

## The nomenclature of some hybrids of the *Spiraea salicifolia* group naturalized in Britain

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### ABSTRACT

Some hybrids of *S. salicifolia* L. (Rosaceae) naturalized in Britain are discussed. *S. douglasii* Hooker  $\times$  *S. salicifolia* has hitherto lacked a legitimate binomial and is described as ***S.  $\times$  pseudosalicifolia* Silverside, hybr. nov.** It is widespread in Britain but has been confused with *S.  $\times$  billardii* Hérincq (*S. alba* Du Roi  $\times$  *S. douglasii*). When *S. latifolia* (Aiton) Borkh. is treated as conspecific with *S. alba*, the simultaneously published binomials of their respective hybrids with *S. salicifolia*, i.e. *S.  $\times$  rubella* Dippel and *S.  $\times$  rosalba* Dippel, are to be treated as synonymous. *S.  $\times$  rosalba* is selected as having priority. *S. latifolia* is accepted at varietal rank, as *S. alba* var. *latifolia* (Aiton) Dippel, and its hybrid with *S. salicifolia* is recognized as *S.  $\times$  rosalba* Dippel nothovar. ***rubella*** (Dippel) Silverside, **comb. et stat. nov.**

### INTRODUCTION

In my key to the taxa of *Spiraea* sect. *Spiraea* naturalized in Britain (Silverside 1988), I alluded to difficulties regarding the correct binomials for the hybrids of the Eurasian species, *Spiraea salicifolia* L., with the North American species, *S. douglasii* Hook. and *S. alba* Du Roi (including *S. latifolia* (Aiton) Borkh.). Problems relate primarily to past interpretations of *S. salicifolia*, which was formerly understood to include *S. alba* and was consequently quoted as the parent of a number of hybrids which, in reality, involved the latter species. There is currently a need to establish the correct binomials for the hybrids discussed below.

### SPIRAEA DOUGLASII $\times$ S. SALICIFOLIA

***Spiraea  $\times$  pseudosalicifolia* Silverside, hybr. nov.**

HOLOTYPE: Overhailes, near East Linton, East Lothian, Scotland, v.c. 82, hedge by River Tyne, 21 July 1973, E. P. Beattie (E).

Hybrida hortensis ex *Spiraea salicifolia* L. et *S. douglasii* Hook. exorta. Planta sterilis. Inflorescentiae cylindraceae usque peranguste conoideae. Folia anguste elliptica, basibus angustatis, apicibus subacutis vel acutis, serrata, infra obscure pubescentia saltem in venis principalibus.

Ad *S. salicifoliam* persimulans, maxime facile distinguibilis pubescentia foliari.

*S.  $\times$  pseudosalicifolia* is widespread in Britain and is arguably our most common naturalized *Spiraea*. Like other members of this group it is commonly misidentified as *S. salicifolia*, a problem recognized by McClintock (1959). When distinguished from *S. salicifolia*, the hybrid has usually been recorded as *S.  $\times$  billardii*. However, as was realized by Duvigneaud (1975), *S.  $\times$  billardii* Hérincq is *S. alba  $\times$  douglasii*. Reference to Hérincq's (1855) original description and plate shows that while he gave the parents of *S.  $\times$  billardii* (originally spelt '*billardi*') as *S. douglasii* and *S. salicifolia*, the latter species was interpreted broadly, so as to include the North American *S. alba*. His plate shows a plant with a very broad, open panicle with more or less globose subpanicles. The leaves are broadly lanceolate and coarsely toothed, the tothing beginning some distance above the

leaf-base. The plant depicted was undoubtedly *S. alba* (probably var. *latifolia* (Aiton) Dippel) × *douglasii* subsp. *douglasii*.

