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# The Common Plants of the Hemlock-Spruce Forests of Alaska

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PACIFIC NORTHWEST FOREST AND RANGE EXPERIMENT STATION  
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## INTRODUCTION

This guide includes 41 of the more conspicuous plants of the hemlock-spruce forests of Alaska. Plants found primarily in nonforest habitats, such as beaches, tidal meadows, muskegs, and alpine meadows, are not included, nor are trees, rare plants, or those plants requiring minute inspection for identification. The guide is designed primarily for those wishing to become familiar with the more common forest plants. A complete flora is Hultén's Flora of Alaska and Neighboring Territories.<sup>1/</sup> Scientific names of plants in the guide follow Hultén's usage.

The guide was designed to fill the often-expressed need for a concise and simple guide to the most common forest plants of southeast Alaska's forests. Those visiting or working in the hemlock-spruce forests will find the guide helpful.

Illustrations (figs. 1-41) (p. 9-50) and a key for identifying plants are included. A key is a series of paired statements used to eliminate all plants but the one being identified. The key has been prepared with amateur botanists in mind and so contains a minimum of technical botanical terms. Terms used are defined on pages 65-67 and illustrated in figures 42-58, p. 51-63.

To use this key, compare your plant with the paired statements beginning on page 4. Select from the first pair the statement that best describes your plant and proceed to the next pair of statements shown by the number at the end of the line. Continue this process until you are directed to the figure illustrating the plant.

Your plant may be slightly different from the final illustration, but it should conform to a majority of characteristics. If you feel doubtful, try the key again until you are satisfied that the general appearance of the plant conforms to the drawing.

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<sup>1/</sup> Hultén, Eric. 1968. Flora of Alaska and neighboring territories; a manual of the vascular plants. 1,008 p. Stanford Univ. Press, Stanford, Calif.



The scientific and common names of the plant species and the family in which it belongs are shown beneath each illustration.

The 41 plants included in the key are divided into four major groups and illustrated as follows:

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### KEY

1. Plant with spores, lacking flowers and seeds (figs. 1-9). . . . . 2
1. Plant without spores, with flowers and seeds (figs. 10-41). . . . . 10
2. Leaves with a distinct blade and stem (figs. 3-9). . . . . 4
2. Leaves not differentiated into a distinct blade and stem . 3
5. Stem divided into more or less erect, stout branches; spores in axils of leaves . . . . . Fir Clubmoss, fig. 1
5. Stem creeping, tipped with a single pine conelike structure on erect, simple or paired, aerial stems; leaves narrowly triangular and tapering to a point. . . . . Stiff Clubmoss, fig. 2
4. Spore-producing fronds differ from nonspore-producing fronds; sterile divisions of the leaf blades are smooth, no teeth in leaf margin, leathery, evergreen..Deerfern, fig. 3
4. Spore-producing fronds and sterile fronds alike. . . . . 5
5. Frond rigid, leathery, teeth of pinnae curved towards the attachment, pinnae long; sori covered with a shield-shaped indusium . . . . . Swordfern, fig. 9
5. Fronds not firm and leathery, deciduous; indusium absent or, if present, kidney-shaped, with a deep depression between the lobes. . . . . 6
6. Main stem of frond forked, with 8 to 10 long pinnae branching from the forks; sori marginal, on the back of pinnule. . . . . Maidenhair Fern, fig. 4



6.	Main stem of frond simple; sori on back of fronds along the veins or, if marginal, covered by the inward rolling of the frond margin. . . . .	7
7.	Sori continuous along margin, margin rolled inward covering the sori; fronds coarse, hairy beneath; rhizome buried deep in the earth (fig. 58). . . . .	Bracken, fig. 5
7.	Sori on back of frond along the veins; rhizome near the surface of the soil; fronds not coarse. . . . .	8
8.	Fronds growing in a ringlike pattern, blades ovate (fig. 47) to triangular; stalk shorter than blade, covered with brown scales. . . . .	Spreading Woodfern, fig. 6
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9.	Frond ternate, the two lateral divisions nearly as large as the terminal division . . . . .	Oakfern, fig. 7
9.	Frond not divided, basal pinnae pair slightly drooping. . . . .	Beechfern, fig. 8
10.	Plant a woody shrub. (figs. 10-20). . . . .	11
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11.	Leaves simple (figs. 42-43) . . . . .	13
12.	Leaf having three leaflets; flower solitary, reddish-purple; fruit red or orange; stem with prickles . . . . .	Salmonberry, fig. 10
12.	Leaf having five to seven leaflets, hairy beneath; flowers yellowish-white, ill-scented; fruit red; stem without prickles. . . . .	Pacific Red Elder, fig. 11
13.	Stem and veins of leaves armed with prickles, large palmately lobed leaves; flowers green; fruit red . . . . .	Devilsclub, fig. 12
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14.	Flowers in racemes (fig. 56). . . . .	19
14.	Flowers not in racemes. . . . .	15
15.	Flowers in clusters at the end of short lateral twigs bearing large opposite leaves, petals white; fruit red or orange . . . . .	High Bushcranberry, fig. 13
15.	Flowers single arising from axils of leaves or in groups at the ends of twigs; leaves small, elliptical (fig. 49), leaf position is not opposite . . . . .	16



16. Ovary superior (fig. 55); leaves thin, upper side gray-green with scattered hair, underside whitish with sticky hairs; several to many coppery-pink flowers at ends of twigs. . . . . Rusty Menziesia, fig. 14
16. Ovary inferior (fig. 54); leaves green, smooth and hairless on upper surface, more or less smooth and hairless on lower surface . . . . . 17
17. Fruit red; leaves 1 to 2 cm (2/5-4/5 in) long . . . . . Red Huckleberry, fig. 15
17. Fruit blue-black; leaves longer . . . . . 18
18. Petals usually broader than long; style projecting beyond petals, a straight fruit stalk more than 1 cm (3/8 in); leaves with short glandular hairs on midvein on lower surface . . . . . Alaska Blueberry, fig. 16
18. Petals usually longer than broad; style not projecting beyond petals; a curved fruit stalk less than 1 cm (3/8 in); leaves hairless . . . . . Early Blueberry, fig. 17
19. Leaves not lobed, leathery; flowers pinkish-white, urn-shaped. . . . . Salal, fig. 18
19. Leaves lobed, not leathery; flowers white to green or red to purple, not urn-shaped . . . . . 20
20. Stem erect; raceme (fig. 56) longer than leaves; berry black; petals white to green, sometimes strongly tinged with purplish-brown . . . . . Stink Currant, fig. 19
20. Stem more or less trailing; raceme shorter than leaves; berry purple-black; petals red to purple. . . . . Trailing Black Currant, fig. 20
21. Leaves compound (figs. 44-46) . . . . . 22
21. Leaves simple (figs. 42, 43). . . . . 25
22. Stem trailing; leaves palmately compound with five-leaf divisions (fig. 46) . . . . . Five-leaf Bramble, fig. 21
22. Stem erect; leaves mostly ternate (fig. 45) to ternate-pinnately compound (figs. 44 & 45). . . . . 23
23. Flowers, one to three on long leafless stem; fruit 6 to 12 follicles; leaves evergreen . . . . . Fernleaf Goldthread, fig. 22
23. Flowers more than three; fruit not a follicle; leaves deciduous . . . . . 24
24. Leaves mostly basal; petals narrowly triangular and tapering to a point; long flowering stem with one to two ternate leaves. . . . . Laceflower, fig. 23





