

Key (Leaf) to Common North Dakota Trees and Shrubs

A “key” is similar to a road which forks repeatedly, and which has signposts indicating what may be found along each branch. This key is based on a system of couplets, 1a, 1b; 2a, 2b; etc. This gives the reader one of two choices. A number at the right of a description indicates the next step to take. The number in parenthesis after the number at the left indicates where you came from and allows you to back track. Numbers 1a – 16b on the left cover the evergreens; numbers 18a – 20b the woody vines; and 21a – 76b the deciduous trees and shrubs. One herb was included because many people confuse it with poison ivy, a small shrub with which everyone should become familiar in order to avoid it.

The relatively rare species and the horticultural cultivars have been left out because their inclusion would necessarily have increased the complexity of the key.

1a.	Trees or shrubs whose foliage is needle-like or scale like (evergreens)	2
1b.	Foliage not needle-like or scale-like but with broad/normal leaves (deciduous)	17
2a.(1a)	Many needles from spur shoots on older twigs; deciduous	larches
2b.	Not over five needles from one point; evergreen.....	3
3a.(2b)	Needles in fascicles (bunches)	4
3b.	Needles singly, not in fascicles.....	7
4a.(3a)	Needles per fascicle (bunches), 5.....	limber pine and white pine
4b.	Needles per fascicle, 2 or 3	5
5a.(4b)	Needles over 3” long, in both 2’s and 3’s.....	ponderosa pine
5b.	Needles less than 3” long, only in 2’s.....	6
6a.(5b)	A tree; bark orange and flaky; cone scales not crowded	Scotch pine
6b.	Usually multi-stemmed/awl cone scales crowded; shrub-like; dark bark	mugo pine
7a.(3b)	Leaves scale-like or awl-shaped, not over ½” long	8
7b.	Needles linear or needle-like, about 1” long.....	13
8a.(7a)	Branchlets flattened; woody cones only ½” long	arborvitae
8b.	Branchlets 3 or 4 angled; fruit berrylike ¼” in diameter	9
9a.(8b)	Long trailing native groundcover rarely over 5-10” high.....	creeping juniper
9b.	Shrub at least 2 feet high when mature.....	10

10a.(9b)	Needles ½” long, strongly boat shaped or awl-like, all sharp.....	common juniper
10b	Some or all needles scale-like.....	11
11a.(10b)	Low spreading landscape shrubs	(ornamental) junipers
11b.	Treelike	12
12a.(11b)	Foliage turning purple-brown in winter	eastern red-cedar
12b.	Foliage remaining blue green in winter	Rocky Mountain juniper
13a.(7b)	Peglike projections supporting needles; no resin blisters on bark	15
13b.	Needles fastened directly to twig, leaving a circular leaf scar when removed; resin blisters on bark	14
14a.(13b)	Needles sessile (no stalk attaching them to the twig); cones disintegrating when mature; buds blunt/resinous	balsam fir
14b.	Needles petiolate; cones not disintegrating; papery bracts extending beyond cone scale; buds sharp-pointed, dark purple and not resinous	Douglas fir
15a.(13a)	Needles somewhat flattened, woody cones over 3” long	Norway spruce
15b.	Needles 4 angled, not 2 ranked (not coming out in two planes, but come out in all directions around a twig); cones 3” long or less	16
16a.(15b)	Needles very sharp; cones over 2” long with ragged scales	Colorado blue spruce
16b.	Needles only moderately sharp; cones less than 2” long with smooth, rounded edge on cone scales	Black Hills white spruce
17a.(1b)	Vines	18
17b.	Trees, shrubs or herbs	21
18a.	Leaves compound	19
18b.	Leaves simple.....	20
19a.(18a)	Leaves alternate; 5 leaflets; fruit a berry.....	Virginia creeper
19b.	Leaves opposite; 3 leaflets; fruit an achene (small, dry one seed fruit)...	virgin’s bower
20a.(18b)	Margin coarsely serrate; leaves sometimes lobed, fruit a black berry	wild grape
20b.	Margin fine serrate, leaves never lobed; fruit orange, splitting to show red interior.....	bittersweet
21a.(17b)	Shrubs or herbs less than 2’ high when mature	22
21b.	Shrubs or trees over 2’ high when mature	23

