Lectotypification of taxa belonging to the "Festuca circummediterranea" group

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Abstract

FOGGI, B., C. QUERCIOLI, M. GENNAI, E. NARDI & M. A. SIGNORINI (2012). Lectotypification of taxa belonging to the "Festuca circummediterranea" group. *Candollea* 67: 221-228. In English, English and French abstracts.

This paper reports the lectotypifications of the names *Festuca ovina* var. *laevis* Hack., *Festuca ovina* subsp. *laevis* Hack., *Festuca circummediterranea* Patzke, *Festuca duriuscula* var. *campana* N. Terracc. and *Festuca campana* (N. Terracc.) Alexeev. As the lectotype of *Festuca duriuscula* var. *campana* N. Terracc. previously designated by Alexeev is to be considered a neotype, a new lectotype is proposed.

Key-words

POACEAE – *Festuca circummediterranea* group – Nomenclature – Typification – Italy

Résumé

FOGGI, B., C. QUERCIOLI, M. GENNAI, E. NARDI & M. A. SIGNORINI (2012). Lectotypification des taxas du groupe «Festuca circummediterranea». *Candollea* 67: 221-228. En anglais, résumés anglais et français.

Cet article traite des lectotypifications des noms *Festuca ovina* var. *laevis* Hack., *Festuca ovina* subsp. *laevis* Hack., *Festuca circummediterranea* Patzke, *Festuca duriuscula* var. *campana* N. Terracc. et *Festuca campana* (N. Terracc.) Alexeev. Un nouveau lectotype pour *Festuca duriuscula* var. *campana* N. Terracc. est désigné, comme le dernier lectotype désigné par Alexeev est considéré comme invalide.

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The *"Festuca circummediterranea"* group is made up of several close related taxa characterized by a peculiar disposition of the sclerenchyma in three well isolated strands at the margins and at the median part of the leaf blade, as observed in transversal section. According to current systematic knowledge (Foggi & Müller, 2009a-e), three taxa of the Italian Flora can be considered units within this group: *F. circummediterranea* Patzke, *F. jeanpertii* subsp. *campana* (N. Terracc.) Markgr.-Dann. and *F. humifusa* Brullo & Guarino. The first one is reported for the whole central Mediterranean area and the second one for central Italy and western part of Balkan peninsula, while *F. humifusa* was recently described for Capo Tindari (northern Sicily) (Brullo & Guarino, 2001). During recent taxonomical revision of this group (Fiorini & al., 2008; Quercioli, 2008; Foggi & al., 2009), we ran into several problems concerning typification, that could affect the application of correct names to different taxa. On the subject of correct typification and related nomenclatural problems in *Festuca* L., see among the others Foggi & Signorini (1997), Signorini & Foggi (1997) and Šmarda & al. (2009).

In this paper, typifications of the following names are discussed:

– *F. ovina* var. *laevis* Hack.;

– *F. ovina* subsp. *laevis* Hack.;

– *F. circummediterranea* Patzke;

– *F. duriuscula* var. *campana* N. Terracc.

The investigation was based on herbarium specimens hosted in NAP, FI, ROMA and W.

In particular, in W, the personal herbarium of the Austrian botanist Eduard Hackel is housed (see Stafleu & Cowan, 1979; Foggi & Signorini, 1997), whose taxonomic studies on this difficult genus in Europe must be considered as fundamental. Among Hackel's papers on this topic, Hackel (1882) on European fescues is particularly noteworthy.

