

Types of *Festuca* (Gramineae) names in the herbarium W: types from Hackel's herbarium

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Abstract

Lectotypifications for the following taxa are reported: *F. glauca* VILL. subsp. *psammophila* HACK. ex ČELAK., *F. ovina* L. subvar. *angustiflora* HACK., *F. ovina* subvar. *barbulata* HACK., *F. ovina* subsp. *beckeri* HACK., *F. ovina* var. *dalmatica* HACK., *F. ovina* subvar. *durissima* HACK., *F. ovina* subvar. *grandiflora* HACK., *F. ovina* subvar. *hispidula* HACK., *Festuca ovina* subvar. *laevifolia* HACK., *F. ovina* var. *paniciana* HACK., *Festuca ovina* var. *peristerea* J.VETTER, *F. ovina* subvar. *pubescens* HACK., *F. ovina* subvar. *villosa* HACK., *F. porcii* HACK., *F. rubra* L. subvar. *grandiflora* HACK., *F. varia* HAENKE subvar. *calva* HACK., *F. varia* var. *croatica* HACK. The holotypes of *F. halleri* ALL. subsp. *riloensis* HACK. ex HAYEK, *F. ovina* var. *longearistata* HACK., *F. rubra* f. *litoralis* HACK., *Festuca varia* var. *firmior* BELLI & HACK. ex BELLI, *F. varia* subvar. *graeca* HACK. are pointed out.

Key words: *Festuca*; types, nomenclature; herbarium W; Eduard Hackel.

Zusammenfassung

Lektotypen für folgende Taxa werden ausgewählt: *F. glauca* VILL. subsp. *psammophila* HACK. ex ČELAK., *F. ovina* L. subvar. *angustiflora* HACK., *F. ovina* subvar. *barbulata* HACK., *F. ovina* subsp. *beckeri* HACK., *F. ovina* var. *dalmatica* HACK., *F. ovina* subvar. *durissima* HACK., *F. ovina* subvar. *grandiflora* HACK., *F. ovina* subvar. *hispidula* HACK., *Festuca ovina* subvar. *laevifolia* HACK., *F. ovina* var. *paniciana* HACK., *Festuca ovina* var. *peristerea* J.VETTER, *F. ovina* subvar. *pubescens* HACK., *F. ovina* subvar. *villosa* HACK., *F. porcii* HACK., *F. rubra* L. subvar. *grandiflora* HACK., *F. varia* HAENKE subvar. *calva* HACK., *F. varia* var. *croatica* HACK. Die Holotypen für *F. halleri* subsp. *riloensis* HACK. ex HAYEK, *F. ovina* var. *longearistata* HACK., *F. rubra* ALL. f. *litoralis* HACK., *Festuca varia* var. *firmior* BELLI & HACK. ex BELLI und *F. varia* subvar. *graeca* HACK. werden festgestellt.

Introduction

As typification is always fundamental for nomenclatural and taxonomic investigations upon critical taxa, we have been investigating type specimens of names of taxa belonging to the critical genus *Festuca* (e. g. SIGNORINI & FOGGI 1997; FOGGI & SIGNORINI 1997).

In taxonomic studies on this genus in Europe, the fundamental papers written by E. Hackel and especially his monograph on European fescues (HACKEL 1882) must be considered as landmarks for any researcher. Therefore, typification of Hackel's names is of particular importance for festucologists.

As Hackel's herbarium is kept in W, most of the types of his names can be found there.

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Materials and methods

We personally searched for the specimens in the Herbarium of the Natural History Museum in Vienna, Austria (W).

The labels of the types have been transcribed between quotation marks (" "), complying, as far as possible, with the original writing. If more than one label were attached to the same sheet, each of them is preceded by a capital letter and a bracket: A), B), C), ...).

The following abbreviations and symbols have been used (see SIGNORINI & FOGGI 1997):

[]	our own observations;
/	new line;
//	new line after a big gap (lines widely spaced);
pr.	printed;
m.	handwriting by;
m. i.	manu ignota (unknown handwriting);
o.s.	printed or written directly on the sheet;
?	not clearly legible;
...	text not transcribed because non-essential or illegible;
Exs.	specimen(s) mentioned in the protologue;
Loc.	locality(ies) mentioned in the protologue.

All the specimens cited as "Examined type material" and not indicated either as lectotypes or as holotypes are to be considered syntypes. For these, only the identification numbers of the specimens have been reported.

Results and discussion

1 *F. glauca* VILL. subsp. *psammophila* HACK. ex ČELAK., Prodr. Fl. Bohem. IV: 721 (1881)

Loc.: "Bisher nur im Elbthale beobachtet: auf den Sandfluren bei Kolin, Nimburg und Kostomlat in grosser Menge! bei Lissa und Čelakovic! bei Weltrus unter dem Drinow! und wohl auch anderwärts"

Examined type material: W 1916-10171, 10172, 10173, 10174, 10175.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob./ Acqu. 1916 Nr. 10171 // Herb. E. Hackel [o.s., pr.]"; "Herbarium Bohemicum Musaei Regni Bohemiae [pr.] / Festuca psammophila Hackel [m. Čelakowsky] / ovina v. glauca subv. [m. Hackel] / Habitat: [pr.] in arenosis prope Kolin ad Albim [m. Čelakowsky] / Floruit [pr.] ad finem junii [m. Čelakowsky] 18 [pr.] 80 [m. Čelakowsky] leg. [pr.] Čelakowsky [m. Čelakowsky]". W! (Fig. 1).

2 *F. ovina* L. subvar. *angustiflora* HACK., Monogr.: 102 (1882)

Loc.: "In Rossia orientali usque ad Uralem (Egosinkaja gora), Orenburg (pr. Nowi-Orsk), in media et australi (Charkow, Czugujew, territor. Kosakorum, Tauria), in Transsylvania, Hungaria centrali (Budae etc.) et Austria inferiori (Türkenschanze pr. Viennam), Istria (M. Maggiore), Serbia boreali (Belo Brdo, Topcider)"

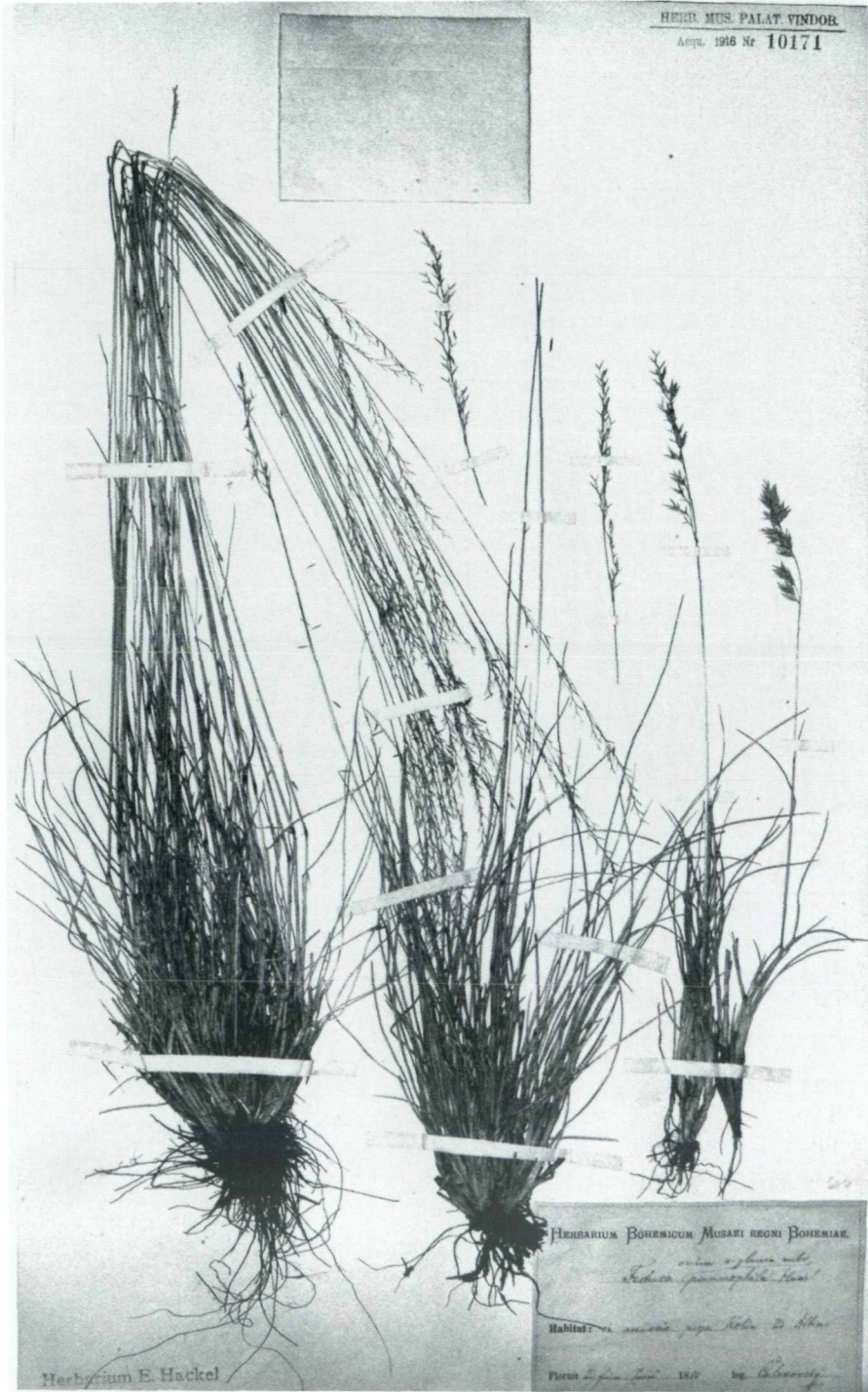


Fig. 1: *Festuca glauca* subsp. *psammophila* HACK. ex ČELAK., lectotype.

