

**THE OCCURRENCE OF *GONATOCERUS LITORALIS*
(HALIDAY, 1833)(CHALCIDOIDEA: MYMARIDAE)
IN IRAN, WITH A NEW HOST RECORD**

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ABSTRACT: *Gonatocerus litoralis* (Haliday, 1833) (Hymenoptera, Chalcidoidea, Mymaridae), reared from field-collected eggs of *Zyginidia sohrab* Zachvatkin, 1947 (Hemiptera, Cicadellidae) on wheat in Fars province, is added the faunal list for Mymaridae in Iran. Nine species of Mymaridae reported so far from Iran are listed and their distribution within the country is given.

KEY WORDS: New host record, Hymenoptera, Mymaridae, *Gonatocerus litoralis*, Iran.

Fairyflies (Hymenoptera: Chalcidoidea: Mymaridae) are important, worldwide egg parasitoids of other insects. More than 1400 species and 100 genera are known (Noyes, 2009). Because fairyflies are so small, averaging less than 1 mm in length, they are rarely collected despite their abundance and thus, not surprisingly, little is known about them. Despite being a large country with various geographical regions the fauna of Iranian Mymaridae is very poorly known. Huber et al. (2009) listed the species recorded from Iran but no studies have focused specifically on that country. Here, we provide information on the distribution of Mymaridae in Iran, add one species to the published records, and provide a new host record. The mymarid genera of Iran will be similar to those found in UAE (Huber et al., 2009), but because Iran is a much bigger country with a greater diversity of habitat and climate more genera than the 13 found in UAE probably occur there. We expect that a large number of species remain to be discovered though many will already be described. Mymaridae have been used successfully in biological control (Huber, 1986) so further study of their occurrence, distribution and biology in Iran should be encouraged.

MATERIALS AND METHODS

Specimens representing two genera and species of Mymaridae, *Anagrus* sp. and *Gonatocerus litoralis* Haliday were reared from parasitized eggs of *Zyginidia sohrab* Zachvatkin, 1947 (Hemiptera, Cicadellidae) in a wheat field and preserved in ethanol. The single *Anagrus* specimen lacked both antennae so could not be identified to species. The specimens of *Gonatocerus* were critical point dried and one specimen was slide mounted in Canada balsam for identification using Mathews (1986). Voucher specimens are deposited in the Canadian National Collection of Insects, Ottawa, Ontario, Canada (CNC). Voucher specimens of the leafhopper host are deposited in the Department of Entomology, Faculty of Agriculture, Jahrom Islamic Azad University, Fars, Iran.

***Gonatocerus litoralis* Haliday, 1833**

Material examined: Fars province, Marvdasht, 4♀♀, 2♂♂ ex *Zyginidia sohrab* Zachvatkin, 1947 (Hemiptera: Cicadellidae) on *Triticum aestivum* L., 2. V. 2008, M. Fallahzadeh.

Previous host records for *G. litoralis* are: *Acocephalus* sp. (Hemiptera: Cicadellidae) (Trjapitzin 1978 [as *Lymaenon effusi* Bakkendorf]) and *Cicadula sexnotata* (Hemiptera: Cicadellidae) (Thompson 1958, Baquero & Jordana 2003). *Zyginidia sohrab* is a new host record.

Gonatocerus Nees, 1834 contains over 250 nominal species worldwide, 47 of which have been recorded in the Palearctic region (Huber, 1986; Noyes 2009). Only one species of *Gonatocerus*, *G. ovicenatus*, which belongs to the *ater* species group, was previously recorded from Iran (Huber 1988). *Gonatocerus litoralis* is the first species of the *litoralis* species group to be recorded for Iran.

List and distribution of Mymaridae in Iran

***Anagrus (Anagrus) atomus* (Linnaeus, 1767)**

Iranian records. Khorasan Province (Triapitsyn, 1998), Tehran Province, Karaj (Walker et al., 1997) Fars Province, Kavar [incorrectly given as Kavar Province in Triapitsyn & Berezovskiy (2004)], Isfahan Province (Hesami, 2004, 2009).

Hosts: *Arboridia kermanshah* Dlabola (Hemiptera: Cicadellidae) on grape (Triapitsyn, 1998), *Circulifer tenellus* (Baker, 1895) (Hemiptera: Cicadellidae) in sugar beet field (Walker et al., 1997), Progeny of, 4th generation, University of California, Riverside, USA, quarantine colony on eggs of *Circulifer tenellus* (Baker, 1895) (Hemiptera: Cicadellidae) (Triapitsyn & Berezovskiy, 2004), *Arboridia kermanshah* Dlabola (Hemiptera: Cicadellidae) on grape, and *Edwardsiana rosae* (L.) on rose, sweetbriar and blackberry (Hesami et al., 2004, 2009).

***Anagrus (Anagrus) avalae* Soyka, 1956**

Iranian records. Tehran Province, Karaj [incorrectly given as Markazi Province in Triapitsyn & Berezovskiy (2004)].

Host: Unknown.

***Anagrus (Anagrus) nigriceps* (Smits van Burgst, 1914)**

Iranian records. Tehran Province, Karaj [incorrectly given as Markazi Province in Triapitsyn & Berezovskiy (2004)].

Host: Unknown.

***Erythmelus (Erythmelus) flavovarius* (Walker, 1846)**

Iranian records. Tehran Province, Karaj [incorrectly given as Markazi Province in Triapitsyn (2003)].

Host: Unknown.

***Erythmelus (Erythmelus) israelensis* Viggiani & Jesu, 1985**

Iranian records. Tehran Province, Karaj [incorrectly given as Markazi Province in Triapitsyn (2003)].

Host: Unknown.

***Erythemelus (Paralleleptera) panis* (Enock, 1909)**

Iranian records. West Azerbaijan Province, Orumieh (Akbarzadeh Shoukat, 1998), Tehran Province, Karaj [incorrectly given as Markazi Province in Triapitsyn (2003)].

Host: *Stephanitis pyri* (Fabricius, 1775) (Hemiptera, Tingidae) in apple orchard (Akbarzadeh Shoukat, 1998).

***Erythemelus (Paralleleptera) rex* (Girault, 1911)**

Iranian records. Tehran Province, Karaj [incorrectly given as Markazi Province in Triapitsyn (2003)].

Hosts [in North America]: *Adelphocoris* sp., *Lygus hesperus* Knight (Miridae).

***Gonatocerus ovicenatus* Leonard & Crosby, 1915**

Iranian records. 30 km W. Zanjan (on Tabriz road), sweeping in poplar grove, 9.vi.1978, J.T. Huber (8♀♀, CNC), Bostanabad, 8.vi.1978, J.T. Huber (1♀, CNC) (Huber 1988).

Host [in North America]: *Rhytidodus decimasquartus* (Schrank) (Cicadellidae).

***Stephanodes reduvioli* (Perkins, 1905)**

Iranian records. Tehran Province, Karaj, Shahdasht (Huber & Fidalgo, 1997).

Hosts [in Hawaiian Islands]: *Nabis* spp. (Nasbidae) (Huber & Fidalgo 1997).

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