Journal of Insect Biodiversity and Systematics
ISSN: 2423-8112
2026 | 12 (03), 647–658
Website: https://jibs.modares.ac.ir
Contents list: https://www.biotaxa.org/jibs
https://doi.org/10.48311/jibs.12.03.647

Original Article

New findings of the family Scelionidae (Hymenoptera: Platygastroidea) in East Azerbaijan province, Iran

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https://zoobank.org/urn:lsid:zoobank.org:CB146CB5-B39A-42F0-820E-6D66C5CE8A5B

Academic Editor
Ali Asghar Talebi

Received
October 30, 2025

Revised
June 13, 2026

Accepted
June 15, 2026

Published online
July 15, 2026

ABSTRACT. This study, conducted between 2022 and 2023, investigated the fauna of parasitoids in the family Scelionidae in the north of East Azerbaijan Province, Iran. A total of 574 specimens were collected, with 296 collected by pan traps and 278 collected by the Malaise traps. In this study, we report species from five genera: *Gryon* Haliday and *Psix* Kozlov & Lê (Scelioninae), *Xenomerus* Walker (Teleasinae), *Telenomus* Haliday and *Trissolcus* Ashmead (Telenominae). Two species, *Xenomerus canariensis* Huggert, 1979, and *Gryon szelenyii* (Szabo, 1966), are recorded for the first time in Iran. Informative photos, along with the diagnostic characters of the newly recorded species, are provided.

KEYWORDS: Egg parasitoids, Faunal records, *Gryon*, Palaearctic, *Xenomerus*

Citation: Shamsi Agha-Ali, M., Khaghaninia, S., Iranipour, S. & Talamas, E.J. (2026) New findings of the family Scelionidae (Hymenoptera: Platygastroidea) in East Azerbaijan province, Iran. *Journal of Insect Biodiversity and Systematics*, 12 (03), 647–658.

INTRODUCTION

The family Scelionidae encompass a diverse group of egg parasitoids associated with spiders and various insect orders, including Orthoptera, Hemiptera, Coleoptera, Lepidoptera, and Neuroptera (Chen et al. 2017; Ramirez Ahuja 2021). The larvae develop solely within the host egg, ultimately causing its demise (Qiu et al. 2007). Members of the family Scelionidae have been effectively utilized in biological control programs, particularly for managing agricultural pests (Dangerfield et al. 2001), especially as egg parasitoids for the management of pests of the family Pentatomidae in agricultural systems. Notable examples include classical releases, such as those against the brown marmorated stink bug (*Halyomorpha halys* (Stål, 1855)), including *Trissolcus japonicus* (Ashmead, 1904), *T. mitsukurii* (Ashmead, 1904), and *T. basalis* (Wollaston, 1858) (Talamas et al. 2017; Caron et al. 2021). These wasps are solitary parasitoids, displaying several beneficial traits commonly associated with natural enemies (Austin et al. 2005). Globally, the total number of recognized species within this family is estimated to exceed 3,000, encompassing 176 genera (Chen et al. 2021). Despite the global distribution and numerous studies on these wasps in the Palaearctic region, research on the platygastroid fauna in Iran has been limited, particularly in the northern regions of East Azerbaijan Province (Shamsi et al. 2014; Asadi-Farfar et al. 2020; Minab et al. 2023). To maximize the advantages of biological control, such as decreasing reliance on pesticides, we need accurate identification of natural enemies. The primary objective of this study is to enhance the understanding of the scelionid fauna in Iran. This study contributed to a growing list of scelionids found in Iran.

ISSN 2423-8112 – **Published by** Tarbiat Modares University | **Owner** The Entomological Society of Iran

