

Pteridophyta

Key to ferns and allies

A. Fronds linear, blade not expanded; sporangia embedded in leaf bases, at or below the substrate; submerged or in vernal pools.	Isoëtaceae
aa. Fronds with blades expanded, sporangia not embedded in leaf bases; terrestrial or aquatic emergent.	B
B. Fronds less than 2cm long, scalelike, with a single unbranched vein; sporangia in terminal cones, or single in blade axils.	C
C. Stipes and branches jointed, hollow and often rough to touch; fronds reduced and fused to form a sheath, tips free; sporangia in terminal cones.	Equisetaceae
cc. Stipes and branches not jointed, nor rough; blades opposite or spirally arranged; sporangia various.	D
D. Sporangia axillary and single, with blades unmodified, or if modified aggregated into cylindrical strobili; spores of one size, less than 50 microns in size; plant greater than 4cm tall.	Lycopodiaceae
dd. Sporangia in flattened or 4 sided strobili; spores of 2 sizes; clusters of 1–4 megaspores more than 300microns in diameter; microspores too small and numerous to count; less than 4cm tall.	Selaginellaceae
bb. Fronds exceeding 2cm in length, veins branching, or fronds threadlike and curly; sporangia clustered, but not forming a cone, may cover blade surface.	E
E. Plants less than 30cm tall; fertile frond on a long stipe; sporangia terminal, in 2 rows or in a comb shape, plants less than 10cm tall.	F
F. Fronds threadlike, curly, without blades; fertile fronds ending in tiny comblike structures.	Schizaeaceae
ff. Fronds with expanded blade; fertile fronds ending in a spike, of 2 rows of sporangia. (<i>Ophioglossum</i>)	Ophioglossaceae in part
ee. Plants more than 10cm tall; fronds with expanded blades; fertile fronds not as above.	G
G. Sporangia borne on specialized stipes but not on blade surfaces.	H
H. Plants less than 30cm tall; local; fronds divided into sterile and fertile portions; fertile stipes attached near the base of the sterile portion. (<i>Botrychium</i>)	Ophioglossaceae, in part
hh. Plants robust and much taller than 30cm; common; fronds with fertile portion of the sterile frond, or completely separate.	Osmundaceae
gg. Sporangia borne on blade surface.	I
I. Sori elongated, parallel to midrib of pinnae, extending full length of pinnae or chainlike; indusia opening inward.	Blechnaceae
ii. Sori nearly round, many per pinnae; indusia if present opening outward, towards margins.	J
J. Stipes with tiny scales but no hairs; sori marginal or nearly so; indusia cuplike or formed by rolled margins.	Dennstaedtiaceae
jj. Stipes with scales; indusia absent, or if present various, but not cuplike; sori marginal or not, or	K

replaced by inrolled margins.		
K. Sori elongated along veins, never marginal; indusia long and narrow.		L
L. Scales latticed; sori on one side of veins only.	Aspleniaceae	
ll. Scales not latticed; sori on both sides of veins, or curved around the end of vein.	Dryopteridaceae	Page xvii
kk. Sori not elongate, sometimes marginal, or sporangia covering surface; indusia absent if sporangia elongated along veins.		M
M. Blades once-pinnate, pinnae nearly entire; indusia absent.	Polypodiaceae	
mm. Blades more than once-pinnate; indusia present or absent, or fertile fronds separate.		N
N. Sori with false indusia of rolled margins.	Pteridaceae	
nn. Sori never covered with rolled margins.		O
O. Blades or parts pubescent; sori on lower blade surface.	Thelypteridaceae	
oo. Blades or parts not pubescent; fertile fronds separate. (<i>Onoclea</i> , <i>Matteucia</i>).	Dryopteridaceae, in part	

Conifers

A. Seeds borne singly, in a pulpy fruitlike structure; plants dioecious; needles not aromatic when crushed.		Taxaceae
aa. Seeds in compound cones; leaves aromatic when crushed; plants monoecious.		B
B. Cone scales overlapping, alternate, woody; leaves alternate or in bundles, linear.		Pinaceae
bb. Cone scales and leaves opposite; cones distinct or berrylike; leaves needlelike or scalelike and overlapping.		Cupressaceae

Angiosperms

Dicots

Woody plants (includes shrubs, trees, woody vines and trailing plants)

1. Plants trailing or climbing.		2
2. Plants merely trailing or twining, not rooting at the nodes or tips; tendrils and prehensile leaf rachises absent.		3
3. Flowers 2-lipped (<i>Thymus</i>).	Lamiaceae	
3. Flowers regular (not 2-lipped).		4

4. Stems trailing or arching, sparsely armed with thorns; an uncommon garden escape (<i>Lycium</i>).	Solanaceae
4. Stems trailing, unarmed; usually of native habitats.	5
5. Flowers blue; fruit a follicle; plants having milky juice (<i>Vinca</i>).	Apocynaceae
5. Flowers white or pink; fruit a berry or fleshy capsule; plants lacking milky juice (<i>Vaccinium</i> in part; <i>Gaultheria</i> in part; <i>Epigaea</i>).	Ericaceae
2. Plants climbing by means of tendrils or by rooting at the nodes or tip or by prehensile leaf rachises.	6
6. Vines with tendrils.	7
7. Stems well armed with prickles; leaves simple, entire; tendrils arising from petioles.	Smilacaceae
7. Stems unarmed; leaves simple or compound, serrate; tendrils arising from the stem.	Vitaceae
6. Vines without tendrils, having roots along the stems or stem tips or climbing by means of a prehensile leaf rachis.	8
8. Vines climbing by means of a curling leaf rachis (<i>Clematis</i>).	Ranunculaceae
8. Vines with stems producing roots.	9
9. Vines rooting at the branch tips; stems with prickles (<i>Rubus</i> , in part).	Rosaceae
9. Vines with roots along the stem; stems not armed with prickles (<i>Toxicodendron</i>).	Anacardiaceae
1. Plants not trailing or climbing.	2
2. Plants with alternate leaves.	3
3. Plants dioecious (stamens and pistils on separate flowers on separate plants).	4
4. Flowers with corolla absent and calyx minimal or absent; inflorescence a catkin or catkin-like.	5
5. Trees or shrubs; twigs without resin dots.	Salicaceae
5. Shrubs; twigs dotted with resin.	Myricaceae
4. Flowers with calyx and corolla present; inflorescence not as above.	6
6. Leaves compound and present at flowering.	Anacardiaceae
6. Leaves simple, or not present at flowering.	7
7. Lvs 3–8 mm long, present at flowering.	Empetraceae
7. Lvs greater than 8 mm in length, or absent at flowering.	8
8. If pistillate flowers present.	9
9. Perianth not differentiated into a calyx and corolla, or lacking.	10
10. Style undivided, bearing one stigma.	Aquifoliaceae
10. Style divided, bearing 2–4 stigmas.	11
11. Lvs unsymmetrical at base.	Ulmaceae
11. Lvs symmetrical at base.	Rhamnaceae
9. Perianth composed of a calyx and corolla, calyx sometimes inconspicuous.	12
12. Inflorescence terminal.	Anacardiaceae
12. Inflorescence axillary.	13
13. Style short with a nearly sessile stigma.	Aquifoliaceae
13. Style not as above.	Rhamnaceae
8. If staminate flowers present:	