24. Leaves not basal; plant tall, 30-100 cm (12-40 in); petals white; stamens longer than petals; fruit a red or white berry . . . . . Baneberry, fig. 24
25. Leaves fleshy and large, in basal cluster; spathe yellowish; spadix green; skunklike odor . . . . . Yellow Skunkcabbage, fig. 25
25. Leaves small; flowers not in a spadix; skunklike odor absent. . . . . 26
26. Leaves parallel-veined (veins nearly equal in size and parallel, see fig. 27), entire; flower parts in threes or sixes . . . . . 27
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27. Ovary inferior (fig. 54); leaves basal or opposite. . . . . 32
27. Ovary superior (fig. 55); leaves alternate. . . . . 28
28. Leaves usually two or three; single flowers on short stalks arising along an elongated raceme, flowers white; fruit red or yellow . . . . . Deerberry, fig. 26
28. Leaves usually more than three; flower single in axil of leaf or in panicle (fig. 57). . . . . 29
29. Plant tall, 1-2.5 m (3-8 ft); green flowers in panicle with drooping branches, vasselike in early growth . . . . . False Hellebore, fig. 27
29. Plant short, less than 1 m (3 ft) tall; berry red . . . . . 30
30. Petals united basally forming a short tube; plant less than 20 cm (1-8 in) tall. . . . . Kruhsea, fig. 28
30. Petals bell-shaped; plant taller than 20 cm (8 in). . . . . 31
31. Petals rose-colored, bell-shaped. . . . . Simple-stemmed Twistedstalk, fig. 29
31. Petals green, bell-shaped . . . . . Clasping Twistedstalk, fig. 30
32. Two opposite leaves, usually in middle of stem; flowers green or purple . . . . . Heartleaved Twayblade, fig. 31
32. Leaves basal, whitish along veins; flowers white. . . . . Menzies Rattlesnakeplantain, fig. 32
33. Leaves thick, mostly basal. . . . . 34
33. Leaves not thick or leathery, leaves if mostly basal than long petioled and cordate . . . . . 37
34. Flower single, white, petals united at base; leaves small, obovate (fig. 48) to rounded, margins toothed; fruit a capsule . . . . . Single Delight, fig. 33



34. Flowers three or more, petals greenish-white to pinkish-white, or yellow-green . . . . . 35
35. Raceme one-sided, petals greenish-white . . . . . One-sided Wintergreen, fig. 34
35. Raceme not one-sided, petals yellow-green to pinkish-white. . 36
36. Flowers crimson to pinkish-white, sepals longer than broad. . . . . Liverleaf Wintergreen, fig. 35
36. Flowers yellowish-green, sepals broader than long . . . . . Greenish-flowered Wintergreen, fig. 36
37. Uppermost stem leaves not whorled . . . . . 39
37. Uppermost stem leaves whorled . . . . . 38
38. Flowers white or pinkish-white arising from whorl, one to three flowers, usually one, petals united at base; stem leaves below the whorl are alternate. Arctic Starflower, fig. 37
38. Flowers many, small purplish-black or yellowish-green, surrounded by white horizontal, petal-like bracts; stem leaves below the whorl are opposite . . . . . Bunchberry, fig. 38
39. Flowers white, petals awl-shaped; leaves lobed, hairy above . . . . . Sugarscoop, fig. 39
39. Flowers yellow or bluish-purple; leaves kidney- to heart-shaped. . . . . 40
40. Flowers large, petals bluish-purple . . . . . Alaska Violet, fig. 40
40. Flowers small, petals yellow, purplish-veined . . . . . Stream Violet, fig. 41



ILLUSTRATIONS OF SPECIES

Figures 1 through 41





FIGURE 1

*Lycopodium selago* L.  
Fir Clubmoss. LYCOPODIACEAE.

Branched in pairs, with the branches reaching approximately the same height; green to yellowish sporangia in axils of leaves, in zones alternating with vegetative leaves. Leaves all about alike, subappressed or widely spreading. (Note in drawing of subappressed leaf form that the leaves in the fertile area have been spread, so that the sporangia are visible.)





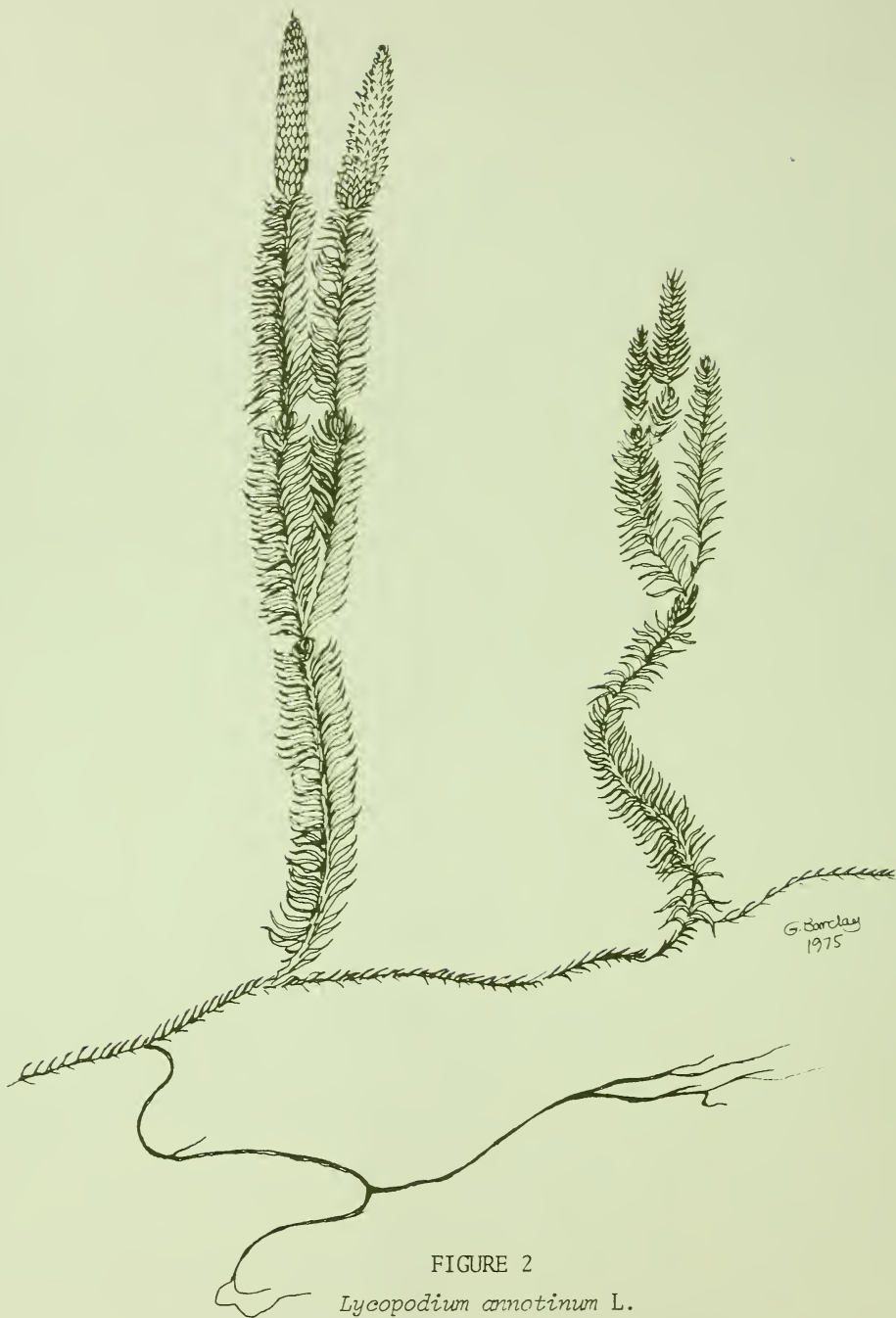


FIGURE 2

*Lycopodium annotinum* L.  
Stiff Clubmoss. LYCOPODIACEAE.

