



# *Entomofauna*

ZEITSCHRIFT FÜR ENTOMOLOGIE

---

Band 33, Heft 3: 17-24

ISSN 0250-4413

Ansfelden, 2. Januar 2012

---

## **A Contribution to the knowledge of Scelionidae (Hymenoptera: Platygastroidea) from Khuzestan province, Southwestern Iran**

**Najmeh SAMIN, Gholam Reza RADJABI & Shahriar ASGARI**

### **Abstract**

Fauna of the family Scelionidae (Hymenoptera) is studied in Khuzestan province, southwestern Iran. In a total 14 species from 4 genera (*Paratelenomus* DODD, *Scelio* LATREILLE, *Telenomus* HALIDAY, *Trissolcus* ASHMEAD) and 2 subfamilies (Scelioninae, Telenominae) were collected. Of these, 2 species including, *Paratelenomus saccharalis* (DODD) and *Paratelenomus striativentris* (RISBEC) are new records for Iran.

**K e y w o r d s :** Hymenoptera, Scelionidae, Khuzestan, Iran.

### **Zusammenfassung**

Die Fauna der Familie *Scelionidae* (Hymenoptera) in der Provinz Khuzestan, südwest-Iran wurde studiert. Gesamt wurden 14 Arten aus 4 Gattungen (*Paratelenomus* DODD, *Scelio* LATREILLE, *Telenomus* HALIDAY, *Trissolcus* ASHMEAD) und 2 Subfamilien (Scelionidae, Telenominae) gesammelt. Darunter befinden sich 2 Arten, *Paratelenomus saccharalis* (DODD) und *Paratelenomus striativentris* (RISBEC), die neu für die Fauna des Iran sind.

## Introduction

The scelionid wasps are parasitoids of the eggs of other arthropods, including insects and spiders. The wasp larva that hatches consumes the contents of the host egg and pupates within it. A wide range of taxa serve as hosts: besides spiders, insect hosts include grasshoppers and crickets (Orthoptera sensu stricto), praying mantids (Mantodea), webspinners (Embiidina), true bugs (Hemiptera: both Heteroptera and Auchenorrhyncha), lacewings (Neuroptera), beetles (Coleoptera), flies (Diptera) and butterflies and moths (Lepidoptera) (KOZLOV & KONONOVA 1983; JOHNSON 2005).

The fauna of Iranian Scelionidae was studied rather well (RADJABI & AMIR-NAZARI 1989; RADJABI 1994; MODARRES AWAL 1997; TAGHADDOSI & RAJABI 1998; MANSOUR GHAZI & RADJABI 2000; NOORI & ASGARI 2000; SAKENIN CHELAV et al. 2008; SAMIN et al. 2010a, b, 2011); but among the different provinces of Iran, the fauna of Khuzestan province was not studied so far.

## Materials and Methods

The specimens were obtained mainly as adults emerged from specimens collected as eggs and reared in the laboratory. Egg masses of Pentatomidae were collected from different regions of Khuzestan province (including, Ahwaz, Andimeshk, Behbahan, Izeh, Laly, Omidieh, Ramhormoz, Shadegan, Shoushtar), through 2009-2010. For emergence of parasitoids inside the host, egg masses of pentatomids were placed in plastic bags with holed cap at optimum rearing conditions ( $26\pm 2$  °C,  $65\pm 5$  % RH, 14: 10 L: D) in an incubator. Also, some specimens were collected by Malaise traps in wheat fields and their surrounding weeds. The collected specimens were examined and determined in the laboratory using stereo zoom binocular microscope by the 1<sup>st</sup> author and confirmed by the 2<sup>nd</sup> author.

## Results

Totally fourteen scelionid species from four genera and two subfamilies were collected from different regions of Khuzestan province. The list of species together with their distributional data is given below.

