

A new locality of *Carex pediformis* (Cyperaceae) in Poland

Marcin Nobis & Agnieszka Nobis

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Abstract: *Carex pediformis* C. A. Meyer is a component of dry grasslands (*Festucetalia valesiacae* order). It is very rare and red-listed in Poland. To date the species is known from less than ten localities in Poland of which four are currently confirmed. The paper presents a data on new locality of the species in the Central Poland (Malopolska Upland), together with remarks on its population size and habitat requirements. The distribution map of the species in Poland is also presented.

Key words: distribution, endangered species, habitat requirements, vascular plants

Introduction

Carex pediformis C. A. Meyer belongs to the section *Digitatae* (Fr.) Christ., which in the area of Poland additionally includes: *Carex digitata* L., *C. ornithopoda* Willd., *C. pallidula* Harmaja, *C. humilis* Leyss. The main characteristics typical to aforementioned species include: solitary male spike, relatively loosely arranged female spikes, a large and more or less leaflike lowermost bract and ovoid and usually puberulent utricles.

Carex pediformis is a native species representing an Euro-Siberian sub-element in the Polish flora (Hultén & Fries 1986). In Europe, its westernmost stations are located in Poland, Czech Republic and Austria (Hultén & Fries 1986, Towpasz 1969, Bąba 2014).

Carex pediformis is a component of dry grasslands developed on calcareous rocks of river valleys slopes. The patches of grasslands with this species usually cover small areas and are currently highly threatened by successional processes. The species has been included as critically endangered in the national red list of vascular plants (Zarzycki & Szeląg 2006) and in the Polish red data book of plants (Bąba & Biderman 2001, Bąba 2014).

Currently, *Carex pediformis* has been confirmed at three localities in Poland, namely: Będkowska River Valley (Kosiński 1992, Nobis *et al.* 2010 unpubl.), Ojców National Park (Michalik 1978, Nobis *et al.* 2010-2013 unpubl., Bąba 2014) and Podgrodzie in the Kamienna River Valley (Piotrowski 1897, Piwowarczyk & Nobis 2005, Nobis M. 2014 unpubl.). It is worth to note, that in the Ojców National Park, numerous population of the species has been observed at few localities between Grodzisko and Wdowie Rocks and on Krzyżowa Rock (Nobis *et al.* unpubl, Bąba 2014). The presence of the species in Zapusty near Cząstków in the Świętokrzyskie Mts. (Kobendza 1947, Kapuściński 1990) need to be confirmed. Whereas the localities in Przysroń near Niemcza on Lower Silesia and Gacki near Ujazd (Towpasz 1969, 1996) are probably only of historic value.

New locality

During the excursion in Zarzecze settlement near Bałtów village, ca. 12 km NE of Ostrowiec Świętokrzyski (Atpol greed of squares 2.5 km x 2.5 km – Zając 1978: FE 50 23; Fig. 1) in the summer of 2014, we found few individuals of *Carex pediformis*. In May 2015, we decided to explore this new locality once again, to answer the question: how numerous is the population of the species, where it occurs (in which plant communities) and what is the are of its occurrence.

In Zarzecze near Bałtów (51°00'51"N/21°32'34"E) *Carex pediformis* occurs at the bottom, on shelves and on the top of calcareous rocks at right slope of the Kamienna River Valley, at the are of ca. 250 m². Population of the species is quite numerous, it comprises over 500 tufts and over half of them flourished and had fruits. At the new locality, *C. pediformis* grows within dry grassland (*Festucetalia valesiacae* order), on the outskirts and within light bushes (*Peucedano cervariae* – *Coryletum*) and on rock shelves (*Festucetum pallentis*). The population is threatened due to secondary succession involving with expansion of bushes species. However, it is worth to mentioned, that Bałtów is a touristic place and for a receiving better view on beautiful calcareous rocks in this place, frequently visited by tourists, the trees and shrubs were recently cut out and rocks have been exposed to the light. It was very helpful to population of *C. pediformis*, which due to improvement of habitat conditions strongly connected with the availability of light, was rapidly enlarged number of individuals and area covered by this species.

