

## Nomenclatural notes and typification in *Sesleria* Scop. (*Poaceae*)

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### Summary

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After a close examination of the historical aspects of the typification of *Sesleria caerulea*, the correct names of the two allied species of the group are established as being *S. caerulea* (L.) Ard. and *S. uliginosa* Opiz. This permits unambiguous lectotypification of *Sesleria*. In addition, the types of the names *S. albicans* and *S. uliginosa* are also designated.

### Introduction

Scopoli (1760: 189) described the genus *Sesleria* (*Poaceae*) without mentioning any validly published species names and hence without indicating a nomenclatural type. He was, however, referring to only one species. Arduino (1764: 18, 20) was the first author to establish specific combinations under the generic name *Sesleria*, when he described two species: *S. caerulea*, with direct reference to the Linnaean species *Cynosurus caeruleus* (Linnaeus, 1753), and *S. sphaerocephala* Ard. Afterwards, the number of species or infraspecific taxa attributed to the genus gradually increased to such a point that, even only considering Europe, over 30 names at specific and subspecific rank have been reported to date by modern authors (see Deyl, 1980).

In Flora Europaea, Deyl (1980) distinguished *S. caerulea* (L.) Ard. from *S. albicans* Kit. ex Schultes, by a few morphological characters, such as the dense panicle and the width of the lemma awn, and in some ecological features: the first species is said to prefer wet habitats, whereas the second usually grows in dry grasslands and rocky habitats.

The distinction between these two taxa has in fact always presented difficulties, which have often given rise to both taxonomic and nomenclatural confusion in the literature. Some authors (e. g., Janchen, 1960: 825-826; 1965; 1966: 76; Pignatti, 1982; Adler, 1994), considering *S. caerulea* as nomen ambiguum, have used the name *S. uliginosa* Opiz for the taxon preferring damp places and *S. varia* (Jacq.) Wettst. or *S. albicans* Kit. ex Schultes for that preferring dry grasslands.

As we accept the distinction at specific level for these taxa our aim is to clarify the nomenclature of both species.

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*Taxonomic interpretation of the type of Sesleria caerulea*

*Cynosurus caeruleus* L., upon which *S. caerulea* is based, was published by Linnaeus (1753: 72) with the following phrase-name, synonyms and habitat: “*Cynosurus bracteis integris. Hort. cliff. 495. Fl. suec. 82. Roy. leid. 64. / Gramen glumis variis. Bauh. pin. 10. prodr. 21. Scheuch. gram. 83. / Habitat in Europae pascuis uliginosis*”.

In our opinion Linnaeus’s circumscription of *C. caeruleus* was very broad, comprising the populations inhabiting both wet and dry places. In *Hortus Cliffortianus* (Linnaeus, 1738: 495), cited in the protologue, the author reported the species as growing in “*Helvetia*”, in “*Suecia*”, where only the taxon preferring damp habitats occurs, and in “*Anglia*”, where only populations preferring dry places grow. When Linnaeus (1753) first provided a binomial for the species, he probably only had Swedish specimens coming from wet habitats (see also Linnaeus, 1745: 82). Linnaeus’s broad interpretation of *C. caeruleus* was widely accepted by subsequent authors until recent times (see, e. g., Willdenow, 1797: 414; Lamarck, 1806: 138-139; Gaudin, 1811; Reichenbach, 1830: 35; Koch, 1844: 940; Schur, 1866: 743; Wilczek & Schinz, 1909: 57; Hermann, 1956: 128-129).

