

Preliminary List
of the
Plants of the Kaniksu National Forest,
Idaho and Washington
by
Harold St. John and Fred A. Warren.

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This list contains all the plants known by the writers to grow in the Kaniksu National Forest. They are fully aware that it is not a complete list of the flora, yet it totals 451 species. In its preparation specimens collected by the following collectors have been studied: R. T. Davison, C. Epling, W. H. Kee, C. F. Lackey, T. Large, D. T. Mac Dougal, A. L. Nelander, F. L. Pickett, C. V. Piper, H. St. John, E. A. Snow, C. R. Stillinger, and F. A. Warren. m,

Common names are added to the scientific, when known. For the sake of brevity, the ranges are not given in detail, except when the plant is known from only one or two localities.

The greatest practical use of this list will probably be made by U. S. Government field workers of the Forest Service and the Department of Agriculture. For their benefit a key to aid in the identification of the species is included.

POLYPODIACEAE

- Adiantum pedatum* L. Maiden-hair Fern. n. Ida.
Asplenium Trichomanes L. Maiden-hair Spleenwort. wet limestone cliffs, rare.
A. viride Huds. Green Spleenwort. wet limestone cliffs, rare.
Athyrium Filix-foemina (L.) Roth. Lady Fern. woods.
Cheilanthes gracillima D. C. Eaton. Lace Fern. rare.
Cryptogramma acrostichoides R. Br. American Parsely Fern. Rocky slopes.
C. Stelleri (Gmel.) Prantl. Slender Cliff-brake. wet limestone cliffs, rare.
Cystopteris fragilis (L.) Bernh. Brittle-fern. moist rocks.
Pellaea densa (Brack.) Hook. Indian's Dream. bare rocks. rare.
Polypodium vulgare L., var. *columbianum* Gilbert. Liquorice Fern. n. part.
Polystichum Andersonii Hopkins. Anderson's Shield-fern. woods. rare.
P. Lonchites (L.) Roth. Holly Fern. upper wooded slopes.
P. munitum (Kaulf.) Presl. Sword Fern. woods.
Pteridium aquilinum (L.) Kuhn., var. *pubescens* Underw. Brake. common in burns.
Thelypteris Dryopteris (L.) Slosson. Oak Fern. n. part.
T. Filix-mas (L.) Nieuw. Male Fern. woods, n. part.
T. spinulosa (O. F. Muell.) Nieuw., var. *dilatata* (Hoffm.) St. John, comb. nov. Spreading Wood Fern. woods.

Woodsia scopulina D. C. Eaton. Rocky Mountain *Woodsia*. talus slopes.

OPHIOGLOSSACEAE

Botrychium silaifolium Presl. Leathery Grape Fern. rare.
B. virginianum (L.) Sw. Virginia Grape Fern. woods, n. part.

EQUISETACEAE

Equisetum arvense L. Common Horsetail. N. Wash.
E. hyemale L. Scouring Rush. n. Wash.
E. scirpoides Michx. Sedge-like Horsetail. limy woods, n. Wash.
E. variegatum Schleich. Northern Scouring Rush. Sullivan Creek.

LYCOPODIACEAE

Lycopodium annotinum L. Stiff Club-moss, woods, n. part.
L. clavatum L., var. *integerrimum* Spring. Running-Pine. woods, n. Ida.
L. complanatum L. Ground Cedar. woods.
L. inundatum L. Bog Club-moss.
L. Selago L. Fir Club-moss. Lime Creek, Ida.

SELAGINELLACEAE

Selaginella Wallacei Hieron. on rocks, n. Ida.

TAXACEAE

Taxus brevifolia Nutt. Yew. woods.

PINACEAE

Abies grandis Lindl. White Fir. general.
A. lasiocarpa (Hook.) Nutt. Subalpine Fir. 2500-6000 feet.
Juniperus communis L., var. *montana* Ait. Dwarf Juniper. exposed ledges.
J. scopulorum Sarg. Rocky Mountain Juniper. Upper Priest Lake.
Larix occidentalis Nutt. Tamarack. common.
Pinus albicaulis Engelm. White-barked Pine. higher summits.
P. contorta Dougl., var. *latifolia* Wats. Lodgepole Pine. common.
P. monticola Dougl. White Pine. general.
P. ponderosa Dougl. Yellow Pine. lower elevations.
Picea albertiana S. Brown. Alberta Spruce. Round Top Mt.
P. Engelmannii (Parry) Engelm. Engelmann Spruce. general.
Pseudotsuga taxifolia (Lamb.) Britton. Douglas Fir. general.
Thuja plicata Don. Giant Cedar. lower elevations,
Tsuga heterophylla (Raf.) Sarg. Western Hemlock.

TYPHACEAE

Typha latifolia L. Cat-tail, lake shores.

POTAMOGETONACEAE

- Potamogeton amplifolius Tuckerm. Large-leaved Pondweed.
P. gramineus L., var. graminifolius Fries.
P. gramineus L., var. spathulaefolius Robbins.
P. natans L. Common Floating Pondweed.
P. praelongus Wulf. White-stemmed Pondweed.
P. Richardsonii Bennett. Richardson's Pondweed.
P. Robbinsii Oakes. Robbins' Pondweed.

ALISMACEAE

- Sagittaria arifolia Nutt., var. aquatilis J. G. Smith. Arrowhead.
S. latifolia Willd. Broad-leaved Arrowhead.

GRAMINEAE

- Agropyron inerme (S. & S.) Rydb. Bunch Grass. Z-Canyon.
Danthonia intermedia Vasey. Mountain Wild Oat-grass. n. Ida.
Elymus glaucus Buckl. Western Rye Grass. n. Ida.
Festuca viridula Vasey. Mountain Bunch Grass. Round Top Mt.
Oryzopsis asperifolia Michx. Mountain Rice. Maitlen Cr.
Phleum pratense L. Timothy.

CYPERACEAE

- Eriophorum Chamissonis C. A. Meyer. Russet Cotton Grass. Priest L.
Carex aperta Boott. Columbia Sedge. Priest L.
C. arcta Boott. Northern Clustered Sedge. Priest L.
C. athrostachya Olney. Slender-beaked Sedge. Priest L.
C. aurea Nutt. Golden Fruited Sedge.
C. brevipes W. Boott. Short Sedge. summit Round Top Mt.
C. concinnoides Mack. Northwestern Sedge. n. Wash.
C. exciccata Bailey. Western Inflated Sedge. Priest L.
C. Kelloggii W. Boott. Kellogg's Sedge. Priest L.
C. livida (Wahl.) Willd. Livid Sedge. Priest L.
C. pachystachya Cham. Thick-headed Sedge. Round Top Mt.
C. Rossii Boott. Ross' Sedge. Harvey Cr.
C. rostrata Stokes. Beaked Sedge. Priest L.
C. viridula Michx. Green Sedge. n. Ida.

ARACEAE

- Lysichiton camtschaticense (L.) Schott. Skunk Cabbage. low swamps.

JUNACEAE

- Juncus columbianus Cov. Columbia Rush. Priest L.
J. filiformis L. Thread Rush. Exp. Sta.
J. Parryi Engelm. Parry's Rush.
J. Richardsonianus Schult.
J. Suksdorfii Rydb. Priest L.
J. tenuis Willd. Slender Rush. Exp. Sta.

Luzula campestris (L.) D.C. Common Wood-rush.
L. glabrata (Hoppe) Desv. Smooth Wood-rush. Round Top Mt.
L. parviflora (Ehrh.) Desv. Small-flowered Wood-rush.
L. spicata L. Spiked Wood-rush.

LILIACEAE

Allium cernuum Roth. Nodding Onion. Z-Canyon.
A. sibiricum L. Wild Chives. lake shores.
Calochortus apiculatus Baker. Baker's Star Tulip. S.E.part.
Clintonia uniflora (Schult.) Kunth. Queen Cup. woods.
Disporum majus (Hook.) Britt. Rough Fruited Fairy Bell. woods.
D. oregonum (Wats.) B. & H. Oregon Fairy Bells. N.E.Wash.
Erythronium grandiflorum Pursh. Lamb's Tongue. S.E.part.
E. montanum Wats. Avalanche Lily. Molybdenite Mt.
E. parviflorum (Wats.) Gooding. Small Flowered Fawn Lily. summit Round Top Mt.
Kruhsea streptopoides (Ledeb.) Kearney. Kruhsea. Lime Cr. Ida.
Lilium columbianum Hanson. Tiger Lily. general.
Maianthemum bifolium (L.) DC., var. *kamtschaticum*. (Gmel.) Trauttv. & Meyer.
Wild Lily-of-the-valley.
Smilacina amplexicaulis Nutt. Western Solomon's Seal.
S. sessilifolia (Baker) Nutt. Nuttall's Solomon's Seal.
Stenanthium occidentale Gray. Western Stenanthium. general.
Streptopus amplexifolius (L.) DC. Claspingleaved Twisted-stalk. general.
S. curvipes Vail. Simple-stemmed Twisted-stalk.
Trillium ovatum Pursh. Western Trillium. woods. common.
Veratrum viride Ait. False Hellebore. general.
Xerophyllum tenax (Pursh.) Nutt. Bear Grass. abundant at higher levels.
Zigadenus elegans Pursh. Glaucous Zygadene. on limy rocks.
Z. venenosus Wats. Death Camas. s.e.part.

