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from SW Iran**

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## *Cousinia* (sect. *Haussknechtianae*) *gatchsaranica*, a new species from SW Iran

### Abstract

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*Cousinia gatchsaranica* from the southwestern Zagros Mts is described as a new species and illustrated. It can be assigned to the hitherto dispecific *C. sect. Haussknechtianae* and shows closer affinities to *C. raphiocephala*. The taxonomic position of *C. raphiocephala* is confirmed on the basis of fruiting material, the description of *C. sect. Haussknechtianae* is emended and a key to the species of the section provided.

The genus *Cousinia* Cass. has a wide distribution in the mountainous regions of Iran. Being represented by more than 220 species, grouped into some 50 sections (Rechinger 1972, 1979), *Cousinia* is the second largest genus (after *Astragalus* L.) of higher plants in Iran, and is unique in its restricted distribution compared with the high number of species (Rechinger 1986).

In recent studies of poorly investigated mountains of SW Iran, specimens of a *Cousinia* species were collected that clearly matches the description of *C. sect. Haussknechtianae* Rech. f., a hitherto dispecific section endemic to W and NE Iran. Closer studies revealed that the specimens represent a new species, which is described here.

*Cousinia* sect. *Haussknechtianae* is distinguished from the allied *C. sect. Actiniae* Bunge and sect. *Racemosae* Rech. f. by the high number of involucre bracts (more than 90 instead of less than 70), the white or yellow (instead of purple) corolla, smooth (instead of rough) receptacular bristles and indistinctly, longitudinally striate (instead of winged, auriculate or distinctly ribbed) achenes (Černeva 1962, Rechinger 1972).

Originally, *Cousinia* sect. *Haussknechtianae* was described as a monospecific section without closer allies, based on *C. haussknechtii* C. Winkl. (Rechinger 1972: 187). The questions of a possible relationship of *C. raphiocephala* Rech. f. with *C. haussknechtii* or, alternatively, *C. sect. Actinia*, was considered and, with doubt, owing to the lack of mature achenes, *C. raphiocephala* (under no. 189a) was placed in the “Addenda” (Rechinger 1971: 320) along with *C. haussknechtii* (no. 189). Also later, Rechinger (1979: 110) assigned *C. raphiocephala* to *C. sect. Haussknechtianae*. We studied mature achenes of *C. raphiocephala* and confirm this placement.

*Cousinia hergtiana* Bornm. is another species compared with *C. raphiocephala* and *C. haussknechtii* by Rechinger (1972: 320), but finally left unassigned (Rechinger 1979: 111). This species habitually resembles *C. raphiocephala*, but differs clearly from all members of *C. sect. Haussknechtianae*, our new species included, by the very limited number of capitules and the high number of flowers per capitule (c. 50). We were not able to find fruiting material of this species and therefore leave it unassigned too.

An emended description of *C. sect. Haussknechtianae* is provided.

***Cousinia* sect. *Haussknechtianae* Rech. f., Fl. Iranica 90: 187. 1972, **descr. emend.****

*Suffrutescens vel perennis*, collo residuis petiolorum comoso. *Caulis* mediocris vel elatus. *Folia* basalia coriacea, concoloria vel discoloria, sinuato-lobata, spinosa; folia caulina similia, decrescentia, non vel breviter decurrentia, ea regionis floriferae valde reducta. *Synflorescentia* aut simplex aut inferne simplex et superne ramosa. *Capitula* omnino sessilia, 15-30-flora, ultra 90 phyllis involucri; phylla extima et media aculeiformia vel subulata, glandulosa. *Setae receptaculi* laeves. *Corolla* rosea vel purpurea; limbus tubo longior vel subaequans. *Achaenia* compressa, maculata, obsolete longitudinaliter striata.

Typus sectionis: *Cousinia haussknechtii* C. Winkl.

