

Short Paper

First record of *Hemiptarsenus autonomus* (Mercet, 1924) (Hymenoptera: Eulophidae) in the Middle East

Amir-Reza Piruznia¹, Hossein Lotfalizadeh^{2*} and Mohammad-Reza Zargaran³

1. Department of Plant Protection, Islamic Azad University, Tabriz Branch, Tabriz, Iran.

2. Department of Plant Protection, East-Azarbaijan Agricultural and Natural Resources Research Center, AREEO, Tabriz, Iran.

3. Department of Forestry, Natural Resource Faculty, University of Urmia, Urmia, Iran.

Abstract: *Hemiptarsenus autonomus* (Mercet, 1924) (Hymenoptera: Eulophidae, Eulophinae) was found for the first time outside of Europe. Studied specimen was collected by a Malaise trap in the north west of Iran, East-Azarbaijan province, Khajeh (46°38'E & 38°09'N). Current record of *Hemiptarsenus* species of Iran adds up to seven species. These species and their geographical distribution in Iran are listed.

Keywords: Chalcidoidea, new distribution, record, Iran, fauna

Introduction

Eulophidae (Hymenoptera: Chalcidoidea) of Iran has been listed by Hesami *et al.* (2010) and Talebi *et al.* (2011). They listed 122 eulophid species from different parts of Iran including three species of the genus *Hemiptarsenus* Westwood, 1833 (Hesami *et al.*, 2010; Talebi *et al.*, 2011).

Recently Lotfalizadeh *et al.* (2015) reported *Hemiptarsenus waterhousii* Westwood, 1833 as a parasitoid of alfalfa leaf miners in the northwest of Iran and Shafiee *et al.* (2015) reported *Hemiptarsenus nuperus* Narendran, 2011.

Zhu and Huang (2003) during cladistics study and review of the genus *Hemiptarsenus* in Hungary, mentioned the following combination of characters for the genus: toruli located well above lower margin of eyes; scape reaching well beyond vertex; forewing costal cell narrow, at least 10 times as long as wide (Zhu and Huang, 2003).

This report includes new record of one species of the genus *Hemiptarsenus* from Iran.

Materials and Methods

Samplings were made in using the Malaise trap in East-Azarbaijan province, Khajeh, Iran during summer of 2015. All the materials were subsequently transferred to the laboratory at Department of Plant Protection, East-Azarbaijan Research Center for Agriculture and Natural Resources, Tabriz. External morphology was illustrated using an Olympus™ SZH, equipped with a Canon™ A720 digital camera. The specimens were identified according to reliable keys and descriptions (Peck *et al.*, 1964; Zhu and Huang, 2003).

General data regarding geographical distribution, biology as well as brief taxonomic comments are given for each species.

The specimens are deposited in the insect collection of the Department of Plant Protection, Agriculture and Natural Resources of East-Azerbaijan, Tabriz, Iran.

Results

Our studied specimen was identified as *Hemiptarsenus autonomus* (Mercet). This species was considered as an independent

Handling Editor: Ali Asghar Talebi

* **Corresponding author**, e-mail: hlotfalizadeh@gmail.com
Received: 1 March 2016, Accepted: 6 May 2016
Published online: 24 May 2016

genus, *Cleolophus* Mercet, 1924 having long pronotum (Fig. 1A) but Bouček (1959) studying Eulophinae of the central Europe synonymized this genus under the genus *Hemiptarsenus*.

***Hemiptarsenus autonomus* (Mercet, 1924)** (Fig. 1)

Material examined: Iran, East-Azarbaijan, Khajeh (46°38'E & 38°09'N, 1550m), 01.July.2015, Malaise trap, Piruznia, A. leg., 1♀.

Diagnosis: Body mainly yellow-brown with violaceous reflections (Fig. 1A); wing narrow, with two fuscous cross bands (Fig. 1B), costal cell extremely narrow; antennae inserted near middle of face, scape well exceeding front ocellus and vertex, funiculus 4-segmented in female, 2-4 funicular segments subquadrate, apex of clava whitish (Fig. 1B).

Biological association: The studied specimen was collected via a Malaise trap, although it has previously been reported in association with

microlepidoptera, Gracillariidae and Nepticulidae on Poaceae (Noyes, 2015). Collection area is a mountainous region in the northwest of Iran mainly with halophytic plants.

Geographical distribution. This species is new record for Iran and the Middle East countries. It has hitherto been known from Austria, Bulgaria, Czech Republic, France, Hungary, Moldova, Russia, Serbia, Slovakia and Spain (Noyes, 2015).

