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***Sesleria pulchella*: a new species from a limited area between northern and central Apennines (Italy)**

(Monocotyledones: Poales: Poaceae)

Abstract

Sesleria pulchella (Chiosi) Ubaldi is a new species observed in a few points of a limited area between northern and central Apennines (Italy), at the crossroads of four Regions: Tuscany, Marche, Emilia-Romagna and Umbria. It was initially established by CHIOSI (1930) under the name *Sesleria nitida* Ten. var. *pulchella* Chiosi on the base of material from a single locality of eastern Tuscany. In fact, this plant seems to be rather rare, only two neighbouring localities being known at present: one reported by CHIOSI, and another identified recently by the author. However, *Sesleria pulchella* may escape observation in the field since it can be confused with the more abundant and conspicuous *Sesleria italica* (Pamp.) Ujhelyi, both generally growing together, in the same plant communities. For a correct identification, *Sesleria pulchella* has been compared to the other *Sesleria* species present in the same territory or nearby (*Sesleria italica*, *Sesleria argentea* (Savi) Savi and *Sesleria pichiana* Foggi, Gr.Rossi & Pignotti), and with several allopatric species with which *Sesleria pulchella* shares some morphological resemblances, i.e. members of the *Sesleria insularis* group from Sardinia, Corsica and Balearic Islands (Majorca), as well as species of the Balkan Peninsula formerly included in this group.

Key words: taxonomy, *Sesleria*, Apennines.

Riassunto

[*Sesleria pulchella* (Poaceae): una nuova specie di una limitata area tra Appennino settentrionale e centrale]

Sesleria pulchella (Chiosi) Ubaldi è una nuova specie osservata in pochi punti di una limitata area tra Appennino settentrionale e centrale, all'incrocio tra quattro regioni: Toscana, Marche, Emilia-Romagna e Umbria. Essa fu inizialmente stabilita da CHIOSI (1930) sotto il nome di *Sesleria nitida* Ten. var. *pulchella* Chiosi, sulla base di materiale proveniente da una sola località della Toscana orientale, in comune di Sestino (AR), nell'alto Marecchia. Questa pianta, infatti, sembra essere piuttosto rara, anche perché può sfuggire all'osservazione, trovandosi spesso insieme alla più robusta *Sesleria italica*, nelle medesime fitocenosi. Di essa sono per ora note solo due località tra loro

distanti meno di 10 Km: una è quella riportata da CHIOSI e un'altra è stata identificata recentemente dall'autore nell'alta valle del Metauro tra Toscana e Marche. Per dimostrare la sua peculiarità, la nuova specie è stata confrontata con le entità simpatriche: *Sesleria italica* (Pamp.) Ujhelyi, *Sesleria argentea* (Savi) Savi e *Sesleria pichiana* Foggi, Gr.Rossi & Pignotti. Il confronto è stato inoltre esteso ai membri del gruppo di *Sesleria insularis* Sommier presenti in Sardegna, Corsica e Baleari, coi quali *Sesleria pulchella* mostra una certa affinità morfologica, aggiungendo anche diverse entità balcaniche un tempo considerate nello stesso gruppo.

Introduction

A new taxon within the genus *Sesleria* was described by CHIOSI (1930) under the name *Sesleria nitida* Ten. var. *pulchella* Chiosi, for a single locality of eastern Tuscany near the villages of Motolano and Colcellalto, municipality of Sestino, in the Marecchia valley, at about 800 m elevation. CHIOSI's attribution of his new taxon to *Sesleria nitida* Ten. was consistent with the broad concept of species circumscription of that time. Since then, the taxon was never reported again, probably because these small plants can easily escape observation and are often found mixed with the more abundant and conspicuous *Sesleria italica* (Pamp.) Ujhelyi in the same plant communities. Moreover, they may be mistaken for stunted specimens of *Sesleria italica* at a first glance. CHIOSI's variety *pulchella* thus failed to be taken into consideration by botanists ever since.