IRIDACEAE

Sisyrinchium idahoense Bickn. Idaho Blue-eyed Grass.

ORCHIDACEAE

Calypso bulbosa (L.) Oakes. Lady Slipper.
Corallorhiza maculata Raf. Spotted Coral-root. woods.
C. trifida Chat. Early Coral-root. woods.

Cypripedium montanum Dougl. Mountain Lady's Slipper.

Epipactis decipiens (Hook.) Ames. Rattlesnake Plantain. woods.

Habenaria dilatata (Pursh) Hook., var. *leucostachys* (Lindl.) Ames.
White-flowered Bog Orchid.

H. elegans (Lindl.) Wats. Elegant Piperia.

H. orbiculata Hook. Large Round-leaved Orchid. deep woods.

H. saccata Greene. Slender Bog Orchid. N.E. Wash.

H. unalaschensis (Spreng.) Wats. Alaska Piperia.

Listera caurina Piper. Northwestern Twayblade. general.

L. convallarioides (Sw.) Torr. Broad-lipped Twayblade.

L. cordata (L.) R.Br. Heart-leaved Twayblade. general.

Spiranthes Romanzoffiana Cham. Hooded Ladies' Tresses.

SALICACEAE

Populus angustifolia James. Exp. Sta.

P. balsamifera Ait.

P. tremuloides Michx. Quaking Aspen. lower elevations.

P. trichocarpa T. & G.

Salix Bebbiana Sarg. Bebb Willow. Lake shores.

S. Bebbiana Sarg., var. *perrostrata* (Rydb.) Schneid.

S. bella Piper. Beautiful Willow. border of lake and streams.

S. caudata (Nutt.) Sudw. Caudate Willow.

S. caudata (Nutt.) Sudw., var. *parvifolia* Ball. head of Lake.

S. Coulteri Anderss. Coulter Willow.

S. Geyeriana Anderss., var. *argentea* (Bebb.) Schneid.

S. Mackenziana (Hook.) Barr.

S. melanopsis Nutt. Dusky Willow.

S. melanopsis Nutt., var. *Bolanderiana* (Rowlee) Schneid.

S. Scouleriana Barr. Scouler Willow. Priest L.

S. sitchensis Sans. Sitka Willow. Priest L.

S. subcoerulea Piper. Bluish Willow.

BETULACEAE

Alnus sinuata (Regel) Rydb. Wavy-leaved Alder.

A. tenuifolia Nutt. Thin-leaved alder.

Betula papyrifera Marsh. White Birch. common.

Corylus californica (A.DC.) Rose. Hazelnut. n.e. Wash.

URTICACEAE

Urtica Lyallii Wats. Nettle.

LORANTHACEAE

Arceuthobium Douglasii Englem., var. *laricis* (Piper) M. E. Jones. Larch
Dwarf Mistletoe.

A. -- on white pine.

ARISTOLOCHIACEAE

Asarum caudatum Lindl. Long-tailed Wild Ginger. general.

POLYGONACEAE

Oxyria digyna (L.) Hill. Mountain Sorrel. moist upper mountain slopes.

Rumex Acetosella L. Sheep Sorrel. common.

Polygonum bistortoides Pursh. moist meadows, Exp. Sta.

P. Douglasii Greene. open slopes, not common.

P. Douglasii Greene, var. *latifolium* (Engelm.) Greene. mountain slopes.

P. lapathifolium L. Smartweed. Exp. Sta.

P. Majus (Meisn.) Piper. open hillsides.

P. minimum Wats. open hillsides, higher levels.

Eriogonum heracleoides Nutt. rocky soil, Uper Priest Lake.

E. ovalifolium Nutt. upper mountain levels.

E. subalpinum Greene. upper mountain levels.

E. umbellatum Torr. mountain slopes.

CHENOPODIACEAE

Chenopodium hybridum L. Goosefoot. waste places.

PORTULACACEAE

Claytonia asarifolia Bong. Miner's Lettuce. along streams.

C. lanceolata Pursh. grassy mountain sides.

C. parviflora Dougl., var. *depressa* Gray. Miner's Lettuce. common.

C. parvifolia Moc. Miner's Lettuce. mountain slopes.

C. sibirica L. Miner's Lettuce. in woods.

CARYOPHYLLACEAE

Silene acaulis L., var. *exscapa* (All.) DC. Moss Catch Fly. mountain tops.

S. antirrhina L. Sleepy Catch Fly. sandy soil.

S. Douglasii Hook., var. *multicaulis* (Nutt.) Robinson. Catch Fly. Grassy hillsides.

S. Douglasii Hook., var. *macrocalyx* Robinson, Catch Fly.

S. Menziesii Hook. Menzies' Pink. dry woods.

Cerastium vulgatum L. Mouse Ear Chickweed. weed.

Stellaria crispa C. & S. n.e. part.

S. graminea L. Chickweed. Exp. Sta.

S. viridula (Piper) St. John. comb. nov. *Alsine viridula* Piper., Fl. S.E. Wash. 99 (1914). Chickweed.

Arenaria capillaris Poir, var. *nardifolia* (Ledeb.) Regel. Sandwort.

A. capillaris Poir, var. *formosa* (Fisch.) Ledeb. Sandwort.

A. laricifolia L. Sandwort. Snowy Top Mt.

A. lateriflora L., var. *typica* (Regel) St. John. Sandwort.

A. macrophylla Hook. Sandwort.

A. sajanensis Willd. Sandwort. Snowy Top Mt.

NYMPHAEACEAE

Nymphaeanthus polysepalus (Engelm.) Fernald. Water Lily.

RANUNCULACEAE

Aconitum columbianum Nutt. Aconite. general.

Actea arguta Nutt. Baneberry. in moist woods.

Anemone Drummondii Wats. Anemone. high levels.

A. hudsoniana (DC) Richards. Anemone. limy rocks.

A. occidentalis Wats. Anemone. upper levels.

Aquilegia flavescens Wats. Columbine. upper slopes.

Clematis columbiana (Nutt.) Torr. Clematis. in woods.

Coptis occidentalis (Nutt.) T. & G. Gold Thread. in woods.

Delphinium Menziesii D. C. Larkspur. grassy hillsides.

Ranunculus aquatilis L. Water Buttercup. in shallow water.

R. Bongardi Greene. Buttercup. Exp. Sta.

R. Cymbalaria Pursh., var. *saximontanus* Fernald. Buttercup. stream banks.

R. Eschsholtzii Schlect. Buttercup. open slopes.

R. pennsylvanicus L. Buttercup. moist places.

Thalictrum occidentale Gray Meadow Rue. moist woods.

Trautvetteria grandis Nutt. False Bugbane. common in wet places.

BERBERIDACEAE

Berberis aquifolium Pursh. Oregon Grape. n. e. Wash.

B. nervosa Pursh. Oregon Grape. n. Ida.

B. repens Lindl. Oregon Grape. open slopes.

PAPAVERACEAE

Corydalis aurea Willd. Squirrel Corn. shaded copse.

CRUCIFERAE

Arabis Drummondii Gray. Rock Cress. upper slopes.

A. glabrata (L.) Bernh. Rock Cress. Exp. Sta.

A. hirsuta Scop. Rock Cress. lime stone ledges.

A. Holboellii Hansen. Rock Cress. lime stone cliff.

A. Lyallii Wats. Rock Cress. grassy slopes.

A. microphylla Nutt. Rock Cress. shady slopes.

A. sparsiflora Nutt. Rock Cress. grassy hillsides.

Brassica campestris L. Turnip. escaped. clearings.

Capsella Bursa-pastoris (L.) Medic. weed.

Cardamine pennsylvanica Muhl. Bitter Cress. Exp. Sta.

Draba lonchocarpa Rydb. Whitlow Grass. limestone cliffs.
D. nemorosa L., var. *leiocarpa* Lindl. Whitlow Grass. upper levels.
D. stencloba Ledeb. Whitlow Grass. Gravelly upper slopes.

Erysimum asperum (Nutt.) DC. Wallflower. dry soil.

Sisymbrium Sophia L. Flix Weed. weed.

Thlaspi arvense L. Penny Cress. Exp. Sta.

CRASSULACEAE

Sedum Douglasii Hook. Stone Crop. dry rocky slopes.

Rhodiola integrifolia Ref. mountain tops.

SAXIFRAGACEAE

Heuchera glabella T. & G. Alum Root. grassy slopes.

Leptarrhena pyrolifolia (D. Don.) Ser. mountain meadows.

Mitella Brewerii Gray. Miterwort. n. Idaho.

M. nuda L. naked Miterwort. Maitlen Cr.

M. pentandra Hook. Miterwort. n. Ida.

M. stauropetala Piper. Miterwort. open moist woods.

M. trifida Graham. Miterwort. Molybdenite Mt.

Parnassia fimbriata Koenig. Grass of Parnasus. along open streams.

