Phytotaxa 227 (3): 243–252
www.mapress.com/phytotaxa/

Article

ISSN 1179-3155 (print edition)
PHYTOTAXA
ISSN 1179-3163 (online edition)

http://dx.doi.org/10.11646/phytotaxa.227.3.3

Taraxacum pudicum, a new apomictic microspecies of *T.* section *Erythrosperma* (Asteraceae) from Central Europe

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Abstract

A new species of apomictic lesser dandelions, *Taraxacum pudicum* Vašut & Majeský is described. This species is a triploid diplosporous apomict, it belongs to the *T. scanicum* group and grows in the SE part of Central Europe, with the highest frequency found in southern Bohemia and Moravia. Species characteristics, notes on ecology and chorology are given. The relationship to other taxa and the controversy surrounding the description of apomictic species are discussed in this paper.

Key words: chromosome number, Compositae, geographical distribution, new species, taxonomy

Introduction

Taraxacum Wiggers (1780: 56) is a large genus found in the temperate zones of both hemispheres (Handel-Mazzetti 1907, Sterk 1987). It is comprised of approximately 60 sections worldwide (Kirschner & Štěpánek 1997, 2004, 2008, Uhlemann *et al.* 2004) and is known for having complex taxonomy due to a combination of different reproduction strategies, reticular evolution, and polyploidy (Kirschner *et al.* 2015). Whereas all diploids (and just a few exceptional tetraploids) reproduce either by allogamy or rarely by autogamy (e. g., Kirschner *et al.* 1994), all polyploids reproduce by obligate diplosporous apomixis. Since its discovery (Raunkiaer 1903), there has been an enormous number of described apomictic (micro)species to date. Because of the plethora of described taxa and because some authors described new species from a single locality or even a single herbarium specimen, the description of apomictic lineages as new microspecies were generally not accepted and controversial. However, recent biosystematic approaches have brought science back to the taxonomy of apomicts. Considering each morphological deviation, a new species is a *dead end*. Although genetic stability over large geographic areas due to obligate apomixis (e. g., Majeský *et al.* 2012) supports the concept of microspecies, there is still high potential for hybridisation and the formation of novel (singular) apomicts. Therefore, further biological characteristics, such as distribution, morphological stability in offspring, confirmed reproductive mode or genetic characteristics are required for considering an apomictic lineage of dandelions as a new species. Unfortunately, the vast majority of European *Taraxacum* species were described during the 1970s, and it will take considerable effort to purge the *Taraxacum* species list of vague taxa. So far, in Europe, such revisions have been performed only for some species, including *Taraxacum officinale* agg., *T.* sect. *Palustria* (Lindberg 1908: 17) Dahlstedt (1921: 37) and *T.* sect. *Alpestria* van Soest (1966: 459) (Kirschner & Štěpánek 1998, Lundevall & Øllgaard 1999, Štěpánek *et al.* 2011).

In this paper, we present description of a new species of *Taraxacum* sect. *Erythrosperma* (Lindberg 1908: 45) Dahlstedt (1921: 36). The first author (RJV) recognised this morphotype over 15 year ago. Subsequently, we have studied its distribution, morphological stability, genetic diversity, ploidy and modes of reproduction. Following the modern approach of describing apomictic dandelions (e. g., Uhlemann 2007, Uhlemann *et al.* 2007, Trávníček *et al.* 2008, de Mera & Orellana 2008, 2009, 2012, Øllgaard & Räsänen 2008, Štěpánek *et al.* 2011, Marciniuk *et al.* 2012, etc.), we are convinced that this distinct morphotype deserves classification as a species. Therefore, we make valid publication of its name here.

Accepted by Alexander Sennikov: 14 Sept. 2015; published: 25 Sept. 2015