

NEW TAXA OF GENUS COUSINIA (COMPOSITAE) FROM IRAN

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Cousinia zardkuhensis, *C. shulabadensis* and *C. khorramabadensis* var. *purpurea* are described as new taxa from Bakhtiari and Lorestan provinces. *Cousinia carduchorum* and *C. myriolepis* are recorded for the first time in Iran. Also *Cousinia radians* which had been considered as a doubtful species is confirmed to be a good species.

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Key words. *Cousinia*, new species, new records, Iran.

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گونه های جدید از جنس کوزینیا در ایران

گونه های *Cousinia zardkuhensis* و *C. shulabadensis* به عنوان گونه های جدید و واریته *Cousinia khorramabadensis* var. *purpurea* به عنوان واریته ای جدید از استانهای بختیاری و لرستان شرح داده می شوند. همچنین گونه های *Cousinia carduchorum* و *C. myriolepis* برای اولین بار از ایران گزارش شده و گونه *Cousinia radians* که در فلورا ایرانیکا بطور مشکوک از ایران ذکر شده بود، در ایران تایید می گردد.

INTRODUCTION

In field trips to the different areas of Iran including Bakhtiari, Khorasan and Lorestan provinces many species were collected. Among them many new taxa of the genus *Cousinia*, including two new species (*Cousinia zardkuhensis* and *C. shulabadensis*), a new variety (*Cousinia khorramabadensis* var. *purpurea*) and two new records (*Cousinia carduchorum* and *C. myriolepis*) were recognized. New taxa are described and new reports are recorded and their relationships with other species are discussed. Geographic maps for these species are also presented.

NEW TAXA

Cousinia shulabadensis Attar & Ghahreman, sp. nov. (sect. *Cynaroideae*)

Differs from *Cousinia jacobsii* Rech. f.: basal leaves pinnatisect (not lyrate), corolla 28-30 mm long and white (not 23-26 mm long and purple), bracts \pm 100 (not 60-70) and flowers \pm 200 (not 60-90).

Perennis monocarpica. Caulis \pm 40 cm altus, a basi vel superne ramosus, foliis omnibus complete decurrentibus continue alatis, alis sinuato-dentatis spinosis, spinis usque 3 cm longis, stramineis, validis. Folia coriacea, subtus et supra laxe araneoso-tomentella; nervatura alba, pinnato-reticulata, prominentia; folia basalia 14x3 cm, lanceolata, pinnatipartita vel pinnatisecta, spinosa, in spinam terminalem usque 10 mm attenuata; folia caulina media et superiora in alas complete decurrentia, cuneata, spinoso-ciliata, spinis usque 15 mm longis; summa a capitulis leviter remota. Capitula singula, terminalia, spinis patentibus inclusis 2.5-4 cm. diametro; involucrium globosum, absque spinis ovato-globosum, 2.5x3 cm.; phylla \pm 100, coriacea, appendiculata; appendices virides, basi usque 25 mm longae, 7-12 mm latae, lanceolatae, triangulares, in spinas terminales usque 10 mm long attenuatae, marginibus utrinque 1-2

spinosa, nitidulae, reticulato-nervosae; appendices exteriores recurvae; appendices intermedias patento-recurvae, interiores erectae, triangulari-hastatae; 8x10 mm.; phylla intima usque 30 mm. longa, linearia, straminea, apice acuminata; receptaculi setae rarissime scabridulae. Flora \pm 200; corolla alba, 28-30 mm longa, tubus limbum circiter aequans; laciniae 4-6 mm. longae; antherarum tubus roseus, glaber. Achaenia matura ignota.

