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Iron Mountain is located in the Rogue River Range, on the Coquille-Rogue River Divide in Coos-Curry Counties (fig. 1). The mountain is 15 air miles from the Pacific Ocean and is directly east of Port Orford, Oregon. It is 10 miles north of the Rogue River and is the highest peak in the area, reaching an elevation of 4,000 feet.

PHYSIOGRAPHY AND TOPOGRAPHY

The steep terrain of the north slope plunges into Sucker Creek Canyon and Copper Mountain Canyon which angle toward each other to form fairly

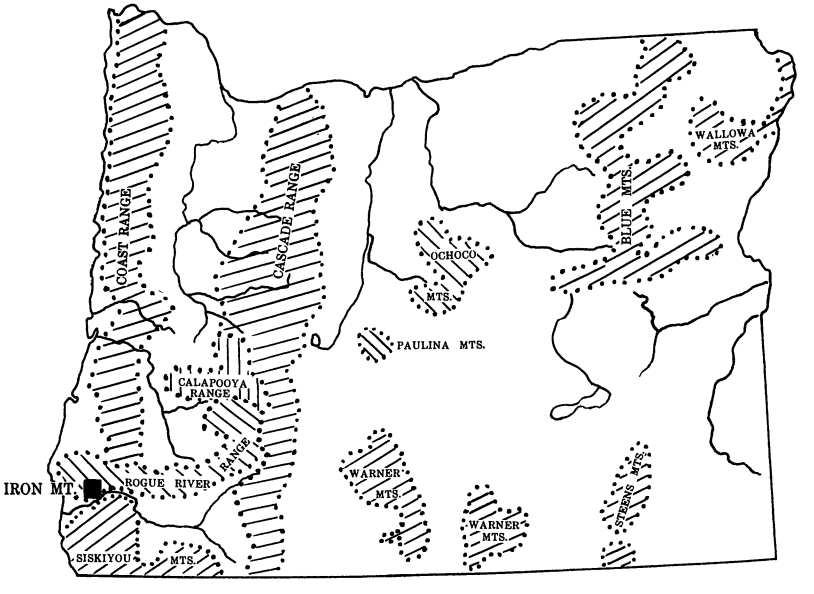

Fig. 1.—Map of Oregon; showing location of Iron Mountain and the Rogue River Range in relation to the other mountain ranges in the state.

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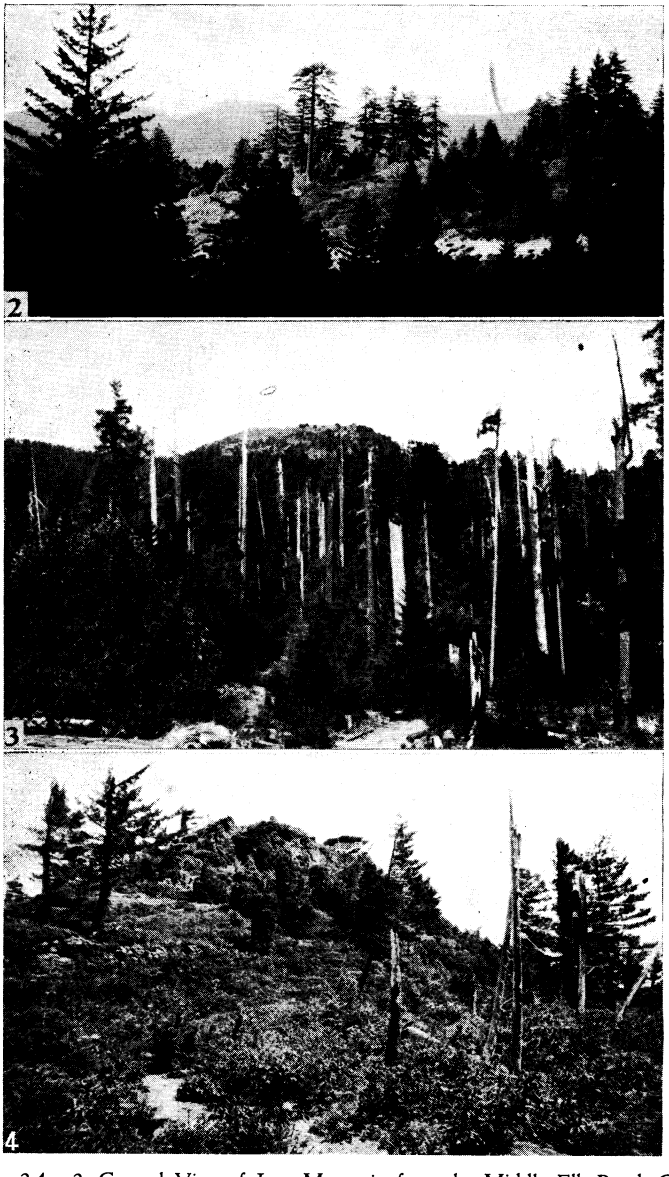


Figs. 2-4.—2. General View of Iron Mountain from the Middle Elk Road, Coquille Rogue River Divide; showing the east face in the distance. 3. East slope of Iron Mountain from Smith Claim; Port Orford cedar snags in foreground. 4. Looking toward the summit of Iron Mountain from the south saddle; low shrubs form the chaparral growth on the upper slopes.

natural boundaries in this direction. Along the south and southwest slopes the limits are plainly indicated by Bonanza Basin and McCurdy Camp, while the southeast and east slopes are bounded by the base of Ophir Mountain and the watershed formed by the South Fork of Rock Creek. The south slope is drained by Boulder Creek and Foster Creek, the east slope by the North and South Fork of Rock Creek, the north slope by Sucker Creek and the South Fork of Elk River, and the west slope by Lobster Creek and its tributaries (figs. 2-8).

The geologic formations are great intrusive masses of granitic rocks bordered by metamorphics: slates, serpentines and marbles, with some older lavas, generally referred to as greenstones. In general they are Paleozoic and Mesozoic in age. In addition there are many basic intrusive masses of such rocks as peridotites. The topography of the region is broken and rugged, due to excessive dissection and the nature of the formations which are apparently old and heavily metamorphosed. The whole pattern is a maze of ridges and valleys giving a very confusing topographic picture (Smith, 1940).

CLIMATE

Iron Mountain is situated in a region which has a marine climate, a relatively high winter precipitation in the form of rain or snow, a high summer temperature, fairly moderate winter temperature, low summer precipitation, and a long growing season.

The nearest weather stations are located at Port Orford and Gold Beach on the Pacific Ocean. There are no weather records available for Iron Mountain.

The prevailing winds are westerly, blowing inland from the ocean. The annual rainfall of the area is approximately 70 inches, but may be higher on Iron Mountain because of higher altitudes. Most of the rainfall occurs from October to May. The summer precipitation during the three months of June, July, and August is only 3 inches.

The growing season is comparatively long, ranging from 238 days at Gold Beach to 286 days at Port Orford. It is estimated that Iron Mountain has a growing season from 160 to 180 days.

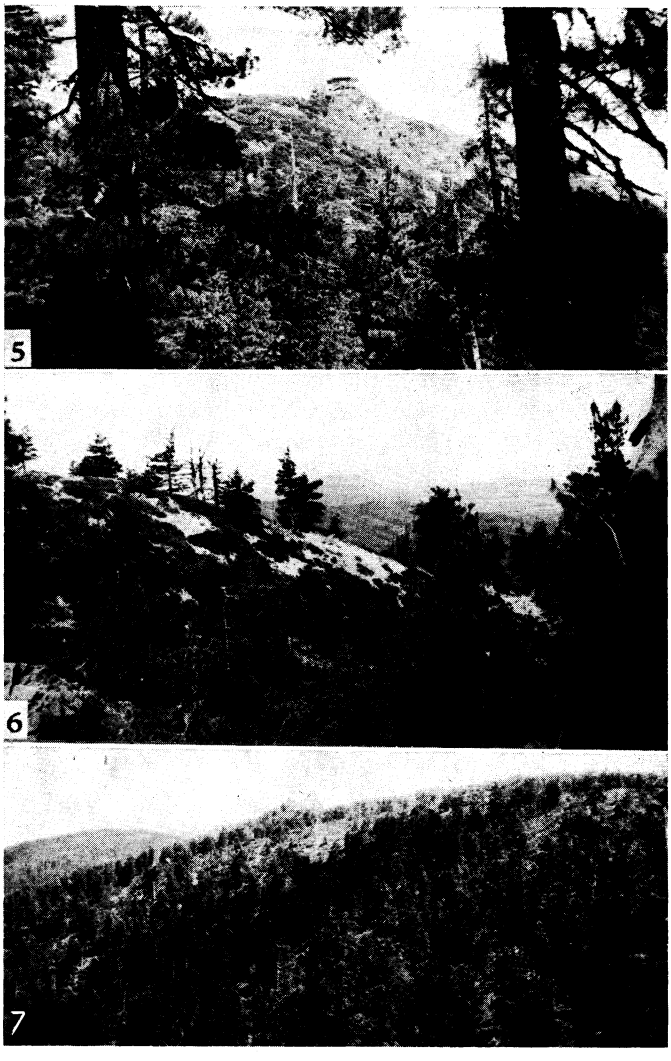
The snowfall during the winter months is usually quite heavy and some years deep drifts are present until the middle of June.

LIFE ZONES

On Iron Mountain only the Canadian and Transition Zones are represented since the summit is only 4,000 feet in elevation. A few plants grow here that inhabit the Hudsonian Zone in the Cascades, e.g., *Penstemon rupicola, Lomatium martindalei, Phleum alpinum,* etc. This is mentioned to show that the boundaries of life zones are not level altitudinal lines. It is not unusual for some species to grow from near sea level to timber line.

The Canadian Zone extends from about 3,000 to 4,000 feet on Iron Mountain. There is no sharp line of division between it and the Transition Zone. Over half of the plants represented here grow in both the Canadian and Transition Zones. The Canadian is the least well defined of all the life zones, and its recognition is dependent on the presence of certain indicator

plants, *Pinus monticola, P. contorta, Juniperus communis* var. *montana, Clintonia uniflora, Xerophyllum tenax, Anemone deltoidea* and *Acer glabrum* being the most important. The presence of any one of these species in an area might not be very significant, but when they all occur, it is a very good indication of the Canadian Zone. The following species are found principally or



Figs. 5-7.—5. A view of the lookout and summit from the east face, the trees are Western white pine. 6. Southwest slope of Iron Mountain showing characteristic chaparral type growth and scattered trees. 7. West slope taken from the south side of Iron Mountain, summit and lookout in the center of the picture. Typical forested slope with brushy openings.

wholly in the Canadian Zone and could be considered indicators of this Zone on Iron Mountain:

Polypodium hesperium, Cheilanthes gracillima, C. siliquosa, Cryptogramma acrostichoides, Pinus monticola, P. contorta, Picea breweriana, Juniperus communis var. *montana, Melica geyeri, Phleum alpinum, Hierochloe occidentalis, Scirpus criniger, Lysichitum, americanum, Juncus effusus, Narthecium californicum, Xerophyllum tenax, Zigadenus fremontii, Tofieldia occidentalis, Lilium parvum, Clintonia uniflora, Disporum hookeri, Streptopus amplexifolius, Horkelia sericata, Sisyrinchium sarmentosum, Cypripedium californicum, Habenaria sparsiflora, H. unalascensis, Listera caurina, Corallorhiza striata, Calypso bulbosa, Quercus sadleriana, Q. vaccinifolia, Montia flagellaris, Arenaria nuttallii* var. *gregaria, A. macrophylla, Silene campanulata, Anemone deltoidea, A. adamsiana, Coptis laciniata, Sedum laxum, Saxifraga mertensiana, Tiarella unifoliata, Amelanchier pallida, Trientalis arctica, Lotus oblongifolius* var. *torreyi, Acer glabrum, Ceanothus pumilus, Viola glabella, V. cuneata, Lomatium macrocarpum, L. martindalei, Garrya buxifolia, Chimaphila umbellata* var. *occidentalis, C. menziesii, Pyrola secunda, P. aphylla, P. bracteata, P. dentata, P. picta, Hypopitys lanuginosa, H. fimbriata, Allotropa virgata, Pterospora andromedea, Hemitomes congestum, Pleuricospora fimbriolata, Gaultheria ovatifolia, Arctostaphylos nevadensis, Vaccinium membranaceum, Gentiana sceptrum, Phlox diffusa* var. *longistylis, Penstemon rupicola, P. rattanii, Valeriana sitchensis, Hieracium cynoglossoides, Antennaria suffrutescens, A. rosea, Rudbeckia californica, Luina hypoleuca, Arnica parviflora, A. cernua,* and *Senecio canus.*

The Humid and Arid Transition Zones are both represented at elevations generally below 3,000 feet. The most characteristic tree of the Humid Transition is *Pseudotsuga taxifolia* but *Tsuga heterophylla* is also present. The tree best representing the Arid Transition Zone is *Libocedrus decurrens. Pinus ponderosa* and *P. jeffreyi* are also both present in this Zone. The following plants are representative of the Transition Zone on the mountain:

Polystichum munitum, Pseudotsuga taxifolia, Libocedrus decurrens, Chamaecyparis lawsoniana, Festuca megalura, Agrostis exarata, Carex exsiccata, C. obnupta, Juncus bufonius, Calochortus tolmiei, Smilacina racemosa, Disporum smithii, Montia sibirica, Ranunculus occidentalis, Berberis nervosa, Mitella ovalis, Heuchera micrantha, Tellima grandiflora, Tiarella trifoliata, Whipplea modesta, Lotus micranthus, Viola sempervirens, Epilobium adenocaulon, Aralia californica, Perideridia oregana, Angelica arguta, Rhododendron occidentale, Gaultheria shallon, Arbutus menziesii, Phacelia corymbosa, Trichostema

Fig. 8.—West slope of Iron Mountain from Middle Elk Road near McCurdy Camp junction. The density of the forest in the draws is apparent.

lanceolatum, Mimulus moschatus, Veronica americana, Lonicera hispidula, Madia madioides, Petasites speciosa, Arnica cordifolia, Collomia heterophylla, Arctostaphylos columbiana, Convolvulus polymorphus, Satureja douglasii, Galium triflorum, G. bolanderi, Campanula prenanthoides, Sambucus coerulea, and *Gnaphalium microcephalum* var. *thermale.*

A chaparral belt extends along a wide area on the east and south slopes. This begins in the Transition Zone but extends upward into the Canadian on the south slope. Some of the area about the summit is also covered with brush. Sometimes scattered and occasional trees are present such as *Pinus monticola, P. lambertiana, P. ponderosa, and P. attenuata* (on ridges). The principal shrubs on these brushy hillsides include:

Juniperus communis var. *montana, Arctostaphylos patula, A. columbiana, A. nevadensis, A. hispidula, A. canescens, Quercus sadleriana, Q. vaccinifolia, Castanopsis chrysophylla, Lithocarpus densiflorus* (shrub), *Ceanothus velutinus, C. pumilus, Rhamnus californica* var. *occidentalis, Garrya buxifolia,* and *Umbellularia californica* (shrubby form).

THE FLORAL ELEMENTS

The plants of the area are made up for the most part of species coming from two different floral provinces, — the Alaskan or Northern element which extends southward along the chain of coastal mountains, and the Californian or Southern element which extends northward from California. Another small but interesting segment of the flora is made up of the narrow endemics which make up a moderately high percentage of the plants of the region.

The Northern element includes many species that are common on Iron Mountain and grow principally northward to Alaska. Nine species reach their southern limit in our region or are not known at the present time to occur beyond northern California. The list of these species follows:

Erythronium oregonum, Montia flagellaris, Angelica arguta, Ligusticum apiifolium, Pyrola bracteata, Hypopitys lanuginosa, Gaultheria ovatifolia, Trientalis arctica, and *Phlox diffusa* var. *longistylis.*

The Southern element is by far the most important and largest element in the flora of Iron Mountain. The plants of this element are at present more widely distributed to the south of our area and appear to be predominantly of Californian origin. The Rogue River, situated 10 miles south of the region, forms an effective barrier to the plants of the Southern element. Jepson (1925) makes the following statement,

> Of the various features which distinguish the northern margins of the California province, the Rogue River is one of greatest importance as defining by a mainly physiological barrier the botanical boundary of the California province northward. There are a large number of species of Washington and Oregon which extend south to, or nearly to, the Rogue River, while a large number of species of California extend north to, or nearly to, the Rogue River. A number of species, to be sure, cross the Rogue but extend northward only a short distance. Similarly a number of Oregon species cross the Rogue but extend southward only a limited distance. The Rogue, in addition, therefore, as to such species, represents a mean of the physical conditions in a transition area.

