

PLEASE RETURN TO JTC BINGHAM

Guide to the Common Plants of the Seven Devils Mountains

Hells Canyon National Recreation Area

10 Millimeters = 1 Centimeter, 2.54 cm = 1 inch, 30.5 cm = 1 foot, 100 cm = 1 meter = 39.4 inches = 1.1 yards



Mountain bog gentian



Whitebark pine seedlings



Wallowa-Whitman National Forest
Pacific Northwest Region
USDA • Forest Service

ERRORS:

- Pg. 24 1.5 M SHOULD READ 0.5 M.
Pg. 30, l. 12 "predominated by" rather than "predominate with"
Pg 31 The scale (0.5) of Poa sandbergii, Fig. a,
is missing. This taxon now is placed under
Poa secunda.
Pg 44, line 7, Move the word "with" to between the words "or" and
"only".
Pg 52, line 2, change the word "two" to "one".
line 19, "t" missing from the last word.
Pg 38, line 19, Change "only" to "mostly"

Acknowledgements

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We also wish to acknowledge the vital assistance of local herbarium taxonomists - Dr. Douglass M. Henderson, director, and Anita F. Cholewa and Stephen P. Caicco, herbarium assistants, of the University of Idaho Herbarium; Stephen P. Brunsfeld, herbarium assistant, University of Idaho College of Forestry, Wildlife, and Range Sciences Herbarium; and Joy Maestrogiseppi, assistant curator, Washington State University Marion Ownbey Herbarium. These professionals assisted us in identifying Seven Devils Mountains plants and helped us search their respective herbaria for additional Seven Devils plant collections.

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Dedication

This plant guide is dedicated to two groups of Forest Service people: first, to the Forest Service volunteers of the Hells Canyon National Recreation Area, without whom the public would be far less well served in the Wilderness; and second, to the Nez Perce National Forest Slate Creek/Salmon River Ranger District trail crew, Foreman Nolan F. (Red) Woods, and past or present members Gary M. Solberg and Robert A. (Bob) Ruark. There is no mystery why earlier Seven Devils botanizing had not extended south of Baldy Lake on the west or Seven Devils Guard Station on the east -- it is because plants to be pressed and identified cannot be held in a vasculum or plastic bag more than a day or two, and because a standard plant press weighs 50 pounds or more! When Red's packstring carried the press -- and even some of these volunteers' baggage -- then collection was limited only by the progress of the trail crew and our time. The trail and camp fellowship of Red, Gary, and Bob also is cherished.

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Cover Photos: The color photographs used on the front cover of this plant guide illustrate two plant species (mountain bog gentian, Plant 104; and whitebark pine, Plant 10). Once seen, it is hard to forget the royal blue-purple of the gentian. One means of seed dispersal for the whitebark pine is via the Clark's crow or nutcracker which buries the large and edible seeds for future use. Both photos were taken by Dick Bingham.

GUIDE TO THE COMMON
PLANTS OF THE SEVEN DEVILS MOUNTAINS
HELLS CANYON NATIONAL RECREATION AREA
WALLOWA-WHITMAN NATIONAL FOREST

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Foreword

From 1977 through 1982, the authors and three University of Idaho plant taxonomists (D. M. Henderson, E. W. Tisdale, and A. F. Cholewa) and one other Forest Service volunteer (C. A. Wellner) collected and identified Seven Devils Mountains plants and gathered information on frequency and distribution. This guide is a tangible result of that work, but we would point out that we are but the latest of some 50 botanists who have collected plants in the Seven Devils.

Holding this guide to pocket size has meant that we have been able to include less than one-third of the nearly 700 plant taxa* known to occur in the Seven Devils Mountains. Only 210 of the most common or otherwise most interesting plants could be included here. A complete checklist covering known collections of all taxa is being assembled.

A few quiet hours with this guide, out on the ground in the Seven Devils, should give the amateur botanist a more satisfying knowledge of the plants and plant ecology of these mountain lands. This information may be extended to the mountain flora of central and northern Idaho, northeastern Oregon, and southwestern Washington.

* See Glossary of Technical Terms (page 75) for definition of this and other technical terms.

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Introduction

For purposes of this guide, the Seven Devils Mountains are considered to include those mountainous lands lying above 5,000 feet from Camp Howard Ridge on the north (about three miles northwest of Pittsburg Saddle) to the vicinity of Horse and Lick Creek Mountains on the south, which are northeast of Cuprum, Idaho. Often on the north (for instance, from Motthorn to Cow Creek Saddle), these lands above 5,000 feet occur in a narrow belt far less than one mile wide. Southward, however, the belt averages three to seven miles wide. The Wild River Corridor of the Rapid River from the Circle C State Fish Hatchery upriver is included. Table 3 (page 10) describes the Forest Service trail and road segments we have covered and for which we have listed all the plant taxa we saw.

Most of the Seven Devils Mountains lands are public, the bulk falling within the Hells Canyon Wilderness of the Hells Canyon National Recreation Area, while the remainder fall mostly in the Nez Perce and Payette National Forests.

As a group, the 210 plants included in this guide are common enough so that if the user were to choose a plant to identify at random, 80 percent of the time the choice would be one of the 210 plants covered here. To avoid confusion of "common" plants with their unlisted relatives, we have included skeleton descriptions of 80 such relatives. Thirty-five of these unlisted plants are in sub-keys to common genera such as arnicas, penstemons, everlastings, buttercups, groundsels, hairbells, clovers, cinquefoils, and lupines (for example, see arnica sub-key, page 40). Taxonomy follows Hitchcock et al. (1955-1963)* except for Plants 62, 76, and 143.

In the text that follows (pages 14-73), the 210 listed plants are numbered, with common names capitalized, Latin names underlined, and briefly described. The habitats (Table 2) where the plant usually grows, and the localities (Table 3) where the plant has been found, are given at the end of the plant descriptions. Unless noted otherwise, the scale of all drawings is .25 of original size. Rare plants are identified by an asterisk following the plant number.

* See "Literature Cited" page 80.

GEOLOGY AND GEOLOGICAL HISTORY OF THE SEVEN DEVILS MOUNTAINS

The central Seven Devils Mountains consist mainly of the group of little-known metamorphosed rocks called the "Seven Devils Group" (Gaston and Bennett, 1979). These rock formations were uplifted from beneath the pervasive Columbia Basin basalt mantle, apparently about 11-17 million years ago in the Miocene geologic era.

Very little of this basalt mantle remains in place today. Its loss, due to glacially-accelerated and otherwise rapid erosion, is easily conceived when one considers the present height, but relative narrowness of the Seven Devils range. An east-to-west transect through He Devil Mountain (9,393 feet) rises over 7,000 feet across seven miles from the Rapid River, then falls 8,000 feet across six miles to the Snake River. Thus, the cutting down of the deep Salmon and Snake River Canyons and their tributaries literally undermined the perched, basalt mantle. Today in the central Seven Devils, only one noteworthy patch of basalt remains: weathered Imnaha basalt on the plateau just to the northeast of Hibbs Cow Camp and stretching east to the vicinity of Lily Pad Lake. A much larger cap of Imnaha basalt stretches along the Snake-Salmon Rivers divide from Cow Creek Saddle (five miles west of Lucile) to Camp Howard Ridge on the north, but this lies at 5,000-6,000 feet where uplifting and erosional stresses were less. Scattered patches of Imnaha basalt also remain at 8,050 feet atop Pollock Mountain and at 5,500-6,500 feet within a mile or two either side of the Black Lake Road, in the vicinity of Placer Basin in the southern Seven Devils. Each of these basalt remnants has its characteristic vegetation. For instance, that near Hibbs Cow Camp is the only locality in the central Seven Devils where we have found barestem lomatium (L. nudicaule), Bolander's yampa (Perideridia bolanderi), daggerpod (Phoenicaulis cheiranthoides), or Eaton's daisy (Erigeron eatonii var. villosus).

Other Seven Devils rock formations include the Jurassic, Plutonic, granite-like granodiorites, quartz diorites, diorites, monzonites, and gabbros intruded, but now uncovered along the Granite-Little Granite Creek Ridge or surrounding Monument Mountain and Pepperbox Hill at the head of Indian Creek and Echols Mountain northeast of Smith Mountain. Glacial moraines are near the forks of Little Granite Creek, and across the entire east side of the central Seven Devils, from just below the Boise Trail downward to the Rapid River and from Bridge Creek to Horse Heaven Creek. There seems to be little specialization of the vegetation on the glacial moraines.

BOTANICAL HISTORY OF THE SEVEN DEVILS MOUNTAINS

Over the last 85 years, more than 45 professional and amateur botanists have collected almost 700 taxa of Seven Devils Mountains plants. Apparently collecting began in 1899 when William C. Cusick, pioneer Wallowa Mountains botanist, visited the Peacock Mine area via the Kleinschmidt Grade. Later the same year, mining engineer/botanist Marcus E. Jones, probably traveling along the mining tote roads, visited the vicinity of Cuprum.

Collectors who later made significant numbers of collections in the Seven Devils (chronologically, and with the number of their collections and the herbaria where collections were deposited) are as follows:

1927, Harold St. John and Lowell A. Mullen, (242)., Washington State University (WSU) Marion Ownbey Herbarium.

1928, Vernon M. Brewer, (50)., Council Ranger District and University of Idaho, College of Forestry Herbarium.

1936-39, Jacqueline Packard, (125)., WSU.

1937, '41, '48, John H. Christ, (431)., New York Botanical Garden, University of Idaho, and WSU.

1953, '54, '65, William H. Baker, (207)., University of Idaho Herbarium 1971-72, Dan Baird, (162)., Council Ranger District Herbarium, Council, Idaho.

1979, Edwin W. Tisdale, (80)., University of Idaho College of Forestry Herbarium.

1979-82, the authors, (598)., University of Idaho and WSU.

1982-84, Charles G. Johnson, Jr., (70)., USDA-Forest Service - Bureau of Land Management Herbarium, Baker, Oregon.

These and other collections seen in local herbaria are included in the plant localities as described below.

To use this guide successfully for identifying Seven Devils plants, see the Plant Key, Table 1. The purpose of the key is to subdivide the 210 plants it covers on the basis of readily determined features of plant form, leaf characters, odor, flower color, to the point where the user is able to identify a given plant by reference to a relatively small number of plant descriptions and illustrations. First, the 210 plants are separated into 6 generally recognized plant forms (refer to keying numbers 2a-mosses; 2b-ferns; 3a-trees; 9a-vines; 9b-shrubs; and 8b-herbs). Next, when necessary because of the large number of plants having a given plant form (for instance, there are 29 shrubs and 156 herbs), the plants of that form are further subdivided by easily recognized features, always moving downward in the key until a dead end is reached. Then refer to one of 47 Plant Classes (A-UU, as shown in the first column of Table 1), composed of from 1-14 plants. Illustrations have the same numbers as the plants.

Plant species and varieties may be quite variable at different places or times, or under variable growing conditions. For instance, desert phlox (Plant 89 in the Plant Class V, simple- and opposite-leaved forbs with white or cream-colored flowers), in some places may be found with either bluish or pinkish flowers. Note, therefore, that in the last column of Table 1, Plant 89 also is entered under Class Y (blue, violet, or purple flowers) as well as under Class Z (red, pink, or magenta flowers). Besides variation in flower color, variation occurs with leafing patterns. All of these variations are handled by indication in the last column of Table 1 that a plant may occur in other than one class.

Habitat and locality symbols (defined in Tables 2 and 3) are given for each numbered plant at the end of the description. Thus, if the plant keyed out to a plant class (A-UU) and then identified from the class-group of plant descriptions and drawings actually occurs in one of the habitats and localities listed, then identification is enhanced. If the identified plant was found on a stream bank (Habitat RI) along Trail 112 in the West Fork of Sheep Creek (locality TR), when the plant description lists it as occurring only in the highest, subalpine country (Habitat AL) atop He and She Devil Mountains (locality HS), then re-identifying is suggested. Localities, in most cases segments of Forest Service trails and roads, are mapped on the center spread. Botanical jargon is held to a minimum, and technical terms that are used are defined in the Glossary on pages 75-79. Plant measurements are metric, and metric scale and conversion factors are provided along the outer edge of the rear cover. Plant families are given in Table 4, page 12. Finally, if keying out a plant seems impossible, it may not be within this pamphlet because two-thirds of the Seven Devils' plants are not included in this guide due to space limitations.

TABLE 1 - KEY TO PLANTS OF THE SEVEN DEVILS MOUNTAINS

| Plant Class | Keying Number and Item | Class Starts on page No. | No. Spp. in Class | Indiv. Plant Nos. | See also these other Plant Nos. | Plant Class | Keying Number and Item | Class Starts on page No. | No. Spp. in Class | Indiv. Plant Nos. | See also these other Plant Nos. |
|-------------|--|--------------------------|-------------------|-------------------|---------------------------------|-------------|--|--------------------------|-------------------|-------------------|------------------------------------|
| A | 1a Mosses and Ferns | 14 | 2 | 1-2 | | | 23b Forbs with alternate leaves | | | | |
| B | 2a Mosses | 14 | 7 | 3-9 | | AA | 25a White or cream flowered | 46 | 5 | 115-119 | 83,87,90, 138,199 |
| | 2b Ferns | | | | | BB | 26a With basal leaves only | 48 | 11 | 120-130 | 145,163, 182 |
| | 1b Trees, Vines, Shrubs, and Herbs | | | | | CC | 26c With both basal and cauline leaves | 50 | 14 | 131-144 | 90,115, 119 |
| C | 3a Trees | | | | | DD | 25b Greenish or yellow-green flowered | 54 | 4 | 145-148 | 126,127, 136,178 |
| | 4a Conifers, Evergreen, and Deciduous | | | | | EE | 25c Yellow flowered | 56 | 11 | 149-159 | 99,145, 163,167 |
| | 5a Needles in bundles of 2-5 | 16 | 3 | 10-12 | | | 25d Blue, violet, or purple flowered | | | | |
| | 5b Needles solitary | 16 | 6 | 13-18 | | FF | 27a With basal leaves only | 58 | 2 | 160,161 | |
| D | 4b Broadleaved hardwoods, evergreen and deciduous | | | | | GG | 27b With cauline leaves only | 60 | 9 | 162-170 | 124,171, 172,173 |
| E | 6a Leaves simple | | | | | HH | 27c With both basal and cauline leaves | 62 | 5 | 171-175 | 142,162, 164,165, 168,170 |
| F | 7a Leaves opposite | 18 | 1 | 19 | | | 25e Red, pink, or magenta flowered | | | | |
| G | 7b Leaves alternate | 18 | 4 | 20-23 | | II | 28a With basal leaves only | 64 | 3 | 176-178 | 87,115, 160 |
| | 6b Leaves compound | 20 | 1 | 24 | | JJ | 28b With cauline, leaves only | 64 | 4 | 179-182 | 124,125, 163 |
| | 3b Vines, Shrubs, and Herbs | | | | | KK | 28c With both basal and cauline leaves | 66 | 4 | 183-186 | 135,147, 178 |
| H | 8a Woody-stemmed vines and shrubs | | | | | LL | 25f Dark brownish to blackish flower heads | 66 | 1 | 187 | |
| | 9a Vines | 20 | 1 | 25 | | | 22b Compound-leaved forbs | | | | |
| | 9b Shrubs (including woody-based "sub-shrubs") | | | | | MM | 29a Forbs with opposite or whorled leaves | 66 | 2 | 188-189 | |
| I | 10a Shrubs with prickly stems or leaves | 20 | 5 | 26-30 | 15 | NN | 30a White or cream flowered | | | | |
| | 10b Shrubs with unarmed stems or leaves | | | | | | 30b Blue, violet, or purple flowered | 68 | 1 | 190 | |
| J | 11a Crushed leaves aromatic or pungent | 22 | 6 | 31-36 | 15,188 | | 29b Forbs with alternate leaves | | | | |
| | 11b Crushed leaves at most slightly aromatic | | | | | OO | 31a White or cream flowered | 68 | 3 | 191-193 | |
| K | 12a Leaves opposite or whorled | 24 | 4 | 37-40 | 19,74,108 | PP | 32a With basal leaves only | 68 | 5 | 194-198 | 120,128, 206 |
| | 12b Leaves alternate | | | | | QQ | 32b With cauline leaves only | | | | |
| L | 13a Low shrubs under > m tall | 24 | 4 | 41-44 | 26,52,54 | | 32c With both basal and cauline leaves | 70 | 1 | 199 | 139,191, 195,203 |
| M | 13b Tall shrubs over > m tall | 26 | 10 | 45-54 | 20,21,24, 36 | RR | 31b Greenish or yellow-green flowered | 70 | 1 | 200 | 205 |
| | 8b Green or fleshy-stemmed herbs | | | | | SS | 31c Yellow flowered | 70 | 5 | 201-205 | 151,152, 198 |
| | 14a Grasslike plants | | | | | TT | 31d Blue, violet, or purple flowered | 72 | 5 | 206-120 | 120,139, 164,165, 175,191, 198,200 |
| | 15a Grasses with round and hollow stems | | | | | | 31e Red, pink, or magenta flowered | 72 | 0 | --- | 177, 184, 191, 201, 208 |
| N | 16a Awned grasses | 28 | 6 | 55-60 | | | | | | | |
| O | 16b Unawned or only awn-tipped grasses | 30 | 2 | 61-62 | | | | | | | |
| | 15b Sedges and rushes | | | | | | | | | | |
| P | 17a Sedges with 3-ranked leaves and solid stems | 30 | 5 | 63-67 | | | | | | | |
| Q | 17b Rushes with flowers in capitate clusters or panicles and with tepals present | 32 | 2 | 68-69 | | | | | | | |
| | 14b Green- or fleshy-stemmed forbs | | | | | | | | | | |
| R | 18a Plants aquatic | 34 | 2 | 70-71 | 65,67 | | | | | | |
| | 18b Plants terrestrial | | | | | | | | | | |
| S | 19a Milky-juiced forbs | 34 | 9 | 72-80 | | | | | | | |
| | 19b Watery-juiced forbs | | | | | | | | | | |
| T | 20a Square-stemmed and minty-smelling forbs with pink flowers | 36 | 2 | 81-82 | | | | | | | |
| | 20b Round-stemmed and otherwise-smelling forbs | | | | | | | | | | |
| U | 21a Forbs with prickly or stinging stems or leaves | 36 | 3 | 83-85 | | | | | | | |
| | 21b Forbs with unarmed or non-stinging stems or leaves | | | | | | | | | | |
| | 22a Simple-leaved forbs | | | | | | | | | | |
| | 23a Forbs with opposite or whorled leaves | | | | | | | | | | |
| V | 24a White or cream flowered | 38 | 7 | 86-92 | 83,111, 141,188 | | | | | | |
| | 24b Greenish or yellow-green flowered | 40 | 1 | 93 | 85 | | | | | | |
| W | 24c Yellow flowered | 40 | 7 | 94-100 | 150 | | | | | | |
| X | 24d Blue, violet, or purple flowered | 42 | 9 | 101-109 | 89-113, 114 | | | | | | |
| Y | | | | | | | | | | | |
| Z | 24e Red, pink, or magenta flowered | 44 | 5 | 110-114 | 37,74,87, 89,108, 176 | | | | | | |

TABLE 2. SEVEN DEVILS MOUNTAINS PLANT HABITATS

| Symbol | Habitat Description | Symbol | Habitat Description |
|--------|--|--------|--|
| AL | <u>Highest subalpine</u> , 8,800-9,400 feet. True alpine habitats (above timberline) are absent. At the highest elevations, atop He Devil or She Devil Mountains, stunted whitebark pine (Plant 10) are present. The soils are mostly sandy-gravelly crevice loams which are moist in the spring, then, except for summer storm periods, quite dry. Plants featured are the Sierra hare sedge (Plant 66), slender hawkweed (Plant 77), cushion buckwheat (Plant 87), and sticky polemonium (Plant 210). This habitat is delineated by the HS locality of Table 3. | RI | <u>Riparian</u> , wet, sandy/gravelly/rocky soils, to moist, silty loams of the streambanks. The vegetation varies with degree of shade and with exposure and elevation. Common plants are the Sitka alder (Plant 20), fools huckleberry (Plant 34), broadleaved montia (Plant 88), fringed grass of Parnassus (Plant 138), the riparian variety of alpine willow-weed (Plant 112), Columbia monkshood (Plant 120), western meadowrue (Plant 200), California false hellebore (Plant 129), and woodnymph (Plant 90). |
| AQ | <u>Aquatic</u> , freshwater stream or lake environments. Floating plants may be rooted on the stream bottoms, or on silty lake bottoms in the shallower parts of the lakes. The most common plants are Indian pond lily (Plant 70) and narrowleaf bur-reed (Plant 71), forming hummocks in the shallowest water. On drawn-down lake banks, the lenticular sedge (Plant 65) or the sawbeak sedge (Plant 67) may be present. | RN | <u>Rocky slopes, north- and east-facing</u> , fairly deep and moist soils laced with gravel, rocks, and boulders. Most often forested with conifers in moderately dense stands: ponderosa pine (Plant 12), Douglas-fir (Plant 18), and grand fir (Plant 14) at 5,000-6,500 feet; and Engelmann spruce (Plant 17), subalpine fir (Plant 13), and whitebark pine (Plant 10) above. Common plants are sidebells pyrola (Plant 141), prince's pine (Plant 110), big huckleberry (Plant 54), slender everlasting (Plant 132), swamp gooseberry (Plant 27), arrowleaf groundsel (Plant 156), western rattlesnake plantain (Plant 136), and Douglas' Rocky Mountain maple (Plant 19). |
| AV | <u>Avalanche chutes</u> , snow or ice slide areas which, if below 7,500 feet, are usually brushy valleys from which the trees have been scalped away. If above 7,500 feet, they are scoured, steep, rocky valleys or gravelly slopes. Plant development may be delayed by late melting snow or ice. | RS | <u>Rocky slopes, south- and west-facing</u> , warmer, drier, and less shady counterpart of RN, above, with shallower and less stable soils and with the various conifer species shifted as much as 1,000 feet uphill. Featured plants are arrowleaf balsamroot (Plant 149), bluebunch wheatgrass (Plant 56), Wyeth's buckwheat (Plant 86), alpine wintergreen and Holboell's rockcross (Plants 182 and 183), scarlet gilia (Plant 184), and Nuttall's linanthastrum (Plant 188). |
| BF | <u>Boulder fields</u> , stabilized fields of large, angular boulders at the toes of higher peaks and cirque faces (as under the north side of He Devil Mountain or directly above Upper Hanson Lake). Away from the edges of the field and atop the boulders, only a few rock crevices and pockets trap enough soil to support plant growth. The edges of boulder fields are a preferred habitat for certain shrubs such as the mountain gooseberry (Plant 28), red raspberry (Plant 30), or black elderberry (Plant 51). | SB | <u>Sagebrush slopes</u> , open east-, south-, or west-facing slopes dominated by the montane form of big sagebrush (<i>Artemisia tridentata</i> var. <i>vaseyana</i>), and having a grass-forb understory. Usually, the soil parent material is basaltic rock. Good examples of this habitat may be seen along the Boise Trail 101 about 1 mile south of the Seven Devils Guard Station, on south-facing slopes along the Boise Trail just north of Stevens Saddle, and on weathered Grande Ronde basalt on west-facing slopes about 1/4 mile northeast of Hibbs Cow Camp. |
| CN | <u>North- and east-facing cliffs</u> , cool, moist, and often shady habitats having rich loams in the rock crevices or on the rock benches. Featured plants are the cliff anemone (Plant 191), yellow columbine (Plant 201), gooseberry-leaved alumroot (Plant 116), and swamp gooseberry (Plant 27). Often there are open forests of whitebark pine (Plant 10) and grand fir (Plant 14) on the high elevation cliffs, while subalpine/Douglas-fir (Plant 18) forests may occupy the lower elevation cliffs. The wetter seep areas may support fringed grass of Parnassus (Plant 138), or brook saxifrage (Plant 117). | SC | <u>Scabrock</u> , basaltic bedrock residual from a cap on the uplifted Seven Devils Mountains, but often so weathered as to present a gravel pavement (as at the forks of Trails 112 and 56, 1/2 mile north of Hibbs Cow Camp) or a red-colored rock (as just east of Cold Springs Cow Camp). Moist in the spring only, thereafter, very dry and supporting only a scattered and low plant population featuring pussypaws (Plant 115), lanceleaf stonecrop (Plant 153), daggerpod (Plant 186), Piper's golden buckwheat (Plant 98), scarlet gilia (Plant 184), and sometimes prickly sandwort (Plant 83), puzzling halimolobos (Plant 137), and broad-fruited mariposa lily (Plant 123). |
| CS | <u>South- and west-facing cliffs</u> , warmer, drier, and less shady cliff habitat, with much the same limited crevice shelf soils. Typical plants are the bluebunch wheatgrass (Plant 56), western serviceberry (Plant 45), curleaf mountain mahogany (Plant 21), and Blue Mountain penstemon (Plant 107). On the high, open, bedrock ridgetops in this habitat, prickly sandwort (Plant 83), mountain sorrel (Plant 178), and mountain gooseberry (Plant 28) may occur. Here, if the cliffs support trees at all, they are much more scattered as individuals or in small groups; ponderosa pine and Douglas-fir (Plants 12 and 18) at 5,000-6,000 feet; Douglas-fir, mountain juniper (Plant 15), and grand fir (Plant 14) up to 7,500 feet; with whitebark pine and subalpine fir (Plants 10 and 13) at the top. | SN | <u>Snow deposit areas</u> , cornice or drift areas on the lee side of high ridges, or snow-slide deposit areas on intermediate benches or in the bottoms of cirques. Featuring plants such as subalpine buttercup (Plant 151), chionophila (Plant 101), and a few snowbattered ericads (family Ericaceae plants) including grouse huckleberry (Plant 44), pink mountain heath (Plant 41), and fools huckleberry (Plant 34). |
| HG | <u>High grasslands</u> , usually along the broader ridgetops or more gentle east, south, and west slopes and on the deeper and better-drained soils; may be associated with wind exposure. Actually, these grasslands contain a high proportion of both sedges and forbs, and are dominated by Geyer's and Hood's sedges (Plants 63 and 64) and leafy aster (Plant 171). Grasses include Idaho fescue (Plant 58), Sandberg's bluegrass (Plant 62), prairie Junegrass (Plant 61), spike trisetum (Plant 60), and often, western needlegrass (Plant 59). Other forbs almost always present are the thick-stemmed aster (Plant 172), the spurred lupine (Plant 206), velvet lupine (Plant 207), and pale false dandelion (Plant 73). | TA | <u>Talus slopes</u> , slopes of gravel and of small and medium-sized rocks lying near the angle of repose (above which loose materials will slide). At the upper elevations many of these slopes are still building and sliding. Plants featured are alpine collomia (Plant 163), a decumbent-based variety of the alpine willow-weed (Plant 112), western mugwort (No. 31), and bee balm monardella (Plant 82). |
| LG | <u>Low grasslands</u> , include only areas above 5,000 feet, and restricted to lands on certain south- and west-facing slopes along the Idaho side of the Snake River Canyon (from Deep Creek to Canyon Creek). Also included is the often broad and open, level ridgetop along the Snake-Salmon Rivers divide from Cow Creek Saddle north to Camp Howard Ridge (4 miles north of Pittsburg Saddle). Most of these low grasslands fall in Tisdale's Idaho fescue/prairie Junegrass (Plants 58 and 61) habitat-type (see Glossary, and Tisdale, 1979). Along with these two key species bluebunch wheatgrass (Plant 56), arrowleaf balsamroot (Plant 149), harsh paintbrush (Plant 179), and white-flowered hawkweed (Plant 75) often are found. | VP | <u>Vernal ponds or lakes</u> , shallow and often without outlet, these ponds evaporate or drain completely by summer. Characteristic plants include various sedges, mountain tansy-mustard (Plant 202), silky phacelia (Plant 175), and a few creeping plants such as creeping buttercup (see the buttercup key) and the red sandspurry (<i>Spergularia rubra</i>). |
| LS | <u>Lake shores</u> , above high water line. On the lake side are such plants as alpine wintergreen (Plant 182), alpine laurel (Plant 37), mountain Labrador tea (Plant 33), creeping sibbaldia (Plant 205), thyme-leaved speedwell (Plant 109), and small white violet (Plant 118). | WM | <u>Wet or sedge meadows and marshes</u> , wet and often deep silty soils. Usually the dominant plants are sedges (Plants 63-67, and others), with various marsh plants such as Jeffrey's shooting star (Plant 160), bistort (Plant 140), California false hellebore (Plant 129), globeflower (Plant 128), and mountain bog gentian (Plant 104) on the better-drained parts. |

TABLE 3. SEVEN DEVILS MOUNTAINS LOCALITIES (Road and trail segments are shown on the Plant Location Guide, center spread.)

Symbol

| | |
|----|---|
| BD | Baldy Lake and Baldy Lake Trail 69 in from Trail 124. |
| BL | Black Lake and Road 112 from Black Lake south to Road 105. |
| BM | Boise Trail 101 from Heavens Gate Lookout parking lot north through to Bald Mountain to Trail 110 just south of The Narrows. |
| BR | Trail 56 from Trail 124 north to Trail 57 and Dry Diggins Lookout; then eastward on Trail 57 past Bernard Lakes and back to Trail 124. |
| BU | Road 1819 from Buckhorn Spring to the former Cold Springs Lookout site including the spur road to the lookout site. |
| CA | Lower Cannon Lake and Cannon Lake Trail 126 in from Boise Trail 101. |
| CC | Road 420 from Buckhorn Spring to Kirkwood Corrals via Cow Creek Saddle. |
| CH | Trail 104 from Pittsburg Saddle Road 493 north to Camp Howard via Motthorn Saddle. |
| CR | Trail 101 from Road 1819 south to the camp at Fire Camp Saddle, including Crater Lake. |
| CS | Along Road 1819 from Cold Springs Lookout spur road west to Road 2060 above Low Saddle. |
| DO | Dog Lake and along Dog Creek in from Boise Trail 101. |
| DR | Dry Diggins Ridge along Trails 140 and 58 from Trail 124 north to McGaffee Cow Camp. |
| EC | Trail 129 in from Trail 124 through the Echo Lakes chain via Echo, Quad, He Devil, and Triangle Lakes. |
| EF | Trail 59 along Rapid River from Paradise Cabin north to Trail 113. |
| ES | Trail 53 along East Fork Sheep Creek from Trail 124 north to Log Creek. |
| HA | Hanson Lakes and along Hanson Creek in from Boise Trail 101. |
| HH | Horse Heaven and Slide Rock Lakes and along Horse Heaven Creek in from Boise Trail 101. |
| HS | The summits of He Devil and She Devil Mountains above 8,800 feet. |
| JM | Trail 191 south from West Fork Rapid River to Black Lake Road 112 including Jackley Mountain. |
| KI | Roads 108 and 106 from Horse Mountain north to Sheep Rock, including Kinney Point. |
| LA | Road 105 from the 5,000 foot contour line above Cuprum to Road 112 via Landore. |
| LG | Trail 112 from Hibbs Cow Camp south to Middle Fork Granite Creek. |
| LI | Lily Pad Lakes and the large sedge meadow along Trail 123 north of Basin Lake. |
| LR | Lower Rapid River south from Rapid River Fish Hatchery along Trail 113 to the West Fork Rapid River. |
| LV | Lost Valley Road 2060 from its junction with Road 420 southwest of Wickiup Butte to its junction with Saw Pit Saddle spur road. |
| MR | Mirror Lake, along Bridge Creek down to the perched marsh 1/2 mile east of the lake, and northeast along the 7,200 foot contour line to Seven Devils Guard Station. |

Symbol

| | |
|----|---|
| NB | Northern part of Boise Trail 101 from Seven Devils Guard Station to Hanson Creek. |
| PA | Road 517 south from Papoose Creek to Seven Devils Guard Station pasture cattle guard. |
| PG | Trail 214 north from Black Lake to Emerald Lakes and Stevens Saddle, via Purgatory Saddle. |
| PO | Summit of Pollock Mountain along Trail 179 south to Cold Springs Saddle. |
| RA | Trail 113 at Carbonate Hill from Trail 214 to Trail 192, and Trail 192 from Stevens Saddle to Rankin Mill. |
| RU | Ruth Lake and Trails 321 and 189 to Stevens Saddle. |
| SA | Road 1819 from Low Saddle east to Road 2060, then Road 2060 north to Saw Pit Saddle Viewpoint. |
| SB | Boise Trail 101 from Hanson Creek south to Horse Heaven Saddle 1/4 mile north of Horse Heaven Cabin. |
| SH | Trail 123 from Trail 124 including Basin, Shelf, Gem, and Sheep Lakes. |
| SL | Trail 218 west from Trail 214 via Joe's Gap to the Six Lake Basin and Trail 217 south to Road 112. |
| SP | Trail 58 from 1/4 mile east of McGaffee Cow Camp east to Trail 53; Trail 53 south to Trail 110; and Trail 110 to its junction with Boise Trail 101 just south of The Narrows. |
| ST | Trail 214 from Horse Heaven Saddle south to Stevens Saddle. |
| TL | The table lands and northwards along Road 672 from Cow Creek Saddle to Road 420 via Road 2065, then along Road 420 including Grave Point to Pittsburg Saddle Road 493. |
| TR | Trail 124 from Windy Saddle Campground to Hibbs Cow Camp. |
| WD | Trail 124 along the west side of the Seven Devils from Hibbs Cow Camp south to Horse Heaven Saddle 1/4 mile north of Horse Heaven Cabin. |
| WF | Trail 113 along West Fork Rapid River west from its junction with Rapid River to Rankin Mill. |
| WI | Windy Saddle area including Road 517 north to Heavens Gate Lookout parking lot; Trail 73 from the parking lot to the lookout; Seven Devils Campground, Guard Station, and Lake. |

TABLE 4. PLANT FAMILIES BY PLANT NUMBERS

| Common Name | Latin Name | Plant Numbers in the Family |
|--------------------------|------------------|---|
| Barberry | Berberidaceae | 26 |
| Birch | Betulaceae | 20 |
| Borage | Boraginaceae | 169,170 |
| Broomrape | Orobanchaceae | 167 |
| Buckwheat | Polygonaceae | 86,87,98,126,140,146,147,148 |
| Bur-reed | Sparganiaceae | 71 |
| Buttercup | Ranunculaceae | 25,120,128,151,152,164,165,179,191, 195,200,201 |
| Currant or Gooseberry | Grossulariaceae | 27,28,35,36,48,49 |
| Cypress | Cupressaceae | 15 |
| Dogbane | Apocynaceae | 74 |
| Evening-primrose | Onagraceae | 112,125,181 |
| Fern | Polypodiaceae | 3,4,5,6,7,8,9 |
| Figwort | Scrophulariaceae | 100,101,102,105,106,107,108,109,113, 114,179,180,197,199 |
| Flax | Linaceae | 166 |
| Gentian | Gentianaceae | 103,104 |
| Grass | Gramineae | 55,56,57,58,59,60,62 |
| Harebell | Campanulaceae | 162 |
| Heath | Ericaceae | 33,34,37,41,42,43,44,54,90,110,141, 182 |
| Honeysuckle | Caprifoliaceae | 38,39,40,51 |
| Lily | Liliaceae | 119,122,123,127,129,130,144,148,150, 176 |
| Nadder | Rubiaceae | 93 |
| Maple | Aceraceae | 19 |
| Mint | Labiatae | 81,82 |
| Moss | Polytrichaceae | 1 |
| Mustard | Cruciferae | 134,135,136,137,143,186,202 |
| Nettle | Urticaceae | 85 |
| Orchid | Orchidaceae | 136,145 |
| Parsley | Umbelliferae | 193,196,203 |
| Pea | Leguminosae | 198,206,207 |
| Peony | Paeoniaceae | 208 |
| Phlox | Polemoniaceae | 89,124,163,184,188,209,210 |
| Pink | Caryophyllaceae | 83,91,92 |
| Pine | Pinaceae | 10,11,12,13,14,16,17,18 |
| Primrose | Primulaceae | 160,161 |
| Purslane | Portulacaceae | 88,111,115,185 |

| Common Name | Latin Name | Plant Numbers in the Family |
|---------------|-----------------|---|
| Rose | Rosaceae | 21,24,29,30,45,46,47,50,52,53,192, 204,205 |
| Rush | Juncaceae | 68,69 |
| Saxifrage | Saxifragaceae | 116,117,138,142 |
| Sedge | Cyperaceae | 63,64,65,66,67 |
| Sphagnum moss | Sphagnaceae | 2 |
| Stonecrop | Crassulaceae | 153 |
| Sunflower | Compositae | 31,32,72,73,75,76,77,78,79,80,84,94, 95,96,97,99,121,131,132,133,149,154, 155,156,157,171,172,173,177,187,194 |
| Valerian | Valerianaceae | 189 |
| Violet | Violaceae | 118,158,159,168 |
| Waterleaf | Hydrophyllaceae | 139,174,175 |
| Water lily | Nymphaeaceae | 70 |
| Willow | Salicaceae | 22,23 |

CLASS A - MOSSES

The class mosses, for purposes of this guide, includes only the true and peat mosses. They are low plants that appear to have leafy stems and often are tufted. However, they lack true leaves, stems, or roots, as well as xylem and phloem (the food- and water-conducting tissues) of the 208 other vascular plants. They have strands of cells that resemble veins in their "leaves," and they have root-like filaments called rhizoids which perform support and feeding functions.

1. **Haircap mosses**, *Polytrichum* species, are low, tufted, and often matted plants that are found growing directly on soil in all but the highest subalpine situations. On recently disturbed areas they are important soil stabilizers. Frequently by July they produce "haircaps" (capsules, or specialized spore cases) atop filaments above the plants (see Figure 1). Habitats: All but AL,AQ,VP. Localities: All but HS.
2. **Sphagnum or peat mosses**, *Sphagnum* species, tend to sprawl along the ground in moist situations under moderate to dense shade. In the world's vast, cold, boreal conifer forests surrounding the globe to the north, they are the most common low plants. In fact, many thousands of tons of the dried and baled remains of these peat mosses are shipped to gardeners annually from Canadian peat bogs. Habitats: LS,RI, edges of WM. Localities: BD,BR,DR,EC,RA,RU,SH,TR,WD.

CLASS B - FERNS

Ferns are vascular but flowerless plants that have specialized compound leaves called fronds and "roots" called rhizomes. The fronds may have several branches or pinnae, and often the pinnae are subdivided into smaller leaflets called pinnules (Figures 3a, b, and c). Ferns reproduce via tiny, seed-like spores on the underside of their leaves. Cases containing the spores are called sporangia. These are found clustered in groups called sori, often beneath epidermis-like coverings called indusia. (Figures 4b, c, and e).