14. Inflorescence terminal.	Anacardiaceae
14 .Inflorescence axillary.	15
15. Stamens alternate with the sepals.	Rhamnaceae
15. Stamens opposite the sepals.	Aquifoliaceae
3. Plants not dioecious (flowers with both stamens and pistils or flowers unisexual with both staminate and pistillate flowers present on the same plant).	16
16. Fls unisexual (always), small and inconspicuous, usually occurring in catkins or catkin-like arrangements or in densely flowered, spherical heads.	17
17. Male flowers in dense, globose heads.	Fagaceae
17. Male flowers in ellipsoid or cylindric catkins.	18
18. Female fls occurring singly or in small clusters.	19
19. Lvs pinnately compound.	Juglandaceae
19. Lvs simple, sometimes lobed.	Fagaceae
18. Female flowers in catkins, heads or cone-shaped structures.	20
20. Female fls 2 or 3/bract.	Betulaceae
20. Female fls 1/bract.	Myraceae
16. Species (many) with perfect fls or fls individually large and conspicuous; fls not occurring in catkins or dense spherical heads.	21
21. Perianth absent, or in a single series, or calyx and corolla similar.	22
22. Lvs compound.	Araliaceae
22. Lvs simple.	23
23. Number of stamens > number of perianth lobes or parts.	24
24. Lvs glabrous beneath, or undeveloped at anthesis.	Thymelaceae
24. Lvs with silvery scales beneath.	Elaeagnaceae
23. Number of stamens equal to number of perianth parts.	25
25. Fls with one style (branched or unbranched).	26
26. Plants with terminal inflorescences.	Cornaceae
26. Plants with axillary or lateral inflorescences.	27
27. Style with one stigma.	28
28. Leaves without small scales; styles very short.	Aquifoliaceae
28. Leaves bearing small scales; styles long and slender.	Eleagnaceae
27. Styles with 2–4 stigmas.	Rhamnaceae
25. Fls with two styles.	Ulmaceae
21. Perianth consisting of a clearly defined calyx and corolla.	29
29. Ovaries 3–many; stamens > 10.	Rosaceae
29. Ovary 1.	30
30. Corolla irregular.	Ericaceae
30. Corolla regular or nearly so.	31
31. Petals united.	32
32. Number of stamens > number of corolla lobes.	Ericaceae
32. Number of stamens = number of corolla lobes.	33
33. Stamens partially joined to the corolla tube.	Diapensiaceae
33. Stamens not joined to the corolla tube.	34
34. Style very short with stigma nearly sessile.	Aquifoliaceae

34. Style not as above.	Ericaceae	
31. Petals separate.		35
35. Ovary inferior or appearing so.		36
36. Number of stamens > number of petals.		37
37. Style one.	Ericaceae	
37. Styles 2–5.	Rosaceae	
36. Number of stamens = number of petals.		38
38. Petals 4.		39
39. Flowers white.	Cornaceae	
39. Flowers yellow.	Hamamelidaceae	
38. Petals 5.		40
40. Inflorescences racemes or corymbiform clusters.	Grossulariaceae	
40. Inflorescences umbels.	Araliaceae	
35. Ovary superior.		41
41. Lvs cylindric, < 1cm long.	Empetraceae	
41. Lvs flat with blade >1 cm long.		42
42. Flowers produced in the spring before leafout or in the autumn following leaf fall.		43
43. Sepals, petals and stamens each numbering 4, styles 2.	Hamamelidaceae	
43. Sepals and petals each numbering 5.		44
44. Stamens 5, style 3.	Anacardiaceae	
44. Stamens > 5, style 1.	Rosaceae	
42. Flowers and leaves present simultaneously.		45
45. Stamens > twice as many as petals.		46
46. Flowers yellow.	Cistaceae	
46. Flowers white to pink.		47
47. Flower clusters arising from a large bract.	Tilliaceae	
47. Flowers clusters not arising from a large, conspicuous bract.	Rosaceae	
45. Stamens not more than twice as many as petals.		48
48. Lvs compound.	Anacardiaceae	
48. Lvs simple.		49
49. Number of stamens > number of petals.		50
50. Flowers yellow.	Cistaceae	
50. Flowers white to pink.		51
51. Style exceeding the stamens in length; Inflorescence a dense elongate raceme.	Clethraceae	
51. Style shorter than the stamens; inflorescence umbellate or a loose raceme.	Ericaceae	

