

A new hybrid in *Pilosella* (Asteraceae) from the Tambov Region, European Russia

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Received 29 June 2009, revised version received 17 Oct. 2009, accepted 20 Oct. 2009

Sennikov, A. N. 2011: A new hybrid in *Pilosella* (Asteraceae) from the Tambov Region, European Russia. — *Ann. Bot. Fennici* 48: 69–73.

A new hybrid combination *Pilosella onegensis* Norrl. \times *P. praealta* (Vill. ex Gochn.) F. Schultz & Sch. Bip. is recognised on the basis of its intermediate morphological characters, and described under a new binomial name, *P. \times tambovica* Sennikov. All old records of *P. caespitosa* (Dumort.) P.D. Sell & C. West and many such of “*Hieracium nestleri* Vill.” from the Tambov Region of European Russia are found referable to *P. onegensis*.

The taxonomy of the genus *Pilosella* (Asteraceae) is heavily complicated with a combination of sexual and apomictic (aposporic) type of reproduction. Very few primary species of this genus exist on the diploid level; they are presumably entirely sexual (Merxmüller 1975). The diploids in addition to some polyploids are considered as “basic” species in *Pilosella*, presumably of non-hybrid origin (von Nägeli & Peter 1885, Zahn 1923), and only 20 such species are currently recognised in Europe (Bräutigam & Greuter 2007). Numerous intermediate taxa share a combination of diagnostic characters of two or more species and are treated as putative hybrids (von Nägeli & Peter 1885, Zahn 1923). These hybrids were recognised in crossing experiments, or hypothesized from field observations or on purely morphological grounds (e.g. Peter 1884, von Nägeli & Peter 1885, Zahn 1923). The system of hybrid combinations in *Pilosella* was developed by Zahn (1923) and recently updated

(Schuhwerk & Fischer 2003, Bräutigam & Greuter 2007).

A group of *Pilosella* species with black styles, cymose inflorescences with yellow or orange flowers, hairy, mostly rosulate leaves, and fragile spreading flagellae (sect. *Pratensina*) includes a single sexual diploid species, *Pilosella onegensis* Norrl. (*Hieracium onegense* (Norrl.) Norrl.). This species has a mostly east-European distribution with occurrences in central Europe and western Siberia (Schljakov 1989). The most peculiar attributes of this taxon are its pubescence, rather dense and characteristically short on its dark-green leaves, reaching 1 mm only on the upper surface of the lamina, and its short (6–7 mm long) phyllaries (Sennikov 2000).

Whereas numerous hybrid combinations are recognised within *Pilosella*, just a single hybrid with *P. onegensis* is currently recorded with confidence (Bräutigam & Greuter 2007). Such a situation is caused by the fact that this species was

generally neglected by the hieraciologists of the “central European school” who treated it at the subspecies level, either as *Hieracium caespitosum* Dumort. subsp. *brevipilum* (Naeg. & Peter) P.D. Sell or *Pilosella caespitosa* (Dumort.) P.D. Sell & C. West subsp. *brevipila* (Nägeli & Peter) P.D. Sell & C. West. Another difficulty is the fact that the hybrids with participation of various yellow-flowering taxa of sect. *Pratensina* may look rather similar, and a thorough treatment of the local taxa is always needed to exclude a possible influence of other related species.

The exceedingly high level of intraspecific variability in the polyploid “basic” taxa of *Pilosella* led the early adepts of the “central European school” to the recognition of numerous infraspecific taxa (Zahn 1923). Introgressive hybridisation possibly accounts for this variability, usually involving all species-specific morphological characters (Sennikov 2003). In contrast to these agglomerates of morphologically similar forms, *P. onegensis*, being a primary diploid species, displays a strikingly low level of intraspecific diversity, with very few names falling into its synonymy (Sennikov 2003 and unpubl. data). The hybrids of this species can be immediately recognised as exceeding its usual variability.

During a revision of all available herbarium material (ca. 100 specimens) for the forthcoming *Flora of the Tambov Region* (European Russia), kept at the Herbaria of the Komarov Botanical Institute (LE) and Moscow State University (MW), only two species of *Pilosella* with black styles were found occurring in that territory, namely *P. onegensis* and the stabilised hybrid *P. floribunda* (Wimm. & Grab.) Fr. These two taxa can be readily distinguished by the colour and pubescence of leaves, the leaves being dark-green and hairy above in *P. onegensis* and glaucous-green and glabrous or subglabrous above in *P. floribunda*. All these characters are traceable from the hybrid forms, when such are found (usually nearby their parents).

Pilosella caespitosa, a central-European species with long (up to 2 mm) hairs on the upper side of its leaves, has been reported under its synonym *Hieracium pratense* Tausch from the Tambov Region from the very beginning of its

botanical exploration (Koschewnikoff 1876, Litwinow 1888). These records are found based on the specimens of *P. onegensis*. Most of the earliest records of “*Hieracium nestleri* Vill.” and *H. vaillantii* Tausch (Koschewnikoff 1876, Litwinow 1888), and even the major part of Zahn’s exsiccata of *Hieracium glomeratum* Fr. subsp. *detonsum* (Norrl.) Naeg. & Peter (Zahn 1905) are also proven to be misidentifications of *P. onegensis*.