3. **Western maidenhair fern**, *Adiantum pedatum*, are Seven Devils plants that possibly belong to an unnamed, high-elevation taxon of the species having erect instead of horizontal pinnae, and layered instead of flat pinnules (Figure 3c vs. b). This taxon comes from a much higher and colder habitat 3,500 feet above the known Idaho distribution of typical maidenhair fern. It was first collected in 1927 by Dr. Harold St. John of Washington State College, apparently in the identical spot where it was collected in 1937 by WSC student Jacqueline Packard, and again by us in 1978 and 1980. St. John noted the erect pinnae appearing at higher elevation, but did not name the taxon. In Idaho, it is known only from the original and moderate-sized population, plus two other very small populations. Idaho's Rare and Endangered Plant Technical Committee has recommended that the possible new taxon be entered in the Federal Watch List of Rare Plants where changes in land use could limit the populations of this plant, possibly changing its status to a threatened category (see Steele et al., 1981). Habitats: CN,RN. Localities: HA,SH.
4. **Alpine lady fern**, *Athyrium distentifolium*, is the high elevation lady fern of the Northwest, distinguished from the common lady fern (*A. filix-femina*) (also in the Seven Devils) by the lack of an indusium over the sori (Figure 4b vs. 4e). Tall (50 cm) fronds distinguish the lady ferns from the much shorter (25 cm) brittle bladder fern (*Cystopteris fragilis*), and its clumped and unbranched fronds from the equally tall bracken fern (*Pteridium aquilinum*). Habitats: RI,TA. Localities: DO,EC,HA,HH,MR,PG,PO,SB,SH,WD,WI.
5. **Fee's lip fern**, *Cheilanthes feei*, as seen in Figure 5c, has a woolly tomentum of fine, soft and matted, rusty-colored hairs that cover the undersides of the pinnules and extend beyond their margins. This feature distinguishes Fee's lip fern from the merely coarse and rusty-haired lace lip fern (Plant 6 and Figure 6). The small lip ferns almost always grow in rock crevices. Habitats: BF,CN,CS. Localities: BL,SL.
6. **Lace lip fern**, *Cheilanthes gracillima*, is the common Seven Devils lip fern. It is another small, rock-crevice plant. Because the undersides of its pinnules are not as hairy as Fee's lip fern (Plant 5), their rolled-under edges, or lips (for which the lip ferns are named) are visible. Habitats: BF,CN,CS. Localities: probably all but HS.
7. **Rock brake or parsley fern**, *Cryptogramma crispa*, is a common and attractive fern that is easily identified because it has two kinds of fronds. The taller, fertile fronds (Figure 7a) rise above the 10-15 cm-tall sterile fronds. Fertile pinnules are both narrower and thicker than sterile pinnules (Figure 7b vs. c); the former have their edges rolled under covering the sori. Habitats: CN,RN,TA. Localities: ES,HA,NB,PG,RU,SB,SH,SL,TR,WD.



Fig. 1. Haircap Moss



Fig. 2. Sphagnum or Peat Moss

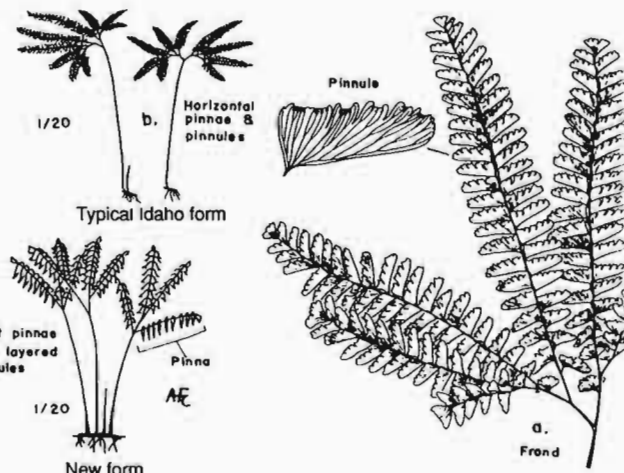


Fig. 3. Western Maidenhair Fern

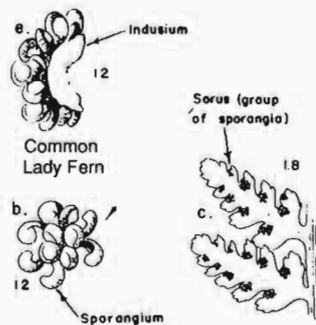


Fig. 4. Alpine Lady Fern

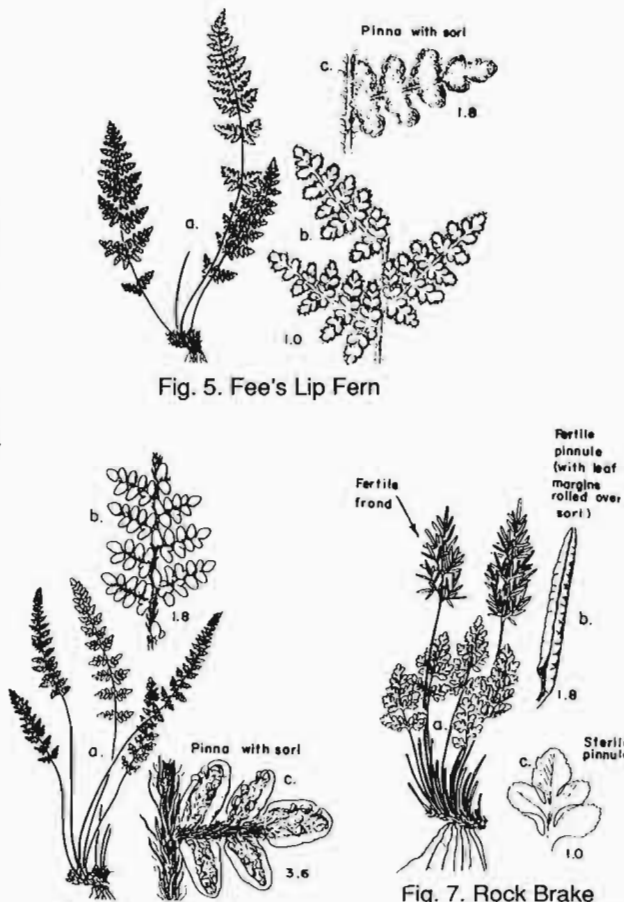


Fig. 5. Fee's Lip Fern

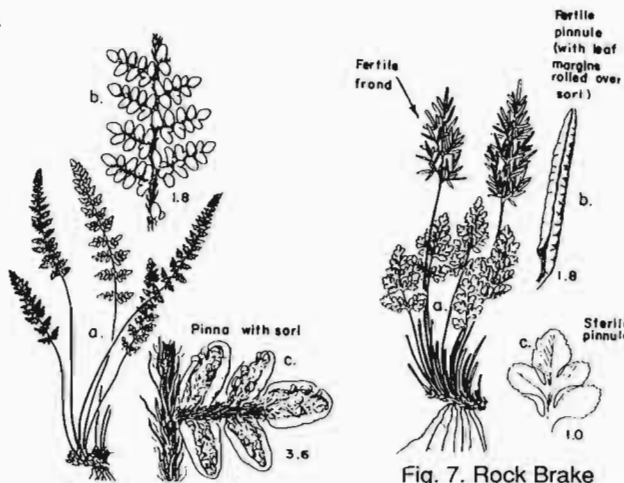


Fig. 6. Lace Lip Fern

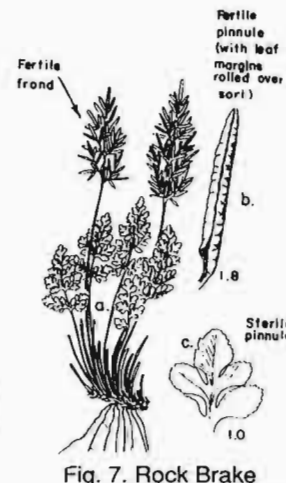


Fig. 7. Rock Brake or Parsley Fern

8. **Kruckeberg's sword fern**, *Polystichum kruckebergii*, is Idaho's rarest sword fern, discovered by and named after Dr. Arthur Kruckeberg of the University of Washington who found it in the Seven Devils near Shelf Lake in 1952. Mountain holly fern (*P. lonchites*) and rock sword fern (*P. scopulinum*), are look-alikes that are more common in the Seven Devils. These two similar sword ferns may be separated from Kruckeberg's by their narrower and less deeply toothed pinnae and by their shorter-spined pinnae teeth (Figure 8c vs. d and e). Habitats: (all three species) CN,RN. Localities: (*P. kruckebergii*) SH; (*P. lonchites*) HS,MR,NB,TR; (*P. scopulinum*) BR,HA,HO,MR,SB,SH.
9. **Woodsia**, *Woodsia oregana* (Oregon woodsia) and *W. scopulina* (Rocky Mountain woodsia), are delicate, 10-15 cm-tall rock-crevice ferns. The latter has pinnules that are hairy on their lower surfaces (Figure 9a). They may be separated from the similarly small and rock dwelling lip ferns (Plants 5 and 6) because the edges of their pinnules do not turn under, and they may be separated from the brittle bladder fern (*Cystopteris fragilis*) by the retention of many dead, but wiry petioles of the woodsia fronds. At lower elevations, and in drier years, the woodsias are transitory, their pinnae drying, curling, and dropping by late summer. Habitats: CN,CS,RN,RS. Localities: EM,BR,BL,CH,CR,DO,DR,EC,ES,HA,KI,LR,NB,RU,SA,SB,SH,TR,WD,WF,WI.

CLASS C - EVERGREEN, CONIFEROUS TREES WITH LEAVES IN BUNDLES (PINES)

Trees, for purposes of this guide, are mostly single, woody-stemmed, perennial plants that in time attain a height of 20 feet or more. Sometimes it is difficult to distinguish young, or multi-stemmed trees (as maple or willow) from similarly woody-stemmed and perennial shrubs. But trees have remarkably constant leaves and twigs both between individuals and across different habitats or localities. In coniferous trees the seeds are found in cones.

10. **Whitebark pine**, *Pinus albicaulis*, one of the world's five "stone" pines, reaches the summits of He and She Devil Mountains (nearly 9,400 feet elevation). Identifying features are needles in bundles of five, bright red male or pollen-bearing cones, and dark purple maturing female cones. In an average cone year, very few of the 1 cm-long, edible seeds ever reach the ground unless stored there by the Clark's nutcracker (*Nucifraga columbiana*). Each of the other four stone pines of Europe and Asia also has an associated nutcracker species that dismembers its cones and either eats or stores its large, wingless seeds. Habitats: AL,CN,CS,RN,RS,TA. Localities: All those above 7,000 feet (see discussion under Plant 35).
11. **Lodgepole pine**, *Pinus contorta*, is easily identified because its needles occur in bundles of two. It has small cones with sharp-tipped scales (about 5 cm long, Figure 11b), most of which hang on the branches for many years. Some of these persistent cones do not open when they are mature, yet they contain viable seeds. Eventually, the heat generated by forest fires opens them and seeds are dispersed soon after. The almost pure stands of lodgepole pine are pioneers following fires. Habitats: CN,CS,RN,RS. Localities: All but HS.
12. **Ponderosa pine**, *Pinus ponderosa*, is also easily identified by its long (10-20 cm) needles that grow in bundles of three. The cones are larger (8-14 cm long) than those of either lodgepole or whitebark pines, and accumulate on the ground beneath mature trees. Magnificent groves of the orange-barked, overmature ponderosa pines (up to 130 feet tall and 5 feet in diameter) may be seen just above the forks of Little Granite Creek off Trail No. 112. Habitats: RN,RS. Localities: BD,BL,BU,CH,CS,CR,DR,ES,LA,LG,LR,LV,NB,PA,SA,SB,SP,TL,TR,WD,WF.

CLASS D - CONIFERS WITH SOLITARY NEEDLES

13. **Subalpine fir**, *Abies lasiocarpa*, is the Seven Devils true fir of the higher elevations. It has a long, narrow, church-steeple crown and does not grow as tall as grand fir. It can also be separated from grand fir by its purple-colored immature cones and by the radial (all-sided) arrangement of the needles (Figure 13a). Habitats: AL,CN,CS,LA,LS,RI, RN,RS. Localities: All but LR and TL.
14. **Grand fir**, *Abies grandis*, is the Seven Devils true fir that occurs at the lower elevations, grows the tallest, and has the broadest crown. Upright cones and pitted needle scars (Figures 14c and d) indicate that this evergreen conifer is a true fir of the genus *Abies*. This species has green-colored immature cones and two-ranked needles with a flat appearance (Figure 14a). It occurs mainly below 6,500 feet. Habitats: RI,RN. Localities: BL,BU,CC,CH,CR,CS,DR,ES,KI,LA,LG,LS,LV,NG,PA,RA,PG,SA,SP,TL,WD,WF.

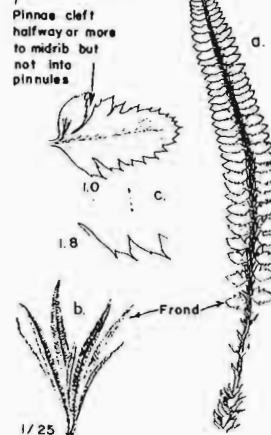
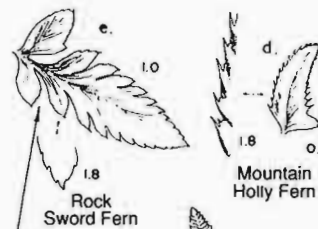


Fig. 8. Kruckeberg's Sword Fern

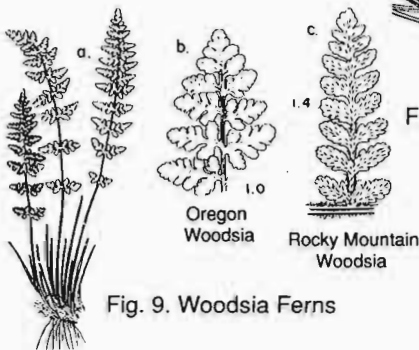


Fig. 9. Woodsia Ferns

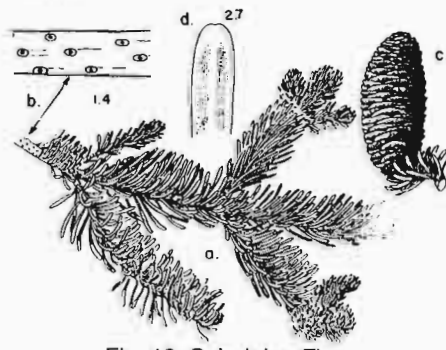


Fig. 13. Subalpine Fir



Fig. 10. Whitebark Pine

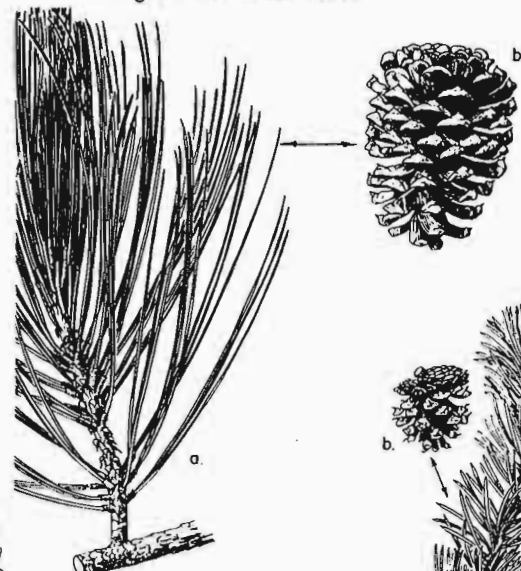


Fig. 11. Lodgepole Pine

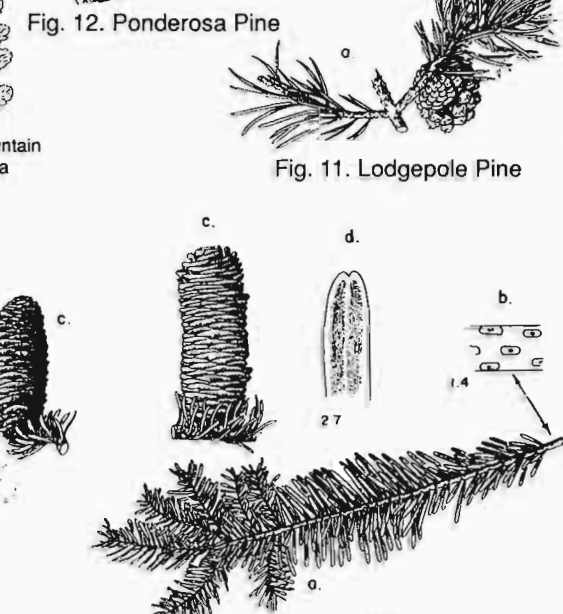


Fig. 14. Grand Fir

15. **Mountain juniper**, *Juniperus communis* var. *montana*, is a prostrate, shrublike, coniferous tree in which the female cone scales are fleshy and blue-colored and are decidedly berrylike (Figure 15c). Male and female cones grow on separate plants; the male cones (Figure 15b) are transitory. Often this juniper grows in large patches that are dense enough to exclude other vegetation. Needles are sharp-pointed and prickly (Figure 15b). Juniper berries give gin its odor and flavor. Habitats: CN,CS,RR,RS. Localities: BD, BM, BR, DO, DR, EC, HA, HH, HS, LI, MR, PG, RU, SB, SH, SL, TR, WO, WI.

16. **Western larch or tamarack**, *Larix occidentalis*, occurs sporadically up to about 7,000 feet in the Seven Devils, but is scarce above 5,000 feet. This larch is identified by its feathery, light-green leaves that are not bundled together into twos, threes, or fives at their bases but have 15-30 needles clustered atop each new spur shoot. (In Figure 16, look for the characteristic spur shoots on dead twigs on the ground). Female cones are small (under 3.5 cm long), almost spherical, and have prominent papery bracts that protrude between the cone scales. Old standing, dead, barkless, buckskin tamaracks are northern Idaho's premier firewood. Habitats: RN. Localities: BD, BL, CC, EC, KI, LA, LG, LV, NB, PA, SA, WD, WF.

17. **Engelmann spruce**, *Picea engelmannii*, is a large and prickly-leaved tree that is easily distinguished from other Seven Devils' conifers by the persistent needle bases that roughen the older, bare twigs (Figure 17c). The light brown female cones are about 5 cm long, pendulous, and have thin and papery scales. Habitats: LS, RI, RN. Localities: All but the highest (HS) or lowest (CH, LR, TL).

18. **Douglas-fir**, *Pseudotsuga menziesii* var. *glauca*, is the inland and more bluish-leaved variety of this commercially important western conifer. It is distinguished by its unnotched needle tips, its sharp-pointed buds (Figure 18d) and unpitted needle scars (Figure 18b), and by its oval, 4-8 cm cones with prominent papery bracts (Figure 18c). On the steeper slopes, moving snow tends to deform the lower trunks, bowing them outwards. Habitats: CN, CS, RI, RN, RS. Localities: BD, BL, BM, BR, BU, CA, CC, CH, CR, CS, DR, EC, ES, HA, HH, KI, LA, LG, LR, LV, NB, PA, PG, RA, RU, SA, SB, SH, SP, ST, TL, TR, WD, WF, WI.

CLASS E - BROADLEAVED, DECIDUOUS TREES WITH SIMPLE AND OPPOSITE LEAVES

19. **Rocky Mountain maple**, *Acer glabrum* var. *douglasii*, usually is a multi-trunked tree under 30 feet tall. It is a typical, small maple with simple (but lobed and toothed), 5-10 cm-long leaves. Leaves are opposite. It is double-seeded with winged fruits (samaras) (Figure 19), and has silvery grey bark. It is fairly common below 7,200 feet. Habitats: RI, RN, RS. Localities: BD, CC, CH, CR, CS, DO, DR, EC, ES, HA, JM, KI, LA, LR, LV, NB, PA, PG, RA, SA, SB, TL, WD, WF.

CLASS F - BROADLEAVED TREES WITH SIMPLE AND ALTERNATE LEAVES

20. **Sitka alder**, *Alnus sinuata*, is another small (17-22 feet tall) and multi-trunked tree where the bark is a darker grey than in maple (above). Leaves are simple but toothed, alternate, oval-shaped, and 5-10 cm long. The easiest way to identify this alder is to find the persistent (last year's) 1.5 cm football-shaped, female catkins that will have turned dark with age (Figure 20a). New male and female catkins form on twigs of the current season, and show about the time of pollen shedding (Figure 20b). Another Seven Devils alder (mountain alder, *Alnus incana*), mostly at 5,000-6,000 feet, has current-season catkins borne on twigs of the previous year. The young bark is glandular (Figure 20b) and the leaves are glabrous except along the veins of their undersides (Figure 20c). Habitats: AV, LS, RI, NR. Localities: BU, CA, CR, CS, DR, EC, ES, JM, KI, LA, LG, NB, PA, RA, RU, SA, WD, WF.

21. **Curleaf mountain-mahogany**, *Cercocarpus ledifolius*, is a tree of the rose family normally found near canyon bottoms on the drier, lower slopes of the Seven Devils. Occasionally it grows above 5,000 feet. As the name mahogany implies, the heartwood is hard, lustrous red-brown in color, and heavy enough to sink. It is the only evergreen, broad-leaved tree of the Seven Devils, although the marginally-curved, 1-3 cm-long and up to 1 cm-wide leaves (Figure 21b) might not seem to be really "broad." The June flowers (Figures 21c) are yellow with elongated hairy styles that persist as attachments to the seeds (Figure 21d). Habitats: CS, PS. Localities: CR, CH, DR, KI, LR, SA, WF.

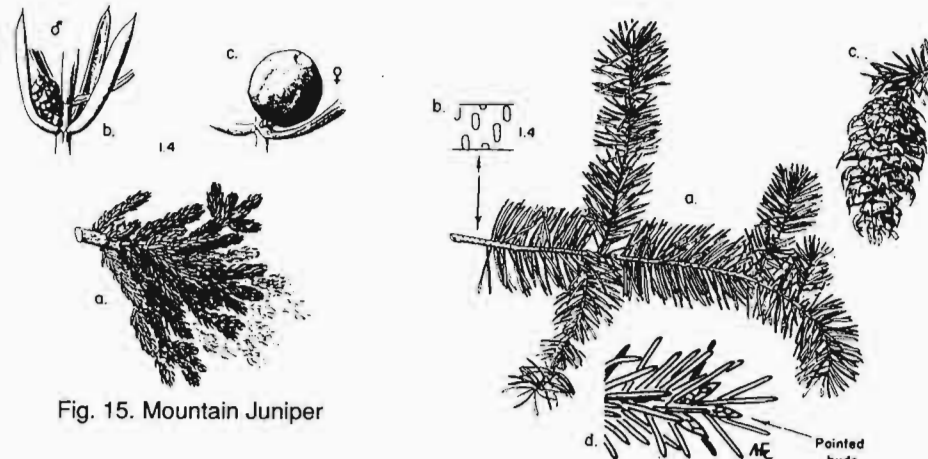


Fig. 15. Mountain Juniper

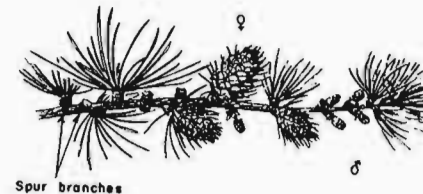


Fig. 16. Western Larch or Tamarack

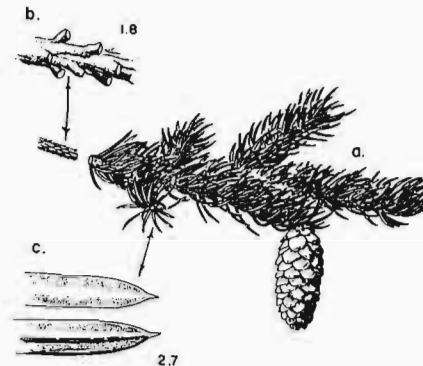


Fig. 17. Engelmann Spruce

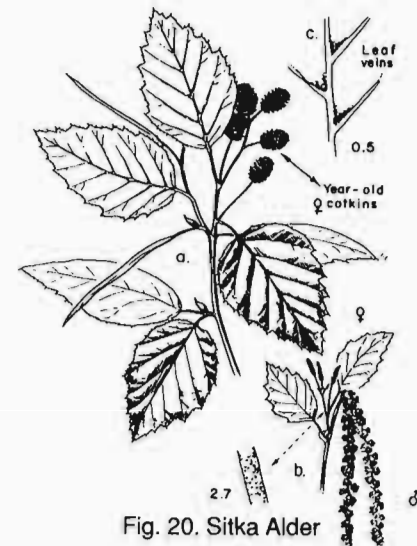


Fig. 20. Sitka Alder

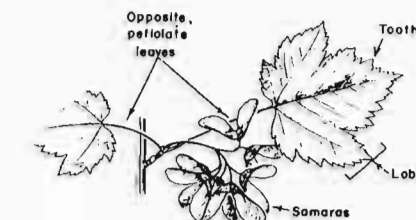


Fig. 19. Rocky Mountain Maple

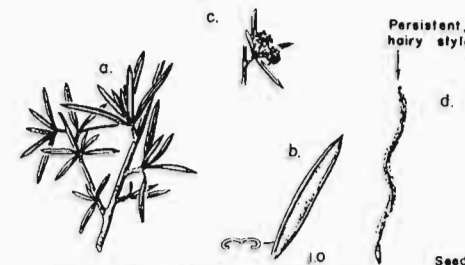


Fig. 21. Curleaf Mountain-mahogany

22. **Quaking aspen**, *Populus tremuloides*, is well-named for its trembling leaves borne on long, thin, flattened petioles (Figure 22b). These single-stemmed, green-grey to white barked trees reach 50 feet. They usually grow in colonies as they are able to send up new stems from spreading roots. The flowers are tiny, being aggregated in catkins resembling those of pussy willows (Figure 22c and d). Habitats: LS,RN,RS,TA. Localities: BD,BL,CC,CR,CS,DR,EC,HA,KI,LA,LG,NB,RU,SB,TL,TR,WD,WI.
23. **Scouler's willow**, *Salix scouleriana*, usually is seen as a tall multi-stemmed shrub, but ultimately may become a small tree up to 36 feet tall and 12 inches in diameter (as can be seen at Low Saddle). It is the most common willow of inland northwest forests, and the only tree-willow of the Seven Devils. Chances are, a willow found in the upland away from stream or lake banks will be a Scouler's willow. Inflorescences are pussy willows (Figure 23c and d). The leaves are entire, bluntly-pointed, short-petioled, and about 5 cm long. They are widest about 2/3 of the way up the blade (Figure 23a). Habitats: AV,RN,RS. Localities: BD,BR,CA,CC,CH,CR,CS,EC,ES,HA,KI,LA,LR,NB,PA,RA,RU,SA,SP,SH,SP,ST,TL,TR,WD,WF,WI.

CLASS G - BROADLEAVED TREES WITH COMPOUND AND ALTERNATE LEAVES

24. **Cascade mountain-ash**, *Sorbus scopulina*, usually is found as a single- or few-stemmed shrub, but ultimately can become a small tree up to 22 feet tall. The 10-15 cm-broad, flat-topped inflorescence with many small, cream-colored flowers, and the compound leaves are reminiscent of blue elderberry (*Sambucus cerulea*), except that elderberries have opposite leaves. The compound leaves with 9-13 sharp-pointed leaflets, and especially the autumn clusters of bright orange fruits (Figure 24a) clearly identify this mountain-ash. Habitats: RI,RN,RS. Localities: BD,BL,BR,BU,CC,CR,CS,EC,ES,HA,JI,KI,MR,NB,PA,PG,RA,RU,SA,SB,SH,TL,TR,WO,WF.

CLASS H - WOODY STEMMED VINES

Vines, for purposes of this guide, are elongated (up to 10+ in) climbing or crawling woody plants rooted in the ground.

25. **Columbia clematis**, *Clematis columbiana*, is the only woody vine of the Seven Devils. It has compound leaves, usually with three, 3-5 cm-pointed leaflets. The solitary, sky-blue, 4-6 cm, five-parted flowers are the most striking feature of this plant (Figure 25a). The plumed fruits are also showy (Figures 25b and c). Habitats: RN. Localities: CH,CR,DR,ES,NB,PG,RA,SP,TR,WD,WF.

CLASS I - WOODY STEMMED SHRUBS WITH PRICKLY STEMS OR LEAVES (See also Plant 15)

Shrubs, usually upright and multiple-stemmed, are woody, perennial plants that attain a maximum height under 3 m.

26. **Creeping Oregon-grape**, *Berberis repens*, is a low evergreen shrub with shiny dark- to red-green compound leaves that each have five to seven prickly, holly-like leaflets. It has showy spring clusters of small (1 cm wide), six-petaled, bright yellow flowers that become clusters of dark blue, berry-like fruits once the whitish bloom rubs off. As the name implies, the juice and pulp of the berries make a delicious, grape-flavored jelly or wine. Habitats: CN,CS,RN,RS,TA. Localities: CA,CR,EC,ES,HA,HH,KI,LR,MR,NB,PG,RA,RU,SA,SB,SH,WD,WF.

27. **Swamp gooseberry**, *Ribes lacustre*, is the commonest of the eight wild currants and gooseberries (*Ribes* spp.) found in the Seven Devils, but it is only one of three prickly-stemmed *Ribes* species found here. Swamp gooseberry attains about 1.0-1.5 m in height, has stems covered with short prickles as well as nodal spines usually under 1 cm long, and has 3-5 cm leaves with fairly sharp-pointed lobes. Snow gooseberry (*R. niveum*) usually is a much taller plant (1.5-3.0 m) and has longer (7-15 mm) spines located only at the stem nodes. Mountain gooseberry (Plant 28) has much smaller leaves (under 2.5 cm wide) which are more rounded.

The *Ribes* species are separated from the prickly roses (Plant 29) and raspberries (Plant 30) by their 5-15 clustered, greenish-pink flowers or purple-black currants. Habitats: AV,CN,CS,RN,RS. (See the discussion about blister rust under Plant 35.) Localities: BD,RE,BL,BU,CA,CC,CH,CR,CS,DO,DR,EC,ES,HA,HH,KI,LA,LO,LR,LV,MR,NB,PA,PG,RA,RU,SA,SB,SH,TL,TR,WD,WF,WI.

28. **Mountain gooseberry**, *Ribes montigenum*, is the common high-elevation prickly currant of the Seven Devils growing above 9,100 feet on He Devil Mountain. It is separated from the other gooseberries as described above. Habitats: AV,CN,CS,RN,RS. Localities: BD,EM,BR,CA,DO,DR,EC,ES,HA,HH,HS,MR,PG,PO,RA,RU,SH,SL,ST,TR,WI.

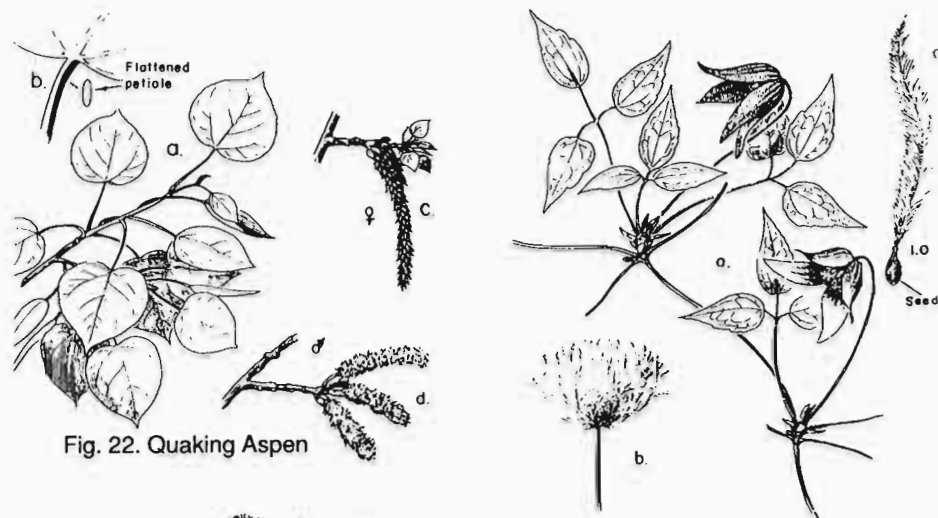


Fig. 22. Quaking Aspen



Fig. 23. Scouler's Willow



Fig. 24. Cascade Mountain-ash

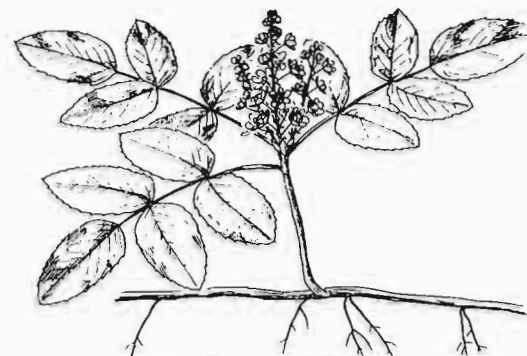


Fig. 26. Creeping Oregon-grape

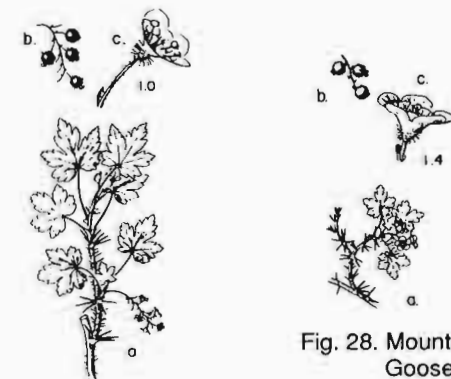


Fig. 27. Swamp Gooseberry

Fig. 28. Mountain Gooseberry

29. **Baldhip rose**, *Rosa gymnocarpa*, and **Nootka rose**, *Rosa nutkana*, are the most common wild roses found in the Seven Devils. They are not distinguished here. Mostly, they are from the lower elevations (5,000-6,500 feet). There are five to nine leaflets in their compound leaves, and their five rose-colored petals are 1-4 cm long. Hips (fruits) are round to pear-shaped, scarlet or purplish. Habitats: RI, RN, RS. Localities: BL, BU, CC, CH, CS, DR, ES, HA, KI, LA, LG, LR, NB, PA, RA, RN, SA, TL, TR, WD, WF.
30. **Red raspberry**, *Rubus idaeus*, usually is a resident of talus slopes on the edges of boulder fields. It can be identified by its bristly, reddish-purple upper stems, its three leaflet compound leaves, and its tasty red raspberries. Habitats: AV, BF, CN, CS, RN, RS, TA. Localities: BD, BL, BM, BR, CA, DO, DR, EC, HA, HH, KI, MR, NB, PG, RU, SB, SL, TR, WD, WI.

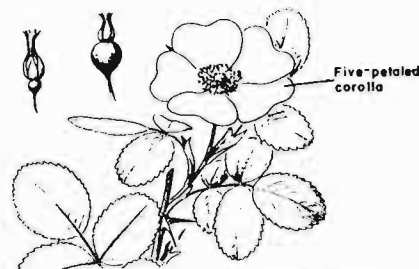


Fig. 29. Baldhip Rose or Nootka Roses



Fig. 33. Smooth Labrador Tea

CLASS J - UNARMED WOODY SHRUBS WITH AROMATIC OR PUNGENT SAGE-SMELLING LEAVES

31. **Western mugwort**, *Artemisia ludoviciana*, is one of the sage-scented mugworts or wormwood sagebrushes that die back to their woody, perennial bases each winter. The new stems of these subshrubs are somewhat less than woody, and occur in small clumps up to 80 cm tall. The 3-5 cm-long leaves are so deeply divided as to appear to be compound (Figure 31b). This leaf formation indicates that the Seven Devils plants belong to the high elevation variety *incompata*. Habitats: RN, RS, TA. Localities: BR, CA, CH, CS, DR, EC, HA, HH, KI, LR, MR, NB, PA, PG, SB, TL, WD, WF, WI.
32. **Mountain big sagebrush**, *Artemisia tridentata*, is the typical sagebrush (grey-green leaf color, sage odor, compact and woody-stemmed shrubs). It has 1.5-3.0 cm wedge-shaped, triple-toothed leaves (lower part Figure 32a), and a large inflorescence (upper part of Figure 32a). The Seven Devils, or montane, variety reaches over 1 m tall and has stems up to 3 cm thick. Some fairly large stands of this sagebrush occur on remnants of the uplifted basalt cap (see Geological History, page 3), as along Trail 112 near its junction with Trail 56 just north of Hibbs Cow Camp. The only other woody-stemmed sagebrush of the Seven Devils is stiff sage (*Artemisia rigida*, Figure 32b). Stiff sage is a low (20-30 cm tall), sprawling plant living mostly in elevations below 5,400 feet. An example is at Cow Creek Saddle in the northern Seven Devils. Habitats: HG, SB. Localities: BL, BM, BU, CC, CR, CS, HH, KI, LG, NB, PO, RA, SB, SL, ST, TL, TR, WD, WI.
33. **Smooth Labrador tea**, *Ledum glandulosum*, is a frost pocket dweller found on sites where there are pronounced cold air drainages as along the banks of lakes and streams. It reaches over 1 m tall. Its oval leaf blades are dark green on top and light, greyish-green below. When crushed they have a delightfully aromatic odor. It is also called trapper's tea, but cannot really be recommended for tea-making as it is known sometimes to be poisonous to livestock. Flowers are whitish, clustered at the tops of the stems, and about 1.0-1.5 cm across. Habitats: LS, RI. Localities: BR, LI, RU, SH.
34. **Fool's huckleberry**, *Menziesia ferruginea*, is a tall (up to 2 m) and often snow-bent shrub with a mildly unpleasant odor to the crushed leaves. It is a characteristic plant of the snow belts of the northern Rocky Mountains. This variety (*glabella*) has blunt, oval leaf blades which stand erect and are clustered at the branch tips (Figure 34c). It has reddish-yellow, huckleberry-like flowers (Figure 34b), which fail to develop into edible fruits. In frost pockets (as near the shorelines of Dog and Sheep Lakes) this normally tall shrub may be reduced to a low, compact bush under .5 m in height. Habitats: BF, LS, RI, RN, RS. Localities: BD, BL, BR, CA, CR, CS, DO, EC, ES, HA, HH, LG, MR, NB, PA, PG, RA, RU, SB, SH, SL, TR, WD, WF, WI.
35. **Stinking currant**, *Ribes hudsonianum* var. *petiolare*, proves to be well-named if one crushes the leaves. This currant almost always has its roots in water and its leaves are relatively large (5-8 cm wide) and watery. Like most of the currants, it has large sepals, but very inconspicuous petals (Figure 35b). It is the most susceptible of the Seven Devils wild currants and gooseberries (*Ribes* spp.) to the introduced white pine blister rust disease. However, the much more prevalent swamp gooseberry and sticky currant (Plants 27 and 36) also carry and spread the rust disease. Undersides of the large, maple-like leaves of the stinking currant often are solidly orange with the spore cases and spores of the rust (*Cronartium ribicola*). Spores produced in the fall of the year spread from the infected currants and gooseberries to the needles of the whitebark pine (Plant 10) and any of the other white pines. In time, the rust grows down the needles and into the twigs, branches, and stems. Here it may girdle the branches or stems and cause their tips to die, leaving highly-visible dead tops or branches, often like "flags" when the dead and reddened needles are still attached. The cankers seen on whitebark pine are spindle-shaped, pitchy, and often with rodent-gnawed branch or stem swellings. Early in the spring, the light orange-colored spore cases or blisters of the rust are seen protruding between bark cracks of the cankers. Habitats: RI. Localities: BL, DR, EC, ES, HO, KI, LG, NB, PA, RA, RU, SA, WD, WF.

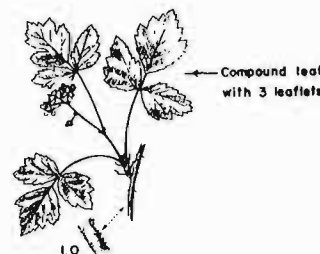


Fig. 30. Red Raspberry

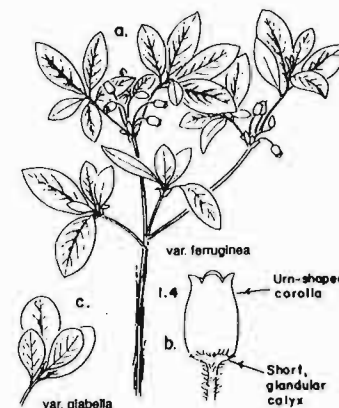


Fig. 34. Fool's Huckleberry

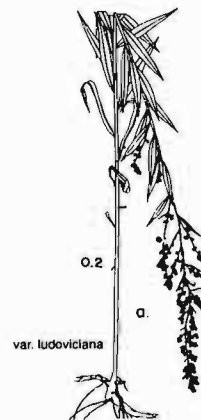


Fig. 31. Western Mugwort



Fig. 32. Mountain Big Sagebrush

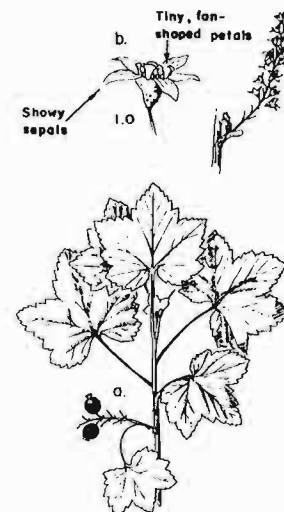


Fig. 35. Stinking Currant

36. **Sticky currant**, *Ribes viscosissimum*, is a .5-1.5 m-tall shrub with spicy smelling, five-lobed, bluntly-toothed leaves about 3-6 cm across and somewhat wider than long. It is named for the sticky glandular upper stems and leaves. It can be separated from the other Seven Devils currants and gooseberries by its lack of stem prickles or spines, by its markedly glandular leaf petioles, by its mealy and disagreeable taste, and by its 1 cm-diameter bluish-black currants (Figure 36a). Except for being glandular, the leaves are similar to mallow ninebark (Plant 47). The difference in the inflorescence sets it aside from ocean spray (Plant 46). Refer to the discussion about blister rust (Plant 35). Habitats: AN, RN, RS. Localities: BD, BL, BR, BU, CA, CC, CH, CR, CS, DO, DR, EC, ES, HA, HH, KI, LA, LG, MR, NB, PA, PG, RA, RU, SA, SB, SH, TL, TR, WD, WF.

