THE HERBARIUM PORTFOLIO.

The Atlas Herbarium is made uniform in size and design with the Atlas Science Tablets. With it the Atlas Series of Science Tablets is complete. The advantages of such uniformity of size and arrangement are apparent. The portfolio form permits arranging the mounted specimens scientifically according to the genera and families to which they belong. Then, too, the plan permits adding to, or removing from the collection at any time.

TO COLLECT PLANTS.

Provide yourself with:
A strong knife,
A small trowel,
A magnifying glass,
A collecting box (vasculum),
An "Atlas Scratch Tablet" for making notes in the field,
A Portfolio with dryers, for flowers that will not bear transportation.

TO PRESS PLANTS.

"The secret of success here is rapid drying under moderate and yet sufficient pressure specimens are either made or spoiled within the first twenty-four or thirty-six hours."—Gray

A Flower Press may be had at moderate cost, or the student may improvise one by placing the plants between two boards and using bricks or stones for weights.

Absorption Paper, uncolored blotting paper, builders' paper, or cotton wadding may be used for dryers.

The plants should be placed separately between some thin unsized sheets for protection. These sheets facilitate handling while changing the dryers, which should be done twice daily. The dryers (absorption sheets) should be thoroughly dried in the sun or an oven before they are again used. By having two sets on hand, one set may be drying while the other is in the press.

The student should always put a label into the press with each specimen showing name of locality and habitat.

TO MOUNT PLANTS.

Each instructor has his individual preferences as to methods of mounting. The object the collector has in view must largely govern in this matter.

They may be laid loose between forms. This method is unsatisfactory because they are liable to drop out, become separated from their labels or broken.

They may be glued to a sheet of mounting paper or board. This method is not satisfactory because the glue is almost sure to spread over the sheet and make it unsightly.

They may be fastened to the sheet in any desired position by the use of narrow strips of adhesive paper, or adhesive (court) plaster. This plan facilitates removal for examination at a later time.

Bulbs, tubers or woody fibers should be reduced in thickness by shaving away the portions not exposed to view.

Sea-weed, etc., must be placed in a pan of water and floated upon the mounting board. It will often be necessary to arrange them symmetrically with a dissecting needle or other pointed instrument.

FOR DESCRIPTIONS AND ANALYSES.

For descriptions of plants, in connection with the Herbarium, the Note Tablet of the Atlas Series should be used, and for drawings the Drawing Tablet should be used. The perforations of the entire Series are uniform, thus permitting their collection in one set of covers if desired. Any number of sheets of descriptive matter may be placed between the specimens, though we should recommend the use of the Herbarium as an herbarium only, and the Atlas Botany Tablets for laboratory work. (See suggestions to pupils on inside Botany cover.)

Always fill out the printed label at bottom of sheet when mounting a specimen.
| Genera   | Arisaema       |
| Species  | triphyllum     |
| Common Name | Jack-in-the-Pulpit |
| Locality | Cedar Heights |
| Habitat  | Rich woods    |
| Remarks  | May           |
| Date     | Mar 3, 1923   |
| Name     | Hollein       |
**Plant Description**

**Student's Name**

**Date** May 13, 1923

**Root** Fibrous

**Stem** Corrugated; sending up a sample scape

**Leaves** Palmately compound, 3 leaflets of each elliptical-ovate pointed

**Inflorescence** At base of spadix

**Flower** Monocious or dioecious

**Calyx** None

- Sepals - United
- Not United

**Corolla** None

- Polypetalous
- Gamopetalous

**Stamens** A cluster of stamens constitute the staminate flowers

- Number
- Anther almost sessile

**Filament**

**Pistil** Simple

- Ovary one-celled

**Stigma**

**Plant-Use**

**Habitat** Rich woods

**Locality**

**Remarks** Spadix club-shaped, spadix much longer covering it like a hood

---

**CLASSIFICATION**

**Family** Araceae

**Common Name** Indian Tunic, Jack-in-the-Pulpit

**Genus** Arisaema

**Species** triphyllum

**Locality** Cedar Heights
Genera  Tradescantia
Species  virginiana
Common Name  Spiderwort
Locality  Cedar Falls, IA
Habitat  Alluvial soil
Remarks
Date  May 25, 1973
Name  Holheim
Plant Description

Student's Name

Date May 25, 1923

Root

Stem Erect, stout, smooth or with long soft hairs

Leaves Linear, keeled, long, taper-pointed

Inflorescence Spike

Flower Complete, regular, perfect

Calyx Hypogyrous, subescent

Sepals - United

Not United Three, ovate-lanceolate sepals

Corolla Hypogyrous, blue or purple

Polypetalous Three broad ovate petals, twice as long as sepals

Gamopetalous as sepals

Stamens Hypogyrous

Number Six

Anther

Filament

Pistil Compound

Ovary Three-celled

Stigma

Plant-Use

Habitat Alluvial soil

Locality Ct., Pa. and S. C. also introduced

Remarks

CLASSIFICATION

Family Commelinaceae

Common Name Bidens

Genus Bidens

Species virginiana

Locality Cedar Falls, Pa
Genera  Aulania  
Species  grandiflora  
Common Name  Alluvial  
Locality  Cedar Heights  
Habitat  Rich woods  
Remarks  
Date  Dec 30, 1973  
Name  Holstein
Plant Description

Student's Name

Date April 30, 1923

Root Short, rootstock with fleshy roots.

Stem Smooth, erect, fading red, top, naked, with one leaf below fork.

Leaves Whitish-pubescent beneath, parallel veined, entire, long-acuminate, serpilate.

Inflorescence Solitary or terminal peduncle.

Flower Complete, perfect, regular.

Calyx Colored like corolla, hygrogramous.

Sepals - United

Not United Three, spatulate, lanceolate, acuminate, gibbous at base

Corolla Hypogynous, yellowish green

Polypetalous Three petals, spatulate, lanceolate, acuminate, gibbous at base

Gamopetalous

Stamens Hypogynous, exceeding the styles in length.

Number Six

Anther

Filament

Pistil One, compound, with 3-cleft style.

Ovary Three-celled central placentas.

Stigma

Plant-Use

Habitat Rich woods.

Locality West 77.5° 10' Galveston, 9' Minn., Kan.

Remarks

CLASSIFICATION

Family Liliaceae

Common Name Tulip

Genus L. tulipifera (Sargent)

Species Grandiflora

Locality Cedar Heights.
Genera  *Sakonia*  
Species  *vulgaris*  
Common Name  *Straw Lilies*  
Locality  *Cedar Heights*  
Habitat  *Rich woods*  
Remarks  
Date  May 5, 1923  
Name  
Plant Description

Student’s Name

Date May 5, 1923

Root
Succulent rootstock, with fleshy roots.

Stem
Smooth, erect, thickening slightly and bending with drying flowers.

Leaves
Parallel-veined, alternate, petiolate. Intermittent, linear, lanceolate, oblanceolate, or ovate-lanceolate; 1-3 leaves below fork.

Inflorescence
Solitary or terminal peduncles.

Flower
Complete, perfect, regular.

Calyx
Colored like corolla, hypogynous.

Sepals
United
Not United

Corolla
United, three sepals, along-lanceolate.

Polypetalous
Thick, along-lanceolate.

Gamopetalous

Stamens
Hypogynous, shorter than style.

Number
Six

Anther
Linear, chisel-pointed, adnate, much longer than filaments.

Filament

Pistil
One, compound, with 3-clawed style.

Ovary
Three-celled, central placentae.

Stigma

Plant-Use
Rich woods.

Habitat
Mass to Ont., Del. and southern.

Locality

Remarks
Periand funnel form, lily-like.

CLASSIFICATION

Family
Liliaceae

Common Name
Yellow Lilies

Genus
Lilium

Species
Lilium speciosum

Locality
Cedar Heights.
Genera: Erythronium
Species: albidum
Common Name: Dog's-tooth Violet
Locality: Cedar Heights
Habitat: Rich ground
Remarks
Date: April 26, 1923
Name:____
Root: Deeply scaly bulb with subterranean offsets from base.

Stem: Nearly stemless.

Leaves: Two, elliptical-lanceolate, somewhat mottled, with underground petioles.

Inflorescence: Ordinary, terminal, or scape arising from between leaves.

Flower: Complete, perfect, regular. Flowers nodding.

Calyx: Colored-like corolla; three sepals, hypogynous.

- Sepals - United
- Not United: Not

Corolla: Hypogynous, pinkish-white.

- Polypetalous: Three petals
- Gamopetalous

Stamens: Hypogynous

- Number: Six
- Anther: Adnate, long-linear
- Filament: Slender, yellow, egg-shaped.

Pistil: Compound, three celled.

- Ovary: Central placenta
- Stigma: Three, spreading.

Plant Use:

Habitat: In to N. J. west to Minn. and Tex.

Locality: Rich ground.