Philadelphus Lewisii Pursh. Syringa. rocky hillsides.

Ribes acerifolium Howell. Currant. rocky stream bank.

R. inerme Rydb. Gooseberry. moist thickets.

R. lacustre (Pers.) Poir. Currant. common in burns and along streams.

R. viscosissimum Pursh. Sticky Currant. dry open woods.

Saxifraga bronchialis L., var. *austromontana* (Wieg.) Piper. Saxifrage.
Higher levels.

S. columbiana Piper. Saxifrage. Gneiss cliffs.

S. Lyallii Engelm. Saxifrage. Little Salmon.

S. Oregona Howell. Saxifrage. Priest Lake.

S. saximontana Nelson. Saxifrage. Exp. Sta.

Suksdorfia violacea Gray. Snowy Top Mt.

Tellima grandiflora (Pursh.) Dougl. Fringecup. in woods.

T. parviflora Hook. Fringecup. Exp. Sta.

Tiarella unifoliata Hook. Coolwort. moist woods.

ROSACEAE

Amelanchier alnifolia Nutt. Service Berry. Exp. Sta.

A. florida Lindl. Service Berry. open hillsides.

Crataegus Douglasii Lindl. shore, Priest Lake.

Dryas Drummondii Richardson. limestone ledges.
D. octopetala L. Mountain Øvens. rocky mountain tops. A/ +
Fragaria platypetala Rydb. common.
Geum macrophyllum Willd. Geum. common in open woods.
Holodiscus discolor (Pursh) Maxim. Ocean Spray. in open woods.
Physocarpus pauciflorus (T. & G.) Piper. Ninebark. open woods.
Potentilla Blaschkeana Turcz. Five-finger. Exp. Sta.
P. diversifolia Lehm. Snowy Top Mt.
P. fruticosa L. Shrubby Cinquefoil. limy soil.
P. glandulosa Lindl. Five-fingers. dry soil.
P. monspeliensis L. Five-fingers. Exp. Sta.
P. palustris (L.) Scop. Purple Marsh Locks. marshy places.
Prunus demissa (Nutt.) Dietr. Choke Cherry. open hillsides.
P. emarginata (Dougl.) Walp. Wild Cherry. hillsides.
Pyrus occidentalis Wats. Mountain Ash. Upper Priest River.
P. dumosa (Greene) Fernald. Mountain Ash. Exp. Sta.

Rosa gymnocarpa Nutt. Rose. open woods.
R. nutkana Presl. Rose. Exp. Sta.

Rubus leucodermis Dougl. Black Cap. Rock Creek.
R. parviflorus Nutt. Thimble Berry. common in open woods.
R. pedatus Smith. in shaded woods.
R. strigosus Michx. Raspberry. open woods.

Sibbaldia procumbens L. upper levels.

Spiraea lucida Dougl. Spiraea. open woods.
S. Menziesii Hook. n. Ida.
S. pyramidata. Greene. Spiraea. Exp. Sta.

LEGUMINOSAE

Astragalus Bourgovii Gray. Milk Vetch. Upper Priest River.
A. Mortonii Nutt. Milk Vetch. open woods.

Lathyrus ochroleucus Hook. Pea Vine. Maitlen Cr.

Lupinus Burkei Wats. Lupine. moist open places.
L. flexuosus Agardh. Lupine. grassy upper slopes.
L. laxiflorus Dougl. Lupine. Exp. Sta.
L. parviflorus Nutt. Lupine. open woods.
u/ *L. sericeus* Pursh., var. *subflexuosus* (Lindl.) C.P. Smith. Lupine. grassy upper slopes. u/

Trifolium repens L. White Clover. common in open places.

GERANIACEAE

Geranium Bicknellii Britton. Geranium. Exp. Sta.
G. pusillum Burm. Slate Creek.

ANACARDIACEAE

Rhus Toxicodendron L. Poison Ivy. open rocky slopes.

CELASTRACEAE

Pachistima myrsinites (Pursh) Raf. Mountain Lover. common in woods.

ACERACEAE

Acer Douglasii Hook. Douglas Maple. common.

RHAMNACEAE

Rhamnus alnifolia L'Her. Buckthorn. in swampy places.

R. Purshiana DC. Cascara. Exp. Sta.

Ceanothus sanguineus Pursh. Buckbrush. common.

C. velutinus Dougl. Sticky Laurel. common.

MALVACEAE

Sidalcea oregana Gray. open woods.

Sphaeralcea rivularis (Dougl.) Torr. Globe Mallow. dry slopes.

HYPERICACEAE

Hypericum perforatum L. St. John's Wort. weed.

H. Scouleri Hook. St. John's Wort. n. Ida.

VIOLACEAE

Viola adunca Smith. Violet. Exp. Sta.

V. glabella Nutt. Violet. common in moist places.

V. orbiculata Geyer. Violet. common in open woods.

V. palustris L. Violet. muddy stream beds.

V. renifolia Gray., var. *Brainerdii* (Greene) Fernald. Violet. Molybdenite Mt.

V. Selkirkii Pursh. Violet. Molybdenite Mt.

ELEAGNACEAE

Shepherdia canadensis (L.) Nutt. Soap Olallu. in woods.

ONAGRACEAE

Circea alpina L., var. *pacifica* (A. & M.) Jones. Enchanter's Nightshade.

Clarkia pulchella Pursh. Pink Fairies. Exp. Sta.

C. rhomboidea Dougl. Pink Fairies. Exp. Sta.

Epilobium angustifolium L. Fire Weed. common in burns.

E. Hornemannii Reichenb. Exp. Sta.

E. latifolium L. Broad Leaved Fire Weed. along Priest River.

E. leptocarpum Hausskn., var. *Macounii* Trelease. Lime Creek.

E. minutum Lindl. Exp. Sta.

Oenothera strigosa Rydb. Primrose. North Metaline Falls.

HALORAGIDACEAE

Hippuris vulgaris L. Mare's Tail. North Metaline Falls.

Myriophyllum exalbescens Fernald. Water Milfoil. Priest Lake.

ARALIACEAE

Aralia nudicaulis L. Sarsaparilla. in open woods.

Oplopanax horridum (Smith) Miquel. Devil's Club. wet places.

UMBELLIFERAE

Angelica Lyallii Wats. Angelica. moist soil.

Osmorhiza ambigua (Gray) C. & R. Sweet Cicely. Upper Priest River.

O. divaricata (Britton) Nutt. Sweet Cicely. Exp. Sta.

O. occidentalis (Nutt.) T. & G. Sweet Cicely. Round Top Mt.

Heracleum lanatum Michx. Cow Parsnip. moist places.

Ligusticum Leibergii C. & R. Exp. Sta.

Lomatium ambiguum (Nutt.) C. & R. Hog Fennel.

CORNACEAE

Cornus canadensis L. Dogwood. common in woods.

C. occidentalis (T. & G.) Coville. Western Dogwood. near streams.

C. stolonifera Michx. Western Dogwood. along streams.

ERICACEAE

Andromeda polifolia L. Priest Lake.

Arctostaphylos Uva-ursi (L.) Spreng. Kinnikinnick.

Chimaphila Menziesii (R. Br.) Spreng. woods.

C. umbellata (L.) Nutt., var. *occidentalis*. (Rydb.) Blake. Pipsisewa.
common in woods.

Chiogenes hispidula (L.) T. & G. Snowberry. Priest L.

Gaultheria ovatifolia Gray. n. Ida.

Kalmia glauca Nutt., var. *microphylla* Hook. Swamp Laurel. Ida.

Menziesia ferruginea Smith. Fool's Huckleberry. woods.

Moneses uniflora (L.) Gray. One-flowered Pyrola. woods.

Monotropa Hypopitys L. Pinesap. woods.

M. uniflora L. Indian Pipe. woods.

Phyllodoce empetriformis (Smith) D. Don. Purple Heather. Snowy Top Mt.

P. glandulifera (Hook.) Cov. Yellow Heather. higher peaks.

Pterospora Andromedea Nutt. Pine Drops. woods.

Pyrola aphylla Smith. False Coral Root. Exp. Sta.
P. bracteata Hook. Pear-leaved Wintergreen. woods.
P. chlorantha Sw. Green Wintergreen.
P. elata Nutt. Round-leaved Wintergreen. woods.
P. minor L. Small Wintergreen. n. part.
P. picta Smith. Variable Wintergreen. Exp. Sta.
P. secunda L. One-sided Wintergreen. woods.

Rhododendron albiflorum Hook. Small Azalea. upper slopes.

Vaccinium caespitosum Michx. Huckleberry.
V. macrophyllum (Hook.) Piper. Huckleberry.
V. ovalifolium Smith. Huckleberry.
V. scoparium Leiberg. Red Huckleberry. Round Top Mt.

PRIMULACEAE

Dodecatheon conjugens Greene. Bird Bill.

Lysimachia thyrsiflora L. Tufted Moneywort. Priest L.

Steironema ciliatum (L.) Raf. Priest L.

GENTIANACEAE

Gentiana Amarella L. Gentian. Z-Canyon.
G. Amarella L., f. *Michauxiana* Fernald. Hughes Fork.