22a.(21a)	Small serrate, herb-like; always 3 leaflets, not serrate but sometimes irregularly toothed.....	poison ivy
22b.	Perennial herb with 3-forked stem, each with 3 or 5 serrate leaflets	wild sarsaparilla
23a.(21b)	Leaves compound	24
23b.	Leaves simple.....	34
24a.(23a)	Compact branchy shrubs with compound leaves; each leaflet 1/4" wide or less	25
24b.	Coarser shrubs or trees with pinnately compound leaves; each leaflet over 1/4" wide	26
25a.(24a)	Stipular (small growth at the base of the petiole) prickles present; fruit a pod	pygmy peashrub
25b.	No stipular spines; fruit globose (spherical); achene (small one seeded fruit)	shrubby cinquefoil
26a.(24b)	Branches with either stipular or corticular (tissue where the spines come from) spines	27
26b.	Branches without spines	28
27a.(26a)	Spines stipular; fruit a pod; bark greenish	Siberian peashrub
27b.	Spines corticular; fruit a fleshy hip, about 1/2" in diameter; bark reddish or brownish	rose
28a.(26b)	Leaves opposite.....	29
28b.	Leaves alternate	31
29a.(28)	Palmate five-leaflet leaves; fruit a nutlike capsule	Ohio buckeye
29b.	Leaves not palmate; fruit not a nutlike capsule	30
30a.(29b)	Leaves regularly serrate; twigs gray; buds brown; fruit (samara)	green ash
30b.	Leaves irregularly toothed; twigs green or reddish brown with a bloom; buds silvery; fruit (schizocarp)	boxelder
31a.(28b)	Base of petiole encasing bud.....	32
31b.	Base of petiole below bud.....	33
32a.(31a)	Twigs hairy	staghorn sumac
32b.	Twigs glabrous (without hair, smooth)	smooth sumac
33a.(31b)	Pith (center of twig) chambered; leaflets 3" long, 1 1/2" wide.....	black walnut
33b.	Pith solid; leaflets 1 1/2" long, 1/2" wide	European mountain ash

34a.(23b)	Most or all leaves lobed	35
34b.	Not lobed.....	43
35a.(34a)	Leaves opposite.....	36
35b.	Leaves alternate	38
36a.(35a)	Some leaves not lobed, when lobed always 3, a coarse shrub; fruit a drupe.....	American cranberry bush
36b.	All leaves lobed, 4 or 5, trees or shrubby trees; fruit a paired samara, Called a schizocarp (winged, samara-like fruits borne in pairs)	37
37a.(36b)	Leaves silvery beneath; lobes of nearly equal length; a large tree	silver maple
37b.	Leaves not silvery beneath; terminal lobe longer than others; small tree or shrublike.....	amur maple
38.(35b)	Trees.....	39
39a.(38a)	Palmately lobed, white hairy below; bark greenish or gray.....	white poplar
39b.	Pinnately lobed, not white hairy below.....	40
40a.(39b)	Bark white and papery	cutleaf weeping birch
40b.	Bark dark and ridged.....	bur oak
41a.(38b)	Leaves 1" long, rhombic ovate to rhombic obovate; fruit a small capsule	Vanhoutte spirea
41b.	Leaves 2" or 3" long, variably orbicular, fruit a berry.....	42
42a.(41b)	Stems spiny	gooseberry
42b.	Stems not spiny	currant
43a.(34b)	Leaves silvery both sides	44
43b.	Upper leaf surface not silvery	46
44a.(43a)	Leaves opposite; fruit red when ripe.....	silver buffaloberry
44b.	Leaves alternate, fruit silvery when ripe.....	45
45a.(44b)	Petiole 1/8" long; leaves ovate, wavy-curved; fruit globose; shrubby	silverberry
45b.	Petiole 1/2" long; leaves lanceolate, flat; fruit ellipsoidal; treelike	Russian olive
46a.(43b)	Leaves opposite or sub-opposite.....	47
46b.	Leaves alternate	53