Monocarpic perennial. Stem up to 40 cm, branched from base or above, completely winged; wings sinuate-dentate, with spines 3 cm wide; spines stramineous, rigid. Leaves coriaceous, upper and lower surfaces laxly arachnoid-tomentose; nervation reticulate, prominent, white; basal leaves 14x3 cm, lanceolate, pinnatipartit or pinnatisect, attenuate into 10 mm long spine; median and upper leaves completely decurrent, cuneate, spinose-ciliate; marginal and terminal spines up to 15 mm long; uppermost leaves slightly distant from capitulum. Capitulum solitary, terminal, including spreading spines 2.5-4 cm in diam.; involucre globose, without spines ovate-globular, 2.5x3 cm; bracts \pm 100, coriaceous, appendiculate; appendix green, up to 25 mm long, 7-12 mm wide at base, lanceolate-triangular, attenuate into 10 mm long spine, with 1-2 spines in each side, shining, reticulately veined, in outer bracts recurved, in medians spreading-reflexed, in inners erect, triangular-hastate, 8x10 mm; innermost bracts up to 30 mm long, linear, straw-colored, acuminate; receptacle bristles rarely minutely scabrid at the apex. Flowers \pm 200; corolla 28-30 mm long, tube almost equalling the limb; lobes 4-6 mm long; anther tube pink, glabrous. Achene unknown.

Typus. Lorestan: Darreh Takht to Shulabad: 20 km to Shulabad, 2600 m, Ghahreman & Attar, 21874-TUH (holotypus TUH).

Paratypus. Lorestan: Azna, road of Shulabad, 2300 m, Ghahreman & Attar, 27593-TUH;



Fig. 1. *Cousinia shulabadensis* ($\times 0.46$); achene ($\times 1.3$).

Lorestan: after Shulabad to Aligudarz, 2500 m, Ghahreman, Attar & Mehdigholi, s. n.

This species, is morphologically similar to *C. jacobsii* Rech. f. but is distinguished from it by its more numerous flowers and bracts, robust habit and different habitat (*Quercus* forest for *C. jacobsii* but non forested highland areas for *C. shulabadensis*). The two species differ in their altitudinal distributions, without overlap; *C. jacobsii* grows at lower elevations comparing to *C. shulabadensis* (2300- 2800m).

Cousinia zardkuhensis Attar & Ghahreman, **sp. nov.** (sect. *Cynaroideae*)

Differs from *Cousinia rhombiformis* C. Wink. & Strauss in: plant short (not tall and robust); flowers ± 100 (not ± 80); bracts ± 110 and spreading (not 80-90, erect and imbricate); corolla 18-20 mm long and purple (not 26-28 mm long and white); receptacle bristles indistinctly scabrid (not smooth).

Perennis monocarpica, tota planta arachnoideo-canescenti-tomentosa, usque 30 cm alta. Caulis ramosus, complete alato-foliatus. Folia subherbacea, supra et subtus dense appresse albido- vel -canescenti-arachnoideo-tomentosa; nervatio pennato-reticulata, utrinque prominens, alba; costa mediana alba, crassa; folia basalia sessilia, usque 15 cm longa, sinuato-dentata, spinosa; caulina omnia lanceolata, basi cuneata, nervis in spinas marginales alteratim breviores et longiores excurrentibus, apice longius spinosa; folia caulina summa in involucri phylla gradatim transeuntia. Capitulum spinis inclusis usque 5 cm diametro; involucrium absque spinis 2x2.5 cm. globosum, superne constrictum; phylla ± 100 , appendiculata, externa foliacea, lanceolata, acuminata, patentia usque reflexa, superne basi breviter constricta, utrinque crebro spinosa; phylla media e basi appressa, erecto-patentia; appendix triangulato-sagittata, gradatim attenuata, apice spinescens, utrinque spinulis

1-2; phylla interna erecta; appendix triangulato-hastata, inermes, apiculata; phylla intima exappendiculata, gradatim attenuata, straminea, dorso papillosa. Receptaculi setae indistincte scabridulae usque sublaeves. Flora ± 100 ; corolla purpurea, 18-20 mm longa; tubus limbum circiter aequans; laciniae 3-4 mm longae; antherarum tubus apice purpureum. Achaenia maturata ignota.