APOCYNACEAE

Apocynum pumilum (Gray) Greene. Dogbane. dry woods.

POLEMONIACEAE

Collomia grandiflora Dougl. s. part.
C. linearis Nutt. Exp. Sta.

Gilia aggregata (Pursh) Spreng. Honeysuckle. ~~n. part.~~ *Work.*
G. gracilis (Dougl.) Hook. Exp. Sta.
G. Harknessii Curran. Snowy Top Mt.

Phlox rigida Benth. Phlox. Exp. Sta.

Polemonium humile. R. & S. Snowy Top Mt.

HYDROPHYLLACEAE

Hydrophyllum capitatum Dougl. Water Leaf.

Phacelia heterophylla Pursh. dry slopes.
P. linearis (Pursh) Holz. Exp. Sta.

BORAGINACEAE

Mertensia pratensis Heller., var. *borealis* Macbride. Bluebell. woods, n. part.

LABIATAE

- Agastache urticifolia* (Benth.) Rydb. Round Top Mt.
Dracocephalum parviflorum Nutt. Dragon Head. Exp. Sta.
Mentha arvensis L., var. *lanata* Piper. Mint. Exp. Sta.
Micromeria Chamissonis (Benth.) Greene. Yerba Buena. deep woods.
Scutellaria epilobiifolia Hamilton. Marsh Skull Cap.
S. lateriflora L. Mad-dog Skull Cap. moist woods
Prunella vulgaris L., var. *lanceolata* (Barton) Fernald. Self Heal. open woods.

SCROPHULARIACEAE

- Castilleja angustifolia* (Nutt.) G. Don. Indian Paint Brush.
C. lutescens (Greenm.) Piper. Pale Indian Paint Brush.
C. miniata Dougl. Indian Paint Brush. general.

Collinsia tenella (Pursh) Piper. Blue-lip. dry slopes.

Linaria vulgaris Hill. Butter and Eggs. weed.

Melampyrum lineare Lam. Cow Wheat. Priest L.

Mimulus guttatus DC. Monkey Flower. Exp. Sta.
M. Lewisii Pursh. Crimson Monkey Flower. Lime Cr., Ida.
M. moschatus Dougl. Musk Flower.

Pedicularis bracteosa Benth. Lousewort.
P. contorta Benth. Elephant Trunk. Round Top Mt.
P. groenlandica Retz. Butterfly Tongue. upper slopes.
P. racemosa Dougl. Lousewort. General.

Penstemon confertus Dougl. Beardtongue. Exp. Sta.
P. fruticosus (Pursh) Greene. mountain tops.
P. Scouleri (Dougl.) Lindl. Exp. Sta.

Verbascum Thapsus L. Mullein. Exp. Sta.

Veronica alpina L. Alpine Speedwell. upper slopes.
V. americana Schwein. Brooklime. brooksides.
V. humifusa Dickson. Speedwell.
V. serpyllifolia L. Thyme-leaved Speedwell. Exp. Sta.

OROBANCHACEAE

- Orobanche uniflora* L. Broom Rape. Hughes Fork.

PLANTAGINACEAE

- Plantago lanceolata* L. English Plantain. Exp. Sta.
P. major L. Common Plantain. weed, Exp. Sta.

RUBIACEAE

- Galium Aparine* L. Cleavers. woods.
G. bifolium Wats. Twin-leaved Bedstraw. Round Top Mt.
G. triflorum Michx. Fragrant Bedstraw.
G. boreale L. Northern Bedstraw. general.
G. Vaillantii DC. Bedstraw. Exp. Sta.

CAPRIFOLIACEAE

- Linnaea borealis* L., var. *americana* (Forbes) Rehder. Twin Flower. woods, common.
Lonicera ciliosa (Pursh) Poir. Orange Honeysuckle, Exp. Sta.
L. involucrata (Richards) Banks. Twin-berry. general.
L. utahensis Wats. Red Twin-berry. general.
Sambucus glauca Nutt. Elder Tree. lower slopes.
S. melanocarpa Gray. Black Elder. n. part.
Symphoricarpos albus (L.) Blake. Snowberry.
Viburnum pauciflorum Raf. Squash berry. Ida.

VALERIANACEAE

- Valeriana sitchensis* Bong. Heliotrope. upper slopes.

CAMPANULACEAE

- Campanula rotundifolia* L. Scotch Blue Bell. general.

COMPOSITAE

- Achillea Millefolium* L., var. *lanulosa* (Nutt.) Piper. Yarrow. general.
Adenocaulon bicolor Hook. Silver-green. Ida., general.
Agoseris grandiflora (Nutt.) Greene. Goat Chicory. Exp. Sta.
Anaphalis margaritacea (L.) B. & H., var. *occidentalis* Greene. Pearly Everlasting. common.
Antennaria Howellii Greene. Everlasting. Maitlen Cr.
A. lanata (Hook.) Greene. Everlasting. Snowy Top Mt.
A. luzuloides T. & G. Everlasting. Exp. Sta.
A. media Greene. Everlasting. Snowy Top Mt.
A. racemosa Hook. Everlasting. woods, common.
A. rosea Greene. Everlasting.
Aplopappus Lyellii Gray. Snowy Top Mt.
Arnica aurantiaca Greene. Snowy Top Mt.
A. cordifolia Hook. woods.
A. foliosa Nutt. Priest L.
A. mollis Hook. Rock Cr.

Artemisia compestris L., subsp. *spithamea* (Pursh) Hall & Clements.

Sagewort. Snowy Top Mt.

A. discolor Dougl. Sagebrush. Round Top Mt.

Aster columbianus Piper. Exp. Sta.

A. conspicuus Lindl. lower slopes.

A. Cusickii Gray. n. Ida.

A. foliaceus Lindl., var. *frondeus* Gray.

A. Fremontii (T. & G.) Gray. Exp. Sta.

A. laevis L., var. *Geyeri* Gray. burn e. of Hughes Meadow.

A. Lyallii (Hook.) Ktze. Priest L.

A. modestus Lindl. Ida.

A. stenomeres Gray.

Chrysanthemum Leucanthemum L., var. *pinnatifidum* Lecoq & Lamotte. Ox-eye

Daisy. Exp. Sta.

Chrysopsis villosa (Pursh) Nutt. Golden Aster. Upper Priest L.

Cirsium edule Nutt. Edible Thistle. Slate Cr., Wash.

C. undulatum (Nutt.) Spreng. Thistle. Z-Canyon.

Erigeron acris L. Fleabane. general.

E. acris L., var. *debilis* Gray. higher levels.

E. compositus Pursh. Snowy Top Mt.

E. concinnus T. & G. Exp. Sta.

E. Membranaceus Greene. Priest L.

E. philadelphicus L. Fleabane. n. part.

E. ramosus (Walt.) B.S.P., var. *septentrionalis* Fern. & Wieg. general.

E. salsuginosus (Richards.) Gray. bare mt. summits.

Gaillardia aristata Pursh. Blanket Flower. n. Wash.

Gnaphalium decurrens Ives., var. *californicum* (DC.) Gray. Everlasting. dry soil.

G. microcephalum Nutt. Exp. Sta.

G. palustre Nutt. Exp. Sta.

G. uliginosum L. Fox Creek.

Hieracium albiflorum Hook. Hawkweed. common in burns.

H. columbianum Rydb. Hawkweed. dry, rocky soil.

H. Scouleri Hook. Hawkweed. n. Ida.

Madia exigua (Smith) Greene. Tarweed. Exp. Sta.

M. racemosa (Nutt.) T. & G. Tarweed. Exp. Sta.

Matricaria suaveolens (Pursh) Buchenau. Pineapple Weed.

Petesites sagittata (Pursh) Gray. Arrow-leaf. Colt's Foot.

Saussurea americana Eaton. Saw Wort. upper slopes.

Senecio columbianus Greene. Ragwort. Exp. Sta.
S. exaltatus Nutt. Ragwort. Grassy upper slopes.
S. pseud aureus Rydb. Ragwort. dry soil.
S. triangularis Hook. Ragwort. wet soil.

Solidago algida Piper. Golden Rod. mountain top.
S. elongata Nutt. Golden Rod. moist soil.
S. serotina Ait. Golden Rod. meadows.

Taraxacum officinale Weber. Dandelion. weed.