*S. douglasii* × *salicifolia* seemingly has hitherto lacked a valid binomial. *S. × eximia* hort. ex K. H. E. Koch, *Dendrologie* 1: 312 (1869), apparently refers to this taxon, but unfortunately the name is a later homonym of *S. × eximia* hort. ex Regel, *Ind. Seminum Hort. Bot. imper. Petropolitanus* 1866: 107 (1866). Regel referred his taxon to *S. douglasii* × *hypericifolia* and his description certainly cannot refer to *S. douglasii* × *salicifolia*. In discussion of the hybrid of *S. douglasii* and *S. salicifolia*, Koch introduced *S. × eximia* along with the name *S. californica* hort. However, further on in his account, he clearly accepted the name *S. eximia* and his brief but adequate diagnosis of the hybrid must refer to this taxon. He expressed doubt about the nature of *S. californica*, of which he also gave a brief description, and Zabel (1893) and Dippel (1893) were most likely correct in referring the latter taxon to *S. alba* × *douglasii*, under the names *S. menziesii* Hook. var. *macrothyrsa* Zab. and *S. × macrothyrsa* Dippel respectively. Koch had a clear concept of the *S. alba* – *S. salicifolia* group and while I have not seen any material distributed by Koch as *S. eximia*, there seems no reason to doubt the application of the name. Nevertheless, it has seemed preferable to describe the hybrid afresh with a modern type specimen rather than base a nomen novum on Koch's limited description.

*S. menziesii*, treated by Zabel as *S. douglasii* × *salicifolia* (sensu lato), is best regarded as a glabrous or subglabrous subspecies of *S. douglasii*, i.e. *S. douglasii* subsp. *menziesii* (Hooker) Calder & Taylor. The name has been misapplied to some British collections. Zabel also described several varieties of *S. menziesii*, of which his var. *triumphans* may well have been the true *S. douglasii* × *salicifolia*. However, a new combination cannot be based on a name of less than certain application. The epithet '*triumphans*' has subsequently been frequently used for variants of *S. × billardii*.

The specimen chosen to be the type of *S. × pseudosalicifolia* represents the usual variant as I understand it, with leaves rarely exceeding 6 cm in length, inconspicuously pubescent beneath, at least on the main veins, generally similar in shape and tooting to those of *S. salicifolia* but more abruptly tapering to the often less acute apex. The foliar pubescence indicates that the *S. douglasii* parent was subsp. *douglasii*. The influence of *S. douglasii* is also often apparent in the slightly coarser tooting towards the leaf apex. The Perthshire material used to illustrate this hybrid (Fig. 1) is unfortunately in too poor a condition to serve as type material, but the specimen now selected as the type differs only in its somewhat more acute leaves. Pollen fertility of the type specimen has been estimated at 4.1%, based on examination of in excess of 1000 pollen grains from several anthers, using as the criterion the stainability of the contents of the pollen grains with acetocarmine, examined by Nomarski differential interference contrast microscopy (grey setting). Most grains taking up the stain were atypical in shape or size and the true viability of the pollen is likely to be substantially lower than this estimate.

Both *S. × billardii* and *S. × pseudosalicifolia* are naturalized in Britain, the former sometimes as var. *macrothyrsa* (Zabel) Duvigneaud. The two hybrids are not always reliably separable, but *S. × pseudosalicifolia* typically has smaller, narrower, more finely toothed leaves (Fig. 1) and narrower panicles. The majority of records for *S. × billardii* probably refer to *S. × pseudosalicifolia* and it would be better if reference to the true *S. × billardii* is confirmed by quotation of the hybrid formula.

