

Helichrysum persicum (Asteraceae, Inuleae), a new species from NE Iran

Farrokh Ghahremaninejad* & Nasrin Noori

Department of Biology, Faculty of Science, Univ. of Tarbiat-Moallem (Teacher Training Univ. of Tehran), 49 Dr. Mofatteh Avenue, 15614 Tehran, Iran (*e-mail: ghahremaninejad@saba.tmu.ac.ir)

Received 27 July 2004, revised version received 19 Nov. 2004, accepted 3 Dec. 2004

Ghahremaninejad, F. & Noori, N. 2005: *Helichrysum persicum* (Asteraceae, Inuleae), a new species from NE Iran. — *Ann. Bot. Fennici* 42: 73–76.

A new species, *Helichrysum persicum* F. Ghahremani. & Noori (Asteraceae, Inuleae), is described and illustrated from Iran. It is related to and compared with *H. davisianum* Rech.f. and *H. artemisioides* Boiss. & Hausskn.

Key words: Asteraceae, *Helichrysum*, Inuleae, new species, taxonomy

We describe a new species of the genus *Helichrysum* from Khorassan province, NE Iran. The genus comprises nearly 600 species (Beentje 2000), mostly occurring in warm areas of the Old World. According to Georgiadou *et al.* (1980), in Iran there are 19 species, of which eight are endemic there. There are 20 species in the *Flora Iranica* region of which only *H. subsimile*, endemic in Afghanistan, does not occur in Iran (Georgiadou *et al.* 1980).

Helichrysum persicum F. Ghahremani. & Noori., *sp. nova* (Fig. 1).

Helichrysum persicum ab affinibus *H. davisiano* et *H. artemisioidem* primo differt gemmae quiescens latiori (4–5 vs. 1.5–3.5 mm), capitula 9–15 (nec 1–7), caudex brevis, crassus (nec lignosus, ramosus), involucri bracteae pallide flavida vel brunnea (nec pallide flavida vel rubra); secundo differt involucri bracteae 39–40 (nec 60), caudex brevis, crassus (nec lignosus, ramosus), pappi pili 25 (nec 22), inflorescentia semper terminalis (nec terminalis et axillaris).

TYPE: Iran. Khorassan Province, 30 km N Torbat-e Heydariyeh, 1900 m, 15.VII.1976 M. Assadi & A. A. Maasoumi 21312 (holotype TARI).

Perennial, 25–40 cm tall, greyish, glandular, white-hairy. Stems erect, unbranched, terete, densely arachnoid-tomentose, arising from a short, stout, woody caudex. Resting buds ovoid, basal, ca. 1 cm long, 4–5 mm in diameter, densely lanate. Leaves sessile, margins entire, apex usually acute to somewhat obtuse, both surfaces densely arachnoid-tomentose; basal leaves spatulate-oblongate, 20–22 mm long, 4.5–5 mm wide, base attenuate; cauline leaves spatulate-oblongate, oblongate to linear, up to 3 cm long, up to 4 mm broad, very decreasing in upper part of stem, base attenuate; cauline leaves progressively smaller and narrower, often closely arranged and appressed to stem. Compound inflorescences terminal, nearly compact capitate corymbs of 9–15 heads, 2–3.5 cm across; the heads on arachnoid-tomentose peduncles, up to 5 mm long, ca. 1 mm in diameter, almost as long as or somewhat shorter than the heads. Capitula homogamous, obconical, 5–6 mm high, ca. 5 mm in diameter. Phyllaries pale yellow, the external