**Key to the species of the *Cousinia* sect. *Haussknechtianae***

1. Leaves concolorous; green on both surfaces . . . . . 2
- Leaves discolorous; green above and white-tomentose beneath . . . . . *C. haussknechtii*
2. Involucral bracts straight; stem leaves not decurrent . . . . . *C. raphiocephala*
- Involucral bracts arcuate or curved; stem leaves decurrent for 1-2 cm . . . . . *C. gatchsaranica*

***Cousinia gatchsaranica* I. Mehregan, M. Assadi & F. Attar, **sp. nova****

Holotypus: Iran, Kohgilouieh and Boyer Ahmad Province, Gatchsaran, mt Khaami, N slopes, above Tol Tchegah, 2000-2100 m, 9.8.2002, *Mehregan 83246* (TARI; isotypes: B, TUH). – Fig. 1.

*Perennis*, pluricaulis, collo residuis petiolorum comoso. *Caulis* erectus, 90-130 cm altus, pallidus, leviter striato-sulcatus, glandulosus. *Folia basalia* petiolo usque ad 5 cm longo suffulta, 30-42 × 5.5-6 cm, ambitu lineari-lanceolata, basin versus attenuata, profunde irregulariter sinuato-lobata, lobis ± rectangulariter patentibus, nervis pallidis utrinque prominentibus, in spinas validas vulnerantes excurrentibus, spinis brevioribus et longioribus alternantibus, consistentia rigide coriacea, concoloria, pallide viridia, glaberrima, imprimis inferne secus nervos glanduloso-pubescentia. *Folia caulina* decurrentia, inferiora basalibus omnino conformia sed non petiolata; mediocria usque ad 20 × 5-6 cm, ad 1-2 cm decurrentia, superne versus valde reducta. *Synflorescentia* inferne simplex, superne stricte ramosa. *Capitula* omnino sessilia, spinis inclusis 2-3 cm diametro, 15-25-flora; involucrum absque spinis 1.5-2 × 9-1 cm, oblongum vel longe ovatum. *Phylla involucri* 90-110, extima et media e basi leviter dilatata tenuiter subulata, arcuato-recurvata vel patentia, rigida, pungentia, virido-straminea, glandulis sessilibus flavis obsita et inferne leviter araneoso-floccosa; intima mollia, sub apice lanceolato-dilatata, margine appresse spinuloso-serrulata. *Setae receptaculi* laeves. *Corolla* in vivo purpurea, in sicco valde expallens, 13-15 mm longa, lobis linearibus obtusiusculis 3-4 mm longis; tubus limbo brevior, 5.5-7 mm longus; limbus 7-9 mm longus. *Tubus antherarum* purpureus, nitidus, glaber. *Achaenia* ± 7 mm longa, 2.5-3 mm lata, compressa, griseo-brunnea, basi attenuata, apice truncata vel ± rotundata, maculis nonnullis parvis atrioribus subimpressis irregulariter dispositis obsita et obsoletissime longitudinaliter striata.

*Additional material.* – IRAN: Khuzistan, Dehdez, Gharoun mt, from Ab-s-valleys, 1000-1500 m, 17.5.1996, *Mozaffarian 74497* (TARI); Kohgilouieh and Boyer Ahmad, 50 km east of Dehdasht, Nile mt, 2400-3200 m, 21.7.1983, *Assadi and Abuhamzeh 46504* (TARI).