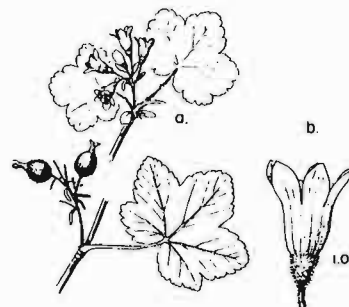


Fig. 36. Sticky Currant

CLASS K - UNARMED, NON-AROMATIC, WOODY SHRUBS WITH OPPOSITE LEAVES
(See also Plants 19, 74, and 108)

37. **Alpine laurel**, *Kalmia microphylla*, is a delightfully small ground-hugging plant with bright pink bowl-shaped corollas about 1 cm wide. It almost always occurs in boggy areas close to lake shores. The small (1-2 cm long x 3-6 mm wide) leaves are shiny dark green above and are curled under at the edges. The stamen filaments are densely hairy just above their bases. It might be keyed as a forb. Habitats: LS. Localities: EC, LI, SH.
38. **Bearberry honeysuckle**, *Lonicera involucrata*, is a coarse 1-2 m shrub with young twigs that are square in cross-section, and large, oval-shaped, entire and sharp-pointed leaves. It is easily identified by the paired yellow flowers and by the two pairs of bracts beneath them (Figure 38b), or by the paired black fruits that are up to 1 cm in diameter (Figure 38a). There is a small spur at the base of the corolla, hidden by the upper bract. Habitats: LS, RI, RN, RS. Localities: BD, BL, BR, CA, CS, DO, DR, EC, ES, HH, KI, LA, LI, LG, MR, NB, PA, PG, RA, RU, SA, SB, SH, SL, TR, WD, WI.
39. **Utah honeysuckle**, *Lonicera utahensis*, is one of the most common if least noticeable of the Seven Devils shrubs. Aside from the fact that the leaves sometimes exceed 5 cm in length and are sometimes stiff-hairy beneath, it is very difficult to distinguish this honeysuckle from the mountain snowberry (Plant 40) except when they are flowering or fruiting. Its paired, tubular flowers are cream colored, have a small but white visible spur at the base of the tube (Figure 39b), run about 1.0-1.5 cm long, and lack a calyx. The paired fruits each are about 1 cm thick (Figure 39c) and are bright red. Habitats: AV, CN, CS, LS, RI, RN, RS. Localities: All but HS and LR.
40. **Mountain snowberry**, *Symphoricarpos oreophilus*, is nearly identical to Utah honeysuckle (Plant 39) when not in flower or fruit. This is not surprising since they are closely related in the same plant family. The white or pinkish corollas of the snowberry are 7 mm-1 cm in length and lack the spur of the honeysuckle (Figure 40b). The mealy, instead of juicy, white snowberries also separate it from the honeysuckle. Habitats: RN, RS. Localities: BL, BU, CA, CC, CH, CR, CS, DR, EC, HA, HH, KI, LG, NB, PA, PG, RA, SA, SB, SL, ST, TL, TR, WD, WI.



Fig. 37. Alpine Laurel

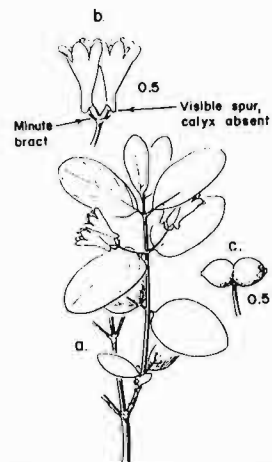


Fig. 39. Utah Honeysuckle

CLASS L - UNARMED, NON-AROMATIC, WOODY SHRUBS UNDER 1.5 METER TALL AND WITH ALTERNATE LEAVES
(See also Plants 26, 52, and 54)

41. **Pink mountain-heath**, *Phyllodoce empetriformis*, is a low and often matted evergreen shrub reaching about 30 cm high. Commonly it is found in openings in the whitebark pine (Plant 10) forests. The small, crowded, and evergreen leaves are only about 1 cm long x 1 mm wide. Corollas are bell-shaped with rolled back lobes (Figure 41b); they are dark pink, borne terminally in clusters, and are less than 1 cm long. See Plants 42 and 43. Habitats: AV, CN, CS, LS, RI, RN, SN. Localities: BD, BL, EM, BR, CA, DO, DR, EC, HA, HH, LI, MR, NB, PG, RA, SH, SL, ST, TR, WI.
42. **Yellow mountain-heath**, *Phyllodoce glanduliflora*, is almost a replica of pink mountain-heath except for its yellowish corollas that are more restricted in the throat (urn-shaped, figure 42b). Habitats: CN, CS, LS, RN, RS. Localities: SH.

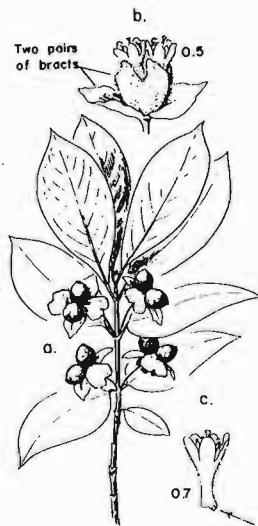


Fig. 38. Bearberry Honeysuckle

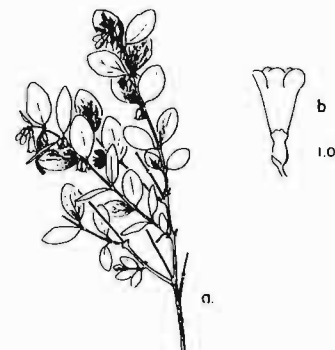


Fig. 40. Mountain Snowberry

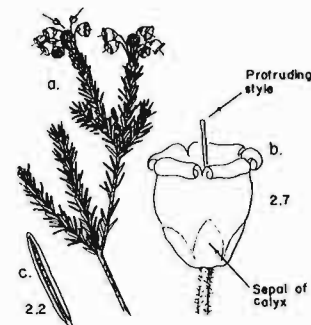


Fig. 41. Pink Mountain-heath

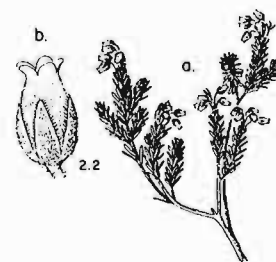


Fig. 42. Yellow Mountain-heath

43. Hybrid mountain-heath, *Phyllodoce intermedia* or the hybrid *Phyllodoce empetriformis* X *P. glanduliflora*, is a natural hybrid from the crossing of pink and yellow mountain-heaths (Plants 41 and 42). Corollas are light pink and are urn-shaped, vs. the deep pink and bell-shaped corollas of the pink heath. The hybrid is known to occur near the vernal pond along Trail No. 123 about 1/3 of a mile south of Gem Lake. Habitats: LS,RN,RS. Localities: SH. There is no drawing for this plant.

44. Grouse huckleberry, *Vaccinium scoparium*, is one of the most common plants of the Seven Devils between 7,000 and 8,500 feet elevation. It is a huckleberry, but its environment is so harsh that fruiting is irregular. Small (4 mm long), pinkish, urn-shaped flowers, (Figure 44b), or the .5 cm red berries are sparse. Plants have tiny, oval, pointed leaves only about 1.0-1.5 cm long, and the stems usually are broomlike (Figure 44a) and matted. Habitats: AV,CN,CS,LS,RI,RN,SN,TA. Localities: BD,BL,BM,BR,CA,CR,DO,DR,EC,ES,HA,HH,LI,LG,MR,NB,PA,PG,RA,RU,SB,SH,SL,ST,TR,WD,WF,WI.

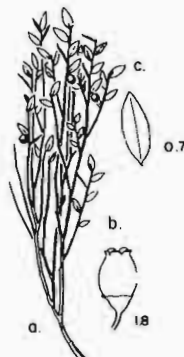


Fig. 44. Grouse Huckleberry

CLASS M - UNARMED, NON-AROMATIC, WOODY SHRUBS OVER .5 METER TALL WITH ALTERNATE OR OPPOSITE LEAVES (See also Plants 20, 23, 24, and 36)

45. Western serviceberry, *Amelanchier alnifolia*, is another of the shrubs that grows from the bottom to almost the top of Hells Canyon (up to 7,500 feet). Ours is the variety *pumila* (Figure 45a) having rounded leaf tips. It is multi-stemmed and reddish-twigged, up to 2-3 m tall, and has smooth, silvery bark. The oval leaves are simple and alternate, 2-4 cm long, and shallowly toothed mainly on the outer half of the leaf (Figure 45a). The many white flowers come on before leafing, and with their 1-2 cm-long petals (Figure 45b) make a show against the bare hillsides of early spring. Fruits resemble miniature apples (Figure 45c), but are dark purplish colored and only 1 cm in diameter when ripe. They are edible. Habitats: CN,CS,RN,RS. Localities: BD,BL,BU,CA,CR,CC,CH,CR,CS,EC,HA,HH,KI,LA,LR,LV,MR,NG,PA,PG,RA,SA,SB,SH,SP,TL,WD,WF,WI.

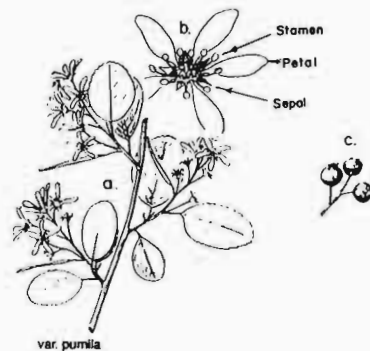


Fig. 45. Western Serviceberry

46. Ocean spray, *Holodiscus discolor*, is a 1-3 m tall, multi-stemmed shrub with extremely hard wood. It is a late bloomer (late spring to early summer), but worth waiting for. Its stems are topped by extravagant, 10-15 cm-long, filmy, conical inflorescences, often pendant with the weight of their masses of creamy buff flowers. The short-haired leaves are simple and alternate, about 4-7 cm long, and bluntly lobed and notched (except the bases which are entire and almost at right angles to the petioles). Mostly this plant is a canyon dweller, but in the Seven Devils, it reaches 7,000 feet. Habitats: CN,CS,RN,RS. Localities: BD,BL,CC,CS,DR,EC,ES,LR,LV,PA,RA,SA,SH,SP,TL,TR,WD,WF.

47. Mallow ninebark, *Physocarpus malvaceus*, probably is the most common shrub on the mid-slopes of Hells Canyon, but appears down to the Snake River and up to about 6,800 feet in the Seven Devils. The light brown bark separates from the stem in many (someone must have said nine) noticeable and vertical strips. The simple and alternate, bluntly lobed, and notched leaves are 4-8 cm long and somewhat longer than wide. They are similar to those of the sticky currant and almost always have two pistils (Figure 47b) (Plant 36), but are not glandular or sticky. Flowers are whitish, about 1 cm across, and occur in round-topped clusters. Habitats: RI,RN,RS. Localities: BU,CA,CC,CH,CR,CS,DR,ES,KI,LA,LG,LV,LR,NB,PA,RA,SA,SP,TL,TR,WD,WF.

48. Snake River squaw currant, *Ribes cereum* var. *colubrinum*, is almost glabrous with egg-shaped floral bracts. It is a local variety confined to the Snake and Salmon River Canyons. It is fairly common to the Seven Devils between about 6,500 feet and 7,500 feet (for instance, at Dry Diggins Lookout, near McGaffee Cow Camp, or along Road 517 in Papoose Creek). Sometimes it is a lonely shrub in the high elevation grasslands. It is a thornless, simple, and alternate leaved, dryland currant with small (1.5-3.0 cm wide), round-lobed and -toothed, hairless leaves. Flowers are greenish-white and about .5 cm long, while the currants are about the same length, but dull red. The strongly pubescent var. *inebrians* (Figure 48b) is also found in the Seven Devils. Habitats: CN,CS,HG, RN,RS. Localities: BL,BR,CH,CR,CS,DR,EC,ES,KI,LG,PA,RA,SA,ST,WD.

49. Rothrock's currant, *Ribes wolfii*, is considered to be rare, but is not currently threatened in Idaho, unless land use changes should threaten the limited populations (see Steele, et al., 1981). Homebase for this currant is in Utah, Colorado, Arizona, and New Mexico, but there are three Idaho outliers in the distribution. A Sheep Creek locality was reported by Dr. Harold St. John of Washington State College in 1927, and lies in the head of the North Fork of Bernard Creek on the Bernard-Sheep Creek Divide. A second Sheep Creek locality was found by the authors in 1981, along Road No. 1819 on either side of Cold Springs Cow Camp. It is another thornless currant with simple and alternative leaves that are reminiscent of those of the stinking currant (Plant 35), but are smaller (2.5-6.0 cm across), have less acute lobes, and are less odoriferous. The flowers are greenish-yellow; the fruits (Figure 49c) are black, and both run about 1 cm long. Habitats: HG,RS,RN. Localities: CS,DR.

* Rare



Fig. 46. Ocean Spray



Fig. 47. Mallow Ninebark

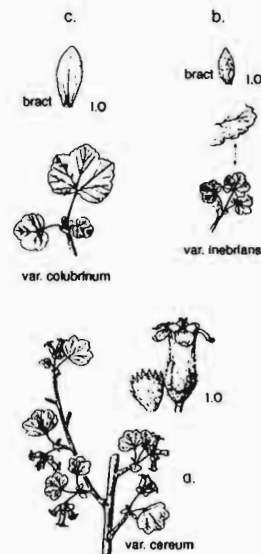


Fig. 48. Snake River Squaw Currant

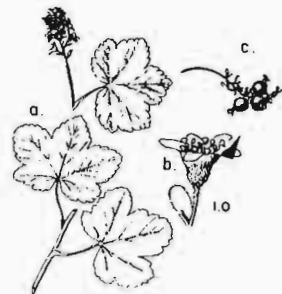


Fig. 49. Rothrock's Currant

50. **Thimbleberry, *Rubus parviflora***, is the unarmed, simple-leaved raspberry of the Seven Devils and is quite different from the Red Raspberry (Plant 30). Thimbleberries are near their upper elevation limits in the Seven Devils. The large leaves (usually 10-15 cm long and somewhat broader) are five-lobed. The five white petals also are large (1.5-2.5 cm long), and the red thimbleberries, although quite seedy, have a uniquely delicious flavor. Fruits are subtended by a persistent calyx (Figure 50b). Habitats: RI, RN. Localities: BD, BR, CA, CC, CH, CR, CS, EC, ES, HH, KI, LR, LV, MR, NB, PA, PG, RA, SA, SB, TL, TR, WD.
51. **Black elderberry, *Sambucus racemosa* var. *melanocarpa***, is an elderberry up to 2 m tall with a conical, cream-colored inflorescence 5-10 cm long and purplish-black fruits. The compound and opposite leaves usually have five to seven large (5-15 cm long x 3-5 cm wide), sharply pointed and toothed, oval leaflets. The individual flowers are only 3-6 mm across. Habitats: BF, LS, RI, RN, RS. Localities: BD, BL, BR, CA, DO, DR, EC, ES, HA, KI, LA, MR, NB, PA, PG, RA, RU, SB, TR, WD, WI.
52. **Birch leaf spiraea, *Spiraea betulifolia***, is the common white-flowered spiraea of the Seven Devils. Usually it is not over .5 m tall. It is a plant of the rocky hillsides and rock slides, and spreads mainly by rhizomes. The simple and alternate, oval leaves are coarsely toothed, except for the basal 1/3 that is entire. Inflorescences are flat-topped, usually about 5 cm wide, and composed of many 5 mm-dull, white flowers. Habitats: RN, RS, TA. Localities: BD, CA, CH, CR, DO, DR, EC, ES, HA, HH, KI, LG, LR, LV, NB, PA, PG, RA, RU, SB, SH, SP, TR, WD, WF.
53. **Subalpine spiraea, *Spiraea densiflora***, is the pink-flowered spiraea of the higher lake- and streambanks of the Seven Devils. It has fairly fine-toothed, simple and alternate, oval leaves about 2-4 cm long. The inflorescence, in birch leaf spiraea, is also flat-topped, but instead of being white, is a rose pink color. It is 2-4 cm across, with individual flowers about 5 mm across. Habitats: LS, RI. Localities: BL, CA, HA, EC, LI, MR, PG, SH, SL, WI.
54. **Big huckleberry, *Vaccinium membranaceum***, is the tallest of two main Seven Devils huckleberries (see also Plant 44). This one grows to .5 m and has larger leaves (2-5 cm long), flowers (6 mm long), and fruits (to almost 1 cm diameter). Generally it is found at somewhat lower elevations than the grouse huckleberry (Plant 44), but occasionally is found at 7,000 feet. Habitats: RI, RN, RS. Localities: BD, BL, BR, BU, CA, CC, CH, CR, CS, EC, ES, DR, HA, HH, KI, LG, LV, MR, NB, PA, PG, RA, RU, SA, SB, SH, SP, TR, WD, WF, WI.

CLASS II - HERBS WITH GRASSLIKE LEAVES, AWNED GRASSES WITH ROUND AND HOLLOW STEMS

Herbs are perennial or annual plants with stems that die back annually. Included are grasses, sedges, rushes, and non-grasslike forbs.

Grass Terminology: Grass flowers lack both calyx and corolla. Instead they are enclosed by two papery bracts. The flower with the bracts is called a grass floret (Figure 56b). Florets often are supplied with bristly extensions from one of the floral bracts, called awns (Figure 56b, 57b, through 60b). A group of one or more florets arranged compactly and alternately along the branches of the grass inflorescence is called a spikelet (Figures 56b and 57a). Spikelets may be sessile (Figure 56a), or have a pedicel (Figure 57a). If they are sessile and arranged alternately along the zig-zagging peduncle, they are said to occur in a spike (Figure 56a); if pedicel, they are said to occur in a panicle (Figure 57a). There may be from 1-10 florets in a spikelet.

55. **Spreading wheatgrass, *Agropyron scribneri***, is a short (10-20 cm tall), high-elevation grass of the Seven Devils. It has noticeable, 2-3 cm awns that give the spikes the appearance of foxtails. These long awns are shorter than those of the 20-50 cm, spectacularly-awned bottlebrush squirreltail grass (Figure 55b). Spreading wheatgrass generally always has five florets per spikelet and one spikelet per node, while bottlebrush squirreltail generally has one to six florets per spikelet and two spikelets per node. These characteristics, however, often prove to be variable. Habitats: CN, CS, TA. Localities: BR, HH, LG, RA, RU, SB, TR, WD.
56. **Bluebunch wheatgrass, *Agropyron spicatum***, is a somewhat taller bunchgrass (.5-1.0 cm tall) having much shorter awns (1.0-1.5 cm long). It grows from river level (where it is the most common grass) to about 7,600-8,000 feet. It always has six to eight florets, sessile spikelet per peduncle node. Habitats: CN, CS, HG, LG, RN, RS, SB, TA. Localities: BU, CC, CH, CS, DR, HA, HH, KI, LG, LR, PG, RA, SA, SL, SP, ST, TL, WF.

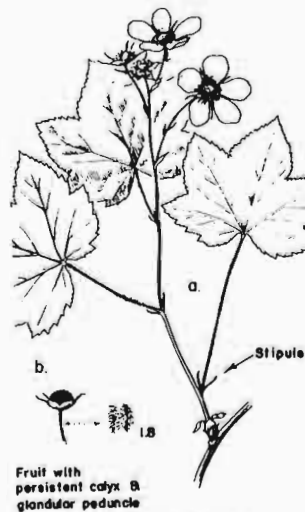


Fig. 50. Thimbleberry



Fig. 51. Black Elderberry



Fig. 52. Birchleaf Spiraea

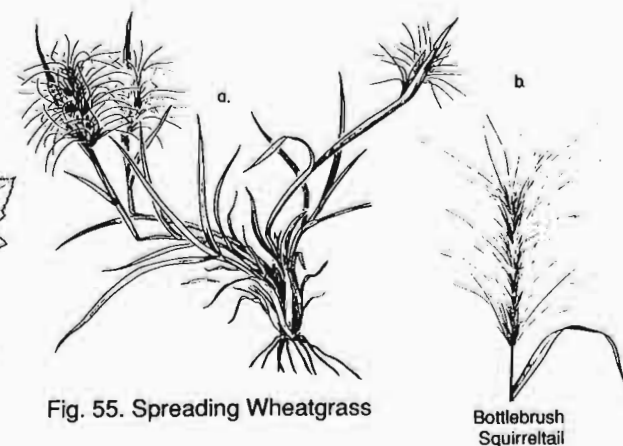


Fig. 55. Spreading Wheatgrass

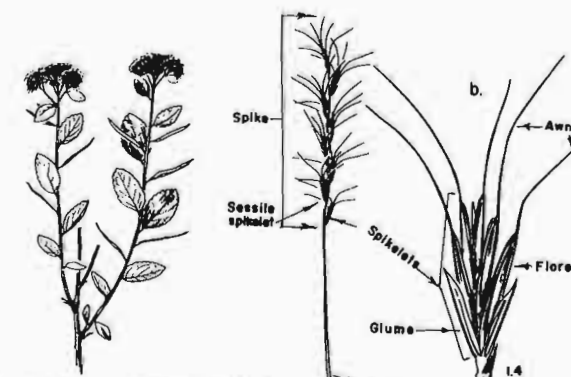


Fig. 53. Subalpine Spiraea

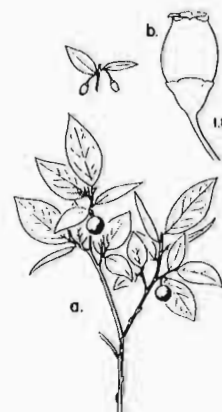


Fig. 54. Big Huckleberry

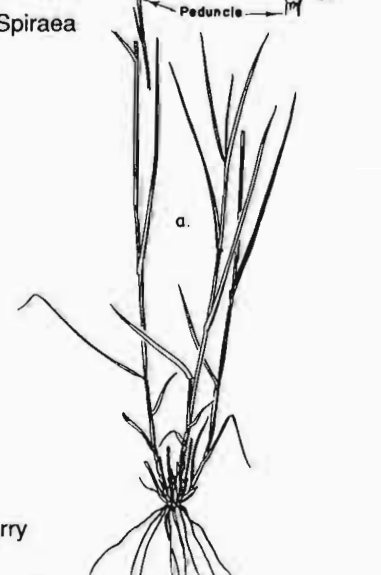


Fig. 56. Bluebunch Wheatgrass

57. **Mountain brome, *Bromus carinatus***, is another awned grass, but with the awns only 3-5 mm long. It has pedicled spikelets, each with five to ten florets. It is a tall bunchgrass-like bluebunch wheatgrass (Plant 56), but is coarser-leaved (2-5 mm wide) and occurs in smaller bunches than wheatgrass or Idaho fescue (Plant 58). This is the only very common brome grass of the Seven Devils, excluding the introduced cheat grass (*Bromus tectorum*) of the lower elevations. Habitats: HG,RN,RS. Localities: BL,EM,BR,BU,CA,CC,CR,CS,EC,DO,DR,HA,HH,HS,KI,LG,NB,PG,RA,SA,SB,SL,SP,TL,TR,WD,WI.
58. **Idaho fescue, *Festuca idahoensis***, probably is the premier forage grass of the Seven Devils. It is a fine-stemmed and narrow-leaved perennial bunchgrass with clumps reaching 20 cm wide x 75 cm tall. The leaf blades often appear to be threadlike because they are rolled inwards. The inflorescence is a panicle with pedicled spikelets and awns about 3 mm long. Outstanding high elevation grasslands (Habitat HG), predominated with this species, occur along Boise Trail 101 a few miles north of Heavens Gate Lookout, and along Trail 140 out from Dry Diggins Ridge. Habitats: HG,LG,RN,RS. Localities: EM,BR,BU,CC,CR,CS,DO,DR,EC,ES,JM,KI,LG,LR,MR,NB,PA,PO,RA,SA,SB,SL,SP,ST,TL,TR,WD,WI.
59. **Western needlegrass, *Stipa occidentalis* var. *minor*** is the only Seven Devils grass on which the awns are both twisted and kinked, as well as hairy (Figure 59b). Another perennial bunchgrass, it has dense and tufted clumps up to 15 cm across but only about 50 cm tall. The awns are long (1.5-4.0 cm). The rather widely-spaced spikelets have a short pedicel, and are borne in a long spike-like panicle up to 30 cm. Habitats: HG,RN,RS. Localities: BL,EM,BR,BU,CR,CS,DR,JM,KG,NB,RA,SB,SL,ST,WD,WI.
60. **Spike trisetum, *Trisetum spicatum***, as the name implies, has a spike-like inflorescence which is a panicle of densely-packed, sessile spikelets having very short pedicels. The awns are about 5-6 mm long, and there are mostly two florets per spikelet (Figure 60b). It is another perennial bunchgrass, and has small, low (under 50 cm tall) clumps. The inflorescence resembles that of prairie junegrass (Plant 61), except that junegrass lacks the definite awns of trisetum. Habitats: CS,HG,HS,RN,RS. Localities: EM,BR,CA,DR,ES,HA,KI,LG,MR,PO,PG,RU,SB,SH,SL,ST,TR,WD,WI.

CLASS O - HERBS WITH GRASSLIKE LEAVES, AWNLESS GRASSES WITH ROUND AND HOLLOW STEMS

61. **Prairie junegrass, *Koeleria cristata***, always is a minor component of the low or high grasslands (Habitats LG or HG) of the Seven Devils Mountains. Tisdale (1979) shows how this plant (with Plant 58) comprises a habitat type in the Snake River Canyon. It most closely resembles spike trisetum (Plant 60), with dense spikelike, panicle inflorescence and mostly two florets per spikelet. The awns, however, are very short (Figure 61b), and this bunchgrass may be somewhat taller than the trisetum (up to 60 cm). Habitats: HG, LG,RN. Localities: EM,BU,CS,DR,NB,SA,SP,TL,WD,WI.
62. **Sandberg's bluegrass, *Poa sandbergii*** (including *P. gracillima*, is a small, low, and compact bluegrass. It is the only one of five bluegrass species of the Seven Devils that is at all common. It seldom reaches over 30 cm in height and often is purple-tinged throughout. It covers an extremely wide range of habitats from the river banks to the highest summits of the Seven Devils peaks. It is the only truly awnless grass among the eight considered here (Figure 62b). The inflorescence is a tight panicle, but with obviously pedicled spikelets. The low height and the fine-leaved, compact clumps are the most convenient identifying characters. Habitats: AL,AV,CN,CS,HG,LG,RN,RS,SB,TA. Localities: EM,BR,BU,CC,CH,CR,CS,ES,HA,HP,HS,KI,LG,LI,MR,NB,RA,SA,SB,SL,TL,TR,WD,WI.

CLASS P - HERBS WITH GRASSLIKE LEAVES, SEDGES WITH THREE-RANKED LEAVES AND SOLID STEMS

Sedges always have 3-ranked leaves, often imparting a triangular shape to stem cross-sections. The flowers are naked, although subtended by an open bract (Figure 63b) and completely enclosed in another sac-like bract from which the stamens and pistils protrude at the top. Flowers are sessile, thus always occur in spikes (one to several per peduncle). Spikes may be bisexual (Figure 63b) or occasionally unisexual (Figure 65b).

63. **Elk or Geyer's sedge, *Carex geyeri***, is one of the half dozen most common plants of the Seven Devils; and is always a component of the high grasslands (Habitat HG). Compared to the other common Seven Devils sedges (Figures 64-67), it was cheated on the size of its inflorescence. It produces only one to three seed pods atop each of the 20-40 cm-flowering stems (Figure 63b); its stems are circular in cross-section. It is mainly a sedge of the drier sites, easily recognized by its scanty inflorescences. Habitats: CN, CS,HG,LS,RN,RS,SB,TA. Localities: All but the highest (HS) and lowest (LR).

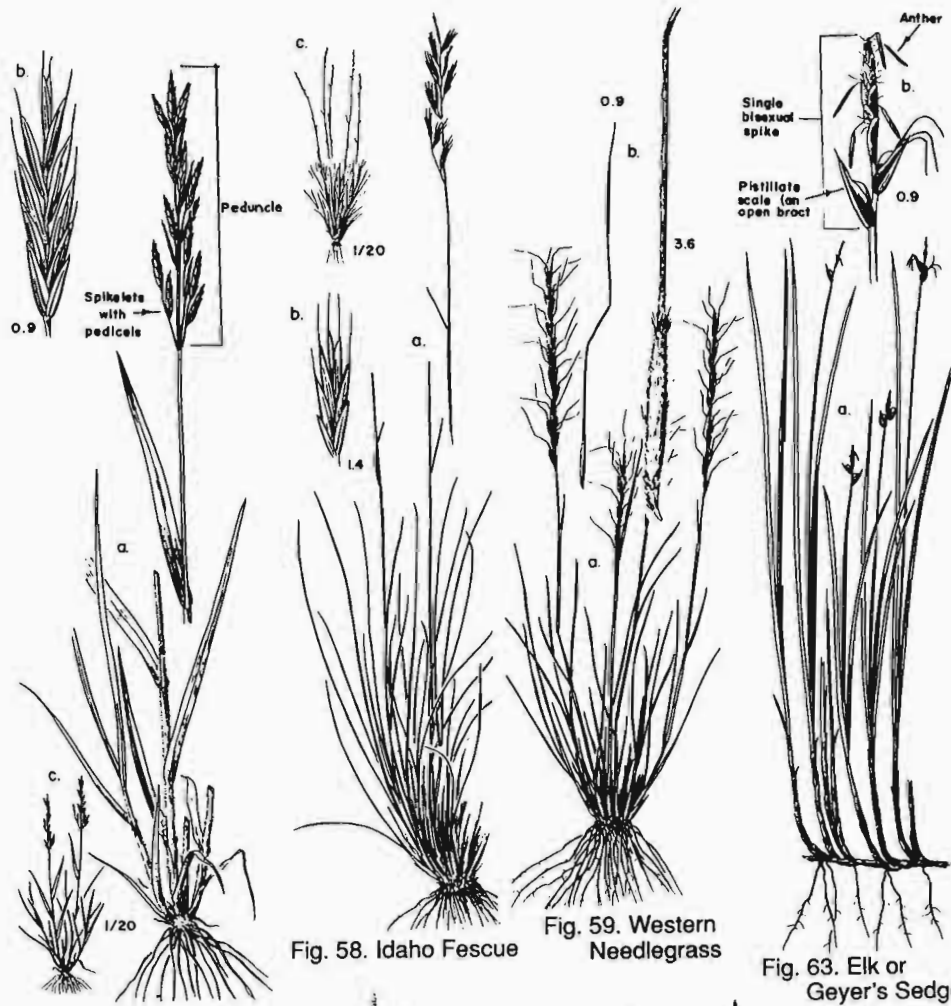


Fig. 57. Mountain Brome

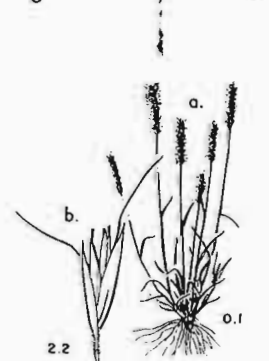


Fig. 60. Spike Trisetum

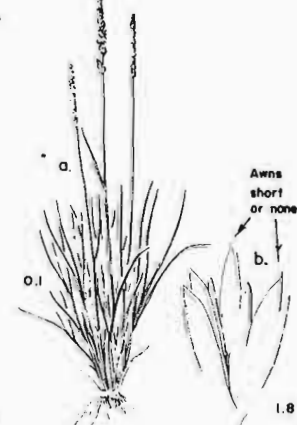


Fig. 61. Prairie Junegrass

Fig. 62. Sandberg's Bluegrass

64. Hood's sedge, *Carex hoodii*, is another widely distributed sedge of the moderately moist and drier sites in the Seven Devils. Its frequency is somewhat less than that of elk sedge (Plant 63), and at 30-80 cm tall often it is 10-20 cm taller. The first other than bract-like leaves are fully 10 cm or more above groundline. Inflorescences are short (1.5-3.0 cm long) and composed of many few-flowered spikes (Figure 64b) which stand well above the tallest leaves (Figure 64c). This sedge is always a component of the high grasslands of the Seven Devils (Habitat HG), sometimes a major one. Habitats: HQ, LG, RN, RS, SB, TA. Localities: All but the highest (HS) and lowest (LR).
65. Lenticular sedge, *Carex lenticularis*, is named for its lens-shaped fruit and most often is found as a lakeshore dweller, just above or below the high water line. Usually slightly taller than the two foregoing sedges (Plants 63 and 64), but with the upper leaves often longer than the flowering stems (Figure 65c). Unlike the two foregoing sedges, each flowering stem has 3-6 flowering heads 1-5 cm long x .5 cm thick (Figure 65b). These flowering heads are the most striking feature of the plant; the upper ones are completely male (stamens only, no ovaries or seed pods), while the lower ones are completely female with regular rows of green-midribbed, blackish bracts covering the seed pods. Habitats: LS, RI, WM. Localities: BD, BR, DO, EC, HA, HH, RU, SB, SH.
66. Sierra hare sedge, *Carex leporinella*, is the high elevation sedge of the Seven Devils, occurring above 9,300 feet on summits of She and He Devil Mountains. There it is the most prominent herbaceous plant, growing to 20-30 cm above 8,800 feet. Flowering heads are well above the leaves. The only other grasslike plant growing at that elevation is Sandberg's bluegrass (Plant 62), which usually is both shorter and finer-leaved than the sedge. Habitats: AL. Localities: HS.
67. Sawbeak sedge, *Carex stipata*, is named for its large and compact, prickly conical inflorescence (up to 10 cm long x 3 cm wide). It is one of the tallest Seven Devils sedges, reaching 1 m in height and most often found below high water line in the shallow water of lakes or open marshes. Leaves are long and coarse (up to 30 x 1 cm). Habitats: LS, RI, VP, WM. Localities: ED, CA, EC, LI, SH.

CLASS Q - HERBS WITH GRASSLIKE LEAVES, RUSHES WITH FLOWERS IN CAPITATE CLUSTERS OR PANICLES, TEPALS PRESENT

Rushes: Grasslike plants with stems that are round in cross section, but differing from grasses or sedges in that they have three-parted calyces and corollas (Figures 68b and 69b). Individual sepals or petals are so much alike, however, that they are called "tepals." Flowers usually occur in capitate clusters (Figure 68a) or in panicles (Figure 69a).

68. Merten's rush, *Juncus mertensianus*, has dense, black, spherical and capitate inflorescences of clustered flowers standing well above the leaves, and subtended by an often prominent bract (Figure 68a). It is a small plant (10-25 cm tall) that likes wet soils. Ultimately the flowers produce plump black seed pods about 1.5 x 3.0 mm in size (Figure 68b). Merten's rush is the most common Seven Devils rush. The far less prevalent Parry's rush (*J. parryi*) is easily distinguished because it has only 1-4 flowers or seed pods to the capitate cluster (reminiscent of elk sedge, Plant 63) and has long floral bracts that reach well above the flower clusters (Figure 68c). Habitats: LS, RI, RN, VP, WM. Localities: BD, BL, BR, CR, DO, DR, HA, HH, LI, MR, PA, PG, RA, SH, SL, TR, WD, WI.
69. Smooth woodrush, *Luzula hitchcockii*, is a different sort of rush with its flowers in spreading panicles (Figure 69a). It reaches 20-50 cm tall and has short but broad leaves (3-6 cm long x 1 cm wide) (Figure 69a) that stay well below the inflorescence. The plump, dark brown seeds of the smooth woodrush are about 1.5 mm long, while those of the small-flowered woodrush, *L. parviflora*, usually found on drier sites and at the lower elevations, are under 1.5 mm long. Another Seven Devils woodrush, the spiked woodrush, *L. spicata*, has a tight, spike-like inflorescence and usually is found at the higher elevations. Habitats: LS, RI, RN, SN. Localities: BH, BL, BR, CA, DO, DR, ES, HA, KI, PA, PG, SH, SL, TR, WF, WI.

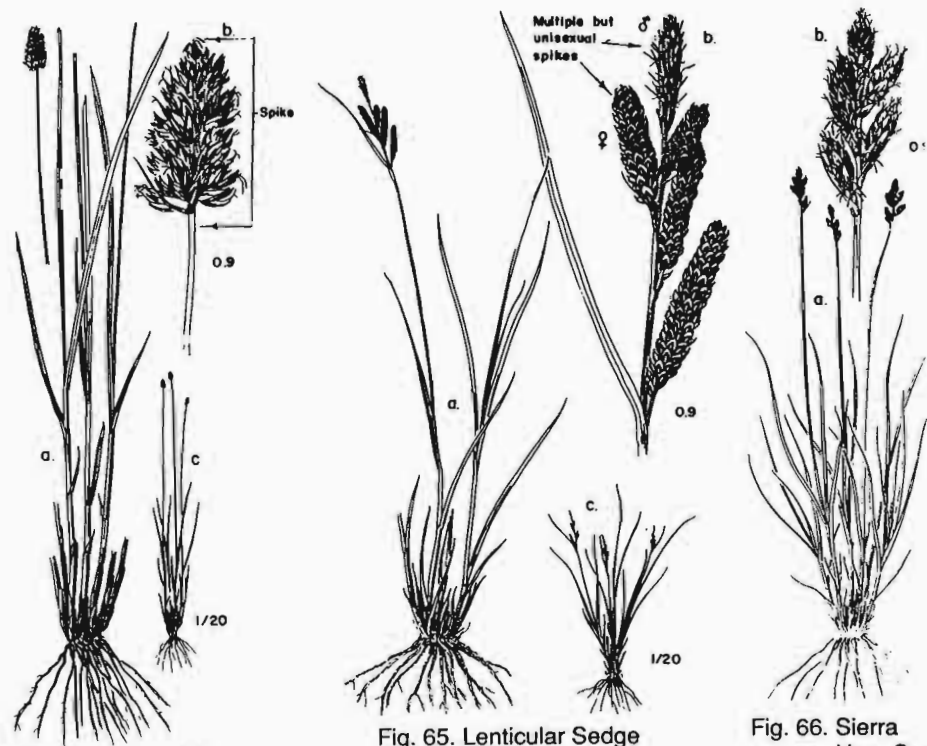


Fig. 64. Hood's Sedge

Fig. 65. Lenticular Sedge

Fig. 66. Sierra Hare Sedge

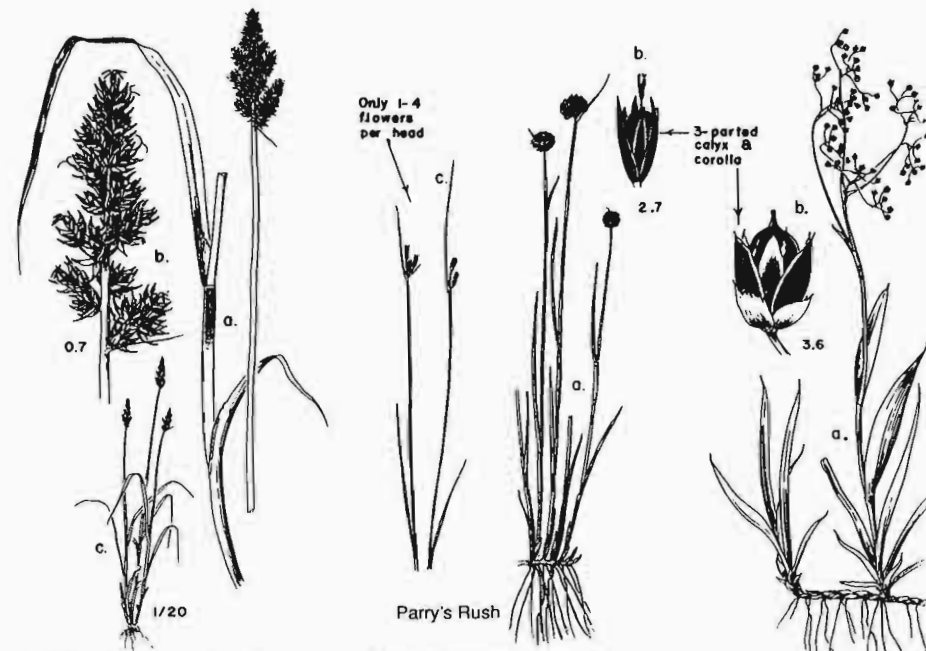


Fig. 67. Sawbeak Sedge

Fig. 68. Merten's Rush

Fig. 69. Smooth Woodrush

CLASS R - AQUATIC HERBS (See also Plants 65 and 67)

70. **Indian pond lily, *Nuphar polysepalum***, is the only pond lily of the Seven Devils. We found it only in Bernard and Lily Pad Lakes. Habitat: AQ. Localities: BR,LI.
71. **Narrow-leaf bur-reed, *Sparganium angustifolium***, has floating leaves and stems up to 1 m or more in length; the narrow leaves (only about a .5 cm wide) may be almost as long as the stem, and are crescent-shaped in cross section. There are usually up to five spherical, male flower heads situated on the stem above 2-4 larger female heads. The female heads are also spherical, and these "burs" are up to 1.5 cm in diameter. Habitats: AQ. Localities: BD,CA,EC.

