Guide to the Common Plants of the Seven Devils Mountains

Hells Canyon National Recreation Area

Richard T. Bingham and Clyde J. Miller

Mountain bog gentian

Whitebark pine seedlings

Wallowa-Whitman National Forest
Pacific Northwest Region
USDA-Forest Service
Errors:

Page 24. 1.5 M should read 0.5 M.
Page 30, line 1. "Predominate by" rather than "predominate with".
Page 31. The scale (0.5) of Pae sandbergii, Fig. a, is missing. This taxon now is placed under Pae secunda.
Page 44, line 7. Move the word "with" to between the words "or" and "and".
Page 51, line 2. Change the word "two" to "one". "only".
Page 51, line 19, "it" missing from the last word.
Page 38, line 19, Change "only" to "mostly".

Acknowledgements

The authors, the Hells Canyon National Recreation Area, and the Wallowa-Whitman National Forest gratefully acknowledge the permission of the University of Washington Press to reproduce plant drawings by Jeanne R. Janish and John Runley from the regional flora "Vascular Plants of the Pacific Northwest." Only eight drawings, commissioned by us and initialed APC, came from elsewhere. Distribution of this plant guide at cost would have been impossible without this concession.

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 Maestroguiisseppi, 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.

Persons of any race, national origin, sex, age, religion, or with any handicapping condition are welcome to use and enjoy all facilities, programs, and services of the USDA. Discrimination in any form is strictly against agency policy, and should be reported to the Secretary of Agriculture, Washington, DC 20250.
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 Haldy 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.

Copies of this guide can be obtained from:

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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.
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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</tr>
</tbody>
</table>

Map of the Seven Devils Mountains Localities (Road and Trail Segments)  center spread

Glossary of Technical Terms                                           75

Literature Cited                                                        80

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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 Cuprun, Idaho. Often on the north (for instance, from Mottbarn 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, everlasting, buttercups, groundclovers, 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 Immaha 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 Immaha basalt stretches along the Snake-Salmon Rivers divide from Cow Creek Saddle (five miles west of Lucille) 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 Immaha 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 bareastom lomatinum (L. nudicaule), Bolander's yampa (Perideridia bolanderi), daggerpod (Phoenicullis 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:


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

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


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

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


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

HOW TO USE THIS PLANT IDENTIFICATION GUIDE

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 HL) 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

<table>
<thead>
<tr>
<th>Plant Class</th>
<th>Keying Number and Item</th>
<th>Class Start No.</th>
<th>No. of Opp.</th>
<th>Indiv. on Page</th>
<th>No. in Plant</th>
<th>See also Plant No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Moose and Ferns</td>
<td>14</td>
<td>2</td>
<td>1-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Trees, Yews, Shrubs, and Herbs</td>
<td>14</td>
<td>7</td>
<td>3-9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Coniferous, Evergreen, and Deciduous</td>
<td>16</td>
<td>3</td>
<td>10-12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Broadleafed hardwoods, evergreen and deciduous</td>
<td>16</td>
<td>6</td>
<td>13-18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Leaves simple</td>
<td>18</td>
<td>1</td>
<td>19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Leaves opposite</td>
<td>18</td>
<td>4</td>
<td>20-23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>Leaves compound</td>
<td>20</td>
<td>1</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Woody-stemmed vines and shrubs</td>
<td>20</td>
<td>1</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Shrubs with prickly stems or leaves</td>
<td>20</td>
<td>5</td>
<td>26-30</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Shrubs with unarmed stems or leaves</td>
<td>22</td>
<td>6</td>
<td>31-36</td>
<td>15,188</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>Crushed leaves aromatic or pungent</td>
<td>22</td>
<td>6</td>
<td>31-36</td>
<td>15,188</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>Leaves opposite or whorled</td>
<td>24</td>
<td>4</td>
<td>37-40</td>
<td>19,74,108</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Leaves alternate</td>
<td>24</td>
<td>4</td>
<td>37-40</td>
<td>19,74,108</td>
<td></td>
</tr>
<tr>
<td>N</td>
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<td>27</td>
<td>4</td>
<td>61-64</td>
<td>26,52,58</td>
<td></td>
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<tr>
<td>O</td>
<td>Shrubs with unarmed stems or leaves</td>
<td>26</td>
<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>Shrubs with unarmed stems or leaves</td>
<td>26</td>
<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>Shrubs with unarmed stems or leaves</td>
<td>26</td>
<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
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<td>R</td>
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<td>26</td>
<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
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</tr>
<tr>
<td>S</td>
<td>Shrubs with unarmed stems or leaves</td>
<td>26</td>
<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>Shrubs with unarmed stems or leaves</td>
<td>26</td>
<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
<td></td>
</tr>
<tr>
<td>U</td>
<td>Shrubs with unarmed stems or leaves</td>
<td>26</td>
<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Shrubs with unarmed stems or leaves</td>
<td>26</td>
<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
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<tr>
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<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Shrubs with unarmed stems or leaves</td>
<td>26</td>
<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
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</tr>
<tr>
<td>Y</td>
<td>Shrubs with unarmed stems or leaves</td>
<td>26</td>
<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
<td></td>
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<tr>
<td>Z</td>
<td>Shrubs with unarmed stems or leaves</td>
<td>26</td>
<td>10</td>
<td>45-54</td>
<td>20,21,24</td>
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TABLE 2. SEVEN DEVILS MOUNTAINS PLANT HABITATS

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<tr>
<th>Symbol</th>
<th>Habitat Description</th>
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<tr>
<td>AL</td>
<td>Highest subalpine, 8,800-9,400 feet. True alpine habitats (above timberline) are absent. At the highest elevations, stop He Devil or She Devil Mountain, stunted whitebark pine (Plant 10) are present. The soils are mostly sandy-gravelly screes in which the gravel is almost pure sand, except for a narrow belt of gravely scree. The forest is deciduous, except for a few stands of Engelmann spruce (Plant 17), mountain hemlock (Plant 18), and whitebark pine (Plant 18). The vegetation is mainly alpine meadow vegetation, including heath plants and herbs such as arctic willow (Plant 112), Columbia monkshood (Plant 120), western meadow-rue (Plant 200), California false hellobore (Plant 129), and wood nymph (Plant 90).</td>
</tr>
<tr>
<td>AQ</td>
<td>Aquatic, freshwater stream or lake environments. Floating plants may be rooted on the stream bottom, or on silted lake bottoms in the shallower parts of the lakes. The most common plants are Indian pond lily (Plant 70) and narrowleaf bur-reed (Plant 77). Other plants include submerged aquatic plants in the shallowest water. On the drawn-down lake banks, the lenticular sedges (Plant 65) or the sawgrass sedges (Plant 67) are present. The vegetation is mainly alpine meadow vegetation, including heath plants and herbs such as arctic willow (Plant 112), Columbia monkshood (Plant 120), western meadow-rue (Plant 200), California false hellobore (Plant 129), and wood nymph (Plant 90).</td>
</tr>
<tr>
<td>AV</td>
<td>Avalanche chutes, snow or ice slide areas which, if below 7,500 feet, are usually brushy valleys from which the trees have been scoured away. If above 7,500 feet, they are secured, steep, rocky valleys or gravelly slopes. Plant development may be delayed by late melting snow or ice.</td>
</tr>
<tr>
<td>BF</td>
<td>Boulder fields, 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 stop the boulders, only a few roveleaves and populus trap enough snow 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 54).</td>
</tr>
<tr>
<td>CN</td>
<td>North- and east-facing cliffs, cool, moist, and often shady habitats having rich loams in the rock crevices or on the rock benches. Featured plants are the cliff厕所 (Plant 191), yellow columbine (Plant 207), moosewood (Plant 116), and swamp gooseberry (Plant 27). Often there are open forests of whitebark pine or subalpine fir (Plant 18) on the higher elevation cliffs, while subalpine/Douglas-fir (Plant 18) forests may occupy the lower cliffs. The wetter seep areas may support fringed grass of pasqueflower (Plant 138), or brook saxifrage (Plant 117).</td>
</tr>
<tr>
<td>CS</td>
<td>South- and west-facing cliffs, warm, dry, and less shady cliff habitat, with much talus and little creviced area. Featured plants include Indian ricegrass (Plant 56), western serviceberry (Plant 45), cuneiform mountain mahogany (Plant 21), and Blue Mountain penstemon (Plant 107). On the high, open, bedrock ridges in this habitat, mountain meadows are the most typical plants. Typical plants are the bluebunch wheatgrass (Plant 113), mountain meadow (Plant 133), and mountain bluegrass (Plant 28). May occur. Here, if the cliffs support trees at all, they are much more separated as individuals or in small groups; ponderosa pine and Douglas-fir (Plants 12 and 18) are rare. On 6,500-6,000 feet; Douglas-fir, mountain juniper (Plant 15), and grand firs (Plant 14) up to 7,500 feet; with whitebark pine and subalpine fir (Plants 10 and 13) at the top.</td>
</tr>
<tr>
<td>HG</td>
<td>High grasslands, usually along the broader ridgetops or more gently east, south, and west-facing slopes and the deeper or better-drained soils; may be associated with wind exposure. Actually, these grasslands contain a high proportion of rangelands and a deciduous forest of the alpine willow-wood (Plant 112), western mugwort (No. 31), and bee balm monarda (Plant 82).</td>
</tr>
<tr>
<td>LF</td>
<td>Low grasslands, includes 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 (Fraser, Canyon Creek, Taima Creek). Also included is the often very broad and open, level ridgetop along the Salmon River divides from Cow Creek Creek to Taima Creek. Along with these two species, species such as Indian ricegrass (Plants 58 and 56), cafe au lait (Plant 149), and arrowleaf balsamroot (Plant 149) are present. The vegetation is mainly alpine meadow vegetation, including heath plants and herbs such as arctic willow (Plant 112), Columbia monkshood (Plant 120), western meadow-rue (Plant 200), California false hellobore (Plant 129), and wood nymph (Plant 90).</td>
</tr>
<tr>
<td>LS</td>
<td>Lake shores, above high water line. On the lake side are such plants as alpine wintergreen (Plant 162), alpine laurel (Plant 37), mountain meadows (Plant 133), creeping sedge (Plant 205), thyme-leaved speedwell (Plant 109), and small white violet (Plant 118).</td>
</tr>
<tr>
<td>RM</td>
<td>Riparian, 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), coos buckbuckler (Plant 34), broadleaved mountain mahogany (Plant 111), and grand firs (Plant 14) at 5,000-6,500 feet; and Engelmann spruce (Plant 17), subalpine fir (Plant 13), and whitebark pine (Plant 18) above. Common plants are include willow (Plant 14), pine (Plant 15), big buckbuckler (Plant 24), alder (Plant 21), and wood willow (Plant 24).</td>
</tr>
<tr>
<td>SK</td>
<td>Rocky slopes, north- and east-facing, fairly deep and moist soils laced with gravel, rocks, and boulders. Most often forested with conifers in moderately dense stands: ponderosa pine (Plant 10), fir (Plant 17), and grand fir (Plant 14) at 5,000-6,500 feet; and Engelmann spruce (Plant 17), subalpine fir (Plant 13), and whitebark pine (Plant 18) above. Common plants are include willow (Plant 14), pine (Plant 15), big buckbuckler (Plant 24), alder (Plant 21), and wood willow (Plant 24).</td>
</tr>
<tr>
<td>SN</td>
<td>Rocky slopes, south- and west-facing, warmer, drier, and less shady counterpart of RM, above with shallow and less stable soils and with the various conifer species shifted as much as 1,000 feet uphill. Featured species are Indian ricegrass (Plant 149), bluebunch wheatgrass (Plant 56), Weyth's buckwheat (Plant 68), alpine wintergreen and Holobell's rockcress (Plants 162 and 183), scouler gilia (Plant 184), and Nuttall's linnaea (Plant 188).</td>
</tr>
<tr>
<td>SB</td>
<td>Sagebrush slopes, open east-, south-, or west-facing slopes dominated by the montane forbs of big sagebrush (Artemisia tridentata var. wyoming), 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 7/4 mile north of Hobbies Wolf Camp.</td>
</tr>
<tr>
<td>SC</td>
<td>Seabrook, basaltic bedrock residual from the cap on the uplifted Seven Devils Mountain. Seabrook has a denuded and weathered soil to present the grass-forb forets of the forse of Trails 112 and 56, (1/2 mile north of Hobbies Wolf Camp) or a red-colored rock (as at east of Cold Springs Wolf Camp). Moist in the spring only, thereafter, very dry and supporting only occasional growth of willows and low plant populations growing near the forest edge (Plant 70), lanceleaf stonecrop (Plant 153), gaggedrop (Plant 186), Piper's golden buckwheat (Plant 98), scouler gilia (Plant 184), Labrador prickly sandwort (Plant 149), pappas hallomina (Plant 137), and broad-fruitled mariposa lily (Plant 123).</td>
</tr>
<tr>
<td>SN</td>
<td>Snow deposit areas, cornice or drift areas on the lee side of high ridges, and snow-slope deposit areas on intermediate benches or in the bottoms of cirques. Featuring plants such as subalpine buttercup (Plant 151), chionophilia (Plant 101), and a few snowshattered alpines (mainly Erican plants) including goosebrush buckwheat (Plant 44), pink mountain heath (Plant 41), and foun buckbuckler (Plant 34).</td>
</tr>
<tr>
<td>TA</td>
<td>Tavus slopes, 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 club moss (Plant 204), bedstraw (Plant 220), and India balsamroot (Plant 149), and a few creping plants such as creeping buttercup (see the buttercup key) and the red sandspurry (Spergularia rubra).</td>
</tr>
<tr>
<td>TP</td>
<td>Terrestrial ponds, 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 (Phacelia 175), and a few creping plants such as creeping buttercup (see the buttercup key) and the red sandspurry (Spergularia rubra).</td>
</tr>
</tbody>
</table>

