



OCCURRENCE OF *SENECIO ERUCIFOLIUS* L. (ASTERACEAE) IN THE WESTERN POMERANIA (NW POLAND)

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ABSTRACT. Hoary ragwort *Senecio erucifolius* L. (Asteraceae) is a perennial herb with Eurasian distribution. The species occurs rarely in most of Poland, with centre of distribution in its SE part. The paper presents the distribution and conditions of occurrence of *Senecio erucifolius* in the Western Pomerania (NW Poland) with reference to intraspecific taxa. Eight localities of the species were listed and described: three presently existing localities (four populations), two localities not confirmed at present and three incorrect localities. All presently existing populations of *Senecio erucifolius* represent subsp. *erucifolius*. The populations are rather small and they are the components of three plant communities: community with *Calamagrostis epigejos*, association *Arrhenatheretum elatioris* and association *Tanaceto-Artemisietum*. Hoary ragwort should be recognised as an endangered species of the Western Pomerania.

KEY WORDS: *Senecio erucifolius*, regional distribution, endangered species, Western Pomerania, Poland

INTRODUCTION

Senecio erucifolius L. (hoary ragwort) is a species of wide distribution. The general range of this species extends over a large part of Europe except from the northern part of Scandinavia, the Iberian Peninsula and south-eastern part of Europe, as well as Western and Central Asia. Its range extends in a belt through Siberia and reaches up to Yakutia (CHATER & WALTERS 1976, HULTEN & FRIES 1986, MEUSEL & JÄGER 1992).

Senecio erucifolius is morphologically a highly variable species. In European floras, two subspecies are most commonly distinguished within this species: subsp. *erucifolius* and subsp. *tenuifolius* Schübl. & Martens (CHATER & WALTERS 1976), while less frequently five varieties: var. *erucifolius*, var. *communis*, var. *tenuifolius*, var. *latilobus*, var. *viridulus* are considered (SELL & MURRELL 2006, CHATER 2010). According to the distribution map of *S. erucifolius* in Europe, taken into account intraspecific differentiation of the species, only *S. erucifolius* subsp. *erucifolius* occurs in Poland (GREUTER 2009).

Information, regarding an occurrence of *S. erucifolius* localities in different regions of Poland, can be found in many local floristic and phytosociological

surveys as well as in the scientific herbaria. From analysis of these data it appears that *S. erucifolius* is scatterly distributed throughout the country. Most of its localities occur in south part of Poland, mainly in the foothills of Carpathians, in a belt of central-Poland uplands and submontane basins, and in Lower Silesia (FIEK 1881, BOCK 1908, FIJAŁKOWSKI 1995, KRUK & SOBISZ 2013). Hoary ragwort was noted in Poland in different habitat conditions: on sunny slopes, in gorges, in flat river and creek valleys, in forest edges, but mainly in the ruderal sites, in meadows, grasslands and brushwoods (RADOMSKI & JASNOWSKA 1964, 1965, MISIEWICZ 1972, 1981, SUDNIK-WÓJCIKOWSKA 1987, CIACIURA et al. 2008, MATUSZKIEWICZ 2008, PIOTROWSKA 2010, RATYŃSKA et al. 2010, CZYŻ et al. 2012, PIWOWARCZYK 2012a, b). The highest stands of *S. erucifolius* are located in Kaczawskie Foothills at 300–400 m a.s.l. (KWIATKOWSKI 2006). Existing data about majority of *S. erucifolius* localities in Poland do not account for the occurrence of intraspecific taxa. The distribution map of *S. erucifolius* was not prepared for 'Distribution Atlas of Vascular Plants in Poland' (ZAJĄC & ZAJĄC 2001), mainly as a result of taxonomic ambiguities. Only recently, the first map presenting the distribution of this species in Poland

was published (KRUK & SOBISZ 2013), but unfortunately it is not completed and needs to be complemented.

The aim of the paper was to present the distribution and conditions of occurrence of *S. erucifolius* in the Western Pomerania.

