



# Newsletter

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## The correct application of the names associated with *Sedum rupestre* L.

By **Roy Mottram.**

When Linnaeus (1753) described *Sedum rupestre*, his description covered several varieties that are today regarded as representing two distinct species, widely distributed throughout Europe. Two years later he described *Sedum reflexum* from the Swedish island of Gotland, thereby segregating one of the included varieties of *S. rupestre* as a distinct species.

What remained of his original concept of *S. rupestre* were one illustration directly cited from Dillenius (1732) and five other illustrations

indirectly cited in his earlier work *Hortus Cliffortianus*. Any one of these illustrations were original material and available for subsequent lectotypification of the name *rupestre*.

Throughout the post-Linnaean history of the name authors have universally considered *S. rupestre* to be the plant illustrated by Dillenius (Fig. 1), with at least two authors, Smith (1794) and Nees (1825), directly citing that illustration as the basis for the name *S. rupestre*. The designation by Smith can thus be



Figure 26. *Sedum rupestre repens, foliis compressis*, in Dillenius, *Hortus Elthamensis* 2: 343-344, t.256, fig.333. 1732. The lectotype of *Sedum rupestre* L. drawn from a plant in cultivation. With later colouring. Photo: Roy Mottram.

considered as the earliest lectotypification.

Unaware of these earlier references, Heath (1992) formally designated the Dillenius illustration as lectotype, which he rightly considered to be in line with current usage of the name, although the need to do so happened to be superfluous.

Unaware of these three earlier designations, t'Hart & Jarvis (1993) made a different lectotype selection of a specimen in the Clifford herbarium at the British Museum, comprising two leafless inflorescences. Clifford's herbarium had

been at Linnaeus's disposal while he worked for Clifford in 1737-38, and is considered by many botanists to contain material that is eligible as original material for Linnaean typifications, on the circumstantial assumption that he had seen all of its contents. However, in this case, the specimen was not cited by Linnaeus and its origin is not known. A contemporary label named it as *Sedum reflexum*, published later than *S. rupestre*. This selection explicitly excludes the type of *S. forsterianum*, whose type locality is in Wales, and very close to the cited

locality of Dillenius's plant, thereby reversing the prevailing application of the name to coincide instead with *S. reflexum*.

't Hart was a much respected and leading specialist in the taxonomy of *Sedum*, so his usage of *S. rupestre* has permeated other literature, and this now needs to be emphatically corrected.

The three accepted names belonging to the *Sedum rupestre* alliance, when transferred to the currently accepted genus *Petrosedum*, have the following nomenclatural histories. They may be characterised as *rupestre* (sensu *forsterianum*, with flattened leaves), *reflexum* (Central Europe with terete leaves, allopolyploid of *rupestre* & *erectum*), & *erectum* (a rare Eastern plant with terete leaves and a higher basic chromosome number).

**Figure 27 (Right).** The lectotype of *Sedum reflexum* L., LINN 595.5, designated by 't Hart & Jarvis (1993: 404). Photo: Roy Mottram.



### Documentation

Basionyms & the names accepted here are underlined.

### *Petrosedum*

*Petrosedum* Grulich, Generic division of the *Sedoideae* in Europe and the adjacent regions, *Preslia* **56**(1): 39-41. 1984. T: *Sedum reflexum* L.

### *elegans*

*Sedum elegans* Lej., *Flore des environs de Spa* **1**: 205-206. 1811.

*Sedum rupestre* subsp. *elegans* (Lej.) Syme, in Smith & Sowerby, *English Botany* ed. 3 **4**: 58. 1865. *Sedum rupestre* subsp. *elegans* (Lej.) Hegi & Schmid, 1923.

*Petrosedum rupestre* subsp. *elegans* (Lej.) M.Velayos, *Combinaciones en Sedum* s.l. (*Crassulaceae*), *An. Jard. Bot. Madrid* **45**(2): 584. 1989.