8

9
TABLE 3. SEVEN DEVILS MOUNTAINS LOCALITIES (Road and trail segments are shown on the Trail Location Guide, center spread.)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD</td>
<td>Baldy Lake and Baldy Lake Trail 69 in from Trail 124.</td>
</tr>
<tr>
<td>BL</td>
<td>Black Lake and Road 112 from Black Lake south to Road 105.</td>
</tr>
<tr>
<td>BM</td>
<td>Boise Trail 101 from Heavens Gate Lookout parking lot north through to Bald Mountain to Trail 110 just south of The Narrows.</td>
</tr>
<tr>
<td>BN</td>
<td>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.</td>
</tr>
<tr>
<td>BU</td>
<td>Road 1819 from Buckhorn Spring to the former Cold Springs Lookout site including the spur road to the lookout site.</td>
</tr>
<tr>
<td>CA</td>
<td>Lower Cannon Lake and Cannon Lake Trail 126 in from Boise Trail 101.</td>
</tr>
<tr>
<td>CC</td>
<td>Road 420 from Buckhorn Spring to Kirkwood Corrals via Cow Creek Saddle.</td>
</tr>
<tr>
<td>CH</td>
<td>Trail 104 from Pittsburg Saddle Road 493 north to Camp Howard via North River Saddle.</td>
</tr>
<tr>
<td>CN</td>
<td>Trail 101 from Road 1819 south to the camp at Fire Camp Saddle, including Crater Lake.</td>
</tr>
<tr>
<td>CS</td>
<td>Along Road 1819 from Cold Springs Lookout spur road west to Road 2060 above Low Saddle.</td>
</tr>
<tr>
<td>DO</td>
<td>Dog Lake and along Dog Creek in from Boise Trail 101.</td>
</tr>
<tr>
<td>DR</td>
<td>Dry Diggins Ridge along Trails 140 and 56 from Trail 124 north to McCall Cow Camp.</td>
</tr>
<tr>
<td>EC</td>
<td>Trail 129 in from Trail 124 through the Echo Lakes chain via Echo, quad, Ne Devil, and Triangle Lakes.</td>
</tr>
<tr>
<td>EF</td>
<td>Trail 59 along Rapid River from Paradise Cabin north to Trail 113.</td>
</tr>
<tr>
<td>ES</td>
<td>Trail 53 along East Fork Sheep Creek from Trail 124 north to Log Creek.</td>
</tr>
<tr>
<td>HA</td>
<td>Hanson Lakes and along Hanson Creek in from Boise Trail 101.</td>
</tr>
<tr>
<td>HB</td>
<td>Horse Heaven and Slide Rock Lakes and along Horse Heaven Creek in from Boise Trail 101.</td>
</tr>
<tr>
<td>HS</td>
<td>The summits of Ne Devil and She Devil Mountains above 8,800 feet.</td>
</tr>
<tr>
<td>JN</td>
<td>Trail 191 south from West Fork Rapid River to Black Lake Road 112 including Jackley Mountain.</td>
</tr>
<tr>
<td>KI</td>
<td>Roads 106 and 106 from Horse Mountain north to Sheep Rock, including Kinney Point.</td>
</tr>
<tr>
<td>LA</td>
<td>Road 105 from the 5,000 foot contour line above Cuprum to Road 112 via Landore.</td>
</tr>
<tr>
<td>LG</td>
<td>Trail 112 from Hibbs Cow Camp south to Middle Fork Granite Creek.</td>
</tr>
<tr>
<td>LI</td>
<td>Lily Pad Lakes and the large sedge meadow along Trail 123 north of Basin Lake.</td>
</tr>
<tr>
<td>LR</td>
<td>Lower Rapid River south from Rapid River Fish Hatchery along Trail 113 to the West Fork Rapid River.</td>
</tr>
<tr>
<td>LV</td>
<td>Lost Valley Road 2060 from its junction with Road 420 southwest of Winkup Butte to its junction with Saw Pit Saddle spur road.</td>
</tr>
<tr>
<td>MR</td>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NB</td>
<td>Northern part of Boise Trail 101 from Seven Devils Guard Station to Hansen Creek.</td>
</tr>
<tr>
<td>PA</td>
<td>Road 517 south from Papoose Creek to Seven Devils Guard Station pasture cattle guard.</td>
</tr>
<tr>
<td>PG</td>
<td>Trail 214 north from Black Lake to Emerald Lakes and Stevens Saddle, via Purgatory Saddle.</td>
</tr>
<tr>
<td>FO</td>
<td>Summit of Poclock Mountain along Trail 179 south to Cold Springs Saddle.</td>
</tr>
<tr>
<td>RA</td>
<td>Trail 113 at Carbonate Hill from Trail 214 to Trail 192, and Trail 192 from Stevens Saddle to Rankin Mill.</td>
</tr>
<tr>
<td>RU</td>
<td>Ruth Lake and Trails 321 and 189 to Stevens Saddle.</td>
</tr>
<tr>
<td>SA</td>
<td>Road 1819 from Low Saddle east to Road 2060, then Road 2060 north to Saw Pit Saddle Viewpoint.</td>
</tr>
<tr>
<td>SB</td>
<td>Boise Trail 101 from Hansen Creek south to Horse Heaven Saddle 1/4 mile north of Horse Heaven Cabin.</td>
</tr>
<tr>
<td>SH</td>
<td>Trail 123 from Trail 124 including Basin, Shelf, Oem, and Sheep Lakes.</td>
</tr>
<tr>
<td>SL</td>
<td>Trail 218 west from Trail 214 via Joe's Gap to the Six Lake Basin and Trail 277 south to Road 112.</td>
</tr>
<tr>
<td>SP</td>
<td>Road 58 from 1/4 mile east of McCall Cow Camp east to Trail 33; Trail 33 south to Trail 110; and Trail 110 to its junction with Boise Trail 101 just south of The Narrows.</td>
</tr>
<tr>
<td>ST</td>
<td>Trail 214 from Horse Heaven Saddle south to Stevens Saddle.</td>
</tr>
<tr>
<td>TL</td>
<td>The table lands and northward along Road 572 from Cow Creek Saddle to Road 420 via Road 2065, then along Road 420 including Gravel Point to Pittsburg Saddle Road 493.</td>
</tr>
<tr>
<td>TR</td>
<td>Trail 124 from Windy Saddle Campground to Hibbs Cow Camp.</td>
</tr>
<tr>
<td>WD</td>
<td>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.</td>
</tr>
<tr>
<td>WF</td>
<td>Trail 113 along West Fork Rapid River west from its junction with Rapid River to Rankin Mill.</td>
</tr>
</tbody>
</table>
| 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>
<thead>
<tr>
<th>Common Name</th>
<th>Latin Name</th>
<th>Plant Numbers In the Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barberies</td>
<td>Berberidaceae</td>
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</tr>
<tr>
<td>Birch</td>
<td>Betulaceae</td>
<td>20</td>
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<tr>
<td>Borage</td>
<td>Boraginaceae</td>
<td>169,170</td>
</tr>
<tr>
<td>Brookrape</td>
<td>Orobancheaceae</td>
<td>167</td>
</tr>
<tr>
<td>Buckwheat</td>
<td>Polygonaceae</td>
<td>86,98,126,140,147,148</td>
</tr>
<tr>
<td>Burn-reed</td>
<td>Sparganiaceae</td>
<td>71</td>
</tr>
<tr>
<td>Buttercup</td>
<td>Ranunculaceae</td>
<td>25,120,128,151,152,164,165,179,191,195,200,201</td>
</tr>
<tr>
<td>Current or</td>
<td>Grewolus</td>
<td>Grequlariaceae</td>
</tr>
<tr>
<td>Gooseberry</td>
<td>Cupressaceae</td>
<td>15</td>
</tr>
<tr>
<td>Dogbane</td>
<td>Apocynaceae</td>
<td>79</td>
</tr>
<tr>
<td>Evening-prime</td>
<td>Oenotheraceae</td>
<td>112,125,181</td>
</tr>
<tr>
<td>Fern</td>
<td>Polypodiaceae</td>
<td>3,4,5,6,7,8,9</td>
</tr>
<tr>
<td>Figwort</td>
<td>Scrophulariaceae</td>
<td>100,101,102,103,106,107,108,109,113,114,119,180,197,199</td>
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<tr>
<td>Flax</td>
<td>Linaceae</td>
<td>166</td>
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<tr>
<td>Gentian</td>
<td>Gentianaceae</td>
<td>103,104</td>
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<tr>
<td>Grass</td>
<td>Gramineae</td>
<td>55,56,57,58,59,60,62</td>
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<tr>
<td>Harebell</td>
<td>Campanulaceae</td>
<td>162</td>
</tr>
<tr>
<td>Heath</td>
<td>Ericaceae</td>
<td>33,34,35,37,41,42,43,44,45,50,90,110,141,182</td>
</tr>
<tr>
<td>Honeysuckle</td>
<td>Caprifoliaceae</td>
<td>38,39,40,51</td>
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<tr>
<td>Lily</td>
<td>Liliaceae</td>
<td>119,122,123,127,129,130,144,148,150,176</td>
</tr>
<tr>
<td>Hudder</td>
<td>Rubiaceae</td>
<td>93</td>
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<tr>
<td>Maple</td>
<td>Aceraceae</td>
<td>19</td>
</tr>
<tr>
<td>Mint</td>
<td>Labiatae</td>
<td>81,82</td>
</tr>
<tr>
<td>Moss</td>
<td>Polytrichaceae</td>
<td>1</td>
</tr>
<tr>
<td>Mustard</td>
<td>Cruciferae</td>
<td>134,135,136,137,143,186,202</td>
</tr>
<tr>
<td>Nettle</td>
<td>Urticaceae</td>
<td>85</td>
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<tr>
<td>Orchid</td>
<td>Orchidaceae</td>
<td>136,145</td>
</tr>
<tr>
<td>Parsley</td>
<td>Umbelliferae</td>
<td>193,196,203</td>
</tr>
<tr>
<td>Pea</td>
<td>Leguminosae</td>
<td>198,206,207</td>
</tr>
<tr>
<td>Peony</td>
<td>Paeoniaceae</td>
<td>208</td>
</tr>
<tr>
<td>Phlox</td>
<td>Polemoniaceae</td>
<td>89,124,163,184,186,209,210</td>
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<tr>
<td>Pink</td>
<td>Caryophyllaceae</td>
<td>83,91,92</td>
</tr>
<tr>
<td>Pine</td>
<td>Pinaceae</td>
<td>10,11,12,13,14,16,17,18</td>
</tr>
<tr>
<td>Primrose</td>
<td>Primulaceae</td>
<td>160,161</td>
</tr>
<tr>
<td>Purslane</td>
<td>Portulacaceae</td>
<td>88,111,115,185</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Latin Name</th>
<th>Plant Numbers In the Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rose</td>
<td>Rosaceae</td>
<td>21,24,29,30,45,46,47,50,52,53,192,204,205</td>
</tr>
<tr>
<td>Rush</td>
<td>Juncaceae</td>
<td>68,69</td>
</tr>
<tr>
<td>Saxifrage</td>
<td>Saxifragaceae</td>
<td>116,117,138,142</td>
</tr>
<tr>
<td>Sedge</td>
<td>Cyperaceae</td>
<td>63,64,65,66,67</td>
</tr>
<tr>
<td>Sphagnum Moss</td>
<td>Sphagnaceae</td>
<td>2</td>
</tr>
<tr>
<td>Stonecrop</td>
<td>Caryophyllaceae</td>
<td>153</td>
</tr>
<tr>
<td>Sunflower</td>
<td>Compositae</td>
<td>31,32,72,73,75,76,77,78,79,80,84,94,95,96,97,99,121,131,132,135,139,154,155,156,157,171,172,173,177,187,194</td>
</tr>
<tr>
<td>Valerian</td>
<td>Valerianaceae</td>
<td>189</td>
</tr>
<tr>
<td>Violet</td>
<td>Violaceae</td>
<td>118,158,159,168</td>
</tr>
<tr>
<td>Waterleaf</td>
<td>Hydrophyllaceae</td>
<td>139,174,175</td>
</tr>
<tr>
<td>Water lily</td>
<td>Nympheaceae</td>
<td>70</td>
</tr>
<tr>
<td>Willow</td>
<td>Salicaceae</td>
<td>22,23</td>
</tr>
</tbody>
</table>
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). Habitat: All but AL, MO, WV. Localities: All but KS.

2. Sphagnum or peat mosses, Sphagnum species, tend to spread 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, RL, edges of WM. Localities: BD, BN, JN, EC, RH, BU, SW, TR, MD.

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 pinnas, and often the pinnas 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 3a, b, and c).

3. Western maidenhair fern, Adiantum pedatum, are Seven Devils plants that possibly belong to the same high-elevation taxon of the species having erect fronds instead of horizontal pinnae, and layered instead of flat pinnae (Figure 3a 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 1927 by WSC students Jacqueline Packard, and again by us in 1978 and 1980. Dr. 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 moderately sized population, plus two other very small populations. Idaho's rare and endangered plant technical committee recommends that the possible new taxon be entered in the Federal Watch List of Rare Plants where changes in use could lead to its threatened status. (See Steele et al., 1991). Habitat: BD, BN. Localities: HA, SH.

4. Alpine lady fern, Athyrium distentifolium, is the high elevation lady fern of the Northeast, distinguished from the common lady fern (A. filix-femina) also in the Seven Devils by the lack of an indusium over the sori (Figure 4a 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 broken fern (Plethodium aquilinum). Habitat: RI, TA. Localities: DO, EC, HA, HH, MB, FG, PO, SB, SH, MD, WI.

5. Fee's lip fern, Cheilanthes Feei, as seen in Figure 5c, has a wavy tomentum of fine, soft and waxy, rusty-colored hairs that cover the undersides of the pinnae 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. Habitat: BD, CN, CS. Localities: BU, SL.

6. Lace lip fern, Cheilanthes gracciliae, is the common Seven Devils lip fern. It is another rare plant, because the undersides of its pinnae 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. Habitat: 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 pinnae are both narrower and thicker than sterile pinnae (Figure 7b vs. c); the former have their edges rolled under covering the sori. Habitat: CN, HH, TA. Localities: ES, HA, FG, RH, BU, SH, SL, TR, MD.

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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. *Cruckeberg's sword fern, Polystichum cruckebergii*, is Idaho's rarest sword fern. It was discovered by Dr. Arthur Cruckeberg of the University of Washington who found it in the Seven Devils near Shale Lake in 1952. Mountain holly fern (P. lonchitis) and rock sword fern (P. acrostichoides) are look-alikes that are also common in the Seven Devils. Two similar sword ferns may be separated from Cruckeberg's by their narrower and less deeply toothed pinnae and by their shorter, more slender pinnae (Figure 8c vs. d and e). Habitats: (all three species) CW, RH. Localities: (P. cruckebergii) SH; (P. lonchitis) RH, RM, RM, TR; (P. acrostichoides) RM, RM, RM, RM, SH.

9. *Woodia, Woodia oregona (Oregon woodia)* and *W. coquilletti (Rocky Mountain woodia)*, are delicate, 15-25 cm tall rock-creeper ferns. The latter has pinnae 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 pinnae do not turn under, and they may be separated from the brittle bladder fern (<i>Cystopteris fragilis</i>) by the retention of many dead, wavy pelticles on the woodia fronds. At lower elevations, and in drier years, the woodias are transitory, their pinnae drying, curling, and dropping by late summer. Habitats: CW, CS, RH, RS. Localities: RM, RM, RM, CH, CR, D, CS, EC, ES, MA, KI, LB, BU, SA, SB, SH, TR, WP, WW. WW.

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

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 the Seven Devils (nearly 9,000 feet elevation). Identifying features are needles in bundles of five, bright red scales or pollen-bearing cones, and dark purple needles of female cones. All white pine cones open after about two years, and the pine cone opens and releases the seeds. Habitats: CW, CS, RM, 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 from the branch for many years. Some of these persistent cones do not open even after they are mature, and yet 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: CH, CS, RM, RS. Localities: All but WW.

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 (10-15 cm long) than those of other pines or whitebark pines, and accumulate on the ground beneath the mature trees. Magnificent specimens of the orange-barked, overmature ponderosa pines (up to 150 feet tall and 5 feet in diameter) may be seen just above the fork of Little Granite Creek off Trail No. 112. Habitats: RM, RS. Localities: BD, BL, BU, CS, CR, DR, ES, LA, LG, LR, LV, NB, PB, SA, SB, SP, TT, TP, WP, WW.

**CLASS D - COMB 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, CH, CS, LA, LS, KI, RM, RS. Localities: All but LB and TL.

14. *Grand fir, Abies grandis*, is the Seven Devils true fir that occurs at the lower elevations, growing the tallest, and has the broadest crown. Upright cones and pitted needle scars (Figures 14a 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: BL, BR, DR, ES, LA, LG, LS, LV, NP, PA, PB, SA, SP, TT, TP, WP, WW.
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 deciduously 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: CR, CS, RN, ES. Localities: BB, RN, RD, DO, DR, EC, HA, HE, HS, IL, MB, PC, BU, SB, SL, TB, WD, VI.

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 needle clusters atop each newborn shoot. (In Figure 16, look for the characteristic spur shoots on dead twigs on the ground.) Female cones are small (under 2.5 cm long), almost spherical, and have prominent papery bracts that protrude between the cone scales. Old standing, dead, barkless, buttkin tamaracks are northern Idaho's premier firewood. Habitats: RN. Localities: BO, BL, CC, EC, E1, LA, LG, LV, NB, PA, SA, WD, VI.

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, SE, RN. Localities: All but the highest (SB) or lowest (CH, LA, 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 18b), and its oval, 4-8 cm cones with prominent papery bracts (Figure 18c). On the steeper slopes, moving snow tends to defile the lower trunks, bowing them outwards. Habitats: CR, CS, E1, RN, RS. Localities: BO, BL, RM, BN, BU, CA, CC, CH, CR, CS, DR, EC, ES, HS, HE, LA, LG, LV, NB, PA, PG, RA, NA, SA, SB, SD, SE, ST, TL, WD, VI.

**CLASS IV - 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 (samara) (Figure 19), and has silvery grey bark. It is fairly common below 7,200 feet. Habitats: E1, RN, RS. Localities: BO, CC, CH, CS, DO, DR, EC, ES, HS, HE, LA, LG, LV, NB, PA, PG, RA, NA, SA, SB, SD, SE, ST, TL, WD, VI.

**CLASS V - BROADLEAVED TREES WITH SIMPLE AND ALTERNATE LEAVES**

20. **Silica Alder, Alnus incana**, 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 grow 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 veins or their undersides (Figure 20c). Habitats: AV, LS, RI, RN. Localities: BO, CA, CH, CS, DR, EC, ES, HS, HE, LA, LG, LV, NB, PA, PG, RA, NA, SA, SB, SD, SE, ST, TL, WD, VI.

21. **Curlyleaf 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-curlend, 1-3 cm-long and up to 3 cm-wide leaves (Figure 21b) are yellow with elongated hairy styles that persist as attachments to the seeds (Figure 21d). Habitats: CR, CS. Localities: CR, CH, DR, E1, LA, LG, LV.

**Fig. 15. Mountain Juniper**

**Fig. 16. Western Larch or Tamarack**

**Fig. 17. Engelmann Spruce**

**Fig. 18. Douglas-fir**

**Fig. 19. Rocky Mountain Maple**

**Fig. 20. Silica Alder**

**Fig. 21. Curlyleaf 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: LD, RR, RO, TA. Localities: RD, RH, CA, CR, CS, DB, EC, MA, KY, LA, LG, MH, MB, SB, TL, TR, WD, WI.