NAP was founded during the first half of the nineteenth century (Santangelo & al., 1995) and hosts three collections which are relevant for investigations on Italian fescues. Two of these collections were built up by Giovanni Gussone (1787-1866): "Gussone-Sicilia" and "Gussone-generale". The third one is made up of specimens collected by Nicola Terracciano (1837-1921). "Gussone-Sicilia" includes the exsiccata collected by Gussone in Sicily from 1817 to 1859 (La Valva, 1993; Santangelo & al., 1995) and has been hosted in NAP since 1861. It is made up of about 12,000 specimens grouped in 103 "fascicoli" (i.e. files). It is on these specimens that Gussone (1827, 1828, 1832-1843, 1843, 1844) were grounded. In these works, the genus *Festuca* was drawn up by Gussone (1827, 1828) and redrawn up later by Gussone (1843, 1844) (see La Valva, 1993). According to La Valva (1993), in the space time between the draft of Gussone (1827, 1828) and Gussone (1843, 1844), the author himself could study many more specimens from several herbaria in Europe, including Linnaeus' herbarium (Landolfi, 1920). Thus Gussone (1843, 1844) was rewritten, as were the descriptions of some taxa, already published in Gussone (1827, 1828). Gussone's specimens of *Festuca* in NAP were later seen also by Eduard Hackel (see Hackel, 1882:VIII). The collection "Gussone-generale" forms the great bulk of NAP (Santangelo & al., 1995) and includes several specimens collected by Gussone in Abruzzo and in other regions of southern Italy. These specimens were certainly used by him to describe, among the others, *F. dimorpha* Guss. as a new species (Gussone, 1826).

As for Nicola Terracciano's collection, here we refer to plants collected by him together with his son Achille Terracciano in the area once named 'Terra di Lavoro' (now province of Caserta and part of the provinces of Latina, Frosinone, Naples, Benevento, Avellino, Isernia) and in Campi Flegrei, a volcanic area lying to the north-west of Naples. These specimens made up the basis for the list of plants published in Terracciano (1872).

Furthermore, we searched in FI and ROMA, where many specimens collected by Gussone and Terracciano are also hosted.

Materials and methods

Type material was searched in NAP, W, FI and ROMA The labels of the lectotypes 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), etc.

The following abbreviations and symbols have been used (see Signorini & Foggi, 1997; Foggi & Signorini, 2005):

– [ ]: our own observations;

– /: new line;

– [pr.]: printed.

For more details on the typification process followed, see Signorini & Foggi (1997).

Results and discussion

1. *Festuca ovina* var. *laevis, F. ovina* subsp. *laevis* and *F. circummediterranea*

1.1 *Gussone's invalid infraspecific taxa*

Gussone (1827: 102) reports the species *"F. duriuscula Linn. sp. pl. 108, Bertol. am. it. p 6, Ucria H. Pan. 60"*, followed by a description. The species is subdivided into two infraspecific taxa: *"a- culmis subsesquipedalibus; foliis linearibus, radicalibus 4-6-pollicaribus, flosculis aristatis. F. duriuscula* β *Bertol. l. c."* and *"b- flosculis aristatis, foliis radicalibus setaceis aliquando recurvis. F. duriuscula* λ *Bertol. l. c. F. ovina Lin. sp.pl., 108. Ucria l. c. Presl. fl. sic. pr., ac. Cyp. et gram. sic. P. 35"*. As infraspecific epithets are lacking, according to art. 32.1(c) (McNeill & al., 2006), no name was validly published by Gussone, neither have these taxa any "status" (art. 6.3), that is they cannot be regarded either as subspecies, or varieties, or other. For them, Gussone merely provides two different descriptions and two different synonyms: "*F. duriuscula* β Bertol." and "*F. duriuscula* λ Bertol. Am. It.: 6", respectively. Some years later, Gussone (1843: 86) reports a *F. duriuscula* L. with almost the same references as given in Gussone (1827: 102). Only the reference to Bertoloni (1819: 6) is omitted because, as Gussone explains just a few lines below, Bertoloni (1833-1835: 602) had lumped *F. duriuscula* with *F. ovina*. A reference to Gussone (1827: 102) is also added: *"Guss. pr. 1. p. 102"*. In Gussone (1843: 86) the infraspecific taxon "a" is not expressly mentioned anymore and only an infraspecific taxon "b" is reported, clearly different from the typical one, but even in this case no name is validly published, as this taxon still lacks an infraspecific epithet (McNeill & al., 2006, art. 32.1). Only this taxon "b" appears to grow in Sicily, and its distribution is described as follows: *"In siccis et aridosis montosis; Pizzuta a Renda (Parlatore): Madonie, Monte di Cammarata, Busambra, Castrogiovanni, Monte Scuderi, Etna."* The taxon "b" is characterized by *"culmis basi infractis gracilibus 4-8 pollicaribus, foliis radicalibus setaceis brevissimis aliquando recurvis"*. For it, almost the same synonyms given for taxon "b" in Gussone (1827: 102) is reported: *"F. ovina Ucria l. c. – Presl. fl. sic. pr., ac. Cyp. et gram. sic. p. 35, an et Lin.?"*. The references to the infraspecific taxa reported by Bertoloni (1819: 6) have disappeared. At the end, a full description of the species is added, including diagnostic characters separating the infraspecific taxon "b" from "a". The characteristic features of the species and its systematic conception in this paper appear to be slightly different from those reported in Gussone (1827: 102), as it has already been remarked also for other taxa (see La Valva, 1993).

