

BIRDS AND PLANTS
of
Rocky Mountain National Park
With Keys for Their Identification



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INTRODUCTION

This little pamphlet is offered in the hope that it will, at least partially, fill the need of the many nature lovers who are seeking a means of identifying the common birds and plants of the Rocky Mountain National Park. The lists and keys published herewith are the result of a large amount of field observation and study by the respective authors. The bird list has been revised and extended several times and is probably practically complete for resident birds of the region.

The first publication of a list of plants of this region was as an appendix in "Mountaineering in Colorado" by Frederic H. Chapin published by the Appalachian Mountain Club in 1890. A second list prepared by Dean Babcock was printed, together with his bird list, first in the government information booklet on the Park in 1923 and later as a separate pamphlet.

The present list contains more than twice as many species as either of the others and is probably not complete especially in the grass and sedge families. However it is believed that all of the common and conspicuous plants are included and many of the rare and inconspicuous ones.

The keys have been made as simple as possible and an attempt was made to avoid technical terms. This was impossible in all cases however and to make those terms, which it was found necessary to use, understandable to the layman, a glossary is included.

The field work on which both these lists are based has been done mainly on the eastern side of the Continental Divide and some species not included are to be expected on the western side.

LIFE ZONES

It is evident to all observers that as one travels up into the mountains the scenery and climate change. The change in altitude affects the climate directly and as a result of that the plant and animal life, which has much to do with the scenery, is affected indirectly. Consequently there exist on all mountains of considerable height climatic belts or zones called by the biologist *life zones*. These are characterized by plants and animals which are distinctive of the zones they inhabit. Some species have a wide range and may be found in several zones, others are strictly limited to one.

The classification of these life zones has received considerable study on the part of biologists and several different arrangements have been propounded. The zonation as used in this pamphlet is

essentially that used by Weaver and Clements in their Textbook of Ecology in which the yellow pine forest is considered *montane*, the Engelmann spruce forest *subalpine*, and the grassland above timberline, *alpine*. Some botanists have called the yellow pine belt a sub-montane zone and used montane to refer to the lodgepole pine belt. As, however, in this part of the Rocky Mountains the lodgepole does not constitute a climatic belt, but only occurs as the result of repeated fires where it replaces either yellow pine-Douglas tree forest or Engelmann spruce forest, it seems simpler to use only the three zones in referring to the region of the Rocky Mountain National Park.

The elevations of these zones are approximately as given below:

Montane, 6,000 to 9,000 feet, characterized by an open forest of yellow pine and Douglas tree, and by such birds as the pine siskin, gray-headed junco, the long-crested jay, and by the tufted-eared squirrel.

Subalpine zone, 9,000 feet to timberline (approximately 11,500 feet, characterized by dense Engelmann spruce forest and luxuriant flower gardens inhabited by kinglets, Clark's nutcracker, and the snowshoe rabbit.

Alpine zone, the area above timberline, a region of grassland and rock fields characterized by many brilliant flowers, and by the white-tailed ptarmigan, the rosy finch and the coney.

These zones overlap and merge along their boundaries and vary in elevation locally according to topography and exposure so that the altitude limits should not be taken too seriously. They are only expected to be approximate. The type of vegetation is the fundamental index to the zone.

BIRDS OF THE ROCKY MOUNTAIN NATIONAL PARK

REFERENCES AND ACKNOWLEDGMENT

In the preparation of this list the following general works on ornithology have been consulted: Bailey's Handbook of Birds of the Western United States, Coues' Key to North American Birds, Chapman and Reed's Color Key to North American Birds, and the A. O. U. Check-list of names. Among local lists, the Birds of Boulder County, by Norman Betts, and Birds Observed in Estes Park, by Otto Widman (Auk, 1911), have been found especially valuable. The writer has also had access to the collections in the Colorado Museum of Natural History, and advice from its Director, Mr. J. D. Figgins. Several other naturalists and local observers have contributed records or identifications, among them Chas. E. Johnson, Ed. Andrews, R. B. Rockwell and Roger W. Toll.

BIRDS OF THE ROCKY MOUNTAIN NATIONAL PARK

GREBE FAMILY

EARED GREBE (*Colymbus nigricollis californicus*)—One was found near Grand Lake in the fall; probably regular transient.

PIED-BILLED GREBE (*Podilymbus podiceps*)—Transient, occasionally seen on ponds in the spring.

DUCK FAMILY

MALLARD (*Anas platyrhynchos*)—Summer resident on a few montane lakes and beaver ponds, common in migration.

GREEN WINGED TEAL (*Nettion carolinense*)—Summer resident on lakes and ponds below 9,000 feet.

BARROW'S GOLDEN-EYE (*Clangula islandica*)—Occasionally seen on upper beaver ponds; possibly a rare summer resident.

CANADA GOOSE (*Branta canadensis*)—Transient, seen flying overhead in spring and fall migration.

HERON FAMILY

GREAT BLUE HERON (*Ardea herodias*)—A rare or accidental visitant.

RAIL FAMILY

SORA (*Porzana carolina*)—Reported as a rare summer resident.

COOT (*Fulica americana*)—Irregular transient on montane ponds and streams.

PHALAROPE FAMILY

WILSON'S PHALAROPE (*Steganopus tricolor*)—Rare summer resident on the eastern edge of the Park.

SNIPE FAMILY

WILSON'S SNIPE (*Gallinago delicata*)—Summer resident, May to August, in open marshes, 9,000 feet and lower.

SPOTTED SANDPIPER (*Actitis macularius*)—Common summer resident, breeding on lakes and beaver ponds, up to 9,000 feet.

PLOVER FAMILY

KILLDEER (*Oxyechus vociferus*)—A common spring migrant (April); usually a summer resident, in marshes, montane and lower.

LIST OF BIRDS

GROUSE FAMILY

DUSKY GROUSE (*Dendragapus obscurus*)—Permanent resident of the high forest region, and frequently seen in late summer in open glades down to 8,000 feet.

WHITE-TAILED PTARMIGAN (*Lagopus leucurus*)—Permanent resident. Common in the summer on the alpine meadows, nesting up to 12,000 feet; in winter at timberline, or irregularly down to 9,000 feet.

PHEASANT FAMILY

CHINESE RINGNECK (*Phasianus torquatus*)—An introduced species, which seems to be getting established at the eastern edge of the Park, at 7,000 feet; and occasionally wanders higher.

PIGEON FAMILY

BAND-TAILED PIGEON (*Columba fasciata*)—An irregular summer visitant, or possible rare summer resident. The few records are from the yellow-pine region.

MOURNING DOVE (*Zenaidura macroura carolinensis*)—Summer resident, montane; often around barns and ranches.

VULTURE FAMILY

TURKEY VULTURE (*Cathartes aura septentrionalis*)—Irregular visitant at the lower altitudes.

HAWK FAMILY

MARSH HAWK (*Circus hudsonius*)—Transient, common in fall migration (about August 15 to September 15). Usually seen flying low over wet meadows, but sometimes along high ridges, at timberline or above.

SHARP-SHINNED HAWK (*Accipiter velox*)—A rare summer resident of the upper montane forests. Frequently seen in fall migration.

COOPER'S HAWK (*Accipiter cooperi*)—Known only as a rare summer visitant.

GOSHAWK (*Accipiter atricapillus subsp.*)—A rare but regular winter resident, October to March. One specimen killed in the park evidently belonged to the eastern subspecies.

WESTERN RED-TAILED HAWK (*Buteo borealis calurus*)—Summer resident, May to October. The commonest of the large soaring hawks, frequently seen throughout the Park.

SWAINSON'S HAWK (*Buteo swainsoni*)—Apparently a rare visitant at the lower altitudes.

ROUGH-LEGGED HAWK (*Archibuteo lagopus sanctijohannis*)—Winter visitant; infrequent.

SQUIRREL HAWK (*Archibuteo ferrugineus*)—Summer resident at the lower altitudes; not common.

GOLDEN EAGLE (*Aquila chrysaetos*)—Rare, permanent resident, occurring throughout the Park, but more frequently seen among the high peaks of the range.

BALD EAGLE (*Haliaeetus leucocephalus*)—A very rare transient; occasionally observed in the fall.

PRAIRIE FALCON (*Falco mexicanus*)—Known only as an infrequent visitant. Has been taken in the Park, and observed several times.

PIGEON HAWK (*Falco columbarius subsp.*)—Transient, in spring and fall; not common.

DESERT SPARROW HAWK (*Falco sparverius phalaena*)—Summer resident, April to September, in open places up to 9,000 feet. The commonest small hawk.

OWL FAMILY

SAW-WHET OWL (*Cryptoglaux acadica*)—Permanent resident of the montane forests; not common.

ROCKY MOUNTAIN SCREECH OWL (*Otus asio maxwelliae*)—Permanent resident; frequently heard in the evening. *Otus flammeolus* has been taken in the region, but is probably much less common than the preceding.

WESTERN HORNED OWL (*Bubo virginianus pallescens*)—Permanent resident occurring regularly throughout the Park, although nowhere common.

KINGFISHER FAMILY

BELTED KINGFISHER (*Ceryle alcyon*)—Permanent resident along large streams. In summer irregularly up to 8,000 to 9,000 feet; in winter hardly within the Park, migrating to lower altitudes.

WOODPECKER FAMILY

ROCKY MOUNTAIN HAIRY WOODPECKER (*Dryobates villosus monticola*)—Permanent resident, throughout the forest region.

BATCHELDER'S WOODPECKER (*Dryobates pubescens homorus*)—Permanent resident. Breeds chiefly below 8,000 feet, but occasionally wanders to higher altitudes in fall and winter. The Western "Downy Woodpecker."

ALPINE THREE-TOED WOODPECKER (*Picoides americanus dorsalis*)—Rare permanent resident of the subalpine forests. Observed as yet only on the western slope of the range, but may occur on the eastern also.

RED-NAPED SAPSUCKER (*Sphyrapicus varius nuchalis*)—Summer resident, common and conspicuous; nesting chiefly in aspen groves up to 9,500 feet.

WILLIAMSON'S SAPSUCKER (*Sphyrapicus thyroideus*)—Summer resident in open woods, chiefly montane, but occasionally ranging up to 10,000 feet.

RED-HEADED WOODPECKER (*Melanerpes erythrocephalus*)—Summer resident, at the lower altitudes, and occasional visitant up to 9,000 feet.

LEWIS' WOODPECKER (*Asyndesmus lewisi*)—Resident in the foothill zone, but occasionally seen higher.

RED-SHAFTED FLICKER (*Colaptes cafer collaris*)—Common throughout the Park in summer; occasionally seen in winter at the lower altitudes.

GOATSUCKER FAMILY

POOR-WILL (*Phalaenoptilus nuttalli*)—Summer resident, at lower altitudes and less common than the following:

WESTERN NIGHTHAWK (*Chordeiles virginianus henryi*)—Summer resident, June to August; common almost everywhere, breeding up to 10,000 feet; very conspicuous in flight.

SWIFT FAMILY

WHITE-THROATED SWIFT (*Aeronautes melanoleucus*)—Summer resident, at eastern edge of the Park.

HUMMINGBIRD FAMILY

BROAD-TAILED HUMMINGBIRD (*Selasphorus platycercus*)—Summer resident; common and widely distributed from June to early August.

RUFIOUS HUMMINGBIRD (*Selasphorus rufus*)—Reported as a rare visitant.

FLYCATCHER FAMILY

KINGBIRD (*Tyrannus tyrannus*)—Summer resident below 9,000 feet; not common.

ARKANSAS KINGBIRD (*Tyrannus verticalis*)—Observed occasionally in the montane zone. Probably visitant only.

OLIVE-SIDED FLYCATCHER (*Nuttallornis borealis*)—Summer resident, June to August, in the coniferous forests, up to timberline; generally distributed but nowhere common.

WESTERN WOOD PEWEE (*Myiochanes richardsoni*)—Summer resident in the yellow pine region.

WESTERN FLYCATCHER (*Empidonax difficilis*)—Summer resident, usually nesting around barns or cabins, up to 9,000 feet.

HAMMOND'S FLYCATCHER (*Empidonax hammondi*)—Rare summer resident. Distribution uncertain because the species can hardly be distinguished from the following:

WRIGHT'S FLYCATCHER (*Empidonax wrighti*)—Summer resident, in open woods.

LARK FAMILY

DESERT HORNED LARK (*Otocoris alpestris leucolaema*)—Winter visitant at the eastern edge of the Park; sometimes up to 9,000 feet. October to March.

CROW FAMILY

- MAGPIE** (*Pica pica hudsonia*)—Permanent resident up to 9,000 feet. Common but rather erratic.
- LONG-CRESTED JAY** (*Cyanocitta stelleri diademata*)—Resident at middle and lower altitudes. Common and conspicuous at all seasons. Locally called the Blue Jay.
- ROCKY MOUNTAIN JAY; CAMP BIRD** (*Perisoreus canadensis capitalis*)—Resident in the coniferous forests above 9,000 feet. A common and familiar bird; very tame, and frequently seen at all seasons around camps and dwellings within its range.
- RAVEN** (*Corvus corax sinuatus*)—Rare but apparently permanent resident at eastern edge of Park.
- WESTERN CROW** (*Corvus brachyrhynchos, hesperus*)—A rare and irregular visitant, usually in the fall.
- CLARK'S NUTCRACKER** (*Nucifraga columbiana*)—Permanent resident throughout the Park, often in limber pine forests. Common but rather erratic, sometimes ranging far above timber line.
- PINYON JAY** (*Cyanocephalus cyanocephalus*)—An irregular visitant in spring or fall.

BLACKBIRD FAMILY

- BOBOLINK** (*Dolichonyx oryzivorus*)—Occasionally seen at the eastern edge of the Park.
- COW BIRD** (*Molothrus ater*)—Visitant, or perhaps rare summer resident in open pastures at the lower altitudes.
- RED-WINGED BLACKBIRD** (*Agelaius, phoeniceus fortis*)—Summer resident, March to early August, in marshes up to 9,000 feet.
- WESTERN MEADOWLARK** (*Sturnella neglecta*)—Common summer resident in dry meadows, occasionally wandering up to 9,000 feet or higher.
- BREWER'S BLACKBIRD** (*Euphagus cyanocephalus*)—Summer resident; common around barns and ranches up to 9,000 feet.

FINCH FAMILY

- ROCKY MOUNTAIN PINE GROSBEAK** (*Pinicola enucleator montana*)—Resident in the coniferous forests. Breeds in the subalpine spruce regions, wanders in winter irregularly down to the montane parks.
- CASSIN'S PURPLE FINCH** (*Carpodacus cassini*)—Resident in the region, but of irregular distribution and migrating to lower altitudes in winter.
- HOUSE FINCH** (*Carpodacus mexicanus frontalis*)—Resident in villages, at least in summer.
- MEXICAN CROSSBILL** (*Loxia curvirostra stricklandi*)—Visitant, or sometimes resident in the coniferous forests; infrequent and erratic.
- WHITE-WINGED CROSSBILL** (*Loxia leucoptera*)—Very rare winter visitant in the subalpine forests.

- ROSY FINCH (*Leucosticte*)—Three species: *L. australis* is common in summer on the highest peaks, nesting up to 13,000 feet; in winter it migrates to lower altitudes, where it joins in flocks with *L. tephrocotis* and *L. tephrocotis littoralis*, visitants from the north.
- REDPOLL (*Acanthis linaria*)—Irregular visitant, in small flocks, in fall and winter.
- GOLDFINCH (*Astragalinus*, sp.)—Rare migrant reported by several observers in late summer. *A. psaltria* is known to occur, but *A. trisitis* may also be expected.
- PINE SISKIN (*Spinus pinus*)—Resident, chiefly in the yellow pine zone; common but erratic.
- WESTERN VESPER SPARROW (*Pooecetes gramineus confinis*)—Summer resident, on dry grasslands.
- WESTERN SAVANNAH SPARROW (*Passerculus sandwichensis alaudinus*)—Known only as a visitant in late summer.
- WHITE-CROWNED SPARROW (*Zonotrichia leucophrys*)—Common summer resident, near open marshes, to above timberline. One of the familiar birds of its habitat, throughout the Park.
- WESTERN TREE SPARROW (*Spizella monticola ochracea*)—Winter resident, October to March, up to 9,000 feet.
- WESTERN CHIPPING SPARROW (*Spizella passerina arizonae*)—Summer resident, frequently near habitations up to 9,000 feet. Common and conspicuous in flocks in late summer.
- CLAY-COLORED SPARROW (*Spizella pallida*)—Migrant and sometimes a rare summer resident.
- WHITE-WINGED JUNCO (*Junco aikenii*)—Winter resident, below 9,000 feet.
- PINK-SIDED JUNCO (*Junco hyemalis mearnsi*)—Winter resident, montane; common and conspicuous in spring and fall migration.
- SHUFELDT'S JUNCO (*Junco hyemalis connectens*)—Occurs in flocks with the preceding species.
- GRAY-HEADED JUNCO (*Junco phaeonotus caniceps*)—One of the commonest summer residents of the montane zone; in winter at lower altitudes.
- MOUNTAIN SONG SPARROW (*Melospiza melodia montana*)—Summer resident near streams or swamps; montane.
- LINCOLN'S SPARROW (*Melospiza lincolni*)—Summer resident in open marshy places; montane and subalpine.
- SLATE-COLORED FOX SPARROW (*Passerella iliaca schistacea*)—Once noted as a summer resident in a marsh at 9,000 feet. It is rare in Colorado.
- GREEN-TAILED TOWHEE (*Oreospiza chlorura*)—Summer resident, in sage-brush or willow thickets, montane and lower.
- BLACK-HEADED GROSBEAK (*Zamelodia melanocephala*)—Rare summer resident at the eastern edge of the Park, below 8,000 feet.

TANAGER FAMILY

WESTERN TANAGER (*Piranga ludoviciana*)—Summer resident along streams, montane.

SWALLOW FAMILY

CLIFF SWALLOW (*Petrochelidon lunifrons*)—Summer resident, montane; common locally.

BARN SWALLOW (*Hirundo erythrogastra*)—Summer resident, around buildings, occasionally up to 9,000 feet.

TREE SWALLOW (*Iridoprocne bicolor*)—Summer resident with nearly the same range as the following species, but much less common.

VIOLET-GREEN SWALLOW (*Tachycineta thalassina lepidula*)—Common and widely distributed, from June to August, up to 9,000 feet; nesting in cliffs, trees or around buildings.

WAXWING FAMILY

BOHEMIAN WAXWING (*Bombycilla garrula*)—Winter visitant or resident, October to April; sometimes quite common.

SHRIKE FAMILY

NORTHERN SHRIKE (*Lanius borealis*)—Winter visitant.

WHITE-RUMPED SHRIKE (*Lanius ludovicianus excubitorides*)—Transient visitant in spring and fall.

VIREO FAMILY

WESTERN WARBLING VIREO (*Vireosylva gilva swainsoni*)—Summer resident, common along streams or in aspen groves, up to 9,000 feet.

WARBLER FAMILY

VIRGINIA'S WARBLER (*Vermivora virginiae*)—Reported as a rare summer resident at the eastern edge of the Park.

YELLOW WARBLER (*Dendroica aestiva*)—Summer resident along streams; common below 8,000 feet, rare above.

AUDUBON'S WARBLER (*Dendroica auduboni*)—Common and widely distributed through the montane zone, from May 15 to September 15. Abundant in migration.

TOWNSEND'S WARBLER (*Dendroica townsendi*)—A rather common fall migrant, September or late August.

MAC GILLIVRAY'S WARBLER (*Oporornis tolmiei*)—Summer resident along streams up to 9,000 feet at least; fairly common, but shy and inconspicuous.