The 60 species listed below are plants that either reach their known northern limit on Iron Mountain or, for the most part, do not extend any great distance beyond the mountain. This list consists of 20% of the total flora of Iron Mountain:

Festuca californica, Scirpus criniger, Carex mendocinencis, Narthecium californicum, Zigadenus fremontii, Veratrum insolitum, Lilium parvum, L. pardalinum, Disporum hookeri, Sedum laxum, Whipplea modesta, Ribes glutinosum, R. cruentum, Amelanchier pallida, Holodiscus discolor var. *delnortensis, Lotus crassifolius, L. oblongifolius, Trillium*

rivale, Cypripedium californicum, Quercus chrysolepis, Q. sadleriana, Q. vaccinifolia, Lithocarpus densiflorus, Arenaria nuttallii var. *gregaria, Silene campanulata, Anemone adamsiana, Berberis piperiana, Vancouveria planipetala, Umbellularia californica, Streptanthus tortuosus* var. *oblongus, Erysimum concinnum, Dentaria californica, Chrysamphora californica, Monardella villosa, Synthyris reniformis* var. *cordata, Penstemon rattanii, Castilleja pruinosa, Boschniakia hookeri, Galium bolanderi, Campanula prenanthoides, Hieracium bolanderi, Vicia californica, Lathyrus vestitus, Polygala californica, Sidalcea malvaeflora, Aralia californica, Perideridia oregana, Garrya buxifolia, Hypopitys fimbriata, Rhododendron occidentale, Arctostaphylos canescens, Gentiana sceptrum, Convolvulus polymorphus, Phacelia corymbosa, Erigeron foliosus* var. *confinis, Antennaria suffrutescens, Rudbeckia californica, Arnica parviflora, A. spathulata, Senecio bolanderi,* and *S. canus.*

Endemic species can be divided into two groups — broad endemics with a rather wide distribution within a local area or narrow endemics with a very limited range often confined to a single station or to several associated stations. Narrow endemics can be divided into those which have evolved in the region within recent times and have not had the opportunity to have become widespread, and relict species, plants which are remnants of a former vegetation which have persisted in the local area for a long time. Approximately 4% of the flora of Iron Mountain is made up of endemics. Most of these species are probably relicts because the area is one of considerable geologic age. It would seem that they would have had ample time to spread. However, unusual climatic and physiographic factors, which are present here, may also have important effects on endemism. The following species occur, sometimes known from only a few stations or covering a very limited area in extent:

Picea breweriana, Iris innominata, Sedum laxum, Saxifraga howellii, Horkelia sericata, Rhamnus californica var. *occidentalis, Ceanothus pumilus, Arctostaphylos hispidula, Arnica cernua, A. spathulata, Cirsium acanthodontum, Quercus sadleriana* and *Phacelia corymbosa.*

INTRODUCED SPECIES

The introduced species consist of 10% of the total flora on Iron Mountain. This compares very favorably with the percent of introduced species in the state. It was found that the adventive species in the state of Oregon approximate 10% also. This estimate is based on those species listed as introduced by Peck (1941).

Twenty-nine species were collected, of which a large proportion were found at Smith Claim Cabins, growing in and about the yard. The influence of a human habitation of this sort is very great. All the adventive species are of European origin. Only 9 are monocotyledons and all of these are grasses. The two largest families present are Compositae and Cruciferae, each with 5 species represented. On the basis of duration, 55% are perennials and 45% are annuals. A list of these species follows:

Bromus tectorum, B. mollis, Dactylis glomerata, Lolium perenne, Aira caryophyllea, Holcus lanatus, Agrostis tenuis, Capsella bursa-pastoris, Polypogon monspeliensis, Anthoxanthum odoratum, Rumex acetosella, R. conglomeratus, R. obtusifolius, Spergularia rubra, Lepidium perfoliatum, Camelina microcarpa, Brassica campestris, Erysimum repandum, Rubus laciniatus, Hypericum perforatum, Prunella vulgaris, Verbascum blattaria, Plantago lanceolata, P. major, Hypochaeris radicata, Chrysanthemum leucanthemum, Senecio vulgaris, S. sylvaticus and *Cirsium vulgare.*

EXTENSIONS IN RANGE

Plants on Iron Mountain which are considered new distributional records comprise a total of 41 species. This equals 14% of the plants collected on the

mountain. The relatively high percentage is very likely due to the considerable number of California plants which extend for only a short distance across the Rogue. The mountain had not been collected previously and many of the plants had, heretofore, been known only as far north as the south side of the Rogue River. It has been demonstrated that many of these species cross the Rogue and grow on the north side of the Rogue River as well. This does not in any way impair the importance of the Rogue River as a physiological barrier. Of the plants which are recorded as range extensions, 85% are from the Southern element.

Several species, i.e., *Penstemon rupicola, Vaccinium membranaceum* and *Antennaria rosea,* which are not known to occur in the Coast Range, grow on Iron Mountain. These plants are fairly common in the Cascade Mountains. This is considered of interest because a number of Cascade range plants which are absent from the Coast Range appear again in the Siskiyous of Southern Oregon. *Penstemon rupicola* is found on several coastal peaks south of Iron Mountain. The writer has collected it also on Snow Camp Mountain in central Curry County. It is not known to occur in California. It has been previously mentioned that the plants of Iron Mountain are, for the most part, from the north or the south. There are only a few plants that may have migrated to our region from the Cascades and eastward.

Each plant in the following list is designated by a letter symbol suggesting probable origin of the species. (N) signifies the Northern or Alaskan element; (S) the Southern or California element; (E) the Eastern element:

Picea breweriana (S), *Scirpus criniger* (S), *Narthecium californicum* (S), *Trillium rivale* (S), *Iris innominata* (S), *Quercus sadleriana* (S), *Q. vaccinifolia* (S), *Arenaria nuttallii* var. *gregaria* (S), *Anemone adamsiana* (S), *Berberis piperiana* (S), *Vancouveria planipetala* (S), *Dentaria californica* (S), *Streptanthus tortuosis* var. *oblongus* (S), *Sedum laxum* (S), *Saxifraga howellii* (S), *Amelanchier pallida* (S), *Holodiscus discolor* var. *delnortensis* (S), *Polygala californica* (S), *Horkelia sericata* (S), *Lathyrus vestitus* (S), *Acer glabrum* (E), *Rhamnus californica* var. *occidentalis* (S), *Ceanothus pumilus* (S), *Sidalcea malvaeflora* (S), *Viola cuneata* (S), *Garrya buxifolia* (S), *Arctostaphylos hispidula* (S), *Vaccinium membranaceum* (E), *Gentiana sceptrum* (S), *Convolvulus polymorphus* (S), *Phlox diffusa* var. *longistylis* (N), *Phacelia corymbosa* (S), *Synthyris reniformis* var. *cordata* (S), *Penstemon rupicola* (E), *Cirsium acanthodontum* (S), *Galium bolanderi* (S), *Antennaria suffrutescens* (S), *A. rosea* (E), *Arnica parviflora* (S), *A. cernua* (S), *A. spathulata* (S), and *Senecio canus* (S).

SUMMARY OF PLANTS

Three hundred species of plants are known from Iron Mountain. Additions will probably be made as it is collected more extensively. The largest families present are Compositae (20 genera, 34 species), Ericaceae (13 genera, 27 species), Gramineae (18 genera, 29 species), Liliaceae (14 genera, 19 species), Saxifragaceae (9 genera, 12 species), Polypodiaceae (9 genera, 11 species), Cruciferae (8 genera, 9 species), Leguminosae (7 genera, 12 species). Other important families with total number of species are as follows: Rosaceae (9), Pinaceae (9), Orchidaceae (8), Scrophulariaceae (8), and Cyperaceae (7). The 300 species amount to nearly 10% of the total listed by Peck (1941) for the State of Oregon. Fifty-nine families are represented in the flora of Iron Mountain, or 50% of the total that occur in Oregon. This indicates a fairly diverse and well represented flora, considering the limited area which was studied.

Groups	Families	Genera	Species
Pteridophyta	3	11	13
Gymnospermae	3	8	13
Monocotyledonae	7	45	72
Dicotyledonae	46	129	202
Totals	59	193	300

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Analytical Key to the Families

Plants reproducing by spores ..... Division I. PTERIDOPHYTA
Plants reproducing by seeds ..... Division II. SPERMATOPHYTA

Division I. PTERIDOPHYTA

Stems jointed, hollow; leaves sheath-like; spores borne in terminal cones ..... 2. Equisetaceae
Stems not jointed, nor hollow; leaves not sheath-like; spores never in cones
  Leaves large, fern-like; sporangia borne on the under surface of the leaves ..... 1. Polypodiaceae
  Leaves small, scale-like; plant moss-like; sporangia borne in the leaf axils ..... 3. Selaginellaceae

Division II. SPERMATOPHYTA

Seeds not enclosed in an ovary, usually borne on the face of a cone scale ..... Class I. GYMNOSPERMAE
Seeds enclosed in an ovary ..... Class II. ANGIOSPERMAE

Class I. GYMNOSPERMAE

Fruit red, one-seeded, berry-like or drupe-like ..... 4. Taxaceae
Fruit a several-seeded cone
  Leaves scale-like ..... 6. Cupressaceae
  Leaves linear, fascicled or scattered along the branch ..... 5. Pinaceae

Class II. ANGIOSPERMAE

Leaves usually parallel veined, parts of the flower commonly in 3's, vascular bundles scattered throughout the stem, one seed leaf ..... Sub-class I. Monocotyledonae
Leaves usually netted veined, parts of the flower commonly in 4's or 5's, vascular bundles arranged concentrically around a central pith, two seed leaves ..... Sub-class II. Dicotyledonae

Subclass I. MONOCOTYLEDONAE

Inflorescence a fleshy spadix ..... 9. Araceae
Inflorescence not a spadix
  Plants grass-like; flowers inconspicuous
    Perianth none
      Stems hollow, cylindrical; leaves two-ranked; fruit a caryopsis ..... 7. Gramineae

Stems solid, usually three-angled; leaves three-ranked; fruit an achene ..... 8. Cyperaceae
Perianth present, glume like ..... 10. Juncaceae
Plants not grass-like; flowers generally quite showy
Ovary superior ..... 11. Liliaceae
Ovary inferior
Flowers regular (ours) ..... 12. Iridaceae
Flowers irregular ..... 13. Orchidaceae

Subclass II. DICOTYLEDONAE

PETALS NONE

Trees and shrubs
Flowers perfect, not borne in catkins ..... 24. Lauraceae
Flowers monoecious or dioecious, staminate or both staminate and pistillate flowers borne in catkins
Staminate flowers, only, borne in catkins
Fruit a nut in a scaly cup or bur ..... 15. Fagaceae
Fruit a nut in a leaf-like tubular involucre ..... 14. Betulaceae
Staminate and pistillate flowers both borne in catkins
Fruit a woody cone ..... 14. Betulaceae
Fruit berry-like ..... 41. Garryaceae
Herbs
Partial parasites growing on trees ..... 16. Loranthaceae
Not parasitic
Ovary superior
Pistil one ..... 18. Polygonaceae
Pistils many ..... 22. Ranunculaceae
Ovary inferior; leaves large and heart-shaped ..... 17. Aristolochiaceae

PETALS PRESENT

Petals free, or only slightly joined at base

Ovary superior
Stamens borne at the base of the calyx lobes and fused with other floral parts into a hypanthium
Stamens 12 or fewer ..... 28. Saxifragaceae
Stamens many ..... 29. Rosaceae
Stamens not borne as above and not fused into a hypanthium
Leaves tubular, hood-shaped above ..... 26. Sarraceniaceae
Leaves not tubular and hood-shaped
Sepals 2 (ours) ..... 19. Portulacaceae
Sepals more than 2
Aquatics with floating leaves ..... 21. Nymphaeaceae
Terrestrial plants
Plants with fleshy, very succulent leaves ..... 27. Crassulaceae
Plants with leaves not as above
Stamens indefinite in number
Pistil 1; stamens united into a tube around the pistil ..... 35. Malvaceae
Pistils many, stamens free ..... 22. Ranunculaceae
Stamens definite in number
Anthers opening by pores ..... 43. Ericaceae
Anthers opening by slits or sometimes valves
Leaves alternate
Petals 4 ..... 25. Cruciferae

Petals more than 4
Corolla irregular
Flowers with lower petal spurred at the base .....37. Violaceae
Flower papilionaceous (ours) .....30. Leguminosae
Corolla regular
Sepals united to form a disk; stamens 5 .....32. Anacardiaceae
Sepals free; stamens 6 .....23. Berberidaceae
Leaves opposite or basal
Stamens in groups; styles 3 .....36. Hypericaceae
Stamens not as above
Small trees (ours) .....33. Aceraceae
Herbs
Pistil 1, compound .....20. Caryophyllaceae
Pistils several, simple .....22. Ranunculaceae

Ovary inferior
Flowers in umbels, these sometimes paniculate
Stamens opposite the petals .....34. Rhamnaceae
Stamens alternate with the petals
Fruit a berry; umbels paniculate .....39. Araliaceae
Fruit not a berry; umbels simple or compound .....40. Umbelliferae
Flowers not in umbels
Fruit a pome .....29. Rosaceae
Fruit not as above
Perianth parts in 5's (occasionally 4's); styles 2-5 .....28. Saxifragaceae
Perianth parts in 4's (rarely 2's); style 1
Fruit fleshy; flowers surrounded by showy petal-like bracts; stamens 4 .....42. Cornaceae
Fruit dry; flowers in racemes or spikes; stamens 2 or 8; flower parts in 4's or 2's .....38. Onagraceae

Petals more or less united

Stamens more than 5
Petals united at base, 2 alike, the third forming a hood .....31. Polygalaceae
Petals united into an urn shaped tube .....43. Ericaceae

Stamens 5 or fewer
Ovary superior
Flowers regular
Pistils 2 .....46. Apocynaceae
Pistil 1
Ovary 4-lobed, forming 4 nutlets .....50. Boraginaceae
Ovary not 4-lobed, not as above
Stamens opposite the corolla lobes .....44. Primulaceae
Stamens alternate with the corolla lobes
Leaves all basal .....54. Plantaginaceae
Leaves not as above
Trailing or climbing herbs .....47. Convolvulaceae
Not trailing herbs, not as above
Locule 1
Plants glabrous .....45. Gentianaceae
Plants pubescent .....49. Hydrophyllaceae
Locules 2 to 5
Locules 3 or (2) .....48. Polemoniaceae
Locules 5 .....43. Ericaceae

Flowers irregular
Leaves alternate
Parasites with scalelike leaves ..... 53. Orobanchaceae
Not as above, plant with green leaves ..... 52. Scrophulariaceae
Leaves opposite
Ovary 4-lobed, forming 4 nutlets ..... 51. Labiatae
Ovary a capsule, not as above ..... 52. Scrophulariaceae
Ovary inferior
Leaves alternate or basal
Flowers bell-shaped ..... 58. Campanulaceae
Flowers involucrate and in heads ..... 59. Compositae
Leaves opposite or whorled
Stamens united into a ring or tube around the style ..... 59. Compositae
Stamens not united, not as above
Shrubs, erect or twining ..... 56. Caprifoliaceae
Herbs
Flower parts in 4's ..... 55. Rubiaceae
Flower parts not as above (corolla 5-lobed) ..... 57. Valerianaceae

Annotated Catalogue of Plants

PTERIDOPHYTA—Ferns and Fern-allies

1. POLYPODIACEAE—Fern Family

Indusium present
Sori marginal, covered by the revolute portion of the leaf
Fronds of two kinds
Sterile leaf blades simple pinnate ..... 4. *Blechnum*
Sterile leaf blades 2-3 pinnate ..... 8. *Cryptogramma*
Fronds alike
Plants with fan-shaped pinnules ..... 5. *Adiantum*
Plants with pinnules not as above
Plants large and stout; fronds usually solitary ..... 6. *Pteridium*
Plants small and slender; fronds generally clustered ..... 7. *Cheilanthes*
Sori not marginal, borne on the veins
Sori longer than broad or lunate
Sori small, oblong or lunate ..... 3. *Athyrium*
Sori large, chain-like ..... 9. *Woodwardia*
Sori round ..... 2. *Polystichum*
Indusium wanting ..... 1. *Polypodium*

1. POLYPODIUM L.

Fronds thin, 20-40 cm long; pinnae acute or acuminate, linear attenuate ....1. *P. glycyrrhiza*
Fronds small, 5-15 cm long; pinnae obtuse, short ..... 2. *P. hesperium*

1. *Polypodium glycyrrhiza* D. C. Eaton. Licorice fern.—Common, on rock outcrops of north slope near summit. Humid Transition to Canadian.

2. *Polypodium hesperium* Maxon. Mountain licorice fern.—Among rocks on northwest slope near summit; fairly common. Canadian.