Remarks:

---

CLASSIFICATION

Family: Liliaceae

Common Name: Dog's-tooth Violet

Genus: Erythronium

Species: Albidum

Locality: Cedar Heights.
Genera: *Emilacina*
Species: *stellata*
Common Name: False Solomon's Seal
Locality: Cedar Heights, IA
Habitat: Wet banks, etc.
Remarks: 
Date: May 18, 1923
Name: 
Plant Description

Student's Name

Date May 18, 1923

Root: Fibrous
Stem: Erect, somewhat curved from rootstock
Leaves: Oblong-lanceolate, slightly clasping, parallel veined

Inflorescence: Raceme, sessile or nearly so
Flower: Complete, perfect, regular

Calyx: Hypogynous, colored like corolla
  Sepals - United
  Not United
  Three sepals, linear
Corolla: Hypogynous, white
  Polypetalous
  Three linear petals
  Camopetalous
Stamens: Somewhat hypogynous
  Number: Six
  Anther: Short, introrse
  Filament: Slender

Pistil: Compound, with short style
  Ovary: Three-celled
  Stigma: Obliquely 3-lobed

Plant-Use
Habitat: Moist banks, etc.
Locality
Remarks

CLASSIFICATION

Family: Liliaceae
Common Name: False Solomon's seal
Genus: Smilacina
Species: stellata
Locality: Cedar Heights, La.
Genera: Trillium
Species: grandiflorum
Common Name: Wake Robin
Locality: Cedar Heights
Habitat: Rich woods
Remarks
Date: May 5, 1923
Name: —
Plant Description

Student's Name

Date May 5, 1923

Root

Stem

Leaves

Inflorescence

Flower Complete, perfect, regular.

Calyx Hypogynous

Sepals - United

Not United Three, lanceolate.

Corolla Hypogynous, white

Polypetalous Three petals, lanceolate.

Gamopetalous

Stamens Hypogynous

Number Six

Anther Adnate

Filament Short

Pistil

Ovary

Stigma

Plant-Use

Habitat Rich woods

Locality from and Vt. to Minn., Mo. and N. C.

Remarks

CLASSIFICATION

Family Liliaceae

Common Name Wake Robin

Genus Trillium

Species grandiflorum

Locality Cedar Heights.
Genera: *Conulax*
Species: *Cinchita*
Common Name: 
Locality: *Cedar Heights*
Habitat: 
Remarks: 
Date: *May 18, '23*
Name: 
Plant Description

Student’s Name

Date May 18, 1973

Root

Stem Erect from rootstock

Leaves Cordlike leaves reduced to scale-like bracts; the rest 5-7 serrate, broadly ovate-elliptical, ciliate at base, pubescent beneath.

Inflorescence Axillary in umbels

Flower Deciduous, regular

Calyx Hypogynous, greenish yellow like corolla

- Sepals - United
- Not United Three obovate sepals

Corolla Hypogynous, greenish yellow

- Polypetalous Three obovate petals
- Camopetalous

Stamens Inserted on the base of the flower

- Number Six
- Anther
- Filament Linear

Pistil Compound

- Ovary Three-celled
- Stigma Thick spreading almost sessile

Plant-Use

Habitat

Locality O. and M. C. Pisc. Minn. and N. Y.

Remarks

CLASSIFICATION

Family Silicaceae

Common Name

Genus Smilax

Species Scirrhosa

Locality Cedar Heights
Plant Description

Student's Name

Date April 24, 1923

Root Creeping or horizontal rootstock.

Stem Lithodamine, skiphone.

Leaves Commonly 2 to each plant, membranous, kidney-shaped, more or less pointed.

Inflorescence Solitary, terminal.

Flower Perfect, regular.

Calyx Bell-shaped, brownish-purple, epigynous.

Sepals United

Not United Three, long, pointed, fertile and rosid.

Corolla None

Polypetalous

Gamopetalous

Stamens Epigynous

Number

Anther

Filament

Pistil Compound

Ovary

Stigma Six radiating, thick stigmas.

Plant-Use

Habitat Common in northern states and souther Canada.

Locality Rich woods.

Remarks

CLASSIFICATION

Family Aristolochiaceae

Common Name Wild Ginger

Genus Asarum

Species canadense

Locality Cedar Heights.
PLANT DESCRIPTION

Root: Fibrous
Stem: Erect from a creeping rootstock
Leaves: Narrow-linear or lanceolate, entire, short-stalked, pubescent
Inflorescence: Raceme or panicled raceme
Flower: Incomplete, dichotomous, regular
Calyx: Polygynous
Sepals 3: 5 sepals. The three inner ones larger and more flat-like
Corolla: None
Petal: Polygynous, six
Stamens: Polygynous, six
Anter: Pollen
Pistil: Compound with three styles
Ovary: One-celled
Stigma: Short, pointed
Fruit: Three-angled achene
Seed: Dry field and or coastal. Locality: A common weed.
Remarks: The pistillate panicle are seldom.

DRAWINGS

CLASSIFICATION

No.... 10
Family: Polygonaceae
Scientific Name: Rumex acetosella
Common Name: Red Sorrel

Copyright, 1900, 1901, by W. D. Meier.
Genera "Arensia" - "Massarinia"
Species "Caleniflora"
Common Name "Sandwort"
Locality "Cedar Heights, La"
Habitat "Shrub, thickets, etc"
Remarks "May, June"
Date "May 18, 1973"
Name "B. E. Gleim"
### Plant Description

**Student's Name**

**Date**: May 18, 1923

**Root**
- Fibrous

**Stem**
- Erect, somewhat branched, minutely pubescent.

**Leaves**
- Simple, sessile, opposite, oval to oblong, margins and veins ciliate

**Inflorescence**
- Axillary or terminal cymes.

**Flower**
- Complete, perfect, regular.

**Calyx**
- Hypogynous
  - Sepals - United
  - Not United - Fire oblong, obtuse or acute sepals

**Corolla**
- Hypogynous, white
  - Polypetalous - Five petals, entire, oval.
  - Gamopetalous

**Stamens**
- Hypogynous, pubescent
  - Number: Ten
  - Anther
  - Filament

**Pistil**
- Compound with three styles
  - Ovary: At pistil 3-celled
  - Stigma

**Plant-Use**

**Habitat**
- In moist places, shores, thickets, etc.

**Locality**
- Md. to Pa., Mo., and north.

**Remarks**
- May, June

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### CLASSIFICATION

**Family**
- Caryophyllaceae

**Common Name**
- Pink on land, Moccasin or Lobelwort.

**Genus**
- Arenaria or Moccasin.

**Species**
- Lateriflora.

**Locality**
- Cedar Heights.
Genera: Claytonia
Species: mitrifolia
Common Name: Spring Beauty
Locality: Cedar Heights
Habitat: Rich, moist woods
Remarks: 
Date: April 18, 1923
Name: [Signature]
Plant Description

Student's Name

Date April 18, 1923

Root Corn
Stem Simple, 6'-12'
Leaves Simple, linear-lanceolate, two to a stem and opposite.
Inflorescence Loose raceme.
Flower Complete, perfect
Calyx Two free, persistent, ovate sepals
Sepals - United
Not United Not
Corolla Five petals, pink to white with deeper veins
Polypetalous Yes
Gamopetalous
Stamens Somewhat perigynous
Number Five
Anther Versatile
Filament
Pistil Compound and single
Ovary One-celled
Stigma

Plant-Use

Habitat Rich, moist woods
Locality Cedar Heights
Remarks

CLASSIFICATION

Family Portulacaceae
Common Name Spring Beauty
Genus Claytonia
Species virginica
Locality
<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genera</td>
<td><em>Lymphaea</em></td>
</tr>
<tr>
<td>Species</td>
<td><em>adrena</em></td>
</tr>
<tr>
<td>Common Name</td>
<td>Cow Lily</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Falls, Pa.</td>
</tr>
<tr>
<td>Habitat</td>
<td>Hill or stagnant</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>May 23, 1923</td>
</tr>
<tr>
<td>Name</td>
<td>Wilhelm</td>
</tr>
</tbody>
</table>
## Plant Description

**Student's Name**

**Date** May 23 1923

**Root** Fibrous

**Stem** Horizontal rootstock

**Leaves** Roundish to ovate almost at long, lutescent-triangular.

**Inflorescence** Solitary on a scape

**Flower** Complete Perfect

**Calyx** Hygrogyrous, yellow, mostly tinged with green or brown.

- **Sepals** United
- **Not United** Six sepals.

**Corolla** Hygrogyrous, yellow.

- **Polypetalous** Petals thick and fleshy, truncate
- **Camopetalous**

**Stamens** Hygrogyrous

- **Number** Numerous
- **Anther** Nearly as long as the filaments
- **Filament**

**Pistil** Compound

- **Ovary** Cylindrical, many-celled
- **Stigma** Nearly entire, 12-24 rayed, yellow or hollowed

### Plant Use

- **Habitat** Still or stagnant water
- **Locality** N.Y., central and western

### Remarks

### CLASSIFICATION

**Family** Nymphaeaceae

**Common Name** Cow Lily, Yellow Pond Lily, Shatter-Deck

**Genus** Nymphaea

**Species** advena

**Locality** Cedar Falls, La.
<table>
<thead>
<tr>
<th>Genera</th>
<th>Ranunculus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>delphinifolius</td>
</tr>
<tr>
<td>Common Name</td>
<td>Yellow Water Crane</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Heights Lake</td>
</tr>
<tr>
<td>Habitat</td>
<td>Quiet water</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>May 18, 1923</td>
</tr>
<tr>
<td>Name</td>
<td>Robbin</td>
</tr>
</tbody>
</table>

The image contains a plant specimen with annotations for the genera, species, common name, locality, habitat, and date.
Plant Description

Student's Name

Date: May 18, 1923

Root: Fibrous

Stem: Floating, compressed, or creeping in the mud.