The horizontal stem above ground producing erect, simple or paired, aerial stems. Cone-shaped spore producers borne singly and attached directly to the stem.



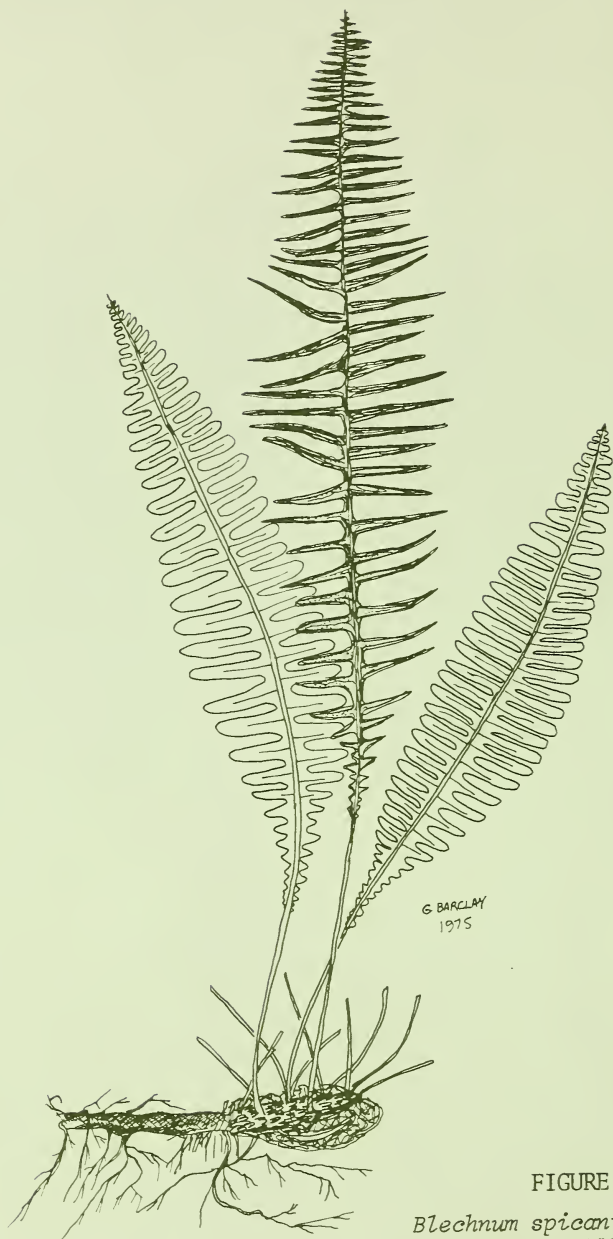


FIGURE 3

*Blechnum spicant* (L.) Roth.  
Deerfern. BLECHNACEAE.

Rhizome short and woody; fronds of two types, fertile and vegetative; the fertile fronds longer than the vegetative ones; the fertile pinnae commonly longer and narrower than the vegetative pinnae; spore producers more or less continuous along the lower margin of pinnae; vegetative leaves leathery, 10-75 cm (4-29 in) long forming a circular crown.



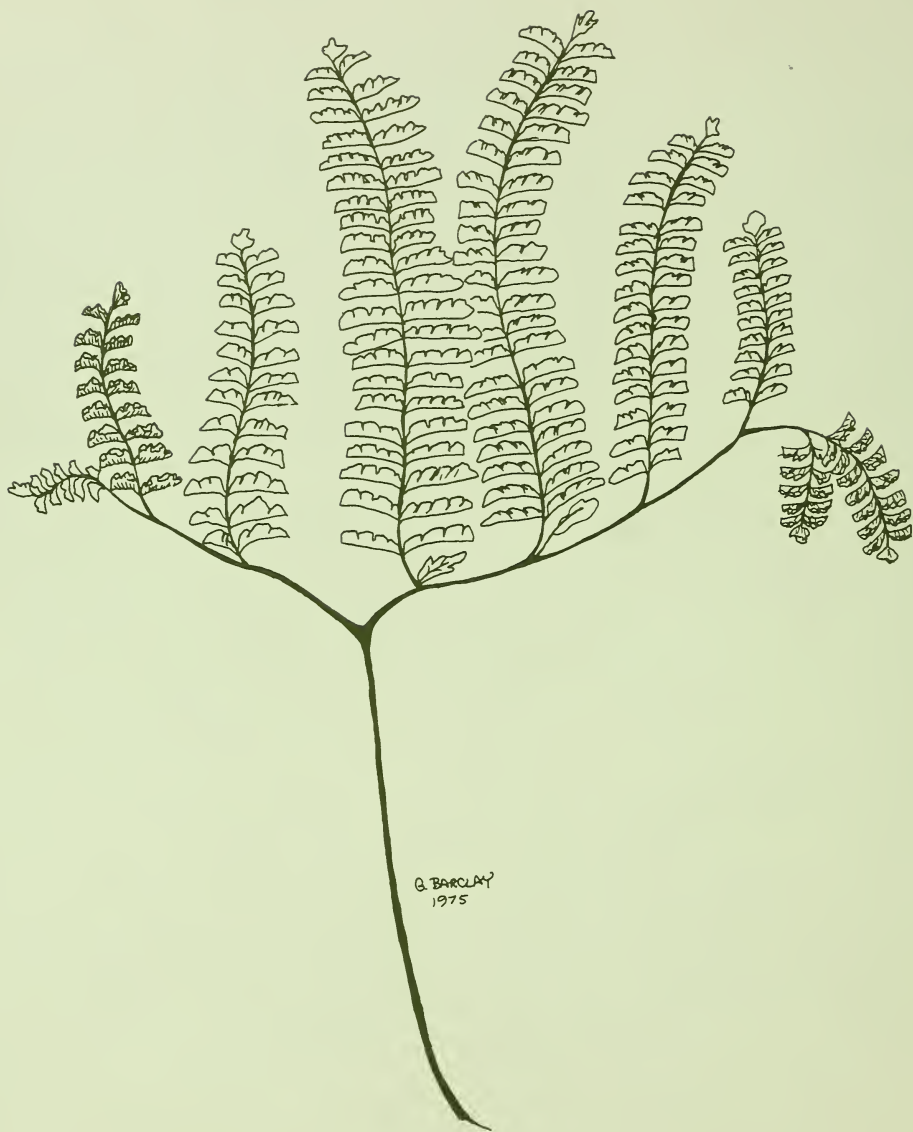


FIGURE 4

*Adiantum pedatum* L.  
Maidenhair Fern. ADIANTACEAE.

Fronds solitary, 20-70 cm (8-28 in) long; stem shiny black; blade branched in pairs; leaflets thin; sori marginal, on the back of pinnule.