2. POLYSTICHUM Roth.

1. *Polystichum munitum* (Kaulf.) Presl. Common sword fern.—Along Rock Creek on east slope at Smith Claim; very common. Humid Transition.

a. *Polystichum munitum* (Kaulf.) Presl. var. *imbricans* (D. C. Eaton) Maxon. Imbricated sword fern.—On east slope along Rock Creek, rocky northwest slope, and on summit under rocks; common. Humid Transition to Canadian.

b. *Polystichum munitum* (Kaulf.) Presl. var. *inciso-serratum* (D. C. Eaton) Underw.—Open east slope along Rock Creek; rare. Humid Transition.

3. ATHYRIUM Roth.

1. *Athyrium filix-femina* (L.) Roth. Lady-fern.—East slope growing beside a spring; common. Transition and Canadian.

4. BLECHNUM L.

1. *Blechnum spicant* L. Deer-fern.—Common along springs and water courses in deep shade. East slope near Smith Mine at a spring, also on shady southeast slope. Humid Transition.

5. ADIANTUM L.

1. *Adiantum pedatum* L. var. *aleuticum* Rupr. Western maidenhair fern.—East slope along Rock Creek at Smith Claim; fairly common. Humid Transition and Canadian.

6. PTERIDIUM Scop.

1. *Pteridium aquilinum* (L.) Kuhn. var. *pubescens* Underw. Western bracken.—Along banks of Rock Creek at Smith Claim in moist woods; very common. Humid Transition.

7. CHEILANTHES Sw.

Fronds densely tomentose beneath ..... 1. *C. gracillima*
Fronds glabrous on both surfaces ..... 2. *C. siliquosa*

1. *Cheilanthes gracillima* D. C. Eaton. Lace-fern.—On rock ledges at summit, also in like situations on south and southeast slopes; not uncommon. Canadian.

2. *Cheilanthes siliquosa* Maxon. Oregon cliff-brake.—Common on dry hillsides, east and southwest slope. Canadian.

8. CRYPTOGRAMMA R. Br.

1. *Cryptogramma acrostichoides* R. Br. American parsley-fern.—Northwest slope near summit, among rocks; also common on steep rocky hillsides overlooking Boulder Creek on south slope. Canadian.

9. WOODWARDIA J. E. Smith

1. *Woodwardia fimbriata* J. E. Smith. Giant chain-fern.—Creek bottoms on southwest slope; occasional. Arid Transition.

2. EQUISETACEAE.—Horsetail Family

1. EQUISETUM L.

1. *Equisetum telmateia* Ehrh. Giant horsetail.—Along moist roadside margins at Smith Claim on Rock Creek, east slope; fairly common. Humid Transition.

3. SELAGINELLACEAE—Selaginella Family

1. SELAGINELLA Beauv.

1. *Selaginella wallacei* Hieron. Wallace's selaginella.—On mossy rocks in open woods on south slope; also common at summit. Transition to Canadian.

SPERMATOPHYTA—Seed Plants

Class GYMNOSPERMAE —Cone-bearing plants

4. TAXACEAE—Yew Family

1. TAXUS L.

1. *Taxus brevifolia* Nutt. Western Yew.—East slope growing along banks of Rock Creek at Smith Claim; occasional. Humid Transition and Canadian.

5. PINACEAE—Pine Family

Leaves in fascicles, 2 to 5 in a bundle ..... 1. *Pinus*
Leaves solitary, opposite or whorled, scattered along the branch
  Branchlets smooth; leaves persistent when dried, bracts exceeding the scales ..... 2. *Pseudotsuga*
  Branchlets roughened by the persistent leaf bases; leaves deciduous when dried, scales longer than the bracts
    Leaves narrowed to a short petiole ..... 3. *Tsuga*
    Leaves sessile on a woody base ..... 4. *Picea*

1. PINUS L.

Leaves 5 in a fascicle
  Cones 1.5 to 2 dm long ..... 1. *P. monticola*
  Cones 3 to 5 dm long, or more ..... 2. *P. lambertiana*
Leaves 2 or 3 in a fascicle
  Leaves 3 in a fascicle
    Cones asymmetrical, persistent, and remaining closed ..... 3. *P. attenuata*
    Cones symmetrical, deciduous and opening at maturity
      Cones 7 to 15 cm long; prickles of the cone short and broad, turning outward ..... 4. *P. ponderosa*
      Cones 15 to 30 cm long; prickles of the cone long and narrow, turning inward ..... 5. *P. jeffreyi*
  Leaves 2 in a fascicle ..... 6. *P. contorta*

1. *Pinus monticola* Dougl. Western white pine.—The characteristic tree at higher elevations on the mountain. Common on west slope, as well as extending up southeast slope to summit; very common at all stations. Canadian.

2. *Pinus lambertiana* Dougl. Sugar pine.—Most common on south slope but extending around to east slope in scattered stands. The largest tree on the mountain. Probably as far west as it extends in this region. Transition and Lower Canadian.

3. *Pinus attenuata* Lemm. Knob-cone pine.—On southwest slope and at summit but to be noted on all high, dry ridges in this region; common but quite rare at higher elevations. Humid Transition.

4. *Pinus ponderosa* Dougl. Western yellow pine.—On east slope along

trail to the Smith place; not common. It has not been reported west of the Rogue River Mountains in this region. Arid Transition.

5. *Pinus jeffreyi* Murr. Jeffrey's pine.—High, dry ridges on south and southeast slopes, at higher elevations than *P. ponderosa*. It is present here on the very fringe of its range, not having been reported either to the west or north of our area. Upper Arid Transition and Canadian.

6. *Pinus contorta* Dougl. var. *murrayana* (Balf.) Engelm. Lodge-pole pine.—Along summit of a ridge extending southward from Iron Mountain. It ranges no farther west than this station in our region. It is here, in all probability, that transitional forms occur that indicate a close relationship with *P. contorta* (Coast pine). Canadian.

2. PSEUDOTSUGA Carr.

1. *Pseudotsuga taxifolia* (Lamb.) Britt. Douglas fir.—Very common at all stations on the mountain, extending up the slopes to the summit. The characteristic tree of the Humid Transition zone.

3. TSUGA (Engl.) Carr.

1. *Tsuga heterophylla* (Raf.) Sarg. Western hemlock.—Abundant on the lower east slope and along Rock Creek at Smith Claim. A climax tree in the coastal Humid Transition zone. Common in the Canadian zone of the Rogue River Mountains.

4. PICEA Link.

1. *Picea breweriana* Wats. Weeping spruce.—Common on the north and west slopes near summit. The occurrence of this rare tree on the mountain is very interesting. It has not previously been reported from the Rogue River Mountains although the habitat is identical to those in the Siskiyou and Chetco Ranges where it has been found. This species usually grows at elevations above 4000 feet. It is the rarest American spruce. Canadian.

6. CUPRESSACEAE—Cypress Family

Cones woody; leaves scale-like
  Cones oblong; scales oblong, imbricated; leaves appearing to be in whorls of four ..... 1. *Libocedrus*
  Cones globose; scales shield or wedge-shaped; leaves in pairs ..... 2. *Chamaecyparis*
Cones fleshy, berry-like ..... 3. *Juniperus*

1. LIBOCEDRUS Endl.

1. *Libocedrus decurrens* Torr. Incense cedar.—Present on east slope and on southeast slope along Steffans Meadow Trail; scattered. The characteristic tree of the Arid Transition zone.

2. CHAMAECYPARIS Spach.

1. *Chamaecyparis lawsoniana* Parl. Port Orford cedar.—On all slopes and extends up to the summit at 4000 feet. The Port Orford cedar is one of our more valuable lumber trees. Humid Transition to Canadian.

3. JUNIPERUS L.

1. *Juniperus communis* L. var. *montana* Ait. Dwarf Juniper.—A low shrub on the west and south slopes. Common on all dry stony sterile ridges in this area. Canadian.

Class ANGIOSPERMAE—Flowering Plants

MONOCOTYLEDONAE

7. GRAMINEAE—Grass Family

Spikelets with perfect flowers at the base
  Spikelets with several to many flowers
    Inflorescence a panicle
      Glumes shorter than the lemma; awn apical and straight or none at all ..... Tribe 1. Festuceae
      Glumes longer than the lemma; awn dorsal, bent and twisted ..... Tribe 3. Aveneae
    Inflorescence a spike ..... Tribe 2. Hordeae
  Spikelets with one perfect flower ..... Tribe 4. Agrostideae
Spikelets with perfect flowers at the top ..... Tribe 5. Phalarideae

Tribe 1. FESTUCEAE

Lemmas keeled on the back
  Spikelets strongly compressed, crowded in dense, one-sided clusters ..... 5. *Dactylis*
  Spikelets not as above
    Lemmas awned from a minutely bifid apex ..... 1. *Bromus*
    Lemmas awnless; spikelets small not over 8 mm long ..... 4. *Poa*
Lemmas rounded on the back (slightly keeled toward the summit in *Festuca* and some species of *Bromus*)
  Glumes papery; upper florets sterile, folded about each other ..... 6. *Melica*
  Glumes not papery; upper florets perfect
    Nerves of the lemma converging at the apex
      Lemmas entire, awned from the tip or pointed ..... 2. *Festuca*
      Lemmas awned from a minutely bifid apex ..... 1. *Bromus*
    Nerves of the lemma not converging; lemma awnless ..... 3. *Glyceria*

Tribe 2. HORDEAE

Spikelet 1 at each joint of the rachis ..... 8. *Lolium*
Spikelets more than 1 at each joint of the rachis ..... 7. *Elymus*

Tribe 3. AVENEAE

Spikelets with 1 perfect flower, the other staminate ..... 11. *Holcus*
Spikelets with 2 or more perfect flowers
  Lemmas bidentate, awned from above the middle ..... 9. *Trisetum*
  Lemmas acute, awned from below the middle ..... 10. *Aira*

Tribe 4. AGROSTIDEAE

Inflorescence spike-like, very dense and compact
  Glumes awned
    Glumes short awned ..... 15. *Phleum*
    Glumes long awned ..... 13. *Polypogon*
  Glumes not awned ..... 14. *Alopecuris*
Inflorescence not spike-like, or at least not very dense and compact
  Florets with tuft of hairs at the base at least half as long as the lemma; palea present ..... 16. *Calamagrostis*

Florets naked at the base or with short hairs ..... 12. *Agrostis*

Tribe 5. PHALARIDEAE

Lower florets staminate; spikelets brown and shining ..... 17. *Hierochloe*
Lower florets sterile; spikelets green or yellowish ..... 18. *Anthoxanthum*

1. BROMUS L.

Introduced annuals
Awns 6 to 9 mm long ..... 2. *B. mollis*
Awns 20 to 30 mm long ..... 1. *B. tectorum*
Native perennial ..... 3. *B. vulgaris*

1. *Bromus tectorum* L. Downy cheat grass.—Open hillside on the east slope; very common. Introduced from Europe.

2. *Bromus mollis* L. Soft cheat grass.—Dry roadside on south slope. Introduced from Europe.

3. *Bromus vulgaris* (Hook.) Shear. Narrow-flowered brome-grass.—Open woods and dry hillsides on east slope; common. Humid Transition.

2. FESTUCA L.

Plants annual; stamen usually one
Upper margins of the lemma ciliate ..... 1. *F. megalura*
Upper margins of the lemma not ciliate ..... 4. *F. dertonensis*
Plants perennial; stamens three
Blades narrow 2.5 mm wide or less; sheaths smooth ..... 2. *F. occidentalis*
Blades 3 to 6 mm wide; sheaths villous at the throat ..... 3. *F. californica*

1. *Festuca megalura* Nutt. Western six-weeks fescue.—Dry open hillside on east slope; quite common. Humid Transition.

2. *Festuca occidentalis* Hook. Western fescue.—Open ground and hillsides on east slope; scattered. Transition to Canadian.

3. *Festuca californica* Vas. California fescue.—On dry open hillside, east slope; occasional. Transition.

4. *Festuca dertonensis* (All.) Asch. & Graebn. Six-weeks fescue.—Dry ground on south slope; fairly common. Transition.

3. GLYCERIA R. Br.

Lemmas 7-nerved ..... 1. *G. elata*
Lemmas 5-nerved ..... 2. *G. pauciflora*

1. *Glyceria elata* (Nash) Hitchc. Tall manna-grass.—Marshy ground along Rock Creek at Smith Claim on east slope; infrequent. Transition to Canadian.

2. *Glyceria pauciflora* Presl. Few-flowered manna-grass.—Wet swampy ground on south slope; local in this type of habitat. Transition.

4. POA L.

Lemma with web-like hairs at the base
Blades involute, lemmas 4 to 5 mm long ..... 1. *P. rhizomata*
Blades flat; lemmas 3 to 4 mm long ..... 3. *P. pratensis*
Lemma without web-like hairs ..... 2. *P. pattersonii*

1. *Poa rhizomata* Hitchc. Timber bluegrass.—Common on dry open hillside, east slope. Humid Transition and Canadian.

2. *Poa pattersonii* Vas. Patterson's bluegrass.—Found only at the summit; fairly rare. Arid Transition and Canadian.

3. *Poa pratensis* L. Kentucky bluegrass.—Dry hillside, east slope. Common. Transition to Canadian.

5. DACTYLIS L.

1. *Dactylis glomerata* L. Orchard-grass.—On roadside below Smith Claim on east slope; local. Introduced from Europe.

6. MELICA L.

Glumes narrow; lemmas acuminate ..... 1. *M. subulata*
Glumes broad; lemmas obtuse ..... 2. *M. geyeri*

1. *Melica subulata* (Griseb.) Scribn. Alaska onion-grass.—Fairly common on east slope. Transition to Canadian.

2. *Melica geyeri* Munro. Geyer's noion-grass.—Dry open woods on east slope; rather scarce. Canadian.

7. ELYMUS L.

1. *Elymus glaucus* Buckl. Western rye-grass.—Open woods along banks of Rock Creek on east slope. Transition.

8. LOLIUM L.

1. *Lolium perenne* L. English rye-grass.—On south slope in road, not common. Introduced from Europe.

9. TRISETUM Pers.

1. *Trisetum canescens* Buckl. Tall trisetum.—Common in open woods of east slope. Transition.

10. AIRA L.

1. *Aira caryophyllea* L. Silver hair-grass.—In yard of Smith Claim on east slope; common in dry open ground. Introduced from Europe.

11. HOLCUS L.

1. *Holcus lanatus* L. Velvet grass.—Along roadside at Smith Claim on east slope; quite common. Introduced from Europe.

12. AGROSTIS L.

Palea present, well developed ..... 1. *A. tenuis*
Palea wanting, or minute
  Plants with rhizomes ..... 2. *A. hallii*
  Plants without rhizomes ..... 3. *A. exarata*

1. *Agrostis tenuis* Sibth. Colonial bent-grass.—Low moist ground along Rock Creek at Smith Claim; common. Probably introduced from Europe.

2. *Agrostis hallii* Vas. Hall's bent-grass.—Common in open woods on south slope. Humid Transition.

3. *Agrostis exarata* Trin. Western bent-grass.—East slope on moist ground along Rock Creek at Smith Claim; fairly common. Humid Transition.

13. POLYPOGON Desf.

1. *Polypogon monspeliensis* (L.) Desf. Annual beard-grass.—Roadside on Coquille-Rogue River Divide; quite abundant locally. Introduced from Europe.

14. ALOPECURIS L.

1. *Alopecuris geniculatus* L. Water foxtail.—Low wet ground along Rock Creek at Smith Claim, east slope; infrequent. Transition.

15. PHLEUM L.

1. *Phleum alpinum* L. Alpine timothy.—Moist ground on west slope near summit; rare. Canadian.

16. CALAMAGROSTIS Adans.

1. *Calamagrostis nutkaensis* (Presl.) Steud. Pacific reed grass.—Common in local situations on east slope along Rock Creek. Confined to wet marshy ground. Transition to Canadian.

17. HIEROCHLOE R. Br.

1. *Hierochloe occidentalis* Buckl. Western vanilla-grass.—Present on east slope along banks of Rock Creek at Smith Claim; occasional. Canadian.

18. ANTHOXANTHUM L.

1. *Anthoxanthum odoratum* L. Sweet vernal grass.—East slope along banks of Rock Creek at Smith Claim, also found on dry open hillside on the south slope; frequent. Introduced from Europe.

8. CYPERACEAE—Sedge family

Flowers monoecious or dioecious; achenes enclosed in a sac (perigynium) ..... 2. *Carex*
Flower perfect; achenes not enclosed in a sac; perianth bristles present (in ours) ..... 1. *Scirpus*

1. SCIRPUS (Tourn.) L.

Bristles 4, barbs pointed downward ..... 1. *S. microcarpus*
Bristles 6 to 10, barbs pointed upward or bristles nearly smooth ..... 2. *S. criniger*

1. *Scirpus microcarpus* Presl. Small-fruited bulrush.—Marshy swale along Rock Creek on east slope. Transition.

