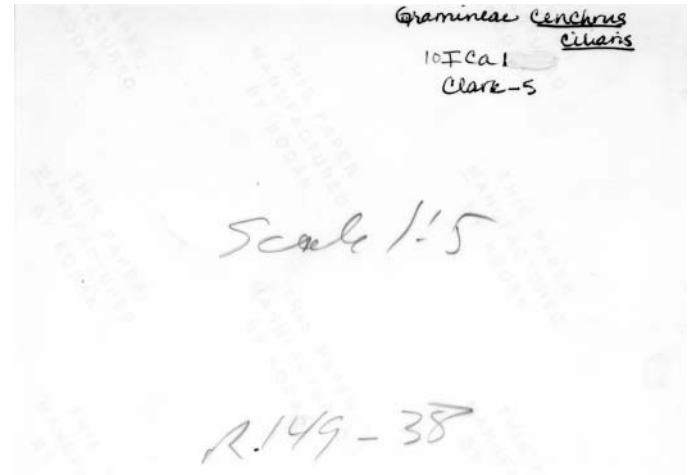
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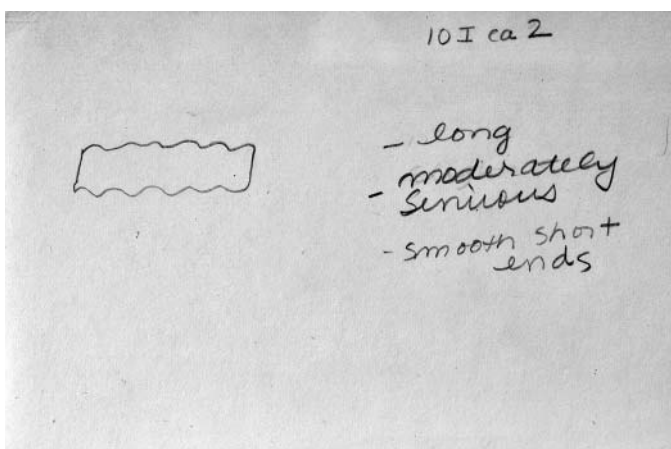
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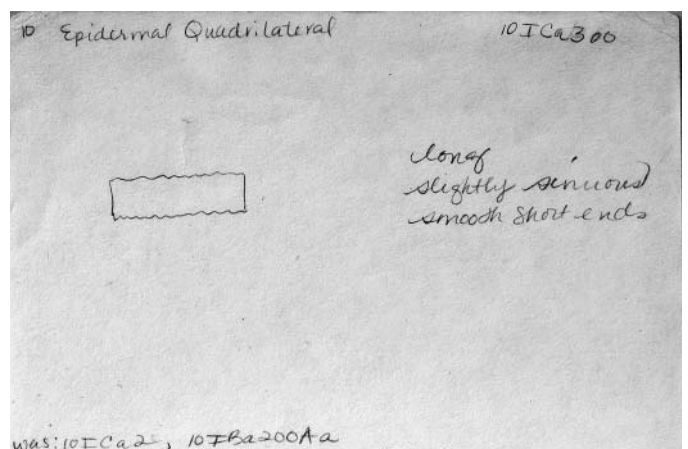
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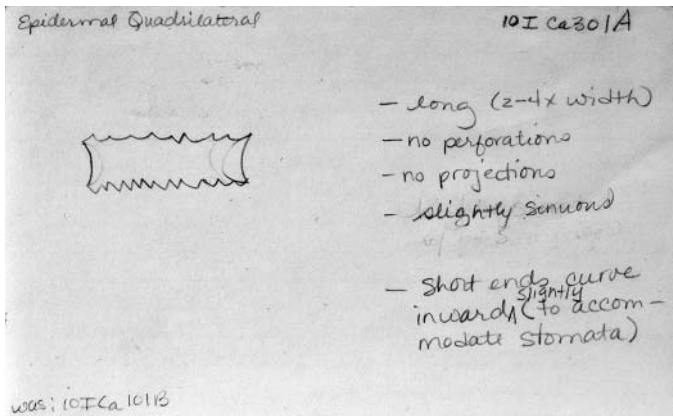
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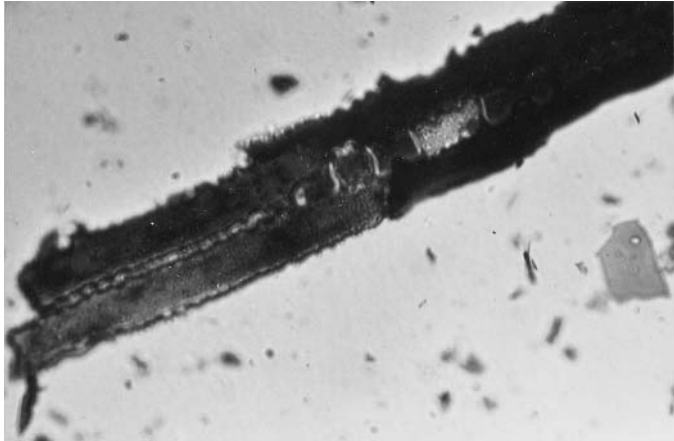
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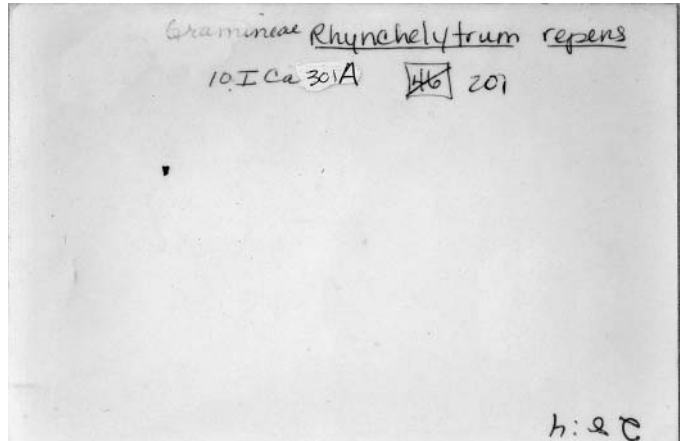
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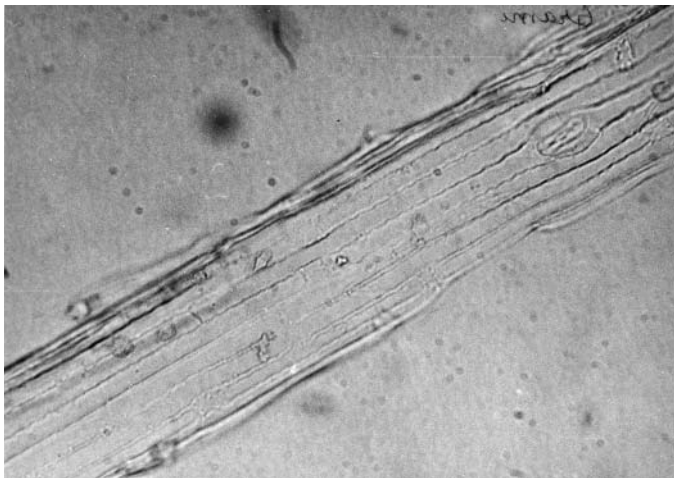
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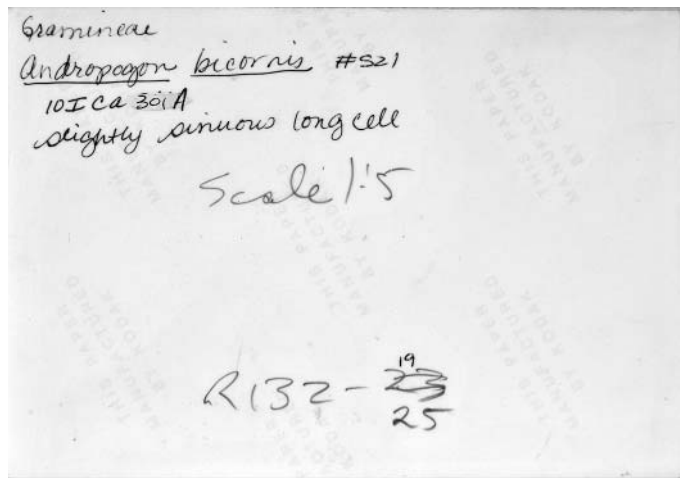
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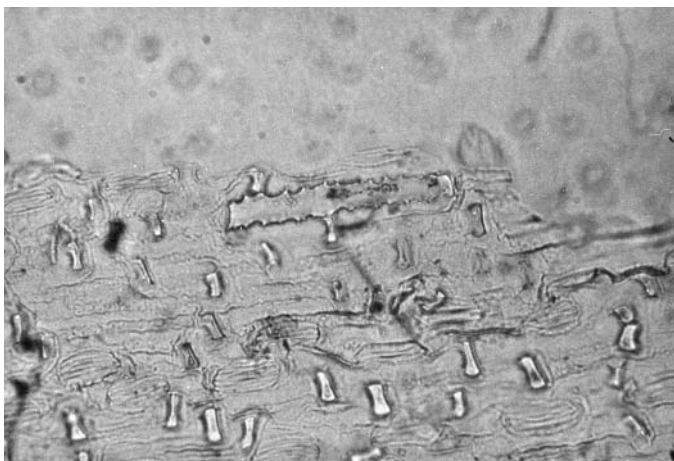