Leaves: Immerse leaves, subulate, divided into ovate segments. Emerged leaves 3-5 divided, the divisions left into linear segments.

Inflorescence: Solitary, terminal, or axillary

Flower: Complete, perfect, regular

Calyx: Hydropogonous, deciduous

Sepals: United

Not United

Corolla: Hydropogonous, deep bright yellow

Polypetalous: 5-8 petals with a little scale at base

Gamopetalous

 Stamens: Hydropogonous

Number: Numerous

Anther:

Filament

Pistil: Many carpels grouped in a round head

Ovary

Stigma

Plant Use

Habitat: Quiet water


Remarks

CLASSIFICATION

Family: Ranunculaceae

Common Name: Yellow Water Cranford

Genus: Ranunculus

Species: delphinifolius

Locality: Cedar Heights, Io
Genera: Ramunculus
Species: septentrionalis
Common Name: swamp buttercup
Locality: Cedar Falls, IA
Habitat: moist, weedy places
Remarks:
Date: May 3, 1923
Name: Colheim
Root: Fibrous
Stem: Erect, smooth or slightly hairy
Leaves: Three divided, one long petiole, the divisions all stalked, cleft a little, and wedge-shaped
Inflorescence:
Flower: Complete, perfect, regular
Calyx: Hypogynous
  Sepals - United
  Not United: Three to five, lanceolate, acuminate
Corolla: Hypogynous, yellow
  Polypetalous: Petals obrate, twice as long as sepals
  Gamopetalous
Stamens: Numerous, Hypogynous
  Number: Numerous
  Anther: 
  Filament: 
Pistil: Simple, numerous carpels, separate, exserted
  Ovary: 
  Stigma: 

Plant-Use:
Habitat: Moist or shady places
Locality: 
Remarks: May - Aug.

CLASSIFICATION
Family: Ranunculaceae
Common Name: Swamp Buttercup
Genus: Ranunculus
Species: septentrionalis
Locality: The Springs, Cedar Falls, IA
Genera  Anemone
Species  thalictroides
Common Name  Rue Anemone
Locality  Cedar Height
Habitat  In rich woods
Remarks
Date  April 26, 1923
Name  K. Scott
Plant Description

Student's Name: [Blank]
Date: April 26, 1923

Root: Forms with small tubers

Stem: Slender 6-10 in. high

Leaves: Basal leaves long-petioled twice compound in three leaflets, roundish, somewhat three-lobed at end, ovate at base;juvenile similar

Inflorescence: Umbel

Flower: Perfect regular

Calyx: White, sometimes pinkish

- Sepals - United
- Not United: Five, oval, sepals

Corolla: None

- Polypetalous
- Gamopetalous

Stamens: Hypogynous

- Number: Numerous
- Anther:
- Filament:

Pistil: Simple, several separate carpels

- Ovary:
- Stigma:

Plant Use:


Locality: In rich woods.

Remarks:

CLASSIFICATION

Family: Ranunculaceae
Common Name: Rue Ammona

Genus: Anemonella
Species: Thalictroides
Locality: Cedar Heights.
<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genera</td>
<td>Hepatica</td>
</tr>
<tr>
<td>Species</td>
<td>acutiloba</td>
</tr>
<tr>
<td>Common Name</td>
<td>Hepatica</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Heights</td>
</tr>
<tr>
<td>Habitat</td>
<td>Rich, wood slope</td>
</tr>
<tr>
<td>Remarks</td>
<td>Leaves of 1922</td>
</tr>
<tr>
<td>Date</td>
<td>April 18, 1923</td>
</tr>
<tr>
<td>Name</td>
<td>Holchim</td>
</tr>
<tr>
<td><strong>Plant Description</strong></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Root</strong></td>
<td>Fibrous</td>
</tr>
<tr>
<td><strong>Stem</strong></td>
<td>No true stem. Acauliscent.</td>
</tr>
<tr>
<td><strong>Leaves</strong></td>
<td>Simple with three ovate and pointed lobes. New leaves appear after the flowers.</td>
</tr>
<tr>
<td><strong>Inflorescence</strong></td>
<td>Solitary, on scape</td>
</tr>
<tr>
<td><strong>Flower</strong></td>
<td>Hypogynous</td>
</tr>
<tr>
<td><strong>Calyx</strong></td>
<td>Colorless like a corolla. Purple to white.</td>
</tr>
<tr>
<td></td>
<td>Sepals - United</td>
</tr>
<tr>
<td></td>
<td>Not United 6 to 8</td>
</tr>
<tr>
<td><strong>Corolla</strong></td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Polypetalous</td>
</tr>
<tr>
<td></td>
<td>Gamopetalous</td>
</tr>
<tr>
<td><strong>Stamens</strong></td>
<td>Numerous</td>
</tr>
<tr>
<td></td>
<td>Number Around twenty</td>
</tr>
<tr>
<td></td>
<td>Anther</td>
</tr>
<tr>
<td></td>
<td>Filament</td>
</tr>
<tr>
<td><strong>Pistil</strong></td>
<td>Simple; numerous</td>
</tr>
<tr>
<td></td>
<td>Ovary Simple</td>
</tr>
<tr>
<td></td>
<td>Stigma Entire</td>
</tr>
<tr>
<td><strong>Plant-Use</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Habitat</strong></td>
<td>Rich woodyslopes</td>
</tr>
<tr>
<td><strong>Locality</strong></td>
<td>Cedar Heights</td>
</tr>
<tr>
<td><strong>Remarks</strong></td>
<td>Involucral close to flowers, with three ovate and pointed lobes.</td>
</tr>
</tbody>
</table>

### CLASSIFICATION

| **Family** | Ranunculaceae |
| **Common Name** | Hepatica, Liverleaf, Noble Liverwort |
| **Genus** | Hepatica |
| **Species** | acutiloba |
| **Locality** | |
Genera  *Anemone*
Species  *quinquefolia*
Common Name  *Wood Anemone*
Locality  *Cedar Heights*
Habitat  *Margin of woods*
Remarks  
Date  *April 26, 1923*
Name  *J. Holstein*
**Plant Description**

<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Root</strong></td>
<td>Thick-filiform brownish rootstock</td>
</tr>
<tr>
<td><strong>Stem</strong></td>
<td>Simple arising from rootstock</td>
</tr>
<tr>
<td><strong>Leaves</strong></td>
<td>Involucre of three long-petioled, trifoliolate leaves, laminiately toothed</td>
</tr>
<tr>
<td><strong>Inflorescence</strong></td>
<td>Solitary Terminal</td>
</tr>
<tr>
<td><strong>Flower</strong></td>
<td>Complete, perfect regular</td>
</tr>
<tr>
<td><strong>Calyx</strong></td>
<td>White tinged with purple outside</td>
</tr>
<tr>
<td><strong>Sepals</strong></td>
<td>United</td>
</tr>
<tr>
<td><strong>Corolla</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Stamens</strong></td>
<td>Hypogynous</td>
</tr>
<tr>
<td><strong>Number</strong></td>
<td>Numerous</td>
</tr>
<tr>
<td><strong>Anther</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Filament</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Pistil</strong></td>
<td>Simple, 15-20 carpels separate</td>
</tr>
<tr>
<td><strong>Ovary</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Stigma</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Plant-Use</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Habitat</strong></td>
<td>Nova Scotia to Georgia and west to Rocky Mountains</td>
</tr>
<tr>
<td><strong>Locality</strong></td>
<td>Marginal wards</td>
</tr>
<tr>
<td><strong>Remarks</strong></td>
<td></td>
</tr>
</tbody>
</table>

**CLASSIFICATION**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family</strong></td>
<td>Ranunculaceae</td>
</tr>
<tr>
<td><strong>Common Name</strong></td>
<td>Good Anemone</td>
</tr>
<tr>
<td><strong>Genus</strong></td>
<td>Anemone</td>
</tr>
<tr>
<td><strong>Species</strong></td>
<td>quinquefolia</td>
</tr>
<tr>
<td><strong>Locality</strong></td>
<td>Cedar Heights</td>
</tr>
</tbody>
</table>
Genera  Aquilegia
Species  canadensis
Common Name  Wild Columbine
Locality  Cedar Falls, IA
Habitat  Rocks, open woods
Remarks  Apr.–June
Date  May 23, 1923
Name  K. W. Gilchrist
<table>
<thead>
<tr>
<th><strong>Plant Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student's Name</strong></td>
</tr>
</tbody>
</table>

