

Winter Trees: a key to common trees and shrubs

by Leif Bersweden

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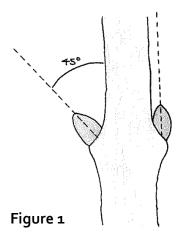
Many thanks to everyone who tested early versions and provided feedback

How to use the key

This key has been written to complement the FSC's Winter Trees: A photographic guide to common trees and shrubs by Dominic Price and Leif Bersweden. It aims to provide an accurate way of identifying all 36 trees and shrubs covered in Winter Trees and would ideally be used in conjunction with this identification guide. Every attempt has been made to keep the guide as simple and accessible to beginners as possible.

Simply start at point number 1, read each part of the couplet and decide which best suits your tree before referring to the right where you will be directed to the next stage. The number in brackets refers to the couplet you came from in case you need to retrace your steps. Work your way through each stage as directed, **reading both parts of the couplet**, until a species is named. Accompanying each species is an illustration of the bud for comparison. The illustrations are meant as a guide only; for true accuracy consult the photographs in the full species accounts in *Winter Trees*, the page number of which is provided in brackets.

The focus of the key is on buds and twigs, as these are the easiest way to distinguish between species during the winter; in cases where the buds are very similar further characteristics are brought in, all of which are elaborated upon in the full species accounts of *Winter Trees*. It is important to note that using the key in the field, with access to the whole tree or shrub, will help to improve its accuracy but it has been written so that identification from a twig collected from the field should be possible. If in the field, consult as many buds/twigs as possible.



In the key you will be asked whether the buds are 'lying flat against the stem, the bud tip pointing towards the end of the twig' or 'pointing away from the stem'. By imagining the central axis of the bud, as illustrated in Figure 1, you are able to distinguish between the two. Buds that 'point away from the stem' are generally at an angle between 20° and 45°. If some buds fall into one category and some into the other category, take the majority case. Another important distinction asked for in the key is whether or not the twig has single buds on short stalks. If a short stalk has more than one bud or leaf scar treat it as a separate twig with unstalked buds. Technical terms have been kept to a minimum but there is a glossary for the few unavoidable cases.

You may have a hunch about what species you have but feel you need to check it using the key. If, while working your way through, you notice you

have passed the species you are expecting to arrive at, keep going as each species keys out at multiple stages, in an attempt to account for natural variation in the wild. The key has been designed to accommodate user error as much as possible, so if at any point you are unsure, choose the most similar option and, with any luck, it will still bring you to the correct species. Please note that colour descriptions may vary with certain environmental conditions, such as how many hours of sunlight it receives during the day. Identification may be quite difficult when the buds are first forming in late autumn and then swelling to burst into leaf in early spring.

Finally, wild roses, which are numerous in our country's hedgerows, are not included in this book, but may be mistaken for a winter tree. These roses will almost always have thorns (see Figure 2), not to be mistaken for the spines of blackthorn and hawthorn, details of which are given in the glossary. For an illustrated glossary, see the *Winter Trees* guide.



Figure 2

Glossary

Alternate – refers to the arrangement of buds on the twig; individual buds are spaced along the twig at regular intervals, alternating either side.

Bud Scales – leafy plates forming a protective covering on a bud.

'Crocodile Back' – refers to the gnarled appearance of the twig in trees such as Elm and Field Maple.

Lateral Buds – buds growing on the side of the twig.

Leaf Scar – the mark left on a twig when the leaf falls; it is present just below the bud.

Lenticels – corky spots or lines on the stem of a twig that allow the tree to take in air.

Opposite – refers to the arrangement of buds on the twig; the buds face each other on opposite sides of the twig, forming individual pairs.

Spines – rigid structures arising from the twig that taper to a sharp point.

Spiralling – refers to the arrangement of buds on the twig; individual buds are spaced along the twig at regular intervals, alternating either side and spiralling along the twig.

Terminal Bud – the bud growing at the very end of the twig.

Winter Trees Key

NB Some Willows, Birches and Poplars have been included but these cannot be definitively identified in the winter (hybrids are common)

1 Buds oppositeGo to 2	
- Buds alternate/spirallingGo to 35	
Opposite Buds	
2 Buds towards the end of the twig lying flat against the stem, bud tip (10) pointing towards the end of the twig	
- Buds towards the end of the twig <u>generally</u> pointing away from the stem (approx. 45°) and/or on a short stalk	or
3 Lateral buds with two or more bud scales present	
Lateral buds with one bud scale/bud scales absent (may appear ragged and untidy as leaves lack protective bud scales)	
Twigs green, flattened at buds; prominent side branches on twigs Spindle (p39)	
- Twigs not as aboveGo to 5	
5 Ridge between the budsGo to 6	
- No ridgeGo to 8	
6 Buds predominantly green, bud scales may have a brown margin	
- Buds brown, purple or dark redGo to 7	極

