

## TWO NEW SPECIES OF THE GENUS *COUSINIA* (ASTERACEAE) FROM IRAN

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Received 19.02.2011. Accepted for publication 04.05.2011.

Assadi, M. 2011 06 30: Two new species of the genus *Cousinia* (Asteraceae) from Iran. -Iran. J. Bot. 17 (1): 6-9. Tehran.

The genus *Cousinia* sect. *Serratuloideae* was revised in Iran to prepare the draft of Flora of Iran. Among the studied specimens two new species came to the light that are described in this paper. *Cousinia farimanensis* is described from NE Khorasan. It is similar to *C. concolor*, a species distributes in the northern part of the distribution of the new species. However, unlike *C. concolor* the leaves in the new species are discolor in the new species and also the involucre bracts are more numerous and with different characters. *C. mehreganii* is another new species that is a relative of *C. euchlora*. The two species are quite allopatric and differ in phyllaries and achene characters.

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**Key words.** *Cousinia* sect. *Serratuloideae*, new species, Flora of Iran, Khorasan.

دو گونه جدید از جنس کوزینیا از تیره گل آفتابگردان در ایران

مصطفی اسدی، استاد پژوهش مؤسسه تحقیقات جنگلها و مراتع کشور.

در ضمن تدوین فلور ایران مربوط به جنس کوزینیا بخش سراتولوئیده تعداد دو گونه جدید برای علم گیاهی کشف گردید که در این مقاله کسب اعتبار می نمایند. یکی از گونه ها به نام *Cousinia farimanensis* نامگذاری می شود که از اطراف فریمان در استان خراسان جمع آوری شده است. این گونه، به گونه *C. concolor* شباهت دارد که منطقه انتشار آن در شمال منطقه انتشار گونه جدید قرار گرفته است. علاوه بر این گونه جدید، با داشتن برگهای دورنگ در دو سطح و خصوصیات برگه های گریبانی با گونه اخیر تفاوت لازم را دارد. گونه دیگر به نام *C. mehreganii* نامگذاری می شود که با گونه *C. euchlora* قرابت دارد و در شمال منطقه انتشار گونه اخیر انتشار دارد. گونه جدید با همه گونه های بخش سراتولوئیده با داشتن برگه های گریبانی که به ناگهانی در قاعده پهن می شوند، متمایز می گردد. علاوه بر این در مقایسه با گونه خویشاوندش *C. euchlora* با داشتن کپه های بزرگتر، برگه های گریبانی بیشتر و میوه درشت تر به خوبی متمایز می گردد.

### INTRODUCTION

The author in collaboration with Dr. F. Attar (from Tehran University) and Dr. I. Mehregan (from Islamic Azad University) has been preparing different sections of *Cousinia* Cass. part of Flora of Iran (Assadi 1989). In this course, several new species came to the light that has been published in different papers (Assadi 2009, Mehregan & Assadi 2009, Assadi 2010, Attar & Djavadi 2010, Attar et al. 2007). The aim of this paper is to describe two new species from *Cousinia* section *Serratuloideae* Bge.

### RESULTS AND DISCUSSION

#### New species

The two new species are perennial plants with spiny lobed plus minus or well developed decurrent stem leaves. Involucre bracts without appendages and spreading or recurved. Corolla purple or violet. Achenes longitudinally ribbed, without apical teeth.

These are the essential characters of the *Cousinia* sect. *Serratuloideae*, therefore both species are regarded as the new members of this section.

#### *Cousinia farimanensis* Assadi, sp. nov.

Planta perennis, suffruticosa, basi divisa, uaque ad 35 cm alta. Caules pilis arachnoidis evanescentibus, a medio divisi, synflorescentia corymbosa, capitulis lateralibus a medio superantibus. Folia basalia 11 cm longa et 3 cm lata, lanceolata, margines profunde lobata vel pinnatisecta, supra glabra et nitido-viridia, subtus dense arachnoidea et grisea, basi attenuata usque ad 3 cm petiolata; lobi anguste triangulares, spinas 5 mm longas terminates, margines spinis 1-2 paribus praeditis. Folia caulina inferiora foliis basalibus similia; folia media et superiora gradatim decrescentia, basi usque ad 1.5 cm longa et lata decurrentia. Capitula spinis inclusis 1.8-3 cm diam. Involucrum 1.5-2 cm longa, spinis exclusis 1.3-2 cm diam.,