47a.(46a)	Leaves sub-opposite; end of twig modified into a thorn.....	48
47b.	Leaves opposite; twigs not thorny	49
48a. (47a)	Leaves nearly as broad as long	common buckthorn
48b.	Leaves over twice as long as broad.....	Dahurian buckthorn
49a.(47b)	Leaves finely serrate, creased	nannyberry viburnum
49b.	Leaves entire, not creased	50
50a.(49b)	Pith hollow; petioles less than ½” long.....	51
50b.	Pith solid; petioles ½” long or more	52
51a.(50a)	Small native shrub; fruit white, twig reddish-brown	snowberry
52b.	Large shrub; fruit orange or red; twigs tan, hollow pith	Tatarian honeysuckle
52a.(50b)	Twigs bright red; venation arcuate; fruit a white drupe.....	redosier dogwood
52b.	Twigs a greenish or brownish; venation netted; fruit a capsule.....	lilac
53a.(46b)	Trees.....	54
53b.	Shrubs	69
54a.(53a)	Leaves conspicuously heart shaped; fruit a nutlet suspended from a bract	American linden (basswood)
54b.	Leaves not so; fruit not so	55
55a.(54b)	Bark white; peeling horizontally, marked by horizontal lenticels	56
55b.	Bark not so	57
56a.(55a)	Non-native tree; branches pendulous (hanging down)	cutleaf weeping birch
56b.	Native tree; branches not pendulous	paper birch
57a.(55b)	Petioles flattened, about as long as a leaf blade.....	58
57b.	Petioles round, less than ¾ as long as leaf blade	59
58a.(57a)	Leaves deltoid; bark dark and rough.....	cottonwood
58b.	Leaves oval orbicular, bark light and smooth.....	quaking aspen
59a.(57b)	Leaves lanceolate; buds with single caplike scale	willow
59b.	Leaves broader; buds with several imbricate scales	60
60a.(59b)	Twigs usually with definite thorns; leaves prominently doubly serrate	hawthorn
60b.	Twigs without definite thorns; if tree somewhat thorny, leaves singly serrate	61

61a.(60b)	Leaf apex rounded; leaf shape oval; leaf base entire	Juneberry
61b.	Leaf apex pointed; leaf shape ovate, obovate, elliptical; serrate to base of leaf.....	62
62a.(61b)	Leaves 2 ranked (appearing to come from only two sides of the twig).....	63
62b.	Leaves not 2 ranked (coming out in all directions from a twig)	65
63a.(61a)	Pith chambered at nodes; fruit a drupe	common hackberry
63b.	Pith not chambered; fruit a spring ripening samara	64
64a.(63b)	Leaves over 2” long, dull above; twigs coarse	American elm
64b.	Leaves 2” long or less; shiny above; twigs fine.....	Siberian elm
65a.(62b)	Buds large and gummy; leaves gray or rusty below	balsam poplar
65b.	Buds not so; leaves not so.....	66
66a.(65b)	Bark and twigs light brown; twigs coarse; fruit a pome	crabapple
66b.	Bark and twigs a reddish or gray; twigs fine; fruit a drupe	67
67a.(66b)	Serrations glandular tipped; bark reddish; central stem noticeable	pin cherry
67b.	Serrations without glands; bark gray; branchy crown	68
68a.(67b)	Petiole hairy; veins prominent; some short twigs thornlike.....	American plum
68b.	Petiole glabrous; veins not prominent; not thornlike	chokecherry
69a.(53b)	Leaves doubly-serrate; fruit an involucre (husk) bearing a nut.....	70
69b.	Leaves not doubly-serrate; fruit a drupe or pome	71
70a.(69b)	Petiole hairy; fruit husk without beak.....	American hazelnut
70b.	Petiole glabrous (without hair, smooth); fruit husk with a long beak....	beaked hazelnut
71a.(69b)	Dark green entire elliptic – ovate glossy leaves; insignificant pinkish-white flowers; black pea-sized pomes (fleshy fruit with a core)	hedge cotoneaster
71b.	Gray-green, serrate, narrowly elliptical leaves; white flowers showy; purple cherry- like drupes	sandcherry

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