

ORPINES IN CULTIVATION IN BRITAIN

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INTRODUCTION

Stonecrops (*Sedum* spp.) for the herbaceous border, are accommodating plants that are widely grown, some of which are regular items in nurserymen's catalogues. The ease of production and cultivation may lead to a dismissive attitude among those who grow them but a number of attractive garden plants are to be found in the genus. This account, however, discusses only two species and their cultural descendents, namely *Sedum telephium* and *S. spectabile*, the orpines, both frequently cultivated.

Sedum telephium. This is a species with one of the largest natural distributions of any flowering plant, from Western Europe across temperate Asia to Japan [11], and with an introduced population in the northeast United States and adjacent areas of Canada [2]. Many variants have been named, from nature and from cultivation; in particular, the taxon *Sedum maximum* is used for robust plants frequent in gardens.

In the present botanical climate, in which related species are subsumed into a broadly based central or "natural" species, *Sedum maximum* cannot be maintained as distinct. Certainly the writer's observations on an assortment of variants in cultivation show that the structure of the flowers forms a relatively uniform diagnostic feature throughout.

It is therefore merely a convenience to devise groupings to accommodate the cultivated forms of *Sedum telephium*, based loosely but not absolutely, on the subspecies recognised by Webb in *Flora Europaea* [11].

Group I: *Telephium*. Erect habit, leaves elliptical, with a well-marked marginal dentation. Inflorescence a moderately dense corymb with pink or red flowers. This group has the neatest habit of growth when garden planting is considered, compared with those below. *Purpureum* has been used at various taxonomic levels for natural populations with green, non-glaucous alternate leaves; here it is regarded as a synonym of subsp. *telephium*.

Group II: *Fabaria*. Habit rather lax, leaves oblong or broad elliptical, the margins shallowly toothed, generally alternate, with a dull purple suffusion. Inflorescence dense and globular, or somewhat diffuse, flowers purple, July and August. The British population of *Sedum telephium* is subsp. *fabaria* (4).

Group III: *Maximum*. In vegetative form related to Group II, but growth is more robust. Leaves oblong or rotund, opposite, suffused purple, sometimes markedly. Inflorescence diffuse,

flowers yellowish—or greenish white, August and September.

Individual clones, although assigned to a particular group, may exhibit features of another and more confusingly, cultivar names have been used indiscriminately, and applied to dissimilar selections. The following are believed to be in current cultivation, although not necessarily in commerce:

'Atropurpureum' (Group III). A familiar plant in commerce, growth sparse but shoots intensely purple, much used for floral arrangements.

'Borderi'. A form of subsp. *telephium* with deeply toothed green leaves described from a natural population. Authentic material was supplied to the Dutch field trials, and included in the account of Hensen and Groendijk-Wilders [5]. The illustration in Evans [4] shows a plant with similar foliage, but with a spherical inflorescence, that is, it combines features of Groups I and II. Masters, Praeger and Chittendon [3, 7, 8] nominate a grey-leaved plant with red stems from Group I, while another Group I selection has bronze shoots with red flowers. The total of clones which may be labelled 'Borderi' is brought to five with a Group II plant very close to naturally occurring subsp. *fabaria*.

'Foeminum'. The plant supplied from continental nurseries as *Sedum telephium* is a male-sterile clone of *S. purpureum* (sic), with minute petals, the rosy-pink flower colour supplied by the carpels. Praeger describes but does not name this [8]. Widely grown in gardens but rarely labelled, then perhaps as 'Borderi'.

'Maximum'. The plant seen as the type of *Sedum maximum*, with rather chlorotic foliage and yellowish flowers is hardly worth growing. It may also be suffixed 'Aureum' or named *Sedum caucasicum*.

'Munstead Dark Red'. The clone in the trade is intermediate between Groups II and III, with purple stems and dull purplish-green leaves. A quite dissimilar plant described by Evans (4), and grown at Kew Gardens, is a purple-leaved pink-flowered form in Group III.

'Roseo-Variegatum'. A plant found by the writer in a private garden was inconstant. Another source proved to be untrue, Group II.

There are further clones: 'Arthur Branch'; 'Cloral Cluster'; 'Redcap' and 'Sheila Macqueen' which may be available in commerce or seen in gardens. A full listing by Masters (7) must include cultivars never seen in Britain.

Sedum telephium has a long history of cultivation with a substantial number of medicinal applications as recorded by Thomas Culpeper (seventeenth century), mostly used externally, as the sap has a cooling effect on sores and burns (1). A rather different corpus of folklore concerns the magical effects of charming away evil, or predicting marriage prospects [9]. Rarely are its culinary uses

recommended today; for salading or for flavouring soups and stews [6].

As garden plants, the complex of *Sedum telephium* is now of minimal importance except for the few cultivars of value for floral arrangements. However, as so many clones have survived, despite their dubious identities, it suggests that their amenity value should be given prominence. For dry or otherwise excessively drained sites, whether sun or shade, this herbaceous stonecrop has yet to be exploited for its quality of persistence, and its endurance in difficult circumstances.