CLASS S - MILKY JUICED FORBS

Composite inflorescence terminology: Another special group of plants, including eight of the nine plants in this class and almost a fifth of the herbs that follow in this guide, are the "composites" or plants of the family Compositae. They have multiple, small, sessile flowers crowded together in a head, having a common base (the receptacle). Calyces are mostly absent, but the receptacles are surrounded below with a number of usually narrow and pointed, mostly greenish, and hairy floral bracts that together form an involucre (Figure 72b). Individual flowers take two forms. Either they have a narrow, tubular corolla atop the developing fruit (called disc or tubular flowers atop the achene, Figures 149c and 197b), or they have a similar tubular corolla with one relatively long and narrow, petal-like appendage growing from one side of the top of the tubular corolla (called ray or ligulate flowers, Figures 149d and 157d). When these ray flowers occur in a circle around the outer edge of the receptacle, the flower heads are called radiate (Figure 157b), and if all the flowers in the head are ray flowers the heads are called ligulate (Figure 72d). If, on the other hand, there are only disc flowers, then the heads are called discoid (Figure 187a). Very often there is an appendage that aids seed dispersal, called a pappus, that is composed of fine, usually white, straight, barbed, or feathery bristles. The pappus may be absent (Figure 149c), quite simple with a ring of straight and upright bristles (Figure 173c), or a more complex, parachute-like structure of straight or feathery bristles attached to a long-beaked achene (Figures 72c and 80c). A common example of a composite plant is dandelion.

72. **Orange false dandelion, *Agoseris aurantiaca***, is a common species of the western mountains. A composite with ligulate heads, the corollas are burnt-orange color and turn purplish with age or drying. The flowering stems stand 25-50 cm tall. Habitats: HG,RN,RS,SB. Localities: BD,EM,BR,DO,DR,EC,HA,KI,LG,NB,RA,RU,SB,SL,ST,TR,WD,WI.
73. **Pale false dandelion, *Agoseris glauca***, is a well-named plant for its ligulate heads look like those of dandelions (Plant 79), except they are a paler yellow. The pale false dandelion is also taller than the dandelion (20-50 cm) and has entire leaves versus the deeply-lobed dandelion leaves. Habitats: HG,RN,RS. Localities: BR,CA,CR,CH,DE,KI,LI,PA,SA,ST,TL,TR,WD,WF.
74. **Spreading dogbane, *Apocynum androsaemifolium***, is the only non-composite in this milky-juiced class; it belongs to the dogbane family (Apocynaceae). It is a pink-flowered, opposite-, oval-, and entire-leaved subshrub (sprouting annually from spreading, perennial roots) reaching 50 cm tall. String-bean-shaped seed pods reach 10 cm long. Habitats: RN,RS,TA. Localities: DO,EC,LR,NB,RA,RU,SP,TR,WD,WF.
75. **White hawkweed, *Hieracium albiflorum***, is the only white-flowered, ligulate-headed, and milky-juiced composite of the Seven Devils. It has entire and alternate leaves, stands about 40-80 cm tall, and usually grows in at least partial shade. Habitats: RN,RS. Localities: BD,BR,CA,DR,EC,ES,HA,LV,NB,PA,PG,RA,RU,SB,SH,SL,SP,ST,TR,WD.
76. **Hound's-tongue hawkweed, *Hieracium scouleri***, var. *cynoglossoides*, or the look-alike western hawkweed *H. scouleri* var. *albertinum*, are most common hawkweeds of the higher Seven Devils. They are hairy all over, have yellow ligulate heads, entire and alternate leaves that are long and relatively narrow (up to 25 cm x 4 cm), and reach about 40-130 cm tall. There are many heads per flowering stem. These hawkweeds are difficult to separate and are considered as one here. Habitats: RN,RS,TA. Localities: BL,EM,BR,CA,CR,DO,DR,EC,ES,HA,HH,KI,LG,LI,MR,NB,PA,PG,RA,RU,SB,SH,SL,SP,ST,TR,WD,WI.
77. **Slender hawkweed, *Hieracium gracile***, is the small, delicate, yellow-headed hawkweed of the Seven Devils, usually reaching only 5-20 cm tall. The ray flowers are difficult to see; the oval leaves are mostly basal. Habitats: RN,RS,TA. Localities: BD,BL,EM,BR,DO,DR,HA,KI,LA,MR,PG,RU,SH,SL,ST,TR,WI.

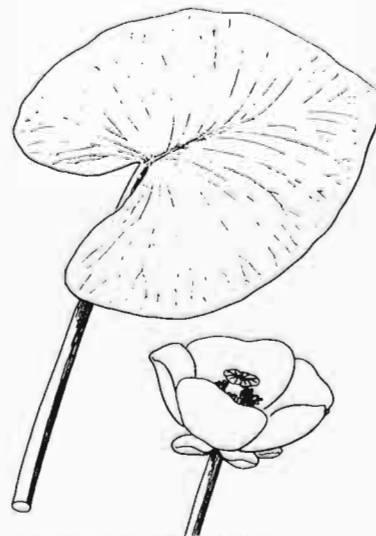


Fig. 70. Indian Pond Lily



Fig. 71. Narrow-leaf Bur-reed

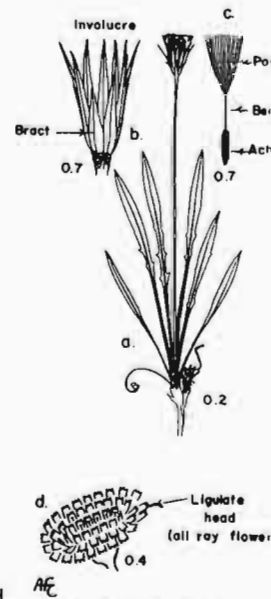


Fig. 72. Orange False Dande

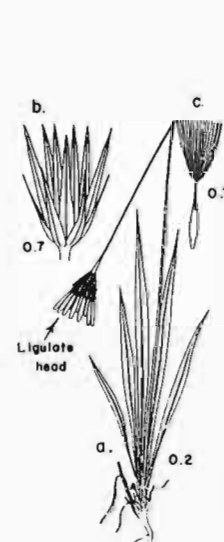


Fig. 73. Pale False Dandelion



Fig. 76. Hound's-tongue Hawkweed

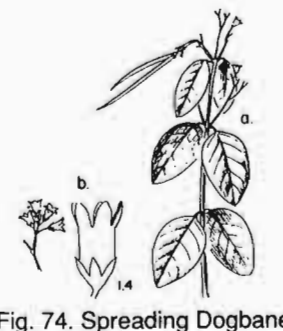


Fig. 74. Spreading Dogbane

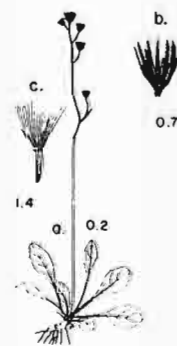


Fig. 77. Slender Hawkweed



Fig. 75. White Hawkweed

78. **Nodding microseris**, *Microseris nutans*, is another taprooted, yellow-flowered composite having all ray flowers. This one, however, has cauline as well as basal leaves. These separate it from the false dandelions (Plants 72 and 73), as its solitary-headed flower stems separate it from the hawkweeds (Plants 75-77). All microseris species have beakless achenes. Figure 78c, and each of the pappus bristles has a small, membranous scale at its base (Figure 78d). Habitats: HG, LG, RN, RS, SB. Localities: BL, BM, CC, CH, DO, EC, HA, KI, NB, SA, SB, SP, TL, TR, WD, WF, WI.
79. **Common dandelion**, *Taraxacum officinale*, needs no introduction. Its lobed leaves are all basal. The plant has milky juice, ligulate flowerheads, and later the parachute pappus atop the long-beaked achene (Figure 79c) dominates the receptacle. With its seed dispersal capabilities, and its capacity to populate disturbed sites (especially roads and trails), this plant really gets around, even in the Seven Devils. Habitats: AV, HG, LG, RN, RS, TA. Localities: All but the highest (HS).
80. **Yellow salsify**, *Tragopogon dubius*, is common in the riverside grasslands, and extends well up into the Seven Devils. It is the introduced, edible, European oyster plant with long (to 15 cm), basally-sheathed and stem-clasping leaves, pale yellow and all ligulate heads in which the involucre bracts are longer than the ligules. The solitary heads are larger than those of any of the composites of this class above. Salsify's most striking feature is its 6 cm wide, gauzy spheres of interlocking, feathery pappus bristles, as seen before the achenes are dispersed. Habitats: HG, LG, RN, RS. Localities: CA, CC, CH, DR, HA, HH, LR, NB, PA, SA, SB, TL, TR, WD.

CLASS T - SQUARE-STEMMED FORBS WITH A MINTY ODOR

81. **Nettleleaf horsemint**, *Agastache urticifolia*, is the most common Seven Devils mint. Its leaves are aptly described by the Latin species name, *urtica*, being the genus of the stinging nettle (see Plant 85). There the similarity stops, however, since there is very little that is unpleasant about the horse mint. It has tall, 50-100 cm stems; opposite or whorled and minty smelling leaves; and long inflorescences (to 15 cm) of pinkish flowers a little over 1 cm long (Figure 81a and b). Habitats: HG, LG, RN, RS, TA. Localities: BM, BR, CA, CH, CR, CS, DO, DR, EC, ES, HA, HH, KI, LR, NB, PA, PG, RU, SA, SB, SH, SL, ST, TL, TR, WD, WI.
82. **Bee balm monardella**, *Monardella odoratissima*, is the other common Seven Devils mint. It is also well-named for the delightfully minty odor of its opposite leaves. It is a low, compact, even spherical plant almost as wide as it is high (20-40 cm). Mostly it frequents talus slopes or other rocky areas. Its masses of bright pink blossoms make the plant even more delightful. Habitats: AV, CN, CS, RN, RS, TA. Localities: BD, BR, DR, HA, HH, MR, SB, SL, TR, WD, WI.

CLASS U - FORBS WITH PRICKLY OR STINGING STEMS OR LEAVES

83. **Prickly sandwort**, *Arenaria aculeata*, is a low, tufted, cushion-like plant with five-petaled, white flowers that stand about 10 cm above the cushion. It can be found in almost any bedrock area of the Seven Devils, except on the highest peaks. All the identity required is to let your bare knuckles brush the tips of the opposite, basal leaves. You will find them to be uncomfortably sharp. Habitats: AV, CN, CS, RN, RS. Localities: All but the highest (HS) and lowest (LR).
84. **Gray-green thistle**, *Cirsium canovirens*, is both the most common and the only white-flowered thistle of the Seven Devils. Two purple-flowered thistles, the wavy-leaved thistle (*C. undulatum*) of the lower elevations and the ubiquitous and weedy, multi-headed Canadian thistle (*C. arvense*), also are present in the Seven Devils, but are uncommon. Habitats: AV, CN, CS, RN, RS, TA. Localities: DR, EC, HA, HH, LR, MR, NB, SB, TR, WD, WF, WI.

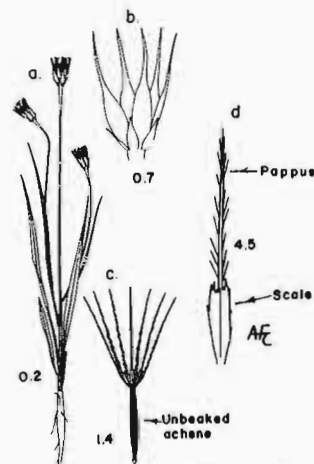


Fig. 78. Nodding Microseris

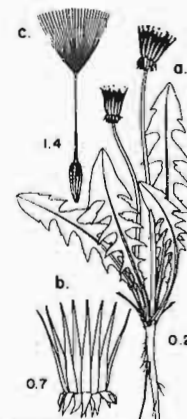


Fig. 79. Common Dandelion

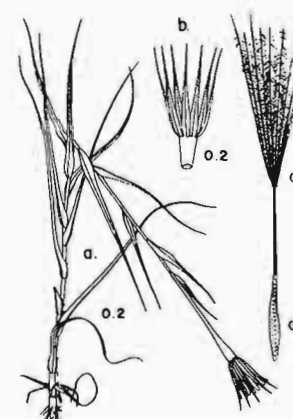


Fig. 80. Yellow Salsify

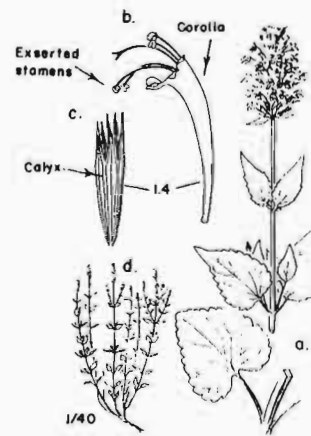


Fig. 81. Nettleleaf Horsemint

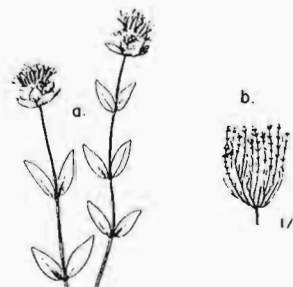


Fig. 82. Bee Balm Monardella

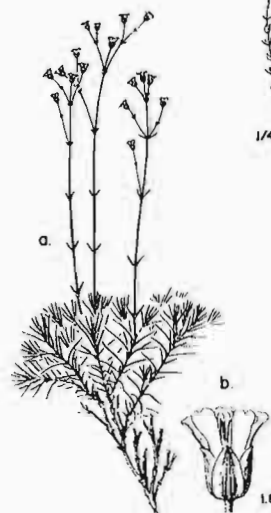


Fig. 83. Prickly Sandwort

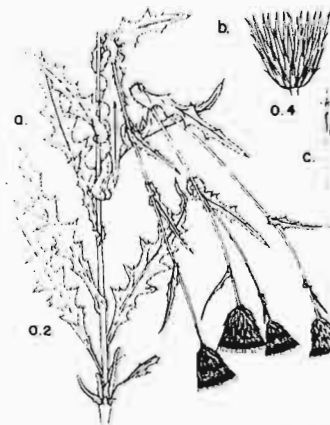


Fig. 84. Gray-green Thistle

85. **Stinging nettle**, *Urtica dioica*, has its leaf veins, petioles, and main stems covered with stinging hairs (Figure 85c). This adaptation is apparently effective for curtailing browsing by wild or domestic animals. Nettles are the tallest herbs in the Seven Devils, reaching more than 2 m high. They are always near moisture, either in the creek bottoms or on the better, subirrigated soils. Mostly they occur in at least partial shade. The greenish, four-stamened flowers are tiny (1-2 mm long), lack petals, and occur in inflorescences that dangle from the axils of the opposite or whorled leaves (Figures 85a and b). The lance-shaped leaves are large (7-15 cm long), pointed, and notched. The stinging nettle occurs at lower elevations of the Seven Devils and descends to river level. Habitats: LS,RI,RN. Localities: CR,CS,DR,ES,KI,LA,LR,LV,PA,RA,SA,SB,WD,WF.

CLASS V - SIMPLE AND OPPOSITE-LEAVED FORBS WITH WHITE OR CREAM FLOWERS

(See also Plants 83, 111, 141, 188)

86. **Wyeth's buckwheat**, *Eriogonum heracleoides*, is a relatively tall (to 50 cm), generally long, white, hairy buckwheat that occurs almost everywhere except the highest Seven Devils on open ground or bedrock. The tight and almost spherical flower heads are composed of stalked flowers directly off an involucre (Figure 86b), and the heads usually occur in a compound umbel type of inflorescence (Figure 86a). Habitats: AV,CN,CS,RN,RS,TA. Localities: All but the most shady and the highest (HS).

87. **Cushion buckwheat**, *Eriogonum ovalifolium*, is a cushion-plant found ^{mostly} on the highest peaks of the Seven Devils. On the summits of She and He Devil Mountains it often occurs as dull white mounds 10-25 cm across, and might be mistaken for lichen-covered rocks. It can form mats up to 40 cm across. The flowers are white, often with an attractive pinkish blush. They stand (in simple umbels) on the peduncles about 10 cm above the leaf cushion. Habitats: AL. Localities: HS.

88. **Broadleaved montia**, *Montia cordifolia*, is a spring-beauty-like plant that can be found alongside almost every stream in the Seven Devils, as well as on wet cliffs. The creeping rootstock gives rise to several, apparently separate plants that are 10-30 cm tall, with both basal and opposite cauline leaves that are bluntly pointed and cordate (heart-shaped). Flowers have five white petals and five stamens each, but the small, cup-shaped calyx has only two sepals. It is commonly found on streambanks with the brook saxifrage (Plant 117), and it is possible to confuse the leaves with those of fringed grass of parnassus (Plant 138) when both plants are not in bloom. Habitats: CN,LS,RI,RN. Localities: BL,BR,CA,DO,DR,ES,HA,KI,LI,LG,MR,NB,PA,PG,RA,RU,SA,SB,SH,ST,TR,WD,WI.

89. **Desert phlox**, *Phlox austromontana*, is the most common phlox of the Seven Devils. It is a low (under 10 cm tall), mat-forming, narrow-leaved (1 cm long by 1 mm wide), taprooted perennial with white (sometimes bluish or pinkish), five-petaled, long-tubed flowers about 1.0-1.5 cm across that are borne atop the leaf mat (Figure 89a). The calyx is ribbed, or keeled (Figure 89b). Plants and leaves are reminiscent of prickly sandwort (Plant 83), but the leaves are not prickly. *Phlox viscida*, sticky phlox, of the lower elevations of the Seven Devils is pink-flowered, taller (to 20 cm), and has larger leaves (up to 4 cm long x 5 mm wide). Habitats: CN,CS,RN,RS,TA. Localities: BM,DR,KI,NB,SL,WI.

90. **Woodnymph**, *Pyrola uniflora*, truly has a delightful, solitary flower. Mostly a resident of the streambanks in the deep shade, it is only about 5-10 cm tall and is topped by a lovely, 1.5-2.5 cm-broad, five-petaled white flower having ten incurving stamens (Figures 90b and c). Leaves may appear to be both opposite and alternate on the same plant, so we have also keyed it under Class AA. Besides the sidebells pyrola (Plant 141), there are two other pyrolas in the Seven Devils; however, these are more scarce. One is the alpine pyrola (*P. asarifolia*) that has pink flowers and leaves that are mottled-purplish beneath; the other is the snowline pyrola *P. minor* with pinkish flowers, but with roundish, bright green leaves. Habitats: LS,RI,RN. Localities: BR,DO,DR,HA,NB,RA,TR,WD.

91. **Scouler's campion**, *Silene scouleri*, is so glandular on the upper parts of the plant that it is definitely sticky to the touch. There are at least three other campions in the Seven Devils, but none as sticky as Scouler's. Reminiscent of bouncing Bett of your grandma's garden, with 50-70 cm-tall stems, lance-shaped, entire, and hairy leaves up to 15 cm long, a tubular calyx (which unlike bouncing Bett does not inflate with time), and clawed, 10-15 mm-long, greenish-white petals. Habitats: RN,RS. Localities: BR,BU,CH,CS,DR,EC,NB,RU,SH,ST,WI.

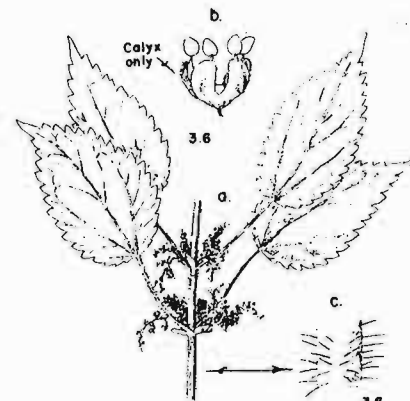


Fig. 85. Stinging Nettle

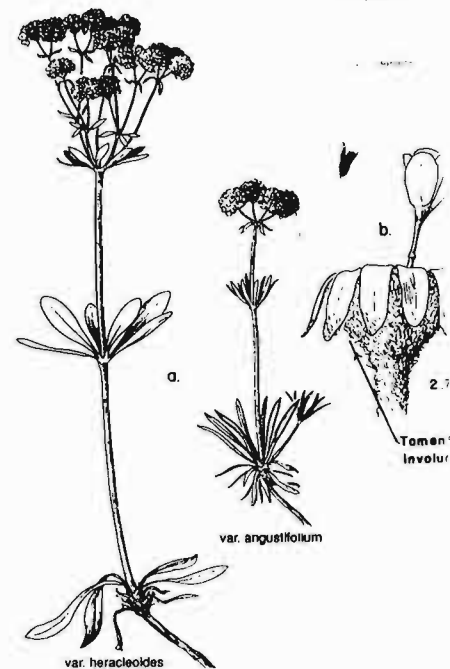


Fig. 86. Wyeth's Buckwheat

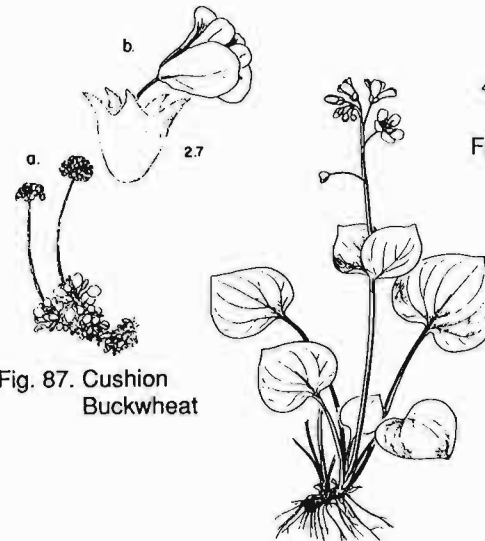


Fig. 87. Cushion Buckwheat

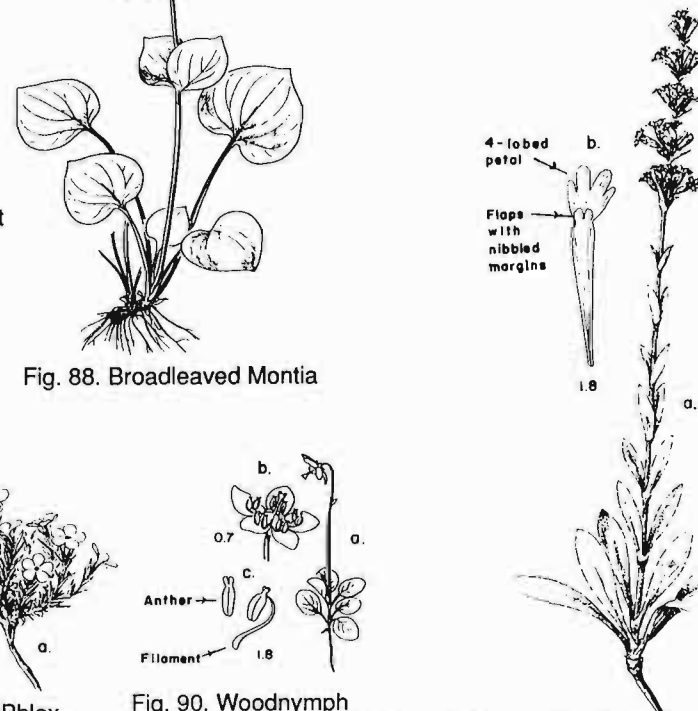


Fig. 88. Broadleaved Montia

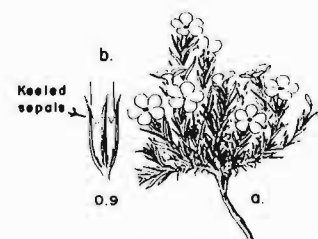


Fig. 89. Desert Phlox

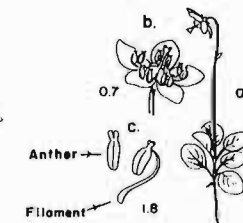


Fig. 90. Woodnymph or Single Delight

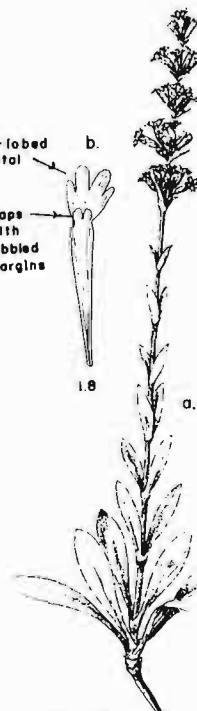


Fig. 91. Scouler's Cam

92. **Bigleaf sandwort, *Arenaria macrophylla***, is quite different from the prickly sandwort (Plant 83), in that it has much larger, elliptical leaves (2-5 cm long x .5-1.5 cm wide), is rhizomatous but does not form dense mats, and usually grows in partial shade. Usually found on drier soils; stems and sepals are minutely and roughly hairy (Figures 92b and c). Habitats: RN,RS. Localities: CA,CC,CR,DO,DR,EC,ES,HA,LG,LV,NB,PA,PG,RA,RU,SB,SP,ST,TL,TR,WD,WF,WI.

CLASS W - SIMPLE- AND OPPOSITE-LEAVED FORBS WITH GREENISH-WHITE FLOWERS (See also Plant 85)

93. **Cleavers, *Galium aparine***, is the larger of the two bedstraws that occur in the Seven Devils. They are both square-stemmed forbs with tiny hooks at the stem angles (Figure 93c) that impart a scratchy feeling and a clinging ability, and they both have fruits 2-4 mm long with many hooked spines thereon (Figure 93b). The other bedstraw is low mountain bedstraw, *G. bifolium*, and is well-named for its shorter height and length, and for its upper leaves which are opposite (bifoliate, Figure 93d). Without support, it sprawls. Stems of goosegrass bedstraw may reach close to 1 m tall. Flowers are tiny, only 1-2 mm across. Habitats: RI,RN. Localities: BD,BU,CS,DO,DR,ES,LV,MR,NB,PA,PG,RA,RU,SA,SB,TL,TR,WD.

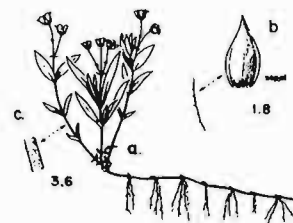


Fig. 92. Bigleaf Sandwort

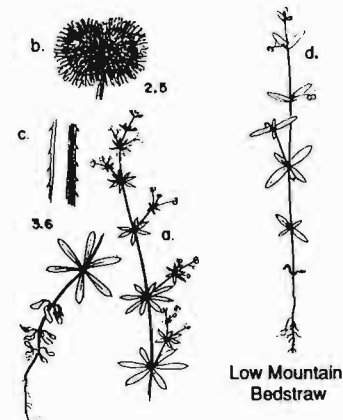


Fig. 93. Cleavers

CLASS X - SIMPLE- AND OPPOSITE-LEAVED FORBS WITH YELLOW FLOWERS (See also Plant 150)

Key to the Seven Devils arnicas: This class contains four arnica species (Plants 94 to 97) that are the commonest of nine arnica species we found in the Seven Devils. *Arnica fulgens* and *A. sororia* are fairly common in the lower elevation grass-forb stands, with *A. diversifolia* and *A. rydbergii* occurring commonly in the higher, central Seven Devils. Thus, we are providing a small, supplementary key to the nine species here. Please note, however, that the arnicas are quite similar to the groundsels (Plants 154-156), both being composites and having radiate heads with yellow rays. Arnicas, however, have opposite cauline leaves and relatively few and large flowerheads, while groundsels have alternate leaves and relatively many and small flower heads.

- 1a. Stems with five to seven pairs of lanceolate, cauline leaves *A. longifolia*
- 1b. Stems with two to four pairs of cauline leaves
 - 2a. Flower heads discoid and nodding *A. parryi*
 - 2b. Flower heads radiate and upright
 - 3a. Basal leaves heart- to lance-ovate-shaped
 - 4a. Pappus almost feathery and tan-colored *A. diversifolia*
 - 4b. Pappus barbed and white colored
 - 5a. Cauline leaves mostly sessile, plants under 30 cm tall *A. latifolia*
 - 5b. Cauline leaves mostly petiolate, plants up to 50 cm tall *A. cordifolia*
 - 3b. Basal leaves lanceolate, cauline leaves sessile
 - 6a. Basal leaves with matted, woolly-brown hairs in their axils *A. fulgens*
 - 6b. Basal leaves lacking such matted, brown hairs.
 - 7a. Plants hairy throughout *A. mollis*
 - 7b. Plants glabrous or only upper parts with hairs
 - 8a. Flower heads relatively large with 10-20 ray flowers *A. sororia*
 - 8b. Flower heads relatively small with 7-10 ray flowers *A. rydbergii*

94. **Heartleaf arnica, *Arnica cordifolia***, is the commonest Seven Devils arnica, usually found on moderately dry soils in forest openings. It spreads by creeping rootstocks and usually has lanceolate leaves at mid-stem. Habitats: AV,CN,CS,LS,RI,RN,RS,TA. Localities: All but the highest (HS).
95. **Mountain arnica, *Arnica latifolia* var. *gracilis***, has a short, creeping rootstock and reaches only about 30 cm tall. It prefers to grow in rocky places. Habitats: AV,CN,CS,LS,RI,RN,RS,TA. Localities: BD,BR,DR,ES,HA,HH,KI,LG,MR,PA,RA,SH,ST,TR,WD.
96. **Hairy arnica, *Arnica mollis***, also spreads via extensively rooted rhizomes and reaches about 50 cm high. It prefers moist soils. Habitats: LS,RI,RN. Localities: BD,BL,BR,DR,HA,HH,LI,MR,PG,RA,SH,ST,TR,WD.
97. **Nodding arnica, *Arnica parryi***, is found mostly in dry meadows or open woods along the west side of the Seven Devils. Habitats: RN,RS. Localities: BR,DR,EC,LG,SH,ST,TR,WD,WI.
98. **Piper's golden buckwheat, *Eriogonum flavum*, var. *piperi***, is the only bright yellow-flowered buckwheat in the Seven Devils. It prefers dry soils, rocky cliffs, and scabrock areas. Habitats: CN,CS,RS,SC. Localities: All but the highest (HS) and lowest (LR).

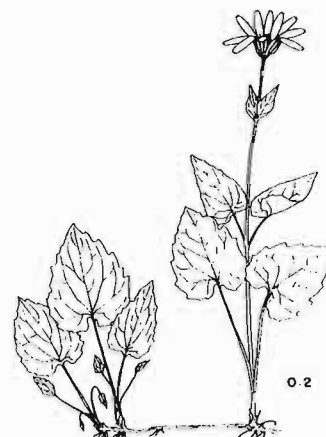


Fig. 94. Heartleaf Arnica

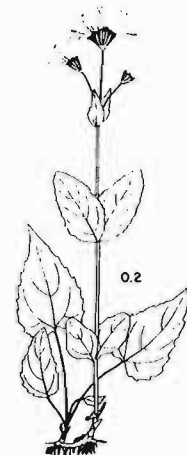


Fig. 95. Mountain Arnica



Fig. 96. Hairy Arnica



Fig. 97. Nodding Arnica

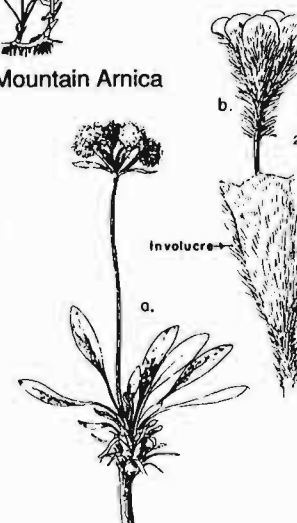


Fig. 98. Piper's Golden Buckwheat

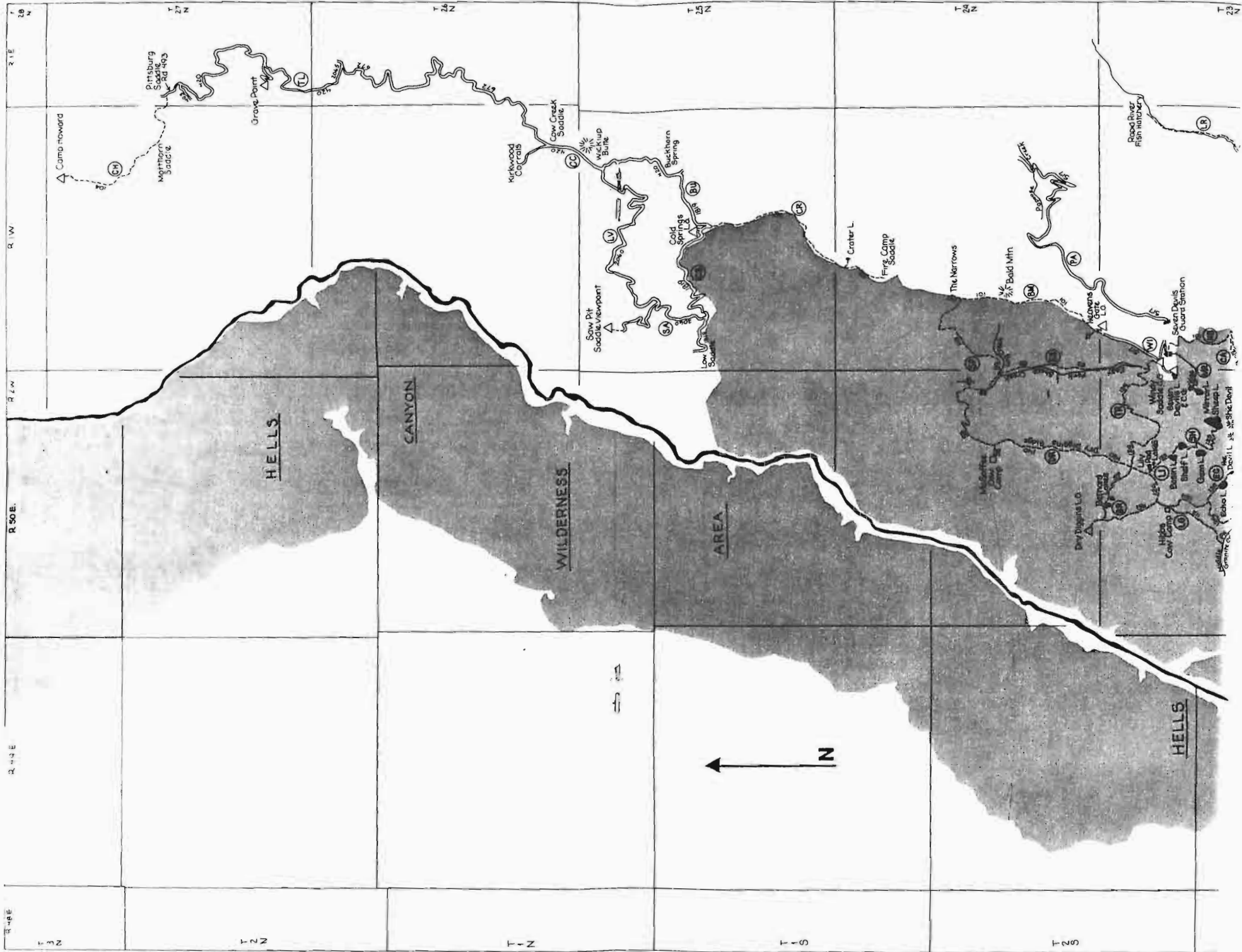
99. **Woolly goldenweed**, *Haplopappus lanuginosus*, is a low (up to 20 cm tall) white-hairy plant with lanceolate leaves 3-10 cm long by 2-7 mm wide. The leaves are mainly basal, and so dense along the short stems that they may be classified either as opposite (in this class) or as alternate (in Class EE). Flower heads are solitary, but numerous on most plants, with 10-20 rays around the radiate head. Its simple and mostly basal leaves separate this plant from the woolly sunflower (*Eriophyllum lanatum*, Figure 99c), with which it can be confused because of its similar stature and flowers. Habitats: CN,CS, RN,RS. Localities: EL,EM,BR,BU,CS,DR,KI,NE,SA,SL,TR,WI.
100. **Yellow monkey-flower**, *Mimulus guttatus*, is the most common of two yellow-flowered monkey flowers found in the Seven Devils. It always has its roots in the water of streams or seeps, and is a good indicator of springs. The almost succulent stems of this annual (or perennial, by virtue of its overwintering stolons or occasional rhizomes) are 20-50 cm tall with leaves 3-6 cm long and about two-thirds as broad. The calyx (Figure 100b) continues to enlarge after the two-lipped (or bilabiate) corolla drops. It may be separated from the other yellow-flowered monkey flower of the Seven Devils (mountain monkey flower, *M. tillingii*) by the maroon markings inside the snapdragon-like corolla. Habitats: LS,RI. Localities: CS,JH,LR,NB,PA,RA,SA,SH,TR,WI.

