

FLORA OF DRY CREEK FALLS TRAIL
COLUMBIA GORGE
INCLUDING DESCRIPTIONS KEYS AND PICTURES AND
COVERING AN ALTITUDE OF
75' to 4000'

by

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DRY CREEK FALLS TRAIL

The Dry Creek Falls Trail follows along-side the rocky-bedded stream of Dry Creek wherever it is accessible. The verdure-bordered margins of the creek, along the trail, offer pleasant studies in the habitats of the various plants.

On a mossy stream bank of the upper part of the trail, the inconspicuous bronze bells of Stenanthium occidentale, the fragile white flowers of Clintonia uniflora, or the sturdy, solitary blossoms of Trillium ovatum may be sighted in early spring.

Along the creek, at the foot of some Douglas Fir tree clumps of Corallorhiza striata appear, growing amid the dry decaying needles. If there is a bed of Hypnum moss under the fir tree, one would spot the delicate slipper-shaped flowers of Cytherea bulbosa.

Where the vegetation is thick and tangled along the tumbling stream, and the forest floor is covered with the drying leaves of deciduous trees, the spider-like flowers of the aromatic Asarum caudatum thrive.

Along the trail, on the lower end, the drier habitats are in evidence. On the dry hillsides *Castilleja agustifolia*, *Valerianella congesta*, and *Comandra umbellata* bask in the sunshine.

Almost every kind of habitat may be encountered on this short trail of approximately five miles.

INTRODUCTION

While much has been published on the general flora of Oregon, including all of the Columbia Gorge area, there has been nothing published on the flora of any of the numerous trails or by-paths that are within walking distance from the Columbia River Highway.

At the time that the author was teaching in the Cascade Locks High School, the students brought plants to be identified. General books were consulted and the name found. The idea was formulated in the author's mind, then, to write a simplified book in which the students could trace their own specimens. It was this idea that suggested this study. The author has attempted to include all the flowering plants found in the Dry Creek vicinity. Descriptions of 32 families, 96 genera and 124 specimens are here presented.

LOCATION

The exact location of Dry Creek Falls Trail is found by following the Columbia River Gorge Highway from Portland for a distance of approximately forty-five miles east to the town of Cascade Locks. There to the right of the Cascade Locks High School building, as it faces the Columbia River, is the beginning of the Dry Creek Falls Trail. A large rock, that projects some fifty or seventy feet into the air, marks the beginning. This is called First Tooth Rock. First Tooth Rock bears the first flowers of the spring, but, for want of sufficient crevices to hold the moisture, it soon becomes a barren rock.

On the trail, through a little gulley, Second Tooth Rock is reached. This is a veritable paradise of flowers from early April until late summer. Here almost any kind of habitat is encountered, from a moist, shady, coniferous spot to an open, sunny meadow. Some habitats are in perpetual shadow, others subjected to constant sunshine. Some become dry immediately with the cessation of the spring rains; others are bathed constantly with little streamlets from underground springs.

The trail from Second Tooth Rock borders an open field for a distance of about one mile; then it plunges directly into the forest areas. Dry Creek is soon located and its source, Dry Creek Falls. An elevation of nearly 2000 feet has been attained at this point. Directly above this point is Benson Plateau with an elevation of 4,100 feet. If one were to continue this trail, Wahtum Lake or Chinesdere Mountain, 4,894, and Lost Lake, 5-6000 feet. To reach Lost Lake, however, the author went by automobile to Hood River, from there taking the Mount Hood Loop Highway.

HABITATS

Dry Creek Falls Trail was chosen by the author as a typical resort for Columbia Gorge flora. All the habitats experienced from Wahkenna Falls east to Herman Creek are in evidence on the Dry Creek Falls Trail. This entire region is typically a moist region. East of Herman Creek the rainfall is less; consequently, a different type of flora is noticed.

Not only is Dry Creek Falls Trail typical of all the Columbia Gorge Highway trails, but it also exhibits a wide range of plants growing at high altitudes. Plants that are found at Lost Lake at an elevation of

5000-6000 feet are found at the upper end of Dry Creek Falls Trail at an elevation of approximately 3000 feet.

To illustrate this point a partial list of flowering plants seen in the Lost Lake region that occur near the highest point of Dry Creek Falls is given below.

Trillium ovatum Pursh.
Streptopus curvipes Vail.
Disporum Smithii (Hook.) Piper.
Corallorhiza mertensiana Bong.
Cephalanthera Austiniae (Gray) Hel.
Listera corgata (L.) R. Br.
Rubus spectabilis Pursh.
Viola palustris L.
Cornus canadensis L.
Chimaphila umbellata Nutt.
Dodecatheon Jeffreyi Moore.
Trientalis europaea L.
Castilleja angustifolia G. Don.

On the other hand there are plants that grow at the higher elevations of Lost Lake that will not be found in the Dry Creek region. Some of these are:

Xerophyllum tenax (Pursh.) Nutt.
Veratrum viride Ait.
Tofieldia occidentalis S. Wats.
Erthythronium montanum Wats.
Montia asarifolia (Bong.) Howell.
Cardamine Breweri Wats.
Parnassia fimbriata Konig.

There was one essential difference noticed in the flowering plants that are habitants of both regions. Due to the higher degree of moisture and richer soil of the forested areas of Lost Lake, the plants reached

a more perfect and ranker growth than those in the Dry Creek region. *Cornus canadensis* L., for example, is a spindly dwarfed specimen in the Dry Creek region as compared to the charming little plant about six inches high with flower clusters an inch across, that grows in the Lost Lake region. Thus, higher altitudes plus the excessive moisture and rich soil produce larger, more beautiful and more perfect specimens of certain flowering plants.

PURPOSE

This study was made primarily for three reasons, namely:

1. To satisfy a long-standing interest in the flowering plants, their taxonomic identification, and their habitats.
2. To collect, identify and become acquainted with a large number of flowering plants in the field.
3. To formulate simplified keys for the families, genera, and species collected.

The author chose Dry Creek Falls Trail because of its proximity to her work.

MATERIALS AND METHODS

The material for this study was collected exclusively on the Dry Creek Falls Trail during the school terms 1935-36 and 1936-37. Collections were made every week during the fall and spring months. During the summer of 1936 and the summer of 1937, collections were made every month. Only one trip was available to Lost Lake. That day it rained, making collections poor. That was in the late spring of 1937. Another trip in late autumn was planned in the fall of 1938, but the weather conditions prohibited this trip. An early snow had taken place. All in all the Lost Lake collections were meager. However, the author feels justified in saying that the one trip was sufficiently worthwhile to indicate the general differences between the flora of the higher and lower altitudes. The keys for this study, however, include only the true Dry Creek Trail's flowering plants.

The specimens of each flowering plant were carefully pressed and dried at the author's home by a home-made plant press. With each plant complete field notes and a number were entered. Later, by the aid of Dr. Helen M. Gilkey's Handbook of Northwest Flowering Plants, the collector identified all the plants used in this paper.

The best specimens were selected. These were mounted on regular herbarium sheets and given a correct label.

From the detailed field notes recorded for each plant, the description was written. A general systematic plan was followed in writing the description of each family, each genus and each species. It was as follows:

A. Type of plant.

B. Underground system (if unusual).

C. Stem.

D. Leaves.

E. Flowers.

1. Calyx.
2. Corolla.
3. Stamens.
4. Pistil.
5. Fruit.

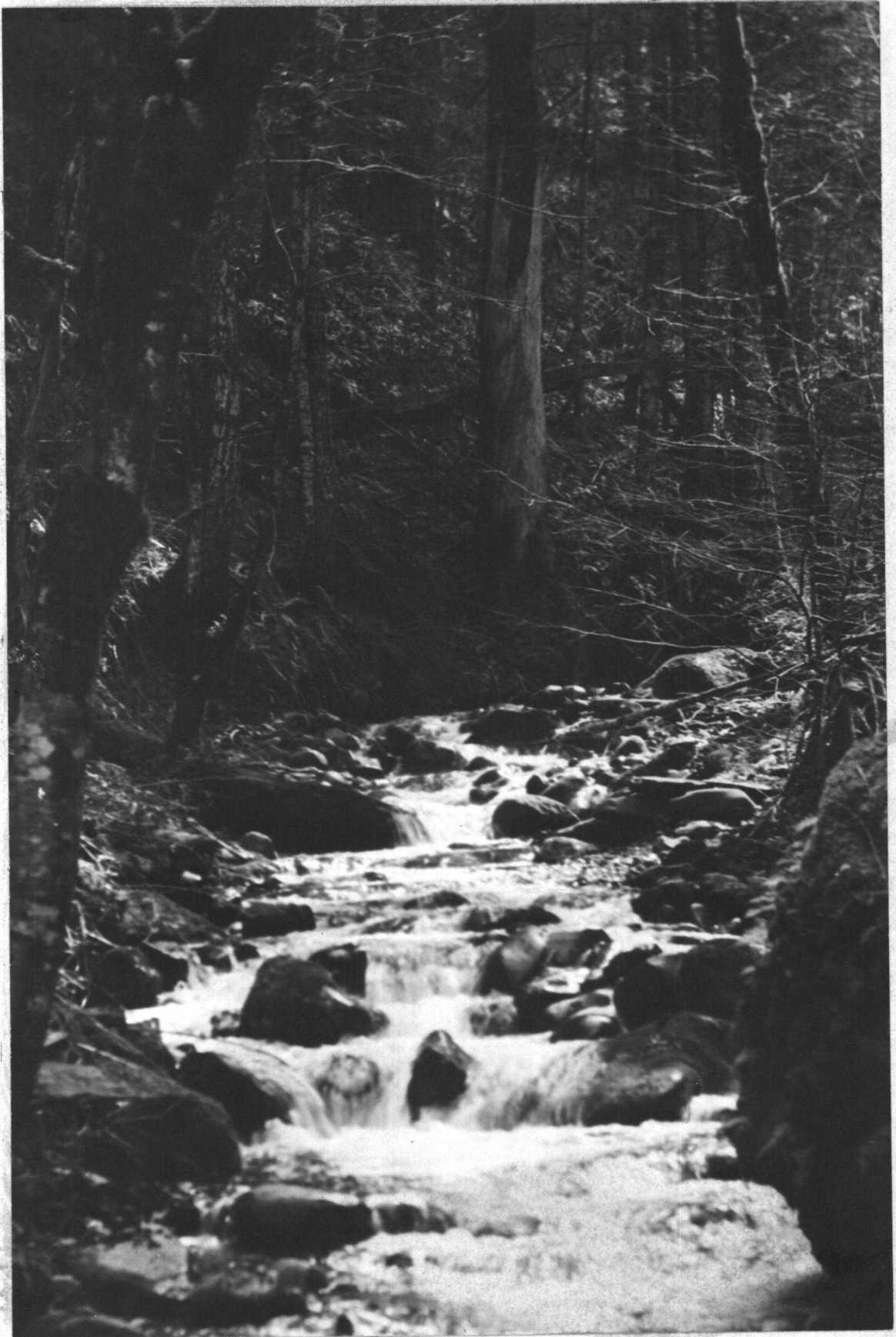
Following the description of species, data concerning the following are set down:

1. Habitat.

2. Date Collected

3. The Common Name.

It is hoped that this work may be of more merit and usefulness because of the added information in the paragraphs immediately below the species description. Care was taken to add in these paragraphs only scientific information concerning the plant. To the



DRY CREEK FALLS TRAIL

author the material cited added a combined reading knowledge and interest in the plant.

NOMENCLATURE

Considerable time was spent in the herbarium of Oregon State College checking the correctness of the scientific names of each specimen. In some cases the nomenclature has changed according to recent rulings of the botanical congresses. Changes that are of interest are listed here:

The genus, Hydrophyllum Tourn. was changed to Hydrophyllum L.; the genus, Symphoricarpos L. to Symphoricarpos Dil.

One interesting question arose as to Achlys triphylla (Smith) DC. 1821. Since Leontice was described at an earlier date than Achlys, why was Achlys retained?

Prodromus Systematis Naturalis at the University of Oregon was consulted. It was found that Smith described Leontice triphylla in 1812. In 1821 De Candolla took triphylla out of Leontice and the Berberideae family entirely, calling it Achlys triphylla and putting it in a new family, Popophyllaceae. Leontice was then divided into other genera. Triphylla was later returned

to Berberidaceae, but under the new generic name, Achlys, instead of Leontice. Thus, Achlys triphylla was retained.

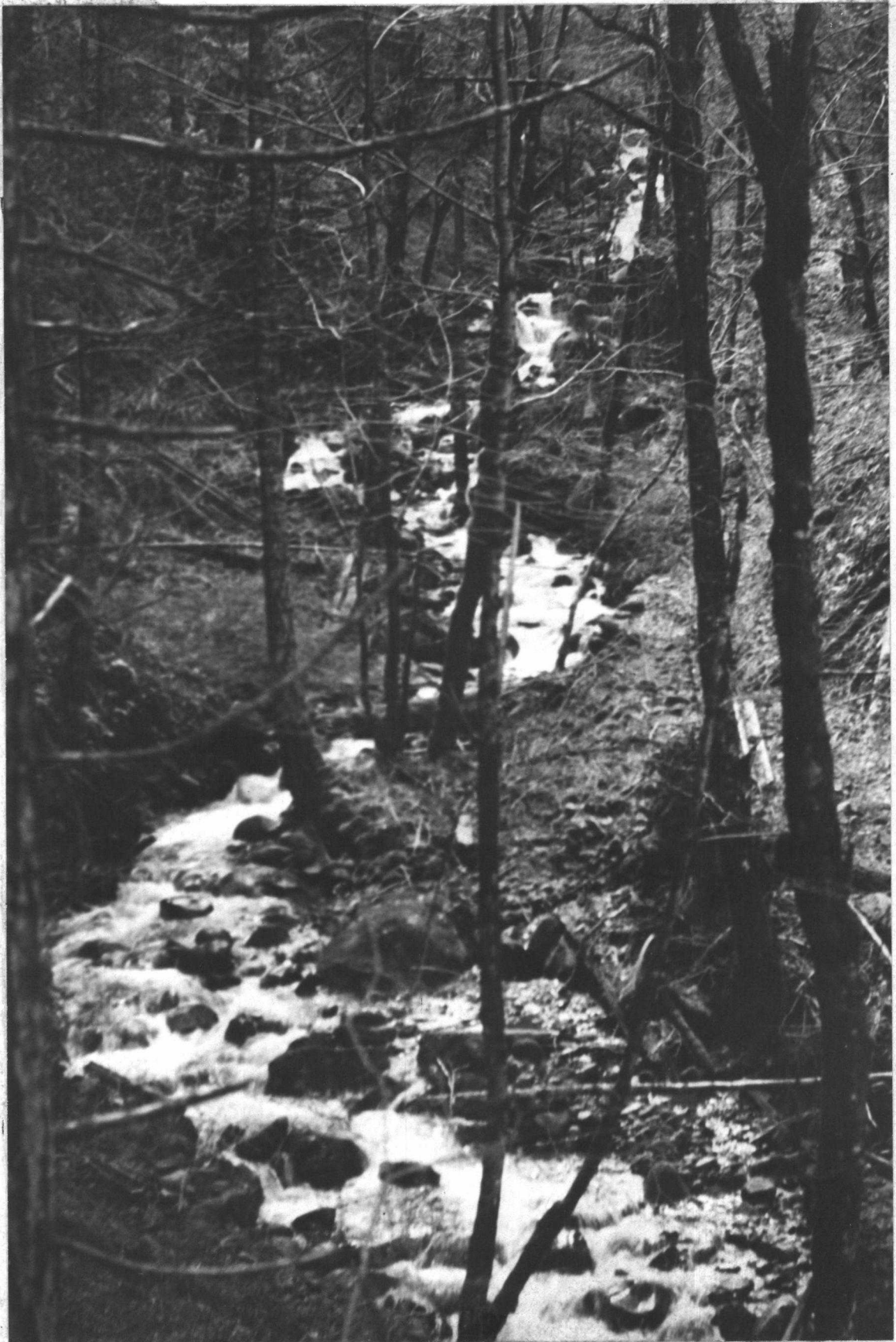
Synonyms are listed directly after the scientific name of each species of plant.

PHOTOGRAPHS

The pictures of Dry Creek, Dry Creek Falls, and Dry Creek Falls Trail were taken by the author to give the reader an exact idea of the habitats encountered. The other pictures were photographed by the Oregon State College Photography Department from the dried specimens on the herbarium sheets.