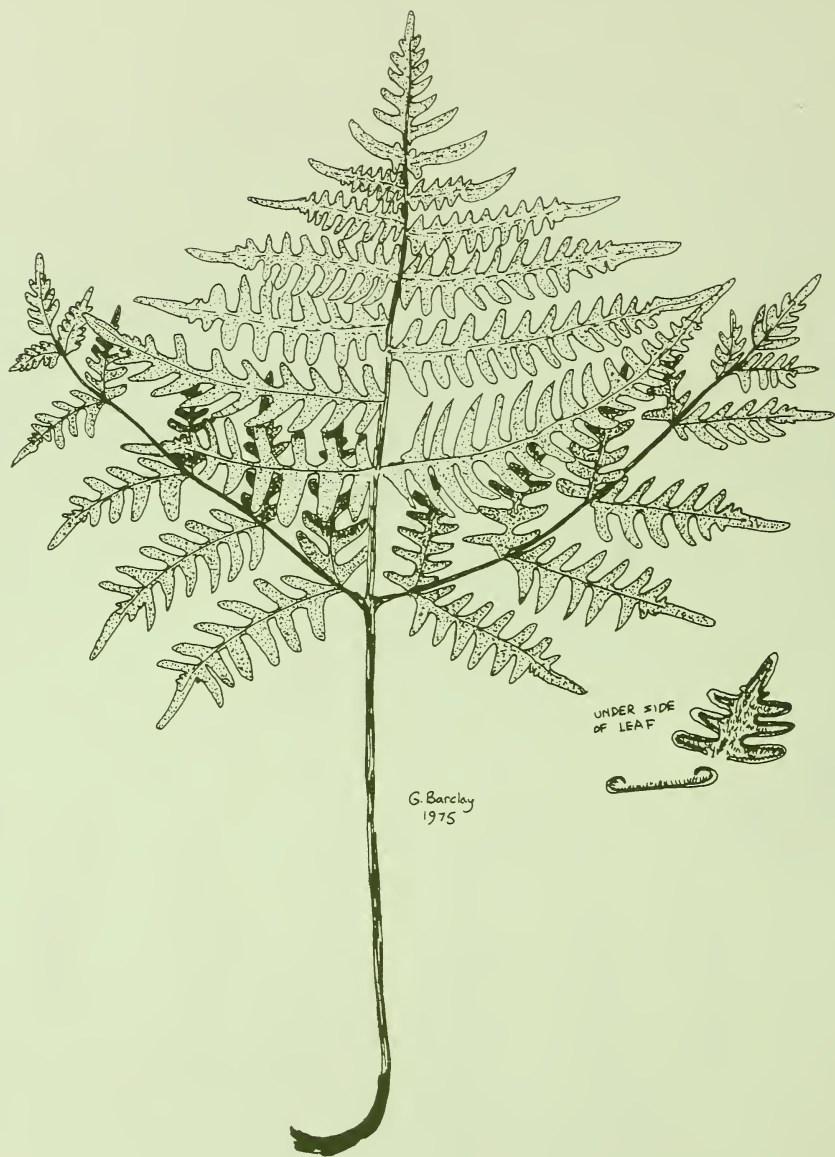


FIGURE 5

*Pteridium aquilinum* (L.) Kuhn.  
Bracken. HYPOLEPIDACEAE.

Rhizome hairy, buried deep; fronds with erect, stout stems, 20-100 cm (8-39 in) long; blade triangular in shape, usually three times pinnately compound; sori marginal, protected by the pinnule margin rolling backward upon the lower side.







FIGURE 6

*Dryopteris dilatata* (Hoffm.) Gray.  
Spreading Woodfern. ASPIDIACEAE.

Rhizome thick, covered with old leaf bases; fronds egg-shaped to triangular, 15-90 cm (6-36 in) tall; the petiole scaly almost to the blade; the blade thrice pinnately compound, the lowermost pinnae commonly larger and broader than other pinnae; upper innermost pinnules of basal pair of pinnae much shorter than lower pinnules.





FIGURE 7

*Gymnocarpium dryopteris* (L.) Newm.  
Oakfern. ASPIDIACEAE.

12-43 cm (5-17 in) tall; leaves scattered; petiole mostly smooth, scaly above rhizome; blade triangular, divided into three segments, the three main segments again once to twice pinnately compound, the terminal segment larger than or about equal to the lateral segments.





FIGURE 8

*Thelypteris phegopteris* (L.) Slosson.  
Beechfern. THELYPTERIDACEAE.

Rhizome long, slender, hairy; single frond, mostly 10-50 cm (4-20 in) high; petiole longer than blade, hairy and scaly; blade triangular- to egg-shaped, once to twice pinnately compound; lowermost pinnules largest and usually drooping in mature plants.





FIGURE 9

*Polystichum munitum* (Kaulf.) Presl.  
Swordfern. ASPIDIACEAE.

Rhizome densely clothed with scales and old leaf bases; fronds form a crown, 20-150 cm (8-60 in) long; petioles coarse, scaly throughout; blade lance-elliptic to oblong, leathery, once pinnately compound, sori in one to several rows; covering of sori large, with fringed margins.







FIGURE 10

*Rubus spectabilis* Pursh.  
Salmonberry. ROSACEAE.

Mostly 1-3 m (3-10 ft) tall; the stems, petioles, and veins of lower leaf surface hairy and maybe prickly; leaves mostly with three leaflets; flowers showy on short, leafy shoots, solitary; petals reddish-purple; fruit red or orange, blackberrylike.





FIGURE 11

*Sambucus callicarpa* Greene.  
Pacific Red Elder. CAPRIFOLIACEAE.

Clump-forming shrub, 2-3.5 m (6-12 ft) tall, sometimes treelike; leaves opposite, pinnately compound, leaflets five or seven, paired except at end; leaflets lance- to egg-shaped, sharply toothed, pale and hairy on lower surface; flowers yellowish-white, ill-scented, terminal, cone- or egg-shaped; fruit bright red.





FIGURE 12

*Oplopanax horridus* (Sm.) Miq.  
Devilsclub. ARALIACEAE.

1-3 m (3-10 ft) tall; stems coarse, armed with spines; leaves alternate; blades palmately veined and lobed, 5-35 cm (2-14 in) long and 10-45 cm (4-18 in) wide; spiny along veins; flowers cone-shaped, greenish-white; fruit red.





FIGURE 13

*Viburnum edule* (Michx.) Raf.

High Bushcranberry. CAPRIFOLIACEAE.

0.6-3.5 m (2-12 ft) tall; one to many stems; leaves opposite, shallowly and palmately three-lobed; rounded basally, dull green above, light green below; flowers terminal on short lateral twigs, with many or several short-stalked whitish flowers; fruit red or orange.







FIGURE 14  
*Menziesia ferruginea* Sm.  
Rusty menziesia. ERICACEAE.

2-3 m (6-10 ft) tall; loose-spreading with slender, widely forking, 23 paired branches; leaves thin, upper side gray-green with scattered hair, edges minutely toothed with gland-tipped hairs, underside whitish with sticky hairs; flowers several to many at ends of twigs; corolla urn-shaped, coppery-pink.





FIGURE 15

*Vaccinium parvifolium* Sm.  
Red Huckleberry. ERICACEAE.

1-3 m (3-10 ft) tall, with small leaves 1-2 cm (2/5-4/5 in); branchlets strongly angled or ridged, green; leaves elliptic to lance-elliptic; flowers solitary in axil of leaf; petals yellowish-pink, broadly urn-shaped; fruit red.





FIGURE 16

*Vaccinium alaskaense* Howell.  
Alaska Blueberry. ERICACEAE.

0.5-2 m (1.5-6 ft) tall; branchlets angled; leaves lance-shaped to elliptic, the margin smooth or finely-notched only near the base, with short glandular hairs on midvein on lower surface; flowers borne singly in axil of leaf; flower stalks long (1 cm (3/8 in) or longer), straight; flower stalk usually somewhat enlarged just below the fruit; petals coppery-pink usually broader than long, flowers urn-shaped; style often showing; berries bluish-black or black.





FIGURE 17

*Vaccinium ovalifolium* Sm.  
Early Blueberry. ERICACEAE.

0.5-2 m (1.5-6 ft) tall; branchlets angled; leaves hairless elliptic to oval; pedicels less than 1 cm (3/8 in) long, curved; usually not enlarged below the fruit; petals coppery-pink usually longer than broad, flowers urn-shaped; style usually not showing; berries bluish-black.