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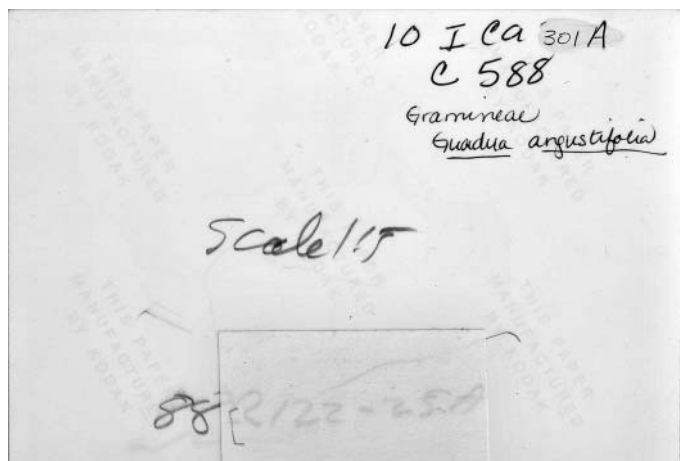
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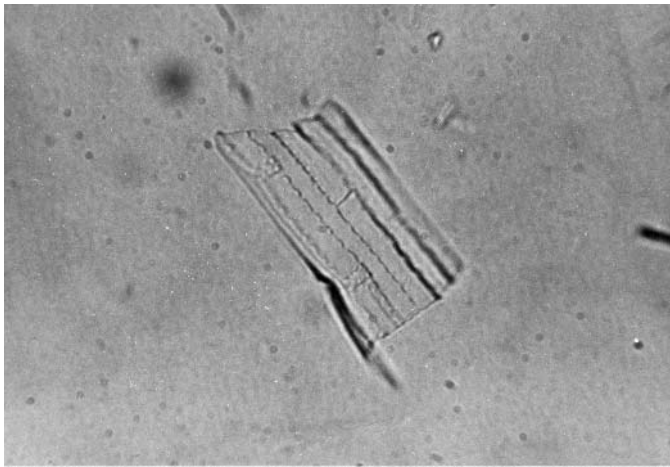
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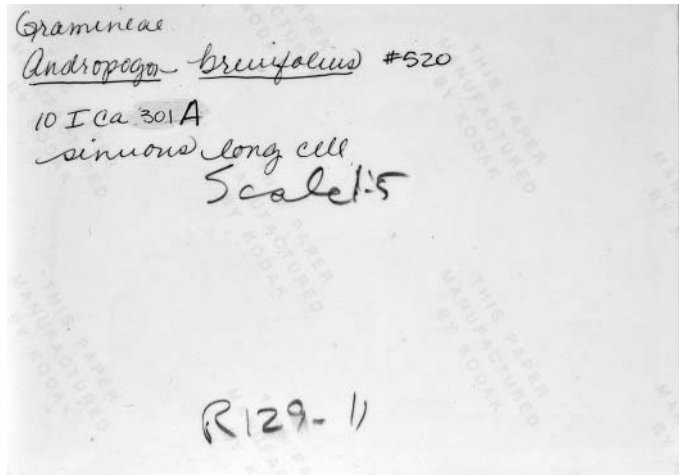
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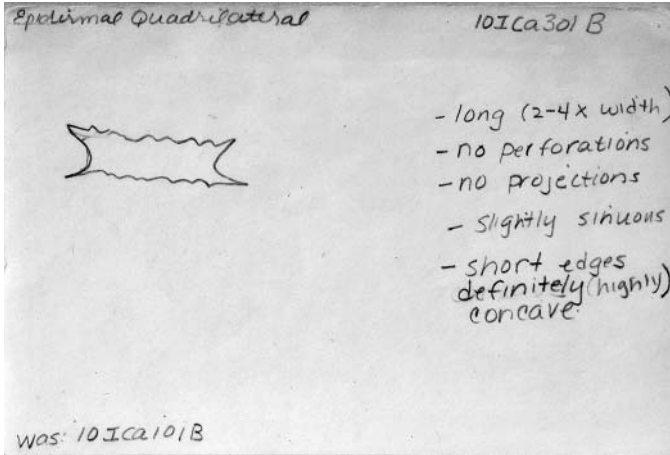
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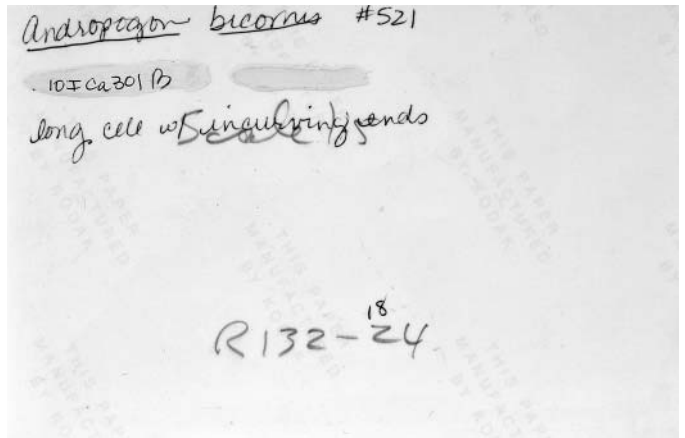
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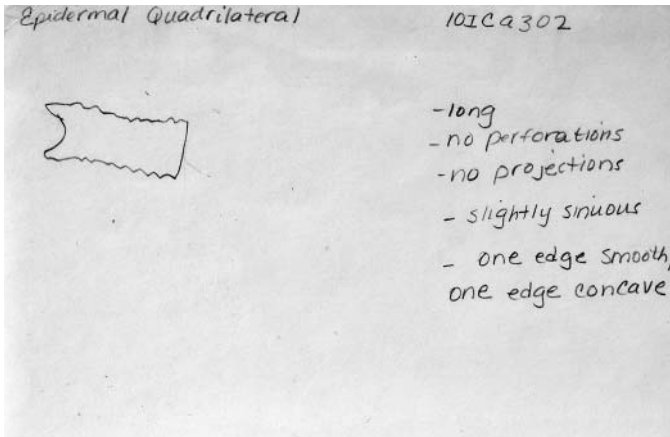
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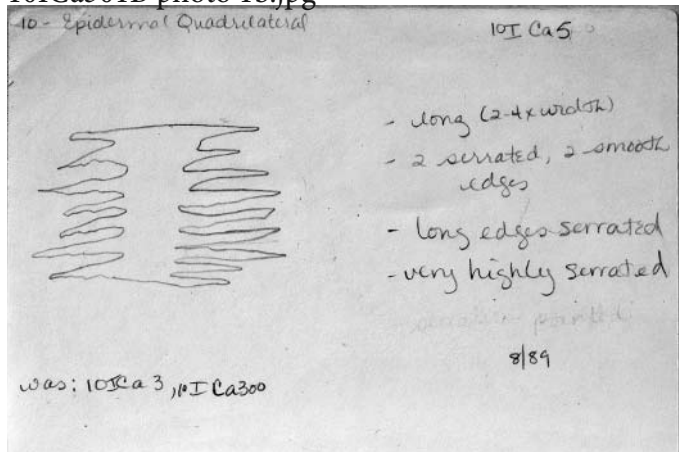
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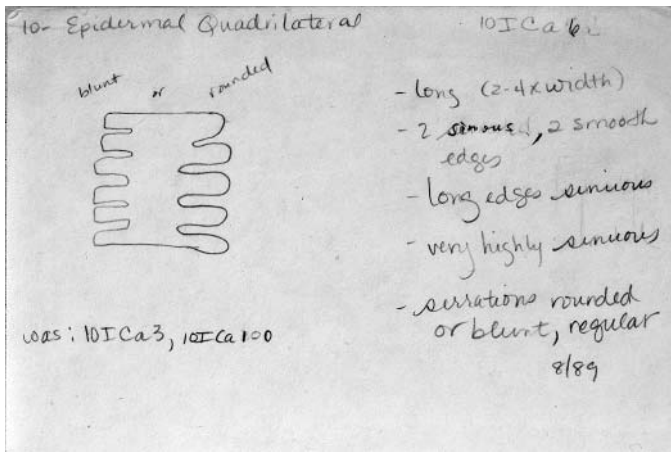
