

HANDELIA HEIMERL, A NEW GENUS OF THE ASTERACEAE-ANTHEMIDEAE FOR THE FLORA OF IRAN

M. S. Amiri & M. R. Joharchi

Received 12.09.2010. Accepted for publication 10.11.2010.

Amiri, M. S. & Joharchi, M. R. 2010 12 31: *Handelia Heimerl*, a new genus of the *Asteraceae-Anthemideae* for the flora of Iran. –*Iran. J. Bot.* 16 (2): 246-248. Tehran.

Handelia trichophylla (*Asteraceae-Anthemideae*), recently collected from Iran, is a new record for the flora of Iran. A description, distribution, its phytogeographical importance and an illustration are given.

Mohammad Sadegh Amiri (correspondence <Amiriherb@gmail.com>), Dargaz Payam Noor University, Iran. - Mohammad Reza Joharchi, (FUMH), the herbarium of Ferdowsi University of Mashhad, Mashhad, Iran.

Key words. *Handelia*, *Asteraceae*, new record, Iran.

گزارش جنس *Handelia* از طایفه *Anthemideae* برای اولین بار از ایران

محمدصادق امیری، عضو هیات علمی دانشگاه پیام نور واحد درگز.

محمدرضا جوهرچی، عضو هیات علمی دانشگاه فردوسی مشهد.

جنس تک گونه‌ای *Handelia* با گونه *Handelia trichophylla* برای اولین بار از ایران گزارش می‌شود. این گونه در شمال شرق ایران، استان خراسان می‌روید.

Introduction

Handelia Heimerl is a monotypic genus mainly found in the Irano-Turanian region (Zohary 1973). The genus *Handelia* is a member of tribe *Anthemideae* (*Asteraceae*). *Handelia trichophylla* (Schrenk) Heimerl is distributed in the mountainous zones of NE Iran and is also found in Afghanistan, Central Asia (mainly Tajikistan), Pakistan and west of China (Xinjiang). A description, illustration, notes on phyto geography and the IUCN status of the species are provided.

Materials and Methods

In 2009, during floristic studies, some interesting plants were collected from a part of Zangelanlo basin, Khorassan province, Iran. After laboratory studies, these materials were identified as *Handelia trichophylla* (Schrenk) Heimerl that has not been previously reported in the literature relating to the flora of Iran. Description was written by comparing the specimens with Flora Iranica (Podlech 1986), Pakistan (Ghafoor 2002), and USSR (Tsvetkova 1995). The morphological drawing was made by a drawing attachment. The specimens are deposited at the Ferdowsi University of Mashhad Herbarium (FUMH).

Results

According to the most recent generic conspectus of *Compositae* tribe *Anthemideae* (Oberprieler & al. 2006), that tribe consists of 14 subtribe, 111 genera and c. 1800 species. One of these subtribes is *Handeliinae* that consist of 10 genera. In this subtribe *Handelia* and *Pseudohandelia* are very similar and closely related. They are often confused but they are easily distinguished by the receptacle and inflorescence character and by different cypselas. *Handelia* has a paleate receptacle, whereas *Pseudohandelia* is epaleate. *Handelia* also has a more laxly branched inflorescence than *Pseudohandelia*. Furthermore *Pseudohandelia* is also distinguished by its slender and tuberculate cypselas and the more dense, umbelliform corymb.

Handelia trichophylla (Schrenk) Heimerl – (Fig. 1).

Biennial, ascending; main rootstocks thickened in the upper part. Stems up to 180 cm tall, erect, basally woody, densely hairy with crowded foliage below. Leaves subsessile to shortly petioled, whitish-lanate, oblong, 50-80 × 2-12 mm, tripinnatisect into linear-lanceolate primary segments; ultimate segments filiform, mucronulate; upper stem leaves reduced to entire, filiform. Capitula numerous, c.4-8 mm across, in



Fig. 1. *Handelia trichophylla*.

paniculate corymbs, on up to 1 cm long obliquely spreading peduncles. Involucre hemispherical; phyllaries 3-seriate, subequal, oblong, 3-5 mm long and broad, densely white-villose outside, obtuse, with hyaline scarious margins and apices. Receptacle convex to nearly subglobe. Paleae transparent, linear-lanceolate, almost as long as flowers, obtuse. Flowers yellow, with c. 2.0 mm long corolla tube. Cypselas linear-oblong, 1-1.5 mm long, brownish-glandulose.

Type: Uzbekistan (Songaria).

Flowering time: June-July; fruiting: August.

Distribution: Iran (Khorassan), Afghanistan, Central Asia, Pakistan and W China.

Discussion

In this paper, *Handelia trichophylla* is reported as a new record for Iran. It is an Irano-Turanian species with the distribution range from Iran (in western zone) to China (in eastern zone). The data available in the Flora of Tajikistan (Akhchinnikova & Kinzikayeva 1988) indicate that it is more common in Tajikistan than elsewhere. It occurs in moist places in rocky valleys and also in its locality, the following taxa were dominant: *Perovskia abrotanoides* Karel., *Glycyrrhiza glabra* L., *Teucrium polium* L., *Gundelia tournefortii* L., *Bunium persicum* (Boiss.) B. Fedtsch., *Chenopodium botrys* L., *Zosima absinthifolia* (Vent.) Link, *Achillea wilhelmsii* C. Koch and *Caccinia macranthera* (Banks & Soland.) Brand.

H. trichophylla is very rare in this area and is known only from one locality. Its habitat has recently been greatly affected by road construction and high grazing pressure. We consider the new genus to be Critically Endangered (CR B1a D) according to IUCN Red List Criteria (IUCN, 2010). Its habitat needs to be legally protected by the Iranian government. The number of genera of *Anthemideae* in the Flora of Iran is increased to 14 with the addition of *Handelia*.

Acknowledgments

Special thanks to Dr. V. Mozaffarian from TARI herbarium for the confirmation of the specimens. We are grateful to Payam Noor University for their financial support of the project "Floristic Study of Zangelanlo Basin". Also, the kind assistance of Miss. Karimzadeh with the photographing of the specimens as well as with data collection is acknowledged.

References

- Akhchinnikova, P. N. & Kinzikayeva, G. K. 1988: Flora of Tajikistan. vol. 9. -Elm Press, Leningrad.
- Ghafoor, A. 2002: Flora of Pakistan. Asteraceae (I)-Anthemideae. no. 207. -University of Karachi and Missouri Botanical Garden Press.
- IUCN 2010: Guidelines for Using the IUCN Red List Categories and Criteria: Version 8.0. Prepared by the IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, U.K. 85 PP.
- Mabberley, D. J. 2008: Mabberley's Plant-Book. Third edition. -Cambridge University Press.
- Mozaffarian, V. 2008: Compositae, Anthemideae in Assadi & al. Flora of Iran no. 59. -Tehran.
- Oberprieler, C., Himmelreich, S. & Vogt, R. 2006: A new subtribal classification of the tribe Anthemideae (Compositae). -Willdenowia 37: 89-114.
- Podlech, D., 1986: Compositae, VI- Anthemideae in Rechinger, K. H. (ed.) Flora Iranica, no. 158.-Graz.
- Tsvetkova, L. I. 1995: *Handelia* in Flora of the U.S.S.R. Vol. 26: 142-143. -Moskva & Leningrad. (Translated by Bishen Singh Mahendra Pal Singh and Koeltz Scientific Books in 1995).
- Zohary, M. 1973: Geobotanical Foundations in the Middle East. -Stuttgart: Gustav Fischer Verlag.