49. Number of stamens = number of petals.	52
52. Styles 2, separate; fls 4-parted, yellow.	Hamamelidaceae
52. Style 1, or 3-lobed, or 3-cleft.	53
53. Fls yellow and 6-parted; stems with spines.	Berberidaceae
53. Fls white to greenish, plants not spiny.	54
54. Stamens opposite the petals.	Rhamnaceae
54. Stamens alternate with the petals.	Aquifoliaceae
2. Plants with opposite lvs.	55
55. Plants flowering before leafout.	56
56. Flowers with both calyx and corolla.	57
57. Fls mostly unisexual, petals separate, stamens usually 8, ovary superior.	Aceraceae
57. Fls perfect, petals fused, stamens 5, ovary inferior.	Caprifoliaceae
56. Perianth a single series or lacking.	58
58. Plants with male or perfect flowers.	59
59. Stamens 2–4.	Oleaceae
59. Stamens 5–10.	60
60. Shrubs; calyx of 4 sepals or 4-lobed, spreading, yellowish.	Eleagnaceae
60. Trees; calyx of 5 sepals or 5-lobed, erect, often red.	Aceraceae
58. Plants with female flowers.	61
61. Flowers with a well-developed hypanthium, the sepals borne at its margin and its opening more or less closed by the disk .	Elaeagnaceae
61. Flowers with hypanthium absent.	62
62. Ovary noticeably two-lobed.	Aceraceae
62. Ovary not lobed.	Oleaceae
55. Plants flowering during or after leafout.	63
63. Leaves compound.	64
64. Corolla conspicuously.	Caprifoliaceae
64. Corolla absent.	65
65. Stamens usually 8; ovary with 2 lobes.	Aceraceae
65. Stamens 2–4; ovary not lobed.	Oleaceae
63. Leaves simple.	66
66. Dwarf, parasitic plants (primarily found growing on <i>Picea</i> spp.) with leaves reduced to scales.	Viscaceae
66. Plants not as described above.	67
67. Perianth a single series or with calyx and corolla not differentiated.	68
68. Leaves palmately lobed.	Aceraceae
68. Leaves not lobed, entire.	Elaeagnaceae

67. Perianth consisting of both a calyx and corolla with the calyx sometimes inconspicuous.	69
69. Stamens > corolla lobes or divisions.	70
70. Petals united.	Ericaceae
70. Petal separate.	71
71. Stamens = 10.	72
72. Leaves palmately lobed.	Aceraceae
72. Leaves pinnately lobed or lobes absent.	73
73. Leaves pinnately lobed or unlobed and serrate.	Hydrangeaceae
73. Leaves not lobed and entire.	Lythraceae
71. Stamens > 10.	74
74. Flowers white.	Rosaceae
74. Flowers yellow.	Cistaceae
69. Stamens = corolla lobes or divisions.	75
75. Corolla of separate petals.	76
76. Flowers occurring in terminal heads or cymes.	Cornaceae
76. Flowers axillary or in axillary clusters.	Rhamnaceae
75. Corolla of fused petals.	77
77. Ovary epigynous.	78
78. Flowers many in dense, globose heads; leaves entire.	Rubiaceae
78. Flowers not arranged as above; leaves entire, toothed or lobed.	Caprifoliaceae
77. Ovary hypogynous.	79
79. Corolla bilabiate (<i>Thymus</i>).	Lamiaceae
79. Corolla regular.	80
80. Stamens 2; corolla lobes 4.	Oleaceae
80. Stamens 4; corolla lobes 4 or 5.	Diapensia

Herbs (Dicots) with alternate leaves

1. Leaves compound.	2
2. Flowers unisexual.	3
3. Leaves palmately compound.	4
4. Flowers umbellate (<i>Sanicula</i>).	Apiaceae
4. Flowers in spikes or panicles.	5
5. Perianth obvious; stamens many; pistils > 1 (<i>Clematis</i>).	Ranunculaceae
5. Perianth very small; stamens 5; pistil 1 (<i>Cannabis</i>).	Cannabaceae
3. Leaves pinnately compound.	6
6. Flowers umbellate.	Araliaceae
6. Flowers not umbellate.	7
7. Flowers in globose heads or short spikes.	Rosaceae, in part

7. Flowers solitary or in panicles.	Ranunculaceae, in part	
2. Flowers perfect.		8
8. Perianth absent.	Ranunculaceae	9
8. Perianth present.		10
9. Perianth members in a single whorl.		10
10. Ovary inferior.	Rosaceae	11
10. Ovary superior.		11
11. Number of ovaries > 1 per flower.		12
12. Leaves stipulate.	Rosaceae	
12. Leaves exstipulate.	Ranunculaceae	
11. Number of ovaries = 1 per flower.		13
13. Stamens > twice as many as corolla lobes or divisions.		14
14. Perianth small, not brightly colored.	Ranunculaceae	
14. Perianth conspicuous and colorful.	Papaveraceae	
13. Stamens = corolla lobes or divisions, or sometimes > corolla lobes or divisions but never > 2x the corolla lobes or divisions		15
15. Stamens > corolla lobes.	Fabaceae	
15. Stamens = number of corolla lobes.	Rosaceae	
9. Perianth with both calyx and corolla present.		16
16. Flowers with 2 or more ovaries.		17
17. Hypanthium absent	Ranunculaceae	
17. Hypanthium present.	Rosaceae	
16. Flowers with 1 ovary.		18
18. Flowers epigynous.		19
19. Flowers occurring in long, interrupted, spike-like racemes (<i>Agrimonia</i>).	Rosaceae	
19. Flowers occurring in umbels.		20
20. Styles 5 (<i>Aralia</i>).	Araliaceae	
20. Styles 2 or 3.	Apiaceae	
18. Flowers hypogynous.		21
21. Flowers irregular.		22
22. Calyx composed of 2 separate sepals.	Fumariaceae	
22. Calyx composed of 4 or more sepals which are often united.		23
23. Stamens enclosed by the lowermost 2 petals which are connate along their lower margins.	Fabaceae	
23. Stamens not enclosed; petals separate.	Geraniaceae	
21. Flowers regular.		24
24. Number of stamens > number of petals or corolla lobes.		25
25. Stamens > twice as many as petals (<i>Actaea</i>).	Ranunculaceae	
25. Stamens = twice as many as petals.		26
26. Petals 3.	Limnanthaceae	
26. Petals 4 or more.	Oxalidaceae	
24. Number of stamens = number of petals.		27
27 Corolla polypetalous.	Violaceae	