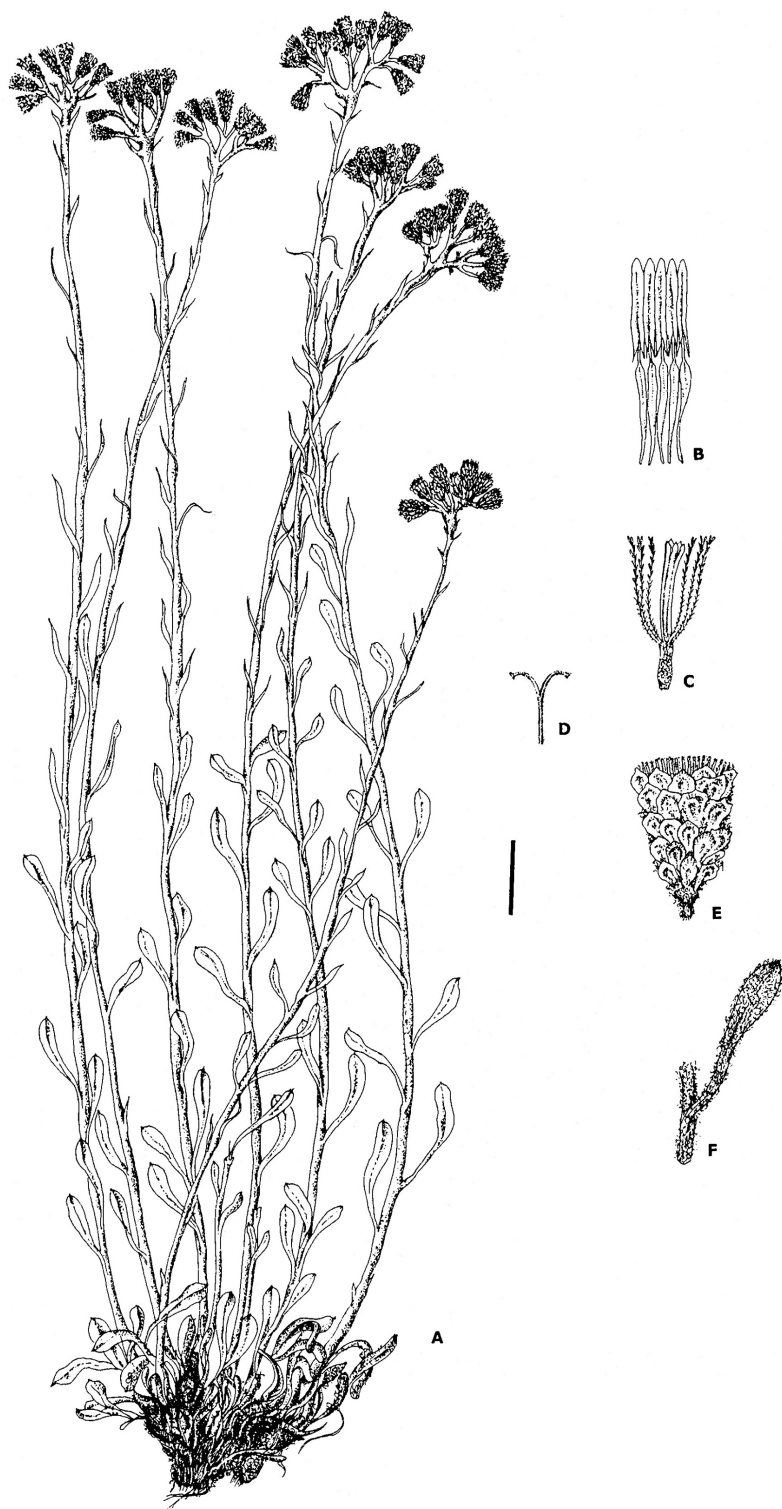


Fig. 1. *Helichrysum persicum* (from Assadi & Maasoumi 21312, TARI). — **A:** Habit. — **B:** Stamens. — **C:** Floret. — **D:** Stigma and style. — **E:** Capitulum. — **F:** Stem and leaf. Scale: **A** = 2 cm; **B** = 0.2 cm; **C**, **D**, and **E** = 0.25 cm; **F** = 1 cm.

brown in lower part, 8-seriate, 39–40 in number, ovate, elliptic, obovate, to oblanceolate, 1.7–4.7 mm long, arachnoid-tomentose, glandular, apex obtuse to slightly erous, sclerenchymatic below, hyaline at margin and apex; sclerenchymatic part ca. 1/3 to 2/3 (0.7–3.9 mm long) the length of phyllaries; internal ones narrower, up to 2.5 times the length of external ones; external ones ca. 1.5 mm long, middle ones ca. 3.5 mm long, inner ones ca. 5 mm long. Florets yellow, narrowly cylindric, 24–25 per head, hermaphrodite, tube 3–3.7 mm long, lobes triangular, ca. 0.3–0.5 mm long, glandular, anthers 1.6–1.8 mm long, style 3.5–4 mm long (branches 1–1.2 mm long). Achene cylindrical, gelatinous-glandular, ca. 1 mm long; pappus of ca. 25 scabrous white hairs, ca. 3.5 mm long, as long as or somewhat exceeding corolla length. Flowering and fruiting July.

DISTRIBUTION AND ECOLOGY: *Helichrysum persicum* is known only from the type specimen, which was collected in a dry stony mountain area of N Torbat-e Heydarieh, Khorassan province, NE Iran (Fig. 2).

Helichrysum persicum is closely related to *H. davisianum* and *H. artemisioides* (the types of the two latter are in K and photographs of them are in FAR!). These three species have obconic capitula and their phytogeographical distribution areas are near to each other. The morphological differences among the three species are presented in Table 1.