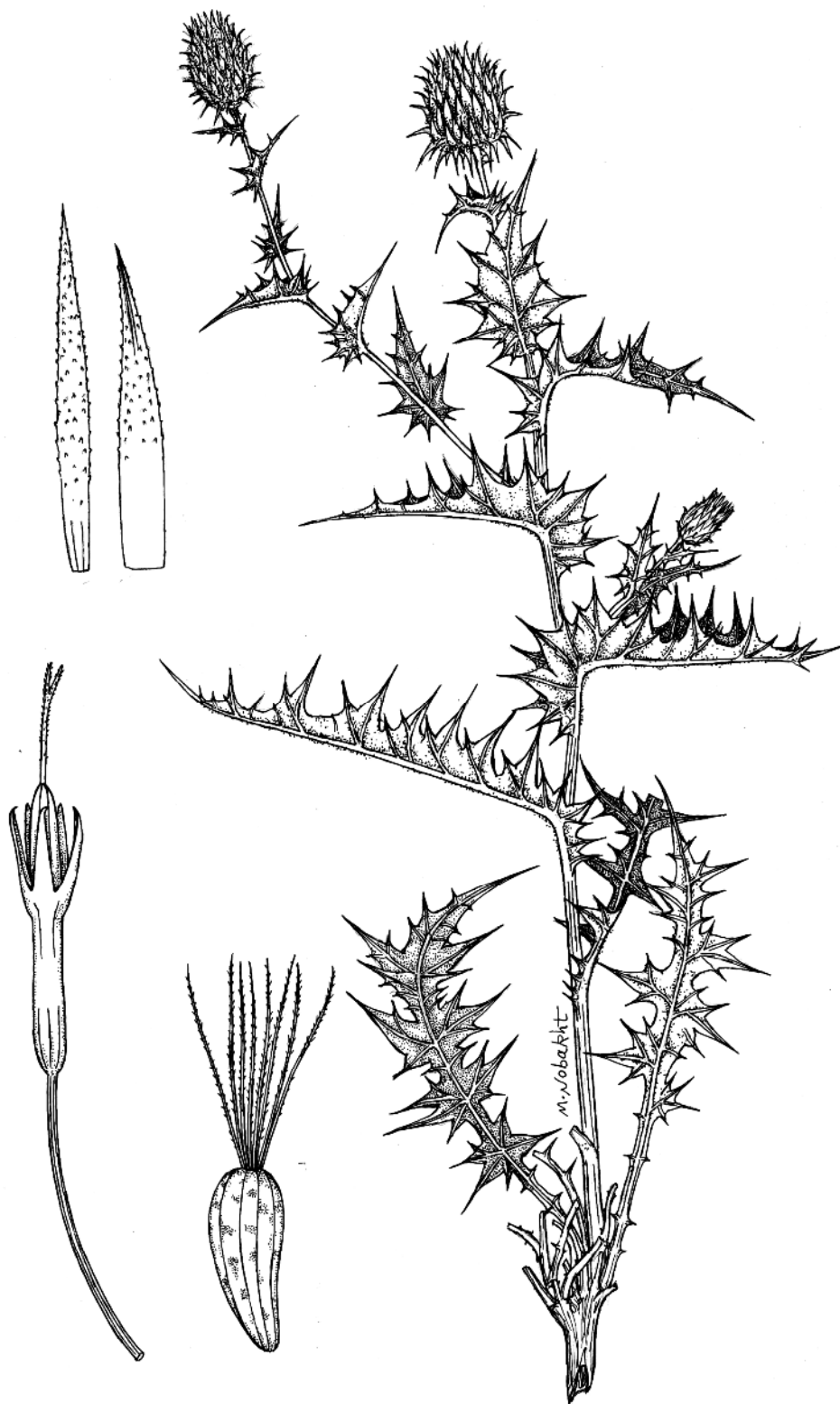


Fig. 1. *Cousinia farimanensis* ( $\times 0.66$ ); bracts and achene ( $\times 4.4$ ); corolla ( $\times 3.4$ ).