27. Corolla sympetalous.	28
28. Corolla rotate. (<i>Solanum</i>).	Solanaceae
28. Corolla funnelform or salverform (<i>Menyanthes</i>).	Menyanthaceae
1. Leaves simple or dissected (divided into linear segments).	29
29. Flowers unisexual.	30
30. Plants climbing.	Cucurbitaceae
30. Plants not climbing or vining.	31
31. Flowers with petals and sepals absent or with sepals only.	32
32. Flowers in small clusters in leaf axils.	33
33. Pistillate flowers.	34
34. Sepals and bracts scarious.	Amaranthaceae
34. Sepals (if present) and bracts herbaceous (<i>Atriplex</i> , <i>Chenopodium</i>).	Chenopodiaceae
33. Staminate flowers.	35
35. Flowers or flower clusters subtended by bracts.	Amaranthaceae
35. Flowers or flower clusters without bracts (<i>Atriplex</i>).	Chenopodiaceae, in part
32. Flowers in terminal clusters above the leaves.	36
36. Perianth with 6 divisions in two series. (<i>Rumex</i>).	Polygonaceae
36. Perianth divisions 5 or less, or perianth absent.	37
37. Sepals sharply pointed and scarious, occurring with acute, scarious bracts.	Amaranthaceae
37. Sepals lacking one or more of the above features.	38
38. Plants with pistillate flowers or fruit.	39
39. Ovary with 3 compartments (locules); fruit a capsule with same number of compartments and with 3 or 6 seeds.	Euphorbiaceae
39. Ovary with one compartment; fruit one-seeded.	Chenopodiaceae
38. Plants with staminate flowers.	40
40. Sepals ± united.	Euphorbiaceae
40. Sepals separate.	Chenopodiaceae
31. Flowers with both calyx and corolla.	41
41. Leaves sessile or nearly so (<i>Sedum</i>).	Crassulaceae
41. Leaves distinctly petiolate (<i>Rubus</i> , <i>Dalibarda</i>).	Rosaceae
29. Flowers with functional stamens and pistils.	42
42. Sepals and/or petals absent or ephemeral.	43
43. Flowers epigynous.	44
44. Stamens and perianth divisions 5.	Santalaceae
44. Stamens = 4; perianth with 3 or 4 divisions.	45
45. Leaves with prominent stipules. (<i>Alchemilla</i>).	Rosaceae, in part
45. Leaves exstipulate.	46
46. Stamens 3; perianth divisions 3 (<i>Proserpinaca</i>).	Haloragaceae
46. Stamens 4; perianth divisions 4.	47
47. Style 1; leaves lanceolate or linear, margins essentially without teeth (<i>Ludwigia</i>).	Onagraceae
47. Styles 2; leaves oval to round; margins with rounded teeth (<i>Chrysosplenium</i>).	Saxifragaceae
43. Flowers hypogynous.	49

48. Ovaries > 1 per flower (sometimes partially united).	49
49. Leaves with prominent stipules (<i>Alchemilla</i>).	Rosaceae
49. Leaves exstipulate.	Ranunculaceae
48. Ovary 1 per flower.	50
50. Flowers lacking both calyx and corolla; leaves dissected; aquatic plants of rapidly flowing water (<i>Podostemum</i>).	Podostemaceae
50 Plants not as above.	51
51. Stamens > twice as many as perianth divisions or lobes.	52
52. Leaves entire.	Nymphaeaceae
52. Leaves lobed.	Papaveraceae
51. Stamens = twice as many as perianth divisions or lobes.	53
53. Styles = 2.	54
54. Leaves scale-like; plants succulent, occurring in salt marshes (<i>Salicornia</i>).	Chenopodiaceae
54. Leaves not scale-like; plants not as above.	55
55. Stipules sheathing the stem.	Polygonaceae
55. Stipules absent.	56
56. Stamens = number of tepals.	Chenopodiaceae
56. Stamens > number of tepals (<i>Chrysosplenium</i>).	Saxifragaceae
53. Styles = 1.	57
57. Stamens > divisions of perianth.	58
58. Plants lacking chlorophyll; leaves scale-like (<i>Monotropa</i>).	Monotropaceae
58. Plants with green foliage.	59
59. Perianth 5-merous (<i>Helianthemum</i>).	Cistaceae
59. Perianth 3- or 4-merous.	60
60. Perianth divisions 3 (cleistogamous flowers of <i>Helianthemum</i>).	Cistaceae
60. Perianth 4-merous.	Fumariaceae
57. Stamens = parts of the perianth.	61
61. Perianth 6- or 8-merous; stamens 6 or 8.	Berberidaceae
61. Perianth 4- or 5-merous; stamens = 5.	62
62. Stamens 4 or 5 (= to number of sepals).	63
63. Leaves not lobed.	Santalaceae
63. Leaves lobed (<i>Alchemilla</i>).	Rosaceae
62. Stamens 1–3 (< number of sepals).	64
64. Leaves lobed; flowers in terminal heads. (<i>Alchemilla</i>).	Rosaceae
64. Leaves mostly not lobed; flowers not as above.	Violaceae

