10.2478/botlit-2014-0008

DE GRUYTER OPEN

BOTANICA LITHUANICA
ISSN 2029-932X

2014, 20(1): 64–66

A NEW POLISH RECORD OF *DRACOCEPHALUM THYMIFLORUM*

Artur Pliszko

Jagiellonian University in Kraków, Institute of Botany, Department of Plant Taxonomy, Phytogeography and Herbarium, Kopernika Str. 31, PL-31-501 Kraków, Poland
E-mail: artur.pliszko@uj.edu.pl

Abstract

Pliszko A., 2014: A new Polish record of *Dracocephalum thymiflorum* [Nauja *Dracocephalum thymiflorum* radvietė Lenkijoje]. – Both. Lith., 20(1): 64–66.

The paper presents a new record of a rare casual alien *Dracocephalum thymiflorum* L. (*Lamiaceae*) in Poland. A small population consisting of 42 generative individuals of this species was found in May 2013 on railway embankment in Okuniowiec village near the northeastern boundary of the town of Suwałki in the Polish part of the Lithuanian Lakeland. The current distribution (according to the ATPOL cartogram grid) is given, and introduction pathways via railway transport and contaminated crop seed are recognized.

Keywords: *Dracocephalum thymiflorum*, casual alien, distribution, railway lines, Lithuanian Lakeland, Poland.

Dracocephalum thymiflorum L., a representative of the family *Lamiaceae*, is native to Eastern Europe and Asia, being mainly distributed in European Russia, Siberia, the Caucasus and Iran, with the southwestern-most limit of its range in northeastern Bulgaria. It was introduced to eastern, central and northern parts of Europe (Heywood, 1972; Shishkin & Yuzepchuk, 1976), northeastern Africa (the Canary Islands) (Izquierdo et al., 2004) and North America (Fletcher, 1911; Fasset, 1941; Welsh et al., 1987; Whipple, 2001; Darbyshire, 2003), where is treated as either a casual or an established alien species. This plant usually occurs in thickets, on forest margins, pastures, arable fields, fallow lands, roadsides and railway embankments (Shishkin & Yuzepchuk, 1976; Darbyshire, 2003). It is associated with subxerophilous ruderal communities of the class *Artemisietea vulgaris* Lohm. et al. ex von Rochow 1951, especially in regions that are characterized by a continental climate (Mucina, 1989, 1997).

In Poland, *D. thymiflorum* is considered to be a casual alien plant (ephemerophyte) with several dozen known localities (Urbisz, 2011). It was reported for the first time as an alien weed in clover field in the town of Braniewo in 1873 by Seydler (Abromeit et al., 1903). The highest numbers of records of *D. thymiflorum* were reached during two periods: 1873–1914 and 1946–1989, and since 1989 there has been a lack of recording (Urbisz, 2011).

In May 2013, a small colony of this species was discovered on railway embankment in Okuniowiec village (Podlaskie Voivodeship) in the Polish part of the Lithuanian Lakeland (NE Poland). This site lies near the northeastern boundary of the town of Suwałki, where a railway line (between Poland and Lithuania) crosses a road to Okuniowiec settlement. The historical records of *D. thymiflorum* in the Polish part of the Lithuanian Lakeland are known from the town of Gołdap, where it was found in 1878 and 1891 (Abromeit et al., 1903). Distribution of *D. thymiflorum* in Poland has only occasional character and is presented in Fig. 1 according to the ATPOL cartogram grid (Zając, 1978). Currently, there are twenty six 10 km square cartogram units, which include mostly historical sites of this species. In comparison

to the occurrence of two other casual aliens of the genus *Dracocephalum* in Poland (i.e. *D. moldavicum* L. and *D. parviflorum* Nutt.), *D. thymiflorum* is the most frequent (Urbisz, 2011).