Another near relative (at least as far as morphology is concerned) of *Helichrysum persicum* is *H. subsimile*, endemic in Afghanistan. Our new species differs from *H. subsimile* in having narrower resting buds (4–5 vs. ca. 10 mm diame-



Fig. 2. Distribution of *Helichrysum persicum* (*), *H. davisianum* (■), and *H. artemisioides* (●).

ter), obconic capitula (vs. subcapitate), and lower number of florets (25 vs. 43–64).

The centers of diversity of this genus are in Africa, especially South Africa and Madagascar, but there are several species in Europe and Asia (Beentje 2000). The number of species decreases toward the east. Nine of the 20 Iranian species of *Helichrysum* are endemic in the country. The Iranian species are distributed at altitudes between 400 m and 4000 m, based on information from vouchers in TARI and FAR. We list the Iranian species here (based on Georgiadou *et al.* 1980). An asterisk means an endemic species.

1. *H. armenium* DC. (Iran, Transcaucasia, Turkey).
2. **H. artemisioides* Boiss. & Hausskn.

Table 1. Morphological differences among *Helichrysum persicum*, *H. davisianum* and *H. artemisioides*.

	<i>H. persicum</i>	<i>H. davisianum</i>	<i>H. artemisioides</i>
Caudex	Short, unbranched	Branched	Branched
Resting bud diameter	4–5 mm	1.5–3.5 mm	2–3.5 mm
Inflorescence diameter	20–35 mm	11–27 mm	5–20 mm
Compound inflorescence	Terminal	Terminal	Terminal and axillary
Number of capitula	9–15	1–7	1–9
Involucre length	5–6 mm	5–7 mm	5–7 mm
Number of phyllaries	39–40	ca. 35	ca. 60
Phyllary color	Pale yellow to brown	Pale yellow to red	Pale yellow
Number of pappi	ca. 25	26–31	ca. 22
Number of florets	ca. 25	18–20	31–35

3. *H. araxinum* Takht. ex Kirp. (Iran, Syria, Transcaucasia, Turkey).
4. **H. athanatum* Georgiadou & Rech.f.
5. *H. aucheri* Boiss. (Iran, Iraq, Turkey).
6. **H. davisianum* Rech. f.
7. *H. glanduliferum* Sch. Bip. (Iran, Iraq, Syria, Turkey).
8. **H. globiferum* Boiss.
9. *H. graveolens* (M. Bieb.) Sweet (Iran, Iraq, Balkan, Turkey).
10. **H. leucocephalum* Boiss.
11. **H. makranicum* (Rech. f. & Esfand.) Rech.f.
12. **H. oligocephalum* DC.
13. **H. oocephalum* Boiss.
14. **H. pallasii* (Spreng.) Ledeb. (Iran, Iraq, Syria, Caucasus?, Transcaucasia?, Turkey).
15. **H. persicum* F. Ghahremani. & Noori.
16. *H. plicatum* DC. (Azerbaijan, Iran, Libanon, Iraq, Syria, Transcaucasia, Turkey; Balkan).
17. *H. polyphyllum* Ledeb. (Iran, Iraq, Caucasus, Transcaucasia, Turkey).
18. *H. pseudoplicatum* Nábělek (Iran, Iraq, Turkey).
19. *H. psychrophilum* Boiss. (Iran, Iraq, Turkey).
20. *H. rubicundum* (C. Koch.) Bornm. (Azerbaijan, Iran, Transcaucasia, Turkey).

Acknowledgements

We thank Dr. Henk Beentje (Kew) for his opinion about the new species, and the director of TARI herbarium (Tehran, Iran) for the opportunity to study their *Helichrysum* specimens. Thanks are also due to Raheleh Jomaehpour for preparing the illustration. Special thanks for the Board of Trustees of RBG Kew for the images of *Helichrysum* types. The research was carried out under the project of *Flora of Iran in Farsi (tribe Inuleae: Compositae)* in the Research Institute of Forests and Rangelands, Tehran.

References

- Beentje, H. 2000: New taxa and new combinations in *Helichrysum* (Compositae: Inuleae). — *Kew Bull.* 55: 349–365.
- Georgiadou, E., Lack, H. W., Merxmüller, H., Rechinger, K. H. & Wagenitz, G. 1980: Compositae IV: Inuleae. — In: Rechinger, K. H. (ed.), *Flora Iranica* 145: 1–140 + 128 figures. Akad. Druck- u. Verlagsanst., Graz.