7 Young twigs pale brown and smooth; terminal bud often has tiny grey (6) hairs	
- Young twigs grey and covered in warts; buds scruffyElder (p25)	
8 Young twigs brown with many lenticels; buds dumpy and brown/green (5)	
- Young twigs pale grey; few, if any, lenticels present; buds dark brown Buckthorn (p21)	
9 Buds red and bulbous, in perfect opposite pairs; the twig is pale brown (3) and hairless	
- Not as above	
10 Buds black, small and compact	
11 Young twigs distinctly blood-red (sometimes green)	
- All twigs grey or brown	
12 Ridge between the buds	
Twigs brown with powdery yellow/white coating, smooth and rounded (12)	
- Twigs pale grey/brown; ridged with prominent lenticelsElder (p25)	
14 Buds predominantly brown (can have a red/green tinge)Go to 15	
- Buds green, black, red or cream	

Terminal bud, if present, similar in size to other buds
All buds unstalked
NB Look very carefully. If there is more than one bud or leaf scar on the stalk, treat it as a separate twig with unstalked buds 17 Ridge between buds
- No ridge
18 Young twigs blood-red. Dogwood (p24) - Young twigs brown. Field Maple (p27) 19 Bud scales present. Go to 20 (17)
- Young twigs brown
19 Bud scales present
(17)
(17)
Vouse twice brown bude durant and brown/groon Wild British (n. C)
20 Young twigs brown; buds dumpy and brown/greenWild Privet (p46) (19)
- Young twigs pale grey; buds dark brownBuckthorn (p21)
 Two or more bud scales present

22 Ridge between the buds	
Bud scales green at the base	
Twigs pale grey, full of pith and covered in prominent lenticels (23)	
- Twigs not as above, light brown	
25 Young twigs predominantly blood-red (can be green in places)	
- All twigs grey or brownGo to 26	
26 Ridge between the buds (see couplet 17 for illustration)	
- No ridge; buds light brown, and in offset pairsAlder Buckthorn (p13)	
	Λ
Twigs brown with powdery yellow/white coating, smooth and rounded (26)	
- Twigs pale grey/brown; ridged with prominent lenticelsElder (p25)	
28 Lateral buds with two or more bud scales	
 Lateral buds with one bud scale/bud scales absent (may appear ragged and untidy as leaves lack protective bud scales)	
29 Ridge between the buds	49 99

	AT .
30 Bud scales green with a brown margin	
- Buds dark reddish-brown	
31 Young twigs green	
- Young twigs light brown or pale grey Wild Privet (p46)	
32 Buds black, small and compact	
- Not as aboveGo to 33	
33 Buds red and bulbous, in perfect opposite pairs; the twig is pale brown (32) and hairless	
- Buds not as aboveGo to 34	
	3
34 Buds cream and flap-like; the twig is brown with a powdery yellow/white (33) coating	
- Buds reddish-brown and scruffy; the twig is grey with prominent lenticels	
Alternate/Spiralling Buds	

Alternate/Spiralling Buds

35 (1)	Spines present	Go to 36
. ,	Spines absent	Go to 38
36 (35)	Bud scales with a fringe of tiny white hairs)	Apple spp. (p14)
-	Not as above	Go to 37



Twigs very dark and robust, very spiny, longer spines bearing many buds; (36) the bark is dark and peels with age
- Twigs pale grey/reddish-brown; buds usually at base of spines or stalked on the twig but longer spines may bear buds; the bark is pale and flakes with age
38 Buds towards the end of the twig lying flat against the stem, bud tip (35) pointing towards the end of the twig
- Buds towards the end of the twig <u>generally</u> pointing away from the stem (at approximately 45°) and/or on a short stalk
Two or more bud scales present
 Two or more bud scales present
40 Buds green; scales with brown marginsGo to 41
(39) - Buds not as aboveGo to 45
41 Buds tips roundedGo to 42
- Bud tips pointed
Twigs hairless; buds pea-like, scales green with brown margin; some single (41) buds on short stalks
- End of twig hairy; buds plump and slightly flattened, scales green/reddish
Twigs light brown, hairy
- Twigs dark brown, generally hairless, flimsyGo to 44

