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JIŘÍ SOJÁK[1]

Potentilla psammophila (Rosaceae), a new species from N Bohemia

Abstract

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A new species from the *Collinae* group is described from northern Bohemia, Czech Republic. It is allied to *Potentilla lindackeri* but reminds of *P. rhenana* in the shape of its leaflets and their dentation.

Additional key words: *Potentilla* sect. *Terminales* subsect. *Collinae,* taxonomy, endemism

Revising *Potentilla* material of the Herbarium of the Department of Botany of the National Museum in Prague (PR) and of the Herbarium of the Faculty of Natural Sciences of the Charles University in Prague, the author came across a few specimens, all collected in the vicinity of the northern Bohemian village Doksy, Ceská Lípa district, in 1923. They represent a hitherto undescribed and apparently very localized species of *P.* sect. *Terminales* subsect. *Collinae* (Th. Wolf) Juz. The region in which that species was collected had long been neglected by botanists, and there are no newer records of that species in PR and PRC. For health and age reasons it has not been possible for the author to attempt a rediscovery of that species. Hence, it is the purpose of this contribution to make aware of this neglected species and in this way to promote its rediscovery and future conservation.

Potentilla psammophila Soják, **sp. nov.**
Holotypus: [Czech Republic, Bohemia], Doksy, 1923, *Domin PRC 400 403b* (PRC; isotypi: B, PR) – Fig. 1.

Species nostra a *Potentilla rhenana,* cui foliolorum forma fere aequali admonet, praesertim petalis multo minoribus distat; a *P. lindackeri* praecipue foliolorum forma alia differt.

Caudex ramosus, rami eius ± breves, e internodiis brevibus (rarius etiam longioribus) formati, rosulis foliorum terminati. *Caules* arcuato-ascendentes, interdum fere erecti, 7-15(-22) cm alti, (2-)3-4-phylli, a (1/3-)1/2-3/4(-4/5) ramosi, plerumque pilis modice flexuosis (raro fere rectis), 0.4-1.5 mm longis, ± modice numerosis vestiti. *Folia* radicalia et caulina inferiora digitata, 5-nata, raro 7-nata immixta. *Petioli* pilis rectis, erecto-patentibus, 0.5-1.5(-2) mm longis, et item brevibus, curvatis, patentibus, modice numerosis vel sparsis, saepe in petiolis nonnullis deficientibus, vestiti. *Foliola* intermedia (0.5-)1-1.5 (raro usque 2.5) cm longa, cuneato-obovata, rarius cuneato-oblonga, apice rotundata vel rarius fere truncata, dentibus utrinque 2-3 (raro 4), saepe ± flabelliformibus; dentes (segmenta) paris superioris fere ad costam attingentes (i.e. pars folioli media indivisa omnino 0.7-1 mm lata), eidem paris inferioris ad 2/3 laminae costam versus vel paulum profundius tangentes; lamina supra glabra, raro pilis singularibus praedita, subtus plerumque tantum ad nervos pilis rectis, appressis, non admodum longis tecta, interdum etiam inter nervos pilis rectis, appressis vel subpatentibus, modice densis induta. *Inflorescentia* insigniter laxa usque diffusa, (3-)6-10(-13)-flora. *Episepala* oblonga vel oblongo-elliptica, 3-4 × 0.7-1.4 mm magna, sepalis breviora, aequilonga vel longiora. *Sepala* 3-4 × 1.5-2 mm magna. *Petala* 4.2-4.5 mm longa, calyce longiora. *Antherae* 0.6-0.8 mm longae. *Stylus* 1-1.2 mm longus, basi modice (sed semper distincte) intumescens, stigmate dilatato. *Nuculae* dilute fuscae, modice rugulosae, 1.3 mm magnae.