Recently we have found two sites of this neglected taxon. In the first place, the plant was rediscovered exactly in the site mentioned by CHIOSI, on a steep clay escarpment along the road, covered by a dense herbaceous vegetation with prevalent *Sesleria italica* together with other xerothermophilic herbs (*Coronilla minima* and *Astragalus monspessulanus* among others), a plant community known as *Coronillo-Astragaletum* (BIONDI et al., 1985). The plant also grows at the base of the same escarpment in a small colluvial plateau where the vegetation is quite different in composition, taller and more sparse, and characterized by the presence of the halophyte *Plantago maritima*. In this particular habitat of salty clays *Sesleria italica* is absent.

Another site where we have found the plant is a steep eroded slope at the side of the road between Montelabreve (municipality of Badia Tedalda, Tuscany) and Parchiule (municipality of Borgo Pace, region Marche), about 600 m altitude and about 7 km away from the locality of CHIOSI, in the high valley of river Metauro. In this second site plants of var. *pulchella* grow scattered in a sparse herbaceous vegetation with many tufts of *Sesleria italica*. The substrate is the marl-sandstone flysch of the geological formation known as Marnoso-arenacea.



Fig. 1 – Geographic distribution of *Sesleria pulchella*.

Taxonomic position

The small size of culm and leaves, and a certain pubescence on lemma and palea suggest that CHIOSI's plants can be ascribed to the species group of *Sesleria insularis* Sommier, section *Calcariae* Deyl. This latter attribution needs confirmation, however, since the same type of morphology can also occur in taxa of section *Argenteae*, as recently recognized through molecular analysis for some Balkan species, such as *Sesleria sillingerii* Deyl (LAKUŠIĆ et al., 2013) or *Sesleria paparistoi* Ujhelyi and *S. skipetarum* Ujhelyi (DI PIETRO et al., 2015).

On the basis of its morphological differences from taxa examined for comparison (see below) we propose *Sesleria nitida* Ten. var. *pulchella* Chiosi as a new species.

Sesleria pulchella (Chiosi) Ubaldi stat. nov. (spec. nov.)

Basionymus: *Sesleria nitida* Ten. var. *pulchella* Chiosi in CHIOSI (1930)

Holotypus in FI: “*Sesleria nitida* Ten. var. *pulchella* Chiosi, v. n. In terreno argilloso, da Motolano a Colcellalto. R. Chiosi, legit 15 maggio 1929”.

Protologue of *Sesleria nitida* Ten. var. *pulchella* Chiosi (CHIOSI, 1930):

“Culmi leves, debiles, 9-11 cm alti. Panicula ovata, 1 cm longa et 6-8 mm lata.

Inferioris paleae arista brevissima, aequans quartam partem longitudinis paleae. Folia angusta, circa 2 mm lata, duplicata, brevissima, 2-3 cm longa; nonnulla 7-8 cm longa, arcuata. Folium supremum brevissimum, 1 cm longum, 1.1-2 mm / 2.1-2 mm latum, ovato obtusum, mucronatum, marginibus tenuiter scabris. Habitat in Alpe della Luna prope Motolano et Colcellalto. Legi 15 Maji 1929”.

Description

The following description is based on our samples and takes into account, of course, CHIOSI's specimens (FI!). The latter were collected at anthesis (presence of stamens), while our plants were collected after kernel ripening and dispersal (20 July and 4 September). This can explain the larger size and height of the plants reported here. Most other measurements usually agree with CHIOSI's description except for the ratio between length of awn and lemma (“quartam partem”): in fact this ratio is variable and usually much less than one fourth, often almost the tenth part only (as in fig. 2). This, too, may be due to the later time of collection. It must be added that the panicle appears rather loose in CHIOSI's illustration, but it is actually dense in the original samples and in ours. Finally, CHIOSI fails to give notice of the minute pubescence on lemma and palea, an important feature present both in his and our specimens.

Culms: quite slender, 10-12 cm tall at anthesis, 22-40 cm in the senescent phase.

Leaves: both basal and cauline short, stiff, usually subobtusate at the apex and with a brief mucro, strongly scabrid on margins; basal leaves usually 2-8 cm and up to 12 cm, many duplicate and arcuate, 1-1.5 mm wide, others straight and flat, up to 2.5(3) mm wide, green, furfuraceous on blades and basal sheaths, the latter whole or coarsely lacerate; ligule short, truncate-fringed; cauline leaves 1-3, 1.5-3.0 cm long, all similar in length, also strongly scabrid on margins.