Typus. Bakhtiari: Gandoman to Borujen, 2250m, Attar, 21887-TUH (holotypus TUH). *-Paratypus.* Esfahan: ca. 5 km from Tiran to Shahr-e Kord, 1800 m, Ghahreman & Attar, 20038-TUH.

Monocarpic perennial, totally arachnoid tomentose greyish, up to 30 cm high. Stem branched, densely leafy, winged. Leaves subherbaceous; upper surface laxly and lower surface densely arachnoid-tomentose, greyish; nervation pinnate-reticulate, prominent on both surfaces; midrib white, thick; basal leaves sessile, sinuate-dentate, spinose; stem leaves lanceolate, cuneate; nerves in long and short marginal spines excurrent; terminal spine long; uppermost leaves gradually transformed into involucri bracts. Capitulum including spines up to 5 cm in diam.; involucre without spines 2x2.5 cm, globular, constricted above; bracts ± 100 , appendiculate; outers foliaceous, lanceolate-acuminate, spreading to reflexed, above base slightly constricted into appendages, with numerous spines on each sides; median bracts appressed below, erect-spreading; appendages triangular-sagittate, gradually attenuate toward apex, spinose at tip, with 1-2 spinules on each side; inner bracts erect; appendages triangular-hastate, entire, apiculate; innermost bracts exappendiculate, gradually attenuate, straw-colored, papillose on dorsal, slightly exerted; receptacle bristles indistinctly scabrous or almost smooth. Flowers ± 100 ; corolla 18-20 mm long, purple, tube subequalling the limb; lobes 3-4 mm long; anther tube with purple tip. Achene immature.



Fig. 2. *Cousinia zardkhuensis* ($\times 0.5$); achene ($\times 1.5$).

This species is restricted to middle elevations in small areas of Gandoman. Although its distribution is close to *C. rhombiformis* Winkl. & Strauss. and *C. chlorosphaera* Bornm. and some morphological characteristics of them are also similar, but *C. zardkuhensis* is remarkably distinct by indistinctly scabrous or smooth bristles of receptacle from *C. chlorosphaera*. It differs from *C. rhombiformis* by its smaller size and more numerous flowers and bracts and length of corolla.

***Cousinia khorramabadensis* Rech.f. var. *purpurea* Attar & Ghahreman, var. nov. (sect. *Cynaroideae*)**

Corolla purpurea.

Typus. Lorestan: between Shulabad and Aligudarz, Dalani region, Ghahreman, Attar & Mehdigholi, 27591-TUH (holotypus TUH).

Cousinia khorramabadensis is locally frequent but with a restricted distribution on the slopes of Oshtoran-kuh mountains. The new variety grows in a small area together with the typical subspecies which has white corolla.

NEW RECORDS

***Cousinia myriolepis* Rech.f. & Koeie (sect. *Lachnosphaerae* Rech. f.)**

Esfahan: around Meymeh, Pur-Mohammadi, 27609-TUH.

This species has long stem, subamplexicaul leaves, yellow flowers, exappendiculate and strongly recurved bracts.

Section *Lachnosphaerae* with eleven species is endemic to Iran and Afghanistan. *Cousinia myriolepis* was supposed to be endemic to Afghanistan but is reported for the first time from Iran. The section now includes six species in Iran which are found in the provinces of Khorasan, Kerman, Esfahan & Baluchestan.

This report is on the basis of a single collection from the Meymeh area in July 2001. The geographical disjunction between Afghanistan and Centre of Iran is interesting and difficult to explain.

***Cousinia carduchorum* C. Winkl. & Bornm. (sect. *Cynaroideae*)**

Lorestan: between Shulabad and Aligudarz, Dalani region, Ghahreman, Attar & Mehdigholi, 27592-TUH.

This species with appendiculate bracts belongs to sect. *Cynaroideae*. The spinose margin of appendages distinguishes it from *C. khorramabadensis*. *Cousinia carduchorum* was known to be endemic to Iraq that with this collection, its geographical distribution extends to Iran.