**Root**: Fibrous  
**Stem**: Erect, somewhat branching  
**Leaves**: Two to three ternately compound, the leaflets lobed, palmately compound.  
**Inflorescence**: Axillary  
**Flower**: Complete, perfect.  
**Calyx**: Hypogynous, colored like the petals  
- **Sepals**: United  
- **Not United**: Five regular sepals  
**Corolla**: Hypogynous, scarlet, yellow inside  
- **Polypetalous**: Five petals all alike. with a short spreading  
- **Campanulate**: Life produced backward into large hollow spur.  
**Stamens**: Hypogynous.  
- **Number**: Numerous  
- **Anther**:  
- **Filament**:  
**Pistil**: Five separate carpels, with slender styles.  
- **Ovary**:  
- **Stigma**:  

**Plant Use**:  
**Habitat**: Rocks, open woods, etc.  
**Locality**:  
**Remarks**:  

**CLASSIFICATION**

- **Family**: Ranunculaceae  
- **Common Name**: Wild Columbine  
- **Genus**: Aquilegia  
- **Species**: canadensis  
- **Locality**: Cedar Falls, IA
Genera  
Species  
Common Name  
Locality  
Habitat  
Remarks  
Date  
Name
### Plant Description

<table>
<thead>
<tr>
<th>Student's Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>May 18, 1973</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Root</td>
<td>Fibrous</td>
</tr>
<tr>
<td>Stem</td>
<td>Erect from thick creeping rootstock.</td>
</tr>
<tr>
<td>Leaves</td>
<td>Orbicular, 5-9 lobed, the lobes along with wedge shaped.</td>
</tr>
<tr>
<td>Inflorescence</td>
<td>Solitary, blue leaves in fork.</td>
</tr>
<tr>
<td>Flower</td>
<td>Complete, perfect.</td>
</tr>
<tr>
<td>Calyx</td>
<td>Hypogynous - Sepals united</td>
</tr>
<tr>
<td></td>
<td>Not united - Three sepals</td>
</tr>
<tr>
<td>Corolla</td>
<td>Hypogynous, creamish colored</td>
</tr>
<tr>
<td></td>
<td>Polypetalous 6-9 petals obovate</td>
</tr>
<tr>
<td>Stamens</td>
<td>Hypogynous</td>
</tr>
<tr>
<td></td>
<td>Number 12-18</td>
</tr>
<tr>
<td>Anther</td>
<td></td>
</tr>
<tr>
<td>Filament</td>
<td></td>
</tr>
<tr>
<td>Pistil</td>
<td>One simple</td>
</tr>
<tr>
<td></td>
<td>Ovary one-celled with one fructal placenta</td>
</tr>
<tr>
<td>Stigma</td>
<td>Large, thick, thick, undulate, sessile</td>
</tr>
<tr>
<td>Plant-Use</td>
<td></td>
</tr>
<tr>
<td>Habitat</td>
<td>Rich woods</td>
</tr>
<tr>
<td>Locality</td>
<td>West Inc. and/or N.E. T. Munir and south</td>
</tr>
<tr>
<td>Remarks</td>
<td>May. Flowers end with three green bractlets.</td>
</tr>
</tbody>
</table>

### Classification

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>Berberidaceae</td>
</tr>
<tr>
<td>Common Name</td>
<td>May Apple, Mandrake</td>
</tr>
<tr>
<td>Genus</td>
<td>Podophyllum</td>
</tr>
<tr>
<td>Species</td>
<td>Sultatun</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Heights, Do</td>
</tr>
</tbody>
</table>
Genera  Caulophyllum  
Species  thalictroides  
Common Name  Blue Cohosh  
Locality  Cedar Heights, So  
Habitat  Deep rich woods  
Remarks  Apr., May  
Date  May 5, 1923  
Name  [Blank]
## Plant Description

**Student's Name**

**Date** May 5, 1923

### Root
Fibrous

### Stem
Rough, crotched, sending up an erect, simple, naked stem.

### Leaves
Terminally compound, the segments oval, elongate, 3-5-lobed near the apex.

### Inflorescence
Pamlole

### Flower
Complete, perfect, regular

### Calyx
Hyogynous, greenish-yellow.

- **Sepals** - United
- **Not United** - Set sepal with 3 or 4 small bractlets at base

### Corolla
Hyogynous,

- **Polypetalous** - Petals 6 thick gland like, with short claws, much
- **Gamopetalous** - Smaller than sepals, meet at the base of each other

### Stamens
Hyogynous, opposite petals.

- **Number** 6
- **Anther**
- **Filament**

### Pistil
One, simple.

- **Ovary** One-celled
- **Stigma** Minute

### Plant Use

### Habitat
Deep rich woods

### Locality
N. Y. to Mass., and south.

### Remarks
Apr., May

### Classification

<table>
<thead>
<tr>
<th>Family</th>
<th>Berberidaceae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
<td>Blue cohosh</td>
</tr>
<tr>
<td>Genus</td>
<td>Caulophyllum</td>
</tr>
<tr>
<td>Species</td>
<td>Thalictrumoides</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Heights, Ia</td>
</tr>
<tr>
<td>Genera</td>
<td>Sanguinaria</td>
</tr>
<tr>
<td>------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Species</td>
<td>canadensis</td>
</tr>
<tr>
<td>Common Name</td>
<td>Bloodroot</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Heights</td>
</tr>
<tr>
<td>Habitat</td>
<td>Open rich woods</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>April 24, 1923</td>
</tr>
<tr>
<td>Name</td>
<td>Holchlan</td>
</tr>
</tbody>
</table>
**Plant Description**

**Student's Name**

**Date** April 24, 1923

**Root** Fibrous

**Stem** A thick, horizontal root stalk.

**Leaves** Palatomally 5-9 lobed, lobes rounded or toothed, on long petiole.

**Inflorescence** Solitary, in naked scape nearly as long as petals.

**Flower** Complete, regular, perfect.

**Calyx** Two sepals, falling when flower expands.

- Sepals - United
- Not United

**Corolla** Eight to twelve white petals, oblong or obovate.

- Polypetalous
- Yes. Petals quickly deciduous
- Gamopetalous

**Stamens** Numerous

- Number About twenty-four.

- Anther

- Filament

**Pistil** Compound.

- Ovary One-celled, with two or more parietal placentas

- Stigma Stigma two-ovuled

**Plant-Use**

**Habitat** Open rich woods.

**Locality** Cedar Heights

**Remarks**

**CLASSIFICATION**

**Family** Papaveraceae

**Common Name** Bloodroot (Name from color of juice)

**Genus** Sanguinaria

**Species** canadensis

**Locality**
Genera: Dicentra
Species: cucullaria
Common Name: Dutchman's Breeches
Locality: Cedar Heights
Habitat: Rich woods
Remarks: 
Date: April 25, 1923
Name: Holheim
### Plant Description

<table>
<thead>
<tr>
<th><strong>Student's Name</strong></th>
<th><strong>Date</strong></th>
<th>April 25 1923</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Root</strong></td>
<td>Fibrous, will grain-like tubers crowded to a scaly bulb.</td>
<td></td>
</tr>
<tr>
<td><strong>Stem</strong></td>
<td>Stemless</td>
<td></td>
</tr>
<tr>
<td><strong>Leaves</strong></td>
<td>Compound dissected leaves on a scape.</td>
<td></td>
</tr>
<tr>
<td><strong>Inflorescence</strong></td>
<td>Simple raceme</td>
<td></td>
</tr>
<tr>
<td><strong>Flower</strong></td>
<td>Complete, irregular, perfect</td>
<td></td>
</tr>
<tr>
<td><strong>Calyx</strong></td>
<td>Two small and scale-like sepals.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sepals - United</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not United Not.</td>
<td></td>
</tr>
<tr>
<td><strong>Corolla</strong></td>
<td>Flat-topped, closed, mostly white with a yellowish tip.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Polypetalous Four petals in two pairs, the outer spurred</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gamopetalous</td>
<td></td>
</tr>
<tr>
<td><strong>Stamens</strong></td>
<td>Hypogynous, diadelphous.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number Two pairs of three each</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anther Two sets close to stigma</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Filament Somewhat united</td>
<td></td>
</tr>
<tr>
<td><strong>Pistil</strong></td>
<td>Compound.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ovary One celled, with two parietal placentas</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stigma Two crested</td>
<td></td>
</tr>
<tr>
<td><strong>Plant-Use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Habitat</strong></td>
<td>Rich woods</td>
<td></td>
</tr>
<tr>
<td><strong>Locality</strong></td>
<td>Cedar Heights</td>
<td></td>
</tr>
<tr>
<td><strong>Remarks</strong></td>
<td></td>
<td></td>
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</tbody>
</table>

### Classification

<table>
<thead>
<tr>
<th>Family</th>
<th>Smilacaceae</th>
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<tbody>
<tr>
<td>Common Name</td>
<td>Dutchman's Breeches</td>
</tr>
<tr>
<td>Genus</td>
<td>Dicentra</td>
</tr>
<tr>
<td>Species</td>
<td>cucullaria</td>
</tr>
<tr>
<td>Locality</td>
<td></td>
</tr>
</tbody>
</table>
## PLANT DESCRIPTION

