Plant Crib

SPIRAEA, TAXA WITH ELONGATED TERMINAL PANICLE ONLY

The following, still tentative, key covers naturalised taxa of the section *Spiraea*, in which the inflorescence consists of an elongated, terminal panicle (all taxa are keyed out in Stace's *New Flora*; see also note 6 below). Species and hybrids of this section are sometimes used for hedging, especially on damp, peaty soils and hybrids of *S. salicifolia* may form extensive thickets. Other taxa tend to be less invasive, but are occasionally met in relatively wild situations.

Leaf-shape is important in the identification of these plants, but must be judged from an adequate sample from the bush; a single, atypical shoot may be seriously misleading. Inflorescence-shape is also variable and should be judged from strong unshaded shoots. Flower-colour can be very helpful, and should always be noted before specimens are pressed and dried; some colours fade even in well-preserved material. The existence of a nectar-ring is sometimes important; if present, it forms a raised fleshy ring on the disc, inside the petals.

The group as a whole is distributed throughout the northern hemisphere and numerous species have been introduced into cultivation. In the latter part of the last century, horticulturists, notably H. Zabel, carried out a comprehensive series of hybridisations, often between the most unlikely parents. Only a few of these hybrids have become widely cultivated, but odd bushes, particularly persisting in the vicinity of old estates, could easily present serious identification problems. Members of the *salicifolia* group have frequently been crossed with members of other sections with lateral, umbel-like inflorescences; the resulting hybrids commonly have rather short, broadly conical, terminal inflorescences, and, very often, further heads borne on side shoots. One such cross, *S.* × *brachybotrys*, is included in the key, but others may occur as escapes.

In view of the hybrid origin of most naturalised populations, pollen fertility is a useful character for reliable identification of these plants. Well-formed pollen stains with acetocarmine and can be recognised, with a little practise, with a low-power microscope. Infertile grains are mostly collapsed and colourless, though some may take up a little stain. Examination by high-powered microscopy, using Nomarski differential interference contrast, aids recognition of pollen contents, but unfortunately is not a technique likely to be available even to the few microscopists who may use this key. So far, only limited studies have been made, all on herbarium material, so the pollen percentage fertilities given in the key may be subject to modification. While, in most cases, there are easier ways to identify these plants, it currently appears that no identification of true *S. salicifolia* should be regarded as proven until its pollen has been checked.

1 Leaves glabrous, or at most, inconspicuously ciliate along margins of young leaves or at the base of main vein 2
1 Leaves pubescent or tomentose beneath, at least on the veins (lens!) 6

2 Inflorescence open, conical in outline, with conspicuous, spreading or ascending lower side-branches; petals white or pale pink, rarely brighter; stamens about equalling petals; leaves elliptic, ovate or lanceolate, finely to very coarsely toothed or entire only near the base 3

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2 Inflorescence side-branches short and ascending to form a dense, narrowly conical to cylindrical panicle; petals usually bright pink, rarely white; stamens equalling to twice as long as petals; leaves usually lanceolate, rarely ovate or oblong and then toothed mainly towards the apex 4

3 Petals (always?) white; leaves lanceolate or narrowly ovate, more than 3 times as long as wide, finely to coarsely toothed (Fig. e); inflorescence branches usually densely pubescent. (All records need reappraisal) ***S. alba*** Duroi var. ***alba***

3 Petals white or (rarely) rose-pink; leaves broadly lanceolate, ovate or elliptic, 2-3 times as long as wide, toothing usually coarse and sometimes compound (Fig. d); inflorescence branches subglabrous to pubescent. (Occasionally naturalised) ***S. alba*** Duroi var. ***latifolia*** (Aiton) Dippel

[If petals rose- to bright-pink, inflorescence rather dense and leaves broadly lanceolate, see also *S.* × *rosalba* = S. *alba* × *S. salicifolia*]

4 Leaves oblong to elliptic, with margins entire from base to at least mid-point, then few to several large, obtuse to acute teeth; inflorescence relatively long and cylindrical; petals deep pink; nectar-ring absent. (At most a very rare escape, but all records require verification) ***S. douglasii*** Hook. subsp. ***menziesii*** (Hook.) Calder & Roy L. Taylor

4 Leaves narrowly to broadly lanceolate, regularly toothed from near base, nectar-ring distinct 5

5 Panicle cylindrical to narrowly conical, its branches usually pubescent; petals usually bright pink; leaves narrowly lanceolate, typically with fine, regular toothing almost from the base to apex (Fig. f); pollen fertility above 90%. (No authentic recent records) ***S. salicifolia*** L.