Wettstein (1888) was the first author who realized that two distinct species were included under Linnaeus’s concept of *C. caeruleus*. Although Wettstein clearly distinguished the two species taxonomically, unfortunately the names he chose for them yielded chaotic results from a nomenclatural point of view. The two names he used, *Sesleria caerulea* for the plant of moist areas and *S. varia* for that of dry, are both ultimately based on the same type, i. e. the type of *Cynosurus caeruleus* L. as Jacquin in publishing *Aira varia*, the basionym of *S. varia*, cited *C. caeruleus* L. making his name superfluous and illegitimate under Art. 52.1, and to be typified by the type of Linnaeus’s name (Art. 7.5). Even if Wettstein is held to have published a new name, *S. varia* Wettst. under Art. 48.1 of the *Code* (Greuter & al. 2000), the type of *A. varia* Jacq. being explicitly included in his *S. caerulea*, the name would only date from 1888 and, regardless of how *S. caerulea* is typified, there is at least two other earlier names applicable to the species of drier habitats. After Wettstein, Deyl (1946) in his monograph of the genus recognized the broad circumscription of Linnaeus’s taxon, and segregated the same two species as Wettstein, but adopted *S. calcarea* Opiz for the species of dry habitats and *S. uliginosa* Opiz for that preferring wetter areas. It was only later (Deyl, 1980) that he used the name *S. caerulea* in a narrow sense only for populations preferring wet sites.

*Cynosurus caeruleus* L. was first lectotypified by Rauschert (1969) on the basis of Bauhin’s synonyms, with an indirect reference to the plate 73 of Bauhin’s *Prodromus* (Bauhin, 1620: 21). Rauschert did not refer to any of Linnaeus’s specimens, probably because he was not aware of their existence. In LINN there is, indeed, a sheet (LINN 91.9) containing three specimens, of which the central one completely fits the protologue, so, as it appears to have been in Linnaeus’s possession prior to 1753, it could have been taken into consideration for lectotypification, if it had not been for Rauschert’s earlier choice.

The lectotype is a rather poor drawing of a plant, which could represent either the species growing in wet habitats or that inhabiting dry places. Rauschert, nevertheless,

interpreted Bauhin's illustration as representing the taxon growing in dry habitats, most probably also because of Bauhin's (1620) statement regarding the place where the species came from, i. e. "locis montosis circa Montembelgardum" (= Montbéliard, E. France), where only the taxon preferring dry places grows. A specimen in Bauhin's herbarium (BAS), labelled as "Gramen glumis variis. Monspel. [= Monspelgardus = Monsbelgardus = Montbéliard]" seems to be precisely the plant used as a model for Bauhin's picture. It was checked by Kerguélen (1983) and by one of us (G.R.!), with the same conclusion: both agree that the plant represents the species preferring dry habitats. This specimen is suitable to be chosen as epitype.

Although Rauschert's typification might be somewhat arguable, nevertheless it is technically correct, and we have no arguments strong enough to justify a proposal to supersede it according to Art. 9.13(b) of the *Code* (Greuter & al., 2000), as Deyl would have had to do before changing uncritically Rauschert's interpretation, attributing the name *S. caerulea* to the species preferring damp places (Deyl, 1980).

After Rauschert's lectotypification, several authors (e.g. Hess & al., 1967; Kerguélen, 1983, 1987, 1993; Aeschimenn & Burdet, 1989; Stace, 1991, 1997; Rameau & al., 1993; Lauber & Wagner, 1998) applied the name *S. caerulea* correctly to populations preferring dry places, while Deyl's treatment was followed by other authors (e. g. Tsvelev, 1983; Poldini, 1991; Conert, 1992). One can conclude that an unequivocal current usage of the name *S. caerulea* still does not exist.

So far as the two species of the *S. caerulea* complex with rather different environment requirements are concerned, we consider that the rules of nomenclature, specifically Art. 9.17 (Greuter & al. 2000), require us to accept the following names, which differ substantially from those adopted by Deyl (1980) in *Flora Europaea*.

***Sesleria caerulea*** (L.) Ard., *Animadv. Bot. Spec. Alt.*: 18. 1764̃ *Cynosurus caeruleus* L., *Sp. Pl.*: 72. 1753̃ *Aira varia* Jacq., *Enum. Stirp. Vindob.*: 15. 1762̃ *Sesleria varia* (Jacq.) Wettst., *Verh. Zool.-Bot. Ges. Wien* 38: 557. 1888. – Lectotype (designated by Rauschert, 1969): [icon] "*Gramen glumis variis*" in Bauhin, *Prodr.*: 21, f. 73. 1620 (!). – Epitype (designated here): "Gramen glumis variis. Monspel.", [*J. Bauhin ?*] (BAS!).

