Biodiv. Res. Conserv. 13: 13-16, 2009

10.2478/v10119-009-0003-5

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Eragrostis pilosa (L.) P. Beauv. (Poaceae) in Poland

Marcin Nobis[1] & Agnieszka Nobis[2]

Department of Plant Taxonomy and Phytogeography, Institute of Botany, Jagiellonian University, Kopernika 27, 31-501 Kraków, Poland, e-mail: [1]m.nobis@uj.edu.pl, [2]agnieszka.nobis@wp.pl

Abstract: The paper presents new data on the occurrence of *Eragrostis pilosa* in Poland. The species has been considered as an ephemerophyte in the Polish flora. A new locality of *E. pilosa* was found in the railway areas of Nowosielce near Sanok (southern Poland) in 2007. The occurrence of the species at this locality was confirmed in 2008 and 2009. Because the species is established in anthropogenic habitats, it might be regarded as an epecophyte in Poland.

Key words: *Eragrostis pilosa*, alien species, distribution, Poland

1. Introduction

The genus *Eragrostis* N. M. Wolf is represented in Poland by seven species. All of them are alien to the flora of the country. Three species, i.e. *E. minor* Host, *E. multicaulis* Steud. and *E. albensis* H. Scholz, are regarded as anthropophytes established in the area of Poland. Another four, i.e. *E. cilianensis* (All.) F. T. Hubb., *E. mexicana* (Lag.) Link, *E. virescens* J. Presl & C. Presl and *E. pilosa* (L.) P. Beauv. (Fig. 1) have been observed only occasionally and are treated as ephemerophytes (Guzik & Sudnik-Wójcikowska 2005).

Until 2005, *Eragrostis pilosa* had been recognized as a holoagriophyte, spreading mainly on sandy alluvia in the Middle and Lower Vistula as well as the Lower San Valleys (Ceynowa-Giełdon 1973; Sudnik-Wójcikowska & Guzik 1996; Kucharczyk 2001). The plant was also reported on anthropogenic sites in Warsaw (Sudnik-Wójcikowska 1981; Sudnik-Wójcikowska & Guzik 1996), Szczecin (Holzfuss 1937; Ćwikliński 1970), Piła (Żukowski 1960), Dęblin (Głowacki 1975) and in the area of the Lubelskie province (Święs & Wrzesień 2002, 2003, 2004). Unfortunately, almost all these data were incorrect and the specimens collected in the territory of Poland, previously identified as *E. pilosa*, in fact belonged to *E. albensis* – the species described as new to science by Scholz (1996). What is more, in recent years, an intensive spreading of *E. albensis* in Poland has been observed (Michalewska & Nobis 2005; Guzik & Sudnik-Wójcikowska 2005; Wrzesień 2005, 2007; Nobis & Nobis 2006; Wrzesień & Święs 2006; Naks 2006; Nobis 2007; Nobis 2008a, 2008b). At the same time, the occurrence of *E. pilosa* s. stricto in Poland has become questionable.

Fig. 1. *Eragrostis pilosa* in the reloading area by the railway station at Nowosielce
Explanations: a – panicle; b – spikelets; c – tufts of hairs at the apex of upper leaf sheath

Taking into account the fact that the occurrence of *Eragrostis pilosa* was recorded in the territories of neighboring countries (Prokudin *et al*. 1977; Scholz 1996; Scholz *et al*. 2002; Špryňar & Kubát 2004), it seemed to be highly probable that the plant also occurs in the area of Poland.

2. Recognition

The keys helpful in the determination of species representing the Eragrostis pectinacea-pilosa group are included in the works of Scholz (1996), Scholz *et al*. (2002) and Špryňar & Kubát (2004). The most important features differing *E. pilosa* from *E. albensis* are presented in table 1.

Floristic note. The reloading area (by the loading platform) – in gaps between slabs of concrete. 49°33' 42.7''N/22° 05'12.3''E (ATPOL grid of squares 2 x 2 km – FG1531 according to Zając 1978), 325 m a.s.l., area of record – 16 m^2.

Accompanying species: *Ambrosia artemissifolia, Chenopodium pedunculare, Daucus carota, Echinochloa crus-galli, Eragrostis minor, Lactuca serriola, Medicago lupulina, Plantago major, Poa pratensis, Polygonum aviculare, Senecio vulgaris, Sonchus oleraceus, Taraxacum officinale* agg.

In Nowosielce the species is a component of the communities from the *Eragrostion* alliance (*Stellarietea mediae* class). Our observations indicate that the plant tolerates ground salinity and parching.

