

## KEY TO THE BRITISH SPECIES OF SALIX

By K. H. RECHINGER.

[In addition to all the species known to be natives of Britain, the key includes the commonly planted species, *S. daphnoides* and *S. acutifolia*. *S. rosmarinifolia*, which has been erroneously recorded as British in the past, is included for the sake of comparison, though Dr Rechinger states that he knows of no records. Of *S. coactanea*, he writes that he has seen sheets in Herb. Mus. Brit. and Herb. Corstorphine, of which he has not kept details, which are at least very like this species and which might belong to it. The following species are included; the names are given in the order and with the numbers of the *British Plant List*; the synonyms in brackets are the names used there when they differ from those used by Dr Rechinger:—

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| 1. <i>pentandra</i> L.       | 12. <i>nigricans</i> Sm. ( <i>Andersoniana</i> Sm.).                             |
| 2. <i>fragilis</i> L.        | 13. <i>phylicifolia</i> L.   |
| 3. <i>alba</i> L.            | 14. <i>arbuscula</i> L.  |
| 4. <i>triandra</i> L.        | 15. <i>lanata</i> L.   |
| 5. <i>purpurea</i> L.        | 16. <i>lapponum</i> L.   |
| 6. <i>viminalis</i> L.       | 17. <i>myrsinites</i> L.   |
| 8. <i>Caprea</i> L.          | 18. <i>herbacea</i> L.   |
| [—, <i>coactanea</i> Flod.]. | 19. <i>reticulata</i> L.   |
| 9. <i>aurita</i> L.          | †22. <i>daphnoides</i> Vill.   |
| 10. <i>atrocinerea</i> Brot  | †22c. <i>acutifolia</i> Willd. ( <i>daphnoides</i> var. <i>acutifolia</i> Döll). |
| 10(2). <i>cinerea</i> L.     | [24. <i>rosmarinifolia</i> L.]   |
| 11. <i>repens</i> L.         |  |
| 11(2). <i>arenaria</i> L.    |  |

—Ed.]

## KEY FOR FERTILE MATERIAL (after B. Floderus).

- 1a. (*Chamaetia*). Procumbent dwarf shrubs. Bud scales persistent like a cap after the development of the leaves. Leaves on glandless petioles (except sometimes *S. reticulata*), short, ± rounded, 2-5-nerved (i.e. 2-5 pairs of lateral nerves reaching the leaf margin); at least above shining green and glabrous (except sometimes *S. reticulata*); beneath with scattered, long ± straight hairs or glabrous. Floral shoots terminal, with comparatively large leaves (if compared with those of the sterile shoots), (except *S. myrsinites*), remaining persistent after the catkin has fallen. Bracts ± unicoloured, broad and rounded. Nectaries 1 or 2, entire or cleft. Stamens 2 with free filaments.
- 2a. Leaves long-petioled, 2-3-nerved, above depressed-reticulate, beneath strongly elevated-reticulate and greyish-white, exstipulate, coriaceous, entire. Nectaries 2, ± corolla-like, several-cleft. Filaments violet, pubescent. Styles very short. Capsules sessile, pubescent ..... *S. reticulata*.
- 2b. Leaves shorter petioled, 3-5-nerved, green beneath. Nectary solitary, tooth-like (except sometimes *S. herbacea*). Filaments glabrous. Styles ± long.