A single plant that appeared exactly intermediate in its morphology between *P. onegensis* and *P. praealta* (Vill. ex Gochn.) F. Schultz & Sch. Bip. [the latter name accepted after Schljakov (1989) and Sennikov (2000)] was detected in the collections. It has the habit of *P. praealta* but lacks spreading stolons, its leaves are yellowish-green (not glaucous) with more numerous dark-based hairs along the margins and the central nerve beneath, the stem hairy and stellate throughout with the lowermost internode abbreviated and densely pilose, the inflorescence branches densely covered by the stellate pubescence, numerous short glandular hairs and long simple hairs, the phyllaries dark with whitish margins (well-visible on the short bracts at the base of capitula), and the black styles. On the other hand, this plant readily differs from *P. onegensis* in the habit and the shape of its pale subglabrous leaves. The hybrids between *P. praealta* and *P. floribunda*, regularly collected and therefore apparently not uncommon in eastern Europe, easily differ in a much lesser hairiness of the stems and in the visibly glaucous leaves (both these parents are subglabrous), and frequently in the presence of ascending shoots.

The hybrid combination *P. onegensis* × *P. praealta* has not been formally recognised yet and is given a new binary name here, *P. × tambovica* Sennikov. The specific epithet *tambovica* is chosen to acknowledge the occurrence of this hybrid in the Tambov Region of Russia, even though it is apparently not restricted to this region, because its parental taxa have quite widely overlapping distribution areas and the hybridisation in this genus is common everywhere.

The descriptive terminology of pubescence follows Schljakov (1989).



Fig. 1. The type specimen of *Pilosella* × *tambovica*.

Pilosella* × *tambovica Sennikov, *sp. hybr. nova* (*P. praealta* (Vill. ex Gochn.) F. Schultz & Sch. Bip. × *P. onegensis* Norrl.) (Figs. 1 and 2)

Planta fortasse hybrida inter P. praealtam & P. onegensem intermedia, a prima caule foliisque pilosioribus, inflorescentiae ramis dense stellatis & glandulis pilisque multioribus, stylis nigris;

ab altera foliis laetioribus subglabris & habito differt.

TYPE: Russia. Tambov Region: Rzhaksa District, 6 km S of Rzhaksa Village, meadow slope of a gully, 30.V.2004 A. P. Sukhorukov (LE, holotype).

Rosulate plants with solitary erect stems, spreading flagellae missing. Stems 45–55 cm, unbranched outside inflorescence, light-green but



Fig. 2. Phyllaries (left) and inflorescence branches (right) from the holotype of *Pilosella* × *tambovica*. Scale bar: 2 mm.

violet in ca. 1 cm at base, with numerous simple hairs 3–4 mm long densely condensed at stem base, black-based in upper part, totally pale in middle, and violet-based at base of stem, with black glandular hairs dispersed in upper part of stem, finely stellate throughout. Leaves yellowish- to pale-green, basal 3–4, oblanceolate, attenuated to base, subacute at apex, with sparse rigid black-based simple hairs along margins and mid-vein beneath, finely stellate beneath, cauline 2, situated in basal third or half of stem, sublanceolate, similar in pubescence with basal ones, uppermost ones totally lacking pubescence on upper side. Inflorescence cymose-corymbose with remote basal branches, with 7–15 capitula, its branches (Fig. 2) densely stellate, with several black-based rigid simple hairs ca. 2 mm long, and sparse thin black glandular hairs ca. 0.3 mm long. Capitula ca. 3 mm in diam., narrowed at base. Phyllaries (Fig. 2) generally dark, inner 5–5.5 mm long, 0.6–0.7 mm wide, acute, plumbeous-olivaceous to blackish-green with lighter margins, with rather dense (15–20) thin blackish or black-based simple hairs 1.5–1.8 mm long, sparse (10–15) thin black glandular hairs 0.2–0.4 mm long and rather dense (25–30) stellate hairs along median line, glabrous at apex; outer 0.25–0.35 mm wide, with bright whitish margins. Ligules intense-yellow with olivaceous apices of teeth, red stripes lacking. Styles with black spines, visibly dark in appearance. Achenes not observed.

The earlier attempts to report the hybrid combination *Pilosella onegensis* × *P. praealta* (Tikhomirov 2000) are dubious because Tikhomirov

combined *P. caespitosa* and *P. floribunda* altogether and set no distinction between the hybrids with participation of *P. caespitosa*, *P. floribunda* and *P. onegensis*. The taxa reported by Tikhomirov as hybrids between *P. onegensis* and *P. praealta* have been previously considered as hybrids with *P. caespitosa* or combined with various taxa of *P. sect. Praealtina* as “microspecies” or synonyms (Sell & West 1976, Schljakov 1989). However, it is still not impossible to uncover a proper older name among the hundreds of local “taxa” of *Pilosella* which have been generally neglected or rarely interpreted after their original publication, but completing this task in a reasonably short time is too difficult.

Acknowledgements

Alexander Sukhorukov (Moscow) is warmly thanked for inviting me to work on the Tambov *Hieracium* & *Pilosella*, and for providing new herbarium material of these genera. The curators of MW kindly lent the relevant specimens from historical collections. Sampsa Lommi (Helsinki) friendly helped with preparation of digital illustrations.

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