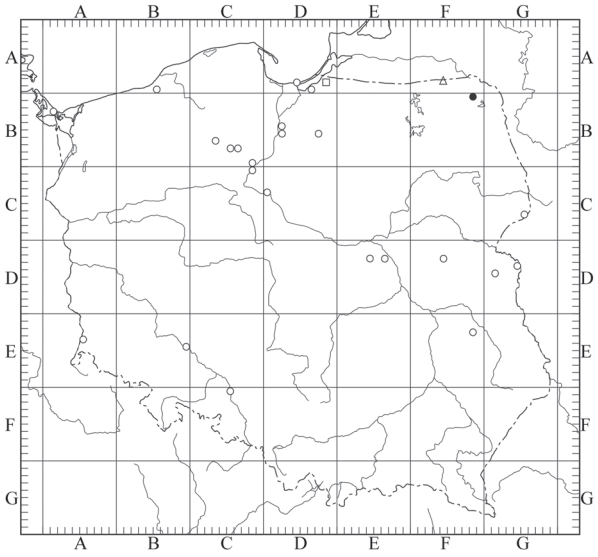

Fig. 1. Distribution of *Dracocephalum thymiflorum* in Poland within 10 km square units of the ATPOL cartogram grid: □ – the earliest known record in Poland, △ – the earliest known record in the Polish part of the Lithuanian Lakeland (Abromeit et al., 1903); ○ – localities listed by Urbisz (2011); ● – new locality

The newly discovered population of *D. thymiflorum* consists of 42 generative individuals dispersed over a few square meters along the railway embankment. This site is occupied by vascular plants typical to synanthropic and semi-natural vegetation with dominance of ruderal species (Table 1). Some of these belong to established alien plants in the flora of Poland, i.e. *Artemisia absinthium*, *Capsella bursa-pastoris*, *Conyza canadensis*, *Lactuca serriola*, *Papaver argemone*, *P. dubium*, *Senecio vernalis*, and *Viola arvensis* (Tokarska-Guzik et al., 2012). The persistence and spread of *D. thymiflorum* in the Polish part of the Lithuanian Lakeland should be monitored, because this plant is locally established in Lithuania (Gudžinskas, 1998).

Introduction pathways of *D. thymiflorum* into the territory of Poland are not clearly distinguished, however, this plant had often been seen on railway embankments and clover fields (Urbisz, 2011), suggesting two unintentional types of anthropochory. Presumably, diaspores of *D. thymiflorum* were transported by trains as the stowaways due to the development of international railway tracks (agochory)

Table 1. Phytosociological characteristics of plant community with *Dracocephalum thymiflorum* (names of species follow Mirek et al. (2002); diagnostic species of syntaxonomical classes follow Mucina (1997); cover-abundance estimation after the standard Braun-Blanquet method)

Location	Okuniowiec village
Date	14 May 2013
Latitude	54°6′50.70″ N
Longitude	22°58′15.24″ E
Altitude	161 m a.s.l.
Area of relevé	2 m × 3 m
Cover of herb layer	60%
Cover of moss layer	20%
Number of species	23
ChCl. *Artemisietea vulgaris*	*Oenothera biennis* 3, *Dracocephalum thymiflorum* 2, *Artemisia absinthium* 1, *Anthemis tinctoria* +, *Artemisia vulgaris* +, *Berteroa incana* +
ChCl. *Stellarietea mediae*	*Capsella bursa-pastoris* 1, *Convolvulus arvensis* 1, *Conyza canadensis* 1, *Viola arvensis* +
ChCl. *Koelerio-Corynephoretea*	*Cerastium semidecandrum* 2, *Potentilla argentea* 1, *Papaver dubium* s. str. +
ChCl. *Molinio-Arrhenatheretea*	*Arrhenatherum elatius* s. str. +, *Festuca rubra* s. str. +
ChCl. *Festuco-Brometea*	*Artemisia campestris* 1, *Galium verum* s. str. 1, *Medicago falcata* 1
Others:	*Senecio vernalis* 2, *Arenaria serpyllifolia* 1, *Echium vulgare* 1, *Papaver argemone* 1, *Lactuca serriola* +

were occasionally delivered with contaminated crop seeds imported from Eastern Europe (speirochory). The importance of railway lines for the spread of this species was pointed out by Jehlík & Dostálek (2008) and Rutkovska et al. (2013). Introduction of *D. thymiflorum* by contaminated clover seeds, on the other hand, was observed in the former East and West Prussia (Abromeit et al., 1903). Moreover, it should be mentioned that Bojňanský & Fargašová (2007) described this plant as a species recently introduced with cereals and clover to the Carpathians. In conclusion, *D. thymiflorum* most likely was introduced to Okuniowiec village from Lithuania via railway transport.

Flowering specimens of *D. thymiflorum* collected in Okuniowiec village were deposited at the Herbarium of the Institute of Botany of Jagiellonian University in Kraków (KRA).