23. Scouler's willow, *Salix scouleri*, usually seen as a tall multi-stemmed shrub, but ultimately may become a small tree up to 30 feet tall and 12 inches in diameter (as can be seen at St. Paul). It is the most common willow of the boreal forest, and the only tree-willow of the Seven Devils. Chances are, a willow found in the upland away from streams or lakes will be a Scouler's willow. Inflorescences are pussy willows (Figure 23c and d). The leaves are entire, blunt-pointed, short-petioled, and about 5 cm long. They are widest about 2/3 of the way up the blade (Figure 23a). Habitats: AV, TN, RE. Localities: RD, RH, CA, CC, CR, CS, EC, ES, MA, KY, LA, LB, MB, PA, RA, SD, SA, SP, SR, SH, ST, TD, TR, WD, WI.

**CLASS C - 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 5-13 sharp-pointed leaflets, and especially the autumn clusters of bright orange fruits (Figure 24a) clearly identify this mountain-ash. Habitats: RD, RE, ES. Localities: RD, RH, CA, EC, CR, CS, EC, ES, MA, KY, MB, PA, SD, SH, TL, TR, WD, WI.

**CLASS B - WOODY STUMPIED VINES**

25. Columbia clematis, *Clematis columbiana*, is the only woody vine of the Seven Devils. It has compound leaves, usually with 3-5 odd-pointed leaflets. The solitary, sky-blue, 4-6 cm, five-petaled flowers are the most striking feature of this plant (Figure 25a). The plumed fruits are also showy (Figure 25b and c). Habitats: BN. Localities: CR, DB, DS, NB, PA, TL, TR, WD, WI.

**CLASS D - WOODY STUMPIED SHRUBS WITH PRICKLY STEMS OR LEAVES**

26. Creeping Oregon-grape, *Berberis repanda*, 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: CR, CS, RN, ES, LA. Localities: CA, CR, EC, ES, MA, KY, LA, LB, MB, PN, PA, RO, SD, SH, SD, SR, TR, WD, WI.

27. Swamp gooseberry, *Rubus lacustris*, is the commonest of the eight wild currants and gooseberries (R. spp.) found in the Seven Devils, but it is only one of three prickly-stemmed *Rubus* species found here. Swamp gooseberries attain about 1.0-1.5 m in height, have 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. niveus*) usually is a much taller plant (1.5-3.0 m) and has longer (7-15 cm) 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 *Rubus* 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, CR, EC, RS. Localities: RD, RH, CA, CC, CR, CS, DB, DS, EC, ES, MA, KY, LA, LG, LB, LE, LY, MH, MB, PA, PN, RA, RS, SA, SB, SD, TD, TR, WD, WI.

29. Baldhip rose, *Rosa angustifolia*, 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 from nine to ten leaflets in their compound leaves, and their five rose-colored petals are 1-3 cm long. Small fruits (fruits) are round to pear-shaped, scarlet or purplish. Habitat: H1, HN, HS. Localities: BL, BU, CC, CH, CS, DF, ES, MA, K1, LA, LG, LB, NB, PA, RH, RN, SA, TL, TR, WR, WD, W1.


**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 shrubs are somewhat less than woody, and in small clumps up to 50 cm tall. The 3-5 cm-long leaves are so deeply divided as to appear to be compound (Figure 31a). This leaf formation indicates that the Seven Devils plants belong to the high elevation variety *A. ludoviciana*. Habitat: HN, HS, TA. Localities: BL, BR, CA, CH, CS, DF, EC, MA, MB, MH, PA, PB, RD, SL, TR, WR, W1.

32. Mountain big sagebrush, *Artemisia tridentata*, is the typical sagebrush (gray-green leaf color, sage odor, compact and woody-stemmed shrubs). It has 1.5-3.0 cm wedge-shaped, triplicate-toothed leaves (lower part Figure 32a), and a large inflorescence (upper part Figure 32b). 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), along Trail 112 near its junction with Trail 56 just north of Gibbs 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 6,400 feet. An example is at Cow Creek Saddle in the northern Seven Devils. Habitat: BS, GB. Localities: BL, BM, BU, CC, CH, CS, MA, HH, LG, LB, PA, PB, RD, SL, TR, WR, W1.

33. Smooth Labrador tea, *Ledum glandulosum*, is a frost pocket dweller found on sites where there are pronounced cold air drainage 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 prisoner's tea, but cannot really be recommended for tea-making as it is known sometime to be poisonous to livestock. Flowers are whitish, clustered at the tips of the stems, and about 1.0-2.5 cm across. Habitat: AL, AL. Localities: BL, BU, BS, BS.

34. Fool's huckleberry, *Gaylussacia fruticosus*, 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-beds of the northern Rocky Mountains. This variety (*glaabata*) has blunt, oval leaf blades which are clustered at the branch tips (Figure 34a). It has reddish-yellow, huckleberry-like flowers (Figure 34b), which fall 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 0.5 m in height. Habitat: WS, LS, BL, RN, RS. Localities: BL, BL, BS, CA, CH, CS, DD, EC, ES, HH, LG, MB, NB, PA, PB, PG, PA, RA, RB, SL, SS, SL, TR, WR, W1.

35. Stinking currant, *Ribes neomexicanum* var. *patens*, 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 35a). 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 are often yellowish 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 white pine (Plant 10) and any of the other white pines. In June, the rust grows down the twigs and into the buds 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 canker seen on whitepine tree are spindle-shaped, pithy, and often with broad-gnarled 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 canker. Habitat: BI. Localities: BL, BR, EC, ES, HD, K1, LG, MB, PA, RA, RN, SA, TR, WR, W1.

Fig. 29. Baldhip Rose or Nootka Roses
Fig. 30. Red Raspberry
Fig. 31. Western Mugwort
Fig. 32. Mountain Big Sagebrush
Fig. 33. Smooth Labrador Tea
Fig. 34. Fool's Huckleberry
Fig. 35. Stinking Currant
36. **Sticky currant**, *Ribes viscosissimum*, is a 0.5-1.5 m-tall shrub with spiny foliage. It has smooth stems and leaves are about 3-6 cm across and somewhat wider than long. It grows in boggy areas close to lakes. 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 flowers are usually solitary and have a glandular upper stem and leaves. It is distinguished from other *Ribes* species by its lack of stem and leaf stipules, its glandular leaf petioles, and its yellowish flowers. It is also distinguished by its glandular leaves and flowers. It is a native of North America and is found in the eastern United States and Canada. **Habitat**: Wet and boggy areas near lakes. **Locality**: NL, MN, WI.

37. **Alpine laurel**, *Kalmia microphylla*, is a small, erect, evergreen shrub that grows to 1 m tall. It has bright pink, bell-shaped flowers, and elliptical, glossy leaves. It grows in boggy areas close to lakes. 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 flowers are usually solitary and have a glandular upper stem and leaves. It is distinguished from other *Kalmia* species by its lack of stem and leaf stipules, its glandular leaf petioles, and its yellowish flowers. It is also distinguished by its glandular leaves and flowers. It is a native of North America and is found in the eastern United States and Canada. **Habitat**: Wet and boggy areas near lakes. **Locality**: NS, NB, VQ.

38. **Bearberry honeysuckle**, *Lonicera involucrata*, is a 0.5-1 m shrub with young twigs that are square in cross-section, and large, oval-shaped leaves that are adaxially hirsute and abaxially pubescent. It is easily identified by the paired yellow flowers and by the two pairs of bracts beneath them (Figure 39a). There is a small spur at the base of the corolla, hidden by the upper bract. **Habitat**: Wet and boggy areas near lakes. **Locality**: NS, NB, VQ.

39. **Utah honeysuckle**, *Lonicera utahensis*, is one of the most common if least noticeable of the Seven Devils shrubs. **Habitat**: Wet and boggy areas near lakes. **Locality**: UT.

40. **Mountain snowberry**, *Symphoricarpus oreoselinus*, is a small shrub that grows to 1 m tall. It is easily identified by the paired white flowers and by the two pairs of bracts beneath them (Figure 39b). There is a small spur at the base of the corolla, hidden by the upper bract. **Habitat**: Wet and boggy areas near lakes. **Locality**: UT.

41. **Pink mountain-heath**, *Phyllodoce empetriformis*, is a low, mat-forming evergreen shrub reaching about 30 cm high. It is found in openings in the whitebark pine (Plant 30) forests. The small, crowded, evergreen leaves are about 1 cm long x 1 mm wide. Corollas are bell-shaped with rolled back lobes (Figure 40a); they are dark pink, borne terminally in clusters, and are less than 1 cm long. **Habitat**: Openings in Whitebark Pine Forests. **Locality**: UT.

42. **Yellow mountain-heath**, *Phyllodoce glanduliflora*, is a low, mat-forming evergreen shrub reaching about 30 cm high. It is found in openings in the whitebark pine (Plant 30) forests. The small, crowded, evergreen leaves are about 1 cm long x 1 mm wide. Corollas are bell-shaped with rolled back lobes (Figure 40b); they are dark pink, borne terminally in clusters, and are less than 1 cm long. **Habitat**: Openings in Whitebark Pine Forests. **Locality**: UT.
Hybrid mountain-heath, *Philippia intermedia* or the hybrid *Philippia squamiflora* f. *squamiflora*, is a natural hybrid from the crossing of pink and yellow mountain-heaths (Plants 31 and 42). Corollas are light pink and are urn-shaped, vs. the deep pink and bell-shaped corollas of the pink mountain-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, NW, NR, RS. Localities: SN. There is no drawing for this plant.

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 fruits are irregular. Small (3 cm long), plump, urn-shaped flowers (Figure 44b), and the .5 cm red berries are sparse. Plants have tiny, oval, pointed leaves only about 1.2-1.5 cm long, and the stems usually are broomlike (Figure 44e) and matted. Habitats: AV, CH, CR, LS, NB, NE, SN, TA. Localities: BS, BR, BB, CA, CD, DP, DR, ES, HA, HH, LN, LG, NR, PA, PG, RA, BB, SB, SE, SL, ST, TR, WD, WP, WY.

**Class 8 - Tracheophyta, Magnoliopsida, Wentherbaceae, Over 5 meter Tall with Alternate or Opposite Leaves** (See also Plants 20, 21, 22, and 36)

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). Here is the variety *panella* (Figure 47a) having rounded leaf tips. It is multi-stemmed and reddish-twigged, up to 2-3 m tall, and has smooth, grayish bark. The oval leaves are simple and alternate, 2-4 cm long, and shallowly toothed mainly on the outer half of the leaf (Figure 47a). The many white flowers come on before leafing, and with their 1-2 cm-long petals (Figure 47b) make a show against the bare hillside of early spring. Fruits resemble miniature apples (Figure 47c), but are dark purplish colored and only 1 cm diameter when ripe. They are edible. Habitats: CH, CS, NN, RS. Localities: BR, BS, CA, CR, CC, CH, CS, ES, EC, HA, HH, NR, LA, LL, LV, NN, PA, PG, RA, SA, SB, SE, SP, TN, TR, WD, WP.

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 pendent 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 at all right angles to the petioles). Mostly this plant is a cayon dweller, but in the Seven Devils, it reaches 7,000 feet. Habitats: CH, CS, NN, RS. Localities: BR, BS, CC, CR, CA, EE, ES, LA, LL, LV, NN, PA, RA, SA, SB, SP, TN, TR, WD, WP.

Mallow Ninebark, *Crotalaria mollis*, probably is the most common shrub on the mid-slopes of Hells Canyon, but appears down to the Snake River and up to about 8,800 feet in the Seven Devils. The light brown bark separates from the stems in many (some must have said orange) pleated and vertical strips. The simple and alternate, bluntly lobed, and notched leaves are 2-3 cm long and somewhat longer than wide. They are similar to those of the sticky current and almost always have two pistils (Figure 47d) (Plant 36), but not glandular or sticky. Flowers are whitish, about 1 cm across, and occur in round-topped clusters. Habitats: BS, RN, RS. Localities: BR, BS, CA, CC, CR, CS, DR, ES, EK, LA, LL, LV, LN, MM, PA, RA, SA, SB, SP, TN, TR, WD, WP.

Snake River squaw currant, *Ribes cereum* var. *coollybrum*, is almost glabrous with egg-shaped fleshy bracts. It is a local variety confined to the Snake and Salmon River Canyons. It is fairly common to the Seven Devils between 5,800 feet and 8,000 feet (for instance, at Dry Diggins Lookout, near McGee's Camp, or along Road 177 in Popoche Creek). Sometimes it is a lonely shrub in the high elevation grasslands, it is thornless, simple, and alternate leafed, dryland currant with small (1.5-2.0 cm wide), round-edged toothed, hairy leaves. Flowers are greenish-white and about .5 cm long, while the currants are about the same length, but dull red. The strongly pungent var. *jubrans* (Figure 48) is also found in the Seven Devils. Habitats: CH, CS, NN, RN, RS. Localities: BS, BR, BS, CA, CC, CR, CS, DR, EC, ES, EK, LA, LN, LL, LV, MM, PA, RA, SA, SB, SP, TN, TR, WD, WP.

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). homepage 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 Sheep Creek on the Berryman-Sheep Creek Divide. A second Sheep Creek locality was found by the wnomens in 1981, along Road No. 1019 on either side of Cold Springs Camp. It is another thornless currant with simple and alternative leaves that are reminiscent of those of the Summer currant (Plant 35), but are smaller (2.5-4.0 cm wide), have less acute lobes, and are less odoriferous. The flowers are greenish-yellow; the fruits (Figure 49b) are black, and both run about 1 cm long. Habitats: NN, NR, RS. Localities: CS, BR.

* Rare
50. **Thimbleberry** (*Rubus parviflorus*), 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 50A). Habitats: BC, BR, RH. Localities: EH, BR, CA, CC, CH, CB, CS, ES, HH, KI, LI, LL, ML, MB, PA, RA, SA, RB, SB, SL, TL, TR, WR.

51. **Black elderberry** (*Sambucus racemosa* var. *melanocarpa*), is an elderberry up to 2 m tall with a conical, cross-colored inflorescence 5-16 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 1-3 mm across. Habitats: LS, RL, RH, RE. Localities: EH, BR, CA, DB, BO, DB, EC, ES, HH, KI, LI, LL, ML, MB, PA, RA, RB, SL, SP, SB, TR, WR, WI.

52. **Birch leaf spirea** (*Spiraea betulifolia*), is the common white-flowered spirea of the Seven Devils. Usually it is not over 0.5 m tall. In the Rocky Mountains and rock ridges, it is an important part of the nurse species, which will form a dense mat of leaves, and spread mainly by rhizomes. The simple and alternate, ovate leaves are finely toothed, except for the basal 1/3 that is entire. Inflorescences are flat-topped, usually about 5 cm wide, and composed of many 5-20 mm-wide, white flowers. Habitats: BR, BS, TA. Localities: HH, BR, CA, CB, DB, DR, EC, ES, HH, KI, LI, LL, ML, MB, PA, RA, RB, SL, SP, SB, TR, WR, WI.

53. **Subalpine spirea** (*Spiraea densiflora*), is the pink-flowered spirea of the higher landforms and streambanks of the Seven Devils. It has fairly fine-toothed, simple and alternate, oblong leaflets about 3-5 cm long. The inflorescence, in birch leaf spirea, is also flat-topped, but instead of being white, it is a rose pink color. It is 2-4 cm across, with individual flowers about 5 mm across. Habitats: LL, RL. Localities: NL, CA, HA, EC, LI, MB, PA, SB, AL, WI.

54. **Big huckleberry** (*Vaccinium membranaceum*), is the tallest of two main Seven Devils huckleberries (see also Plant 43). It grows to 3 m and has larger leaves (2-5 cm long), flowers (6 cm long), and fruits (to almost 1 cm diameter). Generally it is found at somewhat lower elevations than the common huckleberry (Plant 44), but occasionally it can be found up to 7,000 ft. Habitats: BR, BS, HS. Localities: EH, NR, CA, CC, CH, CB, CS, EC, ES, DR, HA, HH, KI, LI, LL, ML, MB, PA, RA, RB, SA, SB, SL, SP, TR, WR, WI.

**CLASS B - HERB WITH GRASSLIKE LEAVES, AMEND GRASSES WITH ROUND AND FLAVELLE STEM**

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 a single, papery bract. The flower with the bracts is called a grass floret (Figure 56A). Florets are usually with white or yellow bracts. Two or more florets arranged compactly and alternately along the branches of the grass inflorescence is called a spikelet (Figure 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-zag peduncle, they are said to occur in a spike (Figure 56A); if pedicellate, they are said to occur in a panicule (Figure 57A). There may be from 1-10 florets in a spikelet.

