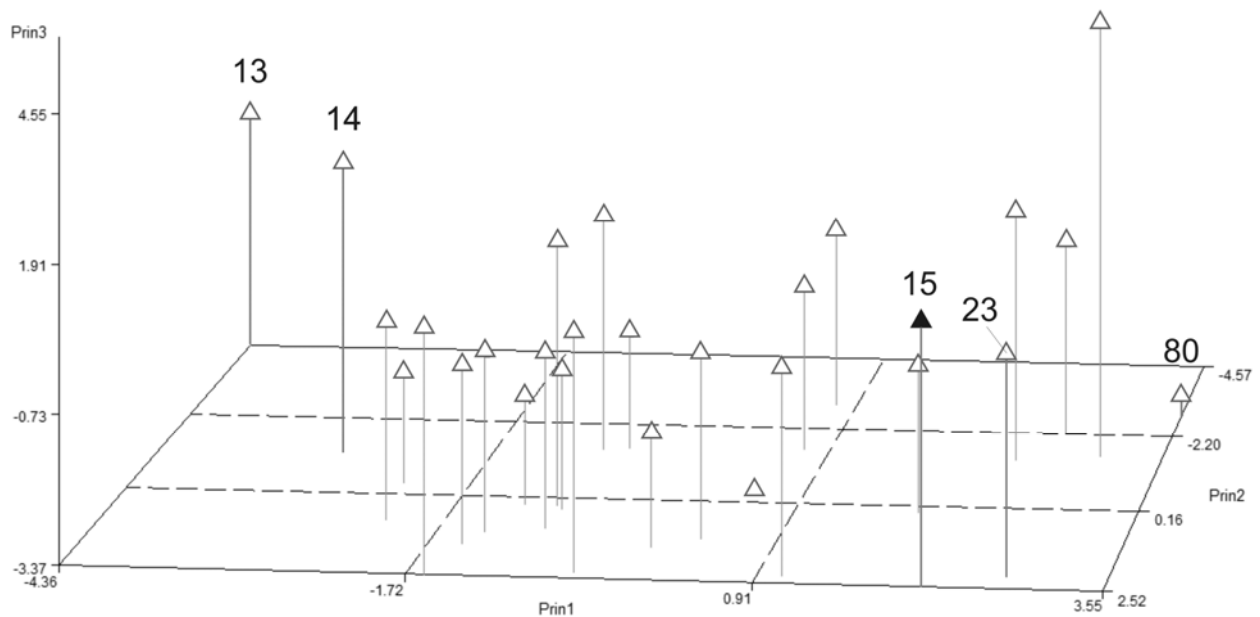
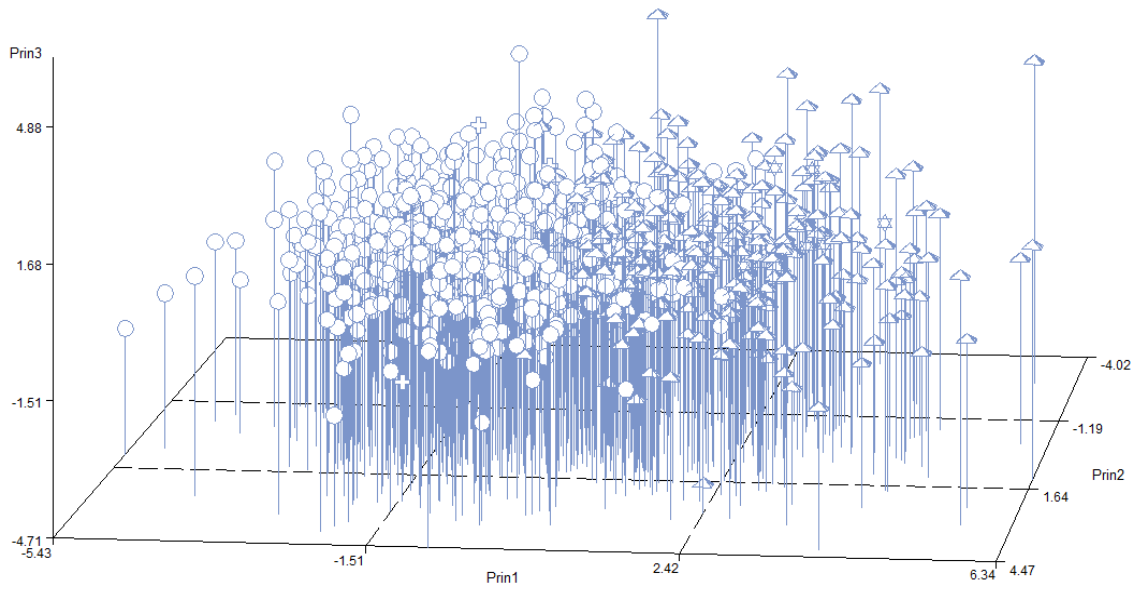


