

## Флористические находки

### Floritic records

## First record of *Corynephorus canescens* (*Poaceae*) in the Leningrad Region and its status in Northwestern Russia

### Первая находка *Corynephorus canescens* (*Poaceae*) в Ленинградской области и статус вида на Северо-Западе России

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**Abstract.** *Corynephorus canescens* (L.) P. Beauv. is a perennial grass of European origin, having a limited distribution in Russia. Previously, it was reliably reported from five administrative regions (i. e. the Bryansk, Kaliningrad, Moscow, Pskov and Smolensk Regions). In this article, I present the first record of *C. canescens* in the Leningrad Region (Northwestern Russia). The local population of the species was found in a natural habitat, a dry pine forest. This is the northernmost known locality of the species in Russia so far. The residence status of *C. canescens* in Northwestern Russia is briefly discussed.

**Keywords:** vascular flora, native plants, alien plants, *Poaceae*, phytogeography, spread, Northwestern Russia.

**Аннотация.** *Corynephorus canescens* (L.) P. Beauv. — европейский вид, ограниченно распространенный на западе России. Ранее он был достоверно известен из пяти регионов (Брянская, Калининградская, Московская, Псковская и Смоленская области). В статье представлены данные о первой находке *C. canescens* в Ленинградской области. Локальная популяция вида была обнаружена в естественном местообитании (сосняке лишайниковом). Новое местонахождение вида оказалось самым северным из известных в России. Обсуждается возможный статус вида на Северо-Западе России.

**Ключевые слова:** флора, аборигенные растения, адвентивные растения, *Poaceae*, география растений, распространение, Северо-Запад России.

Floristic studies in the Leningrad Region have a long history and have resulted in numerous profound works, making this area the most studied region within Northwestern Russia so far<sup>1</sup>. During last two decades, the vascular flora of the Leningrad Region, both native and alien, has been assessed twice (Tzvelev, 2000; Illustrated..., 2006). Since then, a number of works have reported new data on vascular plants of the Leningrad Region (e. g. Doronina, Uotila, 2007; Glazkova, 2010; Konechnaya et al., 2012; Doronina, 2016; Glazkova, 2018; Leostrin et al., 2018; etc.). They mainly presented records of neophyte species, while findings of native species new to the region were reported much rarer. In this study, I present the first record of a remarkable plant species, *Corynephorus canescens*, recently found in the Leningrad Region and discuss its possible residence status.

<sup>1</sup> North-West European Russia according to Euro+Med (2006–2020).

### Material and methods

In 2018, during a field trip in the southern part of the Leningrad Region (Luga District), a local population of *C. canescens* was recorded. Later on, in 2020, I repeated field observations in this place. Voucher specimens of *C. canescens* are deposited in the herbarium collection of the Komarov Botanical Institute (LE).

Current distribution of *C. canescens* in European Russia was assessed by reviewing a number of major works on vascular plants (Hultén, Fries, 1986; Alexeyev, 2014; Tzvelev, Probatova, 2019) and by using open sources, i. e. GBIF (*Corynephorus...*, 2019) and Moscow Digital Herbarium (Seregin, 2020). The nomenclature of all the vascular plant species mentioned below follows Tzvelev (2000).

## Results and discussion

*Corynephorus canescens* (L.) P. Beauv. ( $\equiv$  *Aira canescens* L.) (*Poaceae*) is a perennial tussock diploid grass. The species is widespread in Central and Western Europe, it also occurs in Great Britain, Scandinavia and Northern Africa. In Eastern Europe, the distribution of *C. canescens* is quite limited; the easternmost localities are known from the Baltic States, Ukraine, Belarus and Western European Russia, with some localities considered of alien origin. As a neophyte species, *C. canescens* was also reported from the USA and Canada (see Hultén, Fries, 1986; *Corynephorus...*, 2019 for overall geographic range).

In Russia, *C. canescens* occurs in the west of its European part only, being reliably reported from five regions (the Bryansk, Kaliningrad, Moscow, Pskov and Smolensk Regions). In the Kaliningrad Region, the species is native and quite common (Gubareva et al., 1999). In the Bryansk Region, *C. canescens* occurs mostly in its western part, where is also considered native, although some localities are probably of alien origin (Bosek, 1975). In the Moscow Region and the Smolensk Region, it is known from a few localities (Mayorov et al., 2012; Alexeyev, 2014; Kuzmenko, 2017), being considered either alien or with unclear status. I found no publications reported the presence of *C. canescens* in the Volgograd Region, mentioned by Tzvelev and Probatova (2019).