PILEOLATED WARBLER (*Wilsonia pusilla pileolata*)—Common summer resident, May to September; usually in the willows near streams 9,000 to 11,000 feet.

REDSTART (*Setophaga ruticilla*)—Very rare transient visitant; once seen in the spring.

WAGTAIL FAMILY

PIPIP (*Anthus rubescens*)—Summer resident above timberline, nesting up to 12,000 feet; common at lower altitudes during spring and fall migrations.

DIPPER FAMILY

WATER OUSEL (*Cinclus mexicanus unicolor*)—Common along streams; in summer up to the subalpine lakes, in winter only at lower altitudes. Nests throughout its range, often under bridges.

THRASHER FAMILY

CATBIRD (*Dumetella carolinensis*)—Summer resident, below 8,000 feet.

BROWN THRASHER (*Toxostoma rufum*)—Summer visitant, rare or accidental.

WREN FAMILY

ROCK WREN (*Salpinctes obsoletus*)—Summer resident in rocky places, up to 11,500 feet; widely distributed, but nowhere common.

CANYON WREN (*Catherpes mexicanus conspersus*)—Rare summer resident. A foothill species, coming into the Park only at the extreme eastern boundary.

WESTERN HOUSE WREN (*Troglodytes aedon parkmani*)—Common summer resident up to 9,000 feet.

CREEPER FAMILY

ROCKY MOUNTAIN BROWN CREEPER (*Certhia familiaris montana*)—Resident in the coniferous forests; rather rare and inconspicuous, but more frequently seen in winter than in summer.

NUTHATCH FAMILY

ROCKY MOUNTAIN NUTHATCH (*Sitta carolinensis nelsoni*)—Common permanent resident of the yellow pine zone.

RED-BREASTED NUTHATCH (*Sitta canadensis*)—Permanent resident in the dense forests, subalpine and upper montane; frequently seen in early fall and winter.

PYGMY NUTHATCH (*Sitta pygmaea*)—Resident in the yellow-pine forests; common but rather erratic.

TITMOUSE FAMILY

LONG-TAILED CHICKADEE (*Penthestes atricapillus septentrionalis*)—Resident, usually in deciduous growth; breeds mostly below 8,500 feet, but wanders higher in fall and winter.

MOUNTAIN CHICKADEE (*Penthestes gambeli*)—A common and characteristic bird of the coniferous forests, throughout the Park; permanent resident, 8,000 to 11,000 feet.

KINGLET FAMILY

GOLDEN-CROWNED KINGLET (*Regulus satrapa*)—Rare summer

resident in the dense, subalpine forests; more common in migration, especially in the fall, at lower elevation.

RUBY-CROWNED KINGLET (*Regulus calendula*)—Common summer resident in the coniferous forests, chiefly subalpine; conspicuous in fall migration.

THRUSH FAMILY

TOWNSEND'S SOLITAIRE (*Myiadestes townsendi*)—Widely distributed, from March to November, throughout the Park, although nowhere common. A few usually remain through the winter at the lower altitudes.

WILLOW THRUSH (*Hylocichla fuscescens salicicola*)—A rare and irregular summer resident, along streams at 9,000 feet and below.

OLIVE-BACKED THRUSH (*Hylocichla ustulata swainsoni*)—Summer resident, up to 9,000 feet, usually near streams.

AUDUBON'S HERMIT THRUSH (*Hylocichla guttata auduboni*)—Summer resident, common throughout the forest region, from 8,500 feet to timberline.

WESTERN ROBIN (*Planesticus migratorius propinquus*)—Resident. Abundant in summer throughout the Park, a few usually remaining through the winter at the lower altitudes.

CHESTNUT-BACKED BLUEBIRD (*Sialia mexicana bairdi*)—An infrequent visitant, or rare summer resident at the eastern edge of the Park.

MOUNTAIN BLUEBIRD (*Sialia currucoides*)—Summer resident, March to October; abundant almost everywhere in open country, nesting up to 9,500 feet at least, and wandering to above timberline in the fall.

KEY TO SUMMER BIRDS

In the following list the more common birds found in the Park in summer are grouped according to their habitat and their general appearance and actions in the field. Brief descriptions of salient features are also given so that this list, used in connection with the one preceding, will often serve as a key to identification especially for observers who have some general acquaintance with bird families.

GROUP I. *Aquatic*—Birds found *only* near water, or in wet places.

GROUP II. *Terrestrial*—Birds usually seen on or near the ground, in open dry meadows or rocky places.

GROUP III. *Aerial*—Birds of long and powerful flight, usually seen on the wing.

GROUP IV. *Arboreal*—Birds occurring in forests, copses, or thickets; often, but not necessarily, near streams.

GROUP V. *Miscellaneous*—Birds of various habits and general or irregular distribution, found in almost all situations; often seen near ranches, hotels and other habitations, and along roads. This group includes several familiar birds, which are the most common and conspicuous in the park.

KEY TO SUMMER BIRDS

I. AQUATIC

- A. Birds found on shallow lakes and beaver ponds:
1. Swimming birds (ducks)—
 - a. Head of male all dark green..... Mallard.
 - b. Head of male dark bluish, with white patches (rare)..... Barrow's golden eye.
 - c. Head of male brown, with green patches..... Green-winged teal.
 2. Small wading birds..... Spotted sandpiper.
- B. Birds found in large open marshes:
1. Legs long (wading birds)—
 - a. Colors of body finely streaked or mottled..... Wilson's snipe.
 - b. Colors of body plain..... Killdeer.
 2. Legs short; a perching bird, black, with red shoulders..... Red-winged blackbird.
- C. Birds found only on large rapid streams or cold lakes:
1. Size, medium; color, gray, with black and white markings..... Belted kingfisher.
 2. Size, small; color, uniform dark slate gray..... Water ousel.

II. TERRESTRIAL

- A. Above timberline in summer:
1. Henlike birds, with feathered legs and feet..... Ptarmigan.
 2. Sparrowlike birds, with chocolate brown above and below..... Rosy finch.
 3. Small birds, grayish brown above, whitish or buffy below, and streaked—
 - a. Tail with white edges (common)..... Pipit.
 - b. Tail with a transverse black band (rare)..... Rock wren.
- B. Below timberline:
1. Large, henlike birds, mottled gray..... Dusky grouse.
 2. Small birds, plain gray, with reddish backs and white outer tail feathers (very common)...... Gray-headed junco.
 3. Medium size, brown and yellow, with a conspicuous black V on breast..... Western meadow lark.

III. AERIAL

- A. Birds which fly mostly in the evening or night.
1. Flying high in the open sky—
 - a. Making with the wings an occasional booming sound..... Nighthawk.
 - b. Making with the wings a soft prolonged whirring sound..... Wilson's snipe.
 2. Flying low and silently (owls)—
 - a. Large; extent, 4 feet or more; ear tufts present..... Great horned owl.
 - b. Medium size; ear tufts present..... Screech owl.
 - c. Rather small; no ear tufts..... Saw whet owl.
- B. Birds which fly mostly in daytime:
1. Size, large to very large (birds of prey)—
 - a. Extent, 6 or 7 feet; flight, very high and gliding, with almost no wing motion..... Golden eagle.
 - b. Extent, 4 or 5 feet; flight high and soaring, but with more or less wing motion—
 - (1) Tail distinctly red (common)..... Red-tailed hawk.
 - (2) Tail largely white (rare)..... Squirrel hawk.
 - c. Extent, less than 4 feet; flight mostly low and labored; a white spot at base of tail (late summer only)..... Marsh hawk.
 2. Size small; flight graceful (swallows)—
 - a. Tail deeply forked..... Barn swallow.
 - b. Tail not noticeably forked—
 - (1) Throat brownish..... Cliff swallow.
 - (2) Underparts all pure white..... Violet-green swallow.
 3. Size very small; about 4 inches long; wing stroke very rapid, like that of an insect; often a shrill whistling note when in flight..... Broad-tailed hummingbird.

IV. ARBOREAL

- A. Birds which cling to tree trunks in an erect attitude, often digging or hammering:
1. Small; plumage grayish brown, with no black and white.....
 2. Small to medium; plumage always with more or less black and white (woodpeckers)—
 - a. Underparts pure white—
 - (1) Length, 10 inches.....
 - (2) Length, 6 inches.....
 - b. Underparts with red or yellow or both—
 - (1) Top of head red.....
 - (2) Top of head black.....
 - (3) Top of head brown.....
- B. Birds which cling to tree trunks, often head downward, creeping down and around trunk and large limbs; size, small; tail very short (nuthatches):
1. Crown black, underparts pure white.....
 2. Crown gray, nape whitish, underparts whitish to buffy.....
 3. Crown and stripe through eye black, under parts tinged with red.....
- C. Birds with the habit of catching insects in the air, making a short flight from a perch, and returning to it (flycatchers); size, small; color, dull grayish.
1. Sides of breast slightly streaked; call, loud; of three notes.....
 2. Sides of breast plain—
 - a. Call of one rather long note.....
 - b. Call soft, of one or two short notes.....
- D. Birds which perch among the branches of trees and bushes; habits various:
1. Found in pine and spruce forests—
 - a. Large hen-like bird.....
 - b. Medium size; plain gray; with fluffy plumage; common and tame.....
 - c. Small; back plain brown; tail reddish; breast whitish, with dark spots; song highly musical.....
 - d. Sparrow-like birds; the males with more or less bright crimson red—
 - (1) Size of a robin.....
 - (2) Size of a bluebird—
 - (a) Bill with tips crossed.....
 - (b) Bill normal.....
 - e. Small active birds, gray, with black cap and throat; white stripe over eye.....
 - f. Very small; greenish gray, except for white wing bars and a bright colored crown patch—
 - (1) Crown patch red, sometimes concealed; song loud and rhythmic (common).....
 - (2) Crown patch yellow, always evident (rare).....
 2. Found in willow brush, or other deciduous growth; often near streams; all small birds—
 - a. Like the hermit thrush (see above) but tail grayish.....
 - b. Like the mountain chickadee (see above) but no white stripe over eye.....
 - c. Plumage of males with brilliant red and yellow.....
 - d. With yellow, but no red or brown patches—
 - (1) Underparts dull yellow to whitish.....
 - (2) Underparts bright yellow—
 - (a) Breast and sides streaked.....
 - (b) Breast and sides plain—
 1. Crown black.....
 2. Head and neck gray (rare).....

Brown creeper.

Hairy woodpecker.
Downy woodpecker.Red-naped sapsucker.
Williamson sapsucker
(male).
Williamson sapsucker
(female).White-breasted
nuthatch.
Pygmy nuthatch.

Red-breasted nuthatch.

Olive-sided flycatcher.

Western wood pewee.
Little flycatchers.

Dusky grouse.

Campbird.

Hermit thrush.

Pine grosbeak.

Crossbill.
Purple finch.

Mountain chickadee.

Ruby-crowned kinglet.
Golden-crowned
kinglet.Olive-backed thrush.
Long-tailed chickadee.
Western tanager.

Warbling vireo.

Yellow warbler.

Pileolated warbler.
MacGillivray's warbler.

e. Sparrow-like birds, all with some brown:

(1) Underparts streaked—

(a) With light buff chest band; chiefly above 8,500 feet.....

Lincoln's sparrow.

(b) Without chest band, chiefly below 8,500 feet.....

Song sparrow.

(2) Underparts plain—

(a) Crown with conspicuous black and white stripes.....

White-crowned sparrow.

(b) Crown dull red; back greenish.....

Green-tailed towhee.

V. MISCELLANEOUS

A. Size medium:

1. With more or less brown—

a. A bird of prey, with strong bill and feet; head strikingly marked.....

Sparrow hawk.

b. Pigeon-like; with weak bill and feet.....

Mourning dove.

c. A woodpecker with wings showing reddish in flight.....

Red-shafted flicker.

2. Colors only black, white, gray, or blue (jay family)—

a. Sharply black and white; tail very long.....

Magpie.

b. Gray, with black and white wings.....

Nutcracker.

c. Wholly dark blue to blackish.....

Crested jay.

B. Size smaller:

1. Wholly black.....

Brewer's blackbird.

2. Back gray; breast dull red to light yellowish brown..

Robin.

C. Size small to very small:

1. Slender, all gray, with light wing bars showing in flight; song long, varied and musical.....

Solitaire.

2. Light sky-blue to grayish.....

Mountain bluebird.

3. Tinged with dark crimson or wine color, brightest on crown.....

Purple finch.

4. Mottled gray, with bright yellow patches and white markings.....

Audubon's warbler.

5. Brown, streaked or mottled—

a. Bill stout; crown dull red.....

Chipping sparrow.

b. Bill slender; plumage finely spotted, with no prominent markings.....

House wren.

c. Heavily streaked with black above and below; wings with yellow markings.....

Pine siskin.

PLANTS OF THE ROCKY MOUNTAIN NATIONAL PARK

REFERENCES AND NOMENCLATURE

The books chiefly used in this study are the manuals of the region: New Manual of Rocky Mountain Botany by Coulter and Nelson, and Flora of the Rocky Mountains and Adjacent Plains and Flora of Colorado by P. A. Rydberg. Many other books and publications have been consulted for certain details. The nomenclature used is in most cases that of the first named publication. The purpose has been to use the most familiar names and the larger and more practical concept of genus and species in order to make the work as widely useful as possible. If scientific workers find inconsistencies in the author's use of names this purpose is the only excuse offered.

ACKNOWLEDGMENTS

The research work in connection with this study was done at the Colorado Agricultural College under the direction of Dr. H. C. Hanson to whom the author wishes to express special appreciation for advice and encouragement. Dr. L. W. Durrell and other members of the department of botany have given freely of their time in reading the proof of the keys and in giving helpful suggestions. To them all and to the many others who have contributed in different ways in the work of preparing this list and keys grateful appreciation is extended. The author is much indebted to Dr. Aven Nelson, Professor of Botany of the University of Wyoming, who in addition to making several determinations, gave much valuable assistance and most generously allowed the use of his excellent herbarium and library.

Grateful acknowledgment is also due the officers of the National Park Service in Rocky Mountain National Park for the opportunity to do the collecting, and to the following people for the determination of specimens: Dr. J. M. Greenman, Dr. A. S. Hitchcock, Dr. Francis Ramaley, Professor E. C. Smith, and Miss Mildred Mathias.

PLANTS OF THE ROCKY MOUNTAIN NATIONAL PARK

POLYPODIACEAE		FERN FAMILY
<i>Asplenium septentrionale</i>	.....	Grass-leaved Fern
<i>Asplenium Trichomanes</i>	.....	Maidenhair Sp'eenwort
<i>Athyrium americanum</i>	.....	Alpine Lady Fern
<i>Athyrium Filix-femina</i>	.....	Lady Fern
* <i>Cheilanthes Fendleri</i>	.....	Lip Fern
<i>Cryptogramma acrosticoides</i>	.....	Parsley Fern
<i>Dryopteris spinulosa</i>	.....	Shield Fern
<i>Filix fragilis</i>	.....	Brittle Fern
* <i>Pellaea Breweri</i>	.....	Rock Brake
<i>Phegopteris Dryopteris</i>	.....	Beech Fern
<i>Polypodium hesperium</i>	.....	Western Polypody
<i>Polystichum Lonchitis</i>	.....	Holly Fern
<i>Pteridium aquilinum</i>	.....	Bracken
<i>Woodsia oregana</i>	.....	Oregon Woods a
<i>Woodsia scopulina</i>	.....	Rocky Mountain Woodsia
EQUISETACEAE		HORSETAIL FAMILY
<i>Equisetum arvense</i>	.....	Horsetail Rush
<i>Equisetum laevigatum</i>	.....	Smooth Scouring-rush
LYCOPODIACEAE		CLUB MOSS FAMILY
<i>Lycopodium annotinum</i>	.....	Club Moss
PINACEAE		PINE FAMILY
<i>Pinus ponderosa scopulorum</i>	.....	Rock Pine or Western Yellow Pine
<i>Pinus flexilis</i>	.....	Limber Pine
<i>Pinus contorta Murrayana</i>	.....	Lodgepole Pine
<i>Picea Engelmannii</i>	.....	Englemann's Spruce
<i>Picea pungens</i>	.....	Blue Spruce
<i>Pseudotsuga mucronata</i>	.....	Douglas Tree
<i>Abies lasiocarpa</i>	.....	Alpine Fir
<i>Juniperus scopulorum</i>	.....	Rocky Mountain Juniper
<i>Juniperus communis sibirica</i>	.....	Dwarf Juniper
SPARGANIACEAE		BUR-REED FAMILY
† <i>Sparganium angustifolium</i>	.....	Narrow-leaved Bur-reed
<i>Sparganium minimum</i>	.....	Least Bur-reed
† <i>Sparganium multipedunculatum</i>	.....	Many-stemmed Bur-reed
ALISMACEAE		WATER PLAIN TAIN FAMILY
<i>Sagittaria arifolia</i>	.....	Arrowhead
GRAMINEAE		GRASS FAMILY
<i>Agropyron Bakeri</i>	.....	Baker's Wheat-grass
* <i>Agropyron pseudorepens</i>	.....	False Quack-grass

Note: Species not seen by the author are indicated as follows:

†Species listed by Dr. Rydberg in the Flora of Colorado.

*Species reported by Professor E. C. Smith of the Botany Department of the Colorado Agricultural College.