1.2. *Typification of* F. ovina *subsp.* laevis *and* F. ovina *var.* laevis

Festuca ovina subsp. ***laevis*** Hack., Monogr. Festuc. Eur.: 8a, 107, tab. III, fig. 7. 1882 (Fig. 1).

≡ *F. ovina* var. *laevis* Hack., Monogr. Festuc. Eur.: 84. 1882.

Lectotypus (designated here): with three labels: **Italy:** A) "Planta Sicula / Festuca duriuscula L. var. elata / In pratis montosis – Palermo alla / Pizzuta. Maio m. / Leg. Todaro [from Todaro's hand]" s.d., s.n.; B) "F. duriuscula / v. laevis m. / det. Hackel [from Hackel's hand]"; C) "Festuca [pr.] laevis (Hack.) Nym. Consp. / var. laevis/ F. circummediterranea Patzke var. circumm. / III.65 / XII 75 [from Markgraf-Dannenberg's hand] / det. I. Markgraf-Dannenberg [pr.]" (W!).

Hackel (1881: 405) published the name *F. ovina* subsp. *laevis*. According to McNeill & al. (2006, art. 32.1, 41.3), this name is not validly published in this paper, because it is accompanied neither by a description, nor by a reference to a previously published description; consequently, even this infraspecific taxon has no taxonomic "status".

Within this invalid "subsp. *laevis*", Hackel (1881: 405) reports six different varieties. Among these, a "var. *laevis*" is described, for which he reports the following distribution: "Gebirge Siciliens, Neapol., nördl. Appenninen, Seealpen, Sierra do Alcoy in SO.-Spanien; Daya in Algier; Kreta." A reference to "Guss. Fl. sic." is also given.

Actually, even the name *F. ovina* var. *laevis* must be regarded as not validly published, as it lacks either a description or a reference to a previously published description (McNeill & al., 2006, art. 32.1, 41.3). As a matter of fact, no description is reported, and even the reference to "Guss. Fl. sic." is not "a clear indication" (McNeill & al., 2006, art. 32.6), as it is not clear whether Hackel refers to Gussone (1827: 102) or to Gussone (1843: 86), and it must be reminded that in the two publications two different descriptions and systematic circumscriptions for the species are reported.

According to the above considerations, the name *F. ovina* subsp. *laevi*s was validly published only in Hackel (1882), where the name of this taxon is accompanied by a short diagnosis in the identification key (Hackel 1882: 84), by a whole description (Hackel, 1882: 107) and by a figure showing the section of a leaf blade (Hackel 1882: tab. III, fig. 7).

Within this subspecies, Hackel (1882: 108-112) describes five varieties and among these a "var. *genuina*" Hackel (1882: 108-110). This last includes five subvarieties, and among these a "subvar. α *typica*" (Hackel, 1882: 109). Neither *F. ovina* var. *genuina* nor *F. ovina* subvar. *typica* are validly published here, as both infraspecific epithets are not allowed by McNeill & al., 2006 (art. 24.3).



Fig. 1. – Lectotypus of *Festuca ovina* subsp. *laevis* Hack.
[*Todaro s.n.*, W] [© Naturhistorisches Museum Wien. Reproduced with permission]

Yet, the name *F. ovina* var. *laevis* is validly published in HACKEL (1882: 84) in the identification key, where the epithet is correct and the name is accompanied by a short diagnosis. Moreover, in the index (HACKEL 1882: 213) the name "F. ovina ssp. laevis m. 107" is reported, followed by "v. laevis m. 108".

