

A new locality of *Veronica triloba* (Scrophulariaceae) in Poland

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Abstract: A new locality *Veronica triloba* (Opiz) Kern was found in the Nida Basin (southern Poland) in 2007. The locality is situated near Kalina village (ATPOL grid square: EF 31). The plant occurs there as a weed in arable field and in the baulks between fields neighbouring dry grasslands protected as Special Area of Conservation (SACs) called Kalina-Lisinieć established under NATURA 2000. The modified distribution map of *V. triloba* in Poland is presented.

Key words: Distribution, *Veronica hederifolia* complex, *Veronica triloba*, Nida Basin, Poland

Introduction

Veronica triloba (Opiz) Kern was previously reported from Poland as *varietas* or subspecies of *V. hederifolia* L. (Tacik & Trzcińska-Tacik 1963, Tacik 1975). Nowadays, it is considered to be a taxon at the species level (Mirek et al. 2002). The species is a member of the *V. hederifolia* group which according to Fischer (1975) comprises in Central Europe three species: *V. hederifolia* L., *V. sublobata* M. Fischer and *V. triloba*. Biometric studies conducted by Cieślak & Mirek (1996) proved that *V. triloba* differs from the other members of the *V. hederifolia* group mainly in color and shape of petals, color and sculpture of the fresh seeds and shape of the upper leaves.

Veronica triloba is east-submediterranean species (Meusel 1978). The Polish stations of the species are isolated from its continuous range which in Central Europe comprises mostly areas located south of the main range of the Carpathians. According to the ATPOL data base (Zajac & Zajac 2001, supplemented), it was reported only from six localities in Poland: three located in the Małopolska Upland, two in Silesian Lowlands and one in Południowowielkopolska Lowland. The species distribution is not thoroughly known in Poland because *V. triloba* can be easily confused with other species from *V. hederifolia* aggregate. Besides, the appearance of the species can also be affected by site conditions. This means that individuals of *V. hederifolia* s. str. and *V. sublobata* which grow in habitat typical to *V. triloba* become similar to it. Also *V. hederifolia* s. str. growing in habitat specific to *V. sublobata* turns up into a *sublobata*-resembling form.

Veronica triloba grows mainly in sunny, dry and open sites, mainly in segetal phytocenoses neighbouring dry grasslands (Cieślak & Mirek 1996).

Methods

Floristic studies were conducted in the area of Nida Basin (subregion of Wyżyna Małopolska) in 2007. The location of the newly discovered station was determined using a GPS receiver (the WGS84 coordinate system). The distribution map of the species is presented using ATPOL grid system where capital letters indicate the 100-km square and the digits denote the 10-km square (Zajac 1978). The names of plants used in the paper followed Mirek et al. (2002). The herbarium material is deposited in the Herbarium of the Jagiellonian University in Kraków (KRA).

Results and Conclusions

The new locality of *Veronica triloba* was discovered near Kalina (colled also as Fefłówka) village (GPS coordinates: 50°21'55''N, 20°09'40''E and 50°21'49''N, 20°09'29''E). The species was recorded in one ATPOL square 10 km × 10 km, marked with

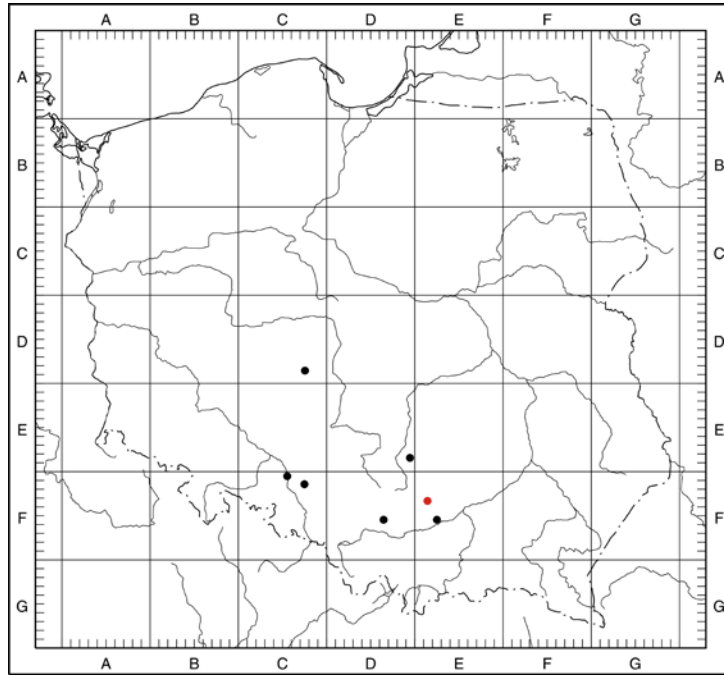


Fig 1: Distribution maps of *Veronica triloba* (Opiz) Kern in Poland (in the ATPOL grid of squares 10 km x 10 km): ● – new locality