Panicles: ovate, oblong or cylindrical, 5-7 x 10-17 mm, dense, 2.5-3 x 20 mm in previous year's remains.

Spikelets (fig. 2): usually the flowers jut out plentifully above the glumes; glumes ovate-lanceolate, 3.5-5.5 mm long, glabrous, but minutely scabrid on the back of the distal half-part, awn 0.2-1.0 mm long; lemmas ovate-lengthened, (4.5)5-6 mm long, puberulent between the veins, minutely scabrid on the back of the distal half-part, sometimes ciliate below, with a middle awn 0.4-1 mm long and two teeth at each side, the external briefly awned, the internal mucronate; paleas bicuspidate, puberulent, with hairs on the veins.

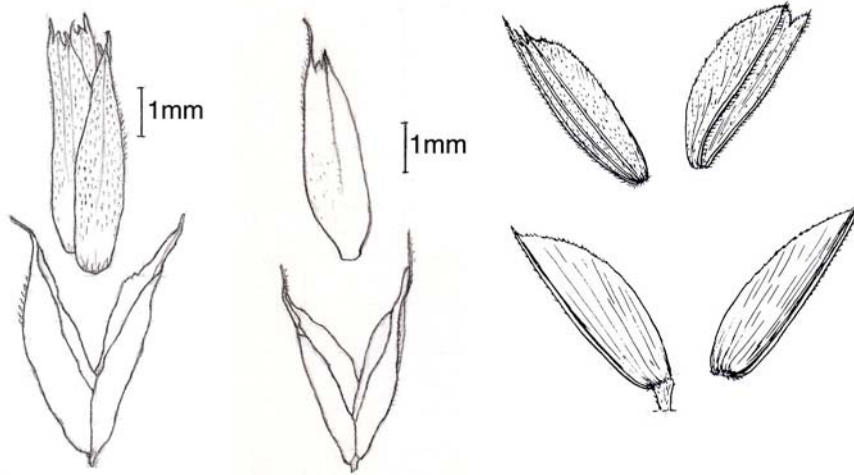


Fig. 2 - Spikelet of *Sesleria pulchella* (left), *Sesleria italica* (center) and *Sesleria morisiana* (Left original, center from UBALDI (2016), right from ARRIGONI (1983), at approximately the same scale).

Comparisons

Sesleria pulchella was compared first with the sympatric species and then with allopatric taxa that recall its physiognomy, in particular those of *Sesleria insularis* group from Sardinia, Corsica and Balearic Islands. We have also considered the Balkan species of similar appearance, previously included in the *S. insularis* group and today viewed as species of the section *Argenteae*, as already mentioned.

Sympatric species

There are three sympatric species with *Sesleria pulchella*: *Sesleria italica* (Pamp.) Ujhelyi, *Sesleria argentea* (Savi) Savi and *Sesleria pichiana* Foggi, Gr.Rossi & Pignotti.

Sesleria pulchella is very different from *Sesleria italica* as the vegetative habitus is concerned. As mentioned above, its form is strongly reminiscent of members of the *Sesleria insularis* group, while *Sesleria italica* presents the typical habitus of a component of section *Argenteae*, with leaves, culm and panicles visibly larger. At a first glance *S. pulchella* is distinctive for its reduced dimensions and its short, arched basal leaves. In addition it features i) much smaller panicles, ii) lemma and palea puberulent between the veins, and iii) a shorter awn in glumes and lemma. According to our surveys (UBALDI, 2016) panicles of *Sesleria italica* measure 5-11 x 20-45 mm, the glume awn 0.7-1.5 mm long and the lemma middle awn is



Fig. 3 – A detail of basal leaves of *Sesleria pulchella*, showing strongly scabrid margins and scattered lumps of pruina.