**Budzáková M., Hodalová I., Mered'a P. Jr., Somlyay L., Bisbing S. M. & Šibík J. (2014):
Karyological, morphological and ecological differentiation of *Sesleria caerulea* and *S. tatrae* in
the Western Carpathians and adjacent regions. – Preslia 86: 245–277.**

Electronic Appendix 1. – Principal component analysis (PCA 2) of 27 populations of *Sesleria tatrae* based on 23 morphological characters. The type population of *S. tatrae* is marked by black triangle. Numbers of selected populations are according to Table 1. The first three axes explained 43.22 % of the total variation.



Electronic Appendix 2. – Principal component analysis (PCA 3) of 877 individuals of *Sesleria caerulea* (circles) and *S. tatrae* (pyramids) based on 23 morphological characters. The individuals from the type population of *S. caerulea* are marked by crosses, those from of *S. tatrae* by stars. The first three axes explained 32.12 % of the total variation.



Electronic Appendix 3. – Comparison of published data of selected morphological characters of *S. caerulea* with our measurements.

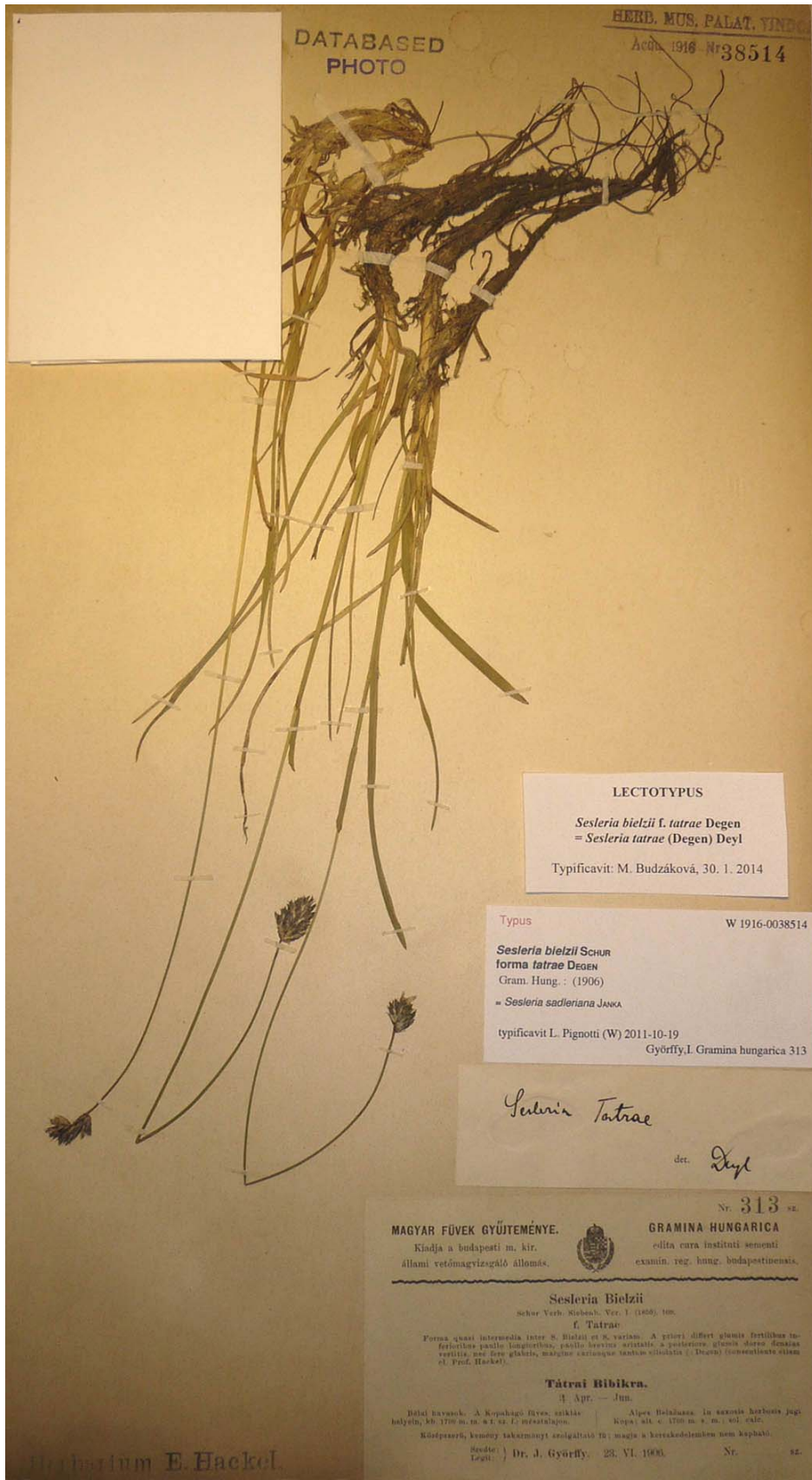
Character	Literature data (values given in identification keys or in descriptions as diagnostic characters for the species are arked with an asterisk “*”)	Our measurements (N = 572) (min.–)10–90 percentiles (–max.)
Stem length	up to 50 cm [including spike?] (Deyl 1938); 5–70 cm [including spike?] (Ujhelyi 1938); 30–40 cm [including spike?], rarely more (Deyl 1946); 12–45.5 cm [including spike?] (Bielecki 1955); 10–45 cm [including spike?] (Deyl 1980, Dostál 1989); 10–40(–50) cm [including spike?] (Conert 1992, Fischer et al. 2005)	(7.5–)18.75–40.15(–75.8) cm (measured at the time of flowering, including spike)
(Basal) lamina with	0.2–0.5 cm (Deyl 1938); 0.25–0.3(–0.65) cm (Deyl 1946); 0.3–0.45 cm (Bielecki 1955); 0.25–0.3(–0.5)* cm (Deyl 1980, Dostál 1989, Conert 1992, Fischer et al. 2005); 0.2–0.3 cm* (Dostál 1989)	(0.14–)0.25–0.45(–0.55) cm