2. *Scirpus criniger* A. Gray. Fringed bulrush.—South and east slopes at springs and on wet marshy or swampy ground. Canadian.

2. CAREX (Rupp.) L.

Stigmas 3; achenes 3-angled
- Style continuous with the achene, hardened and persistent; beak of the peryginia tapering, 1.5 to 2 mm long, deeply bidentate ..... 1. *C. exsiccata*
- Style jointed with the achene, withering and deciduous, peryginia abruptly beaked and short bidentate
  - Lower bracts short sheathing ..... 2. *C. amplifolia*
  - Lower bracts long sheathing about equalling the culm ..... 3. *C. mendocinensis*

Stigmas 2; achene lenticular
Lateral spikes sessile, ovoid; peryginia winged, tapering into a beak one-third the length of the whole, beak bidentate ..... 4. *C. festivella*
Lateral spikes peduncled, cylindric, peryginia not winged, abruptly and minutely beaked, beak entire ..... 5. *C. obnupta*

1. *Carex exsiccata* Bailey. Western inflated sedge.—Moist soil of a dried up pond on south slope; common. Humid Transition.

2. *Carex amplifolia* W. Boott. Ample-leaved sedge.—East slope along Rock Creek; fairly common. Transition.

3. *Carex mendocinensis* Olney ex W. Boott. Mendocino sedge.—This is perhaps the commonest sedge on the mountain. It is particularly abundant on the east slope in marshy ground along Rock Creek at Smith Claim. Transition. —*C. debiliformis* Mack.

4. *Carex festivella* Mack. Mountain meadow sedge.—East slope, marshy ground along Rock Creek at Smith Claim; scattered. Transition.

5. *Carex obnupta* Bailey. Slough sedge.—Wet creek bottom on south slope; very common. Humid Transition.

9. ARACEAE—Arum Family

1. LYSICHITUM Schott.

1. *Lysichitum americanum* Hulten & St. John. Yellow skunk cabbage.—Swampy ground on southwest slope, along a creek at a trail crossing; occasional. Canadian.

10. JUNCACEAE—Rush Family

Leaf-sheaths open; capsule 1- or 3-celled, many seeded; stems usually pithy ..... 1. *Juncus*
Leaf-sheaths closed; capsule 1-celled, 3-seeded; stems hollow ..... 2. *Luzula*

1. JUNCUS L.

Lower leaf of the inflorescence appearing like a continuation of the stem; inflorescence therefore appearing lateral ..... 1. *J. effusus*
Lower leaf not as above; inflorescence therefore appearing terminal
Plants perennial, with simple stems ..... 2. *J. ensifolius*
Plants annual; stems branching ..... 3. *J. bufonius*

1. *Juncus effusus* L. var. *pacificus* Fern. & Weig. Common rush.—East slope along Rock Creek below Smith Claim; very common. Canadian.

2. *Juncus ensifolius* Wiks. Three-stamened rush.—East slope along road to summit; common. Transition to Canadian.

3. *Juncus bufonius* L. Toad rush.—Low marshy ground at Smith Claim on east slope. Humid Transition.

2. LUZULA DC.

Flowers in a loose panicle, solitary on the end of the branches ..... 1. *L. parviflora*
Flowers congested into spikes or head-like clusters ..... 2. *L. multiflora*

1. *Luzula parviflora* (Ehrh.) Desv. Small-flowered wood-rush.—Common on east slope above Rock Creek on wooded hillsides. Humid Transition and Canadian.

2. *Luzula multiflora* (Retz.) Lejeune. Common woodrush.—Very common at all stations, from lower elevations to summit. Transition to Canadian. —*L. campestris* (L.) DC. of most American authors.

11. LILIACEAE—Lily Family

Fruit a capsule
- Leaves whorled (or some alternate in *Lilium*)
  - All leaves in one whorl of 3 ..... 14. *Trillium*
  - Leaves in several whorls, or some alternate ..... 8. *Lilium*
- Leaves not whorled
  - Plants with rhizomes
    - Leaves broad, heavily nerved, elliptic; flowers paniculate ..... 5. *Veratrum*
    - Leaves narrow or grass-like; flowers racemose
      - Leaves few, entire, equitant
        - Flowers yellow ..... 1. *Narthecium*
        - Flowers white ..... 3. *Tofieldia*
      - Leaves grass-like, very numerous, serrulate, not equitant ..... 2. *Xerophyllum*
  - Plants with bulbs
    - Flowers in umbels ..... 6. *Brodiaea*
    - Flowers not in umbels
      - Leaves broad, not grass-like
        - Leaves only 2, broad, appearing basal ..... 9. *Erythronium*
        - Leaves several to many, not basal; stem leafy ..... 8. *Lilium*
      - Leaves narrow, appearing grass-like
        - Flowers showy; perianth segments unlike ..... 7. *Calochortus*
        - Flowers small; perianth segments alike ..... 4. *Zigadenus*

Fruit a berry
- Plants with leafy stems
  - Flowers drooping, axillary or terminal
    - Flowers axillary ..... 13. *Streptopus*
    - Flowers terminal, 1 to 2 at end of stem ..... 12. *Disporum*
  - Flowers erect, racemose or paniculate ..... 11. *Smilacina*
- Plants with few leaves, mostly basal ..... 10. *Clintonia*

1. NARTHECIUM Moeh.

1. *Narthecium californicum* Baker. California bog-asphodel.—Marshy ground on east slope along road to summit; common. This plant has not hitherto been recorded from as far north as Coos County. It is a representative of the California element in our flora.

2. XEROPHYLLUM Michx.

1. *Xerophyllum tenax* (Pursh) Nutt. Bear-grass (fig. 9).—East slope, along Rock Creek at Smith Claim, also on hillsides on south slope; very common. Canadian.

3. TOFIELDIA Huds.

1. *Tofieldia occidentalis* S. Wats. Western tofieldia.—Common in all marshes on the mountain. Found on east slope along road to summit and grow in marshy ground at McCurdy Camp. Canadian.

4. ZIGADENUS Michx.

1. *Zigadenus fremontii* (Torr.) Torr. Fremont's star lily.—Dry ground,

on open south slope. A representative of the California element. It is found throughout the Coast Range from the mouth of the Coquille River to southern California. Canadian in our region.

5. VERATRUM L.

1. *Veratrum insolitum* Jeps. Siskiyou false hellebore (fig. 10).—Open brushy hillsides on east and south slopes. A representative of the California element in our flora. Humid Transition to Canadian.

6. BRODIAEA Sm.

1. *Brodiaea coronaria* (Salisb.) Jeps. Harvest lily.—Dry open hillsides on southwest slope; common. This plant ranges from Vancouver Island to southern California along the Pacific Coast. Humid Transition.

7. CALOCHORTUS Pursh

1. *Calochortus tolmiei* H. & A. Oregon mariposa lily.—Along Middle Elk Road, and east slope at Smith Claim on Rock Creek, also quite common on south slope, dry open hillsides. Transition.

8. LILIUM L.

Flowers erect perianth parts only slightly recurved; anthers 3 mm long .....1. *L. parvum*
Flowers nodding; perianth parts revolute to below the middle
Perianth 4 to 5 cm long; anthers 5 to 6 mm long; ovary 9 to 12 mm long .....
.....2. *L. columbianum*
Perianth 5 to 8 cm long; anthers 10 to 15 mm long; ovary 20 to 25 mm long .....
.....3. *L. pardalinum*

1. *Lilium parvum* Kell. Small tiger lily.—East slope, along Rock Creek at Smith Claim; occasional. About as far north as this species occurs. It represents the California element in our flora.

Figs. 9-10.—9. *Xerophyllum tenax,* south slope on Ranger saddle. 10. *Veratrum insolitum,* open woods on south saddle.

2. *Lilium columbianum* Hanson. Columbia lily.—Open woods on east slope above Rock Creek. The most common lily of this genus. It is found from British Columbia to northern California. Humid Transition to Canadian.

3. *Lilium pardalinum* Kell. Leopard lily.—Quite common along streams and at springs. On southwest slope at McCurdy Camp and along banks of Rock Creek at Smith Claim on east slope. Transition to Canadian. Californian element.

9. ERYTHRONIUM L.

1. *Erythronium oregonum* Appleg. Giant fawn lily.—East slope at Smith Claim on Rock Creek. Roadsides to summit and in open woods where it is plentiful early in the growing season. It but rarely occurs south of our region and is to be considered as a representative of the Northern element.

10. CLINTONIA Raf.

1. *Clintonia uniflora* (Schult.) Kunth. Queen's cup.—At a spring on east slope at Smith Mine; not common. Canadian.

11. SMILACINA Desf.

Inflorescence a few-flowered raceme ..... 1. *S. sessilifolia*
Inflorescence a many-flowered panicle ..... 2. *S. racemosa*

1. *Smilacina sessilifolia* (Baker) Nutt. Small false Solomon's seal.—Common on east slope along Rock Creek at Smith Claim. Humid Transition and Canadian.

2. *Smilacina racemosa* (L.) Desf. Large false Solomon's seal.—Summit and on east slope along Rock Creek below Smith Claim; frequent. Humid Transition.

12. DISPORUM Salisb.

Flowers white; stigma 3-lobed at apex ..... 1. *D. smithii*
Flowers green; stigma entire ..... 2. *D. hookeri*

1. *Disporum smithii* (Hook.) Piper. Fairy lanterns.—Woods and along streams on east slope; not common. Humid Transition.

2. *Disporum hookeri* (Torr.) Britt. Hooker's fairy bells.—East and south slopes growing on dry wooded hillsides; very common. It is found from Douglas County to central California. This plant best represents the California element in our flora. Canadian.

13. STREPTOPUS Michx.

1. *Streptopus amplexifolius* (L.) DC. Twisted stalk.—East slope growing along Rock Creek in marshy ground; not common. Canadian.

14. TRILLIUM L.

Leaves nearly sessile ..... 1. *T. ovatum*
Leaves distinctly petioled ..... 2. *T. rivale*

1. *Trillium ovatum* Pursh. Wood lily.—East slope on Smith Claim up to the summit, in open woods; frequent. Humid Transition and Canadian.

2. *Trillium rivale* S. Wats. Brook wood lily.—Woods along Rock Creek

below Smith Claim on east slope and on wooded hillsides of south slope. This species reaches its northern limit in our area. It represents the California element in the flora.

12. IRIDACEAE—Iris Family

Styles petal-like; stems terete ..... 1. *Iris*
Styles filiform; stems flattened ..... 2. *Sisyrinchium*

1. IRIS L.

1. *Iris innominata* Hend. Golden iris.—Dry open woods, on hillsides of south and east slopes. This species represents an interesting endemic and is one of a group of plants which has a limited range in Curry and adjacent Coos Counties. Transition to Canadian.

2. SISYRINCHIUM L.

1. *Sisyrinchium sarmentosum* Suksd. Blue-eyed grass.—Occasional in wet places on south slope. This species is found more commonly east of the Cascades but appears sparingly in the coastal mountains. Canadian.—*S. idahoense* Bickn.

13. ORCHIDACEAE—Orchid Family

Plants with green foliage leaves present
  Stamens 2; lower lip large and inflated ..... 1. *Cypripedium*
  Stamen 1
    Leaf and flower solitary ..... 6. *Calypso*
    Leaves two to many, flowers many
      Leaves 2, opposite, borne near middle of stem ..... 4. *Listera*
    Leaves several, alternate or basal
      Flowers spurred ..... 2. *Habenaria*
      Flowers not spurred ..... 3. *Goodyera*
Plants with leaves reduced to scales ..... 5. *Corallorhiza*

1. CYPRIPEDIUM L.

1. *Cypripedium californicum* A. Gray. California lady's slipper.—East slope along Rock Creek at Smith Claim, also at site of spring on a hillside overlooking Rock Creek; extremely rare. This is one of our largest and most beautiful lady's slippers. It ranges just to the north of our station and appears to be limited to the Siskiyou-Rogue River Mountains in our area. Californian element. Canadian.

2. HABENARIA Willd.

Leaves basal; stem leaves bract-like, usually withered by flowering time ..1. *H. unalascensis*
Leaves not basal; stems leafy; leaves not withered at flowering time .....2. *H. sparsiflora*

1. *Habenaria unalascensis* (Spreng.) S. Wats. Alaska bog orchid.—Dry ground in woods of south slope and near summit; common. In this species the spur about equals the lip. Canadian.

a. *Habenaria unalascensis* (Spreng.) S. Wats. var. *elata* (Jeps.) Correll. Slender Alaska bog orchid.—Dry open woods at Smith Claim on east slope, and in woods of south slope; common. Differs from *H. unalascensis* in having the spur twice as long as the lip. Transition.—*H. elegans* (Lindl.) Boland.

2. *Habenaria sparsiflora* S. Wats. Sparse-flowered bog orchid.—Along roadside in mountain marshes with *Ledum* and *Chrysamphora,* east slope; fairly common. Canadian.

3. GOODYERA R. Br.

1. *Goodyera oblongifolia* Raf. Rattlesnake plantain.—Dense woods at almost all stations and elevations; common Transition to Canadian in our area. —*G. decipiens* (Hook.) F. T. Hubbard.

4. LISTERA R. Br.

1. *Listera caurina* Piper. Northwestern twayblade.—In woods of southeast slope; not common. Canadian.

5. CORALLORHIZA R. Br.

Lip purple-striped; spur none ..... 1. *C. striata*
Lip purple, not striped; spur present ..... 2. *C. mertensiana*

1. *Corallorhiza striata* Lindl. Striped coral root.—Woods on south slope; infrequent. Canadian.

2. *Corallorhiza mertensiana* Bong. Purple coral root.—This is the most common coral root in our area. Woods of the southeast slope. Canadian.

6. CALYPSO Salisb.

1. *Calypso bulbosa* (L.) Oakes. Angel slipper.—Woods above Smith Claim on Rock Creek, east slope, and on mossy rocks in Bonanza Basin, south slope. Canadian.

DICOTYLEDONEAE

14. BETULACEAE—Birch Family

Fruit a nut, enclosed in a leafy involucre ..... 1. *Corylus*
Fruit a woody cone, involucre none ..... 2. *Alnus*

1. CORYLUS L.

1. *Corylus californica* (A. DC.) Rose.—Western hazel.—Roadside along Middle Elk Road on Coquille-Rogue River Divide; common. Humid Transition.

2. ALNUS Hill

1. *Alnus rubra* Bong. Red alder.—East slope along Rock Creek at Smith Claim; very common. Humid Transition.

15. FAGACEAE—Oak Family

Fruit an acorn in an open scaly cup
  Staminate catkins drooping, loosely-flowered; pistillate flowers borne above the staminate catkins in axillary clusters, or solitary ..... 1. *Quercus*
  Staminate catkins erect, densely-flowered; pistillate flowers borne at the base of the staminate catkins ..... 2. *Lithocarpus*
Fruit 1-3 nuts enclosed in a spiny bur-like involucre ..... 3. *Castanopsis*

1. QUERCUS L.

Tall shrub or tree ..... 1. *Q. chrysolepis*

Low shrubs
Leaves 6 to 12 cm long ..... 2. *Q. sadleriana*
Leaves 2 to 3 cm long ..... 3. *Q. vaccinifolia*

1. *Quercus chrysolepis* Liebm. Canyon oak.—Dry open hillsides on south slope. This oak represents the California element in our flora. The writer has found it growing as far north as Paradise Camp north of the Umpqua River. It is known in Douglas, Curry, and Josephine Counties within the State of Oregon, and ranges south nearly throughout California. Transition.

2. *Quercus sadleriana* R. Br. Sadler's oak.—South slope on dry open hillsides. This rare oak is limited to the Siskiyou and Rogue River Mountains, and is thus a narrow endemic with a very restricted range. Another representative of the California element in our region. Canadian.

3. *Quercus vaccinifolia* Kell. Huckleberry or holly oak.—South and west slopes to the summit. Usually considered to be limited to the Siskiyous of Josephine and Curry Counties in Oregon and to the Trinity and southern Sierra Nevadas in California. It is quite common throughout the Rogue River Mountains, however, and the writer has found numerous stations for it in Douglas County as well. Californian element. Canadian.

2. LITHOCARPUS Blume.

1. *Lithocarpus densiflora* (H. & A.) Rehd. Tanbark oak.—East slope on hillside above Middle Elk Road at Smith Claim on Rock Creek, also south slope near summit. It is a shrub at this elevation. Tanbark oak represents the California element in our flora, and is common from Douglas County southward. Lower Canadian and Transition.

3. CASTANOPSIS Spach.

1. *Castanopsis chrysophylla* (Dougl.) A. DC. Giant chinquapin.—South slope on open hillside, and on west slope near summit; very common. Canadian and Humid Transition.