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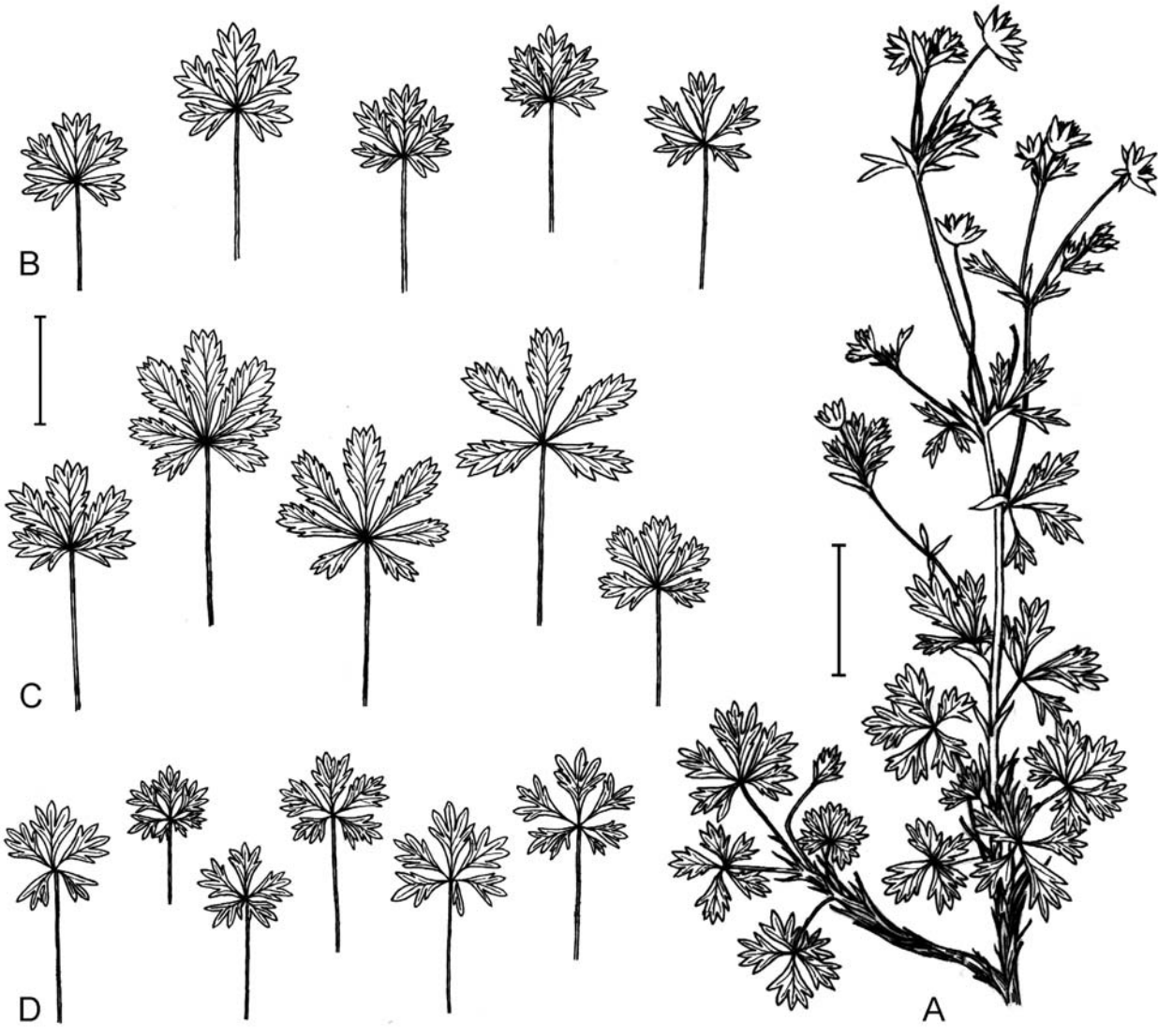


Fig.1. A: *Potentilla psammophila,* habit; B-D: leaves of basal rosettes of *P. rhenana* (B), *P. lindackeri* (C) and *P. psammophila* (D). – Scale bars: A-D = 2 cm.

Additional specimens examined. — Czech Republic: Bohemia: Doksy, 1923, *Domin PRC 400 398-404* (PRC, seven herbarium sheets); písčiný za humny v Doksech u dráhy, 1923, *Klášterský PR 683/5039* (PR); lesní cesta pod Bezdězem, 1923, *Klášterský 2275, PR 683/5037, 683/5038* (PR).

Relationship and delimitation. — *Potentilla psammophila* belongs to *P.* subsect. *Collinae* (Th. Wolf) Juz. of the section *Terminales* (Döll) Gren. & Godr. This group includes hybridogenous species arisen from hybridization of *P. argentea* L. with *P. verna* L. (nom. cons. prop., Soják 2009 = *P. tabernaemontani* Asch.) and *P. incana* G. Gaertn. & al. of *P.* sect. *Aureae* (Th. Wolf) Juz. Possibly, some other species of this section (i.e., *P. crantzii* (Crantz) Beck ex Fritsch, *P. heptaphylla* L. and *P. pusilla* Host) participated in the hybridization, but this has never been proven.