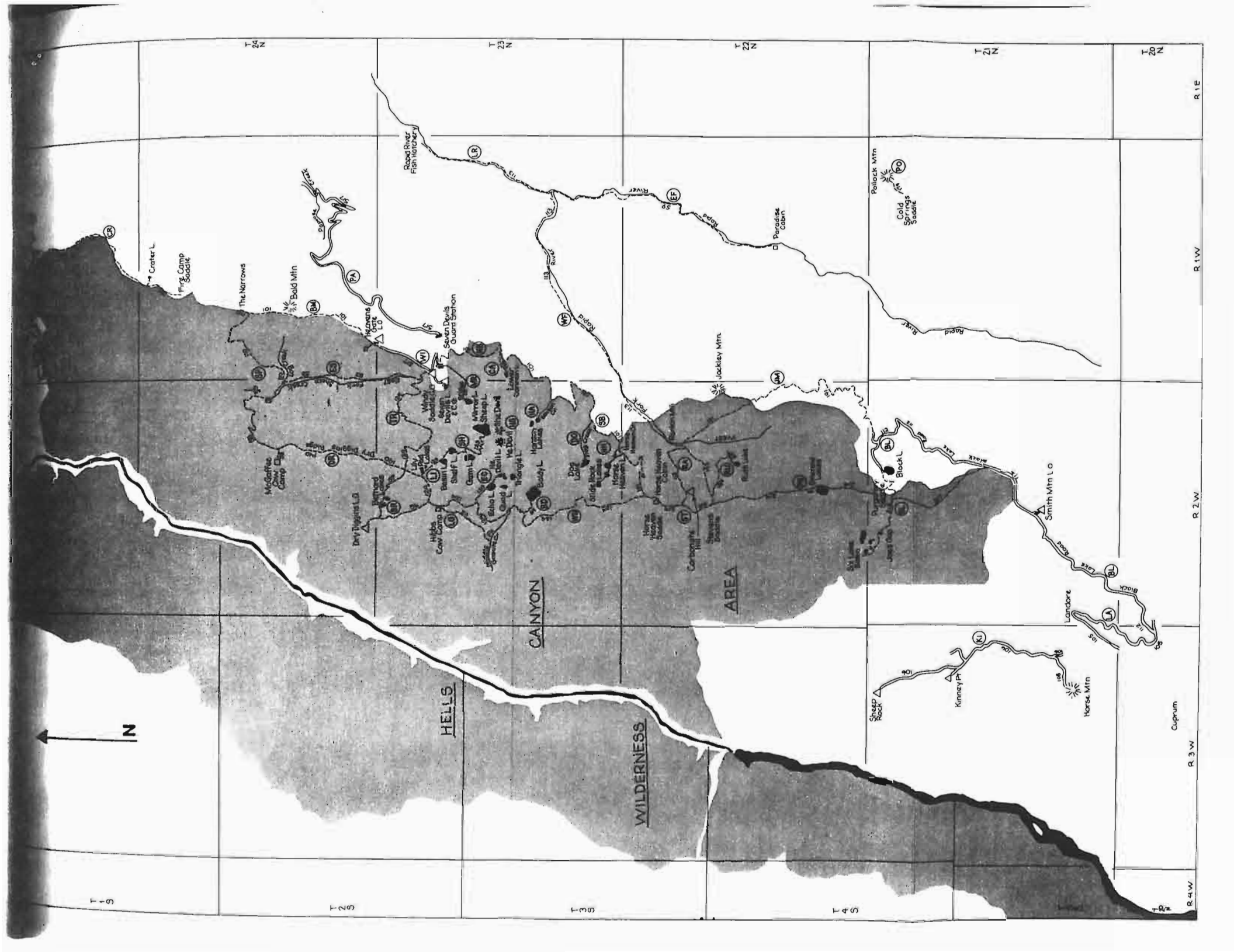
CLASS Y - SIMPLE- AND OPPOSITE-LEAVED FORBS WITH BLUE, VIOLET, OR PURPLE FLOWERS

(See also Plants 89, 113, and 114)

101. **Chionophila**, *Chionophila tweedyi*, is a lovely little (5-20 cm tall) single-stemmed plant with miniature, snapdragon-like, purple flowers that bloom close behind the receding snow. It is a member of an exclusive Rocky Mountain genus having only two species. Once seen, it is never forgotten. Leaves are lanceolate, entire, and mostly basal. However, there are 1-3 pairs of opposite, if much smaller, and sessile leaves along the upper stem. The two-lipped corolla is typical for the figwort family (Scrophulariaceae). Habitats: LS,RN,RS,SN. Localities: BL,EM,BR,DO,HA,HR,MR,PG,SH,SL,ST,TR,WI.
102. **Small-flowered blue-eyed Mary**, *Collinsia parviflora*, is another small jewel of a plant. An annual only 3-10 cm tall, it has bright blue-and-white flowers paired from the axils of the opposite leaves or in a small cluster at the top of the stems. This plant is transitory, soon drying and dying with the onset of summer. Blue-eyed Mary is found with the very similar narrow-leaf collomia (*Collomia linearis*, Plant 124); their habitat requirements (in open to partly shaded areas with vernal-moist, but later drying soils) must be almost identical. Habitats: HG,LG,RN,RS. Localities: BL,BU,CA,CC,CH,CR,CS,DO, DR,HA,KI,LR,LV,NB,SA,SL,ST,TL,WF,WI.
103. **Common and Idaho fraseria**, *Frasera albicaulis* var. *albicaulis* and *Frasera albicaulis* var. *idahoensis*, are included here because of their beauty and rarity. They are striking plants with dense clumps of white-margined, three-nerved, dark green, lanceolate, 5-30 cm-basal leaves with a few pairs of much smaller and opposite cauline leaves above. Plants are topped by a showy and crowded inflorescence with whorled clusters of four-petaled, 1-2 cm-wide, sky-blue flowers (Figure 103f). The Idaho *fraseria* (var. *idahoensis*) first was found in the southern Seven Devils near Cuprum, Idaho, by pioneering botanist William Cusick in 1899. It is rare. Both varieties of *fraseria* have petals, the bases of which bear tiny, fringed appendages called crown scales (Figures 103a, b, and e). The variety *idahoensis*, besides being glabrous throughout (vs. Figure 103g), has crown scales that are more deeply and completely lacinated (Figure 103e vs. 103b). Habitats: HG,LG. Localities: (var. *albicaulis*) CH,CS,LR,SA,TL,WF; (var. *idahoensis*) KI.
104. **Mountain bog gentian**, *Gentiana calycosa*, is the striking, deep blue-flowered plant featured on the front cover of this booklet. A low, sprawly-stemmed plant, it has stems to 30 cm long, a short (under 1 cm long) and five-parted calyx tube, and a 2-3 cm-long, five-parted corolla. Always in the open on moist soils; once seen, never forgotten. Habitats: LS,RI,RN. Localities: BR,CA,DO,EC,HA,LI,MR,RU,SH,SL,TR,WD.
105. **Shrubby penstemon**, *Penstemon fruticosus* var. *serratus*, can be seen in the Seven Devils anywhere there are cliffs or bedrock outcrops at the 7,400-8,400 foot level. It is a low plant (under 30 cm tall) with a woody base that grows mostly in rock crevices. It has spectacular 3-4 cm-long blue-lavender to purplish, snapdragon-like flowers that are unequally two-lipped as characteristic of the figwort family (Scrophulariaceae, see also Figures 100a, 101, 106b, 107b, 113, 179b, and 180b). The cauline leaves are short petiolate, rather small (up to 2.5 x 1.5 cm) and evenly toothed. This species is one of the four common Seven Devils penstemons that are keyed at the top of the following page. Habitats: AV,BF,CN,CS,RN,RS,TA. Localities: All but the highest (HS) and those below 6,500 feet.

Plant Location Guide
showing road and trail
segments described in
Table 3, page 10.





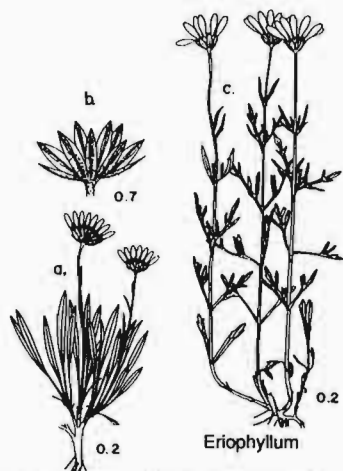


Fig. 99. Woolly Goldenweed

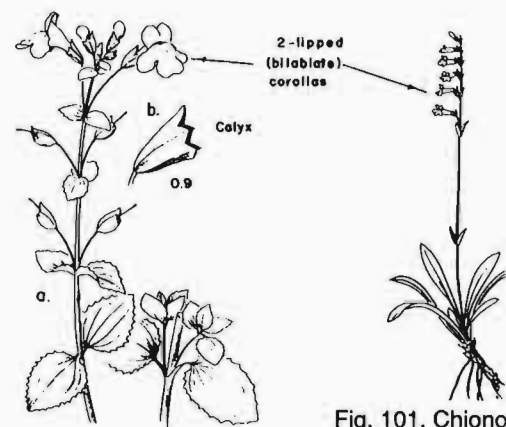


Fig. 100. Yellow Monkey-flower

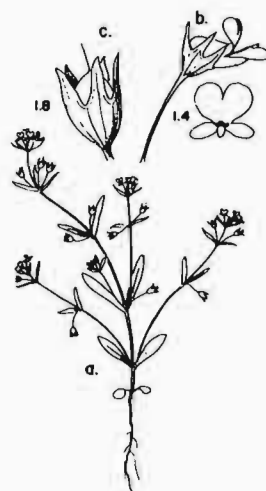


Fig. 102. Small-flowered
Blue-eyed Mary

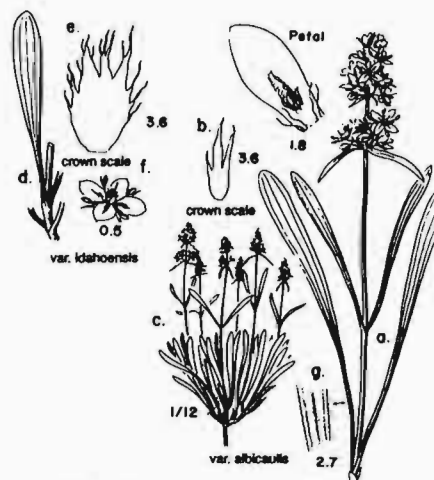


Fig. 103. Common and Idaho Frase

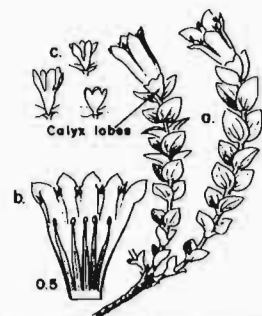


Fig. 104. Mountain Bog Gentian

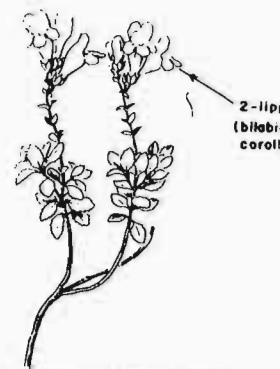


Fig. 105. Shrubby Penstemon

Key to the Eight Most Common Seven Devils Penstemons:

- 1a. Anthers with densely long, woolly, tangled hairs
 2a. Leaves all cauline, plants herbaceous *P. montanus* v. *idahoensis*
 2b. Leaves tending to cluster at plant base, plants woody below *P. fruticosus* v. *serratus*
 1b. Anthers with glabrous or only short, straight hairs
 3a. Flowers cream-colored; plants woody at base *P. deustus*
 3b. Flowers blue, lavender, violet, purple, or pinkish
 4a. Anthers horseshoe-shaped *P. venustus*
 4b. Anthers wing-shaped
 5a. Plants with glandular inflorescences
 6a. Leaves entire *P. attenuatus* v. *militaris*
 6b. Leaves toothed *P. wilcoxii*
 5b. Plants not glandular in the inflorescences
 7a. Inside lower lip of the corollas bearded *P. globosus*
 7b. Inside lower lip of the corollas glabrous *P. payettensis*

106. **Globe penstemon**, *Penstemon globosus*, is the most common Seven Devils penstemon, named for its globular masses of tiered flowers (Figure 106a). It ranges from about 6,500-8,000 feet, mostly growing in the grasslands or in forest openings. Plants reach 60 cm tall, have 1.5-2.5 cm-long, tubular, five-parted but definitely two-lipped, blue to blue-purple flowers, and long-petioled, entire basal leaves that are quite large (up to 15 x 3.5 cm). Habitats: AV,BL,CN,CS,HG,KI,LG,LS,RI,RN,RS,SB,TA. Localities: All but the highest (HS) and the lowest (LR).

107. **Blue Mountain penstemon**, *Penstemon venustus*, was first collected by the British botanist David Douglas in the 1820's. It reaches 60 cm tall, has very showy (2.5-3.5 cm long), clear lavender flowers, and only cauline, sessile, large (up to 10 x 3 cm), and toothed leaves. Habitats: CN,CS,RN,RS,TA. (Often a cliff-dweller). Localities: BD,BL,BR,CC,CH,DR,EC,HH,KI,NB,LA,PA,PG,RA,SA,SB,SP,TL,TR,WD,WI.

108. **Wilcox's penstemon**, *Penstemon wilcoxii*, is the tallest of the Seven Devils penstemons, reaching 80-90 cm tall. Its 1.5-2.0 cm-long flowers range from blue to pink, and its basal leaves are long-petioled, small-toothed, and large (up to 9 x 5 cm). Also, the inflorescence is often much more open and branched than in the three foregoing penstemons. Habitats: RN,RS. Localities: BD,BL,BR,CH,DR,EC,ES,HA,KI,LR,NB,PA,SB,SP,TR,WD,WI.

109. **Thymeleaf speedwell**, *Veronica serpyllifolia*, is the smaller of the two Seven Devils speedwells, reaching only 20 cm tall. It prefers moderately dry to medium damp soils, mostly above 7,000 feet. The oval leaves are short and relatively wide (about 1.5 x 1.0 cm), the flowers are tiny (4-9 mm across), four-parted, and bright blue (Figure 109b). The plants are decumbent (Figure 109a). The other speedwell is the brooklime, or American speedwell. It prefers moist or wet soils, but is much taller (to 80 cm), and larger leaved (to 6.0 x 2.5 cm), and usually is found at lower elevations. Habitats: LS,RI,RN. Localities: BD,BL,BR,CR,DO,DR,EC,HH,LI,KI,NB,RA,SH,TR.

CLASS Z - SIMPLE- AND OPPOSITE-LEAVED FORBS WITH RED, PINK, OR MAGENTA FLOWERS
 (See also Plants 39, 74, 87, 89, 108, and 176)

110. **Common prince's pine**, *Chimaphila umbellata*, is an evergreen member of the heath family (about 15-30 cm tall), having whorled and toothed, lanceolate leaves about 4-7 cm long and 1-2 cm wide. The pinkish-rose, clustered, 1.0-1.5 cm-wide flowers are borne on a 5-10 cm peduncle, well above the upper whorl of leaves. Another and much less common Seven Devils prince's pine (little prince's pine, *C. menziesii*) has only flowers on 2-5 cm peduncles and has relatively shorter (2-6 cm) and broader leaves. Habitats: RI,RN. Localities: BD,BL,BR,BU,CA,CR,EC,ES,HA,HH,LA,LG,LV,MR,NB,PA,PG,RA,RU,SA,SB,SH,SP,ST,TR,WD,WI.

111. **Western spring beauty**, *Claytonia lanceolata*, has an inflorescence with several pinkish-lined (occasionally white) flowers to 2 cm across, and paired, almost succulent and broad-lanceolate leaves up to 15 cm long x 2 cm wide. The best means of identifying this spring beauty is to dig deeply (5-10 cm) for its dark-coated, 5-2.0 cm-diameter bulb. The plant prefers deep, moist soils. The alpine spring beauty, *C. megarhiza*, is rarely found in the Seven Devils (see the discussion with Plant 185). Habitats: RI,RN,SN. Localities: BU,CH,CR,LV,PG,SH,SL.

112. **Alpine willow-weed**, *Epilobium alpinum*, mainly var. *nutans* of the mid-elevation (6,500-7,500 feet) creek banks, but also vars. *alpinum* and *clavatum* of the talus slopes, is the most common of the six willow-weeds of the Seven Devils (see also Plant 181). The pink flowers, having four notched petals, 5-8 mm long, usually sit atop a narrow and already elongating seed pod that may reach 2 cm or more at maturity. Habitats: (all three varieties) LS,RI, RN,TA. Localities: BD,BL,BR,CA,CC,DO,DR,EC,ES,HA,HH,KI,LI,LG,MR,NB,PA,PG,RA,RU,SH,ST,TL,TR,WD,WI.

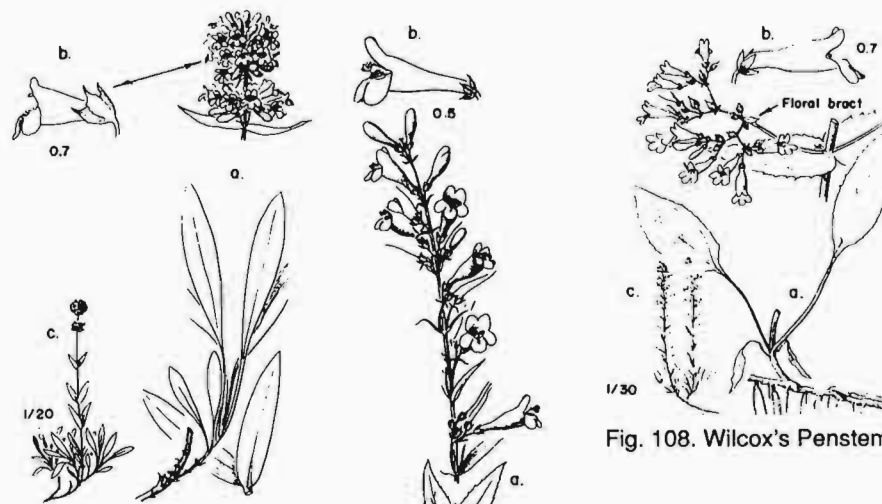


Fig. 108. Wilcox's Penstemon

Fig. 106. Globe Penstemon

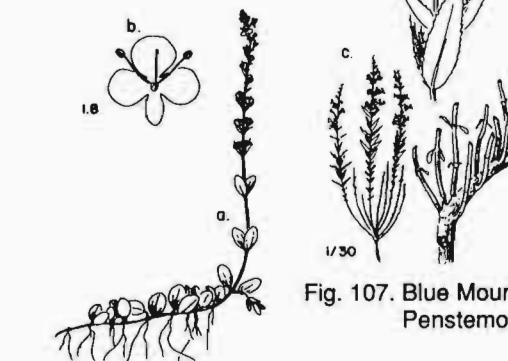


Fig. 107. Blue Mountain Penstemon

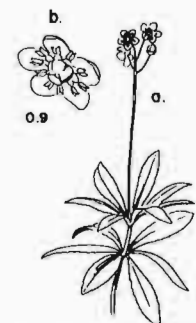


Fig. 110. Common Prince's P

Fig. 109. Thyme-leaved Speedwell

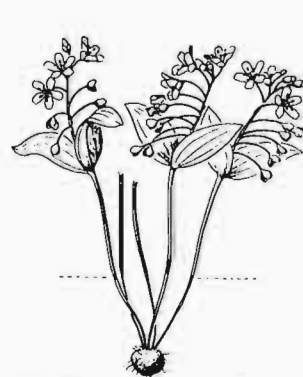


Fig. 111. Western Spring Beauty

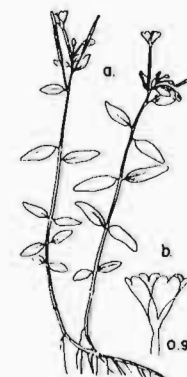


Fig. 112. Alpine Willow-weed

113. **Lewis' monkey-flower**, *Mimulus lewisii*, was first collected by Captain Meriwether Lewis of the Lewis and Clark Expedition, probably near Lolo Pass in 1805. It is the large (3.0-5.5 cm), pink/purple-flowered monkey flower of the Seven Devils, having the typical five-parted, but two-lipped corolla of the figwort family. It is a beautiful and unforgettable flowering plant, occurring on moist soil near water. It reaches 60-90 cm tall. The opposite leaves may be either entire or toothed. They range from 3-7 cm long by 1.0-3.5 cm wide. Habitats: LS,RI,RN. Localities: BD,DR,JM,KI,LG,NB,ST,TR,WD,WI.



Fig. 113. Lewis' Monkey-flower

114. **Dwarf purple monkey-flower**, *Mimulus nanus*, is the annual, deep magenta-colored, dwarf edition of the Lewis' monkey-flower. Most of the resemblance stops with flower color, however, as the dwarf monkey-flower grows on drier soils, reaches only about 5 cm tall, has flowers only a little over 1 cm long, and has small leaves (up to 3.5 x 1.0 cm). It is usually single-flowered in the Seven Devils, looking like a shorter-pediceled version of the small plants of Figure 114c. Habitats: LG,RS,SC,TA. Localities: SA,TR.

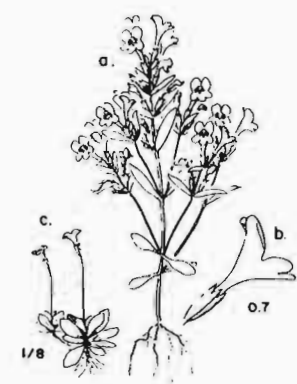


Fig. 114. Dwarf Purple Monkey-flower

CLASS AA - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH WHITE OR CREAM FLOWERS AND ONLY BASAL LEAVES (See also Plants 83, 87, 90, 138, and 199)

115. **Pussypaws**, *Spraguea umbellata* (syn. *Calyptridium umbellatum*), prefer dry, gravelly soils (including weathered, basaltic scabrock at the forks of Trails 112 and 56, or southwest of the trailhead at Windy Saddle). It has tight globose clusters (1.5-4.0 cm diameter) of small (.5-1.0 cm diameter) and soon-withering, white to pinkish flowers, held on peduncles a few centimeters above the rosette (2-4 cm long) tongue-shaped leaves. It may have a few small, bract-like leaves along the peduncle, (so it may also fall in Class CC). This plant is quite reminiscent of the buckwheats (Plants 86, 87, and 99), except for its glabrous leaves and the lack of receptacle-like involucre. Habitats: RS,SC. Localities: BM,BR,PG,PO,SB,SL,ST,TR,WI.

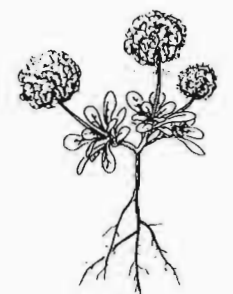


Fig. 115. Pussypaw

116. **Gooseberry-leaved alumroot**, *Heuchera grossularifolia*, is the small-leaved to 2.5 cm wide) small-calyxed (4-5 mm long), with thin and long petals (2 cm x 6 mm). This alumroot is of the variety in which the petals extend beyond the sepals (var. *grossularifolia*). It is the most common alumroot found on many of the moister Seven Devils cliffs, bedrock outcrops, or talus slopes. Roundleaf alumroot, *H. cylindrica*, also occurs there with less frequency. This latter alumroot can be recognized by its longer calyces (6-8 mm) along with petals that are shorter than the sepals. Habitats: AV,CN,CS,RI,RN,RS. Localities: BD,BR,BU,CA,CR,CS,DO,DR,EC,ES,HA,HH,KI,MR,PG,RU,SA,SB,SH,SL,ST,TR,WD,WI.

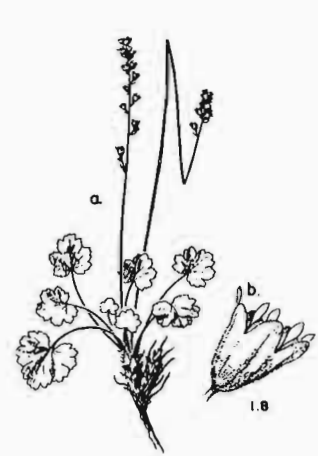


Fig. 116. Gooseberry-leaved Alumroot

117. **Brook saxifrage**, *Saxifraga arguta*, can be found along the banks of almost any Seven Devils stream, and often on damp cliffs, from 6,500-8,000 feet. The almost round, evenly-notched leaf blades run 2-8 cm wide and occur on long petioles, while the 1 cm-wide, round- and white-petaled flowers occur on long-peduncled, open-branched inflorescences well above the basal leaves. Most often the plants grow alongside the broadleaved montia (Plant 8), which has similar habitat requirements. Habitats: CN,LS,RI. Localities: BD,BM,BR,CA,CS,DO,DR,ES,HA,HH,KI,LC,MR,NB,PA,PG,RA,RU,SB,SH,ST,TR,WD,WI.

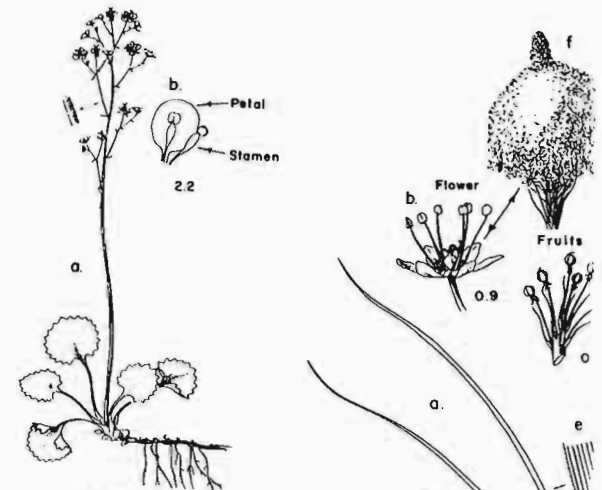


Fig. 117. Brook Saxifrage

118. **Small white violet**, *Viola macloskvi*, is a gem of a white violet most often found on lake banks or in boggy areas. It is the only white violet of the Seven Devils, being only about 5 cm tall and having leaf blades mostly under 2.5 cm wide. The .5-1.0 cm-long white flowers are purple-lined. Habitats: LS,RI. Localities: BD,BR,EC,HA,SB,SH,SL.

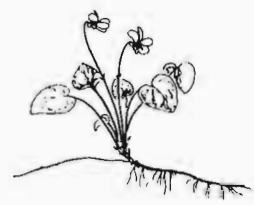


Fig. 118. Small White Violet

119. **Beargrass**, *Xerophyllum tenax*, has been the subject of so many Cascade and Rocky Mountains high-country photos that it may need little introduction here. An open beargrass hillside really can be a spectacle in a good beargrass year. Then, there are countless 1-2 cm-thick and 1.0-1.5 m-tall, stately flower stalks, each topped with 5-10 cm-wide, columnar masses of 1.0-1.5 cm, long-stamened, six-petaled white flowers (Figures 109a and f). In the average year, however, there may be only a few scraggly flower heads, or none. The basal leaves are grasslike, long (15-60 cm) and narrow (1.5-4.0 mm, Figure 119a), and have minute teeth along the edges (Figure 119e) that can cut fingers deeply. The plants defy hand uprooting, coming from thick (1-2 cm) and tangled rhizomes. Most beargrass clumps are under 50 cm high and wide, with leaves arching away from the center of the clumps (Figure 119d). In the Seven Devils, beargrass is absent above 6,500 feet. The best patches are in forest openings along the road from Riggins to Windy Saddle at 5,500-6,500 feet elevation in the head of Shingle Creek. Because the bract-like leaves of the flowering stalks are alternate, this plant is also listed under Class CC. (Locality PA). Habitats: LS,RN,RS. Localities: EC,ES,MR,NB,PA,WI.

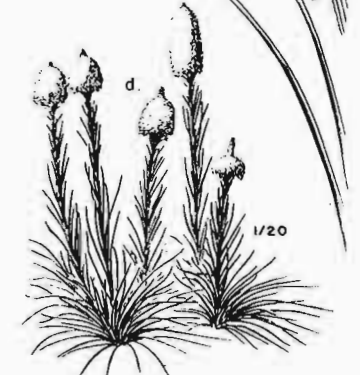


Fig. 119. Beargrass

CLASS BB - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH WHITE OR CREAM FLOWERS & CAULINE LEAVES ONLY (See also Plants 145, 163, and 182)

120. **Columbia monkshood**, the cream-flowered variety, *Aconitum columbianum* var. *ochroleucum*, has very deeply-lobed but nevertheless simple leaves (Figure 120), while the somewhat similar leaves of cliff anemone (see Figure 191) or upland larkspur (see Figure 164a) are cut right to the midrib into leaflets, and thus are compound. Columbia monkshood is a tall plant mainly of shady streambottoms, reaching 1.5 m in height. Over most of its wide North American distribution, it has blue flowers, but the Seven Devils monkshood is cream-colored with only a bluish tinge. All *Aconitum* plants are poisonous, containing the alkaloid aconitin that is a heart and respiratory sedative. Habitats: LS,RI,RN,WM. Localities: BR,CA,DO,DR,ES,HA,HH,LA,MR,NB,PA,PG,RA,RU,SB,SH,TR,WD.
121. **Pearly everlasting**, *Anaphalis margaritacea*, is a small and discoid-headed (or rayless) composite with white-hairy, lanceolate leaves up to 10 cm long x 1.5 cm wide. Although the tiny disc flowers are obscure, the pearly-white involucral bracts of the head are showy enough to name the plant. Often it is found in partial shade. It is common all over North America, but in Idaho is most common at elevations below those of the Seven Devils. Habitats: LS,RI,RN,RS. Localities: All but the highest (HS).
122. **Big-pod mariposa lily**, *Calochortus eurycarpus*, is a large-flowered species, which, in the occasional years it blooms (once in the four years of 1979-1982), is highly visible as the most common mariposa lily of the Seven Devils. The lovely, creamy-white flowers are 5 cm or more across. The petals have conspicuous, 1 cm-wide, semi-circular, purple blotches midway down them. The large seed pods are three-ridged and 2-4 cm long. The cats-ear, or elegant sego lily (*C. elegans*), blooms more regularly in the Seven Devils, but actually is much less common. It is only about 10-15 cm tall (versus 20-50 cm for the wild-fruited mariposa). Habitats: HG,RN,RS,SC. Localities: BR,CA,DR,LA,LI,LG,RA,RU,SH,TR,WD.
123. **Broad-fruited mariposa lily**, *Calochortus nitidis*, is quite a different mariposa lily from the previous mariposa. It is also tall (to 40 cm) and large fruited (2-3 cm long), but has only a narrow, crescent-shaped purple mark on the petals. This mariposa is fairly rare (see Steele et al., 1981). Primarily, it is a plant of lower grasslands (Habitat LG). Habitats: LG,RN,RS. Localities: CC,CH,KI,TL.
124. **Narrow-leaved collomia**, *Collomia linearis*, as mentioned under Plant 102, is the companion-plant for the small-flowered blue-eyed Mary. It is a low (to 20 cm tall) annual, often found on disturbed soils. It has lanceolate, entire, sessile and finely short-hairy leaves running about 2-4 cm long and 4-10 mm wide. The unimpressive, tubular corolla is only about 1 cm long and is whitish (sometimes pinkish or bluish), and is also included in Classes GG and JJ. The plant is transitory, drying and dying by late summer. Habitats: HG,LG,RN,RS. Localities: BU,CA,CH,CR,CS,DO,DR,HA,KI,LA,LR,NB,PA,SA,SB,SL,ST,TL,WD,WF.
125. **Deceptive groundsmoke**, *Gayophytum decipiens*, and its look-alike dwarf groundsmoke (*G. humile*), are almost indistinguishable. They are low (15-25 cm tall) annuals, often on disturbed soils, and often found with one or more of Plants 102, 124, and 146 on bare and eroding hillsides, trails, roads, campgrounds, and heavily-grazed grasslands. The tiny white-to-pinkish flowers are only about 1 mm across and are produced continuously at the ends of a diffuse inflorescence (Figure 125a) as the plant elongates. Below are short and skinny leaves about 1-2 cm long x 1-2 mm wide, plus the leaf-like and pediceled seed pods that are about the same size. Habitats: HG,LG,RN,RS. Localities: EM,BR,DO,DR,HA,HH,LI,NB,RA,SB,ST,WD.
126. **Alpine knotweed**, *Polygonum phytolaccaefolium*, growing in tall (1.0-1.5 meters) and dense clumps and turning red or red-brown after early frosts, is one of the most visible plants in the Seven Devils. Its prevalence may be correlated with overgrazing. The open, 10-20 cm-long inflorescence is composed of tiny, 2.5-3.0 mm-long white to greenish-white flowers. The stem-clasping leaves are sessile or short-petiolate, entire, broad-lanceolate, and 6-12 cm long. Habitats: HG,RN,RS,TA. Localities: BD,BL,EM,BR,BU,CA,DO,DR,EC,ES,HA,HH,KI,MR,NB,PA,PG,RA,RU,SB,SH,SL,ST,TR,WD,WI.

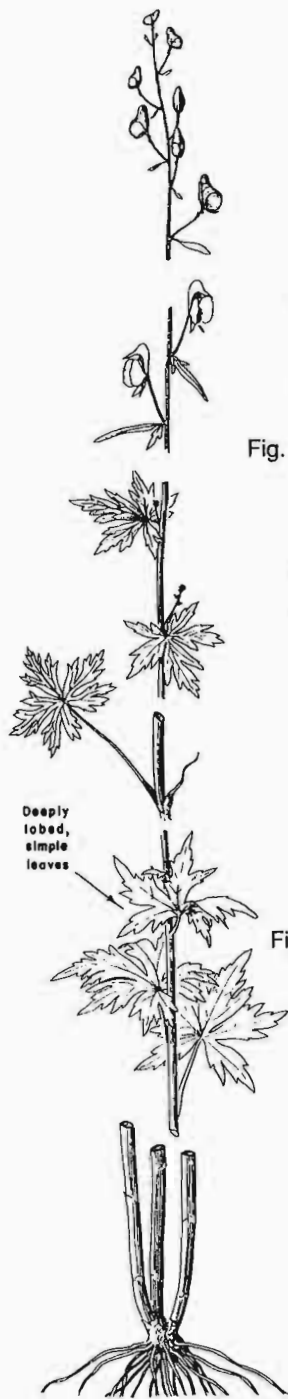


Fig. 120. Columbia Monkshood (cream-flowered variety)



Fig. 121. Pearly Everlasting

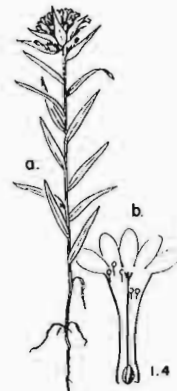


Fig. 124. Narrow-leaved Collomia

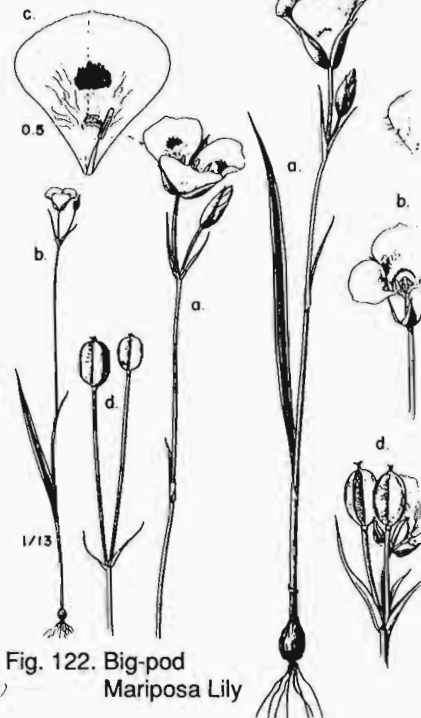


Fig. 122. Big-pod Mariposa Lily

Fig. 123. Broad-fr. Mariposa

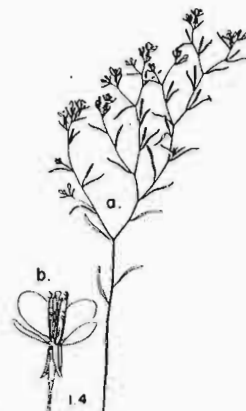


Fig. 125. Deceptive Groundsmoke



Fig. 126. Alpine Knotweed

127. **Clasping-leaved twisted-stalk**, *Streptopus amplexifolius*, is a .5-1.0 meter-tall lily-family plant with branched upper stems and broad-lanceolate, entire, sessile, and parallel-veined, all-cauline leaves that clasp the stem and are about 5-10 cm long x 2-5 cm wide (Figures 127d and a). Flower and fruit pedicels are in two sections (Figures 127a and c) that together run about 1.5-2.5 cm long. Each carries one creamy-white to greenish-tinged flower about 1.0-1.5 cm long, or a single 1 cm-wide yellow or red fruit. Flowers and fruit pedicels come from the leaf axils in the upper half of the plant. Lacking flowers or fruits, twisted-stalks are quite difficult to separate from two other Seven Devils lily family (*Liliaceae*) plants. One of these is fairy bells (*Disporum hookeri* or *D. trachycarpum*) which has paired white flowers or red fruits at the very ends of the branches of the stem (Figure 127e). The other is the false Solomon seal (*Smilacina racemosa* or *S. stellata*) that has unbranched upper stems and flowers borne in clusters in the very top of the stems (Figure 127f). Habitats: RI,RN. Localities: BD, DR,ES,HA,MR,RA,SA,SB,TR,WD.

128. **Globeflower**, *Trollius laxus*, is a shade-loving and wet-soil plant that, like monkshood (Plant 120), has very deeply lobed, but simple leaves. It has a single, white, large (1-2 cm wide) buttercup-like flower atop the 20-50 cm-tall stems. The pointed seed pods, produced in a head (Figure 128b), are about 1 cm long and are strongly cross-veined (Figure 128c). Habitats: LS,RI,WM. Localities: BL,BR,DR,LI,MR,PG,RU,SH,TR,WD.

129. **California false hellebore**, *Veratrum californicum*, is another tall (1-20 m) and very large-leaved (20-30 cm x 10-20 cm) lily family plant. The sessile, entire, and (in midstem) clasping leaves are topped by an impressive 30-60 cm-long white-flowered inflorescence that has hundreds of 1-2 cm-wide, three-parted flowers. There are meadows in the Seven Devils that have 20-acre patches of this false hellebore, as along the Black Lake Road south of Placer Basin. Habitats: RI,WM. Localities: BR,BL,CA,CS,DO,DR,EC,HA,HH,KI,LI,LG,MR,SH,ST,TR,WI.

130. **Meadow deathcamas**, *Zigadenus venenosus*, mainly of the low grasslands (Habitat LG), is the most troublesome, sheep-poisoning plant of the Seven Devils. It reaches 50-60 cm tall, with long (to 30 cm), thin (3-6 mm wide), upper-stem leaves that clasp the stem. The multi-flowered inflorescence is about 10 cm long and composed of creamy-white, pediceled, and three-parted flowers about 1 cm across. The seed pods also are clustered at the tops of the stems. They are about 1.0-1.5 cm long and occur in groups of three (Figure 130b). There is another deathcamas in the Seven Devils, the elegant deathcamas (Plant 144). Habitats: LG,HG,RN,RS. Localities: BU,CH,CS,KI,NB,SA,SL,TL,WF.

CLASS CC - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH WHITE OR CREAM FLOWERS AND BOTH BASAL AND CAULINE LEAVES (See also Plants 90, 115, 119)

Key to the Seven Devils Everlastings: Seven everlastings (three common and numbered) are keyed below.

- | | |
|--|------------------------|
| 1a. Upper leaf surfaces distinctly less hairy than the lower | <i>A. racemosa</i> |
| 1b. Upper leaf surfaces as hairy, or almost as hairy, as the lower | 2a |
| 2a. Plants mat-forming with numerous leafy stolons | 3a |
| 3a. Outer involucral bracts brownish and white and blunt-tipped | <i>A. umbrinella</i> |
| 3b. Outer involucral bracts blackish-green and sharp-tipped | <i>A. alpina</i> |
| 3c. Outer involucral bracts whitish to pinkish | <i>A. microphylla</i> |
| 2b. Plants not mat-forming and without stolons | 4a |
| 4a. Involucre glabrous | <i>A. luzuloides</i> |
| 4b. Involucre base densely short-hairy | 5a |
| 5a. Plants only 10-20 cm tall | <i>A. lanata</i> |
| 5b. Plants 20-50 cm tall | <i>A. anaphaloides</i> |

131. **Rosy everlasting**, *Antennaria microphylla*, is one of the typical small and discoid-headed composites that we call everlastings, because the papery involucral bracts remain showy even on the dead and dry stems. It is the most common Seven Devils everlasting, and reaches 10-30 cm tall. Habitats: HG,LG,LS,RN,RS. Localities: All but the highest (HS) and the lowest (LR).

132. **Slender everlasting**, *Antennaria racemosa*, takes its name from its inflorescence -- a raceme, with pediceled flowers blooming from the bottom up, off an unbranched stem axis. Usually it is a plant liking partial shade. Plants are either entirely male or female, with stamens protruding from the male heads; styles from the female heads. Habitats: RI,RN. Localities: BL,BD,CA,CH,CS,DR,ES,MR,NB,PH,PG,RA,RU,SA,SP,TL,WD,WF.

133. **Brown everlasting**, *Antennaria umbrinella*, is named for its characteristic umber or brownish involucral bracts. It is a very low everlasting (reaching only 10-15 cm tall) of the higher elevations. Habitats: LS,RN,RS,SN. Localities: BD,BL,BM,BR,DO,HA,HS, KI,NB,PG,SB,SH,SL,ST,TR,WI.