- 3a. Leaves light green, short-petioled, 4-5-nerved, finally elevated-reticulate above. Bracts thin, light-coloured, with scattered, short, curved hairs. Capsules pedicelled, glabrous. Catkins few-flowered .....  
*S. herbacea.*
- 3b. Leaves dark green, very glossy above. Bracts firm, larger,  $\pm$  emarginate, purple-black, with denser, long, straight hairs. Capsules sessile, hairy. Nectary entire, purple-red, as are the filaments. Styles long .....  
*S. myrsintles.*
- 1b. (*Caprisaltix*). Shrubs or trees. Bud scales deciduous at the development of the leaves (except sometimes *S. arbuscula*). Leaves on glandless petioles, often long, 5-many-nerved. Floral shoots usually not terminal (i.e. arising below 1 to several sterile terminal shoots), with comparatively small leaves or bracts falling with the catkin. Bracts usually dark-tipped. Nectary solitary (the inner) and tooth-shaped. Stamens 2 with free filaments (except *S. purpurea*).
- 4a. Previous year's shoots (in dried state) not glaucous-pruinose.
- 5a. Leaves 5-15-nerved.
- 6a. Styles short (except sometimes *S. repens*, *S. arbuscula*) or inconspicuous.
- 7a. Capsules long-pedicelled.
- 8a. Branches, at least older ones, with longitudinal protuberances (striae), 3-30(-100) mm. long on the wood. Leaves not silky pubescent beneath. Buds robust, obtuse.
- 9a. Shrubs. Striae dense and long on 2-5-year-old branches. Leaves rather long-petioled, above depressed reticulate, beneath smoothly grey-pubescent.
- 10a. Tall shrub, sometimes treelike. Buds ovoid-conic, pubescent when young, soon glabrescent. Petiole 0.5-1.5 cm. long. Leaves with 3-15 side-nerves; above soon glabrescent and somewhat shiny, with indistinctly impressed reticulation; beneath covered with reddish-brown hairs, especially along the nerves. Bracts obovate or rounded  $\pm$  obtuse,  $\pm$  densely bearded. Styles short but distinct. Stigmas divergent or spreading .....  
*S. atrocinerea.*
- 10b. Low or tall shrub showing a characteristic outline (flattened above). Buds persistently pubescent. Petiole 0.3-1.0 (-1.6) cm. long. Leaves with 10-15 (-18) side-nerves, densely pubescent on both sides, not glabrescent; above with impressed reticulation; beneath finally bluish-grey, never reddish-brown. Bracts broadly cuneate-spathulate, obtuse, covered with long silky subvillous hairs. Styles short but usually distinct. Stigmas bilobed or bifid, erectly divergent .....  
*S. cinerea.*
- 10c. Shrub, 1-2 m. high. Buds triangular, glabrous, shiny. Petiole 0.2-0.6 cm. long. Leaves with 6-10 side-nerves; above greyish-green,  $\pm$  laxly hairy, with very distinctly impressed reticulation; beneath pubescent or subtomentose, hairs never reddish. Bracts narrow,  $\pm$  obtuse or often acute, covered with long hairs and bearded. Styles absent. Stigmas erect, capitate .....  
*S. aurita.*
- 9b. Trees or tall shrubs. Striae only on older (at least 5-10 years) branches, irregular, scattered, about 4-15 mm. long. Leaves finally coriaceous, large, 5-9-nerved; above almost smooth and glossy with longer, straighter hairs. Shoots  $\pm$  patent, coarse, knotty.

- 11a. Previous year's shoots glabrous. Leaves stipulate, long-petioled, ovate; above dark green and finally almost glabrous; beneath when young glossy at base, greyish-white with denser, crowded hairs. Floral shoots subsessile,  $\pm$  leafless. Catkins erect, long, straight. Bracts acute, brownish-black, with dense, long, straight hairs. Filaments usually glabrous ..... *S. Caprea*.
- 11b. Previous year's shoots grey-pubescent. Leaves usually exstipulate, with shorter petioles, obovate; above  $\pm$  silky-pubescent; beneath smoothly grey pubescent. Floral shoots patent, with longer petioles, often with large leaves. Catkins usually incurved, shorter, often abnormal in the upper part. Bracts blunt, brown, with more scattered, shorter, curved hairs. Filaments hairy .....  
*S. coactanea*.
- 8b. Branches (older ones) usually with scattered,  $\pm$  point-tipped striae up to 3-5 mm. long. Leaves very shortly petioled, small; above finally elevated-reticulate; at least beneath silky pubescent (except sometimes *S. repens*) with adpressed, usually short straight hairs directed upwards. Small shrubs.
- 12a. Previous year's shoots narrow, light-coloured, glabrous. Leaves exstipulate, ovate, finally glabrous at least above. Floral shoots  $\pm$  long-peduncled, comparatively many- and large-leaved. Catkins cylindrical, finally lax-flowered. Bracts  $\pm$  light-coloured, laxly hairy. Filaments, capsules and their pedicels glabrous .....  
*S. repens*.
- 12b. Previous year's shoots  $\pm$  long, dark, pubescent. Leaves beneath more densely silky-pubescent. Floral shoots numerous, not terminal, short-peduncled, few- and small-leaved. Catkins shorter, dense-flowered. Bracts dark. Branches erect. Style  $\pm$  inconspicuous.
- 13a. Previous year's shoots narrow, laxly hairy, often with crowded basal shoots. Leaves exstipulate,  $\pm$  erect, thin, comparatively long, almost linear, with entire-sinuate, finely glandular, flat margin, usually 10-12-nerved; above dark green and finally  $\pm$  glabrous; beneath smooth, silky-pubescent with short hairs. Bracts hairy. Filaments glabrous. Stigmas long, cylindrical ..... *S. rosmarinifolia*.
- 13b. Previous year's shoots coarse, densely grey-pubescent. Leaves (often) stipulate, finally recurved, firm, short, obovate, with laxly and  $\pm$  sharply glandular-serrate, recurved margin, 5-8-nerved; on both surfaces densely silky-pubescent, eventually with long hairs; above finally dull greenish-grey with patent, curved hairs also. Bracts densely grey-canescens. Filaments hairy. Stigmas short,  $\pm$  capitate ..... *S. arenaria*.
- 7b. Capsules short-pedicelled, hairy. Small shrub. Sterile shoots glabrous. Leaves usually exstipulate, short-petioled, small, serrate, usually 7-12-nerved, finally glabrous above. Floral shoots long-peduncled, large-leaved. Catkins small. Bracts light-coloured. Filaments glabrous ..... *S. arbuscula*.
- 6b. Styles long, glabrous. Shrubs (except sometimes *S. nigricans*).