ACKNOWLEDGMENTS

This study has been carried on in the field and at the author's home laboratory, but always under the direction of Dr. Helen M. Gilkey, to whom the author wishes to express her appreciation of the valuable assistance and suggestions. The author owes much to her family, her mother and brother and his wife, for their willing help in collecting and their unrelenting moral support.



DRY CREEK

DRY CREEK

As the cool glacial waters of Dry Creek Falls descent over the rocky cliff, Dry Creek is born. As it leaves the deep pool, it quietly and slowly meanders down through the deep forest of Douglas Fir which is interspersed with a few straggling White Pine, Western Yew, and Red Cedar. Or, perhaps, it passes a group of slender Willows, an occasional Alder, or a flowering Dogwood tree. It may even struggle through a thick maze of Hazelnut, Chinquapin, or Vine Maple shrubs, or the branching Huckleberry, or massy Salal bushes. Finally, Dry Creek ends its journey and flows directly into the mighty Columbia River.

Early in the spring, as the snow melts on Chinidere Mountain and Benson Plateau, approximately 3,000 feet above Dry Creek Falls, the snow waters feed Dry Creek. In the late summer, the snow water supply is lessened and portions of Dry Creek are dry. Thus, did Dry Creek get its appropriate name.

KEY TO FAMILIES

A--Leaves aprallel-veined; flower parts in 3's
(rarely in 2's in Liliaceae)

a--Flowers regular; ovary superior----Liliaceae

a--Flowers irregular; ovary inferior--Orchidaceae

A--Leaves netted-veined; flower parts in 4's or 5's.

a--Corolla absent

b--Shrubs bearing catkins-----Corylaceae

b--Herbs

c--Partial parasites with greenish
flowers-----Santalaceae

c--Not parasites; calyx petal-like

d--Calyx brown in color-----Aristolochia-
ceae

d--Calyx blue or white in
color-----Ranunculaceae

a--Corolla present

b--Petals free from each other

c--Ovary superior

d--Stamens not borne on a disk or
enlarged receptacle

e--Flowers regular

f--Petals 6-----Berberdaceae

f--Petals 5 (rarely 4 or none in
Caryophyllaceae)

g--Stamens 3 to 10 8

Sepals 2-----Portulacaceae

Sepals 5 (rarely
4)-----Caryophyllaceae

- g--Stamens numerous
 - Pistil
 - Compound-----Hypericaceae
 - Pistils
 - simple-----Ranunculaceae
- f--Petals 4 (see also Caryophyllaceae)
- g--In the form of a cross-
Cruciferae
- g--Not in the form of a cross-
Caryophyllaceae
- e--Flowers irregular
- f--Petals 5
 - g--Corolla of 1 banner,
2 wings, 1 keel---Leguminaceae
 - g--Corolla of 2
upper, 2 lateral,
1 lower spurred
petal-----Violaceae
 - f--Petals 4, in 2 dis-
similar pairs-----Ranunculaceae
- d--Stamens borne on a disk
or enlarged receptacle
- e--Stamens same number as
petals and opposite
them-----Rhamnaceae
- e--Stamens numerous or
alternate with petals if
the same number-----Rosaceae
- c--Ovary inferior
 - d--Flower parts mostly in 5's
-----Saxifragaceae
 - d--Flower parts in 2's or 4's

- e--Fruit fleshy-----Cornaceae
- e--Fruit dry-----Onagraceae
- b--Petals more or less united
 - c--Stamens more than 5
 - d--Petals urn-shaped
or tubular-----Ericaceae
 - c--Stamens 5 or fewer
 - d--Ovary superior
 - e--Corolla irregular
 - f--Stems mostly
4-angled-----Labitae
 - f--Stems not
4-angled
 - g--Corolla 2-lipped
-----Scrophulariaceae
 - g--Corolla not 2-
lipped; petals
thread-like-----Saxifragaceae
 - e--Corolla regular
 - f--Pistils 2
 - g--Stamens alternate with
corolla lobes-----Apocynaceae
 - f--Pistils 1
 - g--Stamens same number as
corolla lobes and oppos-
ite them-----Primulaceae
 - g--Stamens alternate with
corolla lobes

h--Herbs with generally
3-branched style
-----Polemoniaceae

h--Style not 3-branched;
sepals separate nearly
to the base
-----Hydrophyllaceae

d--Ovary inferior

e--Stamens 8 or 10; evergreen
shrubs-----Ericaceae

e--Stamens fewer

f--Leaves generally alternate

g--Flowers in involucre
heads-----Compositae

g--Flowers not in invol-
ucre heads-----Campanulaceae

f--Leaves opposite or whorled

g--Flowers in involucre
heads-----Compositae

g--Flowers not in invol-
ucre heads

h--Erect or twining
shrubs-----Caprifoliaceae

h--Herbs

i--Fruits at maturity
separating into 2
1-seeded units-----Rubiaceae

i--Fruits not separating
at maturity-----Valerianaceae

LILIACEAE

Perennial herbs with bulbs, corms or rhizomes.
 Flowers mostly perfect, regular, conspicuous, 3-merous.
 Sepals and petals often similar in appearance. Stamens
 6 or fewer. Ovary superior, 3-loculed. Fruit a few-
 to many-seeded, 3-loculed capsule or berry.

A--leaves basal

a--Underground storage organ a bulb-----Allium

a--Underground storage organ a corm-----Brodiaea

A--Leaves appearing basal but borne above the corm or
 rhizome, or 1 basal leaf present and several stem
 leaves

a--Leaves few, 2 borne some distance above corm
 or rhizome

b--Fruit a capsule-----Erythronium

b--Fruit a berry-----Clintonia

a--Leaves several on the stem, 1 basal

leaf present-----Calochortus

A--Leaves neither basal nor appearing so

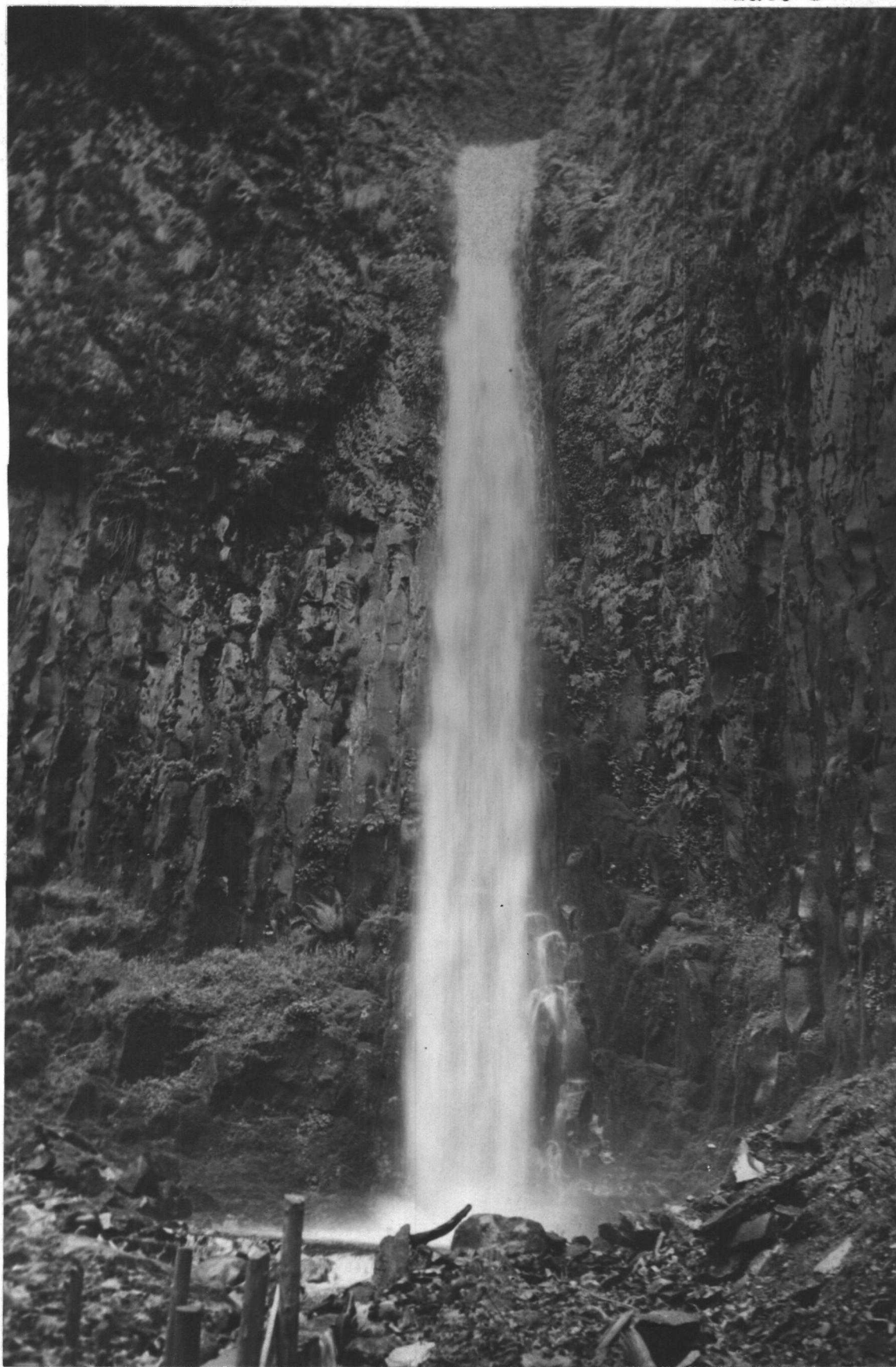
a--Leaves 3 in a whorl near apex of stem--Trillium

a--Leaves not as above

b--Stems unbranched

c--Leaves broad

- d--Leaves petioled, not in
 - a whorl-----Smilacina
- d--Leaves sessile, generally
 - in a whorl
 - d--Anthers attached at or
 - near base-----Fritillaria
 - e--Anthers versatile-----Lilium
- c--Leaves grass-like
 - d--Flowers purplish yellow----Stenanthium
 - d--Flowers white or
 - yellowish-----Zygadenus
- b--Stems: branched
 - e--Stems from short horizontal
 - rootstalks-----Disporum
 - c--Stems from long creeping rootstalks--
 - Streptopus



DRY CREEK FALLS

ALLIUM L.

Perennial herbs arising from bulbs which have a distinct onion-like odor and taste. Stem s very slender. Leaves basal, few, linear or lanceolate. Flowers borne in a terminal, simple, involucrate umbel; involucre consisting of prominent papery bracts. Flowers white, pink or purple, perianth segments 6 distinct or united at base. Stamens inserted at various levels on perianth segments. Ovary sessile, style filiform. Fruit a capsule, 3-loculed.

Allium acuminatum Hook.

Flowers mostly deep pink; petals $\frac{1}{2}$ inch or less in length, tips recurved; stamens shorter than corolla segments but generally showing; bulbs nearly globose with a thin veil-like coat which often has polygonal reticulations; leaves very narrow, withering and dying before or shortly after the blossoms appear; leaves shorter than the flowering stem.

Habitat: Open, dry hillsides.
Collected: June 15
Common Name: Wild Onion; Hooker's Onion

As soon as the sun sufficiently warms the earth very early in the spring, the fine, green, grass-like leaves of the Wild Onion start growing on the exposed hillsides.

That these green shoots are the Wild Onion is evidenced by the strong, pungent odor that fills the air. At onion-blossom time, May and June, the slopes of Second Tooth Rock are a myriad of bright rose-purple blossoms. These flowers are very hardy and persist during the driest season. Apparently the only species of this particular region is Allium acuminatum Hook.

Brodiaea Sm.

Erect herbs arising from perennial corms covered with a membranous coat. Leaves all basal, narrow and few. Flowers solitary or in a loose umbel-like cluster on jointed pedicels. Perianth segments partly united. Stamens 6, fertile, opposite the perianth segments, or 3 fertile and 3 sterile in 2 whorls. Capsule ovate-oblong. Seeds angled.

A--Flowers purple, fertile stamens 3

a--Flowers in compact head-like clusters--B. *pulchella*

a--Flowers on long pedicels in a loose
umbel--B. *coronaria*

A--Flowers whitish, fertile stamens 6.-----B. *hyacinthina*

Brodiaea pulchella (Salisb. Greene)

Hookera pulchella Salisb. 1806

Brodiaea congesta Smith. 1811

Dichelostemma congestum Kunth. 1843

Underground parts onion-like without the odor; peduncles 2 feet or more tall; leaves almost as long as the peduncle; flowers dark blue or purple in an umbel; stamens 6, 3 without anthers.

Habitat: Open fields, hillsides.
Common Name: Field Cluster Lily. Ockow.
Collected: July 1.

During late June and early July, when the slopes of Second Tooth Rock are dry and barren of most vegetation, the papery blue flowers of the Field Cluster Lily brighten the landscape. The beautiful flower clusters, of almost ever-lasting qualities, grow on peduncles that are a trifle too long and slender. This gives the whole plant a top-heavy appearance. Often the compact umbel of the flower is so heavy that the peduncle becomes bent and deformed. The leaves, also, are too long and they usually droop to the ground in an ungraceful manner. Unlike the other Brodiaeas, the leaves persist through the blooming period. The corm is very deep rooted and on no occasion was I able to get a specimen.

Brodiaea coronaria Jepson.

Corm solid, coated; peduncle slender, 6 to 18 inches tall; umbel of flowers loose, 2 to many flowered;

flowers dark purple with a distinct darker mid-rib,
on a long peduncle; stamens 6, 3 fertile.

Habitat: Dry hillsides.
Collected: July 1.
Common Name: Large Cluster Lily.
Harvest Lily.

The erect graceful Harvest Lily lends a sharp contrast to the awkward Ockow. The individual flowers look like little trumpets that wish to blast forth to the brown world that there is still beauty to be found.

Brodiaea hyacinthinia (Lindl) Baker.

Peduncle 1 to 2 feet tall; flowers in a loose umbel, 8-to many-flowered; perianth cream colored with a green mid-rib; stamens 6, fertile.

Habitat: Moist meadows.
Collected: July 1.
Common Name: White Cluster.

Unlike the other two Brodiaeas collected, the White Cluster Lily was found growing in a moist place. The creamy perianth segments, with their greenish cast, is a pleasing sight to see during the hot summer months. The leaves disappear entirely at the time of blooming.

Calochortus Pursh.

Perennial herbs from a coated corm, with one basal leaf. Stem leaves shorter and narrower than basal leaf, clasping. Flowers few, terminal. Sepals 3, more slender than petals. Petals 3, broad, hairy within, each bearing a gland at base. Stamens 6. Capsule 3-angled and 3-winged.

Calochortus Tolmiei Hook. and Arn.

Basal leaf usually taller than peduncle; basal leaf $\frac{1}{4}$ to $\frac{1}{2}$ inch wide, curved, linear; stem leaves alternate; flowers borne in angle of upper leaves, greenish white, capsule broadly-winged.

Habitat: Dry meadows, hillsides.
Collected: June 13
Common Name: Mariposa Lily. Cat's Ears.

This showy species of the Mariposa Lily is a common and well-known plant in the Dry Creek vicinity. It blossoms from early May to late June on the dry hillsides of Second Tooth Rock. The flowers are borne singly, or by two's and three's, on slender stems from six inches to a foot and a half high.

Clintonia Raf.

