BioOne COMPLETE

Cousinia kilouyensis (Asteraceae, Cardueae), a new endemic species from SW Iran

Authors: Djavadi, Seyyedeh Bahereh, and Attar, Farideh

Source: Willdenowia, 39(1) : 89-92

Published By: Botanic Garden and Botanical Museum Berlin (BGBM)

URL: https://doi.org/10.3372/wi.39.39110

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Downloaded From: https://bioone.org/journals/Willdenowia on 30 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

SEYYEDEH BAHEREH DJAVADI[1] & FARIDEH ATTAR[2]

Cousinia kilouyensis (Asteraceae, Cardueae), a new endemic species from SW Iran

Abstract

Djavadi S. B. & Attar F.: *Cousinia kilouyensis (Asteraceae, Cardueae),* a new endemic species from SW Iran. – Willdenowia 39: 89-92. – Online ISSN 1868-6397; © 2009 BGBM Berlin-Dahlem.
doi:10.3372/wi.39.39110 (available via http://dx.doi.org/)

Cousinia kilouyensis, from the SW Iranian province of Boyer Ahmadi va Kohkilouyeh, is described as a species new to science and illustrated. It belongs to *C.* sect. *Leiocaules,* which is easily recognized by entirely glabrous, ivory white stems, shining, glabrous, not-decurrent leaves, small heads with few flower and few, lacerate, acuminate-spinose involucral bracts. The new species is compared with the morphologically nearest species, *C. quettensis* from Afghanistan and Pakistan and *C. beauverdiana* from Kerman province, Iran.

Additional key words: *Compositae, Cousinia* sect. *Leiocaules,* taxonomy

Introduction

The genus *Cousinia* Cass., with more than 600 species (Rechinger 1986; Susanna & Garcia-Jacas 2006), is one of the most diverse genera in Central and SW Asia. Most of its species are centred in the mountainous region spanning from Tien Shan and Pamir-Alay westwards across Afghanistan and Iran to Turkey (Rechinger 1986; Knapp 1987; López-Vinyallonga & al. 2009). Many of its species, over 200, occur in Iran (Attar & Ghahreman 2006).

During the study and revision of the material of *Cousinia* in the Herbarium of the Ministry of Agriculture (IRAN) and the Tehran University Herbarium (TUH), two specimens collected in the province of Boyer Ahmadi va Kohkilouyeh, a rather poorly investigated area, did not match the descriptions of any known species. Closer investigation revealed that the material represents a hitherto undescribed species of *C.* sect. *Leiocaules* Bunge.

Cousinia sect. *Leiocaules* is represented so far by nine species in the Flora SSSR (Tscherneva 1962), by only one species (*C. boissieri* Buhse) in Turkey (Huber-Morath 1975) and by 13 species in the Flora Iranica (Rechinger 1972, 1979), of which five species, *C. arctotidifolia* Bunge, *C. beauverdiana* Bornm., *C. chrysandra* Bornm. & Gauba, *C. mutehensis* Rech. f. and *C. tetanocephala* Bornm. & Gauba, are endemic. Iran shares only one species each with Turkey (*C. boissieri* Buhse) and the former USSR (*C. antonowii* C. Winkl.).

Cousinia kilouyensis Djavadi & Attar, **sp. nov.**
Holotype: Iran, Boyer Ahmadi va Kohkilouyeh, Yasouj to Ardakan (Sepidan), Vazag village (in mountains), 2050-2350 m, 26.7.1987, *Termeh, Delghandi & Tehrani 52828* (IRAN).

Differt a *Cousinia quettensi* Rech. f. foliis omnibus concoloribus, utrinque glaberrimis, lucidis, flavescenti-viridibus (nec discoloribus, supra viridibus, mox fere complete glabrescentibus, subtus dense appresse persistenter albo-tomentosis); differt a *C. beauverdiana* Bornm. corolla rosea (nec flavida), phyllis regulariter imbricatis, apice erecto-patentibus (nec recurvis).