(43)	Bud scales with fringe of pale hairs; end of twig minutely hairy	
(40)	Bud scales hairy (to a varying degree)Go to 46 Bud scales hairlessGo to 55	
(45)	Buds orange to medium brownGo to 47 Buds red to dark brownGo to 48	
47 (46)	Twigs slender, zigzagging; bark smooth and rippled Hornbeam (p34)	
	Twigs more or less straight; bark with diamond-shaped pores	
(46) -	Twig hairless	
(48) -	Buds larger than 3mmGo to 51	
(49)	Buds black/dark brown, clearly alternate; twig zigzagging Elm spp. (p26) Buds dark red/brown, twigs never zigzag Apple spp. (p14)	
51 (49)	Buds brown/green, slender and pointed Downy Birch (p18)	
	Buds red or green, plump and usually rounded	
(48)	Terminal bud 8mm or longer, densely hairyGo to 53 Terminal bud shorter than 8mm, hairs tinyGo to 54	

53 Young twigs pale grey and smooth; bud scales dark brov (52) with horizontal lenticels	. ,	
- Young twigs brown; bud scales reddish brown; young ba shaped pores		
54 Lateral buds less than 4mm long, mostly on short 'piles of (52) rounded/slightly pointed	•	
- Lateral buds more than 5mm long, mostly lying flat agai sharply pointed		
55 Lateral buds with two to four bud scales	Go to 56	
(45) - Lateral buds with more than 4 bud scales	Go to 61	
56 Buds 2-7mm(55)		
- Buds greater than 7mm	Go to 6o	
57 Twigs with longitudinal ridges below budSwe	et Chestnut (p40)	
(56) - Twigs rounded, no longitudinal ridges	Go to 58	
58 Buds small and dumpy, twigs fairly springy	Go to 59	p)
(57) - Buds slightly pointed, twigs very flimsy	Birch spp. (p18)	
	(see couplet 78)	
59 Twigs very dark(58)	Blackthorn (p20)	
- Twigs olive to reddish brown	Hawthorn (p32)	
6o Bud scales of the terminal bud pointed at tip B	lack Poplar (pgo)	
(56)	iack Popiai (p19)	The state of the s
- Bud scales of the terminal bud rounded at tip	Aspen (p16)	
61 Young twigs grey, buds dark brown(55)	Buckthorn (p21)	
- Young twigs brown, buds orangey brown	Hornbeam (p34)	
		And the second s

62 Bud scales absent; buds light brown and furryAlder Buckthorn (p13) (39) - One bud scale; bud smooth	
63 Buds distinctly yellow or red	
 64 Young twigs red to reddish-brown, downy. Buds <u>generally</u> red (but can be (63) yellow)	
65 Buds hairless (sometimes slightly hairy); twigs brittle, particularly at base (63)	
66 Buds roughly oval-shaped or spherical	
67 Buds with obviously 4 or more scales <u>OR</u> bud scales distinguishable but (66) difficult to count <u>OR</u> buds tiny and scales too difficult to countGo to 68 - Buds with obviously 1-3 scales	
68 Some single buds on short stalks off the main twig	
- All buds unstalked	
69 Buds pea-like, rounded at the tip; bud scales distinctly green with a brown	
(68) margin	
- Buds not as above	

 70 Buds 8mm long or longer, dark brown/purple with white hairs and can be (69) quite pointed	
Buds on stem rounded at tip, becoming increasingly pointed towards the (70) end of the twig which is ochre and ridgedSweet Chestnut (p40) - Buds acute/pointed (to a varying a degree)	
Puds very small, c.2mm, and in little clusters, all unstalked; twigs greyish Blackthorn (p20) Buds red/green/brown, some single buds on small side stalksGo to 73	
73 Multiple scars below some buds or stalks ('pile of pancakes')Go to 74 (72) - Not as above	
74 Buds tiny, c.2mm, red	
- Young twigs brown; buds dark red or green	
76 Buds at least 6mm long; bud scales green with a brown margin	$-\mathcal{A}$
- Buds less than 5mm long; bud scales dark red/brown	The same of the sa
 Twigs thin and flimsy, very branched; buds slender and usually c. 6mm, (73) mostly unstalked	

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78 Bud scales with fringe of pale hairs; end of twig minutely hairy	
- Bud scales and end of twig hairlessSilver Birch (p18)	
79 Buds at least 6mm long; bud scales green with a brown margin	
(77)	Ab .
- Buds less than 5mm long; bud scales dark red/brown	Orange and a second a second and a second and a second and a second and a second an
8o Terminal buds in clusters of three or more	
- Single terminal bud or a pair of terminal budsGo to 84	_
81 Twigs brown, hairy towards the end	
- Twigs dark or silvery-grey, hairlessGo to 82	
82 Buds <2mm, twigs very dark, occasionally pale grey and/or with long	
(81) spines; buds can occur in tight clusters	
- Buds >2mmGo to 83	
83 Buds hard, plump and orange/brown with many >8 scales; terminal	
(82) cluster of buds	
- Buds pointed with <8 scales	
84 Buds 4mm or longerGo to 85	
(80)	
- Buds less than 4mm longGo to 95	
85 Buds red/brownGo to 86	
- Buds greenGo to 94	
86 Twigs rounded, fairly smooth (occ. with small round bumps)Go to 87 (85)	
- Twigs with longitudinal ridges below bud Sweet Chestnut (p40)	