ANALYTICAL KEY

1. Plants reproducing by spores, 2
1. Plants reproducing by seeds, 31
2. Plants with broad fern-like leaves, 3
2. Plants with narrow leaves, not fern-like, 22.
3. Spore cases formed of outgrowths from the surface of the leaf, 4
3. Spore cases in the tissue of a prominent and distinct fertile lobe of the leaf, 21
4. Sori dorsal upon the veins, separate, not marginal, 5
4. Sori marginal or submarginal, 16
5. Indusium wholly or partly inferior, 6
5. Indusium, if present, superior, 7
6. Indusium wholly inferior, the divisions stellate or spreading, *Woodsia scopulina*
6. Indusium attached by its base at one side, hood-shaped, thrust back by the ripening sporangium, *Cystopteris fragilis*
7. Sori round to oval, 8
7. Sori oblong or linear to lunate or hippocrepiform, 14
8. Stipes jointed to the rhizome, blades pinnatifid, indusia wanting, *Polypodium vulgare*, var. *columbianum*
8. Stipes continuous with the rhizome, blades 1-3-pinnate, indusia usually present, 9
9. Indusium orbicular, centrally peltate, 10
9. Indusium, if present, roundish-reniform, attached at its sinus, 12
10. Blades simply pinnate, the pinnae variously serrate or incised, 11
10. Blades, more compound, pinnae pinnately lobed or divided at base, *Polystichum Andersonii*
11. Stipes very short, pinnae mostly oblong lanceolate, serrate-dentate, the teeth conspicuously spreading-spinulose, *Polystichum Lonchites*
11. Stipes longer, pinnae linear attenuate, biserrate to incised, the teeth incurved, rigidly long aculeate, *Polystichum munitum*
12. Indusia present, blades lanceolate to ovate, oblong or deltoid, 13
12. Indusia wanting, blades deltoid, 2-3-pinnate, *Thelypteris Dryopteris*
13. Blades 1-2-pinnate, *Thelypteris Filix-mas*
13. Blades essentially 3-pinnate, *T. spinulosa*, var. *dilatata*
14. Blades small evergreen, sori oblong to linear, straight or nearly so, 15
14. Blades large delicate, sori lunate to roundish, *Athyrium Filix-foemina*
15. Stipe and rachis dark brown and glossy, *Asplenium Trichomanes*
15. Stipe green above, *Asplenium viride*
16. Fronds dimorphous, fertile blades with contracted linear segments, 17
16. Fronds alike or nearly so, 18
17. Rhizomes stout ascending in massive tufts, fronds numerous, blades herbaceous, *Cryptogramma acrostichoides*
17. Rhizomes slender creeping, fronds few scattered, blades membranous translucent, *C. Stelleri*
18. Plants large, coarse, sporangia borne on a vein-like receptacle connecting the ends of the veins, indusia double, the inner minute and concealed, *Pteridium aquilinum*, var. *pubescens*
18. Plants mainly small, sporangia not as above, indusia if any single, 19

19. Sporangia borne on the under side of sharply reflexed membranous lobes,
Adiantum pedatum
19. Sporangia not as above, 20
20. Vein ends distinctly thickened, proper indusium often present,
Cheilanthes gracillima
20. Vein ends scarcely or not at all enlarged, proper indusium wanting,
Pellaea densa
21. Common stalk mostly epigeal, bud of the following season exposed, fronds
not leathery, Botrychium virginianum
21. Common stalk mostly hypogean, bud wholly enclosed, fronds leathery,
B. silaifolium
22. Stems jointed rush-like, sporangia in terminal cone-like clusters, 23
22. Stems usually branched, clothed with the small scale-like leaves,
sporangia axillary, 26
23. Spikes blunt or barely acute, aerial stems annual, Equisetum arvense
23. Spikes rigidly apiculate, aerial stems evergreen, 24
24. Stems 16-48-angled, central cavity more than half the diameter of the
stem, leaves and teeth sharply differentiated, hyemale E.
24. Stems 5-12-angled, central cavity half the diameter of the stem or less
or wanting, leaves and teeth not sharply differentiated, 25
25. Central stem cavity, present, sheaths 5-12-toothed, E. variegatum
25. Central cavity wanting, sheaths 3-toothed, E. scirpoides
26. Spores all of one sort and size, 27
26. Spores of two sizes (microspores and megaspores), Selaginella Wallacei
27. Sporophylls not associated in terminal spikes, Lycopodium Selago
27. Sporophylls closely associated in terminal spikes, 28
28. Stems without leafy aerial branches, L. inundatum
28. Stems with numerous erect leafy branches, spikes terminal, sporophylls
bract-like, sporangia reniform, 29
29. Ultimate aerial branches flattened, leaves in 4 rows conspicuously
adnate, those of the under row reduced, L. complanatum
29. Ultimate aerial branches not flattened, leaves in 5 or more ranks,
scarcely adnate, nearly alike, 30
30. Spikes sessile, L. annotinum
30. Spikes pedunculate, L. clavatum
31. Ovules borne on the surface of a scale, or this sometimes apparently
wanting, stigmas none, 32
31. Ovules borne within an enclosed cavity, stigmas present, 46
32. Fruit a single stone, enclosed by a red fleshy integument, Taxus brevifolia
32. Fruit a cone with several ovule-bearing woody scales, or becoming coalescent
into a blue berry, 33
33. Leaves and floral parts spirally arranged, 34
33. Leaves and floral parts in cycles of 2 or 3, 44
34. Cones maturing the second or third year, leaves surrounded at base by a
sheath, in bundles of 2-5, 35
34. Cones maturing the first year, leaves solitary not sheathed, 38
35. Leaves 5 in each fascicle, cones scales unarmed, 36
35. Leaves 2-3 in a fascicle, cone scales armed, 37
36. Cones oblong cylindrical, 10-30 cm. long, Pinus monticola
36. Cones ovate, 4-8 cm. long, P. albicaulis
37. Leaves 3 in a fascicle, cones large, P. ponderosa P.
37. Leaves 2 in a fascicle, cones small, P. contorta, var. latifolia

38. Leaves deciduous forming clusters on short spur branches, *Larix occidentalis*
38. Leaves evergreen, scattered on ordinary branches, 39
39. Cones pendulous, their scales persistent, 40
39. Cones erect, their scales deciduous, leaves sessile, leaving the branches smooth, 43
40. Bracts concealed by the cone scales, branches roughened by the woody persistent leaf bases, 41
40. Bracts 3-pointed exerted beyond the cone scales, leaves short petioled, branches becoming smooth, *Pseudotsuga taxifolia*
41. Leaves sessile on the woody stalk-like bases, 4-sided, and bearing stomata above, 42
41. Leaves short petioled, flattened and bearing stomata below, *Tsuga heterophylla*
42. Cone scales rounded at apex, branchlets glabrous, *Picea albertiana*
42. Cone scales truncate, branchlets pubescent, *P. Engelmannii*
43. Leaves dark green above, stomata on the silvery lower side, *Abies grandis*
43. Leaves blue green, stomata on all sides, *A. lasiocarpa*
44. Fruit a woody cone, leaves scale-like, decussate, *Thuja plicata*
44. Fruit berry-like, 45
45. Leaves decurrent on the branchlets, usually scale-like, flowers terminal *Juniperus scopulorum*
45. Leaves jointed at base not decurrent on the branchlets, awl-shaped, flowers axillary, *Juniperus communis*, var. *montana*
46. Cotyledon one, stem with no distinction into bark, wood and pith, leaves usually parallel-veined, parts of the flowers nearly always in threes, 47
46. Cotyledons two, stem of bark, wood and pith or the vascular bundles in a ring outside of the pith, parts of the flowers in fours, fives, or sixes, 126
47. Carpels one, or when more than one distinct, ovules one to each carpel, 48
47. Carpels united into a compound 1-3 celled ovary, ovules usually several to each carpel, 79
48. Flowers not in the axils of chaffy scales, aquatic or marsh plants, 49
48. Flowers in the axils of chaffy scales, 58
49. Perianth when present never petaloid, 50
49. Perianth in two series, the inner petaloid, 57
50. Perianth of bristles, flowers in terminal spikes, *Typha latifolia*
50. Perianth herbaceous, 51
51. Floating leaves broad, stipules free, 52
51. Floating leaves none, 55
52. Submerged leaves grass-like, *Potamogeton natans*
52. Submerged leaves lanceolate, 53
53. Floating leaves 30-50-nerved, *P. amplifolius*
53. Floating leaves 10-20-nerved, 54
54. Submersed leaves acuminate, *P. gramineus*, var. *graminifolius*
54. Submersed leaves obtuse, *P. gramineus*, var. *spathulaefolius*
55. Leaves all oblong or lanceolate, 56
55. Leaves all narrowly linear, *P. Robbinsii*
56. Base of leaves clasping, apex acuminate, *P. Richardsonii*
56. Base of leaves not clasping, apex not acuminate, *P. praelongus*
57. Achenes with a conspicuous dorsal wing, prominently long-beaked, the beak horizontal, *Sagittaria latifolia*
57. Achenes inconspicuously beaked, about equally winged on both faces, *S. arifolia*, var. *equatilis*