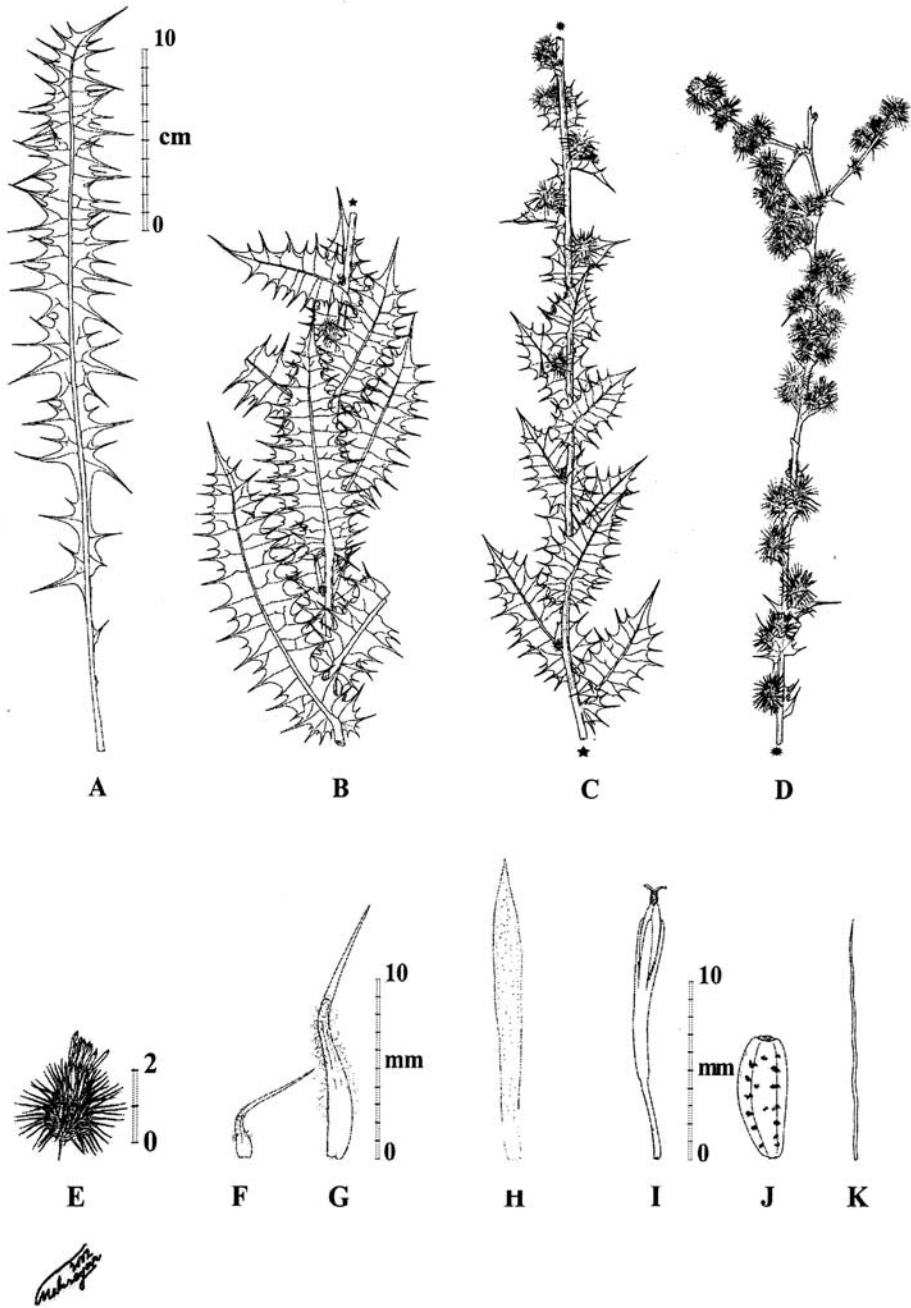
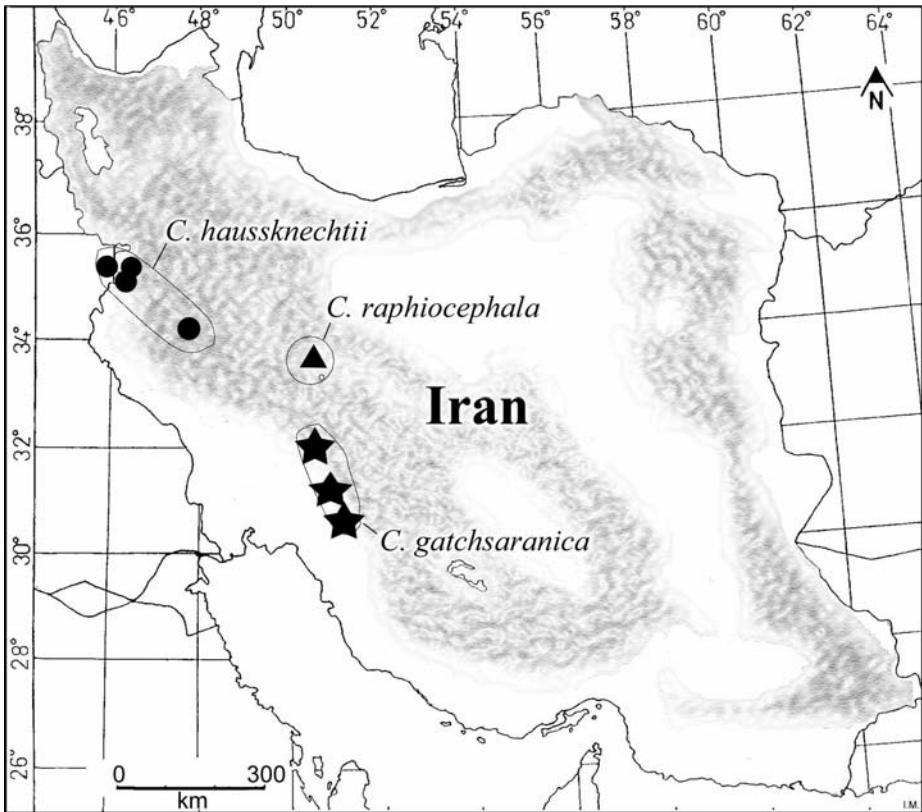