Sedum spectabile. One of the most familiar of border plants, the merits of *Sedum spectabile* were recognised soon after its introduction (from cultivation in Japan) by Shirley Hibberd, who gave fulsome tribute for its tolerance of sun or shade, and for planting in dry or moist places [10]. An attractive flowering plant for late summer and autumn, the readiness to force has provided florists with an easy crop with an extended season [7, 8]. Neither Masters nor Shirley Hibberd noted any variants [7, 10], but the twentieth century has seen a continuing stream of introductions, some of which are enumerated below. The account of Hensen and Groendijk-Wilders provides names and brief descriptions of other cultivars grown in Europe [5].

Cultivars:

'Brilliant'. The most widely listed of the deeper coloured garden selections. 'Atropurpureum', 'Atrorubrum' and 'Atrosanguineum' are attendant synonyms or similar selections.

'Carmen'. A later introduction still available.

'Gwendoline Parr'. Flowers parti-coloured pink, white and green.

'Iceberg'. Perhaps identical with 'Gwendoline Parr', flowers coloured with green and white.

'Indian Chief'.

'Meteor'.

'September Ruby'. The deepest coloured selection, rated 'excellent' in the Dutch field trials [5]; introduced to, but not established in, Britain.

Other Cultivars of Hybrids between Species. Discounting the intermediate variants in *Sedum telephium* resulting from genetic exchange between the subspecies or their sibling groups, the few interspecific hybrids provide the most widely planted orpines today.

S. × *erythrostictum* syn. *S.* × *alboroseum*, an evident descendent of *S. spectabile*, is always offered in the yellow blotched foliage form 'Variegatum'.

'Autumn Joy'. (*S. spectabile* × *S. telephium*). The most commonly grown taxon. 'Ruby Glow' (*S. caudicola* × *S. telephium*). The writer is uncertain that the given parentage is correct.

'Sunset Cloud' (or 'Evening Glow'). A weak constitution has limited the distribution of this bronzy-green plant.

'Vera Jameson'. Well established in commerce, the origin has been suggested as *Sedum telephium* (Group III) 'Atropurpureum' crossed with *S.* 'Ruby Glow'.

PROPAGATION

Seed. The species sometimes self-sows in gardens, but seed production is not used in commerce. However, it is possible to collect from *Sedum spectabile* and several variants in *S. telephium* about 25 days after pollination. Under open storage, the longevity of seed is about a year. From a spring sowing, the seedlings reach flowering age in 16 to 18 weeks from germination. Juvenile plants have markedly petiolate leaves, given them a quite distinct appearance.

Division. Lifting and dividing large clumps is a necessary cultural operation for border plants every few years, or a routine means of multiplication in the nursery, possible at anytime but easier during dormancy than during active growth.

Early spring cuttings. Shoots, a few weeks into active growth, around 10 cm. in length, are taken with a "plug" of rootstock, a method identical with that used for lupine or delphiniums.

Early summer cuttings. When the shoots are somewhat firmer, shoot tips may be used.

Late summer cuttings. Shoots in flower may be used while the foliage remains in good condition, that is, well into September. The inflorescence is removed, and the shoot cut into two or three portions.

Whatever propagation facilities are available will successfully root cuttings—cold-frame, open glasshouse bench, or mist unit.

Root cuttings. The writer has demonstrated that *Sedum* 'Autumn Joy' will successfully regenerate from root pieces, but has had no positive response with any clone of *Sedum telephium* tested.

Foliar embryos. Similarly, the writer has shown that sound leaves, cleanly detached from the parent plant, will sprout from the base in both *Sedum spectabile* and *S.* 'Ruby Glow'. While of academic interest at present, it is a method for consideration when rapid multiplication is required.

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EXPLORATION FOR AND INTRODUCTION OF MAPLES INTO CULTIVATION

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Although the British Isles supports only a limited native flora it is ideally suited to growing the many plants that have been introduced from abroad.

Acer campestre is the only native maple, having come into the country from Europe after the Ice Age across the land bridge between Dover and Calais before the sea level rose.

The next maple to arrive was the sycamore, *Acer pseudo-platanus*, which probably arrived in Scotland in about 1480, where it was known as the plane tree. The first mention of it in literature is by Turner in his *Herbal* of 1551. Later, Sir T. D. Lauder writes "It is a favourite Scotch tree having been much planted about old aristocratic residences in Scotland and if the doubt of it being a native of Britain is true . . . then it is probably the long intimacy which has subsisted between France and Scotland that may be the cause of it being so prevalent in the latter country".

In Scotland, the sycamore was also known as the dool, or grief tree, because powerful barons used the sycamore for hanging their enemies.

The introduction of plants from foreign lands received much encouragement in the 17th and 18th centuries. Botanic gardens were established in many cities and it was these and their sup-