#### SPIRAEA ALBA × S. SALICIFOLIA

Koch (1869) emphasized the extent to which *S. alba* and *S. salicifolia* had been crossed to give a range of garden hybrids and described the difficulty of distinguishing either of the parental species. This difficulty now applies to naturalized plants. *S. alba* var. *latifolia* (*S. latifolia* (Aiton) Borkh.) is naturalized in scattered localities throughout Britain, the majority of colonies being white-flowered. It is doubtful whether *S. alba* var. *alba* occurs in Britain, while European records appear to refer either to var. *latifolia* or perhaps to the hybrids discussed below. The two varieties of *S. alba* differ primarily in leaf shape, the leaves of var. *latifolia* being broader and more coarsely toothed (Fig. 2). The inflorescence branches of var. *alba* tend to be more pubescent and yellowish-brown whereas they are typically purplish-brown and subglabrous in var. *latifolia*. The petals of var. *alba* are

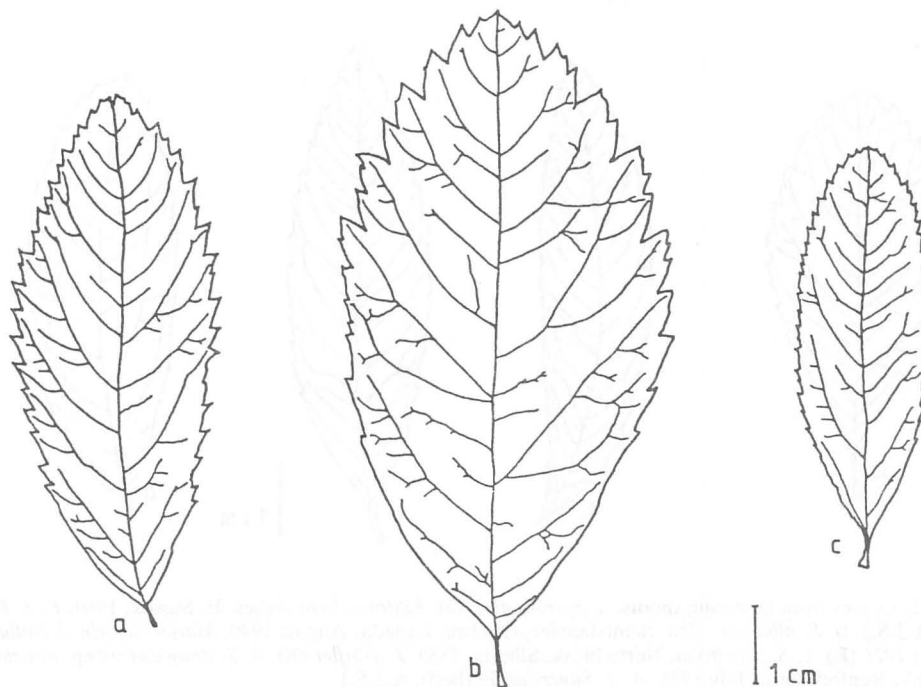


FIGURE 1. Leaves from flowering shoots. a. *Spiraea* × *billardii*, Newton of Ardtoe, Westernness, July 1981, A. J. Silverside 1420. b. *S.* × *billardii* var. *macrothyrsa*, Liskeard, Cornwall, July 1980, A. J. Silverside 1123. c. *S.* × *pseudosalicifolia*, Logierait, Perthshire, July 1980, A. J. Silverside & E. H. Jackson 1077. (All specimens herb. A.J.S.)

apparently always white, whereas those of var. *latifolia* vary from white to pale rose-pink. These characters are, however, variable and the usual modern treatment of these two taxa as conspecific appears justified. Further discussion is provided by Voss (1985). Var. *latifolia* may yet prove to be subspecifically distinct but it is here maintained at varietal rank.

Dippel (1893) published names for the hybrids of *S. salicifolia* with both *S. alba* [var. *alba*] and *S. alba* var. *latifolia*. As only one epithet can be legitimate and as Dippel published both names simultaneously, Article 57.2 of the International Code of Botanical Nomenclature requires that a choice be made between them. As I have not traced any such published decision, I select *Spiraea rosalba* Dippel as having priority over *Spiraea rubella* Dippel when *Spiraea alba* Du Roi and *Spiraea latifolia* (Aiton) Borkh. are treated as conspecific.