= *S. albicans* Kit. ex Schult., *Österreichs Fl.*, ed. 2, 1: 216. 1814. – Lectotype (designated here): "Sesleria albicans mihi / Videt. a cogniti diversa. / In rupestribus Carpathi" [Kitaibel's handwriting!] // "Carpathae Hungariae Kitaibel ipse" [Schultes's handwriting!] (M-0004051!).

Mainly in dry, calcareous grasslands, rarely also in calcareous fens.

***Sesleria uliginosa*** Opiz in Bercht. & Opiz, *Ökon.-Techn. Fl. Bšhm.* 1: 492. 1836. – Lectotype (designated here): "Sesleria uliginosa / Opiz" // Hft. Pödebrad 1833" [Opiz's handwriting!] (PR!).

– *S. caerulea* sensu Wettst. in *Verh. Zool.-Bot. Ges. Wien* 38: 557. 1888; sensu Deyl in *Fl. Eur.* 5: 176. 1980.

Mainly in damp places, peat bogs, light woods, rarely in rocky soils.

*Remarks on the lectotypification of Sesleria*

The lectotypification of the generic name *Sesleria* represents a notable nomenclatural accident. Hubbard in Farr & al. (1979b: 1607) reports “*S. caerulea* (Linnaeus) Scopoli (Fl. Carn. ed. 2. I: 63. 1772)”, explicitly based on *Cynosurus caeruleus* L., as type of *Sesleria*. This can be considered a formal lectotypification, although “unintentional”, according to Farr & al. themselves (see Farr & al., 1979a: XII, XXIV, under “unintentional lectotypifications”).

This typification, nevertheless, cannot be left to chance and needs at least a few remarks.

The single species, to which Scopoli (1760: 189) originally referred, was described as “*Sesleria*”, a name which repeated the generic name without specific epithet. It was reported as growing “in saxosis, sterilibus, circa Idriam” (= Idrija, W. Slovenia), clearly meaning populations inhabiting dry habitats.

No original specimens have been traced in the herbaria (PAV, LINN, C, MPU, B, P-HAL) where, according to Stafleu & Cowan (1985), Scopoli’s material would have been kept. It has been right, therefore, to resort to the species which first were included in the genus. But, contrary to the implication of Hubbard’s statement, these were two, i. e. *S. caerulea* and *S. sphaerocephala* (Arduino, 1764).

Scopoli’s species is explicitly cited by Arduino (1764: 20) as a synonym of *S. caerulea*, and the description of the latter is the only one which completely agrees with all the morphological and ecological features defined by Scopoli (1760: 189) for his specific taxon. The correspondence of Arduino’s species with that of Scopoli was later formally acknowledged by Scopoli (1771) himself in the second edition of *Flora Carniolica*, when he used *S. caerulea* as the accepted name for his previously published species, with clear reference to *Cynosurus caeruleus* L. and to *Gramen glumis variis* Bauhin, both quoted in synonymy. It is worth noting that Bauhin’s statements about his species (Bauhin, 1620: 21) properly fit the specific descriptions by both Scopoli (1760: 189) and Arduino (1764: 18-19), and that his picture (Bauhin, 1620: f. 73) corresponds strictly with that accompanying Arduino’s publication (Arduino, 1764: t. 6, f. 3, 4 & 5).

In view of these considerations, Hubbard’s unintentional lectotypification resulted by chance in an altogether appropriate choice. The type of the name *Sesleria* Scop. is the type of the name *Cynosurus caeruleus* L., basionym of *Sesleria caerulea* (L.) Ard., precisely according to Rauschert’s lectotypification of the name of the species and to our present epitypification.

***Sesleria*** Scop., Fl. Carniol.: 189. 1760. – Lectotype (unintentionally designated by Hubbard in Farr & al., 1979b, and confirmed here): *Cynosurus caeruleus* L.

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