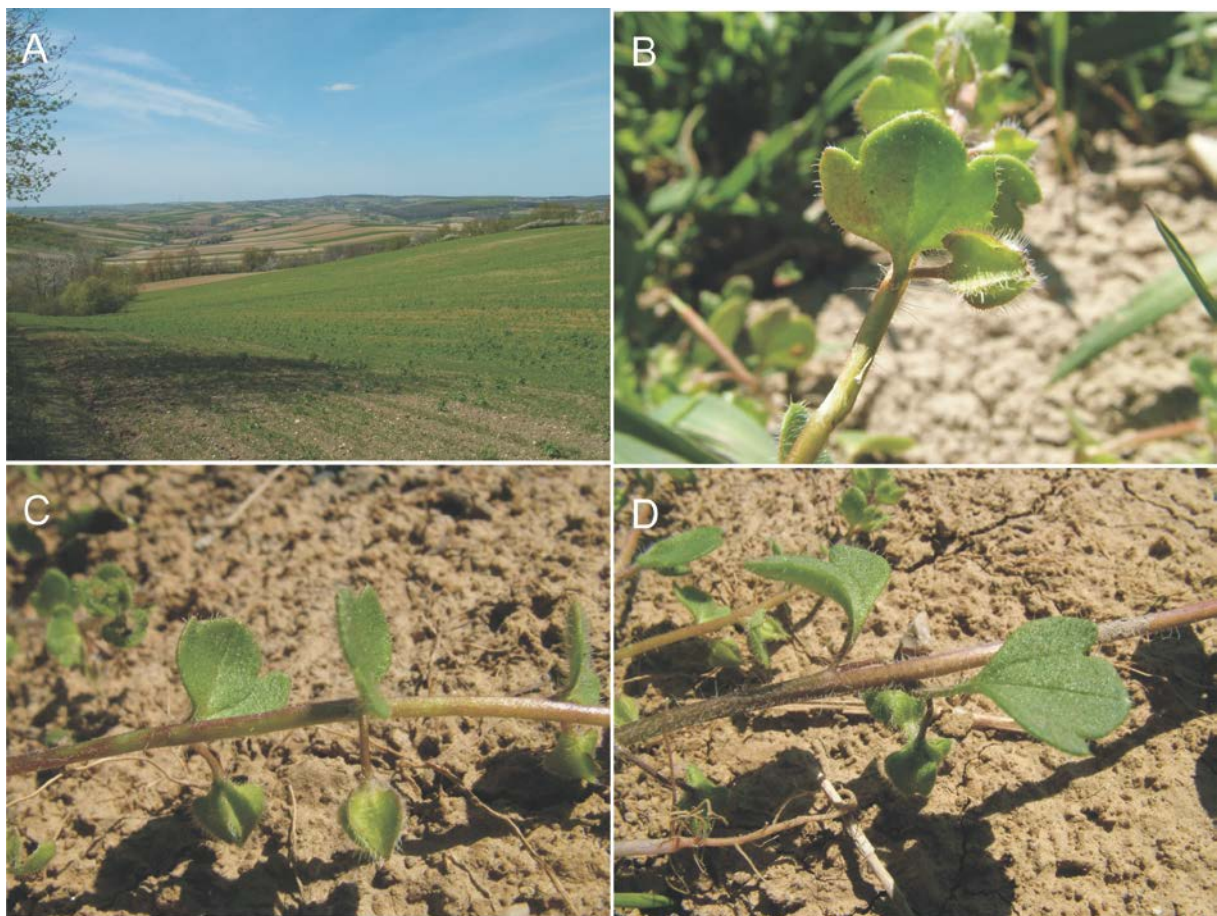


Fig 2: Habitat and habit of *Veronica triloba* (Opiz) Kern: A – arable fields near Kalina village, B-D – general habit of the species at the new locality.

symbol EF 31 (Fig. 1). The population of the species was consisted of about hundred individuals and divided into several subpopulations.