- 14a. Sterile shoots glossy, glabrous. Leaves exstipulate, serrate, usually 8-12-nerved; above glossy and (like the petiole) glabrous; beneath pale blue-green. Capsules pedicelled, pubescent. Floral shoots short-peduncled, small-leaved. Bracts dark. Filaments glabrous ..... *S. phyllifolia*.
- 14b. Sterile shoots hairy. Leaves stipulate, hairy on the petiole at least above and on the base of the midrib. Capsules glabrous (except sometimes *S. lanata*).
- 15a. Previous year's shoots comparatively narrow and smooth, hairy or glabrous. Leaves not golden hairy, serrate. Floral shoots not terminal. Catkins comparatively small and lax-flowered. Bracts  $\pm$  light-coloured with fine, curved hairs. Capsules  $\pm$  long-pedicelled ... *S. nigricans*.
- 15b. Previous year's shoots very robust, knotty, felted tomentose with long hairs. Young as well as basal leaves  $\pm$  golden glossy with very long, straight hairs. Floral shoots terminal, subsessile,  $\pm$  golden hairy and leafless. Catkins very large, dense-flowered. Bracts brownish-black, with long, coarse, straight hairs. Capsules short-pedicelled or sessile. Styles very long ..... *S. lanata*.
- 6c. Styles very long, hairy. Shrub. Sterile shoots white-pubescent. Leaves exstipulate,  $\pm$  narrow, usually 8-12-nerved, white felted-tomentose. Floral shoots subsessile, leafless. Bracts dark, pubescent. Filaments glabrous. Capsules not or inconspicuously pedicelled, felted-tomentose ..... *S. lapponum*.
- 5b. Leaves 15-many-nerved, long, narrow. Tall shrubs or trees. Branches  $\pm$  whip-like. Floral shoots numerous, subsessile. Bracts  $\pm$  dark. Capsules pubescent.
- 16a. Leaves alternate, stipulate,  $\pm$  linear, almost entire, silky-canescient beneath with short, straight hairs, parallel with the lateral nerves. Filaments free, glabrous. Styles long, hairy ..... *S. viminalis*.
- 16b. Leaves alternate as well as  $\pm$  opposite, exstipulate, narrowly ligulate, towards the apex sharply glandular-serrate, usually 15-30-nerved, finally glabrous. Filaments connate; pubescent. Styles inconspicuous ..... *S. purpurea*.
- 4b. Previous year's shoots (at least in a dry state) glaucous-pruinose. Trees or tall shrubs. Leaves stipulate, narrowly lanceolate, glandular-serrate; above glossy, dark green and usually glabrous. Bracts dark, with dense, long, straight hairs. Filaments glabrous.
- 17a. Previous year's shoots  $\pm$  erect, robust. Sterile shoots hairy towards the apex. Leaves with ovate-lanceolate stipules; on a short  $\pm$  dark and hairy petiole (like the base of the midrib), canaliculate above; blades lanceolate, usually 11-15-nerved. Floral shoots usually 3-8. Bracts blunt. Capsule-pedicels very short,  $\pm$  hairy. Capsules usually glabrous ..... *S. daphnoides*.
- 17b. Previous year's shoots  $\pm$  pendulous, narrow. Sterile shoots glabrous. Leaves with longer and narrower stipules, petiole longer, glabrous, light-coloured, flat above (like the midrib); blade longer and narrower, usually 15-18-nerved. Floral shoots usually 1-2. Bracts acute. Capsule-pedicels longer, glabrous. Capsules glabrous ... *S. acutifolia*.
- 1c. (*Amerina*). Trees or tall shrubs. Bud scales deciduous at the appearance of the leaves. Petiole glandular-margined towards the apex. Leaves  $\pm$  long, 10-17-nerved, glandular-serrate. Floral shoots not terminal, their leaves deciduous with the catkin. Bracts pale, one-coloured. Nectarles usually 2, an outer (absent in the female flowers of *S. triandra* and *S. alba*) and inner, simple or cleft. Stamens 2 to several, with free, pubescent filaments. Capsules glabrous.

