# Sanguisorba in cultivation

JULIAN SUTTON provides a comprehensive account of a genus of graceful perennials



are typically plants of moist grasslands in the north temperate zone. A few species come from drier limestone habitats. Most are easily cultivated outdoors in Britain. They have become increasingly popular among British gardeners and nurserymen: the number of herbaceous *Sanguisorba* listed in the *Plant Finder* (Lord 1989, Lord *et al.* 2006) increased fivefold between 1989 and 2006, while the number of taxa of all genera listed barely doubled.

There is much confusion in their naming. This is partly due to a lack of accessible, comprehensive literature. Apart from a partial revision (Nordborg 1966, 1967) which establishes subgenera and sections but does not draw firm conclusions on species limits in most sections, botanists have to rely on regional floras. Horticultural accounts are scant and sometimes use misleading names.

Hybridisation in the wild and cultivation confuses matters further. Barriers to breeding within the genus appear to be few and we are witnessing a proliferation of hybrids, both named and masquerading as species.

Several woody Canary Island species, sometimes included in *Sanguisorba*, are more often segregated in the genera *Bencomia*, *Dendriopoterium* and *Marcetella*. These interesting plants are not considered here.

#### Structure of the plant

Sanguisorbas have pinnate leaves with toothed leaflets. The shape and stalk length of the leaflets are useful in identification. Early in the season all leaves are basal; aerial stems, usually leafy, extend only as a precursor to flowering. Each branch ends in an inflorescence. The shape of the inflorescence, varying from globular to a narrow spike, and the Sanguisorba magnifica was introduced to UK cultivation from Russia by Michael Wickenden

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Sanguisorba officinalis has given rise to a range of cultivars differing in habit and flowering time

end at which flowers first open, are also important in identification.

The flowers are small and densely packed. They have no petals, but four sepals, sometimes green, but often white, pink or red. Usually, all the flowers are hermaphrodite, but in subgenus Poterium there are female flowers at the apex with hermaphrodites lower in the inflorescence. In most species each flower has four stamens: exceptions to this are useful in identification. Stamen length varies considerably: where they are much longer than the sepals, the inflorescence has a bottlebrush appearance. The fruits are achenes enclosed by the hypanthium, the enlarged base of the flower, which may have distinctive wings and ridges.

The perennial species have underground stems which vary only a little, from stout vertical rootstocks to shortly spreading rhizomes.

### Sanguisorba officinalis and S. menziesii

■ *Sanguisorba officinalis*This is one of the most widespread

and variable species, native to much of Europe, northern Asia and North America. The ovoid flower spikes are rarely more than 3cm long and erect, on branched stems. Flowers open from the top down and are in the red-purple range, pinkish red in the rarely seen var. *carnea*. It forms spreading clumps in the garden.

The cultivars most obviously derived from the species are distinguished mainly by height. *Sanguisorba officinalis* 'Arnhem', selected from the wild in the Netherlands, has clear deep red flowers. Reaching 1.8m, it can be floppy and slow to increase.

Sanguisorba officinalis 'Martin's Mulberry', also very tall, is self-supporting and bulks up more freely, in our experience. It was found in a Norfolk garden by Martin Lowne of West Acre Gardens nursery, Norfolk, which named and distributed it.

Sanguisorba officinalis 'Tanna' is the shortest cultivar, 25–30cm in flower. It has fine, wiry stems and forms dense, running clumps. It is prone to seeding into itself and being overrun by larger seedlings: much taller plants are often seen under this name or as 'Tanna Seedling' and 'False Tanna'. Beyond rumours of a Japanese origin, I cannot trace its history.

The species is essentially summer flowering. European plants may flower as early as June, while some from East Asia flower much later in cultivation. The Korean collections of *S. officinalis*, CDC 262 and CDC 282, flower in August to September. *Sanguisorba officinalis* 'Red Thunder', raised by Dutch plantsman Piet Oudolf, is derived from one of these. The Chinese DJHC 535 can flower as late as November.

Two variegated plants belong here. *Sanguisorba officinalis* 'Lemon Splash', has leaves spotted with yellow. The Japanese *S. officinalis* 'Shiro-fukurin' has a clean white edge to each leaflet. It is a stout, branched



Sanguisorba 'Pink Tanna' shares the wiry stems of S. officinalis 'Tanna' but the inflorescences differ

plant over 1m in flower and is perhaps a hybrid. Several UK growers report that it has a very high rate of reversion. However, we have a stock which, despite aggressive annual division, has been entirely stable through two rounds of propagation, after a regime of destroying any plant showing signs of reversion.