0.5-1.5 mm long; in *Sesleria pulchella* these are 5-7 x 10-17 mm, 0.2-1 mm and 0.4-1 mm respectively (see description above). Since, however, the shape of the spikelet (except for pubescence and length of awns) recalls that of *S. italica* (fig. 2), it was previously hypothesized that *S. pulchella* was close to *S. italica* (Ubaldi, 2016).

Sesleria pulchella is also well distinguished from *Sesleria argentea*, another typical member of the section *Argenteae*, showing vegetative habitus even larger than that of *Sesleria italica* and longer panicles, about 7-9 x 35-55 mm according our observations (UBALDI, 2015). Unlike *S. italica*, this species is rare in the study area. It blooms in late summer, while all the other congeners from the study area are vernal.

Sesleria pulchella is also quite distinct from *Sesleria pichiana*, first of all, again, due to the smaller size of the vegetative apparatus and panicles, with the provision that *S. pichiana* may present a modest size in mountains populations (observed on materials from Tuscan-Emilian Apennine). We also note that the leaves of *S. pichiana* are strongly glauco-pruinose on the upper side, not green and slightly pruinose as in *S. pulchella*. Panicles are larger, usually 7-8 x 10-30 mm, glumes and lemma with longer awns, 1-3 mm the awn of lower glume, 1-2 mm of upper glume, and 1-1.5 mm the lemma middle awn (FOGGI et al., 2007). Finally, *S. pulchella* and *S. pichiana* exhibit similar garment in lemma and palea as well.

Sesleria pichiana is continuously distributed from Liguria to the Tuscan-Emilian Apennine (distribution map in FOGGI et al., 2007). This species presents some disjoined localities in central and eastern Tuscany and one in the Republic of San Marino, including two at not a large distance from *S. pulchella* localities: Mt Penna della Verna (eastern Tuscany), 25 Km away, and Mt Titano (San Marino Republic), 30 Km.

Sardinia

In its habitus, *Sesleria pulchella* can remind *Sesleria morisiana* (Arrigoni) Arrigoni, described from S-W Sardinia (ARRIGONI, 1983, 2006), type in FI! Slender culms and short arched basal leaves also occur in this Sardinian species, which is also characterized by a similar shape and size of the panicle, dense and of 4-6 x 10-15 mm⁽¹⁾, and by the similar size of the lemma middle awn, only 0.2-0.4 mm long. Nevertheless *Sesleria morisiana* looks more delicate in appearance. Differences with respect to *S. pulchella* are not flashy but numerous: a slender culm, a strong glaucescence on the upper side of the leaves⁽²⁾, leaves narrower, mainly duplicate, 0.5 mm wide, rarely up to 1.5 mm, leaf-blades and sheaths without furfuraceous lumps (not seen on type specimens). Leaves are less scabrid at the edges. Glumes and glumelles are glabrescent between the veins, and usually more or less obovate as compared to those ovate-lengthened of *S. pulchella* (fig. 2).

Other two *Sesleria* species are known for Sardinia: *Sesleria insularis* Sommier (s.str.!) and *Sesleria barbaricina* (Arrigoni) Arrigoni. These are much more clearly separated from *Sesleria pulchella*.

Sesleria insularis (description and distribution in ARRIGONI 1983, type in FI!), N-E Sardinia, on the coast. Compared to *Sesleria pulchella* the basal leaves are narrower (0.5-1.5 mm), longer, almost setaceous and flexuous, glaucescent on upper side; panicle usually loose and longer (5-8 x 20-40 mm); middle tooth of the lemma long-awned (1.5-3 mm) and the lower glume too.

Sesleria barbaricina (Arrigoni) Arrigoni (description and distribution in ARRIGONI 1983, type in FI!), mountains of central-eastern Sardinia. The panicle of this species is dense like that of *Sesleria pulchella* but larger (8-10 x 10-30 mm) and the middle awn of the lemma is longer, 0.5-1.5(2) mm, glumes instead shortly awned. Width of basal leaves about as in *Sesleria pulchella* (2-3 mm), but these

¹ This in type specimens; in another sample, also conserved in FI!, panicle is 38 mm long and clearly loose (“Fluminimaggiore, Gutturu Pala, coll. et det. P.V. Arrigoni, 27 giugno 1984”)

² The glaucous colour of leaves in *Sesleria morisiana* can be seen in a good zoomable photo of a specimen cultivated in Botanical Garden of Cagliari, posted in Biopix site.