LIST OF PLANTS

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<i>Agropyron Scribneri</i>	Scribner's Wheat-grass
<i>Agropyron spicatum</i>	Bunch Wheat-grass
<i>Agropyron tenerum</i>	Slender Wheat-grass
† <i>Agropyron Vaseyi</i>	Vasey's Wheat-grass
<i>Agropyron violaceum</i>	Violet Wheat-grass
<i>Agropyron Richardsonii</i>	Richardson's Wheat-grass
<i>Agropyron Smithii</i>	Western Wheat-grass
* <i>Agrostis alba</i>	Redtop
<i>Agrostis hemalis</i>	Winter Redtop
* <i>Avena Mortoniana</i>	Alpine Wild Oats
* <i>Beckmannia erucaeformis</i>	Slough Grass
<i>Bouteloua gracilis</i>	Grama Grass
<i>Bromus ciliatus</i>	Mountain Brome-grass
<i>Bromus inermis</i>	Smooth Brome-grass
<i>Bromus Porteri</i>	Porter's Brome-grass
<i>Bromus polyanthus</i>	Many-flowered Brome-grass
<i>Bromus Pumpellianus</i>	Pumpelly's Brome-grass
† <i>Bromus Richardsonii</i>	Richardson's Brome-grass
<i>Bromus tectorum</i>	Downy Brome-grass
<i>Calamagrostis canadensis</i>	Bluejoint Reed-grass
<i>Calamagrostis Langsdorffii</i>	Langsdorf's Reed-grass
<i>Calamagrostis purpurascens</i>	Purple Reed-grass
* <i>Danthonia intermedia</i>	Timber Oat-grass
* <i>Danthonia Parryi</i>	Parry's Oat-grass
<i>Deschampsia alpicola</i>	Alpine Hair-grass
<i>Deschampsia caespitosa</i>	Tufted Hair-grass
<i>Deschampsia curtifolia</i>	Sheep Hair-grass
<i>Deschampsia atropurpurea</i>	Mountain Hair-grass
† <i>Elymus condensatus</i>	Giant Rye-grass
* <i>Eriocoma cuspidata</i>	Indian Mountain Rice
<i>Festuca arizonica</i>	Arizona Fescue
<i>Festuca brachyphylla</i>	Alpine Fescue
<i>Festuca elatior</i>	Meadow Fescue
<i>Festuca ovina</i>	Sheep Fescue
<i>Festuca saximontana</i>	Rocky Mountain Sheep Fescue
<i>Festuca scabrella</i>	Rare Fescue
* <i>Hilaria Jamesii</i>	Galleta-grass
<i>Hordeum pusillum</i>	Little Barley
<i>Koeleria cristata</i>	June Grass
<i>Melica parviflora</i>	Small-flowered Melic-grass
<i>Melica spectabilis</i>	Showy Onion-grass
<i>Muhlenbergia gracilis</i>	Slender Muhlenbergia
† <i>Muhlenbergia subalpina</i>	Subalpine Muhlenbergia
<i>Muhlenbergia racemosa</i>	Marsh Muhlenbergia
* <i>Oryzopsis micrantha</i>	Mountain Rice
<i>Phleum alpinum</i>	Mountain Timothy
<i>Phleum pratense</i>	Timothy
<i>Panicularia grandis</i>	American Manna-grass
<i>Panicularia Holmii</i>	Holm's Manna-grass
<i>Panicularia pauciflora</i>	Few-flowered Manna-grass

† <i>Poa alpicola</i>	Mountain Bluegrass
<i>Poa alpina</i>	Alpine Bluegrass
<i>Poa arctica</i>	Arctic Bluegrass
† <i>Poa brevipaniculata</i>	Short-panicled Bluegrass
<i>Poa crocata</i>	Purple Bluegrass
<i>Poa interior</i>	Wood Bluegrass
* <i>Poa Lettermannii</i>	Lettermann's Bluegrass
<i>Poa Pattersonii</i>	Patterson's Bluegrass
<i>Poa pratensis</i>	Kentucky Bluegrass
<i>Poa Wheeleri</i>	Wheeler's Bluegrass
* <i>Savastana odorata</i>	Vanilla Grass
† <i>Sitanion brevifolium</i>	Short-leaved Squirrel-tail
<i>Sitanion elymoides</i>	Squirrel-tail
<i>Stipa comata</i>	Needle Grass
<i>Stipa Vaseyi</i>	Sleepy Grass
<i>Trisetum majus</i>	Tall Spiked Trisetum
* <i>Trisetum montanum</i>	Mountain Trisetum
<i>Trisetum subspicatum</i>	Spiked Trisetum

CYPERACEAE

SEDGE FAMILY‡

† <i>Carex acutina</i>	Sedge
† <i>Carex alpina</i>	
<i>Carex atrata</i>	
<i>Carex aurea</i>	
<i>Carex canescens</i>	
† <i>Carex capillaris</i>	
<i>Carex chalciolepis</i>	
† <i>Carex chimaphila</i>	
† <i>Carex Douglasii</i>	
<i>Carex ebenea</i>	
<i>Carex festiva</i>	
† <i>Carex Geyeri</i>	
† <i>Carex Hoodii</i>	
† <i>Carex lanuginosa</i>	
* <i>Carex magellanica</i>	
* <i>Carex monile</i>	
<i>Carex nigricans</i>	
† <i>Carex obtusata</i>	
† <i>Carex occidentalis</i>	
† <i>Carex oreocharis</i>	
† <i>Carex pratensis</i>	
<i>Carex pyrenaica</i>	
* <i>Carex Reynoldsii</i>	
† <i>Carex rhomboidea</i>	
<i>Carex rupestris</i>	
<i>Carex scopulorum</i>	

‡Because of the difficulty of distinguishing the species in this family and the lack of any generally known common names, there has been no attempt to give common names in this group except to the genera.

† <i>Carex siccata</i>	
* <i>Carex tenella</i>	
<i>Eriophorum gracile</i>	Cotton-grass
<i>Eriophorum ocreatum</i>	
† <i>Eriophorum polystachyon</i>	
* <i>Scirpus campestris</i>	Bulrush
JUNCACEAE	RUSH FAMILY
<i>Juncus balticus</i>	Baltic Rush
<i>Juncus biglumis</i>	Two-flowered Rush
<i>Juncus Drummondii</i>	Drummond's Rush
<i>Juncus longistylis</i>	Long-styled Rush
<i>Juncus parous</i>	Mountain Rush
<i>Juncus saximontanus</i>	Rocky Mountain Rush
<i>Luzula arctica</i>	Arctic Wood-rush
<i>Luzula parviflora</i>	Small-flowered Wood-rush
LILIACEAE	LILY FAMILY
<i>Allium cernuum</i>	Nodding onion
<i>Allium Geyeri</i>	Purple Onion
<i>Allium Pikeanum</i>	Pikes Peak Onion
<i>Calochortus Gunnisonii</i>	Mariposa Lily
<i>Erythronium parviflorum</i>	Snow Lily
<i>Leucocrinum montanum</i>	Sand Lily
<i>Lilium montanum</i>	Mountain Lily
<i>Lloydia serotina</i>	Alpine Lily
MELANTHACEAE	BUNCH-FLOWER FAMILY
<i>Zygadenus elegans</i>	Wand Lily
CONVALLARIACEAE	LILY OF THE VALLEY FAMILY
<i>Disporum trachycarpum</i>	Fairy Bells
<i>Smilacina amplexicaulis</i>	Clasping Solomon's Seal
<i>Smilacina racemosa</i>	Soloman's Seal
<i>Smilacina stellata</i>	Star-flowered Solomon's Seal
<i>Streptopus amplexifolius</i>	Twisted-stalk
IRIDACEAE	IRIS FAMILY
<i>Iris missouriensis</i>	Blue Flag
<i>Sisyrinchium occidentale</i>	Blue-eyed Grass
ORCHIDACEAE	ORCHID FAMILY
<i>Calypso bulbosa</i>	Fairy Slipper
<i>Coeloglossum bracteatum</i>	Bracted Bog Orchis
* <i>Corallorhiza Corallorhiza</i>	Coral Root
<i>Corallorhiza multiflora</i>	Coral Root
<i>Cypripedium Knightae</i>	Knight's Lady's Slipper
<i>Cypripedium virginicum</i>	Yellow Lady's Slipper
<i>Limnorchis borealis</i>	White Bog Orchis
<i>Limnorchis viridiflora</i>	Green Bog Orchis
<i>Listera convallarioides</i>	Northern Twayblade
<i>Listera cordata</i>	Heart-leaved Twayblade
<i>Lysichiton obtusata</i>	One-leaved Orchis
<i>Peramium Menziesii</i>	Rattlesnake Plantain
<i>Spiranthes stricta</i>	Ladies' Tresses

SALICACEAE

- Populus angustifolia*
Populus balsamifera
Populus tremuloides
 **Salix Bebbiana*
 **Salix chlorophylla*
 **Salix glaucops*
 **Salix irrorata*
 **Salix monticola*
 **Salix Nuttallii*
 **Salix petrophila*
 **Salix saximontana*
Salix Scouleriana
 **Salix Watsoni*
 **Salix Wolfii*

WILLOW FAMILY

- Narrow-leaved Cottonwood
 Balsam Poplar
 Trembling Aspen
 Bebb's Willow
 Green-leaved Willow
 Glaucous Willow
 Pussy Willow
 Mountain Willow
 Nuttall's Willow
 Rock-loving Willow
 Rocky Mountain Willow
 Scouler's Willow
 Watson's Willow
 Wolf's Willow

BETULACEAE

- Alnus tenuifolia*
Betula fontinalis
Betula glandulosa

BIRCH FAMILY

- Mountain Alder
 Mountain Birch
 Bog Birch

POLYGONACEAE

- Eriogonum alatum*
Eriogonum flavum
Eriogonum subalpinum
Eriogonum umbellatum
Eriogonum xanthum
Oxyria digyna
Polygonum amphibium
Polygonum aviculare
Polygonum bistortoides
Polygonum Convolvulus
Polygonum Douglasii
Polygonum Engelmannii
Polygonum minimum
Polygonum viviparum
Rumex acetosella
Rumex crispus
Rumex mexicanus

BUCKWHEAT FAMILY

- Winged Buckwheat
 Golden Buckwheat
 Subalpine Buckwheat
 Sulphur Flower
 Alpine Sulphur Flower
 Alpine Sorrel
 Water Buckwheat
 Sidewalk Weed
 Bistort
 Black Bindweed
 Knotweed
 Engelmann's Knotweed
 Least Knotweed
 Small Bistort
 Sorrel
 Curled Dock
 Mexican Dock

CHENOPODIACEAE

- Chenopodium album*
Chenopodium capitatum
Monolepis chenopodioides
Salsola pestifer

GOOSEFOOT FAMILY

- Lamb's quarters
 Strawberry Blite
 Monolepis
 Russian Thistle

AMARANTHACEAE

- Amaranthus retroflexus*

AMARANTH FAMILY

- Rough Pigweed

NYCTAGINACEAE

- Allionia lanceolata*

FOUR O'CLOCK FAMILY

- Four O'clock

PORTULACACEAE

- Claytonia lanceolata*

PURSLANE FAMILY

- Spring Beauty

<i>Claytonia megarrhiza</i>	Big-rooted Spring Beauty
<i>Claytonia rosea</i>	Spring Beauty
<i>Lewisia pygmaea</i>	Tiny Lewisia
<i>Montia Chamissonis</i>	Water Spring Beauty

CARYOPHYLLACEAE

PINK FAMILY

<i>Arenaria aequicaulis</i>	Equal-stemmed Sandwort
<i>Arenaria Fendleri</i>	Fendler's Sandwort
<i>Arenaria sajanensis</i>	Alpine Sandwort
<i>Cerastium arvense</i>	Mouse-ear Chickweed
<i>Cerastium Beeringianum</i>	Alpine Mouse-ear
<i>Cerastium oreophilum</i>	Mouse-ear Chickweed
<i>Lychnis alba</i>	White Campion
<i>Lychnis Drummondii</i>	Drummond's Pink
<i>Lychnis montana</i>	Mountain Pink
<i>Moehringia lateriflora</i>	Blunt-leaved Sandwort
<i>Paronychia pulvinata</i>	Whitlowwort
<i>Sagina saginoides</i>	Pearlwort
<i>Silene acaulis</i>	Moss Campion
<i>Silene Hallii</i>	Catchfly
<i>Stellaria crassifolia</i>	Thick-leaved Chickweed
<i>Stellaria longifolia</i>	Long-leaved Chickweed
<i>Stellaria umbellata</i>	Umbelled Chickweed

NYMPHACEAE

WATERLILY FAMILY

<i>Nymphaea polysepala</i>	Yellow Pond Lily
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RANUNCULACEAE

BUTTERCUP FAMILY

<i>Aconitum columbianum</i>	Monkshood
* <i>Aconitum Bakeri</i>	Baker's Monkshood
<i>Actea arguta</i>	Baneberry
<i>Anemone zephyra</i>	Alpine Anemone
<i>Anemone globosa</i>	Wind Flower
<i>Anemone canadensis</i>	Northern Anemone
* <i>Anemone cylindrica</i>	Cylindric Anemone
<i>Aquilegia caerulea</i>	Colorado Blue Columbine
<i>Aquilegia caerulea daileyae</i>	Star-flowered Blue Columbine
<i>Aquilegia saximontana</i>	Dwarf Columbine
<i>Aquilegia elegantula</i>	Red Columbine
<i>Batrachium flaccidum</i>	Water Crowfoot
† <i>Batrachium confervoides</i>	Water Crowfoot
<i>Caltha rotundifolia</i>	Marsh Marigold
<i>Clematis occidentalis</i>	Western Blue Clematis
<i>Clematis ligusticifolia</i>	Virgin's Bower
* <i>Clematis Douglasii</i>	Douglas' Clematis
* <i>Clematis pseudoalpina</i>	Alpine Clematis
<i>Delphinium Nelsonii</i>	Nelson's Larkspur
<i>Delphinium robustum</i>	Mountain Larkspur
* <i>Delphinium reticulatum</i>	Reticulate Larkspur
<i>Delphinium subalpinum</i>	Subalpine Larkspur
<i>Pulsatilla hirsutissima</i>	Pasque Flower
<i>Ranunculus acriformis</i>	Buttercup

<i>Ranunculus adoneus</i>	Snow Buttercup
<i>Ranunculus alpeophilus</i>	Buttercup
<i>Ranunculus calthaeflorus</i>	Caltha-flowered Buttercup
<i>Ranunculus cardiophyllus</i>	Heart-leaved Buttercup
<i>Ranunculus cymbalaria</i>	Creeping Buttercup
<i>Ranunculus glaberrimus</i>	Early Buttercup
<i>Ranunculus inamoenus</i>	Buttercup
<i>Ranunculus Nuttallii</i>	Nuttall's Buttercup
<i>Ranunculus pygmaeus</i>	Pigmy Buttercup
<i>Ranunculus reptans</i>	Trailing Buttercup
<i>Ranunculus pedatifidus</i>	Bird-foot Buttercup
<i>Thalictrum alpinum</i>	Alpine Meadow Rue
<i>Thalictrum Fendleri</i>	Fendler's Meadow Rue
<i>Thalictrum sparsiflorum</i>	Few-flowered Meadow Rue
* <i>Thalictrum venulosum</i>	Veined Meadow Rue
<i>Trollius albiflorus</i>	Globe Flower

BERBERIDACEAE

BARBERRY FAMILY

<i>Berberis aquifolium</i>	Oregon Grape
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FUMARIACEAE

FUMITORY FAMILY

<i>Corydalis aurea</i>	Golden Corydalis
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CRUCIFERAE

MUSTARD FAMILY

* <i>Arabis divaricarpa</i>	Spreading Arabis
<i>Arabis Drummondii</i>	Drummond's Arabis
<i>Arabis exilis</i>	Arabis
<i>Arabis hirsuta</i>	Hairy Arabis
* <i>Arabis oxylobula</i>	Sharp-pointed Arabis
<i>Capsella bursa-pastoris</i>	Shepherd's Purse
<i>Cardamine cordifolia</i>	Brook Cress
<i>Draba aurea</i>	Yellow Draba
* <i>Draba chrysantha</i>	Golden Draba
<i>Draba crassifolia</i>	Thick-leaved Draba
<i>Draba lutea</i>	Draba
<i>Draba nemorosa</i>	Common Draba
<i>Draba nitida</i>	Shining Draba
<i>Draba spectabilis</i>	Showy Draba
<i>Draba streptocarpa</i>	Twisted-pod Draba
<i>Erysimum asperum</i>	Wallflower
<i>Erysimum n'vale</i>	Alpine Wallflower
<i>Erysimum Wheeleri</i>	Wheeler's Wallflower
<i>Lepidium apetalum</i>	Peppergrass
<i>Lesquerella montana</i>	Mountain Lesquerella
<i>Sisymbrium altissimum</i>	Hedge Mustard
<i>Roripa hispida</i>	Hispid Water Cress
<i>Sophia Hartwegiana</i>	Hartweg's Sophia
<i>Sophia Sophia</i>	Common Sophia
* <i>Thelypodium paniculatum</i>	Panicled Thelypodium
<i>Thlaspi coloradense</i>	Colorado Candytuft
<i>Thlaspi Fendleri</i>	Fendler's Candytuft

<i>Thlaspi glaucum</i>	Alpine Candytuft
<i>Thlaspi arvense</i>	Frenchweed
CAPPARIDACEAE	CAPER FAMILY
<i>Cleome serrulata</i>	Rocky Mountain Bee Plant
CRASSULACEAE	ORPINE FAMILY
<i>Sedum integrifolium</i>	King's Crown
<i>Sedum rhodanthum</i>	Rose Crown
<i>Sedum stenopetalum</i>	Stonecrop
SAXIFRAGACEAE	SAXIFRAGE FAMILY
<i>Boykinia Jamesii</i>	Purple Saxifrage
<i>Heuchera bracteata</i>	Alumroot
* <i>Heuchera Hallii</i>	Hall's Alumroot
<i>Heuchera parvifolia</i>	Small-leaved Alumroot
<i>Mitella Parryi</i>	Parry's Miterwort
<i>Mitella pentandra</i>	Miterwort
<i>Mitella violaceae</i>	Violet-leaved Miterwort
<i>Parnassia fimbriata</i>	Fringed Parnassia
<i>Saxifraga arguta</i>	Brook Saxifrage
<i>Saxifraga austromontana</i>	Dotted Saxifrage
<i>Saxifraga cernua</i>	Nodding Saxifrage
<i>Saxifraga debilis</i>	Alpine Saxifrage
<i>Saxifraga chrysantha</i>	Golden Saxifrage
<i>Saxifraga flagellaris</i>	Whip-lash Saxifrage
<i>Saxifraga rhomboidea</i>	Snow-ball Saxifrage
GROSSULARIACEAE	GOOSEBERRY FAMILY
<i>Ribes coloradense</i>	Subalpine Black Currant
<i>Ribes cereum</i>	Squaw Currant
<i>Ribes parvulum</i>	Black Gooseberry
<i>Ribes saximontanum</i>	Mountain Gooseberry
* <i>Ribes Wolfii</i>	Wolf's Currant
HYDRANGEACEAE	HYDRANGEA FAMILY
<i>Jamesia americana</i>	Jamesia
ROSACEAE	ROSE FAMILY
<i>Agrimonia Brittoniana</i>	Agrimony
<i>Argentina anserina</i>	Silver Weed
<i>Dasiophora fruticosa</i>	Shrubby Cinquefoil
<i>Dryas octopetala</i>	Mountain Dryad
<i>Drymocallis fissa</i>	Leafy-Cinquefoil
<i>Fragaria ovalis glauca</i>	Wild Strawberry
<i>Fragaria americana</i>	Wild Strawberry
<i>Geum strictum</i>	Bur Avens
<i>Geum rivale</i>	Brook Avens
<i>Holodiscus dumosus</i>	Mountain Spray
<i>Physocarpus monogynus</i>	Nine-bark
<i>Potentilla effusa</i>	Silvery Cinquefoil
<i>Potentilla glaucophylla</i>	Glaucus Cinquefoil
<i>Potentilla gracilis</i>	Golden Cup
<i>Potentilla Hippiana</i>	Hipp's Cinquefoil

<i>Potentilla nivea</i>	Snow-loving Cinquefoil
<i>Potentilla Pennsylvania strigosa</i>	Pennsylvania Cinquefoil
<i>Potentilla pinnatifida</i>	Pinnate Cinquefoil
<i>Potentilla pinnatisecta</i>	Cut-leaved Cinquefoil
<i>Potentilla pulcherrima</i>	Beautiful Cinquefoil
<i>Potentilla quinquefolia</i>	Five-leaved Cinquefoil
<i>Potentilla rubricaulis</i>	Red-stemmed Cinquefoil
<i>Potentilla uniflora</i>	One-flowered Cinquefoil
* <i>Potentilla monspeliensis</i>	Rough Cinquefoil
† <i>Potentilla coloradensis</i>	Colorado Cinquefoil
† <i>Potentilla minutifolia</i>	Small-leaved Cinquefoil
† <i>Potentilla saximontana</i>	Rocky Mountain Cinquefoil
† <i>Potentilla dissecta</i>	Cinquefoil
† <i>Potentilla arachnoidea</i>	Cob-webby Cinquefoil
<i>Purshia tridentata</i>	Antelope Brush
<i>Rosa Woodsii</i>	Wild Rose
<i>Rosa Sayi</i>	Wild Rose
<i>Rubus deliciosus</i>	Flowering Raspberry
<i>Rubus strigosus</i>	Wild Raspberry
<i>Sibbaldia procumbens</i>	Sibbaldia
<i>Sieversia ciliata</i>	Pink Plumes
<i>Sieversia turbinata</i>	Alpine Avena

POMACEAE

APPLE FAMILY

<i>Amelanchier alnifolia</i>	Service Berry
<i>Amelanchier elliptica</i>	Service Berry
<i>Crataegus chrysocarpa</i>	Hawthorn
<i>Sorbus scopulina</i>	Mountain Ash

