



<http://dx.doi.org/10.11646/phytotaxa.202.2.3>

Typification of names in the group Coerulans of the genus *Sesleria* (Poaceae)

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Abstract

In this paper we typify and discuss twelve names belonging to group Coerulans in the genus *Sesleria* (Poaceae). The holotype is established for *S. tenerrima*, and lectotypes are designated for the names *S. bielzii*, *S. coerulans*, *S. coerulans* var. *borsae*, *S. comosa*, *S. klasterskyi*, *S. korabensis* var. *mrkvickana*, *S. krajinae*, *S. orbelica* and *S. orbelica* var. *pirinensis*. Neotypes are selected for the names *S. comosa* var. *weberii* and *S. haynaldiana*. Images are provided for nine specimens selected here as types that are not available online. Previously published typifications for other names in the Coerulans group are summarized.

Key words: holotype, lectotype, neotype, nomenclature, *Sesleria*, taxonomy

Introduction

The group (“Turma”) Coerulans of the grass genus *Sesleria* Scopoli (1760: 63), belonging to sect. *Calcariae* Deyl (1946: 77), was introduced by the Czech botanist Miloš Deyl (1906–1985), who was the most important authority for the taxonomy of this genus. Deyl was interested in plant ecology, as well as taxonomy and floristics, and took ecology into consideration when solving taxonomic problems. He utilized this approach in his taxonomic study of *Sesleria*, which is the only monographic work treating the whole genus, where he described seven new species and 21 varieties (Deyl 1946). Since no molecular tools were available at the time, he based his considerations on morphological studies of a great number of herbarium specimens deposited at his home institution (PR) and in several other European herbaria, as listed in the preface of his monograph (B, BRNU, BP, CL, G, GOET, GZU, LE, M, P, PR, PRC, SARA, SOM, W and WU, abbreviations according Thiers 2014), and on his observations in the field.

Taking into account Deyl’s significant contribution to the taxonomy of *Sesleria*, in this paper we follow his concept of the group Coerulans, with slight modifications on the basis of the most recent molecular phylogeny of the genus (Lakušić *et al.* 2013). According to the results of these analyses (AFLPs and plastid DNA sequences), the species *S. tatrae* Deyl (1946: 148) is more closely related to the species of the group Calcaria, while the phylogenetic position of *S. serbica* (Adamović 1896: 120) Ujhelyi (1959: 64) remains unclear (Lakušić *et al.* 2013). Therefore, these two species are not considered in this work. Furthermore, it has been shown that also belonging to this group are the species *S. achtarovii* Deyl (1946: 193), *S. filifolia* Hoppe (1834: 384) and *S. rigida* Heuffel ex Reichenbach in Reichenbach (1831: 140³) and their infraspecific forms (Lakušić *et al.* 2013); these are all members of the *S. rigida* species complex, which were previously included in the group (“Turma”) Rigida by Deyl (1946). The group Coerulans thus comprises the following taxa: *S. achtarovii*, *S. bielzii* Schur (1850: 109), *S. coerulans* Frivaldszky (1836: 438), *S. coerulans* var. *borsae* Deyl (1946: 139), *S. comosa* Velenovský (1886: 44), *S. comosa* var. *weberi* Deyl (1946: 134), *S. filifolia*, *S. haynaldiana* Schur (1856: 207), *S. korabensis* (Kümmerle & Jávorka 1926: 340) Deyl (1946: 141), *S. korabensis* var. *mrkvickana* Deyl (1946: 143), *S. klasterskyi* Deyl (1946: 144), *S. krajinae* Deyl (1946: 145), *S. marginata* Grisebach (1846: 442), *S. orbelica* (Velenovský 1898: 290) Hayek (1933: 237), *S. orbelica* var. *pirinensis* (Deyl 1946: 136), *S. rigida*, *S. rigida* var. *degenii* Deyl (1946: 190), *S. rigida* var. *pancicii* Deyl (1946: 191) and *S. tenerrima* (Fritsch in Baldacci 1896: 652) Hayek (1918: 206).