55. **Spreading wheatgrass** (*Agropyron scirpoides*), is a short (20-20 cm tall), high-elevation grass of the Seven Devils. It has noticeable, 2-3 cm awns that give the spikelets the appearance of forage grasses. These large awns are shorter than those of the 20-50 cm, speckled woollyware bottlebrush squill (Figure 52). Spreading wheatgrass generally has five florets per spikelet and one spikelet per node, while bottlebrush squill generally has one to six florets per spikelet and two spikelets per node. These characteristics, however, often prove to be variable. Habitats: CA, BS, TA. Localities: EH, HH, LG, LA, FS, SB, TR, WR.

56. **Bluebunch wheatgrass** (*Agropyron spicatum*), is a somewhat taller bunchgrass (5-7 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 7,000-8,000 feet. It always has six to eight florets, one spikelet per peduncle and node. Habitats: CA, BS, LI, HH, RH, SB, TA. Localities: BR, CC, CH, CB, DB, HA, HH, KI, LL, LG, RA, RB, SA, SL, SP, ST, TL, WR.
57. **Mountain Brome**, *Bromus arvensis*, is another awned grass, but with the awns only 3-5 mm long. It has pedicellate 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 56*). This is the only very common brome grass of the Seven Devils, excluding the introduced cheat grass (*Bromus tectorum*) of the lower elevations. Habitat: NG, RM, NS. Localities: BL, EM, BB, BU, CA, CC, CR, CS, EC, ZD, DB, HA, HG, HS, KI, LG, NB, PO, RM, SA, SB, SL, SP, TL, TR, ND, WI.

58. Idaho Fescue, *Festuca idahoensis*, probably is the premier forage grass of the Seven Devils. It is a fine-leaved and narrow-leaved perennial bunchgrass, which 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 pedicellate spikelets and only about 3 mm long. Outstanding high elevation grassland (habitat HO), prednisolone. This species occurs along Boise Trail 101 a few miles north of Heavens Gate Lookout, and along Trail 140 out from Dry Diggins Ridge. Habitat: HO, LG, HG, RC. Localities: BB, BU, CC, CR, CS, PO, DB, EC, ES, KI, LG, MB, NA, PO, RM, SA, SB, SL, SP, TL, TR, ND, WI.

59. **Western Needlegrass**, *Stipa occidentalis* var. minor, is the only Seven Devils grass on which the ams are 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 very short pedicel, and are borne on a long spike-like papillose up to 30 cm. Habitat: HG, NW, NS. Localities: BL, EM, BB, BU, CR, CS, DB, BM, LG, MB, TL, SL, ST, TD, ND, WI.

60. **Spike Tritex**, *Trites selinoides*, as the name implies, has a spike-like inflorescence which is a panicle of densely-packed, subsessile spikelets having very short pedicels. The awns are about 5-6 cm long, and are mostly two florets per spikelet (Figure 60A). 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 dense, leafy awns of tritex. Habitat: CS, HG, HG, RM, NS. Localities: BB, BU, CA, DB, ES, MB, KI, LG, NB, PO, RM, SA, SB, SL, SP, TL, TR, ND, WI.

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**CLASS B - HERBS WITH GRASSLIKE LEAVES, ANEMIC GRASSES WITH BROAD AND THICK STEM**

61. **Prairie Junegrass**, *Elymus trachycaulus*, is always a minor component of the low or high grasslands (Habitat 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 Plain. It most closely resembles spike tritex (*Plant 60*), with dense spikelets, panicled inflorescence and mostly two florets per spikelet. The awns, however, are very short (Figure 61B), and this bunchgrass may be somewhat taller than the tritex (up to 60 cm). Habitat: HG, LG, NS. Localities: BM, BU, CS, SL, SA, SP, TL, TR, ND, WI.

62. **Sandberg’s Bluegrass**, *Poa sandbergii* (including *P. secunda*), 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 60 cm in height and often is purple-tinged throughout. There are an extremely wide range of habitats from the river banks to the highest summits of the Seven Devils peaks. It is the only truly anemic grass among the eight considered here (Figure 62B). It is an inflorescence is a light panicle, with 2-4 florets per spikelet. The low height and the fine-leaved, compact clumps are the most consistent identifying characters. Habitat: AL, AV, CR, CS, HG, LG, RM, NS, SB, TA. Localities: LM, BB, BU, CC, CR, CS, ES, MB, PO, RM, SA, SB, SL, SP, TL, TR, ND, WI.

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**CLASS C - HERBS WITH GRASSLIKE LEAVES, SEDGES WITH THREE-RANKED LEAVES AND SOLID STEM**

**Sedges** always have three-ranked leaves, often imparting a triangular shape to stem cross-sections. The flowers are naked, although published by an open brett (Figure 63B) and completely enclosed in another sarc-like bract from which the stamens and pistils protrude at the tip. Flowers are mostly needle-like, thus always occur in spikes (one to several per pedicel). Spikes may be bisexual (Figure 63B) or occasionally unisexual (Figure 63B).

63. **Elk or Geyer’s sedge**, *Carex asperata*, 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 (Figure 64-67), it was chosen as the type of its inflorescence. It produces only one to three seed pods atop each of the 20-40 cm-flowering stems (Figure 63B); its aments are circular in cross-section. It is easily recognized by its distinct inflorescences. Habitat: CR, CS, HG, LG, LS, RM, HS, SB, TA. Localities: All but the highest (HS) and lowest (LB).
64. Hood's sedge, Carex hoodii, is another widely distributed sedge of the moderately moist to drier sites in the Seven Devils. Its frequency is somewhat less than that of elk sedge (Plant 63), and at 30-80 cm tall it is 10-20 cm taller. The first other than grass-like leaves are fully 10 cm or more above underground stems. 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 64a). This sedge is a component of the high grasslands of the Seven Devils (Habitat 9G), sometimes a minor one. Habitats: 9G, 9L, 9M, 9S, 9Z, 18. Localities: All but the highest (9S) and lowest (1B).

65. Lenticular sedge, Carex lenticularis, is named for its lens-shaped fruit and most often found in a lenticel or in the 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 65a). Unlike the two foregoing sedges, each flowering stem has 3-6 flowering heads 1.5 cm long x .5 cm thick (Figure 65b). The flowering heads are the most striking feature of the plant; the upper ones are as long as or longer than the lower. Habitats: 9S, 9M, 9W, 18. Localities: 9M, 9N, 9S, 9Z, 18.

66. Sierra hare sedge, Carex spicata, is named for its long, 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 shallow water or open marshes. Leaves are long and coarse (up to 30 x 1 cm). Habitats: 1S, 1T, 1W, 18. Localities: 1N, 1M, 1S, 1W.

67. Sawbeak sedge, Carex stipata, is named for its large, 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 shallow water or open marshes. Leaves are long and coarse (up to 30 x 1 cm). Habitats: 1S, 1T, 1W, 18. Localities: 1N, 1M, 1S, 1W.

**CLASS 0 - GRASSES WITH GRASS-LIKE LEAVES, SEDGES WITH FLOWERS IN CAPITATE CLUSTERS OR PANICLES, TÉPAIS PRESENT**

Plant: Grass-like 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 66a and 66b). Individual spikes or panicles are so much alike, however, that they are called "tépales."

Flowers usually occur in capitate clusters (Figure 66a) or in panicles (Figure 66b).

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 67a). It is a small plant (10-25 cm tall) that likes wet soils. Ultimately the flowers produce plum black seed pods about 1.5 x 3.0 mm in size (Figure 67b). 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 (remains of elk sedge, Plant 63) and has long floral bracts that reach well above the flower clusters (Figure 68a). Habitats: 1S, 1T, 1W, 18. Localities: 1M, 1N, 1S, 1W.

69. Smooth woodrush, Luzula hickokii, is a different sort of rush than its flowers in spreading panicles (Figure 69a). It reaches 20-50 cm tall and has short but broad leaves (3-4 cm long x 1 cm wide) (Figure 69b) that stay well below the inflorescence. The plum, dark brown seeds of the smooth woodrush are about 1.3 mm long, while those of the small-flowered woodrush, L. pauciflora, usually found on brier sites and at the lower elevations, are under 1.3 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: 1S, 1T, 1W, 18. Localities: 1M, 1N, 1S, 1W.
70. Indian Pond Lily, Nuphar polysepalous, 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, Scirpus aquatilis, has floating leaves and stems up to 1 m or more in length; the narrow leaves (only about .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 their "burs" are up to 1.5 cm in diameter. Habitat: AQ. Localities: BD, CA, EC.

CLASS 5 – MILK-JUICED FLOWERS

Composite Inflorumpens 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 achenes) 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 discoid (Figure 157d). 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 149d), quite simple with a ring of straight and upright bristles (Figure 173b), or more complex, parachute-like structure of straight or feathery bristles attached to a long-beaked achen (Figures 132c and 166a).

72. Orange False Dandelion, Areotaxis aurantiaca, is a common species in the western mountains. A composite with ligulate heads, the corollas are bright orange color and turn purplish with age and drying. The flowering stems are 25-50 cm tall. Habitat: BD, EM, BR, DO, DR, EC, HA, R1, LG, NB, RA, RU, SB, SL, ST, TB, WD, WI.

73. Pale False dandelion, Areotaxis silicosa, 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. Habitat: BD, EM, BR. Localities: BD, CA, CH, DR, R1, R2, PA, SA, ST, TL, TB, WD, WI.

74. Speeding dogbane, Apocynum androsaemifolium, is the only non-composite in this silky-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. Habitat: BN, BR, TA. Localities: BD, EC, LR, NB, RA, RU, SP, TB, WD, WI.

75. White Hawkweed, Hieracium albiflorum, is the only white-flowered, ligulate-headed, and silky-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. Habitat: BD, BR.

76. Hound's-tongue Hawkweed, Hieracium scouleri, var. scouleri var. albertinum, are most common hawkweds of the higher Seven Devils. They are hairy all over, have yellow ligulate heads, entire and alternate leaves that are long and relatively wide (up to 25 cm x 4 cm), and reach about 60-130 cm tall. There are many heads per flowering stem. These hawkweds are difficult to separate and are considered as one here. Habitat: BN, BR, TA. Localities: BD, EM, BR, CA, CH, DO, DR, EC, ES, HA, HH, K1, LG, LI, MN, RB, PA, PC, RA, RU, SB, SH, SL, DF, ST, TB, 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. Habitat: BN, BR, TA. Localities: BD, EM, BR, DO, DR, RA, K1, LA, MN, PC, RA, RU, SB, SH, SL, DF, ST, TB, WD, WI.
Nodding microseris, *Microseris nutans*, is another taprooted, yellow-flowered composite having all ray flowers. This one, however, has cauline leaves as well as basal leaves. These separate it from the false dandelions (Plants 72 and 73). Its solitary-headed flower stems separate it from the hawkweeds (Plants 75-77). All microseris species have basal leaves. Figure 76c, and each of the pappus bristles has a small, membranous scale at its base (Figure 76d). Habitat: RG, LG, RH, RS, SB. Localities: BI, SW, CC, CB, BO, EC, RA, KI, NB, SA, DB, SP, TL, TR, WD, WF, WI.

Common dandelion, *Taraxacum officinale*, needs no introduction. Its lobed leaves are all basal. The plant has milky juice, liggulate flowerheads, and later the parachute pappus atop the long-beaked achenes (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. Habitat: AV, RG, LG, RH, RS, TA. Localities: All but the highest (RS).

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-clinging leaves, pale yellow and all liggulate heads in which the involucral 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. Habitat: RG, LG, RH, RS. Localities: CA, CC, CB, DR, MB, RH, SA, SD, TL, TR, WD.

**Class I - Square-stemmed forbs with a minty odor**

Nettleleaf horsemint, *Aegopogon urticaefolius*, is the most common Seven Devils mint. Its leaves are aptly described by the Latin species name, *urticae*, being the genus of the stinging nettle (see Plant 85). There is a similarity stop, 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). Habitat: RG, LG, RH, RS, TA. Localities: WN, NR, CA, CH, CR, CS, DD, DR, EC, GS, HB, KI, LB, MB, PA, PG, PD, SH, SB, SL, ST, TL, TR, WD, WI.

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. Habitat: AV, CN, CS, RH, RS, TA. Localities: BD, BR, DR, RA, HH, HB, SB, SL, TR, WD, WI.

**Class II - Forbs with prickly or stinging stems or leaves**

Prickly sandwort, * Arenaria scopulina*, 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 these to be uncomfortably sharp. Habitat: AV, CN, CS, RH, RS. Localities: All but the highest (RS) and lowest (LB).

Gray-green thistle, *Cirsium sylvaticum*, is both the most common and the only white-flowered thistle of the Seven Devils. Two purple-flowered thistles, the vary-leaved thistle (*C. variolosum*) 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. Habitat: AV, CN, CS, RH, RS, TA. Localities: DR, EC, RA, HB, LB, MB, NB, SB, SL, TL, TR, WD, WF, WI.
85. Stinging nettle, *Urtica dioica*, has its leaf veins petioles, and main stems covered with stinging hairs (Figure 85b). This adaptation is apparently effective for curtailing browsing by wild or domestic animals. Nettles are the tallest herbs in the Seven Devil Mountains, 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. Shown in the leaves, four-stamened flowers are tiny (1-2 mm long), lack petals, and occur in the inflorescence of spikelets 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 Devil mountains and descends to river level. Habitats: LS, RI, WA. Localities: CR, ES, DR, ES, EL, LS, LV, PA, RA, SA, SB, SD, WD, WF.

CLASS V - SIMPLE- AND OPPOSITE-LEAVED FORMS WITH WHITE OR CREAM FLOWERS
(See also Planta 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 Devil mountains on open ground or bedrock. Flower heads are composed of stalked flowers directly at an angle (Figure 86a), and the heads usually occur in a compound umbel type of inflorescence (Figure 86a). Habitats: AV, CN, ES, RN, KS, TA. Localities: All but the most shady and the highest (NS).

87. Cushion buckwheat, *Eriogonum ovulifolium*, is a cushion-like plant found on the highest peaks of the Seven Devil Mountains. On the summits of the Seven Devil Mountains it often occurs as dull white seeds 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 30 cm above the leaf cushion. Habitats: AL. Localities: HI.

88. Broadleaved montia, *Montia cordifolia*, is a spring-beauty-like plant that can be found alongside almost everywhere in the Seven Devil Mountains, 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, stiff bracts are only two bracts. 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 paws (Plant 128) when both plants are not in bloom. Habitats: CN, LS, RI, RN. Localities: BR, CR, CS, DR, ES, KE, LK, IC, MN, MB, PA, PG, RA, RU, SA, SB, SH, ST, TB, WD, WI.

89. Desert phlox, *Phlox aspericentra*, is the most common phlox of the Seven Devil Mountains. It is a low (under 10 cm tall), mat-forming, narrow-leaved (1 cm long by 1 mm wide), taprooted perennial with white (sometime blush or pinkish), five-petaled, long-tubed flowers about 1.0-1.5 cm across that are more along the leaf margin (Figure 89a). The calyx is ribbed, or keeled (Figure 89c). Plants and leaves are reminiscent of prickly sandwort (Plant 81), but the leaves are not prickly. *Phlox viscidula*, sticky phlox, of the lower elevations of the Seven Devil Mountains is pink-flowered, taller (to 20 cm), and has larger leaves (up to 4 cm long x 5 cm wide). Habitats: CN, CS, RN, TA. Localities: BM, DR, KE, MB, SL, WI.

90. Wood nymph, *Pyrola uniflora*, truly has a delightful, solitary flower. Mostly a resident of the streambanks in the deep shade, it is only 5-10 cm tall and is topped by a lovely, 1.5-2.5 cm-broad, five-petaled white flower having ten incurving stamens (Figure 90b and c). Leaves may appear to be both opposite and alternate on the same plant, so we have also keyed it under Class 4A. Besides the sidebells pyrola (Plant 191), there are two other pyrolas in the Seven Devil Mountains; however, these are more scarce. One is the alpine pyrola (P. amicifolia) that has pink flowers and yellow leaves that are mottled-purplish beneath; the other is the snowbell pyrola (P. globosa) with pinkish flowers, but with roundish, bright green leaves. Habitats: LS, RI, RN. Localities: BR, DO, DR, HA, SB, RA, ST, WD.