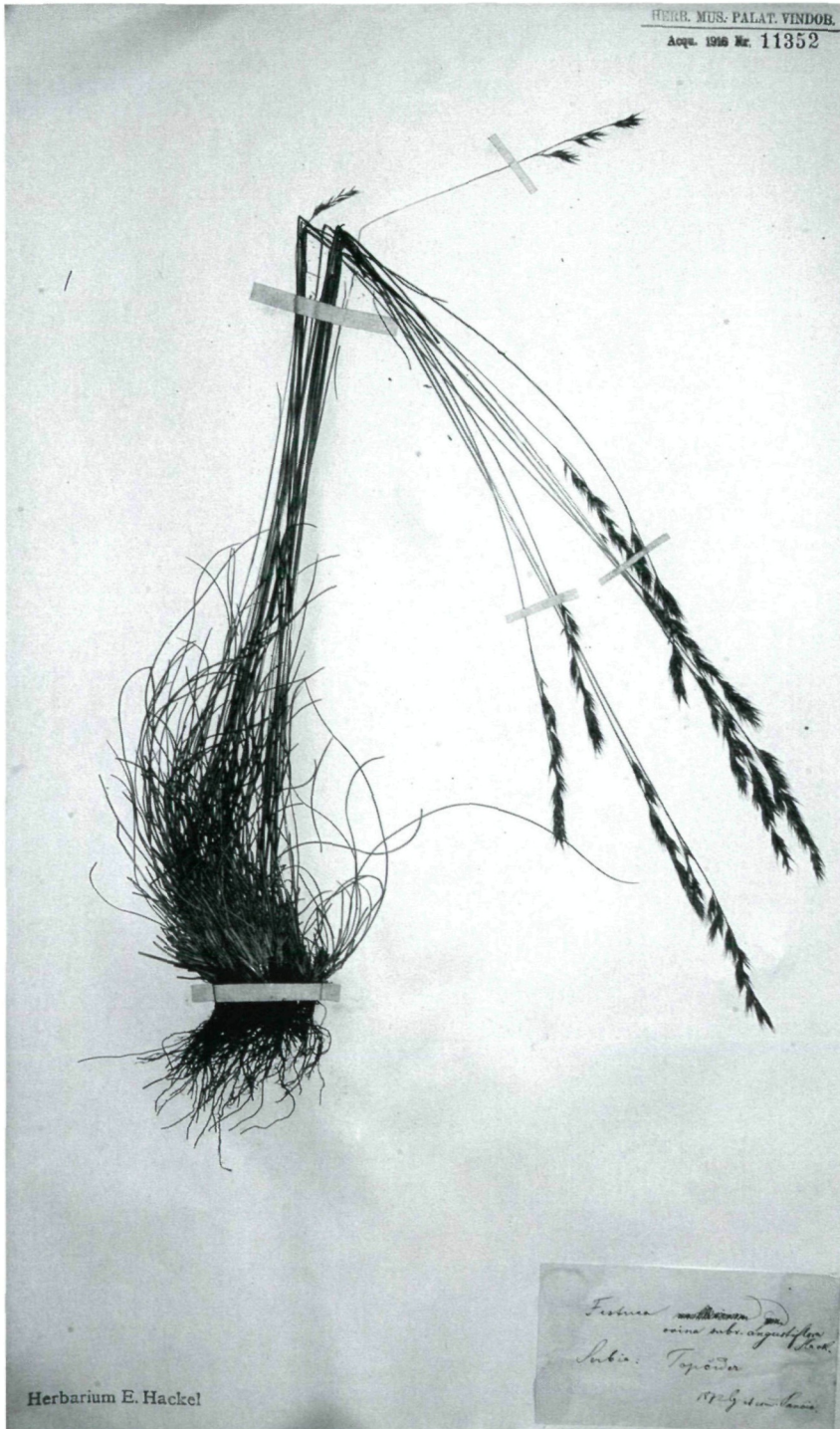


Fig. 2: *Festuca ovina* L. subvar. *angustiflora* HACK., lectotype.



Fig. 3: *Festuca ovina* L. subvar. *barbulate* HACK., lectotype.

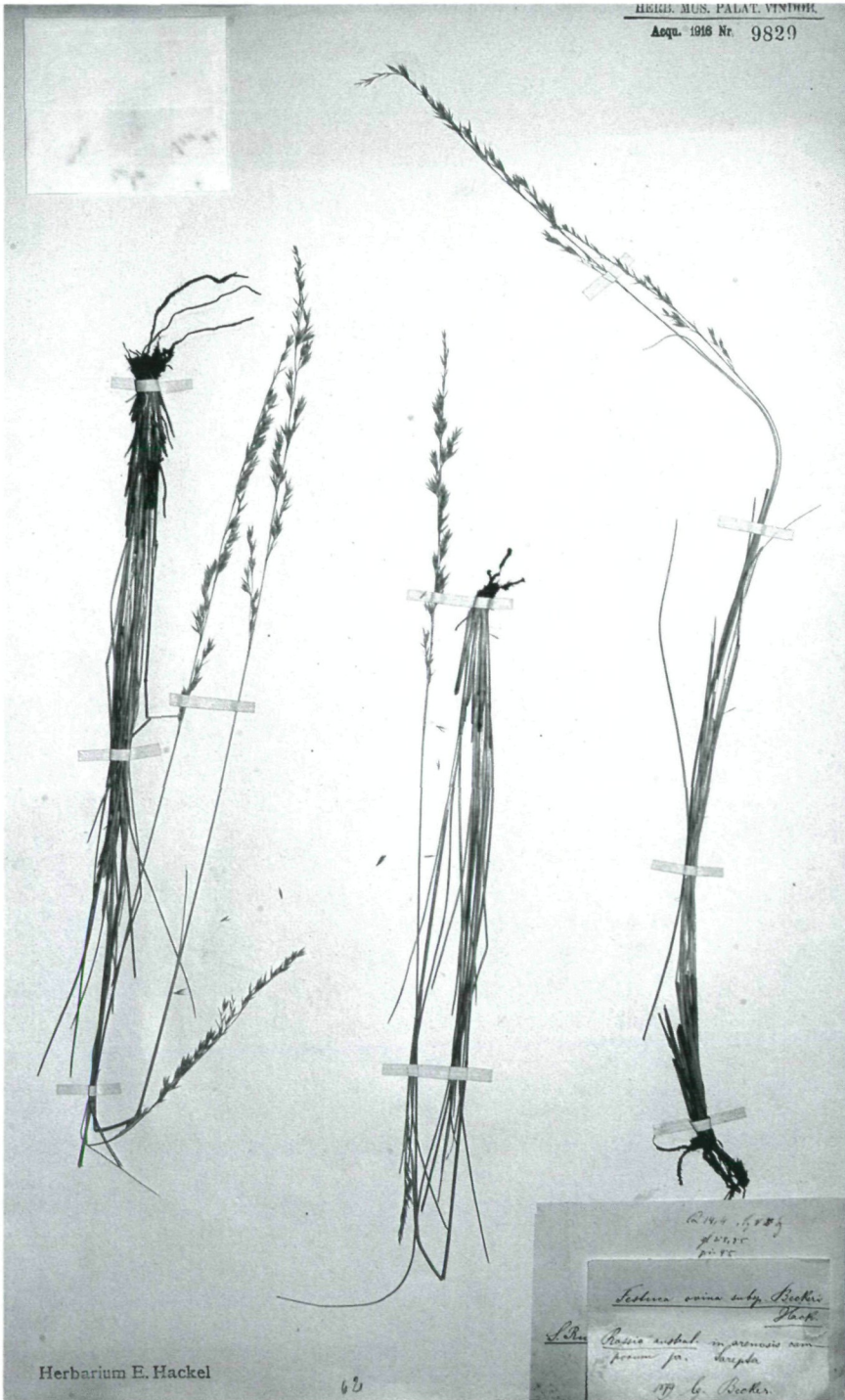


Fig. 4: *Festuca ovina* L. subsp. *beckeri* HACK., lectotype.



Fig. 5: *Festuca ovina* L. var. *dalmatica* HACK., lectotype.



Fig. 6: *Festuca ovina* L. subvar. *durissima* HACK., lectotype.