Sesleria korabensis (Kümmerle & Jávorka in Jávorka 1926) Deyl (1946: 141)

Lectotype (designated by Kováts 2000: 34):—MACEDONIA. Korab, ad pagum Radomir, cc. 2700 m, 24 July 1918, *J. B. Kümmerle* 91 (BP 733798!).

Sesleria marginata Grisebach (1846: 442)

Lectotype (designated by Strid 2000: 305):—BULGARIA. Reg. suprema Rilo, *E. von Friedrichsthal* 562 (GOET 006924!).

Other original material examined:—BULGARIA. In reg. med. M. Rilo, *E. von Friedrichsthal* 551 (WU 0030323!).

Sesleria rigida Heuffel ex Reichenbach in Reichenbach (1831: 140³)

Lectotype (designated by Kováts 1984: 65):—ROMANIA. In herbidis montis Domuglett [Domogled], Apr. Mai [April. May] 1831, *J. Heuffel s.n.* (BP 10762!, right-hand plant).

=***Sesleria rigida* var. *degenii*** Deyl (1946: 190)

Lectotype (designated by Kuzmanović *et al.* 2013: 468):—ROMANIA. In saxosis ad cacuminen montis Domugled [Domogled] supra thermas Herkulis [Baile Herculane], 7 May 1894, *A. de Degen s.n.* (BP 19851!).

Acknowledgements

We acknowledge the financial support provided by the Serbian Ministry of Education, Science and Technological Development (project no. 173030 to D. Lakušić). Support from the SYNTHESYS Project (<http://www.synthesys.info/>), which is financed by European Community Research Infrastructure Action under the FP7 “Capacities” Program, is also acknowledged (project CZ-TAF 3312 to N. Kuzmanović). The work of Z. Barina was supported by OTKA 104443 grant. Many thanks to curators of the Herbaria who helped while working in the collections, or consulted for permission to reproduce the images of the type specimens: Astrid Scharfetter (GZU), Ghizela Vonica (SIB), Lia Pignotti (W), Marc S. Appelhans (GOET), Michal Štefánek and Patrik Mráz (PRC), Walter Till (WU). Finally, comments and suggestions of the anonymous reviewer and the subject editor Jeffery M. Saarela are greatly acknowledged.

References

- Adamović L. (1896) Neue Beitraege zur Flora von Serbien. *Allgemeine Botanische Zeitschrift für Systematik, Floristik, Pflanzengeographie* 2: 116–120. Available from: <http://www.biodiversitylibrary.org/item/38469> (accessed 5 November 2014)
- Baldacci, A. (1896) Rivista della collezione botanica fatta nel 1894 in Albania. *Bulletin de l'Herbier Bossier* 4: 609–653. Available from: <http://www.biodiversitylibrary.org/item/104951> (accessed 5 November 2014)
- Bálint, Zs. & Frivaldszky, J. (2009) *A magyar Parnasszuson. Frivaldszky Imre (1799–1870) a természet kutatója*. Magyar Természettudományi Múzeum, Budapest, 243 pp.
- Deyl, M. (1946) Study of the genus *Sesleria*. *Opera Botanica Čechica* 3: 1–246. Available from: <http://bibdigital.rjb.csic.es/ing/Libro.php?Libro=6111> (accessed 5 November 2014)
- Frivaldszky, I. (1836) Succinctae diagnoses specierum plantarum novarum anno 1835 in Turcia europaea collectam. *Flora* 19 (2): 433–440. Available from: <http://www.biodiversitylibrary.org/item/927> (accessed 5 November 2014)
- Grisebach, A. (1846) *Spicilegium Flora Rumelicae et Bithynicae Exhibens Synopsin Plantarum quas in aest. 1839 legit Auctor A. Grisebach*. Vol. 2. Brunsvigae, prostat apud Fridericum Vieweg et filium, 548 pp.
- Hayek, A. (1918) Beitrag zur Kenntnis der Flora des albanisch-montenegrinischen Grenzgebietes (Bearbeitung der von J. Dörfler im Jahre 1914 auf einer im Auftrage der Kaiserlichen Akademie der Wissenschaften unternommenen Forschungsreise gesammelten Farn- und Blütenpflanzen) (mit 7 Tafeln). *Denkschriften der Kaiserlichen Akademie der Wissenschaften in Wien. Mathematisch-Naturwissenschaftliche Klasse* 94: 127–210. Available from: <http://www.biodiversitylibrary.org/item/110833> (accessed 5 November 2014)