Herbs with slender, creeping rhizomes. Peduncle

Glabrous unbranched herbs arising from a stout, short, tuberous, vertical rhizome. Stems short, simple, with scarious sheaths at base. Leaves netted-veined,

Trillium L.

throughout.

than 2-leaved ones. The leaves are softly pubescent shady coniferous woods. More 2-leaved plants are found Dry Creek region. The plants grow in profusion in the and thin, soft, green leaves, is a common habitat of Clintonia, with its fragile, lily-like flowers

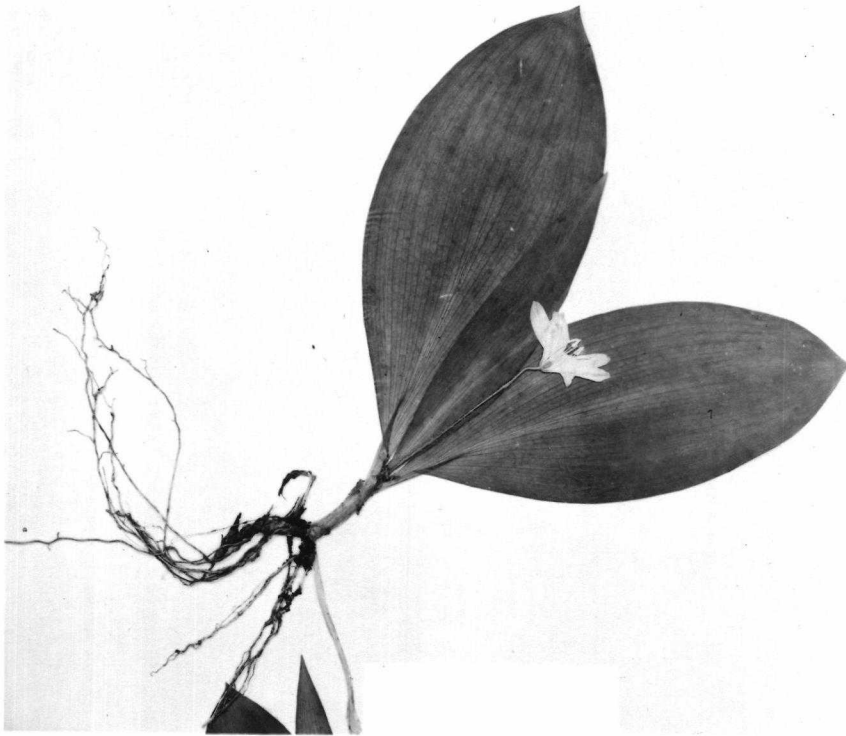
Habitat: Damp woods.
Collected: June 1 (flowers).
July 4 (seeds).
Common Name: Queen's Cup.

Leaves generally 2 or 3, lanceolate to oblong, obovate, tapering at base; peduncle shorter than leaves; flowers white, cup-shaped; stamens shorter than perianth segments; berries blue, 6 to 10 seeded.

Clintonia uniflora Kunth.

solitary. Leaves apparently basal, few or several. flowers solitary. Perianth segments similar, 6 equal, free segments. Stamens 6, inserted on bases of perianth segments. Fruit a berry.

Clintonia uniflora Kunth.



The pure-white flower and the large glossy leaves of the Queen's Cup fairly carpet the rich moist areas of the shady coniferous woods bordering Dry Creek early in June.

whorled at apex of stem. Flower parts in 3's, solitary. Stamens 6, shorter than the perianth segments, hypogynous. Ovary 3-loculed at base only. Fruit a fleshy capsule. Seeds many.

A--Flowers sessile-----T. sessile

A--Flowers stalked-----T. ovatum

Trillium ovatum Pursh.

Stems 3 to 12 inches tall; leaves broadly ovate, acute or tapering to a point at apex, not mottled, 3 main veins, appearing to be a netted-veined leaf; flower white, turning to a pink or deep red on aging; petals rather broad, 1 to 3 inches long. Capsule broad with 3 recurved wings.

Habitat: Moist woods.
Collected: April 10.
Common Name: Trillium. Wood Lilly.
Wake Robin.

The Trillium is the true herald of spring. It is not only the earliest to blossom; it is one of the most beautiful and most perfect. One could say that it is the only perfect lily. The leaves as well as the flower parts, are in three's. The woods along the Dry Creek Falls Trail become alive early in April with the handsome showy flowers. The pure white petals, arising on a slender pedicel above the whorled, unspotted green

leaves, are a delight to the eye. As the flowers age, the petals become tinged with pink and finally become a dark reddish color. Very rarely do the *Trilliums* of this region reach a large size. Most of them are small and delicate. The roots of the *Trilliums* have been used as medicine by the Indians. *Trillium sessile* does not occur along Dry Creek.

Smilacina Desf. ✓

Herbs with simple stems arising from a simple slender rootstalk. Stems scaly below, leafy above. Leaves wide, alternate, sessile. Inflorescence a terminal raceme or panicle. Perianth segments white or greenish, 6, equal, distinct, small, spreading. Stamens attached to base of perianth segments. Fruit a berry.

A--Panicle of many small flowers-----*S. amplexicaulis*

A--Raceme of few flowers larger than above--*S. sessilifolia*

Smilacina amplexicaulis Nutt. 1834.

Vagnera amplexicaulis (Nutt.) Greene. 1894
Smilacina amplexicaulis Nutt. 1834
Smilacina racemosa amplexicaulis Wats. 1871.
Vagnera brachypetala Rydberg. 1901.

Rootstalks stout with numerous long fibrous roots, creeping; stems 1 to 3 feet long; leaves acute, broadly ovate to lanceolate, 3 to 7 inches long, sometimes having a short dilated clasping petiole, rounded at the base; a many-flowered panicle of creamy white flowers; stamens longer than perianth segments; berry red with dark spots.

Habitat: Moist woods.
 Collected: May 5.
 Common Name: Large False Solomon's Seal.

Smilacina sessifolia Nutt. 1879.

Vagnera sessilifolia (Baker) Greene. 1894.
Tovaria sessifolia Baker. 1875.
Smilacina sessifolia Nutt. 1879.
Smilacina stellata sessilifolia Henderson. 1900.

Stems 1 to $\frac{1}{2}$ feet tall; leaves lanceolate, $1\frac{1}{2}$ to 4 inches long, clasping; racemes of 3 to 9, short petioled flowers; perianth segments longer than stamens; berry red.

Habitat: Moist woods.
 Collected: July 3.
 Common Name: Small False Solomon's Seal.

The False Solomon's Seals are shade-loving plants usually found under or near coniferous trees. Their

broad, parallel-veined leaves are quite conspicuous and easily recognized from a distance. S. amplexicaulis is more showy than S. sessilifolia and is rather coarse-looking. Both species are attractive, however, from the time of blossoming until the bright red berries appear in late summer.

Fritillaria L.

Bulb scaly. Leaves mostly whorled, alternate above and below. Flowers solitary or in clusters. Perianth widely campanulate. Sepals and petals alike. Stamens 6, hypogynous, included. Fruit a capsule, 6-angled.

Fritillaria lanceolata Pursh.

Bulb covered with rice-like scales resembling wheat grains or rice; upper and lower leaves in whorls of 3, sessile; flowers mottled purplish-brown with greenish-yellow spots predominantly near the edge of the petals; stigma 3-lobed, the lobes recurved.

Habitat: Dry, open woods.
Collected: May 1.
Common Name: Mission Bell. Rice Root.

Fritillaria lanceolata is generally found in open woods on Second Tooth Rock. Its large greenish brown bells are very abundant from the first of May until the latter part of the month.

Lilium L.

Stems leafy, arising from a scaly bulb. Flowers large, in bracted racemes, or umbel-like clusters. Sepals and petals alike, 6. Stamens 3. Fruit a capsule, erect.

A--Flowers white-----*L. washingtonianum*

A--Flowers orange-----*L. columbianum*

Lilium columbianum Hanson.

Lilium parviflorum (Hook.) Holzinger.

Stems 1 to 6 feet tall; perianth 6-parted, the segments strongly recurved, orange, spotted with dark brown.

Habitat: Rich soil, moist open woods.
Collected: June 9.
Common Name: Tiger Lily. Oregon Lily.

The plant from which this specimen was taken was six feet tall and had a flower cluster of 18 blossoms. The plant was growing at the edge of the woods.

Stenanthium Kunth.

Perennial herb arising from a bulb. Stem leafy. Leaves narrow, grass-like. Inflorescence a long terminal

panicle or raceme. Perianth segments 6, short.
Styles 3. Seeds wingless.

Stenanthium occidentale A. Gray.

Bulb elongated, narrow; leaves shorter than stem;
flowers narrow, bell-shaped, greenish to a reddish-
brown in color, several in a panicle or raceme.

Habitat: Stream banks.
Collected: June 19.
Common Name: Western Stenanthium.

The leaves of Stenanthium occidentale, which are long and broadly linear at the base of the plant, gradually decrease in size as they appear on the slender stem until, near the apex of the stem, they appear bract-like. The greenish or reddish-brown flowers, which are like little nodding bells, have a pleasant spicy odor. They are quite narrow and are never more than $\frac{1}{2}$ inch in length. The color of the flowers renders them rather inconspicuous in the woods. The Western Stenanthium was found growing along the mossy, shaded banks of Dry Creek.

Zygadenus Michx.

Perennial, arising from a scaly bulb. Leaves

slender, mostly basal, linear. Inflorescence in a close, many-flowered, terminal raceme or panicle, each flower subtended by a bract. Peduncle also subtended by 2 or more larger bracts. Perianth segments alike. Styles 3. Capsules cylindrical, 3-lobed, seeds numerous.

Zygadenus venenosus S. Wats.

Peduncle 1 to 2 feet tall; leaves often folded, shorter than peduncle, keeled, rather rough; sepals and petals alike, each marked with a conspicuous yellow gland at base; flowers small, cream-colored; stamens 6, on the base of the perianth, slightly shorter than perianth.

Habitat: Meadows, damp spots.
Collected: May 20 (flowers).
Common Name: Death Camass.

Death Camass, as the name implies, is poisonous to any living thing that eats its roots. While this plant does not belong to the same genus as the Blue Camass Lily (*Camassia quamash*), it does show a marked resemblance and is often confused with it. Late in May the meadow on Second Tooth Rock is covered with the white flowers of the Death Camass. Late in June, the seed

Pods appear.

Disporum Salisb.

Branched herbs with slender short horizontal root-stalks. Stems branching with scalelike leaves below. Foliage leaves ovate, alternate, sessile, thin, unsymmetrical. Flowers terminal, drooping, creamy-white, bell-shaped, solitary or few in a simple umbel. Stamens and perianth segments 6. Fruit a berry.

A--Stamens and style included-----D. *Smithii*

A--Stamens and style exerted-----D. *oreganum*

Disporum Smithii Piper

Perianth broad at base, narrow at throat, 3/4 to 1 inch long; perianth segments not spreading; stamens and pistil shorter than corolla, included; style 3-cleft; fruit glabrous, deep orange bordering on red.

Habitat: Moist woods
Collected: April 30
Common Name: Smith's Fairy Bells.
Fairy Lanterns.

Disporum oreganum (Wats.) B. and H.

Prosartes oregana (S. Wats.) B. and H.

Perianth narrowly campanulate, the lobes spreading

at the apex; stamens 6; stamens and pistil longer than the perianth segments, exserted; style entire; fruit golden-yellow.

Habitat: Moist woods.
Collected: May 10.
Common Name: Oregon Fairy Bells.

There is a strong resemblance between Disporum Smithii and Disporum oregonum. Both are perennial herbs with branching stems, alternate, unsymmetrical, sessile (or clasping) leaves, and a drooping creamy-white flower, borne either singly or in clusters of 2 or 3 at the ends of branches. The simplest way to distinguish the two is to note that in D. oregonum the stamens are longer than the perianth segments; while in D. Smithii the stamens are well-concealed within the bell-shaped flower. Both blossom during April and early May. It is always a thrill to anyone walking along a forest by-path to discover these two companion members of the plant kingdom. Truly, they look just like their name implies--Fairy Lanterns and Fairy Bells.

Streptopus Michx.

Herbs with leafy, slender stems. Rootstalks stout or slender, creeping. Leaves alternate, thin, sessile

or clasping, ovate, pointed at apex. Flowers solitary or in pairs on a forked peduncle. Peduncle twisted or bent about the middle. Stamens 8. Fruit a berry.

A--Stems branched, leaves minutely pubescent--S. *planifolius*

A--Stems simple, leaves not as above-----S. *curvipes*

Erechtosus anglicaulis (L.) DC.

Leaves broadly ovate to lanceolate on the same plant, rather heart-shaped at the base; flowers white or cream-colored, in the axil of each leaf; peduncles thread-like; perianth bell-shaped, small, lobes spreading; berry red.

Habitat: Shady moist woods.
Collected: April 28.
Common Name: Twisted Stalk.

The Twisted Stalk was found growing along shady Dry Creek and in the moist cool woods adjoining it, with the Fairy Bells and False Solomon's Seals. In fact, the Twisted Stalk shows a marked family relationship to these plants. The delicate bell-shaped flowers are not in evidence when one first looks at the plant. They

are hidden by the leaves which are bright green above and a paler green below. Each flower is on a twisted thread-like stalk. This peculiar twist or kink gives the plant its name. In late summer, the cream-colored flowers are replaced by bright red berries.

ORCHIDACEAE

Perennial herbs. Leaves sheathing or sometimes reduced to scales. Flowers in a spike or raceme, zygomorphic. Perianth of 6 segments. Sepals 3, alike or nearly so. Petals 3, 2 alike and the third forming a lip, usually larger than the other 2 petals. Stamens and style united forming a "column." Ovary inferior. Fruit a capsule opening at maturity by 3 valves. Seeds very many, minute.

A--Leaves all reduced to scales

a--Whole Plant white.....Cephalanthera

a--Whole plant reddish or brownish.Corallorhiza

A--Leaves not all reduced to scales

a--Leaves mostly basal, the stem

Leaves, if present, bract-like

b--Foliage leaf 1.....Cytheraea

b--Foliage leaves more than 1

whorled, mottled.....Epipactis

a--Leaves not as above

b--Flowers in twisted raceme

or spike, not spurred.....Spiranthes

b--Flowers not as above; spurred..Habenaria

Cephalanthera Rich.

Saprophyte from a creeping rootstalk. Leaves reduced to flat, scale-like bracts. Flowers in a bracted raceme. Sepals and 2 petals similar, third petal forming a lip, 3-lobed.

Cephalanthera Austinae (Gray) Hel. 1900.

Cephalanthera oregana Reichb. 1877.
Chloroea austinae A. Gray. 1876.

Whole plant waxy white; stems simple, erect, 10 to 20 inches tall; leaves small white linear-lanceolate scales; flowers 3 to 30, sessile; lip shorter than other perianth segments; upper sepal and petals hooded over column.

Habitat: Damp places in woods.
Collected: June 15.
Common Name: Phantom Orchid.

The waxy-white flowers of *Cephalanthera Austinae* are rarely found in this region. Only one specimen was found on the entire Dry Creek Falls Trail. It grew in an open place in the woods under a lone Douglas Fir tree. The whole plant was white except for a golden-yellow spot within the throat of the flower. The flower is very similar to that of *Epipactis*.

Corallorhiza R. Br. ✓

Saprophytes or parasites. Leaves reduced to sheathing scales. Roots branched and knobby with large masses of coral-like nodules. Flowers in a terminal raceme. Sepals and petals 1-3 veined, somewhat incurved, similar and nearly equal. Lower petal broad, lip-like, 1-3 ridged. Flower spurred on lower side at base of perianth segments in some species. Capsules reflexed after flowering.

A--Lower lip striped-----C. striata

A--Lip dark red purple or white neither

striped nor spotted-----C. Mertensiana

Corallorhiza striata Lindl. 1840. ✓

Stems red, stout, 4 to 20 inches tall, several in a cluster; leaves small, scattered, scale-like, red, sheathing the stem; inflorescence 1 to 8 inches long, 10- to 25-flowered; flowers on short pedicels, each with a bract; upper petals and sepals cream-colored to a flesh-red with narrow reddish-brown stripes; spur none; lower lip entire, edges incurved, ovate with 3 broad purple stripes or ridges.

Habitat: Deep, coniferous woods.
 Collected: May 10.
 Common Name: Striped Coral Root.

Corallorhiza maculata Raf.

Whole plant reddish; flowers spurred, not striped;
 lower lip broad, 3-lobed at base, red spotted.

Habitat: Deep, coniferous woods.
 Collected: May 12.
 Common Name: Spotted Coral Root.

The Coral Roots are either parasitic, securing nourishment from the living roots of plants; or they are saprophytic, living on freshly decayed matter. These fungus-like plants make a striking appearance with their reddish, purplish or brownish stems, leaves and flowers. They grow only in the deep shade, under the Douglas Fir trees which occur along Dry Creek. The two Coral Roots, C. Striata and C. maculata, are usually found growing side by side and about the same time in late April and early May.

Cytherea Salish. ✓

Leaf solitary, basal, arising from an ovate corm having thick roots. Stem short, simple, bearing sheathing scales. Flowers 1. Sepals 3. Upper petals 2,

Corallorhiza maculata Raf.



The Coral Roots grow in the deep shade of conifers. They are all strikingly similar in appearance. This particular species has a spotted lip.

similar, lower petal saccate, slipper-shaped. Column broad, petal-like.

Cytherea bulbosa (L.) House.