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10ICa302 card 1.jpg



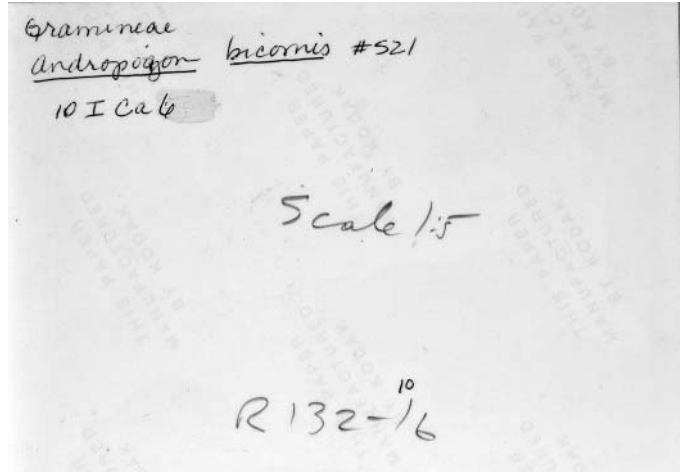
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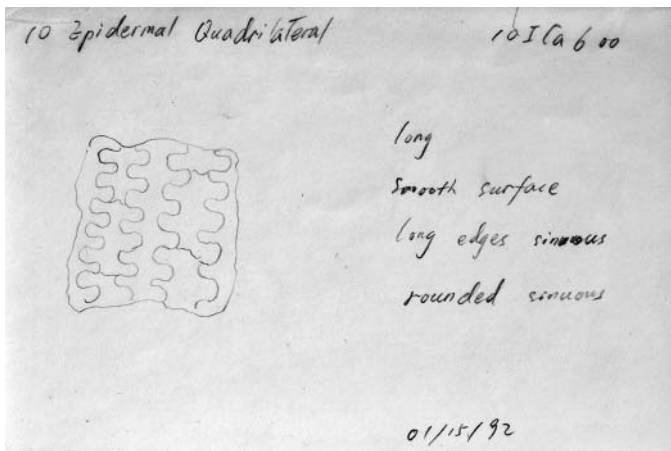
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10ICa6 ptoto 1f.jpg



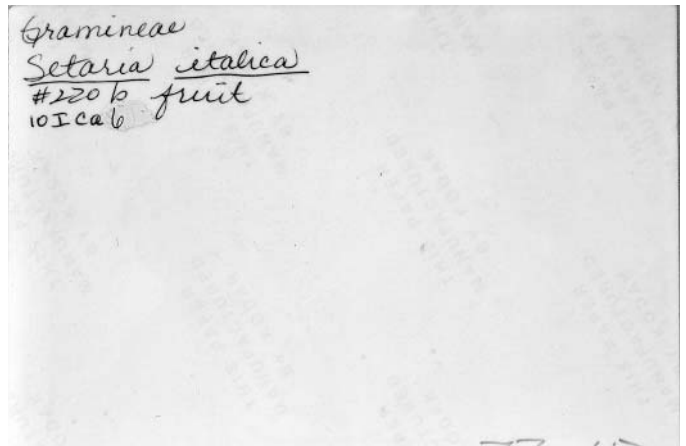
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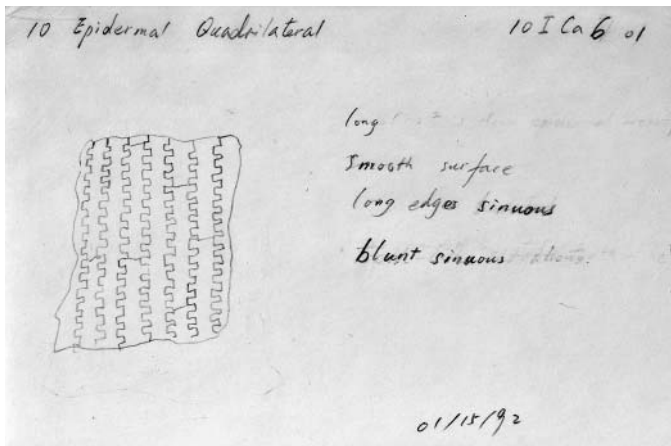
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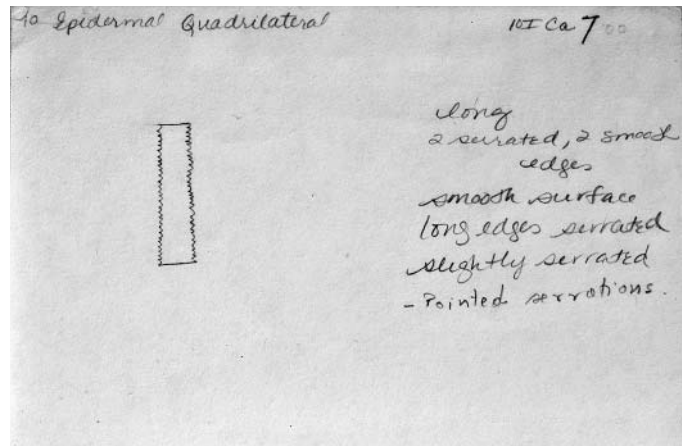
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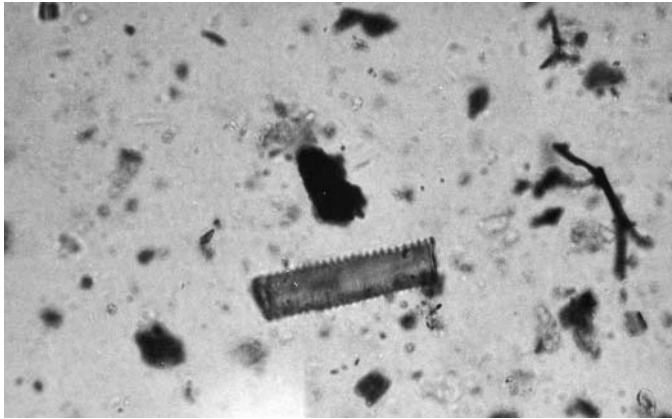
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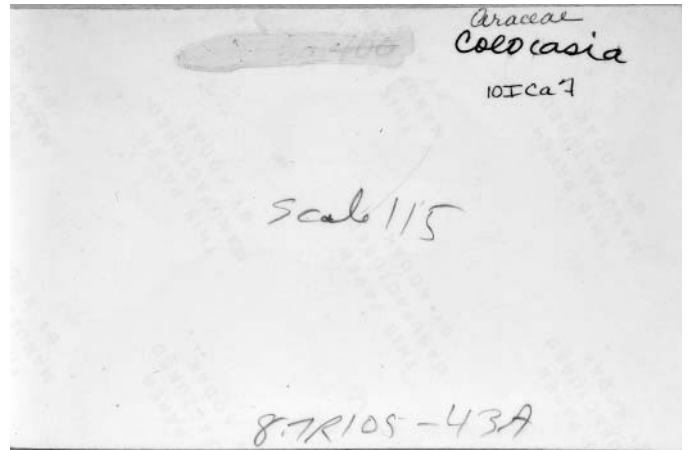