- 18a. Leaves lanceolate, usually 12-17-nerved. Floral shoots usually 4-8, with comparatively few, small,  $\pm$  entire leaves. Stamens 2-3, filaments with crisped hairs.
- 19a. Shrub, rarely a tree. Leaves with large, usually broad, long-persistent stipules, long-petioled, usually oblanceolate, acute and almost straight, coarsely serrate, sharply reticulate,  $\pm$  glabrous. Stamens 3. Capsule-pedicels long. Styles almost inconspicuous ... *S. triandra*.
- 19b. Trees, rarely shrubs. Leaves with narrow, quickly deciduous stipules, narrowly lanceolate, obliquely acuminate, slightly reticulate. Stamens 2.
- 20a. Branches ascending. Sterile shoots  $\pm$  white-canescens, comparatively tough. Leaves short-petioled, densely fine-serrate, at least when young white, silky with long hairs. Floral shoots numerous,  $\pm$  erect, short-peduncled, with small, entire or irregularly and laxly glandular-serrate leaves. Bracts comparatively short, blunt, with crisped hairs. Capsule-pedicel and styles almost inconspicuous ..... *S. alba*.
- 20b. Branches patent. Sterile shoots glabrous, very fragile at base. Leaves long-petioled, broader, more laxly and coarsely serrate, glabrous. Floral shoots fewer, spreading, with longer peduncles and with larger, entire leaves. Bracts longer, more acute, with straight as well as crisped hairs. Capsule-pedicel and style  $\pm$  long ..... *S. fragilis*.
- 18b. Leaves usually obovate,  $\pm$  straight-pointed, usually 10-12-nerved, glossy, glabrous. Floral shoots fewer, long-peduncled, with more numerous, larger, regularly and densely glandular-serrate leaves. Stamens about 5, filaments with almost straight hairs. Shrub, rarely a tree. Capsule-pedicel and style short ..... *S. pentandra*.

#### KEY FOR STERILE MATERIAL.

- 1a. (*Chamaetia*). Procumbent small shrubs. Bud scales persistent, after the leaves expand, as a narrow cap, split along the inside and through the summit. Petiole glabrous (except *S. reticulata*), glandless. Blade short,  $\pm$  rounded, recurved, infolded along the midrib, with 2-5 pairs of  $\pm$  S-shaped lateral nerves running at an acute angle, mainly from the basal part of the midrib; above glossy green and (except *S. reticulata*) glabrous; beneath glabrous or with scattered, adpressed, long, straight, finally usually deciduous hairs.
- 2a. Leaves on a very long petiole which is hairy above, 2-3-nerved, beneath greyish-white and strongly elevated-reticulate, above depressed reticulate and hairy at least on the base of the midrib, exstipulate, coriaceous, entire. Espalier-shrub with comparatively robust, crooked branches and shoots ..... *S. reticulata*.
- 2b. Leaves more shortly petioled, 3-5-nerved, green on both sides,  $\pm$  white-dotted.
- 3a. Dwarf shrub with mainly subterranean branches. Sterile shoots very short with usually 2-3 exstipulate leaves ..... *S. herbacea*.
- 3b. Small shrub with procumbent or ascending, coarser, crooked, knotty branches. Sterile shoots comparatively coarse, glabrous or with lax, long, straight hairs and about 5, stipulate, short-petioled, coriaceous, usually obovate, sharply glandular-serrate, mostly 5-nerved; conspicuously elevated-reticulate, glossy, dark-green leaves, persistent a long time after withering ..... *S. myrsinites*.
- 1b. (*Caprisatix*). Erect (except *S. repens* and sometimes *S. arbuscula*) shrubs or trees. Bud-scales deciduous as the leaves expand (except sometimes *S. arbuscula*),  $\pm$  split along the inner side. Petioles exstipulate, leaf-blade usually longer, narrower and  $\pm$  flat, with 5-many pinnate pairs of lateral nerves.
- 4a. Previous year's shoots (dried) not glaucous-pruinose.
- 5a. Leaves 5-15-nerved.