<table>
<thead>
<tr>
<th>Root</th>
<th>Fibrous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stem</td>
<td>Erect or ascending, low</td>
</tr>
<tr>
<td>Leaves</td>
<td>Compound, the leaflets much divided, alternate</td>
</tr>
<tr>
<td>Inflorescence</td>
<td>Raceme</td>
</tr>
<tr>
<td>Flower</td>
<td>Complete, perfect, irregular</td>
</tr>
<tr>
<td>Calyx</td>
<td>Hypogynous</td>
</tr>
<tr>
<td>Sepals</td>
<td>Three, small, fugacious</td>
</tr>
<tr>
<td>Corolla</td>
<td>Hypogynous, golden yellow with one spur</td>
</tr>
<tr>
<td>Petals</td>
<td>Four</td>
</tr>
<tr>
<td>Stamens</td>
<td>Two, filaments sit in two sets of the each</td>
</tr>
<tr>
<td>Anther</td>
<td>Needle-like, one two-celled, others one-celled</td>
</tr>
<tr>
<td>Pollen</td>
<td></td>
</tr>
<tr>
<td>Pistil</td>
<td>Compound</td>
</tr>
<tr>
<td>Ovary</td>
<td></td>
</tr>
<tr>
<td>Stigma</td>
<td></td>
</tr>
<tr>
<td>Fruit</td>
<td>A capsule</td>
</tr>
<tr>
<td>Seeds</td>
<td>Many</td>
</tr>
</tbody>
</table>

### Habitat

### Remarks
White, and Mt.

---

## DRAWINGS

---

## CLASSIFICATION

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Family</td>
<td>Sunfloweraceae</td>
</tr>
<tr>
<td>Scientific Name</td>
<td><em>Helianthus annuus</em></td>
</tr>
<tr>
<td>Common Name</td>
<td>Golden Sunflower</td>
</tr>
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</table>

Date: May 23, 1923

---


*Copyright, 1900, 1901, by W.H. D. Meier.*
Genera  Draba
Species  rema
Common Name  Whirlow Grass
Locality  Near Cedar Heights
Habitat  Sandprairie plants
Remarks
Date  April 26, 1923
Name  Stolheim
Plant Description

Student's Name

Date April 26 1923

Root Fibrous
Stem Short, slender
Leaves Simple, obtuse to ovate, pubescent

Inflorescence Raceme
Flower Complete, perfect, regular
Calyx Hypogynous
   Sepals - United
   Not United Four ovate green sepals
Corolla White, hypogynous cruciform
   Polypetalous Four bifid petals
   Gamopetalous
Stamens Hypogynous
   Number Six
   Anther
   Filament
Pistil Compound, two carpels
   Ovary With two parietal placentas
   Stigma

Plant-Use
Habitat Sandy waste places and road sides
Locality Mass. to Minn. and southwest
Remarks

CLASSIFICATION

Family Cruciferae
Common Name Whitlow Grass
Genus Oroba
Species Hina
Locality Along railroad track near Cedar Heights
Genera  Capsella  
Species  Bina. patrus  
Common Name  Shepherd's Pains  
Locality  Cedar Falls, Io  
Habitat  In field and wastelands  
Remarks  Jan.-Dec.  
Date  April 27, 1973  
Name  J. Bolheim
Plant Description

Student's Name

Date April 27, 1923

Root Taproot, long, slender, straight.

Stem Erect, smooth, branching.

Leaves Form a rosette at base of stem. Leaves on stem also but smaller, arrow-shaped, sessile.

Inflorescence Raceme

Flower Complete, perfect, regular.

Calyx Hypogynous

Sepals - United

Not United Four ovate sepals, pubescent.

Corolla Hypogynous, white

Polypetalous Four petals

Gamopetalous

Stamens Hypogynous, two shorter than others

Number Six

Anther

Filament

Pistil One, compound.

Ovary Two-celled

Stigma Around knot

Plant-Use

Habitat In fields and waste places.

Locality Common all over


CLASSIFICATION

Family Cruciferae

Common Name Shepherd's Purse

Genus Capsella

Species Bursa-pastoris

Locality Cedar Falls, IA
<table>
<thead>
<tr>
<th>Genera</th>
<th>Dentaria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>laciniata</td>
</tr>
<tr>
<td>Common Name</td>
<td>Footwort</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Heights</td>
</tr>
<tr>
<td>Habitat</td>
<td>Rich damp woods</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>April 27, 1923</td>
</tr>
<tr>
<td>Name</td>
<td>Holheim</td>
</tr>
</tbody>
</table>
Plant Description

Student's Name

Date April 27 1923

Root Deep-seated tubers
Stem Erect, suberect.
Leaves Long linear leaves 3, yellow or nearly so, the lateral leaflets deeply cleft, glabrous or pubescent, the segments linear lanceolate, long, gash together.
Inflorescence Raceme
Flower Complete, perfect, regular
Calyx Hypogynous
   Sepals - United
      Not United, fan, lanceolate
Corolla Hypogynous, white or purplish
      Polypetalous, fan petals
      Gamopetalous
Stamens Hypogynous, two antes ones shorter than the others
      Number Six
      Anther
Filament
Pistil One, compound, long slender style
      Ovary Two-celled
      Stigma Knob-shaped

Plant-Use
Habitat Rich damp woods
Locality West 2nd and W. T. Main, and south
Remarks Open, early May

CLASSIFICATION

Family Cruciferae
Common Name Toothwort, Pepper-root
Genus Dentaria
Species laciniosa
Locality Cedar Heights
Genera  *Potentilla*
Species  
Common Name  *Cinquefoil*
Locality  *Cedar Falls, IA*
Habitat  
Remarks  
Date  *May 23, 1923*
Name  *J. L. Kilham*
<table>
<thead>
<tr>
<th>Plant Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student's Name</td>
</tr>
<tr>
<td>Date: May 23 1923</td>
</tr>
<tr>
<td>Root</td>
</tr>
<tr>
<td>Stem</td>
</tr>
<tr>
<td>Leaves</td>
</tr>
<tr>
<td>Inflorescence</td>
</tr>
<tr>
<td>Flower</td>
</tr>
<tr>
<td>Calyx</td>
</tr>
<tr>
<td>Sepals - United</td>
</tr>
<tr>
<td>Not United</td>
</tr>
<tr>
<td>Corolla</td>
</tr>
<tr>
<td>Polypetalous</td>
</tr>
<tr>
<td>Gamopetalous</td>
</tr>
<tr>
<td>Stamens</td>
</tr>
<tr>
<td>Number</td>
</tr>
<tr>
<td>Anther</td>
</tr>
<tr>
<td>Filament</td>
</tr>
<tr>
<td>Pistil</td>
</tr>
<tr>
<td>Ovary</td>
</tr>
<tr>
<td>Stigma</td>
</tr>
<tr>
<td>Plant-Use</td>
</tr>
<tr>
<td>Habitat</td>
</tr>
<tr>
<td>Locality</td>
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<tr>
<td>Remarks</td>
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<tr>
<td>CLASSIFICATION</td>
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<tr>
<td>Family: Rosaceae</td>
</tr>
<tr>
<td>Common Name: Cinquefoil</td>
</tr>
<tr>
<td>Genus: Potentilla</td>
</tr>
<tr>
<td>Species: canadensis</td>
</tr>
<tr>
<td>Locality: Cedar Falls, IA</td>
</tr>
</tbody>
</table>

Genera   Scirpus
Species   californum
Common Name   Long-blunder Purple Grass
Locality   Cedar Falls, IA
Habitat   In dry or rocky soil
Remarks   May - July
Date   May 13, 1923
Name   H.S. Lehman
### Plant Description

**Student's Name**: [Blank]

**Date**: May 13, 1923

<table>
<thead>
<tr>
<th>Root</th>
<th>Fibrous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stem</td>
<td>Erect from thick rootstock, hairy</td>
</tr>
<tr>
<td>Leaves</td>
<td>Basal leaves reticulated, intermixed, leaflets along to oblate, deeply cut-striated</td>
</tr>
<tr>
<td>Inflorescence</td>
<td>Terminal and axillary</td>
</tr>
<tr>
<td>Flower</td>
<td>Complete, spurred, regular</td>
</tr>
<tr>
<td>Calyx</td>
<td>Hygrogyne, red, deeply 5-cleft, usually with small bractlets</td>
</tr>
<tr>
<td>Sepals</td>
<td>United at the sinus</td>
</tr>
<tr>
<td>Not United</td>
<td></td>
</tr>
<tr>
<td>Corolla</td>
<td>Hygrogyne</td>
</tr>
<tr>
<td>Polypetalous</td>
<td></td>
</tr>
<tr>
<td>Gamopetalous</td>
<td>Five petals, ovaries on a long, polygynous</td>
</tr>
<tr>
<td>Stamens</td>
<td>Penogynous</td>
</tr>
<tr>
<td>Number</td>
<td>Numerous</td>
</tr>
<tr>
<td>Anther</td>
<td></td>
</tr>
<tr>
<td>Filament</td>
<td></td>
</tr>
<tr>
<td>Pistil</td>
<td>Numerous separate carpels</td>
</tr>
<tr>
<td>Ovary</td>
<td></td>
</tr>
<tr>
<td>Stigma</td>
<td></td>
</tr>
</tbody>
</table>