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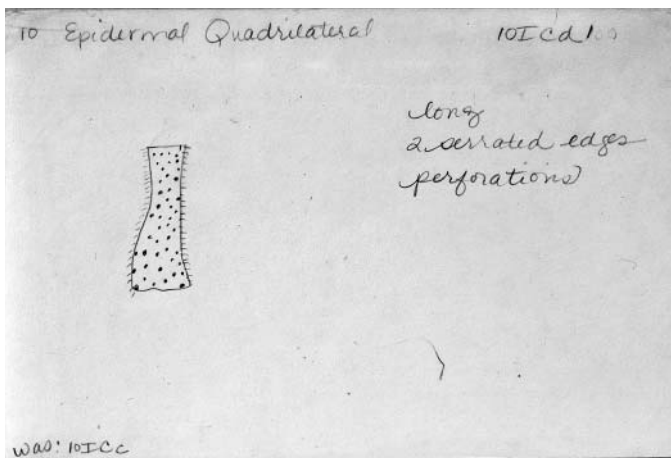
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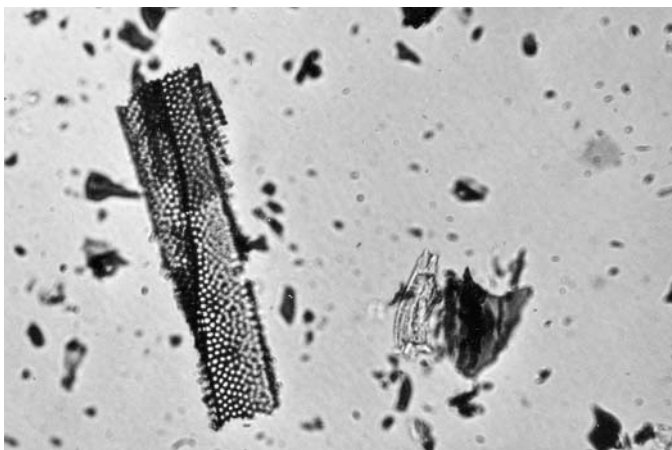
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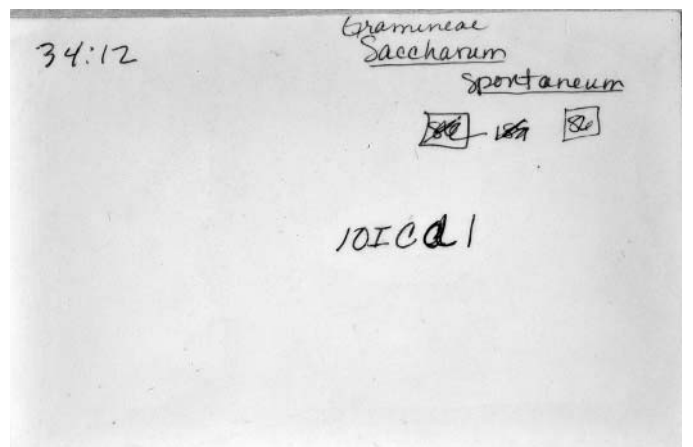
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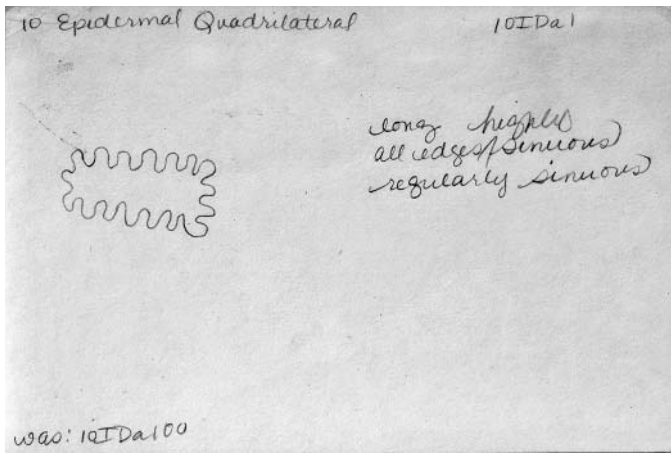
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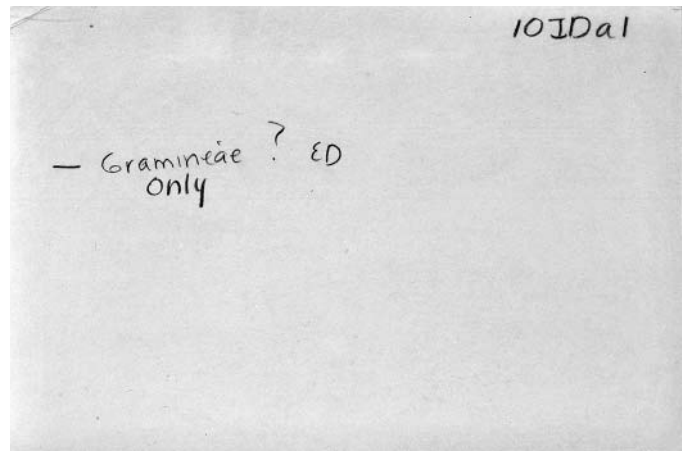
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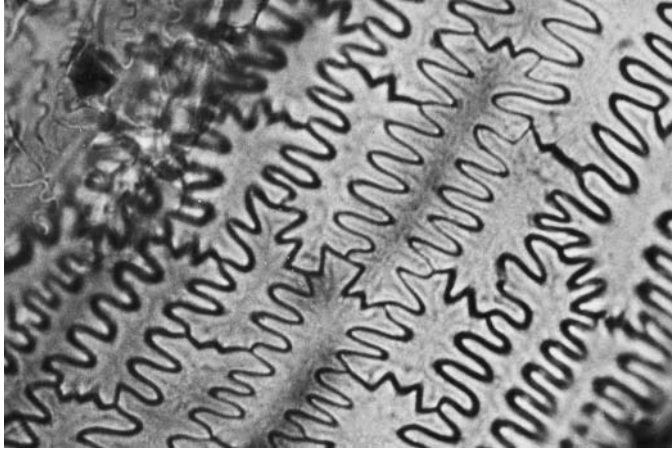
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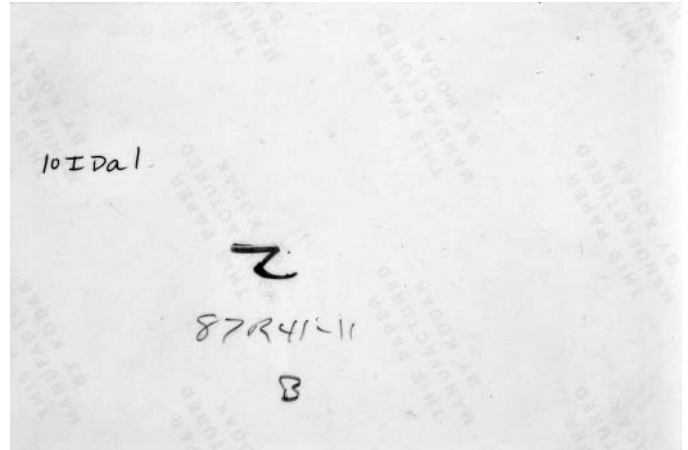
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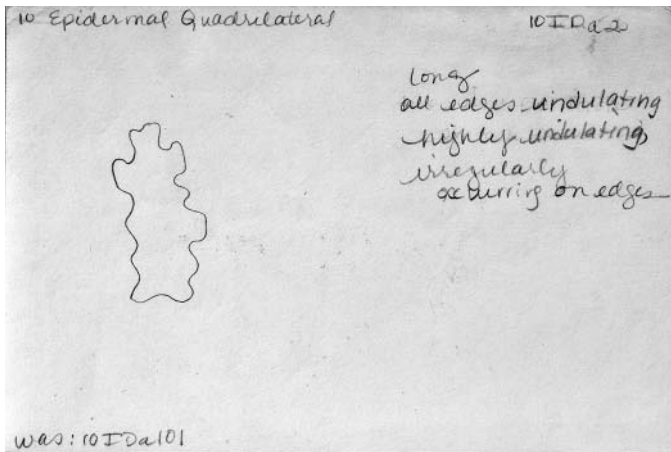