16. LORANTHACEAE—Mistletoe Family

1. ARCEUTHOBIUM Marsch-Bieb.

Plants parasitic on *Pinus attenuata* ..... 1. *A. americanum*
Plants parasitic on *Tsuga heterophylla* ..... 2. *A. tsugense*

1. *Arceuthobium americanum* Nutt. Pine mistletoe.—Fairly common on southwest slope, growing parasitically on *Pinus attenuata.* Humid Transition.

2. *Arceuthobium tsugense* (Rosend.) G. N. Jones. Hemlock mistletoe.—East slope at Smith Claim on Rock Creek, growing on *Tsuga heterophylla;* occasional. Humid Transition.

17. ARISTOLOCHIACEAE—Dutchman's Pipe Family

1. ASARUM L.

1. *Asarum caudatum* Lindl. Wild ginger.—Moist shady woods on south slope, usually along stream banks; fairly common. Transition and Canadian.

18. POLYGONACEAE—Buckwheat Family

Leaves with stipules wanting; flowers involucrate ..... 1. *Eriogonum*
Leaves with stipules present and sheath-like; flowers not involucrate
  Sepals 6, unequal; stigmas tufted ..... 2. *Rumex*
  Sepals 5, equal; stigmas capitate ..... 3. *Polygonum*

1. ERIOGONUM Michx.

1. *Eriogonum nudum* Dougl. Naked eriogonum.—Southwest slope to summit; occasional. Transition and Upper Sonoran.

2. RUMEX L.

Plants small; leaves hastate ..... 1. *R. acetosella*
Plants coarse; leaves not hastate
  Margins of inner perianth parts entire ..... 2. *R. conglomeratus*
  Margins of inner perianth parts with teeth or bristles ..... 3. *R. obtusifolius*

1. *Rumex acetosella* L. Sour dock.—Roadside at Smith Claim on east slope; common. Introduced from Europe.

2. *Rumex conglomeratus* Murr. Clustered dock.—Roadside on east slope along Rock Creek. Introduced from Europe.

3. *Rumex obtusifolius* L. Broad-leaved dock.—Along Middle Elk Road on the Coquille-Bogue River Divide; also on east slope along Rock Creek at Smith Claim; common. Introduced from Europe.

3. POLYGONUM L.

1. *Polygonum spergulariaeforme* Meisn. Fall knotweed.—Dry hillsides on southwest slope; occasional. Transition.

19. PORTULACACEAE—Purslane Family

1. MONTIA L.

Stem leaves 2, opposite ..... 1. *M. sibirica*
Stem leaves several, alternate
  Petals 12 to 14 mm long; stem leaves broadly ovate or orbicular ..... 2. *M. flagellaris*
  Petals 7 to 8 mm long; stem leaves linear to oblanceolate ..... 3. *M. parvifolia*

1. *Montia sibirica* (L.) Howell. Candy flower.—Growing along Rock Creek at Smith Claim on east slope; common. Transition.

2. *Montia flagellaris* (Bong.) Robins. Long-branched montia.—East slope, growing on rock cliff near summit. Ranges from Curry County north to Alaska, and represents the Northern element in our flora. Canadian.

3. *Montia parvifolia* (Moc.) Greene. Small-flowered montia.—East slope, growing on wet hillside below a spring, also on moist rock overlooking Smith Claim on Rock Creek. Somewhat similar to the preceding, but much more abundant and with a wider distribution. Humid Transition and Canadian.

20. CARYOPHYLLACEAE—Pink Family

Sepals free or united only at the base
  Stipules present ..... 1. *Spergularia*
  Stipules none ..... 2. *Arenaria*
Sepals united into a tube ..... 3. *Silene*

1. SPERGULARIA J. & C. Presl.

1. *Spergularia rubra* (L.) J. & C. Presl. Pink matweed.—East slope, growing in yard of Smith Claim along Rock Creek. Introduced from Europe.

2. ARENARIA L.

Leaves narrowly linear, stiff; plants glandular-hairy throughout ..... 1. *A. nuttallii*
Leaves ovate to lanceolate, soft; plants not glandular-hairy ..... 2. *A. macrophylla*

1. *Arenaria nuttallii* Pax. var. *gregaria* (Hel.) Jeps. Nuttall's sandwort.—On high rocky ridges of south slope; not common. This variety is found in southern Josephine and Curry Counties in our limits, and represents the California element. Canadian.

2. *Arenaria macrophylla* Hook. Large-leaved sandwort.—Open woods on south slope; common. Canadian.

3. SILENE L.

1. *Silene campanulata* S. Wats. Bell-shaped catchfly.—Dry ridges on south slope; occasional. This is a plant of the California element. It ranges as far north as Lane County in Oregon and south into Mendocino County in California. Canadian.

21. NYMPHAEACEAE—Water-lily Family

1. NUPHAR Smith

1. *Nuphar polysepalum* Engelm. Western yellow pond-lily.—In pond on southwest slope at McCurdy Camp. Has a rather wide distribution in ponds and lakes from low to fairly high altitudes. Canadian here.—*Nymphaea polysepala* (Engelm.) Greene.

22. RANUNCULACEAE—Buttercup Family

Pistils numerous, 1-ovuled, fruit an achene
  Petals present ..... 1. *Ranunculus*
  Petals absent; sepals petal-like ..... 2. *Anemonte*
Pistils few, 2 to many-ovuled; fruit a follicle
  Petals spurred, showy ..... 3. *Aquilegia*
  Petals not spurred, linear ..... 4. *Coptis*

1. RANUNCULUS (Tourn.) L.

1. *Ranunculus occidentalis* Nutt. Western buttercup.—Moist ground on east slope; along Rock Creek at Smith Claim; common. Humid Transition.

2. ANEMONE L.

Stem leaves simple ..... 1. *A. deltoidea*
Stem leaves compound ..... 2. *A. adamsiana*

1. *Anemone deltoidea* Hook. Wind-flower.—Southwest slope along Boulder Creek in moist open woods; fairly common. Canadian.

2. *Anemone adamsiana* Eastw. Adam's anemone.—Open woods, south slope; also east slope at Smith Claim on Rock Creek; abundant in early spring. One of the first plants to blossom. This windflower is limited to the Siskiyou and Rogue River Mountains and represents the California element. Canadian.

3. AQUILEGIA (Tourn.) L.

1. *Aquilegia formosa* Fisch. Columbine.—East slope on hillside above Smith Claim, also on south slope and along banks of Rock Creek. This species is found up to the summit at 4000 feet; abundant. Canadian.

4. COPTIS Salisb.

1. *Coptis laciniata* A. Gray. Western gold-thread.—South slope along Boulder Creek in Bonanza Basin and on east slope at Smith Claim on Rock Creek; common. Canadian.

23. BERBERIDACEAE—Barberry Family

Shrubs; leaves evergreen, spiny ..... 1. *Berberis*
Herbs; leaves not as above
  Leaflets 3; flowers in a spike ..... 2. *Achlys*
  Leaflets many; flowers in a panicle ..... 3. *Vancouveria*

1. BERBERIS L.

Leaflets 9 to 17, appearing palmately veined ..... 1. *B. nervosa*
Leaflets 5 to 9; strongly netted-veined, under surface densely papillose ..... 2. *B. piperiana*

1. *Berberis nervosa* Pursh. Mountain oregon grape.—Common in heavily wooded areas on east slope. Humid Transition.

2. *Berberis piperiana* (Abr.) Peck. Piper's oregon grape.—East slope; common on open hillsides and banks. First record of this species in Coos County. It appears to be the most common species in the Siskiyou and Rogue River Mountains, except for *Berberis nervosa,* and apparently entirely replaces *B. aquifolium* in our limits. Arid Transition to Canadian.

2. ACHLYS DC.

1. *Achlys triphylla* (Sm.) DC. Vanilla-leaf.—East slope, on edge of marsh along Rock Creek. Very abundant, forming dense patches in deep coniferous woods nearly to summit. Humid Transition to Canadian.

3. VANCOUVERIA Morr. & Dec.

Panicle glabrous; leaves thin ..... 1. *V. hexandra*
Panicle glandular-pubescent; leaves thick ..... 2. *V. planipetala*

1. *Vancouveria hexandra* (Hook.) Morr. & Dec. Inside-out-flower.—East slope, along Rock Creek at Smith Claim. Humid Transition and Canadian.

2. *Vancouveria planipetala* Calloni. Small-flowered inside-out-flower.—East slope, marshy ground along Rock Creek. This is the first time the plant has been reported from the Rogue River Mountains in Coos County. It ranges south into California and represents the Southern element in our flora.

24. LAURACEAE—Laurel Family

1. UMBELLULARIA Nutt.

1. *Umbellularia californica* (H. & A) Nutt. California laurel.—South and southwest slopes; fairly common. In our area on the mountain this species assumes a shrubby form and never reaches tree size. It ranges from California north to Douglas County in Oregon. A species of the California element. Humid Transition and Canadian.

25. CRUCIFERAE—Mustard Family

Pod short, less than twice as long as broad, a silicle
- Silicle distinctly flattened
  - Seeds only 1 to each cell ..... 1. *Lepidium*
  - Seeds many in each cell ..... 2. *Capsella*
- Silicle strongly inflated ..... 3. *Camelina*

Pod over four times longer than broad, a silique
- Flowers yellow, cream colored or orange
  - Some of the leaves deeply cleft or pinnately lobed
    - Pods with a distinct beak ..... 4. *Brassica*
    - Pods beakless, or nearly so ..... 5. *Descurainia*
  - All of the leaves entire or merely toothed ..... 6. *Erysimum*
- Flowers white, pink or purple
  - Leaves all with petioles present ..... 7. *Dentaria*
  - Stem leaves auriculate-clasping; flowers purplish ..... 8. *Streptanthus*

1. LEPIDIUM (Tourn.) L.

1. *Lepidium perfoliatum* L. Yellow-flowered peppergrass.—East slope, yard of Smith Claim on Rock Creek. This species grows abundantly in eastern Oregon and is occasionally adventive in western Oregon. Introduced from Europe.

2. CAPSELLA Medic.

1. *Capsella bursa-pastoris* (L.) Medic. Shepherd's purse.—East slope, yard of Smith Claim on Rock Creek. A very common weed. Introduced from Europe.

3. CAMELINA Crantz.

1. *Camelina microcarpa* Andrez. Hairy false flax.—East slope, yard of Smith Claim on Rock Creek. This species is found mainly in eastern Oregon but is sparingly introduced in western Oregon. Native of Europe.

4. BRASSICA L.

1. *Brassica campestris* L. Yellow mustard.—East slope growing in yard of Smith Claim on Rock Creek. An abundant weed introduced from Europe.

5. DESCURAINIA Webb & Barth.

1. *Descurainia pinnata* (Walt.) Britt. var. *filipes* (Gray) Peck. Tansy-mustard.—East slope, yard of Smith Claim on Rock Creek. Dry ground mainly in eastern Oregon. This species may be adventive in our region.

6. ERYSIMUM (Tourn.) L.

Annual; pods 1 mm wide ..... 1. *E. repandum*
Biennial; pods 2 mm wide ..... 2. *E. concinnum*

1. *Erysimum repandum* L. Bushy wallflower.—East slope, in yard of Smith Claim on Rock Creek. Very common in eastern Oregon, sparingly introduced in southern Oregon west of the Cascades. Introduced from Europe.

2. *Erysimum concinnum* Eastw. Coast wallflower.—South slope on Rogue River Divide. This species is a fairly common coastal wallflower in Curry County where it grows on hillsides and open slopes. It is a member of the California element in our flora.

7. DENTARIA L.

1. *Dentaria californica* Nutt. California toothwort.—Moist open hillsides on east slope along Coquille-Rogue River Divide. This species ranges from Mendocino County, California north to Coos County, Oregon. It represents the California element in the flora of our region. Transition.

8. STREPTANTHUS Nutt.

1. *Streptanthus tortuosus* Kell. var. *oblongus* Jeps. Twisted streptanthus. —Rock slides on east slope near summit. The first record of its occurrence north of the Rogue River in Coos County. Californian element. Canadian.

26. SARRACENIACEAE—Pitcher-plant Family

1. CHRYSAMPHORA Greene

1. *Chrysamphora californica* (Torr.) Greene. California pitcher-plant.—Very abundant at all stations on mountain in marshy and boggy ground. It occurs on the southwest slope at McCurdy Camp in a very large marsh and is common at Smith Claim on Rock Creek. It is a member of the California element in our flora ranging from northern California to Lane County, Oregon.

27. CRASSULACEAE—Stonecrop Family

1. SEDUM L.

Flowers yellow ..... 1. *S. spathulifolium*
Flowers pink or reddish ..... 2. *S. laxum*

1. *Sedum spathulifolium* Hook. Broad-leaved stonecrop.—Common on rocky outcrops and dry rock cliffs, east slope. Transition.

2. *Sedum laxum* (Britt.) Berger. Lax stonecrop.—High, dry, rocky ridges on south slope and on southeast slope along trail to Brushy Mountain. Ours is the first record of this plant growing north of the Rogue River. It is more common in southern Curry County. Canadian.

28. SAXIFRAGACEAE—Saxifrage Family

Herbs
  Stamens 5 or fewer
    Stamens 3 or 2; petals 4, linear; flowers purple ..... 1. *Tolmiea*
    Stamens 5
      Petals cleft, lobed or toothed ..... 2. *Mitella*

Petals entire
Placentae axial ..... 3. *Boykinia*
Placentae parietal or nearly basal ..... 4. *Heuchera*
Stamens 10
Placentae axial, ovary 2-loculed ..... 5. *Saxifraga*
Placentae parietal; ovary 1-loculed
Petals cleft, lobed or toothed ..... 6. *Tellima*
Petals entire, almost linear ..... 7. *Tiarella*
Shrubs
Leaves opposite ..... 8. *Whipplea*
Leaves alternate ..... 9. *Ribes*

1. TOLMIEA T. & G.

1. *Tolmiea menziesii* (Pursh) T. & G. Youth-on-age.—Along Rock Creek on east slope and at a spring near Smith Mine; not uncommon. Humid Transition and Canadian.

2. MITELLA L.

1. *Mitella ovalis* Greene. Small bishop's cap.—Along small creek on wooded southeast slope; common. Humid Transition.

3. BOYKINIA Nutt.

1. *Boykinia elata* (Nutt.) Greene. Slender boykinia.—East slope along banks of Rock Creek at Smith Claim; abundant. Humid Transition.

4. HEUCHERA L.

1. *Heuchera micrantha* Dougl. Small-flowered alum root.—Common on rock cliffs along Coquille-Rogue River Divide. Humid Transition.

5. SAXIFRAGA L.

Leaves orbicular to reniform; doubly dentate ..... 1. *S. mertensiana*
Leaves ovate to oblong, cuneate at the base, coarsely and evenly crenate ..... 2. *S. howellii*

1. *Saxifraga mertensiana* Bong. Merten's saxifrage.—South slope growing on mossy rocks along Boulder Creek in Bonanza Basin; very common. Canadian.

2. *Saxifraga howellii* Greene. Howell's saxifrage.—South slope, on wet mossy rocks along Boulder Creek in Bonanza Basin; quite common. A very rare and local species, its type locality is on the Coquille River in Oregon. Apparently limited to the Coquille and Rogue River watersheds in our region. A narrow endemic which has been rarely collected.

6. TELLIMA R. Br.

1. *Tellima grandiflora* (Pursh) Dougl. Fringe-cups.—Common on wet cliffs and hillsides near springs and water-courses on Coquille-Rogue River Divide. Humid Transition.

7. TIARELLA L.

Leaves simple, toothed ..... 1. *T. unifoliata*
Leaves compound, 3 leaflets ..... 2. *T. trifoliata*

1. *Tiarella unifoliata* Hook. Cool-wort.—East slope along Rock Creek at Smith Claim; abundant. Canadian.

2. *Tiarella trifoliata* L. Three-leaved cool-wort.—Growing along Rock Creek at Smith Claim on east slope; common. A representative of the Northern element in our flora, ranging from the coastal region of central Oregon northward to Alaska and into Asia. Ours is perhaps the extreme southern limit of its distribution.

9. RIBES L.

Stems without spines or prickles
- Flowers bell-shaped, rose-pink, showy ..... 1. *R. glutinosum*
- Flowers saucer-shaped, greenish, inconspicuous ..... 2. *R. bracteosum*

Stems bearing spines at the nodes ..... 3. *R. cruentum*

1. *Ribes glutinosum* Benth. Sticky currant.—South slope along Boulder Creek in Bonanza Basin, also common along Rock Creek and near summit on east slope. This species ranges into southern Oregon from California. It differs from *R. sanguineum* in having lighter colored flowers, and leaves without ventral tomentum. Humid Transition.