***Cousinia radians* Bunge (sect. *Coronophora* (Juz.) Rech. f.)**

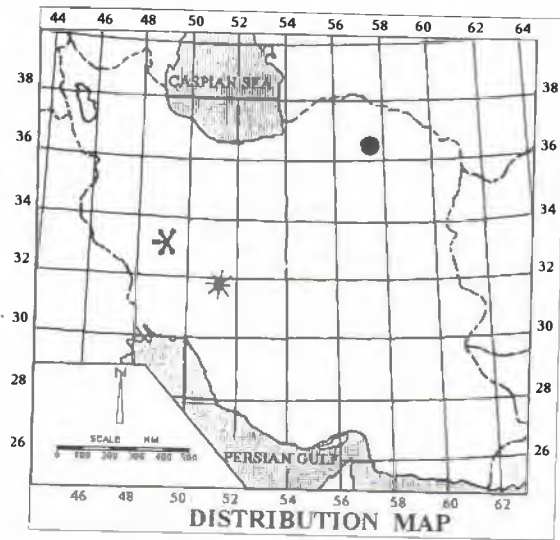
Khorasan: 60 km from Mashhad on the road of Kalat-e Naderi, 1000 m, Ghahreman, Attar & Mehdigholi, 27667-TUH.

Rechinger (1970) in *Flora Iranica* recorded two specimens from the section *Coronophora*, namely *C. pseudostenolepis* Rech. f. & Edelb. and *C. panjshirensis* Rech. f. from Afghanistan. He also mentioned in a note under the species *C. pseudostenolepis* few specimens from Khorasan, mentioning that these specimens are similar to *C. radians*. We compared our specimens with the description of *C. radians*. Morphological characters of the specimens and the description match rather well. Therefore, we prefer to name these specimens *C. radians*. It is possible that the specimens compared in *Flora Iranica* (Rechinger l.c.) are in reality *C. radians*.

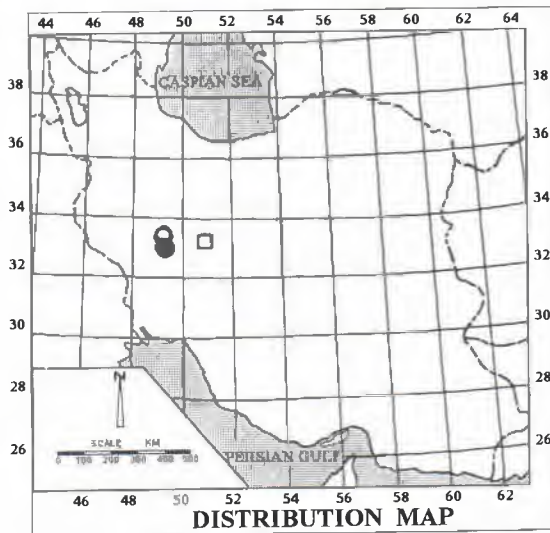
C. radians was described from Central Asia. In *Flora of the USSR*, Iran was mentioned in the geographical distribution of the species (Cheraneva 1962). Therefore, this record confirms that it occurs in Iran.



Fig. 3. *Cousinia radians* ($\times 0.5$); bracts ($\times 1$); achene ($\times 1.5$).



Map. 1. *Cousinia zardkuhensis* *; *C. shulabadensis* *; *C. radians* ●



Map. 2. *Cousinia carduchorum* ○; *C. khorramabadensis* ●; *C. myriolepis* □

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REFERENCES

- Cherneva, O. V. 1962: Cousinia in Flora of the U.S.S.R, vol. 27:108-357. -Moskva & Leningrad.
- Parsa, A. 1943: Flore de l'Iran, vol. 3 : 358-557. -Tehran.
- Rechinger, K. H. 1972: Compositae-Cynareae 1, in K. H. Rechinger, Fl. Iranica 90- Graz.