In Northwestern Russia, the species was previously known from a single locality in the Pskov Region, in Velikiye Luki District near the Borisogleb village (Minyaev, 1970; Tzvelev, 2000), where it was recorded for the first time in 1966. The presence of *C. canescens* in this locality was confirmed in 2016 (Efimov et al., 2017; Efimov, Konechnaya, 2018). Thus, a newly found colony of *C. canescens* is the first occurrence of the species in the Leningrad Region, and the second one in Northwestern Russia. Moreover, this locality is the northernmost in Russia so far. It is ca. 180–230 km east from known localities in Estonia (*Corynephorus...*, 2019) and ca. 300 km north from the locality in the Pskov Region.

**Voucher specimens.** Leningrad Region, Luga District, W of Luga town, near small lake, dry pine forest, on sands along the road, N 58.72833°, E 29.77519°, 29 VI 2018, A. V. Leostrin (LE 01071948, LE 01071949); same place, N 58.72829°, E 29.77535°, 20 VI 2020, A. V. Leostrin (LE 01071950, LE 01071951).

In Europe, *C. canescens* prefers open vegetation on acidic nutrient-poor sands and is native to dry grasslands and dry pine forests; it is also common in coastal vegetation (so called “grey dunes”). It is known as a pioneer species, thriving in sandy sites with moderate

soil disturbance (Tschöpe, Tielbörger, 2010). In Russia, *C. canescens* was mostly reported from open dry pine forests or dry grasslands; in the Kaliningrad Region, it occurs in coastal dune vegetation. In the Bryansk Region, *C. canescens* was reported as dominant species in pioneer vegetation of pine forest edges and dry grasslands (Semenishchenkov, 2018). In the Pskov Region, P. G. Efimov and G. Yu. Konechnaya (pers. comm.) observed *C. canescens* in pine forest edges and pioneer grasslands on sands.

In the Leningrad Region, the observed habitat of *C. canescens* was an open dry pine (*Pinus sylvestris* L.) forest, where the species was growing mostly in forest edges and along the roads on bare sand. In the forest, there were a few shrubs in the understory (*Frangula alnus* Mill., *Juniperus communis* L. and *Sorbus aucuparia* L.), and a ground layer was dominated by terricolous lichens (*Cladonia* spp. and *Cetraria islandica* (L.) Ach.). In a poor herb layer, *Avenella flexuosa* (L.) Drejer and *Festuca ovina* L. were the most abundant. Other accompanying species were *Arctostaphylos uva-ursi* (L.) Spreng., *Carex ericetorum* Poll., *Convallaria majalis* L., *Jasione montana* L., *Koeleria glauca* (Spreng.) DC., *Luzula pilosa* (L.) Willd., *Melampyrum pratense* L., *Pilosella officinarum* F. Schultz et Sch. Bip., *Solidago virgaurea* L., and *Trommsdorffia maculata* (L.) Bernh. In the study site, I also observed *Dianthus arenarius* L., which is legally protected in the region (Krasnaya..., 2018); nearby, there were also several protected species (*Gypsophila fastigiata* L., *Pulsatilla patens* (L.) Mill., and *P. pratensis* (L.) Mill.). There were no alien plant species in the place.

The population of *C. canescens* stretched along the forest road for ca. 0.5 km. In total, I observed ca. 100–200 generative individuals and numerous young plants. *C. canescens* was most abundant along the road edges on bare sand and in places dominated by lichens or with scarce vegetation. On 29 June 2018, the plants were in the beginning of flowering; on 20 June 2020, the plants were at earlier stage of development, forming their inflorescences (Fig.). The presence of numerous individuals at different ontogenetic stages indicates that the population of *C. canescens* is in favourable conditions there.

In the territories close to northern and eastern limits of the native range of *C. canescens*, the residence status of the species might be ambiguous. Thus, in the Baltic countries the species is considered to be native to Lithuania and Latvia, while in Estonia it is treated as alien (Krall et al., 2003). Localities from Finland were considered as alien too (Hultén, Fries, 1986).

In Russia, *C. canescens* is considered native to the Kaliningrad Region and the Bryansk Region, while the status of the other known occurrences is unclear.