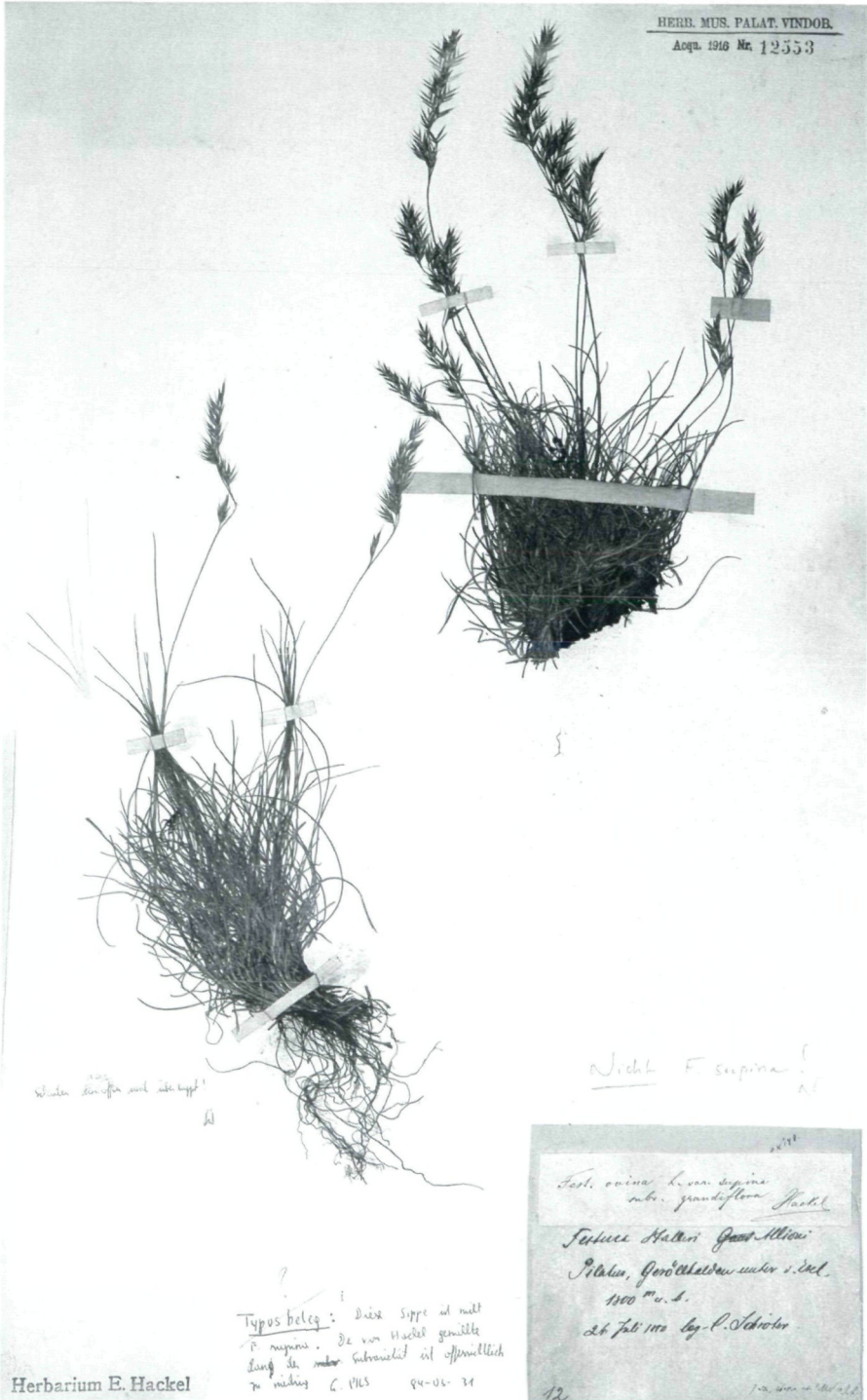


Fig. 7: *Festuca ovina* L. subvar. *grandiflora* HACK., lectotype.

Examined type material: W 1916-11361, 11362, 11363, 11365, 11366, 11350, 11351, 11352, 11777, 11782, 11166.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr. 11352 // Herb. E. Hackel [o.s., pr.]"; "~~Festuca valesiaca Gaud~~ / ovina L. subv. angustiflora Hack. / Serbia: Topcider / 1872 lg. et comm. Pančić [m. Hackel]". W! (Fig. 2).

3 *F. ovina* L. subvar. *barbulata* HACK., Monogr.: 105 (1882)

Loc.: "hinc inde fere ubique cum [subvar. typica]; vidi etiam e Silesia superiore (Dirschel)"

Examined type material: W 1916-11232, 11233, 11247, 11248, 11250, 11251.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 11250 // Herb. E. Hackel [o.s., pr.]"; A) [section of leaf blade, m. Hackel] B) "Flora Silesia super. / Fest. ov. v. sulcata subv. barbulata Hack. / Festuca duriuscula L. ciliata / bei den Gipsmühlen von Dirschel auf grasigen / trocknen Gipsbergen / leg. P. Sintenis / 29 VI 1879 comm. Uechtriz [m. Hackel]". W! (Fig. 3).

4 *F. ovina* L. subsp. *beckeri* HACK., Monogr.: 100 (1882)

≡ *F. beckeri* (HACK.) TRAUTV., Trudy Imp. S.-Peterburgsk. Bot. Sada 9,1: 325 (1884).

Loc.: "In campis arenosis (steppis) Rossiae australis"

Exs.: "Ad Wolgam inferiorem pr. Sarepta (lg. Becker); ad Tanaïm (lg. Czerniaëw)".

Examined type material: W 1916-9828, 9829.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 9829 // Herb. E. Hackel [o.s., pr.]"; A) "... [notes partially written in shorthand, m. Hackel] // S Russland: ... bei Sarepta / 21 mai 1879. l. Becker [m. Hackel]". B) "*F. ovina* L. subsp. *Beckeri* / Hack. / Rossia austral. in arenosis cam- / porum pr. Sarepta / 1879 lg. Becker [m. Hackel]". W! (Fig. 4).

Notes: ALEXEEV (1978: 65) reports as type (lectotype?) of the name (sub *F. beckeri* (HACK.) TRAUTV.) the specimen "'Herb. J. Klinge, Sarepta, 1857', legit Becker, W", with an isotype in LE. We could not find such a specimen in W; moreover, Klinge is not mentioned in the protologue. We designated as lectotype the only specimen collected by Becker and kept in W. The locality (Sarepta) is the same indicated by Alexeev and reported in the protologue.

5 *F. ovina* L. var. *dalmatica* HACK., Monogr.: 102, 212 (1882)

Loc.: "Dalmatia: M. Vernaz pr. Cattaro, lg. Pichler; Serbia: Beli Potok, lg. Pančić; Hungaria: Blocksberg pr. Budam, lg. Kerner"

Examined type material: W 1916-17785, 17790.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 17790 // Herb. E. Hackel [o.s., pr.]"; A) "... [notes written in shorthand, m. Hackel]"; B) "*F. ovina* L. var. *dalmatica* Hack. [m. Hackel] / ~~*F. valesiaca* f. *robusta*~~ / Serbia bor. Ad saxosis serpentini pr. / Beli Potok jul. 876 / lg et comm. Pančić [m. Hackel]". W! (Fig. 5).

6 *F. ovina* L. subvar. *durissima* HACK., Monogr.: 92 (1882)

Loc.: "In Pyrenaeis orientalibus"

Exs.: "Canigou (l. Godron), Vallée de Carança (l. Gautier)"

Examined type material: W 1916-8979, 8980, 8981.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 8980 // Herb. E. Hackel [o.s., pr.]"; A) "! [m. Markgraf-Dannenberg] / det I. Markgraf-Dannenberg [pr.] I. 59 [m. Markgraf-Dannenberg]"; B) "Festuca duriuscula sv. durissima Hack. / Pyrenées orient. Vallée de Carança / 7- 1877 lg Gautier [m. Hackel]". W! (Fig. 6)..

7 *F. ovina* L. subvar. *grandiflora* HACK., Monogr.: 89 (1882)

Loc.: "In regione subalpina et alpina montium atque in planitiebus arcticis ... Helvetiae (Rigi, Pilatus)"

Examined type material: W 1916-12553

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 12553 [o.s., pr.] // Nicht *F. supina*! [o. s., m. A. Neumann?] // Herb. E. Hackel [o.s., pr.]"; A) "Scheiden oben 1 cm offen und überlappt! / Pils [m. Pils]"; B) "Typus beleg?: Diese Sippe ist nicht / *F. supina*. Der von Hackel gewählte / Rang der Subvarietät ist offensichtlich / zu niedrig / G. Pils / 84-03-31 [m. Pils]"; C) "Fest. ovina L. var supina / subv. grandiflora / Hackel [m. Hackel] / Festuca halleri Gaud. Allioni / Pilatus, Geröllhalden unter d. Esel / 1800 m ü. M. / 24 Juli 1880 leg. C. Schröter [m. Schröter?]" W! (Fig. 7).

Notes: We agree with G. Pils and others in their notes on the specimen, that this plant does not seem to be referable to *F. supina* SCHUR. It appears to be closer to the *F. halleri* group (see for example *F. halleri* subsp. *veysii* KERGUÉLEN & PLONKA), even though in the protologue HACKEL states that this subvar. is often misidentified as *F. halleri* ("Commutatur saepe cum *F. halleri* ALL.").

8 *F. ovina* L. subvar. *hispidula* HACK., Monogr.: 87 (1882)

Loc.: "Vidi ... e Transsylvania (Kronstadt), Silesia (Breslau), Austria inf. (St. Pölten)"

Examined type material: W 1916-12463, 12465.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 12465 // Herb. E. Hackel [o.s., pr.]"; A) "Culmi angul. hirs. [m. Hackel]"; B) "Festuca ovina L. / subv. hispidula Hack. [few canceled words] / St. Poelten: Am Rand einer Sandgrube am Waldrand ober Flinsbach / 5. 6. 878 Hackel [m. Hackel]". W! (Fig. 8).

9 *F. ovina* L. subvar. *laevifolia* HACK., Monogr.: 87 (1882)

Loc.: "ex Uralo, Fennia (Jäventaka), Norvegia (Dovre), Hercynia (Terseburg), Pomerania (Greifswald), Marchia (Prenzlau), Bohemia (Carlsbad), Rossia media (Charkow), Pyrenaeis orientalibus (Villefranche, Ile St. Martin pr. Gruissant)."

Examined type material: W 1916-12499, 12502, 12500, 12501.



Fig. 8: *Festuca ovina* L. subvar. *hispidula* HACK., lectotype.