42. Sepals and petals both present.	65
65. Flowers with number of ovaries = 2.	66
66. Style 1, sometimes branched.	67
67. Ovaries = 5; petals separate or nearly so; stamens many.	Malvaceae
67. Ovaries = 4; petals connate; stamens 2–5.	Boraginaceae
66. Styles equal to number of ovaries.	68
68. Sepals = 3; petals = 3.	69
69. Aquatic plants with floating leaves (<i>Brasenia</i>).	Cabombaceae
69. Terrestrial plants; leaves deeply pinnately lobed (<i>Floerkea</i>).	Limnanthaceae
68. Sepals or petals >3.	70
70. Leaves succulent.	Crassulaceae
70. Leaves not succulent.	71
71. Flowers lacking a hypanthium; sepals separate to their base.	Ranunculaceae
71. Flowers with a hypanthium, sepals and petals occurring along its margin.	72
72. Pistils = petals.	Rosaceae
72. Pistils < petals.	Saxifragaceae
65. Flowers with a single ovary.	73
73. Flowers epigynous.	74
74. Stamens > petals.	75
75. Style 1.	76
76. Terrestrial plants; corolla conspicuous.	Onagraceae
76. Aquatic or mud-loving plants; corolla very small (<i>Myriophyllum</i>).	Haloragaceae
75. Styles = 2.	77
77. Styles 2.	Saxifragaceae
77. Styles > 2.	Portulacaceae
74. Stamens = petals (or corolla lobes).	78
78. Petals distinct, not joined.	79
79. Petals and stamens 2 (<i>Circaea</i>).	Onagraceae
79. Petals and stamens 4 or 5.	80
80. Petals 4 (<i>Myriophyllum</i>).	Haloragaceae
80. Petals 5.	81
81. Flowers in panicles or cymes.	Saxifragaceae
81. Flowers occurring in umbels.	Apiaceae
78. Petals connate.	82
82. Corolla irregular (<i>Lobelia</i>).	Campanulaceae
82. Corolla regular.	83
83. Corolla 2-3 mm wide (<i>Samolus</i>).	Primulaceae
83. Corolla generally much larger than 3 mm.	Campanulaceae
73. Flowers hypogynous.	84
84. Stamens > petals or corolla divisions.	85
85. Flowers irregular.	86
86. All or some of the sepals petal-like in size, color or consistency, or modified to form a spur.	87
87. Spur absent; leaves entire.	Polygalaceae

87. Spur present; leaves with marginal teeth.	Balsaminaceae	
86. Sepals not petal-like; usually green.		88
88. Lower 2 petals joined along their lower margin, enclosing the stamens.	Fabaceae	
88. Lower 2 petals not joined, not enclosing the stamens.		89
89. Lower petals smaller than the upper.	Resedaceae	
89. Lower petals larger than the upper.		90
90. Styles 2 (<i>Saxifraga</i>).	Saxifragaceae	
90. Style 1 (<i>Geranium</i>).	Geraniaceae	
85. Flowers regular.		91
91. Leaves reduced to scales; plants lacking chlorophyll.	Monotropaceae	
91. Leaves not reduced to scales; plants green.		92
92. Sepals 2.		93
93. Leaves entire and fleshy (<i>Portulaca</i>).	Portulacaceae	
93. Leaves serrate or lobed; not fleshy.	Papaveraceae	
92. Sepals = 3.		94
94. Stamens > 2x the number of petals.		95
95. Style 1.	Cistaceae	
95. Style 2-several.	Malvaceae	
94. Stamens = 2x the number of petals.		96
96. Stamens > the number of petals but <2x the number of petals.		97
97. Sepals 4; petals 4.	Brassicaceae	
97. Sepals 5; petals 3 (<i>Lechea</i>).	Cistaceae	
96. Stamens = 2x the number of petals.		98
98. Style 1.		99
99. Sepals similar in size and shape.	Pyrolaceae	
99. Sepals not all of the same width or size, sometimes fused in pairs.	Cistaceae	
98. Styles = 2.		100
100. Styles 2.	Saxifragaceae	
100. Styles 4 or 5.	Crassulaceae	
84. Stamens = petals or corolla divisions.		101
101. Flowers with separate petals.		102
102. Leaves dissected.	Geraniaceae	
102. Leaves simple to lobed.		103
103. Leaves palmately lobed.	Saxifragaceae	
103. Leaves entire, toothed or pinnately lobed.		104
104. Styles 4 or 5.	Linaceae	
104. Styles = 1.		105
105. Flowers irregular.	Violaceae	
105. Flowers regular.		106
106. Petals and sepals each numbering 4 (<i>Coronopus</i> , <i>Lepidium</i>).	Brassicaceae	
106. petals and sepals each numbering 5.		107
107. Lvs pinnately lobed. (<i>Erodium</i>).	Geraniaceae	
107. Leaves not lobed, entire or serrate	Saxifragaceae	

	(<i>Parnassia</i>).	
101.	Flowers gamopetalous.	108
108.	Flowers regular; stamens = corolla lobes.	109
109.	Twining parasitic herbs with leaves reduced to scales.	Cuscutaceae
109.	Plants not as described above.	110
110.	Stamens opposite corolla lobes.	Primulaceae (in part)
110.	Stamens alternate to the corolla lobes.	111
111.	Ovary conspicuously 4-lobed.	Boraginaceae
111.	Ovary not obviously lobed.	112
112.	Ovary consisting of one locule; leaves scale-like (<i>Bartonia</i>).	Gentianaceae
112.	Ovary with 2-4 locules.	113
113.	Ovary with 3 locules.	114
114.	Plants twining.	Convolvulaceae
114.	Plants not twining.	115
115.	Stamens arising from the corolla tube.	Polemonaceae
115.	Stamens occurring at the sinuses between the corolla lobes.	Diapensiaceae
113.	Ovary with 2 or 4 locules.	116
116.	Fruit a berry.	Solanaceae
116.	Fruit a capsule.	117
117.	Capsule with 4 seeds.	Convolvulaceae
117.	Capsule many-seeded.	118
118.	Corolla saucer-shaped; flowers occurring in a congested, spike-like inflorescence (<i>Verbascum</i>).	Scrophulariaceae
118.	Corolla funnellform.	Solanaceae
108.	Flowers irregular or stamens < corolla lobes.	119
119.	Functional stamens 5.	120
120.	Ovary strongly 4-lobed (<i>Echium, Anchusa</i>).	Boraginaceae
120.	Ovary not lobed.	121
121.	Corolla saucer-shaped (<i>Verbascum</i>).	Scrophulariaceae
121.	Corolla funnellform (<i>Hyocyamus</i>).	Solanaceae
119.	Functional stamens 2 or 4 (sterile stamens may also be present).	122
122.	Corolla with spur at its base.	123
123.	Calyx deeply 5-lobed.	Scrophulariaceae
123.	Calyx 2-parted (<i>Utricularia</i>).	Lentibulariaceae
122.	Corolla lacking a spur.	124
124.	Plants lacking chlorophyll; leaves reduced to scales.	Orobanchaceae
124.	Plants green; leaves not scale-like; stamens 2 or 4.	Scrophulariaceae

