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Neotypification of *Sedum ochroleucum* Chaix (Crassulaceae)

Abstract - No original materials (herbarium specimens or drawings) connected with the protologue of *Sedum ochroleucum* Chaix (Crassulaceae) are to be found; thus the name has been neotypified, selecting a specimen collected by the author in the type locality at Rabou, near Gap (France).

Keywords: Dominique Villars, *Sedum anopetalum*, series *Rupestria*, Gap, France.

Riassunto - Neotipificazione di *Sedum ochroleucum* Chaix (Crassulaceae).

Il mancato ritrovamento di materiali originali (*exsiccata* o illustrazioni) collegabili al protologo di *Sedum ochroleucum* Chaix (Crassulaceae), ha reso inevitabile la neotipificazione del nome medesimo. A questo scopo l'autore ha effettuato una raccolta di esemplari nei pressi di Rabou (Gap, Francia), ritenuta località tipo della specie.

Parole chiave: Dominique Villars, *Sedum anopetalum*, serie *Rupestria*, Gap, Francia.

Introduction and historical background

The species known as *Sedum ochroleucum* Chaix (= *S. anopetalum* DC., ≡ *Petrosedum anopetalum* (DC.) Grulich) was not discovered by Linnaeus, perhaps because of its restricted distribution in the northern Mediterranean Basin. Also Miller (1768), Haller (1768), Lamarck (1778) and Allioni (1785, 1789) don't found it. It was the French priest Dominique Chaix (1730-1799) who discovered it in the neighbourhood of Gap (France); Chaix published this name in *Plantae Vapincenses* (1785)¹, distinguishing it from other similar taxa such as *S. reflexum* L. and *S. rupestre* L.²

The name *S. ochroleucum* is currently accepted by Webb (1993), Jalas *et al.* (1999) and 't Hart & Bleij (2003) whereas Greuter *et al.* (1986) prefer *S. anopetalum*. Many French botanists in the past called it *S. anopetalum* (Candolle,

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¹ This work has been subsequently reprinted in Villars's *Histoire des plantes de Dauphiné* (1786) (cf. Perret & Burdet, 1981)

² *Sedum ochroleucum* (mihi): foliis oblongis compressis septifariam imbricatis, petalis albidis erectis: Bauxii in collibus (3).

1815; Rouy *et al.*, 1901; Coste, 1903; Bonnier, 1921; Fournier, 1961), in order to avoid the “confusing” *S. ochroleucum* (see Discussion and conclusions). Its distribution was displayed, with some mistakes, especially for Italy, by ‘t Hart (2003).

In this series of *Sedum* (*Rupestris* Berger), many names have already been typified (‘t Hart, 1978; Heath, 1992; ‘t Hart & Jarvis, 1993; Gallo, 2008; Gallo & Jarvis, 2009; Gallo, 2012) but not yet *S. ochroleucum*. Research by the author has highlighted interesting morphological variability among populations of this taxon, closely correlated with its distribution; typification of the name *S. ochroleucum*, here proposed, is the first step toward a better taxonomic treatment of this rather polymorphic taxon.

The priest Dominique Chaix and his herbarium

Dominique Chaix carried out his field research in France, in the neighbourhood of Gap (Hautes-Alpes) (Dayrat, 2003) and collected *S. ochroleucum* at “*Bauxii in collibus*”, that is the mountain near Les Baux, a small village to the North-West of Gap, where he lived and cared for his own personal botanical garden (Garraud, pers. com.).

After his death, Chaix’s herbarium (almost 3000 *exsiccata*) was purchased by Lapeyrouse in 1800 (Timbal-Lagrave, 1856) and then acquired by the Museum of Gap (today *Conservatoire Botanique National Alpin*) where today, however, it cannot be found. However, Chaix’s herbarium is incomplete, at least from the middle of the nineteenth century, according to Timbal-Lagrave (1856). At the *Conservatoire* only a small herbarium of Chaix is preserved, possibly collected for didactic purposes, but no *exsiccata* of the genus *Sedum* could be traced (Garraud pers. com.).