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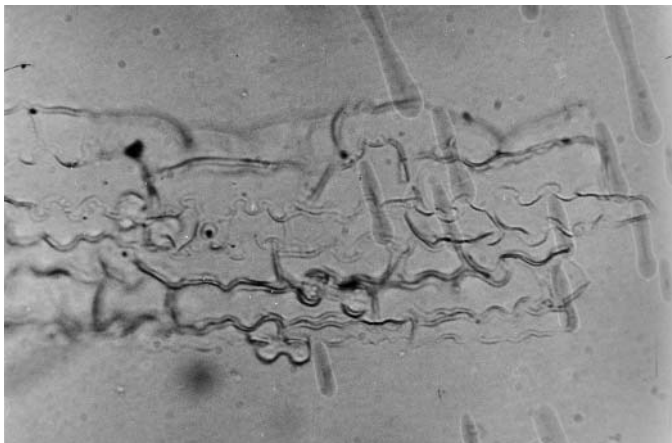
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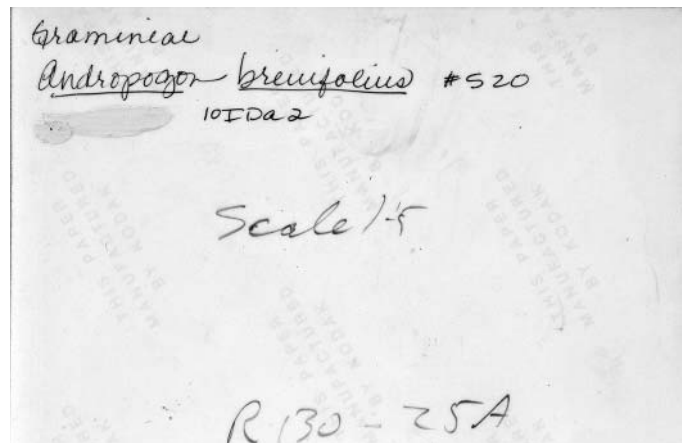
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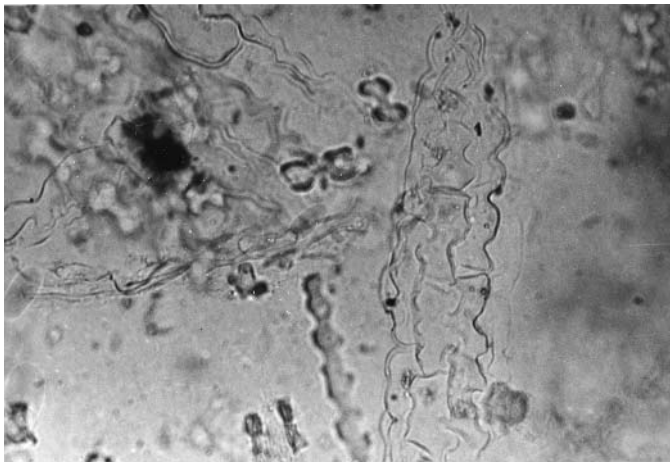
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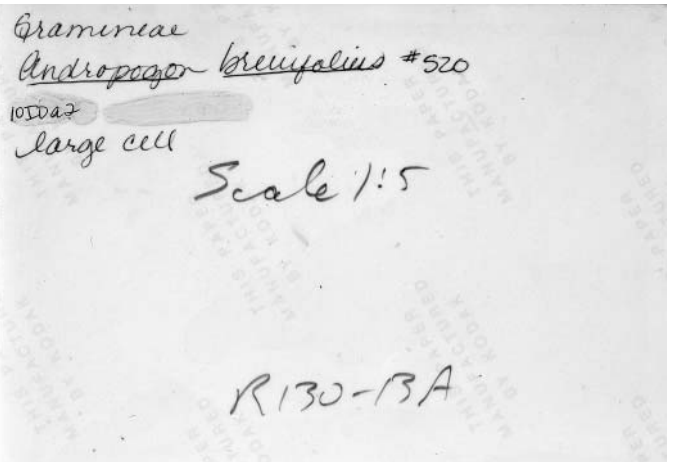
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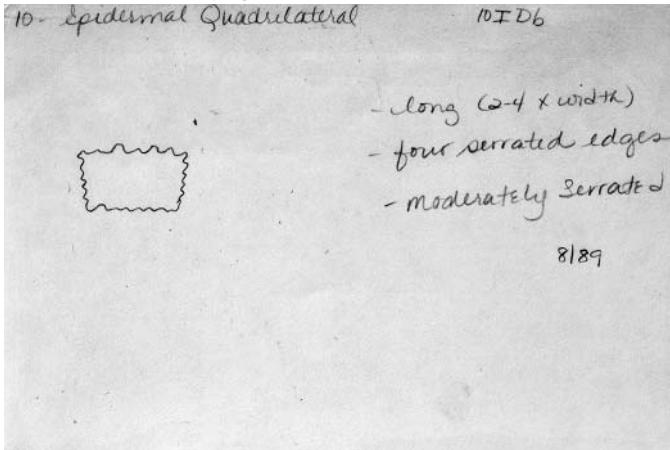
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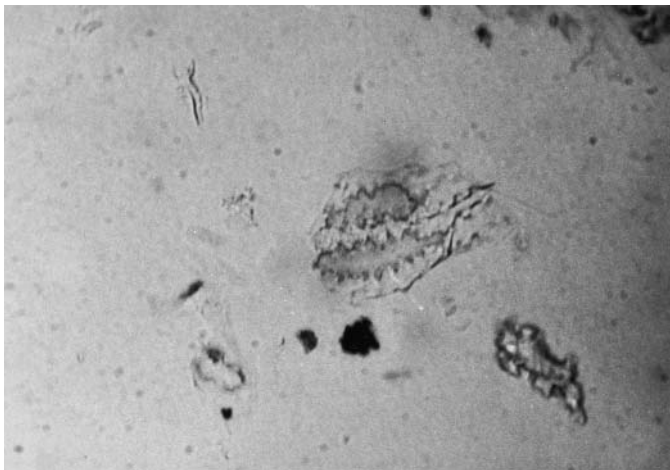
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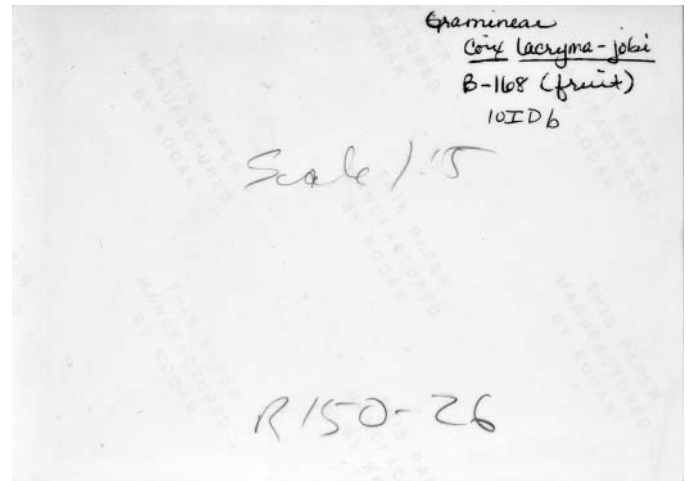
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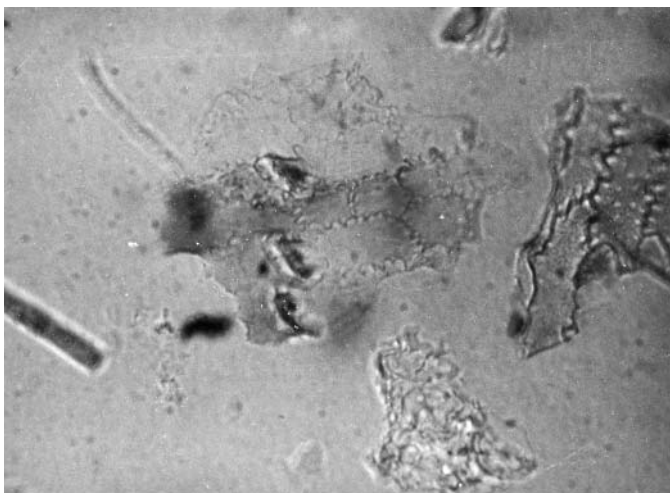