- Hayek, A. (1933) *Sesleria* Scop. In: Prodromus Flora peninsulae Balcanicae. *Repertorium specierum novarum regni vegetabilis Beihefte* 30 (3): 236–242.
- Hoppe, D.H. (1834) Beobachtungen über den anfang der bluthenperiode einiger gewachse. *Flora* 17(1): 369–384. Available from: <http://www.biodiversitylibrary.org/item/922> (accessed 5 November 2014)
- Kováts, D. (1984) Poaceae type specimens of Herbarium Carpato-Pannonicum in Budapest II. (*Calamagrostis-Sesleria*). *Studia Botanica Hungarica* 17: 61–68. Available from: http://publication.nhmus.hu/pdf/StudiaBotHung_1984_Vol_17_61.pdf (accessed 5 November 2014)
- Kováts, D. (2000) Plant types of Sándor Jávorka in the Hungarian Natural History Museum in Budapest III. *Annales historico-naturales Musei nationalis hungarici* 92: 21–40. Available from: http://publication.nhmus.hu/pdf/annHNHM/Annals_HNHM_2000_Vol_92_21.pdf (accessed 5 November 2014)
- Křivka, P. & Holubec, V. (2010) The Balkan collections in the main Czech herbaria. *Phytologia Balcanica* 16(2): 215–220. Available from: http://www.bio.bas.bg/~phytolbalcan/PDF/16_2/16_2_04_Krivka_&_Holubec.pdf (accessed 5 November 2014)
- Jávorka, S. (1926) Anthophyta. In: Teleki, P. & Csiki E. (Eds.) *A Magyar Tudományos Akadémia Balkán-kutatásainak tudományos eredményei*. Vol. 3. Addittamenta ad floram Albaniæ. Magyar Tudományos Akadémia, Budapest, pp. 219–346.
- Kuzmanović, N., Comanescu, P., Frajman, B., Lazarević, M., Paun, O., Schönswetter, P. & Lakušić, D. (2013) Genetic, cytological and morphological differentiation within the Balkan-Carpathian *Sesleria rigida* sensu Fl. Eur. (Poaceae), a taxonomically intricate tetraploid-octoploid complex. *Taxon* 62(3): 458–472.
<http://dx.doi.org/10.12705/623.13>
- Lakušić, D., Kuzmanović, N., Alegro, A., Frajman, B. & Schönswetter, P. (2013) Molecular phylogeny of the genus *Sesleria* (Poaceae) based on AFLP and plastid DNA. In: Domina, G., Greuter, W. & Raimondo, F.M. (Eds.) *XIV OPTIMA Meeting, Abstracts, Lectures, Communications, Posters, Orto Botanico, Palermo 9–15 September 2013*, 172 pp. [poster]. Available from: <http://www.optima-bot.org/meetings/XIVAbstracts.pdf> (accessed 5 November 2014)
- McNeill, J., Barrie, F.R., Buck, W.R., Demoulin, V., Greuter, D.L., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Marhold, K., Prado, J., Proud'Homme van Reine, W.F., Smith, J.F. & Wiersema, J.H. (Eds.) (2012) International Code of Nomenclature for algae, fungi and plants (Melbourne Code): Adopted by the Eighteenth International Botanical Congress, Melbourne, Australia, July 2011. *Regnum Vegetabile* 154: 1–208. Available from: <http://www.iapt-taxon.org/nomen/main.php> (accessed 5 November 2014)
- Nendtvich, K. (1872) Frivaldszky Imre életrajza. *Értekezések a természettudományok köréből* 3(3): 1–30.
- Pifkó, D. (2009) Schur's Cytisus taxa. *Studia botanica hungarica* 40: 143–161. Available from: http://publication.nhmus.hu/pdf/Studia/StudiaBotHung_2009_Vol_40_143.pdf (accessed 5 November 2014)