**Plant-Use**

- In dry or rocky soil

**Habitat**: [Blank]

**Locality**: N. Ever. N.Y. to B.C., south to Mo., and in Rocky Mts. to Wyo.

**Remarks**: May - July.

---

### CLASSIFICATION

**Family**: Rosaceae

**Common Name**: Long-plumed Purple Avena

**Genus**: Geum

**Species**: triflorum

**Locality**: Cedar Falls, Ia.
<table>
<thead>
<tr>
<th>Genera</th>
<th><em>Astragalus</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td><em>decafortis</em></td>
</tr>
<tr>
<td>Common Name</td>
<td>Milk Vetch</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Falls, IA</td>
</tr>
<tr>
<td>Habitat</td>
<td>Sandy soil</td>
</tr>
<tr>
<td>Remarks</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>May 5, 1923</td>
</tr>
<tr>
<td>Name</td>
<td>Olson</td>
</tr>
</tbody>
</table>
Plant Description

Student's Name

Date May 5 1973

Root: Taproot with fibrous roots

Stem: Low, diffuse, many-stemmed

Leaves: Pinnately compound; leaflets oval to elongated, emarginate

Inflorescence: Spike

Flower: Complete, perfect, irregular

Calyx: Hypogynous
  Sepals - United, five-toothed.
  Not United

Corolla: Perigonous, purple
  Polypetalous
  Face irregular petals, papilionaceous
  Gamopetalous

Stamens: Diadelphous
  Number: Nine and one
  Anther
  Filament

Pistil: Simple
  Ovary: One-celled.
  Stigma

Plant-Use

Habitat: Sandy soil

Locality: W. Va. and Miss. to Ill., Ia., and Tex.

Remarks

CLASSIFICATION

Family: Leguminosae

Common Name

Genus: Astragalus

Species: distichus

Locality: Cedar Falls, Ia.
Genera: *Erhannum*
Species: *mauritanum*
Common Name: Field Keranium
Locality: Cedar Heights
Habitat: Open woods and fields
Remarks: July
Date: May 14, 1928
Name: [Signature]
Plant Description

Student's Name

Date May 14, 1923

Root Fibrous

Stem Erect, hairy with canes

Leaves About 5- parted, the wedge-shaped divisions lobed and cut at the end; small leaves long petiolated

Inflorescence Attending, peduncles 1-3 flowered

Flower Complete, perfect, regular

Calyx Hypogynous

Sepals - United

Not United Five slender, pointed sepals; pubescent

Corolla Hypogynous, light purple

Polypetalous Five petals, entire, bearded on the claw

Gamopetalous

Stamens Hypogynous, monadelphous at the base

Number Ten

Anther

Filament

Pistil Compound, maturing after stamens

Ovary Five-lobed

Stigma Five

Plant-Use

Habitat Open woods and fields

Locality Mt. to Man., and southern

Remarks Apr. - July

CLASSIFICATION

Family Geraniaceae

Common Name Wild Cranesbill, Wild Geranium

Genus Geranium

Species maculatum

Locality Cedar Heights
<table>
<thead>
<tr>
<th>Genera</th>
<th>Euphorbia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>cyparissias</td>
</tr>
<tr>
<td>Common Name</td>
<td>Cypress Spurge</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Falls, IA</td>
</tr>
<tr>
<td>Habitat</td>
<td>Dry or semi-dry waste places</td>
</tr>
<tr>
<td>Remarks</td>
<td>May, Sept.</td>
</tr>
<tr>
<td>Date</td>
<td>May 15, 1923</td>
</tr>
<tr>
<td>Name</td>
<td>W. B. Bothin</td>
</tr>
</tbody>
</table>
Plant Description

Student's Name

Date May 13 1923

Root Fibrous

Stem Erect from running rootstock

Leaves Simple, entire, linear, alternate; final leaves heart-shaped, sessile.

Inflorescence Umbel

Flower Monoecious, three in yellow involucres

Calyx Home

Sepals - United
Not United

Corolla Home

Polypetalous
Gamopetalous

Stamens One, sterile to each sterile flower, arising from the base of the involucres.

Number

Anther

Filament

Pistil One, compound, with three styles, each 2-lobed.

Ovary Three-lobed, three-celled

Stigma Bit

Plant-Use

Habitat Roadside and waste places

Locality

Remarks Plants with milky acid juice. May-Sept.

CLASSIFICATION

Family Euphorbiaceae

Common Name Cypress, Spurge

Genus Euphobia

Species Euphorbia paralias

Locality Cedar Falls, Ia
Genera Viola
Species excelsa
Common Name Marsh Blue Violet
Locality
Habitat wet places
Remarks
Date May 3, 1923
Name H. Rochein
Plant Description

Root: Fleshy, thickened rootstock

Stem: Acroductus

Leaves: Acute except the earliest ones

Inflorescence: Solitary, terminal

Flower: Complete, perfect, irregular

Calyx: Hysogynous
  Sepals: United
  Not: United
  Fire: Narrowly lanceolate

Corolla: Violet-blue, hypogynous, 1-spurred
  Polypetalous: First petal, spurred, petals globose
  Gamopetalous

Stamens: Hysogynous
  Number: Five
  Anther:
  Filament:

Pistil: One, compound
  Ovary: One-celled, with three parietal placentas
  Stigma: Within tip of the beck of the style

Plant-Use:

Habitat: Wet places

Locality:

Remarks:

CLASSIFICATION

Family: Violaceae
Common Name: Marsh Blue Violet
Genus: Viola
Species: cucullata
Locality:
Genera: Viola
Species: papilionacea
Common Name: Violet
Locality: Dry Run, 13th Cedar Fork
Habitat: moist meadows, grass
Remarks
Date: April 30, 1923
Name: Feldheim
Plant Description

Student's Name

Date April 30 1923

Root Flaky, thickened rootstock, without runners.

Stem Stemless


Inflorescence Solitary, terminal.

Flower Complete, perfect, irregular, chirostogamous messelpoint.

Calyx Hypogynous

Sepals - United
Not United Fire, ovate, to lanceolate.

Corolla Violet, spurred, hypogynous.

Polypetalous Five petals, spurred petal adnate to perianth without scattered hairs. Petals white or greenish yellow

Gamopetalous

Stamens Hypogynous, closely surrounding ovary, slightly differing.

Number Five
Anther
Filament

Pistil One, compound.

Ovary One-celled, with three parietal placenta.
Stigma Within tip of the style of the style.

Plant-Use

Habitat Borders of streams, moist meadows and groves.
Locality Mass., N. Minn., and southern.
Remarks

CLASSIFICATION

Family Violaceae
Common Name Violet
Genus Viola
Species Papilionacea
Locality Dry Run, Cedar Falls, on 13th St.
Genera Viola
Species sororia
Common Name Hoary Blue Violet
Locality Cedar Heights, So
Habitat Most meadows, alvar sands
Remarks
Date May 5, 1923
Name B.S. Holleman
Plant Description

Root: Fleshy, thickened rootstock.

Stem: Adolescent.

Leaves: Ascending, cordate-ovate or heart-shaped, pubescent, crenate.

Inflorescence: Solitary, terminal.

Flower: Complete, perfect, irregular.

Calyx: Hyogynous.

Sepals: United.

Corolla: Violet to lavender and occasionally white, hyogynous, spurred.

Polypetalous: Five petals, spurred, petal glabrous or bearing only.

Gamopetalous: Scattered hairs.

Stamens: Hyogynous, closely surrounding ovary, slightly entering.

Number: Five.

Anther: 

Filament: 

Pistil: One, compound.

Ovary: One-celled, with three parietal placentae.

Stigma: Within tip of the back of the style.

Plant-Use:

Habitat: Most meadows, alluvial woods, shady edges and yards.

Locality: West due to Minn. and souther.

Remarks:

CLASSIFICATION

Family: Violaceae.

Common Name: Woolly Blue Violet.

Genus: Viola.

Species: sororia.