Cypripedium bulbosum L. 1753
 Calypso bulbosa Salisb. 1806
 Cytherea borealis Salisb. 1812
 Calypso bulbosa Oakes. 1842

Peduncle 4 to 7 inches tall; the single basal leaf broadly ovate; petioled long and slender; sepals and petals deep lavender, about 1 inch long; lip slightly longer, pointed at the apex, and prolonged into 2 spur-like projections.

Habitat: Mossy, coniferous woods.
 Collected: April 30.
 Common Name: Angel Slipper, Calypso.
 Deer-head Orchid.

The Calypso is still growing in abundance wherever the Hypnum moss grows in the coniferous woods bordering Dry Creek. The flower, with its delicate lavender petals and its purple striped and mottled spurs, has a very sweet-scented, spicy odor. The one basal leaf is often either withered and dry or absent entirely at blossom time.

Epipactis Adans.

Stem from a creeping fibrous, fleshy rootstalk. Foliage leaves in a basal cluster, white-mottled; stem leaves bract-like. Flowers white or greenish-white, small, in a spike. Lip somewhat saccate, no basal protuberances.

Epipactis decipiens (Hook.) Ames.

<i>Spiranthes decipiens</i> Hook.	1839
<i>Goodyera Menziesii</i> Lindl.	1840
<i>Peramium Menziesii</i> Morong.	1894
<i>Peramium decipiens</i> Piper.	1906
<i>Epipactis decipiens</i> Ames.	1908

Stems slender, bracted, 6 to 12 inches tall; flowers waxy-white; lateral sepals free, upper sepals united with petals.

Habitat: Open woods.
 Collected:
 Common Name: Rattlesnake Plantain.

The leaves of the Rattlesnake Plantain, with their distinct white markings that follow the larger veins, can be seen at any time of the year. The flower spike appears in early April, but does not blossom until summer. It is a very common habitant of the woods along Dry Creek.

Spiranthes Rich.

Stem bracted above, leafy below, arising from fleshy tuberous roots. Lowers small, spurless, in a twisted spike. Column short.

Spiranthes Romanzoffianum (Cham.) House.

Leaves lanceolate to linear, becoming shorter above; spike of flowers, dense, white or yellowish, lip with a small protuberance at each side of base.

Habitat: Moist places in mountains.
Collected: June 24.
Common Name: Twisted Orchid.

The spiral twist to the densely-flowered spike of cream-colored flowers is the chief identification for the Twisted Orchid. The erect plant closely resembles a mature stalk of wheat. Is rarely found in the Dry Creek region. It blooms the latter part of June.

Habenaria Willd.

Stem 6 to 20 inches tall, leafy or scaly, arising from thick roots or a fleshy tuber. Inflorescence a dense spike. Flowers spurred, small, white or greenish; ovary twisted; lip flat or spreading, with slender spur

Spiranthes Romanzoffianum (Cham.) House.



The densely-flowered spike of the Twisted Orchid is a rare habitant of the Dry Creek region. It grows in moist places and blooms in late June or July.

at base; column short.

Habenaria unalaschensis (Spreng.) Wats.

Herminium congestum L.
Spiranthes unalaschensis Spreng. 1826.
Habenaria schischmareffiana Cham. 1828.
Piperia unalaschensis (Spreng.)
Rydberg. 1901.

Stems stout, 1 to 3 feet tall; leaves mostly lanceolate, 3 to 8 inches long; stem leaves small, bract-like, few; spikes dense, 4 to 11 inches long; flowers white or greenish, less than $\frac{1}{2}$ inch long; sepals, petals and lip nearly equal; spur shorter than ovary.

Habitat: In open woods.
Collected: June 4.
Common Name: Rein Orchid.

Habenaria unalaschensis is a not too common orchid growing in the open woods bordering the meadow on Second Tooth Rock. It is very similar to *Habenaria elegans*, but is smaller and the flowers have a shorter spur. The greenish flowers are erect at first, becoming nodding by the curving of the ovary.

CORYLACEAE

Shrubs with alternate deciduous leaves.

Staminate flowers in a simple catkin. Pistillate flowers surrounded by a scaly involucre. Ovary inferior. Fruit a nut, enclosed in an involucre.

Corylus L.

Tall shrubs, 10 to 20 feet tall. Catkins appearing before leaves.

Corylus rostrata Ait.

Corylus californica (A.DC.) Rose. 1895.

Corylus rostrata californica (A.DC. 1864.

Leaves roundish or ovate, finely toothed, rather coarse above and smooth below; bractlets forming a close fitting involucre about the nut and usually densely covered with stiff hairs below, or nearly smooth.

Habitat: Very common in moist open woods.

Collected: July 2. Only nuts collected.

Common Name: Hazel Nut.

SANTALACEAE

Herbs or shrubs, sometimes parasitic. Leaves entire. Flowers greenish, perfect. Corolla absent. Ovary inferior, 1-loculed. Perianth segments adnate to base of ovary. Stamens 5, opposite calyx lobes. Fruit a drupe, tipped by persistent calyx lobes.

Comandra Nutt.

Glabrous herbs, perennial, sometimes parasitic. Flowers generally greenish. Corolla none. Fruit nut-like.

Comandra Umbellata Nutt.

Thesium umbellatum L.

Herbs with long, slender, woody rootstalks; leaves alternate, simple, entire, oblong, or elliptic, short petioled or nearly sessile; stems branched, woody at base; flowers small, borne in compound cymes, green with whitish tips; calyx 5-lobed, campanulate, petal-like; anthers attached to calyx tube by a tuft of fine hairs.

Habitat: Dry hillside.
Collected: April 28.
Common Name: Bastard Toad Flax.

The Bastard Toad Flax is a partial parasite attaching itself to the roots of other plants and getting part of its food from them. Its greenish-white flowers appear very early in the spring on the dry slopes of First Tooth Rock.

ARISTOLOCHIACEAE ✓

Herbs with alternate heart-shaped leaves. Sepals 3, petal-like, partly united. Petals absent. Ovary inferior, 6-loculed.

Asarum L. ✓

Rootstalk stout, branched, aromatic. Foliage leaves 2, not quite opposite, scale leaves below, alternate. Flower borne between foliage leaves. Stamens 12, inserted on ovary. Ovary partly or wholly inferior. Styles short, blunt.

Asarum caudatum Lindl. 1831. ✓

Asarum Hookeri Fielding. 1844.

Asarum canadense B. Hook. 1838.

Perennial herbs with scaly rootstalks; leaves long; petioled, 1½ to 8 inches long, somewhat pubescent, palmately veined; flower purplish, solitary, borne between the 2 foliage leaves; calyx lobes 3, extending into long tails or appendages at apex.

Habitat: Shady, moist woods.

Collected: July 3.

Common Name: Wild Giner.

The Wild Ginger grows on either side of the trail to Dry Creek Falls amid the rich leaf mold and green moss. The roots seldom reach soil, but prefer twining and spreading through this soft bed of moss and leaf mold. The odd-shaped flowers are often concealed by dry leaves or other forest debris. They have no petals; the three lobes of the calyx give the flowers their shape. The whole plant has a pleasant spicy-ginger flavor.

PORTULACAEAE

Herbs with fleshy or succulent leaves, entire.
 Flowers regular. Sepals usually 2, separate. Stamens
 few to many and (in ours) opposite the petals when the
 same number. Petals commonly 5. Ovary superior, 1-
 loculed, with a free-central placenta. Fruit a
 capsule. Seeds 2 to many.

Montia L.

Glabrous succulent small herbs. Leaves opposite,
 alternate, or basal. Inflorescence a raceme or umbel,
 not leafy. Sepals 2. Petals 5, unlike, sometimes un-
 equal, separate or sometimes united at base. Stamens
 3, alternate with smaller petals, sometimes 5. Style
 3-branched. Capsule 3-valved. Seeds few.

A--Stem leaves 2, opposite

a--Stem leaves free, broad-----*M. sibirica*

a--Stem leaves united-----*M. perfoliata*

A--Stem leaves more than 2, often alternate

a--Leaves linear-----*M. linearis*

a--Leaves not linear-----*M. parviflora*

Montia sibirica (L.) Howell. 1893. ✓

Claytonia sibirica L.	1753
Claytonia alsinoides Sinis.	1810
Montia Washingtoniana Suksdorf.	1898
Montia sibirica Howell.	1893

Stems arising in a tuft with long-petioled, basal leaves; leaves generally ovate; stem-leaves 2, immediately below inflorescence, sessile; flower bracted; petals pink or lavender-veined, notched; stamens 5.

Habitat: Moist stream banks or woods.
 Collected: May 1.
 Common Name: Candy Flower.

Montia perfoliata (Donn.) Howell.

Claytonia perfoliata Donn,
 Montia perfoliata Howell. ✓

Whole plant smooth, fleshy; basal leaves long-petioled, broadly ovate, acute at apex and tapering at base; stem leaves 2, united into a round or 2-angled disk below flowers; flowers, white or pink.

Habitat: Moist, shady woods.
 Collected: June 11.
 Common Name: Miner's Lettuce.

Montia linearis (Doug.) Greene.

Simple or branched, erect herb; leaves long,

clasping the stem at base; flowers mostly nodding in fruit and in bud; racemes one-sided; petals white or pinkish, unequal; stamens 3.

Habitat: Shady moist places.
 Collected: May 20.
 Common Name: Montia.

Montia parviflora (Moq.) Greene

Claytonia parviflora Dougl. 1833.
 Montia parviflora rupestris Suksdorf. 1898
 Montia parviflora hydrophila Suksdorf.
 Montia parviflora silvatica Suksdorf.
 Montia interrupta Suksdorf.
 Montia parviflora Howell. 1893.

Stems stoloniferous; leaves of rosette $\frac{1}{2}$ to $\frac{3}{4}$ inch long, fleshy, smooth, broad at apex, narrowing at base; petals conspicuously 3-veined; stamens 5, anthers pink or lavender.

Habitat: Moist places.
 Collected: June 9.
 Common Name: Small leafed Montia.

CARYOPHYLLACEAE

Herbs with opposite leaves, swollen at nodes.
 Flowers regular, perfect. Sepals 4 or 5. Petals
 equal in number to the sepals or none. Stamens not
 more than twice the number of sepals. Sepals persistent.
 Ovary 1-loculed, superior. Styles 2 to 5. Fruit a cap-
 sule; seeds several to many.

A--Sepals 5, free, or nearly so

a--Styles equal in number to sepals--Cerastium

a--Styles fewer in number than sepals

b--Petals 2-parted-----Stellaria

b--Petals entire-----Arenaria

A--Sepals partly united

a--Styles 3-----Silene

a--Styles 2-----Saponaria

Cerastium L.

Generally pubescent herbs. Flowers white, in
 terminal cymes. Sepals 5. Petals 5, notched. Stamens
 5 or 10. Styles 5, opposite the petals. Capsule
 1-loculed, many-seeded, cylindrical, opening by 10 teeth.

A--Petals much longer than sepals-----C. arvense

A--Petals not or scarcely longer than sepals

a--Plants annual, leaves oval, ovate or
obovate-----C. viscosum

a--Plants perennial, leaves linear or
oblong-----C. vulgatum

Cerastium arvense L. 1753.

Cerastium elongatum Pursh. 1844.

Whole plant finely pubescent but not sticky;
root-stalks slender, frail; stems very weak but
erect, 6 to 18 inches tall, usually matted; leaves
sessile; flowers on slender pedicels; petals showy,
 $\frac{1}{2}$ inch long, deeply notched.

Habitat: Dry, open ground.
Collected: June 11.
Common Name: Field Chickweed.

The Field Chickweed is very common and may be
found on all the dry open ground in the Dry Creek region
any time between April 1 and the end of summer.

STELLARIA L.

Mostly glabrous herbs with weak, low stems.
Petals 5, 2-parted, sometimes none. Sepals 5. Stamens
3 to 10, hypogynous.

Stellaria media (L.) Cyr. 1784.

Alsine media L. 1753

Stems weak, spreading, matted, bearing a line of pubescence; lower leaves ovate, petioled, the upper narrower, sessile; flowers solitary, on slender pedicels in axils of leaves; petioles of leaves and calyx hairy; capsul slightly longer than calyx, many seeded.

Habitat: Moist soil.

Collected: June 11.

Common Name: Common Chickweed.

The Common Chickweed is the first plant to blossom in the spring and the last plant to blossom in the fall. It is a very common weed and is seen growing everywhere along Dry Creek Trail.

Silene L.

Annual or perennial herbs. Flowers clustered or solitary (rare), mostly white or pink. Calyx often inflated, tubular, 5-toothed, 10- to many-veined. Petals 5, narrow-clawed. Stamens 10. Styles 3. Ovary usually 1-celled. Capsule 3-to 6-toothed.

A--Flowers solitary at end of branches----S. Suksdorfii

A--Flowers borne in panicle cymes-----S. antirrhina

Silene Suksdorfii Robinson.

Perennial herb, matted at base; branches erect, 2 to 4 inches tall; leaves linear to oblanceolate, generally 2 pairs on stem; flowers solitary; calyx bell-shaped; petals white.

Habitat: Moist places in higher altitudes.
Collected: June 9.
Common Name: Pink.

Silene antirrhina L.

Annual herb, erect, simple or branched, 6 inches to 2½ feet tall; leaves oblanceolate, the upper much narrower; flowers in panicle cymes; petals inconspicuous or wanting.

Habitat: Meadows.
Collected: June 3.
Common Name: Silepy Catch-fly.

SAPONARIA L.

Herbaceous perennial or annual. Flowers borne in terminal cymes. Calyx 5-toothed, tubular. Petals 5. Stamens 10. Ovary 1-loculed. Styles 2.

Saponaria officinalis L. 1753.

Rootstock woody, creeping; stems 2½ feettall, woody at base; glabrous throughout; leaves opposite, sessile, linear to lanceolate, palmately veined, distinctly 3-nerved; sepals united, larger at base and tapering gradually to apex, green at base, turning to reddish tinge at apex; petals pink, narrow at base, notched at apes; steamens, 5 fertile and 5 sterile, the latter opposite petals.

Habitat: Dry, gravelly places.
Collected: July 18.
Common Name: Bouncing Bet.

Bouncing Bet is not a native of Oregon, but of Europe. It has become very common along dry roadsides and open fields. It is abundant along the lower end of Dry Creek Trail near the Columbia River highway. It blooms from July to September.

RANUNCULACEAE

Mostly herbs (or woody if climbing) with acrid juice. Flower parts all distinct. Sepals 2 to 5, often petal-like. Petals generally 5, but sometimes more, or absent. Stamens numerous, hypogynous. Pistils several, superior, 1-loculed. Fruit a berry, follicle or an akene.

A--Petals present

a--Flowers irregular; upper sepal

spurred at base-----Delphinium

a--Flowers regular

b--Petals spurred at base---Aquilegia

b--Petals not spurred-----Ranunculus

A--Petals absent; sepals petal-like---Anemone

Delphinium L.

Erect, branching herbs. Leaves alternate, palmately lobed or divided. Flowers in racemes or panicles, irregular. Sepals 5, colored and petal-like, upper one spurred at base. Petals 4, two upper ones spurred and inclosed in the sepal spur. Pistils 3, forming follicles at maturity; seeds many.

Delphinium menziesii DC.

Stems 4 to 20 inches tall, simple or branched above, roots tuberous; flowers spurred. Stamens many. Follicles 3.

Habitat: Open fields.
Collected: April 18.
Common Name: Field Larkspur.

The Field Larkspur is very common in early spring on First Tooth Rock. It grows on the dry open hill-sides. It is poisonous to livestock.

Aquilegia L.

Leaves basal, trifoliate; leaflets again 2 to 3 times deeply divided. Flowers showy, at ends of branches. Sepals 5, petal-like. Petals spurred at base; spur longer than calyx. Pistils 5. Follicles erect, many-seeded.

Aquilegia formosa Fisch.

Stems 1 to 3 feet tall; leaves paler green below, bright green above; flowers nodding, appearing yellow inside, bright red outside; stamens numerous, exserted.

Habitat: Fields and woods.
Collected: June 9.
Common Name: Columbine.

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The flowers of *Aquilegia formosa* are so common that the unusualness is not always noted. The petals, which are all alike, each have a short lip which is extended backwards into a large, hollow, scarlet spur. Each spur is tipped at the base with a blunt honey-gland.

Actaea L.

Tall, erect, perennial herbs. Leaves large, mostly tritermately compound. Flowers small, creamy-white, in a terminal raceme. Fruit a berry.

Actaea spicata L.