Discussion

Six species of the genus *Hemiptarsenus* have previously been reported from Iran (see Table 1) and *H. autonomus* was added to this list (Table 1), extending its geographical distribution to the Middle East. Of the genus *Hemiptarsenus*, 4, 0 and 1 species have been reported from Turkey, Iraq and Azerbaijan, respectively (Noyes, 2015).

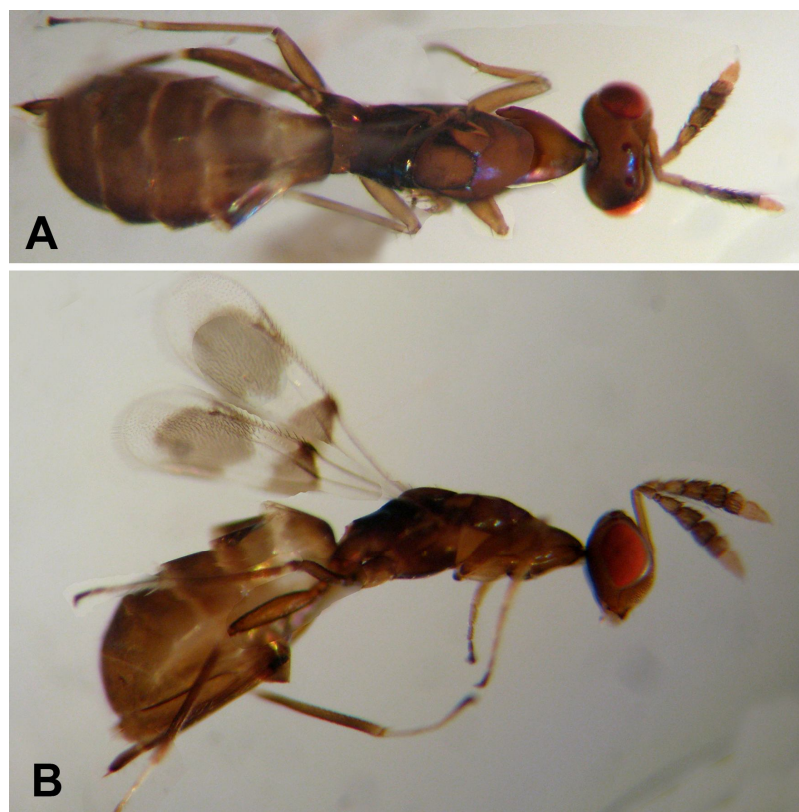


Figure 1. *Hemiptarsenus autonomus*: A- Female in dorsal view, B- Female in lateral view.

Table 1. List of *Hemiptarsenus* species known from Iran and their distribution in Iran.

Species	Distribution in provinces (City)	References
<i>Hemiptarsenus autonomus</i> (Mercet, 1924)	East-Azarbaijan (Khajeh)	New record
<i>Hemiptarsenus nuperus</i> Narendran, 2011	Kerman (Kouhpayeh, Darbasiyab)	Shafiee <i>et al.</i> (2015)
<i>Hemiptarsenus zilahisebessi</i> Erdős, 1951	Fars (Maharloo, Shiraz and Kaftarak)	Hesami <i>et al.</i> (2010) and Dousti <i>et al.</i> (2008)
<i>Hemiptarsenus wailesellae</i> Nowicki, 1929	Tehran Tehran	Zahiri <i>et al.</i> (2003), Asadi <i>et al.</i> (2006) and Haghani <i>et al.</i> (2009) Zahiri <i>et al.</i> (2003)
<i>Hemiptarsenus waterhousii</i> Westwood, 1833	Fars (Ghalat)	Hesami <i>et al.</i> (2010)
<i>Hemiptarsenus varicornis</i> (Girault, 1913)	East-Azarbaijan (Ajabshir, Shabestar and Khosro-Shahr, Hormozgan)	Lotfalizadeh <i>et al.</i> (2015) Yefremova <i>et al.</i> (2007)
<i>Hemiptarsenus unguicellus</i> (Zetterstedt, 1838)	Fars (Shiraz, Kaftarak)	Hesami <i>et al.</i> (2010)