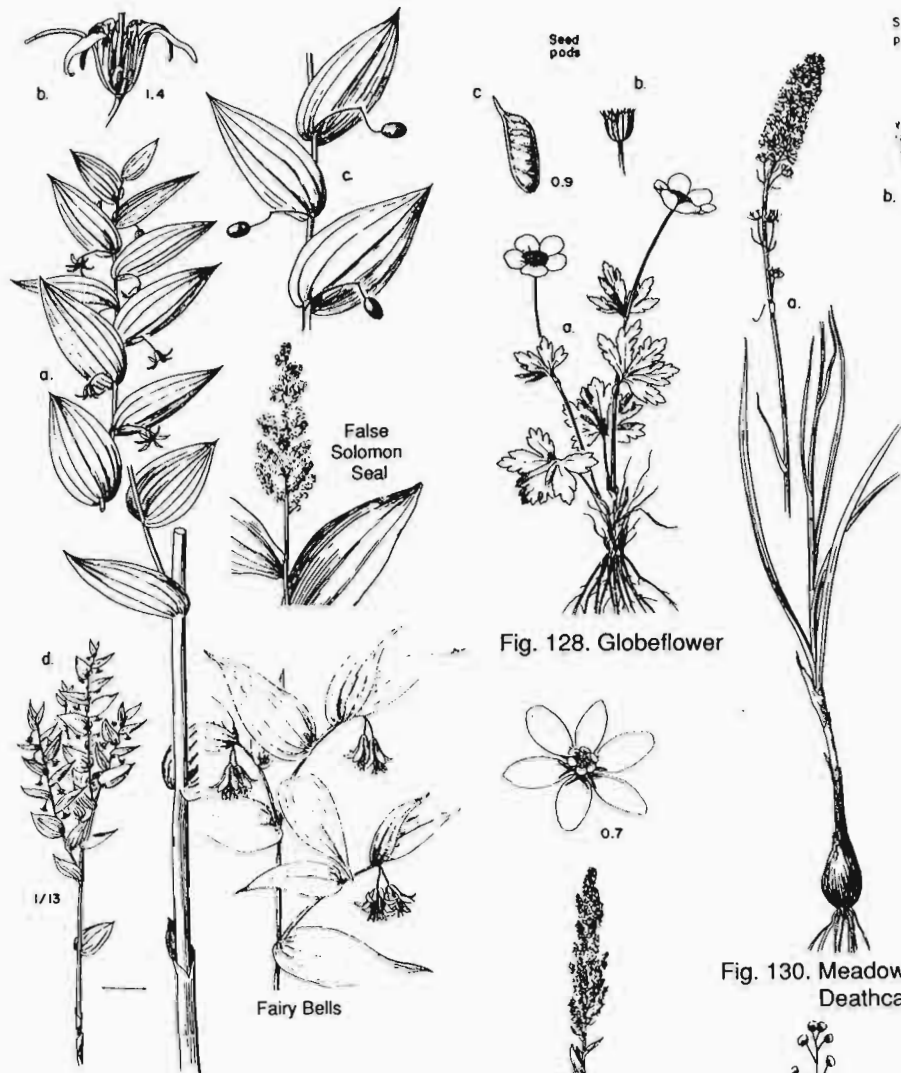


Fig. 128. Globeflower

Fig. 127. Twisted-stalk

Fig. 130. Meadow Deathcar

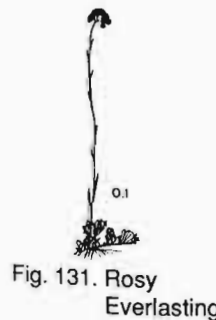


Fig. 131. Rosy Everlasting

Fig. 133. Brown Everlasting

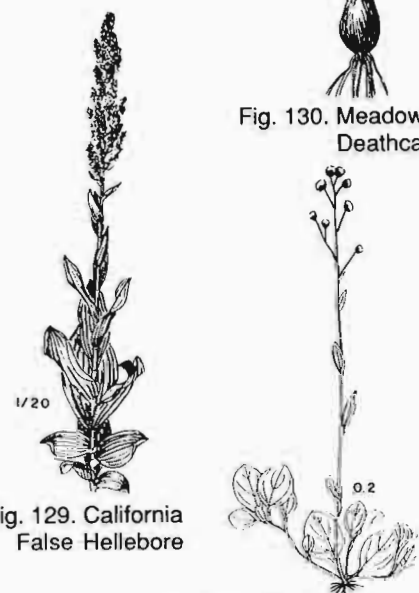


Fig. 129. California False Hellebore

Fig. 132. Slender Everlas

Rockcress species: There are at least ten rockcress (*Arabis*) species in the Seven Devils, of which only one moderately rare species and ~~two~~ ^{one} common species are numbered and described below.

134. **Cross-haired rockcress, *Arabis crucisetosa***, is included here because it is moderately rare and local, being confined to Hells Canyon, the Seven Devils, and the lower Clearwater River Valley. It was found and described in 1936 by Lincoln Constance and Reed Rollins, then Washington State College graduate students. It is a rather nondescript, perennial mustard, growing approximately 40 cm tall and having small (1.0-1.5 cm wide), four-petaled, white flowers with narrow, erect seed pods about 2.0-2.5 cm long. The leaves are entire and mostly basal, with their undersides covered with stalked, cross-shaped hairs. Habitats: RI,RN,RS. Localities: DR,SH.

135. **Hairy rockcress, *Arabis hirsuta* var. *glabrata***, is another four-petaled, white-flowered rockcress, but this one is quite common and much taller (to 1 m) than the foregoing species. It has entire and sessile cauline leaves that are eared on either side of the midrib at their bases; they are 2-12 cm long, the big spread in size being caused by the fact that they rapidly get shorter toward the top of the plant (Figure 135a and b). Basal leaves differ in being petiolate and about 3-6 cm long (Figure 135a). Although straight-hairy at the base, the plant is glabrous above (Figure 135b), and the seed pods are erect (point upwards, Figure 135c). Its look-alike, Holboell's rockcress (Plant 183), can be distinguished by pink flowers and usually pendant seed pods. Seed pods are about 4-6 cm long and only 1.0-1.5 mm wide in both species. Habitats: RN,RS,TA. Localities: BM,BR,BU,CA,CR,CS,DO,DR,HA,HH,LG,MR,NB,PG,RU,SA,SB,SL,ST,TR,WD,WI.

136. **Western rattlesnake plantain, *Goodyera oblongifolia***, is an orchid with the usual complicated orchid family flowers (Figure 136b). It is a shade plant. The single peduncles are 25-40 cm tall with one or more alternate and leaflike bracts below the spike-like (up to 10 cm long) inflorescence (Figure 136a). The inflorescence contains either white flowers or green seed pods. The plant's most attractive and noticeable feature is its white-mottled and striped, rosetted, basal leaves that are about 4-6 cm long and 2-4 cm wide. Habitats: RI,RN. Localities: BD,BL,BR,BU,CR,CH,CS,ES,HA,HH,LG, LV,NB,PG,RA,RU,SA,SB,SP,TH,WD,WF.

137. **Puzzling halimolobos, *Halimolobos perplexa* var. *perplexa***, a small and nondescript, but rare and local variety of the mustard family. It has been recommended for Federal Threatened status, as likely to become endangered in the foreseeable future because of reduction of its limited habitat (see Steele et al., 1981). Its main distribution lies along the bottom of the Little Salmon River between Riggins and New Meadows, so it is surprising to find it in the Seven Devils. It was found near Cold Springs Cow Camp, and along the Sheep Creek Trail (probably Trail 112) as well as along the Smith Mountain Road (112). It is a multi-stemmed, 20-35 cm-tall plant with sessile cauline leaves and petiolate basal leaves, both of which are toothed and about 2-4 cm long. The flowers are only 1 cm long and wide, with the narrow, erect seed pods 1-2 cm long, and only about 1 mm wide. Habitats: SC,TA. Localities: BL,CS,TR.

138. **Fringed grass of Parnassus, *Parnassia fimbriata***, commonly grows on the banks of the higher and more open streams, or on wet cliff faces. It has a single, leaf-like floral bract about halfway up the long peduncle, so it is included both in this class and in Class AA. The small, nonflowering plants are reminiscent of the broad-leaved montia (Plant 88), with their heart-shaped, almost-succulent, and long-petioled leaves, but grass of Parnassus usually grows in much larger clumps and has single white flowers almost 2 cm across. Habitats: CN,RI,RN. Localities: BD,BR,CA,DO,HA,HH,JM,LG,MR,RA, RU,SB,SH,TR,WD,WI.

139. **Varileaf phacelia, *Phacelia heterophylla***, has entire, sessile upper leaves (usually in the inflorescence) as well as deeply-, three- to five-lobed and petiolate lower leaves, hence the name. Often there is a stout and hairy main stem up to 1 m tall, with shorter surrounding stems. The leaves are grayish-hairy, the lower ones being deeply lobed (almost compound) and having 6-8 cm-long blades. Flowers are dull white, (occasionally purplish), only about .5 cm long and wide, with the anthers protruding from them conspicuously (Figure 139b). Habitats: RN,RS,TA. Localities: BR,BU,CA,CH,CR,CS,DO,DR, EC,HA,HH,KI,IG,NB,PA,RA,SA,SB,SL,ST,WD,WF,WI.

140. **Bistort, *Polygonum bistortoides***, is a knotweed having worldwide distribution and known medicinally for the astringent (or membrane-shrinking) properties of its root. Usually found on moist or swampy soils, it is easily recognized by the 40-60 cm-tall stem topped with a 2-4 cm-long x 1.0-1.5 cm-wide, tight flowering head (Figure 140a) having many .5 cm- white flowers with protruding stamens (Figure 140b). Cauline leaves are sessile and clasping; the basal leaves are long-petiolate and up to 15 cm long. Habitats: RI,WI. Localities: BR,DR,SH,SL,TR.

▪ Rare

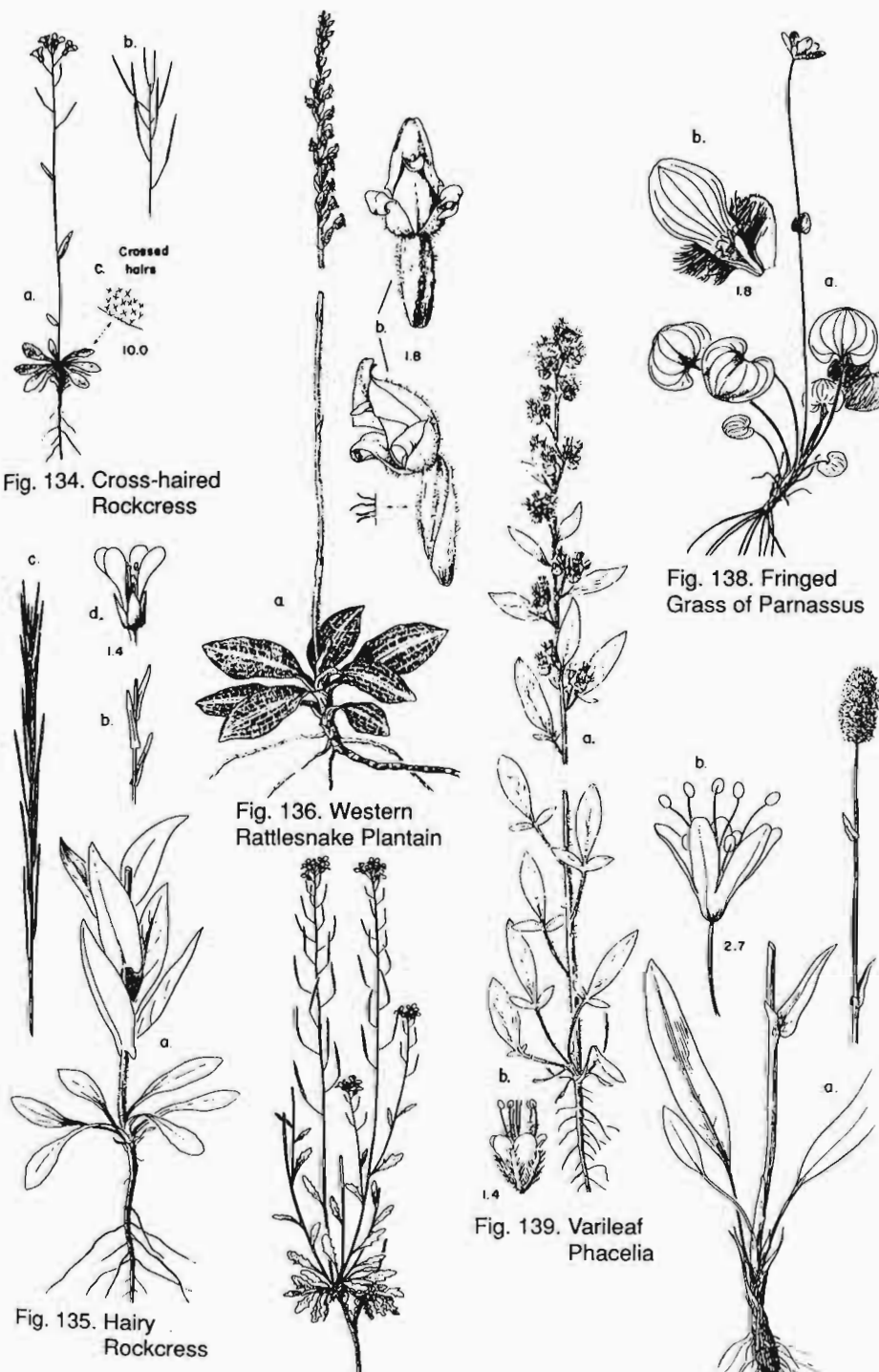


Fig. 134. Cross-haired Rockcress

Fig. 136. Western Rattlesnake Plantain

Fig. 135. Hairy Rockcress

Fig. 137. Puzzling Halimolobos

Fig. 138. Fringed Grass of Parnassus

Fig. 139. Varileaf Phacelia

Fig. 140. Bistort

141. *Sidebells pyrola*, *Pyrola secunda*, as the name implies, has secund flowers (i.e., they grow mostly off one side of the peduncle, Figure 141). It is a small plant only 5-15 cm tall with mostly cauline leaves that are 2-5 cm long, entire, short-petiolate, round-oval, and bluntly pointed. The white flowers are small (about 1 cm wide) and have noticeably protruding styles. See the discussion under *Pyrola uniflora* (Plant 90) for information on other Seven Devils pyrolas. Habitats: RN,RS. Localities: BD,BL,BR,BU,CH,CR,DO,DR,EC,ES,HA,LA,LG,MR,NB,PA,PG,RA,RU,SA,SB,SP,ST,TR,WD.

142. *Matted saxifrage*, *Saxifraga bronchialis*, is not well represented in the Seven Devils, but is such a delightful little cliff-dwelling, high-elevation, mat-forming plant that it needs to be included here. The perky little white-petaled, purple polka-dotted flowers are borne in open inflorescences atop the 20 cm-tall peduncles that have only a few spine-like leaves. The saw-edged basal leaves of the mat run about 8-12 mm long x 2.0-2.5 mm wide, and, without flowers, could be mistaken for that of desert phlox (Plant 89) or prickly sandwort (Plant 83), except that the leaves are broader than those of phlox and not nearly so prickly as those of the sandwort. Habitats: CN,CS. Localities: HS,TR,WI.

143. *Fendler's pennycross*, *Thlaspi fendleri* (synonym *T. montanum*), is a common, small (10-20 cm tall), and white-flowered mustard family (Cruciferae) plant, having relatively short and broad seedpods (.5-1.25 cm long x 3-5 mm wide) that are borne on horizontal to slightly turned-up pedicels (Figure 143). There is a rosette of bluntly-toothed, oval, petiolate, and 1.25-4.0 cm-long basal leaves; while the cauline leaves are basally-eared, sessile, and about 1.5-3.5 cm long. The four-petaled flowers are about 1 cm across, and have 1 cm-long pedicels. Habitats: AV,CN,CS,RN,RS,TA. Localities: BM,BL,BR,CA,CC,CH,CR,DR,ES,HA,KI,MR,NB,PG,RA,SB,SH,SL,ST,TL,TR,WD,WF,WI.

144. *Elegant deathcamas*, *Zigadenus elegans*, is the high elevation (8,000 feet) deathcamas of the Seven Devils. It is quite distinct from the meadow deathcamas (Plant 130) because its beautiful greenish-white, three-parted flowers are fully 1.5-2.0 cm across with spreading petals that have distinct, dark purple, V-shaped markings at their bases (Figure 144b). There are a few bract-like leaves along the peduncle, and the basal leaves are grasslike (up to 25 cm long x 1.5 cm wide, Figure 144c). Habitats: RN,RS,WM. Localities: SH (three different places).

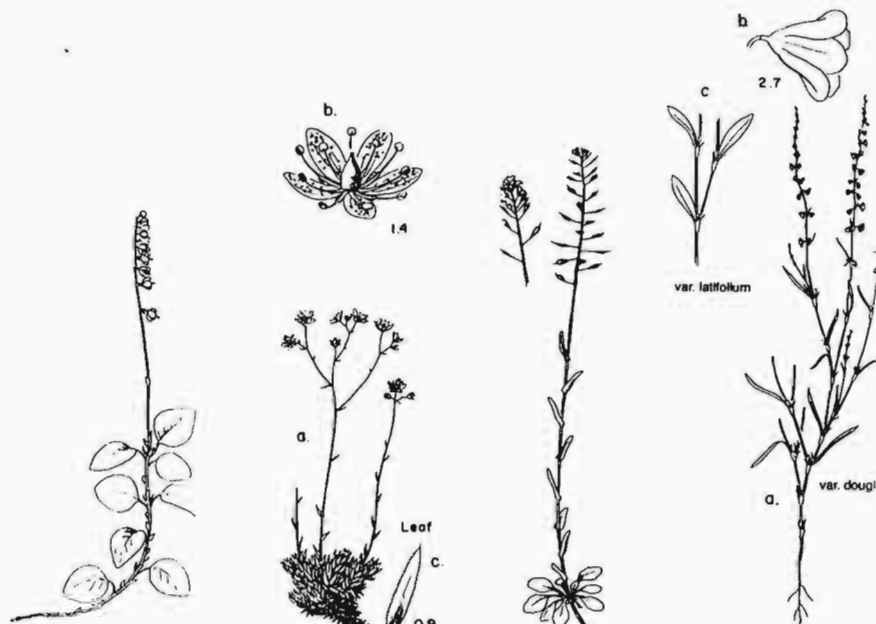


Fig. 141. Sidebells
Pyrola

Fig. 142. Matted
Saxifrage

Fig. 143. Fendler's
Pennycross

Fig. 146. Dougl'
Knotk

CLASS DD - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH GREENISH OR YELLOW-GREEN FLOWERS
(See also Plants 126, 127, 136, and 178)

145. *Yellow coral-root*, *Corallorhiza trifida* has little if any chlorophyll and thus may be assumed to be parasitic on the roots of other green plants. It is much the commoner of two Seven Devils coral-roots. It is difficult to see (usually growing in the deep shade of forested stream bottoms), since its pale yellow-colored parts are not very visible. It is only about 20-25 cm tall, usually single-stemmed, and has only cauline leaves that are clasping and scale-like (Figure 145a). The tiny, yellowish-green orchid flowers are only about 5 mm long. Another scarce but much prettier spotted coral-root (*C. maculata*) grows in these mountains. It has a white, wine-red spotted lower lip-petal; the plants are purplish colored and stand up to 30 cm tall. Habitats: RI,RN. Localities: DR,HA,LG, BY,WD.

146. *Douglas' knotweed*, *Polygonum douglasii*, is a low (15-20 cm tall, nondescript, weedy plant mostly of disturbed soils, as in the heavily-grazed, high or low Seven Devils grasslands. The cauline leaves are lanceolate, but being of the variety *latifolia* (2-4 cm long x .5-1.0 cm wide, Figure 146c) are somewhat wider than those of the typical variety (var. *douglasii*, Figure 146a). The flowers are insignificant (only 2.5-3.5 mm long) and greenish-white, sometimes with reddish margins. Habitats: AV,HG,LG,RN,RS,TA. Localities: BM,BR,BU,CA,CC,CR,CS,DO,DR,ES,HA,HH,KI,LI,LG,NB,PG,RU,SL,ST,TL,TR,WD,WI.

147. *Sheep sorrel*, *Rumex acetosella*, is a European import of world-wide distribution. It follows the pack trails and sheep driveways, probably being dispersed by both horse and sheep. It is about 15-30 cm tall (usually shorter and more compact in the Seven Devils than in Figure 147a), and has mostly basally-eared, arrow-shaped cauline leaves that are petiolate with blades about 2-4 cm long. The inflorescence is relatively long and open, being composed of many obscure (only about 1 mm long), yellowish-green and most often reddish-tinged flowers. Habitats: HG,LG,RN,RS,TA. Localities: BL,BR,BU,CA,CH,CR,CS,DO, DR,ES,KI,LC,LR,MR,NB,PA,RA,RU,SA,SB,ST,TR,WF,WI.

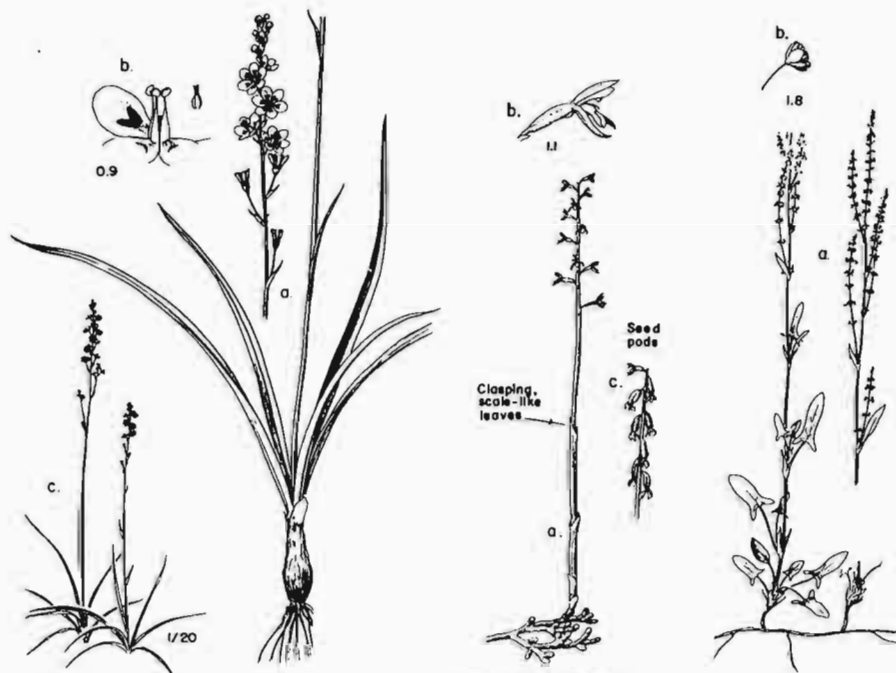


Fig. 144. Elegant Deathcamas

Fig. 145. Yellow
Coral-root

Fig. 147. Sheep Sor

148. *Western stenanthium*, *Stenanthium occidentale*, is an uncommon, 20-40 cm lily with 1.0-1.5 cm, three-parted flowers with greenish-yellow and sometimes red-edged petals (Figure 148b). It is a shade plant of the moist and heavily forested north or east facing slopes, has grass-like basal leaves 15-30 cm long, but only spur-like cauline leaves. Plants arise from fairly shallow perennial bulbs which are 2-4 cm long. Habitats: RN. Localities: PA,RU,TR.

CLASS EE - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH YELLOW FLOWERS

(See also Plants 99, 145, 165, and 167)

149. *Arrowleaf balsamroot*, *Balsamorhiza sagittata*, is probably the most visible composite of the inland northwest. In the spring it provides a show on the drier hillsides (2,000-4,000 feet) when its thousands of massed plants turn the canyonsides golden. It is much more scattered, but still impressive, at 5,000 feet and up. A woody-taprooted perennial, it has arching, long-petioled, entire, silver-haired and arrowhead-shaped basal leaves (to 30 cm x 15 cm) that grow in clumps to 50 cm tall x 75 cm wide (and are surprisingly transitory). The single-headed flowering stems reach 75 cm tall, making the flower heads highly visible. They usually have one or more lanceolate and much shorter cauline leaves. Habitats: HG, LG, RN, RS, SB. Localities: BA, CA, CC, CH, CR, CS, DR, HA, HH, KI, LR, NB, PG, RA, SA, SB, SL, ST, TL, TR, WD, WF, WI.

150. *Dogtooth violet*, *Erythronium grandiflorum*, is a yellow-flowered lily that is very common in the Seven Devils and well-known throughout the northwest. The three-parted, deep yellow-petaled flowers reach 5-6 cm across (often with two or more per 10-20 cm-long peduncle). Both stamens and styles protrude beyond the reflexed petals. Usually there are two alternate, although opposite-appearing, leaves (10-20 cm long x 4-6 cm wide) near the bottom of the stem. Habitats: AV, LS, RI, RN, RS, SN, WM. Localities: All but the highest (HS).

Key to the Native Seven Devils Buttercups: Besides the numbered buttercups below, there are three other species and one more variety of the subalpine buttercup keyed below:

- | | |
|---|--|
| 1a. Leaves deeply lobed or dissected | 2a |
| 2a. Flowers under 1 cm wide, achenes hook-spined | <i>R. uncinatus</i> |
| 2b. Flowers 1-2 cm wide, achenes merely beaked | 3a |
| 3a. Middle division of basal leaf lobes at most once-lobed | <i>R. eschscholtzii</i> v. <i>suksdorfii</i> |
| 3b. Middle division of basal leaf lobes usually twice-lobed | <i>R. eschscholtzii</i> v. <i>trisectus</i> |
| 1b. Leaves at most shallowly lobed | 4a |
| 4a. Stems creeping and rooting at nodes | <i>R. flammula</i> |
| 4b. Stems erect, or prostrate but not rooting | 5a |
| 5a. Stems under 20 cm, basal leaves shallowly lobed | <i>R. glaberrimus</i> |
| 5b. Stems over 20 cm, leaves entire | <i>R. alismaefolius</i> v. <i>alismellus</i> |

151. *Subalpine buttercup*, *Ranunculus eschscholtzii* var. *suksdorfii*, is the most common, high-elevation, Seven Devils buttercup, occurring on the cirque floors or lakeshores above 7,500 feet. Like Plants 120, 164, and 191, it has simple cauline and basal leaves that are so deeply lobed as to appear compound. The often sprawling stems reach 20 cm and usually each bear but one, clear yellow-petaled and many-stamened buttercup about 1-2 cm across. Habitats: AC, LS, RI, RN, RS, SN. Localities: BR, HH, PG, RU, SL, SH, ST, WI.

152. *Little buttercup*, *Ranunculus uncinatus*, is the most common, low-elevation, Seven Devils, buttercup, occurring mostly between 5,000 and 6,500 feet. Sometimes it has a few three-leaflet compound leaves at midstem (Figure 152), but most of the basal and cauline leaves are simple or merely deeply lobed like those of the subalpine buttercup. It is fairly tall for a montane buttercup, to 50-60 cm tall. The 3-4 mm-long yellow petals are soon shed, so often the plant is seen with only the immature achenes (top of Figure 152). Habitats: LS, RI, RN, WM. Localities: BL, BU, CS, DO, MR, NB, PA, SA, TR, WF.

153. *Lanceleaf stonecrop*, *Sedum lanceolatum*, and *wormleaf stonecrop*, *S. stenopetalum*, are mostly indistinguishable and are among the few Seven Devils succulents. They are ubiquitous, from 5,000-9,400 feet wherever there is much open soil or bedrock. Their compact clusters of bright-yellow, star-shaped flowers perched on 5-15 cm-tall flowering stems are easy to see and remember. But the flowering stems soon are gone. The very low, rosetted, often reddish, overwintering basal leaves are more difficult to see. The wormleaf stonecrop has more pointed leaves (d). The other Seven Devils stonecrop, kings crown (*S. roseum*) found at higher elevations, has persistent and flattened cauline leaves and purple flowers. Habitats: AV, BF, CN, CS, JM, RN, RS, SA. Localities: All, the highest to the lowest.

154. *Thick-leaved groundsel*, *Senecio crassulus*, is the most common of six groundsel known to be in the Seven Devils. They are all keyed at the top of the following page. This one reaches 60 cm tall, has shallowly-toothed lanceolate and petiolate basal leaves, up to 10 x 4 cm, and successively smaller and more sessile cauline leaves. The several radiate flower heads commonly have about eight ray flowers that are 1.5-2.5 cm across. Habitats: HG, KI, LG, RN, RS. Localities: All but the highest (HS) and the lowest (L).

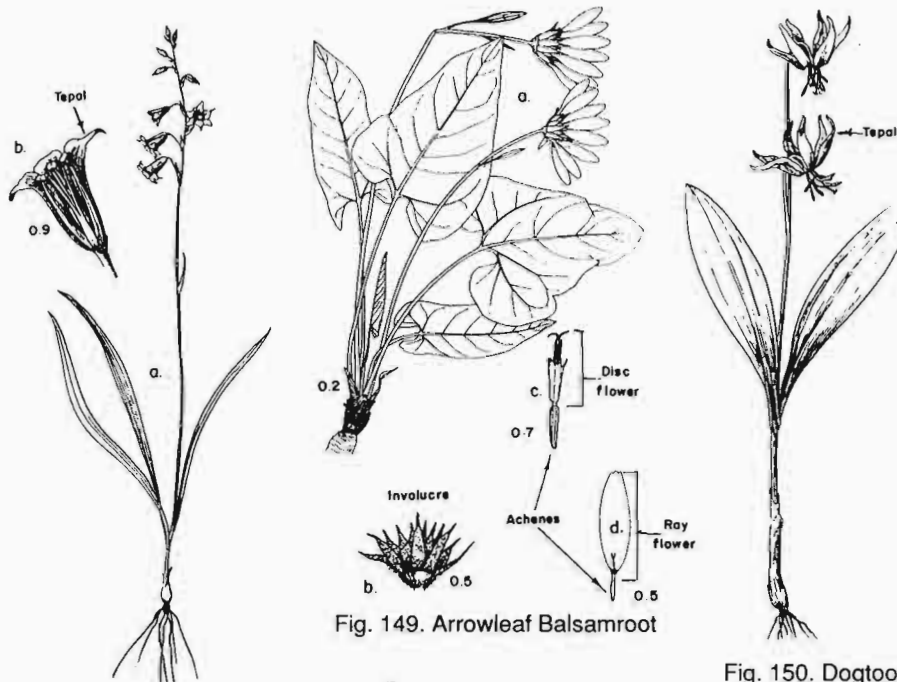


Fig. 148. Western Stenanthium

Fig. 149. Arrowleaf Balsamroot

Fig. 150. Dogtooth Violet

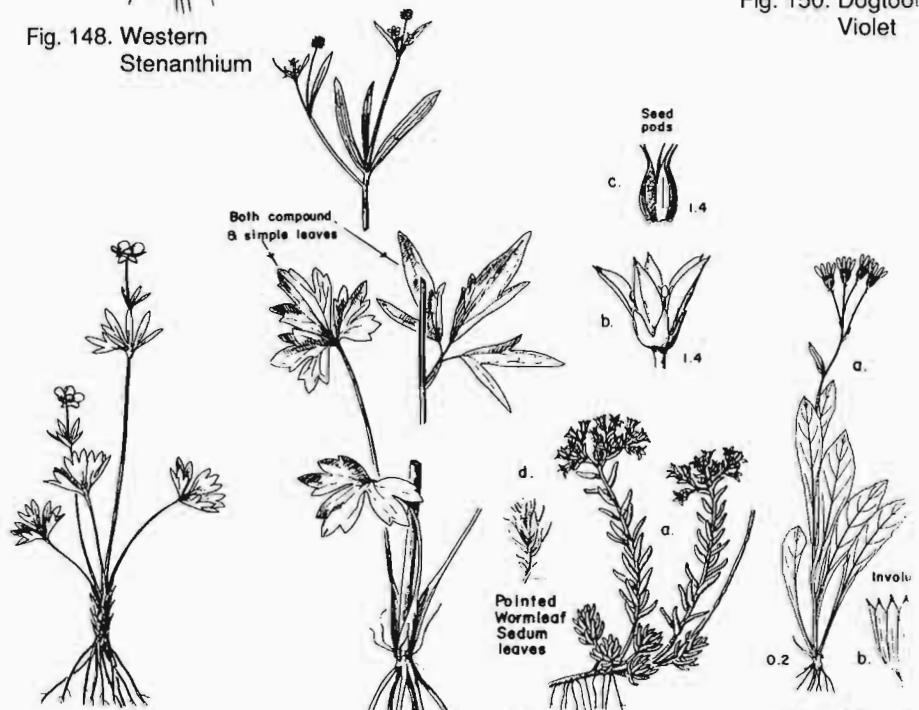


Fig. 151. Subalpine Buttercup

Fig. 152. Little Buttercup

Fig. 153. Lanceleaf Stonecrop

Fig. 154. Thick-leaved Groundsel

Key to the Seven Devils groundsels: Beside the three most common groundsels (Plants 154-156), there are three more species keyed below. Groundsels might be described as alternate-leaved arnica-like flowers, but with more and smaller yellow flower heads. They are composites.

- | | |
|--|-----------------------------|
| 1a. Plants usually glabrous | 2a |
| 2a. Plants with oval to lance-oval, toothed leaves | 3a |
| 3a. Plants usually below 10 cm tall | 4a |
| 3b. Plants usually at least 20-30 cm tall | 4b |
| 4a. Cauline leaves deeply lobed | <u>S. pseud aureus</u> |
| 4b. Cauline leaves merely toothed | <u>S. streptanthifolius</u> |
| 2b. Plants with lanceolate to triangular leaves | 5a |
| 5a. Leaves lanceolate | <u>S. crassulus</u> |
| 5b. Leaves triangular | <u>S. triangularis</u> |
| 1b. Plants hairy with stiff to long and cobwebby hairs | <u>S. integerrimus</u> |

155. **Rocky Mountain butterweed**, *Senecio streptanthifolius*, has bluish-green leaf blades 2-3 cm long by 1-2 cm wide with their edges so regularly and uniformly notched that they appear to be machine-scalloped. It prefers the drier soils and is often found in partial shade. Habitats: RN,RS. Localities: CA,CR,CS,DO,EC,ES,HA,HH,LG,MR,NB,PA,PG,RA,SB,SP,TR,WD.

156. **Arrowleaf groundsel**, *Senecio triangularis*, is a moist-soil plant often growing in partial shade and reaching more than a meter tall. It often occurs in large colonies. The triangular leaf blades reach 10-20 cm long x 5-10 cm wide. Habitats: LS,RI,RN,WM. Localities: All but the highest (HS).

157. **Canada goldenrod**, *Solidago canadensis*, and Missouri goldenrod, *S. missouriensis*, are the most common North American goldenrods, both of which occur in the Seven Devils and are considered together here. Usually .5-1.0 m tall and lacking basal leaves, they have many small, radiate heads packed closely together on branching peduncles. Habitats: HG,RN,RS. Localities: BD,BL,EC,HH,JM,KI,PA,SB,SP,WD.

158. **Round-leaved violet**, *Viola orbiculata*, is perfectly described by its common name as a deep forest inhabitant, as well as by its Latin name describing the almost round, or orbicular leaves. There is another, much larger-flowered (1-2 cm long), yellow violet in the lower Seven Devils Mountains, the Nuttall violet, *V. nuttallii*, that may be seen near Kirkwood Corral on the north end or Lockwood Saddle on the south end. Habitats: RI,RN,RS. Localities: BD,BL,BU,CA,DO,DR,EC,ES,HA,HH,KI,LG,LV,NB,PA,PG,RA,RU,SA,SB,SH,SP,TL,TR,WD,WF.

159. **Purplish yellow violet**, *Viola purpurea*, is another well-named but much less common yellow violet. It stands only about 5-15 cm tall, often sprawling, and having purplish-tinged and very prominently-veined leaves with long petioles, and yellow, brownish-marked petals. Habitats: HG,RN,RS. Localities: BM,DO,HA,KI,MR,PG,SH,SL.

CLASS FF - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH BLUE, VIOLET, OR PURPLE FLOWERS AND ONLY BASAL LEAVES

160. **Jeffrey's shooting star**, *Dodecatheon jeffreyi*, is among the most showy of the often spectacular shooting stars. It is a fairly constant member of the open streambank and marshy meadow communities above 7,500 feet. It is late-blooming (early summer) with reddish-purple flowers. It is taller (30-60 cm), has larger flowers with anthers and style (2.5-3.5 cm long), and mostly occurs higher in elevation than the spring-flowering and quite transitory species like the few-flowered shooting star (*D. pulchellum*), that has leaves to 15 cm long with rhizomes, or the slimpod shooting star (*D. conjugens*), that has leaves to 20 cm long, but lacks rhizomes. Jeffrey's shooting star can form patches up to 1 m or more across. Occasionally a white-flowered variant will be found. Habitats: LS,RI,WM. Localities: BR,BL,DR,LI,PG,SH,SL,TR.

161. **Cusick's primrose**, *Primula cusickiana*, is a rare and sprightly little primrose that recently was recommended for removal from the Federal Threatened Plant List by the Idaho rare plant folks (see Steele et al., 1981). It is a tiny plant under 10 cm tall with rosetted basal leaves about 5 cm long plus a few leaf-like floral bracts along the peduncles just below the single or double flowers (Figure 161a). The perky blue-violet flowers are five-parted. Their tubular corollas are only about 1 cm long (Figure 161b). The authors have neither collected nor seen this plant, but Frederick G. Meyer and Gerald Munro, botany graduate students from Washington State College, both collected it along Dry Diggins Ridge Trail 140, about 45 years ago. Habitats: RN,TA,WM. Localities: DR.

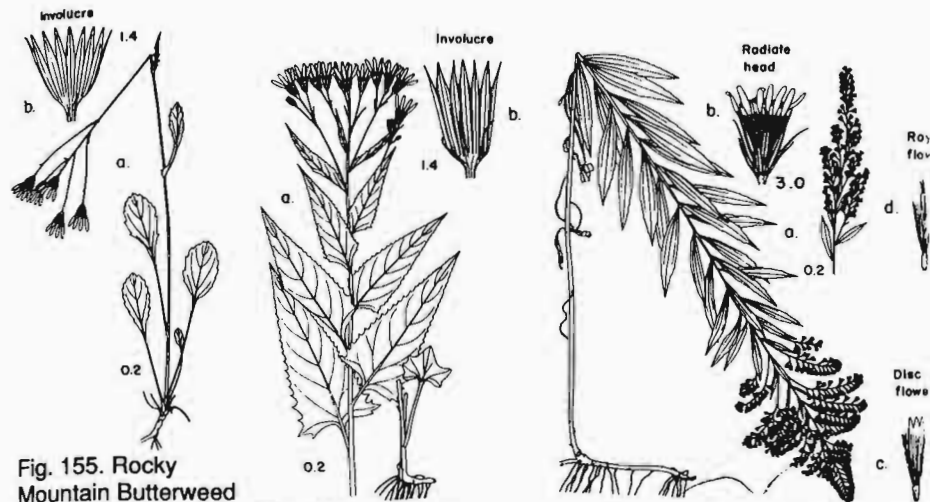


Fig. 155. Rocky Mountain Butterweed

Fig. 156. Arrowleaf Groundsel

Fig. 157. Canada Goldenrod

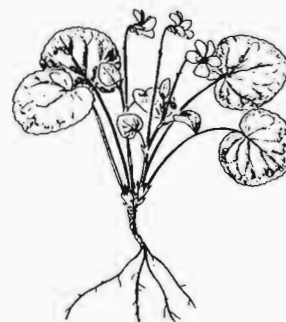


Fig. 158. Round-leaved Violet

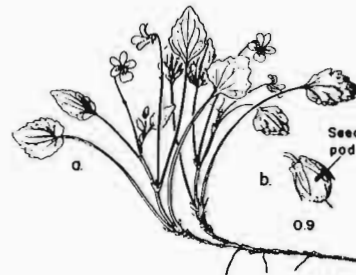


Fig. 159. Purplish Yellow Violet

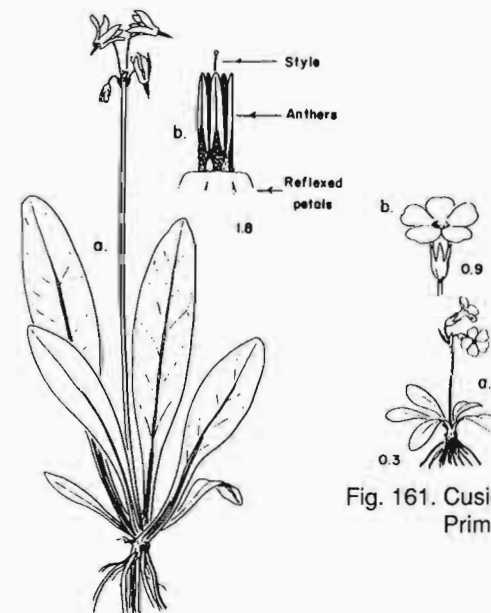


Fig. 160. Jeffrey's Shootingstar

Fig. 161. Cusick's Primrose

Key to the Seven Devils Hairbells or Bluebells:

- | | | |
|--|----|------------------------|
| 1a. Flowers and seed pods erect, basal leaves lanceolate, plants under 20 cm | 2a | <i>C. scabrella</i> |
| 2a. Flowers 1-5 per inflorescence, plants short, stiff, hairy throughout | 3a | <i>C. parryi</i> |
| 2b. Flowers solitary, plants mostly glabrous | | <i>C. uniflora</i> |
| 3a. Seed pods 3-12 mm long, corollas 9-15 mm long | | |
| 3b. Seed pods 12-20 mm long, corollas 6-12 mm long | | |
| 1b. Flowers and seed pods nodding, basal leaves round to oval, plants over 30 cm | | <i>C. rotundifolia</i> |

(*C. rotundifolia*, the Scotch bluebell, can be confused with the wild blue flax (Plant 166), except for its cordate to oval basal leaves)

162. *Rough harebell, *Campanula scabrella*, is known only from three populations in Idaho, one of which is in the Seven Devils Mountains (Windy Saddle and Pollock Mountain). The mostly solitary, bell-shaped, blue flowers are about .5-1.0 cm long and wide. The leaves are lanceolate and entire. When the leaves are crowded together at the bases of the branching stems they are less than 4 cm long. There are two other less interesting but more common small *Campanulas*, and one taller one, that are keyed above. Habitats: CN,CS, RN,RS,TA. Localities: PO,WI.