MATERIAL AND METHODS

The research was conducted in the northern regions of East Azerbaijan province, Iran, during the years 2022 and 2023. A total of 574 specimens were collected and examined at the Insect Taxonomy Laboratory of Tabriz University. The selected areas for this study included the cities of Tabriz, Ahar, Heris, Shabestar, Marand, and Jolfa. In selecting the sampling locations, we aimed to capture the environmental diversity of the region by incorporating agricultural fields, pastures, fruit orchards, and regional forests. Specimens of Scelionidae were collected using both Malaise traps every 5 days and pan traps daily. The Malaise trap sampling bottles were filled halfway with 95% alcohol (Townes 1972), while the pan traps contained a solution of water, salt, and glycerin to effectively capture insects and reduce desiccation. Sampling was conducted during the spring, summer, and autumn seasons, with the geographical coordinates of each location recorded using a Global Positioning System (GPS) (Garmin GPSMAP 66sr 2020). The collected specimens were initially stored in 75% ethanol in plastic containers, with a few drops of glycerin added to prevent desiccation. To facilitate examination, the samples were softened by immersing them in a bath of acetic acid for a few minutes (Noyes 1989). Using entomological needles and forceps, various body parts, including wings, antennae, and legs, were carefully manipulated. The specimens were point-mounted on small triangular or rectangular card points using a water-soluble adhesive, and each was labeled with the collection data. The body was oriented such that the longitudinal axis through the mesosoma was at approximately 45° to the card surface, and the antennae, legs, and wings extended naturally to allow full taxonomic examination. This protocol follows the standard methods described by Noyes (1982), ensuring optimal preservation of key morphological features for reliable identification and long-term curation.

The preliminary identification of samples was conducted using the keys developed by Masner (1980, 1993), Kononova (1992), and Kononova and Kozlov (2008). Species-level identifications were made by the last author using the keys and diagnoses in Johnson and Masner (1985), Mikó et al. (2010), Talamas et al. (2017), and Tortorici et al. (2019, 2024), and by comparison to type specimens. Once the species were confirmed, specimens were photographed using a Macropod system with 5× and 10× objectives and were rendered using Helicon Focus software. The terminology follows Masner (1980) and Talamas et al. (2017).

All examined specimens are deposited in the insect collection of Professor Hassan Maleki Milani (**ICHMM**) at the Insect Classification Laboratory of Tabriz University, Iran. The following acronyms are used for the depositories of the type specimens for the recorded species. HNHM - Hungarian Natural History Museum, Budapest, Hungary; **NHMW** – Naturhistorisches Museum Wien, Austria; **NHRS** – Naturhistoriska Riksmuseet, Entomology, Stockholm, Sweden; **NMINH** - National Museum of Ireland, Dublin; **NPC-IARI** – National Pusa Collection, Indian Agricultural Research Institute, New Delhi, India; **USNM** – United States Museum of Natural History, Washington, D.C., USA; **ZISP** – Zoological Institute of the Russian Academy of Sciences, Saint Petersburg, Russia.

RESULTS

Class Insecta Linnaeus, 1758

Order Hymenoptera Linnaeus, 1758

Family Scelionidae Haliday, 1839

Subfamily Scelioninae Haliday, 1839

Genus *Gryon* Haliday, 1833

Gryon Haliday, 1833:271. Type species: *Gryon misellum* Haliday, 1833.

Gryon cydnoide (Priesner, 1951)

Eremioscelio cydnoides Priesner, 1951:130. Holotype, ♀. – Egypt, USNM.

Material examined. Iran, East Azerbaijan, Shabestar, 38°11'37"N, 45°42'11"E, 1493.27 m, Malaise trap, 19.VI.2023, 1♂ 1♀; 18.VII.2023, 1♂; Sufian, 38°15'52"N, 45°56'30"E, 1361.42 m, Malaise trap, 22.VII.2023, 1♀; Khajeh, 38°06'48"N, 46°30'35"E, 1489.57 m, Pan trap, 2.VII.2022, 1♀; Khosrowshah, 38°08'56"N,

45°42'37"E, 1338.42 m, Malaise trap, 22.VII.2023, 2♂♂; Heris, 38°20'26"N, 46°50'59"E, 1813.08 m, Pan trap, 12.VI.2022, 1♂, leg. M. Shamsi.

Distribution in Iran. East Azarbaijan province (Asadi-Farfar et al. 2020).

Zoogeographical distribution. PALAEARCTIC: Egypt, England, France, Georgia, Kazakhstan, Mongolia, Romania, Russia, Syria (Talamas et al. 2021).

Gryon szelenyii (Szabó, 1966)

Pannongryon szelenyii Szabó, 1966:435. Holotype, ♀. – Hungary, HNHM.

[Fig. 1A–D]

Material examined. 1♀, Iran, East Azerbaijan, Vayqan, 38°08'56"N, 45°42'37"E, 1338.42 m, Malaise trap, 30.VII.2023, leg. M. Shamsi.

