

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

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Potentilla × *aurulenta* Gremlí (= *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, SZAFER and PAWŁOWSKI 1955, SOJÁK 1995, GERSTBERGER 2002, KURTTÓ 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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Tab. 1. Comparison of main diagnostic characters among *P. heptaphylla* L., *P. tabernaemontani* Aschers. and the hybrid *Potentilla* × *aurulenta* Gremli.

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

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)

Excurs.-Fl. Schweiz. 12.1884. – *P. subopaca* Zimmeter, Jahres.-Ber. Staats-Ober.-Realschule Steyr. 14, 20. 1884. – Synonymized by WOLF (1908: 604). – *P. explanata* Zimmeter, Jahres.-Ber. Staats-Ober.-Realschule Steyr. 14, 20. 1884. – Synonymized by SOJÁK (1995: 313). – *P. matzialekii* Domin, Sitzber. Böhm. Ges. Wiss. 25: 33. 1903. – Synonymized by WOLF (1908: 604). Indicatio Locotypica: Schwitzerland, Osterfingerbad bei Schaffhausen. – Original Material: not traced.

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



Fig. 1. Representative specimens of *Potentilla x aurulenta* Greml.

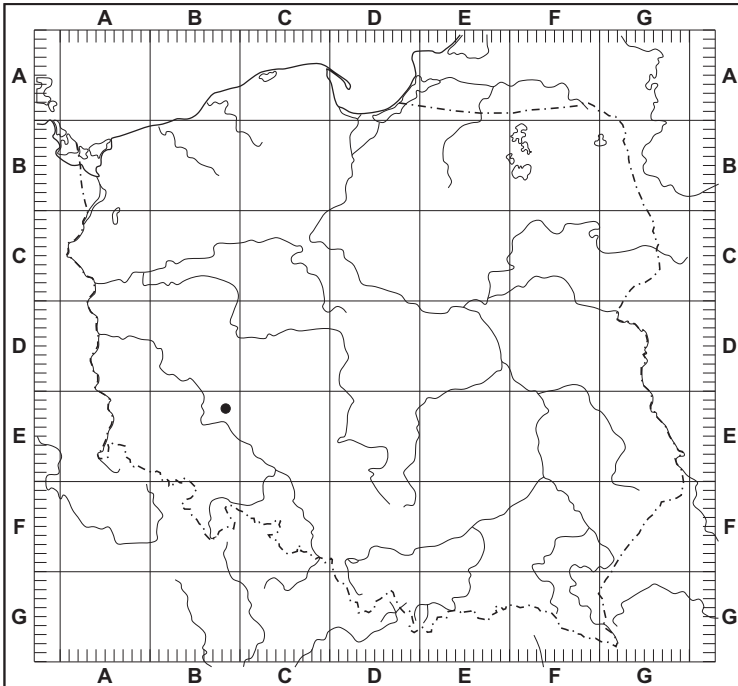


Fig. 2. Distribution of *Potentilla x aurulenta* Greml – cartographic square in Poland ATPOL (ZAJAC 1978).

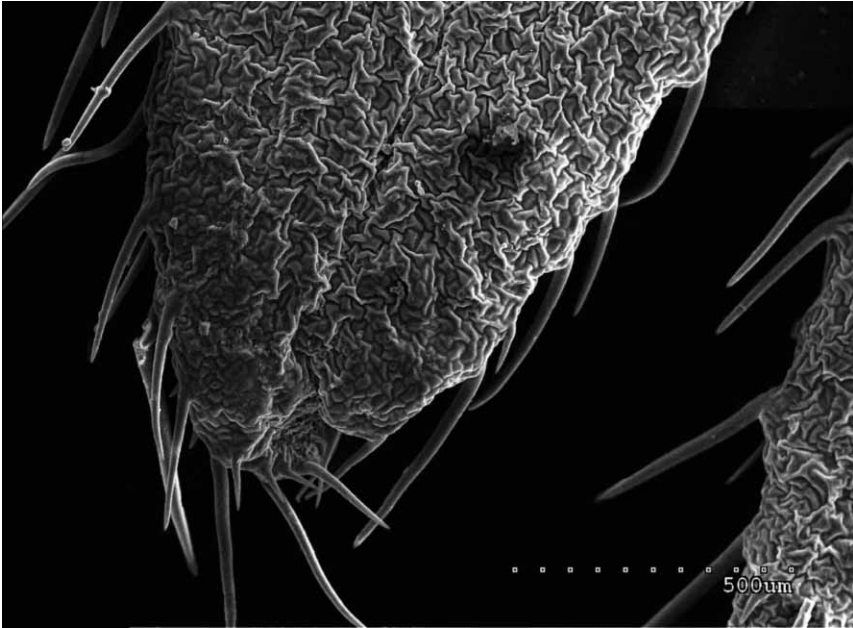


Fig. 3. Upper surface of leaflets glabrous and at margin with soft simple straight hairs borne on minute tubercles at base, *Potentilla x aurulenta* Gremlí (SEM).

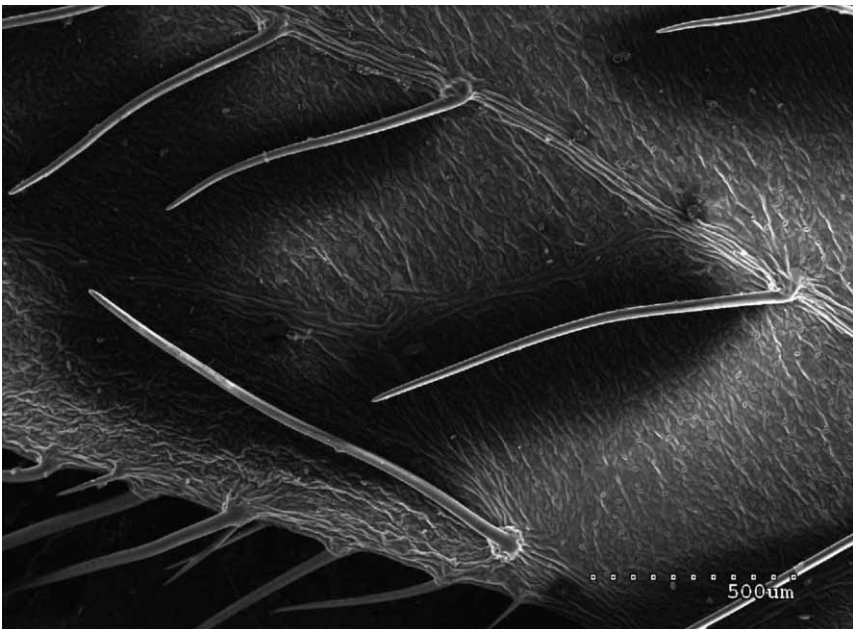


Fig. 4. Lower surface of leaflets on veins with simple curved hairs borne on minute tubercles at base; between veins with relatively sparse simple shorter, curved hairs, *Potentilla x aurulenta* Gremlí (SEM).

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, Wzgórza 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:

Wzgórza Trzebnickie: Tarnowiec village near Trzebnica 51°13'56"N, 16°46'01"E, 164 m, 6.5.2004, 5×5 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* +, *Galium verum* +, *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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