Number of (basal) lamina veins	19–23 (Bielecki 1955); 15* (Dostál 1989); 17–19* (Deyl 1980, Dostál 1989)	(8–)12–21(–30)
Uppermost lamina length	ca 1 cm (Deyl 1946); 0.5–1.3 cm (Bielecki 1955); max. 1 cm (Deyl 1980, Conert 1992); 1 cm (Dostál 1989); (1.05–)1.92(–3.1) cm (Lysák et al. 1997)	(0.11–)0.49–1.45(–3.3) cm
Inflorescence length	1–3(–4) cm (Deyl 1938); 1–3 cm, rarely more (Deyl 1946); 1.2–2.1 cm (Bielecki 1955); 1–3 cm* (Dostál 1989, Conert 1992); (1.1–)1.46(–1.8) cm (Lysák et al. 1997)	(0.28–)1.5–2.4(–3.7) cm
Inflorescence width	0.4–1 cm (Deyl 1938, 1946, Conert 1992); 0.5–1.1 cm (Bielecki 1955); 0.6–0.8 cm* (Dostál 1958); 0.5–0.7(–0.9) cm* (Deyl 1980); 0.5–0.9 cm* (Dostál 1989); (0.45–)0.61(–0.75) cm (Lysák et al. 1997)	(0.4–)0.6–0.9(–1.2) cm
Number of florets per spikelet	2 (Deyl 1938); 2(–4) (Ujhelyi 1938); 2(–3) (Deyl 1946, Bielecki 1955, Dostál 1989, Conert 1992); ± 2* (Dostál 1958)	1 flower: 1.3% of the measured individuals; 2: 85.9%; 3: 12.5%; 4: 0.3%
Glume length	5–6 mm [including awn?] (Deyl 1946); 3.5–4.5 mm [including awn?] (Bielecki 1955); 4–6 mm [including awn?] (Deyl 1980, Dostál 1989); 3–6 mm [including awn?] (Conert 1992); (3.3–)3.9(–4.8) mm [including awn?] (Lysák et al. 1997)	(2.8–)3.8–5.5(–6.9) mm (including awn)
Glume awn length	max. 1.5–2 mm (Deyl 1946); max. 2 mm (Dostál 1989); max. 1 mm (Conert 1992)	(0–)0.3–1.1(–2.4) mm
Lemma length	4–5 mm [including awn?] (Bielecki 1955, Deyl 1980, Dostál 1989, Conert 1992); (3.4–)4.2(–4.7) mm [including awn?] (Lysák et al. 1997)	(3–)4–5.3(–6.5) mm (including awn)
Number of lemma veins	5 (Deyl 1938, Conert 1992); (3)5 (Deyl 1946); 3 (Dostál 1989)	(1–)3–5(–7)
Number of lemma teeth	3 (Deyl 1938); 1–5 (Deyl 1946, Dostál 1989); 3–5 (Bielecki 1955); up to 5 (Deyl 1980)	(1–)2–3(–5)
Lemma awn length	0–1.5 mm* (Deyl 1938); (0–)0.5(–1.5) mm (Deyl 1946);	(0–)0.4–1.1(–1.84) mm; 13.6 % of individuals with awn shorter as 0.5