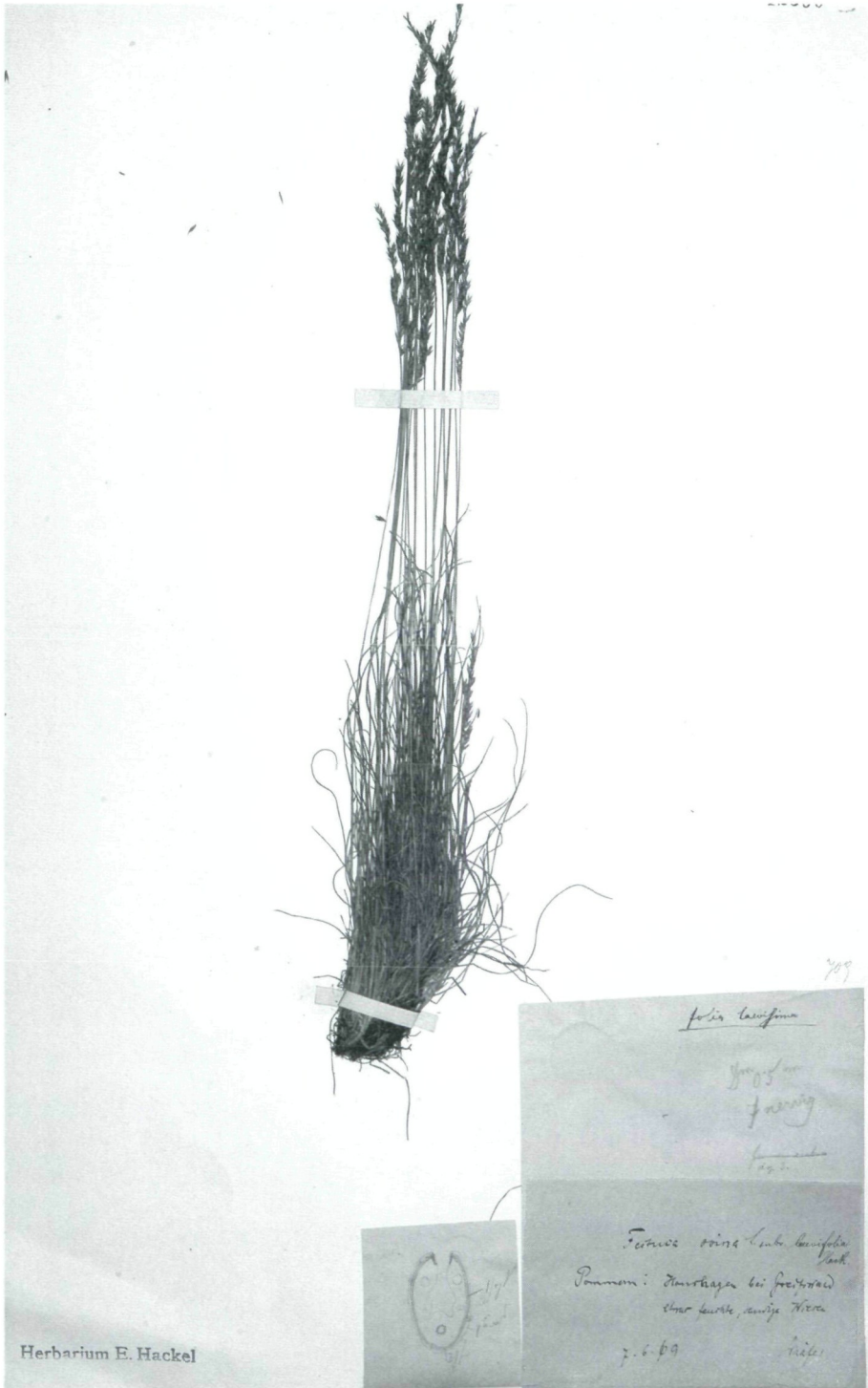


Fig. 9: *Festuca ovina* L. subvar. *laevifolia* HACK., lectotype.



Fig. 10: *Festuca ovina* L. var. *panciciana* HACK., lectotype.

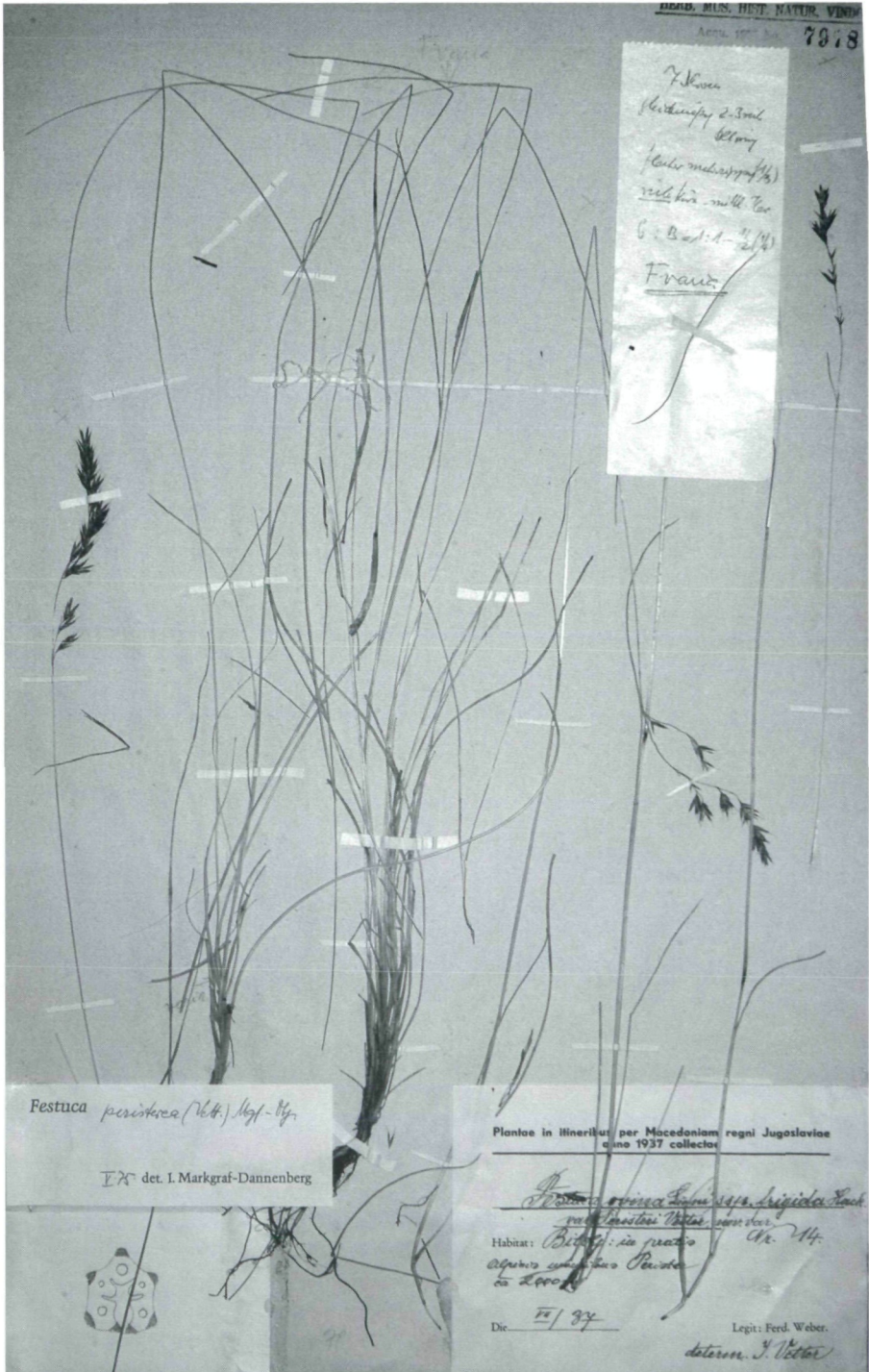


Fig. 11: *Festuca ovina* L. var. *peristerea* J. VETTER, lectotype.



Fig. 12: *Festuca ovina* L. subvar. *pubescens* HACK., lectotype.



Fig. 13: *Festuca ovina* L. subvar. *villosa* HACK., lectotype.



Fig. 14: *Festuca porcii* HACK., lectotype.

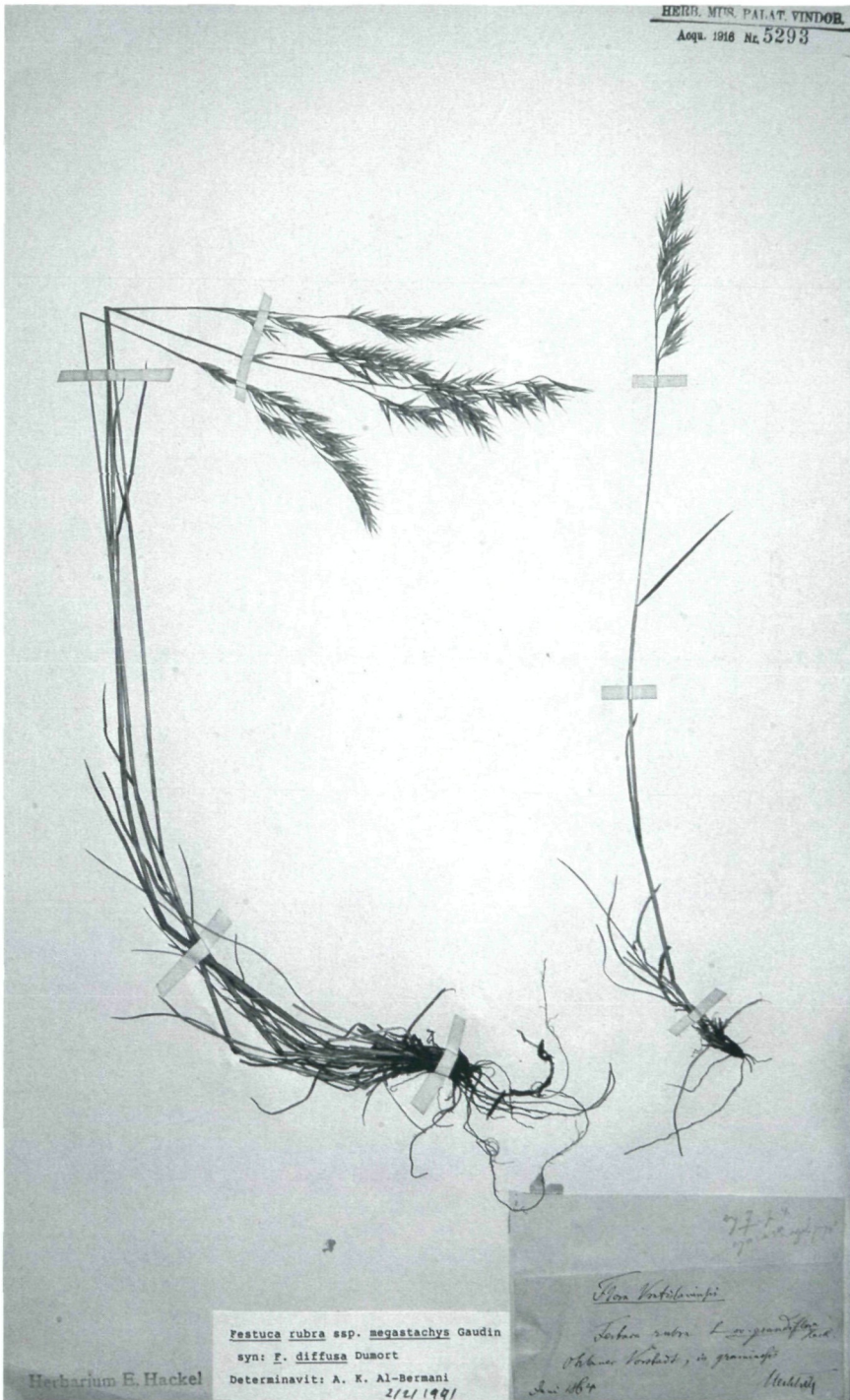


Fig. 15: *Festuca rubra* L. subvar. *grandiflora* HACK., lectotype.