91. Scouler’s campanula, *Silene scouleri*, is a good plant on the upper parts of the plant that it is definitely sticky to the touch. There are three other campanulas in the Seven Devil Mountains, but none as sticky as Scouler’s. Reminiscent of bouncing Bet of your grandma’s garden, with 50-70 cm-tall stem, lance-shaped, entire, and hairy leaves up to 15 cm long, a tubular calyx (which unlike bouncing Bet does not inflate with time), and clawed, 10-15 mm-long, greenish-white petals. Habitats: RS, BS. Localities: BR, BU, CH, CS, DR, EC, MB, SB, SH, ST, WI.
92. Bigleaf sandwort, Arenaria macrophylla, is quite different from the prickly sandwort (Plant 81), in that it has much larger, elliptical leaves (2-5 cm long x 0.5-1.5 cm wide), is rhizomatous but does not form dense mats, and usually grows in partial shade. Usually found on drier soils, stems and pedicels are minutely and roughly hairy (Figures 92b and c). Habitats: RR, RS. Localities: CA, CO, CT, DC, DR, EC, ES, HA, LG, LV, NE, PA, PG, RA, RN, SB, SF, ST, TL, TB, WD, WY, WI.

Class V - Simple- and Opposite-Leaved Forms with Greenish-White Flowers (See also Plant 85)

93. Culver's root, Veronica prostrata, is larger of the two bedstraws that occur in the Seven Devils. They are both square-stemmed forb with tiny hooks at the stem angles (Figure 93a) 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, 5. bifolium, is an annual for its shorter height and length, and for its upper leaves which are opposite (bifoliate, Figure 93a). Without support, it sprawls. Stems of goosegrass bedstraw may reach close to 1 m tall. Flowers are tiny, only 1-2 mm across. Habitats: XI, RN. Localities: BD, NU, CS, SC, DR, ES, LG, LV, NR, PA, PG, RA, RN, SB, TL, TB, WD.

Class X - Simple- and Opposite-Leaved Forms with Yellow Flowers (See also Plant 70)

Key to the Seven Devils arnicae: This class contains four arnica species (Plants 94 to 97) that are the commonest in nine arnica species we found in the Seven Devils. Arnica pulmonaria and A. alpina are fairly common in the lower elevation grassy sedge stands, with A. diversifolia and A. pyrethrum occurring commonly in the higher, central Seven Devils. Thus, we are providing a key to the four species here. Please note, however, that the arnicas are quite similar to the groundels (Plants 154-156), both being composites and having radiate heads with yellow rays. Arnicae, however, have opposite cauline leaves and relatively few and large flower heads, while groundels have alternate leaves and relatively many and small flower heads.

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

98. Hairy arnica, Arnica pedunculata, 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, LG, RI, RN, RS, TA. Localities: All but the highest (HS).


96. Hairy arnica, Arnica mollis, also spreads via extensively rooted rhizomes and reaches about 50 cm high. It prefers moist soils. Habitats: LG, RI, RN. Localities: BD, BL, BR, DR, GA, HH, LG, LR, PA, RA, SB, ST, TB, WD.

97. Nodding arnica, Arnica pedunculata, is found mostly in dry meadows or open woods along the west side of the Seven Devils. Habitats: RN, WS. Localities: BD, DR, EC, LG, LS, ST, TB, 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 (LB).

Fig. 92. Bigleaf Sandwort
Fig. 93. Culver's Root
Fig. 94. Heartleaf Arnica
Fig. 95. Mountain Arnica
Fig. 96. Hairy Arnica
Fig. 97. Nodding Arnica
Fig. 98. Piper's Golden Buckwheat
99. *Woody goldenbush*, *Batis horrida var. leucodonta*, is a low (up to 20 cm tall) white-haired 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 confused either as opposite (in this class) or as alternate (in Class E). Flower heads are solitary, but numerous on most plants, with 10-20 rays around the radiate head. Its single and mostly basal leaves separate this plant from the woody sunflower (*Erechtites horrida*; Figure 99c), with which it can be confused because of its similar stature and flowers. Habitate: CR, AP, BS, WI. Localities: BR, RS.

100. Yellow monkey-flower, *Mikania guttata*, 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 twice as broad. The calyx (Figure 100b) continues to enlarge after the two-lipped (or bilabiolate) corolla drops. It may be separated from the other yellow-flowered monkey flower of the Seven Devils (mountain monkey flower, *M. lilliputii*) by the narrow markings inside the snapdragon-like corolla. Habitate: JS, EQ. Localities: C, CL, LA, MA, KE, SE, ST, TB, TR, WI.

**CLASS VII - 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 sets of opposite, if much smaller, and sessile leaves along the upper stem. The two-lipped corolla is typical of the figwort family (Scrophulariaceae). Habitate: SE, Me, RS, SN. Localities: BL, BR, BS, WI. Localities: BL, BS, RS, SN.

102. Small-flowered blue-eyed Mary, *Collinsia parviflora*, is another small flower of a plant. An annual only 3-10 cm tall, it has bright blue-and-white flowers paired from the sides of the opposite leaves or in a small cluster at the top of the stem. This plant is common on clay or dry and dying with the onset of winter. The blue-violet Mary is common with the very similar narrow-leaved colunia (*Collinsia linearis*; Plate 128); their habitat requirements (in open partially shaded areas with variously moist, but later drying soils) must be almost identical. Habitate: BS, ES, WI. Localities: BL, BS, CA, C, CH, CS, RS, SE, SO, WI. Localities: BL, BS, WI.

103. Common and Idaho *Frazeria*, *Frazeria albiclavus* var. *albiflora* and *Frazeria albiclavus* var. *albiflora*, are included here because of their beauty and rarity. They are striking plants with dense clumps of white-margined, three-lobed, dark green, lanceolate, 5-30 cm tall basal leaves with a few pairs of much smaller and opposite cauline leaves above. Plants are topped by a showy and crowded inflorescence of clustered flowers of four-petals, 1-2 cm wide, blue flowers (Figure 103a). The Idaho *Frazeria* (var. *albiflora*) first was found in the southern Seven Devils near Rupert, Idaho, by pioneering botanist William Culick in 1899. It is rare. Both varieties of *Frazeria* have petals, the bases of which bear tiny, fringed appendages called ovate scales (Figure 103a, b, c, d). The variety *albiflora* has stems and clusters being glabrous throughout (vs. *Frazeria* var. *albiflora*), has more deeply and completely lobed leaves (Figure 103a vs. 103b), and has more deeply lobed leaves (Figure 103a vs. 103b). Habitate: BS, ES, WI. Localities: (var. *albiflora*) CH, CS, RS, SC, TR, WI. (var. *albiflora*) K. K.

104. Mountain bog gentian, *Sagina sagittata*, is in the striking, deep blue-flowered plant featured on the front cover of this booklet. A low, sparsely-leaved 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. Habitate: JS, ES, RN. Localities: BS, RS, WI. Localities: BS, C, DO, EC, KS, KI, L, WI, SH, SL, TB, TR, WI.

105. Shrubby penstemon, *Penstemon cyanus* var. *sericus*, can be seen in the Seven Devils nowhere there are cliffs or bedrock outcrops at the 7,000-8,000 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 unequaly two-lipped as characteristic of the figwort family (Scrophulariaceae). See also Figures 100a, 101, 106a, 107b, 112, 179b, and 180b. The cauline leaves are short and pointed, 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. Habitate: AP, WS, CW, CS, SE, RS, ME. Localities: All but the highest (RS) and those below 6,500 feet.

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Plant Location Guide showing road and trail segments described in Table 3, page 10.
Key to the Eight Most Common Seven Devil Penstemons:

1a. Anthers with densely long, woolly, tangled hairs
2a. Leaves all cauline, plants herbaceous
2b. Leaves tending to cluster at plant base, plants woody below

1b. Anthers with glabrous or only short, straight hairs
3a. Flowers cream-colored; plants woody at base
3b. Flowers blue, lavender, violet, purple, or pinkish
4a. Anthers horse-shoe-shaped
4b. Anthers wing-shaped
5a. Plants with glandular inflorescences
5b. Plants not glandular in the inflorescences
6a. Inside lower lip of the corolla bearded
6b. Inside lower lip of the corolla glabrous

P. montana v. indahanza
P. fruticosus v. araris
P. densius
P. reptans
P. wilcoxii
P. allensiana v. militaria
P. globosus
P. pavetennias

106. Globe penstemon, *Penstemon globosus*, is the most common Seven Devil penstemon, named for its globular masses of tiered flowers (Figure 106a). It ranges from about 6,000-8,000 feet, mostly growing in the grasslands or in forest openings. Plants reach 60 cm tall, have 2.5-3 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: All but the highest (US) and the lowest (LA).

107. Blue Mountain penstemon, *Penstemon reptans*, was first collected by the British botanist David Douglas in the 1820s. 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: CK, CA, NC, RS, TA. (Often a cliff-dweller). Localities: BD, BL, BR, CC, CH, DR, EC, HH, XI, NB, LA, FA, PA, GA, CA, SP, T, LB, WI, DE, W, W, W.

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 former penstemons. Habitats: R, BS. Localities: BD, BL, BR, BB, CB, DR, DB, EC, HH, XI, LB, NB, PA, RB, GA, CA, SP, T, LB, WI.

109. Thyme-leaved speedwell, * Veronica serpyllifolia*, is the smaller of the two Seven Devils speedweeds, reaching only 20 cm tall. It prefers moderately dry to damp soil and mixed high elevations, mostly above 7,000 feet. The oval leaves are short and relatively wide (about 1.5 x 1 cm), the flowers are tiny (4-9 mm across), four-parted, and bright blue (Figure 109b). The plant is deciduous (Figure 109a). The flower speedwell is the brooklime, or American speedwell. It prefers moist or wet soils, but is much taller (to 80 cm), and larger leaves (to 6.0 x 2.5 cm), and usually is found at lower elevations. Habitats: LS, XI, BR. Localities: BD, BL, BR, BB, CB, DR, DB, EC, HH, XI, LB, NB, PA, RB, GA, CA, SP, T, LB, WI.

CLASS 2 - Z-MIKE AND OPPosite-Leaved Forms WITH RED, PINK, OR MAGENTA FLOWERS

(See also Plants 39, 74, 67, 89, 106, and 176)

110. Common prince’s pine, *Chimaphila umbellata*, is an evergreen member of the hout family (about 15-30 cm tall), having whorled and toothed, lanceolate leaves about 4-7 cm long and 1-2 cm wide. The pinwheel-like center, clustered, 1.0-1.5 cm across, the pink flowers are borne on a 5-10 cm peduncle, well above the upper whorl of leaves. Another and much less common Seven Devil 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: R, BB. Localities: BD, BL, BR, BB, CB, DR, DB, EC, HH, XI, LB, RB, GA, CA, SP, T, LB, WI.

111. Western spring beauty, *Cleomnella lanceolata*, has an inflorescence with several pinkish-linied (occasionally white) flowers to 2 cm across, and paired 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-colored, 0.5-2.0 cm-diameter bulb. The plant prefers deep, moist soils. The alpine spring beauty, C. stagnina, is rarely found in the Seven Devils (see the discussion with Plant 188). Habitats: LS, R, BS. Localities: BD, CB, DR, LB, FG, RH, SL.

112. Alpine willow-wed, *Pallium alpinum*, mainly var. alpinum of the mid-elevation (5,500-7,500 feet), but also var. alpinum and var. stagnina of the valley slopes, is the most common of the six willow-weds of the Seven Devils (see also Plant 188). 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, R, BS. Localities: BD, BR, BB, CB, PC, PD, DR, EC, HH, RA, RB, XI, LS, LG, MB, PA, PG, RA, RH, SJ, ST, T, LB, WI.
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-petaled, 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 are either entire or toothed. They range from 3.7 cm long by 1.0-3.5 cm wide. Habitat: LS, El, W. Localities: BR, B, W, ML, ST, TR, MD, WI.

114. Dwarf purple monkey-flower, _Mimulus pauciflorus_, 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 over 1 cm long, and has small leaves (2b) to 3.5 x 1.0 cm. It is usually single-flowered in the Seven Devils, looking like a shorter-peduncled version of the small plants of Figure 116c. Habitat: LG, RS, SC, J7A. Localities: SA, TR.

CLASS AA - SIMPLE- AND ALTERNATE-LEAVED FLOWERS WITH WHITE OR CREAM COLORS AND ONLY BISexual LEAVES (See also Plants 64, 67, 97, 99, 138, and 196)

115. Pusstgrass, _Sporobolus megalolobus_ (syn. _Calycanthus megalolobus_), prefers dry, gravelly soils (including weathered, basaltic scree in the area of Trails 12 and 96, or southwest of the trailhead at Windy Saddle). It has tight, globular clusters (1.5-4.0 cm diameter) of small (0.5-1.0 cm long) and soon-withering, white to pinkish flowers, held on peduncles; a few centimeters above the rosette (2.5-4 cm long) tongue-shaped leaves. It may have a few small, leaf-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 involucres. Habitat: RS, SC. Localities: BM, BR, FG, PO, BS, SL, ST, TR, WI.

116. Gooseberry-leaved Almunroot, _Oreochilus gracilis_ (syn. _Agrimonia gracilis_), is the small-leaved to 2.5 cm wide, small-leaved (4-5 cm long), with thin and long petals (2 cm x 6 mm). This almunroot is of the variety in which the petals extend beyond the bases (var. _agrimoniifolius_). It is the most common almunroot found on many of the moist Seven Devils cliffs, bedrock outcrops, or talus slopes. Roundleaf almunroot, _A. reniformis_, also occurs here but only sporadically. This latter almunroot can be recognized by its longer calyces (4-6 mm) along with petals that are shorter than the sepals. Habitat: AV, GR, CS, EL, BR, RS. Localities: BR, BB, NC, CA, CS, CD, DR, EC, ES, MA, BR, KR, PG, RS, SA, SB, SH, SL, ST, TR, WI.

117. Brook saxifrage, _Saxifraga oppositifolia_, can be found along the banks of almost any Seven Devils stream and often on damp cliffs, from 500-2500 feet. The almost round, evenly-notched leaf blades run 2-6 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 broadleaf beaver (plant 6), which has similar habitat requirements. Habitat: CS, GR, W. Localities: BR, BB, CA, CS, DD, DR, EC, ES, MA, TD, X, LG, MA, BR, FA, SG, FA, PG, PG, FB, SB, SL, ST, TR, WI.

118. Small white violet, _Viola microlaxa_, is a genus of white violet most often found on lake beds 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 15-1.0 cm-long white flowers are purple-lined. Habitat: LS, FR. Localities: BR, BB, EC, MA, SB, SL.

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. In good beargrass years, a small clump can be a spectacular sight. Then, there are countless 1-2 cm-thick and 1-2.5 cm-tall, white flower stalks, each topped with 5-10 cm-wide, columnar masses of 1.0-3.5 cm-long, woody-stemmed, six-petaled white flowers (Figures 10g and f). In the average year, however, there may be only a few straggly flower heads of none. The basal leaves are grasslike, long (15-60 cm) and narrow (1.5-4.0 mm, Figure 119a), and have one or two teeth along the edges (Figure 119b) that can cut fingers deeply. The plants defy hand uprooting, coming from deep (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 119c). In the Seven Devils, beargrass is above 6500 feet. The best patches are in forest openings along the road from Riggs to Windy Saddle at 5500-6500 feet elevation in the Head of Shingle Creek. Because the leaf-like leaves of the flowering stalks are alternate, this plant is also listed under Class CC. (Locality PA). Habitat: LS, BR, RS. Localities: EC, ES, MB, BB, FA, W.}

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Fig. 113. Lewis' Monkey-flower
Fig. 114. Dwarf Purple Monkey-flower
Fig. 115. Pusstgrass
Fig. 116. Gooseberry-leaved Almunroot
Fig. 117. Brook Saxifrage
Fig. 118. Small White Violet
Fig. 119. Beargrass
CLASS BR - SIMPLE- AND ALTERNATE-LEAVED FLOWERS WITH WHITE OR CREAM FLOWERS & CAULINE LEAVES

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 monkshood (see Figure 191) or upland monkshood (see Figure 164a) are cut out to the midrib into leaflets, and thus are compound. Columbia monkshood is a tall plant mainly of shady stream-bottoms, reaching 1.5 m in height. Over most of its wide West 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 aconitine that is a heart and respiratory stimulant. Habitats: LS, MW, NW. Localities: BR, CA, CO, OR, WA, NM, CO, NM, PA, PG, RA, RN, WM, ND, TX, MO.

121. Pearly everlasting, Anaphalis margaritacea, is a small and daisy-like (or rayless) composite with white-hairy, lanceolate leaves up to 1 cm long x 0.3 cm wide. Although the tiny disc flowers are obscure, the pearly-white involucre bracts of the head are shown enough to name the plant. Often it is found in open meadows and may be common all over North America, but in Idaho it is most common at elevations below those of the Seven Devils. Habitats: LS, RW, NW. Localities: All but the highest (H).

122. Big-pod mariposa lily, Calochortus (or Anemone) maculata, 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 large, creamy-white flowers are 5 cm or more across. The petals have conspicuous, 1 cm-wide, semi-circular, purple blotches midway down them. The seed pods are three-ribbed and 2-3 cm long. The csa-ear, or elegant wise lily (Anemone), 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-flowered mariposa). Habitats: RG, RN, RW, NW. Localities: BR, CA, CO, LA, LI, LO, RA, NU, RW, TN, MO.