DRUPACEAE

PLUM FAMILY

<i>Prunus melanocarpa</i>	Chokecherry
<i>Prunus pennsylvanica</i>	Bird Cherry

LEGUMINOSAE

PEA FAMILY

<i>Astragalus alpinus</i>	Alpine Vetch
<i>Astragalus campestris</i>	Field Vetch
<i>Astragalus flexuosus</i>	Limber Vetch
<i>Astragalus Parryi</i>	Parry's Vetch
<i>Astragalus racemosus</i>	Racemose Vetch
<i>Astragalus sulphureus</i>	Sulphur Vetch
<i>Glycyrrhiza lepidota</i>	Licorice
<i>Lupinus alpestris</i>	Mountain Lupine
<i>Lupinus parviflorus</i>	Small-flowered Lupine
<i>Melilotus alba</i>	White Sweet-clover
<i>Melilotus officinalis</i>	Yellow Sweet-clover
<i>Onobrychis sativa</i>	Sain-Foin
<i>Oxytropis bilocularis</i>	Colorado Loco
<i>Oxytropis multicaps</i>	Few-flowered Loco
<i>Oxytropis saximontana</i>	White Loco
† <i>Oxytropis sericea</i>	Silky Loco
<i>Thermopsis divaricarpa</i>	Golden Banner
<i>Trifolium dasyphyllum</i>	Alpine Clover

* <i>Trifolium nanum</i>	Dwarf Clover
<i>Trifolium Parryi</i>	Rose Clover
<i>Trifolium pratense</i>	Red Clover
<i>Trifolium repens</i>	White Clover
GERANIACEAE	GERANIUM FAMILY
<i>Viola bellidifolia</i>	Blue Violet
<i>Geranium Fremontii</i>	Fremont's Geranium
<i>Geranium Richardsonii</i>	White Geranium
LINACEAE	FLAX FAMILY
<i>Linum Lewisii</i>	Blue Flax
POLYGALACEAE	POLYGALA FAMILY
<i>Polygala alba</i>	White Milkwort
EUPHORBIACEAE	SPURGE FAMILY
<i>Euphorbia robusta</i>	Spurge
ANACARDIACEAE	SUMAC FAMILY
<i>Rhus trilobata</i>	Three-leaved Sumac
ACERACEAE	MAPLE FAMILY
<i>Acer glabrum</i>	Mountain Maple
CELASTRACEAE	STAFF TREE FAMILY
<i>Pachystima myrsinites</i>	Mountain Lover
RHAMNACEAE	BUCKTHORN FAMILY
<i>Ceanothus Fendleri</i>	Fendler's Buckthorn
<i>Ceanothus velutinus</i>	Mountain Balm
MALVACEAE	MALLOW FAMILY
<i>Sidalcea candida</i>	Modest Mallow
<i>Sidalcea neo-mexicana</i>	Wild Hollyhock
HYPERICACEAE	ST. JOHN'S-WORT FAMILY
<i>Hypericum formosum</i>	St. John's-wort
VIOLACEAE	VIOLET FAMILY
<i>Viola bellidifolia</i>	Blue Violet
<i>Viola biflora</i>	Yellow Violet
<i>Viola blanda</i>	White Sweet Violet
<i>Viola canadensis Rydbergii</i>	Canada Violet
* <i>Viola Nuttallii</i>	Nuttall's Yellow Violet
<i>Viola palustris</i>	Meadow Violet
LOASACEAE	LOASA FAMILY
<i>Mentzelia multiflora</i>	Many-flowered Evening Star
<i>Mentzelia nuda</i>	White Evening Star
<i>Mentzelia speciosa</i>	Showy Evening Star
CACTACEAE	CACTUS FAMILY
<i>Mamillaria vivipara</i>	Pincushion Cactus
<i>Opuntia polyacantha</i>	Prickly Pear
ELAEAGANACEAE	OLEASTER FAMILY
<i>Shepherdia canadensis</i>	Buffalo Berry
ONAGRACEAE	EVENING PRIMROSE FAMILY
<i>Epilobium angustifolium</i> (<i>Chamaenerion angustifolium</i>)	Fireweed
<i>Epilobium latifolium</i> (<i>Chamaenerion latifolium</i>)	Broad-leaved Fireweed

<i>Epilobium adenocaulon</i>	Willow Herb
<i>Epilobium alpinum</i>	Willow Herb
<i>Epilobium anagallidifolium</i>	Willow Herb
<i>Epilobium brevistylum</i>	Willow Herb
<i>Epilobium Drummondii</i>	Willow Herb
<i>Epilobium Hornemannii</i>	Willow Herb
<i>Epilobium paniculatum</i>	Annual Willow Herb
<i>Gayophytum Nuttallii</i>	Baby's Breath
<i>Gayophytum ramosissimum</i>	Baby's Breath
<i>Oenothera strigosa</i> (<i>Anagra strigosa</i>)	Evening Primrose
<i>Oenothera caespitosa</i> (<i>Pachylophus macroglottis</i>)	Fragrant Evening Primrose
<i>Oenothera coronopifolia</i> (<i>Anogra coronopifolia</i>)	White Morning Primrose
<i>Oenothera Nuttallii</i> (<i>Anogra Nuttallii</i>)	Nuttall's Morning Primrose
UMBELLIFERAE	
PARSNIP FAMILY	
<i>Angelica ampla</i>	Angelica
<i>Angelica Grayi</i>	Gray's Angelica
<i>Carum Carui</i>	Caraway
<i>Conioselinum scopulorum</i>	Hemlock-Parsley
<i>Harbouria trachypleura</i>	Yellow Parsley
<i>Heracleum lanatum</i>	Cow Parsnip
<i>Ligusticum simulans</i>	Lovage
<i>Pseudocymopterus montanus</i>	Mountain Parsley
<i>Oreoxis alpina</i>	Alpine Parsley
<i>Oxypholis Fendleri</i>	Fendler's Oxypolis
<i>Washingtonia obtusa</i>	Sweet Cicely
CORNACEAE	
DOGWOOD FAMILY	
<i>Cornus instoloneus</i>	Dogwood
PYROLACEAE	
PYROLA FAMILY	
<i>Chimaphila umbellata</i>	Pipsissewa
<i>Monoses uniflora</i>	Star-flower
<i>Pyrola chlorantha</i>	Green-flowered Pyrola
<i>Pyrola minor</i>	Least Pyrola
<i>Pyrola secunda</i>	One-sided Pyrola
<i>Pyrola uliginosa</i>	Bog Pyrola
MONOTROPACEAE	
INDIAN PIPE FAMILY	
<i>Pteropora Andromeda</i>	Pinedrops
ERICACEAE	
HEATH FAMILY	
<i>Arctostaphylos uva-ursi</i>	Kinnikinnick
<i>Gaultheria humifusa</i>	Creeping Wintergreen
<i>Kalmia polifolia</i>	Dwarf Laurel
VACCINIACEAE	
HUCKLEBERRY FAMILY	
<i>Vaccinium scoparium</i>	Red Bilberry
<i>Vaccinium oreophilum</i>	Black Bilberry
PRIMULACEAE	
PRIMROSE FAMILY	
<i>Androsace diffusa</i>	Mountain Androsace
<i>Androsace subumbellata</i>	Alpine Androsace

LIST OF PLANTS

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<i>Drosace carinata</i>	Rock Jasmine
<i>Primula angustifolia</i>	Fairy Primrose
<i>Primula Parryi</i>	Brook Primrose
<i>Dodecatheon pauciflorum</i>	Shooting Star

GENTIANACEAE

GENTIAN FAMILY

<i>Chondrophylla americana</i>	American Moss Gentian
<i>Chondrophylla Fremontii</i>	Fremont's Moss Gentian
<i>Frasera speciosa</i>	Monument Plant
<i>Gentiana affinis</i>	Closed Gentian
<i>Gentiana barbellata</i>	Fragrant Gentian
<i>Gentiana Bigelovii</i>	Bigelow's Gentian
<i>Gentiana elegans</i>	Rocky Mountain Fringed Gentian
<i>Gentiana elegans unicaulis</i>	Alpine Fringed Gentian
<i>Gentiana monantha</i>	One-flowered Gentian
<i>Gentiana Parryi</i>	Parry's Gentian
<i>Gentiana plebeja</i>	Rose Gentian
<i>Gentiana Romanzovii</i>	Arctic Gentian
<i>Gentiana strictiflora</i>	Swamp Gentian
<i>Pleurogyne fontana</i>	Marsh Felwort
<i>Swertia congesta</i>	Star Gentian
<i>Swertia palustris</i>	Star Gentian

MENYANTHACEAE

BUCKBEAN FAMILY

<i>Menyanthes trifoliata</i>	Buckbean
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APOCYNACEAE

DOGBANE FAMILY

<i>Apocynum androsaemifolium</i>	Dogbane
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POLEMONIACEAE

PHLOX FAMILY

<i>Collomia linearis</i>	Narrow-leaved Collomia
<i>Gilia aggregata</i>	Skyrocket
<i>Gilia pinnatifida</i>	Pinnate-leaved Gilia
<i>Gilia spicata</i>	Spicate Gilia
<i>Polemonium confertum</i>	Blue Polemonium
<i>Polemonium foliosissimum</i>	Leafy Polemonium
<i>Polemonium mellitum</i>	Honey Polemonium
<i>Polemonium occidentale</i>	Western Jacob's Ladder
<i>Polemonium pulcherrimum</i>	Beautiful Jacob's Ladder
<i>Polemonium viscosum</i>	Sticky Polemonium
<i>Phlox caespitosa</i>	Alpine Phlox

HYDROPHYLLACEAE

WATERLEAF FAMILY

<i>Hydrophyllum Fendleri</i>	Waterleaf
<i>Phacelia heterophylla</i>	Scorpion Weed
<i>Phacelia glandulosa</i>	Sticky Scorpion Weed
<i>Phacelia sericea</i>	Purple Fringe

BORAGINACEAE

BORAGE FAMILY

<i>Cryptantha flexuosa</i>	Cryptantha
<i>Eritrichium argenteum</i>	Alpine Forget-me-not
<i>Lappula calycosa</i>	Stickseed
<i>Lappula floribunda</i>	Many-flowered Stickseed
<i>Lappula occidentalis</i>	Western Stickseed

<i>Lithospermum angustifolium</i>	Narrow-leaved Puccoon
<i>Lithospermum multiflorum</i>	Broad-leaved Puccoon
<i>Mertensia Bakeri lateriflora</i>	Baker's Mertensia
<i>Mertensia ciliata</i>	Chiming Bells
<i>Mertensia coriacea</i>	Thick-leaved Mertensia
<i>Mertensia lanceolata</i>	Lance-leaved Mertensia
<i>Mertensia ovata</i>	Ovate-leaved Mertensia
<i>Mertensia Tweedyi</i>	Tweedy's Mertensia
<i>Oreocarya virgata</i>	Miner's Candle
<i>Oreocarya glomerata</i>	Miner's Candle

VERBENACEAE

VERBENA FAMILY

<i>Verbena bracteosa</i>	Vervain
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LABIATAE

MINT FAMILY

<i>Dracocephalum parviflorum</i>	Dragon-head
<i>Monarda menthaefolia</i>	Horsemint
<i>Mentha spicata</i>	Spearmint
<i>Mentha canadensis</i>	Wild Mint
<i>Stachys palustris</i>	Woundwort
<i>Scutellaria Brittonii</i>	Skullcap

SOLANACEAE

POTATO FAMILY

<i>Solanum triflorum</i>	Wild Tomato
<i>Solanum nigrum</i>	Black Nightshade

SCROPHULARIACEAE

FIGWORT FAMILY

<i>Castilleja brachyantha</i>	Short-flowered Paintbrush
<i>Castilleja laeta</i>	Rosy Paintbrush
<i>Castilleja linariaefolia</i>	Narrow-leaved Paintbrush
<i>Castilleja occidentalis</i>	Yellow Paintbrush
<i>Castilleja rhexifolia</i>	Scarlet Paintbrush
<i>Castilleja septentrionalis</i>	Northern Paintbrush
<i>Chionophila Jamesii</i>	Snow Lover
<i>Collinsia tenella</i>	Blue-eyed Mary
<i>Mimulus guttatus</i>	Yellow Monkey Flower
<i>Mimulus floribundus</i>	Many-flowered Monkey Flower
<i>Orthocarpus luteus</i>	Gold-Tongue
<i>Pedicularis Grayi</i>	Giant Lousewort
<i>Pedicularis bracteosa</i>	Bracted Lousewort
<i>Pedicularis scopulorum</i>	Rock-loving Lousewort
<i>Pedicularis Parryi</i>	Parry's Lousewort
<i>Pedicularis racemosa</i>	Mountain Figwort
<i>Pedicularis crenulata</i>	Purple Lousewort
<i>Pedicularis groenlandica</i>	Little Red Elephant
<i>Penstemon alpinus</i>	Blue Mountain Penstemon
<i>Penstemon humilis</i>	Dwarf Penstemon
<i>Penstemon procerus</i>	Clustered Penstemon
<i>Penstemon Rydbergii</i>	Rydberg's Penstemon
<i>Penstemon unilateralis</i>	One-sided Penstemon
<i>Penstemon scoudiflorus</i>	Purple Beardtongue
<i>Penstemon secundiflorus</i>	One-sided Penstemon
<i>Penstemon Whippleanus</i>	Whipple's Penstemon
<i>Scrophularia occidentalis</i>	Western Figwort

<i>Syntheris alpina</i>	Alpine Kitten-Tails
<i>Syntheris plantaginea</i>	Kitten-Tails
<i>Verbascum Thapsus</i>	Mullein
<i>Veronica alpina</i>	Alpine Veronica
<i>Veronica americana</i>	American Brooklime
<i>Veronica peregrina</i>	Annual Veronica
OROBANCHACEAE	BROOMRAPE
<i>Thalesia fasciculata</i>	Broomrape
RUBIACEAE	MADDER FAMILY
<i>Galium boreale</i>	Northern Bedstraw
<i>Galium triflorum</i>	Three-flowered Bedstraw
CAPRIFOLIACEAE	HONEYSUCKLE FAMILY
<i>Linnaea americana</i>	Twinflower
<i>Lonicera involucrata</i>	Twin Berry
<i>Sambucus microbotrys</i>	Red-berried Elder
<i>Symphoricarpus racemosus</i>	Snowberry
<i>Viburnum pauciflorum</i>	Arrow-wood
ADOXACEAE	MOSCHATEL FAMILY
<i>Adoxa Moschatellina</i>	Muskroot
CAMPANULACEAE	BLUEBELL FAMILY
<i>Campanula Parryi</i>	Parry's Harebell
<i>Campanula rotundifolia</i>	Harebell
<i>Campanula uniflora</i>	Alpine Harebell
VALERIANACEAE	VALERIAN FAMILY
<i>Valeriana furfurescens</i>	Valerian
<i>Valeriana acutiloba</i>	Mountain Valerian
COMPOSITAE	COMPOSITE FAMILY
<i>Achillea millefolium</i>	Yarrow
<i>Actinella lanata</i>	Woolly Actinella
<i>Agoseris aurantiaca</i>	Burnt-orange Dandelion
<i>Agoseris glauca</i>	Tall False Dandelion
<i>Agoseris villosa</i>	Hairy False Dandelion
<i>Anaphalis subalpina</i>	Pearly Everlasting
<i>Antennaria aprica</i>	Sun-loving Catspaw
<i>Antennaria pulcherrima</i>	Beautiful Catspaw
<i>Antennaria rosea</i>	Pussy Toes
* <i>Antennaria umbrinella</i>	Brownish Catspaw
<i>Arnica cordifolia</i>	Heart-leaved Arnica
<i>Arnica gracilis</i>	Slender Arnica
<i>Arnica fulgens</i>	Shining Arnica
<i>Arnica Parryi</i>	Rayless Arnica
<i>Arnica pumila</i>	Daffodil Arnica
<i>Arnica subplumosa</i>	Plumose Arnica
<i>Arnica sylvatica</i>	Aromatic Arnica
* <i>Artemisia arbuscula</i>	Wormwood
<i>Artemisia aromatica</i>	Aromatic Wormwood
<i>Artemisia canadensis</i>	Canada Wormwood
<i>Artemisia coloradensis</i>	Colorado Wormwood

<i>Artemisia frigida</i>	Mountain Sage
<i>Artemisia gnaphalodes</i>	White Wormwood
<i>Artemisia ludoviciana</i>	Louis' Wormwood
<i>Artemisia Pattersoni</i>	Alpine Sagewort
* <i>Artemisia nova</i>	New Wormwood
<i>Artemisia saxicola</i>	Rock-loving Wormwood
<i>Artemisia scopulorum</i>	Alpine Wormwood
<i>Artemisia tridentata</i>	Sagebrush
* <i>Artemisia silvicola</i>	Wood-loving Wormwood
<i>Aster adscendens</i>	Blue Aster
<i>Aster adscendens armeriaefolius</i>	Blue Aster
* <i>Aster andinus</i>	Alpine Aster
<i>Aster caeruleus</i>	Sky-blue Aster
<i>Aster Canbyi</i>	Canby's Aster
* <i>Aster campestris</i>	Field Aster
<i>Aster commutatus</i>	Rough White Aster
<i>Aster Cordineri</i>	Estes Park Aster
<i>Aster Engelmannii</i>	Engelmann's Aster
<i>Aster Fremontii</i>	Red-purple Aster
<i>Aster Geyeri</i>	Geyer's Blue Aster
<i>Aster laevis</i>	Smooth Aster
<i>Aster Porteri</i>	Porter's White Aster
<i>Aster Tweedyi</i>	Tweedy's Aster
<i>Bahia dissecta</i>	Cut-leaved Bahia
<i>Brickellia grandiflora</i>	Large-flowered Thoroughwort
<i>Cirsium Drummondii</i>	Drummond's Thistle
<i>Cirsium filipendulum</i>	Purple Thistle
* <i>Cirsium bipinnatum</i>	Bipinnate Thistle
* <i>Chrysopsis arida</i>	Arid Golden Aster
<i>Chrysopsis foliosa</i>	Leafy Golden Aster
* <i>Chrysopsis hirsutissima</i>	Hairy Golden Aster
<i>Chrysopsis pumila</i>	Dwarf Golden Aster
<i>Chrysopsis resinolens</i>	Resinous Golden Aster
* <i>Chrysopsis villosa</i>	Villous Golden Aster
<i>Chrysothamnus pumilus</i>	Dwarf Rabbit Brush
<i>Crepis alpicola</i>	Alpine Crepis
<i>Crepis riparia</i>	Brookside Crepis
* <i>Crepis runcinata</i>	Meadow Crepis
<i>Erigeron acris</i>	Bitter Fleabane
<i>Erigeron compositus</i>	Cut-leaved Daisy
<i>Erigeron corymbosus</i>	Blue Daisy
<i>Erigeron divergens</i>	Spreading Fleabane
<i>Erigeron elatior</i>	Beautiful Daisy
<i>Erigeron flagellaris</i>	Whip-lash Daisy
<i>Erigeron lonchophyllus</i>	Long-leaved Fleabane
<i>Erigeron melanocephalus</i>	Black-headed Daisy
<i>Erigeron pinnatisectus</i>	Pinnate-leaved Daisy
<i>Erigeron pumilus</i>	Dwarf Mountain Daisy
<i>Erigeron macranthus</i>	Mountain Daisy
<i>Erigeron salsuginosus</i>	Subalpine Daisy