Fig. 16: *Festuca varia* HAENKE subvar. *calva* HACK., lectotype.

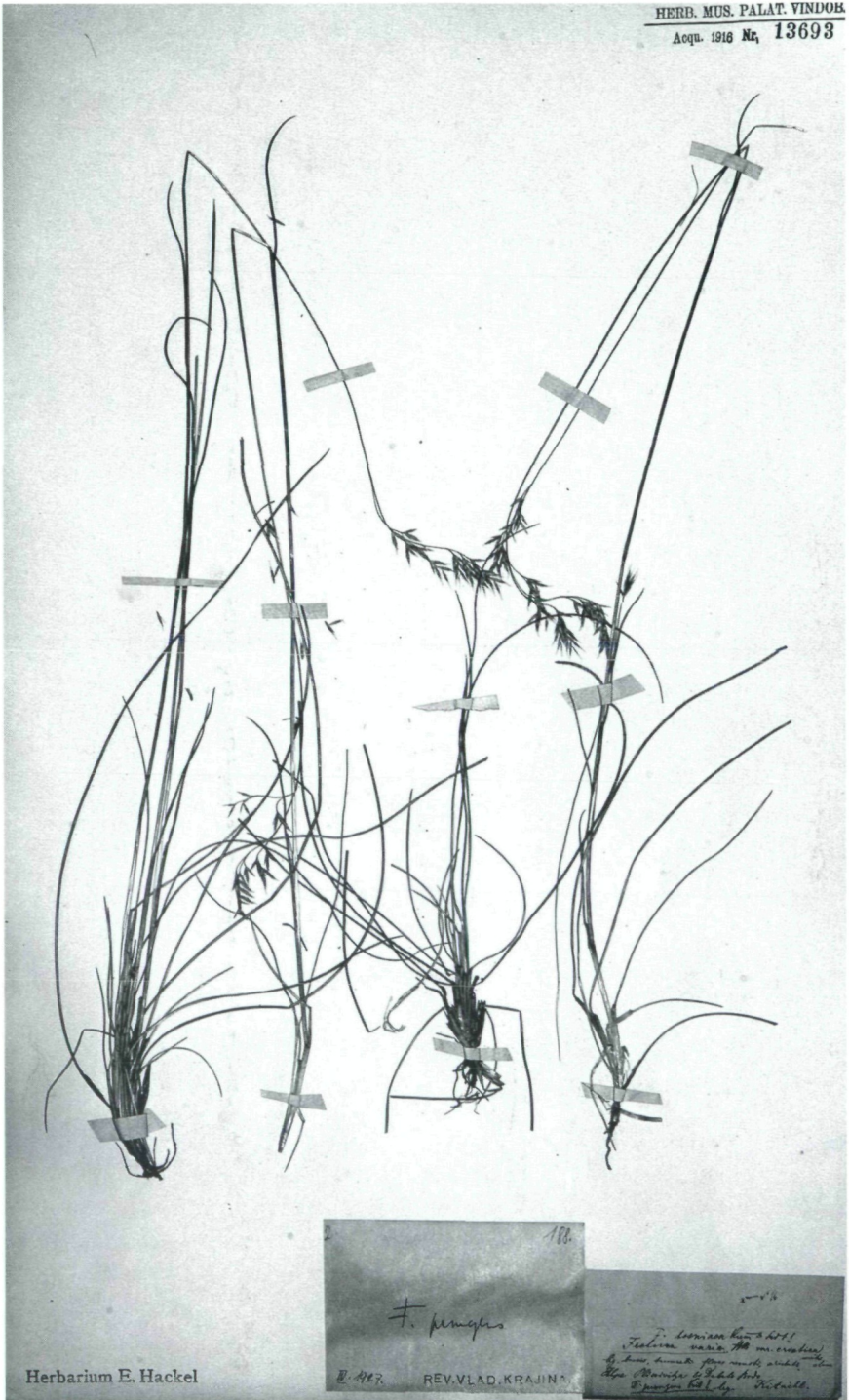


Fig. 17: *Festuca varia* HAENKE var. *croatica* HACK., lectotype.

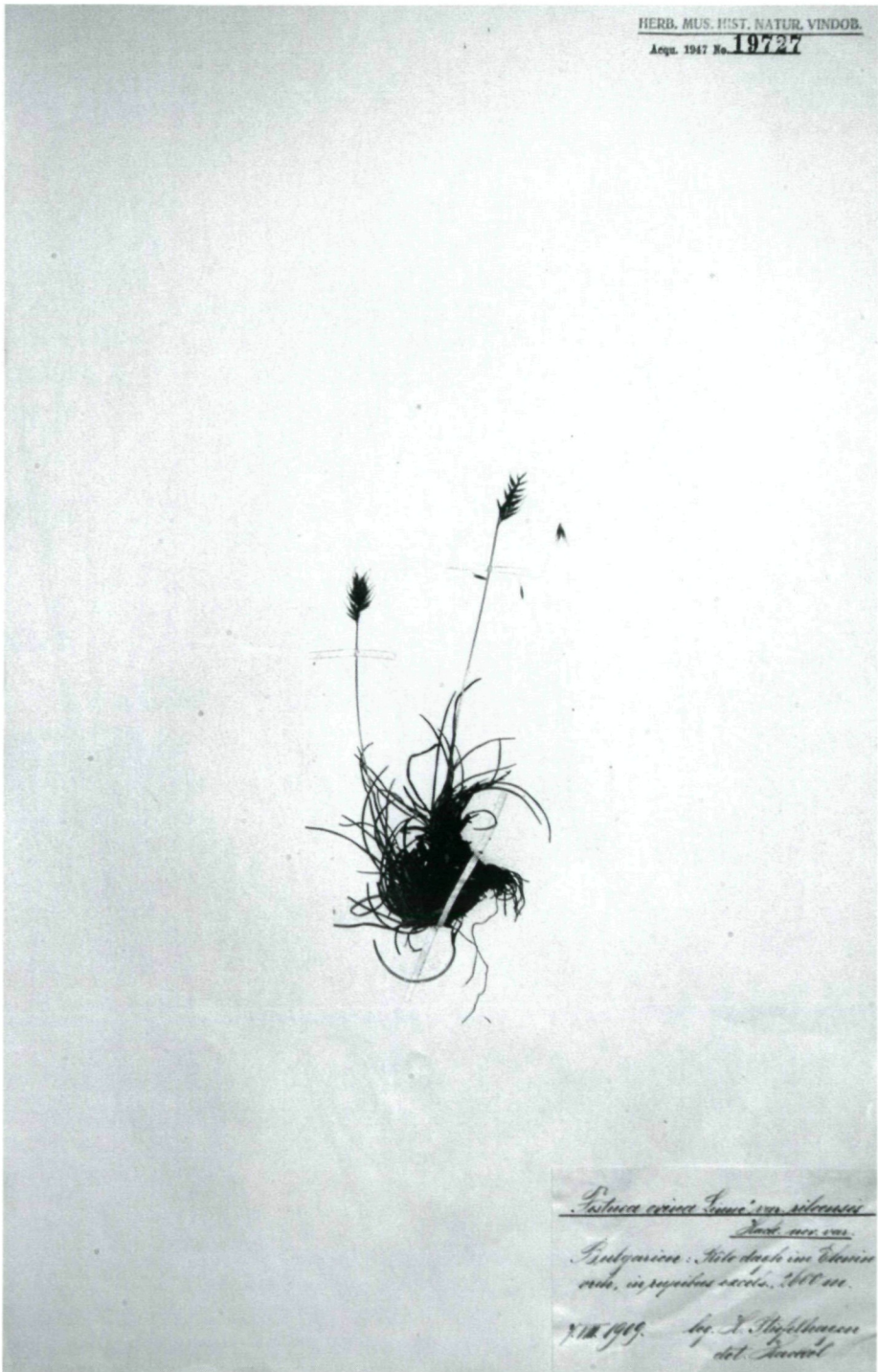


Fig. 18: *Festuca halleri* ALL. subsp. *riloensis* HACK. ex HAYEK, holotype.

