

## NOTES ON THE GENUS *Hieracium* (ASTERACEAE) IN IRAN

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Tavakkoli, Z. & Assadi, M. 2007 12 31: Notes on the genus *Hieracium* (Asteraceae) in Iran. -Iran. J. Bot. 31 (2) 89-91. Tehran.

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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Submitted: 2007. 9. 22 Accepted for publication on: 2007. 12. 19

Key words. *Hieracium*, Taxonomy, new records, new combination, synonyms, Iran.

مطالعاتی روی جنس *Hieracium* در ایران

زهرا توکلی و دکتر مصطفی اسدی

در بررسی تاکسونومیکی بر روی جنس *Hieracium* در ایران که بر اساس مطالعات نمونه های هرباریومی و جمع آوری شده صورت گرفت، *H. ×sintenisii* و *H. ×pannoniciforme* از بخش *H. pollichia* sect. *Praealtina* از بخش *H. pollichia* sect. *Praealtina* و *H. echioides* Lumn. subsp. *echioides* sect. *Vulgata* از بخش *Echinina* برای اولین بار از ایران گزارش می شوند. گونه های *H. ×procerigenum* با *H. ×auriculoides* و *H. ×woronowianum* با *H. ×maschukense* مترادف یکدیگرند. همچنین *H. procerum* به سطح زیر گونه ای از *H. echioides* کاهش یافته است.

### 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.

*Hieracium* includes 23 species in Iran (Rechinger and Lack 1977, Assadi 1987 and Tavakkoli and Assadi 2005, 2006).

### New reports

***Hieracium pollichia*** Schultz Bip., *Pollichia* 13: 23 (1855).

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 peduncules and its involucre 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).

***Hieracium ×sintenisii*** (Fr.) Sojak, *Folia Geobot. & Phytotax.* 6: 219 (1971).

(*H. piloselloides* × *verruculatum*).

Azerbaijan: Bostan abad, Chinibulagh, 4 km Pischiclou, 2150-2350 m, Terme & 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, Caucasia, 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 ×panniciforme** (Litw. & Zahn) Zahn, Fedde Reppert. 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, Caucasia (Sell & West 1975).

### New combination

**Hieracium echioides** (Lumn.) C. H. & F. W. Schultz, Flora 45: 431(1862).

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 glandular hairs. *H. echioides* has turned upward or appressed hairs on the stem and paniculate – umbellate synflorescence. But *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.**

Syn.: *Hieracium echioides* Fries, Symb. Hist. Hierac. 42 (1848).

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 – Gabri, 2400 m, Terme & Moussavi 10311. Its general distribution is: S. Russia, Caucasia, 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

**H. ×auriculoides** (A. F. Lang) Sell & West., Notes R. B. G. Edinburgh. 33: 432 (1975).

Syn.: *H. ×procerigenum* (Litw. & Zahn) Zahn, Fedde Rep. 4: 192(1907).

Based on Flora Iranica (Rechinger & Lack 1977), *H. ×procerigenum* was separated from *H. kandawanicum* by its numerous stem leaves, taller stem and longer glandular 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 Germe Sir kuh, 1600-1800 m, Mozaffarian & Nowrozi 34560; 42 km to Nohour, 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, Babakhanlou & Amin 5528.

**H. ×maschukense** ( Litw. & Zahn) Sojak, Folia Geobot. and Phytotax. 6: 218 ( 1971).

Syn.: *H. ×woronowianum* (Zahn) Zahn, Monit. Jard. Bot. Tiflis 12: 3 (1908).

*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 echinoides* subsp. *echinoides* (x 0.8); capitula (x 4).

Table 1. Comparison of characters between *Hieracium* ×*auriculoides* and *H.* ×*procerigenum*.

Charaters	<i>H.</i> × <i>auriculoides</i>	<i>H.</i> × <i>procerigenum</i>
Stem length	30 – 80 cm	65 – 85 cm
Bristle length	2 – 6 mm	4 – 6 mm
Stem leaves	2 – 7 in number	4 – 7 in number
Synflorescence	paniculate - corymbose or umbellate	paniculate - umbellate

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

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

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; Kurdistan: 50 km from Baneh to Sardasht, 1510 m, Runemark & Mozaffarian 29257; Beginning of the road Baneh to Sardasht (NE2), 1600 m, Assadi 85124.

#### Acknowledgment

The authors wish to thank Miss. Habibi the artist in TARI herbarium for drawing the illustration.

#### References

- Assadi, M. 1987; Plants of Arasbaran protected area, N.W. Iran (part1). – Iran. J. Bot. 3 (2): 129 – 175.
- Juxip, A. Ya. 1960: *Hieracium* in B. K. Shishkin & E. C. Bobrov, Flora of the USSR, vol. 30. – Moskva & Leningrad.
- Rechinger, K. H. & Lack, H. W. 1977: *Hieracium* in K. H. Rechinger, Flora Iranica no. 122: 171 – 180. – Graz.
- Sell, P. D. & West, C. 1975: *Hieracium* in P. H. Davis, Flora of Turkey and the East Aegean Island, vol. 5: 696 – 763. –Edinburgh.
- Tavakkoli, Z. & Assadi, M. 2005: A new species and a new record of *Hieracium* L. (Asteraceae) from Iran. – Iran. J. Bot. 11(1): 59 – 63.
- Tavakkoli, Z. & Assadi, M. 2006: Some new records of the genus *Hieracium* L. (Asteraceae) from Iran.- Iran. J. Bot. 12 (1): 69 – 72.