5 Panicle cylindrical to conical, its branches sub-glabrous or thinly pubescent; petals usually rose-pink; leaves rather broadly lanceolate, finely to rather coarsely toothed (Figs. h-j); pollen fertility below 20%. (Occasionally naturalised) ***S.* × *rosalba*** Dippel (*S. alba* × *S. salicifolia*)

6 Leaves of flowering shoots 1.5-4 cm in length; terminal panicles broadly conical, scarcely longer than broad; lateral panicles usually present. (Leaves oval or elliptic, those on flowering shoots with 3-5 large, blunt, terminal teeth, dark and pubescent above, densely pubescent or grey-felted beneath; inflorescence greyish-white felted, petals pale pink). (Rare escape) ***S.* × *brachybotrys*** Lange (*S. canescens* × *S. douglasii*)

6 Leaves of flowering shoots at least 5 cm in length; panicles all terminal, usually at least twice as long as wide 7

7 Leaves felted beneath 8

7 Leaves sparsely to densely pubescent beneath, but not felted 9

8 Leaves white- or greyish-white felted beneath, oblong or sometimes elliptic, margins entire to beyond mid-point, then with few to several large, obtuse to acute teeth (Fig. g); panicle cylindrical, interrupted; petals 1.5-2 mm, deep pink; follicles of fruit glabrous, or sparsely ciliate along the sutures. (Occasional escape) ***S. douglasii*** Hook. subsp. ***douglasii***

8 Stem, inflorescence and undersides of leaves yellow- to yellowish-white felted; leaves narrowly elliptic to ovate, coarsely toothed except near base; inflorescence narrowly to broadly conical, with regular spreading to ascending side-branches; petals 1-1.5 mm, white to deep pink; follicles densely pubescent. (Rare escape) ***S. tomentosa*** L.

9 Leaves elliptic to oblong, margins entire to beyond mid-point, then with few to several large teeth towards apex; panicle interrupted-cylindrical; petals deep pink; sepals deflexed in fruit; nectar-ring absent; pollen fertility high. (All records require verification). ***S. douglasii*** Hook. subsp. ***menziesii*** (Hook.) Calder & Roy L. Taylor

9 Leaves usually lanceolate, sometimes ovate or elliptic, toothed from below mid-point; panicle cylindrical to conical; petals usually pink; sepals deflexed to erect in fruit; nectar-ring present though not always well developed; pollen fertility below 20%, often almost nil. (Frequent escapes) 10

10 Panicle cylindrical or narrowly conical; leaves lanceolate, usually regularly toothed from near base (Fig. c) ***S.* × *pseudosalicifolia*** Silverside (*S. douglasii* × *S. salicifolia; S.* × *billardii* auct.)

10 Panicle cylindrical to conical; leaves lanceolate to elliptic-ovate, often rather coarsely and irregularly toothed, base often cuneate and entire (Fig. a) (often cannot be readily separated from the preceding) ***S.* × *billardii*** Herincq (*S. alba* × *S. douglasii*)

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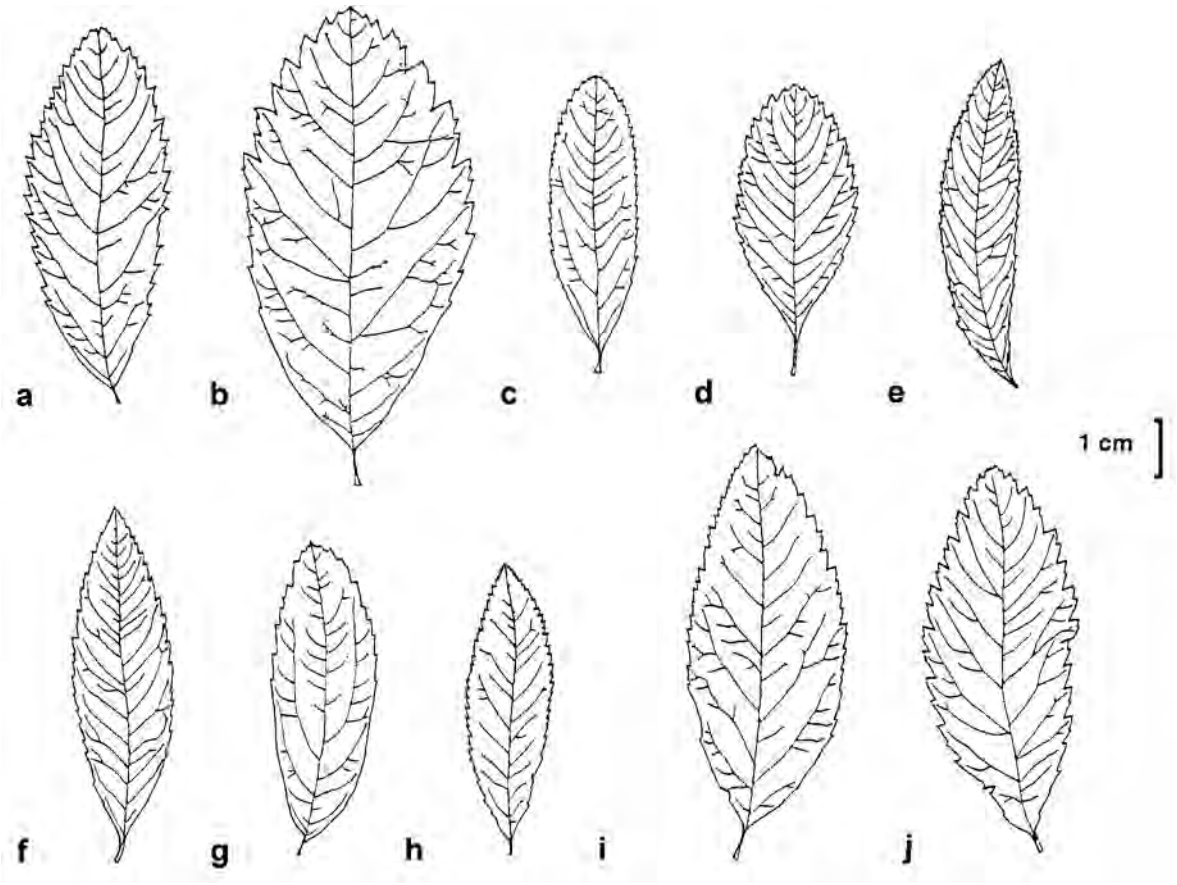