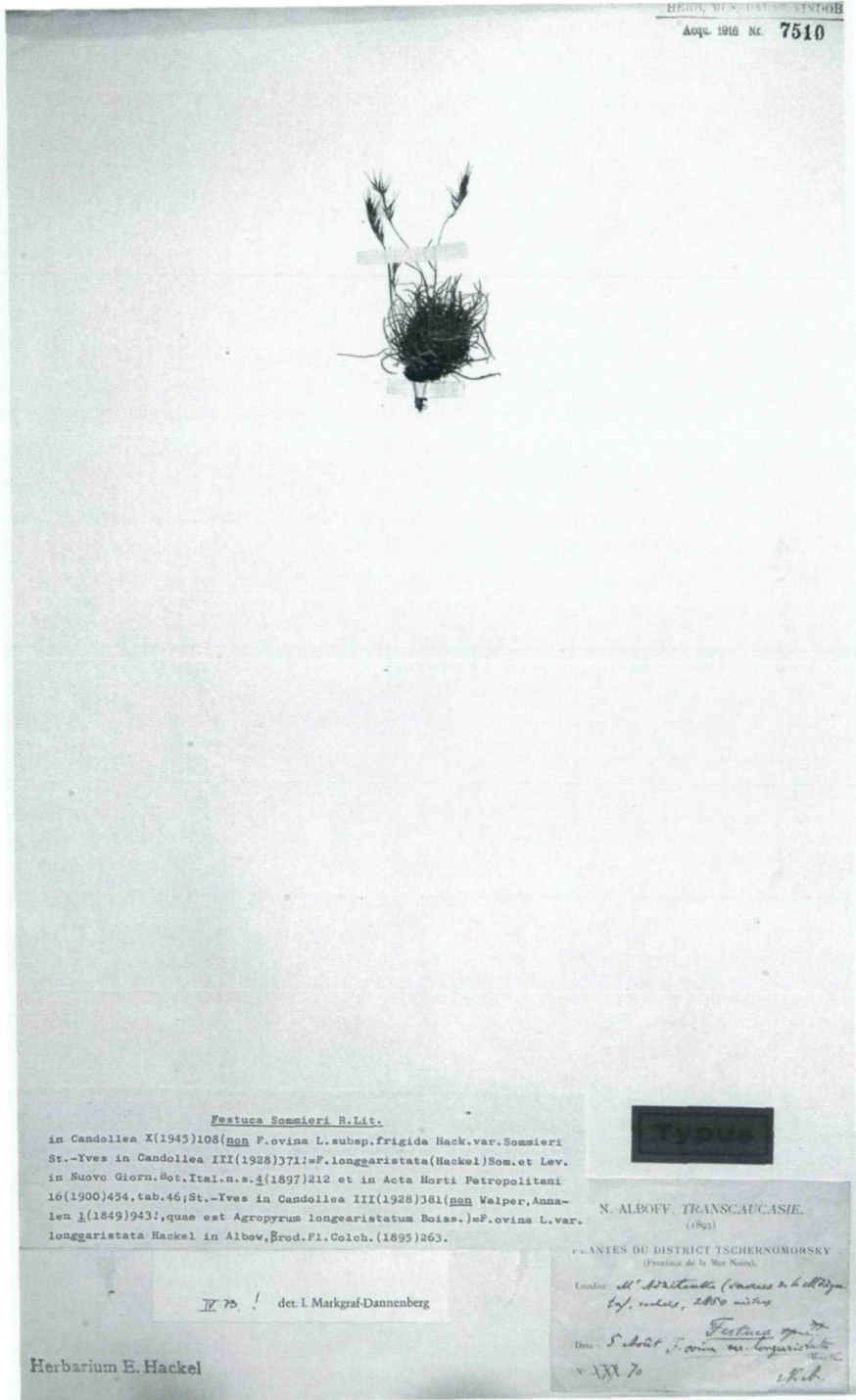


Fig. 19: *Festuca ovina* L. var. *longearistata* HACK., holotype.

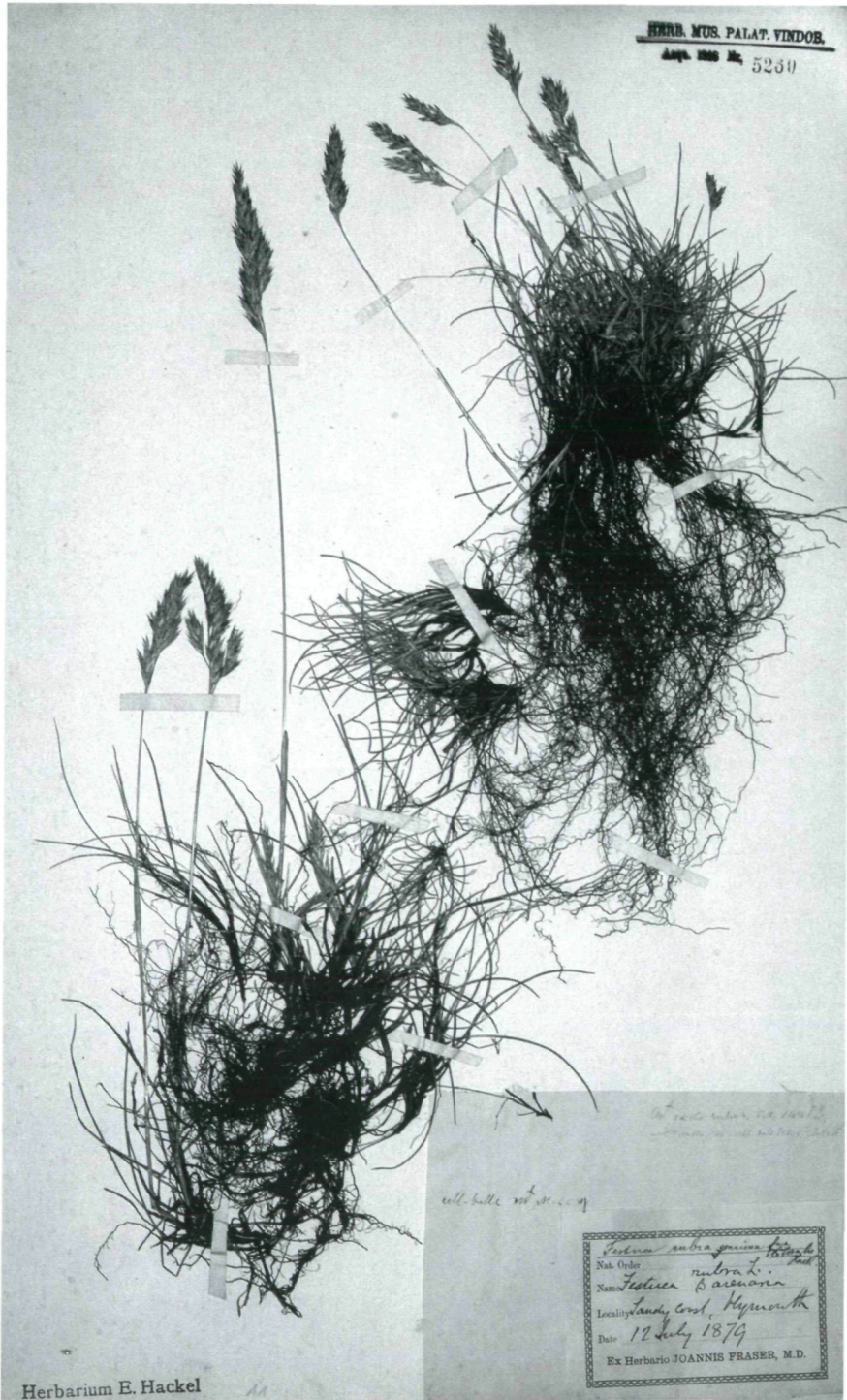


Fig. 20: *Festuca rubra* L. f. *litoralis* HACK., holotype.

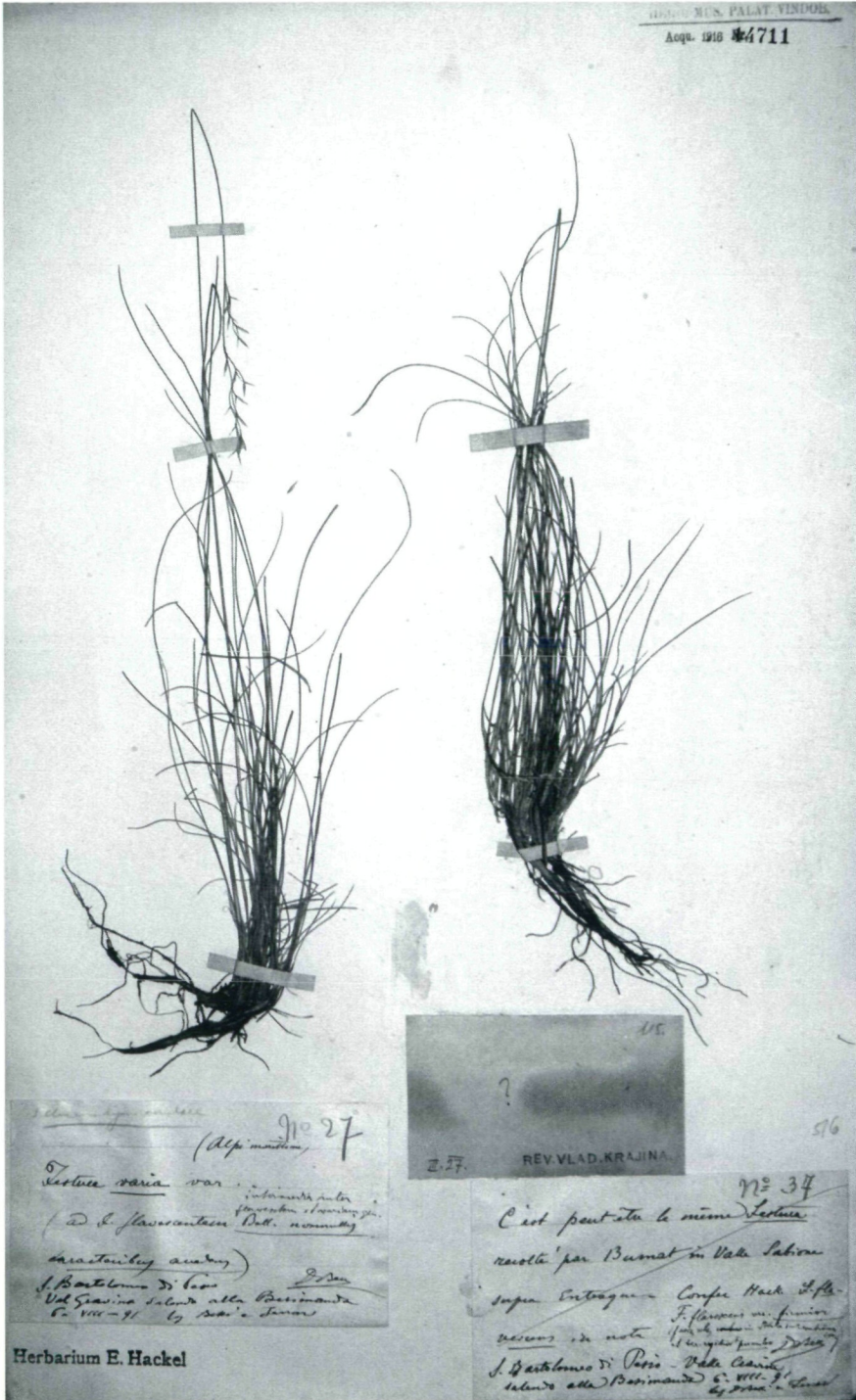


Fig. 21: *Festuca varia* HAENKE var. *firmior* BELL. & HACK. ex BELL., holotype.

