

A new locality of orchid *Orchis purpurea* Huds. in Cieszyn Foothills (Czech Republic)

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Abstract: *Orchis purpurea* Huds. is protected species both in the Czech Republic and Poland. In 2014 a new locality was found in Kojkovice (district Třinec) in the Cieszyn Foothills near border with Poland. The only one blooming individual was observed in 2014 and 2015 but it was accompanied by other 6 orchid species, that were much more abundant, as: *Orchis pallens*, *Orchis mascula* subsp. *signifera*, *Listera ovata*, *Platanthera bifolia*, *Cephalanthera damasonium*, *Neottia nidus-avis*. The Kojkovice forest deserves to be protected area due to abundant occurrence of many orchids.

Key words: *Ochidaceae* family, Lady Orchid, strict protection, endangered species

Introduction

Orchis purpurea Huds. (Lady Orchid) is a tall, tuberous, perennial orchid with a mainly Mediterranean distribution. It is scattered sparsely through France and Central Europe and extends to Corsica and the mountains of central Italy where it is one of the most common woodland orchid species. Moreover, it occurs in southern part of UK islands, Caucasian area and mountains of Northern Africa (Jacquemyn *et al.* 2006, Zarzycki *et al.* 2014). It is protected species on the territory of the Czech Republic. It is assigned to category C2b what means that it is endangered species with approaching rarity (Grulich 2012, Danihelka 2012). In adjacent Poland, where northern border of the range of the species lies, the species is strictly protected. There are only ten isolated localities: 5 ones in Małopolska Upland, Lublin Upland (4), and the only one in Carpathian Mts (Panieńska Góra Mt.) (Mirek & Piękoś-Mirkowa 2008).

New locality

In April 2014 during botanical excursion in the area of small forest complex in Kojkovice village (N 49°42'00"/E 18°40'57'), which is a quarter of Třinec town, the new locality of *Orchis purpurea* was found. The single individual (Fig. 1) in blooming phase was growing several meters from the forest margin within the spontaneous forest of approximately 20 years old. In the forest the following, tree species dominated: *Tilia cordata*, *Betula pendula* and *Fraxinus excelsior*. The western part of the wood is occupied by a species-rich multispecies mixed forest with the dominance of *Tilia cordata* resembling, in terms of species composition and physiognomy, mesophilous broad-leaved forest of the *Carpinion betuli* alliance (Boublik *et al.* 2013). In turn, fragment of forest growing to the east probably is a former pasture. It is manifested by low cover of trees, high abundance of shrubs and many thermophilous plants in the ground layer.

The whole described forest complex, in spite of small area (ca. 5 ha), is precious site of the occurrence of orchids. Up to now, 7 species representing *Orchidaceae* family were encountered. In eastern part of the forest more than 10 blooming individuals of *Orchis pallens* L. were noted and several blooming specimens, including some with white flowers, of early-purple orchid *Orchis mascula* L. subsp. *signifera* (Fig. 1). In each of these species also vegetative stems were recorded. Moreover, in whole wood other orchid species were observed as follows: *Listera ovata*, *Platanthera bifolia* and *Cephalanthera damasonium*. The most frequent is Bird's-nest Orchid *Neottia nidus-avis* L. which most abundantly grows in more humid and western part of the forest. Both in 2014 and 2015 about 100 individuals of the species were recorded.

Discussion and conclusions

Despite very profound and thorough penetration of the area no more of *Orchis purpurea* specimens were found. In 2015 the same individual in blooming phase was observed again,

however, likewise in 2014 its flower did not set seeds (D. Křenek – pers. comm.). The presented site of the species is third known locality in the north-eastern part of the Czech Republic (M. Fiedor – pers. comm.). According to Zarzycki *et al.* (2014) in the territory of Poland the nearest locality is 100 km away from the one presented in this study. Both *Orchis purpurea* and *Orchis pallens* in the Czech Republic are considered as endangered and characterized by rarity and declining trend (Grulich 2012).

The forest in Kojkovice is important refuge of orchids in the scale of the Cieszyn Foothills due to the occurrence as many as 7 species representing this family. The most serious threat to this group of plants is penetration by tourists and removal and digging up plants for gardens because of ornamental values. Furthermore *Orchis purpurea* grows in big shade what can be cause of lack of seeds in this plant. Authors suggest that forest in Kojkovice should be protected and some treatments as forest thinning and annual monitoring will be very advisable.



Fig 1: The inflorescence of *Orchis purpurea* Huds. (left) and *Orchis mascula* L. subsp. *signifera* (right) in Kojkovice locality (photos by Tomasz Jonderko).

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