subsphaeroideum, arachnoideum, basi umbilicatum. Phylla ca. 120, arcuatim reflexa, atrobrunnea, spinas ca. 5 mm longas terminata, prope apices scabra; phylla inferiora breviora; phylla media ca. 15 mm longa, lanceolata, margines scabra; phylla intima ca. 18 mm longa, linearia, margines scabra, breviter spinosa. Flores ca. 20-50. Corolla violacea, ca. 16.5 mm longa, tubo 6.5, limbo 10 et laciniis ca. 3 mm longis. Antherarum tubus violaceus, glaber. Receptaculi setae laeves. Achaenium ca. 6 mm longum, obpyramidatum, compressum, apice edentatum, venis lateralibus ca. 8, griseum, transversaliter maculis brunneis; pappi setae achaenio logiores, scabrae.

*Typus.* Khorasan, 30 km N. of Torbate Heydarieh, 1900 m, 15.07.1976, Assadi & Maassoumi 21318 (holotypus).

The new species is similar to *C. concolor* Bge. but differs from it by having discolor leaves (not concolor), involucre bracts ca. 70-120 and all reflexed (not 45-60 and middle and upper bracts erect). Moreover, distribution of the new species is in the southern part of the *C. concolor*.

***Cousinia mehreganii* Assadi, sp. nov.**

Planta perennis, suffruticosa, ca. 47 cm alta. Caules singulares, glabri, cremei, supra ramosi. Folia basalia 18 cm longa, 4-5 cm lata, lanceolata, marginibus profunde lobatis vel pinnatisectis, viridia, subtus sparse pilosa, supra glabra; petioli nulli; lobi triangulares spinas usque ad 5-10 mm longas terminata. Folia caulina inferiora foliis basalibus similia; folia media et superiora gradatim decrescentia, basibus 2-4 cm longis et 1-1.5 cm latis decurrentibus. Synflorescentia corymbosa. Capitula spinis inclusis 5-6.5 cm diam. Involucreum 3-3.5 cm longum, spinis exclusis 3-4 cm diam., sphaeroideum, arachnoideum, basi umbilicatum. Phylla ca. 120, atrobrunnea, acuminata, ad marginem scabra; phylla inferiora minora et reflexa; phylla media 20-22 mm longa, subulata, erecta vel patentia, basi abrupte applanata, spinas vix caduces terminata; phylla intima ca. 20 mm longa, linearia, acuta, membranacea. Flores ca. 100-120. Corolla 24-30 mm longa, violacea; tubus 12-14, limbus 12-16 et lacinae ca. 5 mm longae. Antherarum tubus violaceus, glaber. Receptaculi setae prope apicem scabrae. Achaenia 8 mm longa, apicem edentata, compressa; pappi setae achaenium aequantes, scabrae.

*Typus.* Khorasan: Shirvan to Bulghan and Kuhe Shahjahan mountain, 1550-2200 m, 12.08.2004, V. Mozaffarian 87077 (holotypus TARI); Esfarayen, Shahjahan mountain region, east of Danj village, 1400-1800 m, 28.06.1984, V. Mozaffarian 48663.

The new species is related to *C. euchlora* Bormm. & Rech. f. but differs from it by having 5-6.5 cm in diam. capitula (not 2-5 cm), 120 phyllaries (not 100), 100-120 flowers (not ca. 80) and ca. 8 mm long achene (not 6 mm). *Cousinia mehreganii* is characterized among the

species of sect. *Serratuloideae* by the abruptly broadened imbricate of phyllary bases. The distribution of the new species is northern part of the distribution of *C. euchlora*. Worth to mention, *C. euchlora* was regarded as a member of *Cousinia* sect. *Eriocousinia* Tschern. (Rechinger 1972). But it bears all characters of sect. *Serratuloides* and therefore it was transferred to this section in the treatment of Flora of Iran (not yet published).

**ACKNOWLEDGEMENT**

The author wishes to thank Mrs. R. Farahdoust, the artist in the TARI herbarium for preparing the illustrations.