Several hybrids show clear affinities with S. officinalis. Ben Potterton of Blacksmith's Cottage Nursery, Norfolk, has named two such cultivars. Sanguisorba 'Touch of Green' is a 'Tanna' seedling, slightly taller than its parent, with ovoid heads which he describes as having a 'grey-blue-green tinge'. Sanguisorba 'Blacksmith's Burgundy', a second generation seedling from 'Tanna', is about 1m tall, again with ovoid heads but of 'deepest burgundy, almost black'. Sanguisorba 'Pink Tanna' was found next to a clump of 'Tanna' by Dutch nurseryman Coen Jansen. Taller, with longer, pinker inflorescences and more elongated leaflets, it is proving an excellent, floriferous garden plant.

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Usually listed under *S. officinalis*, 'Chocolate Tip' is notable for its brown-flushed leaves. It has reddish brown flowers in *S. officinalis*-like heads on stiff 75cm stems. However, Susan Carrick (pers. comm.) reports that the flowers open from the bottom, suggesting a hybrid origin.

#### ■ Sanguisorba menziesii

This is a troublesome name, frequently attached to garden plants. It refers to plants from wetlands on the Pacific coast between Alaska and Washington State, differing from *S. officinalis* in their longer, flattened stamens. There is speculation (eg Hitchcock *et al.* 1955) that it arose as a hybrid between *S. officinalis* and *S. canadensis*. Nordborg (1966) included it in a widely drawn *S. officinalis*.

The variation in cultivated plants is also confusing. All have rather stubby, erect, maroon inflorescences. The stock with which I am most familiar reaches 60cm in flower, is scarcely branched, with leaves larger and coarser than most *S. officinalis*, and a hint of blue in the leaves. Flowers seem to open more or less simultaneously throughout the spike. It breeds true when isolated, and increases vegetatively only slowly.

Other forms are considerably taller and closer to *S. officinalis* in general appearance. I am unable to conclude whether any or all these plants should be labelled *S. menziesii*, nor whether they are the result of multiple introductions or of hybridisation in cultivation.

#### Sanguisorba canadensis, S. armena and S. alpina ■ Sanguisorba canadensis

As usually seen in British gardens, *S. canadensis* is unmistakable. Making tight clumps, it flowers at the end of

the summer on stiff upright stems reaching 1.5m or more. The flower spikes are creamy white, long and

erect, opening from the bottom up.

This is the species as found in eastern North America. Plants in the American West and in east Asia are sometimes segregated as S. stipulata (syn. S. sitchensis). They are generally shorter, typically 60-80cm, but are otherwise very similar. Many, but not all garden plants labelled S. stipulata, prove to be something else, often an early-flowering variant of S. officinalis, whose leaves closely resemble a wild collection from Mongolia. The name S. stipulata var. riishirensis is occasionally encountered: it is a hairy stemmed variety of this essentially glabrous species, from Hokkaido, Japan.

#### ■ Sanguisorba armena

The Turkish *S. armena* is native to streamsides in the mountains of eastern Anatolia. In cultivation it is a bulky plant with striking glaucous leaves, sometimes recommended as a hardier substitute for *Melianthus major*. It can reach well over 1m, with more or less drooping pink flower spikes, again opening upwards. Davis *et al.* (1965) make no mention of glaucous leaves, and describe the flower spikes as maroon, although both these characters are difficult in dried herbarium specimens.

Plants under the unpublished name 'S. caucasica' belong here.

#### ■ Sanguisorba alpina

This species, from the Altai Mountains in central Asia, with drooping pale pink or white spikes, is very similar to *S. armena*, differing mainly in its shorter habit (30–80cm).

#### Sanguisorba tenuifolia

This widespread east Asian species is variable yet easily recognised. It is tall, at least 1m in flower, sometimes over

Sanguisorba menziesii (top) Sanguisorba canadensis (centre) Sanguisorba tenuifolia (bottom)













2m, with long, often slender inflorescences which droop in some forms. The leaflets are strongly elongated, an unmistakable character. Several varieties have been described and three are important in gardens.

Sanguisorba tenuifolia var. alba has slender flower spikes, white or greenish-white sepals and blackish anthers. It is found in China and Japan, although several forms grown in Britain originated in Korea. An especially tall, late-flowering plant collected by Compton, d'Arcy and Coke has been named 'Korean Snow'. The cultivar 'John Coke' also appears to belong here.