Actaea spicata arguta (Nutt.) Torr. 1856.
Actaea arguta Nutt. 1838.
Actaea eburnea Rydberg. 1900

Stems $1\frac{1}{2}$ to 4 feet tall, 1 to several from a short rootstalk; leaves all borne on a stem above ground; leaflets lanceolate to broadly ovate, coarsely toothed; sepals creamy-white; petals none or indefinite; raceme densely flowered; stamens many, white, conspicuous; berries bright red or white.

Habitat: Moist, shady woods.
Collected: June 10 (flowers).
 July 2 (seeds).
Common Name: Baneberry.

The berries of the Baneberry are bright red and are of an unusual and interesting shape, being decidedly flat on one side and curved on the other. They are said to be poisonous to eat but not so poisonous as earlier reported.

Ranunculus L.

Leaves alternate, entire or coarsely lobed.
Flowers solitary or in cymes, generally yellow. Petals generally 5, with a nectar pit covered by a scale at base. Sepals 5. Stamens many. Pistils many.
Placenta basal.

Ranunculus Bongardii Greene.

Whole plant pubescent; leaves palmately-lobed, coarsely 3 to 5 cleft, long-petioled; stems 1 to 3 feet tall, hollow, few-leaved; flowers small, inconspicuous, in open cymes, long-petioled; petals pale yellow, white or wanting; akenes clustered, with slender, curved, hook like beaks.

Habitat: Very moist woods.
 Collected: June 8.
 Common Name: Woods Buttercup.

Buttercups are surprisingly scarce in the Dry Creek region. Ordinarily, in habitats such as this area offers, one would find many varieties of Buttercups. Ranunculus Bongardii was the only one found and it very sparingly.

AnemoneII.

Herbs, erect, perennial. Stem leaves tri-compound or simple in a whorl of 3, palmately lobed or coarsely toothed; basal leaves arising from slender rootstalk. Sepals 5, petal-like and colored. Petals none. Stamens many. Pistils several, developing into akenes.

A--Stem leaves simple, 3 in a whorl---A. deltoidea

A--Stem leaves tri-compound-----A. Lyallii

Anemone deltoidea Hook.

Stems arising from a slender, creeping rootstalk; basal leaves trifoliate, coarsely-toothed; stem leaves not divided, sessile, coarsely toothed, borne somewhat above the center of stem, broadly ovate; sepals creamy-white, oval, sometimes unequal.

Habitat: Moist woods.
Collected: June 3 (flowers).
 July 2 (seeds)
Common Name: Three-Leaved Anemone.
 Wind Flower.

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The Three-Leaved Anemone, with its white flowers, is much sturdier looking than the Small Wind Flower, with its blue flowers, and is more common. Each plant bears its flower on a slender peduncle above the leaves. The basal leaves are rarely present at blossom time, making them very difficult to collect. A. Lyallii always has blue flowers in the Dry Creek region.

Anemone Lyallii Brit

Stems very slender, 2 to 8 inches tall; leaves trifoliate, short-petioled, leaflets ovate to lanceolate, palmately lobed or coarsely toothed; basal leaves long-petioled; flowers white, blue or pink.

Habitat: Moist woods.
Collected: May 29.
Common Name: Small Wind Flower.

BERBERIDACEAE

Shrubs and herbs, perennial. Leaves simple or compound, alternate. Flowers perfect, solitary or in racemes or panicles. Sepals and petals 6, generally overlapping in sets. Anthers turned outward, opening by valves. Ovary superior. Pistil 1, 1-loculed. Fruit a berry or capsule.

A--Shrubs; leaves evergreen, spiny-----Berberis

A--Herbs; deciduous, leaves not evergreen or
spiny

a--Leaves once-compound; leaflets 3,

broad-----Achlys

a--Leaves twice-compound (ours);

leaflets more than 3-----Vancouveria

Berberis L.

Shrubs, perennial, evergreen. Leaves alternate, spiny, pinnately compound. Flowers yellow, in racemes or panicles, bracted. Sepals petal like, 6 to 9. Petals 6, in 2 whorls. Stamens 6, short. Pistil 1. Fruit a berry.

A--Leaves with 5 to 11 leaflets; venation

pinnate-----B. aquifolium

A--Leaves with 11 to 21 leaflets; venation

palmate-----B. nervosa

Berberis aquifolium Pursh. 1814.

Mahonia aquifolium

Root and stem woody, yellow, 2 to 10 feet tall; leaflets 5 to 11, bright green, shiny, margins with slender spines; flowers numerous in clustered racemes. Berry blue, grape-like.

Habitat: Open woodlands.

Collected: April 15.

Common Name: Oregon Grape.

Berberis nervosa Pursh

Low shrub, $\frac{1}{2}$ to 2 feet tall; leaflets bright green, with several veins from base, leathery, thick, spinulose-serrate; racemes of flowers loose, long; berries blue-glaucous.

Habitat: Deep woods.

Collected:

Common Name: Oregon Grape.

Berberis aquifolium is common along the lower

regions of the Dry Creek Trail and in the open woods. B. nervosa, Oregon Grape, occurs in the deeper woods at a slightly higher altitude. Its clusters of bright yellow flowers appear as early as April 1. Later, in the fall, clusters of dark blue berries ripen. An interesting feature of the Oregon Grape flower is the sensitive stamens. The minute they are touched they snap together, scattering the pollen widely.

ACHLYS

Leaves radical, solitary, long-pediceled, compound, palmately divided into 3 leaflets. Inflorescence a crowded spike of small flowers. Sepals and petals wanting. Stamens many.

Achyls triphylla (Smith) DC. 1821.

Leontice triphylla Smith. 1812.

Leaves on slender erect pedicels which are taller than leafy-stems; leaflets broad, wavy-margined; fruits dry, crescent-shaped.

Habitat: Woods.
 Collected: May 18 (flowers).
 June 19 (seeds).
 Common Name: Vanilla Leaf.

Two separate stems arise from a slender, scaly root-stalk; one bearing three broad leaflets at the summit, and the other topped off by a naked crowded spike of tiny white flowers. This is the Vanilla Leaf. The broad leaflets, with scalloped edges, vary greatly both in size and in manner of scalloping. Upon drying, they have a pleasant sweet odor.

Since Leontice was described at an earlier date than Achlys, the question arose--why was Achlys retained?

Prodromus Systematis Naturalis at the University of Oregon was consulted. It was found that Smith described Leontice triphylla in 1812. In 1812 De Candolle took triphylla out of Leontice (Berberidaceae) entirely, calling it Achlys triphylla (Podophyllaceae). Leontice was then divided into other genera. L. triphylla, earlier described by Smith, was discarded for A. triphyllum; thus it was retained.

VANCOUVERIA MORR. AND DEC.

Leaves basal, once or twice trifoliate. Inflorescence a panicle. Sepals petal-like, reflexed, in 2 series of 3's, bracted. Petals 6, reflexed. Stamens 6, enclosing pistil. Fruit a capsule.

Vancouveria hexandra (Hook.) Morr. and Dec. 1834.

Epimedium hexandra Hook. 1830.

Habitat: Open woods.
 Collected: June 8.
 Common Name: Inside-out Flower.

The members of the Barberry Family--Oregon Grape, Inside-out Flower and Vanilla Leaf--show very little outward family relationship. The creamy-white flowers of Vancouveria hexandra are very oddly shaped, appearing to be truly inside out. The sepals, petals, and stamens are in two whorls each of 3's, the whorls alternating; the sepals and petals are recurved. They are commonly seen along Dry Creek Falls Trail, growing amid the Meadow Rue, whose leaves and stems show a strong resemblance at first sight to the Inside-out Flower.

PAPAVERACEAE

Herbs with watery juice. Leaves simple or compound, alternate or opposite, stipules wanting. Flowers regular. Sepals 2 to 3, sometimes uniting into a cap, covering the bud. Petals 4 to 12 in 2 sets. Pistil 1, compound. Stamens indefinite. Ovary superior. Fruit a capsule, 1-loculed (ours); seeds many.

Eschscholtzia Cham.

Glabrous herbs, annuals or perennials, with colorless bitter juice. Leaves finely dissected several times into 3's, petioled. Sepals 2, united into a painted hood, detached by growth of petals. Petals 4. Pistil surrounded by a cup-like receptacle.

Eschscholtzia californica Cham.

Stems leafy, branched from base, succulent, glaucous 6 to 12 inches tall; leaflets linear, bluish-green; flowers large, showy; petals attached to the erect rim of the receptacle, yellow or orange, fan-shaped; capsule narrow, 1 to 4 inches long.

Habitat: Common in any open field.

Collected: May 18.

Common Name: California Poppy.

The California Poppy, generally reported as a native of California, is probably a native of Oregon also, as it is mentioned by the very early collectors.

In bud, the flower is inclosed in a peculiar conical hood, which in reality is the calyx. As the flower grows and the satiny petals unfold, the calyx is cast off. This plant loves the sunshine. Sometimes, unless the sun does shine, the petals remain closed all day. They always close at night.

FUMARIACEAE

Herbs with watery juice. Leaves compound, dissected, alternate. Flowers irregular. Sepals 2, small. Petals 4, inner apir united at tip over stamens and pistil. Stamens 6, united by the filaments into 2 sets. Fruit a capsule, 1-loculed.

A--Two larger petals spurred-----Dicentra

A--One of larger petals spurred-----Corydalis

Dicentra Bernh.

Leaf-bearing stem very short, flower stem taller; both from a fleshy scaly rootstalk. Flower in compound cymes or racemes. Corolla cordate at base, flattened. Petals in 2 pairs; outer, larger pair spurred at base. Stamens 6, in 2 sets, the filaments of each set united in middle, free above and below.

Dicentra formosa (Andr.) DC.

Bikukulla formosa (Andr.) Coville. 1893.
Fumaria formosa Andr. 1797.
Dielytra formosa DC. 1821.
Dielytra formosa G. Don. 1831.
Dielytra saccata Nutt. 1838.

Rootstalk creeping, stout, scaly; leaves ternately compound, the leaflets pinnately cleft, petioled; flowers pink, drooping, in a loose raceme.

Habitat: Moist woods.
Collected: July 18.
Common Name: Bleeding Heart.

Corydalis Vent.

Cauline leaves small, de compound; radical leaves, large, pinnately 2 or 3 times divided. Flowers in racemes, 1-spurred.

Corydalis Scouleri Hook.

Leaves bluish-green; stems 1 to 4 feet tall, rank-growing; inflorescence a 1-sided, few-flowered, bracted raceme; flowers pink and purple; petals 4, outer largest, slightly united into a one-spurred corolla, inner petals narrow, keeled.

Habitat: Moist, shady woods.
Collected: May 5.
Common Name: Capnoides.

The showy racemes of pinkish-purple flowers of *Corydalis Scouleri* stand out distinctly above the bluish-green fern-like leaves. The plants are rather rare; in fact in only one place on the Dry Creek Trail was a specimen found. It was growing amid the tall lacy wood ferns in the deep shade of the conifer trees and Vine Maple.

CRUCIFERAE

Herbs with flowers in racemes. Flower parts in 4's, all separate. Petals spreading or turned back in form of a cross. Stamens 6, 4 longer than the other 2. Fruit a pod of 2-loculed capsule.

A--Flowers yellow, cream-colored

or orange-----Brassica

A--Flowers white, pinkish, or purple-----Dentaria

Brassica L.

Coarse looking herbs, smooth or with scattered, stiff hairs. Basal leaves lyrate or pinnately parted. Upper leaves entire. Flowers yellow, in racemes. Petals with 4 small green glands.

Brassica campestris L.

Stem $\frac{1}{2}$ to 6 feet tall, seldom branched; lower leaves lyrate, with a large terminal lobe and two or more small lateral lobes, irregularly toothed, clasping at base, becoming less divided upward until uppermost leaves are entire; flowers golden yellow, fragrant.

Habitat: Field weed.

Collected : May 26.

Common Name: Yellow Mustard.

Dentaria L.

Herbs from an horizontal rhizome; stems leafless below. Stem leaves 1 to 2 or 3 near inflorescence. Basal leaves simple or compound. Pod long, linear, flat. Flowers white, pinkish or lavender.

Dentaria tenella Pursh.

Stem smooth, 2 to 3 inches tall; roots tuberous; inflorescence a few-flowered, terminal raceme, somewhat curved; stem leaves 3- to 5-parted, the segments linear, mucronate; basal leaves with long frail pedicel, the blade 5- to 7-toothed or wavy, orbicular; flowers rose-purple, pink or lavender.

Habitat: Moist woods, open protected hillsides or fields.
Collected: April 5.
Common Name: Spring Beauty.

The basal leaves are hard to find because they are scattered here and there as if in no connection with the plant; they are, in reality, however, attached to the rootstalk. The rootstalks are pure white, frail, trailing and have tuber-like swellings on them. These little tubers are sometimes pinkish.

SAXIFRAGACEAE

Shrubs or herbs. Leaves opposite or alternate, with generally no stipules. Sepals 5. Petals 4, 5 or none. Stamens not more than twice as many as sepals. Pistils 2 to 5, united to form a compound ovary superior or partly inferior. Petals and stamens borne on calyx. Fruit a dry pod or berry.

A--Shrubs

a--Leaves opposite-----Philadelphus

a--Leaves alternate-----Ribes

A--Herbs

a--Stamens 3 or 2-----Tolmiea

a--Stamens 5-----Heuchera

a--Stamens 10-----Saxifraga

Philadelphus L.

Shrubs with large white or cream-colored flowers. Calyx 4-5 lobes. Petals 4-5. Stamens 20-40, inserted on disk. Ovary inferior. Styles 3-5.

Philadelphus Gordonianus Lindl.

Philadelphus confusus Piper. 1902.

Shrubs with many branching stems, erect, 6-12 feet tall; leaves smooth, shiny, opposite, ovate, dentate to entire; inflorescence cymose; flowers many,

white, fragrant, about an inch across; petals 4.

Habitat: Forest borders.
Collected: May 1.
Common Name: Mock Orange. Syringa.

Mock Orange is an early blooming shrub in the Dry Creek Falls Trail, especially near First and Second Tooth Rock.

Ribes L.

Shrubs, branching. Leaves cordate, 3 to 5 leaved, serrate. Inflorescence a raceme, drooping. Flowers pink to red. Petals 5. Fruit globular.

Ribes sanguineum Pursh

Shrubs 4 to 8 feet tall; flowers generally deep pink or red; calyx cylindrical, with spreading lobes, red.

Habitat: Dry, open woods.
Collected: April 20.
Common Name: Red Flowering Currant.

In late March or early April the wild Red Flowering Currant sends forth its racemes of drooping crimson flowers. It is especially early to bloom in First Tooth Rock in the warm protected places.

Tolmiea T. & G.

Herbs, perennial. Leaves mostly basal. Flowers in a slender raceme. Calyx tube-like, 5-lobed. Petals 4 or 5, thread-like, attached to calyx tube. Ovary superior.

Tolmiea menziesii (Pursh). T. & G.

Leptaxis menziesii Rafin. 1831.
Tiarella menziesii Pursh. 1814.
Heuchera menziesii Hook. 1833.
Tolmiea menziesii Torr. & Gr. 1840.

Stems slender, erect, 15 to 20 inches tall; radical leaves cordate, acute, lobed and toothed, petioled; cauline leaves smaller, nearly sessile, reduced to bracts up the stem; calyx purple-veined, narrow, unequally lobed. Petals 4, brown. Stamens 3, exserted.

Habitat: Moist woods.
 Collected: June 9.
 Common Name: Youth-On-Age.

This interesting Saxifrage, *Tolmiea menziesii*, has a n unusual method of reproducing itself. At the base of the leaf blade, a new plant appears. As the old leaf dies, the new plant sends out roots and thus produces a new generation.

Heuchera L.

Perennial with stout rootstalks. Leaves mostly basal. Flowers small, clustered in a slender open

panicle. Calyx tube bell-shaped, 5-lobed. Petals 5, small, sometimes wanting, clawed. Stamens 5. Ovary partly inferior. Styles 2, becoming 2 beaks on capsule.

Heuchera glabra Willd.

Stems slender, 1 to 3 feet tall; leaves thin, orbicular, cordate at base, lobed, serrate; cauline leaves smaller, nearly sessile.

Habitat: Banks and moist cliffs.
Collected: June 20.
Common Name: Alum Root.

Heuchera glabra is generally associated with Tolmiea menziesii on the Dry Creek Falls Trail.

Saxifraga L.

Herbs with leaves all basal or mostly so.
Flowers minute, in panicles. Stamens 10. Styles 2.
Ovary inferior.