163. Alpine collomia, *Collomia debilis*, is a noteworthy plant compared to the annual and insignificant narrow-leaved collomia (Plant 124). This one is a taprooted perennial often found in rockslides where its sprawling branches are overrun by loose, small rocks. The upright stems can form a mat up to 50 cm or more wide. When covered with hundreds of 2.5- 3.0 cm-long, light-violet (occasionally pinkish or even cream-colored) flowers, these mats may be spectacular. Corollas are five-parted and funnelform. Our variety (*debilis*) has bluntly pointed, oval leaf blades about 2 cm long x 1 cm wide. Habitats: TA. Localities: HS,TR.

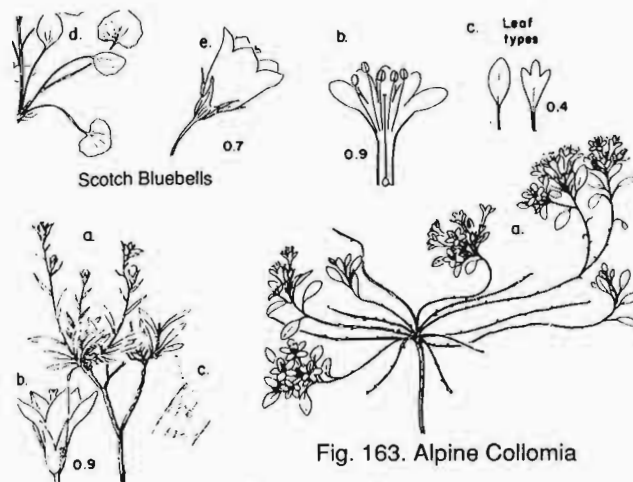
164. Upland larkspur, *Delphinium nuttallianum*, is mostly a canyon-dweller, but grows to over 8,000 feet in the Seven Devils. Usually it is a single-stemmed perennial 15-40 cm tall, with an inflorescence having up to 15 striking, deep royal purple-blue flowers. These flowers are quite complicated, having five purple-blue sepals, one conspicuously long-spurred, masquerading as petals on the outside. The four real petals are inside the sepals and are relatively small. The upper pair are lanceolate and spurred; the lower pair are oval and lobed (or clawed, Fig. 165a and b). It prefers the drier soils and has an extensive, fibrous root system. Another short delphinium (the dwarf larkspur, *D. depauperatum*) grows in only a small cluster of fleshy roots. Habitats: HG,LG,RN,RS, SB,TA. Localities: BM,HR,RU,CC,CH,CR,DO,DR,ES,FA,HH,KI,LI,LR,LY,NB,PG,SA,SH,ST,TL,TR, WD,WF,WI.

165. Tall western larkspur, *Delphinium occidentale*, may reach 2 m tall and appears to be restricted to the head of the East Fork of Sheep Creek, from Trail 112 perhaps a 1/2 mile down the dry draws at the head of the East Fork. It is reminiscent of the tall, "Pacific Hybrid," garden delphiniums. Read the discussion on delphinium flowers (Plant 164). Habitats: RI,RN. Localities: ES,TR.

166. Wild blue flax, *Linum perenne*, is a woody-taprooted perennial usually having several stems 40-60 cm tall. The leaves are very narrow (2-4 cm long x only 2-3 mm wide) with many of them on each branch of the stem. Stems are topped by an inflorescence of showy and large (2-4 cm wide), saucer-shaped, five-petaled sky-blue flowers that soon are shed and replaced with many-celled seed pods. It can be confused with Scotch bluebells (see Figure 162d and Bluebell Key). Habitats: HG,RN,RS. Localities: BM,BR,DO,DR,HA,HH,KI,NB, SB,SL,ST,TL,WD,WI.

167. Clustered broomrape, *Orobanche fasciculata*, lacks chlorophyll and is a root parasite on other green plants. It is quite variable in respect to both its color and its hosts. In the bottom of Hells Canyon it is sulphur yellow and parasitic on snow buckwheat (*Eriogonum niveum* (see Bingham & Henderson, 1980); in the Seven Devils it is dull yellowish-purple and parasitic on stiff sage (*Artemisia rigida*, see Figure 32b), while elsewhere in the northwest it is parasitic on mountain big sagebrush (*A. tridentata*). The clustered flowers arising from scaly-leaved stems are about 1.5-3.0 cm long. Another, always purple-flowered, and quite short (to 5 cm tall) broomrape grows in the Seven Devils. It is naked broomrape, *O. uniflora* var. *purpurea*, but is known only along Trail 104 near Notthorn Saddle. Habitats: RN,RS,SC. Localities: CC,CH,KI,SA,TL,TR,WI.

168. Early blue violet, *Viola adunca* var. *bellidifolia*, is the subalpine variety of this common violet. The short petals (under 5 mm long) usually are whitish at the base. The plant seldom exceeds 5 cm tall. It has tiny (1.0-1.5 cm wide) heart-shaped leaves. There are two other blue violets in the Seven Devils, the northern bog violet (*V. nephrophylla*) and the marsh violet (*V. palustris*), but both are larger plants with flowers 1-2 cm long and leaf blades 2.5-7.0 cm wide. Habitats: LI,RS,RN. Localities: CR,CS,DO,EC,HA,HH,MR,NB,PG,RA,SB,SH,SL,ST,TR.



Scotch Bluebells

Fig. 162. Rough Harebell

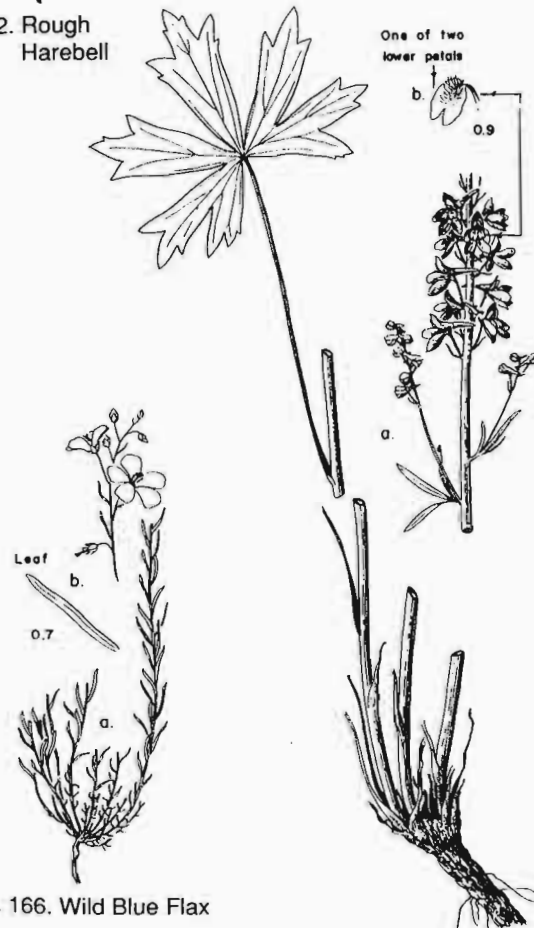


Fig. 166. Wild Blue Flax

Fig. 163. Alpine Collomia

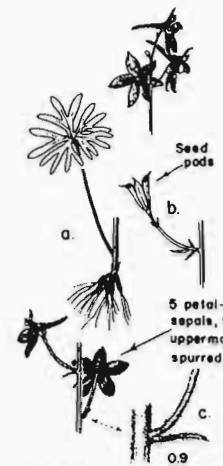


Fig. 164. Upland Larkspur

One of two lower petals

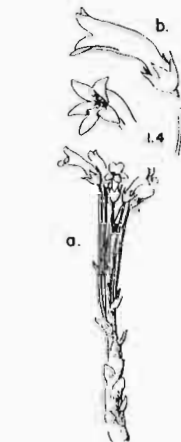


Fig. 167. Clustered Broomrape



Fig. 168. Early Blue Violet

Fig. 165. Tall Western Larkspur

169. Blue stickseed or forget-me-not, *Hackelia micrantha*, has the perky little, 1 cm-wide, short tubed, yellow-eyed, sky-blue corollas that are typical of the forget-me-nots. Most species are not this tall (60-90 cm), however. The lanceolate leaves from the base of the stem are large (10-15 cm long x 1-2 cm wide), petiolate, and entire, while the upper leaves are progressively shorter and more sessile. This plant falls in the borage family (Boraginaceae) which is characterized by having plants with four single-seeded seed pods called nutlets. In the genus *Hackelia* the nutlets are so spiny with barb-tipped spines (Figure 169c and h) that many of the species are called stickseeds. Rough stickseed (*H. hispida*, Figure 169f and g), found only in the Seven Devils in Hells Canyon and in the Grand Coulee of Washington, is another of these species. Habitats: BF,LS,RI,RN,RS,TA. Localities: BU,CA,CR,CS,DO,DR,ES,HA,HH,KI,LG,MR,NB,SB,SL,ST,TL,WD,WI.

170. Tall bluebells, *Mertensia paniculata*, is the only bluebell we have found above 6,000 feet. It is tall (75-150 cm), multi-stemmed and leafy, and thus a clumpy plant that stands out. It has heart-to-oval-shaped, bluntly pointed, entire, and mostly petiolate leaves with blades 6-12 cm long x 3-6 cm wide. The clustered, tubular flowers are sky blue and about 1.0-1.5 cm long. It prefers moist soils, usually in stream bottoms. Habitats: HG,RN,RS,SN. Localities: BM,BR,DO,DR,HA,HH,LK,KI,NB,PG,SB,SL,ST,TL,WD,WI.

CLASS HH - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH BLUE, VIOLET, OR PURPLE FLOWERS AND WITH BOTH BASAL AND CAULINE LEAVES (See also Plants 142, 162, 164, 165, 168, 170)

171. Leafy aster, *Aster foliaceus*, is the most common of four asters found in the Seven Devils. In August, with the thick-stemmed aster (below), it turns the high grasslands and forest openings purple with its flower heads. The most prevalent variety (*canbyi*) reaches 40-50 cm in height, has basal leaves that are short-petiolate and about 6-10 cm long x 1.5-3.0 cm wide, and cauline leaves that are progressively more sessile and shorter. The involucre bracts are somewhat leafy and white-margined at the base (Figure 171b). The radiate heads have 30-50 violet rays from 1-2 cm long. Not including Plant 172, there are two blue or violet-headed asters from elevations below 6,000 feet. One is the showy aster (*A. conspicuus*), that reaches 1 m tall and has its lower, cauline leaves much reduced and withered by the time of flowering. The other is the elegant aster (*A. perelegans*), that reaches 60 cm tall, has withered and scalelike lower cauline leaves, and lacks rhizomes. Habitats: HG,RN,RS,SB. Localities: All but the highest (HS) and the lowest (LR).

172. Thick-stemmed aster, *Aster integrifolius*, often grows alongside the aster above (171), but it may be separated by its shorter height, deeper-colored flowers, and especially by its conspicuously glandular and hairy inflorescence. It is the least prevalent of the two common asters. Habitats: HG,RN,RS,SB. Localities: BL,BR,CA,CR,DR,EC,KI,LI,LG,NB,RA,RU,SB,SH,SL,SP,ST,TR,WD,WI.

173. Subalpine daisy, *Erigeron peregrinus*, is one of the spring-flowering daisies (vs. the summer- and fall-flowering asters). It is the most common of at least ten daisy species we know from the Seven Devils, eight of which are so infrequent that they are not described here. This one is violet-flowered. The radiate heads have 20-60 rays that are about 1.5-2.0 cm long and 2-4 mm wide. The entire and lanceolate leaves range from large and long-petiolate at the base to much shortened and sessile above. In our subspecies (*callianthemus*) and variety (*eucallianthemus*) the involucre bracts are glandular. The other interesting and fairly frequent daisy is Eaton's daisy (*E. eatonii* var. *villosus*) that often has been collected on the weathered Grande Ronde basalt cap along Trail 112 between Trails 57 and 56, as well as in the Bear-Cuprum area. This is a sprawly and much lower species. The rays are white to light violet and the involucre bracts are conspicuously long/white/hairy. Habitats: RN,RS. Localities: BL,EM,BR,CA,CS,DO,ES,HA,HH,KI,MR,NB,PA,PG,RA,SB,SH,SL,ST,TR,WI.

174. Silverleaf phacelia, *Phacelia hastata* var. *alpina*, is a high elevation variety having lavender flowers, many prostrate stems, and a low (20-30 cm tall) bushy profile (var. *leucophylla* illustrated). It is far more interesting, if less common, than the white-flowered variety (*leucophylla*). Both vars. are long/silver/hairy throughout. Habitats: TA. Localities: HH,HS,RA,ST,WD.

175. Silky phacelia, *Phacelia sericea* is the most common of two tall and very lovely phacelias of the Seven Devils. The simple leaves are so deeply lobed that they might be keyed as compound. The blue-purple flowers, about .5 cm across, are massed in showy, 5-15 cm-long inflorescences that are 3-4 cm in diameter (Figure 175b and a). It likes disturbed soils, particularly road and trail banks, and even the shores of drawn-down lakes. North of Cuprum along Road 106 the other rare, tall phacelia may be observed (*Phacelia procera*). It was discovered there by early botanist William C. Cusick in 1899. It reaches 2 m tall, is single stemmed, and has greenish-white flowers. Habitats: VP,RN,RS. Localities: BM,CA,CR,ES,MR,NB,PA,TR,WI.

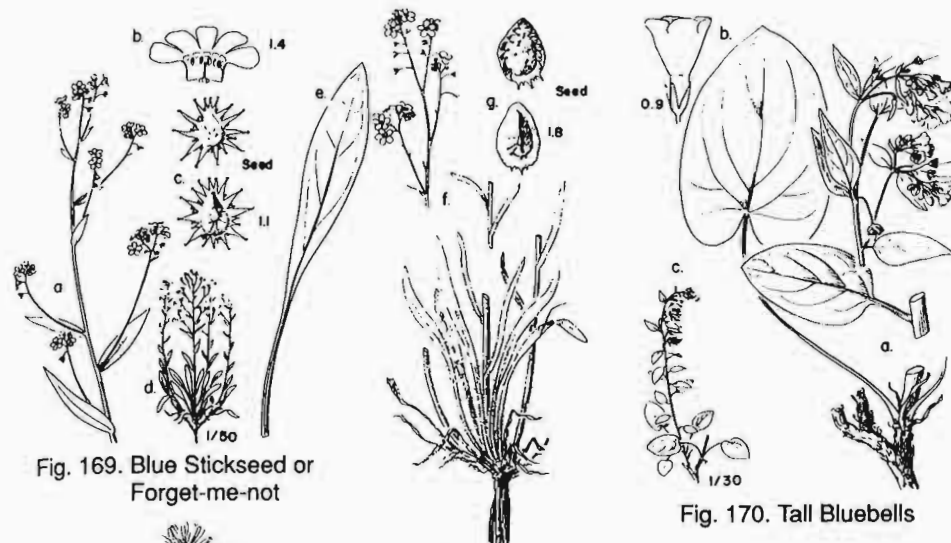


Fig. 169. Blue Stickseed or Forget-me-not

Fig. 170. Tall Bluebells

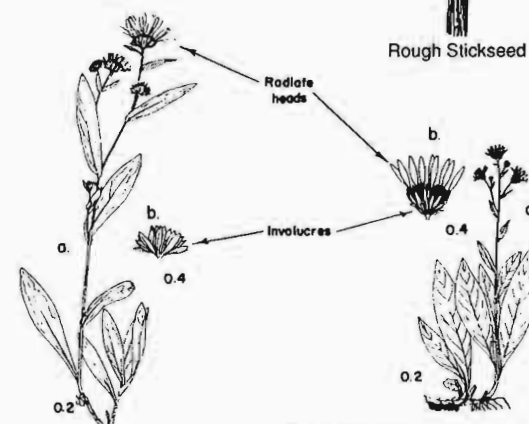


Fig. 171. Leafy Aster

Fig. 172. Thick-stemmed Aster

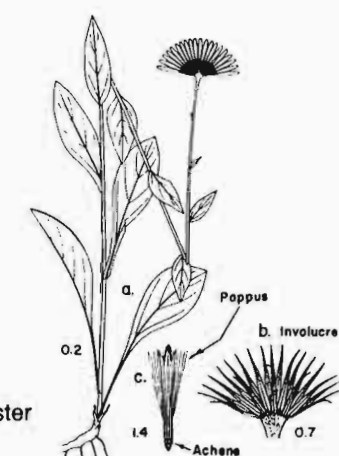


Fig. 173. Subalpine Daisy

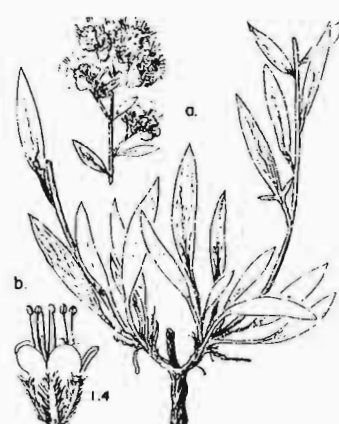


Fig. 174. Silverleaf Phacelia

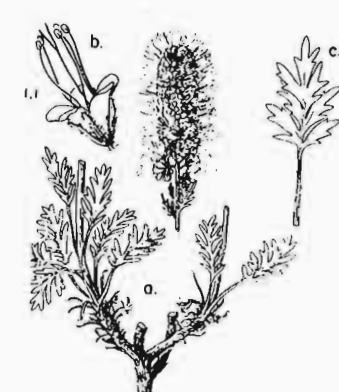


Fig. 175. Silky Phacelia

CLASS II - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH RED, PINK, OR MAGENTA FLOWERS AND WITH BASAL LEAVES ONLY (See also Plants 87, 115, 160)

176. **Tolmie's onion**, *Allium tolmiei*, generally has only two leaves that may appear to be opposite and are quite wide (about 1 cm), leaves often dry by flowering time. The single peduncles are triangular in cross-section and stand about 10-15 cm tall. They support many pediceled, magenta flowers about .5-1.0 cm long. This inflorescence tends to be spherical and almost hides two lanceolate bracts just below. The only other magenta- or pink-flowered onion known in the Seven Devils is the Hooker onion, *A. accuminatum* (Figure 176c and d), which often has three leaves, is taller (to 30 cm), and has a peduncle that is round in cross-section. Habitats: CN,CS,RN,RS,TA. Localities: BR, CA,DR,NB,SB,TR,WD,WI.

177. **Alpine chsenactis**, *Chaenactis alpina*, is an attractive, low (under 10 cm tall), rose-pink-flowered composite of the highest peaks of the Seven Devils. We have seen it only around 9,300 feet on the summits of He and She Devil, but it is reported from the vicinity of Windy Saddle (7,600 feet). It is a taprooted perennial, with one to several peduncles, each supporting a single discoid head well above the deeply, 10-20 lobed (almost compound) and thinly woolly-haired basal leaves that are about 2-6 m long. Habitats: AL,RS. Localities: HS,WI.

178. **Mountain sorrel**, *Oxyria digyna*, is a high elevation relative of the sheep sorrel (Plant 147). It has rounded, heart-shaped leaves 1-5 cm wide on 2-4 cm petioles. Often, if late frosts occur, these leaves turn brilliant red. They are usually reddish-tinged. The flowers are tiny (about 1.5 mm long), with several coming from within cuplike floral bracts that sheath the stem at the nodes (Figure 178b). The seed pods have prominent and often colorful red wings that measure 4-6 mm across (Figure 178c). Habitats: AL,CN,CS, HG,RN,RS,TA. Localities: BM,HS,PG,SH,SL,ST,TR,WD,WI.

CLASS JJ - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH RED, PINK, OR MAGENTA FLOWERS AND WITH CAULINE LEAVES ONLY (See also Plants 124, 125, and 163)

179. **Harsh paintbrush**, *Castilleja hispida*, is the most common Seven Devils paintbrush, named for the fact that it is short, stiff, hairy (hispid) throughout. Some of the upper cauline leaves are lobed at their tips (Figure 179a). Note that it is not the inconspicuous, reddish-green flowers with their narrow, beaked corollas (Figure 179b) or their enclosing, toothed calyces (Figure 179c) that impart the color. Instead, the deeply three- to five-lobed floral bracts (Figure 179d), looking as though they had been dipped in scarlet (orange-red) paint, attract the attention. We know that there are at least six other red-bracted paintbrushes in the Seven Devils, of which only the scarlet paintbrush (*C. miniata*) seems to be more than uncommon. This one has completely entire leaves and is soft/short/hairy. A yellow-bracted paintbrush exists (Cusick's Paintbrush, *C. cusickii*), but it seems to be restricted to the lower elevations (5,000-6,000 feet) on the north end near Buckhorn Springs, Cold Spring Lookout and Sawpit Saddle. Habitats: CN,CS,HG,LG,RN,RS,TA. Localities: EL,BM,BR,BU,CA,CC,CH,CR,CS,DO,DR,EC,HA,KI,LR,LV,NB, PG,SA,SB,SH,SL,ST,TL,TR,WD,WF,WI.

180. **Alpine paintbrush**, *Castilleja rhexifolia*, also is a common Seven Devils paintbrush, named after a similarly parallel-veined leaf genus (*Rhexia*) of the Gulf and East Coasts. It is easy to separate from harsh paintbrush, above, by its relative lack of hairs, its crimson (purple-red) floral bracts, and entire upper cauline leaves (Figure 180a). Habitats: CN, CS,HG,LG,RN,RS,TA. Localities: BD,BM,BL,BR,CA,CR,DO,DR,EC,ES,HA,HH,KI,LG,MR,NB,PA,PG,RA, RU,SH,SL,ST,TR,WD,WI.

181. **Fireweed**, *Epilobium angustifolium*, of the Seven Devils does not occur in the usual large and showy patches, but it is scattered thinly on the lower to midslopes of most of the mountain range. It is a 1.0-1.5 m-tall perennial with 10-15 cm-long and almost sessile leaves oriented throughout the long stem. Stems are topped by an impressive, (up to 20 cm) long inflorescence composed of many beautiful, four-petaled, dark pink flowers about 2-3 cm across. Habitats: RI,RN. Localities: BD,BM,BU,CA,CS,DR,EC,HA,HH,KI,LA,LG,LI,MR, NB,PA,PG,RA,RU,SB,SH,SL,ST,TR,WD,WI.

182. **Alpine wintergreen**, *Gaultheria humifusa*, is a prostrate plant barely 3 cm tall that, with some close searching, can be found in many lakebank openings of the higher Seven Devils lakes. The leaves are only 1-2 cm long, shiny and oval (Figure 182a), with pinkish flowers that are 3-4 mm long (Figure 182b). The .5 cm reddish fruits often are scarce. Habitats: LS,RI. Localities: BL,DR,DO,EC,HA,HH,LI,MR,SH,SL,TR,WD,WI.

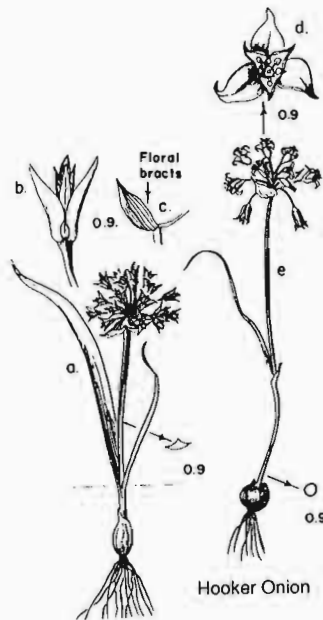


Fig. 176. Tolmie's Onion

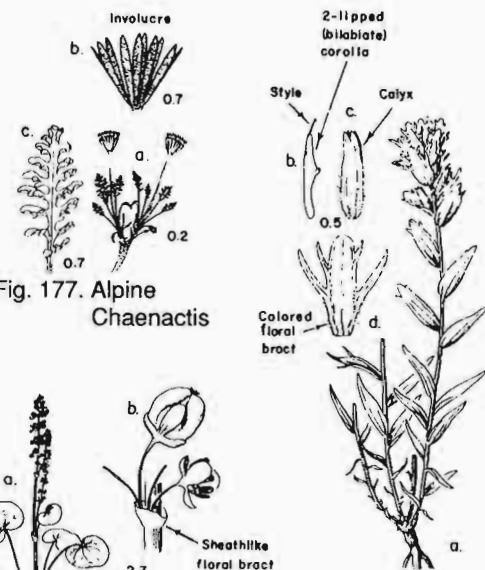


Fig. 177. Alpine Chaenactis

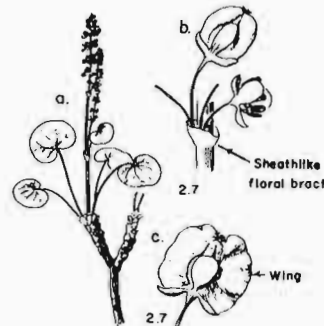


Fig. 178. Mountain Sorrel

Fig. 179. Harsh Paintbrush

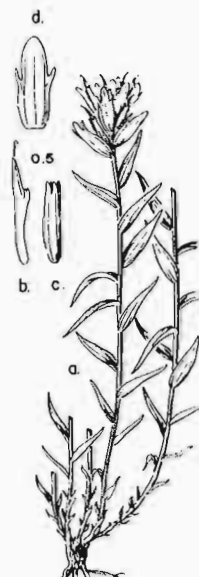


Fig. 180. Alpine Paintbrush

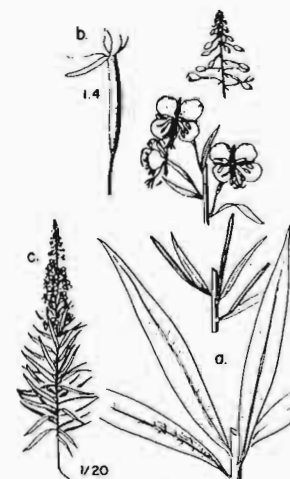


Fig. 181. Fireweed

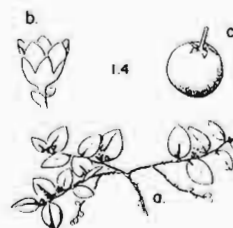


Fig. 182. Alpine Wintergreen

CLASS KK - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH RED, PINK OR MAGENTA FLOWERS AND BOTH BASAL AND CAULINE LEAVES (See also Plants 135, 147, and 178)

183. **Holboell's rockcress, *Arabis holboellii***, is a look-alike with the hairy rockcress (*A. hirsuta*, Plant 135), except for its usually pink instead of white flowers, drooping instead of erect seed pods (Figure 183a), and branched instead of straight stem hairs (Figure 183c). This is the variety *retrofracta*. Habitats: RN,RS,TA. Localities: DR,EC,ES,HH,KI,LG,RA,SA,SL,SP,ST,TL,TR,WD.

184. **Scarlet gilia, *Gilia aggregata***, is a 40-80 cm-tall biennial with very attractive, long-tubed and trumpet-like, five-parted, scarlet flowers 2-3 cm long. The plant, however, is malodorous, like certain other species of the phlox family (*Polemoniaceae*, Plants 209, 210). Rarely there are mutants with cream-yellow flowers. With its many and deeply lobed, almost or truly compound leaves, all under 10 cm long, this plant also may fall in Class UU. Habitats: RN,RS,TA. Localities: CC,CH,CR,CS,DR,LR,NB,SB,SL,TL,TR,WD,WF,WI.

185. **Wallowa lewisia, *Lewisia columbiana* var. *wallowensis***, really is at home in the Seven Devils, and, as the varietal name implies, across the Snake River in the Wallowa Mountains. It usually grows in rock crevices, both on cliff faces and on the flat and often glacier-polished bedrock of the cirque floors. It flourishes where its stout taproot can monopolize the crevice loam. It is an almost succulent perennial with 5-15 cm-tall peduncles, each with several sessile and leaflike bracts. The paniculate inflorescence bears many 7-9 petaled white- to magenta-colored flowers, in which the petals are so strongly pink-lined that they at least appear to be pink-colored. The basal leaves are 2-10 cm long, and are long-lanceolate. These characteristics separate the Columbia lewisia from its look-alike, the alpine spring beauty (*Claytonia megarhiza*, fairly rare in the Seven Devils) with its long-petiole, tongue-shaped leaves (Figure 185b). There are two other low (4-8 cm tall) lewisias known in the Seven Devils. One is the three-leaf lewisia (*L. triphylla*) which likes swampy soils and grows from a .5-1.0 cm bulb-like corm. The other is the alpine lewisia (*L. pygmaea*) which prefers drier soils. Habitats: AV,BF,CN,CS. Localities: BD,BM,BR,DR,EC,ES,HA,KI,LI,MR,RA,RV,SA,SH,SP,TR,WI.

186. **Daggerpod, *Phoenicaulis cheiranthoides***, is quite scarce in the Seven Devils, probably because of the scarcity of basaltic rocks. It is found only on the weathered Grande Ronde Basalt near the junction of Trails 112 and 56, just north of Hibbs Cow Camp. It stands about 10-20 cm tall and has the standard mustard-family four-parted flowers. They are a vivid reddish-purple color. The basal leaves are lanceolate and petiolate, while the much shorter cauline leaves are arrowhead-shaped and sessile. The dagger (seed) pods run 2-8 cm long x 2-6 mm wide (Figure 186). Habitats: SC. Localities: TR,BR.

CLASS LL - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH BLACKISH, DISCOID FLOWER HEADS

187. **Western coneflower, *Rudbeckia occidentalis***, can be described as similar to a very tall and long-snouted black-eyed Susan, but without the yellow rays. It stands 1.0-1.5 m tall with many short-petiole, lanceolate-oval leaves up to 25 cm long x 15 cm wide. The blackish and rayless discoid heads may elongate to 6 cm. The pappus, at the base of the disc flowers, is reduced to a mere scalloped crown (Figure 187b). It usually grows on fairly deep and moderately moist soils. Habitats: HG,LG,LS,RI,RN,RS. Localities: BL,BM,BU,CA,CC,CR,CS,DO,DR,ES,HA,HH,NG,PA,RA,SA,SB,TL,WI.

CLASS MM - COMPOUND- AND OPPOSITE-LEAVED FORBS WITH WHITE OR CREAM FLOWERS

188. **Linantheastrum, *Linantheastrum nuttallii***, is truly a gem among phlox-family (*Polemoniaceae*) plants. It is a sweetly and mildly aromatic perennial growing from a thick, woody taproot. While it reaches only about 30 cm tall, it is so thickly branched that it resembles a bushy globe. When it is seen along a steep, open, and hot trailside, covered with its white, yellow-eyed, 1 cm-wide flowers, it is indeed a welcome sight. It prefers dry, rocky slopes with south and west exposures. Habitats: CS,RS,TA. Localities: BD,EC,HA,HH,SR,SH,SL,ST,TR,WD.

189. **Sitka valerian, *Valeriana sitchensis***, is a plant that is seldom out of sight between 6,500 and 8,500 feet in the Seven Devils. It prefers rather deep, moist soils often in partial shade. Ranging .5-1.0 meter tall, the compound leaves have 3-5 leaflets with the lower leaflets being the smaller and the tip leaflet reaching 10 cm x 7 cm. Some of the long-petiole basal leaves may be entire. It has a compact, hemispherical inflorescence about 4-8 cm wide with many, 5-7 mm white flowers having tiny calyces. It is the calyx that later swells and develops pappus-like bristles (Figure 189c). Habitats: LS,RI,RN. Localities: All but the highest (HS) and lowest (LR).

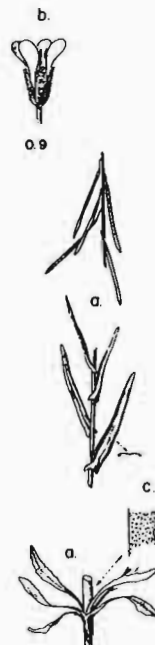


Fig. 183. Holboell's Rockcress

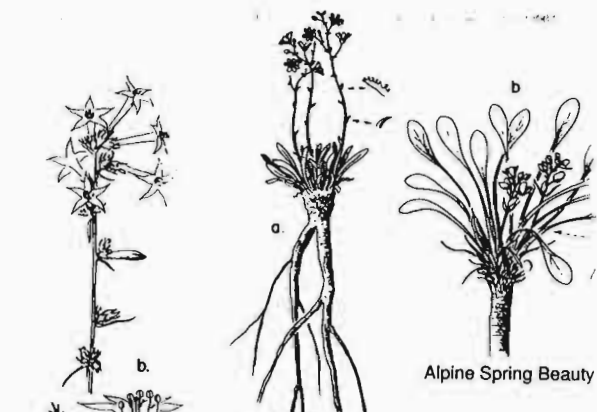


Fig. 185. Wallowa Lewisia

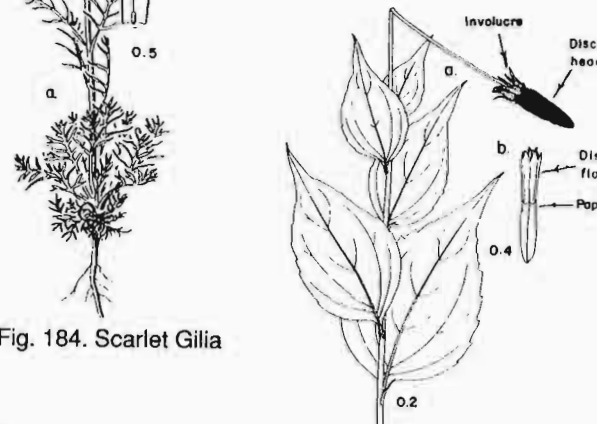


Fig. 184. Scarlet Gilia

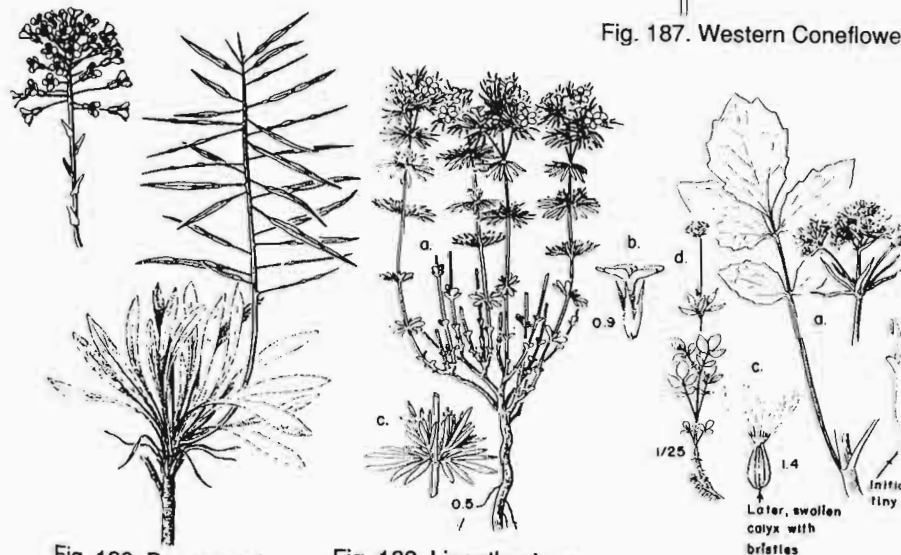


Fig. 187. Western Coneflower

Fig. 186. Daggerpod

Fig. 188. Linantheastrum

Fig. 189. Sitka Valeria

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CLASS NW - COMPOUND- AND ALTERNATE-LEAVED FORBS WITH BLUE, VIOLET OR PURPLE FLOWERS

190. **Sugarbowl**, *Clematis hirsutissima*, is the region's only clematis that is not a woody vine. It is a many-stemmed, clumpy, woody-based perennial standing 25-35 cm tall. It has two-to-four-times-divided and opposite compound leaves with blades up to more than 10 cm long. Their ultimate segments are strap-like to lanceolate. The flowers, variously called vase-flowers, leather-flowers, or sugarbowls, are nodding and have a 2-3 cm, hairy, leathery calyx with reflexed, deep purple sepals. *Clematis* lacks petals. Habitats: HG,RN,PS. Localities: ES,KI,LG,NB,ST,TR,WI.

CLASS OO - COMPOUND- AND ALTERNATE-LEAVED FORBS WITH WHITE OR CREAM FLOWERS AND BASAL LEAVES ONLY

191. **Cliff anemone**, *Anemone multifida*, is quite scarce in the Seven Devils. It is a basally-tufted, hairy, taprooted perennial 20-60 cm tall with numerous three to five-parted compound leaves having ultimate segments 1.5-5.0 mm broad. There are two compound-leaflike floral bracts on the two to three flowered peduncles. Like *Clematis*, above, the flowers lack petals. Instead, there are five to nine cream-colored (usually red, blue, or purple-tinged) sepals about 1-2 cm long. The seed pods occur in a spherical cluster and are liberally soft/long/ hairy with their beaks protruding slightly above the silky hairs. Habitats: CN. Localities: TR.
192. **Woods strawberry**, *Fragaria vesca*, likes forest openings and occurs mostly below 7,000 feet. It is a typical wild strawberry, propagating itself by stolons that root the nodes as they extend outward from the central plant (Figure 192). Habitats: RN,RS. Localities: BR,BU,CA,CC,CH,CR,CS,DR,ES,HA,KI,LG,LR,LV,NB,PA,RA,SA,SB,SP,ST,WF.
193. **Cusick's desert parsley**, *Lomatium cusickii*, is the most common Seven Devils biscuitroot. It is a many-branched and taprooted perennial that seldom exceeds 10-15 cm in height. The two-to-three-times-divided compound leaves have ultimate segments 1-6 cm long, that are only about 2.5 mm wide. The tiny, white flowers are borne in small, flat-topped, umbrella-like inflorescences called umbels with one inflorescence per peduncle. Mature seed pods are oval, about 1 cm long, and have obvious, membranous wings about half as wide as the pods and surrounding them (Figure 193c). Habitats: RN,RS,TA. Localities: BR,CH,DR,HA,KI,LI,MR,NB,PG,RA,SH,SL,ST,TR,WI.