T: Netherlands, Limburg Prov., on rocks and walls near Maastricht

HT: Not known.

Obs: Lejeune (1825: 86) has a footnote by G. Nees to the entry for *Sedum elegans* saying that in his opinion this is the true "*S. rupestre* Linn. Conf. Dill. h. elth." Conf. is

presumably short for 'conforme', meaning 'true to', so this is effectively a second early typification of *S. rupestre* with the illustration of Dillenius.

Ref: *Petrosedum rupestre* (L.) P.V.Heath.

### ***erectum***

*Sedum rupestre* subsp. *erectum* 't Hart, *Biosystematic studies in the acre-group and the series Rupestris Berger of the genus Sedum L. (Crassulaceae)*: 101. 1978.

*Petrosedum erectum* ('t Hart) Grulich, Generic division of the *Sedoideae* in Europe and the adjacent regions, *Preslia* **56**(1): 40. 1984.

*Petrosedum rupestre* subsp. *erectum* ('t Hart) M.Velayos, *Combinaciones en Sedum s.l. (Crassulaceae)*, *An. Jard. Bot. Madrid* **45**(2): 584. 1989.

T: Italy, Trieste; PIGNATTI s.n.

HT: U 16260.

Chrom:  $\underline{x} = 16$ ;  $2n = 4x = 64$ ;  $2n = 6x = 96$ .

### ***forsterianum*** [Figure 28]

*Sedum forsterianum* Sm., in Smith & Sowerby, *English botany* **26**: t.1802. (Oct) 1807.

*Sedum rupestre* subsp. *forsterianum* (Sm.) R.L.Evans, *A handbook of cultivated sedums*: 290. 1983.

*Petrosedum forsterianum* ('t Hart) Grulich, Generic division of the *Sedoideae* in Europe and the adjacent regions, *Preslia* **56**(1): 40. 1984.

T: Wales, Cardiganshire, at the Rhydoll Falls, near the Devil's Bridge; 1806, E. Forster jun.

HT: Cited by 't Hart & B. Bleij (2003: 269) as "Anonymous s.n. Not found.". There is nothing in LINN but there might be a specimen elsewhere. In the absence of other original material, the plate of a plant cultivated in Forster's garden accompanying the protologue serves as the type (Fig. 3).

Chrom:  $\underline{x} = 12$ ;  $2n = 2x = 24$ ;  $2n = 3x = 36$ ;  $2n = 4x = 48$ ;  $2n = 5x = 60$ ;  $2n = 6x = 72$ ;  $2n = 7x = 84$ ;  $2n = 8x = 96$ .

Ref: *Petrosedum rupestre* (L.) P.V.Heath.

### ***reflexum*** [Figures 27, 30]

*Sedum rupestre* L. var.  $\gamma$ , *Sedum minus luteum*, ramulis reflexis. *Species plantarum* **1**: 432 *Sedum* 9 $\gamma$ . (1 May) 1753.

*Sedum reflexum* L. *Sedum foliis subulatis sparsis basi membranacea soluta: inferioribus recurvatis. Flora Suecica*, ed. 2: 463 *Sedum* 1296. 1755.

*Petrosedum reflexum* (L.) Grulich, Generic division of the *Sedoideae* in Europe and the adjacent regions, *Preslia* **56**(1): 41. 1984.

*Petrosedum rupestre* subsp. *reflexum* (L.) M.Velayos, *Combinaciones en Sedum s.l. (Crassulaceae)*, *An. Jard. Bot. Madrid* **45**(2): 584. 1989.



Figure 28. Protologue illustration of *Sedum forsterianum*, first published in 1807. This copy is from the third edition of the same work published in 1851. Photo: Roy Mottram

*Sedum rupestre* auct. non L. since 1993.

*T*: Sweden, island of Gotland; "DD. Bergius" perhaps refers to a duplicate given to Peter Jonas Bergius (1730-1790), specimens of which are currently in the Hortus Bergianus, Stockholm.