Herbs (dicots) with opposite or whorled leaves

1. Leaves compound.	2	
2. Flowers unisexual.	3	Page xxix
3. Leaves palmately compound.	4	
4. Inflorescence an umbellate (<i>Panax</i>).		Araliaceae (in part)
4. Inflorescence a spike or panicle (<i>Cannabis</i>).		Cannabaceae
3. Leaves pinnately compound.	5	
5. Stamens many; pistils > 1 (<i>Clematis</i>).		Ranunculaceae, in part
5. Stamens 3; pistil = 1.		Valerianaceae
2. Flowers having both functional stamens and pistils.	6	
6. Flowers with sepals (often petaloid), petals absent (<i>Anemone, Clematis</i>).		Ranunculaceae
6. Flowers with sepals and petals.		Geraniaceae
1. Leaves simple or dissected (divided into linear segments).	7	
7. Flowers or fruit in dense heads subtended by a set of bracts (involucre).	8	
8. Flowers with stamens absent or present, with connate anthers.		Asteraceae
8. Flowers with stamens present; anthers not connate.	9	
9. Leaves whorled.	10	
10. Flower heads subtended by 4 large petaloid bracts; mature fruit red (<i>Cornus</i>).		Cornaceae
10. Flowers heads not subtended by large petal-like bracts; fruit not red at maturity.		Euphorbiaceae
9. Leaves opposite.	11	
11. Plants lactiferous.		Euphorbiaceae
11. Plants not lactiferous.	12	
12. Ovary 4-lobed.		Lamiaceae
12. Ovary not 4-lobed.		Dipsaceae
7. Flowers or fruits not arranged as above.	13	
13. Leaves whorled.	14	
14. Stem with 1 whorl of leaves.	15	
15. Stamens obvious, distinct and separate, not fused to the style; fruit < 1 cm long (<i>Trientalis</i>).		Primulaceae
15. Stamens hidden within the floral parts, connate and fused to the style; fruit >1 cm long (<i>Asclepias</i>).		Asclepiadaceae
14. Stems with 2 or more whorls of leaves.	16	
16 Leaves dichotomously dissected (leaf segments linear).		Ceratophyllaceae
16. Leaves not dichotomously dissected.	17	
17. Perianth lacking; aquatic plants of freshwater or brackish habitats (<i>Hippuris</i>).		Hippuridaceae
17. Perianth present; terrestrial or wetland plants.	18	
18. Flower irregular.	19	
19. Calyx with one of the sepals petaloid, saccate and bearing a short spur (<i>Impatiens</i>).		Balsamineaceae

19. Calyx spurless (<i>Veronica</i>).	Scrophulariaceae	
18. Flower regular.		20
20. Corolla 3 or 4-parted, with united petals.	Rubiaceae	
20. Corolla = 5-parted, or 3–4-parted and petals separate, or petals absent and sepals 5.		21
21. Flowers gamopetalous.		22
22. Stamens hidden; plants lactiferous.	Asclepiadaceae	
22. Stamens obvious; plant not lactiferous (<i>Lysimachia</i>).	Primulaceae	
21. Corolla with separate petals or with sepals only present, petals lacking.		23
23. Flowers with perianth of 5 sepals (petals absent) (<i>Mollugo</i>).	Molluginaceae	
23. Flowers with both calyx and corolla.		24
24. Sepals and petals attached to rim of perianth tube.	Lythraceae	
24. Sepals and petals not attached to rim of perianth tube.	Caryophyllaceae	
13. Leaves opposite.		25
25. Leaves toothed or lobed.		26
26. Corolla present.		27
27. Flowers spurred.		28
28. Sepals 3, petaloid, one with a spur (<i>Impatiens</i>).	Balsaminaceae	
28. Sepals 5, not petaloid, spur absent.	Scrophulariaceae	
27. Flowers spurless.		29
29. Corolla with joined petals.		30
30. Flowers epigynous.	Valeriaceae	
30. Flowers hypogynous.		31
31. Ovary 4-lobed; stems usually 4-sided (square)		32
32. Flowers arranged in a spike or raceme; pedicels <1mm; calyx <5 mm (<i>Verbena</i>).	Verbenaceae	
32. Flowers not arranged as above or if so, pedicels > 1mm or calyx > 5mm.	Lamiaceae	
31. Ovary lobes = 2.	Scrophulariaceae	
29. Corolla with separate petals.		33
33. Ovary enclosed within a hypanthium; petals 2 or 4.		34
34. Anthers with terminal pores.	Melastomataceae	
34. Anthers not releasing pollen through terminal pores.	Onagraceae	
33. Ovary superior, not surrounded by a hypanthim; petals generally = 5.		35
35. Leaves < 1 cm long, fringed with hairs (<i>Saxifraga oppositifolia</i>).	Saxifragaceae	
35. Leaves > 1 cm in length, leaves without a marginal fringe.		36
36. Stamens = 10; leaves lobed.		37
37. Flower 1; leaves 2 (<i>Podophyllum</i>).	Berberidaceae	