Locality: Cedar Heights.
Genera: Viola
Species: scabriuscula
Common Name: Smooth Yellow Violet
Locality: Cedar Heights, La
Habitat: Moist woods, thickets
Remarks: 
Date: May 3, 1923
Name: K. E. Cheiman
## Plant Description

**Student's Name**

**Date** May 3, 1973

**Root** Short thick rootstock with fibrous offset

**Stem** Erect, commonly with 2-4 stems and 1-3 leaves per one rootstock

**Leaves** Heart-shaped, serrate

**Inflorescence** Axillary, solitary or medium peduncled

**Flower** Complete, perfect, irregular

**Calyx** Hypogynous

- Sepals - United
- Not United

**Corolla** Yellow, hypogynous, 1-spurred

- Polypetalous
- Campanulate

**Stamens** Hypogynous

- Number Five
- Anther
- Filament

**Pistil** One, compound

- Ovary One-celled, with three partial placentae
- Stigma

**Plant-Use**

**Habitat** Moist thickets, often in heavy soils

**Locality** Near S. Woonsocket, and south

**Remarks**

---

## CLASSIFICATION

**Family** Violaceae

**Common Name** Smooth Yellow violet

**Genus** Viola

**Species** scabriuscula

**Locality** Cedar Heights
Genera  Aralia  
Species  andicaulis  
Common Name  Wild Sarsaparilla  
Locality  Cedar Heights  In  
Habitat  Mixed woodlands  
Remarks  May, June  
Date  May 17, 1923  
Name  C. V. Collected
Root: Very long, fleshy, aromatic
Stem: Very short or none.
Leaves: A long, narrow sheathing base with 6-12 in. long compound in their common division with five leaflets, water and bridge minute.
Inflorescence: A short nodded scape usually bearing 3 short, pleated, umbels.
Flower: Complete, perfect, regular
Calyx: Epigynous, triangular or 5-toothed
Sepals - United
Not United
Corolla: Epigynous
Polypetalous: Petals 5, spreading
Gamopetalous
Stamens: Epigynous
Number: 5
Anther
Filament
Pistil: Compound with 5 styles
Ovary: Five-celled
Stigma
Plant-Use
Habitat: Moist woodlands
Locality: Wd. in Va., Col. and Ida.
Remarks: May, June

CLASSIFICATION
Family: Alaliaceae
Common Name: Wild Sarsaparilla
Genus: Alalia
Species: 
Locality: Cedar Heights, Va.
Genera: Ellisiana
Species: mctelea
Common Name: 
Locality: Cedar Heights, Da
Habitat: shady damp places
Date: May 25, 1923
Name: Rolheim
<table>
<thead>
<tr>
<th>Trait</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Root</td>
<td>Tap-root</td>
</tr>
<tr>
<td>Stem</td>
<td>Erect, several times forked, sparingly roughish, hairy.</td>
</tr>
<tr>
<td>Leaves</td>
<td>Simple, remotely divided, the upper alternate leaves opposite, segments long, dentate, entire or lobed.</td>
</tr>
<tr>
<td>Inflorescence</td>
<td>Solitary</td>
</tr>
<tr>
<td>Flower</td>
<td>Complete, perfect, regular</td>
</tr>
<tr>
<td>Calyx</td>
<td>Hypogynious</td>
</tr>
<tr>
<td>Sepals</td>
<td>United, 5-lobed, lobes lanceolate, much enlarged.</td>
</tr>
<tr>
<td>Not United</td>
<td>in fruit, pubescent.</td>
</tr>
<tr>
<td>Corolla</td>
<td>Hypogynous, whitish with purple spots.</td>
</tr>
<tr>
<td>Polypetalous</td>
<td></td>
</tr>
<tr>
<td>Gamopetalous</td>
<td>5-lobed</td>
</tr>
<tr>
<td>Stamens</td>
<td>Inserted on the corolla tube</td>
</tr>
<tr>
<td>Number</td>
<td>5 or 6</td>
</tr>
<tr>
<td>Anther</td>
<td></td>
</tr>
<tr>
<td>Filament</td>
<td></td>
</tr>
<tr>
<td>Pistil</td>
<td>Compound</td>
</tr>
<tr>
<td>Ovary</td>
<td>Inserted with two parietal placentae.</td>
</tr>
<tr>
<td>Stigma</td>
<td></td>
</tr>
<tr>
<td>Plant-Use</td>
<td></td>
</tr>
<tr>
<td>Habitat</td>
<td>Shady damp places.</td>
</tr>
<tr>
<td>Locality</td>
<td>N. to S. and S.</td>
</tr>
<tr>
<td>Remarks</td>
<td>April-July.</td>
</tr>
</tbody>
</table>

**CLASSIFICATION**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>Hydrophyllaceae</td>
</tr>
<tr>
<td>Common Name</td>
<td>Ellisia × Macrocalyx</td>
</tr>
<tr>
<td>Genus</td>
<td>nyctelea</td>
</tr>
<tr>
<td>Species</td>
<td>nyctelea</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Falls, Ia</td>
</tr>
</tbody>
</table>
Genera: "virescens"
Species: "virginica"
Common Name: "Bluestar, Spearwort"
Locality: "West of Cedar Falls, IA"
Habitat: "Damp fen woods"
Remarks: 
Date: "April 28, 1923"
Name: "Holcolm"
Plant Description

Student's Name

Date April 28 1923

Root Fascicle

Stem Smooth, pale, erect.

Leaves Basal leaves large, oblong or nearly so and petiolate; stem leaves small, obtuse; entire.

Inflorescence Panicked raceme-like clusters.

Flower Complete, perfect, regular.

Calyx Short, deeply 5-lobed, hypanthious.

Sepals - United somewhat, Not United

Corolla Trumpet-shaped, orchid to blue, epigynous, much longer than calyx.

Polypetalous With free small folds or crests.

Gamopetalous With free small folds or crests.

Stamens Inserted on corolla tube.

Number Five

Anther

Filament

Pistil One, compound, style long and slender.

Ovary Deeply 4-lobed, 4-valved, central placentae

Stigma

Plant-Use

Habitat Damp, open woods, and banks of streams, sometimes cultivated.

Locality N. Y. and Ont. to N. B. and southern.

Remarks Apr., May.

CLASSIFICATION

Family Scrophulariaceae

Common Name Virginia Snailflower, Bluebells, Virginian Snailflower.

Genus Scrophularia

Species virginica

Locality St. of Cedar Rock, Va., along river.
Genera: Lithospermum
Species: canescens
Common Name: Puccoon
Locality: Cedar Falls, Ia.
Habitat: In sandy soil.
Remarks: Apr. May
Date: May 25, 1923
Name: Holleim
**Plant Description**

<table>
<thead>
<tr>
<th>Student's Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>May 25, 1973</td>
</tr>
</tbody>
</table>

**Root**
Fibrous

**Stem**
Erect, hairy, decurved at tip, from a thickened rootstock

**Leaves**
Oblong-linear, oblong-obovate, downy beneath and roughish with close appressed hairs

**Inflorescence**
Axillary

**Flower**
Complete, perfect, regular

**Calyx**
Hygragnous
- Sepals - United
- Not United
- Five sepals

**Corolla**
Epigynous, orange-yellow
- Polypetalous
- Gamopetalous
- Five-lobed, lobes undamaged

**Stamens**
Inserted in the corolla tube
- Number: Five
- Anther
- Filament

**Pistil**
Compound
- Ovary deeply 4-lobed, 4-valved
- Stigma

**Plant-Use**
Plains and open woods, in sandy soil

**Habitat**
Ont., N. J., Va.

**Locality**

**Remarks**
Apr., May

---

**CLASSIFICATION**

<table>
<thead>
<tr>
<th>Family</th>
<th>Bragimaceae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
<td>Puccoon, Indian Paint</td>
</tr>
<tr>
<td>Genus</td>
<td>Lithospermum</td>
</tr>
<tr>
<td>Species</td>
<td>canescens</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Falls, Va.,</td>
</tr>
</tbody>
</table>
Genera: Lithospermum
Species: angustifolium
Common Name: Tower-land Puccoon
Locality: Cedar Falls, IA
Habitat: Indeg soil.
Date: May 18, 1923
Name: C. Socheim
Plant Description

Student's Name

Date May 18, 1923

Root Deep, woody

Stem Erect, branching, strigose-pubescent and sessile.

Leaves Linear, sessile (acute or acutish), simple.

Inflorescence Terminal, leafy raceme

Flower Complete, perfect, regular.