FIGURE 18

*Gaultheria shallon* Pursh.  
Salal. ERICACEAE.

0.6-1 m (2-3 ft) tall; leaves alternate, short-stalked, large, thick, ovate to elliptic, stiff and leathery, upper surface shiny green, lower surface lighter green; long hairy racemes, few to many hairy flowers; petals urn-shaped, whitish-pink; berry hairy, purplish-black at maturity.





FIGURE 19

*Ribes bracteosum* Dougl.  
Stink Currant. SAXIFRAGACEAE.

1-2.5 m (3-8 ft) tall; stems smooth; leaves large, five- to seven-lobed, lobes toothed at edges, underside dotted with tiny resin glands; flower raceme 8-30 cm (3-12 in) long, erect, 15- to 50-flowered; flowers white to green sometimes strongly tinged with purplish-brown; berries black, glandular; strong odor.





FIGURE 20

*Ribes laxiflorum* Pursh.

Trailing Black Currant. SAXIFRAGACEAE.

Usually a low spreading shrub, vinelike; often rooting along stem; stem lacking prickles; leaf divided into five, deeply triangular lobes, deeply cordate at base; flower raceme 10-15 cm (4-6 in) long, erect, 6- to 18-flowered, shorter than leaves; flowers red to purple; berries purplish-black, glandular-bristly, strong odor when crushed.





FIGURE 21

*Rubus pedatus* Sm.  
Five-leaf Bramble. ROSACEAE.

Slender, trailing vine rooting at nodes; leaves and stems mostly less than 10 cm (4 in) tall; leaves palmately compound, with five leaf divisions, stalkless, obovate, irregularly toothed leaflets; flowers single; petals white; fruit red.







FIGURE 22

*Coptis asplenifolia* Salisb.

Fernleaf Goldthread. RANUNCULACEAE.

9-35 cm (3-14 in) tall; leaves basal; petioles 1.5-11 cm (1/2-4 in) long; leaves pinnate with sharply toothed segments; flower stalk leafless, mostly two-flowered; flowers white; follicle spreading, 7-10 mm long, up to 12 in a head.





FIGURE 23

*Tiarella trifoliata* L.  
Laceflower. SAXIFRAGACEAE.

10-50 cm (4-20 in) tall; basal leaves long-stemmed, ternate (fig. 45), leaflets stalked; long flowering stem with one to two ternate leaves; flowers moderately showy, several to many; petals white; fruit a capsule, valves very unequal in size.





FIGURE 24

*Actaea rubra* (Ait.) Willd.

Baneberry. RANUNCULACEAE.

30-100 cm (12-40 in) tall; stem branching above; two or more leaves, ternately compound, the leaflets sharply toothed; petals white, stamens longer than petals; berries red or white.





FIGURE 25

*Lysichiton americanum* Hult. & St. John.  
Yellow Skunkcabbage. ARACEAE.

30-150 cm (12-60 in) tall; leaf blade ovate to broadly elliptic,  
30-130 cm (12-51 in); spathe yellowish; fruit greenish to  
reddish; plant with skunklike odor.







FIGURE 26

*Maianthemum dilatatum* (Wood) Nels. & Macbr.  
Deerberry. LILIACEAE.

Stem leaves two to three, heart-shaped, parallel-veined; raceme many-flowered, cream to white; berries spotted, becoming red upon drying.





FIGURE 27

*Veratrum viride* Ait. subsp. *Eschscholtzii* (Gray) Löve & Löve.  
False Hellebore. LILIACEAE.

Plant tall, 1-2.5 m (3-8 ft), stout, leafy; leaves broadly round-oval to ovate-lanceolate, strongly parallel-veined; base of leaf surrounding stem; leaves woolly below; flower inflorescence open, with a few long, drooping branches, flowers yellow-green.





FIGURE 28

*Streptopus streptopoides* (Ledeb.) Frye & Rigg.  
 Kruhsea. LILIACEAE.

Less than 20 cm (8 in) tall; stem simple; leaves unstalked, smooth, ovate-lanceolate, somewhat clasping at the base; flowers borne singly in the axils of upper leaves; petals united basally forming a short tube, spreading, wine-colored; berry red.





FIGURE 29

*Streptopus roseus* Michx. subsp. *curvipes* (Vail) Hult.  
Simple-stemmed Twistedstalk. LILIACEAE.

10-40 cm (4-16 in) tall; stem simple; leaves ovate to lanceolate, rounded to slightly clasping at the base; petals and sepals bell-shaped, rose-colored; berries red.







FIGURE 30.

*Streptopus amplexifolius* (L.) D.C.  
Clasping Twistedstalk. LILIACEAE.

30-100 cm (12-40 in) tall; stem usually branched; leaves attached to stem, without stalk; leaves ovate to lanceolate; petals green, bell-shaped; fruit yellow to red.



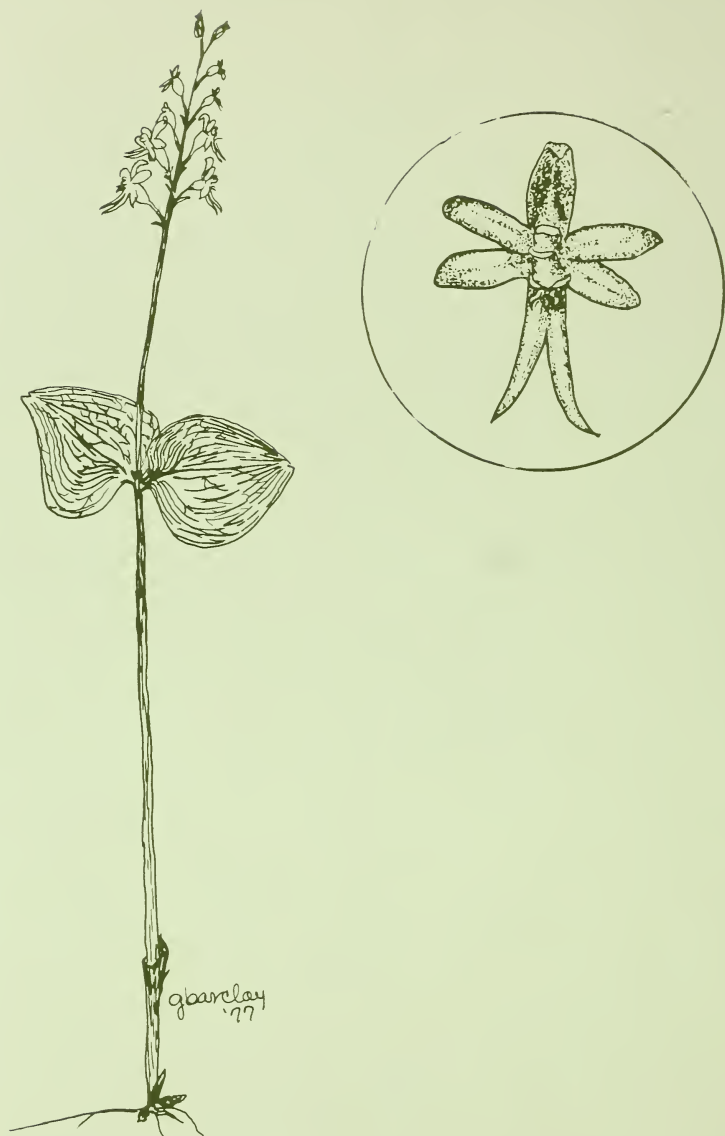


FIGURE 31

*Listera cordata* (L.) R. Br.