- Reichenbach, L. (1831) *Flora Germanica excursoria*. Carolum Cnobloch, Lipsiae, pp. 446.
- Roemer, J.J. & Schultes, J.A. (1817) *Systema vegetabilium: secundum classes, ordines, genera, species. Cum characteribus differentiis et synonymis*. Editio nova, speciebus inde ab editione XV. Detectis aucta et locupletata. Stuttgardiae.
<http://dx.doi.org/10.5962/bhl.title.825>
- Röpert, D. (Ed.) (2000) Digital specimen images at the Herbarium Berolinense. Available from: <http://ww2.bgbm.org/herbarium/> (accessed 9 November 2014).
- Schur, P.J.F. (1850) Ueber eine Centime Pflanzen, welche Herr Albert Bielz auf dem Kühhorn bei Rodna und auf dem Czibles bei Bistriz im August 1848 sammelte. *Verhandlungen und Mittheilungen des Siebenbürgischen Vereins für Naturwissenschaften zu Hermannstadt* 1 (7): 101–112. Available from: <http://www.biodiversitylibrary.org/item/42660> (accessed 5 November 2014)
- Schur, P.J.F. (1856) Beitrag zur Kenntniss des Florengebietes Siebenbürgen. Ueber die siebenbürgischen Sesleriaceen. *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien* 6: 191–214. Available from: http://www.landesmuseum.at/pdf_frei_remote/VZBG_6_0191-0214.pdf (accessed 5 November 2014)
- Schur, P.J.F. (1866) *Enumeratio Plantarum Transsilvaniae*. Gulielmum Braumuller, Vindobonae, 984 pp. Available from: <http://www.biodiversitylibrary.org/page/10544433> (accessed 5 November 2014)
- Scopoli, L. (1760) *Flora Carniolica exhibens plantas Carniolae indigenas*. Joannis Thomae Trattner, Viennae, 607 pp.
<http://dx.doi.org/10.5962/bhl.title.6681>
- Stanev, S. (2004) The Bulgarian Society celebrated its 80th anniversary. *Phytologia Balcanica* 10(1): 5–10. Available from: http://www.bio.bas.bg/~phytolbalcan/PDF/10_1/10_1_01_Stanev.pdf (accessed 5 November 2014)
- Strid, A. (2000) New taxa described in Grisebach's "Spicilegium Flora Rumelicae et Bithynicae" (1843–46). *Preslia* 72(2–4): 241–321.
- Thiers, B. (2014, continuously updated). *Index Herbariorum: A global directory of public herbaria and associated staff*. New York Botanical Garden's Virtual Herbarium. The New York Botanical Garden. Available from: <http://sweetgum.nybg.org/ih/> (accessed 22 July 2014).
- Ujhelyi, J. (1959) Species Sesleriae generis novae. *Feddes Repertorium Specierum Novarum Regni Vegetabilis* 62: 59–70.
<http://dx.doi.org/10.1002/fedr.19590620108>
- Velenovský, J. (1886) Beiträge zur Kenntniss der Bulgarischen Flora. *Abhandlungen der Königlichen Böhmischen Gesellschaft der SESLERIA (POACEAE)*

Wissenschaften 7: 1–47. Available from: <http://www.biodiversitylibrary.org/item/105702> (accessed 5 November 2014)

Velenovský, J. (1922) *Reliquiae Mrkvičkiana*e. Prague, 32 pp.

Velenovský, J. (1898) *Flora Bulgarica. Descriptio et enumeratio systematica plantarum vascularium in principatu Bulgariae sptne nascentium. Supplementum I.* Pragae.

<http://dx.doi.org/10.5962/bhl.title.9876>