Spiraea **leaves from flowering shoots. (a)** ***S.*** **×** ***billardii*****, (b)** ***S.*** **×** ***billardii*** **var.** ***macrothyrsa*****, (c)** ***S.*** **×** ***pseudosalicifolia*****, (d)** ***S. alba*** **var.** ***latifolia*****, (e)** ***S. alba*** **var.** ***alba*****, (f)** ***S. salicifolia*****, (g)** ***S. douglasii*** **subsp.** ***douglasii*****, (h)** ***S.*** **×** ***rosalba*** **nothovar.** ***rosalba*****, (i, j)** ***S.*** **×** ***rosalba*** **nothovar.** ***rubella*****.**

NOTES

1. *S. salicifolia* and *S. alba*: - *S. salicifolia* is native through much of eastern Europe and Asia, but is replaced by *S. alba* in N America. The latter species was formerly included under *S. salicifolia* and this causes problems when interpreting old horticultural literature, particularly regarding the parentage of hybrids (see case of *S.* × *billardii* below). Following recent American authors, *S. latifolia* has been treated here as a variety of *S. alba*. The characters quoted in the key seem to give a workable separation of the two varieties, but on this basis, most or all recent determinations of var. *alba* should be referred to var. *latifolia*. There are very early records of '*S. salicifolia*' as an escape in Britain, and these are likely to have been correct, but even if so, the species now appears to be extinct here.
2. *S. alba* × *S. salicifolia*: - Either variety of *S. alba* may be involved in this hybrid. That involving var. *alba* is *S.* × *rosalba* Dippel nothovar. *rosalba*, while that with var. *latifolia* is *S.* × *rosalba* nothovar. *rubella* (Dippel) Silverside (Figs. h-j). A few colonies in Wales and the Lake District have pale flowers and narrow, finely-toothed leaves and seem better referred to nothovar. *rosalba*, but most naturalised populations are nothovar. *rubella*.
3. *S. douglasii* × *S. tomentosa* (*S.* × *fulvescens* Dippel) has been reported as an escape, but those specimens seen have been *S. douglasii*.

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4. *S. alba* × *S. douglasii* (*S.* × *billardii* Herincq): 'Triumphans' is a showy form with large, oval to elliptic, coarsely-toothed leaves and very large, solid panicles of bright pink flowers. Other populations seem to be var. *macrothyrsa* (Zabel) J. Duvign. with large, lanceolate leaves (Fig. b) and panicles often with conspicuous side-branches. The epithet '*billardii*' has been consistently misapplied to *S. douglasii* × *S. salicifolia* due to the former use of *S. salicifolia* as an aggregate name. The epithet '*menziesii*' has also been regularly misapplied to these two hybrids.
5. *S. japonica* L. f. differs from the above species in having flowers in pink, flat-topped corymbs. It is a variable plant, 1-1.5 m in height, with ovate to lanceolate, sharply toothed leaves. It can form thickets in old estate woodlands and is a rare escape. Several cultivars are grown under the name *S.* × *bumalda* Burv.
6. Other taxa occasionally recorded as escapes include *S. canescens* D. Don, *S. media* F. Schmidt, *S. chamaedryfolia* L. subsp. *ulmifolia* (Scop.) J. Duvign. and *S.* × *vanhouttei* (Briot) Carrière, plus the closely related invasive shrub, *Holodiscus discolor* (Pursh) Maxim. None of these should be confused with the *S. salicifolia* group.

References

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Author

A. J. Silverside, February 1988, revised 1998.