Heartleaf Twayblade. ORCHIDACEAE.

10-30 cm (4-12 in) tall; two leaves in middle of stem, cordate, opposite; stem and leaves more or less smooth; raceme terminal, few-flowered; flowers green or purple; lower petal deeply divided into two linear lobes, smooth in margin, rounded or slightly notched at tip, with pair of small teeth near base.



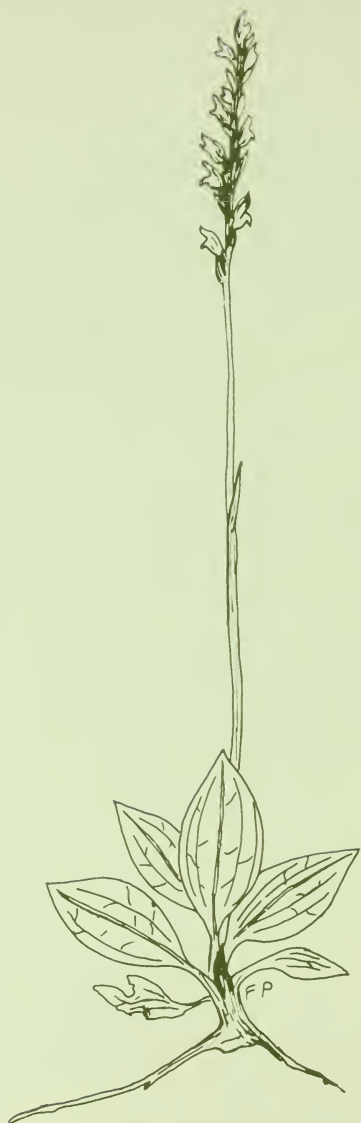


FIGURE 32

*Goodyera oblongifolia* Raf.

Menzies Rattlesnakeplantain. ORCHIDACEAE.

10-40 cm (4-16 in) tall; leaves in rosette; usually oblong-elliptic, dark green or marked with white especially along the midvein; flowers in one-sided raceme; petals white, tinged with green.





FIGURE 33

*Moneses uniflora* (L.) Gray.  
Single Delight. PYROLACEAE.

4-17 cm (1-7 in) tall; leaves small, obovate-rounded, toothed margin; flowers solitary, white to cream; flowers nodding; fruit a capsule.







FIGURE 34

*Pyrola secunda* L.

One-sided Wintergreen. PYROLACEAE.

6-21 cm (2-8 in) tall; leaves mostly basal, egg-shaped, oblong, round, or elliptic, margins crenate-serrate; raceme mostly 4-to 15-flowered, one-sided, petals greenish-white.





FIGURE 35

*Pyrola asarifolia* Michx.

Liverleaf Wintergreen. PYROLACEAE.

13-40 cm (5-16 in) tall; leaves mostly basal, leathery, cordate, rounded to ovate; margins entire to crenate; raceme with 8 to 20 open flowers, petals pinkish-white to crimson, sepals longer than broad.





FIGURE 36

*Pyrola chlorantha* Sw.

Greenishflower Wintergreen. PYROLACEAE.

9-25 cm (4-10 in) tall; leaves basal, thick, roundish to oval in shape; usually with roundly scalloped margins; petals yellowish-green, sepals broader than long.





FIGURE 37

*Trientalis europaea* L.  
Arctic Starflower. PRIMULACEAE.

5-35 cm (2-14 in) tall; simple, erect stem; leaves simple, entire, alternate below a crowded whorl; leaves in whorl obovate to lance-shaped, five to six alternate stem leaves below the whorl; one to three flowers on long slender stalks; petals white or pinkish white, united at the base.







FIGURE 38

*Cornus canadensis* L.  
Bunchberry. CORNACEAE.

5-25 cm (2-10 in) tall; stem with one pair of opposite small leaves and a whorl of 4 to 6 leaves below the flower; white petal-like bracts; flowers yellowish-green to purplish-black, entirely covered with white hairs; fruit red. *C. suecica* L. is like *C. canadensis* except it has three or more pairs of larger stem leaves below the whorl.





FIGURE 39

*Tiarella unifoliata* Hook.  
Sugarscoop. SAXIFRAGACEAE.

20-50 cm (8-20 in) tall; basal leaves palmately three-to five-lobed, heart-shaped, coarse hairs above; flowers moderately showy, several to many; petals white awl-shaped; fruit a capsule, splitting into unequal segments.





FIGURE 40

*Viola langsdorffii* Fisch.  
Alaska Violet. VIOLACEAE.

Rhizome thick; leaves heart- to kidney-shaped with long petioles; large flowers with dark bluish-purple petals, the lower ones united and white at the base, the lateral pair with long hair .





FIGURE 41

*Viola glabella* Nutt.  
Stream Violet. VIOLACEAE.

Rhizome thick, horizontal; aerial stems 5-30 cm (2-12 in) tall; aerial stem leaves much reduced, opposite, short petioled; basal leaves with long petioles, kidney- or heart-shaped; flowers small, petals yellow on both sides, the lower ones united with purple veins, the lateral pair with long hair.





ILLUSTRATIONS OF PLANT PARTS

Figures 42 through 58





FIGURE 42  
Simple leaf, margin entire.





FIGURE 43  
Simple leaf, palmately lobed.





FIGURE 44  
Pinnately compound.







FIGURE 45  
Ternately compound.





FIGURE 46  
Palmately compound.





FIGURE 47  
Ovate.



FIGURE 48  
Obovate.



FIGURE 49  
Elliptic.



FIGURE 50  
Oblong.





FIGURE 51  
Lanceolate.

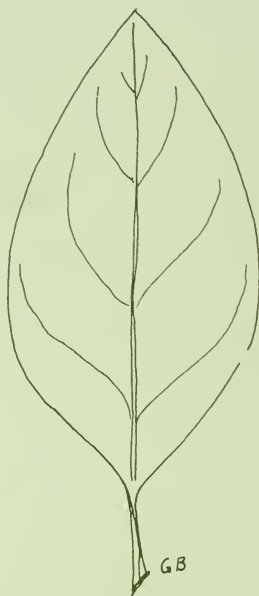


FIGURE 52  
Oval.