58. Scales two to each flower, stems hollow with nodes, leaves two-ranked, anthers versatile, 59
58. Scales one to each flower, stems pithy, without nodes, leaves three-ranked, anthers basifixed, 66
59. Spikelets 1 or 2-flowered, 60
59. Spikelets 2-many-flowered, 62
60. Lemma with a long terminal awn and closely embracing the grain, *Oryzopsis asperifolia*
60. Lemma awnless or short-awned and loosely enveloping the grain, 61
61. Inflorescence a dense spike, *Phleum pratense*
61. Inflorescence a loose panicle, *Agrostis hyemalis*
62. Inflorescence a panicle or raceme, 63
62. Inflorescence a spike, 65
63. Lemma shorter than the glumes, usually with a bent awn arising from the beak, *Danthonia intermedia*
63. Lemma longer than the glumes, awnless or with a short, straight, apical awn, 64
64. Lemmas compressed and keeled, *Poa nervosa*
64. Lemmas convex or rounded on the back, *Festuca viridula*
65. Spikelets mostly solitary at each joint, *Agropyron ineme*
65. Spikelets two or more at each joint, *Elymus glaucus*
66. Flowers perfect, spikelets all alike, perianth of long bristles, *Eriophorum Chamissonis*
66. Flowers monoecious, achene enclosed in a sac-like perigynium, 67
67. Stigmas four, achenes 4-angled, *Carex concinnoides*
67. Stigmas and achenes not as above, 68
68. Stigmas two, achenes lenticular, 69
68. Stigmas three, achenes trigonous, 71
69. Lateral spikes sessile, short, the terminal one androgynous or gynaeceandrous, 70
69. Lateral spikes elongated, terminal spike staminate, 72
70. Perigynia not white punctulate, 71
70. Perigynia white punctulate, *C. arcta*
71. Lower bracts leaf-like, much exceeding the head, *C. athrostachya*
71. Lower bracts not leaf-like, shorter, *C. pachystachya*
72. Lowest bract long sheathing, pistillate spikes few-flowered, *C. aurea*
72. Lowest bract sheathless, pistillate spikes many-flowered, 73
73. Perigynia strongly nerved ventrally, the nerves raised, *C. Kelloggii*
73. Perigynia nerveless or obscurely nerved ventrally, *C. aperta*
74. Perigynia pubescent, 75
74. Perigynia glabrous, 76
75. Perigynia 2.5-3 mm. long, the beak .2-.7 mm. long, shallowly bidentate, *C. brevipes*
75. Perigynia 3-4.5 mm. long, beak longer bidentate, *C. Rossii*
76. Style jointed with achene, deciduous, 77
76. Style continuous with achene, indurated and persistent, 78
77. Rootstock long-creeping, scales purplish, *C. livida*
77. Rootstock not long-creeping, scales greenish, *C. viridula*
78. Perigynia ascending, lower sheaths filamentose, rootstocks short creeping, leaves sparingly nodulose, *C. exsiccata*
78. Perigynia spreading at maturity, lower sheaths not filamentose, caespitose, with long stolons, leaves strongly nodulose, *C. rostrata*
79. Inflorescence a spadix subtended by a spathe, *Lysichiton camtschaticense*
79. Inflorescence not a spadix, 80

80. Ovary superior or partly inferior, 81
80. Ovary inferior, 112
81. Perianth scale-like, herbs with grass-like leaves, 82
81. Perianth, at least the inner, petaloid, 91
82. Leaf sheaths open, capsule 1- or 3-celled, placentae parietal or axial, 83
82. Leaf sheaths closed, capsule 1-celled, placenta basal, 88
83. Lowest leaf of the inflorescence terete, not conspicuously channeled, erect, simulating a continuation of the stem, inflorescence appearing lateral, 84
83. Lowest leaf of inflorescence not as above, inflorescence usually appearing terminal, 85
84. Inflorescence usually 1-3-flowered, seeds white tailed, *Juncus Parryi*
84. Inflorescence many flowered, seeds not tailed, *J. filiformis*
85. Leaf blades transversely flattened, not septate, *J. tenuis*
85. Leaf blades terete or gladiate, septa usually conspicuous, 86
86. Anthers shorter than the filaments, *J. Richardsonianus*
86. Anthers equaling or longer than the filaments, 87
87. Perianth dark brown, *J. Suksdorfii*
87. Perianth pale brown, *J. columbianus*
88. Flowers in clusters of 2 or 3 or solitary in an open panicle, 89
88. Flowers congested into one to several spike-like or head-like clusters, 90
89. Perianth 3-3.5 mm. long, leaves 10-12 mm. wide, *Luzula glabrata*
89. Perianth 1-2.5 mm. long, leaves usually 6-8 mm. wide, *L. parviflora*
90. Inflorescence nodding, usually of a single spike-like cluster, seeds without a strophiole-like base, *L. spicata*
90. Inflorescence usually erect, heads or spikes 2-12, seeds with a white strophiole-like base, *L. campestris*
91. Plants with bulbs or corms, 92
91. Plants with rootstocks, 101
92. Flowers in umbels, 93
92. Flowers not in umbels, 94
93. Leaves linear hollow, *Allium sibiricum*
93. Leaves flat or channeled, *A. cernuum*
94. Perianth segments unlike, the outer narrower, *Calochortus apiculatus*
94. Perianth segments alike or nearly so, 95
95. Leaves, or some of them, on the stem, 96
95. Leaves all basal, linear 99
96. Bulbs scaly, anthers versatile, *Lilium columbianum*
96. Bulbs corm-like anthers not versatile, 97
97. Flowers white with a yellow center, *Erythronium montanum*
97. Flowers yellow, 98
98. Anthers purple, *E. grandiflorum*
98. Anthers white, *E. parviflorum*
99. Flowers erect, perianth segments gland-bearing, 100
99. Flowers nodding, perianth segments glandless, *Stenanthium occidentale*
100. Petals 8-10 mm. long, gland obcordate, *Zigadenus elegans*
100. Petals 6-8 mm. long, gland obovate, *Z. venenosus*
101. Leaves all basal, *Clintonia uniflora*
101. Leaves cauline, at least in part, 102
102. Leaves in whorl of three below the flower, *Trillium ovatum*
102. Leaves not in whorls, 103
103. Flowers axillary, 104
103. Flowers terminal, 106
104. Perianth rotate, *Kruhsea streptopoides*
104. Perianth campanulate, 105

105. Stems branched, leaves glaucous beneath, *Streptopus amplexifolius*
 105. Stems simple, leaves not glaucous, *S. curvipes*
 106. Leaves linear, rigid, *Xerophyllum tenax*
 106. Leaves broader, not rigid, 107
 107. Flowers 1-2, terminal, 108
 107. Flowers racemed or paniced, 109
 108. Fruit ovoid pubescent, stigma entire, *Disporum oregonum*
 108. Fruit globose papillose, stigma 3-cleft, *D. majus*
 109. Flowers polygamous or monoecious, *Veratrum viride*
 109. Flowers perfect, 110
 110. Perianth segments 6, 111
 110. Perianth segments 4, *Maianthemum bifolium*, var. *kamtschaticum*
 111. Flowers small, many in a panicle, *Smilacina amplexicaulis*
 111. Flowers larger, few, in a raceme, *S. sessilifolia*
 112. Flowers regular, endosperm present, *Sisyrinchium idahoense*
 112. Flowers irregular, endosperm none, 113
 113. Anthers 2, lip a large inflated sac, *Cypripedium montanum*
 113. Anthers 1, 114
 114. Plants saprophytic, without green foliage, 115
 114. Plants with green foliage, 116
 115. Sepals and petals 1-nerved, lip white, *Corallorrhiza trifida*
 115. Sepals and petals 3-nerved, lip spotted, *C. maculata*
 116. Flower and leaf solitary, plant bulbous, *Calypso bulbosa*
 116. Flowers several in racemes, 117
 117. Leaves 2 opposite, 118
 117. Leaves more than 2, 120
 118. Leaves cordate, lip narrow, not dilated, *Listera cordata*
 118. Leaves not cordate, lip dilated at tip, 119
 119. Lip sessile, not ciliate, ovary glabrous, *L. caurina*
 119. Lip clawed ciliate, ovary glandular, *L. convallarioides*
 120. Flowers each with a distinct spur, 121
 120. Flowers spurless, 125
 121. Leaves several cauline, gradually reduced upwards, 124
 121. Leaves 2 basal, the cauline reduced to bracts, 122
 122. Lateral sepals free, *Habenaria orbiculata*
 122. Lateral sepals adnate to the base of the lip, 123
 123. Spur short, slightly exceeding the lip, *H. unalaschensis*
 123. Spur slender, 2-3 times as long as the lip, *H. elegans*
 124. Flowers green, lip lanceolate, *H. saccata*
 124. Flowers white, lip dilated at base, *H. dilatata*, var. *leucostachys*
 125. Lip with 2 basal callosities, *Spiranthes Romanzoffiana*
 125. Lip without basal callosities, *Epipactis decipiens*
 126. Petals distinct to the base or wanting, 127
 126. Petals more or less united into one piece, 353
 127. Petals none, 128
 127. Petals present, 175
 128. Plants parasitic, lacking chlorophyll, *Arceuthobium Douglasii*,
 var. *laricis*
 128. Plants not parasitic, having chlorophyll, 129
 129. Trees or shrubs, 130
 129. Herbs, 153
 130. Leaves opposite, 131
 130. Leaves alternate, 132
 131. Leaves silvery scurfy, *Shepherdia canadensis* (L.) Nutt.
 131. Leaves not silvery scurfy, *Acer Douglasii*