Here the leaves appear straight and rather wide, a probably morphosis due to the cultivation, while panicles appear normal and also the shorts awns of the spikelets can be seen, so a correct identification becomes feasible.



Fig. 4 – Holotypus of *Sesleria pulchella* (Chiosi) Ubaldi comb. nov. et stat. nov., from Herbarium of the Museo di Storia Naturale dell'Università di Firenze.



Fig. 5 - Sample of *Sesleria pulchella* collected in eastern Tuscany at Motolano di Sestino (locus classicus) on July 20, 2016.

leaves are straight and glaucous on upper side, colour common to all Sardinian species of *Sesleria*. [A strong leaf glaucescence in this species can be seen on website “Le piante endemiche della Sardegna” by GIULIANO CAMPUS, sub *Sesleria insularis* subsp. *barbaricina*]

Corsica

Although the name *Sesleria insularis* Sommier, sometimes with the specification subsp. *insularis*, commonly recurs for the Corsican flora it is difficult to accept this name as an exact and univocal determination. On the basis of descriptions provided by HACKEL in BRIQUET (1910) and thanks to online samples listed below, Corsican plants appear to be to some extent different from *Sesleria insularis* s. str. as well as from other Sardinian species above mentioned. According to HACKEL in BRIQUET (cit.) two taxa exist in Corsica, namely subvar. *macrochaeta* Hack. and subvar. *microchaeta* Hack. respectively, and both included in *Sesleria caerulea* Ard. var. *corsica* Hack. The differences reported by HACKEL can be confirmed observing herbarium foils online. Subvar. *macrochaeta* is characterized by a long (1.5-3 mm) awn at the lemma apex and panicles are more elongated and narrow compared to subvar. *microchaeta*, in which the lemma awn is less than 1 mm.

Both “subvarieties” can be distinguished from all Sardinian species by having green leaves (HACKEL points out “*Folia viridia*”) and from *Sesleria insularis* also for their dense panicles and wider leaves. The subvar. *microchaeta* concerns us most, since it exhibits a very short lemma middle awn like in *Sesleria pulchella*. However, subvar. *microchaeta* is different for its straight basal leaves and larger panicles (7-9 x 17-20 mm vs. 5 -7 x 10-17 mm).

The following samples are available for Corsican *Sesleria* plants on web.

W-32780. “*Sesleria caerulea* Ard. var. *corsica* Hack. Env. de Corte: Montagne de Caporalino, Rochers, Calcaire, 450-650 m, 11 V 1907, John Briquet”. Sample recognizable as var. *microchaeta* Hack. and so indicated by L. Pignotti on a label.

W-32781. “*Sesleria caerulea* Ard. var. *corsica*, subvar. *macrochaeta* Hack., Corsica: Mont San Angelo près de Saint Florent, Rocailles, Calcaire, 24 V 1907, leg. Briquet”.

USNH-0101938. “*Sesleria caerulea* var. *corsica* Hack. Env. de Corte: Montagne de Caporalino, Rochers, Calcaire, 450-650 m, 11 V 1907, John Briquet”. Sample recognizable as subvar. *microchaeta* Hack.

USNH-1126454. “*Sesleria caerulea* var. *corsica* subvar. *macrochaeta* Hack. Corsica; Mt San Angelo [...] de Saint Florent, Rocaille, Calcaire, 250 m, 24 V 1907, leg. Briquet”.

CONSERVATOIRE BOTANIQUE NATIONAL ALPIN, Herbar Edouard Chas: “*Sesleria insularis* - Corse, Les Strette de St. Florent, 12/4/87”. Sample recognizable as subvar. *macrochaeta* Hack.