A--Leaves all basal-----S. odontoloma

A--Leaves not all basal-----S. Mertensiana

Saxifraga odontoloma Piper.

Leaves smooth, roundish, coarsely toothed,
petioles generally longer than blades; inflorescence
a loose panicle of small white flowers.

Habitat: Moist places in the mountains.
Collected: April 29.
Common Name: Saxifrage.

Saxifraga mertensiana Bong

Leaves long-petioled; blades roundish to reniform, many lobed, the lobes often 3-toothed; flowers white, star-like in a loose spreading panicle.

Habitat: Rock crevices.
Collected: May 5
Common Name: Saxifrage.

The Saxifrages, S. odontoloma and S. mertensiana, cling to the moist rock ledges around and under Dry Creek Falls.

ROSACEAE

Trees, shrubs or herbs. Leaves generally alternate. Stipules generally present. Flowers solitary or clustered. Sepals normally 5, or 4, partly united. Petals 5. Stamens 10 or more, attached with petals to receptacle or calyx-tube. Pistils 1 to many, usually distinct. Fruit dry or fleshy.

A--Shrubs

a--Flowers borne in plume-like panicles---Aruncus

a--Flowers not borne in plume-like panicles

b--Spiny or prickly stems; leaves

pinnately compound-----Rosa

b--Smooth stems; leaves simple

c--Leaves entire-----Osmaronia

c--Leaves coarsely toothed-----Amelanchier

c--Leaves deeply 3- to 5- lobed--Rubus

A--Herbs; stoloniferous-----Fragaria

Aruncus L.

Erect shrubs, 3 to 7 feet high. Leaves many times divided. Flowers borne in large plume-like panicles, white at first, turning to a brownish cream-color, dioecious. Fruit a follicle.

Aruncus sylvestris Kost.

Spiraea Aruncus L. 1753.

Aruncus sylvestris Kost. 1844.

Aruncus aruncus (L.) Karst. 1880.

Shrubby appearing plant, with branching stems; leaves smooth, thin, ovate to ovate-lanceolate, irregularly toothed; flowers minute, cream-colored with reddish-brown sepals; stamens much longer than petals.

Habitat: Along streams; in woods.
 Collected: June 7.
 Common Name: Goat's Beard.

Aruncus sylvestris Kost. has been classified by the author as a shrub, rather than an herb, because of its unusual height and branching. The sprays of creamy flowers are usually a foot in length.

Rosa L.

Prickly herbs with pinnately compound leaves. Stipules adnate. Flowers mostly rose-pink, showy, solitary or in panicles. Receptacle and calyx-tube run-shaped or round, becoming fleshy. Petals 5, falling early, borne on calyx-tube. Pistils many enclosed in receptacle. Ovaries hairy. Fruit bony akene.

A-Calyx lobes deciduous from the fruit-----R. gymnocarpa

A-Calyx lobes generally persistent

on fruit-----R. nutkana

Rosa gymnocarpa Nutt

Slender shrub from 1 to 3 feet high with needle-

like prickles; leaves delicate, 5 to 9 leaflets; flowers small, an inch or less across, solitary, bright pink petals; fruits pear-shaped, bright red.

Habitat: Woodsy places.
Collected: June 10.
Common Name: Wood Rose.

Rosa nutkana Presl.

Stout shrub with stiff, stout, recurved prickles; leaves alternate, pinnate, leaflets 5-7, coarsely toothed, ovate or oblong; flowers large, showy, solitary or clustered; fruits globose or flattened.

Habitat: Open woods or fields.
Collected: June 5.
Common Name: Common Wild Rose.

The Wood Rose is the smallest of its kind; the Common Wild Rose is the largest. The Wood Rose could be mistaken for a dwarfed Common Wild Rose at first appearance.

Osmaronia Greene.

Stems shrubby, 3 to 12 feet tall. Leaves simple, entire. Flowers white or greenish in bracted racemes, dioecious. Calyx campanulate, lobed, persistent. Petals 5, falling early. Fruit a drupe.

Osmaronia cerasiformis (T. & G. Greene. 1891).

Nuttallia cerasiformis Torr. & Gr. 1841.

Leaves thin, smooth, broadly oblong; flowers rank-scented; pistillate flowers appear before leaves; drupes peach-colored at first, changing to deep blue-black.

Habitat: Roadsides.
Collected: April 1.
Common Name: Indian Plum.

According to Nomina conservanda, *Nuttallia* was not retained.

Amelanchier Medic.

Shrubs or trees. Leaves simple, coarsely toothed above the middle. Flowers white, in racemes. Calyx 5-lobed, united with the ovary. Petals 5, erect, oblanceolate, soon falling. Fruit a pome, black.

Amelanchier alnifolia Nutt.

Leaves round or oblong, coarsely toothed, obtuse at apex, thinly hairy above, sometimes densely hairy below; racemes short; petals very narrow; calyx densely hairy below the lobes.

Habitat: Open woods.
Collected: July 3.
Common Name: Service Berry.

Rubus L.

Shrubs, sometimes climbing, prickly or smooth. Leaves simple and lobed or pinnately compound. Calyx

5-parted. Petals 5. Stamens many. Pistils many, united into a thimble-like covering over an elongated receptacle, forming an aggregate fruit of generally many individual drupelets.

A--Flowers red; leaves divided into

3 leaflets-----R. spectabilis

A--Flowers white; leaves palmately

5-lobed-----R. parviflorus

Rubus spectabilis Pursh.

Shrubs with weak prickles, 2 to 5 feet tall; leaves trifoliate, leaflets ovate, serrate, sometimes lobed, prominent veins often stiff hairy; flowers red, usually solitary, perfect; fruit generally golden color or deep yellow.

Habitat: Moist woodlands.
Collected: June 5.
Common Name: Salmon Berry.

Rubus parviflorus Nutt. 1818.

Rubus nutkanus Moq. 1825.

Shrub, smooth, 3 to 8 feet tall; leaves large, palmately 5-lobed, serrate, conspicuously veined; inflorescence terminal, few-flowered, flowers white, 1 to 2 inches across; fruit a berry, flat, red.

Habitat: Open woods.
Collected: May 15.
Common Name: Thimble Berry

R. parviflorus and R. spectabilis have many characteristics in common. Both are conspicuous shrubs; the one, with simple, palmately lobed leaves, white, crepe-like flowers, and red fruit; the other, with compound leaves, red flowers, and golden-yellow fruit. The fruits of both are edible.

Fragaria L.

Perennials with running stems, rooting at joints. Leaves basal, trifoliate, coarsely toothed, with stipules. Inflorescence few-flowered. Petals 5, white. Calyx 5, bracted. Stamens numerous, receptacle round or cone-shaped, red in fruit. Akenes minute, dry, scattered over surface of fruit.

Fragaria cuneifolia Nutt.

Low growing herb; leaves generally taller than flower stalks; flower stems generally leafless; flowers borne on short pedicels close to ground.

Habitat: Hillsides.
Collected: April 13.
Common Name: Wild Field Strawberry.

LEGUMINOSAE

Shrubs, trees or herbs, often vine-like.
 Leaves palmately or pinnately compound. Flowers
 papilionaceous, irregular with 1 banner, 2 wings
 and 1 keel. Calyx 4 to 5 toothed, sometimes
 2-lipped. Petals 5, separate or partly united.
 Stamens 10, monodelphous, diadelphous or separate.
 Pistil 1-loculed; pod with 1 row of seeds.

A--Leaves compound with 3 leaflets

a--Pods curved or coiled -----Medicago

a--Pods not curved or coiled-----Trifolium

A--Leaves compound with more than 3 leaflets

a--Flowers in regular racemes-----Lupinus

a--Flowers in 1-sided racemes-----Vicia

a--Flowers in umbels or solitary----Lotus

Medicago L.

Medicago sativa L. 1753.

Flowers blue or purple in short, axillary heads
 or spikes; 9 stamens united, the upper stamen free;
 pod indehiscent, curved or coiled.

Habitat: Roadsides.
 Collected: July 6.
 Common Name: Alfalfa.

Trifolium L.

Herbs with trifoliate, palmately lobed leaves. Stipules present, attached to petiole. Flowers in heads. Calyx 5-toothed, equal. Stamens diadelphus, 10th stamen free.

A--Flowers deep yellow-----T. procumbens

A--Flowers a deep red or pink-----T. pratense

Trifolium procumbens L. 1753.

Leaflets broadly ovate, obtuse, notched, hairy; globose heads, small, 3/8 inch or more long; flowers bright yellow, banner petal very broad.

Habitat: Fields.
Collected: July 20.
Common Name: Hop Clover.

Trifolium pratense L. 1753.

Flower heads not subtended by an involucre; heads pink or red; leaflets broadly ovate or elliptic; stipules thin, conspicuously veined; pod 2-seeded.

Habitat: Common everywhere.
Collected: May 21.
Common Name: Red Clover.

Lupinus L.

Herbs or shrubs with flowers in showy racemes. Leaves palmately compound. Banner petal grooved; wings united at summit; keel sickle-like. Stamens

monadelphus, 10. Pod flattened, coriaceous.

A--Leaves more or less silky-----L. rivularis

A--Leaves not silky, but thinly

pubescent-----L. oreganus

Lupinus rivularis Dougl. 1833.

Stems weakly erect, 1 to 3 feet tall; leaflets 5 to 9, apiculate, silky-hairy, sometimes nearly glabrous; flowers blue, banner reflexed from wings, keel concealed by wings; pods hairy.

Habitat: Along streams

Collected: June 3.

Common Name: Riverbank Lupin.

Lupinus oreganus Heller.

Stems stout, 1 to 1½ feet tall; whole plant finely pubescent; leaflets mucronate, oblanceolate, long-petioled; flowers purple, in long slender racemes; banner folded backward at apex; keel bent upward.

Habitat: Edge of woods.

Collected: June 18.

Common Name: Oregon Lupin.

Vicia L.

Herbs with weak, angled stems, somewhat climbing. Leaves pinnately compound with tendrils. Flowers in

1-sided axillary racemes, or solitary. Style slender, ending in hairy capitate stigma.

A--Corolla yellow-----V. gigantea

A--Corolla blue or purplish-----V. villosa

Vicia gigantea Hook. 1830.

Vicia sitchensis Bong. 1832.

Stems 2 to 4 feet tall, climbing; leaflets narrow, oblong or long-ovate, mucronate; corolla yellow, about $\frac{1}{2}$ inch long; pods dark, oblong, long-pointed, smooth, 3- to 4-seeded.

Habitat: Woods.
Collected: June 11.
Common Name: Giant Vetch.

Vicia villosa Roth.

Stems slender, climbing; leaflets 10 to 20, narrowly oblong, mucronate, hairy; flowers in dense 1-sided, long-pediceled racemes; calyx purplish; corolla dark blue or purple, wings lighter.

Habitat: Fields.
Collected: June 3.
Common Name: Hairy Vetch.

Lotus L.

Leaves pinnately compound. Flowers in umbels or solitary, bracted. Tendrils absent.

Lotus micranthus Benth.

Hosackia parviflora Benth. 1829.
Hosackia microphylla Nutt. 1838.
Lotus micranthus Benth. 1837.

Stems much branched, reddish, wiry; leaflets
3 to 5, shining or pubescent; flowers solitary in
leaf axils; corolla pink or red and yellow; pods very
slender, shining.

Habitat: Dry open places.
Collected: June 25.
Common Name: Slender Trefoil.

RHAMNACEAE

Shrubs or trees. Leaves simple. Flowers in clusters borne in racemes or panicles, few-flowered. Calyx 5-lobed. Petals 5. Petals and stamens attached with base of ovary to receptacle. Stamens 5, alternate with calyx-lobes. Fruit a capsule or drupe.

Ceanthus L.

Shrubs with stiff, spreading branches. Flowers very small, in showy umbels or panicles. Stamens longer than petals or sepals. Fruit a capsule.

Ceanthus sanguineus Pursh.

Slender shrubs 3 to 9 feet tall; leaves alternate, broadly ovate to elliptic; panicles dense, branched, with white flowers.

Habitat: Border of woods.
Collected: June 7.
Common Name: Buckbrush.

HYPERICACEAE

Mostly herbs with opposite, entire, glandular leaves. Flowers regular, perfect. Sepals and petals 5 or 4. Stamens 5 to generally many. Fruit a capsule.

Hypericum L.

Herbs, annual or perennial, with sessile leaves. Flowers yellow, in a cyme.

Hypericum perforatum L.

Plant herbaceous, perennial with rhizomes, roots not stout; stems erect, much branched; leaves opposite, entire, sessile, with translucent glandular dots, linear-oblong, narrowed at base; flowers borne in a leafy cyme; sepals acuminate, lanceolate; corolla yellow with black marginal dots; stamens numerous; styles 3; capsule 1-loculed.

Habitat: A weed.
Collected: May 26.
Common Name: St. John's Wort.

VIOLACEAE

Perennial herbs with alternate leaves. Stipules present. Flower parts in 5's. Corolla irregular, of 3 kinds of petals, 2 upper, 2 lateral, 1 lower, spurred at base. Filaments of stamens flattened and extending above the anthers.

Viola L.

Flowers borne singly in leaf axils. Sepals unequal in length, with ear-like projections. The 2 lower stamens with appendages prolonged into the spur of the lower petal.

A--Flowers yellow -----V. *glabella*

A--Flowers pale blue -----V. *palustris*

Viola glabella Nutt

Leaves and stems arising from a horizontal rootstock; basal leaves long-petioled, broadly heart-shaped, with acute apex, teeth rounded; stem leaves few, on shorter pedicels; petals yellow.

Habitat: Moist woods.
Collected: April 15.
Common Name: Wood Violet.

Viola palustris L.

Leaves and stems arising from slender, creeping rootstocks; leaf blades round-cordate to reniform,

crenate, slender long pedicels; flowers pale blue.

Habitat: Swampy places.

Collected: May 10.

Common Name: Swamp Violet.

Viola palustris is comparatively rare on the Dry Creek Falls Trail. It was found in only one place, that being a very wet, swampy area. However, it was abundant in this one place. Viola glabella, on the other hand, is found at almost any altitude on the trail.

ONAGRACEAE

Herbs with opposite or alternate leaves. Flower parts in 2's or 4's. Calyx tube adherent to ovary or prolonged beyond it. Fruit a capsule or nutlet.

A--Flower parts in 2's-----Circaea

A--Flower parts in 4's-----

a--Seeds silky-hairy-----Epilobium

a--Seeds not silky-hairy

b--Anthers versatile-----Oenothera

b--Anthers attached at base-----Godetia

Circaea L.

Circaea pacifica Asch. and Magn.

Delicate herbs with thin, opposite, petioled leaves spreading at right angles to stem; leaf blades broadly ovate, truncate or subcordate at base, acuminate, minutely toothed; flowers minute, white, in bracted panicles or terminal and axillary racemes; fruits pear-shaped with hooked bristles.

Habitat: Moist, shady woods.

Collected: July 3.

Common Name: Enchanter's Nightshade

Epilobium L.

Epilobium angustifolium L. 1753.

Epilobium spicatum Lam. 1778.

Perennial herbs with erect mostly simple stems; leaves opposite or alternate, short petioled, lanceolate, acute; inflorescence a spike-like terminal raceme; flowers on slender pedicels, bracted; petals rose-colored, spreading; stamens 8, unequal, 2 sets; stigma 4-lobed or club-shaped; pod linear; seeds small, hairy.

Habitat: Open burns and slashings.
Collected: June 26.
Common Name: Fire Weed.

Oenothera L.

Herbs erect or prostrate. Leaves alternate or basal. Flowers generally yellow or white. Calyx tube elongated beyond ovary, 4 lobed. Petals 4. Stamens 8. Capsule 4-loculed.

Oenothera biennis L.

Herbs erect, with stout reddish stems; leaves lanceolate to oblong, upper sessile, lower short-petioled; flowers yellow, large.

Habitat: Open places
Collected: June 25.
Common Name: Evening Primrose.

Godetia Spach.

Annual herbs. Leaves alternate, mostly sessile or

short petioled. Flowers showy, in racemes or spikes. Petals 4. Stamens 8, 4 shorter and alternate with the sepals.

Godetia amoena (Lehm.) Lilja. 1841

Oenothera amoena Lehm. 1821.
Oenothera Lindleyi Doug. 1828.
Godetia vinosa Lindl. 1836.