Sanguisorba tenuifolia var. parviflora, from the Russian Far East, is similar but with very narrow leaflets, an attractive feature in the garden. Komarov (1968) describes it as having white flowers, although similar plants with pink flowers are offered.

Sanguisorba tenuifolia var. purpurea has red-purple flowers. Plants in cultivation under this name usually have fat, upright spikes. The cultivar name 'Purpurea' does not seem to apply to a single clone: it, and the possibly invalid 'Atropurpurea', should, I think, be referred here.

Hybridisation occurs, and not all cultivated plants can be assigned to any of these varieties. Sanguisorba 'Pink Elephant' is a tall (2m) selfsupporting, willowy cultivar whose slender spikes have clear pink sepals and white anthers. One of its seedlings has been named S. 'White Elephant' by Ben Potterton, of Blacksmiths Cottage Nursery, Norfolk, who describes it as having light salmon-pink sepals and white anthers, the overall effect being white rather than the pink of its parent. Sanguisorba 'Stand Up Comedian' is a tall white.

Sanguisorba 'Pink Elephant' (top) Sanguisorba hakusanensis (centre) Sanguisorba obtusa (bottom) Graham Gough, of Marchants Hardy Plants, Sussex, has selected an interesting hybrid seedling of *S. tenuifolia* var. *parviflora*, which has an ovoid burr-like inflorescence and white sepals, a novel combination. He has named it *S.* 'Burr Blanc'.

## The Sanguisorba obtusa complex, S. hakusanensis and S. applanata Sanguisorba obtusa

The east Asian plants related to *S. obtusa* prove challenging to name. The species in a wide sense is native to Honshu, Japan, and a limestone region of the Russian Far East. It is characterised by ovate or orbicular leaflets with a cordate base and rounded apex, and more or less drooping pink or white spikes with four long stamens per flower. Some have rather glaucous leaves and all are under 1m in height.

The pink-flowered Russian plants have been named *S. magnifica*. Thanks to Michael Wickenden of Cally Gardens, Kirkcudbrightshire, we have wild origin stock of this taxon in the UK, which should be propagated vegetatively to keep it distinct. Nordborg (1966) doubted that it deserves specific rank.

White-flowered Japanese plants were at one time placed in *S. obtusa* var. *albiflora*, later raised to *S. albiflora*. Japanese authors have tended to keep it as a separate species, but Nordborg was sceptical about this.

Ohwi (1965) outlines the differences as follows: *S. albiflora* is common in alpine meadows of northern Honshu and is glabrous, 30-70cm tall, with erect or slightly nodding, white spikes. The leaflets are glaucous beneath, and loosely spaced on the rachis, on stalks 5–20mm long. *Sanguisorba obtusa* differs in being shorter and having nodding, pale rose inflorescences. The leaflets are almost sessile, rather densely arranged, thicker and with more prominent

KEY	TO HERBACEOUS SPECIES OF SANGUISORBA	
la lb	Some flowers female All flowers hermaphrodite	2 6
2a 2b	Plant stickily hairy Plant not stickily hairy	S. hybrida 3
3a 3b	Low cushion plant, woody stem bases clothed in old leaf sh Stem bases not woody and not clothed in old leaf bases	eaths <b>S.ancistroides</b>
4a 4b	Inflorescence tiny, 0.3–0.7cm; stamens 7 or 8 Inflorescence larger, 1–3cm; stamens more numerous	S. filiformis 5
5a 5b	Hypanthium surrounding fruit with 4 broad wings, longituridged on surfaces; leaflets 2–3cm; on limestone cliffs in W Hypanthium variably ridged and sculpted; leaflets 0.5–2cm widespread in Europe, W Asia and N Africa	Crete S. cretica
6a 6b	Plant annual or biennial Plant perennial	S. annua 7
7a 7b	Flowers green, white or cream Flowers pink, red or purple	8 14
8a 8b	Leaves leathery; on serpentine substrates in Albania Leaves not leathery	S. albanica 9
9a 9b	Flowers opening from the bottom of the inflorescence up Flowers opening from the top of the inflorescence down	10 11
	Inflorescence not more than 3 times as long as broad Inflorescence more than 3 times as long as broad	S. alpina S. canadensis
	Stamens 2 Stamens 4 or more	S. diandra 12
	Leaflets of basal leaves distinctly cordate Leaflets of basal leaves not, or scarcely, cordate	S. obtusa complex 13
	Stamens 4, leaflets linear to narrowly oblong Stamens to 15; leaflets elliptical	S. tenuifolia S. dodecandra
	Stamens about equalling calyx Stamens at least twice as long as calyx	S. officinalis 15
	Number of stamens variable, more than 4 Stamens 4	S. hakusanensis 16
	Flowers opening from the bottom of the inflorescence up Flowers opening from the top of the inflorescence down	17 18
	Plant not more than 80cm tall Plant 1m or taller	S. alpina S. armena
	Leaflets of basal leaves ovate to oblong, or elliptic Leaflets of basal leaves much more elongated	19 S. tenuifolia
	Flowers dark red to purple Flowers pink	S. menziesii S. obtusa complex



Japanese *Sanguisorba albiflora* usually has slightly nodding flower spikes small veins on the underside. The

stems have red-brown hairs.

