Potentilla × aurulenta Gremli (Rosaceae),
a nothospecies new to Poland

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Potentilla × aurulenta Gremli (= P. heptaphylla L. × P. tabernaemontani Aschers.) is reported for the first time from Poland. The morphological characteristics, ecological requirements, and distribution of the nothospecies are presented together with photographic documentation.

Keywords: Potentilla × aurulenta, taxonomy, Poland

Introduction

During an expedition to Wzgórza Trzebnickie, Poland, in May 2004, the author found specimens of Potentilla that differ from the congeners in Poland. After a morphological study, literature searches (ZIMMETER 1884, WOLF 1908, SZAFAERT and PAWLOWSKI 1955, SOJÁK 1995, GERSTBERGER 2002, KURTTO et al. 2004) and examination of many species, the author concluded that it represents the hybrid of P. heptaphylla L. and P. tabernaemontani Aschers.

Methods

Morphological features of the species Potentilla × aurulenta were described and compared with those of P. heptaphylla L. and P. tabernaemontani (Tab. 1).

Basal leaves of Potentilla × aurulenta from herbarium material were rehydrated by boiling in water and detergent. Two small pieces of leaves were cut from the lateral, right leaflet and subjected to critical point drying. For scanning electron microscopy (SEM), samples were mounted on metal stubs, spattered with technical gold (Pelco S.C. 6 coating system), examined and photographed using a Tesla BS 340 scanning electron microscope. The hair types were analyzed on 5 photographs for each taxon.

The phytocoenoses were analysed according to the Central European Zürich – Montpellier school (BRAUN-BLANQUET 1964). The positions of the localities of Potentilla × aurulenta were determined by GPS Garmin eTrex Vista.

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Nomenclature of taxa was used according to WOLF (1908) and KURTTO et al. (2004). The abbreviations of herbaria correspond with the index of herbaria (HOLMGREN et al. 1990).

Results and discussion

Potentilla ×aurulenta Gremli (= P. heptaphylla L. × P. tabernaemontani Aschers.)

(Figs. 1, 3, 4)

Potentilla ×aurulenta Gremli (Figs. 1, 3, 4)


Characteristic features (Tab. 1): Perennial with slender stock; lateral flowering stems up to 30–40 cm, mostly branched above middle with hairs borne on minute tubercles. Basal

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Tab. 1. Comparison of main diagnostic characters among P. heptaphylla L., P. tabernaemontani Aschers. and the hybrid Potentilla ×aurulenta Gremli.

<table>
<thead>
<tr>
<th>Character</th>
<th>P. heptaphylla</th>
<th>P. tabernaemontani</th>
<th>Potentilla ×aurulenta</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stems</strong></td>
<td>with slender stock; lateral flowering stems up to 40 cm</td>
<td>with numerous procumbent woody stems freely rooting at the nodes; lateral flowering stems not more than 10 cm high</td>
<td>with slender stock; lateral flowering stems up to 30–40 cm</td>
</tr>
<tr>
<td><strong>Leaflets</strong></td>
<td>ovate-lanceolate, dentate or crenate-dentate</td>
<td>cuneate-oblanceolate, dentate or cuneate- -dentate</td>
<td>ovate-lanceolate, dentate</td>
</tr>
<tr>
<td><strong>Stipules</strong></td>
<td>stipules of basal leaves ovate-lanceolate, acute</td>
<td>stipules of basal leaves linear-to-linear-triangular</td>
<td>stipules of basal leaves lanceolate, acute</td>
</tr>
<tr>
<td><strong>Hairiness</strong></td>
<td>hairs on stems and leaves with soft hairs borne on minute tubercles at base, and shorter, often reddish multicellular glandular hairs</td>
<td>hairiness consisting of simple curved hairs only</td>
<td>hairiness consisting of mixture of simple curved and straight hairs borne on minute tubercles at base</td>
</tr>
<tr>
<td><strong>Sepals</strong></td>
<td>ovate-lanceolate; epicalyx segments linear-lanceolate, as long as or shorter than sepals</td>
<td>ovate, epicalyx segments lanceolate, obtuse, much shorter than sepals</td>
<td>ovate, epicalyx segments lanceolate, obtuse, shorter than sepals</td>
</tr>
<tr>
<td><strong>Petals</strong></td>
<td>5–7 mm</td>
<td>6–10 mm</td>
<td>5–10 mm</td>
</tr>
</tbody>
</table>
POTENTILLA × AURULENTA A NOTHOSPECIES NEW TO POLAND

Fig. 1. Representative specimens of Potentilla × aurulenta Gremli.

Fig. 2. Distribution of Potentilla × aurulenta Gremli – cartographic square in Poland ATPOL (ZAJAC 1978).
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Fig. 3. Upper surface of leaflets glabrous and at margin with soft simple straight hairs borne on minute tubercles at base, *Potentilla ×aurulenta* Gremli (SEM).

Fig. 4. Lower surface of leaflets on veins with simple curved hairs borne on minute tubercles at base; between veins with relatively sparse simple shorter, curved hairs, *Potentilla ×aurulenta* Gremli (SEM).
and lower stem leaves digitate with 5–7 leaflets; stipules of basal leaves lanceolate, acute. Terminal tooth at basal leaves equalling, slightly shorter or slightly longer than the adjacent lateral teeth. Leaves on upper side glabrous and at margin with soft simple straight hairs borne on minute tubercles at base. Lower surface of leaflets on veins and at margin with simple curved hairs borne on minute tubercles at base; between veins with relatively sparse simple shorter, curved hairs. Flowers numerous, in cymes. 5-merous, yellow. Sepals ovate-lanceolate; epicalyx-segments lanceolate shorter than sepals. Style conical at basal, slightly clavate at apex.

Flowering: V–VIII.

Specimens examined: Poland, Wzgórze Trzebnickie: Tarnowiec village near Trzebnica 51°13’56”N, 16°46’01”E, 164 m (BE37), 6.5.2004 J. Kołodziejek (LOD).

Ecology: The plants grow in thermophilous xerothermic grasslands from the class Festuco-Brometea Br.Bl. et R.Tx. Phytosociological characteristic of the locality of Potentilla ×aurulenta is documented by the following relevé:

Wzgórze Trzebnickie: Tarnowiec village near Trzebnica 51°13’56”N, 16°46’01”E, 164 m, 6.5.2004, 5x5 m, pH in H2O = 7.6; D = 10%: Hylocomium splendens 1, Tortella tortuosa +, C = 90%: Sedum sexangulare 3, Potentilla ×aurulenta 2, Fragaria viridis 1, Pimpinella saxifraga 1, Thymus serpyllum 1, Acinos arvensis +, Anthyllis vulneraria +, Briza media +, Centaurea scabiosa +, Galiurn vernum +, G. verum +, Leontodon hispidus +, Linum catharticum +, Poa pratensis +, Polygala comosa +, Potentilla tabernaemontani +, Primula officinalis r, Rhinanthus minor +, Sanguisorba minor +, Scabiosa ochroleuca +, Vicia cracca r.

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References


KOŁODZIEJEK J.