REFERENCES

Abromeit J., Neuhoff W., Steffen H., 1903: Flora von Ost- und Westpreussen, 2(26–43). – Berlin – Königsberg.

Bojňanský V., Fargašová A., 2007: Atlas of Seeds and Fruits of Central and East-European Flora. The Carpathian Mountains Region. – Dordrecht.

Darbyshire S. J., 2003: Inventory of Canadian Agricultural Weeds. – Ottawa.

Fasset N. C., 1941: *Dracocephalum thymiflorum* in Ontario. – Torreya, 41(2): 57.

Fletcher E. F., 1911: *Dracocephalum thymiflorum* a casual Plant at Westford, Massachusetts. – Rhodora, 13(154): 212.

Gudžinskas Z., 1998: Conspectus of alien plant species of Lithuania. 6. Lamiaceae, Scrophulariaceae. – Botanica Lithuanica, 4(2): 119–135.

Heywood V. H., 1972: *Dracocephalum* L. – In: Tutin T. G., Heywood V. H., Burges N. A., Moore D. M., Valentine D. H., Walters S. M., Webb D. A. (eds), Flora Europaea, 3: 161. – Cambridge – New York – Oakleigh.

Izquierdo I., Martín J. L., Zurita N., Arechavaleta M. (eds), 2004: Lista de especies silvestres de Canarias (hongos, plantas y animales terrestres). – La Laguna.

Jehlík V., Dostálek J., 2008: Influence of railway transport in the South-East of Slovakia on formation of adventive flora in Central Europe. – Biodiversity: Research and Conservation, 11–12: 27–32.

Mirek Z., Piękoś-Mirkowa H., Zając A., Zając M., 2002: Flowering plants and pteridophytes of Poland. – In: Mirek Z. (ed.), Biodiversity of Poland, 1: 1–442. – Kraków.

Mucina L., 1989: Syntaxonomy of the *Onopordum acanthium* communities in temperate and continental Europe. – Vegetatio, 81(1–2): 107–115.

Mucina L., 1997: Conspectus of classes of European vegetation. – Folia Geobotanica et Phytotaxonomica, 32(2): 117–172.

Rutkovska S., Pučka I., Evarts-Bunders P., Paidere J., 2013: The role of railway lines in the distribution of alien plant species in the territory of Daugavpils City (Latvia). – Estonian Journal of Ecology, 62(3): 212–225.

Shishkin B. K., Yuzepchuk S. V. (eds), 1976: Flora of the U.S.S.R. *Labiatae*, 20. – Jerusalem.

Tokarska-Guzik B., Dajdok Z., Zając M., Zając A., Urbisz A., Danielewicz W., Hołdyński C., 2012: Rośliny obcego pochodzenia w Polsce ze szczególnym uwzględnieniem gatunków inwazyjnych. – Warszawa.

Urbisz A., 2011: Occurrence of temporarily-introduced alien plant species (ephemerophytes) in Poland – scale and assessment of the phenomenon. – Katowice.

Welsh S. L., Atwood N. D., Goodrich S., Higgins L. C. (eds), 1987: A Utah Flora. – Great Basin Naturalist Memoirs, 9: 1–894.

Whipple J. J., 2001: Annotated checklist of exotic vascular plants in Yellowstone National Park. – Western North American Naturalist, 61(3): 336–346.

Zając A., 1978: Atlas of distribution of vascular plants in Poland (ATPOL). – Taxon, 27(5–6): 481–484.

NAUJA *DRACOCEPHALUM THYMIFLORUM* RADVIETĖ LENKIJOJE

Artur Pliszko

Santrauka

Maža *Dracocephalum thymiflorum* L. populiacija buvo aptikta 2013 m. gegužę ant geležinkelio pylimo Okuniovieco kaime (Podlasko vaivadija) netoli šiaurrytinės Suvalkų miesto ribos (ŠR Lenkija). Ši reta atsitiktinė svetimkraštė rūšis šiuo metu konstatuota dvidešimt šešiuose 10 kvadratinių kilometrų dydžio ATPOL kartografinio tinklelio vienetuose. Į Okuniovieco kaimą *D. thymiflorum* greičiausiai pateko netyčia su geležinkeliu gabenamais kroviniais iš Lietuvos.