Table 1. Most important features distinguishing *Eragrostis pilosa* from *E. albensis*

Feature	*Eragrostis pilosa*	*Eragrostis albensis*
Tufts of hairs at the apex of leaf sheaths	present along the whole culm	present only in the lower and middle parts of the culm
Panicle	usually shorter (8-15 cm long) and delicate	usually longer (10-27 cm long) and firm
Panicle branches	usually weak, flexuous, neither stiff nor straight, mostly smooth or only weakly rough	more or less stiff, straight and erect, distinctly rough (densely covered with short bristles)
Pedicles of lateral spikelets	1-2.5 (-4.5) mm long	(1.8-) 2.5-5 (-7) mm long

3. The occurrence of *Eragrostis pilosa* in Poland

The revision of herbarium materials indicates that only the specimens collected in 1958 and in 1959 by W. Żukowski at the railway station in Piła were in fact correctly identified as *Eragrostis pilosa* (L.) P. Beauv (Guzik & Sudnik-Wójcikowska 2005). Unfortunately, the materials from Szczecin are not available and therefore this locality should be regarded as doubtful. Because of the fact that the species has not been confirmed in the later time in the territory of Poland, it was considered to be an ephemerophyte (Guzik & Sudnik-Wójcikowska 2005).

A new locality of *Eragrostis pilosa* was found in Poland in August 2007. It is situated in the reloading area by the railway station at Nowosielce (6 km west of Sanok) (Fig. 2). Approximately 100 tufts of *E. pilosa*, growing in gaps between slabs of concrete and on shallow, graveled soil covering slabs, were observed. The tufts varied in size. The observations conducted at this locality in 2008 and 2009 indicate that the population of *E. pilosa* had increased. In 2009 it was ca. 30% bigger than in 2007. The species was found not only in the reloading area, but also along trampled pathways and on tracks in 2009. In the place where *E. pilosa* was most abundant, accompanying vascular plant species were noted.

The authors have looked for other localities of *Eragrostis pilosa* at all stations along the railway tracks linking Zagórz, Sanok, Krosno, Jasło, Biecz and Gorlice. Unfortunately, apart from the locality situated in Nowosielce, the species has not been encountered.

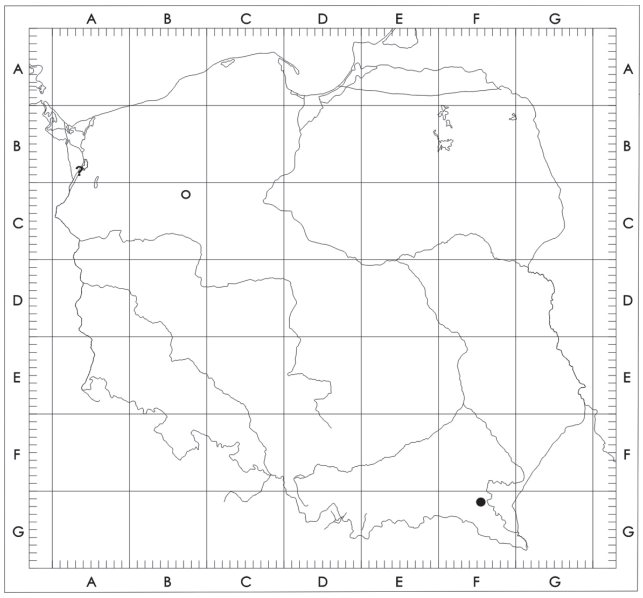

Fig. 2. Distribution map of *Eragrostis pilosa* (L.) P. Beauv. in Poland
Explanations: (●) presently existing locality, (○) locality not confirmed, (?) uncertain locality

It needs to be stressed that in some of the investigated railway stations *E. albensis* was observed (e.g. in Zarszyn, Wróblik Szlachecki, Krosno and Gorlice-Zagórzany).

4. Conclusions

The locality of *Eragrostis pilosa* encountered in southern Poland is actually the only station of the species existing in this country. A big number of *E. pilosa* specimens recorded in Nowosielce indicates that the species is a permanent component of the local flora for (at least) several years. What is more, in recent years, the species has spread significantly at the station. In the light of our study, the status of *E. pilosa* in Poland should be changed. Because the species is established in the anthropogenic (specifically ruderal) habitats, it cannot be treated as an ephemerophyte, but rather it should be regarded as an epecophyte.

There is no doubt that the population of *Eragrostis pilosa* at the Nowosielce railway station requires further observations. Examination of the dynamic of the *E. pilosa* population would be of interest.

Seeds of *Eragrostis pilosa* have been probably brought to southern Poland with materials transported by railway from Ukraine, where the taxon is native (Prokudin *et al*. 1977). Another localities of the species are likely to be found at railway stations and roadsides, first of all in the closest vicinity of Nowosielce. That is why *E. pilosa* can be a good object of studies aimed at the estimation of expansion speed in case of plant species alien to the Polish flora.

Acknowledgements. We would like to express our gratitude to Prof. H. Scholz from the Berlin-Dahlem Botanical Garden for the verification of herbarium specimens of *Eragrostis pilosa*, and to Prof. dr hab. B. Sudnik-Wójcikowska from the University of Warsaw for reading and providing remarks to the manuscript.

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