Balearic Islands

As in the case of Corsican forms, the name usually reported for plants of genus *Sesleria* from Balearic Islands (Majorca and Dragonera) is *Sesleria insularis* or *S. insularis* subsp. *insularis*. For these plants we have seen five herbarium foils from Muséum National d'Histoire Naturelle (P) online, zoomable but not provided with a millimeter scale, and two good photos of fresh plants, the first one provided with scale in “Herbario virtual del Mediterráneo Occidental” website and the second one as online pdf “Els endemismes vegetals de les Illes Balears”. On this basis we note a good similarity with the Corsican “subvar. *macrochaeta* Hack.”: dense and oblong-cylindrical or ovate panicles, relatively long awns and wide leaves (at least 1-2 mm).

Again, we cannot attribute these Balearic plants to *Sesleria insularis* s.str. for sure. The only resemblance can be recognized in the length of the lemma central awn, which, however, appears to be variable in these plants. For their straight leaves and larger panicles (4-6 x 12-20 mm measured in two specimens) these plants are quite different from *Sesleria pulchella*. Moreover, the leaves seen in the pictures are bright green and only slightly pruinose on the upper side, as in plants of Corsica (probably) and in *Sesleria pulchella*.

Balkan peninsula

For the Balkan Peninsula three species have been described: *Sesleria sillingerii* Deyl, *S. paparistoi* Ujhelyi, and *S. skipetarum* Ujhelyi. They were usually attributed to the *Sesleria insularis* group until a few years ago. The first one, established by DEYL in 1946, was subsequently downgraded to a subspecies of *Sesleria insularis* (Deyl 1980), while the latter two species were regarded by the same author as synonyms of his subsp. *sillingerii*. At present this system is considered inappropriate. On the base of molecular studies, *Sesleria sillingerii* has been placed by LAKUŠIĆ et al. (2013) among the species of *Argentaeae* section despite the lack of suitable morphological characteristics, and a similar assignment has been proposed for *S. paparistoi* and *S. skipetarum* (DI PIETRO et al., 2015). It is not impossible that such a status may be recognized also for *Sesleria pulchella*, which in any case is morphologically rather distinct from these Balkan taxa.

In *Sesleria sillingerii* (description in DEYL, 1946) the basal leaves, flat or duplicate, are wider compared to *Sesleria pulchella*, 2.5-4 mm; panicles are also larger, 7-12 x 17-25 mm, fairly lax or dense (always dense in *S. pulchella*), lemma middle awn longer (1-1.5 mm, rarely up to 2.5 mm). This species according to DEYL is distributed in Bosnia on limestone, and has been extended to Herzegovina by STRGAR (1979).

Sesleria paparistoi Ujhelyi (description in UJHELYI, 1959; sample online W-14094) presents leaves 2-3.5 mm wide; panicle 7-10 x 15-30 mm; lemma middle awn 1-1.5 mm. These measures largely overlap *Sesleria sillingerii*, supporting the synonymy

stated by Deyl. *Sesleria paparistoi* is described (UJHELYI, cit.) as having frayed-reticulate basal sheaths, a feature that is absent from the description of *Sesleria sillingerii* (Deyl, cit.) and emphasizes the difference from *Sesleria pulchella*. Such sheaths are reminiscent of species belonging to the group of *Sesleria juncifolia* but, as we see in the image online, fibres are not interlaced or only coarsely so, quite different from consolidated members of the *Sesleria juncifolia* group. *Sesleria paparistoi* is indicated for limestone highlands in central Albania.

Sesleria skipetarum is described (UJHELYI, cit.) as a frail plant only up to 23 cm tall, with leaves subglaucous and 1-2 mm wide, usually convolute; basal sheaths frayed-reticulate; panicles loose, 3-4 x 15-30 mm, glumes 1 mm awned, lemma middle awn 1.5 mm long. This is a serpentinicole plant distributed in Northern Albania. *Sesleria skipetarum* recalls *Sesleria pulchella* only in its small size, while all other features are inconsistent (except leaf width).

Conclusions

For the newly proposed species *Sesleria pulchella* some important questions remain open, including the complete geographic distribution, which for the time being seems to be curiously limited to a border area among four Regions: Tuscany, Marche, Emilia-Romagna and Umbria (fig. 1). It may well be that these marginal areas have not been thoroughly explored by botanists yet. Also, its taxonomic position remains to be investigated at a section and species group level.