Chaix was a friend and co-worker of Dominique Villars for many years (Poncet, 2001) and many plants collected by the priest of Gap are included in Villars’ herbarium, today preserved at GRM (Faure, 2006); here, too, no *exsiccata* of *S. ochroleucum* are traceable (see Poncet, 1999).

So, during this research, no suitable original material (herbarium specimens or drawings) or *exsiccata* collected by Chaix belonging to *S. ochroleucum* has been found.

Typification

The lack of original material makes neotypification of this name unavoidable (Art. 9.7, I.C.B.N., Melbourne, 2012). Historical research was undertaken to determine the type locality, which is very probably Crête du Devès de Rabou (Gap, France), a mountain near the village of Les Baux where Chaix made frequent excursions (Garraud, pers. com.). In field exploration carried out in June 2010, a large population of *S. ochroleucum* was discovered, together with *S. rupestre* L., and the rather rare hybrid *S. ×lorenzoii* ‘t Hart. Here the neotype of *S. ochroleucum* was collected; it is morphologically consistent with the protologue, especially for the petals white with green stripes and erect; these characteristics distinguish it from the other two taxa detected in the same area, which have yellowish and spreading petals.

Sedum ochroleucum Chaix, *Pl. Vapinc.*: 21 (1785). \equiv *Sedum anopetalum* DC. var. *ochroleucum* (Chaix) Posp. Fl. Oesterr. Küstenl., 2 (1): 223 (1899). \equiv *S. nicaeense* All. var. *ochroleucum* (Chaix) Fröd., Acta Horti Gothob., 7: 4 (1932) \equiv *S. rupestre* L. subsp. *ochroleucum* (Chaix) Hegi & Schmid in Hegi, Ill. Fl. Mitt.-Eur., 4 (2): 541 (1922) \equiv *S. rupestre* L. var. *ochroleucum* (Chaix) Fiori *p.p.* (excl. *S. montanum* Perr. & Song.) Nuov. Fl. Italia, 1: 721 (1924). - Neotype (designated here): France. Crête du Devès de Rabou (La Roche des Arnauds, Hautes-Alpes), 1400 m., brushwood under the top of the cliff, among the rocks. 7 Jun 2010. L. Gallo & L. Garraud GL-7060 (G00367611, G) (Figg. 1, 2).

Discussion and conclusions

The series *Rupestria* was raised to the genus level (*Petrosedum* Grulich) in the 1984 and recent molecular studies (Mort *et al.*, 2001) confirm the soundness of splitting the polyphyletic genus *Sedum* into many small new genera, series *Rupestria* included. However, this split is not yet recognised formally (cf. 't Hart & Bleij, 2003; Thiede & Egli, 2007) and we prefer to maintain the genus *Sedum* as a whole.

The species indicated by Chaix was subsequently interpreted wrongly by Villars (1789) as pointed out by Grenier (1865) and Burnat (1906). D. Villars indeed (1789: 680) confused *S. ochroleucum* with *S. rupestre* ([...] *les pétales blanchâtres, pointu, ne sont jamais ouverts horizontalement, mais élevés [...]*) while with the name *S. ochroleucum* he was clearly identifying *S. sediforme* Jacq. ([...] *feuilles ... ovales ... fort épaisses ... pétales ... blancs, obtus, planes & carinés [...]*). Most likely this mistake underlay the opinion of some early French authors (Candolle, 1815; Rouy *et al.*, 1901; Coste, 1903; Bonnier, 1921; Fournier, 1961) who used the name published by de Candolle in the 1815 (*S. anopetalum*), thus avoiding the “confusing” *S. ochroleucum*. Conversely, the name given by Chaix is correct from nomenclatural point of view, and it has priority over others names published for this taxon.