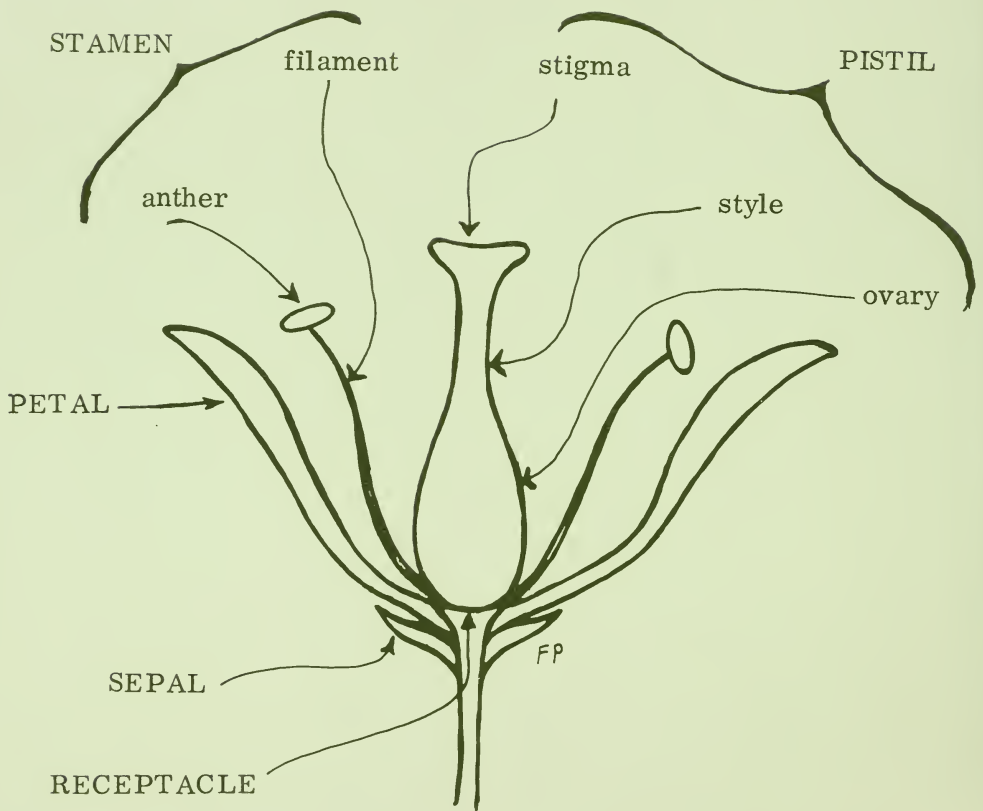


FIGURE 53  
Parts of a flower.



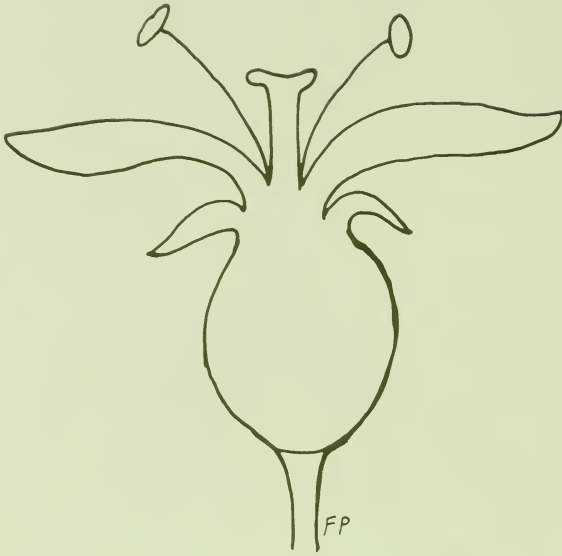


FIGURE 54  
Inferior ovary.



FIGURE 55  
Superior ovary.



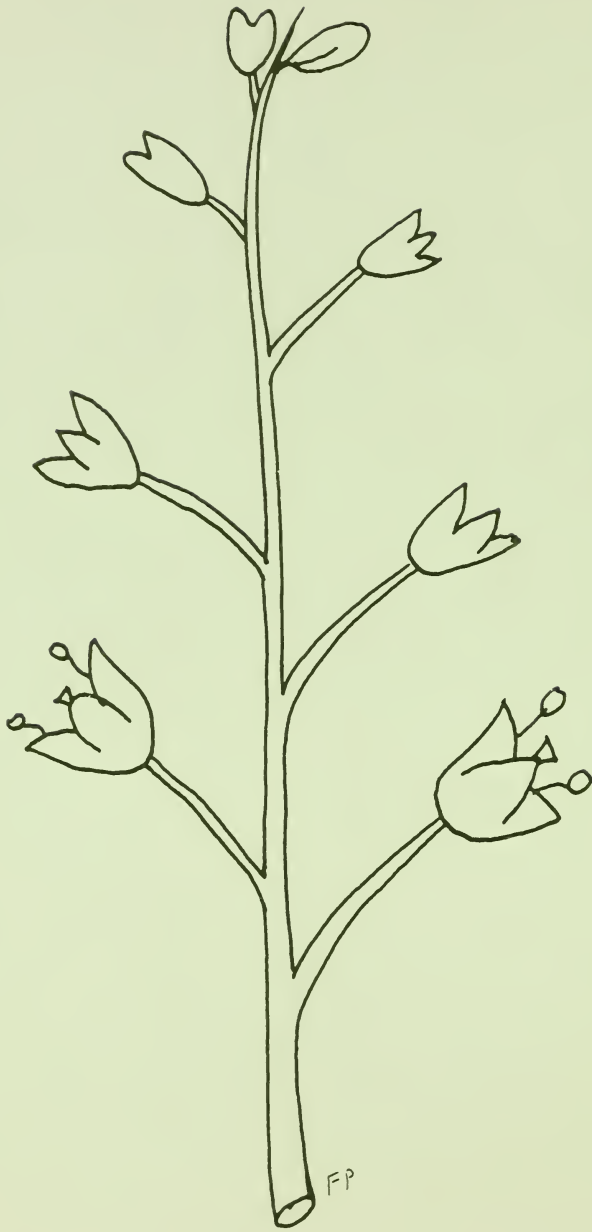


FIGURE 56  
Raceme.



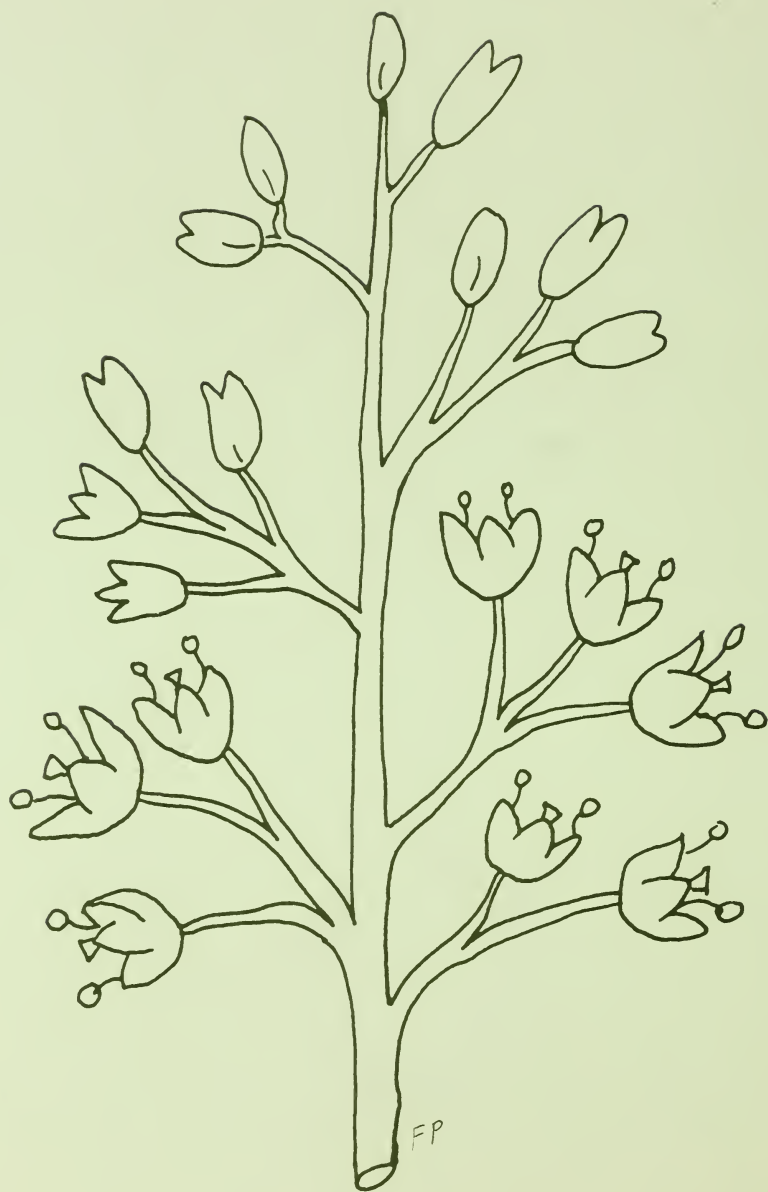


FIGURE 57  
Panicle.