- 6a. Leaves spirally arranged, not silky-hairy beneath.
- 7a. Leaves above depressed-reticulate,  $\pm$  dull (except *S. Caprea*, *S. coaetanea*); grey-tomentose at least beneath.
- 8a. Branches lacking striae. Leaves entire (except sometimes *S. lapponum*), with long hairs. Shrubs. Sterile shoots grey- or white-tomentose.
- 9a. Previous year's shoots canescent, coarse. Leaves (at least the terminal ones) with acuminate stipules, 5-8-nerved ..... *S. lanata*.
- 9b. Previous year's shoots laxly hairy or glabrous. Leaves usually exstipulate, usually 8-12 nerved, faintly reticulate ..... *S. lapponum*.
- 8b. At least old branches with striae,  $\pm$  smooth-margined (except rarely *S. Caprea* and *S. coaetanea*). Leaves stipulate (except *S. coaetanea*), sinuate-margined or  $\pm$  bluntly toothed or glandular-serrate, coarsely elevated-reticulate beneath and with a dull greyish tomentum of patent, short, strongly curved hairs.
- 10a. Trees or tall shrubs. Striae (only present on old—at least 5-10 years—branches) irregularly and laxly spread, usually 4-15 mm. long. Previous year's shoots  $\pm$  spreading, coarse, knotty. Buds robust. Leaves  $\pm$  coriaceous, large, 5-8-nerved, almost smooth above and in a juvenile stage glossy with somewhat adpressed, almost straight hairs, mainly parallel with the side-nerve.
- 11a. Previous year's shoots glabrous. Buds with recurved tip. Stipules usually large. Leaves long-petioled, usually broadly ovate, at the base  $\pm$  rounded, sinuate-margined or dentate-serrate, with 6-9 side-nerve at right angles to the midrib and finally strongly elevated beneath. Blade above glossy, dark-green, finally subglabrous; beneath in a juvenile stage at base glossy grey-white with more closely packed hairs ..... *S. Caprea*.
- 11b. Previous year's shoots dull grey-tomentose. Buds with short, straight point. Leaves usually exstipulate, with shorter petioles, obovate, narrowed towards the base, with sinuate or entire margin and usually 5-8 side-nerve, at an acute angle to the midrib, narrower and less elevated beneath. Blade  $\pm$  silky-glossy above with denser, more adpressed, longer and straighter hairs, smoothly grey-tomentose beneath ..... *S. coaetanea*.
- 10b. Shrubs. Striae (present on 2-5 year old branches) dense, 3-30(-100) mm. long. Previous year's shoots smoother. Buds smaller. Leaves rather long-petioled, thinner, smaller, 7-15-nerved, above depressed-reticulate, beneath dull greenish-grey, on both surfaces grey-tomentose.
- 12a. Tall shrub, sometimes treelike. Buds ovoid-conic, pubescent when young, soon glabrescent. Petiole 0.5-1.5 cm. long. Leaves with 8-15 side-nerve; above soon glabrescent and somewhat shiny, with indistinctly impressed reticulation; beneath covered with reddish-brown hairs especially along the nerves ..... *S. atroctnera*.

