NOTES ON THE GENUS HIERACIUM (ASTERACEAE) IN IRAN

Z. Tavakkoli & M. Assadi


The genus Hieracium L. (Asteraceae) has been studied taxonomically in Iran. This paper includes new reports to Iran, new combination and new synonyms. H. ×sintenisii, H. ×pannoniciforme from sect. Praealtina, H. pollichiae from sect. Vulgata and H. echioides subsp. echioides from sect. Echinina are reported for the first time from Iran. H. ×procerigenum is distinguished as a synonym of H. ×auriculoides, and H. ×woronowianum is regarded as a synonym of H. ×maschukense. Also H. procerum is reduced into a subspecies of H. echioides.

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Introduction
The genus Hieracium L. has been subject of studies by the authors in Iran. The studies have been based on numerous specimens in Iranian herbaria (i.e. TARI, IRAN, FAR and KARAJ) and also field observations. In this paper, some new taxa, and a new combination is described for the flora of Iran.


New reports
Azerbaijan: 20 km S. of Kaleibar (mounts), 1800-2600 m, Terme 10323; 10 km S. of Kaleibar (forest), 1900 m, Terme 10325.

This species is distinguished from its related species, H. vulgatum in having scanty to moderate eglandular hairs, without or with few glandular hairs on peduncles and its involucral bracts which are without or with solitary black glandular hairs at base. General distribution of the species is: Turkey, W. Germany, S. England, C. Europe, Bulgaria (Sell & West 1975).

(H. piloselloides × verruculatum).
Azerbaijan: Bostan abad, Chinibulagh, 4 km Pischiclou, 2150-2350 m, Termé & Moussavi 30334.

This species differs from H. verruculatum in having less stellate and glandular hairs of the all parts and its smaller capitules, and from H. piloselloides in having numerous stellate and glandular and eglandular hairs of
the all parts and also its caducous basal leaves. General distribution of the species is: Turkey, Caucasica, Iran. In Flora of Turkey, vol. 5 (Sell & West 1975), the species without indication of region or mentioned specimens was recorded from Iran in its general distribution.

**Hieracium ×pannoniciforme** (Litw. & Zahn) Zahn, Fedde Repert. 3: 191: (1907). *(H. ×auriculoides × verruculatum)*.

Specimens seen: Mazandaran: S. of Ramsar, E. of Lapasar, 2950 m, Runemark & Massoumi 21698; Azerbaijan: ca 15 km from Zanjan to Bijar, 1862 m, Mozaffarian 87093; Tehran: 13 km from Kandavan to Haraz road, 2400 m, Assadi & Mozaffarian 32949; Karaj – Chalus pass, 3000 m, Dini 23762.

This species differs from *H. ×auriculoides* in having more numerous stem leaves, and its leaves with small and yellow glandular hairs particularly on midrib beneath, and differs from *H. verruculatum* in having basal leaves and less glandular hairs of the all parts. General distribution of the species is: Turkey, Caucasica (Sell & West 1975).

**New combination**


The specimens of *H. echioides* and *H. procerum* were recorded as separate species in Fl. USSR (Juxip 1960), these species said to differ in the kind of synflorescence and the direction of stem eglandular hairs. *H. echioides* has turned upward or appressed hairs on the stem and paniculate – umbellate synflorescence. *H. procerum* has patent hairs on the stem and paniculate-corymbose synflorescence. *H. procerum* was reported as a distinct species from Iran in Flora Iranica (Rechinger & Lack 1977). The specimens collected in Iranian herbaria (TARI, IRAN and FAR) were studied. The differences between *H. echioides* and *H. procerum* (the kind of synflorescence and the direction of stem hairs) aren’t enough for keeping *H. procerum* as a separate species. Therefore, *H. procerum* due to minor differences with *H. echioides* is regarded as a subspecies of *H. echioides*.

**Hieracium echioides** (Lumn.) subsp. *procerum* (Fr.) Tavakkoli & Assadi, **comb. nov.**


Selected specimens: Mazandaran: Col Kandavan, 1 km E. Pol-e Zanguleh, 2250 m, Pabot 4605; Azerbaijan: Arasbaran protected area, Doghrun and Kalan mountains, 2300-2500 m, Assadi & Sardabi 24117; Salmas, Ghushchi pass, 1530-1800 m, Siami & Zehzad 7662; Khorassan: Shirvan, Namanlou, Golule, Cheshmeh – Gabi, 2400 m, Termé & Moussavi 10311. Its general distribution is: S. Russia, Caucasica, Lebanon, N. & W. Iran, Afghanistan, C. Asia (Sell & West 1975).

- **subsp. echioides**

Specimen seen: W. Azerbaijan: Urumiyeh, Silvana Bardesu, 1800-2200 m, Zehzad & Siami 2955. Its general distribution is: C. & E. Europe, C. & S. Russia, Caucasia & S. Asia (Sell & West 1975). This subspecies is recorded for the first time for flora of Iran.

