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

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Abstract


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 involucral 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.


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 curled; 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 brevieribus et longioribus alternantis, consistencia 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-recurrenta vel patentia, rigida, pungentia, virido-straminea, glandulis sessilibus flavis obsita et inferne leviter araneoso-floccosa; intima mollia, sub apice lanceolato-dilatata, margine appresse spinulososerrulata. 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 involucral 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. Haussknechtiaea*.

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

Fig. 2. Distribution of the three species of *Cousinia sect. Haussknechtiaea*. – 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).

*Suffrutescens. Caulis* 70-130 cm altus. *Folia basalia* laminis 9-27 cm longis, 5-8 cm latis, petiolo 3-13 cm longo suffulta. *Phylla involucri* 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).

References

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