MATERIAL AND METHODS

Information about presented localities come from literature, Polish herbaria (Herbarium of W. Szafer Institute of Botany, Polish Academy of Sciences KRAM, Herbarium of West Pomeranian University of Technology Szczecin SZCZ), Polish Vegetation Database (University of Wrocław), oral information and our own data from field studies performed in years 2010–2015. The localities listed below are situated in the units (10×10 km) of the ATPOL grid square system (ZAJĄC 1978). Nomenclature of taxa follows WISSKIRCHEN & HAEUPLER (1998), and nomenclature of plant communities is based on RATYŃSKA et al. (2010).

RESULTS

Below, the list and description of *Senecio erucifolius* localities, noted in the area of the Western Pomerania are presented.

AB15 Dziwnów near Kamień Pomorski (*leg.* Ganszer 1956, KRAM 257814; *leg.* Kowal T. 1956, KRAM 257815, incorrectly determined – confused with *Senecio jacobaea*). Incorrect locality.

AB24 Kołczewo, Wolin Island (*leg.* Mądalski J. 1951, KRAM 503692, incorrectly determined – confused with *Senecio jacobaea*). Incorrect locality.

AB73 Szczecin – district Skolwin, 53°30'87.1"N, 14°36'22.4"E, 58 m a.s.l. Fields and fallow lands on the hills of Skolwin and Stołczyn (ĆWIKLIŃSKI 1970). Meadow with single hawthorns and roses, on the slope of the hill of hilltop of Odra Valley, exposure SE, inclination 5°, S from the gorge in extension of Karpacka street; several dozens of clumps, area 0.5 ha; in patches of association *Arrhenathereteum elatioris*. Presently existing locality, *S. erucifolius* subsp. *erucifolius* occurs here; Szczecin – district Stołczyn, 53°30'14.5"N, 14°36'51.1"E, 3 m a.s.l. Hoary ragwort grows here at Stołczyńska street in the belt of nitrophilous herbal thickets, in patches of association *Tanaceto-Artemisietum*, between pavement and clumps of trees, near vast construction site; several dozens of clumps and single shoots in the area of 0.25 ha. The locality is endangered because of progressive leveling of the grounds and rebuilding the road. The species was reported from Szczecin by MÜLLER (1911) and *leg.* Cukiernik I. 2004 (SZCZ, incorrectly determined – confused with *Senecio jacobaea*) as well as with incorrect location of ATPOL unit AB9323 (*leg.* Ziomek M. 1999, SZCZ, incorrectly determined – confused

with *Senecio jacobaea*). Presently existing locality, *S. erucifolius* subsp. *erucifolius* occurs here.

AB83 Ustowo, termophilous grasslands on the western bank of Lower Odra Valley (RADOMSKI & JASNOWSKA 1964, 1965). Locality not confirmed at present.

AB92 Moczyły, 53°19'29.2"N, 14°28'22.7"E, 3 m a.s.l. Not often noted in termophilous grasslands and thickets (RADOMSKI & JASNOWSKA 1965, ZAJĄC et al. 1993, Polish Vegetation Database). The station is located in the meadow in Odra Valley, on its eastern slope, inclination 15°, E from the village. About 30 clumps of hoary ragwort grow here on the area of 0.25 ha in plant community with *Calamagrostis epigejos*. Presently existing locality, *S. erucifolius* subsp. *erucifolius* occurs here.

From the same ATPOL square the species was reported in village Waliszewo – not existing at present – near western edge of Odra, south from the road Podjuchy-Kołbaskowo (RADOMSKI & JASNOWSKA 1965, ZAJĄC et al. 1993). Also in this ATPOL unit – Czarna Chata, west bank of Odra (ZAJĄC et al. 1993); Kamieniec, east bank of Odra, exposure SE, inclination 15–25°, in grasslands and thickets (RADOMSKI & JASNOWSKA 1964, 1965, ZAJĄC et al. 1993).

AC32 Brwice. Reported in the phytosociological relevé by PIOTROWSKA (2010), from the scarp near former railway station (railway line is closed at present). Dry grassland in the flat, open space, between field road and railway tracks, on the soil build of sand and clay. Locality not confirmed at present.