This species has two chromosome numbers ($2n = 34, 68$), clearly a diploid and a tetraploid cytotype; these are sympatric but often occur at different altitudes in the same area. Further, the cytotypes are not correlated with any morphological variation found in natural populations of *S. ochroleucum* ('t Hart, 1978). Field and herbarium study has, however, confirmed a trend already observed by 't Hart (1978): from west moving eastwards, the plants are taller and the flowers larger.

Lastly, *S. ochroleucum* hybridises with other taxa of the same series ('t Hart, 1978) and a new hybrid between this species and *S. montanum* Song. & Perr. (= *S. xpasalianum* Gallo) was recently discovered in the French Alps by the author (Gallo, 2012).

Villars (1789) also describes *S. aristatum*, which, on the basis of the protologue and iconography (Tab. XLV), is very close to *S. ochroleucum* but its distinctive petal morphology still requires proper evaluation. 't Hart (1978) however, consider *S. aristatum* such as synonym of *S. sediforme*.

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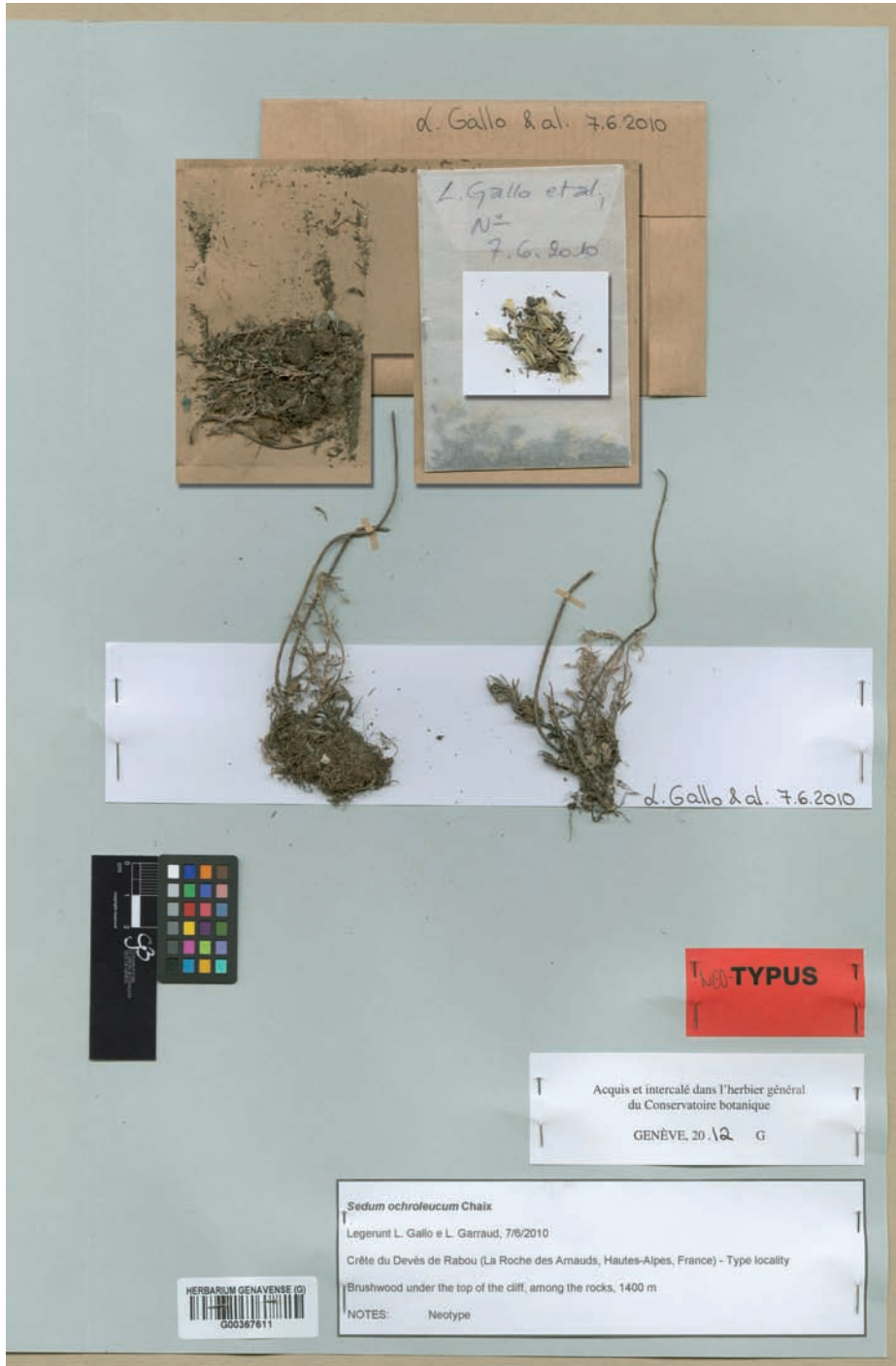