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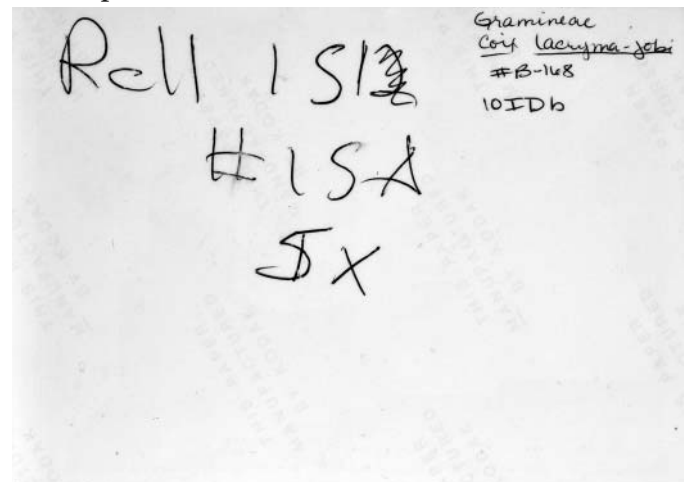
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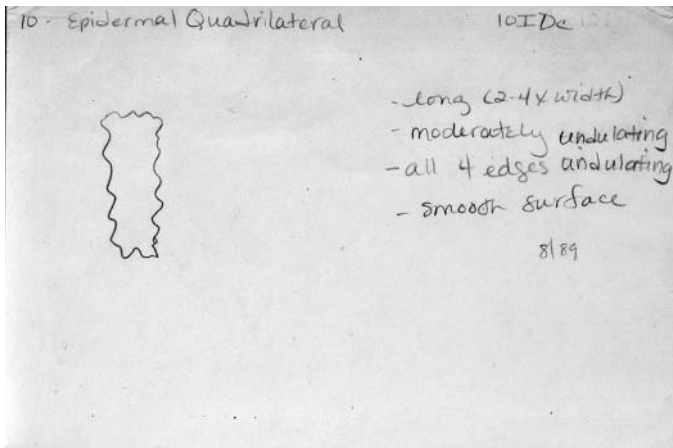
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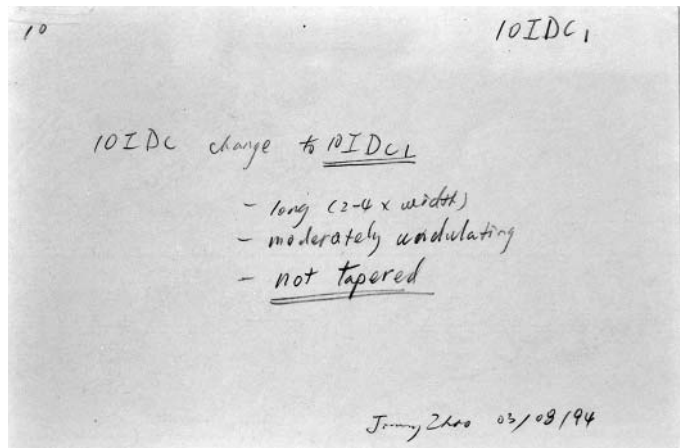
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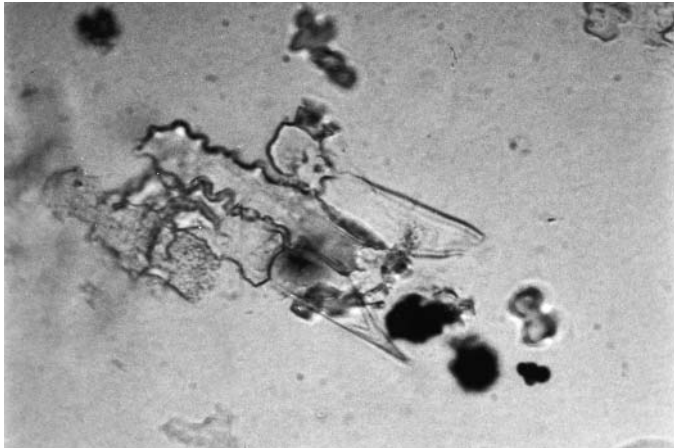
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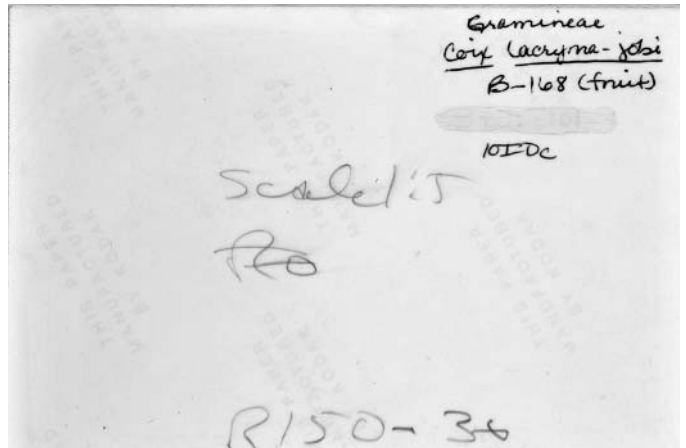
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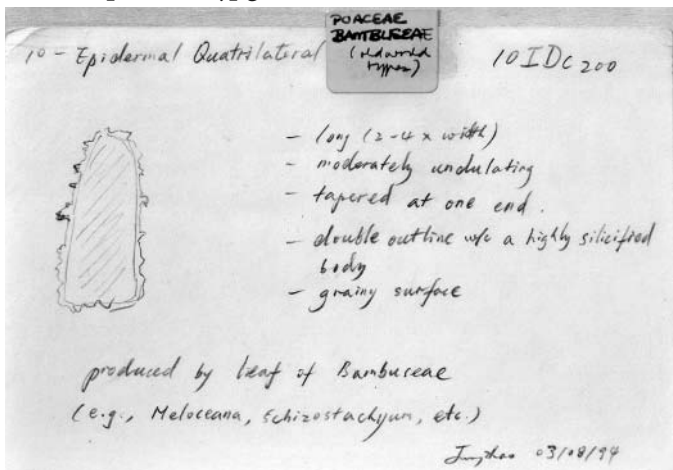
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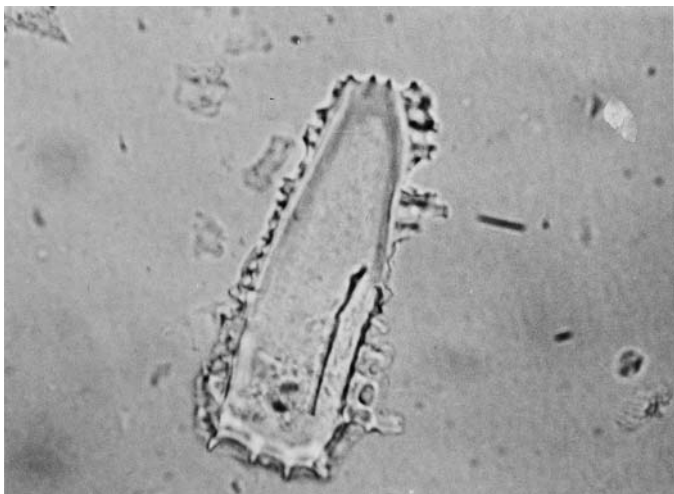
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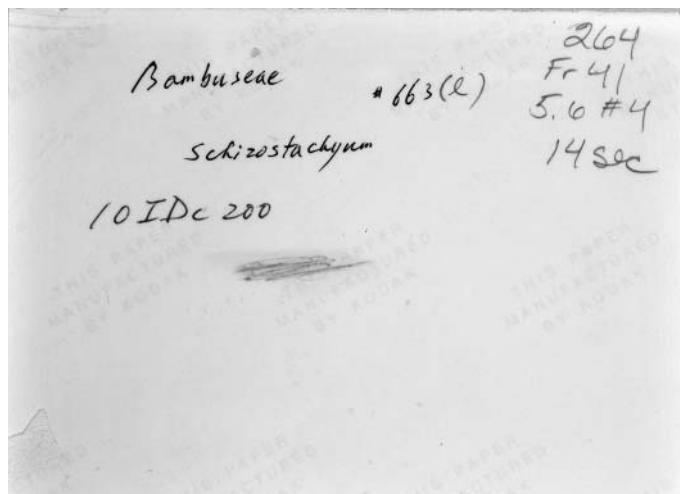