1 Department of Botany, Iranian Research Institute of Plant Protection, P.O. Box 1454, Tehran 19395, Iran; e-mail: sb_djavadi @hotmail.com (author for correspondence).
2 Central Herbarium of the University of Tehran, School of Biology, College of Sciences, University of Tehran, Tehran, Iran.

Downloaded From: https://bioone.org/journals/Willdenowia on 30 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

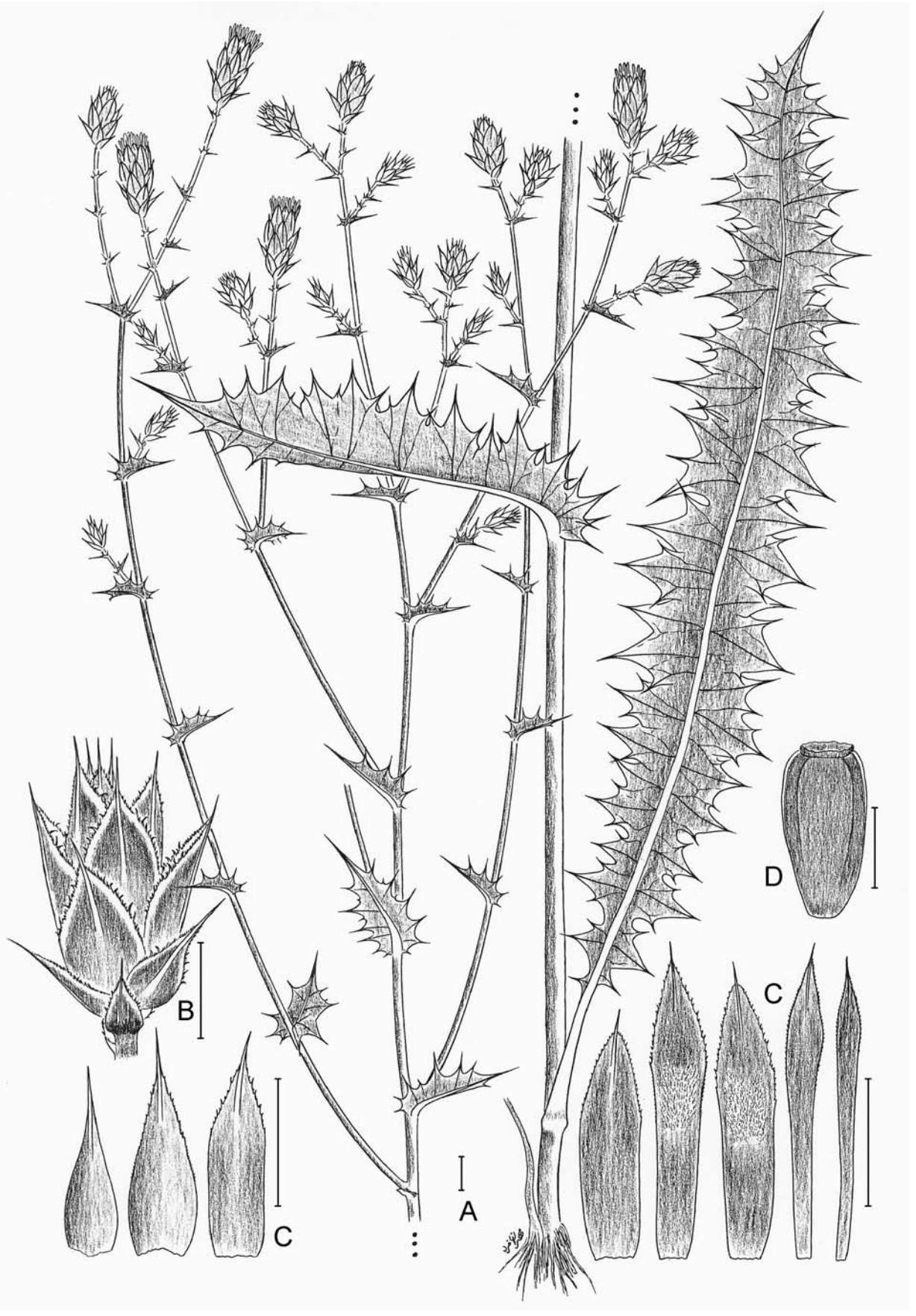


Fig. 1. *Cousinia kilouyensis* – A: habit; B: involucre; C: involucral bracts; D: immature achene. – Scale bars: A, C = 10 mm, B = 5 mm, D = 1 mm; drawn from *Termeh & al. 52828,* IRAN.