Most of them were found in arable field (cereal cultivation), located at the top of a hill, and the another were observed in the baulks between fields on south-west facing slope of the hill (Fig. 2). *V. triloba* grows here on limestone soils together with other calcyphilous weeds species (e.g. *Conryngia orientalis*, *Adonis aestivalis*, *Veronica hederifolia*, *Lithospermum arvense*). All of the observed subpopulation of *V. triloba* are located in the vicinity of dry grasslands protected as Special Area of Conservation (SACs) called Kalina-Lisiniec and established under NATURA 2000. The grasslands represent *Inuletum ensifoliae* associations. They are very well developed and extremely rich in species. It is worth mentioning, that in Kalina many rare xerothermic species, e.g. *Cypripedium calceolus*, *Ophrys insectifera*, *Orchis pallens*, *O. mascula*, *O. militaris*, *O. purpurea*, *Platanthera chlorantha*, *Galium valdepilosum*, *Ranunculus oreophilus* were recorded. The grasslands are habitat for numerous protected species, and 11 of them represent family Orchidaceae (Perzanowska & Grzegorzczak 2009). In the arable fields neighbouring grasslands weed communities representing *Caucalidion lappulae* alliance occur. One of the species typical to the alliance is very rare and threatened in Poland archeophyte *Conringia orientalis* (Nobis et al. 2007).

It is likely that further sites of *Veronica triloba* will be discovered because potential habitats of the species are numerous in the Nida Basin. The small number of records of *V. triloba* to date is most probably caused by its early and very short life cycle lasting approximately five weeks from germination to seed spillage. Because of the plant's small size *V. triloba* can be also easily overlooked or misidentified with *V. hederifolia* by the botanists.

References

- Cieślak E. & Mirek Z. (1996): Representatives of the *Veronica hederifolia* group (Scrophulariaceae) in Poland. – *Fragm. Flor. Geobot.* 41(2): 935-952.
- Fisher M. (1975): The *Veronica hederifolia* group: taxonomy, ecology and phylogeny, pp. 48-60. In Walters S.M. (ed.): *European floristic and taxonomic studies.* – Bot. Soc. Brit. Is. Conf. Rep. 15: 144 pp.
- Meusel H., Jäger E., Rauschert S. & Weinert E. (1978): *Vergleichende Chorologie der Zentraleuropäischen Flora. 2. Karten.* Veb Gustav Fischer Verlag, Jena, 259-421.
- Mirek Z., Piękoś-Mirek H., Zając A. & Zając M. (2002): Flowering plants and pteridophytes of Poland. A checklist, 442 pp. In: Mirek Z. (ed.). *Biodiversity of Poland 1W.* Szafer Institute of Botany, Polish Academy of Sciences, Kraków.
- Nobis M., Nobis A., Kozak M. & Przemyski A. (2007): Występowanie *Conringia orientalis* (Brassicaceae) i *Scandix pecten-veneris* (Apiaceae) na obszarze Niecki Nidziańskiej. – *Fragm. Flor. Geobot. Polonica* 14(1): 49-59.
- Perzanowska J. & Grzegorzczak M. 2009. *Obszary NATURA 2000 w Małopolsce.* Instytut Ochrony Przyrody PAN, Kraków.
- Tacik T. (1975): *Florae Poloniae Exsiccata. Centuria VI.* – *Fragm. Flor. Geobot.* 21(3) Suppl.: 399-420.
- Tacik T. & Trzcińska-Tacik H. (1963): *Veronica* L., pp. 280-338. In Pawłowski B. (ed.): *Polish Flora. Vascular plants of Poland and adjacent territories.* PWN, Warszawa-Kraków, 10: 401 pp.
- Zając A. (1978): Atlas of distribution of vascular plants in Poland (ATPOL). – *Taxon* 27(5-6): 481-484.
- Zając A. & Zając M. (ed.) (2001): *Distribution Atlas of Vascular Plants in Poland.* Laboratory of Computer Chorology, Institute of Botany, Jagiellonian University, Cracow, 715 pp.

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