87 Buds covered in white hairs, particularly around the marginGo to 88 (86) - Buds not as above	6 (\$27)
88 Buds densely hairy	
89 Buds red and plump, young twigs light brown and hairy	7,20 BB 2000
 go Buds almost as long as they are wide	
91 Young twigs bright red and hairless; buds with 2-3 scalesLime spp. (p36) (87) - Young twigs brown or pale grey	
92 Some lateral buds in clusters of two or more (look at the whole tree) (91)	
93 Buds red, slightly flattened; young twigs light brown and very hairy towards (92) the tip	
- Buds brown/green, slender and slightly pointed; young twigs brown and minutely hairy at the tip	
94 Twig hairy towards the end; buds plump	$\frac{2}{A}$
- Twig hairless, robust; bud scales with a brown margin and a fringe of whitish hairs	

95 Buds clearly alternate, dark brown/black; end of twig usually hairy	
- Buds spirallingGo to 96	
96 Buds brown to dark brown (sometimes in tight clusters); twigs very dark (95) (sometimes grey)	
- Buds red, never in tight clusters; twigs olive to reddish brown	
97 Some buds yellowGo to 98	
- No yellow budsGo to 99	
98 Young twigs lime green, appearing hairless, sometimes glossy. Buds (97) generally yellow (but can be red)	
- Young twigs red to reddish-brown, downy. Buds <u>generally</u> red (but can be yellow)	
99 Some single buds on short stalks off the main twigGo to 100 (97)	
- All buds unstalked	8
NB Look very carefully. If there is <u>more than one bud or leaf scar</u> on the stalk, treat it as a separate twig with unstalked buds	
100 Terminal bud scales have a fringe of small white hairsGo to 101	•
(99) - Not as above	
101 Bud scales green or light brown	
- Bud scales red or dark brown/purple	a
102 Bud scales green; terminal twigs hairless and robustWhitebeam (p45) (101)	-4
- Bud scales light brown, very hairy; young twigs are flimsy and covered in a dense white felt	

. . .

103 Buds less than 8mm long, small and dark red/brownApple (p14) (101)	Occupanion Service Ser
- Buds generally at least 8mm long, dark brown/purple and very hairy	
104 Multiple bud scars below the bud (like a 'pile of pancakes')Go to 105(100)- Not as above	d₽t
105 Bud scales a mixture of bright red or black	
- Bud scales dark red/brown	
106 Majority of buds stalked; buds purplish, approximately twice as long as (104) wide	
- Majority of buds unstalkedGo to 107	
107 Twigs rounded	
- Twigs with longitudinal ridges; buds red/brownSweet Chestnut (p40)	
108 At least some red buds.Go to 109(107)Birch spp. (p18)(see couplet 78)	
 109 Young twigs bright red, hairless, zigzaggingLime spp. (p36) (108) Young twigs dull red/brown, downy, not zigzaggingGrey Willow (p30) 	

110 Buds on young twig tiny, 2-3mm	
 111 Buds red; young twigs smooth and hairless	
112 Twigs very thin and flimsy (<2mm thick)	
113 Bud scales with fringe of pale hairs; end of twig minutely hairy (112)	
114 Young twigs and buds redLime spp. (p36) (112)	
- Young twigs brown; buds red/brownSweet Chestnut (p40)	
115 Buds with many scales (6-15), copper-coloured and pointed, clearly held(66) at 45° to the stem	
- Bods with 1-5 scalesGo to 11/	
 116 Buds less than 15mm long, end of twig slightly hairyHornbeam (p34) (115) Buds more than 15mm long, mature twigs hairless (youngest twigs 	
hairy)Beech (p17)	

117 Buds sharply pointedGo to 118 (115)	
- Buds more rounded (sometimes slightly pointed)Go to 119	
118 Buds densely hairy; young twigs grey and smooth	
- Buds hairless; young twigs light brown and knobblyBlack Poplar (p19)	
	A
119 Bud scales green with a brown margin	
- Bud scales reddish to dark brown/purple	

About Us

The Species Recovery Trust is a charity set up to tackle the loss of some of the rarest species in the UK.

There are over nine hundred native species in the UK that are classed as under threat, with several hundreds more currently widespread but known to be in significant decline. The countryside is now bereft of many species that were a familiar sight a mere generation ago.

A small number of these species are on the absolute brink of existence, poised to become extinct in our lifetimes; our goal is to stop them vanishing.

Our aim is to remove 50 species from the edge of extinction in the UK by the year 2050. In addition, we are reconnecting people with wildlife and the natural world through training programmes and awareness raising.



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