Fig. 1. *Cousinia gatchsaranica* – A: basal leaf; B-D: stem, leaves and synflorescence; E: capitulum; F-H: outer, middle and inner involucre bracts; I: flower; J: achene; K: receptacular bristle. – From the holotype.

Table 1. Comparison of *Cousinia gatchsaranica* with the two other species of the *C.* sect. *Haussknechtianae*.

	<i>C. haussknechtii</i>	<i>C. raphiocephala</i>	<i>C. gatchsaranica</i>
Height	50-80 cm	70-130 cm	80-130 cm
Leaf indumentum	discolourous	concolourous	concolourous
Basal leaves size	up to c. 20 × 3-5 cm	12-40 × 5-8 cm	30-42 × 5-6 cm
Base of stem leaves	not decurrent	not decurrent	1-2 cm decurrent
Synflorescence	branched above	simple	branched above
Number of flowers per capitule	± 30	25-30	15-25
Capitule size (including spines)	1.5-2 × 2-2.5 cm	1.5-2 × 1-1.5 cm	1.5-2 × 2-3 cm
Number of involucre bracts	± 100	160-200	90-110
Involucre bracts	straight	straight	arcuate or recurved
Corolla length	12-15 mm	15-18 mm	13.5-15 mm

Fig. 2. Distribution of the three species of *Cousinia* sect. *Haussknechtianae*. – Own data supplemented by distribution data from Rechinger (1972); grey area: elevations above 1000 m, schematic.

*Diagnostic characters.* – The new species is clearly distinguishable from both other species of the section as shown in the key to the species and in Table 1.

*Distribution and habitat.* – Similar to many species of *Cousinia* and also the other members of *C. sect. Haussknechtianae* our new species is a narrow endemic, restricted to the southwestern Zagros Mts in SW Iran (Fig. 2), where it grows on rocky slopes or in rocky clefts at altitudes between 1000 and 3200 m. The three species of *C. sect. Haussknechtianae* clearly differ chorologically from each other (Fig. 2).

***Cousinia raphiocephala*** Rech. f., Fl. Iranica 90: 319. 1972, **descr. emend.**

*Suffrutescens.* *Caulis* 70-130 cm altus. *Folia basalia* laminis 9-27 cm longis, 5-8 cm latis, petiolo 3-13 cm longo suffulta. *Phylla involucris* 160-200. *Achaenia* 5.5-7 mm longa, 2-2.5 mm lata, compressa, griseo-brunnea, basi attenuata, apice rotundata vel ± truncata, maculis nonnullis parvis atrioribus subimpressis irregulariter dispositis obsita et obsoletissime longitudinaliter striata.

*Distribution and habitat.* – Endemic to central Iran, on rocky slopes.

*Specimens studied.* – Iran, Muteh Protected Region, 12 km NW Muteh, 2150 m, 18.11.2002, *Mehregan 83247* (TARI).

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