**Family Scelionidae (HALIDAY 1840)**

**Subfamily Scelioninae FOERSTER 1856**

**Genus *Scelio* LATREILLE 1805**

***Scelio flavibarbis* (MARSHALL 1874)**

**Material examined:** Khuzestan province: Ahwaz, 2♀♀, October 2009.

**Distribution:** Species known from Bulgaria, France, Kazakhstan, Russia, Ukraine (KONONOVA & KOZLOV 2008).

***Scelio remaudierei* FERRIÈRE 1952**

**Material examined:** Khuzestan province: Omidieh, 1♀, 1♂, April 2009.

**Distribution:** Species widely distributed in Afrotropical and Palearctic regions (FERRIÈRE 1952; KOZLOV 1978).

**Subfamily Telenominae THOMSON 1860**

**Genus *Telenomus* HALIDAY 1833**

***Telenomus busseolae* GAHAN 1922**

**Material examined:** Khuzestan province: Behbahan, 2♀♀, 2♂♂, June 2009.

**Distribution:** Species known from Bangladesh, Cameroon, Egypt, Ghana, Greece, Iraq, Israel, Kenya, Mauritius, Nigeria, Reunion, Senegal, South Africa, Sudan and Uganda (KOZLOV & KONONOVA 1983; POLASZEK & KIMANI 1990).

***Telenomus sechellensis* KIEFFER 1910**

**Material examined:** Khuzestan province: Andimeshk, 2♀♀, November 2009.

**Distribution:** Species widely distributed in Afrotropical and Oriental regions (JOHNSON 1992).

**Genus *Paratelenomus* DODD 1914**

***Paratelenomus saccharalis* (DODD 1914)**

**Material examined:** Khuzestan province: Ahwaz, 2♀♀, August 2009. **New record for Iran.**

**Distribution:** Widespread in southern Palearctic, Africa, tropical Asia and northern Australia (JOHNSON 1992; KONONOVA & KOZLOV 2008).

***Paratelenomus striativentris* (RISBEC 1950)**

**Material examined:** Khuzestan province: Shadegan, 1♀, May 2009. **New record for Iran.**

**Distribution:** Sub-Sahara Africa and southern India (KOZLOV & KONONOVA 1983; RAJMOHANA 2006).

**Genus *Trissolcus* ASHMEAD 1893**

***Trissolcus basalıs* (WOLLASTON 1858)**

**Material examined:** Khuzestan province: Ramhormoz, 3♂♂, May 2010.

**Distribution:** Cosmopolitan species (JOHNSON 1992).

***Trissolcus djadetszko* (RJACHOVSKY 1959)**

**Material examined:** Khuzestan province: Izeh, 2♀♀, October 2009.

**Distribution:** Species known from Armenia, Azerbaijan, Kazakhstan, Moldavia, Russia, Turkey, Ukraine and Uzbekistan (KOZLOV 1978; KOÇAK & KILINÇER 2000, 2003).

***Trissolcus grandıs* (THOMSON 1861)**

**Material examined:** Khuzestan province: Omidieh, 6♀♀, 7♂♂, April 2009.  
Khuzestan province: Ahwaz, 4♀♀, 4♂♂, August 2009. Khuzestan province: Behbahan, 3♀♀, 1♂, June 2009. Khuzestan province: Ramhormoz, 5♀♀, 4♂♂, May 2010.  
Khuzestan province: Shadegan, 2♀♀, 2♂♂, April 2010.

**Distribution:** Species known from Belgium, Denmark, England, Italy, Kazakhstan, Moldavia, Morocco, Romania, Russia, Syria, Turkey and Ukraine (REMAUDIÈRE & SKAF 1963; VOEGEL 1964; JAVAHERY 1968; FABRITIUS 1974; VIGGIANI & MINEO 1974; KOZLOV & KONONOVA 1983; KOÇAK 2007).

***Trissolcus pseudoturesıs* (RJACHOVSKY 1959)**

**Material examined:** Khuzestan province: Shoushtar, 2♀♀, 3♂♂, April 2009.

**Distribution:** Species known from Moldavia, Mongolia, Romania, Russia, Turkey and Ukraine (FABRITIUS 1974; KOZLOV & KONONOVA 1983; KOÇAK & KILINÇER 2003).

***Trissolcus rufiventris* (MAYR 1908)**

**Material examined:** Khuzestan province: Laly, 2♀♀, 1♂, May 2010.

**Distribution:** Species known from Moldavia, Mongolia, Morocco, Romania, Russia, South Africa, Turkey and Ukraine (VOEGELE 1964; FABRITIUS 1974; KOZLOV & KONONOVA 1983; KOÇAK 2007).

***Trissolcus semistriatus* (NEES 1834)**

**Material examined:** Khuzestan province: Omidieh, 5♀♀, 3♂♂, April 2009.  
Khuzestan province: Ahwaz, 1♀, 3♂♂, August 2009. Khuzestan province: Andimeshk, 2♀♀, 4♂♂, November 2009. Khuzestan province: Ramhormoz, 4♀♀, 3♂♂, May 2010.  
Khuzestan province: Shadegan, 3♀♀, April 2010.