132. Flowers not in aments, *Rhamnus Purshiana*
 132. Flowers or some of them in aments, 133
 133. Ovary 1-celled, many ovuled, calyx wanting, 134
 133. Ovary 1-2 celled, each cell 1-ovuled, 150
 134. Ament bracts entire, stamens 1-10, stigmas short, 138
 134. Ament bracts fimbriate, stamens numerous, stigmas elongate, 135
 135. Stigmas 2-lobed, their lobes filiform, leaf stalks elongate
 laterally compressed, *Populus tremuloides*
 135. Stigma lobes dilated, leaf stalks terete, 136
 136. Leaves dark green above, pale and rarely pilose beneath, 137
 136. Leaves light green and glabrous on both sides, *P. angustifolia*
 137. Ovary and capsule glabrous, *P. balsamifera*
 137. Ovary and capsule tomentose, *P. trichocarpa*
 138. Scales yellow deciduous, leaves 4-5 times longer than wide, style
 very short, 139
 138. Scales usually brown or black, more or less persistent, leaves not over
 3-4 times longer than wide, styles .5-2 mm. long, 142
 139. Leaves serrulate, stamens 3-10, 140
 139. Leaves entire or nearly so, stamens 2, 141
 140. Leaves 12-30 mm. wide, *Salix caudata*
 140. Leaves 7-12 mm. wide, *S. caudata*, var. *parvifolia* Ball.
 141. Leaves glabrous beneath, *S. melanopsis*
 141. Leaves pubescent beneath, *S. melanopsis*, var. *Bolanderiana*
 142. Capsule glabrous, *S. Mackenziana*
 142. Capsule pubescent, 143
 143. Styles distinct, .5-1.5 mm. long, 144
 143. Styles obsolete or very short, 147
 144. Branchlets pruinose, 145
 144. Branchlets not pruinose, 146
 145. Pubescence short, scales thinly pilose, *S. subcoerulea*
 145. Tomentum long, scales densely lanate, *S. bella*
 146. Blades cuneate-obovate, short pubescent, *S. sitchensis*
 146. Blades elliptic to oblong-ovate, densely tomentose, *S. Coulteri*
 147. Aments dense, scales black, stigmas long, *S. Scouleriana*
 147. Aments lax, scales yellowish, stigmas short, 148
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 275. Leaflets pubescent on both sides, *L. laxiflorus*
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 324. Pods winged, *Thlaspi arvense*
 324. Pods not winged, *Capsella Bursa-pastoris*
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 332. Calyx rotate, stems prickly, *R. lacustre*
 333. Calyx rotate, *R. acerifolium*
 333. Calyx campanulate, *R. viscosissimum*
 334. Staminodia present, carpels 3 or 4 united, *Parnassia fimbriata*
 334. Staminodia none, carpels, 2, distinct above, 335
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 339. Filaments clavate or spatulate, 341
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 340. Cymules in narrow pyramidal panicles, *S. oregana*
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 341. Leaf blades ovate to oblong, *S. saximontana*
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 344. Petals clawed, palmately cleft, *T. parviflora*
 345. Petals pinnatifid, 346
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 368. Flowers red or pink, 370
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 377. Leaves lanceolate, corolla with 10 pouches for the anthers, *Kalmia glauca*, var. *microphylla*
 378. Corolla ovoid yellowish glandular, *Phyllodoce glanduliflora*
 378. Corolla campanulate red glabrous, *P. empetriflora*
 379. Corolla funnel-form, 5-lobed, *Rhododendron albiflorum*
 379. Corolla globose, 4-toothed, *Menziesia ferruginea*
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 380. Berry 4-5-celled, berries red or blue, 381
 381. Tall shrubs 1-3 m. high, 382
 381. Low shrubs less than a half m. high, 383
 382. Leaves serrate, *Vaccinium macrophyllum*
 382. Leaves entire, *V. ovatifolium*
 383. Branches angled, berries red, *V. scoparium*
 383. Branches terete, berries blue, *V. caespitosum*
 384. Stamens opposite the corolla lobes, 385
 384. Stamens alternate with the corolla lobes or fewer, 387

385. Stems short, leaves all basal, *Dodecatheon conjugens*
385. Stems leafy, 386
386. Flowers solitary, leaves not punctate, *Steironema ciliatum*
386. Flowers in spikes, leaves punctate, *Lysimachia thyrsoiflora*
387. Ovary superior, 388
387. Ovary inferior, 437
388. Corolla more or less irregular, 409
388. Corolla regular, 390
390. Stamens fewer than the corolla lobes, 391
390. Stamens as many as the corolla lobes, 393
391. Corolla scarious, 392
391. Corolla not scarious, 417
392. Seeds numerous, leaves ovate, *Plantago major*
392. Seeds 2-4, leaves lanceolate, *P. lanceolata*
393. Ovaries 2, separate, *Apocynum pumilum*
393. Ovary 1, 394
394. Ovary deeply 4-lobed around the style, *Mertensia pratensis*, var. *borealis*
394. Ovary not deeply lobed, 395
395. Ovary 1-celled, 396
395. Ovary 2 or more celled, 400
396. Leaves entire, opposite, 397
396. Leaves alternate or basal, rarely entire, 398
397. Flowers blue, *Gentiana Amarella*
397. Flowers yellowish, *G. Amarella*, f. *Michauxiana*
398. Placentae broad and fleshy, *Hydrophyllum capitatum*
398. Placentae narrow, 399
399. Corolla blue, ovules 12-16, *Phacelia linearis*
399. Corolla whitish, ovules 4, *P. heterophylla*
400. Stamens free from the corolla, 358
400. Stamens on the corolla tube, 401
401. Stamens 4, 392
401. Stamens 5, 402
402. Style 3-lobed, 403
402. Style undivided or 2-cleft, 398
403. Calyx distended and at length burst by the capsule, 404
403. Calyx not distended or burst by the capsule, 407
404. Corolla salver-form, leaves all opposite, *Phlox rigida*
404. Corolla funnel-form, leaves mostly alternate, 405
405. Biennials, *Gilia aggregata*
405. Annuals, 406
406. Leaves finely dissected, *G. Harknesii*
406. Leaves entire, *G. gracilis*
407. Corolla rotate, leaves pinnate, *Polemonium humile*
407. Corolla tubular, leaves entire, 408
408. Corolla salmon-pink 2-3 cm. long, *Collomia grandiflora*
408. Corolla pink 1 cm. long, *C. linearis*
409. Ovules solitary in the cells, 410
409. Ovules 2-many in each cell, 416
410. Corolla nearly regular, *Mentha arvensis*, var. *lanata*
410. Corolla irregular, distinctly 2-lipped, 411
411. Calyx with a protuberance above, 412
411. Calyx without a protuberance, 413
412. Flowers small in axillary or terminal racemes, *Scutellaria lateriflora*
412. Flowers large, solitary in the axils, *S. epilobiifolia*
413. Calyx teeth unequal, *Dracocephalum parviflorum*
413. Calyx teeth almost equal, 414

414. Calyx 2-lipped, *Prunella vulgaris*, var. *lanceolata*
414. Calyx not 2-lipped, 415
415. Upper corolla lip flat, *Micromeria Chamissonis*
415. Upper corolla lip concave, *Agastache urticifolia*
416. Ovary and pod 2-celled, 417
416. Ovary and pod 1-celled, *Orobanche uniflora*
417. Anther bearing stamens 5, *Verbascum Thapsus*
417. Anther bearing stamens 2 or 4, 418
418. Fifth sterile stamen present, 419
418. Fifth stamen wanting, 423
419. Corolla spurred at base, *Linaria vulgaris*
419. Corolla not spurred, 420
420. Sterile stamen reduced to a gland or scale, *Collinsia tenella*
420. Sterile stamen elongated, 421
421. Anthers woolly, 422
421. Anthers not woolly, *Penstemon confertus*
422. Calyx lobes lanceolate, .5-1 cm. long, *P. fruticosus*
422. Calyx lobes subulate-lanceolate, 1-1.5 cm. long, *P. Scouleri*
423. Stamens 2, 424
423. Stamens 4, 427
424. Peduncles terminal, 425
424. Peduncles axillary, *Veronica americana*
425. Leaves shorter than the internodes, *V. alpina*
425. Leaves longer than the internodes, 426
426. Corolla 3-4 mm. broad, pale blue, *V. serpyllifolia*
426. Corolla 5-10 mm. broad, deep blue, *V. humifusa*
427. Stamens not enclosed in the upper lip, 428
427. Stamens included in the upper lip, 430
428. Flowers reddish, *Mimulus Lewisii*
428. Flowers yellow, 429
429. Leaves pinnately veined, *M. moschatus*
429. Leaves palmately veined, *M. guttatus*
430. Anther cells equal and parallel, 431
430. Anther cells unequal, 435
431. Ovules 2 in each cell, *Melampyrum lineare*
431. Ovules many, 432
432. Leaves lanceolate, doubly crenulate, *Pedicularis racemosa*
432. Leaves pinnately parted, 433
433. Flowers purple, *P. groenlandica*
433. Flowers not purple, 434
434. Flowers yellow, with a slender inrolled beak, *P. contorta*
434. Flowers whitish, with a broad hood-like beak, *P. bracteosa*
435. Bracts whitish, galeae shorter than the tube, *Castilleja lutescens*
435. Bracts reddish, galeae equaling or exceeding the corolla tube, 436
436. Leaves and bracts cleft into linear lobes, *C. angustifolia*
436. Leaves and bracts entire, *C. minata*
437. Flowers in an involucrate head on a common receptacle, 453
437. Flowers not as above, 439
439. Stamens on the ovary, *Campanula rotundifolia*
439. Stamens on the corolla, 440
440. Stamens 1-3, *Valeriana sitchensis*
440. Stamens 4-5, 441
441. Leaves opposite with stipules, or whorled, 442
441. Leaves opposite, without stipules, 446
442. Annuals, 443
442. Perennials, 445