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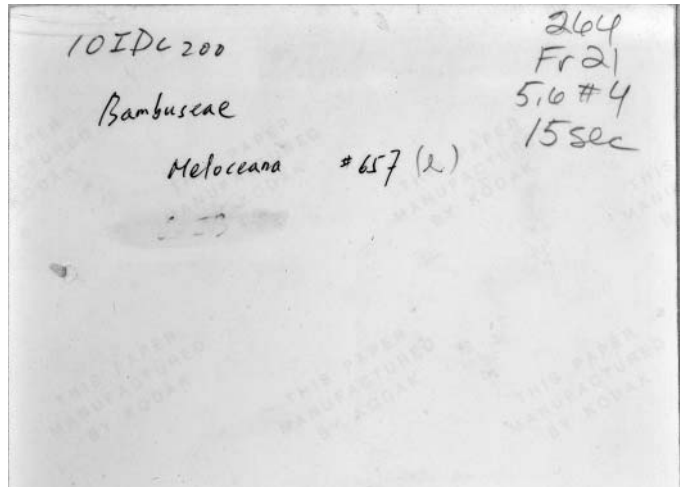
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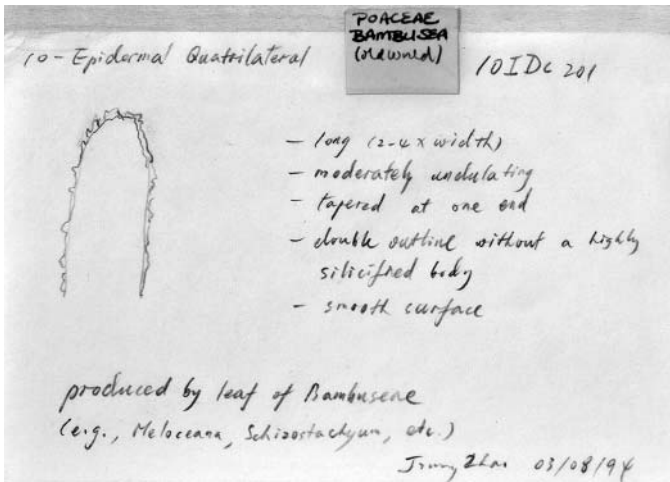
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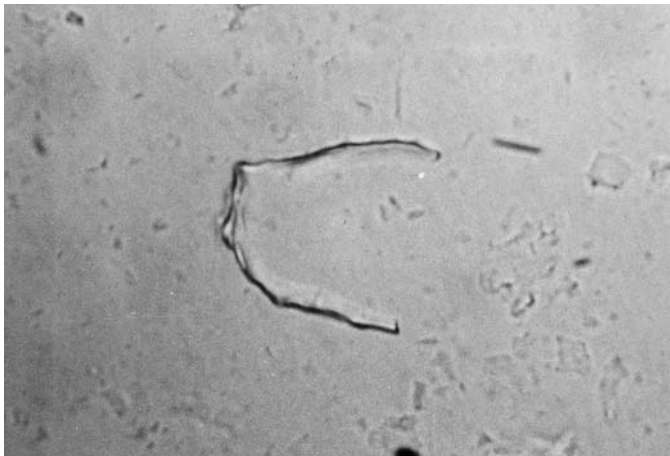
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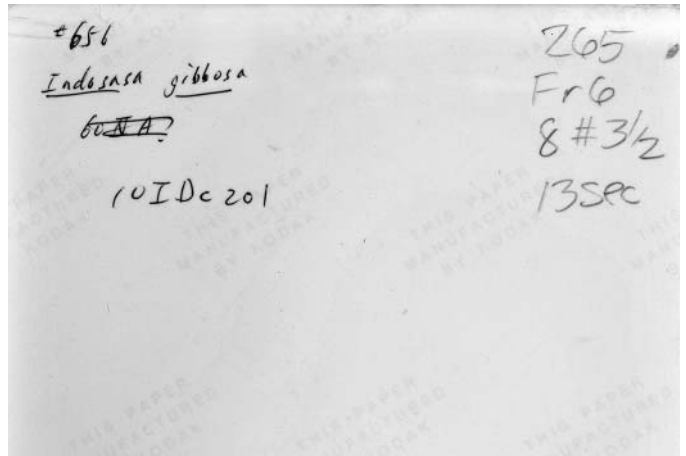
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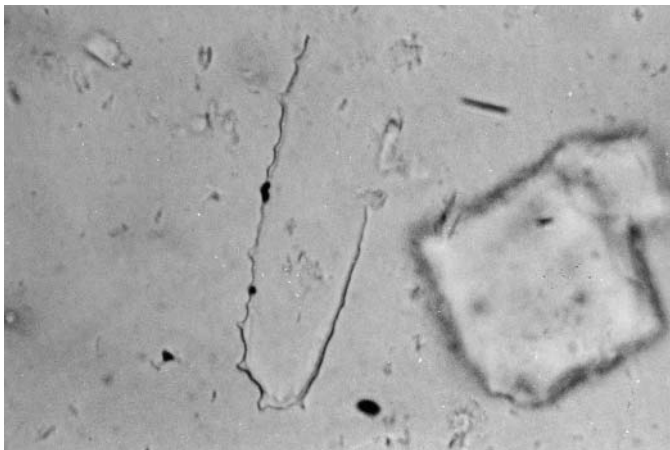
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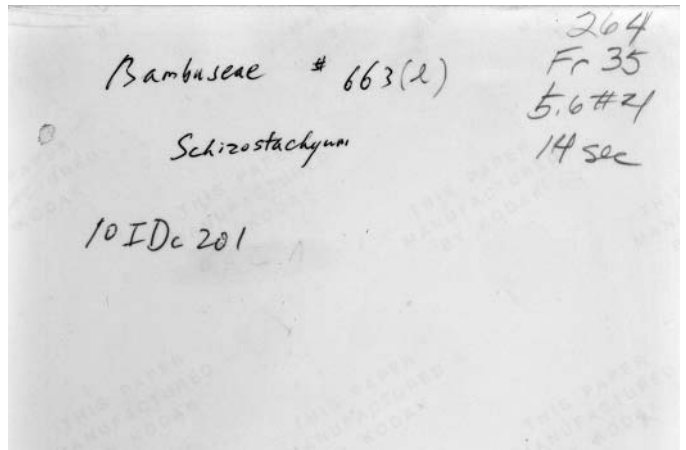
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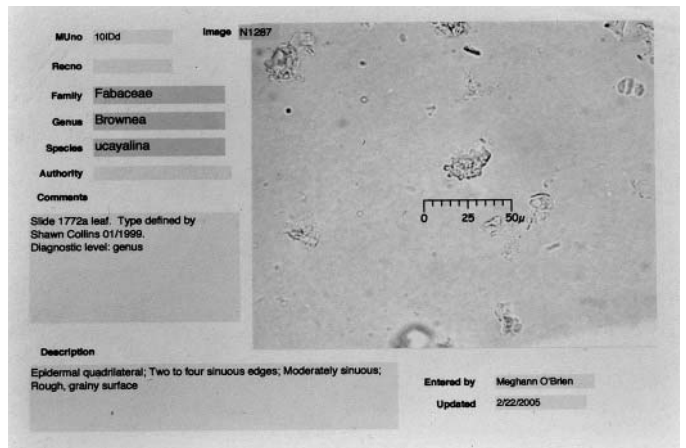
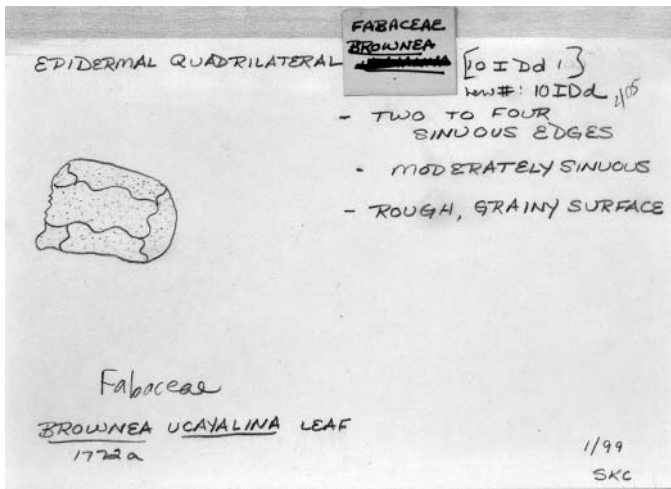
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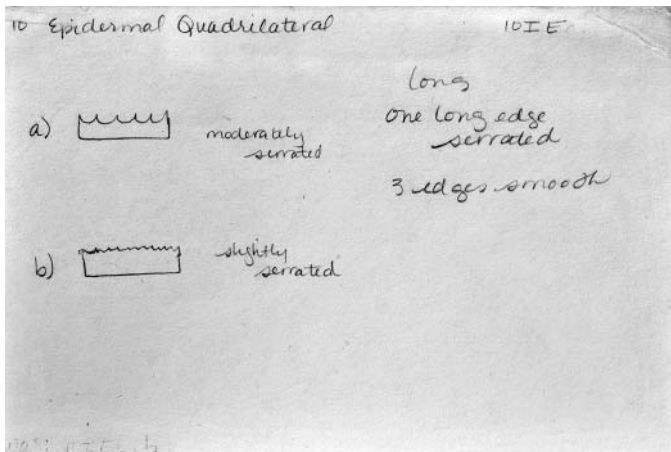
