



A revision of *Cousinia* sections *Alpinae* (syn. *Carduncellus*), *Subappendiculatae* and *Tianschanicae* (Asteraceae) in the Kirghizian Tian-Shan and the neighbouring territories

ALEXANDER N. SENNIKOV^{1,2}

¹Botanical Museum, Finnish Museum of Natural History, P. O. Box 7, FI-00014 University of Helsinki, Finland.

E-mail: alexander.sennikov@helsinki.fi

²Herbarium, Komarov Botanical Institute of Russian Academy of Sciences, Prof. Popov str. 2, RU-197376 St. Petersburg, Russia

Abstract

The species of *Cousinia* currently assigned to *C.* sections *Carduncellus* and *Subappendiculatae* in the Kirghizian part of the Western Tian-Shan are revised and reclassified using the characters of phyllaries and anther appendages. The shape of the apical anther appendages is found species-specific and taxonomically useful, as exemplified by the description of two new species from Kirghizia, Kazakhstan and Uzbekistan, formerly included in *C. tianschanica*. Following the differences in the apical and the basal anther appendages, *C.* section *Carduncellus* is split with the description of a new section *C.* section *Tianschanicae* and renamed in order to restore the older name, *C.* section *Alpinae*. *Cousinia knorringiae* is moved from *C.* section *Carduncellus* to *C.* section *Subappendiculatae*, and *C. omissa* from *C.* section *Subappendiculatae* to *C.* section *Tianschanicae*. The species limits and distribution areas are corrected, *C. fetissowii* is reported as new to Uzbekistan and several species as new to particular mountain ranges. A complete taxonomic treatment of 9 species with an identification key, descriptions, maps and typifications is provided, and the distribution areas are discussed.

Key words: anther appendages, Central Asia, Compositae, distribution maps, Kyrgyzstan, new taxa, phytogeography, taxonomy, typification

Introduction

Inventories of plant diversity are still of a great importance for the Central Asian countries, which flora is rich and peculiar. According to the latest estimations (Kamelin 2002), the flora of Kirghizia numbers ca. 4000 species, of which many are endemic to this country (no exact figures available). Some of these endemics have a rather narrow distribution, being confined to a few mountain ranges or even gorges. The flora of the Western Tian-Shan has a high level of peculiarity, with 13.8% of its species being endemic (Pavlov 1980).

The genus *Cousinia* Cass., one of the largest in Asteraceae (Susanna & Garcia-Jacas 2007), is represented in the Tian-Shan mountains by at least 50 species (Tscherneva 1974), many of them being endemic. Some of these species were established on the basis of single, very few or scattered collections and have not been properly described in comparison to their relatives. Many endemics have never been illustrated. This led to frequent misidentifications and misunderstanding of species limits and distribution areas.

The present paper aims to verify the morphology, circumscription, taxonomic position and distribution of the species assigned to *Cousinia* sections *Carduncellus* (Juz.) Rech. f. and *Subappendiculatae* Tschern. in the Kirghizian Tian-Shan (Tscherneva 1962b, 1988, 1993a, 1996, Nikitina 1965), traced on their total distribution areas and compared with their closest relatives.