



## A new species of the genus *Alchemilla* (Rosaceae) from Central Russia

ANDREY V. CHKALOV

Chair of Botany and Zoology, Institute of Biology and Biomedicine, Lobachevsky State University of Nizhni Novgorod, Gagarin St., 23, 603950, Nizhni Novgorod, Russian Federation, E-mail: biofor@yandex.ru

### Abstract

A new apomictic species of *Alchemilla* from several regions of Central Russia is here described as *A. tzvelevii*. Description and images of the principal morphological features of this species are provided. *Alchemilla tzvelevii* combines the features of quite distant groups (i.e. *A.* subsect. *Pubescentes* and *A.* subsect. *Alchemilla* ser. *Alchemilla* subser. *Heptagonae*). Its presumed hybridogenous origin is discussed.

**Key words:** taxonomy, apomicts, lady's mantle, Middle Volga basin

### Introduction

In preparation of an account of the genus *Alchemilla* for the territory of the Middle Volga basin, Central Russia (central part of European Russia), eight species (Chkalov 2011a, 2011b) have been described in addition to approximately forty species previously identified in this area. Another new species described here was discovered during an expedition to Chuvashia and Tatarstan in 2011. Later, several other localities were revealed through a critical revision of herbarium collections.

*Alchemilla tzvelevii* is a notable species because of its habit that suggests a completely different group than the one to which it actually belongs. It has a deeply dissected leaf with long incisions and rather large teeth; the total number of leaf teeth is low. These observations together with a rounded shape of fructiferous hypanthia and a rather poor inflorescence are unambiguously indicative of *A.* subsect. *Pubescentes* (Buser 1892: 98) Camus in Rouy & Camus (1900: 448) (taxonomy according to Tichomirov [2001]), within which the new species is very similar to *A. hirsuticaulis* Lindberg (1909: 143). Although the appearance of *A. tzvelevii* is nearly identical to *A. hirsuticaulis*, in contrast to the latter species *A. tzvelevii* has a glabrous upper half or even two thirds of the stem, glabrous bases of the principal leaf veins, and glabrous or nearly so petioles of the lowest (spring) leaves. These characters unmistakably indicate the placement of the new species in *A.* subsect. *Alchemilla* ser. *Alchemilla* subser. *Heptagonae* Tichomirov (1998: 61). Within this subseries this species is perfectly distinct by the above mentioned characters that we consider to be diagnostic of *A.* subsect. *Pubescentes*. The peculiarity of *A. tzvelevii* is distinctly revealed through a comparison with other species of *A.* subser. *Heptagonae*, including *A. heptagona* Juzepczuk (1922: 45) and *A. stellaris* Juzepczuk (1933: 126) (Table 1).

The classification of *Alchemilla* proposed by Tichomirov (2001), which is based on the tradition laid down by earlier systems (e.g. Rouy & Camus 1900, Pawłowski 1958), is essentially different from the classification developed by Fröhner (1986) in respect of the employed characters and the limits of infrageneric groups. In the system of Fröhner, the new species could be placed in *A.* sect. *Decumbentes* Fröhner (1986: 36).

Given the accepted hybridogenous mode of speciation in this genus (Fröhner 1986, 1990), this species may be an example of the most distant hybridization proposed for the species of *Alchemilla* of Central Russia. There are many other presumably hybridogenous species of *Alchemilla* that are endemics of Central Russia, such as *A. ventiana* Tichomirov (1985: 15), which could be considered a hybrid of species from *A.* subser. *Heptagonae* and *A.* aggr. *strigosula* Buser (1893: 24) of *A.* subser. *Alchemilla*, in addition to *A. maradykovensis* Chkalov (2011b: 1640), *A. fokinii* Juzepczuk (1951: 173) (*A.* subser. *Heptagonae* × *A.* subser. *Pastorales* Tichomirov [1998: 61]), *A. sergii* Tichomirov (1972: 130) (*A.* subsect. *Alchemilla* subser. *Pastorales* × *A.* subsect. *Pubescentes*), *A. kemlensis* Chkalov (2011b: 1638), *A. psiloneura* Juzepczuk (1933: 129), *A. stichotricha* Juzepczuk (1951: 176), *A. leiophylla* Juzepczuk (1933: 127) (*A.* ser.