**Distribution:** Species known from Austria, Caucasus, Denmark, Britain, France, Germany, Morocco, Portugal, Romania, Russia and Turkey (LODOS 1961; VOEGELE 1964; JAVAHERY 1968; FABRITIUS 1974; GRAHAM 1984).

***Trissolcus simoni* (MAYR 1879)**

**Material examined:** Khuzestan province: Behbahan, 2♀ ♀, 3♂ ♂, June 2009.

**Distribution:** Species known from Austria, Azerbaijan, Georgia, Morocco, Romania, Russia, Syria, Turkey and Ukraine (REMAUDIÈRE & SKAF 1963, VOEGELE 1964, FABRITIUS 1974, KOZLOV & KONONOVA 1983, KOÇAK & KILINÇER 2003).

***Trissolcus vassilievi* (MAYR 1903)**

**Material examined:** Khuzestan province: Shoushtar, 2♀ ♀, 2♂ ♂, April 2009.  
Khuzestan province: Izeh, 1♀ ♀, 1♂ ♂, October 2009. Khuzestan province: Laly, 4♀ ♀, 1♂ ♂, May 2010.

**Distribution:** Species known from Armenia, Moldavia, Morocco, Russia, Syria, Turkmenistan, Turkey and Ukraine (LODOS 1961; REMAUDIÈRE & SKAF 1963; VOEGELE 1964; KOZLOV & KONONOVA 1983).

### **Discussion**

The faunal research on the scelionid wasps in Khuzestan province indicated that there is diverse fauna of these powerful parasitoids in this region of Iran. Among the collected species, two species including, *Trissolcus grandis* (THOMSON) and *Trissolcus semistriatus* (NEES) are the dominant species in Khuzestan province which were collected from almost the sampled regions. All the studied works on Iranian Scelionidae are on the species diversity while the biology of these beneficial insects as the efficient natural enemies of pentatomids was not studied so far. Therefore we suggest to the researchers that meantime continuing of faunistic surveys in different regions of Iran toward to completing the fauna of Iranian Scelionidae, start to work on the biology and efficiency of these parasitoids in agricultural and natural ecosystems. The most detailed biological studies have been undertaken on scelionids that are used as, or have potential for use as, biological control agents, for example, *Trissolcus*, *Telenomus*, and *Scelio*. As a consequence, information is strongly biased toward the Telenominae, and care should be taken in extrapolating from these taxa to other members of the Scelionidae that are associated with different hosts (AUSTIN et al. 2005).

### **Acknowledgements**

The authors are grateful to Dr. E. Kocak (Turkish Ministry of Agriculture) Dr. P.N. Buhl (Ekeby, Sweden) for determining of some specimens, Dr. N.F. Johnson (Ohio State University, Ohio, USA) and Dr. L. Masner (Agriculture and Agri-Food Canada, Ottawa, Canada) for sending the necessary resources. The research was supported by Young Researchers Club of Islamic Azad University (Tehran Science & Research Branch).