Downloaded From: https://bioone.org/journals/Willdenowia on 30 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

Yellowish green perennial herb, rootstock woody, covered with woolly hairs. *Stem* more than 100 cm high, erect, ivory white, entirely glabrous, divaricately branched in upper half, forming a longish corymbose synflorescence. *Leaves* rigid, leathery, yellowish green, shining on both surfaces, sparsely glandulose beneath, venation pinnate-reticulate, obviously prominent on both sides; *basal leaves* rosulate, including petiole and spines 35-40 × 6 cm, lamina lanceolate-oblong in outline, attenuate towards the petiole, prickly sinuate-lobate, lobes triangular, alternately large and small, with c. 5 mm long, rigid spines at the margin, midrib thick, c. 5 mm wide, prominent on upper surface; *lower stem leaves* similar to the basal leaves; *middle stem leaves* sessile, cordate-auriculate at base, not decurrent; *upper leaves* small, almost entire, spinulose along margin, the uppermost much diminished, and, below the capitula, bract-like. *Capitula* solitary, c. 25-flowered. *Involucre* campanulate, rounded at base, c. 2.5 cm long, 1.5 cm wide, of c. 30 regularly imbricate, 8-seriate, acuminate-spinose bracts with lacerate margin in the upper half or third; *outer and median bracts* shorter than the inner bracts, erecto-patent, ovate to narrowly ovate, completely glabrous, green, yellowish at margin, with prominent midrib excurrent into a spine to 4 mm long, inconspicuously longitudinally ribbed; *inner bracts* narrowly ovate to narrowly spathulate, floccose, yellowish, purplish in the centre, brownish scarious at apex; *innermost* bracts almost linear, erect, brownish. *Receptacular* bristles smooth. *Flowers* with *corolla* pink, c. 17 mm long, limb 8 mm, tube 9 mm and lobes 2 mm long; *anther tube* pink, glabrous. *Mature achenes* unknown. – Fig. 1.

Etymology. — The specific epithet refers to the province Boyer Ahmadi va Kohkilouyeh in SW Iran.

Distribution. — The species is known only from a small area in the mountains of the SW Iranian province Boyer Ahmadi va Kohkilouyeh (Fig. 2) near the town of Sepidan (former Ardakan), where it was found at altitudes above 2000 m.

Additional specimen seen. — Boyer Ahmadi va Kohkilouyeh, 5 km from Ardakan (Sepidan) to Yasouj, 20.7. 2000, *Ghahreman, Attar & Mehdigholi 25177* (TUH).

Relationship and delimitation. — The new species belongs to *Cousinia* sect. *Leiocaules* Bunge, which is characterized by (1) entirely glabrous, ivory white stems, (2) shining, glabrous, not-decurrent leaves, and (3) small, few-flowered capitula with an involucre 15-20(-25) mm in diameter (including spines), of rather few, acuminate-spinose, imbricate, erecto-patent or slightly recurved, lacerate bracts. *C.* sect. *Spinuliferae* Rech. f. is close to *C.* sect. *Leiocaules,* but differs by larger, many-flowered capitula with an involucre 5-8 cm in diameter (including spines), of rigid, laterally usually spinose, apically attenuate bracts.

