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OROBANCHE BARTLINGII (OROBANCHACEAE), A SPECIES NEW TO POLAND

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Abstract: *Orobanche bartlingii* Griseb. is a new species for Polish flora found in Ojców National Park near Cracow (southern Poland). The most important differences between *O. bartlingii* and *O. alsatica* Kirschl. are given. The habitat and geographical distribution of *O. bartlingii* in Poland are reported.

Key words. Orobanchaceae, *Orobanche bartlingii*, taxonomy, distribution, Poland

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Orobanche bartlingii Griseb. was found in the central part of Ojców National Park on a slope of Grodzisko Hill in June 1992 (Fig. 1 & 2). Since that time the locality has been visited regularly, and every year some 30–45 specimens in an area of *ca* 1500 sq. m have blossomed. *O. bartlingii* grows on a slope with a southern exposure in xerothermic grassland of the *Festucetalia valesiaceae* alliance; single specimens are found in open, rocky grassland on limestone with *Festuca pallens* Host (Table 1). I have not searched for further localities in Ojców National Park, but their occurrence is probable because xerothermic vegetation with *Libanotis pyrenaica* (L.) Bourg., a host plant of *O. bartlingii*, is common.

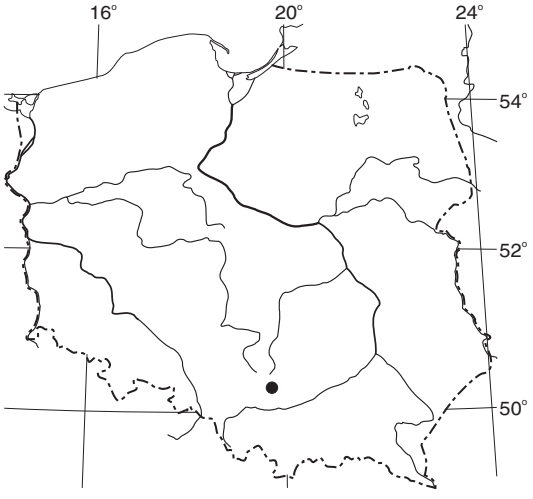

Fig. 1. Locality of *Orobanche bartlingii* Griseb. in Poland.

Fig. 2. *Orobanche bartlingii* Griseb. in Ojców National Park.

Table 1. Phytocoenolgical spectrum of *Orobanche bartlingii* in the Ojców National Park, Grodzisko hill: 1 – rocky grassland, 2 – rocky grassland, 3 – calcareous rock (date of relevés – 22.06.1997).

Relevé number	1	2	3
Area of relevé [m^2]	100	150	5
Inclination [^{o}]	45	40	20
Exposure	SSW	SSW	S
Altitude a.s.l. [m]	380	390	380
Cover of shrubs [%]	0	15	0
Cover of herbaceous plants [%]	100	90	70
Cover of bryophytes and lichens [%]	0	0	20
Corylus avellana	.	+	.
Fraxinus excelsior	.	+	.
Pinus sylvestris	.	+	.
Prunus spinosa	.	+	.
Quercus petraea	.	+	.
Rhamnus catharticus	.	+	.
Orobanche bartlingii	1		+
Orobanche lutea	1	+	.
Libanotis pyrenaica	3	2	1
Coronilla varia	2	1	.
Festuca pallens	+	+	2
Festuca rupicola	2	1	1
Agrimonia eupatoria	1	.	.
Allium montanum	.	.	1
Brachypodium sylvaticum	1	1	.
Centaurea jacea	1	.	.
Centaurea scabiosa	1	+	.
Clinopodium vulgare	1	1	.
Euphorbia cyparissias	1	+	+
Fragaria vesca	1	1	1
Galium album	1	.	.
Medicago falcata	1	+	.
Scabiosa ochroleuca	+	+	+
Achillea millefolium	+	+	+
Acinos arvensis	.	.	+
Echium vulgare	+	+	.
Festuca pratensis	+	.	.
Melica transsilvanica	.	.	+
Origanum vulgare	+	1	.
Phleum phleoides	+	+	.
Potentilla arenaria	+	.	+
Potentilla argentea	+	+	.
Potentilla heptaphylla	+	.	+
Rhinanthus minor	+	.	.
Sedum sexangulare	.	.	+
Sempervivum soboliferum	.	.	+
Thymus austriacus		.	+
Trifolium pratense	+	.	.
Vincetoxicum hirundinaria	+	+	+

Orobanche bartlingii Griseb. (Fig. 2 & 3a)

Spicil. Fl. Rumel. II: 57–58 (1844).

Orobanche libanotidis Rupr. 1845. – *O. alsatica* Kirschl. subsp. *libanotidis* (Rupr.) Tzvelev 1973. – *O. alsatica* Kirschl. var. *libanotidis* (Rupr.) Beck 1890.

Orobanche bartlingii is closely related to *O. alsatica* Kirschl. from which it differs in the small size of its corolla and in flower morphology.

The wide range of *O. bartlingii*, spreading from eastern France to China (Pusch & Barthel 1992), may suggest that it is a common species, but the low number of its published localities seems to point to the opposite view that, at least in Central Europe, it is a very rare species. The task of reasonably establishing the range of *O. bartlingii* is hindered by various systematic approaches. In many local floras *O. bartlingii* is treated jointly with *O. alsatica*, in spite of striking morphological differences between them (Table 2, Fig. 3).

Another kind of problem is presented by their biology. *O. bartlingii* parasitizes *Libanotis pyrenaica*, whereas the host plant for *O. alsatica* is *Peucedanum cervaria* (L.) Lapeyr. These relationships are to be found in Germany (Pusch & Barthel 1992) Austria (Wagner & Mecenovic 1973; Melzer 1974, 1981; Melzer & Barta 1995) the Czech Republic (Zázvorka 1997) and now also in Poland. However, in Slovakia the problem is more complicated. Here, *Orobanche bartlingii* maintains its morphological identity but may parasitize both *Libanotis pyrenaica* and *Peucedanum cervaria* (Zázvorka 1997). It would be interesting to investigate the degree of host fidelity in both *Orobanche* species on the S-E transect.

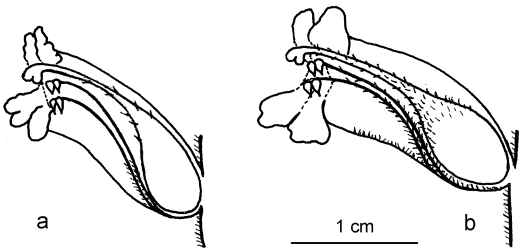

Fig. 3. Differences between *Orobanche bartlingii* (a) and *O. alsatica* (b).

Table 2. Morphological differences between *Orobanche bartlingii* and *O. alsatica.*

Orobanche bartlingii	*Orobanche alsatica*
Corolla <20 mm long	Corolla >20 mm long
Stamens set 1–3 mm above ovary	Stamens set 4–7 mm above ovary
Style of carpel glabrous or with singular glands	Style of carpel distinctly glandular pubescent
Host – *Libanotis pyrenaica*	Host – *Peucedanum cervaria*

SPECIMENS EXAMINED. POLAND. CRACOW–CZĘSTOCHOWA UPLAND. Ojców National Park, Grodzisko Hill, open rocky grassland on limestone, (50°14'N/ 19°50'E) 380–390 m a.s.l., 20.06.1992, *leg. Z. Szelqg*

Herbarium specimens have been deposited in the Herbarium of the Institute of Botany of the Polish Academy of Sciences in Kraków (KRAM) and in the Herbarium of the Institute of Botany, Academy of Sciences of the Czech Republic in Průhonice (PRC).

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