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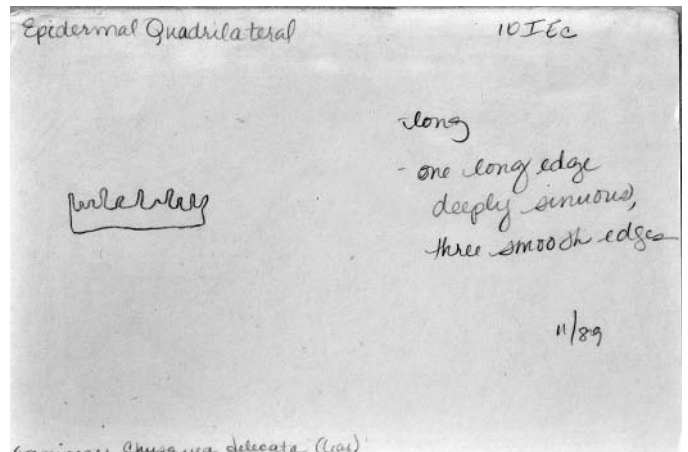
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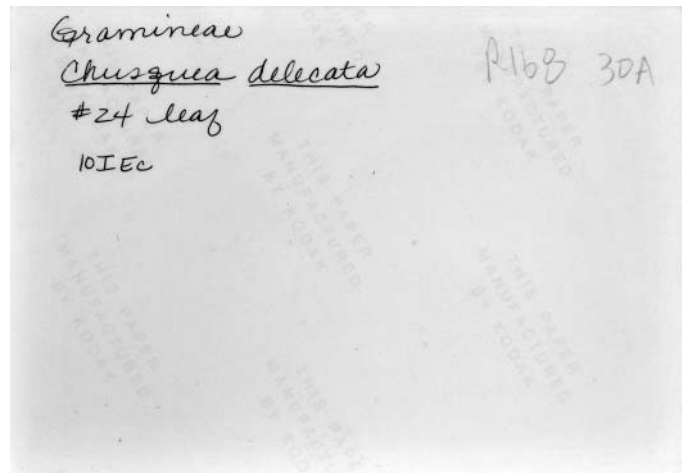
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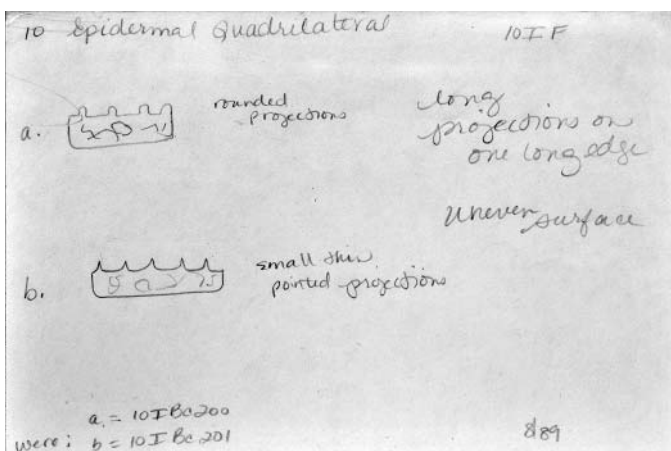
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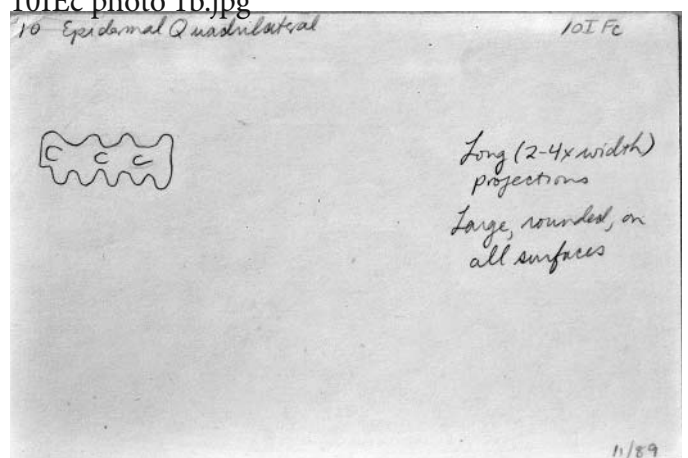
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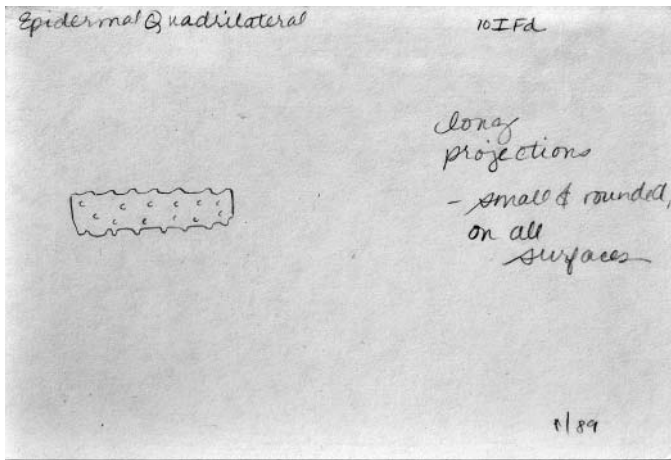
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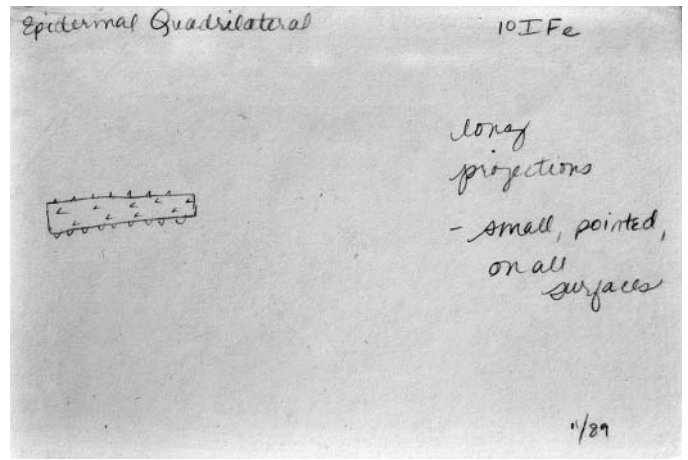
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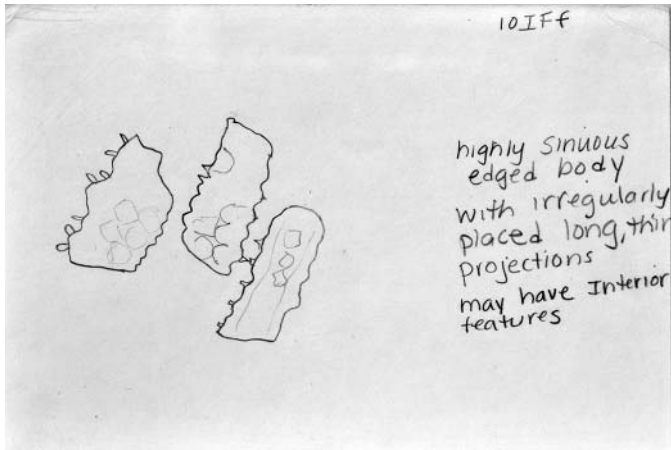
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10IFd card 1.jpg



10IFe card 1.jpg



10IFf card 1.jpg