123. Broad-fruited mariposa lily, Calochortus nitidus, is quite a different mariposa lily from the previous mariposa. It is also tall (up to 60 cm) and large fruited (up to 3 cm long), but has only a narrow, crescent-shaped purple mark on the petal. This mariposa is fairly rare (see Stace et al., 1981). Primarily, it is a plant of lower grasslands (Habitat LG). Habitats: LC, RN, RW. Localities: CO, CA, KL, TG.

124. Narrow-leaved coltsfoot, Colchicum 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 cm long and 1-3 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 GS and FD. The plant is transitory, dying and drying by late summer. Habitats: RG, JG, RW, JS. Localities: BR, CA, CH, CR, CS, CO, OR, RA, LI, LA, LS, NS, PA, SA, SB, SL, ST, TL, WM, WF.

125. Deceptive groundsmoke, Gayaeanthus decipiens, and its look-alike dwarf groundsmoke (G. humilis) are almost indistinguishable. They are low (15-25 cm tall) annuals, often on disturbed soils, and often found with one or more of Plants 123, 124, and 186 on bare and eroding hillsides, tracts, roads, fields, and heavily-grazed grasslands. The tiny white-to-pinkish flowers are about 1 mm across and are produced continuously at the ends of diffuse inflorescences (Figure 125b) as the plant elongates. Below are short and whiny leaves about 1-2 mm long x 1-2 mm wide, plus the least-like and petitioner seed pods that are about the same size. Habitats: RG, LG, RN, RW. Localities: RW, NS, DO, BA, MA, LI, HS, PA, DO, ST, TN, CO, DO, BR, SC, ES, HA, HD, XJ, OR, RA, PA, PG, RA, SU, SB, SL, ST, TN, MO, WI.

126. Alpine knotweed, Polygonum rhizomaeforme, growing in tall (1.0-1.5 meters) 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 extending from 1.0-2.0 cm-long inflorescences are composed of tiny, 2.5-3.0 mm-long white to greenish-white flowers. The leaves-clasping leaves are sessile or short-petiolate, entire, broad-lanceolate, and 5-12 cm long. Habitats: RG, RN, RF, RS. Localities: BR, CA, CO, CO, CO, OR, RA, PA, PG, RA, SU, SB, SL, ST, TN, MO, WI.
127. Clumping-leaved twisted-stalk, *Streptopus amplexifoliis*, is a 1-2.5 meter-tall, 111-faceted plant with clumped upper stems and broad-lanceolate, entire, serrate, and parallel-veined, all-carnal leaves that clasps the stem and are about 5-10 cm long x 2-5 cm wide (Figures 127a and b). Flower and fruit pedicels are in two sections (Figures 127a and b) that together run about 1.5-2.5 cm long. Each carries one creamy-white to greenish-yellow flower about 1-0.5 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. Lack of flowers or fruit in the base halves of the plant makes them quite difficult to separate from other species. Clumping-leaved twisted-stalk is one of the few *Streptopus* species that has paired white flowers or red fruits at the very ends of the branches of the stem (Figure 127c). The other is the false Solomon's seal (*S. racemosus* or *S. gramineus*), which has unbranched upper stems and flowers borne in clusters in the very tip of the stems (Figure 127f). Habitats: R, R. Localities: B, D, E, F, H, M, N, S, T, W, N, S.

128. Globeflower, *Trollius leontopetalus*, is a shade-loving 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 stem. The pointed seed pods, produced in a head (Figure 128a), are about 1 cm long and are strongly cross-veined (Figure 128b). Habitats: L, S, W, N. Localities: B, N, D, L, M, P, B, E, S, T, W, N.

129. California false heliabore, *Veratrum californicum*, is another tall (1-2 m) and very long-leaved (20-30 cm x 10-20 cm) lily family plant. The sessile, entire, and (in mid-summer) clamping leaves are topped by an impressive 30-60 cm long white-flowered inflorescence. This 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 heliabore, as along the Black Lake Road south of Placer Basin. Habitats: R, W, N. Localities: R, B, L, C, C, C, D, B, E, B, N, N, B, S, S, T, W, N.

130. Meadow deathcamas, *Zigadenus venenosus*, mainly of the low grasslands (Habitat L), is the most toxic-toxoplastic plant of the Seven Devils. It reaches 50-60 cm tall, with long (to 30 cm), thin (3-6 cm wide), upper-stem leaves that clasps the stem. The multi-flowered inflorescence is about 10 cm long and composed of creamy-white, pedicled, and three-parted flowers about 1 cm across. The seed pods also are clustered at the top of the stem. They are about 10-15 cm long and occur in groups of three (Figure 130b). There are another deathcamas in the Seven Devils, the elegant deathcamas (Plant 145). Habitats: L, G, R, N, Q, S. Localities: B, C, S, K, R, S, A, S, T, L, W.

CLASS CC - SIMPLE- AND ALTERNATE-LEAFED FORMS 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.

<table>
<thead>
<tr>
<th>4a. Upper leaf surfaces distinctly less hairy than the lower</th>
<th>A. racemosa</th>
</tr>
</thead>
<tbody>
<tr>
<td>4b. Upper leaf surfaces as hairy, or almost as hairy, as the lower</td>
<td>3a</td>
</tr>
<tr>
<td>4c. Plants not forming with numerous leafy stalks</td>
<td>3a</td>
</tr>
<tr>
<td>4d. Outer involucral bracts brownish and white and blunt-tipped</td>
<td>A. umbellata</td>
</tr>
<tr>
<td>4e. Outer involucral bracts blackish-green and sharp-tipped</td>
<td>A. alpina</td>
</tr>
<tr>
<td>4f. Plants not forming with without stems</td>
<td>A. microphylla</td>
</tr>
<tr>
<td>4g. Plants base densely short-hairy</td>
<td>A. longata</td>
</tr>
<tr>
<td>4h. Plants only 10-20 cm tall</td>
<td>A. amphiocarpa</td>
</tr>
</tbody>
</table>

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 Devil everlasting, and reaches 10-30 cm tall. Habitats: R, Q, L, S, R, R, S. Localities: All but the highest (RS) and the lowest (LR).


Fig. 127. Twisted-stalk

Fig. 128. Globeflower

Fig. 129. California False Heliabore

Fig. 130. Meadow Deathcamas

Fig. 131. Rosy Everlasting

Fig. 132. Slender Everlasting

Fig. 133. Brown Everlasting
Rockrose species: There are at least ten rockrose (Arabis) species in the Seven Devils, of which only one is moderately rare and two common species are named below.

134. Cross-haired rockrose, *Arabis cruciata* is included here because it is moderately rare and local, being confined to Hell's Canyon, the Seven Devils, and the lower Clearwater River Valley. It was found and described in 1931 by Lincoln Constance and Reed Rollins, then Washington State College graduates. It is a rather nonspecific, perennial plant, growing approximately 40 cm tall and having small (1.0-1.8 cm wide), four-petalled, white flowers with narrow, erect seed pods about 2.0-2.5 cm long. The leaves are entire and midrib basal, with their undersides covered with stalked, cross-shaped hairs. Habitation: EC, RM, SK. Localities: DH, SN.

135. Hairy rockrose, *Arabis bicornis* var. glabrata, is another four-petalled, white-flowered rockrose, but one that is quite common and much taller (to 1 m) than the foregoing species. It has entire and ovate cauline leaves that are satiny on either side of the midrib at their bases; they are 2-12 cm long, the biggest 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 are often 2-3 cm long (Figure 135a1). Although straight to slightly curved at the base, the plant is glabrous above (Figure 135b), and the seeds are erect (point upwards, Figure 135c). Its look-alikes, *H. clethroides* (Plant 138), can be distinguished by the flowers and white, daisy-like pendent seed pods. Seed pods are about 4-6 cm long and only 1.0-3.5 cm wide in both species. Habitation: EC, RM, TA. Localities: DH, BR, BU, CA, CR, CS, DP, DR, MA, HH, LG, MB, NB, BG, BU, 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 leaf-like 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-tipped and striped, serrated, brownish leaves that are about 4-6 cm long and 2-4 cm wide. Habitation: EC, RM. Localities: DH, EC, BR, BU, CR, CS, DS, DR, MA, HH, LG, LV, MD, PG, RA, RB, SA, SB, SF, TR, WD, WI.

137. *Pulsing halimolobus*, *Halimolobus perplexus* var. perplexus, is a small and non-dominant, rare and cordate variety of the mustard family. It has been recommended for federal protection status, an example of endangered species in the foreseeable future because of its limited habitat (see Steele et al., 2001). Its main distribution lies along the north of the Little Salmon River between Higgens and Lake McDonald, as it is surprising to find it in the Seven Devils. It was found near Cold Springs and Coo Camp, and along the Sheep Creek Trail (probably Trail 112) as well as along the South Mountain Road (112). It is a multi-stemmed, 25-35 cm tall plant with sessile, pointed leaves and peltate basal leaves, both of which are folded and about 2-3 cm long. The flowers are only about 1 cm long and wide, with the narrow, erect seed pods 1-2 cm long, and only about 1 mm wide. Localities: EC, TR.

138. Fringed grass of Parmassus, *Parmassus frigidus*, commonly grows on the banks of the higher and more open streams, or on wet cliff faces. It has a single, leafy-bracted inflorescence up to 40 cm long, the peduncle as included in this class and in *Agrimony*. The small, nonflowering plants are reminiscent of broad-leaved melilot (Plant 88), with their heart-shaped, almost succulent, and long-petiolate leaves, but grass of Parmassus usually grows in much larger clumps and has single white flowers almost 2 cm across. Habitation: EC, RM. Localities: DH, BR, BU, CR, CS, DS, DR, MA, HH, LG, RA, MB, SB, SL, TR, WD, WI.

139. Varilae Phacelia, *Phacelia heterophylla*, has entire, sessile upper leaves (usually in the inflorescence) as well as deeply- to five-trifoliate and peltate 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-brown, the lower ones being deeply lobed (almost compound) and having 6-8 cm-long blades. Flowers are dull white, resembling purple, only about 0.5 cm long and wide, with the anthers protruding from the corolla. (Figure 139b). Habitation: EC, RM, TA. Localities: BR, BU, CR, CS, DS, DR, MA, HH, LG, RA, MB, SB, SL, ST, WD, WI.

140. Bistort, *Polygonum bistortoides*, is a knotweed having worldwide distribution and known medicinally for the astrigent (or memory-shrinking) properties of its root. Usually found in swampy or muddy soils, it is easily recognized by the 40-60 cm tall stem topped with a 2-4 cm-wide, 5.0-7.5 cm-wide, white flowerhead (Figure 140a) having many 1.5 cm-wide flowers with protruding stamens (Figure 140b). Cauline leaves are sessile and clasping; the basal leaves are long-petiolate and up to 15 cm long. Habitation: EC, RM. Localities: BR, DR, SH, SL, TR.
141. *Sidebells pyrola*, *Pyrola secunda*, as the name implies, has second flowers (i.e., they grow mostly off one side of the peduncle, Figure 141). It is a small plant only 3-15 cm tall with mostly caulin leaves that are 2-5 cm long, entire, short-petiolate, round-ovate, and blunt 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: RE, RS. Localities: BD, BL, BR, BU, CH, CR, DR, ER, ES, IS, LA, LG, MG, MB, PA, PA, RA, RU, SA, SB, SF, ST, TR, WD.

142. *Matted saxifrage*, *Saxifraga brounichiana*, 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-petalled, 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 3-12 cm long x 2-0.5 cm 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: HS, TR, WD.

143. *Fendler's pennesoure*, *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 (1.5-1.25 cm long x 1-5 cm wide) that are borne on horizontal or 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-petalled flowers are about 3 cm across, and have 1 cm-long pedicels. Habitats: AV, CR, CS, EA, EA, SE, TA. Localities: BN, BU, BR, CA, CC, CH, CR, DR, ER, ES, LA, LR, MB, FG, BA, SB, SN, SL, 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 small deathcamas (Plant 138) because the 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 144a). 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 144b. Habitats: RE, RS, WM. Localities: SR (three different places).

**CLASS DD - SIMPLE- AND ALTERNATE-LEAVED FORBS WITH GREENER 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 such the commoner of the 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 caulin leaves that are clumping 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: RA, RN. Localities: DR, RA, LG, RD, WD.

146. *Douglas' knotweed*, *Polygonum douglasii*, is a low (15-20 cm tall) monocot, weedy plant mostly of disturbed soils, as in the heavily-grazed, high or low Seven Devils grassland. The caulin leaves are lanceolate, but being of the variety *tenuifolia* (2-4 cm long x 0.1 cm wide, Figure 146a) are somewhat wider than those of the typical variety (var. *douglasii*, Figure 146b). The flowers are insignificant (only 2.5-3.5 mm long) and greenish-white, sometimes with reddish margins. Habitats: AV, BR, LG, RS, TA. Localities: BN, BR, BR, CA, CC, CR, CS, DS, ER, EA, LA, MG, MB, PA, RA, RU, SA, SB, SL, TL, TR, WD, WF, 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 caulin 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: RD, LG, LN, RS, TA. Localities: BD, BR, BU, CA, CH, CR, CS, DS, DR, ES, KI, LG, LR, MB, PA, RA, RU, SA, SB, ST, TR, WD, WF, WI.
Western Stenanthium, *Stenanthium occidentale*, is an uncommon, 20-80 cm lily with 1.0-1.5 cm, three-parted flowers with greenish-yellow and sometimes red-edged petals (Figure 146b). 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 spurred-like cauline leaves. Plants arise from fairly shallow perennial bulbs which are 2-4 cm long. Habits: RH. Localities: PA, NJ, VT.

**Class RF - SIMPLER, AND ALTERNATE-LEAVED FORMS 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 thousands of yellow flowers turn the canyonsides golden. It is much more scattered, but still impressive, at 5,000 feet and up. A woody-lapleaved 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 and are surprisingly showy. The single-headed flowering stem reaches 70 cm tall, making the flower heads highly visible. They usually have one or more lanceolate and much shorter cauline leaves. Habits: RG, LG, NR, MS, GB. Localities: NE, CA, CC, CA, CO, CA, OR, WA, WI, KI, CA, NE, OK, KS, MI, WI, MN, IA, MN, SD, MT, WY, WY, WY.

150. Dogtooth violet, *Erythronium grandiflorum*, is a well-known common lily that is very common in the Seven Devils and well-known throughout the northwest. The one- to three-parted, deep yellow-petalled flowers reach 5-6 cm across (often with two or more per 10-20 cm-long peduncle). Both stems and styles protrude beyond the reflexed petals. Usually there are two alternates, although opposite-appearing, leaves (10-20 cm long x 1-2 cm wide) near the bottom of the stem. Habits: AV, LS, MR, NR, RS, SW, SM, WH. Localities: All but the highest (HD).

**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. Flowers under 1 cm wide, do not have a spathulate tepal
   2a. Flowers under 1 cm wide, do not have a spathulate tepal
   2b. Flowers 1-2 cm wide, do not have a spathulate tepal
   2c. Flowers 1-2 cm wide, do not have a spathulate tepal

1a. Flowers under 1 cm wide, do not have a spathulate tepal
   3a. Flowers 1-2 cm wide, do not have a spathulate tepal
   3b. Flowers 1-2 cm wide, do not have a spathulate tepal

2a. Flowers under 1 cm wide, do not have a spathulate tepal
   3a. Flowers 1-2 cm wide, do not have a spathulate tepal
   3b. Flowers 1-2 cm wide, do not have a spathulate tepal

3b. Flowers 1-2 cm wide, do not have a spathulate tepal
   4a. Flowers 1-2 cm wide, do not have a spathulate tepal
   4b. Flowers 1-2 cm wide, do not have a spathulate tepal

4a. Flowers 1-2 cm wide, do not have a spathulate tepal
   5a. Flowers 1-2 cm wide, do not have a spathulate tepal
   5b. Flowers 1-2 cm wide, do not have a spathulate tepal

151. Subalpine buttercup, *Ranunculus eschscholtzii var. eschscholtzii*, is the most common, high-elevation, Seven Devils buttercup, occurring on the cirque floors or lichen-covered peaks above 7,500 feet. Like Plants 120, 164, and 191, it has simple cauline leaves 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-petalled and many-stamened buttercup about 1-2 cm across. Habits: AC, LS, RG, RS, SW, SW. Localities: NE, NE, NE, NE, NE, NE, NE.