- 12b. Tall or low shrub, showing a characteristic outline (flattened above). Buds persistently pubescent. Petiole 0.3-1.0(-1.6) cm. long. Leaves with 10-15(-18) side-nerves, densely pubescent on both sides, not glabrescent, above with impressed reticulations; beneath finally bluish-grey, hairs never reddish ..... *S. cinerea*.
- 12c. Shrub, 1-2 m. high. Buds triangular, glabrous, shiny. Petiole 0.2-0.6 cm. long. Leaves with 6-10 side-nerves; above greyish-green,  $\pm$  laxly hairy, with very distinctly impressed reticulation; beneath pubescent or subtomentose, hairs never reddish ..... *S. aurita*.
- 7b. Leaves above  $\pm$  smooth, glossy, green, glabrous or hairy mainly on the midrib.
- 13a. Tall shrubs or trees. Previous year's shoots brownish, usually hairy. Leaves stipulate, glandular-serrate, above hairy at least on the petiole and the base of the midrib ...  
*S. nigricans*.
- 13b. Small shrubs (except *S. phyllctifolia*). Previous year's shoots reddish-brown, glossy, glabrous. Sterile shoots narrow,  $\pm$  glabrous. Buds glabrous. Leaves above more glossy, beneath  $\pm$  blue-green (except sometimes *S. arbuscula*).
- 14a. Branches erect,  $\pm$  straight, brownish. Sterile shoots glabrous, even when young. Leaves comparatively long-petioled, remotely serrate, faintly reticulate, smooth, not white-dotted, beneath pale bluish-pruinose ..... *S. phyllctifolia*.
- 14b. Branches ascending, shorter, more slender, crooked, with membranously flaking bark, finally light grey. Sterile shoots, when young, glabrous or scantily hairy. Leaves short-petioled, smaller, more densely serrate, densely and finally elevated-reticulate, white-dotted, pale green to somewhat blue-grey beneath. Bud-scales frequently persistent after the leaves expand ...  
*S. arbuscula*.
- 6b. Leaves both spirally arranged and  $\pm$  opposite, short-petioled, small, with the midrib excurrent or not, subentire, gland-margined, frequently drying black, finally elevated-reticulate above, smoother and silky-hairy beneath (except sometimes *S. repens*) with adpressed,  $\pm$  straight hairs directed parallel with the midrib. Low shrubs with narrow branches.
- 15a. Previous year's shoots slender, brownish. Leaves exstipulate,  $\pm$  erect, thin, usually narrow and flat-margined, plane, above finally glossy dark-green and  $\pm$  glabrous, beneath silky with adpressed, short, straight hairs. Buds acute with scattered short hairs or glabrous.
- 16a. Branches procumbent or ascending. Previous year's shoots short, crooked, light brown, glabrous. Sterile shoots hairy or glabrous. Leaves very small, ovate-elliptical, 4-6-nerved, rarely glabrous beneath. Shrublet .....  
*S. repens*.
- 16b. Branches erect. Previous year's shoots  $\pm$  long, straight, dark brown, pubescent. Sterile shoots shortly grey-pubescent. Leaves comparatively long, almost linear, usually 10-12-nerved, densely and sharply reticulate, usually densely silky-hairy beneath ... *S. rosmarinifolia*.