	0.5–1 mm (Bielecki 1955); 0.5 mm and more* (Dostál 1958); max. 0.5 mm* (Deyl 1980, Dostál 1989, Fischer et al. 2005); 0.2–1(–1.5) mm (Conert 1992); (0.3–)0.7(–1.2) mm (Lysák et al. 1997)	mm, and 74.7% individuals with awn longer than 0.5 mm
Lemma indument between the veins	glabrous, rarely sparsely hairy (Deyl 1946); ± glabrous* (Dostál 1958); glabrous* (Dostál 1989); usually glabrous (Conert 1992)	32.9 % of individuals with hairy lemma (i.e. with at least 1 hair per area of 0.04 mm ²)

Electronic Appendix 4. – Comparison of published data of selected morphological characters of *S. tatrae* with our measurements.

Character	Literature data (values given in identification keys or in descriptions as diagnostic characters for the species are arked with an asterisk “*”)	Our measurements (N = 305) (min.–)10–90 percentiles (–max.)
Stem length	up to 50 cm [including spike?] (Deyl 1938); 30–50 cm [including spike?] (Deyl 1946, Dostál 1989); 10–ca 50 cm [including spike?] (Rychlewski 1955)	(13.6–)21.9–59.39(–81.3) cm (including spike)
(Basal) lamina width	0.2–0.6 cm (Deyl 1938); 0.25–0.4(–0.65) cm, rarely narrower (Deyl 1946); 0.2–0.45 cm (Rychlewski 1955); 0.25–0.4(–0.6) cm* (Dostál 1958); (0.3–)0.4–0.5 cm (Deyl 1980); 0.2–0.6 cm (Dostál 1989)	(0.1–)0.21–0.5(–0.65) cm
Number of (basal) lamina veins	12–19 (Rychlewski 1955); usually more than 17 (Deyl 1980); more than 17 (Dostál 1989)	(4–)10–20(–28); 77.4% of plants with 17 or less veins
Uppermost lamina length	2–10 cm (Deyl 1938); 2–3(–10) cm (Deyl 1946); 1.2–4.5 cm (Rychlewski 1955); usually 2–3 cm* (Deyl 1980); 2–4 cm (Dostál 1989)	(0.22–)0.8–2.17(–4.75) cm
Inflorescence length	1.2–3 cm (Deyl 1938); 1.8–3 cm (Deyl 1946); 1–2.3 cm (Rychlewski 1955); 1.8–2.5 cm (Deyl 1980, Dostál 1989)	(1–)1.5–2.4(–2.9) cm
Inflorescence width	0.6–1.3 cm (Deyl 1938); 0.6–1.5 cm (Deyl 1946); 0.6–1.2 cm (Rychlewski 1955); (0.7–)0.9–1.2 cm (Deyl 1980); 0.8–1.2 cm (Dostál 1989)	(0.5–)0.65–1(–1.2) cm
Number of florets per spikelet	mostly 2 (Deyl 1938); 2(–3)* (Deyl 1946, Dostál 1958, Dostál 1989); 2–3* (Deyl 1980)	1 flower: 2.83% of the measured individuals; 2: 89.62%; 3: 7.23%; 4: 0.32%
Glume length	5–6 mm [including awn?] (Rychlewski 1955); 4–5 mm [including awn?] (Deyl 1980, Dostál 1989)	(3.6–)4.5–6.5(–7.59) mm (including awn); 70.4% of plants with glume longer than 5 mm