2. *Ribes bracteosum* Dougl. Stinking black currant.—East slope along Rock Creek below Smith Claim and south slope along banks of Boulder Creek in Bonanza Basin. Canadian.

3. *Ribes cruentum* Greene. Shiny-leaved gooseberry.—Open hillside along Middle Elk Road on Coquille-Rogue River Divide. Occurring on dry mountain ridges as far north as Lane County. This species represents the California element in our region.

29. ROSACEAE—Rose Family

Shrubs
- Fruits enclosed in an urn-shaped, globose receptacle ..... 1. *Rosa*
- Fruits not enclosed as above
  - Ovary inferior; fruit a pome ..... 2. *Amelanchier*
  - Ovary not inferior
    - Fruit dry, a follicle ..... 3. *Holodiscus*
    - Fruit fleshy, an aggregate of drupelets ..... 4. *Rubus*

Herbs ..... 5. *Horkelia*

1. ROSA L.

1. *Rosa gymnocarpa* Nutt. Wood rose.—Wooded hillsides along Rock Creek above Smith Claim on east slope; scattered. Transition and Canadian.

2. AMELANCHIER Medic.

1. *Amelanchier pallida* Greene. Pale serviceberry.—Growing at summit and also in thickets, east slope on hillside above Rock Creek; occasional. This is the first record of the plant from Coos County. It extends into our region from the Siskiyou Mountains where it is more common. Arid Transition.

3. HOLODISCUS Maxim.

1. *Holdiscus discolor* (Pursh) Maxim. Ocean spray.—Open hillsides on east and southwest slopes; common. Transition.

a. *Holodiscus discolor* (Pursh) Maxim. var. *delnortensis* Ley. Del Norte ocean spray.—Fairly common on dry rocky summits. This plant ranges from northern California to southern Oregon in the Siskiyou Mountains. The first record of its occurrence in the Rogue River Mountains. Canadian.

4. RUBUS L.

Stems creeping or trailing ..... 1. *R. vitifolius*
Stems erect
  Flowers red, rarely pinkish; fruit yellowish orange, rarely dark red ..... 2. *R. spectabilis*
  Flowers white
    Leaves simple, palmately lobed; fruit red ..... 3. *R. parviflorus*
    Leaves compound-pinnate; fruit black
      Leaflets usually 3, lanate beneath; stems hollow, very glaucous; fruit deciduous at maturity ..... 4. *R. leucodermis*
      Leaflets laciniate; stems not glaucous; fruit persistent at maturity ..... 5. *R. laciniatus*

1. *Rubus vitifolius* C. & S. Wild blackberry.—Common along Rock Creek and roadsides on Coquille-Rogue River Divide. Humid Transition.

2. *Rubus spectabilis* Pursh. Salmon-berry.—East slope along banks of Rock Creek; fairly common. Humid Transition and Coastal Canadian.

3. *Rubus parviflorus* Nutt. Thimbleberry.—Common along Rock Creek near Smith Claim. Humid Transition.

4. *Rubus leucodermis* Dougl. Western blackcap.—Along banks of Rock Creek on east slope and on hillsides Coquille-Rogue River Divide at junction of Middle Elk Road; common. Transition.

5. *Rubus laciniatus* Willd. Evergreen blackberry.—At Smith Mine on east slope. Common throughout western Oregon where it is an escape from cultivation.

5. HORKELIA C. & S.

1. *Horkelia sericata* S. Wats. Howell's horkelia.—Dry ridges and summits of the south slope; fairly common. It is known only from southwestern Oregon and adjacent California. Probably the northern limit for this species although it is common in Curry County farther south on high, dry ridges and sterile flats. The distribution of this species is very limited and it is thus a narrow endemic. Canadian.

30. LEGUMINOSAE—Pea Family

Leaves palmately compound
  Stamens all free ..... 1. *Thermopsis*
  Stamens not all free
    Leaflets 5 or more, entire ..... 2. *Lupinus*
    Leaflets 3 (in ours), not entire ..... 3. *Trifolium*
Leaves pinnately compound
  Foliage conspicuously glandular-dotted; leaves with only 3 leaflets ..... 4. *Psoralea*
  Foliage not glandular-dotted; leaves usually more than 3 leaflets (in ours)
    Tendrils none ..... 5. *Lotus*
    Tendrils usually present
      Style filiform, ending in a hairy, capitate stigma ..... 6. *Vicia*
      Style flattened, hairy only on the upper surface ..... 7. *Lathyrus*

1. THERMOPSIS R. Br.

1. *Thermopsis gracilis* How. Slender thermopsis.—South slope, on roadside cut and along Middle Elk Road on east slope, dry open hillsides; occasional. Humid Transition.

2. LUPINUS (Tourn.) L.

1. *Lupinus albicaulis* Dougl. White-stemmed lupine (fig. 11).—South and southwest slopes, in open woodlands; infrequent. Humid Transition.

3. TRIFOLIUM L.

Annual; involucre not deeply cleft; flowers light pink ..... 1. *T. microcephalum*
Perennial; involucre deeply cleft; flowers purple ..... 2. *T. wormskjoldii*

1. *Trifolium microcephalum* Pursh. Wooly clover.—Open rock slide along south slope; occasional. Transition.

2. *Trifolium wormskjoldii* Lehm. Marsh clover.—East slope, in yard of Smith Claim on Rock Creek. This is the common coastal clover in our region but it also occurs inland; not common. Humid Transition.—*T. involucratum* Ort.; *T. fimbriatum* Lindl.; *T. willdenovii* Spreng.

4. PSORALEA L.

1. *Psoralea physodes* Dougl. California tea.—Roadside along Middle Elk Road on Coquille-Rogue River Divide; infrequent. Humid Transition.

5. LOTUS L.

Annuals; flowers 1 or 2, axillary
  Calyx tube 1 mm long, teeth shorter than the tube; pods constricted between the seeds ..... 1. *L. micranthus*
  Calyx tube 1.5 to 2 mm long, teeth twice as long as the tube; pods not constricted ..... 2. *L. purshianus*

Perennials; flowers in umbels
  Flowers pinkish or purplish, 1 cm or more long; leaves nearly glabrous
    Stem strongly fistulose; leaves glaucous; flowers 8 to 30; peduncles shorter than the leaves ..... 3. *L. crassifolius*
    Stem not fistulose; leaves not glaucous; flowers 5 to 10; peduncles at least equal to the leaves ..... 4. *L. stipularis*
  Flowers yellowish, less than 1 cm long; leaves canescent ..... 5. *L. oblongifolius*

1. *Lotus micrantus* Benth. Slender trefoil.—In yard of Smith Claim along Rock Creek on east slope; fairly common. Humid Transition.

2. *Lotus purshianus* (Benth.) Clements & Clements. Spanish clover.—Southeast slope along Steffans Meadow trail, and on hillside in open woods along edge of Rock Creek below Smith Claim, east slope; common. Humid Transition.—*L. americanus* (Nutt.) Bisch.

3. *Lotus crassifolius* (Benth.) Greene. Pink trefoil.—Dry open woods of south slope; rare. This species barely reaches the state of Washington at its northern limit. It is more common southward into California. Arid Transition.

4. *Lotus stipularis* (Benth.) Greene var. *subglaber* Ottl. Thicket trefoil.—Open south slope and roadside banks above Rock Creek on east slope; very common. This trefoil is more common than the preceding species in our limits

and northward into Washington. It is often mistaken for *L. crassifolius*. Arid Transition.

5. *Lotus oblongifolius* Greene var. *torreyi* (Gray) Ottl. Torrey's trefoil. East slope in moist and marshy places along Rock Creek and its tributaries; common. This species represents the California element in our flora. It reaches its northern limit in Lane County. Canadian.

6. VICIA L.

1. *Vicia californica* Greene. California vetch.—East slope along Rock Creek at Smith Claim; common. This plant comes into Oregon from California and reaches its northern limit in southern Lane County. Arid Transition.

7. LATHYRUS L.

1. *Lathyrus vestitus* Nutt. Common Pacific Pea.—East slope along Rock Creek at lower end of Smith Claim. Quite common along watercourses. Our region is probably the northern limit of its range. Transition.

31. POLYGALACEAE—Milkwort Family

1. POLYGALA (Tourn.) L.

1. *Polygala californica* Nutt. California milkwort.—Thickets and dry hillsides on south and southwest slopes; scattered. Enters our limits from California. Probably as far north as this species ranges. Arid Transition.

32. ANACARDIACEAE—Cashew Family

1. RHUS L.

1. *Rhus diversiloba* T. & G. Poison oak.—Not common at this elevation but a small patch was noted on a rock slide, northwest slope. Humid Transition.

33. ACERACEAE—Maple Family

1. ACER L.

Leaves 7- to 9-lobed; wings of fruit spreading at right angles to the stalk 1. *A. circinatum*
Leaves 3- to 5-lobed; wings of fruit ascending ..... 2. *A. glabrum*

1. *Acer circinatum* Pursh. Vine maple.—Hillside along Middle Elk Road on Coquille-Rogue River Divide; frequent. Humid Transition to Canadian.

2. *Acer glabrum* Torr. Dwarf maple.—Brushy hillsides below summit on north and east slopes; fairly common. Canadian.

34. RHAMNACEAE—Buckthorn Family

Flowers yellowish green; fruit berry-like ..... 1. *Rhamnus*
Flowers blue or white; fruit a capsule ..... 2. *Ceanothus*

1. RHAMNUS (Tourn.) L.

1. *Rhamnus californica* Esch. var. *occidentalis* How. Coffee berry.—Common ground cover on all open slopes and hillsides in this area. East slope along edge of wooded hillside, southeast slope and at summit. First time the

species has been reported from northern Curry and southern Coos counties. This may well be the northern limit of its range. Endemic to the Siskiyou and Rogue River Mountains. A representative of the California element. Arid Transition and Canadian.

2. CEANOTHUS L.

Tall erect shrub
- Leaves evergreen, varnished; flowers white ..... 1. *C. velutinus*
- Leaves deciduous; flowers usually bluish ..... 2. *C. integerrimus*

Prostrate shrub, forming mats ..... 3. *C. pumilus*

1. *Ceanothus velutinus* Dougl. var. *laevigatus* T. & G. Sticky laurel.—Dry southwest slope, forming dense thickets, usually at lower elevations than *C. pumilus*. Transition and Canadian.

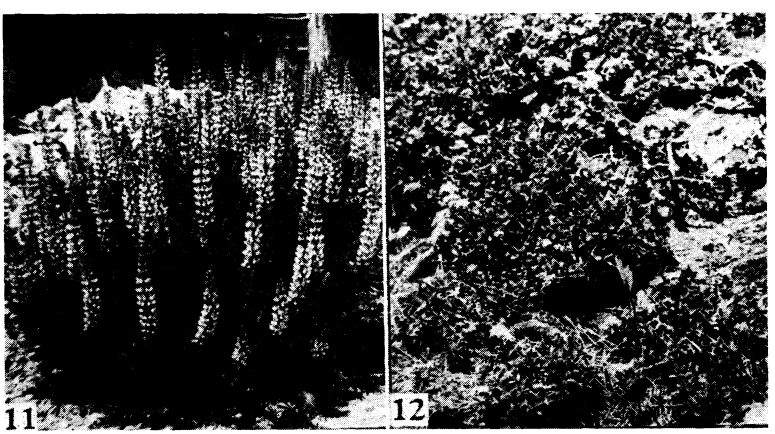
2. *Ceanothus integerrimus* H. & A. Deer brush.—South slope, forming thickets on hillsides and along roads; occasional. Transition.

3. *Ceanothus pumilus* Greene. Dwarf ceanothus.—South and southwest slopes up to summit, forming dense mats. Previously known only from the Siskiyou Mountains where it apparently supplants *C. prostratus*, and is a narrow endemic. The type locality is "On hillsides near Waldo, Oregon, April 1892. Thomas Howell." Upper Transition and Canadian.

35. MALVACEAE—Mallow Family

1. SIDALCEA Gray

1. *Sidalcea malvaeflora* (DC.) A. Gray. Checkerbloom.—Roadside along Middle Elk Road on Coquille-Rogue River Divide and on east slope along Rock Creek below Smith Claim; quite common. This plant is a coastal species that comes into our area. It occurs from California northward to Curry and Coos counties, and is considered to be a representative of the California element in the flora of our region. Transition.



Figs. 11-12.—11. *Lupinus albicaulis*, southeast slope growing in the Middle Elk Road. 12. A prostrate shrub, *Ceanothus pumilus*, east slope.

36. HYPERICACEAE—St. John's Wort Family

1. HYPERICUM (Tourn.) L.

1. *Hypericum perforatum* L. St. John's wort.—Roadside Middle Elk Road along Coquille-Rogue River Divide; common. Introduced from Europe. A noxious weed.

37. VIOLACEAE—Violet Family

1. VIOLA L.

Stem creeping and prostrate; leaves evergreen ..... 1. *V. sempervirens*
Stem not creeping, erect; leaves not evergreen
  Flowers yellow; leaves cordate ..... 2. *V. glabella*
  Flowers purple and white; leaves cuneate ..... 3. *V. cuneata*

1. *Viola sempervirens* Greene. Evergreen violet.—Southwest slope at McCurdy Camp; common. Humid Transition.

2. *Viola glabella* Nutt. Wood violet.—East slope along Rock Creek at Smith Claim; fairly common. Canadian.

3. *Viola cuneata* S. Wats. Wedge-leaved violet.—Dry open woods and thickets on south and southwest slope up to summit; common. This violet is found only in the mountains of Coos, Curry and Josephine counties in Oregon and in the northern counties of California. Our record is the first one for Coos County and the Rogue River Mountains. Transition.

38. ONAGRACEAE—Evening Primrose Family

1. EPILOBIUM L.

Flowers showy; petals spreading, 15-18 mm long, entire ..... 1. *E. angustifolium*
Flowers small; petals not spreading, 3-10 mm long, cleft
  Annuals; stigma 4-cleft
    Herbage nearly glabrous; petals 5-7 mm long ..... 2. *E. paniculatum*
    Herbage crisped puberulent; petals 3-4 mm long ..... 3. *E. minutum*
  Perennials; stigma entire; plants 3-9 dm tall ..... 4. *E. adenocaulon*

1. *Epilobium angustifolium* L. Fireweed.—Common on east slope along Rock Creek at Smith Claim. Transition to Canadian.

2. *Epilobium paniculatum* Nutt. Tall willow herb.—East slope along roadside at Smith Claim on Rock Creek; quite common. Transition.

3. *Epilobium minutum* Lindl. Small-flowered willow herb.—East slope, on roadside bank along edge of Rock Creek above Smith Claim; very common. Transition.

4. *Epilobium adenocaulon* Hausskn. Common willow herb.—East slope, roadside ditch near spring, moist ground; not common. Transition.

39. ARALIACEAE—Ginseng Family

1. ARALIA L.

1. *Aralia californica* S. Wats. California spikenard.—Along Middle Elk Road on Coquille-Rogue River Divide; occasional. Transition. Ranges from southern California to Coos and Curry counties in Oregon. A species of the California element in our flora.

40. UMBELLIFERAE—Parsley Family

Flowers yellow ..... 1. *Lomatium*
Flowers white
  Fruits winged, strongly flattened dorsally
    Low plants; leaves basal ..... 1. *Lomatium*
    Tall plants; cauline leaves present ..... 2. *Angelica*
  Fruits not winged; not flattened dorsally
    Leaflets linear, few ..... 3. *Perideridia*
    Leaflets broader, ternate, deeply incised ..... 4. *Ligusticum*

1. LOMATIUM Raf.

Flowers white ..... 1. *L. macrocarpum*
Flowers yellow
  Leaves triternate; mature fruit about 10 mm long; wings narrower than the body ..... 2. *L. triternatum*
  Leaves bipinnate; mature fruit about 15 mm long; wings as wide as the body ..... 3. *L. martindalei*

1. *Lomatium macrocarpum* (H. & A.) C. & R. Gray hog fennel.—Common on high dry rocky ridges and slopes from 3700 to 4000 feet. This species is infrequent west of the Cascades, but is common to the east of our region.

2. *Lomatium triternatum* (Pursh) C. & R. Narrow-leaved hog fennel.—On north and south slopes near summit. Canadian.

3. *Lomatium martindalei* C. & R. Martindale's hog fennel.—Along south slope and at summit. This plant occurs in the high Cascades and on the summits of peaks in the Coast Range. Apparently limited to southern Oregon. Canadian to Hudsonian.

2. ANGELICA L.

1. *Angelica arguta* Nutt. Shining angelica.—East slope, thickets along Rock Creek at Smith Claim. This species ranges from British Columbia as far south as northern California. It is a representative of the Northern element in our flora.