<i>Erigeron superbus</i>	Superb Daisy
<i>Erigeron uniflorus</i>	One-flowered Daisy
<i>Erigeron yellowstonensis</i>	Yellowstone Fleabane
<i>Gaillardia aristata</i>	Mountain Gaillardia
<i>Gnaphalium decurrens</i>	Creamy Everlasting
<i>Grindelia squarrosa</i>	Gumweed
<i>Helianthella quinquenervis</i>	Five-nerved Helianthella
<i>Helianthus annuus</i>	Annual Sunflower
<i>Helianthus pumilus</i>	Dwarf Sunflower
<i>Hieracium albiflorum</i>	White-flowered Hawkweed
<i>Hieracium gracile</i>	Slender Hawkweed
<i>Iva xanthifolia</i>	Careless Weed
<i>Liatris punctata</i>	Gayfeather
<i>Lygodesmia juncea</i>	Milk-pink
<i>Machaeranthera varians</i>	Tansy-aster
* <i>Machaeranthera aspera</i>	Rough Tansy-aster
<i>Oreochrysum Parryi</i>	Parry's Goldenrod
<i>Prenanthes racemosa</i>	Rattlesnake Root
<i>Pyrocoma crocea</i>	Pyrocoma
<i>Ratibida columnaris</i>	Cone Flower
<i>Rudbeckia hirta</i>	Brown-eyed susan
<i>Rudbeckia laciniata</i>	Golden Glow
* <i>Rydbergia Brandegei</i>	Smooth Rydbergia
<i>Rydbergia grandiflora</i>	Rydbergia
<i>Senecio atratus</i>	Black-tipped Senecio
<i>Senecio Bigelovii</i>	Bigelow's Groundsel
<i>Senecio carthamoides</i>	Rock-loving Ragwort
<i>Senecio cernuus</i>	Nodding Senecio
<i>Senecio crocatus</i>	Orange Ragwort
<i>Senecio eremophilus</i>	Western Golden Ragwort
<i>Senecio Fendleri</i>	Fendler's Senecio
<i>Senecio Holmii</i>	Dwarf Senecio
<i>Senecio perplexus</i>	Puzzling Senecio
<i>Senecio rapifolius</i>	Turnip-leaved Senecio
<i>Senecio spartioides</i>	Narrow-leaved Senecio
<i>Senecio taraxacoides</i>	Alpine Senecio
<i>Senecio triangularis</i>	Triangle-leaved Ragwort
* <i>Senecio anacletus</i>	Senecio
* <i>Senecio columbianus</i>	Senecio
<i>Solidago ciliosa</i>	Golden Rod
<i>Solidago concinna</i>	Golden Rod
<i>Solidago decumbens</i>	Mountain Goldenrod
<i>Solidago missouriensis</i>	Missouri Goldenrod
<i>Solidago pulcherrima</i>	Beautiful Goldenrod
<i>Solidago serotina</i>	Tall Goldenrod
<i>Taraxacum officinale</i>	Common Dandelion
<i>Taraxacum scopulorum</i>	Rock Dandelion
<i>Tonestus pygmaeus</i>	Tonestus
<i>Townsendia exscapa</i>	Easter Daisy
* <i>Townsendia grandiflora</i>	Large-flowered Townsendia

A KEY TO THE WOODY PLANTS OF ROCKY MOUNTAIN NATIONAL PARK

Trees, Shrubs, Vines, or Creepers

- I. Plants parasitic, brownish or yellowish, never green in any part.
Mistletoe (*Razoumofskya*)
- II. Plants not parasitic, always with green leaves.
- A. Leaves evergreen, needle-like, or if broad, thick and shiny.
 - a. Leaves needle-like, scale-like, or awl-shaped.
Conifers (Pines, Spruces, Firs, Junipers page 37.)
 - aa. Leaves neither needle-like nor scale-like.
 - (a) Leaves definitely opposite.
Mt. Lover (*Pachystima myrsinites*).
 - (bb) Flowers in terminal umbels, rose-red; plant only a few inches high
Dwarf Laurel (*Kalmia polifolia*).
 - (aa) Leaves alternate.
 - (b) Leaves with spine-tipped teeth, holly-like
Oregon Grape (*Berberis aquifolium*).
 - (bb) Leaves without spine-tipped teeth, edges smooth.
 - (c) Leaves 1 inch long or less; plant trailing
Kinnikinnick (*Arctostaphylos uva-ursi*).
 - (cc) Leaves more than 1 inch long, often sticky; plant not trailing
Mt. Balm (*Ceanothus velutinus*).
 - AA. Leaves not evergreen, usually not both thick and shiny.
 - a. Trees.
 - (a) Bark on young trees smooth and whitish or greenish, if gray, rough and furrowed.
 - (b) Leaves roundish; tree very common
Aspen (*Populus tremuloides*).
 - (bb) Leaves longer than broad; not common.
 - (c) Leaves broad at base and tapering to apex, pale underneath
Balsam Poplar (*Populus balsamifera*).
 - (cc) Leaves narrower and tapering to both ends, green underneath
Narrow-leaved Poplar (*Populus angustifolia*).

- (aa) Bark gray or yellowish gray, and smooth; leaves with toothed margins

Alder (*Alnus tenuifolia*).

- aa. Shrubs or trailing plants.

- (a) Leaves definitely opposite.

- (b) Plant climbing or trailing on the ground.

- (c) Leaves compound; plants not dwarf nor matted.

- (d) Flowers in clusters, white

Virgin's Bower (*Clematis ligusticifolia*).

- (dd) Flowers solitary, blue

Western Clematis (*Clematis occidentalis*).

- (cc) Leaves simple; dwarf, matted plant of high altitudes
Mt. Dryad (*Dryas octopetala*).

- (bb) Plant erect.

- (c) Leaves compound; flowers white, in a cluster

Red-berried Elder (*Sambucus microbotrys*).

- (cc) Leaves not compound; flowers various.

- (d) Leaves lobed and toothed.

- (e) Plants growing in dense clumps; seed two winged
Mt. Maple (*Acer glabrum*).

- (ee) Plant not growing in dense clumps; fruit a red berry

Arrow-wood (*Viburnum pauciflorum*).

- (dd) Leaves entire.

- (e) Flowers few.

- (f) Flowers yellow, in pairs, ripening into black, shiny berries; leaves over 2 inches long

Involucred Honeysuckle (*Lonicera involucrata*).

- (ff) Flowers pinkish, ripening into white berries; leaves less than 2 inches long

Snowberry (*Symphoricarpos racemosus*).

- (ee) Flowers many in clusters, white.

- (f) Bark red or reddish-brown, smooth

Red-stemmed Dogwood (*Cornus instoloneus*).

- (ff) Bark gray, shreddy

Jamessia (*Jamesia americana*).

- (aa) Leaves alternate.

- (b) Plant thorny or spiny.

- (c) Leaves compound.

- (d) Leaflets 3-5; flowers white

Wild Raspberry (*Rubus strigosus*).

KEY TO WOODY PLANTS

- (dd) Leaflets 5-7; flowers pink or red
Wild Rose (*Rosa*).
- (cc) Leaves not compound.
 - (d) Leaves entire; plant very low; flowers white
Buckthorn (*Ceanothus Fendleri*).
 - (dd) Leaves lobed or toothed or both.
 - (e) Spines stout, 1-2 inches long; flowers white
Hawthorn (*Crataegus chryso-*
carpus).
 - (ee) Spines slender, not over ½ inch long; flowers
pinkish or greenish.
 - (f) Spines 2 or 3 together; berries 1 to 4, reddish
purple
Mt. Gooseberry (*Ribes saximon-*
tanum).
 - (ff) Spines solitary; berries several, black
Small Gooseberry (*Ribes parvulum*).
- (bb) Plant not thorny nor spiny.
 - (c) Leaves compound.
 - (d) Leaflets 3, sometimes lobed; flowers inconspicuous
Three-leaved Sumac (*Rhus trilo-*
bata).
 - (dd) Leaflets more than 3.
 - (e) Leaflets 5-7, entire; flowers yellow
Shrubby Cinquefoil (*Dasiophora*
fruticosa).
 - (ee) Leaflets 11-15, serrate; flowers in a large cluster,
white
Mountain Ash (*Sorbus scopulina*).
 - (cc) Leaves not compound.
 - (d) Leaves lobed or deeply toothed.
 - (e) Leaves 3-lobed, not over 1½ inches long, somewhat
wedge shaped.
 - (f) Bush not silvery-gray nor aromatic
Antelope Brush (*Purshia tridentata*).
 - (ff) Bush silvery-gray, aromatic
Sage-brush (*Artemisia tridentata*).
 - (ee) Leaves 3-7 lobed, oval, roundish or heart-shaped
in outline.
 - (f) Flowers white, not tubular nor bell-shaped.
 - (g) Flowers 1-2 inches across.
Flowering Raspberry (*Rubus deli-*
ciosus).
 - (gg) Flowers small, in clusters.
 - (h) Clusters flat or rounded on top
Nine-bark (*Physocarpus monogynus*).
 - (hh) Clusters pyramidal
Mt. Spray (*Holodiscus dumosus*).
 - (ff) Flowers pink, greenish, or yellowish tubular or
bell-shaped.

- (g) Leaves 1½-2 inches broad, fruit black
Subalpine Black Currant (*Ribes coloradense*).
- (gg) Leaves less than 1½ inches broad; fruit red
Squaw Currant (*Ribes cereum*).
- (dd) Leaves entire or merely slightly toothed, never lobed.
- (e) Plants low, not over 1 foot high; flowers urn-shaped, white or pinkish; fruit a juicy berry.
- (f) Leaves less than ½ inch long; berries red
Small-leaved Bilberry (*Vaccinium scoparium*).
- (ff) Leaves mostly over ½ inch long; berry black or bluish.
Black Bilberry (*Vaccinium oreophilum*).
- (ee) Plants taller.
- (f) Plants growing in wet places; flowers in catkins.
- (g) Leaves serrate.
- (h) Bark reddish-brown and shiny
Mountain Birch (*Betula fontinalis*).
- (hh) Bark blackish; twigs rough with whitish glands
Bog-Birch (*Betula glandulosa*).
- (gg) Leaves usually entire; bark smooth, greenish, yellowish, or in winter sometimes red
Willows (*Salix*).
- (ff) Plants not confined to wet places; flowers not in catkins.
- (g) New twigs and buds rust color; under side of leaves silvery
Buffalo Berry (*Shepherdia canadensis*).
- (gg) New twigs and buds not rust-color; leaves green underneath.
- (h) Leaves oval or roundish
Serviceberry (*Amelanchier alnifolia*).
- (hh) Leaves at least half again as long as broad, usually tapering at both ends.
- (i) Fruit black, in a raceme
Chokecherry (*Prunus melanocarpa*).
- (ii) Fruit red, in an umbel
Bird Cherry (*Prunus pennsylvanica*).

PINE FAMILY

- I. Leaves needle-like, 1 inch long or longer; seeds in cones.
- A. Leaves occurring in bundles of 2-5, 3-cornered or crescent shaped, in cross-section.

KEY TO HERBACEOUS PLANT FAMILIES

- a. Leaves 2 in each bundle; cones remaining on the trees for many years (this tree often occurs in very dense, pure stands).
Lodgepole Pine (*Pinus contorta* Murryana).
- aa. Leaves 3 (rarely 2), or 5 in each bundle.
 - (a) Leaves 3 (rarely 2) in each bundle; bark of mature trees reddish-yellow
Western Yellow Pine (*Pinus ponderosa scopulorum*).
 - (aa) Leaves 5 in each bundle; bark of mature trees grayish-black
Limber Pine (*Pinus flexilis*).
- AA. Leaves occurring singly.
 - a. Leaves flattened, not sharp-pointed.
 - (a) Cones numerous, pendent; 3-parted bracts conspicuous between the cone-scales
Douglas Tree (*Pseudotsuga mucronata*).
 - (aa) Cones few, erect, in the top of the tree; no conspicuous bracts present
Alpine Fir (*Abies lasiocarpa*).
 - aa. Leaves 4-angled, sharp-pointed; cones pendent.
 - (a) Cones about 2 inches long; leaves acute.
Engelmann Spruce (*Picea Engelmannii*).
 - (aa) Cones 3-5 inches long, leaves spine-tipped
Blue Spruce (*Picea pungens*).
- II. Leaves scale-like or awl-shaped, less than 1 inch long; seeds in berries.
 - A. Leaves scale-like; an erect shrub, or small, much branched tree
Rocky Mountain Juniper (*Juniperus scopulorum*).
 - AA. Leaves awl-shaped, spine-tipped; plant a prostrate shrub
Dwarf Juniper (*Juniperus communis sibirica*).

KEY TO THE HERBACEOUS PLANTS OF ROCKY MOUNTAIN NATIONAL PARK

- I. Plants never bearing true flowers
(Pteridophytes, i. e. "fern-like plants")
 - A. Plants with broad leaves, usually much dissected
Fern Family (page 45)
 - AA. Plants with needle-like, awl-like or tooth-like leaves, or apparently none.
 - a. Plants with green, hollow, jointed stems; no evident leaves,
Scouring Rush Family
 - aa. Plants with solid and continuous stems; awl-like leaves present,
Club Moss Family

II. Plants bearing true flowers

(Spermatophytes, i. e. "seed-bearing plants")

- A. Plants with leaves parallel-veined and entire margined;
flower parts if brightly colored in threes or sixes (Monocotyledons).

- a. Tall plants 3-6 feet high; flowers small, in dense brown spikes

Cat-tail (*Typha latifolia*).

- aa. Plants usually less than 6 feet tall; flowers not in dense brown spikes.

- (a) Plants grass-like or rush-like; flowers numerous and inconspicuous.

- (b) Stems round or flattened.

- (c) Stems jointed; leaf-blades flat

Grass Family

- (cc) Stems not jointed; leaves round or flat

Rush Family

- (bb) Stems usually 3-angled

Sedge Family

- (aa) Plants not grass-like nor rush-like, or if so with colored flowers.

- (b) Plants aquatic.

- (c) Leaves narrow and floating; fruit a bur-like cluster of achenes

Bur-reed Family.

- (cc) Leaves upright and arrow-head shaped

Arrow-head Family.

- (bb) Plants growing in soil although often in wet places.

- (c) Flowers regular with 6 perianth segments and 3-6 stamens.

- (d) Flowers blue; leaves 2-ranked

Iris Family.

- (dd) Flowers not blue; leaves not 2-ranked

ceae and *Melanthaceae*). (Page 46)

- (cc) Flowers irregular, the lower petal usually sac-shaped or spurred

Orchid Family.

- AA. Plants with netted-veined leaves; flower parts usually in fours or fives (Dicotyledons).

- a. Leaves definitely opposite

- (a) Plants with milky juice.

- (b) Leaves petioled, more than 1 inch long

Dog-bane (*Apocynum androsaemifolium*).

- (bb) Leaves and bracts less than 1 inch long, sessile

Spurge (*Euphorbia robusta*).

- (aa) Plants without milky juice.

- (b) Flowers composite (i. e. made up of numerous small florets crowded together on a receptacle and surrounded by an involucre, such as Sunflower, Dandelion).

Arnica and Sunflower, in Composite Family. (Page 60)

(bb) Flowers not composite.

(c) Plants low and trailing, with paired blossoms
Twinflower (*Linnaea americana* in
Honeysuckle Family).

(cc) Plants not trailing.

(d) Corolla of separate petals or wanting.

(e) Stems swollen at the joints; plants sometimes very
dwarf and densely matted; flowers never yellow.

(f) Corolla present

Pink Family

(ff) Corolla absent.

(g) Plant 1 foot or more high, purplish and hairy; calyx
corolla-like; involucre present; flowers opening in
late afternoon

Four O'clock Family.

(gg) Plant less than 1 foot high

Pink Family (a few inconspicuous
species)

(ee) Stems not swollen at the joints; plants never dwarf nor
matted; flowers yellow

St. Johns-wort (*Hypericum formo-*
sum, St. Johns-wort Family).

(dd) Corolla of united petals

(e) Stem 4-angled, square.

(f) Leaves more than 2 at each node

Madder Family.

(ff) Leaves 2 at each node

(g) Plant branched from the base and spreading on the
ground

Vervain (*Verbena fraxinea*, Ver-
vain Family).

(gg) Plant erect, usually aromatic

Mint Family (page 57)

(ee) Stem not distinctly 4-angled, usually round.

(f) Seed-pod one-seeded and inferior

Valerian Family.

(ff) Seed-pod several seeded and superior.

(g) Corolla regular.

(h) Plants shrubs growing in boggy places at high
altitudes

Dwarf Laurel (*Kalmia polifolia*, in
Heath Family).

(hh) Plants not shrubs.

(i) Plants 1-3 inches high; flowers pale blue, $\frac{1}{2}$
inch broad or more, plant forming dense mats.

Alpine Phlox (*Phlox caespitosa* in
Phlox Family).

(ii) Plants not forming dense mats, more than 3

inches high, if low, flowers $\frac{1}{4}$ inch broad or less,
flowers mostly bright blue

Gentian Family (page 54)

(gg) Corolla irregular

Figwort Family (page 58)

aa Leaves not definitely opposite.

(a) Plants aquatic; leaves floating.

(b) Leaves simple and entire.

(c) Leaves 4-12 inches long, floating; flowers 2-5 inches across,
yellow

Yellow Pond Lily (*Nymphaea poly-
sepala* in Water-lily Family).

(cc) Leaves 2-6 inches long, erect, arrowhead-shaped; flowers
 $\frac{1}{4}$ - $\frac{1}{2}$ inch across, white

Arrowhead (*Sagittaria arifolia*, Ar-
rowhead Family).

(bb) Leaves compound or finely dissected.

(c) Leaves 3-foliate, inflorescence spike-like

Buckbean (*Menyanthes trifoliata* in
Buckbean Family).

(cc) Leaves finely dissected, inflorescence not spike-like

Water Crowfoot (*Batrachium flacci-
dum* in Buttercup Family)

(aa) Plants not aquatic although sometimes growing in wet places.

(b) Flowers composite, i. e. made up of numerous small florets
crowded together on a receptacle and surrounded by an in-
volucre

Composite Family (page 60)

(bb) Flowers not composite although sometimes in heads.

(c) Plants entirely parasitic or saprophytic, never having any
green color.

(d) Parasites on branches of coniferous trees

Mistletoe Family

(dd) Parasites or saprophytes growing on the ground, on roots
or dead wood.

(c) Plant hairy.

(f) Plant 10-60 inches high

Pinedrops (*Pterospora Andromedea*
in Indian Pipe Family).

(ff) Plant 6 inches high or less

Broomrape (*Thalesia fasciculata* in
Broomrape Family).

(ee) Plant smooth

Coral Root (*Corallorhiza multiflora*
in Orchid Family).

(cc) Plants never entirely parasitic nor saprophytic, always with
some green coloring.

(d) Leaves all basal.