Stems often reddish below; leaves linear or lanceolate, upper leaves often folded; flowers violet or rose-lavender; calyx tips united, splitting along one side and turning back in flower; anthers curved at tip.

Habitat: Dry places.
Collected: June 24.
Common Name: Farewell to Spring.

CORNACEAE

Trees, shrubs or herbs. Leaves opposite, pinnately veined, simple. Flowers small in a dense head or cluster. Petals 4, separate. Stamens 4, alternate with the petals. Ovary inferior. Fruit fleshy.

Cornus L.

Herbs, trees or shrubs. Flowers white or greenish. Calyx teeth present, 4. Head sometimes subtended by a large white, petal-like bracts, giving the appearance of petals.

A--Tree-----C. Nuttallii
 A--Herb-----C. canadensis
 A--Shrub-----C. occidentalis

Cornus nuttallii Audubon

A tree, 10 to 60 feet tall; bark smooth, gray; leaves simple, obovate; inflorescence a compact head, subtended by a conspicuous involucre of white, petal-like bracts; fruit a cluster of scarlet drupes.

Habitat: Open woods.
 Collected: May 1.
 Common Name: Dogwood.

The Dogwood is a common deciduous flowering tree of the Dry Creek region. Early in May (or late April) the woods in and around Tooth Rock blossom forth with

an array of Dogwood flowers. It is not an uncommon sight to see a second blooming period in the fall. The pure white blossoms and the bunches of red berries on the same tree make a striking appearance.

Cornus canadensis L.

An herb from 3 to 8 inches tall; leaves 4 to 6, whorled at summit of stem, obovate, rather pointed at both ends; flower cluster surrounded by broad white bracts; bracts ovate; fruit a red drupe.

Habitat: Mountain woods.
Collected: June 19.
Common Name: Bunchberry.

The Bunchberry is a miniature replica of the Pacific Dogwood. It is rare in the Dry Creek Falls region, being found only far above the falls in the Lost Lake region.

Cornus occidentalis (T. & G.) Coville.

A shrub, 5 to 8 feet tall with smooth bark and reddish wood; leaves thin, smooth, long ovate to elliptic, paler green beneath, thinly pubescent; flowers in broad, flat-topped, small, cream-colored; fruit white.

Habitat: Common shrub along streams.
Collected: June 10.
Common Name: Creek Dogwood.

Monotropa uniflora L.



The Indian Pipe is a common inhabitant found along the trail to Dry Creek Falls about the latter part of May. The ghostly translucent whiteness of each plant's solitary flower soon fades to deep black as it is shown by this picture.

ERICACEAE

Shrubs, herbs or trees. Leaves mostly evergreen, leathery, simple and alternate. Flowers bell-shaped. Sepals and petals in 5's or 4's. Petals usually united. Fruit a capsule, berry or drupe.

A--Plants saprophytic, white; flowers solitary--*Monotropa*

A--Plants generally saprophytic

a--Herbs or herb-like

b--Leaves all basal-----*Pyrola*

b--Leaves alternate, irregularly

opposite and whorled-----*Chimaphila*

a--Shrubs

b--Bark conspicuously red-----*Arctostaphylos*

b--Bark not conspicuously red----*Gaultheria*

Monotropa uniflora L.

Whole plant waxy-white; stems clustered, 4 to 10 inches tall; leaves reduced to white scales, entire; flowers solitary, terminal, drooping; sepals 2 and 4, irregular; petals 5 to 6; stamens 10 to 12; capsule, ovoid, erect at maturity.

Habitat: Moist deep woods.

Collected: May 25.

Common Name: Indian Pipe.

The pure waxy flowers of the Indian Pipe prefer a cool, moist bed of green moss in which to grow.

Pyrola bracteata Hook.



The Leathery Shin-leaf is found in the cool, moist, shady recesses under the Salal bushes that so abundantly border Dry Creek. Each of the waxy pink flowers have a conspicuous style that curves downward.

They are saprophytic, dependent on dead plants for their food; therefore, the roots will be imbedded in decaying vegetation. The whole plant dries a coal black.

Pyrola L.

Perennial herbs with shiny, leathery leaves, all basal. Inflorescence a terminal, many-flowered raceme. Calyx 5-lobed. Stamens 10. Petals 5. Style exserted.

Pyrola bracteata Hook. 1934

Pyrola rotundifolia L.

Pyrola rotundifolia bracteata A. Gray. 1876.

Flowers reddish, thick, waxy, few to many in a raceme, bracted; style long, curved downward.

Habitat: Coniferous woods.

Collected: June 11.

Common Name: Leathery Shin-leaf.

The Leathery Shin-leaf is not a common plant on the Dry Creek Falls Trail. It is found in rather deep coniferous woods bordering the trail and is almost hidden by the Salal that grew taller.

Chimaphila Pursh.

Herb-like shrubs. Leaves alternate, opposite or whorled, evergreen, short-petioled, toothed. Sepals 5.

Petals 5, white or pinkish. Stamens 10. Style very short with large round stigma, 5-crenate. Capsule 5-loculed.

Chimaphila Menziesii (L. Br.) Spreng.

Stems shrubby, erect; leaves ovate or elliptic, entire or toothed; flowers white or pinkish, 1 to 3 on a terminal peduncle.

Habitat: Coniferous woods.
Collected: June 10.
Common Name: Pipsissewa.
Prince's Pine.

The Pipsissewa is an evergreen plant rarely found in the Dry Creek region. The fine waxy petals are turned back toward the peduncle exposing the green ovary with its broad five-scalloped stigma and the ten yellow anthers.

Arctostaphylos Adans.

Evergreen shrubs, erect or decumbent. Bark red or reddish brown, smooth, polished. Flowers in racemes or panicles, 5-parted. Stamens 10. Fruit fleshy.

Arctostaphylos Uva-ursi Spreng

Low creeping shrub, much branched, from a woody, branched root; leaves spatulate, obovate, petioled, smooth, netted veins conspicuous; corolla ovoid, urn-

shaped, pinkish, $\frac{1}{2}$ inch long; sepals not united; fruit a scarlet berry.

Habitat: Dry woods.
Collected: June 1.
Common Name: Kinnikinnic.

The Kinnikinnic is generally found growing in the same association with the Salal and Manzanita. Its trailing branches cover the rocks and ground of Tooth Rock with a beautiful evergreen foliage.

Gaultheria L.

Evergreen shrubs, mostly branched, generally erect. Stems creeping. Leaves evergreen, alternate, broad, acute. Inflorescence terminal, loosely flowered, one-sided raceme. Sepals 5. Petals 5, united into an urn- or bell-shaped corolla.

Gaultheria shallon Pursh.

Leaves orbicular-ovate to oblong, narrow and pointed at apex, broad at base, minutely serrate; corolla urn-shaped, white or pinkish, 5-cleft; calyx red, fleshy in fruit; fruit a black berry.

Habitat: Fir forests.
Collected: June 9.
Common Name: Salal.

The evergreen shrub, Salal, is very abundant on the Dry Creek Falls Trail. As it is seen on the trail

it appears dwarfed, being only one to three feet tall. Its olive-green, leathery, glossy leaves form a compact foliage thickly covering the area on which it grows with a massy underbrush. The waxy flowers are suspended from a stiffly bending peduncle, which is sticky and hairy. At the base of the pedicels are large scaly red bracts. In the fall the flower is replaced by a blackish-blue edible berry.

PRIMULACEAE

Simple-leaved herbs with perfect, regular flowers.
 Flower parts in 5's. Sepals united at base into a
 tube. Stamens attached to corolla tube, opposite lobes.
 Style 1. Fruit a capsule.

A--Leaves all basal -----Dodecatheon

A--Leaves in a whorl at top of stem----Trientalis

Dodecatheon L.

Herbs perennial with leaves all basal. Flowers
 in terminal bracted clusters. Calyx with 4 or 5 lobes,
 turned backward in flower. Stamens the same number as
 the lobes.

Dodecatheon Jeffreyi Morre.

Dodecatheon viviparum Greene. 1895.
 Dodecatheon crenatum Greene. 1890.
 Dodecatheon Jeffreyi Van Houtte. 1865.
 Dodecatheon Meadia Linn.

Flowers few or many in an umbel arising on a long
 peduncle above leaves, purple; stamens purple, free.

Habitat: Mountain Meadows.
 Collected: May 15.
 Common Name: Shooting Star.

Trientalis L.

Very small perennials from tuberous rootstalks.

Stems unbranched. Leaves whorled at apex of stem.

Flowers, each on a single pedicel, arising from center of leaf-whorls.

Trientalis europaea L.

Trientalis latifolia Hook. 1838.

Trientalis europaea latifolia Torr. 1860.

Perennials from tuberiferous rootstalks; stems slender, foliage leaves in a whorl of 3 to 6, broadly obovate, acute or obtuse at apex, tapering at base into a short petiole; scale-leaves small; flower stems arising from center of whorl of foliage leaves, each bearing a solitary flower, generally pink, star-shaped, 5 to 7 lobed.

Habitat: Woods.

Collected: May 1.

Common Name: Star Flower.

The Star Flower is a very dainty little flower, conspicuous only by its abundant growth in woodsy places along Dry Creek Falls Trail.

APOCYNACEAE

Herbs, perennial, with milky juice. Leaves simple, opposite. Flowers cymose. Flower parts mostly in 5's. Carpels 2, distinct. Fruit of 2 follicles.

Apocynum L.

Flowers campanulate. Corolla lobed, reflexed. Stamens 5, borne on the corolla, alternate with its lobes, the anthers united around the stigma. 5 small appendages alternate with the stamens.

Apocynum androsaemifolium L.

Leaves ovate to orbicular, mucronate, glabrous, dark green above, lighter below, short petioled; flowers pink with deeper veining; corolla lobes spreading and reflexed, fragrant.

Habitat: Dry, protected places.
Collected: June 11.
Common Name: Dogbane.

POLEMONIACEAE

Herbs with alternate or opposite leaves. Flowers perfect, regular; flower parts in 5's. Sepals partly united; persistent. Stamens attached to corolla, alternate with its lobes. Ovary 3-loculed. Style 1, 3-lobed. Fruit a capsule, 3-valved.

Gilia B. and P.

Corolla funnelform, tubular or campanulate. Calyx tube papery and semi-transparent at junction of teeth, splitting when capsule mature.

Gilia capitata Doug.

Leaves decreasing in size up stem, pinnately compound, leaflets again divided; flowers in dense heads, blue.

Habitat: Open fields.
Collected: June 29.
Common Name: Field Gilly-flower.

HYDROPHYLLACEAE

Mostly herbs, rarely shrubs. Flowers solitary or in heads, cymes or spikes, often in 1-sided scorpioid clusters. Leaves alternate, opposite or both on same plant. Sepals 5, partly united. Petals, partly united. Stamens 5, on base of corolla. Styles 1 or 2. Fruit a capsule.

A--Styles entire-----Romanzoffia

A--Styles 2-cleft-----Hydrophyllum

Romanzoffia Cham.

Herbs, small, delicate. Leaves, many, mostly basal, smooth, pale green, scalloped, long-petioled. Flowers in a loose cyme. Calyx 5-parted or nearly separate. Corolla white, funnel-shaped. Stamens uneven, exserted.

Romanzoffia stichensis Bong.

Very small slender herbs, weakly erect; leaves mostly basal, orbicular, cordate, crenately lobed, long-petioled, thin and smooth; corolla white or pinkish; style, long, threadlike, undivided.

Habitat: Moist cliffs.
Collected: June 10.
Common Name: Mist Maidens.

The tiny Mist Maidens grow on the rocky cliff right under and beside Dry Creek Falls. The mist from the falls perpetually sprays the plant with a fine

mist. The flower somewhat resembles that of Saxifraga Nuttallii.

Hydrophyllum Linn.

Herbs, perennial. Leaves alternate, pinnately lobed or divided. Flowers blue, white or lavender in loose or compact head-like clusters, not conspicuously scorpioid. Corolla campanulate. Stamens exerted.

A--Leaves with 5 to 7 leaflets; flowers white--H. albifrons

A--Leaves with 3 leaflets; flowers bluish-----H. tenuipes

Hydrophyllum albifrons Heller.

Lower leaves with 5 leaflets, leaf lobes acute, upper leaves mostly with 3 leaflets; stem and leaves very hirsute; flowers bell-shaped; stamens much longer than corolla lobes.

Habitat: Moist woods.
Collected: June 10.
Common Name: Waterleaf.

Hydrophyllum albifrons, with its coars hirsute stem and leaves, is the exact opposite of Hydrophyllum tenuipes, with its soft-hairy thin leaves.

LABITAE

Herbs or shrubs with simple, opposite leaves, generally fragrant. Stems 4-angled. Flowers clustered in axillary whorls or solitary. Inflorescence sometimes appearing spike-like or head-like. Sepals equal or unequal (2-lipped). Corolla 4 or 5 lobed, generally 2-lipped. Stamens 2 to 4, all anther-bearing or 2 fertile and 2 sterile. Ovary 4-lobed or parted. Fruit, 4 nutlets.

Prunella L.

Corolla distinctly 2-lipped, the lobes unequal; upper calyx-lip 3-toothed, lower 2-lobed; leaves not aromatic.

Prunella vulgaris L. 1753.

Prunella vulgaris major Hook. 1838.

Stems erect or ascending, 3 to 12 inches tall, smooth or pubescent; leaves petioled, ovate to oblong-lanceolate, entire, minutely toothed; inflorescence a spike, dense, terminal; flowers in whorls of 6's, bracted; corolla purple; stamens 4, all fertile, 2 longer.

Habitat: Dry open fields.

Collected: July 25.

Common Name: Heal All.

The dark purple spikes of *Prunella vulgaris* are very common along the path of the lower part of the

Dry Creek Trail. The flowers blossom progressively in the spike. When the lower flowers are through blooming, the upper are just beginning.

Chiefly herbs. Leaves simple Calyx generally with 4 or 5 divisions. Petals partly united, nearly regular or 2-lipped. Stamens 5, or 4 in 2 pairs, 2 long and 2 short and sometimes a fifth sterile stamen, or 1 pair sterile, or stamens only 2. Ovary superior. Style 1. Fruit a capsule, 2-loculed.

/ --Corolla not distinctly 2-lobed; stamens 2.

a--Leaves mostly on the stem-----Veronica

a--Leaves mostly basal-----Synthyris

A--Corolla distinctly 2-lobed

a--Stamens 5, 4 fertile, the fifth
filament sterile

b--Sterile filament as long as

the other stamens-----Pentstemon

b--Sterile stamen a gland or scale--Collinsia

a--Stamens 4, all fertile

b--Corolla yellow-----Mimulus

b--Corolla (as well as whole plant)

red-----Castilleja

Veronica L.

Herbs with flowers in racemes or solitary. Calyx 4-lobed. Corolla 4-lobed, slightly irregular. Stamens 2, attached to corolla at sides of upper lobe.

Veronica americana Schwein.

Smooth perennials, with straggling, branching stems; rooting from the lower joints; leaves ovate to oblong, petioled, thickish; inflorescence a raceme borne in the leaf axils; flowers bright blue with white center and conspicuous veining.

Habitat: Wet places.
 Collected: June 3.
 Common Name: Common Speed-well.

Synthyris Benth.

Perennial herbs with basal leaves; inflorescence a raceme. Calyx and corolla 4-lobed. Corolla tubular. Stamens 2, attached to corolla tube on upper side.

Synthyris reniformis (Dougl.) Penn.Synthyris rotundifolia Gray.

Leaves kidney-shaped to heart-shaped, coarsely lobed, long-petioled; flowers blue borne in short racemes.

Habitat: Shady moist woods.
 Collected: April 2.
 Common Name: Spring Queen.

Pentstemon Mitch.

Chiefly herbs, shrubby and branched below. Leaves opposite, the upper ones clasping; flowers showy in long racemes, panicles or cymes. Calyx 5-lobed. Corolla 2-lipped, tubular, the upper lip

2-lobed, the lower 3-cleft. Stamens 4, in pairs, fifth stamen sterile, often bearded. Style long.

Pentstemon diffusus Dougl.

Stems erect, 2 to 3 feet tall, slender; leaves ovate to oblong, upper sessile, lower petioled, sharply toothed; flowers blue or purplish.

Habitat: Mountains.
Collected: June 10, July 18.
Common Name: Beardstongue.

Collinsia Nutt.