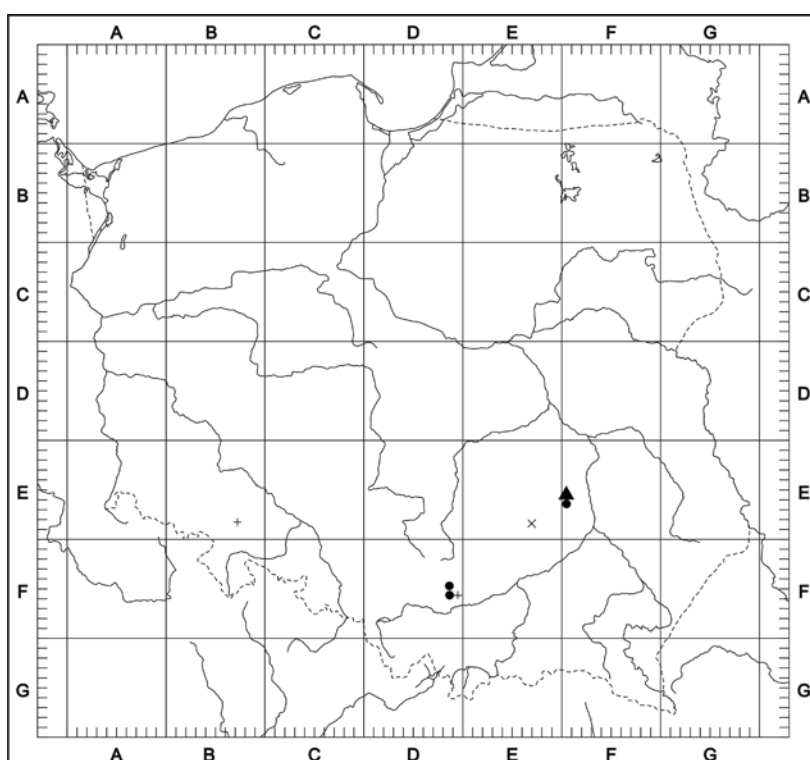


Fig 1: Distribution of *Carex pediformis* C. A. Meyer in Poland; ▲ – new station; ● – presently existing station; x – station not confirmed at present; + - probably extinct station.

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Authors' addresses: Marcin Nobis & Agnieszka Nobis, Department of Plant Taxonomy, Phytogeography and Herbarium, Institute of Botany, Jagiellonian University, Kopernika 27, 31-501 Kraków, Poland. E-mail of corresponding author: m.nobis@uj.edu.pl

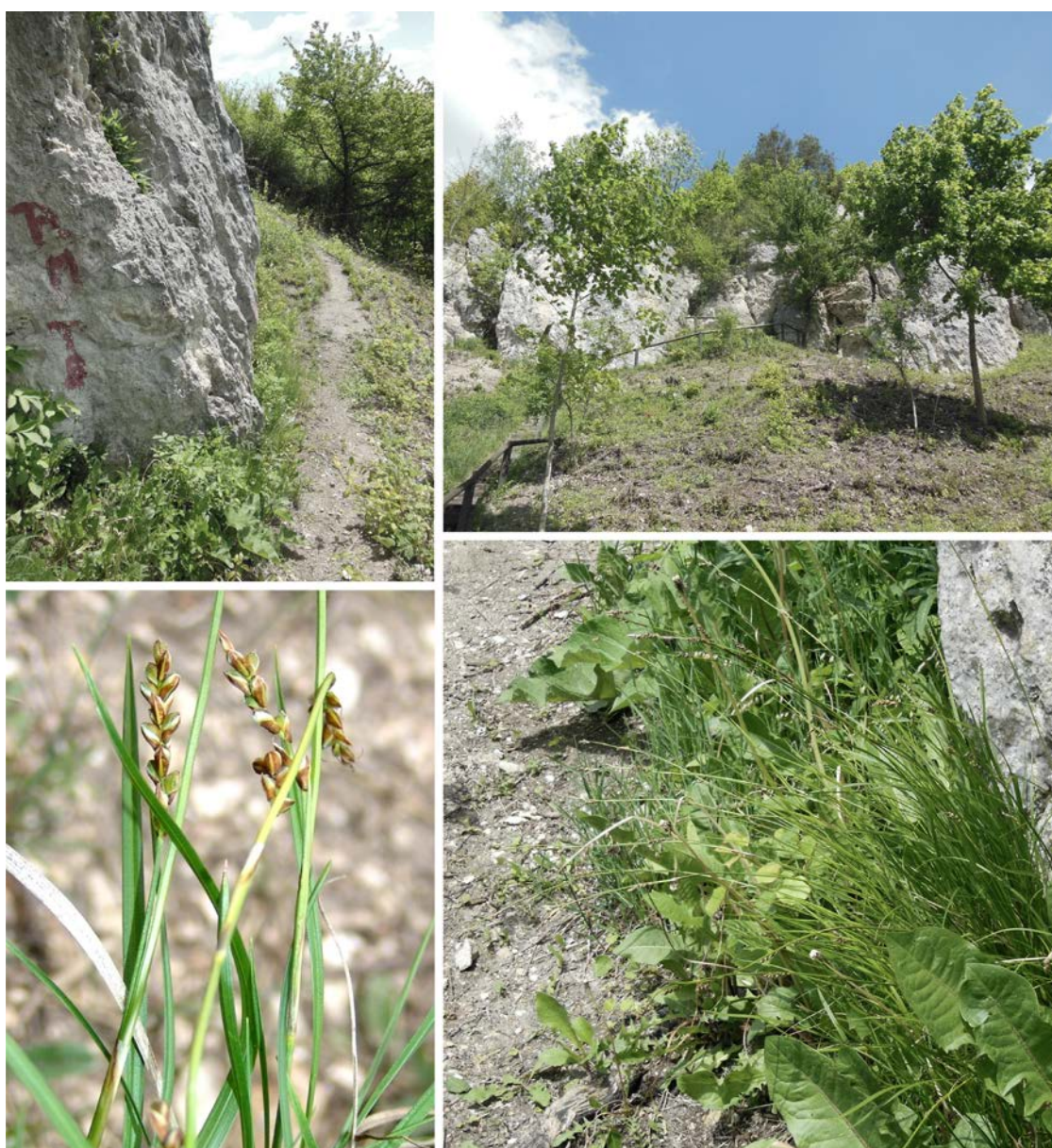


Fig 2: *Carex pediformis* C. A. Meyer in Zarzecz near Bałtów.