AC52 Kłósów 52°44'14.1"N, 14°27'44"E, 35 m a.s.l. Fallow land on the hilltop of Odra Valley, exposure SW, inclination 5°, E from the road from Kłósów towards SW, several dozens of clumps in the area of 0.25 ha in plant community with *Calamagrostis epigejos*. Presently existing locality, *S. erucifolius* subsp. *erucifolius* occurs here.

BB01 Miechęcino near Kołobrzeg (*leg.* Mądalski J. 1947, KRAM 503694, incorrectly determined – confused with *Senecio jacobaea*). Incorrect locality.

DISCUSSION

Totally, eight localities of *Senecio erucifolius* were reported in the Western Pomerania: three presently existing localities (including four populations), two localities not confirmed at present and three incorrect localities (Fig. 1). The last ones came from herbaria materials. After their revision it appeared that they were incorrectly determined – hoary ragwort were confused with morphologically similar and closely related species *Senecio jacobaea*. The map presenting the distribution of *S. erucifolius* in Poland prepared by KRUK & SOBISZ (2013) should be therefore complemented with localities given above.

Morphological analysis of collected specimens of *S. erucifolius* revealed that all presently existing pop-

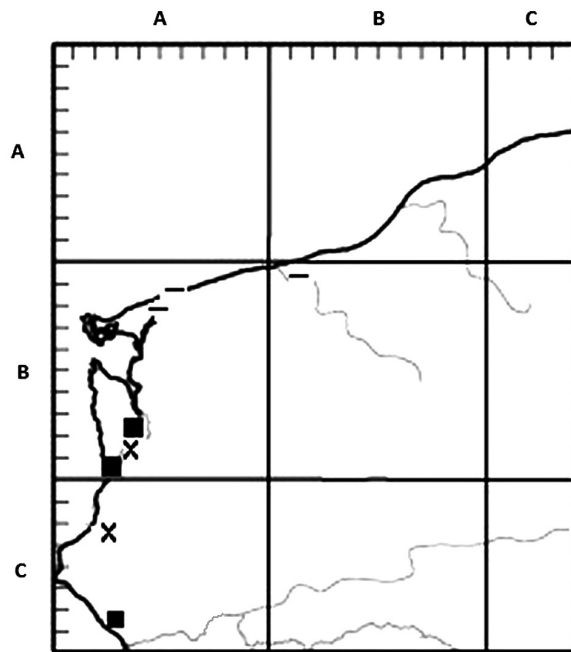


Fig. 1. Distribution of *Senecio erucifolius* in the Western Pomerania: ■ – presently existing locality, × – locality not confirmed at present, – – incorrect locality

ulations of the species in the Western Pomerania represent subsp. *erucifolius*, which is considered as atlantic taxon (Soó 1970). Also in the neighbouring Mecklenburg-Vorpommern the same subspecies occurs (FUKAREK & HENKER 2006).

Inventoried populations of hoary ragwort occupy the stands located in the valley of Lower Odra and adjacent areas lying at 3–58 m a.s.l. The stations are located on the slopes with eastern and south-eastern exposure except one locality on flat terrain. The populations occupy the area 0.25–0.5 ha, and their numbers amount to several dozens of clumps. In Moczyły and Kłósów hoary ragwort occur in plant community with *Calamagrostis epigejos*, and in Szczecin in the patches of associations *Arrhenathereteum elatioris* and *Tanaceto-Artemisietum*.

Senecio erucifolius was put earlier in the red list of endangered species of the Western Pomerania as a species of undefined threat, because of lack of sufficient information (ŻUKOWSKI & JACKOWIAK 1995). Taking into consideration the observed recently processes of intensification of agriculture and related to it elimination of fallow lands, spread of invasive pland species such as *Solidago gigantea* and *Calamagrostis epigejos*, and urbanization of outskirts of the cities, threat to the species seems to be unquestionable. The materials presented in this study complement our knowledge about the present state of hoary ragwort in the Western Pomerania.

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