KEY TO HERBACEOUS PLANT FAMILIES

- (e) Flowers 2-3 inches across, white fading pink
Fragrant Primrose (*Oenothera caespitosa* in Evening Primrose Family).
- (ee) Flowers 1 inch, or less, across.
- (f) Leaves simple and entire.
- (g) Flowers white, solitary.
- (h) Flowers regular.
 - (i) Stem with a leaf-like bract about the middle
Fringed Parnassia (*Parnassia fibrata* in Saxifrage Family).
 - (ii) Stem entirely leafless.
 - (j) Growing in swamps or meadows; back of sepals often bluish
Marsh Marigold (*Caltha rotundifolia* in Buttercup Family).
 - (jj) Growing in forests; blossom fragrant not bluish on the back
Star-flower (*Moneses uniflora* in Pyrola Family).
- (hh) Flowers irregular, violet-like
White Violet (*Viola blanda* in Violet Family).
- (gg) Flowers if white, not solitary.
- (h) Flowers clustered at the top of the stem or if solitary rose-colored.
- (i) Flowers bright blue
Alpine Forget-me-not (*Eritrichium argenteum* in Borage Family).
- (ii) Flowers not blue.
 - (j) Flowers white or rose-colored
Primrose Family (page 54)
 - (jj) Flowers yellow or cream-colored
Sulphur Flower (*Eriogonum* in Buckwheat Family).
- (hh) Flowers in a raceme.
 - (i) Flowers few, not crowded together
Pyrola Family (page 53)
 - (ii) Flowers crowded together.
 - (j) Leaves longer than broad
Snow-lover (*Chionophila Jamesii* in Figwort Family).
 - (jj) Leaves as broad or broader than long, flowers many
Alpine Dock (*Oxyria digyna* in Buckwheat Family).
- (ff) Leaves not entire.
 - (g) Leaves crenate but not lobed
Kitten-tails (*Synthyris* in Figwort Family).

- (gg) Leaves toothed or lobed or both
Saxifrage Family (page 50)
- (dd) Leaves not all basal.
 - (e) Plants with scattered, dark-red, globular flower heads
Strawberry Blite (*Chenopodium capitatum*).
 - (ee) Plants without such flower heads.
 - (f) Weedy plants of roadsides and waste ground with inconspicuous flowers.
 - (g) Flowers in dense terminal panicles
Dock (*Rumex* in Buckwheat Family).
 - (gg) Flowers solitary or in clusters in the leaf axils.
 - (h) Leaves cylindrical becoming spine-tipped
Russian Thistle (*Salsola pestifer* in Goosefoot Family).
 - (hh) Leaves flat.
 - (i) Seeds triangular
Knotweed (*Polygonum* in Buckwheat Family).
 - (ii) Seeds lens-shaped.
 - (j) Inflorescence prickly
Rough Pig-weed (*Amaranthus retroflexus* in Amaranth Family.)
 - (jj) Inflorescence not prickly.
 - (k) Plants 2 feet high or less
Goosefoot (*Chenopodium* in Goosefoot Family).
 - (kk) Plants 2 feet high or more, stout
Careless Weed (*Iva xanthifolia* in Composite Family).
- (ff) Plants not roadside weeds, if along roadsides or in waste places with conspicuous flowers.
 - (g) Stems hollow; flowers many and small, always in umbels; leaves usually compound or finely dissected
Parsnip Family.
 - (gg) Stems solid; flowers not in umbels.
 - (h) Leaves of 5-7 holly-like leaflets; stem woody, berries blue
Oregon Grape (*Berberis aquifolium* in Barberry Family).
 - (hh) Leaves not of 5-7 holly-like leaflets.
 - (i) Calyx always present; corolla sometimes absent.
 - (j) Calyx of separate sepals.
 - (k) Calyx showy and petal-like, or else the flowers buttercups
Buttercup Family (page 48)
 - (kk) Calyx not usually petal-like; flowers not buttercups.
 - (l) Flowers irregular.

- (m) Leaves simple and entire
Violets (*Viola* in Violet Family).
- (mm) Leaves compound or dissected.
- (n) Flowers like those of a pea or bean
Pea Family (page 52)
- (nn) Flowers not like those of a pea or bean
Golden Corydalis (*Corydalis aurea*
in Fumitory Family).
- (ll) Flowers regular.
 - (m) Sepals 5; petals 5.
 - (n) Petals blue
Blue Flax (*Linum Lewisii* in Flax Family).
 - (nn) Petals not blue.
 - (o) Stamens united into a column
Mallow Family.
 - (oo) Stamens separate; pistils united into a column
Geranium Family.
 - (mm) Sepals 4; petals usually 4, sometimes absent.
 - (n) Seed-pod inferior
Evening Primrose Family (page 53)
 - (nn) Seed-pod superior.
 - (o) Leaves of 3 entire or slightly toothed leaflets; seed-pod stalked and slender; flower rose-purple.
Rocky Mountain Bee Plant (*Cleome serrulata* in Capper Family).
 - (oo) Leaves not 3-foliate; flowers mostly white or yellow; seed-pod not conspicuously stalked
Mustard Family (page 49)
- (jj) Calyx more or less united at least at base, cup-shaped or saucer-shaped.
- (k) Leaves with stipules; pistils many, each one-seeded
Rose Family (page 51)
- (kk) Leaves without stipules; pistils few, each several seeded.
 - (l) Leaves sessile, entirely smooth; pods 4-5
Orpine Family (page 50)
 - (ll) Leaves usually with petioles, if sessile hairy or at least ciliate on the margins
Saxifrage Family (page 50)
- (ii) Calyx and corolla both present and both united.
- (j) Corolla regular.

- (k) Corolla urn-shaped; fruit a berry, often red
Heath Family (see key to woody plants page 34)
- (kk) Corolla bell-shaped or funnel-shaped; fruit a dry pod.
 - (l) Calyx separate from the seed-pod.
 - (m) Stamens conspicuously protruding
Waterleaf Family.
 - (mm) Stamens not conspicuously protruding
Phlox Family (page 55)
 - (ll) Calyx closely attached to the seed-pod
Bluebell Family.
- (jj) Corolla irregular
Figwort Family (page 58)

FERN FAMILY (*Polypodiaceae*)

- I. Frond very little dissected, apparently more grass-like than fern-like
Grass-leaved Fern (*Asplenium septentrionale*).
 - II. Frond dissected and very evidently fern-like.
- A. Fronds of one kind, all alike.
- a. Fronds once pinnate, plants rare.
 - (a) Pinnae thin and fragile, narrowed at the base and attached at a point
Maidenhair Spleenwort (*Asplenium trichomanes*).
 - (aa) Pinnae tough, evergreen, attached by their whole width.
 - (b) 3 to 6 inches long with no indusium
Western Polypody (*Polypodium hesperium*).
 - (bb) 10 inches long usually, or longer; indusium kidney-shaped, conspicuous
Holly Fern (*Polystichum Lonchitis*).
 - aa. Fronds more than once pinnate, not evergreen.
 - (a) Fronds long and tapering.
 - (b) 10 inches to 3 feet long.
 - (c) Sori long or crescent-shaped; indusium conspicuous
Common Lady Fern (*Athyrium Filix-femina*).
 - (cc) Sori round.
 - (d) Indusium not evident
Alpine Lady Fern (*Athyrium americanum*).
 - (dd) Indusium evident
Shield Fern (*Dryopteris spinulosa*).
- (bb) 3 to 8 inches long.

LILY FAMILY

- (c) Plants tufted, old leaf bases persistent.
- (d) Rachis hairy; divisions long triangular
 - Rocky Mountain Woodsia (*Woodsia scopulina*).
- (dd) Rachis smooth; divisions short triangular
 - Oregon Woodsia (*Woodsia oregana*).
- (cc) Plants not tufted; old leaf bases not present
 - Brittle Fern (*Filix fragilis*).
- (aa) Fronds nearly as broad as long, often 3-parted.
- (b) Fronds soft and thin, 1 foot high, or less
 - Beech Fern (*Phegopteris Dryopteris*).
- (bb) Fronds firm and leathery, 1-4 feet high
 - Bracken (*Pteridium aquilinum*).
- AA. Fronds of two kinds, the fertile ones taller
 - Parsley Fern (*Cryptogramma acrosticoides*).

LILY FAMILY (*Liliaceae*)

(Including the Bunch-flower and the Lily of the Valley Family)

- I. Inflorescence a slender, erect, spike-like raceme
 - Wand Lily (*Zygadenus elegans*).

II. Inflorescence not as above.

- A. Inflorescence umbellate, flowers pink or whitish
 - Wild Onion (*Allium*).

AA. Inflorescence not umbellate.

- a. Flowers solitary or few, erect, or, if bright yellow nodding; stems if leafy, not branched.
 - (a) Flowers white or lavender-tinged.
 - (b) Blooming in May and June.
 - (c) Pure white stemless flower of open fields; low altitudes
 - Sand Lily (*Leucocrinum montanum*).
 - (cc) White flower with purplish veins; alpine regions
 - Alpine Lily (*Lloydia serotina*).
 - (bb) Blooming in July and August, flowers cup-shaped with dark splotches at base of petals
 - Mariposa Lily (*Calochortus Gunnisonii*).
 - (aa) Flowers red or yellow.
 - (b) Flowers bright yellow, nodding
 - Snow Lily (*Erythronium parviflorum*).
 - (bb) Flowers red, erect
 - Mountain Lily (*Lilium montanum*).
- aa. Flowers usually many; plant leafy-stemmed.
 - (a) Stem branched.

- (b) Flowers solitary or few, terminal, ripening into red berries
 Fairy Bells (*Disporum trachycarpum*).
 (bb) Flowers axillary, pendent
 Twisted Stalk (*Streptopus amplexifolius*).
 (aa) Stem unbranched
 Solomon's Seal (*Smilacina*).

BUTTERCUP FAMILY (*Ranunculaceae*)

- I. Vines with woody stems
Clematis (*Clematis*).
II. Herbs, never climbing.
A. Leaves much dissected into roundish segments.
a. Flowers conspicuous; petals spurred
Columbine (*Aquilegia* page 48).
aa. Flowers inconspicuous; petals usually wanting
Meadow Rue (*Thalictrum*).
AA. Leaves entire or dissected, but if dissected, the segments not
roundish.
a. Flowers regular.
(a) Petals wanting or minute; calyx petal-like.
(b) Plant conspicuously long silky hairy; flower 1-2 inches
deep, seeds plumed
Pasque Flower (*Pulsatilla hirsutis-*
sima).
(bb) Plant smooth, or if hairy, the hairs short; flowers less
than 1 inch deep; seeds not plumed.
(c) Plant smooth.
(d) Leaves all basal and entire; sepals white, some-
times bluish-tinged on back
Marsh Marigold (*Caltha rotundi-*
folia).
(dd) Leaves not all basal, much dissected, sepals cream-
colored, not bluish on the back
Globe Flower (*Trollius albiflorus*).
(cc) Plant hairy
Anemone (*Anemone*).
(aa) Petals present and conspicuous.
(b) Flowers not in spike-like racemes.
(c) Plants aquatic; flowers white
Water Crowfoot (*Batrachium flac-*
cidum).
(cc) Plants not aquatic; flowers yellow
Buttercups (*Ranunculus* page 48).
(bb) Flowers in spike-like racemes; fruit conspicuous red or
white berries
Baneberry (*Actea arguta*).

BUTTERCUP FAMILY

aa. Flowers irregular; sepals petal-like; flowers mostly dark blue, rarely whitish.

(a) Upper sepal spurred

Larkspur (*Delphinium* page 48).

(aa) Upper sepal helmet-shaped

Monkshood (*Aconitum columbianum*).

COLUMBINE (*Aquilegia*)

Flowers red and yellow, growing on western slope

Red Columbine (*A. elegantula*).

Flowers blue or blue and white, rarely entirely white.

Plant dwarf not over 6 inches high; spurs short

Dwarf Columbine (*A. saximontana*).

Plant more than 6 inches high; spurs long

Colorado Blue Columbine (*A. caerulea*).

LARKSPUR (*Delphinium*)

Plant not over 1 foot high blooming in June

Nelson's Larkspur (*D. Nelsonii*).

Plant 2-6 feet high blooming in July and August

Inflorescence long and loose, montane aspen groves

Mountain Larkspur (*D. robustum*).

Inflorescence crowded, subalpine stream banks and swamps

Subalpine Larkspur (*D. subalpinum*).

BUTTERCUPS (*Ranunculus*)

I. Plants aquatic; flowers white

Water Crowfoot (*Batrachium flaccidum*).

II. Plants not aquatic although some growing in very wet places; flowers yellow.

A. Plant spreading by means of runners; leaves roundish

Creeping Buttercup (*Ranunculus cymbalaria*).

AA. Plant without runners.

a. Plant rooting at the nodes of the stem; leaves slender

Trailing Buttercup (*R. reptans*).

aa. Plants not rooting at the nodes.

(a) Leaves compound and finely dissected; flowers less than $\frac{1}{2}$ inch across

Nuttall's Buttercup (*R. Nuttallii*).

(aa) Leaves never truly compound.

(b) Leaves simple and at least some of them entire.

(c) All of the leaves entire

Caltha-flowered Buttercup (*R. calthaeiflorus*).

(cc) Some of the stem leaves lobed

Early Buttercup (*R. glaberrimus*).

(bb) Leaves toothed, lobed or dissected.

(c) Leaves finely dissected into linear divisions; flowers

usually $\frac{3}{4}$ inch across or more, around snowbanks and wet places, alpine zone

Snow Buttercup (*R. adoneus*).

- (cc) Leaves lobed or divided but never finely dissected into linear divisions; flowers usually less than $\frac{3}{4}$ inch across.

- (d) Plant dwarf, not over 4 inches high

P'gmy Buttercup (*R. pygmaeus*).

- (dd) Plant usually over 4 inches high; head of seeds usually oblong or cylindric.

- (e) Plant hairy.

- (f) At least some of the lower leaves heart-shaped

Heart-leaved Buttercup (*R. cardiophyllus*).

- (ff) None of the leaves heart-shaped

Meadow Buttercup (*R. inamoenus*).

- (ee) Plant smooth

Smooth Buttercup (*R. alpeophyllus*).

MUSTARD FAMILY (*Cruciferae*)

(Only the most common and easily distinguished species are included)

I. Flowers white, or lavender tinged.

- A. Plant abundant along edges of subalpine streams, blooming in summer; leaves green and toothed

Brook Cross (*Cardamine cordifolia*).

- AA. Plants of open fields blooming in early spring (or of alpine fields in summer).

- a. Plant very slender, usually solitary; leaves bluish; flowers often tinged lavender

Drummond's Arabis (*Arabis Drummondii*).

- aa. Plants lower and stouter, usually tufted

Candytuft (*Thlaspi*).

II. Flowers yellow or dark orange red.

- A. Plant gray, hairy, rough often spreading on the ground

Mountain Lesquerella (*Lesquerella montana*).

- AA. Plant erect, the alpine ones often very tiny and dwarf.

- a. Leaves finely dissected; flowers inconspicuous, stem stout

Hedge Mustard (*Sophia*)

- aa. Leaves not finely dissected.

- (a) Pod linear, much more than twice as long as wide, square in cross section; flower conspicuous.

- (b) Flowers yellow.

- (c) Plant rough, abundant and conspicuous on fields and hillsides in early summer

Wallflower (*Erysimum asperum*).

- (cc) Plant smooth, abundant and conspicuous on alpine fields and meadows

Alpine Wallflower (*E. nivale*).

SAXIFRAGE FAMILY

- (bb) Flowers dark orange or reddish, rare
Wheeler's Wallflower (*E. Wheeleri*).
- (aa) Pod rarely more than twice as long as broad, narrow in section.
- (b) Pod twisted, leaves long-hairy
Twisted Pod (*Draba streptocarpa*).
- (bb) Pod not twisted
Draba (several species difficult to distinguish, many of them dwarf, high-alpine plants).

ORPINE FAMILY (*Crassulaceae*)

- Flowers yellow, common plant in rocky places of all zones
Stonecrop (*Sedum stenopetalum*).
- Flowers red or pink
Flowers dark red, subalpine and alpine zone
King's Crown (*Sedum integrifolium*).
- Flowers pink, stream banks and wet places, subalpine and alpine zones
Rose Crown (*Sedum rhodanthum*).

SAXIFRAGE FAMILY (*Saxifragaceae*)

- I. Flowers not white nor greenish.
- A. Flowers yellow, plants of alpine zone.
 - a. Plant with runners; leaves hairy or at least ciliate
Whiplash Saxifrage (*Saxifraga flagellaris*).
 - aa. Plant without runners; leaves smooth
Golden Saxifrage (*S. chrysantha*).
- AA. Flowers purple, not alpine plants
Purple Saxifrage (*Boykinia Jamesii*).
- II. Flowers white or greenish.
- A. Flowers white, solitary, in heads or in open panicles, never in spikes or racemes.
 - a. Stems leafy.
 - (a) Petals with small colored dots, basal leaves in rosettes
Dotted Saxifrage (*S. austromontana*).
 - (aa) Petals without colored dots; alpine plants of moist, shady rock crevices.
 - (b) Plant with bulbets in the axils of the leaves
Nodding Saxifrage (*S. cernua*).
 - (bb) Plant without such bulbets
Alpine Saxifrage (*S. debilis*).
 - aa. Stems not truly leafy, sometimes bearing one leaf-like bract.
 - (a) Stem with one leaf-like bract about the middle; petals fringed
Fringed Parnassia (*Parnassia fimbriata*).
 - (aa) Stems entirely leafless.

- (b) Spring blooming plant of fields and woods; flowers at first in a dense cluster which later elongates

Snowball Saxifrage (*S. rhomboidea*).

- (bb) Summer blooming plant of subalpine and alpine brook-sides and wet places

Brook Saxifrage (*S. arguta*).

AA. Flowers greenish, in spike-like racemes.

- a. Racemes many-flowered, crowded; plants growing mostly in rock crevices

Alum Root (*Heuchera*).

- aa. Racemes with a few flowers widely spaced; plants growing in moist shady places

Mitrewort (*Mitella*).

ROSE FAMILY (*Rosaceae*)

(For the shrubs of this family see key to Woody Plants page 134)

I. Flowers white or cream colored, conspicuous.

- A. Flowers having eight petals; seeds plumed; alpine plants

Mountain Dryad (*Dryas octopetala*).

AA. Flowers having five petals

Strawberries (*Fragaria*).

II. Flowers yellow or rose, sometimes inconspicuous; petals five.

A. Flowers yellow.

- a. Foliage glaucous, leaflets three, each 3-toothed at apex; plant and flower inconspicuous; high altitudes

Sibbaldia (*Sibbaldia procumbens*).

- aa. Foliage green or silvery, rarely glaucous, if so the flowers conspicuous.

- (a) Plants rough to touch, tall 1-3 feet high, of moist places.

- (b) Inflorescence spicate

Agrimony (*Agrimonia Brittoniana*).

- (bb) Inflorescence not spicate.

- (c) Fruit a bur covered with hooked prickles

Bur Avens (*Geum strictum*).

- (cc) Fruit not a bur

Rough Cinquefoil (*Potentilla monspeliensis*).

- (aa) Plants not rough to touch; flowers bright yellow.

- (b) Plant with runners; under side of leaves silvery

Silverweed (*Argentina anserina*).

- (bb) Plant without runners.

- (c) Foliage, or at least upper part of stem and calyx, dark green or purple tinged; leaves finely dissected; plant abundant on alpine fields

Alpine Avens (*Sieversia turbinata*).

- (cc) Foliage light green, silvery or glaucous, rarely finely dissected

Cinquefoil (*Potentilla* and *Drymocallis*, many species very difficult to distinguish).

PEA FAMILY

AA. Flowers rose-colored; seeds plumed.

- a. Basal leaves finely dissected; stem, upper leaves and calyx rosy-tinged

Pink Plumes (*Sieversia ciliata*).

- aa. Basal leaves irregularly divided, terminal lobe the largest, but not finely dissected; petals and calyx rose or purple

Brook Avens (*Geum rivale*).

PEA FAMILY (*Leguminosae*)

I. Leaves palmately compound.

A. Flowers in a close head.

- a. Native species of high altitudes.

- (a) Flowers 1-3

Dwarf Clover (*Trifolium nanum*).

- (aa) Flowers more than 3.

- (b) Flowers rose-colored fragrant; margins of leaves minutely toothed

Rose Clover (*T. Parryi*).