This also means that var. *laevis* of both the key (HACKEL, 1882: 84) and the index (HACKEL, 1882: 213) exactly corresponds to the var. *genuina* invalidly described in HACKEL (1882: 108). Consequently, even the full description and all the other features reported in the monograph for this var. *genuina* (HACKEL, 1882: 108-110) are to be attributed to the validly published F. *ovina* var. *laevis* (HACKEL, 1882: 84, 107), including the following synonyms: "F. duriuscula Guss. Prodr. Fl. sic. 102 (1827). – Synops. 86 (1842). Parl. Fl. palerm. 198 (1845) non L." (HACKEL, 1882: 109), and this distribution area: "*In montibus Europae australis"* (HACKEL, 1882: 110).

To be legitimate, these two infraspecific names are necessarily homotypic (MCNEILL & al., 2006, art 53.4). The lectotype here designated was chosen within the specimens hosted in W, where Hackel's personal herbarium is kept; the label bears some notes handwritten by Hackel and all the morphological characters perfectly fit the original description. It appears to be a duplicate of the specimen *"Todaro Fl. sic. exs nro. 444"* collected by Todaro in Sicily and cited by Hackel in the protologue (sub "subvar. α *typica*"; HACKEL, 1882: 109).

1.3. *F. circummediterranea*

Festuca circummediterranea Patzke in Oesterr. Bot. Z. 122: 261. 1974.

- ≡ *F. laevis* (Hack.) Nyman, Consp. Fl. Eur.: 828. 1882 [nom. illeg.].
- ≡ *F. laevis* (Hack.) K. Richter, Pl. Eur.: 96. 1890 [nom. illeg.].
- ≡ *F. ovina* subsp. *laevis* Hack., Monogr. Festuc. Eur.: 107. 1882.
- ≡ *F. ovina* var. *laevis* Hack., Monogr. Festuc. Eur.: 84. 1882.

Festuca ovina subsp. *laevis* was raised to the rank of species in NYMAN (1882: 828). The reference of NYMAN (1882: 828) to HACKEL (1882) with the mention of "Hack. monogr. 107" is sufficient to validate the new combination. The name *F. laevis* (Hack.) Nyman is illegitimate, as this name has been validly published by Sprengel for a different taxon (*F. laevis* (Thunb.) Spreng., Syst. Veg. 1: 355. 1824). As a consequence, this name must be regarded as a later but illegitimate homonym. However, the name was validly published and retains the same type as *F. ovina* subsp. *laevis* Hack. The same combination was later published again by RICHTER (1890: 96), without any reference to Nyman, but with a clear reference to "Hack. mon. p. 107. (p. 108) (1882.)", and is thus an isonym with no nomenclatural status (MCNEILL & al., 2006, art. 6 note 2).

The name '*Festuca circummediterranea'* as an avowed substitute for the name of the taxon at the specific rank was published for the first time by EHRENDORFER (1967: 90) and later again by EHRENDORFER (1973: 112). Actually, as both these names lack a full and direct reference to the place of valid publication of the replaced synonym including page reference and date, they must be regarded as not validly published (MCNEILL & al., 2006, art. 33.4).

Valid publication occurred with PATZKE (1974), thanks to the full and direct reference both to NYMAN (1882) and RICHTER (1890), which are both validly published names, even if illegitimate. PATZKE (1974) reports also a reference to HACKEL (1882), but not quite correctly, as he quotes "*F. ovina* L. subsp. *laevis* var. *genuina* Hackel, Monogr. Fest. Eur. 108 (1882)". As stated above, this page is neither the place of valid publication of *F. ovina* subsp. *laevis* nor that of *F. ovina* var. *laevis* (HACKEL, 1882: 84) respectively.

The new name published by PATZKE (1974) obviously retains the same type of the name *F. ovina* subsp. *laevis* Hack., designed above in this paper. This name is currently adopted for this taxon in recent Floras of southern Europe and northern Africa (e.g. MARKGRAF-DANNNEBERG, 1980; FOGGI & MÜLLER, 2009a-e).

2. Typification of *F. duriuscula* var. *campana*

Festuca duriuscula var. ***campana*** N. Terracc., Relaz. Peregr. Bot. 195. 1872 (Fig. 2).