CLASS PP - COMPOUND- AND ALTERNATE-LEAVED FORBS WITH WHITE OR CREAM FLOWERS AND WITH CAULINE LEAVES ONLY (See also Plants 120, 128, and 206)

194. **Common yarrow**, *Achillea millefolium*, is almost ubiquitous in Hell's Canyon, from the river canyon bottoms to the tops of the highest Seven Devils peaks. It probably grows in more different habitats than any other Seven Devils plant. It is a small, and radiate-headed composite. The 10-30 small heads having three to five white ray flowers as well as disc flowers, and are arranged in a round-topped grouping atop the 30-50 cm plant. The compound leaves are so many times divided that the ultimate segments are tiny. Habitats: AV,CN,CS,HG,JM,LG,LS,RI,RN,RS,SC,TA. Localities: All but the highest (HS).
195. **Western red baneberry**, *Actaea rubra*, is a one- to several-stemmed, 50-80 cm plant of the stream bottoms and moist, north slopes that can have either red or white berries about .5-1.0 cm long. Its compound leaves each have three to five leaflets which look like maple leaves. They are 3-9 cm long and just as large as those of Douglas' maple (Plant 19). The clustered flowers are inconspicuous. Sepals and petals are very much alike, except that the sepals may be purplish tinged and just slightly shorter than the 2-3 mm-long, tongue-shaped, white petals. The protruding stamens are prominent. Habitats: RI,RN. Localities: BD,CS,DO,DR,HA,LR,LV,MR,NB,PA,RA,RU,SB,TR,WD,WF.
196. **Cow-parsnip**, *Heracleum lanatum*, a common plant of the region's low land streambottoms, also is surprisingly frequent in the Seven Devils. It reaches 2 m tall. The main petioles of its compound leaves have broad, leaflike wings (Figure 196a). The leaflets themselves are petiolate and look like large maple leaves 10-30 cm long and wide. The umbrella-like, flat-topped inflorescences reach 20 cm across and contain hundreds of small white flowers. Habitats: LS,RI,RN. Localities: BD,GL,CS,EC,ES,LR,RA,SA,SL,TR,WD,WF.

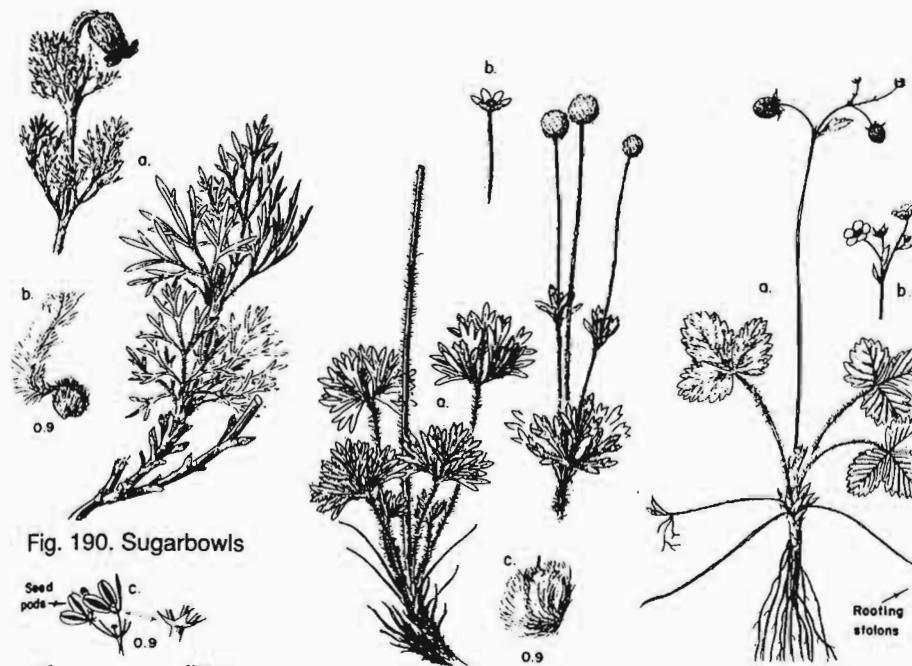


Fig. 190. Sugarbowls

Fig. 191. Cliff Anemone

Fig. 192. Woods Strawbe

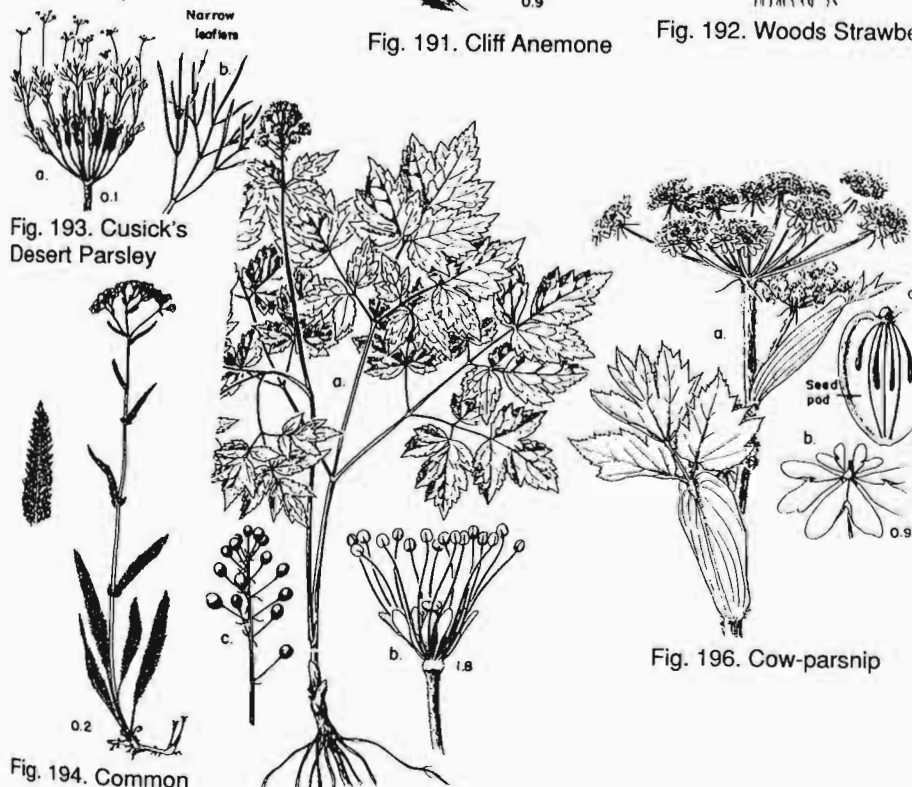


Fig. 193. Cusick's Desert Parsley

Fig. 194. Common Yarrow

Fig. 195. Western Red Baneberry

Fig. 196. Cow-parsnip

197. **Bracted lousewort, *Pedicularis bracteosa***, is a many-stemmed, leafy perennial up to 1 m tall. Its lower compound leaves reach 15 cm and have many leaflets, but the leaves are reduced upwards. Just below the inflorescence they are merely toothed, simple leaves only 2.5-3.0 cm long (Figure 197a). With the louseworts (including Plant 119), it is much easier to see the interesting beak, or helmet-like upper lip (galea) as well as the much smaller lower lip of the two-lipped corollas (Figure 197b), typical of the figwort family (*Scrophulariaceae*) and also featured in the paintbrushes (Plants 179 and 180). In this lousewort, the corollas are cream-colored and about 1.5-2.0 cm long. Habitats: LS,RI,RN. Localities: BL,BR,CH,CR,DO,DR,ES,HH,KI,LG,LI,PG,RA,RU,SA,SL,TR,WD.

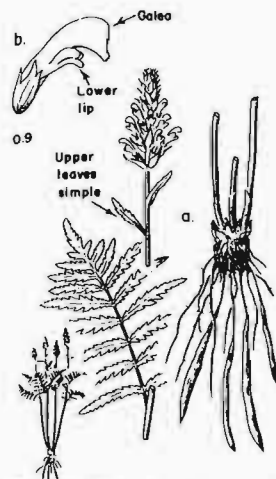


Fig. 197. Bracted Lousewort

Key to Five Seven Devils clovers: (Including two introduced species that follow pack trails and sheep driveways)

- | | |
|---|------------------------|
| 1a. Flowers pink to red colored | 2a |
| 2a. Stipules prominent, leaflets thin-lanceolate | <i>T. eriocephalum</i> |
| 2b. Stipules relatively small, leaflets broad-lanceolate (introduced) | <i>T. pratense</i> |
| 1b. Flowers white to cream-colored and tinged pinkish to purplish | 3a |
| 3a. Plants stoloniferous, rooting at nodes of sprawling stems | 4a |
| 4a. Leaf stipules prominent (1-3 cm long) | <i>T. longipes</i> |
| 4b. Leaf stipules small (mostly under 1 cm long, plant introduced) | <i>T. repens</i> |
| 3b. Plants taprooted | <i>T. latifolium</i> |

198. **Long-stalked clover, *Trifolium longipes***, sprawls, but with support can reach 25 cm tall. Leaflets of the compound leaves are fairly broad-lanceolate and either shallowly toothed or entire, about 2-6 cm long. The 1-2 cm creamy, often purplish, colored flowers occur in tight, spherical heads standing a few centimeters above the leaves. In the variety that is found in the Seven Devils (*reflexum*) it is the turning down of the lower flowers that makes the heads spherical. The complex legume (Family-Leguminosae) flowers (Figure 198b) are far better illustrated and explained for Plants 206 and 207, below. Habitats: RN,RS. Localities: BR,BL,BU,CC,CR,CS,DR,ES,LI,LV,PA,SA,SH,ST,TL,TR,WD.

CLASS QQ - COMPOUND- AND ALTERNATE-LEAVED FORBS WITH WHITE OR CREAM FLOWERS AND WITH BOTH BASAL AND CAULINE LEAVES (See also Plants 139, 191, 195, and 203)

199. **Sickle-top lousewort, *Pedicularis contorta***, as well as its simple-leaved look-alike, leafy lousewort (*P. racemosa*) is a much shorter plant (to 60 cm tall) than the bracted lousewort. Also, the beak-like upper corolla lips (or galeas) curl down between the broad side lobes of the lower lip (Figure 199b), and the inflorescence is the white-flowered variety that occurs in the Seven Devils. Habitats: AV,CN,CS,LS,RI,RN,RS,SN,TA. Localities: BD,BL,EM,BR,CR,DO,DR,EC,ES,HA,HH,KI,LI,MR,NB,PA,RA,RU,SB,SH,SL,ST,TR,WD,WI.

CLASS RR - COMPOUND- AND ALTERNATE-LEAVED FORBS WITH YELLOW-GREEN FLOWERS (See also Plant 205)

200. **Western meadowrue, *Thalictrum occidentale***, is a 50-80 cm tall, streambottom, shade loving plant in which the yellow-green to purplish male and female flowers are on separate plants. Its spreading compound leaves, three to four times divided, are reminiscent of those of columbine (immediately below), and difficult to distinguish. In the presence of flowers or seed pods, however, the two plants separate easily (see Figures 200b, vs. 201a and 200c vs. 201b). Habitats: LS,RI,RN. Localities: All but HS.

CLASS SS - COMPOUND- AND ALTERNATE-LEAVED FORBS WITH YELLOW FLOWERS (See also Plants 151, 152, and 198)

201. **Yellow columbine, *Aquilegia flavescens***, is the only columbine in the Seven Devils. Suffice to say that its yellow and pinkish sepals resemble petals, while the cornucopia-like yellow petals have long spurs (Figure 201a). Habitats: CN,LS,RI,RN. Localities: BD,BL,EM,BR,CA,DO,DR,ES,HA,HH,KI,MR,NB,PA,PG,RU,SB,SH,SL,ST,TR,WD,WI.
202. **Mountain tansy-mustard, *Descurainia richardsonii***, is a weedy, 50-80 cm-tall biennial that is yellow-flowered, and fairly common. The seed pods are erect and between .5-1.5 cm long. Habitats: LG,HG,RN,RS. Localities: BL,EM,FR,BU,CA,CR,CS,DO,DR,HA,HH,KI,LA,LG,MR,NB,SB,SL,ST,TR,WD.
203. **Sweet cicely, *Osmorhiza occidentalis***, is a several-stemmed forb up to 1 m tall that has a licorice odor, especially to the roots. The small yellow or cream-colored flowers are borne in an umbel. The seed pods are narrow and cylindrical (1-2 cm long x .5 cm wide). Purple sweet cicely (*O. purpurea*), with purplish flowers, also occurs in the Seven Devils. Habitats: RI,RN,RS. Localities: BL,EM,BR,CA,CC,CR,CS,DO,DR,ES,HH,KI,LG,LI,LV,MR,NB,PA,PG,RA,RU,SA,SB,SH,ST,TL,TR,WD,WI.

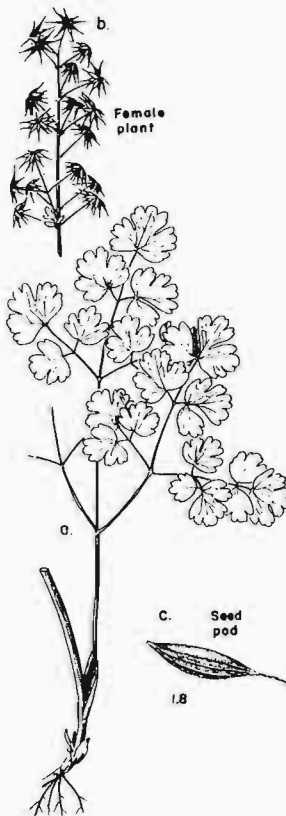


Fig. 200. Western Meadowrue

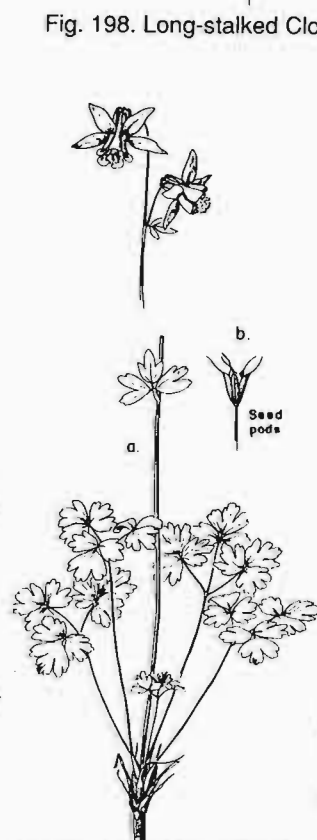


Fig. 201. Yellow Columbine

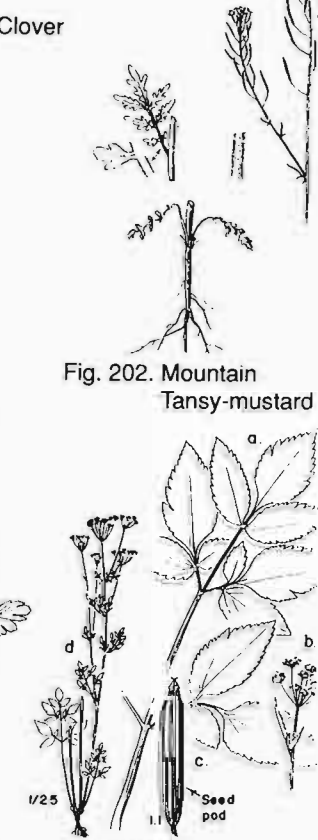


Fig. 203. Western Sweet Cicely

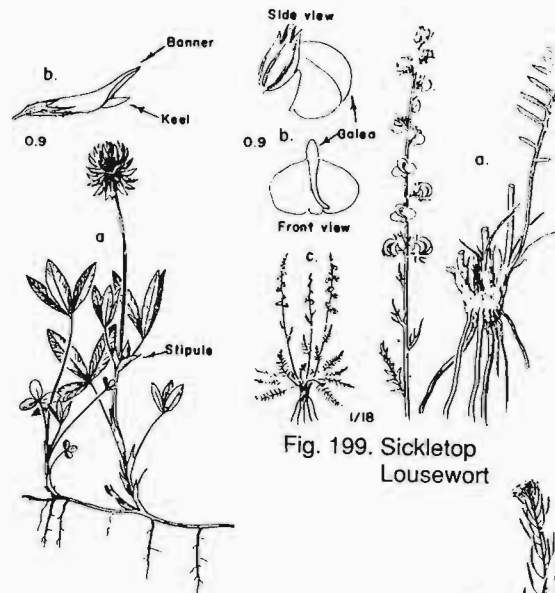


Fig. 198. Long-stalked Clover

Fig. 199. Sickletop Lousewort

Key to the Seven Devils cinquefoils: (Four species, including two varieties of one species)

- | | |
|--|---|
| 1a. Leaves pinnately compound | 2a |
| 2a. Plant sticky-glandular | 3a |
| 3a. Petals bright lemon-yellow | <i>P. glandulosa</i> v <i>glandulosa</i> |
| 3b. Petals cream-colored | <i>P. glandulosa</i> v <i>pseudorupestris</i> |
| 2b. Plant hairy, but not sticky glandular | <i>P. diversifolia</i> |
| 1b. Leaves palmately compound | 4a |
| 4a. Basal leaves with three leaflets | <i>P. flabellifolia</i> |
| 4b. Basal leaves with five or more leaflets | 5a |
| 5a. Plants under 40 cm tall, leaves silky-gray on both sides | <i>P. diversifolia</i> |
| 5b. Plants over 40 cm tall, leaves paler on lower sides | <i>P. gracilis</i> |

204. **Sticky Cinquefoil**, *Potentilla glandulosa* var. *intermedia*, is the commonest Seven Devils cinquefoil as well as being one of the commonest plants there. It reaches 50-60 cm tall, has several leavy floral bracts, and yellow flowers 1.5-2.0 cm across. Habitats: HG,LS,RI,RN,RS. Localities: All but the highest (HS), and that locality has var. *pseudorupestris*.

205. **Creeping Sibbaldia**, *Sibbaldia procumbens*, except for its low stature (5-6 cm tall), small (1.5-2.0 cm long), bluish-green and truncated leaflets, or its yellowish flowers and dry fruits, could be a low, mat-forming, sub-alpine strawberry with rhizomes in place of stolons. Habitats: LS,RI,RN,RS. Localities: BD,RL,BR,CA,DO,EC,HA,HH,MR,PG,SB,SH,SL,ST,TR,WI.

CLASS TT - COMPOUND- AND ALTERNATE-LEAVED FORMS WITH BLUE, VIOLET OR PURPLE FLOWERS
(See also Plants 120, 139, 164, 165, 175, 191, 198, and 200)

Key to the Seven Devils Lupines: (Five species, including three varieties of one species)

- | | |
|--|--|
| 1a. Banner conspicuously hairy on the back (Fig. 207b) | |
| 2a. Calyx spurred (Fig. 206b) | |
| 3a. Wing petals hairy at tips | |
| 4a. Petals white or cream-colored | <i>L. laxiflorus</i> v. <i>calcaratus</i> |
| 4b. Petals blue or purple | |
| 5a. Leaflets glabrous on upper surfaces | <i>L. laxiflorus</i> v. <i>pseudoparviflorus</i> |
| 5b. Leaflets hairy on upper surfaces | <i>L. laxiflorus</i> v. <i>laxiflorus</i> |
| 3b. Wing petals glabrous | <i>L. caudatus</i> |
| 2b. Calyx not spurred | |
| 6a. Banner well reflexed, flowers 10-12 mm long | <i>L. sericeus</i> |
| 6b. Banner not much reflexed, flows 8-10 mm long | <i>L. leucophyllus</i> |
| 1b. Banner usually glabrous on back | <i>L. argenteus</i> |

206. **Spurred lupine**, *Lupinus laxiflorus* var. *laxiflorus*, is by far the most common lupine in the Seven Devils. In midsummer it turns the forest openings blue. The white-flowered variety (*calcaratus*) is scarce and is always found with blue-flowered plants, while the variety *pseudoparviflorus* seems to occur mostly at the lower elevations (5,000-6,000 feet). Habitats: HG,LG,LS,RI,RN,RS,SB,TA. Localities: All but the highest (HS).

207. **Velvet lupine**, *Lupinus leucophyllus*, is not nearly as common as the spurred lupine, above, but is very similar to it. It has a shorter calyx spur (Figure 207b vs. 206b) and long, silky hairs on the stems and both surfaces of the leaflets (Figures 207a and c). Habitats: HG,LG,RN,RS,SB. Localities: BL,EM,BU,CR,SC,EC,HA,KI,LG,MR,NB,PG,SA,SB,SL,ST,TR,WD,WI.

208. **Brown's peony**, *Paeonia brownii*, was discovered by botanical explorer David Douglas in 1826 near Mt. Hood, and again the same year when he visited the Lewiston, Idaho, area (Davies, 1980). It occurs sporadically over most of the inland northwest. Its purplish-red flowers, while distinctive, cannot compare with those of the commercial, garden peonies. It stands about 20-40 cm tall. The two-to-three-times-divided leaves have a blue-green bloom. Habitats: HG,RS. Localities: All but HS.

209. **Skunk-leaved polemonium**, *Polemonium pulcherrimum*, shares with scarlet gilia (Plant 184) and sticky polemonium (below) the doubtful and rather rare attribute of being malodorous. This is a moderately low plant, 10-25 cm tall, having many pale blue, yellow-eyed, cup-shaped flowers about 1 cm wide. The leaves have 5-12 pairs of oval leaflets about 1 cm long. Habitats: AV,CN,CS,LS,RI,RN,RS,SN. Localities: All but HS.

210. **Sticky polemonium**, *Polemonium viscosum*, is a higher-elevation, fouler-smelling, smaller-leaved, and bluer-flowered version of the skunk-leaved polemonium, above. It has strikingly bright blue flowers and is densely glandular and sticky throughout. The leaflets occur in groups of three or more (Figure 210c) and are only 2-3 mm long. Habitats: AL,BF. Localities: HS.

CLASS UU - COMPOUND- AND ALTERNATE-LEAVED FORBS WITH RED, PINK, OR MAGENTA FLOWERS
(See also Plants 177, 184, 191, 201, and 208)

All plants in this class already entered above.

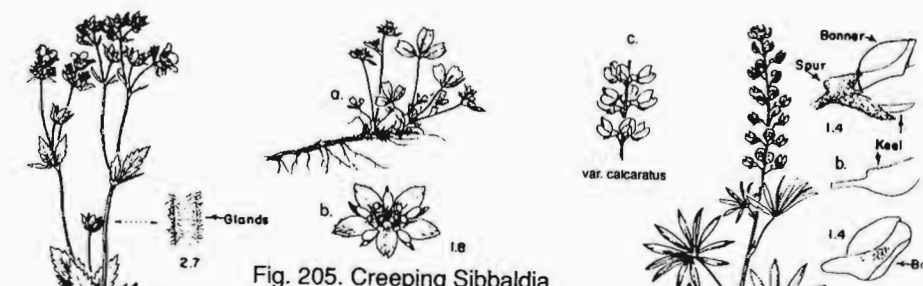


Fig. 205. Creeping Sibbaldia

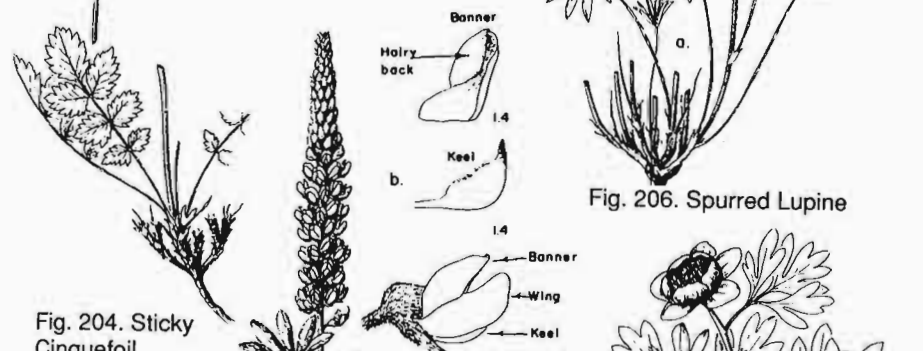


Fig. 206. Spurred Lupine

Fig. 204. Sticky Cinquefoil

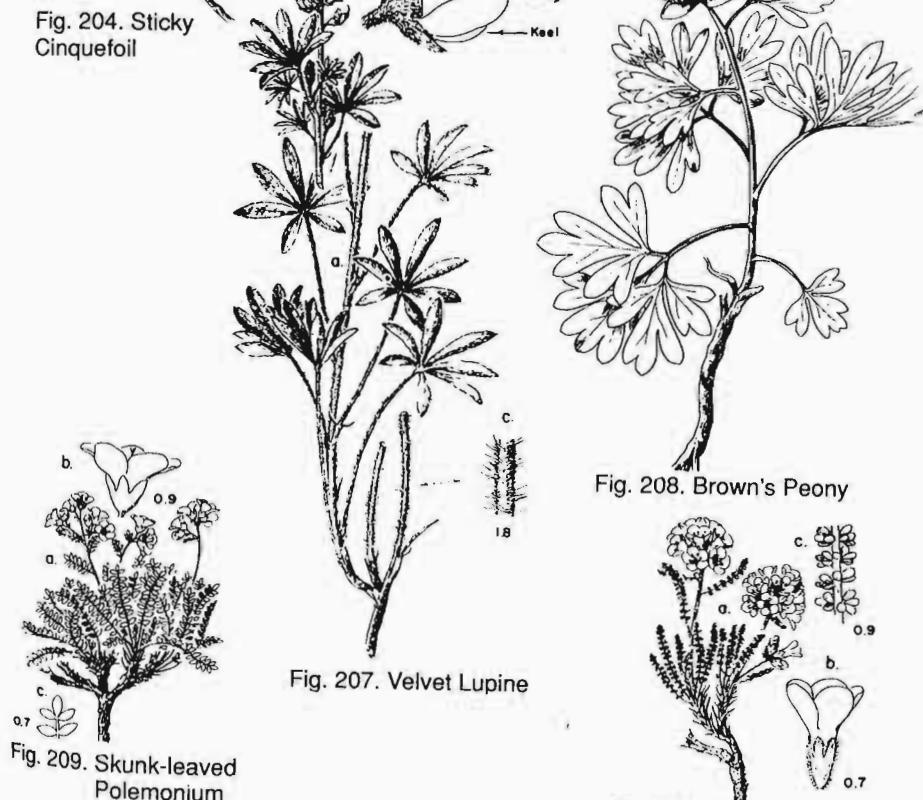


Fig. 207. Velvet Lupine

Fig. 209. Skunk-leaved Polemonium

Fig. 208. Brown's Peony

Fig. 210. Sticky Polemonium

- Achene - The most common type of dry fruit and one that does not split open at maturity.
- Alternate leaves - Leaves situated singularly at successive nodes, usually first on one side of the stem and then the other (Figures 23, 76, 129, and 130).
- Annual - A plant that germinates, flowers, sets seed, and dies during a single season.
- Anther - The top part of the stamen usually consisting of two pollen sacs that bear the pollen (Figures 63b, 81b, and 90c).
- Armed - Having prickles, spines, or thorns on stems or leaves (Figures 27, 29, 83, and 84).
- Awn - In the grasses, a bristly extension from the floral bracts (see Grass Terminology, page 28, and Figures 55, 56, and 59).
- Awn-tipped - Having a very short awn, little more than a sharp tip (Figure 61).
- Axil - In leaves, the inside angle between a leaf blade or petiole.
- Basal leaves - Leaves crowded together at the base of the stem, usually alternate and petiolate (Figures 117, 132, 136, 142, and 144).
- Basalt - Dense, dark grey to black volcanic rocks formed by the solidification of lava.
- Biennial - A plant that requires 2 years to complete its life cycle and die; it usually produces flowers and seeds in the second year.
- Blade - In leaves, the expanded and veined part.
- Braet, floral - A usually small and sessile, specialized leaf from the axil of which a flower or inflorescence arises (Figures 108a and 176c); sometimes sheathlike (Figure 178b).
- Bract, involucre - One of a set of specialized leaves, usually greenish, together forming an involucre that surrounds the base of an inflorescence (Figures 72b, 86b, and 98b).
- Broadleaved tree - One with broad-bladed leaves (as opposed to the needle-like leaves of conifers), also called hardwoods (Figure 19 vs. 17, or 20 vs. 12).
- Calyx (pl. calyces) - Collectively, the sepals of a flower (Figures 41b and 50b), which often are joined along their lower sides to form a cup or tube (Figures 81c, 89b, 100b, and 104b). The calyx may be very short (Figure 34b), or even lacking (Figures 38c and 39b).
- Catkin - The cone-like inflorescence of alders, birches, and willows (aments, Figures 20a). Often, separate catkins bear the male and female flowers (Figures 22c and d).
- Cauline leaves - Leaves originating throughout the length of the stem, not only crowded at its base (Figures 121, 123, and 126).
- Chlorophyll - The blue-green and yellow-green pigments imparting the green color to most plants. In the presence of light, chlorophyll photosynthesizes carbon dioxide and water to form sugars and other carbohydrates. Fungi and some higher plants lack chlorophyll.
- Composite, composite inflorescence - a member of the large plant family Compositae, in which the inflorescence is a head of several to many, small tubular flowers seated on a disklike receptacle, and surrounded basally by many involucre bracts (see Composite Terminology, page 34 and Figures 72d, 84a, 149a, and 157b).
- Compound leaves - Leaves having two or more distinct leaflets; usually made up of one to several pairs of opposite, side leaflets plus a terminal leaflet (Figures 189, 193, 195, and 200; see simple leaves).
- Conifer (adj. coniferous) - A tree that bears its seeds in cones; mostly evergreen with needle-like leaves - vs. a broadleaved tree (Figures 10-19 vs. 20-24).

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Corolla - Collectively, all the petals of a flower (Figure 29). Often the petals are fused together upwards from the base of the corolla forming bell-shaped (Figures 104c, 148b, 164e), urn-shaped (Figures 34b, 44b), or tubular corollas that may be conspicuously two-lipped (bilabiate, Figures 106b-108b), or merely funnellform (Figure 161b).

Crown - The upper framework of a tree (side-stems, branches, and twigs) that with or without the leaves sets the shape or outline of the tree in silhouette. Also, crownlike appendages inside the throat of a corolla (Figure 130b and f).

Deciduous - Shedding all leaves each fall and producing them anew each spring.

Decumbent - Stems prostrate at the base, but erect at the tips (Figures 104a, 109a, and 165a).

Disc flower - The tubular flowers of composites that lack rays (ligules) as found in discoid heads or in the central portion of radiate heads (see Glossary, Composite Terminology, page 34, and Figures 149c, 157c, and 187b).

Discoid head - One of the three types of composite inflorescences (heads, see also ligulate and radiate heads), this one composed entirely of disc flowers (Figures 97, 177a, and 187a).

Entire leaves, or leaflets - leaves or leaflets with the blade margins neither toothed nor lobed (Figures 22a, 23, and 24).

Evergreen - A plant that has leaves living for 2 or more years so that it always appears to be green. Most conifers (Figures 10-18) are evergreens, as are a few broadleaved trees (Figure 21); many ericads or heath family plants (Figures 42, 43, and 110), and a few succulents (Figure 153).

Exserted - Protruding beyond another enveloping part, as stamens beyond corollas (Figure 175b).

Family - an assemblage of related genera.

Filament - The usually fine stem of a stamen which supports the anthers (Figures 90c and 175b).

Floret - The grass flower, lacking calyx or corolla and enclosed in two papery bracts (Figures 52b and 62b. See also Grass Terminology, page 28).

Forbs - Green- and fleshy-stemmed plants other than grasses, sedges, and rushes.

Frond - The compound leaf of a fern (Figures 3b, 4d, and 8a).

Genus (pl. genera) - An assemblage of related species.

Glabrous - Smooth parts without hairs or glands.

Gland - A hairlike outgrowth from many different plant parts having a protuberance at the top that produces a sticky or greasy (sometimes aromatic or stinging) substance (Figure 204b).

Glume - One of a pair of bracts found at the base of a grass floret (Figure 56b).

Grasses - Members of the grass family (Gramineae) characterized by having thin and parallel-veined leaves that clasp or sheath the stems, specialized flowers called florets (see above), and inflorescences that are panicles or spikes (see below, also Figures 55-62).

Habitat-type - An ecologically-meaningful plant grouping composed of two or more plants that, over time, are "climax," or capable of permanently occupying a particular site (excluding effects of disturbances like fire, grazing, logging, cultivation).

Herbs - Annual, biennial, or perennial plants usually under 2 meters tall and with stems that die back each winter. Some herbs, like Plants 32 and 153, may be evergreen. Collectively, they are grasses, sedges, rushes, and forbs.

Indusium - Outgrowths of the epidermis (the cellular layer of the leaf surface) that covers the clusters of spore cases (sori) of many ferns (Figure 4e).

Inflorescence - The flower cluster of a plant, or the kind of arrangement of the flowers on the floral stem.

Involucre - A set of bracts beneath an inflorescence (see Composite Terminology, page 34, and Figures 72b, 76b, 78b, and 86b).

Jurassic - A geologic era covering the period about 55 to 60 million years ago.

Lanceolate - In leaves, lance-shaped or longer than wide (Figures 72a, 76a, 79a, and 97).

Leaf axil - See Axil, leaf.

Leaflet - The ultimate or smallest separate part of a compound leaf (Figures 30, 51, and 193b).

Ligulate head - One of three types of composite flower heads. This one composed entirely of ligulate or ray flowers. (See also discoid and radiate heads, Composite Terminology, and Figures 72d and 73a).

Ligule - See Ray, also Composite Terminology, page 34.

Lobe - In leaves, corollas, or calyces, a projecting segment too large to be called a tooth and with the clefts on either side usually extending less than halfway to the leaf midrib (Figures 19, 27a, 46, and 79), or halfway to the base of the corolla or calyx (Figures 39b, 91b, and 180c).

Miocene - A geologic era covering the period about 6 to 19 million years ago.

Node - The place on a stem where a bud, leaf, or branch is or has been attached.

Opposite leaves or branches - Situated directly across from each other on opposite sides of the stem or branch, at the same node (Figures 19, 38a, 40a, 188a).

Ovary - The structure containing the ovules or undeveloped seeds.

Ovate - Egg-shaped, lance-ovate if egg-shaped, but pointed.

Palmeto compound leaves - With three or more leaflets arising from a common, central point (Figures 206a and 207a).

Panicle - a branched inflorescence that can bloom for a lengthy period, starting from the bottom and flowering upwards and inwards (Figures 51a, 69, and 125a.)

Pappus - A modified calyx of hairs, bristles, or scales attached at the top of the achenes of composites (see Composite Terminology, page 34 and Figures 72c, 80c, and 168c).

Pedicel - The stalk of each single flower in an inflorescence.

Peduncle - The stalk of an inflorescence, or of a solitary flower.

Petal - A member of the inside set of floral "leaves," just inside the sepals; usually white or colored to attract insects and other pollinators (Figures 35b, 45b, and 91b).

Petiole (adj. petiolate) - The stem of a leaf (Figures 19 and 22b).

Photosynthesis - The formation of carbohydrates through the action of chlorophyll upon carbon dioxide from the air and water from the plant, in the presence of light.

Pinna (pl. pinnae) - The primary division of a fern frond (Figure 3c).

Pinnule - The secondary division of a fern frond, or primary division of a pinna (Figure 3a).

Plutonic rocks - Rocks formed by solidification of molten magma (i.e., igneous rocks), but which have solidified deep within the earth. These are different from volcanic rocks, like basalts, that have solidified on the earth's surface.

Radiate head - One of three types of composite flower heads, this one having outer, marginal flowers that are ray flowers, and central flowers that are disc flowers (see also discoid and ligulate heads, Composite Terminology, page 34, and Figure 157d).

Ray (or ligule) - The flattened and usually bright colored extension of the ray or ligulate flowers in composites (See Composite Terminology, page 34, and Figures 149d and 157d).

Ray flower (ligulate flower) - The tongued flower of the composites (Figures 149d and 157d).

Rhizome - A creeping and rooting underground stem (Figures 52, 63a, and 205a).

Rushes - Grasslike plants with round stems, but (unlike grasses and sedges) having three-parted calyces and corollas (Figures 68b and 69b). The flowers occur in head-shaped clusters (Figure 68a) or in panicles (Figure 69a); the seed pods often are plump and dark colored (Figure 69b).

Sedges - Grasslike plants with three-ranked leaves that impart a triangular cross-section to the solid stems. The flowers are naked, although subtended by an open bract (Figure 63b) and completely enclosed in another, sac-like bract from which the stamens and pistils protrude at the top. The inflorescences are always spikes, for the flowers are sessile. Spikes may be bisexual (Figure 63b), or sometimes unisexual (Figure 65b).

Sepal - A member of the outside set of floral "leaves," just outside the petals. Sepals are usually leafy and green, but when petals are absent the sepals may be colored (Figures 35b and 41b).

Sessile - Lacking a stem, as with leaf blades attached directly to the stem (Figures 80a and 104a).

Simple leaves - Leaves with the blade all in one piece, (i.e., not compound). The leaf margins may be smooth or entire (Figures 21-23), toothed (Figures 20a, 32a, and 117a), more or less deeply lobed (Figures 19 and 120), or both toothed and lobed (Figures 19 and 35a).

Sorus (pl. sori) - In ferns, the characteristic cluster of spore cases (Figures 4b, 4e, and 6c).

Species - Populations of morphologically similar organisms that interbreed among themselves but are reproductively isolated from other species.

Spike - A narrow and elongate inflorescence with sessile flowers or florets (Figures 58a and 180a).

Spikelet - In grasses, a discrete group of one or more florets with glumes at the base, borne on a branch of the grass inflorescence (see Grass Terminology, page 28, and Figures 56b and 57a).

Spore - In mosses, ferns, and fungi, one-celled reproductive structures similar to the seeds of the higher plants.

Stamen - The male organ of a flower consisting of an anther and usually a fine stem or filament (Figures 45b, 81b, 90c, and 160b).

Stipule - One of a pair of leaflike, basal appendages on leaves or petioles (Figures 50a and 198a).

Stolon - A creeping and rooting above-ground stem (Figure 192).

Stomate (pl. stomata) - "Breathing" pores of leaves or stems, necessary for photosynthesis. In conifers they often occur in rows (Figures 14d and 17b), but in most broadleaved trees and herbs they are scattered.

Style - The stalk atop an ovary usually having sugary, sticky, pollen-receptive surfaces (stigmas) at the top upon which pollen collects, germinates, and penetrates the ovary (Figures 41b and 160b).

Subshrub or halfshrub - Not quite shrubs, usually with persistent, woody bases, but with less than woody aerial stems that die back each winter (see Plant 31).

Taxon (pl. taxa) - A taxonomic entity of whatever rank (here, species and variety).

Tepals - Sepals or petals that are undifferentiated; they look alike in color and form. Tepals are found in all rushes (Figures 68b and 69b) and in many lilies (Figures 148b and 150).

Terminal - At the topmost or outermost position.

Tomentum (adj. tomentose) - A covering of tangled or matted, wooly hairs (Figures 5c and 86b).

Tooth - A small indentation in the margin of a leaf, varying from merely shallow or wavy (Figures 24 and 25a) to deep and sharp (Figures 19 and 20a).

Umbel (Umbellate inflorescence) - A flat- to convex-topped inflorescence in which the pedicels of individual flowers, and (in compound umbels) the peduncles of flower clusters, arise from one point like the ribs of an umbrella (Figure 86a, a compound umbel; Figures 98a and 160a, simple umbels).

Unarmed - Converse of armed.

Unawned - Converse of awned.

Understory - In layered plant communities, the plants occurring underneath as shrubs under trees or herbs under shrubs.

Vascular system - The water- and food-conducting systems of the so-called higher, or vascular plants; (i.e., xylem and phloem, respectively).

Vernal - Occurring in the spring.

Vines - Elongated, single- or multi- and woody-stemmed plants, rooted in the ground, but climbing or crawling to 10 meters.

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