- (bb) Flowers purple and yellowish; margins of leaves entire

Alpine Clover (*T. dasyphyllum*).

- aa. Cultivated species introduced.

- (a) Flowers deep rose-colored

Red Clover (*T. pratense*).

- (aa) Flowers white or pinkish

White Clover (*T. repens*).

AA. Flowers not in close heads but in spike-like racemes.

- a. Flowers small; pods 1 or 2 seeded; plant sweet scented; leaflets 3.

- (a) Flowers white

White Sweet Clover (*Melilotus alba*).

- (aa) Flowers yellow

Yellow Sweet Clover (*M. officinalis*).

- aa. Flowers large, conspicuous; pods several seeded; plant not sweet scented.

- (a) Flowers yellow; leaflets 3

Golden Banner (*Thermopsis divaricarpa*).

- (aa) Flowers blue or whitish; leaflets 5 or more.

- (b) Flowers distinctly blue

Mountain Lupine (*Lupinus alpestris*).

- (bb) Flowers dirty white or pale blue

Small-flowered Lupine (*L. parviflorus*).

II. Leaves pinnately compound.

A. Pod green-netted veined with spine tipped margins; introduced plant around ranches

Sain-foin (*Onobrychis sativa*).

AA. Pod not as above, plants native.

- a. Foliage covered with silky hairs; keel of corolla sharp pointed.
 - (a) Flowers bright reddish-purple
Colorado Loco (*Oxytropis bilocularis*).
 - (aa) Flowers white or cream-colored
White Loco (*O. saximontana*).
- aa. Foliage not silky-hairy; keel of corolla blunt
Vetch plants (*Astragalus*, several species very difficult to distinguish).

EVENING PRIMROSE FAMILY (*Onagraceae*)

- I. Seeds tipped with a bunch of white hairs.
 - A. Flowers bright purple, 1-2 inches broad, conspicuous.
 - a. Inflorescence a spike-like raceme; plant very common along roadsides and in burned-over areas
Fireweed (*Epilobium angustifolium*).
 - aa. Inflorescence axillary; plant only known from the western slope, in our region.
Broad-leaved Fireweed (*E. latifolium*).
 - AA. Flowers white, pink or bluish, small and inconspicuous
Willow Herbs (*Epilobium*, several species very difficult to distinguish).
- II. Seeds without a bunch of white hairs.
 - A. Flowers minute, white fading reddish
Baby's Breath (*Gayophytum ramosissimum*).
 - AA. Flowers larger, usually 1 inch broad, or more.
 - a. Flowers yellow when fresh, opening in the evening
Yellow Evening Primrose (*Oenothera strigosa*).
 - aa. Flowers white when fresh, sometimes fading pink.
 - (a) Flowers 2 inches across or more, fragrant; plant stemless
Fragrant Primrose (*O. caespitosa*).
 - (aa) Flowers less than 2 inches across, opening in the morning; plant branched.
 - (b) Leaves pinnately finely dissected
White Morning Primrose (*O. coronopifolia*).
 - (bb) Leaves not dissected; stem white and shining
Nuttall's Morning Primrose (*O. Nuttallii*).

PYROLA FAMILY (*Pyrolaceae*)

Bog Pyrola, as the name implies, is a plant of mountain bogs, the rest of this group will be found in coniferous woods of the montane and subalpine zones.

I. Flower solitary.

Star-flower (*Moneses uniflora*).

II. Flowers several

A. Flowers in an umbel

Pipsissiwa (*Chimaphila umbellata*).

AA. Flowers in a simple raceme.

a. Flowers pink

Bog Pyrola (*Pyrola uliginosa*).

aa. Flowers white or greenish.

(a) Racemes one-sided

One-sided Pyrola (*P. secunda*).

(aa) Raceme not one-sided.

(b) Style long and declined

Green-flowered Pyrola (*P. chlorantha*).

(bb) Style short

Least Pyrola (*P. minor*).PRIMROSE FAMILY (*Primulaceae*)

I. Flower solitary, rose-colored; plant usually only 2 or 3 inches high; alpine zone

Fairy Primrose (*Primula angustifolia*).

II. Flowers several, in an umbel.

A. Umbel compound.

a. Inconspicuous plant common on montane fields

Mountain Androsace (*Androsace diffusa*).

aa. Inconspicuous plant of alpine fields

Alpine Androsace (*A. subumbellata*).

AA. Umbel not compound.

a. Flowers white with yellow eye, fading pink, fragrant; small alpine plant

Rock Jasmine (*Drosace carinata*).

aa. Flowers pink or rose-purple.

(a) Petals reflexed; plant of montane meadows and streamsides

Shooting Star (*Dodecatheon pauciflorum*).

(aa) Petals spreading; very conspicuous and strong smelling plant of subalpine and alpine streamsides and wet places

Brook Primrose (*Primula Parryi*).GENTIAN FAMILY (*Gentianaceae*)

I. Corolla saucer-shaped.

A. Plant tall 2-4 feet high, stout, light green

Monument Plant (*Frasera speciosa*).

AA. Plant 18 inches tall or less, slender.

a. Flowers white

Marsh Felwort (*Pleurogyne fontana*).

aa. Flowers dark blue, sometimes purplish

Star Gentian (*Swertia palustris*).

II. Corolla with a distinct tube, its lobes closed or spreading.

A. Flowers bright blue.

- a. Plants very small, usually less than 4 inches high; alpine zone
Moss Gentian (*Chondrophylla americana*).

aa. Plants taller, usually 6 inches tall or more.

- (a) Corolla 4-lobed, more or less fringed.

- (b) Flower fragrant; plant perennial

Fragrant Gentian (*Gentiana barbellata*).

- (bb) Flower not fragrant, plant annual

Fringed Gentian (*G. elegans*).

- (aa) Corolla usually 5-lobed, never fringed.

- (b) Low, spreading, tufted plants of open, dry fields; flowers usually closed

Bigelow's Gentian (*G. Bigelovii*).

- (bb) Taller erect plants of moist meadows.

- (c) Flowers several to many, 1 1/4 inches long or less; montane zone

Closed Gentian (*G. affinis*).

- (cc) Flowers 1-5; montane and rarely, alpine, zones

Parry's Gentian (*G. Parryi*).

AA. Flowers never bright blue, either pale blue, rose-tinged or greenish

- a. Flowers white or greenish with dark markings; common in alpine zone

Arctic Gentian (*G. Romanzovii*).

aa. Flowers not as above.

- (a) Flowers solitary.

- (b) Flower pale blue, borne on a slender terminal peduncle; small, rare, alpine plant

One-flowered Gentian (*G. monantha*).

- (bb) Flower lavender or rose-tinged

Dwarf Rose Gentian (*G. plebeja Holmii*).

- (aa) Flowers several to many.

- (b) Flowers lavender or rose-tinged; plant slender

Rose Gentian (*G. plebeja*).

- (bb) Flowers dirty white or bluish, very numerous in a dense thick spike-like inflorescence

Marsh Gentian (*G. strictiflora*).

PHLOX FAMILY (*Polemoniaceae*)

I. Flowers scarlet or pink

Skyrocket (*Gilia aggregata*).

II. Flowers blue, white or pale yellow.

- A. Flowers with narrow cylindrical tube and spreading lobes to the corolla.

BORAGE FAMILY

- a. Plants of alpine zone, dwarf and cushion-like, never sticky; flowers pale blue
Alpine Phlox (*Phlox caespitosa*).
- aa. Plants not as above.
 - (a) Leaves simple and entire; flowers inconspicuous; calyx papery
Collomia (*Collomia linearis*).
 - (aa) Leaves lobed or divided.
 - (b) Flowers yellowish; some of the leaves with a few lobes; stem woolly
Spicate Gilia (*G. spicata*).
 - (bb) Flowers bluish; leaves pinnatifid; stem sticky but not woolly
Pinnate-leaved Gilia (*G. pinnatifida*).
- AA. Flowers funnel-form or wheel-shaped.
 - a. Lobes of the corolla shorter than the corolla tube; mostly plants of high altitudes.
 - (a) Corolla bright blue
Sticky Polemonium (*P. viscosum*).
 - (aa) Corolla cream-colored
Honey Polemonium (*P. mellitum*).
 - aa. Lobes of the corolla longer than the corolla tube; flowers blue.
 - (a) Stems decumbent, clustered; plant found in subalpine and upper montane forests
Jacob's Ladder (*P. pulcherrimum*).
 - (aa) Stems erect.
 - (b) Slender plant of bogs and wet ground in submontane and montane zones
Western Jacob's Ladder (*P. occidentale*).
 - (bb) Stout, usually much branched plant of fields and meadows, montane zone
Leafy Polemonium (*P. foliosissimum*).

BORAGE FAMILY (*Boraginaceae*)

- I. Flowers yellow, seeds smooth, white and shining.
 - A. Flowers $\frac{1}{2}$ inch broad and over 1 inch long
Narrow-leaved Puccoon (*Lithospermum angustifolium*).
 - AA. Flowers about $\frac{1}{4}$ inch broad and 1 inch long or less
Many-flowered Puccoon (*L. multiflorum*).
- II. Flowers blue or white.
 - A. Plant very small, rosette type, with numerous white hairs and intense blue flowers; alpine zone
Alpine Forget-me-not (*Eritrichium argenteum*).
 - AA. Plant not as above.
 - a. Flowers blue; buds often pinkish.

(a) Flowers "forget-me-not" like; seed a small bur
Stickseed (*Lappula floribunda*).

(aa) Flowers bell-shaped or funnel-form
Chiming Bells (*Mertensia*).

aa. Flowers white or very pale blue.

(a) Plant erect, stiff-hairy, unbranched; flowers white, numerous; seed without prickles

Miner's Candle (*Oreocarya virgata*).

(aa) Plants much branched and spreading; weeds growing on waste ground; flowers inconspicuous.

(b) Fruit bur-like

Stickseed (*Lappula*).

(bb) Fruit smooth and shining

Cryptantha (*Cryptantha flexuosa*).

CHIMING BELLS (*Mertensia*)

Plants 1-3 feet high, growing in dense clumps along stream banks, mainly subalpine

Chiming Bells (*M. ciliata*).

Plants usually less than 1 foot high.

Plants of the alpine zone, usually among rocks.

Leaves bright green, thin and pointed

Tweedy's Mertensia (*M. Tweedyi*).

Leaves bluish, thick

Thick-leaved Mertensia (*M. coriacea*).

Plants of the montane zone and lower, found on dry fields and hill-sides.

Plants bluish, smooth

Lance-leaved Mertensia (*M. lanceolata*).

Plants distinctly pubescent

Baker's Mertensia (*M. Bakeri lateriflora*).

MINT FAMILY (*Labiatae*)

I. Inflorescence axillary.

A. Plant aromatic; flowers in whorls in the axils, pale pink

Wild Mint (*Mentha canadensis*).

AA. Plant not aromatic; flowers 1 or 2 at each node, purple or rarely pink

Skullcap (*Scutellaria Brittonii*).

II. Inflorescence terminal.

A. Flowers clustered.

a. Flowers conspicuous bright purplish-red; plant strongly aromatic

Horsemint (*Monarda menthaefolia*).

aa. Flowers inconspicuous; plant not aromatic

Dragon-head (*Dracocephalum parviflorum*).

A. Flowers in a spike-like raceme.

a. Stamens equal in length; plant introduced

Spearmint (*Mentha spicata*).

FIGWORT FAMILY

- aa. Stamens not equal in length, one pair shorter; native plant
 Woundwort (*Stachys palustris*).

FIGWORT FAMILY (*Scrophulariaceae*)

I. Leaves alternate or mostly basal.

- A. Plant 2-6 feet tall densely woolly; stamens 5; flowers yellow
 Common Mullein (*Verbascum Thapsus*).

- AA. Plant usually not woolly, if woolly stamens 2; stamens 4 or 2.
 a. Stamens 4; leafy-stemmed plants.

- (a) Flowers in dense spikes or heads often interspersed with
 bright colored bracts.

- (b) Bracts brightly colored or white, more conspicuous than
 the flowers

Paintbrush (*Castilleja*, page 60).

- (bb) Bracts green or greenish, less conspicuous than the
 bright yellow flowers

Gold-tongue (*Orthocarpus luteus*).

- (aa) Flowers usually with prolonged beak; inflorescence spike-
 like; bracts often present but never brightly colored

Lousewort (*Pedicularis* page 59).

- aa. Stamens 2, leaves mostly basal

Kitten-tails (*Synthyris*).

II. Leaves mostly opposite, the lower ones always
 so; anther bearing stamens 4 or 2.

- A. Calyx 5 parted; anther bearing stamens 4, a 5th one with no
 anther usually present.

- a. Sterile stamen as long or longer than the others and evident.

- (a) Plant dwarf with cream-colored flowers; spike one-sided;
 alpine zone

Snow Lover (*Chionophila Jamesii*).

- (aa) Plant usually taller and with blue or purple flowers

Penstemon (*Penstemon* page 58).

- aa. Sterile stamen short or absent.

- (a) Plant tall and stout with inconspicuous greenish or brown-
 ish flowers

Figwort (*Scrophularia occidentalis*).

- (aa) Plant slender and weak.

- (b) Flowers bright yellow from $\frac{1}{2}$ to 1 inch long

Monkey Flower (*Mimulus guttatus*).

- (bb) Flowers blue or blue and white, less than $\frac{1}{2}$ inch long

Blue-eyed Mary (*Collinsia tenella*).

- AA. Calyx 4-parted, anther bearing stamens 2

Veronica (page 60).

PENSTEMON (*Penstemon*)

Flowers blue or bluish-purple.

Sterile stamen smooth; flowers blue with purple throats

One-sided Penstemon (*Penstemon unilateralis*).

Sterile stamen bearded.

Leaves pale, smooth and bluish, tapering; flowers purple

Purple Beardtongue (*P. secundiflorus*).

Leaves decidedly green.

Blossoms large, $\frac{3}{4}$ -1 inch long and $\frac{1}{2}$ inch or more across, bright blue

Blue Mountain Penstemon (*P. alpinus*).

Blossoms smaller, $\frac{1}{2}$ inch or less in length, about $\frac{1}{4}$ inch across, dark blue.

Plant tufted; flowers scattered or continuous along the stem

Dwarf Penstemon (*P. humilis*).

Plant not tufted; flowers crowded in heads or in clusters along the stem

Clustered Penstemon (*P. procerus*, *P. Rydbergii* is a very similar, slightly larger species).

Flowers dark reddish-purple or whitish; subalpine and alpine zones

Whipple's Penstemon (*P. Whippleanus*).

LOUSEWORT (*Pedicularis*)

Leaves undivided.

Flowers purple; plant of montane meadows

Purple Lousewort (*Pedicularis crenulata*).

Flowers white; plant of montane and subalpine forests; foliage often reddish

Mountain Figwort (*P. racemosa*).

Leaves finely pinnately divided, appearing fern-like.

Flowers rose-colored or purple, leaves tinged purplish.

Flowers with a long slender upcurved beak; abundant in wet meadows

Little Red Elephant (*P. groenlandica*).

Flowers with beak not slender and upcurved; very rare plants of the alpine zone

Rock-loving Lousewort (*P. scopulorum*).

Flowers greenish or yellowish.

Plants of montane and subalpine woods; leaves bright green.

Flowers greenish; plant 2-4 feet high

Giant Lousewort (*P. Grayi*).

Flowers yellow; plant 8 inches to 2 feet high

Bracted Lousewort (*P. bracteosa*).

Plants of alpine grassland

Parry's Lousewort (*P. Parryi*).

COMPOSITE FAMILY

VERONICA (*Veronica*)

Flowers white

Annual Veronica (*Veronica peregrina*).

Flowers blue.

Flowers in the axils of the leaves; plant growing along brooks of the montane zone and lower

American Brooklime (*V. americana*).

Flowers in a terminal spike; subalpine and alpine situations

Alpine Veronica (*V. alpina*).

PAINTBRUSH (*Castilleja*)

(Plants which have very inconspicuous flowers surrounded by very brightly colored calices and floral bracts which make them some of our most beautiful wildflowers.)

Floral bracts red, rose-colored, purple or pink.

Stem branched, flower-spike red.

Plant of montane zone and lower on dry hillsides, often with sagebrush; leaves narrow

Narrow-leaved Paintbrush (*Castilleja lineariaefolia*).

Plant of the upper montane and subalpine zones in moist situations; leaves wider

Scarlet Paintbrush (*C. rhexifolia*).

Stem not branched; plant of subalpine and alpine meadows; bracts pink to rose-purple

Rosy Paintbrush (*C. lauta*).

Floral bracts white, yellow or brownish.

Dwarf plant of exposed alpine fields; bracts brownish or yellowish

Short-flowered Paintbrush (*C. brachyantha*).

Taller plants; bracts white or greenish or yellow.

Bracts white or greenish; montane meadows; stem sometimes branched

Northern Paintbrush (*C. septentrionalis*).

Bracts yellow; subalpine and alpine meadows; stem never branched

Yellow Paintbrush (*C. occidentalis*).

COMPOSITE FAMILY

(*Compositae*)

This is the largest of all the families of flowering plants and contains about one-fifth of all seed plants growing in the Rocky Mountain National Park. It is one of the groups in which the flower parts are most highly specialized and is also one of the most difficult families in which to distinguish the different individuals. On that account a short explanation of the structure of the flower head is given here.

This group includes many of our common weeds as well as many beautiful and showy wildflowers. While apparently very different all of these plants have a similar arrangement of the flowers. What appears to the casual observer to be the "flower" of a sunflower is in reality an inflorescence made up of numerous small flowers called *florets*, closely packed together on the enlarged upper end of the stem, the *receptacle*, and surrounded by several or many *bracts*. These bracts form the *involucre* around the *head* of flowers. Superficially they resemble a calyx made up of sepals.

In plants of this family there are two types of corollas. This character forms the basis on which the family may be separated into two groups. One group is composed of those plants having only *ligulate* (i. e. strap-shaped) corollas and the other those having at least some *tubular* corollas. The second group is much the larger. Our common dandelion is an example of the first group. The corollas of all the florets of the dandelion head are alike. They are long, flat, and narrow, and are referred to as strap-shaped or *ligulate*. The sunflower head on the other hand belongs in the second group. It is made up of two kinds of flowers, the *ray florets* with yellow ligulate corollas around the outside of the head which are often spoken of as the "petals" when the head is erroneously considered as one flower, and the *disk florets* comprising the center of the sunflower head. The corollas of the disk florets are tubular in shape, and in the case of the sunflower they are brownish in color, more usually they are yellow. It is very easy to take a sunflower head apart and see the parts of each individual flower (floret), but many members of this family have such tiny florets that even the botanist can not tell much about them without the use of a high-powered magnifying glass. Daisies, asters and goldenrods have the same type of head as the sunflower, i. e. composed of ray florets and disk florets. Some composite flowers are composed entirely of disk florets. The common thistle is one of this type. Its tube is split part way down and the corolla is longer than in most of the disk florets. But in the other discoid forms, the corolla tube is not split, it is short and usually 5-toothed at the apex.

Plants of th's group have hard, one-seeded fruits which are technically called *achenes*. The calyx of the florets is a much modified structure called the *pappus*. It consists usually of long soft hairs attached to the apex of the achene. These hairs are often very conspicuous as the plant goes to seed. Sometimes the pappus consists of scales or bristles. The pappus of dandelions and many others of th's group serve as parachutes by which their seeds are carried long distances by the wind. Thus Mother Nature has provided for the widespread distribution of these plants.

KEY TO COMPOSITE FLOWERS (*Compositae*)

I. Florets all ligulate.

A. Florets pink or purplish, never yellow.

- a. Florets pink, soon withering; leaves inconspicuous; plant much branched

Milk Pink (*Lygodesmia juncea*).