## References

- AUSTIN A.D., JOHNSON N.F. & M. DOWNTON (2005): Systematics, Evolution and Biology of Scelionid and Platygastriid Wasps. – Annual Review of Entomology **50**: 553-582.
- FABRITIUS K. (1974): Die Telenominen (Hymenoptera: Scelionidae) Rumäniens, eine faunistische Studie in unmittelbarer Verbindung mit der biologischen Schädlingsbekämpfung. – Folia Entomologica Hungarica **27** (Supplementum): 339-344.
- FERRIHRE C. (1952): Deux nouveaux parasites des oeufs de *Locusta migratoria migratorioides* en Afrique. – Bulletin de la Société Entomologique de France **56**: 114-118.
- GRAHAM M.W.R. (1984): Madeira insects, mainly Hymenoptera Proctotrupeoidea, Ceraphronoidea, and Bethyloidea. – Boletim do Museu Municipal do Funchal **36**: 83-110.
- JAVAHERY M. (1968): The egg parasite complex of British Pentatomoidea (Hemiptera): taxonomy of Telenominae (Hymenoptera: Scelionidae). – Transactions of the Royal Entomological Society of London **120**: 417-436.
- JOHNSON N.F. (1992): Catalog of world Proctotrupeoidea excluding Platygastriidae. – Memoirs of the American Entomological Institute **51**: 1-825.
- JOHNSON N.F. (2005): Fauna Europaea: Scelionidae. – In: NOYES J. (ed.), Fauna Europaea: Hymenoptera. Fauna Europaea version 1.1, <http://www.faunaeur.org>
- KOÇAK E. (2007): Egg parasitoids of sunn pest in Turkey: A review. pp. 225-235. – In: PARKER B.L., SKINNER M., BOUHSSINI M.E. & S.G. KUMARI (eds), Proceedings of Second International Conference on Sunn Pest (19-22 July 2004, Aleppo, Syria). Sunn pest management, A decade of progress, 1994-2004. The Arab Society for Plant Protection, Beirut, 432 pp.
- KOÇAK E. & N. KILINÇER (2000): *Trissolcus* species (Scelionidae, Hymenoptera) new records for the beneficial fauna of Turkey. – Plant Protection Bulletin **40**: 169-177.
- KOÇAK E. & N. KILINÇER (2003): Taxonomic studies on *Trissolcus* sp. (Hymenoptera: Scelionidae), egg parasitoids of sunn pest (Hemiptera: Scutelleridae: *Eurygaster* sp.), in Turkey. – Turkish Journal of Zoology **27**: 301-317.
- KONONOVA S.V. & M.A. KOZLOV (2008): Scelionids of the Palearctic (Hymenoptera, Scelionidae). Subfamily Scelioninae. – Tovarishchestvo Nauchnykh Izdaniy KMK, Saint Petersburg. 489 pp.
- KOZLOV M.A. (1978): Superfamily Proctotrupeoidea. pp. 538-664. – In: MEDVEDEV G.S. (ed.), Determination of insects of the European part of the USSR. Vol. 3, part 2. Nauka, Leningrad, 758 pp. (in Russian).
- KOZLOV M.A. & S.V. KONONOVA (1983): Telenominae of the fauna of the USSR (Hymenoptera, Scelionidae, Telenominae). – Leningrad Nauka Publisher, No. **136**, 336 pp.
- LODOS N. (1961): Investigations on Sunn Pest (*Eurygaster integriceps* PUT.) in Turkey, Iran and Syria. (Distributions, Damages, Biology, Parasites and Control). – Ziraat Fakültesi Yayınları No. **51**. Ege University, İzmir, 115 pp. (in Turkish, English title).
- MANSOUR GHAZI M. & Gh. RADJABI (2000): Sunn pest tachinid and scelionid parasitoids in Kurdistan. – Proceedings of 14th Iranian Plant Protection Congress, p. 219.
- MODARRES AWAL M. (1997): Scelionidae, pp. 279-280. – In: (ed.), List of agricultural pests and their natural enemies in Iran. Ferdowsi University Press, 429 pp.