Neotypus (designated by ALEXEEV, 1973: 106): **ITALY:** "Campania prope Sora, leg. Terracciano", s.d., *Terracciano s.n.* (LE [photo]!).

Lectotypus (designated here for correction): with two labels: **ITALY:** A) "Festuca duriuscula b. campana Terracc. [from Terracciano's hand] / F. ov. v. laevis subv. campana Hack [from Hackel's hand] / In montosis apricis aridis Campaniae; Nola/ a Casamarciano. Maio 1871/ Terracc. [from Terracciano's hand]" s.n.; B) "F. laevis (Hack.) Nym. Consp. / ssp. laevis / var. heldreichii (Hack.) / subv. campana (Terr.) Hack. / III. 65. [from Markgraf-Dannenberg's hand] det. I. Markgraf-Dannenberg [pr.]" (W!).

TERRACCIANO (1872: 195) validly published a *"F. duriuscula Lin. c. campana"*. The name lacks any indication of rank, but according to MCNEILL & al. (2006, art. 35.4), it must be regarded as a variety.

The variety is described as *"foliis longis, glaucis, culmis prope basim incrassato-tuberosis"*. It was collected by Terracciano at *"Nola sui monti di Casamarciano",* a locality near Neaples and Caserta.

The name was typified by ALEXEEV (1973: 106) with a specimen housed in LE.



Fig. 2. – Lectotypus of *Festuca duriuscula* var. *campana* N. Terracc.
[*Terracciano s.n.*, W] [© Naturhistorisches Museum Wien. Reproduced with permission]

Actually, on this lectotypification some major remarks are to be done. First of all, the specimen does not bear any note written in Nicola Terracciano's own hand (for Terracciano's handwriting, see SANTANGELO & al., 1995), neither is there any note showing that it was seen by him. Furthermore, the locality *"prope Sora"* (that is near a small town in the surroundings of Frosinone) reported on the label was not mentioned in the protologue (TERRACCIANO, 1872). In short, the specimen cannot be regarded as strictly belonging to "original material", as nothing shows that "the description or diagnosis validating the name was based" upon it (MCNEILL & al., 2006, art. 9.2, note 2). Consequently, the use of the term "lectotype" by ALEXEEV (1973) should be considered an "error to be corrected" (MCNEILL & al., 2006, art. 9.8), as the specimen selected by him is not actually a lectotype, but a neotype.

Furthermore, it must also be noted that the specimen does not fit the original description, as it lacks the diagnostic character *"culmis prope basim incrassato-tuberosis"* (i.e. "culms swollen like tubers near the base"). As a matter of fact, in the specimen the culms are entirely slender, even to the base.

Searching for original Terracciano's material, in NAP we could find two specimens collected at "Casamarciano", the locality reported in the protologue. Both specimens bear labels with notes in Nicola Terracciano's own hand and perfectly fit the original description of *F. duriuscula* var. *campana*. Unfortunately, neither of them shows labels or notes with the epithet "campana", so they may not be considered as type material.

In W, we found one more specimen from Hackel's herbarium collected at Casamarciano, bearing a label handwritten by Terracciano where the full name of the new plant is reported: *"F. duriuscula b. campana"*. We do not know how this specimen arrived in Wien: possibly it was sent to Hackel as a gift by Terracciano himself, or by a curator of NAP. It comes from the *locus classicus* and perfectly fits the description reported in the protologue, with the character *"culmis prope basim incrassato-tuberosis"* particularly evident. For these reasons, we propose to supersede Alexeev's neotypification according to MCNEILL & al. (2006, art. 9.11, art. 9.17) and we designate this specimen as the lectotype of the name.

This taxon was raised to the rank of species, *F. campana* (N. Terracc.) Alexeev, by ALEXEEV (1973: 105-106).

Even at the rank of species, the name retains the same type designed by us for *F. duriuscula* var. *campana*.

It can be added that a close analysis on this specimen showed that the swollen culms described in the protologue are actually galls due to an insect (*Tetramesa* cfr. *brevicormis*, *Hymenoptera*), which uses to lay eggs inside the stems of this plants.

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