3. PERIDERIDIA Reichb.

1. *Perideridia oregana* (Wats.) Math. Oregon false caraway.—Southwest slope along Steffans Meadow trail and growing in dry meadows on south slope; abundant. Transition.—*Carum oreganum* Wats.

4. LIGUSTICUM L.

1. *Ligusticum apiifolium* (Nutt.) Gray. Celery-leaved lovage.—South slope and along Rock Creek at Smith Claim on east slope. This species ranges as far south as central California. Humid Transition.

41. GARRYACEAE—Silk Tassel Family

1. GARRYA Dougl.

1. *Garrya buxifolia* A. Gray. Box-leaved garrya.—West slope near summit and south slope on dry open hillside. This is the northern known limit for this plant. It is most abundant in the Siskiyou Mountains and ranges southward to Mendocino County, California.

42. CORNACEAE—Dogwood Family

1. CORNUS L.

1. *Cornus nuttallii* Aud. Western flowering dogwood.—Common on east slope just below summit, also one tree growing on a hillside at junction of Middle Elk Road, Coquille-Rogue River Divide. Humid Transition to Canadian in our region.

43. ERICACEAE—Heath Family

Ovary superior
- Herbs or sometimes shrubby at base
  - Plants with green leaves
    - Flowers in corymbs or umbels; filaments dilated at or below the middle ..... 1. *Chimaphila*
    - Flowers in racemes; filaments not dilated ..... 2. *Pyrola*
  - Plants without green leaves
    - Style conspicuously long-exserted ..... 2. *Pyrola*
    - Style not long-exserted
      - Petals none; plant red and white striped ..... 3. *Allotropa*
      - Petals present
        - Petals distinct, nearly to the base
          - Plant yellowish; ovary 4 to 5 loculed ..... 4. *Hypopitys*
          - Plant whitish; ovary 1 loculed ..... 5. *Pleuriscospora*
        - Petals united, almost to the tip
          - Plant reddish; ovary 4 to 5 loculed ..... 6. *Pterospora*
          - Plant white; ovary 1 loculed ..... 7. *Hemitomes*
- Shrubs or trees
  - Shrubs
    - Petals distinct ..... 8. *Ledum*
    - Petals united
      - Flowers large, very showy, over 2 cm ..... 9. *Rhododendron*
      - Flowers small, under 1 cm
        - Calyx becoming enlarged and fleshy; bark not reddish ..... 10. *Gaultheria*
        - Calyx small and dry; bark red ..... 11. *Arctostaphylos*
  - Trees ..... 12. *Arbutus*

Ovary inferior ..... 13. *Vaccinium*

1. CHIMAPHILA Pursh

Leaves wider above the middle ..... 1. *C. umbellata*
Leaves wider below the middle ..... 2. *C. menziesii*

1. *Chimaphila umbellata* Nutt. var. *occidentalis* (Rydb.) Blake. Western prince's pine.—East and south slopes, in dense shady woods, also on west slope nearly up to summit; common. Canadian.

2. *Chimaphila menziesii* (R. Br.) Spreng. Menzies' prince pine.—Woods along trail on south slope; infrequent. Canadian.

2. PYROLA L.

Plants with green leaves
- Style straight, erect; flowers in a one-sided raceme ..... 1. *P. secunda*
- Style curved downward; flowers not as above
  - Flowers red or pinkish ..... 2. *P. bracteata*
  - Flowers yellowish white
    - Leaves white-veined, elliptic to ovate ..... 3. *P. picta*

Leaves green or only very slightly white-veined, lanceolate to oblanceolate ..... 4. *P. dentata*

Plants with leaves reduced to bracts only
Flowers red or pinkish ..... 5. *P. aphylla*
Flowers yellowish white ..... 4. *P. dentata*

1. *Pyrola secunda* L. One-sided wintergreen.—Open woods on south slope; not common. Canadian.

2. *Pyrola bracteata* Hook. Leathery shin-leaf.—Woods of south and southwest slopes; quite common. Our area is near the southern boundary of the range of this species. It is found growing northward as far as British Columbia. Canadian.

3. *Pyrola picta* Smith. White-veined shin-leaf.—Dry open coniferous woods of south slope; very common. Canadian.

4. *Pyrola dentata* Smith. Toothed shin-leaf.—Southwest slope, in woods near Boulder Creek on Parker Claim, also on east slope at spring below lookout station; very common. Canadian.

a. *Pyrola dentata* Smith var. *integra* A. Gray. Entire-leaved shin-leaf.—Hillside above Middle Elk Road on the Coquille-Rogue River Divide; fairly rare. This plant differs from the above in having entire leaves, or sometimes the leaves are reduced or even wanting, suggesting *P. aphylla* with yellowish-white flowers. Canadian.

5. *Pyrola aphylla* Smith. Leafless wintergreen.—Open woods of south and southwest slopes; occasional. This species has a very wide distribution but is apparently never abundant. Canadian.

3. ALLOTROPA T. & G.

1. *Allotropa virgata* T. & G. Barber pole.—Coniferous woods on south and southeast slopes; occasional. This plant grows in colonies. Canadian.

4. HYPOPITYS Adans.

Leaves entire or only slightly erose ..... 1. *H. lanuginosa*
Leaves distinctly erose, the upper fimbriate ..... 2. *H. fimbriata*

1. *Hypopitys lanuginosa* (Michx.) Nutt. Broad-leaved pinesap.—Coniferous woods on southeast slope and on south slope along trail to summit; rare. This species reaches northwestern California. It is a plant of the northern element and the northern hemisphere. Canadian.

2. *Hypopitys fimbriata* (A. Gray) How. Fringed pinesap.—Open coniferous woods on south and east slopes; rare. A plant of the Southern element. It has not been recorded from the state of Washington.

5. PLEURICOSPORA A. Gray

1. *Pleuricospora fimbriolata* A. Gray. Fimbriate pinesap.—Coniferous woods of the south slope; rare. Canadian.

6. PTEROSPORA Nutt.

1. *Pterospora andromedia* Nutt. Pinedrops.—Dry coniferous woods on

west slope near summit; rare. The plant grows in colonies and dies after flowering. Canadian.

7. HEMITOMES A. Gray

1. *Hemitomes congestum* A. Gray. Hemitomes.—South slope along Steffans Meadow trail. Rare in dense coniferous woods. This plant is not often collected. It forms large colonies in locations where it occurs. Canadian.

8. LEDUM L.

1. *Ledum columbianum* Piper. Labrador tea.—Common in marshes on east slope and on southwest slope at McCurdy Camp. It is found in locations that are quite boggy growing with *Chrysamphora californica*. Humid Transition and Canadian.

9. RHODODENDRON L.

Flowers white or pink; stamens 5 ..... 1. *R. occidentale*
Flowers rose-purple, except in forma *album*: stamens 10 ..... 2. *R. macrophyllum*

1. *Rhododendron occidentale* (T. & G.) Gray. Western azalea (fig. 13).—Southwest slope at McCurdy Camp and on south slope. Also quite common along banks of Rock Creek above Smith Claim. This beautiful shrub occurs as far north as the mouth of the Umpqua River along the coast. It grows farther inland as its range extends southward. Humid Transition.

2. *Rhododendron macrophyllum* G. Don. Rhododendron (fig. 14).—This is one of the commonest shrubs at upper elevations. East and south slopes almost to summit and on southwest slope at McCurdy Camp. Humid Transition to Canadian.

a. *Rhododendron macrophyllum* G. Don. forma *album* Rehder. White rhododendron.—Southwest slope. This rare and beautiful form of which only one plant has been found on the mountain, is well worth cultivation. Canadian.

Figs. 13-14.—13. *Rhododendron occidentale,* Middle Elk Road, southwest slope at McCurdy Camp junction. 14. *Rhododendron macrophyllum,* east slope on Rock Creek at Smith Claim.

10. GAULTHERIA L.

Leaves 3 cm or less long; fruit scarlet ..... 1. *G. ovatifolia*
Leaves 5 to 12 cm long; fruit black ..... 2. *G. shallon*

1. *Gaultheria ovatifolia* A. Gray. Slender gaultheria.—Southwest slope on saddle between Iron Mountain and Ranger Peak, open west slope nearly to summit and open woods on south slope. Reaches its southern limit in the Siskiyou Mountains. Canadian.

2. *Gaultheria shallon* Pursh. Salal.—Woods on east slope above Smith Claim and on west slope; very common. Humid Transition.

11. ARCTOSTAPHYLOS Adans.

Low matted or creeping shrubs ..... 1. *A. nevadensis*
Erect bushy shrubs
  Young twigs with coarse blackish glandular hairs ..... 2. *A. columbiana*
  Young twigs without black glandular hairs
    Branchlets glandular
      Leaves dense, over twice as long as wide ..... 3. *A. hispidula*
      Leaves not dense, about twice as long as wide ..... 4. *A. patula*
    Branchlets not glandular ..... 5. *A. canescens*

1. *Arctostaphylos nevadensis* A. Gray. Pine-mat manzanita.—West slope near summit, also on south slope in open coniferous woods; fairly common. This species occurs near the coast in Curry County. Canadian.

2. *Arctostaphylos columbiana* Piper. Columbia manzanita.—Brushy hillsides on south slope; common. This would appear to be the most widespread manzanita in our region. Humid Transition.

3. *Arctostaphylos hispidula* Howell. Howell's manzanita.—Dry open woods on south slope; rare. Occurs in the Siskiyou Mountains of southern Oregon and northern California, also on dry rocky summits in the Rogue River Mountains of Curry County. Canadian.

4. *Arctostaphylos patula* Greene. Green-leaved manzanita.—Dry open hillside on south slope; occasional patches. Has a very wide range but is not abundant in our area. Canadian.

5. *Arctostaphylos canescens* Eastw. Hoary manzanita.—West slope near summit; fairly common. Ranges from Douglas County southward to California, overlapping with *A. columbiana* in this region. Humid Transition.

12. ARBUTUS L.

1. *Arbutus menziesii* Pursh. Madroño.—Hillside southwest slope and along Middle Elk Road on Coquille-Rogue River Divide; occasional. Humid Transition.

13. VACCINIUM L.

Leaves evergreen ..... 1. *V. ovatum*
Leaves not evergreen
  Leaves entire except on young growth, berry bright red ..... 2. *V. parvifolium*
  Leaves sharply serrate; berry dark red to black ..... 3. *V. membranaceum*

1. *Vaccinium ovatum* Pursh. Evergreen huckleberry.—Common on southwest slope, forming thickets. Canadian.

2. *Vaccinium parvifolium* Smith. Red huckleberry.—Very common on all slopes nearly to summit. Our most abundant huckleberry. Canadian.

3. *Vaccinium membranaceum* Dougl. Mountain huckleberry.—Abundant on north slope below summit, and the only station recorded. Not previously known from the coastal mountains in Oregon, though it is common in the Cascade and Siskiyou ranges. Apparently the first record for the Rogue River Mountains. Canadian.

44. PRIMULACEAE—Primrose Family

1. TRIENTALIS L.

Leaves acute, clustered at summit of stem .....1. *T. latifolia*
Leaves obtuse, scattered along stem or both scattered and clustered .....2. *T. arctica*

1. *Trientalis latifolia* Hook. Broad-leaved star-flower.—Open woods on south slope, roadside marshes and along banks of Rock Creek on east slope; fairly common. Widely distributed. Canadian.

2. *Trientalis arctica* Fisch. Northern star-flower.—East slope along Rock Creek, in wet boggy ground with *Chrysamphora californica*. Representative of the Northern element and probably reaches its southern limit in Curry County.

45. GENTIANACEAE—Gentian Family

1. GENTIANA L.

1. *Gentiana sceptrum* Griseb. King's gentian.—Bogs, east slope along roadside near summit, also west slope and southwest slope at McCurdy Camp. Principally a coastal bog species. First record for the Rogue River Mountains. Canadian here.

46. APOCYNACEAE—Dogbane Family

1. APOCYNUM L.

1. *Apocynum androsaemifolium* L. Dogbane.—Open brushy west and southwest slopes near summit; not common. A species of wide distribution. Transition to Canadian.

47. CONVOLVULACEAE—Morning-glory Family

1. CONVOLVULUS

1. *Convolvulus polymorphus* Greene. Pale morning-glory.—East slope above Smith Claim and along Middle Elk Road on Coquille-Rogue River Divide; rare. This species enters our limits from northern California and has a rather spotty distribution in Oregon. It is common along the Rogue River between Agness and Illahe, is reported from Deschutes Canyon at Maupin, Wasco County, and the writer has collected it in the Warner Mountains, Lake County, Oregon. Arid Transition.

48. POLEMONIACEAE—Phlox Family

Perennial; corolla 15 to 20 mm wide .....1. *Phlox*
Annual; corolla 5 to 8 mm wide .....2. *Collomia*

1. PHLOX L.

1. *Phlox diffusa* Benth var. *longistylis* (Wher.) Peck. Mountain phlox. —Open coniferous woods on southeast slope and on east slope near summit; occasional. This is the common phlox of the high Cascade Mountains from Lane County northward and is the southernmost record in the Coast Range. It probably intergrades into typical *Phlox diffusa* southward in the Siskiyou Mountains, intermediate regions must be studied more intensively, since the range of the numerous varieties is too imperfectly known. Canadian.

2. COLLOMIA Nutt.

1. *Collomia heterophylla* Hook. Vari-leaved collomia.—Hillside above Middle Elk Road on east slope, open woods; common. Humid Transition.

49. HYDROPHYLLACEAE—Water-leaf Family

1. PHACELIA Juss.

1. *Phacelia corymbosa* Jepson. Serpentine phacelia.—Dry open hillside on south slope; occasional. The distribution of this northern California plant in Oregon is not well known. Ours is probably the most northern record which has been obtained to date.

50. BORAGINACEAE—Borage Family

1. CRYPTANTHA Lehm.

1. *Cryptantha Hendersoni* (Nels.) Piper. Large-flowered cryptantha.—East slope, yard of Smith Claim on Rock Creek; not common. Transition.

51. LABIATAE—Mint Family

Nutlets distinctly united below, attached on the inside; stamens long exserted, curved ..... 1. *Trichostema*

Nutlets almost separate; attached at the base; stamens not as above
- Calyx teeth conspicuously unequal ..... 2. *Prunella*
- Calyx teeth nearly equal
  - Plants creeping; flowers axillary ..... 3. *Satureja*
  - Plants erect; flowers in dense terminal heads ..... 4. *Monardella*

1. TRICHOSTEMA L.

1. *Trichostema lanceolatum* Benth. Vinegar weed.—Dry open hillsides on south slope, covering large areas in open grassy meadows. Arid Transition.

2. PRUNELLA L.

1. *Prunella vulgaris* L. Heal-all.—Moist ground along Rock Creek at Smith Claim on east slope; common. Introduced from Europe.

3. SATUREJA L.

1. *Satureja douglasii* (Benth.) Briq. Oregon tea.—Southwest slope along Steffans Meadow trail. Transition.

4. MONARDELLA Benth.

1. *Monardella villosa* Benth. var. *subserrata* (Greene) Epl. Coyote mint. —East slope on summit of the Coquille-Rogue River Divide. Known as far

north as the Umpqua River Valley; quite common in the Rogue River Valley to the south of Iron Mountain. Transition.

52. SCROPHULARIACEAE—Figwort Family

Upper lip of the corolla helmet-shaped ..... 6. *Castilleja*
Upper lip of the corolla not helmet-shaped
  Corolla nearly regular
    Anther bearing stamens 5 ..... 1. *Verbascum*
    Anther bearing stamens 2
      Corolla rotate; leaves opposite, all cauline ..... 4. *Veronica*
      Corolla campanulate; leaves mostly basal; the few cauline leaves alternate ..... 5. *Synthyris*
  Corolla irregular, strongly 2-lipped; stamens 4 or, 5 with one sterile
    Stamens 5, one sterile ..... 2. *Penstemon*
    Stamens 4, all fertile ..... 3. *Mimulus*

1. VERBASCUM L.

1. *Verbascum blattaria* L. Moth mullein.—Open meadow on southwest slope along the Steffans Meadow trail; quite common. Introduced from Europe.

2. PENSTEMON Mitch.

Flowers rose-pink to reddish ..... 1. *P. rupicola*
Flowers lavender to bluish ..... 2. *P. rattanii*

1. *Penstemon rupicola* How. Crimson penstemon.—Rocky point on south slope, also on west slope and at summit. This species has previously been known only from the Cascades. A first record for the Coast Mountains, and it has not been reported from the Siskiyou Mountains, although the writer has collected it on high mountain peaks as far south as Snow Camp Mountain in central Curry County. Canadian.