- 15b. Previous year's shoots rather long, robust, straight, brownish-black, usually densely canescent. Leaves (mainly large, terminal), often stipulate, finally patent, firm, short, obovate, with recurved tip, recurved margin and, when young,  $\pm$  revolute sides, remotely and sharply glandular-serrate in the upper part, usually 5-8-nerved, above finally densely and sharply reticulate and dull greyish-green with both patent and curved hairs, beneath white-glossy with dense hairs, among which are also longer and  $\pm$  curved ones. Young leaves densely and glossily white-tomentose on both surfaces. Buds coarse, dull grey-canescens. Branches patent. Sterile shoots glossy white-tomentose with long hairs ... *S. arenaria*.
- 5b. Leaves long, narrow, 15-many-nerved. Sterile shoots long, whip-like, many-leaved.
- 17a. Tall shrubs or trees. Previous year's shoots yellowish. Buds ovoid,  $\pm$  hairy. Leaves spirally arranged, with entire or sinuate margin, which is remotely glandular towards the apex, beneath densely silky-tomentose with adpressed, short, straight hairs, directed parallel with the side-nerves ..... *S. viminalis*.
- 17b. Shrub. Previous year's shoots reddish, glossy. Buds almost linear, finally brown-red, glabrous. Leaves both spirally arranged and opposite, narrowly ligulate, upwards sharply glandular-serrate, usually 15-30-nerved, finally glabrous ... *S. purpurea*.
- 4b. Previous year's shoots (at least when dry) whitish-blue. Trees or tall shrubs. Buds large, acuminate. Leaves with glandular-serrate stipules (the leaves supporting the catkin-buds with the stipules large and connate with the base of the elongated petioles). Blade acuminate, sharp-pointed, glandular-serrate, glossy and dark-green above.
- 18a. Previous year's shoots  $\pm$  erect, coarse, greenish-brown to whitish-blue. Sterile shoots and buds usually laxly grey-tomentose, finally  $\pm$  glabrous. Leaves with broad-based stipules. Petiole short, grooved above like the adjacent part of the midrib,  $\pm$  pubescent with spreading, short hairs. Blade narrowly lanceolate, usually 11-15-nerved, densely white-dotted above, often laxly hairy when young ...  
*S. daphnoides*.
- 18b. Previous year's shoots pendulous, long, narrow, brown-red, rarely whitish-blue. Sterile shoots and buds glabrous. Leaves with longer, narrower stipules. Petioles long, yellow, glabrous, above flat like the adjacent part of the midrib. Blade narrowly lanceolate to almost linear, usually 15-20-nerved, not or only in the uppermost part white-dotted, glabrous ..... *S. acutifolia*.
- 1c. (*Amerina*). Trees or tall shrubs. Bud-scales deciduous after the leaves expand,  $\pm$  split along the inner side. Leaves stipulate, petioles grooved above, glandular near the apex. Blades usually long, sharply acute, glandular-serrate, flat, with 8-17 pinnate pairs of side-nerves.
- 19a. Stipules densely glandular on the base of the upper surface. Leaf-blade lanceolate, acuminate, usually 12-17-nerved.
- 20a. Shrub or shrubby tree with flaking bark. Previous year's shoots irregularly furrowed. Buds spreading, marcon-coloured,  $\pm$  glabrous. Leaves with large, broad, long-persistent stipules, long-petioled, usually oblanceolate, densely and coarsely serrate, usually 12-15-nerved, densely and finally elevated-reticulate, above glossy dark green, beneath usually dull and glaucous, glabrous or with scattered hairs in the juvenile stage. Sterile shoots usually laxly hairy, finally glabrous ..... *S. triandra*.
- 20b. Trees with large trunks. Previous year's shoots  $\pm$  smooth. Buds adpressed. Leaves with narrowly acuminate, soon deciduous stipules, obliquely acuminate, usually 12-17-nerved, pale blue-green or blue-grey beneath.

- 21a. Branches ascending. Previous year's shoots  $\pm$  pendulous, narrow, reddish or yellowish-brown, with scattered hairs or glabrous, comparatively tough. Sterile shoots glossy, silky-hairy with long hairs. Buds narrowly ovoid, acute, red, white-tomentose, finally laxly hairy. Leaves with narrowly lanceolate stipules, short-petioled, narrowly lanceolate to almost linear, long-acuminate, closely and finely serrate, densely and finely white-dotted above, glossily white-silky with long hairs on both surfaces, finally almost glabrous above ..... *S. alba*.
- 21b. Branches spreading. Previous year's shoots coarse, knotty, glossily brownish-yellow, very fragile at the base. Sterile shoots glabrous. Buds ovoid, short-pointed, glossily brown, glabrous. Leaves with obliquely cordate stipules, long-petioled, firmer, narrowly lanceolate, more laxly and coarsely serrate, laxly and coarsely white-dotted above, glossy and dark-green, frequently drying black when young, glabrous ..... *S. fragilis*.
- 19b. Stipules short, on the upper face usually glandless, soon deciduous. Leaf-blade obovate-oblongate, usually short- and straight-pointed, densely serrate, usually 10-12-nerved, not or only at the summit white-dotted, glossy green, glabrous. Shrub or  $\pm$  narrow-stemmed tree. Previous year's shoots glossy green- or red-brown, tough. Sterile shoots when young, as well as the buds and leaves, viscid and with a balsam odour, frequently drying black, glabrous. Buds spreading, glossy, glabrous ..... *S. pentandra*.