*LT*(design. 't Hart & Jarvis 1993: 404): LINN 595.5 (IDC mf.342). Lacking origin, date, and name of gatherer.

*Chrom*:  $x = (56)$ ;  $2n = 6x = 88$ ;  $2n = 8x = 112$ ;  $2n = 9x = 120$

*Obs*: This taxon is an aneuploid of allopolyploid hybrid origin ('t Hart & al. 1993): *Petrosedum reflexum* (as *S. rupestre* hort. non L.) ( $2n = 112$ ) = *Petrosedum erectum* (as *S. rupestre* subsp. *erectum*) ( $2n = 64$ )  $\Sigma$  *Petrosedum rupestre* (as *S. forsterianum*) ( $2n = 48$ ).

***rupestre*** [Figures 26, 29]

*Sedum foliis subulatis oppositis consertis adnatis: basi membranacea soluta, umbella racemosa. Hortus cliffortianus: 176 Sedum 4β. 1738. [citing 8 literature references & 5 illustrations].*

*Sedum rupestre* L., *Sedum foliis subulatis consertis basi membranacea solutis, floribus cymosis. Species plantarum 1: 431 Sedum 9[α]. (1 May) 1753. [citing 6 literature references & 1 illustration].*

*Petrosedum rupestre* (L.) P.V.Heath, *Sussex succulents, Sussex Cact. Succ. Yearb. 8: 56. 1987.*

*T*: Europe, at the foot of mountains.

*LT1*: Smith (*Eng. Bot. 3: t.170. 1794*) stated that "Dillenius first well ascertained this plant in his Hortus Elthamensis, where he has given a good figure of it, tab. 256, f. 333." This is probably the earliest effective typification, fully in line with Heath's formal designation of 1992. Also, see *Obs.* under *elegans*, where the same illustration was effectively designated in 1825 by Nees.

*LT2* (design. Heath, 1992: 82): England (cult.), and said to be spontaneous in Somerset, Cheddar; *Sedum rupestre repens, foliis compressis, in Dillenius, Hortus Elthamensis 2: 343, t.256, fig. 333. 1732. Type drawn from a plant in cultivation.*

*LT3* (design. 't Hart & Jarvis, 1993: 407): Spain & England on walls & roofs (Linnaeus 1737: 176); *Sedum minus luteum, folio acuto C.B P, Herb. Clifford, annotated reflexum, as "reflexium" (a name not published until 1755) below the phrase name, and "S5" directly below the cartouche in ink, and "p.176. Sedum 4." in pencil along the lowermost margin. The latter is a direct reference to Hortus cliffortianus, but the handwriting appears to be a much later addition to the sheet. "C.B P" is a reference to Caspar Bauhin's Pinax, the original source of the phrase name. [t Hart & Jarvis (1993: 405-407) & Jarvis (2007: 836) claimed that this specimen is rupestre, because it possesses floral bracts. This choice is therefore superfluous, designated at a time when its authors were unaware of Heath's prior designation]. The specimen lacks detail that would unequivocally identify it. There is no conflict with its own label reflexum, so in that sense calling it rupestre conflicts with usage of that name prior to 1993 by all major authors.*

*Chrom:*  $\underline{x} = 12$ ;  $2n = 2x = 24$ ;  $2n = 3x = 36$ ;  $2n = 4x = 48$ ;  $2n = 5x = 60$ ;  $2n = 6x = 72$ ;  $2n = 7x = 84$ ;  $2n = 8x = 96$ .

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Figure 29 (left) *Petrosedum rupestre*. A cultivated plant of undocumented source, flowering at the end of May. The inflorescence was 22cm long. Photo: Roy Mottram.

Figure 30 (above, right) *Petrosedum reflexum*, photograph taken 11<sup>th</sup>-12<sup>th</sup> June 2011 by Eric Barbier, near Bassurels, Vallée Borgne-Lozère, in the Cévennes Mountains, France.