*S. rubella* still merits recognition at lower rank, in this case as a nothovariety:

*Spiraea* × *rosalba* Dippel, *Handbuch der Laubholzkunde* 3: 484 (1893).

(a) *Spiraea* × *rosalba* Dippel nothovar. **rosalba**

This combination is automatically created as an autonym by publication of the following nothovariety (I.C.B.N., Article 26). Hybrid formula: *Spiraea alba* Du Roi var. *alba* × *S. salicifolia* L.

(b) *Spiraea* × *rosalba* Dippel nothovar. **rubella** (Dippel) Silverside, **comb. et stat. nov.**

*Spiraea rubella* Dippel, *Handbuch der Laubholzkunde* 3: 484 (1893).

Hybrid formula: *Spiraea alba* Du Roi var. *latifolia* (Aiton) Dippel × *S. salicifolia* L.

As I have previously stated (Silverside 1988), these two nothovarieties are not easy to separate. Dippel distinguished them largely on the rather broader leaves and subglabrous inflorescence

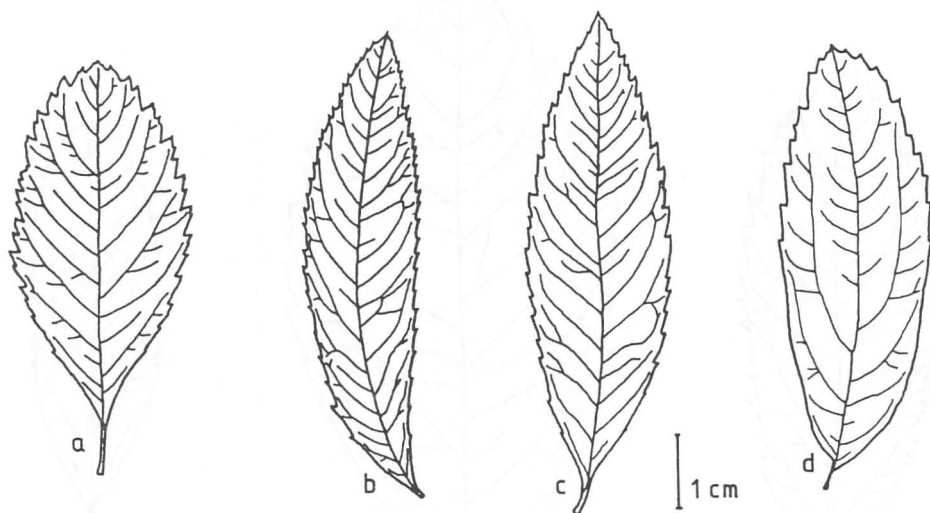


FIGURE 2. Leaves from flowering shoots. a. *Spiraea alba* var. *latifolia*, Five Ashes, E. Sussex, 1980, E. J. Rich (herb. A.J.S.). b. *S. alba* var. *alba*, Saint-Janvier, Quebec, Canada, August 1940, Marie-Victorin & Rolland-Germain 1921 (E). c. *S. salicifolia*, Nertschinsk, Siberia, 1889, J. Dörfler (E). d. *S. douglasii* subsp. *douglasii*, Langbank, Renfrewshire, July 1975, A. J. Silverside 59 (herb. A.J.S.).