Fig. 1 - Neotype of *Sedum ochroleucum* Chaix [L. Gallo & L. Garraud GL-7060, G]. / Neotipo di *Sedum ochroleucum* Chaix [L. Gallo & L. Garraud GL-7060, G].



Fig. 2 - Close-up of the flowers. / Ingrandimento dei fiori.

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Specimina visa selecta

France. Hautes-Alpes: H. tes Alpes: Devèz de Rabou lisière ouest. 7.1908, *L. Girod* Herb. L. Girod (G) (*sub S. anopetalum*). H. tes Alpes: Gap a Charance. 7.1908, *L. Girod* Herb. L. Girod (G) (*sub S. anopetalum*). H. tes Alpes: Devèz de Rabou lisière ouest. 7.1908, *L. Girod* Herb. L. Girod (G) (*sub S. anopetalum*). H. tes Alpes: Gap au montant de Bayard a Glaise. 10.7.1902, *L. Girod* Herb. L. Girod (G) (*sub S. anopetalum*). H. tes Alpes: Devèz de Rabou lisière ouest. 7.1908, *L. Girod* Herb. L. Girod (G) (*sub S. anopetalum*). H. tes Alpes: Gap a Charance. 7.96, *L. Girod* (G) (*sub S. anopetalum*). H. tes Alpes: La Freyssinouse. 7.1907, *L. Girod* Herb. L. Girod (G) (*sub S. rupestre* var.). H. tes Alpes: Mt. Seuse près Gap. 7.1908, *L. Girod* (G) (*sub S. anopetalum*). Sommet de prairie du col de Glaise, pres Gap (Hautes-Alpes) a 2000 m d'altitude. 9.1860, *E. de Valon* Fl. Exs. de C. Billot (GAP). Mt. Charance en tête des Devès Hautes-Alpes. 12.8.1866, *Burle*, herb. *Burle* (GAP) (*sub S. anopetalum*). Sigoyer près Gap Hautes-Alpes. 28.6.1868, *Burle*, herb. *Burle* (GAP). Col de Glain [Glaise ?] près Gap. 7.1869, s.c. (GAP). Mt. Seuse près Gap Hautes-Alpes. 9.1865, *Burle*, herb. *Burle* (GAP). Mt. Seuse près Gap Haute-Alpes. 9.1865, *Burle*, herb. *Burle* (GAP). M.gne de Seuse près Gap. 9.1863, *Burle* (GAP). Corniche di Mt. Seuse près Gap H.tes-Alpes. 9.1863, *Burle* (GAP) (*sub S. verlotii*). Sigoyer au [?] Seuse. S.d. s.c. (GAP) (*sub S. anopetalum*). Hautes-Alpes M. gne de Charance sur Gap. 21.7.1864, *Burle*. Ex herb. *Burle* (GAP). Mt. Charance en tête du Devès Haut-Alpes. 12.8.1866, *Burle*. Ex herb. *Burle* (GAP). M. gne de Seuse près Gap. 9.1863, *Burle* (GAP) (*sub S. verlotii*). Combe-Noire de Menteyer. 28.6.1865, *Gariod* (GAP) (*sub S. verlotii*).

Collection numbers (live plants in the author's collection)

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