- NOORI H. & Sh. ASGARI (2000): Study and identification of sunn pest egg parasitoid in Qazvin Province. – Proceedings of 14th Iranian Plant Protection Congress, p. 218.
- POLASZEK A. & S.W. KIMANI (1990): *Telenomus* species (Hymenoptera: Scelionidae) attacking eggs of pyralid pests (Lepidoptera) in Africa: a review and guide to identification. – Bulletin of Entomological Research **80**: 57-71.
- RADJABI Gh. (1994): First report of the existence of sunn pest egg parasitoid, *Trissolcus festivae* VIKTOROV (Hym.: Scelionidae) in Iran and some preliminary studies on its biology. – Journal of Entomological Society of Iran **14**: 1-7.
- RADJABI Gh. & M. AMIR-NAZARI (1989): Egg parasites of sunn pest in the central part of Iranian plateau. – Entomologie et Phytopathologie Appliquees **56** (1-2): 1-12.
- RAJMOHANA A. (2006): A checklist of the Scelionidae (Hymenoptera: Platygastroidea) of India. – Zoos' Print Journal **21** (12): 2506-2513.
- REMAUDIERS G. & R. SKAF (1963): Analyse du complexe des Hyménoptères parasites oophages d'*Eurygaster integriceps* PUT. [Het. Pentatomidae] en Syrie. – Revue de Pathologie Végétale et de Entomologie Agricole de France **42**: 15-25.
- SAKENIN CHELAV H., IMANI S., SHIRDEL F., SAMIN N. & M. HAVASKARY (2008): Identification of Pentatomidae (Heteroptera) and their host plants in central and eastern Mazandaran province and introducing of many dominant natural enemies. – Journal of Plant and Ecosystem **15**: 37-51. (In Persian with English Summary).
- SAMIN N., KOÇAK E., SHOJAI M. & M. HAVASKARY (2010a): An annotated list of the Platygastroidea (Hymenoptera) from the Arasbaran biosphere reserve and vicinity, northwestern Iran. – Far Eastern Entomologist **210**: 1-8.
- SAMIN N., SHOJAI M., ASGARI Sh., GHAHARI H. & E. KOC AK (2010b): Sunn pest (*Eurygaster integriceps* PUTON, Hemiptera: Scutelleridae) and its scelionid (Hymenoptera: Scelionidae) and tachinid (Diptera: Tachinidae) parasitoids in Iran. – Linzer biologische Beiträge **42** (2): 1421-1435.
- SAMIN N., SHOJAI M., KOC AK E. & H. GHAHARI (2011): Distribution of scelionid wasps (Hymenoptera: Platygastroidea: Scelionidae) in Western Iran. – Klapalekiana **47**: 75-82.
- TAGHADDOSI M.V. & Gh. RAJABI (1998): Sunn pest egg parasitoids in Zandjan Province. – Proceedings of 13th Iranian Plant Protection Congress, p. 10.
- VIGGIANI G. & G. MINEOI (1974): Identificazione dei parassitoidi del *Gonocerus acuteangulatus* (GOEZE). – Bollettino dell'Istituto di Entomologia Agraria e dell'Osservatorio di Fitopatologia di Palermo **8**: 143-163.
- VOEGELES J. (1964): *Asolcus bennisi* n.sp. (Hymenoptera, Proctotrupeoidea) parasite oophage de *Graphosoma lineata* L. (Het. Pentatomidae). – Entomophaga **9**: 119-122.

Author's addresses:

Najmeh SAMIN

Young Researchers Club, Science and Research Branch

Islamic Azad University, Tehran, Iran

E-mail: [n\\_samin63@yahoo.com](mailto:n_samin63@yahoo.com)

Gholam Reza RADJABI

Department of Agricultural Entomology Research

Plant Protection Research Institute

Evin, Tehran, Iran;

E-mail: [rajabi@ppdri.ac.ir](mailto:rajabi@ppdri.ac.ir)

Shahriar ASGARI

Agriculture and Natural Resources Research Center of Tehran

Varamin, Iran;

E-mail: [s.asgari1344@yahoo.com](mailto:s.asgari1344@yahoo.com)

---

Druck, Eigentümer, Herausgeber, Verleger und für den Inhalt verantwortlich:

Maximilian SCHWARZ, Konsulent f. Wissenschaft der Oberösterreichischen Landesregierung, Eibenweg 6, A-4052 Ansfelden, E-Mail: [maximilian.schwarz@liwest.at](mailto:maximilian.schwarz@liwest.at).

Redaktion: Erich DILLER, ZSM, Münchhausenstraße 21, D-81247 München;  
Roland GERSTMEIER, Lehrstuhl f. Tierökologie, H.-C.-v.-Carlowitz-Pl. 2, D-85350 Freising  
Fritz GUSENLEITNER, Lungitzerstr. 51, A-4222 St. Georgen/Gusen;  
Wolfgang SPEIDEL, MWM, Tengstraße 33, D-80796 München;  
Thomas WITT, Tengstraße 33, D-80796 München.

Adresse: Entomofauna, Redaktion und Schriftentausch c/o Museum Witt, Tengstr. 33, 80796 München, Deutschland, E-Mail: [thomas@witt-thomas.com](mailto:thomas@witt-thomas.com); Entomofauna, Redaktion c/o Fritz Gusenleitner, Lungitzerstr. 51, 4222 St. Georgen/Gusen, Austria, E-Mail: [f.gusenleitner@landesmuseum.at](mailto:f.gusenleitner@landesmuseum.at)



# ZOBODAT - [www.zobodat.at](http://www.zobodat.at)

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Entomofauna](#)

Jahr/Year: 2012

Band/Volume: [0033](#)

Autor(en)/Author(s): Samin Najmeh, Radjabi Gholam Reza, Asgari Shahreyar

Artikel/Article: [A Contribution to the knowledge of Scelionidae \(Hymenoptera: Platygastroidea\) from Khuzestan province, Southwestern Iran 17-24](#)