152. Little buttercup, *Ranunculus unciatus*, is the common, low-elevation, Seven Devils, buttercup, occurring mostly between 5,000 and 6,000 feet. Sometimes it has a few three-leafed 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 a small buttercup, to 50-60 cm tall. The 3-4 mm-long yellow petals are shallow, so often the plant is seen with only the immature stems (top of Figure 152). Habits: LS, LS, NR, WH. Localities: NE, NE, NE, NE, NE, NE, NE.

153. Lanceleaf stonecrop, *Sedum lanceolatum*, and wortleaf stonecrop, *S. stenophyllum*, 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 perch on 2-5 cm-tall flowering stems that are easy to see and remember. But the flowering stems soon go to seed. The very low, nestled, often reddish, overwintering basal leaves are more difficult to see. The wortleaf stonecrop has more pointed leaves (d). The other Seven Devils stonecrop, kings crown (crown) found at higher elevations, has persistent and flattened cauline leaves and purple flowers. Habits: AV, RG, RG, RS, MS, VR, RS, SA. Localities: All the highest to the lowest.

154. Thick-leaved groundsel, *Senecio crassuloides*, is the most common of six groundsel known to be in the Seven Devils. They are all key at the top of the following page. Two reach 60 cm, has yellowish-loved lanceolate and petiolate basal leaves, to 10 x 4 cm, and successively smaller and more serrate cauline leaves. The several radiate flower heads commonly have about eight ray flowers that are 1.8-2.5 cm across. Habits: RG, RG, RG, RS, GB. Localities: All but the highest (RS) and the lowest (L).
Key to the Seven Devils groundsel: Beside the three most common groundsel (Plants 154-156), there are three more species named below. Groundsel might be described as alternate-leaved, birch-like flowers, but with more or smaller yellow flower heads. They are composites.

1a. Plants usually glabrous...  
2a. Plants with at least 10 cm tall...  
3a. Plants with a dense head...  
4a. Cauline leaves deeply lobed...  
5a. Triangular...  
6a. Leaves triangular...  
7a. Plants hairy with stiff long and cobwebby hairs...  
7b. Plants hairy with stiff long and cobwebby hairs...  
8a. Plants hairy with stiff long and cobwebby hairs...  
9a. Plants hairy with stiff long and cobwebby hairs...

155. Rocky Mountain butterweed, 

156. Arrowleaf groundsel, 

157. Canada goldenrod, 

158. Round-leaved violet, 

159. Purplish yellow violet, 

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

160. Jeffrey's shooting star, 

161. Cusick's primrose, 

58

59
**Class 66 - Simple and Alternate-Leaved Plants with Blue, Violet, or Purple Flowers and with Cylindrical Leaves Only** (See also Plants 124, 171, 172, and 173)

**Key to the Seven Devils Hairbells or Bluebells:**

1a. Flowers and seed pods erect, basal leaves lanceolate, plants under 20 cm long... **C. sambrella**

2a. Flowers 1-5 per inflorescence, plants short, stiff, hairy throughout... **C. sambrella**

2b. Flowers solitary, plants mostly glabrous... **C. patens**

2c. Seed pods 3-12 mm long, corolla 8-15 mm long... **C. patens**

2d. Flowers and seed pods nodding, basal leaves round to oval, plants over 30 cm... **C. rotundifolia**

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

162. Rough harebell, *Campanula sambrella*, is known only from three populations in Idaho, one of which is in the Seven Devils Mountains (Windy Saddle and Polioock Mountain). The mostly solitary, bell-shaped blue flowers are about 8-10 mm 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 native *Campanulas*, and one taller one, that are keyed above. Habitats: CN, CS, NW, RS, TA. Localities: PH, W, T.

163. Alpine colomla, *Cololoma eschaliata*, is a noteworthy plant compared to the annual and insignificant narrow-leaved colomla (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 mm long, light violet (occasionally pinkish or even cream-colored) flowers, these mats may be spectacular. Corollas are five-parted and funnel-shaped. Our variety (nobilis) has bluntly pointed, oval leaf blades about 2 cm long x 1 cm wide. Habitats: TA. Localities: RS, 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 15-60 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 conspicuous long-spurred, mascarading as petals on the outside. The four real petals are inside the sepals. The upper pair are more 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. depuratum*) grows in only a small cluster of sandy soils. Habitats: RG, LC, HH, RS, CB, TA. Localities: BM, BN, BR, CC, CH, CR, DC, DB, ES, HA, HH, K, LT, LB, LB, RB, PG, SA, SH, ST, TL, TR, WD, W, W1.

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 104 perhaps a 1/2 mile down the dry draw at the head of the East Fork. It is reminiscent of the tall, "Floralis Hybrid," garden delphinium. Read the discussion on delphinium flowers (Plant 164). Habitats: KI, NW. Localities: RS, 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 (2.8 cm long x only 0.3-0.5 cm wide) with many of them on each branch of the stem. Stems are topped by an inflorescence of showy and large (2-3 cm wide), narrow-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: RG, BN, RS. Localities: BM, BR, BD, DB, HA, HH, K, LT, LB, RB, PG, SA, SH, SL, ST, TL, WD, W, W1.

167. Clustered broomrape, *Orobanche fasciculata*, lacks chlorophyll and is a root parasite on other green plants. It is in quite variable in respect to both its color and its hosts. In the bottom of Hole Canyon it is purple and parasitic on snow-bushrose (*Eryngium alpinum*, see Fig. 32c), while elsewhere in the northeast it is parasitic on mountain big sagebrush (*A. tridentata*). The clustered flowers arising from one-leafed stems are about 1.5-3.0 cm long. Another, always purple and parasitic, and quite short (to 5 cm tall) broomrape grows in the Seven Devils. It is naked broomrape, *O. uniflora* var. *pupularia*, but is known only along Trail 104 near Rothenborough. Habitats: HH, RS, SC. Localities: CC, CH, KI, SA, TL, TR, WI.

168. Early blue violet, *Viola adunca* var. *halidoriana*, is the subspecies 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 mm wide) heart-shaped leaves. There are two other blue violets in the Seven Devils, the northern bog violet (*V. alpina*), not the marsh violet (*V. palustris*), but both are larger plants with flowers 1-2 cm long and leaf blades 2.5-3.0 cm wide. Habitats: KI, RS, BN. Localities: CH, CS, DC, EC, HA, HH, MB, PG, HA, SB, SH, SL, ST, TR.

**Fig. 162. Rough harebell**

**Fig. 163. Alpine colomla**

**Fig. 164. Upland larkspur**

**Fig. 165. Tall western larkspur**

**Fig. 166. Wild blue flax**

**Fig. 167. Clustered broomrape**

**Fig. 168. Early blue violet**
169. Blue stickseed or Forget-me-not, *Nannaria micrantha*, has the perky, little, 1 cm wide, short-tailed, yellow-white, 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 long (10-15 cm long x 1-2 cm wide), petiolate, and entire, while the upper leaves are progressively shorter and more narrow. This plant is in the boraginaceae which is characterized by having plants with four single-seeded seed pods called nutlets. In the genus *Nannaria* the nutlets are not spiny with hair-tipped spines (Figure 169, b) that many of the species are called stickseeds. Rough stickseed (b. *bipulata*, Figure 169, a), found only in the Seven Devils in Nevada Canyon and in the Grand Coulee of Washington, is another of these species. Habitats: BC, EG, GS, TX. Locations: BR, CA, CH, CO, DS, ES, RS, WA, WA, WY, WY.

170. Tall bluebells, *Mertensia paniculata*, is the only bluebell we have found above 5,000 feet. It is tall (75-150 cm), multi-stemmed and leafy, and thus a clumpy plant that stands out. It has heart-shaped leaves, bluish, entire, and mostly petioled leaves with blades 6-12 cm long x 3-6 cm wide. The clustered, tubular flowers are sky blue and about 1.5-1.5 cm long. It prefers moist soils, usually in stream bottoms. Habitats: RC, RN, ES, SN. Locations: NB, DO, DD, NY, MA, HN, HN, GT, EL, PN, SF, BL, ST, TL, WY, WY.

**CLAS S I I - SIMPLE- AND ALTERNATE-LEAVED FLOWERS WITH BLUE, VIOLET, OR PURPLE FLOWERS AND WITH BOTH RACEMED AND CULMIFORM LEAVES.** See also Planta 146, 162, 184, 185, 191, 187.

171. Leafy aster, *Aster fulgescens*, 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 (subsp. fulgescens) reaches 30-50 cm in height, has basal leaves that are short-petiolate and about 5-10 cm long x 1.5-2.5 cm wide, and cauline leaves that are progressively more smaller and shorter. The involucral 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 are two blue or violet-headed asters from elevations below 6,000 feet. One is the showy aster (*A. cordifolius*), that reaches 1 m tall and has its lower, cauline leaves much reduced and petiolate by the time of flowering. The other is the elegant aster (*A. eucalyptus*), that reaches 60 cm tall, has withered and scalelike lower cauline leaves, and lacks rhinomes. Habitats: RC, RN, ES, SN. Conditions: All but the high north (NS) and the lowest (LS).

172. Thick-stemmed aster, *Aster interjectus*, often grows alongside the aster above (171), but it can be distinguished by its shorter height, deeper-colored flowers, and especially by its conspicuously glandular and hairless inflorescence. It is the most prevalent of the two common asters. Habitats: RC, RN, ES, SN. Locations: BC, BR, CA, CS, DS, ES, RS, WA, WA, WY, WY.

173. Subalpine daisy, *Pectenaria parviscapa*, 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. One in violet-flowered. The radiate heads have 20-40 rays that are about 1.5-2.0 cm long and 1.2-3.4 cm wide. The radiate heads and involucral leaves range from large and long-petiolate at the base in much shortened and smaller above. In our subspecies (spp. *parviscapa*) the involucral bracts are glandular. The other interesting and fairly frequent daisy is Easter's daisy (*A. alpinus* var. *villosus*), that often has been collected on the weathered Grays Flats basal cap along Trail 112 between Trails 57 and 56, as well as in the upper Catchum area. This is a sparsely and much lower species. The rays are white to light violet and the involucral bracts are conspicuously long-white/hairy. Habitats: NS, ES. Locations: BC, BR, CA, CS, DS, ES, RS, WA, WA, WY, WY.

174. Silverleaf phacelia, *Phacelia hastata* var. *alpina*, is a high elevation variety having lavender flowers, many corymbose flages, and a low (20-30 cm tall) bushy profile (var. *alpina* illustrated). It is far more interesting, less common, than the white-flowered variety (*P. hastata*). Both are long/silver/hairy throughout. Habitats: TA. Locations: HS, HA, RS, WY.

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 may be keyed as compound. The blue-purple flowers, about .5 cm across, are made in showy, 5-15 cm long infructescences that are 3-6 cm in diameter (Figure 175b and a). It likes disturbed soils, particularly road and trail breaks, and even the shores of draw-down lakes. North of Cuprum along Road 106 the other rare, tall phacelia may be observed (P. procera). It was discovered here by early botanist William C. O'Sullivan in 1895. It reaches 2 m tall, is single stemmed, and has greenish-white flowers. Habitats: VS, RN, ES. Locations: BC, CA, CH, RS, WA, WA, WY, WY.
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 peduncle are triangular in cross-section and stand about 10-15 cm tall. They support many pedicellate, magenta flowers about 0.5-1.0 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 Round onion, A. drummondii (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: CB, CS, ES, TA. Localities: BC, CA, NM, UT, WY.

177. Alpine chenopodium, Chenopodium alpinum, 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 Jic and She Devil, but it is reported from the vicinity of Winty Saddle (7,600 feet). It is a taprooted perennial, with one to several peduncles, each supporting a single discoid head about as tall as the peduncle (about 1.5 cm long), with several petals within cupulate floral bracts on the stamens at the nodes (Figure 178). The seed pods have prominent and often colorful red wings that measure 4.5 cm across (Figure 178d). Habitats: AL, CN, CS, HO, NW, RS, TA. Localities: BM, BR, CA, CO, ES, ST, UT, WY.

178. Mountain sorrel, Oxyria digyna, is a high elevation relative of the sheep sorrel (Plant 147). It has rosetted, heart-shaped leaves 1.5-2 cm wide on 2-4 cm pedicels. Often, if late frosts occur, these leaves turn brilliant red. They are usually reddish-tinted. The flowers are small (about 1.5 mm long), with several petals within cupulate floral bracts that sheath the stamens at the nodes (Figure 178b). The seed pods have prominent and often colorful red wings that measure 4.5 cm across (Figure 178d). Habitats: AL, CN, CS, HO, NW, RS, TA. Localities: BM, BR, CA, CO, ES, ST, UT, WY, WY.

179. Harsh paintbrush, Castilleja hispida, is the most common Seven Devils paintbrush, named for the fact that it is short, stiff, hairy (hispida) 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 those woolly, toothed calyces (Figure 179c) that impact the color. Instead, the deep yellow- to orange-flowered 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 reddish-flowered paintbrushes in the Seven Devils, of which only the scarlet paintbrush (C. minuta) seems to be more than uncommon. This one has completely entire leaves and is soft/hard/hairy. A yellow-bracted paintbrush exists (Castilleja Printziana), but it seems to be restricted to the lower elevations (3,000-5,000 feet) on the north and near Buckhorn Springs, Cold Spring Lookout and Sawpit Saddle. Habitats: AL, CN, CS, HO, LG, RS, TA. Localities: BM, BR, CA, CO, ES, ST, UT, WY, WY.

180. Alpine paintbrush, Castilleja physolepis, is also a common Seven Devils paintbrush, named after a similarly parallel-veined leaf venus (Physolepis) 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 180). Habitats: CH, CS, HO, LG, RS, TA. Localities: BM, BR, CA, CO, ES, ST, UT, WY, WY.

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 low to mid-slopes 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: BM, BR. Localities: BM, BR.

182. Alpine wintergreen, Gaultheria humifusa, is a prostrate plant barely 3 cm tall that, with close search, can be found in many lakeside 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 3 cm red fruits often are scarce. Habitats: LM, HI. Localities: BM, BR, CO, ET, HA, HI, LM, SH, SL, ST, UT, WY, WY.
CLASS 63 - SIMPLE- AND ALTERNATE-LEAVED FORMS WITH RED, PINK OR MAGENTA FLOWERS AND BOTH BASAL AND CAROLINE LEAVES

183. Holboell's Rockcress, Arabis holboellii, is a low-alpine with the hairy rockcress (A. hirculus, Plant 132), 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 183b). This is the variety retrofractus. Habitate: RN, RS, TA. Localites: DR, EC, E5, H6, X1, LG, Ra, SA, OL, DP, ST, TL, TV, WP.

184. Scarlet Gilia, Gilia aggregata, is a 60-80 cm tall biennial with very attractive, long-tubed and fringed-like, five-parted, scarlet flowers 2-3 cm long. The plant, however, is inedible. 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 16. Habitate: RN, RS, TA. Localites: CC, CH, CS, DR, LB, MB, SB, TL, TV, WD, WF, W1.

185. Wallowa Lewisia, Lewisia columbiana var. wallowa, usually 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 moistness. It is an almost succulent perennial with 5-15 cm tall peduncles, each with several sessile and leaflike bracts. The magenta inflorescence bears many 5-9 petalled 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 eximia), fairly rare in the Seven Devils, with its long-peduncled, tongue-shaped leaves (Figure 185b). There are two other low (4-6 cm tall) Lewisias known in the Seven Devils. One is the three-leaf Lewisia (L. triphylla) which likes sunny soils and grows from a 5-10 cm bulb-like corm. The other is the alpine Lewisia (L. eximia) which prefers drier soils. Habitate: AV, WF, CH, CS. Localities: RM, BM, BR, EC, FS, RA, X1, L1, MP, RA, NV, SA, SB, ST, TF, W1.

186. Daggerpod, Phacelia 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-parted flowers. They are a vivid reddish-purple color. The basal leaves are lanceolate and peltate, while the much smaller cauline leaves are arrow-shaped and sessile. The Dagger (seed) pods run 2-8 cm long x 2-6 mm wide (Figure 186). Habitate: SC. Localities: TR, RH.

CLASS 64 - SIMPLE- AND ALTERNATE-LEAVED FORMS WITH BLACKBERRY, DISCOID FLOWER HEADS

187. Western Coneflower, Rudbeckia occidentalis, can be described as smaller to a very tall and long-armed black-eyed Susan, but without the yellow rays. It stands 1-2-1.5 m tall with many short-petioled, lanceolate-oval leaves up to 25 cm long x 15 cm wide. The blackish and rayless disc heads may elongate to 5 cm. The pappus, at the base of the disc flowers, is reduced to a mere scalloped crown (Figure 187a). It usually grows on fairly deep and moderately moist soils. Habitate: RG, LG, LS, RN, RS. Localities: BL, BF, BD, RA, CC, CS, CS, DP, LB, MB, RL, RS, RB, RA, SB, SL, TL, W1.