Calyx Hypogynous

Sepals United

Corolla Epigynous, bright yellow, salverform

Polypetalous

Gamopetalous Five, lobed, the lobes some dentate

Stamens Inserted on the corolla tube

Number Five

Anther Nearly sessile

Filament

Pistil Compound, with a long, slender style

Ovary Deeply 4-lobed, 4-valved

Stigma

Plant-Use

Habitat In dry soil

Locality S. Atl., N. Dak., and Mich. to W. Odo, Tex., and west

Remarks Sep., July

---

CLASSIFICATION

Family Boraginaceae

Common Name Narrow-leaved Puccoon

Genus Lithospermum

Species angustifolium

Locality Cedar Falls, Ia. (Railroad track)
Genera  Nepeta
Species  Sedoaria
Common Name  Ground Ivy
Locality  Cedar Heights
Habitat  Indiana places
Remarks
Date  May 3, 1923
Name  Holheim
**Plant Description**

<table>
<thead>
<tr>
<th>Student's Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>May 3 1923</td>
</tr>
</tbody>
</table>

**Root**  
Fibrous

**Stem**  
Trailing stem with erect stem at nodes.

**Leaves**  
Petioled, round, kidney-shaped, crenate, pelt on both sides, opposite.

**Inflorescence**  
Axillary and terminal clusters

**Flower**  
Complete, perfect, irregular.

**Calyx**  
Hydrogynous, tubular, 5-toothed.
  
Sepals - United
  
Not United

**Corolla**  
Blush-purple, three times as long as calyx, epigynous
  
Polypetalous
  
Gamopetalous
  
Labiate, lower petal villous

**Stamens**  
Inserted in corolla tube
  
Number
  
Four, ascending under the upper lip; upper lip longer
  
Anther

**Filament**

**Pistil**  
One, compound
  
Ovary
  
Deeply four-lobed
  
Stigma
  
Two, orbicular lobes

**Plant Use**

**Habitat**  
Indians place about houses and gardens, woods

**Locality**  
Newfoundland to Ont., Minn. south to Tex. Kansas

**Remarks**  
May-July

---

**CLASSIFICATION**

<table>
<thead>
<tr>
<th>Family</th>
<th>Sabiataceae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
<td>Ground Ivy</td>
</tr>
<tr>
<td>Genus</td>
<td>Hegata</td>
</tr>
<tr>
<td>Species</td>
<td>hederacea</td>
</tr>
<tr>
<td>Locality</td>
<td>Cedar Heights</td>
</tr>
</tbody>
</table>
Genera: Phlox  
Species: piloso  
Common Name: Downy Phlox  
Locality: Cedar Heights  
Habitat: Dry sandy woods, prairie  
Remarks:  
Date: May 5, 1923  
Name: J.B. Helheim
Plant Description

Student’s Name

Date May 5 1923

Root

Stem Erect, slender, hairy.

Leaves Opposite, lanceolate to linear, tips pointed, sessile, downy.

Inflorescence Cymose cymes.

Flower Complete, perfect.

Calyx Hypogynous

- Sepals - United, calyx-teeth slender, ovate-shaped, longer than the tube, pubescent.
- Not United

Corolla Hypogynous, pink-purple to white, with lavender.

- Polypetalous
- Gamopetalous, lobes of corolla ovate, entire.

Stamens Unequally inserted in the corolla tube

- Number Three.
- Anther
- Filament

Pistil One compound, with three-lobed style.

- Ovary Three-celled
- Stigma

Plant Use

Habitat Dry and sandy woods, prairies, etc.

Locality Dept. Man. coast

Remarks May, June

---

CLASSIFICATION

Family Polemoniaceae

Common Name Downy Phlox

Genus Phlox

Species pilosa

Locality Cedar Heights in sandy place.
Genera Philop
Species bifida
Common Name Philop
Locality Northwest of Eden Falls
Habitat Sandy soil
Remarks
Date May 5, 1923
Name Holcolm
Plant Description

Student's Name

Date May 5, 1923

Root Fibrous

Stem Creeping with upright branches, pubescent

Leaves Linear, becoming nearly glabrous.

Inflorescence

Flower Complete, perfect

Calyx Hygrogyrous

Sepals United, five calyx-teeth-arched, about is long

Not United as the tube.

Corolla Pale purple, hygrogyrous.

Polypetalous

Gamopetalous Styles of petals 2-cleft to or below the middle.

Stamens Unequally inserted in the corolla tube.

Number Five

Anther

Filament

Pistil One, compound, with 3-lobed style

Ovary Three-celled, central placent.

Stigma

Plant-Use

Habitat Sandy soil.

Locality Ind. to Mich., Ia., and Mo.

Remarks May, June.

CLASSIFICATION

Family Polemoniaceae

Common Name Phlox

Genus Phlox

Species bifida

Locality Northwest of Cedar Falls.
Genera: Polemonium
Species: reptans
Common Name: Blue Valerian
Locality: Cedar Heights
Habitat: damp, open woods
Remarks: 
Date: May 5, 1973
Name: R. Bolchem
Plant Description

Student's Name

Date May 5, 1923

Root
Short rootstock with fleshy, fibrous roots.

Stem
Erect, weak and spreading.

Leaves
Pinnately compound, alternate; leaflets 5-15, ovate-lanceolate or oblong.

Inflorescence
Axillary, corymbose.

Flower
Complete, perfect, regular.

Calyx
Hypogynous.

Sepals - United: Somewhat lobes ovate, shorter than tube; fine.
Not United.

Corolla
Light blue, bell-shaped, hypogynous.

Polypetalous.

Gamopetalous: Longer than calyx, four petal lobes.

Stamens
Inserted in throat of corolla tube.

Number
Five.

Anther
Dittate.

Filament
Enlarged and hairy below, slender.

Pistil
One, compound, with 3-lobed style.

Ovary
Three-celled.

Stigma

Plant-Use

Habitat
Damp, open woods.

Locality
N. Y. to Minn. and south.

Remarks
April-June.

CLASSIFICATION

Family
Polyonioaceae.

Common Name
Blue Valerian, Bluebell, Jacob's Sadder.

Genus
Polyonion.

Species
Columbiana.

Locality
Cedar Heights.
Genera: Lonicera
Species: Lonicera
Common Name: Lonicera
Locality: Cedar Falls, IA
Habitat: 
Remarks: 
Date: May 23, 1923
Name: [Signature]
Genera: Eriogonum
Species: 
Common Name: 
Locality: Cedar Falls, IA
Habitat: 
Remarks: 
Date: May 27, 1923
Name: Whedon
Plant Description

Student's Name

Date May 27, 1923

Root

Stem

Leaves

Inflorescence

Flower

Calyx
  Sepals - United
  Not United

Corolla
  Polypetalous
  Gamopetalous

Stamens
  Number
  Anther
  Filament

Pistil
  Ovary
  Stigma

Plant-Use

Habitat

Locality

Remarks

CLASSIFICATION

Family Compositae

Common Name

Genus Erigeron

Species

Locality Cedar Falls, IA
<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <em>Aquilegia flabellata</em></td>
<td>Rock Cucumber</td>
</tr>
<tr>
<td>2. <em>Dichapetalum vacuatum</em></td>
<td>Woodland Cucumber</td>
</tr>
<tr>
<td>3. <em>Ligustrum ovalifolium</em></td>
<td>Privet</td>
</tr>
<tr>
<td>4. <em>Lilium philadelphicum</em></td>
<td>White Lily</td>
</tr>
<tr>
<td>5. <em>Lilium bulbiferum</em></td>
<td>Yellow Flag-lily</td>
</tr>
<tr>
<td>6. <em>Lilium candidum</em></td>
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</tr>
<tr>
<td>7. <em>Lilium superbum</em></td>
<td>Turk's Cap Lily</td>
</tr>
<tr>
<td>8. <em>Lilium tigrinum</em></td>
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</tr>
<tr>
<td>9. <em>Lilium carinatum</em></td>
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<tr>
<td>10. <em>Lilium martagon</em></td>
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<td>47. <em>Lilium candidum</em></td>
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</tr>
<tr>
<td>50. <em>Lilium martagon</em></td>
<td>February Lily</td>
</tr>
</tbody>
</table>
# Atlas Series Science Covers and Tablets

*Uniform in size and perforation especially arranged for laboratory use.*

*All Tablets and Fillers are 7¼ x 9¾ inches.*

![Image of tablet covers]

The following sets contain 1 tablet, heavy ruled writing paper; 1 tablet, heavy white drawing paper and 1 set of covers. Covers may be had in four styles of fasteners as follows:

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Lace Fastener</th>
<th>Button Fastener</th>
<th>Collegiate Ring Fastener</th>
<th>Level Ring Fastener</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3-3</td>
</tr>
<tr>
<td>Botany</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>6-6</td>
</tr>
<tr>
<td>Zoology</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>9-9</td>
</tr>
<tr>
<td>Physiology</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>12-12</td>
</tr>
<tr>
<td>Agriculture</td>
<td>70</td>
<td>71</td>
<td>72</td>
<td>72-72</td>
</tr>
<tr>
<td>General Science</td>
<td>73</td>
<td>74</td>
<td>75</td>
<td>75-75</td>
</tr>
<tr>
<td>Blank Subject</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>21-21</td>
</tr>
</tbody>
</table>

The following sets contain 1 tablet, heavy ruled writing paper and 1 set of covers.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>Lace Fastener</th>
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<tbody>
<tr>
<td>History</td>
<td>22</td>
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<td>24-24</td>
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<td>Manual Training</td>
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<td>Domestic Science</td>
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<td>30-30</td>
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<td>Composition</td>
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<td>32</td>
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<td>33-33</td>
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<tr>
<td>Literature</td>
<td>34</td>
<td>35</td>
<td>36</td>
<td>36-36</td>
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</table>

The following sets contain 1 tablet, special ruled heavy writing paper and 1 set of covers.

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<tbody>
<tr>
<td>Rhetoric</td>
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<td>39-39</td>
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<tr>
<td>English</td>
<td>40</td>
<td>41</td>
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<td>42-42</td>
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</table>

The following sets contain 1 tablet, metrically metric paper and one set of covers.

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<td>48-48</td>
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<td>54-54</td>
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<td>57-57</td>
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<td>Trigonometry</td>
<td>58</td>
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<td>60</td>
<td>60-60</td>
</tr>
</tbody>
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