37. Flowers = 2; leaves > 2 (<i>Geranium</i>).	Geraniaceae
36. Stamens < 10; leaves without lobes (<i>Sedum</i>).	Crassulaceae
26. Corolla absent.	38
38. Flowers terminal, solitary or in few-flowered cymes (<i>Chrysosplenium</i>).	Saxifragaceae
38. Flowers in axillary inflorescences; if terminal, not solitary or in cymes.	39
39. Flowers imperfect; individual pistillate flowers enclosed by 2 broad bracts (<i>Atriplex</i>).	Chenopodiaceae
39. Flowers imperfect; individual pistillate flowers not enclosed by 2 bracts.	Urticaceae
25. Leaves entire.	40
40. Corolla gamopetalous.	41
41. Corolla obviously irregular.	42
42. Ovary 4-parted or lobed.	Lamiaceae
42. Ovary not as above.	43
43. Flowers epigynous (<i>Triosteum</i>).	Caprifoliaceae
43. Flowers hypogynous.	Scrophulariaceae
41. Corolla regular or only slightly irregular.	44
44. Plants lactiferous.	45
45. Flowers in umbels (<i>Asclepias</i>).	Asclepiadaceae
45. Inflorescence not umbellate.	Apocynaceae
44. Plants not lactiferous.	46
46. Corolla with 4 lobes.	47
47. Ovary inferior.	Rubiaceae
47. Ovary superior.	48
48. Stamens 2 (<i>Veronica</i>).	Scrophulariaceae
48. Stamens = 4.	49
49. Leaves linear, = 1 cm long, = 3 mm wide (<i>Plantago psyllium</i>).	Plantaginaceae
49. Leaves not linear, or < 1 cm long or > 3 mm wide.	Gentianeae
46. Corolla with 5 lobes.	50
50. Stamens 2 or 4.	51
51. Ovary 4-lobed.	Lamiaceae
51. Ovary without lobes.	Scrophulariaceae
50. Stamens 5.	52
52. Flowers with 2 ovaries, 1 style (<i>Vinca</i>).	Apocynaceae
52. Flowers with 1 ovary.	53
53. Stigmas 3, corolla pink or white, salverform.	Polemoniaceae
53. Stigmas < 3, corolla not as above both in color and in shape.	54
54. Ovary with 1 compartment.	Primulaceae
54. Ovary with 2 compartments (partition may not be complete).	Gentianeae
40. Corolla of separate petals or just united at the base or absent.	55
55. Corolla present.	56

56. Petals = 4.	57
57. Sepals 2.	58
58. Leaves > 4 mm long (<i>Montia fontana</i>).	Portulacaceae
58. Leaves mostly = 4 mm (<i>Elatine minima</i>).	Elatinaceae
57. Sepals = 3.	59
59. Flower hypogynous; ovary not enveloped by a hypanthium.	60
60. Flowers solitary; petals green or white.	???
60. Flowers in clusters (cymes or panicles); petals yellow, white or reddish.	61
61. Petals 3, sepals 5 (<i>Lechea</i>).	Cistaceae
61. Perianth 4–5-merous.	62
62. Corolla yellow; sepals unequal; stamens many.	Clusiaceae
62. Corolla white; sepals uniform; stamens 4. (<i>Radiola</i>).	Linaceae
63. Stamens 8; pollen released through terminal poles in the anthers (<i>Rhexia</i>).	Melastomataceae
63. Stamens 4 or 8; anthers lacking terminal pores.	Onagraceae
56. Petals = 5.	64
64. Petals and sepals arising from the rim of a ypanthium.	Lythraceae
64. Petals and sepals arising at the base of the ovary; hypanthium lacking.	
65. Calyx 2-merous.	Portulacaceae
65. Calyx 4–5-merous.	66
66. Leaves fleshy; carpels partially separated (<i>Sedum</i>).	Crassulaceae
66. Leaves not fleshy (although leathery in <i>Saxifraga oppositifolia</i>); carpels united their full length.	67
67. Leaves fringed with hairs; petals purple (<i>Saxifraga oppositifolia</i>).	Saxifragaceae
67. Leaves without marginal hairs; petals not purple.	68
68. Corolla yellow.	Clusiaceae
68. Corolla various colours but not yellow.	69
69. Ovary 1-locular.	Caryophyllaceae
69. Ovary with 4 or more locules.	Linaceae
55. Corolla absent.	70
70. Plants producing a milky sap.	Euphorbiaceae
70. Plants not producing a milky sap.	71
71. Calyx imitating a corolla is appearance (<i>Glaux maritima</i>).	Primulaceae
71. Calyx green, not imitating a corolla is appearance.	72
72. Flowers solitary, axillary.	73
73. Sepals 5 (<i>Sagina</i>).	Caryophyllaceae
73. Sepals 4 or absent.	74

74. Sepals absent (<i>Callitriche</i>).	Callitrichaceae
74. Sepals present.	75
75. Leaves linear, < 3mm wide (<i>Sagina</i>).	Caryophyllaceae
75. Leaves not linear, width = 3mm.	76
76. Flowers with a 4-sided hypanthium, lacking a floral disc; ovary 4-locular (<i>Ludwigia</i>).	Onagraceae
76. Flowers lacking a hypanthium, having an 8-lobed disc; ovary 2-locular (<i>Chrysplenium americana</i>).	Saxifragaceae
72. Flowers in terminal clusters (inflorescences).	77
77. Plants succulent; leaves reduced to scales (<i>Salicornia</i>).	Chenopodiaceae
77. Plants not modified as above.	Caryophyllaceae

Herbs (dicots) with basal leaves only (cauline leaves absent)

1. Flowers imperfect.	2
2. Inflorescence of many small flowers sharing a common receptacle.	Asteraceae
2. Inflorescence of multiple small flowers not on a common receptacle.	3
3. Inflorescence a spike.	Plantaginaceae
3. Inflorescence an open panicle (<i>Rumex</i>).	Polygonaceae
1. Flowers perfect.	4
4. Leaves hollow, pitcher-shaped (modified for trapping insects).	Sarraceniaceae
4. Plants generally not as above, if insectivorous, leaves flat, not hollow.	5
5. Stamens usually 2x as many as petals.	Saxifragaceae
5. Stamens = petals.	6
6. Flowers gamopetalous.	7
7. Stamens < petals.	8
8. Flowers irregular (<i>Pinguicula</i>).	Lentibulariaceae
8. Flowers regular (<i>Limosella</i>).	Scrophulariaceae
7. Stamens = petals.	9
9. Flowers 4-merous; corolla not petaloid, dry and papery.	Plantaginaceae
9. Flowers 5-merous; corolla petaloid.	10
10. Style 1.	Primulaceae
10. Styles usually 5.	Plumbaginaceae
6. Flowers not gamopetalous, petals distinct.	11
11. Leaves with stalked, sticky glands; plants insectivorous.	Droseraceae
11. Leaves without sticky glands, plants not insectivorous.	Violaceae
12. Leaves lobed.	Violaceae
12. Leaves entire, serrate or with undulate margins.	13
13. Flowers irregular.	Violaceae
13. Flowers regular (<i>Parnassia</i>).	Saxifragaceae