Plants in cultivation show various combinations of characters which do not necessarily fit this scheme. Also, some are much more glaucous than others, and some more free-flowering which is important in determining garden-worthiness. It would make horticultural sense to group them in a wide-sense *S. obtusa*, and to attach cultivar names to the best and most distinctive clones.

#### ■ Sanguisorba hakusanensis

The closely related *S. hakusamensis*, native to Korea, Hokkaido and Honshu, has thick, pendulous, pink flower spikes. Leaflets are on 3–7mm stalks, rather glaucous beneath. It is distinguished by having 6–15 stamens, other species in this group having 4. Some plants under this name in cultivation have 4 stamens, but retain the general look of the species. Marina Christopher (pers. comm.) describes wild plants in Korea as having fragrant flowers.

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Sanguisorba 'Pink Brushes' is a large hybrid, presumably of S. bakusanensis, selected by Coen Jansen. It has inflorescences up to 20cm long. There are two clones, indistinguishable in leaf and flower, one about 1m tall, the other reaching 1.4m.

#### Sanguisorba dodecandra

This is a distinctive species, endemic to a small region in the Italian Alps. It has rather droopy white flower spikes with a variable number of stamens, typically about 8, and reaches 1m in height. It can be a floriferous, attractive garden plant, but is rarely seen.

#### Sanguisorba minor

This is the most familiar species in subgenus *Poterium*. The flower spikes are greenish, rounded or somewhat elongated and the hermaphrodite flowers have many stamens. The habit and height vary enormously, from low creeping plants in turf to upright forms almost 1m tall. It is grown more often as a herb (salad burnet) than as an ornamental. The crushed leaves smell of cucumber, although this is also true, to a lesser extent, of other species.

#### Other species

The following species are not, to my knowledge, in British cultivation. The recently described (1979) *S. applanata*, from eastern China, with pale pink to white spikes, seems to be related

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to *S. obtusa* but I can see nothing in Chaoluan *et al.* (2003) to distinguish it from the *S. obtusa* complex.

Sanguisorba amnua is a North American annual, with greenish inflorescences and distinctive, deeply cut leaflets. The peculiar S. hybrida is a stickily hairy plant from Spain and Portugal. It has small ovoid flower heads on stems to 80cm. Resembling S. officinalis, but with green flowers and leathery leaves, is S. albanica, a serpentine endemic from Albania. Sanguisorba diandra, from the Himalaya, has small round heads of greenish flowers, each with 2 stamens.

There are three further species with female flowers at the top of the inflorescence: *S. ancistroides*, a cushion plant from limestone cliffs in southern Spain and Portugal; *S. cretica* from similar habitats in western Crete, and very like *S. minor*, as is the low-growing, white-flowered *S. filiformis* of the Sino-Himalayan region.

#### **Cultivation and propagation**

Most species are easily grown in heavier, moister soils in full sun, but seem to tolerate lighter, drier soils or light shade. *Sanguisorba minor* is best grown in a well-drained, sunny site. The limestone cliff endemics are likely to need excellent drainage.

Pests and diseases are few. Potted plants are susceptible to vine weevil larvae. A fungal blackspot can sometimes be a problem but I have only encountered this is in *S. magnifica* and *S. menziesii*, and then only in potted plants when stressed.

Plants can be propagated from freshly-sown seed, which may germinate in spring. Large pieces of established plants can be dug off and moved in early spring. On a nursery scale, I prefer to remove soil, then divide the rootstock with sterilised secateurs in September, and to establish the divisions in small pots in a polytunnel before the winter.

The plants are potted on as they come into growth in early spring.

#### Conclusion

Some of the confused naming in *Sanguisorba* is the result of hybridisation. This should be a warning to those who would propagate by seed. Cultivars and accurately named species should be propagated by division. Seedlings should be labelled as such and, I beg you, only the best new cultivars named.

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