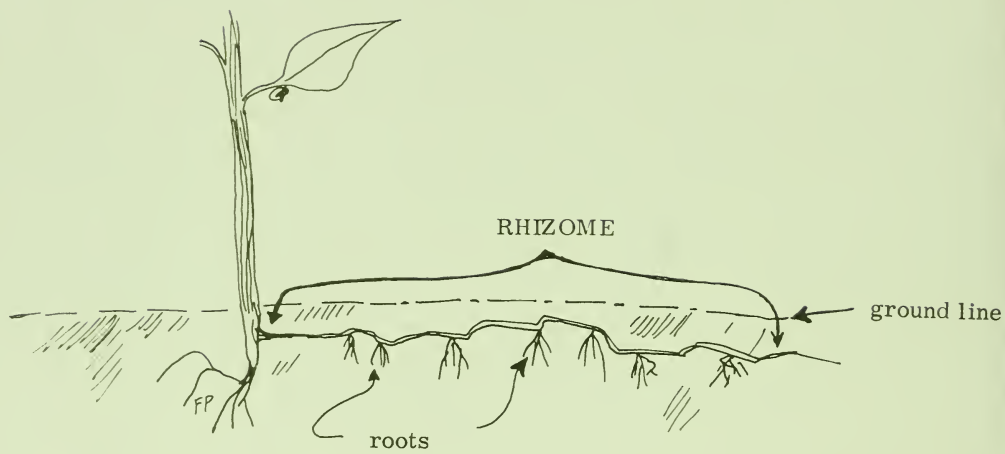


FIGURE 58  
Rhizome.







## GLOSSARY

- Alternate* - Arrangement of leaves or other plant parts occurring singly at a node.
- Anther* - The portion of a stamen which contains the pollen.  
(See fig. 53.)
- Axil* - The angle between a branch or leaf and the axis (main branch) from which it arises. (See figs. 42-46.)
- Basal* - Situated at or growing from the base of the stem, or from the root.
- Blade* - The expanded part of a leaf. (See fig. 42.)
- Bract* - A small leaf from the axil from which a flower or a floral axis arises; also a small leaf just below the flower or flower cluster.
- Capsule* - A dry fruit which splits into more than one part to release seeds or spores.
- Clasping* - Usually refers to a leaf without a petiole, with the lower edges of the blade partly or completely surrounding the stem.
- Compound leaf* - A leaf divided into two or more parts or leaflets.  
(See figs. 44-46.)
- Cordate* - Heart-shaped--often referring to leaves having petiole attached at the broad, notched end.
- Corolla* - The petals of a flower, collectively.
- Crenate* - Describing a leaf margin with rounded or blunt teeth.
- Deciduous* - Falling off; losing leaves in autumn.
- Elliptic* - Broadest at the middle, the ends rather equal. The length is at least twice the width. (See fig. 49.)
- Entire* - Describing an even margin without teeth or lobes.  
(See fig. 42.)
- Fertile* - Capable of reproduction.
- Filament* - That part of the stamen that supports the anther .  
(See fig. 53.)
- Follicle* - A dry one-celled pod or fruit, having one suture (seam or line of fusion) and splitting along this suture to release seeds.
- Fron*d - The leaf of a fern.
- Gland* - An organ or protuberance on or embedded in a plant surface which often secretes a sticky substance.
- Glandular* - Having or bearing glands.
- Herb* - A plant without a woody stem above ground, dying to the ground in the autumn.



- Indusium* - The thin scale-like outgrowth of the fern leaf forming a covering for the young sorus. Sometimes the inrolled leaf margin functions as an indusium.
- Inferior* - In reference to a plant part positioned below another organ, as an inferior ovary with the flower parts inserted around the top. (See fig. 54.)
- Inflorescence* - General distribution and arrangement of flowers on a stem.
- Lanceolate* - Lance-shaped; broadest toward the base and tapering to tip. (See fig. 51.)
- Leaflet* - One of the divisions of a compound leaf. (See figs. 44-46.)
- Lobe* - Any division of an organ, especially if rounded. (See fig. 43.)
- Margin* - The edge of a leaf.
- Midvein* - The central vein or rib of a leaf (midrib).
- Node* - The place on the stem where leaves or branches normally originate.
- Oblong* - Two to four times longer than wide and with nearly parallel sides (See fig. 50.)
- Opposite* - Situated directly across from each other at the same node.
- Ovary* - The swollen basal portion of a pistil; the part containing the ovules or seeds. (See fig. 53.)
- Ovate* - Egg-shaped in outline, with the base broader than the tip. (See fig. 47.)
- Palmate* - Hand-shaped--resembling the open, spread hand. The lobes or divisions attached towards one place at the base. (See fig. 46.)
- Panicle* - A compound or branched raceme with two or more flowers on each branch, with the younger flowers nearest the tip. (See fig. 57.)
- Pedicel* - Any slender stalk, especially one that supports a fruiting or spore-bearing organ. The stalk to a single flower of an inflorescence.
- Persistent* - Remaining attached after similar parts ordinarily fall off.
- Petal* - A leaflike part of the corolla, usually colored and showy. (See fig. 53.)
- Petiole* - The slender stem that supports the blade of a foliage leaf; a leafstalk.
- Pinna(e)* - The primary or main division of a pinnately compound leaf. (See fig. 44.)





- Pinnate* - Referring to pinnately compound leaves--having the leaflets (pinnae) arranged on each side of a common stem. (See fig. 44.)
- Pinnule* - A secondary leaflet in a pinnately compound leaf. The pinnate segment of a pinna.
- Pistil* - The seed-bearing organ of a flower, consisting when complete of an ovary, style, and stigma. (See fig. 53.)
- Raceme* - A type of simple inflorescence, in which the individual flowers are borne on pedicels along a more or less elongated axis with the younger flowers nearest the tip. (See fig. 56.)
- Rhizome* - A prostrate elongated underground stem. (See fig. 58.)
- Rosette* - A cluster of leaves attached at the base of a plant near the ground.
- Sepal* - One of the outer parts of a flower, usually resembling a small green leaf. (See fig. 53.)
- Serrate* - Saw-toothed, with sharp teeth pointing toward the tip. Said of a leaf margin.
- Shrub* - A woody perennial plant smaller than a tree and usually with several basal stems.
- Simple* - Of only one part, not completely divided into separate segments. Refers to a leaf when not compounded into leaflets, or an inflorescence when not branched. (See figs. 42 and 43.)
- Sori* - A cluster or grouping of spore-containing bodies on a fern frond.
- Spadix* - A spike with small, crowded flowers on a thickened fleshy axis.
- Spore* - A primitive reproductive body, typically unicellular.
- Stamen* - The pollen-bearing organ of a flower consisting of a filament and anther. (See fig. 53.)
- Stigma* - The apex of the pistil; the part that receives the pollen. (See fig. 53.)
- Subappressed* - Almost lying flat or close against something.
- Superior* - In reference to a plant part positioned above another organ, as a superior ovary with the flower parts inserted below it.
- Style* - A prolongation of the ovary, commonly bearing the stigma at its tip. (See fig. 53.)
- Terminal* - Proceeding from or attached to the end.
- Ternate* - Consisting of threes; arranged in threes. (See fig. 45.)
- Valve* - One of the pieces into which a capsule splits.
- Vegetative* - In reference to parts of plants concerned with growth and nutrition as opposed to reproduction.
- Whorl* - An arrangement of three or more leaves or flowers at one node, in a circle.







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