Monocots

1. Plants small, thalloid (not differentiated into leaves and stems); floating or sometimes stranded on shore; flowers unisexual and occurring within reproductive pouches borne on the thallus.	Lemnaceae	
1. Plants not thalloid - plant body differentiated into stem and leaves.		2
2. Perianth absent or, if present, never petal-like in color or texture.		3
3. Flowers occurring in the axils of scales and usually hidden by them; perianth absent or presenting as bristles or small scales; flowers occurring in spikes, spikelets or heads.		4
4. Plants with basal leaves only; scapes bearing a single, terminal buttonlike head.	Eriocaulaceae	
4. Plants either with cauline leaves, or with sheathing scales only or with more than 1 spike, spikelet of flower head per stem.		5
5. Leaves 2-ranked; leaf sheaths split lengthwise on side opposite the blade (open sheath); stems rounded or flat, internodes usually hollow.	Poaceae	
5. Leaves usually 3-ranked; leaf sheaths not split lengthwise (closed sheath); stems often triangular in cross-section, internodes with pith, not hollow.	Cyperaceae	
3. Flowers not in the axils of bracts, or, if so, then not concealed by the bracts.		6
6. Plants aquatic; leaves submerged or floating; flowers submerged, or floating or raised slightly above the water surface.		7
7. Flowers inconspicuous, axillary and solitary or in small clusters.		8
8. Leaves alternate (the uppermost sometime opposite).		9
9. Freshwater plants (occasionally occurring in brackish conditions); flowers 4-merous.	Potamogetonaceae	
9. Plants of saline or brackish habitats; perianth absent; stamen 1 or 2; ovaries 1–4.		10
10. Leaves 0.5 mm wide; flowers perfect; fruit exert.	Ruppiceae	
10. Leaves 3–10 mm wide; flowers unisexual; fruit not exert.	Zosteraceae	
8. Leaves opposite.		11
11. Ovary 1, 2–4 stigmas; fruit 1; leaves 1–2 cm long.	Najadaceae	
11. Ovaries 4, each with 1 stigma; Fruits 2–4; Leaves 3–10 cm long.	Zannichelliaceae	
7. Flowers in spikes or heads.		12
12. Flowers perfect; the inflorescences all similar.	Potamogetonaceae	
12. Flowers unisexual in dense spherical heads, the pistillate heads below the staminate.	Sparganiaceae	
6. Terrestrial or shallow water plants; leaves and flowers emerged.		13
13. Flowers occurring in a crowded spike (spadix) subtended by a single, large, often colourful bract (spathe); leaves not grasslike.	Araceae	
13. Inflorescence not subtended by a single, large colorful bract;		14

leaves narrow, ribbon- or grass-like.	
14. Flowers arranged in a dense spike.	15
15. Spike terminal on stem.	16
16. Flowers perfect; spike uniform from top to bottom.	Juncaginaceae
16. Flowers unisexual; spike with pistillate flowers below and staminate flowers above.	Typhaceae
15. Spike appearing laterally on the stem.	Acoraceae
14. Flowers not arranged as above.	17
17. Flowers unisexual; inflorescence with pistillate heads below and staminate heads above.	?
17. Flowers perfect; flowers all similar.	18
18. Ovary 1; fruit a 3-parted capsule; flowers occurring singly or in glomerules within a branched cyme.	Juncaceae
18. Ovaries 3 or 6, separating when mature; inflorescence a raceme or spike.	?
2. Perianth always present with the inner series and sometimes the outer series petaloid.	19
19. Flowers unisexual.	20
20. Perianth of 3 green sepals and 3 white or pink petals; stamens =6.	Alismataceae
20. All perianth parts similar.	21
21. Plants aquatic; stamens (2)3–12.	Hydrocharitaceae
21. Plants terrestrial; stamens 3–6.	22
22. Leaves ovate to suborbicular, net-veined; climbing plants with tendrils.	Smilacaceae
22. Leaves mostly narrow with venation parallel; plants not climbing, lacking tendrils.	Liliaceae
19. Flowers perfect.	23
23. Flowers hypogynous.	24
24. Flowers with > 1 ovary.	25
25. Pistils 3; both basal and alternate leaves present.	Scheuchzeriaceae
25. Pistils > 3; leaves all basal.	26
26. Perianth of 3 sepals (green) and 3 petals (white or pink); flowers in panicles; fruit an achene.	Alismataceae
26. Perianth of 6 tepals (pink); Inflorescence umbellate; fruit a follicle.	Butomaceae
24. Flowers with 1 ovary.	27
27. Flowers irregular.	Pontederiaceae
27. Flowers regular.	28
28. Flowers with a distinct calyx and corolla.	29
29. Stamens usually 3.	Xyridaceae
29. Stamens 6 (<i>Trillium</i>).	Liliaceae
28. Flowers with perianth divisions all similar.	30
30. Inflorescence and perianth white-woolly.	Haemodoraceae
30. In florescence and perianth not white-woolly.	Liliaceae
23. Flowers epigynous.	31
31. Aquatic plants; leaves underwater or floating.	Hydrocharitaceae
31. Plants of dry land, marshes or bogs.	32
32. Inflorescence white-woolly.	Haemodoraceae

32. Inflorescence not woolly.	33
33. Flowers regular.	34
34. Stamens 3.	Iridaceae
34. Stamens 5 or 6.	Liliaceae
33. Flowers irregular.	Orchidaceae