**Miscellaneous notes**


Based on Flora Iranica (Rechinger & Lack 1977), *H. ×procerigenum* was separated from *H. kandawanicum* by its numerous stem leaves, taller stem and longer eglandular hairs and paniculate-umbellate synflorescence. *H. kandawanicum* was regarded as a synonym of *H. ×auriculoides* (Tavakkoli & Assadi 2006). The characters have been used for *H. ×auriculoides* and *H. ×procerigenum* are compared in table 1. As it is observed the characters are well overlapped. Therefore, *H. ×procerigenum* is confirmed to be a synonym of *H. ×auriculoides* (Sell & West 1975).

Selected specimens: Azerbaijan: 15 km from Namin to Chulandarreh Sofla to Germi Sir kuh, 1600-1800 m, Mozaffarian & Nowrozi 34560; 42 km to Nowhour, Lisar, protected area, 2450 m, Foroughi & Assadi 13822; Arasbaran protected area, Doghrun mountain, 2500-2800 m, Assadi & Sardabi 23984; Tehran: near Kandavan tunnel, Karaj – Chalus road, 2220 m, Babakanlou & Amin 5528.


*H. ×woronowianum* was distinguished from *H. ×maschukense* by indumentum density of the all parts (Juxip 1960). Examination of several specimens of *H. ×woronowianum* and *H. ×maschukense* showed high variation of indumentum density (table 2). Moreover, some collected specimens with intermediate characters show continuous variation from one taxa to the other (table 2). Therefore, *H. ×woronowianum* is confirmed as a synonym of *H. ×maschukense* (Sell & West 1975). Selected specimens: Mazandaran: Haraz road, above
Fig. 1. Hieracium echioides subsp. echioides (x 0.8); capitula (x 4).
Table 1. Comparison of characters between *Hieracium ×auriculoides* and *H. ×procerigenum*.

<table>
<thead>
<tr>
<th>Characters</th>
<th><em>H. ×auriculoides</em></th>
<th><em>H. ×procerigenum</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stem length</td>
<td>30 – 80 cm</td>
<td>65 – 85 cm</td>
</tr>
<tr>
<td>Bristle length</td>
<td>2 – 6 mm</td>
<td>4 – 6 mm</td>
</tr>
<tr>
<td>Stem leaves</td>
<td>2 – 7 in number</td>
<td>4 – 7 in number</td>
</tr>
<tr>
<td>Synflorescence</td>
<td>paniculate - corymbose or umbellate</td>
<td>paniculate - umbellate</td>
</tr>
</tbody>
</table>

Table 2. Comparison of characters between *Hieracium ×maschukense*, *H. ×woronowianum* and intermediate specimens.

<table>
<thead>
<tr>
<th>Characters</th>
<th><em>H. ×maschukense</em></th>
<th><em>H. ×woronowianum</em></th>
<th>Intermediate specimens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stem leaves</td>
<td>with scanty to rather moderate glands</td>
<td>with solitary glands or sometimes scanty glands</td>
<td>with solitary glands</td>
</tr>
<tr>
<td>Leaves indumentum</td>
<td>with scanty glands on both sides, scanty to moderate hairs and densely on midrib</td>
<td>with solitary to scanty glands and often on midrib, scanty hairs on both sides and moderately on midrib beneath</td>
<td>with solitary – scanty to moderately glands and scanty to moderate or densely hairs</td>
</tr>
<tr>
<td>Peduncles indumentum</td>
<td>with scanty to moderate glands or sometimes rather dense glands and scanty to scattered hairs</td>
<td>with scanty to rather moderate glands and scanty hairs</td>
<td>with scattered to moderate glands, scanty to moderate hairs and sometimes rather dense hairs</td>
</tr>
<tr>
<td>Involucral bracts</td>
<td>with scanty to rather moderate glands, rather moderate to moderate hairs and sparsely stellate hairs, plentifully at base</td>
<td>with scanty glands, scanty to rather moderate hairs and plentifully stellate hairs</td>
<td>with scanty to rather moderate glands, scanty to rather dense hairs and rather dense to dense stellate hairs</td>
</tr>
</tbody>
</table>

Larijan, 2500 m, Assadi 75001; Ramsar, S. of Javaherdeh, between Lapasar and Pich-Chak, 2600–3200 m, Massoumi 56828; Azerbaijan: Ardebil to Khalkhal, 24 km S. E. of Budalalou, Neor lake, 1450 m, Zehzad & Jamzad 70550; ca 10 km S. of Sero toward Silvana, 1900 m, Mozaffarian 69885; Kurdestan: 50 km from Baneh to Sardasht, 1510 m, Runemark & Mozaffarian 29257; Beginning of the road Baneh to Sardasht (NE2), 1600 m, Assadi 85124.

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References