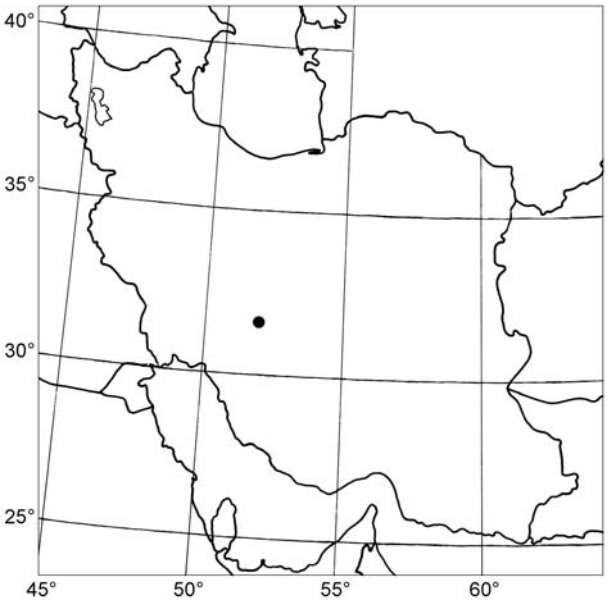


Fig. 2. Distribution of *Cousinia kilouyensis*.

Cousinia kilouyensis is morphologically nearest to *C. quettensis* Rech. f., known from Afghanistan and Pakistan, by sharing the erect, tall, completely glabrous stems divaricately branched in upper half, the leaf shape and size, the campanulate, c. 10 mm wide involucre, and the number and shape of involucral bracts. *C. quettensis* differs clearly, however, by discolorous leaves, which are green above and persistently white-tomentose beneath.

The new species can also be compared with *Cousinia beauverdiana* Bornm., another species of the section, confined to a limited area in the province of Kerman. The latter species differs by its yellow corolla and reflexed instead of erecto-patent involucral bracts.

Acknowledgements

The authors are grateful to Dr Mousa Iranshahr for editing the Latin diagnosis, Mr Mehrdad Mehranfard for drawing the illustration, and Dr Iraj Mehregan and an anonymous referee for valuable comments and linguistic improvement.

References

Attar F. & Ghahreman A. 2006: A synopsis of sect. *Cynaroides (Cousinia, Compositae),* distribution patterns and diversity centers. – Rostaniha **7(Suppl. 2):** 315-342.

Huber-Morath A. 1975: *Cousinia*. – Pp. 329-353 in: Davis P. H. (ed.), Flora of Turkey and the East Aegean Islands **5.** – Edinburgh.

Downloaded From: https://bioone.org/journals/Willdenowia on 30 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

Knapp H. D. 1987: On the distribution of the genus *Cousinia (Compositae)*. – Pl. Syst. Evol. **155:** 15-25. [CrossRef]

López-Vinyallonga S., Mehregan I., Garcia-Jacas N., Tscherneva O., Susanna A. & Kadereit J. W. 2009: Phylogeny and evolution of the *Arctium-Cousinia* complex *(Compositae, Cardueae-Carduinae)*. – Taxon **58:** 153-171.

Rechinger K. H. 1972: *Compositae-Cynareae* I. *Cousinia*. – In: Rechinger K. H. (ed.), Flora iranica **90.** – Graz.

Rechinger K. H. 1979: *Cynareae-Compositae* III. *Cousinia*. – Pp.108-153 in: Rechinger K. H. (ed.), Flora iranica **139a.** – Graz.

Rechinger K. H. 1986: *Cousinia:* morphology, taxonomy, distribution and phytogeographical implication. – Proc. Roy. Soc. Edinburgh **89B:** 45-58.

Susanna A. & Garcia-Jacas N. 2006 ["2007"]: Tribe *Cardueae* Cass. (1819). – Pp. 123-147 in: Kadereit J. W. & Jeffrey C. (volume ed.), The families and genera of vascular plants **8.** – Berlin, etc.

Tscherneva O. V. [Cherneva O. V.] 1962: *Compositae-Cousinia*. – Pp. 108-357 in: Shishkin B. K. & Bobrov E. G. (ed.), Flora SSSR **27.** – Moscow & Leningrad [English translation: Enfield, 1993].

Downloaded From: https://bioone.org/journals/Willdenowia on 30 Mar 2024
Terms of Use: https://bioone.org/terms-of-use