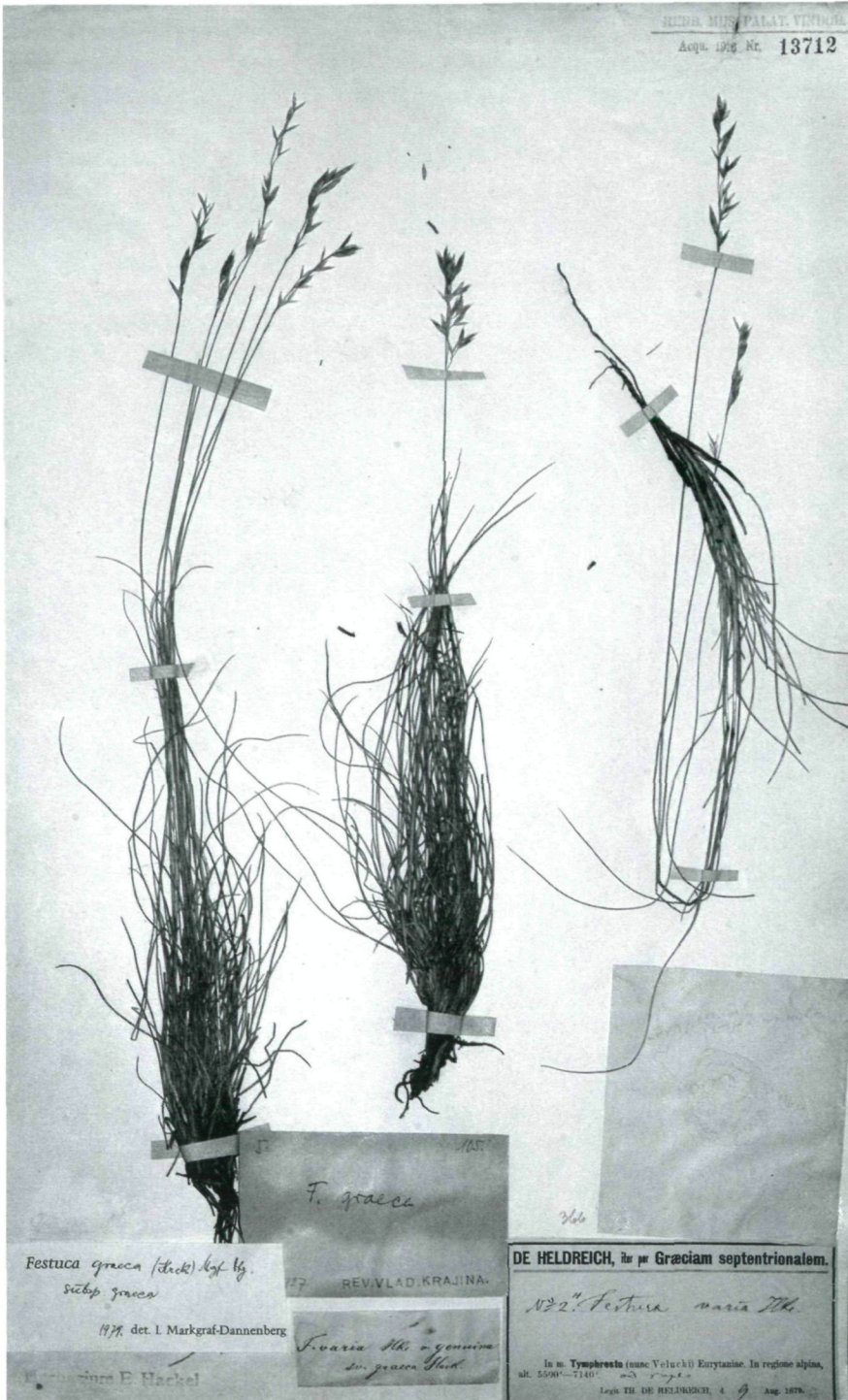


Fig. 22: *Festuca varia* HAENKE subvar. *graeca* HACK., holotype.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 12500 // Herb. E. Hackel [o.s., pr.]"; A) "Folia laevissima [m. Hackel] / ... [m. i.]"; B) "Festuca ovina [m. i.] L. subv. laevifolia / Hack. [m. Hackel] / Pommern: Hanshagen bei Greifswald / etwas feuchte, sandige Wiesen / 7.6.69 / Schäfer [?, m. i.]"; C) [transverse section of leaf blade, m. i.]. W! (Fig. 9).

10 *F. ovina* L. var. *panciciana* HACK., Monogr.: 106 (1882)

Loc.: "In saxosis regionis montanae, subalpinae et alpinae Banatus ..., Croatiae ..., Serbiae ..., Bosniae"

Exs.: "M. Domugled pr. Mehadia l. Winkler, Orawiza l. Wierzbicki; ... Plissiviza l. Kit.; ... M. Stol, Sucha Planina, Kozyi Rid, Kapoanik ecc. l. Pancic, ... Bukoviza l. Sendtner, Trebenic pr. Serajewo l. Blau".

Examined type material: W 1916- 11181, 11182, 11183, 11184.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 11184 // Herb. E. Hackel [o.s., pr.]"; "Festuca ovina L. var. *panciciana* Hack. / Serbia merid. in saxosis M. Stol / jun 876 lg & com Pančić [m. Hackel]". W! (Fig. 10).

11 *Festuca ovina* L. var. *peristerea* J.VETTER, Ann. Naturhist. Mus. Wien 57: 130 (1950).

≡ *Festuca peristerea* (J.VETTER) MARKGR.-DANN., Veröff. Geobot. Inst. Rübel (Zürich) 56: 138 (1976).

Loc.: "Macedonia: Bitolj"

Exs.: "in pratis alpinis montium Perister, cca. 2000-2300 m, leg. Ferd. Weber".

Examined type material: W 1950-8941, 8940, 8942; W 1955-7978.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu.1955 No. 7978 [o.s., pr.]"; A) "[morphological notes] / F. varia [m. Markgraf-Dannenberg]"; B) "Festuca [pr.] peristerea (Vett.) Mgf.-Dbg. / V. 75. [m. Markgraf-Dannenberg] det I. Markgraf-Dannenberg [pr.]"; C) [transverse section of leaf blade, m. i.]; D) "Plantae in itineribus per Macedoniam Regni Jugoslaviae / anno 1937 collectae [pr.] / Festuca ovina Linne, ssp. frigida Hack. / var. Peristeri Vetter, nov. var. / Nr. 14. [m. Vetter] / Habitat: [pr.] Bitolj: in pratis / alpinis montibus Perister / ca 2000 m. [m. Vetter] / Die [pr.] VII 37 [m. Vetter] Legit: Ferd. Weber. [pr.] / determ. J. Vetter [m. Vetter]". W! (Fig. 11).

12 *F. ovina* L. subvar. *pubescens* HACK., Monogr.: 91 (1882)

Loc.: "Sparsa in Germania boreali ... , in Anglia, Germania occid., Helvetia boreali ..., rarissime trans Alpes"

Examined type material: W 1916-9759, 9760, 9761.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 9761 [o.s., pr.] // F. trachyphylla N [o.s., m. A. Neumann?] // Herb. E. Hackel [o.s., pr.]"; A) "p. i. striguloso-barbata [m. i.] / [section of leaf blade, m. i.]" B) "Festuca ovina L. var. [m. Grantzow] duriuscula sv. pubescens / Hack. / ~~strieta~~ [m. Hackel] / Prenzlau: ... (Lehm!) / Mark Brandenburg / 879 Grantzow [m. Grantzow]". W! (Fig. 12).

13 *F. ovina* L. subvar. *villosa* HACK., Monogr.: 91 (1882)

Loc.: "Vidi praecipue e Gallia, Germania occ. et bor. (Hercynia) Italia sup., med. et inf. etc."

Examined type material: W 1916-9780, 9779. The two specimens show different morphological features and appear to be referable to two distinct taxa. We choose as lectotype of the name *F. ovina* L. subvar. *villosa* HACK. the specimen more closely corresponding to the original description.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 9780 // Herb. E. Hackel [o.s., pr.]"; "N° 14 / Festuca ovina L. v. ~~pubescens~~ villosa / Hack. Monogr. [m. Hackel] / Überbayern, München: Brachäcker am / Rande des Perlach'er Forstes / 4.VI.1881 leg. Dr. A. Peter. [m. Peter.?]". W! (Fig. 13).

14 *F. porcii* HACK., Monogr.: 147-148 (1882)

"*F. porcii*" HACK., Bot. Centralbl. 8: 407 (1881), nomen nudum.

Loc.: "In pratis subalpinis Transsylvaniae boreali-orientalis: in Alpihus Corongisiu, Craciunel et Golati prope Alt-Rodna leg. Porcius"

Examined type material: W 1916-14841, 14842, 14843.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 14843 // Herb. E. Hackel [o.s., pr.]"; "*F. porcii* Hack. [m. Hackel] / Festuca heterophylla Lmk. Hanke. / var. nigrescens (= *F. nigrescens* Lmk. / *F. nigricans* Schl.) / Von der Alpe Golati bei Alt / Rodna. / 3-8 81 leg. Porcius [m. Porcius?]". W! (Fig. 14).

15 *F. rubra* L. subvar. *grandiflora* HACK., Monogr.: 139 (1882)

Loc.: "Hic inde in plerisque ditionibus"

Examined type material: W 1916-5293, 5297, 5288.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 5293 // Herb. E. Hackel [o.s., pr.]"; A) "Flora Vratislavensis / Festuca rubra L. sv. grandiflora / Hack. / Oblaner Vorstadt, in graminosis / Juni 1864 Uechtriz [m. Hackel]"; B) "Festuca rubra ssp. megastachys Gaudin / syn.: *F. diffusa* Dumort / Determinavit: A. K. Al-Bermani [pr.] / 2. 2. 1991 [m. Al-Bermani?]". W! (Fig. 15).

16 *F. varia* HAENKE subvar. *calva* HACK., Monogr.: 174-175 (1882)

Loc.: "In pascuis alpium Carnioliae ... etiam in Tauro cilicico".

Exs.: "m. Begunsiza legi ipse ... in Tauro cilicico leg. Kotschy".

Examined type material: W 1916-13704.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 13704 // Herb. E. Hackel [o.s., pr.]"; A) "6. c 90. / *F. [?]* pungens! [m. Krajina] / rev. Vlad. Krajina [pr.]"; B) [transverse section of leaf blade, m. Hackel]; C) "*F. varia* Haenke / v. *calva* Hack. [m. Hackel]"; D) "*Festuca varia* Hke / Alpe Begunsica in Krain / 2000 m. Kalk. 26-7-875 [m. Hackel] / leg. E. Hackel [pr.]". W! (Fig. 16).