2. *Penstemon rattanii* A. Gray. Rattan's penstemon.—Open south slope on gravelly hillside and on east slope along the Middle Elk Road, Coquille-Rogue River Divide; occasional colonies. This species does not range much farther north than our region, but is not uncommon in the southern Coast Mountains. The writer has collected it on Snow Camp Mountain in central Curry County. Canadian.

3. MIMULUS L.

Annual; corolla 8 to 12 mm long, purple spot in the middle of lower lip ....1. *M. alsinoides*
Perennial; corolla 1.5 to 2 cm long, purple spot not present ..... 2. *M. moschatus*

1. *Mimulus alsinoides* Dougl. Baby monkey-flower.—East slope, on face of moist cliff; not common. Canadian here.

2. *Mimulus moschatus* Dougl. Musk flower.—East slope, in roadside ditch and along Rock Creek at Smith Claim; widespread in wet places. Transition.

4. VERONICA L.

1. *Veronica americana* Schwein. Common speedwell.—Moist ground along slow running streams on south slope; common. Transition.

5. SYNTHYRIS Benth.

1. *Synthyris reniformis* (Dougl.) Benth. var. *cordata* A. Gray. Spring queen.—This plant is very different in appearance from typical *S. reniformis*. It has unusually long leaves, in many cases twice as long as wide. The flowers in general are larger and more showy and a much deeper blue. This variety is the only one found in our area and it ranges from northern California to Josephine, Curry and Douglas counties in Oregon. Not previously collected from the Rogue River Mountains. Humid Transition to Canadian.

6. CASTILLEJA Mutis.

1. *Castilleja pruinosa* Fern. Frosted paintbrush.—Common on all slopes, nearly to summit. Ranges into Curry County from California and occurs only as far north as Mount Jefferson in the Cascades.

53. OROBANCHACEAE—Broom-rape Family

Base of the stamen filament with a tuft of hairs; flowers numerous, borne on a cone-like spike ..... 1. *Boschniakia*

Base of the stamen filament not hairy; flowers solitary on long slender peduncles ..... 2. *Orobanche*

1. BOSCHNIAKIA C. A. Mey.

1. *Boschniakia strobilacea* A. Gray. Ground-cone.—Along Steffans Meadow trail growing in pure stand of *Arbutus menziesii*, also near summit, on roots of *Arctostaphylos canescens*. This species is found in southern Oregon and adjacent California. Humid Transition to Canadian.

2. OROBANCHE L.

1. *Orobanche uniflora* L. Broom-rape.—East slope on moist cliff; rare. Only one plant was found. This species has a wide distribution but is not common. Canadian here.

54. PLANTAGINACEAE—Plaintain Family

1. PLANTAGO L.

Leaves long-lanceolate ..... 1. *P. lanceolata*

Leaves broadly ovate ..... 2. *P. major*

1. *Plantago lanceolata* L. English plantain.—East slope along Rock Creek at Smith Claim; common. Introduced from Europe.

2. *Plantago major* L. Common plantain.—East slope in the yard at Smith Claim; common. Introduced from Europe.

55. RUBIACEAE—Madder Family

1. GALIUM L.

Leaves mostly 6 to a whorl ..... 1. *G. triflorum*

Leaves 4 to a whorl ..... 2. *G. bolanderi*

1. *Galium triflorum* Michx. Fragrant bed-straw.—East slope at roadside marsh and along Rock Creek at Smith Claim; quite common. Transition.

2. *Galium bolanderi* A. Gray. Bolander's bed-straw.—South slope along

Steffans Meadow trail and east slope in woods along Rock Creek; common. This is an extension of the range of this plant northward. Transition.

56. CAPRIFOLIACEAE—Honeysuckle Family

Leaves simple
  Shrubs, erect or climbing
    Flowers irregular; fruit a red berry ..... 1. *Lonicera*
    Flowers regular; fruit a white berry ..... 2. *Symphoricarpos*
  Vine, prostrate or creeping; flowers in pairs ..... 3. *Linnaea*
Leaves compound ..... 4. *Sambucus*

1. LONICERA L.

1. *Lonicera hispidula* (Lindl.) T. & G. Pink honeysuckle.—On hillside along Middle Elk Road, Coquille-Rogue River Divide; not common. The species ranges from the Rogue River Valley north to Washington. Several varieties of this species are recorded from southern Oregon, south into the coast ranges of California. Humid Transition.

2. SYMPHORICARPOS L.

1. *Symphoricarpos acutus* (Gray) Diek. Creeping snowberry.—Along roadside on Middle Elk Road, Coquille-Rogue River Divide; occasional. Transition.

3. LINNAEA L.

1. *Linnaea borealis* L. var. *americana* (Forbes) Rehder.—Open woods on south slope and along Rock Creek at Smith Claim on east slope. Humid Transition and Canadian.

4. SAMBUCUS L.

1. *Sambucus coerulea* Raf. Blue elderberry.—Along Middle Elk Road on Coquille-Rogue River Divide, forming thickets; not common. Transition.—*S. glauca* Nutt.

57. VALERIANACEAE—Valerian Family

1. VALERIANA L.

1. *Valeriana sitchensis* Bong. Mountain valerian.—South slope growing on moist banks; common. Canadian.

58. CAMPANULACEAE—Bell-flower Family

1. CAMPANULA L.

Flowers dark blue; leaves nearly sessile ..... 1. *C. prenanthoides*
Flowers pale blue; leaves petioled ..... 2. *C. scouleri*

1. *Campanula prenanthoides* Durand. Slender blue-bell.—East slope along road to summit and along Middle Elk Road, also on dry open hillsides; very common. This species is of California origin. It is known only as far north as west central Oregon. Humid Transition.

2. *Campanula scouleri* Hook. Pale blue-bell.—Common on hillsides in dry woods on east slope along Middle Elk Road. Humid Transition to Canadian.

59. COMPOSITAE—Sunflower Family

Flowers all strap shaped; juice milky
  Pappus plumose ..... 1. *Hypochaeris*
  Pappus bristles not plumose
    Heads solitary; leaves all basal ..... 2. *Agoseris*
    Heads several; cauline leaves present ..... 3. *Hieracium*
Flowers all tubular or heads composed of both tubular and strap-shaped flowers
  Heads with both strap-shaped and tubular flowers present
    Pappus of hairs or bristles
      Leaves opposite ..... 18. *Arnica*
      Leaves alternate
        Ray flowers yellow ..... 19. *Senecio*
        Ray flowers purple, bluish, pinkish or white (ours)
          Involucre bracts in one series; basal leaves very large, not appearing at flowering time, stem leaves bract-like ..... 16. *Petasites*
          Involucre bracts not in one series; leaves normal
            Involucre bract narrow, usually in an even series, sometimes two; rays narrow, numerous ..... 5. *Erigeron*
            Involucre bracts in several series, broader, generally overlapping the rays, fewer than above
              Disk-flowers yellow ..... 4. *Aster*
              Disk-flowers white to purple ..... 6. *Sericocarpus*
    Pappus with few scales, or awns or none
      Ligules yellow
        Pappus crown-like, of short chaffy teeth ..... 12. *Wyethia*
        Pappus not of chaffy teeth
          Bracts of the involucre enfolding the outer achenes ..... 13. *Madia*
          Bracts not enfolding the achenes
            Heads cone-shaped; disk-flowers intermingled with conspicuous short chaffy bracts ..... 11. *Rudbeckia*
            Heads not cone-shaped; disk-flowers without intermingled chaffy bracts ..... 14. *Eriophyllum*
      Ligules white (ours) ..... 15. *Chrysanthemum*
  Heads with flowers all tubular
    Pappus of hairs or bristles
      Flowers purple or whitish
        Leaves prickly; flowers purplish ..... 20. *Cirsium*
        Leaves not prickly; flowers whitish
          Involucre bracts equal, one series ..... 17. *Luina*
          Involucre bracts not equal, in several series
            Dioecious
              Pappus bristles of the staminate flowers club-shaped ..... 7. *Antennaria*
              Pappus bristles all alike, not as above ..... 8. *Anaphalis*
            Monoecious ..... 9. *Gnaphalium*
      Flowers bright yellow
        Leaves opposite ..... 18. *Arnica*
        Leaves alternate ..... 19. *Senecio*
    Pappus none; flowers white ..... 10. *Adenocaulon*

1. HYPOCHAERIS L.

1. *Hypochaeris radicata* L. False dandelion.—Roadside weed on east slope along Rock Creek. Introduced from Europe.

2. AGOSERIS Raf.

1. *Agoseris laciniata* (Nutt.) Greene. Tall false dandelion.—Dry open hillside on south slope; not common. Humid Transition.

3. HIERACIUM L.

Flowers white ..... 1. *H. albiflorum*
Flowers yellow
Involucre copiously glandular-pubescent, bracts narrowly linear ..... 2. *H. cynoglossoides*
Involucre glabrous, or nearly so; bracts broadly linear, obtuse or acute .... 3. *H. bolanderi*

1. *Hieracium albiflorum* Hook. White-flowered hawkweed.—East slope, open woods and roadsides along Rock Creek and fairly common in open woods. Transition.

2. *Hieracium cynoglossoides* Arv.-Touv. Houndstongue hawkweed.—South slope on dry ridges and in open woods. Canadian.

3. *Hieracium bolanderi* Gray. Bolander's Hawkweed.—Dry hillsides on east slope. The first record of this plant as far north as Coos County. Common in Josephine County, and southward into California. Transition.

4. ASTER L.

1. *Aster radulinus* Gray. Rough-leaved aster.—Hillside along Middle Elk Road on Coquille-Rogue River Divide; common. Transition.

5. ERIGERON L.

1. *Erigeron foliosus* Nutt. var. *confinis* (How.) Jepson. Leafy daisy.—West and south slopes below summit, in open coniferous woods; scattered. This species ranges from Mt. Jefferson in Oregon to the Trinity Mountains of California. At the summit of the mountain is found the low hairy form considered by Cronquist (1947) to belong to the above species and variety.

6. SERICOCARPUS Nees.

1. *Sericocarpus rigidus* Lindl. Rigid white-topped aster.—Hillside along Middle Elk Road, Coquille-Rogue River Divide. Transition.

7. ANTENNARIA Gaertn.

Heads solitary; stems shrubby ..... 1. *A. suffrutescens*
Heads several in a cluster; not shrubby ..... 2. *A. rosea*

1. *Antennaria suffrutescens* Greene. Shrubby everlasting.—Dry open hillside on south slope; common. Found only in southwestern Oregon. Previously reported only from Josephine County. Canadian.

2. *Antennaria rosea* Greene. Rosy everlasting.—Found only at one station on summit. The first record from the Rogue River Mountains. It has been previously collected in the Siskiyou Mountains. Canadian.

8. ANAPHALIS DC.

1. *Anaphalis margaritacea* (L.) A. Gray. Pearly everlasting.—East slope along road at Smith Claim, also on dry open hillsides; very common. Canadian.

9. GNAPHALIUM L.

1. *Gnaphalium microcephalum* Nutt. var. *thermale* (E. Nels.) Cron. Slender cudweed.—Common on dry open ground along Middle Elk Road, Coquille-Rogue River Divide. Transition.

10. ADENOCAULON Hook.

1. *Adenocaulon bicolor* Hook. Pathfinder.—Woods along trail on south slope and in roadside marsh below Smith Claim on Rock Creek, east slope; common. Humid Transition to Canadian.

11. RUDBECKIA L.

1. *Rudbeckia californica* Gray. California coneflower.—East slope on hillsides in marshy and boggy ground, also west slope in wet places about springs. Canadian here. This species represents the California element in our flora, and extends northward to the Umpqua River Valley.

12. WYETHIA Nutt.

1. *Wyethia angustifolia* (DC.) Nutt. Mule-ears.—Dry open hillsides on southeast slope; not common. Transition.

13. MADIA Molina.

Perennial ..... 1. *M. madioides*
Annuals
Heads small, 3 to 4 mm broad ..... 2. *M. exigua*
Heads larger; 5 to 7 mm broad ..... 3. *M. gracilis*

1. *Madia madioides* (Nutt.) Greene. Woodland tarweed.—Woods on southeast slope; common. Humid Transition.

2. *Madia exigua* (Smith) Gray. Little tarweed.—Dry ground along trails, roadsides and in open woods; common along Middle Elk Road on Coquille-Rogue River Divide. Transition.

3. *Madia gracilis* (Smith) Keck. Common tarweed.—Along Middle Elk Road on Coquille-Rogue River Divide. Canadian.—*M. dissitiflora* (Nutt.) T. & G.

14. ERIOPHYLLUM Lag.

1. *Eriophyllum lanatum* (Pursh) Forbes var. *achillaeoides* (DC.) Jepson. Oregon sunshine.—South slope along Middle Elk Road on Coquille-Rogue River Divide; common. Transition.

15. CHRYSANTHEMUM Lag.

1. *Chrysanthemum leucanthemum* L. Ox-eye daisy.—Roadside along Middle Elk Road on Coquille-Rogue River Divide; occasional. Introduced from Europe.

16. PETASITES (Tourn.) Hill

1. *Petasites palmatus* (Ait.) Gray. Western coltsfoot.—East slope along Rock Creek at Smith Claim and south slope along Boulder Creek in Bonanza Basin. Humid Transition.

17. LUINA Benth.

1. *Luina hypoleuca* Benth. Silver-back.—Rocks and cliffs at summit. Canadian.

18. ARNICA L.

Ray flowers none
- Basal leaves distinctly petiolate, scarcely winged ..... 1. *A. parviflora*
- Basal leaves appearing sessile, petioles broadly winged ..... 2. *A. spathulata*

Ray flowers present
- Basal and lower cauline leaves cordate ..... 3. *A. cordifolia*
- Basal leaves ovate, cuneate to subcordate ..... 4. *A. cernua*

1. *Arnica parviflora* Gray. Small-flowered arnica.—Dry open woods on south and east slopes, also on north slope near summit; common. This is the first record as far north as Coos County. Canadian.

2. *Arnica spathulata* Greene. Spatulate arnica.—Dry thickets, east slope near the summit; occasional. Canadian. Differs from *A. parviflora* in having smaller, thicker leaves, more pronounced serrations, and the petioles being broadly winged. Our station for this narrow endemic, in Coos County, appears to be the most northern record obtained to date.

3. *Arnica cordifolia* Hook. Heart-leaved arnica.—East slope on dry open hillside; scarce. Transition.

4. *Arnica cernua* Howell. Nodding arnica.—Dry open woods on southwest slope; rare. This is a very interesting species of narrow distribution, known only from the mounttains of Josephine and Curry counties. Canadian.

19. SENECIO (Tourn.) L.

Annual
- Involucre bracts black-tipped ..... 1. *S. vulgaris*
- Involucre bracts not black-tipped ..... 2. *S. sylvaticus*

Perennial
- Leaves orbicular to ovate, dentate or somewhat incised or lobed, herbage glabrous ..... 3. *S. bolanderi*
- Leaves distinctly longer than broad, entire or few toothed above, herbage with a dense white tomentum or upper surface sometimes nearly glabrous
  - Petioles equal to or much shorter than the blades ..... 4. *S. canus*
  - Petioles longer than the blades ..... 5. *S. macounii*

1. *Senecio vulgaris* L. Common groundsel.—East slope growing in yard of Smith Claim; common. Introduced from Europe.

2. *Senecio sylvaticus* L. Wood groundsel.—East slope along Middle Elk Road on Coquille-Rogue River Divide. Dry ground, open wooded hillsides and thickets. Introduced from Europe.

3. *Senecio bolanderi* Gray. Bolander's senecio.—East slope in moist roadside meadow. A species of the California element in our flora. Canadian.

4. *Senecio canus* Hook. Gray senecio.—Dry open ground on south and southwest slopes; very common. A variable species which presents several perplexing forms. Probably entering our limits from California. Canadian.

5. *Senecio macounii* Greene. Clustered senecio.—Dry open ground, south slope; occasional. Canadian.

20. CIRSIUM (Tourn.) Hill.

Involucre bracts all prickle-tipped ..... 1. *C. vulgare*
Involucre bracts not all prickle-tipped, some scarious-tipped
Bracts prickle-margined ..... 2. *C. acanthodontum*
Bracts not prickle-margined ..... 3. *C. edule*

1. *Cirsium vulgare* (Savi) Airy-Shaw. Common bull thistle.—East slope, dry ground along Rock Creek; not common. Introduced from Europe.—*C. lanceolatum* (L.) Hill.

2. *Cirsium acanthodontum* Blake. Nelson's thistle.—Southeast slope along trail to Hells Half Acre; common. This is a narrow endemic known previously only from the lower Rogue River Canyon to the coast. It is very common in the Rogue River Mountains and the writer has collected it on Snow Camp Mountain in central Curry County. Transition to Canadian.

3. *Cirsium edule* Nutt. Edible thistle.—East slope along roadside, on moist ground in open woodland; common. Transition to Canadian.

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