Number of glume veins	1 (Deyl 1938, 1946, Rychlewski 1955, Dostál 1989)	1–3(–5)
Glume awn length	ca 1 mm (Deyl 1980); 1 mm (Dostál 1989)	(0.2–)0.5–1.39(–2.5) mm
Lemma length	4–7 (including awn) (Deyl 1938, 1946) 4–5 mm [including awn?]* (Deyl 1980, Dostál 1989)	(3.3–)4.6–6.1(–7) mm (including awn); 70.8% of plants with lemma longer than 5 mm
Number of lemma veins	3–5 (Deyl 1938, 1946, Dostál 1989); 3–6 (Rychlewski 1955)	(1–)3–5(–7) mm
Number of lemma awn	3 (Deyl 1938, Rychlewski 1955); 3–5 (Deyl 1946, Dostál 1989)	(0–)3(–5)
Lemma awn length	0–2 mm (Deyl 1938); 0–2(–3) mm (Deyl 1946); ca 1.5 mm, or ca 1 mm (Rychlewski 1955); 1–2 mm (Deyl 1980, Dostál 1989)	(0–)0.5–1.3(–2.2) mm
Lemma indument between the veins	hairy* (Dostál 1958, 1989); usually hairy* (Deyl 1980)	(0–)2–11.3(–16) hairs per 0.04 mm ² ; 2.8 % of individuals glabrous; 10.7% sparsely hairy (only with 1–2 hairs per 0.04 mm ²) and the rest scattered to densely hairy

Electronic Appendix 5. – Lectotype of *Sesleria bielzii* f. *tatrae* deposited in W (printed with permission of Naturhistorisches Museum Wien).



DATED PHOTO

HERB. MUS. PALAT. VIENNA
Acq. 1916 N°38514

LECTOTYPUS
Sesleria bielzii f. *tatrae* Degen
= *Sesleria tatrae* (Degen) Deyl
Typificavit: M. Budzáková, 30. 1. 2014

Typus W 1916-0038514
Sesleria bielzii SCHUR
forma *tatrae* DEGEN
Gram. Hung. : (1906)
= *Sesleria sadleriana* JANKA
typificavit L. Pignotti (W) 2011-10-19
Györfy, I. Gramina hungarica 313

Sesleria Tatrae
det. Deyl

MAGYAR FÜVEK GYŰJTEMÉNYE.
Kiadja a budapesti m. kir.
állami vetőmagvizsgáló állomás.



GRAMINA HUNGARICA
«Ita cura instituti sementi
exam. rez. hung. budapestinensis.

Sesleria Bielzii
Schar Verh. Siebenb. Ver. 1. (1858), 106.
f. *Tatrae*
Forma quasi intermedia inter *S. Bielzii* et *S. varians*. A priori differt glumis fertilibus in-
fertilibus paulo longioribus, paulo brevius aristatis a posterioribus quibus dente dentibus
vestitis, non brevis glabris, magis variisque nervis striatis (Degen) (consensuente etiam
et Prof. Hackel).
Tátrai Bibikra.
4. Apr. — Jun.
Bélai tavonok. A Képekgyőri fűves sziklák. Alpesi hegyekben. In arenosis herbosis jugi.
belyein, kb. 1700 m. m. s. t. sz. l. mérsékeltan. Kopa; alt. a 1700 m. s. m., vol. calc.
Középső, kemény takarmányt szolgáltató fű; magja a kereskedelemben nem kapható.
Budai: Dr. J. Györfy. 23. VI. 1903. Nr. sz.

Herbarium E. Hackel