Annual herbs with opposite leaves. Flowers whorled in a raceme or axillary. Calyx 5-lobed. Corolla turned downward at a sharp angle with base of tube, swollen or spurred above, 2-lipped. Upper lip erect, 2-lobed. Lower lip 3-lobed. Fertile stamens 4 in 2 dissimilar pairs, the fifth stamen a gland at base of corolla.

Collinsia grandiflora Dougl.

Stems more or less pubescent; leaves opposite below, mostly whorled above, lower leaves long-petioled, upper leaves sessile; flowers in upper leaf axils; corolla tube lavender, lobes deep blue.

Habitat: Hillsides
Collected: May 20.
Common Name: Large Innocence.

Collinsia grandiflora grows and blooms profusely about the latter part of May on First Tooth Rock. It is usually accompanied by the red flowers of the Indian Paint Brush.

Mimulus L.

Annual or perennial herbs with opposite leaves. Flowers showy, in racemes or solitary. Calyx 5-lobed. Corolla more or less 2-lipped. Stamens 4. Stigmas 2.

A--Plants thickly pubescent, sticky-----M. moschatus

A--Plants smooth-----M. guttatus

Mimulus moschatus Dougl. 1827.

Mimulus moschatus longiflorus A. Gray. 1886.

Mimulus moschatus pallidiflorus Suksdorf. 1900.

Plants mostly weak, 6 to 12 inches tall; stem covered with sticky hairs; plant musk-scented; leaves ovate toothed, hairy; flowers pale yellow, hairy.

Habitat: Along streams.

Collected: May 1.

Common Name: Musk.

Mimulus guttatus DC.

Mimulus luteus L.

Stems erect, rooting from basal nodes; leaves smooth, lower ones petioled, upper clasping, coarsely

toothed; corolla strongly 2-lipped, deep yellow with purplish or brownish dots in throat.

Habitat: Wet places.
Collected: May 20.
Common Name: Common Monkey Flower.

Castilleja Mutis.

Perennial herbs. Leaves alternate, not petioled, green below and gradually emerging into colored bracts above; flowers crowded in clusters among the bracts. Calyx tubular, 2-cleft, lobes sometimes 2-toothed, colored like the bracts. Corolla inconspicuous, tubular, inclosing the 4 stamens.

A--Leaves linear, mostly entire-----C. *miniata*

A--Leaves with 3 to 5 pinnate lobes-----C. *angustifolia*

Castilleja miniata Doug.

Stems slender, 1 to 3 feet tall, mostly glabrous; leaves lanceolate to linear with 3 prominent veins from base, entire, sessile; bracts red-tipped, generally 3 to 5 linear lobes at tips.

Habitat: Hillsides.
Collected: June 13.
Common Name: Indian Paint Brush

Castilleja angustifolia G. Don.

Castilleja Douglasii Benth. 1846.
Castilleja desertorum Geyer. Hook. 1853.
Euchroma angustifolia Nutt. 1834.

Stems short, 5 to 16 inches tall, more or less covered with hair; leaves with 3 to 5 lobes, lower generally undivided, 3 to 5 main veins from base; bracts 3 to 5 lobed, central lobes broader, tip very scarlet.

Habitat: Fields or hillsides.
Collected: May 20.
Common Name: Indian Paintbrush.

Both species of Indian Paintbrush are common on First and Second Tooth Rock.

RUBIACEAE

Herbs or shrubs. Leaves opposite or in whorls. Flowers regular. Calyx 4-toothed or none. Corolla 4- or 5-toothed, united, often hairy inside. Stamens as many as corolla lobes, adnate and alternate to them, fruit a capsule, berry, or stone-fruit.

Galium L.

Mostly herbs. Stems square. Leaves in whorls. Flowers minute, clustered, white or creamy. Corolla wheel-shaped, 4-lobed. Stamens 4, short. Fruit dry or fleshy, consisting of 2 similar, round parts, each with a seed.

A--Stems bristly

a--Annual herb; not fragrant-----B. aparine

a--Perennial herb; fragrant-----G. triflorum

A--Stems smooth -----G. Kamtschaticum

Galium aparine L.

Annual herb; stems weak, trailing or climbing by means of hooked bristles; leaves in whorls of 6 to 8, linear to oblanceolate, margins and veins very hispid. Flowers minute, white, borne singly in axils of leaves.

Habitat: Along streams.

Collected: July 10.

Common Name: Annual Bedstraw.

Galium triflorum Michx.

Perennial herb; stems trailing, with hooked bristles; leaves lanceolate, in whorls of 6; flowers minute, white, in groups of 3's.

Habitat: Open woods.
Collected: July 18.
Common Name: Sweet-scented Bedstraw.

Galium kamtschaticum Steller.

Perennial herb with smooth, erect stems; leaves in whorls of 4's, ovate to orbicular; flowers small, cream-colored.

Habitat: Mountainous woods.
Collected: June 10.
Common Name: Wild Licorice.

The Bedstraws are a common herb along Dry Creek Falls Trail. They generally grow in matted groups. With the exception of *G. kamtschaticum*, which has erect smooth stems, the Bedstraws have weak, trailing stems with numerous bristles that enable the plant to stick tightly to anything with which it comes in contact.

CAPRIFOLIACEAE

Vining or erect herbs, shrubs or trees. Leaves simple or compound, opposite. Corolla regular or irregular, 5-lobed, sometimes 2-lipped, rotate to tubular. Stamens 5, on the corolla tube, alternate with the lobes. Ovary inferior, 1 to 6-loculed. Fruit a berry, drupe or capsule.

A--Herbaceous vines, creeping-----Linnaea

A--Shrubs, erect or climbing

a--Flowers regular, fruit white-----Symphoricarpus

a --Flowers irregular, fruit red or black--Lonicera

Linnaea L.

Stems trailing, weak, 10 to 20 inches long.
Leaves evergreen, shiny, ovate, slightly toothed.
Flowers borne in pairs at tip of erect stem. Corolla bell-shaped. Stamens 4, one pair longer. Style exserted.

Linnaea borealis L. var. *americana* Rehder.

Linnaea americana Forbes. 1833.
Linnaea borealis longiflora Torr. 1874.
Linnaea longiflora Howell. 1900.

Leaves conspicuously netted veined, leathery;
corolla pink and white, smooth within, hairy without;
ovary inferior, hairy, bracted.

Habitat: Moist shady woods.
Collected: July 2.
Common Name: Twin Flower.

Linnaea borealis was named after the famous Swedish botanist. All pictures of Linneus show him holding, in his hand, the dainty Twin-flower. It is not uncommon to come upon a large area well-carpeted with this beautiful little plant. There is never a variation from the paired drooping flowers at the apex of a slender, forked pedicel. The flowers, when in a mass, are very fragrant.

Symphoricarpos Dill.

Flowers subtended by 2 small bracts. Calyx tube spherical. Corolla short-campanulate to salverform. Stamens 5 on corolla throat. Fruit a berry.

Symphoricarpos albus (L.) Blake.

Symphoricarpos racemosus Michx.

Shrubby stem, slender, branched 1 to 5 feet tall; leaves short-petioled, pubescent beneath, quite variable; inflorescence clustered or racemose, terminal or axillary; corolla 4 to 5-lobed, white to pink, densely covered within by white hairs; berries globose, variable in form, white.

Habitat: Dry, open places.

Collected: May 10.

Common Name: Snow-berry.

The Snow-berry is very common along the Dry Dreek Trail and trails leading into it. The foliage is very

fragrant when wet. The white berries are not only attractive in the fall and winter but they are useful food for the winter birds. S. albus occurs along the trail abundantly at the lower levels on the trail.

Jepson uses Symphoricarpos albus (L.) Blake while Piper and Kewensis cite the synonym S. racemosus Michx. The authority for the genus was changed to Dill.

Lonicera L.

Shrubs or trees, erect or twining. Leaves opposite, entire. Flowers in spikes or apices in leaf axils or in larger clusters at apex of stem. Calyx small or wanting. Corolla tubular or funnel-form, irregular 5-lobed.

Lonicera ciliosa Poir. 1817.

Lonicera ciliosa (Pursh.) Poir. 1817.
Caprifolium ciliatum Pursh. 1814.
Lonicera occidentalis Lindl. 1831.

Climbing shrub, vine-like; upper leaves united at base; other leaves oval or ovate, light green below, short-petioled; flowers sessile, orange-red, somewhat 2-lipped; stamens a little longer than corolla; calyx minute; fruit a red berry.

Habitat: Woodland
 Collected: May 20.
 Common Name: Orange Honeysuckle.

The shrubby trailing stems of the Orange Honeysuckle twine and intertwine the shrubs or trees nearest,

sometimes growing to a height of fifteen or more feet. The two leaves beneath the inflorescence are united to form a saucer-like disk. The dark red berries are sweet and edible.

VALERIANACEAE

Herbs with opposite leaves. Inflorescence a cyme. Calyx tube united with ovary. Corolla attached at top of ovary, regular, 5-lobed or generally 2-lipped. Stamens 1 to 3 borne on corolla tube.

Valerianella Tourn.

Annual herbs with angled stems; Flowers small, irregular, borne in head-like spikes.

Valerianella congesta Lindl.

Leaves in 3 or 4 pairs, smooth, sessile, clasping; flowers very small, pink, spurred; fruit broadly winged.

Habitat: Hillsides.
Collected: April 15.
Common Name: Corn Salad.

Valerianella congesta is very common on First and Second Tooth Rock early in the spring.

CAMPANULACEAE

Herbs generally with milky juice. Leaves alternate, simple. Flowers solitary or in racemes, terminal. Calyx 5-lobed. Ovary inferior; style 1. Stamens 5.

CAMPANULA L.

Flowers light blue, white or violet, all alike, campanulate. Calyx lobes narrow.

Campanula Scouleri Hook. 1830.

Stems smooth, prostrate at base, erect, unbranched above; leaves ovate to lanceolate, acuminate, sharply toothed, petioles long; flowers drooping, mostly solitary or in loose racemes or panicles; corolla pale blue, funnel-shaped, lobes reflexed; style rather stout, long exserted; stigma 3-lobed.

Habitat: Dry open woods.
Collected: July 18.
Common Name: Pale Blue-bell.

Campanula Scouleri is one of the daintiest of the flowers commonly called Blue-bells. It has light blue, bell-shaped flowers with perianth lobes that turn decidedly backwards and a long style that protrudes far beyond the corolla in a striking manner. It occurs abundantly on the upper end of Dry Creek Trail.

COMPOSITAE

Herbs or shrubs. Flowers small, in heads. Heads involucrate. Calyx modified to a pappus, if present. Corolla tubular and 5-toothed (disk flowers) or strap-like (ray flowers). Stamens 5, alternate with corolla lobes. Ovary inferior, 1-celled. Fruit an akene.

A--Ray flowers absent

a--Pappus present

b--Flower heads in large, dense, nearly flat-topped, terminal clusters; pappus white, cottony-----Petasites

b--Flower heads small, in showy white corymbose cymes; pappus of white rough bristles; involucre bracts papery-----Anaphalis

b--Flower heads showy, solitary, at end of branches; pappus of rigid bristles; involucre bracts, not papery-----Centaurea

b--Flower heads minute, inconspicuous; involucre bracts few, in 1 series --
-----Adenocaulon

A--Ray flowers present

a--Pappus absent

b--Flower heads small, many in a

terminal corymb-----Achillea

b--Flower heads showy, solitary,

terminating the branches-----Anthemis

a--Pappus present (in ours)-----Eriophyllum

Petasites Gaertn.

Petasites palmatus (Ait.) Gray.

Herb arising from a creeping rootstalk, with upright stems; leaves scale-like at base of flower stem; leaves radical, very large, deeply 7 to 9 cleft, smooth above, wooly below; flower heads in large dense, nearly flat-topped, terminal clusters, white; ray flowers small, inconspicuous. Pappus white, cottony.

Habitat: Moist ground.

Collected:

Common Name: Sweet Colt's Foot.

The flowers of the Sweet Colt's Foot appear early in the spring before the leaves. The leaves appear later and at first look like closed umbrellas. They are exceptionally large and broad with deep lobes which are again coarsely toothed.

Anaphalis DC.

Anaphalis margaritacea (L.)

Anaphalis margaritacea subalpina Gray. 1884.
Anaphalis margaritacea occidentalis Greene.
1897.

Whole plant appearing white-wooly; leaves narrow, entire, alternate, sessile, lanceolate, 2 to 5 inches long, margins involute; flower heads in small, white corymbose cymes, dioecious, but generally a few staminate or perfect flowers in center of pistillate heads; involucre bracts white, papery, numerous, campanulate; pappus white, rough, on staminate, pistillate and perfect flowers.

Habitat: Dry fields and roadsides.
 Collected: May 20.
 Common Name: Pearly Everlasting.

The Pearly Everlasting is a long-blooming flower, appearing the last of May to the end of July. However, the everlasting quality of the papery, straw-like flower makes them remain pretty long into the fall. Each pistillate flower has a 2-cleft style that is conspicuously exserted and a 5-toothed corolla. The staminate and perfect flowers have a 5-lobed, tubular corolla with the 2-cleft style included or slightly exserted. The center of each flower is yellow but turns brown with age. The papery, imbricated involucre, which is arranged in several series around each flower, remains a pure white.

Centaurea L.

Centaurea cyanus L.

Herbs with erect, somewhat wooly stems; flower

heads many-flowered, showy, solitary and terminal on main stem; involucre bracts in several series, fringed or deeply toothed, usually black at apex; ray-flowers absent; disk-flowers enlarged, ray-like, showy; flowers white, pink, blue or purple.

Habitat: Common in grain fields.
Collected: July 10.
Common Name: Bachelor's Button

The Bachelor's Button, which is a common weed and pest in the grain fields, is a very beautiful flower. The outer disk-flowers are intricately toothed and of a variety of bright colors. The upper leaves are linear while the lower leaves are toothed and often are pinnately divided into narrow segments. Centaurea Cyanus is found at the lower end of the trail along the Columbia River highway.

Adenocaulon Hook.

Adenocaulon bicolor Hook. 1830.

Flower stem and leafy stem separate, whole plant more or less sticky-glandular; leaves mostly near the base, green above, white-woolly below, triangular in shape, cordate at base, margins coarsely serrate or wavy; flower heads small, whitish, in loose terminal

panicles, widely branched; involucre bracts in 1 series, few; ray-flowers none; outer circle of flowers pistillate, 1 to 5; staminate flowers, inner, sterile, 8 to 10; achenes club-shaped, with glands.

Habitat: Common in woods.
Collected: April 28.
Common Name: None.

Achillea L.

Achillea millefolium L.

Branched stems, 1 to 3 feet tall; leaves pinnately dissected into many narrow segments, basal leaves larger than stem leaves; head small, white usually in a terminal flat-topped corymb; both ray- and disk-flowers present; ray-flowers white, 5, pistillate; involucre in a few series; achenes flat with thick margins.

Habitat: Common in dry fields.
Collected: July 18.
Common Name: Yarrow. Milfoil.

The finely dissected leaves, that resemble fern fronds, as well as the flowers, have a pleasant strong scent.

Anthemis L.

Anthemis ootula L.

Herb with branching stems and finely dissected

leaves; flower heads, solitary, terminal; ray-flowers, white, fertile; disk-flowers yellow, the receptacle becoming cone-shaped; involueral bracts rough; achenes glabrous, rough; surfaced; pappus none or minute.

Habitat: Common weed.
Collected: July 11.
Common Name: Dog-fennel.

Dog-fennel is an ill-smelling weed that grows everywhere. Its favorite habitat, however, is any open, dry field or hillside. It has rather attractive flowers. The white ray-flowers, especially, are showy. At first they are spreading, but soon turn abruptly down, parallel with the peduncle.

Eriophyllum Lag.

Eriophyllum lanatum (Pursh.) Forbes. 1838.

Actinella lanata Pursh. 1814.
Eriophyllum caespitosum Dougl. 1828.

White-woolly herbs from a somewhat woody, tufted base, 1 to 1½ feet tall; leaves alternate, 3 to 7 pinnately lobed or entire, spatulate to obovate; heads on long, terminal or axillary pedicels; involucre woolly, campanulate; ray-flowers spreading, bright yellow; disk-flowers orange-yellow; pappus of chaffy scales or none.

Habitat: Dry open fields, common.
Collected: June 3. July 18.
Common Name: Woolly Sunflower?
Oregon Sunshine.

The whole plant has a soft, silvery, shiny appearance. The leaves are quite variable on the same plant. The uppermost and lowermost are mostly entire and either lanceolate or oblanceolate, while the rest of the stem leaves are pinnately lobed.

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