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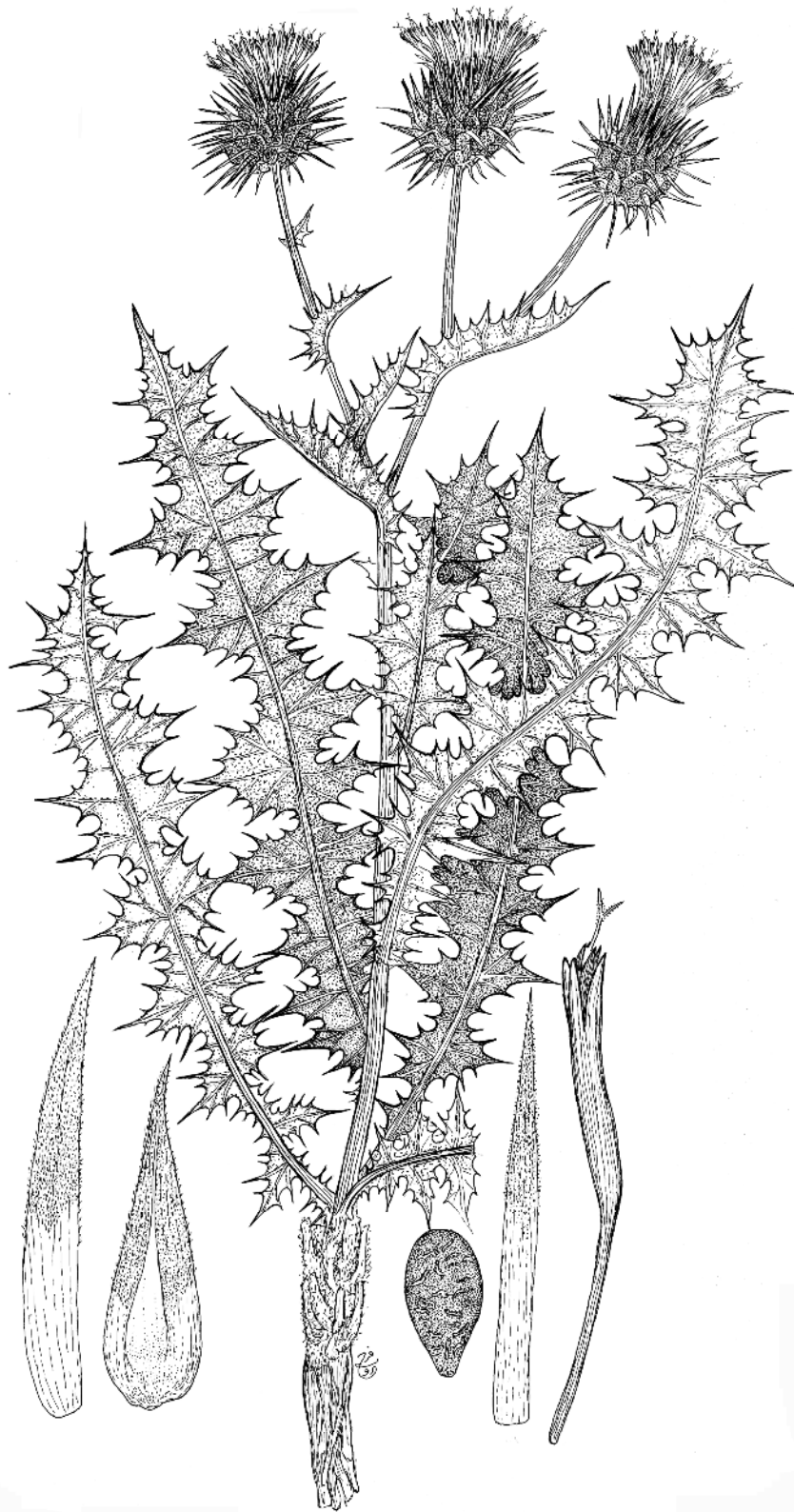


Fig. 2. *Cousinia mehreganii* ( $\times 0.47$ ); bracts, corolla and achene ( $\times 3$ ).