In karyological and phenological terms it remains to be explained how this species can survive side to side with *Sesleria italica*, while the nearest locations of *Sesleria pichiana* are possibly too distant for successful diaspore dispersal. As to phenology, we have a single flowering date for *Sesleria pulchella* (May 15, 1929) reported in CHIOSI's diagnosis and herbarium sheath, which contains a specimen at the beginning of flowering. This information seems interesting in view of the fact that *Sesleria italica* is usually flowering between March and April in these hilly areas; however, year 1929 was an exceptional one with a very cold winter and low temperatures until April, such that all flowering times have probably moved ahead.

As seen above, several comparisons have been performed to verify the morphological independence of *Sesleria pulchella* from other, similar species. This survey has produced a surprising result regarding the plants of *Sesleria insularis* Auct. from Corsica and the Balearic Islands, which appear to be quite similar among them but clearly distinct from *Sesleria insularis* s.str. as well as other Sardinian taxa, i.e. *Sesleria barbaricina* and *S. morisiana*. This issue deserves further elucidation, which is under way.

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References

- ARRIGONI P.V., 1983 – Le piante endemiche della Sardegna. *Boll. Soc. Sarda Sci. Nat.*, 22: 259-316.
- ARRIGONI P.V., 2006 – Taxonomical and chorological contribution to the Sardinian flora. *Bocconea*, 19: 33-48.
- BIONDI E., BALLELLI S. & PRINCIPI D., 1985 – Sur les pelouses sèches des substrats marneux-arenacés de l'Apennin septentrional (Italie). *Doc. Phytosoc. n.s.*, 9: 351-357.
- BRIQUET J., 1910 – Prodrome de la Flore Corse 1: 109-110. *H. Georg & Co Libraires Éditeurs*, Genève, Bale, Lyon.
- CHIOSI R., 1930 – La *Sesleria nitida* Ten. del Montefeltro e dell'Alpe della Luna. *N. Giorn. Bot. Ital., n.s.*, 37(3): 631-637.
- DEYL M., 1946 – Study of the genus *Sesleria*. *Op. Bot. Čech.*, 3: 1-257.
- DEYL M., 1980 – *Sesleria* Scop. – In: Tutin T.G., Heywood V.H., Burges N.A., Valentine D.H., Walters S.M. & Webb D.A. (Eds.), *Flora Europaea*, 5: 173-177. Cambridge.
- DI PIETRO R., LAKUŠIĆ D., IAMONICO D., KUZMANOVIĆ N., 2015 – The *Sesleria* sect. *Argentea* (Poaceae) in the Amphi-Adriatic area. Nomenclatural and coenological remarks. *6 Balkan Botanical Congress, Book of abstracts*. Rijeka, September 14-18, 2015.
- FOGGI B., ROSSI G. & PIGNOTTI L., 2007 – *Sesleria pichiana* (Poaceae): a new species from North-West Italian peninsula. *Webbia*, 62(1): 1-10.
- LAKUŠIĆ D., KUZMANOVIĆ N., ALEGRO A., FRAJMAN B., SCHÖNSWETTER P., 2013 – Molecular study of *Sesleria robusta* species complex (Poaceae). *11 Symposium on the Flora of Southeastern Serbia and Neighboring Regions*. Vlasina 13-16 June 2013.
- SOMMIER S., 1905 – Una specie nuova di *Sesleria*. *Boll. Soc. Bot. Ital.*, 12: 126-128.
- STRGAR V., 1979 – Chromosome numbers of three Balkan Yugoslavia *Sesleria* species.

Bioloski Vestinik 27(1): 71-74.

UBALDI D., 2015 - *Sesleria argentea* (Savi) Savi (Monocotyledones, Poaceae). *Quad. Studi Nat. Romagna*, 42: 225-226.

UBALDI D., 2016 - Taxonomic remarks on *Sesleria italica* (Pamp.) Ujhelyi. *Quad. Studi Nat. Romagna*, 43: 117-131.

UJHELYI J., 1959 - Species *Sesleriae* generis novae. *Feddes Repertorium*, 62(1): 59-70.

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