- aa. Florets purplish in a long narrow raceme; heads somewhat drooping; stems not branched

Rattlesnake-root (*Prenanthes racemosa*).

- AA. Florets yellow or white.

- a. Florets yellow.

- (a) Heads solitary, stems leafless.

- (b) Involucre black hairy

Alpine Crepis (*Crepis alpicola*).

- (bb) Involucre not black hairy.

- (c) Leaves entire margined, broadest near the apex and tapering to the base

False Dandelion (*Agroseris*).

- (cc) Leaves wavy-toothed, tapering to both ends

Dandelion (*Taraxacum*).

- (aa) Heads several.

- (b) Pappus of soft, pure white hairs; plants of wet meadows and river banks

Crepis (*Crepis*).

- (bb) Pappus of soft dirty-white to tawny hairs; plants of hillsides and fields

Slender Hawkweed (*Hieracium gracile*).

- aa. Florets white or cream-colored; basal leaves with long white hairs

White-flowered Hawkweed (*H. albi-florum*).

- II. Florets not all ligulate, at least some disk florets with tubular corollas present.

- A. Florets of only one kind, corollas all tubular.

- a. Foliage spine-tipped; corollas deeply cleft.

- (a) Heads rose-purple

Purple Thistle (*Cirsium filipendulum*).

- (aa) Heads cream-colored or dirty white

Drummond's Thistle (*Cirsium Drummondii*).

- aa. Foliage not spine-tipped.

- (a) Leaves opposite; heads large and nodding

Parry's Arnica (*Arnica Parryi*).

- (aa) Leaves alternate.

- (b) Heads drooping, $\frac{1}{4}$ inch broad or more; plant never silvery; flowers green or yellowish

Thoroughwort (*Brickellia grandiflora*).

- (bb) Heads erect, or if drooping less than $\frac{1}{4}$ inch broad, or if broader the plants silvery.

- (c) Heads small, many in spike-like raceme, color inconspicuous; foliage usually silvery
Wormwood, Sagebrush (*Artemisia*).
- (cc) Heads not as above, usually bright colored.
- (d) Heads yellow.
 - (e) Heads solitary, very compact; leaves 3-parted
Gold-buttons (*Erigeron compositus discoides*).
 - (ee) Heads several to many
 - (f) Heads very small, numerous; a dwarf fall-blooming shrub of open fields
Rabbit-brush (*Chrysothamnus pumilus*).
 - (ff) Heads larger; plants never shrubs
Rayless Ragwort (a few species in the genus *Senecio*).
- (dd) Heads not yellow.
 - (e) Heads white, cream-colored, pink or brownish, "everlasting flowers."
 - (f) Spring blooming plants rarely over 10 inches high, usually less
Catspaw (*Antennaria*).
 - (ff) Summer and fall blooming plants usually 1 foot or more high.
 - (g) Heads pure white, papery
Pearly Everlasting (*Anaphalis subalpina*).
 - (gg) Heads cream-colored, satiny
Cudweed (*Gnaphalium decurrens*).
 - (ee) Heads bright purple. plant of open fields
Gayfeather (*Liatris punctata*).
- AA. Florets of two kinds, disk and ray, the ray corollas ligulate.
 - a. Ray florets yellow with basal portion dark red; disk florets dark red
Gaillardia (*Gaillardia aristata*).
 - aa. Ray florets entirely yellow.
 - (a) Leaves opposite
Arnica (*Arnica*).
 - (aa) Leaves alternate.
 - (b) Disk florets also yellow.
 - (c) Lower leaves 8-12 inches long, head 1-2 inches across solitary or few
Pyrrocoma (*Pyrrocoma crocea*).
 - (cc) Lower leaves much shorter or the heads many and small.
 - (d) Plant either rough-hairy or sticky.
 - (e) Leaves deeply divided; stems sticky
Bahia (*Bahia dissecta*).
 - (ee) Leaves not deeply divided; margins entire or wavy-toothed.

COMPOSITE FAMILY

- (f) Plant smooth below but buds very sticky; growing along roadsides and on disturbed soil
Gumweed (*Grindelia squarrosa*).
- (ff) Plants rough thruout, usually found on dry fields or roadsides
Golden Aster (*Chrysopsis*).
- (dd) Plants neither very rough nor sticky, sometimes woolly or hairy.
- (e) Plants of a pine regions; heads solitary.
- (f) Plants densely woolly at least at base; ligules 3-toothed.
- (g) Flowers 2-3 inches across. leaves divided
Rydbergia (*Rydbergia*).
- (gg) Flowers smaller, leaves undivided
Woolly Actinella (*Actinella lanata*).
- (ff) Plants not densely woolly, ligules entire at apex.
- (g) Plant woolly at base
Tonestus (*Tonestus pygmaeus*).
- (gg) Plant soft and herbaceous at base
Dwarf Senecio (*Senecio Holmii*).
- (ee) Plants not confined to alpine regions; heads usually several to many.
- (f) Bracts of the involucre in one series, often dark tipped
Ragworts (*Senecio*).
- (ff) Bracts of the involucre in 2 or more series never dark tipped.
- (g) Bracts loose and leafy
Parry's Goldenrod (*Oreochrysum Parryi*).
- (gg) Bracts tightly appressed, not leafy
Goldenrod (*Solidago*).
- (bb) Disk florets darker than the rays, usually brownish or blackish.
- (c) Disk cone-shaped or cylindrical.
- (d) Disk cylindrical, leaves finely dissected
Coneflower (*Ratibida columnaris*).
- (dd) Disk cone-shaped.
- (e) Rough plant of medium size, common on open fields and meadows; leaves entire not divided
Brown-eyed Susan (*Rudbeckia hirta*).
- (ee) Smooth plant, 3-6 feet high; leaves often lobed or divided; found along streams and in moist woods
Goldenglow (*Rudbeckia laciniata*).
- (cc) Disk flat; at least some of the leaves opposite.
- (d) Perennial native plants.
- (e) Bushy, many-flowered plant of dry fields and hill-sides
Dwarf Sunflower (*Helianthus pumilus*).

- (ee) Slender, mostly unbranched plants of meadows and aspen thickets
Helianthella (*Helianthella quinque-nervis*).
- (dd) Annual plant escaped from cultivation around ranches and roadsides
 Annual Sunflower (*Helianthus annuus*).
- aaa. Ray flowers never yellow, either white, blue, purple or pinkish.
 - (a) Plants stemless, blooming in early spring
 Easter Daisy (*Townsendia exscapa*).
 - (aa) Plant with evident stem but sometimes dwarf.
 - (b) Flower heads aggregated in dense clusters; disks and rays white; plants aromatic
 Yarrow (*Achillea millefolium*).
 - (bb) Flower heads not aggregated in dense clusters; disks always colored, usually yellow.
 - (c) Rays comparatively broad and few; involucre bracts of different lengths imbricated in several rows.
 - (d) Rays reddish purple; plant much branched; involucre bracts bent out at the tips
 Tansy Aster (*Machaeranthera varians*).
 - (dd) Rays bluish, lavender or white, rarely reddish purple.
 Asters (*Aster*, many species very difficult to distinguish).
 - (cc) Rays comparatively narrow and very numerous; bracts of the involucre in one or two rows of equal length
 Daisy (*Erigeron*, page 65).

DAISY (*Erigeron*)

I. Rays inconspicuous.

- A. Plant widely branched, inflorescence in a corymb or panicle.
 - a. Stem and involucre greenish
 Bitter Fleabane (*Erigeron acris*).
 - aa. Stem and involucre purplish
 Yellowstone Fleabane (*Erigeron yellowstonensis*).
- AA. Plant unbranched or with only a few, erect branches, inflorescence in a raceme
 Long-leaved Fleabane (*Erigeron lonchophyllum*).

II. Rays conspicuous.

- A. Plants much branched throughout, many flowered
 Branching Daisy (*Erigeron diversgens*).
- AA. Plants unbranched or very little branched; flowers one to several.

- a. Plants 8 inches to 2 feet tall, leaves smooth.
 - (a) Involucres densely woolly, flowers rose-colored
Beautiful Daisy (*Erigeron elatior*).
 - (aa) Involucres not densely woolly.
 - (b) Ligules comparatively wide; heads usually one, sometimes 2-3
Subalpine Daisy (*Erigeron salsuginosus*).
 - (bb) Ligules very narrow and numerous (60 or more); heads usually several
(c) Plants of montane meadows and aspen groves; entirely smooth
Mountain Daisy (*Erigeron macranthus*).
 - (cc) Plants of the subalpine zone or higher with some white hairs at the base of the involucre
Superb Daisy (*Erigeron superbus*).
- aa. Plants less than 8 inches tall, if taller leaves pubescent.
 - (a) Medium-sized plants 6-10 inches tall, decidedly pubescent, montane zone.
 - (b) Plants spreading by runners these sometimes not evident early in the season but flowers always pink in the bud, white when opened; rays narrow
Whip-lash Daisy (*Erigeron flagellaris*).
 - (bb) Plants without runners, rays wider, never pink in the bud.
 - (c) Flowers white
Dwarf Daisy (*Erigeron pumilus*).
 - (cc) Flowers blue
Blue Daisy (*Erigeron corymbosus*).
 - (aa) Dwarf plants usually less than 6 inches tall, if taller growing in the alpine zone
 - (b) Leaves divided or lobed.
 - (c) Leaves 3-parted; montane zone
Cut-leaved Daisy (*Erigeron compositus*).
 - (cc) Leaves pinnately dissected; alpine zone
Pinnate-leaved Daisy (*Erigeron pinnatisectus*).
 - (bb) Leaves entire, alpine zone
 - (c) Involucre black-hairy
Black-headed Daisy (*Erigeron melanocephalus*).
 - (cc) Involucre white-hairy
One-flowered Daisy (*Erigeron uniflorus*).

GLOSSARY

Achene. A small, dry, hard, 1-celled, 1-seeded, non-splitting fruit.

Acuminate. Taper-pointed.

Acute. Sharp-pointed or ending in a point less than a right angle.

Adnate. United in growth; the calyx is adnate to the seed-pod in the Bluebell Family.

Alpine Zone. That region above timberline, usually above 11,500 feet.

Alternate. (Used of leaves, branches, etc.) Occurring singly at the nodes.

Annual. Of only one year's duration.

Anther. The essential part of the stamen, which contains the pollen.

Aquatic. Growing in water.

Awl-shaped. Sharp-pointed from a broader base.

Axillary. Occurring in the axils.

Axil. The upper angle between a leaf and the stem.

Axis. The central line of any body; the organ round which others are attached.

Bract. In general the leaves of an inflorescence, more or less different from ordinary leaves; always sessile; specially the small leaf or scale in the axil of which a flower or its pedicel stands.

Bulbet. A small bulb, especially one borne upon the stem or in the inflorescence.

Caespitose. Growing in turf-like patches or tufts.

Calyx. The outer circle of floral leaves, made up of the *sepals* which may be either distinct or joined together. If only one circle is present it is called a calyx even though it is showy and appears like a corolla.

Carpel. The unit of structure of the pistil, which may consist of a single carpel or of several carpels.

Ciliate. Beset on the margin with a fringe of hairs.

Corolla. The inner circle of floral leaves, usually showy. It is made up of *petals* which may be either united or separate. It is always surrounded by a calyx.

Corymb. A flat or convex flower-cluster, with branches arising at different levels and flowers blooming at the outer edges first.

Cotyledons. The seed leaves, the first leaves of the embryo.

Crenate. (Of margins of leaves and petals.) With rounded teeth.

Deciduous. Falling off or subject to fall; applied to plants whose leaves fall in autumn.

Decumbent. Reclined on the ground, the summit tending to rise.

Dentate. Toothed.

Dicotyledonous. Used of plants which have a pair of cotyledons in the embryo.

Disk. The face of any flat body; the central region of a head of flowers, like the sunflower, as opposed to the *ray* or margin; a fleshy expansion of the receptacle of a flower.

Dissected. Cut deeply into many lobes or divisions.

Entire. The margin not at all toothed, notched or divided.

Evergreen. Holding the leaves over winter or longer, until new ones appear.

Exserted. Protruding out of, as the stamens out of the corolla.

Fertile. Fruit-bearing, or capable of producing fruit; also applied to anthers when they produce good pollen.

Filament. The stalk of a stamen; also any slender thread-shaped appendage.

Floret. A small flower, usually one of a dense cluster.

Frond. The leaf of ferns.

Genus, plural Genera. A group of plants made up of closely related species.

Glabrous. Smooth, having no hairs, bristles, or other pubescence.

Glaucous. Covered with a fine white powder that rubs off (bloom), like that on a fresh plum or a cabbage leaf. It often gives foliage a bluish appearance.

Habitat. The situation in which a plant grows in a wild state.

Herb. A plant with no persistent woody stem above ground.

Herbaceous. With the texture of common herbage; not woody. Applied to plants which are herbs as distinguished from those which are shrubs or trees.

Imbricate. Overlapping (as shingles on a roof), either vertically or spirally, where the lower piece covers the base of the next higher; or laterally as in the arrangement of a calyx or corolla, where at least one piece must be wholly external and one internal.

Imperfect flowers. Lacking either stamens or pistils.

Indusium. The shield or covering of the sorus ("fruit-dot") of a fern.

Inferior. Applied to the seed-pod when the calyx and corolla are placed on top of it instead of being inserted at its base enclosing it.

Involucre. A whorl or set of bracts around a flower, umbel, or head.

Irregular. Used to describe a calyx or corolla in which all the parts are not alike. Violets and sweet-peas are examples of irregular flowers while a wild rose is a regular flower.

Keel. Used to describe the two lower petals of flowers of the Pea Family; also any projecting ridge on a surface like the keel of a boat.

Lanceolate. Lance-shaped.

Leaflet. One of the divisions or blades of a compound leaf.

Linear. Narrow and flat. the margins parallel.

Lobe. Any projection or division (especially a rounded one), of a leaf, etc.; used also of the divisions of a united corolla.

Midrib. The middle or main rib of a leaf.

Monocotyledonous. Used of plants which only have one cotyledon in the embryo.

Montane Zone. The region between 6,000 and 9,000 feet, which con-

tains mostly a mixed forest of Western Yellow pine and Douglas tree, with Lodgepole pine coming in on burned areas above 8,000 feet, also Aspen groves and many open fields and hillsides.

Naturalized. Introduced from a foreign country, but growing wild and propagating freely by seed.

Needle-shaped. Long, slender and rigid, like the leaves of pines.

Node. A knot; the joints of a stem, from which the leaves arise.

Opposite. Applied to leaves and branches when an opposing pair occurs at each node.

Ovary. That part of the pistil which contains the ovules (young seeds).

Palmate. Applied to a leaf whose leaflets, divisions, or main ribs all spread from the apex of the petiole, like a hand with outspread fingers.

Panicle. An open or dense cluster in which the secondary branches are branched again. Is usually used of an inflorescence.

Papilionaceous. Butter-fly-shaped; applies to such a corolla as that of the pea or bean.

Pediceal. The stalk of each particular flower of a cluster.

Peduncle. A flower-stalk, whether of a single flower or of a flower-cluster.

Pendent. Hanging.

Perennial. Lasting from year to year.

Perianth. The floral envelopes of the flower; especially when the sepals and petals can not be distinguished as in many plants of the Lily Family.

Petal. A constituent member of the corolla. (See *corolla*).

Petaloid. Petal-like; resembling or colored like petals.

Petiole. The leaf-stalk.

Pinna, plural *pinnae*. One of the divisions of a pinnately divided leaf, used especially of ferns.

Pinnate. (Leaf.) Leaflets disposed along the main axis of the leaf; feather-veined (secondary veins arising from a midrib).

Pistil. The seed-bearing organ of the flower. It is made up of the ovary, which becomes the seed-pod, the style, and the stigma.

Plumose. Plumed or feathery.

Pollen. Pollen grains; the male element in flowering plants which must be deposited on the stigma of the pistil in order that the ovules may be fertilized and develop into seeds.

Produced. Extended or projecting, as the upper sepal of a larkspur is produced above into a spur.

Pubescence. Fine and soft hairs.

Pubescent. Covered with fine, soft hairs.

Raceme. A flower-cluster with one-flowered pedicels along the axis of inflorescence.

Rachis. An axis bearing close-set organs; especially the midrib of a fern frond.

Radiate. Furnished with ray-flowers.

- Ray*. The marginal flower of a head or cluster when different from the rest, especially when ligulate; the branch of an umbel.
- Receptacle*. The more or less expanded or produced end of an axis which bears the organs of a flower or the collected flowers of a head.
- Reflexed*. Bent outwards or backwards.
- Regular*. Used to describe a calyx or corolla in which all the parts are similar.
- Rudimentary*. Imperfectly developed, or in an early stage of development.
- Runner*. A slender and prostrate branch rooting at the end or at the joints. Strawberries are examples of plants having such *runners*.
- Sepal*. A constituent member of the calyx.
- Serrate*. *Serrated*. With margin cut into teeth pointing forwards.
- Sessile*. Without any stalk, as a leaf destitute of petiole, a flower destitute of pedicel or an anther destitute of filament.
- Shrub*. A woody perennial, smaller than a tree, usually with several stems.
- Silky*. Glossy with a coat of fine and soft, close-appressed, straight hairs.
- Silvery*. Shining white or bluish-gray, usually from a silky pubescence.
- Simple*. Of one piece, opposed to compound.
- Sorus*, plural *Sori*. The "fruit-dots" of ferns, a cluster of little sacs each of which contains many spores. Sori usually occur in characteristic arrangement on the back of the fertile frond.
- Species*. A group containing all the individuals of a particular kind of plant.
- Stamen*. The pollen-bearing organ, made up of the *filament* and the *anther* which contains the pollen.
- Stigma*. The region of the pistil which receives the pollen.
- Stipules*. The appendages on each side of the base of certain leaves.
- Style*. The beak-like prolongation of the pistil above the ovary, which bears the stigma.
- Subalpine Zone*. The region between 9,000 feet and timberline containing heavy Engelmann spruce-alpine fir forest, meadows and bogs. On the exposed ridges will be found a stunted growth of limber pine, and on the burned areas lodgepole pine. In general this zone supports the most luxuriant plant life of the mountains.
- Superior*. Used of the seed-pod when the other parts of the flower are inserted at its base or below it, as in the Buttercup Family.
- Umbel*. The umbrella-like form of inflorescence in which the peduncles or pedicels all arise from one point and are of different lengths so that the top of the inflorescence is more or less flat.
- Timberline*. The line on mountains where tree growth stops due to severe climatic conditions, and above which only herbs and dwarf shrubs are found. The last trees are often much deformed by the high winds and quite frequently become prostrate.
- Whorl*. A group of three or more similar organs radiating from a node.

BOOKS ON MOUNTAIN BIRDS, FLOWERS AND TREES

A few well illustrated books which will prove valuable to the nature lover in the Rocky Mountain National Park are listed below:

- Bailey, Florence Merriam, Handbook of Birds of the Western United States. Houghton Mifflin Co., Boston and New York, 1927.
—— Birds of New Mexico. New Mexico Department of Fish and Game, 1928.
Clements, Edith S. Flowers of Mountain and Plain. H. W. Wilson Co., New York, 1926.
Longyear, B. O., Evergreens of Colorado. Colorado Agricultural College, Fort Collins, 1925.
—— Trees and Shrubs of the Rocky Mountain Region. G. P. Putnam
Reed, C. K., Western Bird Guide, 1913.
Smoll, P. A., Evergreens of Rocky Mountain National Park. Trail Print Shop, Estes Park, 1926.