443. Leaves mostly in 4's, stem smooth, *Galium bifolium*
443. Leaves 6-8 in a whorl, stems rough, 444
444. Stems erect, fruit 2-3 mm. broad, *G. Vaillantii*
444. Stems reclining, fruit 4-6 mm. broad, *G. Aparine*
445. Leaves 3-nerved, *G. boreale*
445. Leaves 1-nerved, *G. triflorum*
446. Corolla rotate, flowers in compound cymes, 447
446. Corolla tubular, flowers not in compound cymes, 449
447. Leaves pinnate, 448
447. Leaves simple, *Viburnum pauciflorum*
448. Cymes flat-topped, berries glaucous, *Sambucus glauca*
448. Cymes pyramidal, berries not glaucous, *S. melanocarpa*
449. Creeping vines, fruit dry, *Linnæa borealis*, var. *americana*
449. Shrubs, fruit a berry, 450
450. Corolla regular, bell-shaped, *Symphoricarpos albus*
450. Corolla irregular, 2-lipped, 451
451. Climbing shrub, upper leaves connate, *Lonicera ciliosa*
451. Erect shrubs, upper leaves not connate, 452
452. Flowers yellow, fruit black, *L. involucrata*
452. Flowers white, fruit red, *L. utahensis*
453. Corollas strap-shaped in all the flowers, plants with milky juice, 454
453. Corollas tubular or the outer strap-shaped, no milky juice, 458
454. Heads solitary, leaves all basal, 455
454. Heads several, leaves not all basal, 456
455. Achenes mucronate at the apex, *Taraxacum officinale*
455. Achenes smooth at the apex, *Agoseris grandiflora*
456. Stems many leaved, involucre imbricated, *Hieracium columbianum*
456. Stems few leaved, bracts equal, or with a few short outer ones, 457
457. Flowers white, *H. albiflorum*
457. Flowers yellow, *H. Scouleri*
458. Ray flowers none, 459
458. Ray flowers present, 481
459. Flowers of the head not all alike, some imperfect, 460
459. Flowers all alike and perfect, 476
460. Perfect and imperfect flowers in the same head, 461
460. Staminate and pistillate flowers in different heads, 468
461. Pappus of capillary bristles, 462
461. Pappus a short crown or none, 466
462. Bracts in one row, *Petasites sagittata*
462. Bracts in several rows, 463
463. Plants low, flowers in dense leafy clusters, involucre woolly, 464
463. Plants tall, inflorescence looser leafless, bracts woolly only at base, 465
464. Bracts white, plants loosely woolly, *Gnaphalium palustre*
464. Bracts brownish, plants appressed woolly, *G. uliginosum*
465. Glandular, leaves green above, *G. decurrens*, var. *californicum*
465. Not glandular, leaves white woolly, *G. microcephalum*
466. Leaves entire or nearly so, ovate, *Adenocaulon bicolor*
466. Leaves incised, or if entire, lanceolate, 467
467. Leaf segments mostly 2 mm. wide or more, *Artemisia discolor*
467. Leaf segments mostly 1 mm. wide or less, *A. campestris*, ssp. *spithamea*
468. Leaves prickly, heads large, 469
468. Leaves not prickly, heads small, 470
469. Involucre loose, bracts nearly equal, *Cirsium edule*
469. Involucre close, outer bracts much shorter, *C. undulatum*

470. Pappus of staminate flowers club-shaped or barbed at apex, 471
 470. Pappus not as above, *Anaphalis margaritacea*, var. *occidentalis*
 471. Plants not stoloniferous, 472
 471. Plants stoloniferous, 473
 472. Pubescence close, silky-woolly, *Antennaria luzuloides*
 472. Pubescence floccose-woolly, *A. lanata*
 473. Heads loosely racemose, inflorescence glandular, *A. racemosa*
 473. Heads corymbose, inflorescence not glandular, 474
 474. Leaves 3-5 cm. long, obovate, *A. Howellii*
 474. Leaves smaller and narrower, 475
 475. Bracts greenish brown, *A. media*
 475. Bracts pink, *A. rosea*
 476. Pappus of separate capillary bristles, *Aplopappus Lyallii*
 476. Pappus not of separate capillary bristles, 477
 477. Pappus of numerous bristles united at base into a ring, 478
 477. Pappus not as above, 479
 478. Leaves more or less prickly, 469
 478. Leaves never prickly, *Saussurea americana*
 479. Involucre scarious, *Matricaria suaveolens*
 479. Involucre not scarious, 480
 480. Heads small, long peduncled, *Madia exigua*
 480. Heads large sessile or short petioled, *M. racemosa*
 481. Pappus none, 482
 481. Pappus present at least in disc flowers, 484
 482. Involucre scarious, 483
 482. Involucre not scarious, 480
 483. Receptacle naked, *Chrysanthemum Leucanthemum*, var. *pinnatifidum*
 483. Receptacle chaffy, *Achillea Millefolium*, var. *lanulosa*
 484. Pappus not of capillary bristles, *Gaillardia aristata*
 484. Pappus of capillary bristles, 485
 485. Ray flowers not yellow, 486
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 486. Bracts in 1-2 series narrow, ray flowers narrow and numerous, 487
 486. Bracts in 2-5 series, ray flowers fewer broader, 494
 487. Rays conspicuous, much surpassing the disc, 488
 487. Rays very short or wanting, 493
 488. Root stout perennial, or stoloniferous, 489
 488. Root annual fibrous, *Erigeron ramosus*, var. *septentrionalis*
 489. Tall species with flat rather large leaves, 490
 489. Low species, leaves narrow or mostly basal, 492
 490. Rays narrow, 100-150, involucre smooth, *E. philadelphicus*
 490. Rays broad, 30-50, involucre viscid, 491
 491. Leaves thick, rays pink, *E. salsuginosus*
 491. Leaves thin, rays violet, *E. membranaceus*
 492. Leaves entire or merely toothed, *E. concinnus*
 493. Leaves cleft or parted, *E. compositus*
 493. Tall 30-60 cm., heads many, *E. acris*
 493. Low 10-20 cm., heads few, *E. acris*, var. *debilis*
 494. Leaves coriaceous, *Aster conspicuus*
 494. Leaves membranaceous, 495
 495. Involucre viscid or glandular, *A. modestus*
 495. Involucre not viscid or glandular, 496
 496. Heads less than 1 cm. broad, *A. columbianus*
 496. Heads more than 1 cm. broad, 497
 497. Bracts closely appressed, mainly coriaceous, *A. laevis*, var. *Geyeri*
 497. Involucral bracts looser, largely herbaceous, 498

498. Leaves few large scarcely reduced upward, the cauline auriculate, 409
 498. Leaves numerous, much reduced upward, cauline not auriculate 500
 499. Heads solitary or few, long peduncled, 500
 499. Heads several, stem leafy, leaves pubescent, *A. Cusickii*
 500. Leaves narrowed to a winged petiole, *A. Poliaceus*, var. *frondeus*
 500. Leaves not petiolar contracted, *A. Lyallii*
 501. Heads corymbose, *A. Fremontii*
 501. Heads solitary, *A. stenomeres*
 502. Pappus double, outer row short, *Chrysopsis villosa*
 502. Pappus in 1 row, 503
 503. Heads in panicles, 504
 503. Heads solitary or in corymbs, 506
 504. Branches of the panicle racemiform, 505
 504. Branches of the panicle not racemiform, *Solidago algida*
 505. Heads 4-5 mm. long, in dense panicles, *S. elongata*
 505. Heads 5-7 mm. long, in looser panicles, *S. serotina*
 506. Leaves all or mostly opposite, 507
 506. Leaves alternate, 510
 507. Stem leaves 1-3 pairs, upper reduced, *Arnica aurantiaca*
 507. Stem leaves several pairs, not conspicuously reduced, 508
 508. Basal leaves cordate long petioled, *A. cordifolia*
 508. Basal leaves lanceolate, short petioled, 509
 509. Pappus plumose brownish, *A. mollis*
 509. Pappus barbellate, white, *A. foliosa*
 510. Heads 1.5 cm. or more broad, 476
 510. Heads 1 cm. or less broad, 511
 511. Involucre hemispheric, 487
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 512. Leaves or some of them pinnate, *Senecio pseud aureus*
 512. Leaves not at all pinnatifid, 513
 513. Stem leafy to the inflorescence, *S. triangularis*
 513. Leaves mostly basal, 514
 514. Basal leaf blades cordate abruptly contracted into the petioles,
 S. exaltatus
 514. Basal leaf blades spatulate, gradually tapering into the petioles,
 S. columbianus

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