References

- Asadi R., Talebi, A. A., Fathipour, Y., Moharramipour, S. and Rakhshani, E. 2006. Identification of parasitoids and seasonal parasitism of the agromyzid leafminers genus *Liriomyza* (Dip.: Agromyzidae) in Varamin, Iran. *Journal of Agricultural Science and Technology*, 8 (4): 293-303.
- Bouček, Z. 1959. A study of central European Eulophidae, I: Eulophinae (Hymenoptera). *Acta Entomologica Musei Nationalis Pragae*, 33 (540): 117-170.
- Dousti, A. F., Kamali, K., Nouri Ganbalani, G. and Ostovan, H. 2008. Report of four Hymenopteran species of Eulophidae, parasitoids of *Liriomyza trifolii* (Dip.: Agromyzidae) in Shiraz, Iran. *Journal of Entomological Society of Iran*, 27 (2): 9-10.
- Haghani, M., Fathipour, Y., Talebi, A. A. and Baniamiri, V. 2009. Estimating development rate and thermal requirements of *Hemiptarsenus zilahisebessi* (Hymenoptera: Eulophidae) parasitoid of *Liriomyza sativae* (Diptera: Agromyzidae) using linear and non linear models. *Polish Journal of Entomology*, 78 (1): 3-14.
- Hesami, S., Ebrahimi, E., Ostovan, H. and Yefremova, Z. 2010. Contribution to the study of Eulophidae (Hymenoptera: Chalcidoidea) of Fars province of Iran: II-Subfamilies Entiinae and Eulophinae, with a checklist of Eulophidae of Iran. *Plant Protection Journal*, 2 (3): 239-253.
- Lotfalizadeh, H., Pourhaji, A. and Zargarani, M. R. 2015. Hymenopterous parasitoids (Hymenoptera: Braconidae, Eulophidae, Pteromalidae) of the alfalfa leafminers in Iran and their diversity. *Far Eastern Entomologist*, 288: 1-24.
- Noyes, J. S. 2015. Universal Chalcidoid Database. The Natural History Museum. [on-line]. Available on: <http://www.nhm.ac.uk/entomology/chalcidoids>. (accessed November 25, 2015).
- Peck, O., Bouček, Z. and Hoffer, A. 1964. Keys to the Chalcidoidea of Czechoslovakia (Insect: Hymenoptera). *Memoirs of Entomological Society of Canada*, 34: 1-170.
- Shafiee, S., Hesami, S., Madjdzadeh, S. M. and Gheibi, M. 2015. New records of Eulophidae (Hymenoptera, Chalcidoidea) from Iran. *Linzer Biologische Beiträge*, 47 (1): 741-747.

- Talebi, A. A., Mohammadi Khoramabadi, A. and Rakhshani, E. 2011. Checklist of eulophid wasps (Insecta: Hymenoptera: Eulophidae) of Iran. Check List, 7: 708-719.
- Yefremova, Z., Ebrahimi, E. and Yegorenkova, E. 2007. The subfamilies Eulophinae, Entedoninae and Tetrastichinae in Iran, with description of new species (Hymenoptera: Eulophidae). Entomofauna, 28 (30): 405-440.
- Zahiri, B., Moharrampour, S. and Talebi, A. A. 2003. The first report of *Hemiptarsenus zilahisebessi* and *H. wailesellae* (Hym.: Eulophidae), parasitoids of leafminer *Liriomyza sativae* (Dipt.: Agromizidae) from Iran. Journal of Entomological Society of Iran, 24: 125-126.
- Zhu, C. D. and Huang, D. W. 2003. Preliminary cladistics and review of *Hemiptarsenus* Westwood and *Sympiesis* Förster (Hymenoptera, Eulophidae) in Hungary. Zoological Studies, 42 (2): 307-335.

گزارش جدید زنبور (*Hemiptarsenus autonomus* (Mercet, 1924) (Hymenoptera: Eulophidae) از خاورمیانه

امیررضا پیروزنیا^۱، حسین لطفعلی زاده^{۲*} و محمدرضا زرگران^۳

۱- گروه گیاه پزشکی، دانشگاه آزاد اسلامی، واحد تبریز، تبریز، ایران.

۲- بخش تحقیقات گیاه پزشکی، مرکز تحقیقات کشاورزی و منابع طبیعی استان آذربایجان شرقی، تبریز، ایران.

۳- گروه جنگلداری، دانشکده منابع طبیعی، دانشگاه ارومیه، ارومیه، ایران.

* پست الکترونیکی نویسنده مسئول مکاتبه: hlotfalizadeh@gmail.com

دریافت: ۱۱ اسفند ۱۳۹۴؛ پذیرش: ۱۷ اردیبهشت ۱۳۹۵

چکیده: گونه (*Hemiptarsenus autonomus* (Mercet, 1924) (Hymenoptera: Eulophidae, Eulophinae)

برای نخستین بار در خارج کشورهای اروپایی یافت شد. نمونه مورد بررسی با استفاده از تله مالیز در شمال غرب ایران، آذربایجان شرقی، خواجه (38°09'N & 46°38'E) جمع آوری شد. با احتساب این گونه، گونه‌های متعلق به جنس *Hemiptarsenus* در ایران به هفت گونه رسید. لیست این گونه‌ها تهیه و پراکنش جغرافیایی آنها در ایران لحاظ شد.

واژگان کلیدی: Chalcidoidea، پراکنش جدید، گزارش، ایران، فون