17 *F. varia* HAENKE var. *croatica* HACK., Act. Mus. Nat. Hung. 2: 295 (1878)

Exs.: "Von Kitaibel auf der Alpe Plissivica und Debelo Brdo gesammelt. ... Ein Exemplar mit der Bezeichnung 'F. pungens. E Velebich in hortum illata'"

Examined type material: W 1916-13693.

Lectotypus (hic designatus): "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr. 13693 // Herb. E. Hackel [o.s., pr.]"; A) "188. F. pungens / IV 1927 [m. Krajina] rev. Vlad. Krajina [pr.]"; B) "F. bosniaca Kum. & Sndt! / Festuca varia Hke var. croatica / mihi / olim / lig. brevis, truncata flores remoti, aristati / Alpe Plissivica & Debelo Brdo / F. pungens Kit! leg. Kitaibel [m. Hackel]". W! (Fig. 17).

Notes: HACKEL (1882: 175) later put this variety into the synonymy with *F. varia* var. *pungens*; among the other synonyms he reported also *F. bosniaca* KUMM. & SENDTN., which is the name currently adopted for this taxon (see e. g. CONERT 1996: 570). The species *F. croatica* KERNER (= *F. spectabilis* JAN subsp. *affinis* (BOISS. & HELDR. ex HACK.) HACK., Bot. Centralbl. 8: 408, 1881) was validly described in Sched. Fl. Exsicc. Austro-Hung., 1: 105 (May 1882) and has a different type (Fl. Exsicc. Austro-Hung., 1, n° 284).

18 *F. halleri* ALL. subsp. *riloensis* HACK. ex HAYEK, Beih. Bot. Centralbl. 45(2): 307 (1929).

≡ *F. riloensis* (HACK. ex HAYEK) MARKGR.-DANN., Bot. Jour. Linn. Soc. 76: 327 (1978).

Loc.: "Olymp, ... Bulgarien, ... Herzegowina".

Exs.: "Rilo Dagh, m. Elenin vrch, in rupibus excelsis, 2600 m, leg. Stiefelhagen, det. Hackel (specimen originale!); Herzegowina: Gipfelregion der Cwrsnica, ca. 1200 m, leg. Stadlmann, Faltis, und Wibiral, det. Hackel; Herzegowina Cwrsnica Planina, Gesteitfluren am Ostrücken des Veliki Vilinac, 2000 bis 2500 m, leg. Handel-Mazzetti".

Examined type material: W 1916-7408, 7409; W 1947-19727.

Holotypus: "Herb. Mus. Palat. Vindob. / Acqu. 1947 nr. 19727 [o.s., pr.]"; "*Festuca ovina* Linné var. *riloensis* / Hack. nov. var. / Bulgarien: Rilo dagh in Elenin / vrch, in rupibus excels., 2600 m. / 7 VIII 1909 leg. H. Stiefelhagen / Det Hackel [m. i.]". W! (Fig. 18).

Notes: According to Art. 33.6a ICBN (GREUTER & al. 2000), *F. riloensis* (HAYEK) MARKGR.-DANN. was validly published, even though the reference to the basionym is incorrect.

19 *F. ovina* L. var *longearistata* HACK. in ALBOV, Prodr. Fl. Colch.: 263 (1895).

≡ *F. longearistata* (HACK.) SOMMIER & LEVIER, N. Giorn. Bot. Ital., n. s. 4: 212-213 (1897), nomen illegitimum; later homonym for *F. longearistata* WALPER, Annalen 1: 943 (1849).

≡ *F. sommieri* LITARD., Candollea 10: 108 (1945), nomen novum.

Loc.: "Circassia".

Exs.: "m. Adzituko ad rupes excelsiores, 2850 m (N. A. 1893, n° 70)".

Examined type material: W 1916-7510.

Holotypus: "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 7510 // Herb. E. Hackel [o.s., pr.]"; A) "Typus [pr.]"; B) "Festuca Sommieri R. Lit. / in Candollea X ...[pr.]"; C) "IV 73! [m. Markgraf-Dannenberg] det I. Markgraf-Dannenberg [pr.]"; D) "N. Alboff Transcaucasicae / (1893) / Plantes du district Tschernomorsky / (Province de la Mer Noire). / Localité: [pr.] M. Adzitouko (sources de la Mdlym / ta) rochers, 2850 mètres / Festuca ~~sp.?~~ [m. Albov] / Date: [pr.] 5 Août [m. Albov] / F. ovina var. longearistata / Hack. [m. Hackel] / N°[pr.] [canceled number] 70 N. A. [m. Albov]". W! (Fig. 19).

Notes: SOMMIER & LEVIER (1897) published the name *F. longearistata* accompanied by the words "sp. nov.", but they reported *F. ovina* L. var. *longearistata* HACKEL as a synonym, with a full reference to the protologue and state that their species differs from Hackel's variety only in minor details. So the name can be regarded as a mere status novus. Moreover, in SOMMIER & LEVIER (1900) an iconography of the species is included, with the indication "F. longearistata (HACKEL) SOMM. et LEV.".

20 *F. rubra* L. f. *litoralis* HACK., Monogr.: 139 (1882)

Loc.: "Ad litora maris Angliae (pr. Plymouth)".

Examined type material: W 1916-5260. It appears to be the only existing type specimen in W, coming from the only locality mentioned in the protologue.

Holotypus: "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr 5260 // Herb. E. Hackel [o.s., pr.]"; A) "... [notes partially written in shorthand, m. Hackel]"; B) "Festuca rubra genuina f.ma / litoralis / Hack. [m. Hackel]"; C) "Nat. Order [pr.] / Name [pr.] Festuca rubra L. b arenaria [m. Fraser?] / Locality [pr.] Sandy coasts, Plymouth [m. Fraser?] / Date [pr.] 12 July 1879 [m. Fraser?] / Ex Herbario Joannis Fraser, M. D. [pr.]". W! (Fig. 20).

Notes: The holotype of this name was already mentioned by AUQUIER (1968) in his paper on *Festuca rubra* L. subsp. *litoralis* (G.MEY.) AUQUIER, which has a different type. See this paper also for a whole discussion of the two *taxa*.

21 *Festuca varia* HAENKE var. *firmior* BELLI & HACK. ex BELLI, Malpighia 14: 303 (1900).

= *F. varia* HAENKE "var. *aemula*" HACK., Monogr.: 180 (1882), nomen invalidum.

= *F. varia* HAENKE subsp. *flavescens* var. *aemula* HACK. ex ST.-YVES, Ann. Cons. Jard. Bot. Genève 17: 187, 197 - 198 (1913), nomen superfluum for *Festuca varia* var. *firmior*.

Loc.: "S. Bartolomeo di Pesio".

Exs.: "S. Bartolomeo di Pesio, Valle Cravina, salendo alla Besimaua (Alpi Marittime), 6 VIII 91, leg. Belli et Ferrari".

Examined type material: W 1916-14711.

Holotypus: "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr. 14711 // Herb. E. Hackel [o.s., pr.]"; A) "? [m. Krajina] / Rev. Vlad. Krajina [pr.]"; B) "... [m. i.] / n° 27 / (Alpi Marittime) / Festuca varia var. [m. Belli?] / intermedia inter / flavescens et variam gen. [m. Hackel?] / (ad F. flavescens Bell. nonnullis / caracteribus accedens) / S. Bartolomeo di Pesio / S. Belli / Val Gravina salendo alla Besimaua / 6 -VIII - 91 lg Belli e Ferrari [m. Belli?]; C) "n° 37 / C'est peut etre le meme Festuca / recolté par Burnat in Valle Sabione / supr Entraque. Confer. Hack. F. fla- / vescens in nota [m. Belli] / F. flavescens

var. *firmior* / (fasc. scl. in strata 1-2 continua / ... / ad var. *rigidior* F. *pumila* [m. Hackel] / S. Belli [m. Belli] / S. Bartolomeo di Pesio - Valle Cravina / salendo alla Besimauda 6 -VIII - 91 / leg S. Belli e Ferrari [m. Belli?]"). W! (Fig. 21). Isotypus is to be searched for in TO.

Notes: HACKEL published the new name *F. varia* var. *aemula* (1882: 180, note to *F. varia* subsp. *flavescens*); the name was accompanied by a short description and the reference to a specimen collected by Burnat near Entraque in the Valle del Sabione (W 1916-14718!). Yet the name was not validly published, as it was not accepted by the author in the original publication, see Art. 34.1 ICBN (GREUTER et al. 2000): HACKEL (1882: 180) stated indeed that he was not sure whether the specimen was to be referred to a variety of *F. varia* subsp. *flavescens* - or of *F. varia* subsp. '*eu-varia*' -, or to a hybrid between the two. *F. varia* var. *firmior* was validly published by BELLI even though no diagnosis or description is reported, thanks to an indirect reference to the description given by Hackel for *F. varia* var. *aemula*.

22 *F. varia* HAENKE subvar. *graeca* HACK., Monogr.: 174 (1882)

Loc.: "frequens ... in alpinis ... Graeciae"

Exs.: "in M. Tymphresto l. Heldr."

Examined type material: W 1916-13712.

Holotypus: "Herb. Mus. Palat. Vindob. / Acqu. 1916 Nr. 13712 // Herb. E. Hackel [o.s., pr.]"; A) [transverse section of the culm, m. Hackel]; B) "F. *graeca* [m. Krajina] / rev. Vlad. Krajina [pr.]"; C) "Festuca [pr.] *graeca* (Hack.) Mgf.-Dbg. / subsp. *graeca* / 1979 [m. Markgraf-Dannenberg] det. I. Markgraf-Dannenberg [pr.]"; D) "F. *varia* Hke v. genuina / sv. *graeca* Hack. [m. Hackel]"; E) "De Heldreich, iter per Graeciam septentrionalem [pr.] / n° 2 Festuca *varia* Hke [m. Heldreich] / In m. Tymphresto (nunc Veluchi) Eurytaniae. In regione alpina, / alt. 5500'-7140'. [pr.] ad rupes [m. Heldreich] / legit Th. De Heldreich, d. [pr.] 9 [m. Heldreich] Aug. 1879 [pr.]". W! (Fig. 22).

Notes: This specimen was recognized as holotype by MARKGRAF-DANNENBERG, 1976: 163.

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