CLASS 65 - COUPLED- AND OPPERATE-LEAVED FORMS WITH WHITE OR CREAM FLOWERS

188. Linanthastrum, Linanthastrum nobilis, is truly a gem among phlox-family (Polemoniaceae) plants. It is a silver and wildly 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 blooming 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. Habitate: CS, RS, TA. Localities: RG, RL, RA, RB, RB, SB, SL, TL, TR.

189. Silka Valerian, Valeriana silicochila, is a plant that is seldom out of sight between 4,000 and 5,500 feet in the Seven Devils. It prefers rather deep, moist soils often in partial shade. Rising 5.5-1 meter tall, the compound leaves have 3-5 leaflets with the lower leaves being the smaller and the tip leaflet reaching 10 cm x 7 cm. Some of the long-petioled 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 calyx. It is the candy that later swells and develops pappus-like bristles (Figure 189). Habitate: LS, RB, RN. Localities: All but the highest (RS) and lowest (RL).
CLASS WW - COMPOUND- AND ALTERNATE-LEAVED FOWERS WITH BLUE, VIOLET OR PURPLE FLOWERS

190. Sugarbowls, Clematis herpnatilas, 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 2-3 cm, hairy, leathery calyx with reflexed, deep purple sepals. Clematis lacks petals.
Habitats: MG, RM, RN. Localities: BE, CI, L, LG, MB, ST, TR, W.

CLASS GG - COMPOUND- AND ALTERNATE-LEAVED FOWERS 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 1.5-3.0 cm 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-tinted) sepals about 1-2 cm long. The seed pods occur in a spherical cluster and are liberally soft and hairy with their beaks protruding slightly above the silky hairs. Habitats: CN. Localities: TR.

192. Woods strawberry, Fragaria vegea, 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: BN, BE, BG, MS. Localities: BN, BU, CA, CS, CH, CR, DS, BR, HS, RA, KL, LG, LR, LV, NR, EA, RA, SA, SB, SP, ST, W.

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 cm 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 pod and surrounding them (Figure 193). Habitats: BN, BR, TA. Localities: BN, BU, CA, CH, CR, DS, EA, KL, LG, LR, LV, NR, EA, RA, SA, SB, SP, ST, TR, W.

CLASS PP - COMPOUND- AND ALTERNATE-LEAVED FOWERS WITH WHITE OR CREAM FLOWERS AND WITH CULMINE LEAVES ONLY (See also Plants 120, 129, and 206)

194. Common yarrow, Achillea millefolium, is almost ubiquitous in Hells Canyon, from the river canyon bottom 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 rosette-headed composite. The 10-30 mm long, having three to five white ray flowers as well as disc flowers, and are arranged in a round-topped grouping atop the 35-50 cm plant. The compound leaves are so many times divided that the ultimate segments are tiny. Habitats: MV, CH, CS, LG, LS, MA, MB, RG, RA, SH, SL, ST, TR, W. Localities: All but the highest (187).

195. Western red baneberry, Actaea rubra, is a one- to several-stemmed, 50-60 cm plant of the stream bottoms and moist, north slopes that can have either red or white berries about 5-10 cm long. Its compound leaves each have three to five leaflets which look like maple leaves. They are 3-5 cm long and just as large as those of Douglas' maple (Plant 19). The clusters flowers are in conical racemes. Sepals and petals are very much alike, except that the sepals may be purplish tinged and just slightly shorter than the 2-3 cm-long, tongue-shaped, white petals. The protruding stamens are prominent. Habitats: RN, WR. Localities: BD, CS, LG, LG, LG, LV, M, MB, RA, RG, SB, SP, ST, W.

196. Cow-parsnip, Heracleum lanatum, a common plant of the region's low land stream bottoms, 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, RN, WR. Localities: BD, LG, LG, LG, LS, LV, RA, SA, SL, TR, WR, W.
Bracted Lousewort, *Pedicularis bracteata*, 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 2.5-5.0 cm long (Figure 197). With the louseworts (including Plant 199), 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 corolla (Figure 197b), typical of the figwort family (*Scrophulariaceae*) and also featured in the paintbrushes (*Platania* 179 and 180). In this lousewort, the corollas are cream-colored and about 1.5-2.0 cm long. Habitats: LS, RH, BN. Localities: BR, BB, CH, CR, DR, DS, ES, KR, KT, LG, LL, FA, BA, SA, SL, TR, WD.

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

1a. Flowers pink to red colored
2a. Stipules prominent, leaflets thin-lanceolate
2b. Stipules relatively small, leaflets broad-lanceolate (introduced)
1b. Flowers white to cream-colored and tinged pinkish to purplish
3a. Plant scleromereous, rooting at nodes of sprawling stem
3b. Plant stipules prominent (1-3 cm long)
4b. Leaf stipules small (mostly under 1 cm long, plant introduced)
4a. Plant caperated

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 light, spherical heads standing a few centimeters above the leaves. In the variety that is found in the Seven Devils (peninsula) it is the turning down of the lower flowers that makes the heads spherical. The complex legumes (Family: *Leguminosae*) flowers (Figure 198) illustrated and explained for Plants 206 and 207, below. Habitats: BN, RS. Localities: BR, BN, BS, CO, CS, DS, ES, LL, FA, SA, SW, ST, TL, TR, WD.

**CLASS QQ - COMPOUND- AND ALTERNATE-LEAVED FORBS WITH WHITE OR CREAM FLOWERS AND WITH BOTH RAGGED AND CAULINE LEAVES** (See also Plants 199, 197, and 199)

199. Sickle-top lousewort, *Pedicularis angustifolia*, 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 (galeae) 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: AL, CH, CO, CR, DS, ES, KS, SA, SW, ST, TR, WD.

**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 200c vs. 201a and 200b vs. 204b). Habitats: LS, RH, BN. 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 coronoplic-like yellow petals have long spurs (Figure 201a). Habitats: AL, LS, RH, BN. Localities: BS, BR, BR, CR, BS, DS, ES, SA, WS, RS, SA, SW, ST, TR, WD, WI.

202. Mountain tansy-mustard, *Descurainia richardsonii*, is a weak 50-80 cm tall biennial that is yellow-flowered, and fairly common. The seed pods are erect and between 5-15 cm long. Habitats: LG, LG, RH, RS. Localities: BS, BR, BS, CR, DS, ES, SA, WS, RS, SW, ST, TR, WD.

203. Sweet cicely, *Osmorhiza occidentalis*, is a several-stemmed forb up to 1 m tall that has a luscious 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: BR, RS, BN. Localities: BR, BS, BR, CR, BS, DS, ES, SA, WS, RS, SW, ST, TL, TR, WD.
**Key to the Seven Devil Cinquefoils:** (Four species, including two varieties of one species)

1a. Leaves pinnately compound
   2a. Plant sticky-glandular
   3a. Petals bright yellow
   4a. Plant hairy, but not sticky glandular
   5a. Plant under 60 cm tall
   6a. Leaves pinnately compound
   7a. Plants over 60 cm tall

204. **Sticky Cinquefoil**
    Potentilla glauca var. anteroidea, is the commonest Seven Devil Cinquefoil as well as being one of the commonest plants there. It reaches 50-60 cm tall, has several leafy petioles, and yellow flowers 1.5-2.0 cm across. Habitat: NC, IA, MI, WI. Localities: All but the highest (NS), and that locality has var. pseudopurpurea.

205. **Creeping Sibbaldia**
    Sibbaldia prostrata, except for its low stature (1-6 cm tall), small 1.5-2.0 cm long, bluish-green and truncate leaflets, or its yellowish flowers and dry fruits, could be a low, mat-forming, sub-alpine strawberry with rhizomes in place of stolons. Habitat: IA, WI. Localities: NC, MN, ND, CO, IL, NE, NE, IA, MN, SD, MT, WY.

**Class 77 - Compound- and Alternate-Leafed Forms with Blue, Violet or Purple Flowers**

(See also Plants 120, 139, 164, 165, 175, 191, 198, and 260)

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

1a. Banner conspicuously hairy on the back (Fig. 207b)
   2a. Calyx spurred (Fig. 263b)
   3a. Petals white or cream-colored
   4a. Petals blue or purple
   5a. Leaflets glabrous on upper surfaces
   6a. Banner well reflexed, flower 20-12 mm long
   7a. Banner not much reflexed, flower 8-10 mm long
   8a. Banner usually glabrous on back

206. **Spurred lupine**
    Lupinus laxiflorus var. laxiflorus, is by far the most common lupine in the Seven Devils. In summer it turns the forest openings blue. The white-flowered variety (laxiflorus) is scarce and is always found with blue-flowered plants, while the variety pseudopurpurea seems to occur mostly in the lower elevations (2,000-4,000 feet). Habitat: NC, IA, WI, NE, MN, SD, UT, WA. Localities: All but the highest (NS). Localities: All but the highest (NS).

207. **Velvet lupine**
    Lupinus leucophyllus, is not so common as the spurred lupine, above, but is very similar to it. It has a shorter calyx spur (Figure 207b vs. 263b) and long, silky hairs on the stem and both surfaces of the leaflets (Figures 207a and c).

    Habitat: NC, MN, SD, CO, IL, NE, KS, NE, ND, SD, MT, WY.

208. **Brown's peony**
    Paeonia brownii, was discovered by botanical explorer David Douglas in 1836 near Mt. Hood, and again the same year when he visited the Lewiston, Idaho, area (Davies, 1960). It occurs sporadically in the Dwarf Pines, white 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. Habitat: NC, RS. Localities: All but RS.

209. **Skunk-leaved Polemonium**
    Polemonium pulcherrimum, shares with Scarlet Gilia (Plant 184) and sticky Polemonium (below) the doubtful and rather rare attribute of being smell-less. This is a medium 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 leaves about 1 cm long. Habitat: NS, CA, CO, WY. Localities: All but NS.

210. **Sticky Polemonium**
    Polemonium viscosum, is a higher-elevation, coarser-smelling, smaller-leaved, and blue-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. Habitat: WA, OR. Localities: NS.

**Class 78 - Compound- and Alternate-Leafed Forms with Red, Pink, or Magenta Flowers**

(See also Plants 177, 184, 191, 201, and 206)

All plants in this class already entered above.
GLOSSARY OF TECHNICAL TERMS

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.

Axil – The top part of the axil of a leaf, usually consisting of two pollen sacs that bear the pollen (Figures 63b, 81b, and 96c).

Armed – Having prickles, spines, or thorns on stems or leaves (Figures 27, 29, 83, and 84).

Axil – In the axil of a leaf, the inside angle between a leaf blade and petiole.

Basal leaves – Leaves crowded together at the base of the stem, usually alternate and petiolate (Figures 117, 132, 136, 142, and 144).

Basal – Denotes 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.

Bract, floral – A usually small and sessile, specialized leaf from the axil of which a flower or inflorescence arises (Figures 10a and 116c); sometimes sheathlike (Figure 176b).

Bract, involucral – One of a set of specialized leaves, usually greenish, together forming an involucre that surrounds the base of an inflorescence (Figures 72b, 86b, and 96b).

Broadleaf tree – One with broad-bladed leaves (as opposed to needle-like leaves of conifers), also called hardwoods (Figure 19 vs. 17, or 20 vs. 12).

Calyx (pl. calyces) – Collectively, the sepals or a flower (Figures 41b and 50b), which often are joined along their lower sides to form a cup or tube (Figures 81a, 86b, 108b, and 104b). The calyx may be very short (Figure 34b), or even lacking (Figures 33c and 39b).

Catechin – The cone-like inflorescence of alders, birches, and willows (Figures 20a). Often, separate catkins bear the male and female flowers (Figures 26c 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 absence 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 Composite, in which the inflorescence is a head of several to many, small tubular flowers seated on a disc like receptacle, and surrounded basally by many involucral bracts (see Composite Terminology, page 34 and Figures 122, 134a, 135a, and 137b).

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 109, 117, 115, and 119; see simple leaves).

Conifer (adj. coniferous) – A tree that bears its seeds in cones; mostly evergreen with needle-like leaves – vs. a broadleaf tree (Figures 10-15 vs. 20-24).
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 10a, 16b, 16u), urn-shaped (Figures 36b, 40b), or tubular corollas that may be conspicuously two-lobed (bilabiata, Figures 10b-10h), or merely funnel-shaped (Figure 16b).

Crown - The upper framework of a tree (side-stem, 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 13b 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 10a, 10b, and 15a).

Tine 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 14a, 17b, and 18b). The discoid head - One of the three types of composite inflorescences (heads), in addition to ligulate and radiate heads, this one composed entirely of disc flowers (Figures 97, 177a, and 178a).

Entire leaves or leaflets - Leaves or leaflets with the blade margins neither toothed nor lobed (Figures 22a, 23, and 28).

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 broad-leaved trees (Figure 21), many epiphytes, and some fleshy plants (Figures 40b, 43, and 110), and a few succulents (Figure 153).

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

Fascicle - An assemblage of related genera.

Fascicle - A usually fine stem of a stem which supports the anthers (Figures 90c and 175b).

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

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

Foss - 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 prominence at the top that produces an sticky or greasy (sometimes aromatic or stinging) substance (Figure 204b).

Clump - One of a pair of bracts found at the base of a grass floret (Figure 50a).

Grasses - Members of the grass family (Gramineae) characterized by having thin and parallel-veined leaves that clasp or sheath the stem, 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 "clumped," or capable of permanently occupying a particular site (excluding effects of disturbances like fire, grazing, logging, cultivation).

Herba - 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 cover the clusters of spore cases (spore) of many ferns (Figure 4a).

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

Involucre - A set of bracts beneath an inflorescence (see Composite Terminology, page 34, and Figures 72d, 76b, 78b, and 80d).

Jurassic - A geologic era covering the period about 95 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).

Ligne - See ray, also Composite Terminology, page 34.

Lobe - In leaves, corolla, or calyx, 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 35b, 91b, and 180c).

Mioicene - 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, 36a, 80b, and 106a).

Ovary - The structure containing the ovules or undeveloped seeds.

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

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

Pantina - A branched inflorescence that can bloom for a lengthy period, starting from the bottom and flowering upwards and inwards (Figures 51a, 59b, and 125a).

Pappus - A modified calyx of hairs, bristles, or scales attached at the top of the slopes of composites (see Composite Terminology, page 34 and Figures 72o, 80c, and 166c).

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 51b).

Petiole (adj. petiolar) - 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.

Pinnas (pl. pinnae) - The primary division of a fern frond (Figure 30).

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

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.
Peduncle 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 Ligulate) – 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 tongue flower of the composites (Figures 149d and 157d).

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

Rubber – Grasslike plants with round stems, but unlike grasses and sedges having three-ranked leaves and corollas (Figures 64b and 65a). The flowers occur in head-shaped clusters (Figure 66a) or in spikes (Figure 66a); the seed pods are plump and dark colored (Figure 66b).

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

Sepal – A member of the outside set of floral leaves, just outside the petals. Separals are usually leafy and green. But when petals are absent, the sepals may be colored (Figures 35b and 41c).

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

Simple leafe – Leaves with the blade all in one piece. The leaf margins may be smooth or entire (Figures 21-23), toothed (Figures 20a, 32a, and 17a), or both toothed and lobed (Figures 19 and 120b). Or both toothed and lobed (Figures 15 and 35a).

Sorus (pl. sori) – In ferns, the characteristic cluster of spore cases (Figures 40, 49, and 6e).

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

Spire – A narrow and elongate inflorescence with sessile flowers or florets (Figures 56a and 186a).

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 filiform or filament (Figures 45b, 81b, 90c, and 160b).

Style – One of a pair of leaflike, basal appendages on leaves or petals (Figures 50a and 198a).

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

Stomata (pl. stoma) – "Breathing" pores of leaves or stems, necessary for photosynthesis. In conifers they often occur in rows (Figures 144 and 17b), but in most broadleaved trees and herbs they are scattered.

Subshrub or halfshrub – Not quite shrub, usually with persistent, woody bases, but with less than woody stiele that die back each winter (see Plant 311).

Pannos (pl. tuss) – A taxonomic entity of whatever rank (bare, species and variety).

Tepals – Sepals or petals that are undifferentiated; they look alike in color and form. Tepals are found in all roses (Figures 65b and 65a) and in many lilies (Figures 145b and 156c).

Terminal – At the topmost or outermost position.

Tomentum (adj. tomentose) – A covering of tangled or matted, woolly hairs (Figures 5c and 66b).

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 pedicels of flower clusters arise from one point like the ribs of an umbrella (Figure 66a, a compound umbel; Figures 98a and 160a, simple umbels).

U-shaped – Converse of armed.

Underside – Converse of above.

Understory – In layered plant communities, the plants occurring underneath 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.
LITERATURE CITED