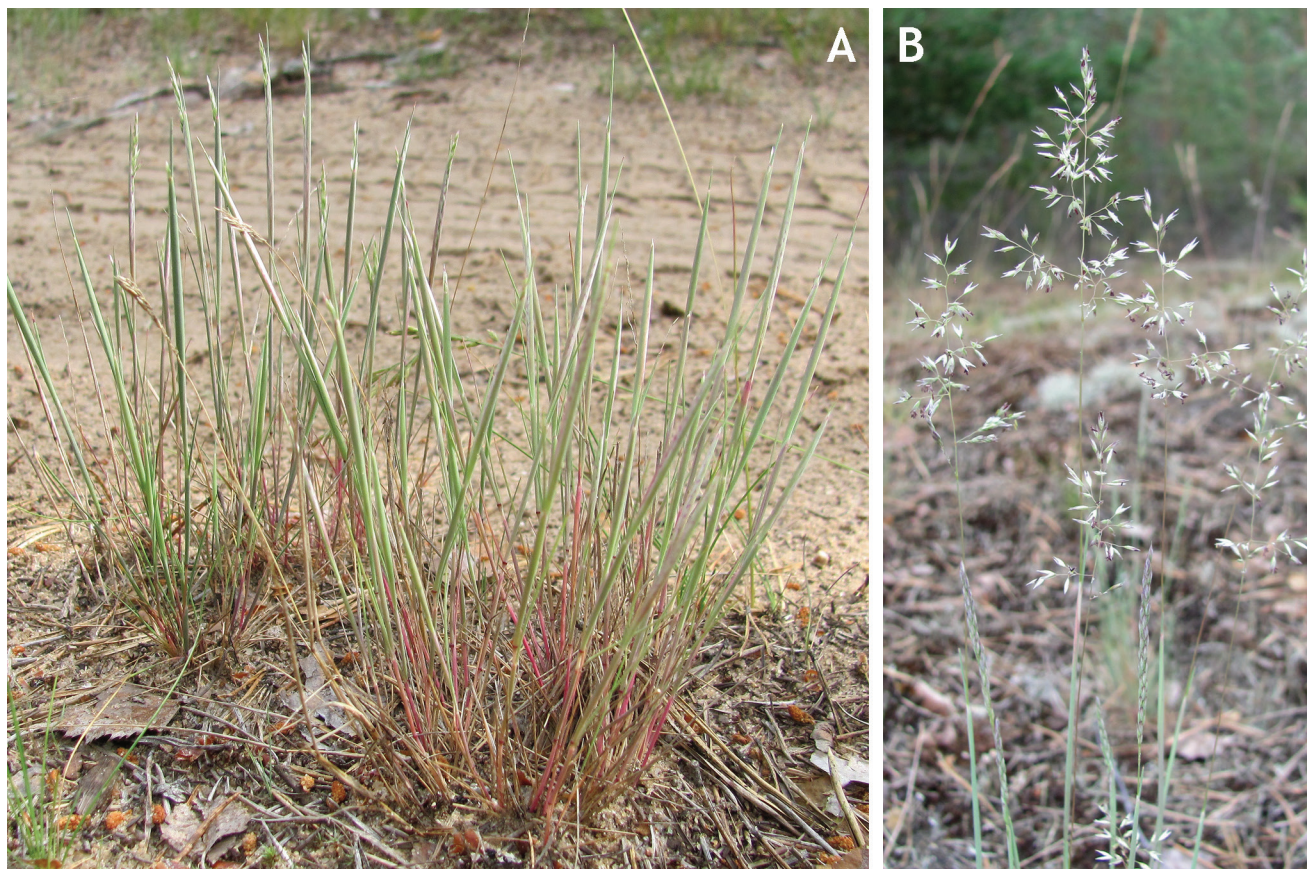


Fig. *Corynephorus canescens* in the study site (Leningrad Region, Luga District, W of Luga town).

A – plants forming their inflorescences, 20 VI 2020; B – upper part of a flowering plant, 29 VI 2018. Photos by the author.

The first reliable records in the Moscow Region, the Smolensk Region and the Pskov Region were made between 1952 and 1974, with no solid data of previous findings. Novikov and Oktyabreva (1976) supposed that localities of *C. canescens* known from the Moscow Region, the easternmost in Russia, were probably of alien origin. At the same time, Bosek (1975) reported the increase of the number of *C. canescens* occurrences in the Bryansk Region. These facts might either indicate that the populations of *C. canescens* in these regions were of alien origin or testify the expansion of its native range not mediated by human.

Previously, *C. canescens* was considered as a species native to Northwestern Russia. Thus, Minyaev (1970) and Tzvelev (2000) undoubtedly treated it as native by suggesting that it deserves legal protection; and since 2014, it was included in the “Red Data Book of Pskov Region” (Krasnaya..., 2014). Kamelin (2017) also proposed *C. canescens* to be native to Northwestern Russia, and consider it as a member of the group of xerothermic plants of pine forests, together with *Dianthus fisheri* Spreng. and *Pulsatilla vulgaris* Mill.

Although it is possible that the species is native to the Leningrad Region and was missed by numerous previous observers, it is more likely a newcomer in this place, similarly to other localities along its north-east distributional limit in Russia, Estonia and Finland. Taking into account the proximity of the newly discovered population to the town of Luga and the presence of forest roads just within the locality, it is easy to believe that the species might have been unintentionally introduced to this site by human. On the other hand, it is also probable that this is a rare case of native species expansion. Nonetheless, the vascular flora of the Leningrad Region has a new peculiar resident.

Thus, in Northwestern Russia, *C. canescens* is currently presented in two localities, and should be considered as a species with unclear residence status. In the Pskov Region, the species is protected by law (Krasnaya..., 2014), though in the Leningrad Region the need of legal protection for this species is disputable. Hopefully, further studies will shed more light on the distribution and status of *C. canescens* in Northwestern Russia.

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