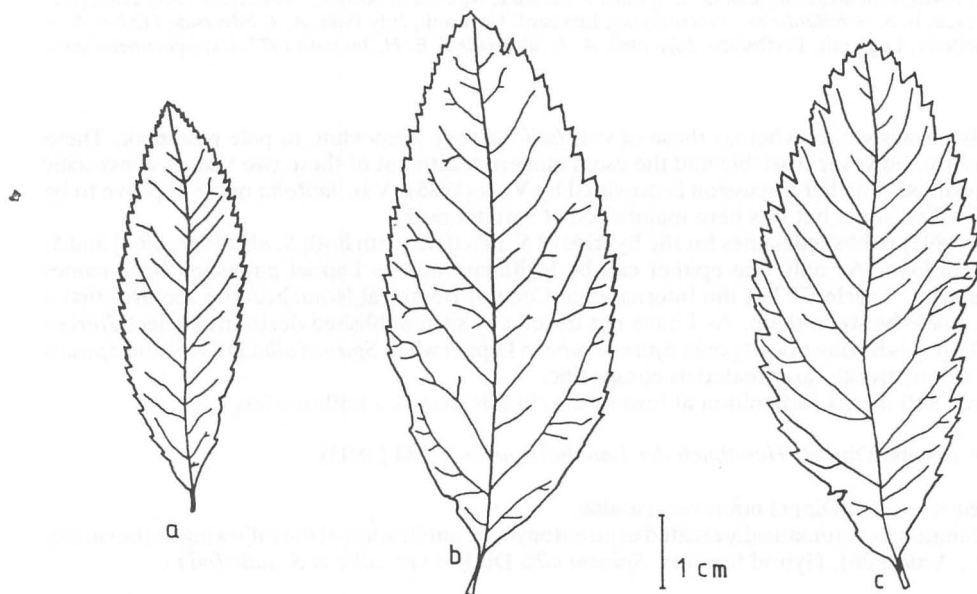


FIGURE 3. Leaves from flowering shoots. a. *Spiraea* × *rosalba* nothovar. *rosalba*, Dihewid, Cardigans., July 1982, A. O. Chater. b. *S.* × *rosalba* nothovar. *rubella*, Strath Oykel, E. Sutherland, August 1979, A. J. Silverside & E. H. Jackson 734. c. *S.* × *rosalba* nothovar. *rubella*, Ballintuim, Perthshire, August 1979, A. J. Silverside 781. (All specimens herb. A.J.S.)

branches of his *S. rubella*. Jørgensen (1973) used these same characters to distinguish naturalized plants in Norway, though he did not accept *S. × rubella* as a garden escape in that country. It must, however, be borne in mind that *S. salicifolia* is variable in the degree of pubescence of its inflorescence branches. In Britain, and apparently also in Europe, *S. × rosalba* (sensu lato) has been much confused with both parents. Nothovar. *rubella* is widely naturalized, especially in central Scotland and parts of Wales. Clones usually have compact but often broadly conical panicles, rose-pink flowers and rather broad, relatively coarsely toothed leaves, often with cuneate, entire bases (Fig. 3). As in the parents, the mature leaves are entirely glabrous, though very young leaves may have a few ciliate hairs on the margins or at the junction of the lamina and petiole. Limited examination of pollen in herbarium specimens (as described above) has given estimates of pollen fertility below 20%, though again the variability in size and shape of the pollen grains suggests that the true viability of the pollen must be substantially lower.

The status of nothovar. *rosalba* in Britain is less clear. As *S. alba* var. *alba* is morphologically closer to *S. salicifolia*, recognition of the hybrid is correspondingly more difficult. However, collections by A. O. Chater in 1982 from farm hedges at Dihewid and Pontsian in Cardigan (v.c. 46) appear to be referable to nothovar. *rosalba*. The specimens resemble *S. salicifolia* very closely; the lanceolate leaves are finely toothed, almost to the base, and the panicles are narrowly cylindrical. However, the panicles are a little more open than in much authentic *S. salicifolia* and the flowers were very pale pink in the living plants. Examination of the pollen has shown that these plants are almost completely sterile, in contrast to the high fertility (above 90%) shown by Eurasian specimens of *S. salicifolia*. Sax (1936) claimed very low pollen fertility in "*S. salicifolia*", but it seems reasonable to suppose that he was also working with hybrid material. As may be inferred from this discussion, the occurrence of true *S. salicifolia* in Britain must be regarded as highly doubtful; any confirmed record would justify published comment. Similar doubts about the occurrence of *S. salicifolia* apply in Belgium (Duvigneaud 1975) and West Germany (Adolphi & Nowack 1983).

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