Potentilla subsect. *Collinae* is an exclusively European group (from central France to the Urals and from southern Sweden to northern Italy). Three "oriental" species from western Asia are generally referred to it, but this is an error, these being products of hybridization between *P. argentea* and *P. thuringiaca* Bernh. ex Link of *P.* sect. *Chrysanthae* (Th. Wolf) Juz., not of *P.* sect. *Aureae,* and do not therefore belong to the *Collinae* group. I consider these western Asian plants to represent a single species, for which the unused name *P. radiata* Lehm. is available.

Collinae are considered to be an extremely difficult group. Ascherson & Graebner (1904: 702) wrote: "Die *Collinae* sind weit die schwierigste Gruppe, die bei der schon an sich schwierigen Gattung *Potentilla* vorkommt" and Wolf (1903: 19) observed: "Die Gruppe der *Collinae* ist bekanntlich eine der schwierigsten der ganzen Gattung *Potentilla*".

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By 1904, 40 taxa with binomials were described in this group. The monographer Wolf (1908) attempted to cope with the intricate chaos to find and issue a reasonable solution. He divided the group into ten species, adding the aforementioned three Asian species, which are now to be transferred. His classification, considered by himself as provisionally, has in the main survived to the present time (Gregor 2002).

The derivatives of two parental combinations in the *Collinae, Potentilla argentea* × *P. verna* and *P. argentea* × *P. incana,* differ by the following characters. Taxa derived from the former combination usually have leaflets with greenish or greyish lower face and never with substellate hairs on the upper face and can be denoted with the collective name *P. lindackeri* Tausch. Taxa derived from the other combination usually have leaflets with greyish white lower face, incompletely (to various degrees) stellate hairs admixed with small bristles at the base of long, simple hairs on the upper face, and the collective name *P. collina* Wibel refers to them.

Potentilla psammophila belongs among the close relatives of *P. lindackeri* s.str. and seven other microspecies derived from *P. argentea* × *P. verna*. By the dentation of its leaflets, which is unusual among the members of the *Collinae* in Bohemia and adjacent regions, *P. psammophila* approaches *P. rhenana* P. J. Müll. ex Zimmeter from the Rhineland-Palatinate (the valleys Mosel and Ahr). Both taxa differ first of all by the size of their flowers: *P. rhenana* has large flowers, 1.5 cm and more in diameter (Gregor 2002); *P. psammophila* (as *P. lindackeri*) has small flowers, ± 1.2 cm in diameter. This is a constant difference. From *P. lindackeri* the new species differs in the shape of its leaflets and their dentation: the upper pair of lobes reaches to $^2/_3$ of the distance to the midrib or slightly deeper (see Fig. 1B-C). This is also a constant difference, as I have not found any specimen of *P. lindackeri* with leaflets toothed like *P. psammophila* among 566 herbarium sheets in PP and PRC.

The taxonomic value of *Potentilla psammophila* is comparable with that of the remaining microspecies derived from *P. argentea* × *P. verna* accepted by contemporaneous authors (Gregor 2002; Kurtto & al. 2004).

The small distribution area of *Potentilla psammophila* is not uncommon in the *Collinae.* Also *P. rhenana, P. praecox* F. W. Schultz and *P. wismariensis* T. Gregor & Henker have very localized areas of distribution. The environmental conditions in the region of its occurrence practically have not changed in the last one hundred years. The habitats suitable for *P. psammophila* are apparently sandy places in the vast pine forest of the region.

The rapid decline in the number of sites of the *Potentilla lindackeri* group is most likely due to their strict ecological specialization and inability to adapt to changing environment. These species soon vanish under a canopy and never occur on rocks. In Bohemia they are exclusively confined to open plant communities, such as on shallow soil in pastures close to rocky outcrops or in rocky terrain (these places, more or less disused in the past are suitable for holiday homes), or in sands of sparse pine woods. Secondarily, they also grow on paved river banks (before they become overgrown with vegetation). In western Europe they also occur, e.g., at the base of walls in vineyards and on not yet overgrown road margins.

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