Diagnostic characters (♀). *Gryon szelenyii* is distinguished by a set of morphological features consistently observed in the examined Iranian specimen (specimen from East Azerbaijan Province), with respect to the holotype female (PSUC_FEM 000147176): in dorsal view the head is slightly wider than the mesosoma, with coriaceous to granulate microsculpture,; the mesosoma exhibits a posteriorly projecting mesoscutellum that completely obscures the metascutellum in dorsal view (Fig. 1–B), a short marginal vein with the postmarginal vein approximately 1.5–2.0 times longer; a distinct transverse band of infuscation spanning the medial region of the fore wing (Fig. 1–A, C) a wide separation between the acetabular carina and ventral mesopleural carina on the mesopleuron (Fig. 1–D); the metasoma is uniformly dark, predominantly black to very dark brown without rufescent or pale markings on the basal tergites (T1–T2), and the first metasomal tergite (T1) is longitudinally striate. These characters exhibit high consistency across the examined Iranian series under stereomicroscopic observation and provide reliable separation from closely related Palaearctic congeners.

Zoogeographical distribution. PALEARCTIC: Eastern Europe and Western Asia (Kozlov & Kononova 1990; Kononova & Kozlov 2008; Fabritius & Popovici 2007); Iran (**New record**).

Genus *Psix* Kozlov & Le, 1976

Psix Kozlov & Lê 1976:143. Type species. *Psix abnormis* Kozlov & Le, 1976.

Psix saccharicola (Mani, 1941)

Telenomus saccharicola Mani, 1941:26. Holotype, ♀. – India, NPC–IARI.

Material examined. Iran, East Azerbaijan, Arasbaran, 38°23'20"N, 46°49'28"E, 1789 m, Pan trap, 2. IX.2023, 1♀; Ahar, 38°25'19"N, 46°52'20"E, 1548.04 m, Pan trap, 8.VI.2023, 3♀♀; Tekmeh Dash, 37°44'31"N, 46°57'18"E, 1883 m, Pan trap, 9.VI.2022, 1♀; Khajeh, 38°07'28"N, 46°33'57"E, 1495 m, Pan trap, 3.VII.2022, 1♂ 1♀; Heris, 38°19'04"N, 46°50'40"E, 1802 m, Pan trap, 3.VII.2022, 3♂♂ 8♀♀; Shabestar, 38°10'33"N, 45°43'13"E, 1427 m, Malaise trap, 22.VII.2022, 2♀♀; Mayan, 38°06'08"N, 46°07'18"E, 1322 m, PAN trap, 15.VII.2023, 1♂ 1♀; Vayqan, 38°08'56"N, 45°42'37"E, 1338 m, Pan trap, 18.VII.2023, 1♀: leg. M. Shamsi.

Distribution in Iran. East Azerbaijan (**New record**); Kerman (Mehrnejad 2013; Mohammadpour et al. 2016; Tavanpour et al. 2017; Gholamalizadeh et al. 2020; Ranjbar et al. 2021).

Zoogeographical distribution. AFROTROPICAL: Madagascar (Johnson & Masner 1985), ORIENTAL: India (Johnson & Masner 1985; Singh et al. 2012), and PALAEARCTIC: Iran.

Subfamily Telenominae Thomson, 1860

Genus *Telenomus* Haliday, 1833

Telenomus Haliday, 1833: 271. Type species: *Telenomus brachialis* Haliday, 1833.

Telenomus turesis Walker, 1836

Telenomus turesis Walker, 1836:353. Lectotype, ♀. – England, NMINH.

Material examined. Iran, East Azerbaijan, Heris, 38°19'26"N, 46°49'27"E, 1826 m, Pan trap, 21.VII.2023, 1♂3♀♀; Heris, 38°18'54"N, 46°51'00"E, 1688.87 m, Pan trap, 17.VI.2022, 1♀: leg. M. Shamsi.

Distribution in Iran. Isfahan, Tehran (Modarres Awal 1997); Khorasan (Asadi et al. 2020).

Zoogeographical distribution. PALAEARCTIC: England and Ireland (Buhl et al. 2016); Russia (Tortorici et al. 2024).

Genus *Trissolcus* Ashmead, 1893

Trissolcus Ashmead, 1893:138, 161. Type species: *Telenomus brochymenae* Ashmead, 1833.

Trissolcus belenus (Walker, 1836)

Telenomus belenus Walker, 1836:350. Lectotype, ♂. – England, France, NMINH.

Material examined. Iran, East Azerbaijan, Heris, 38°18'32"N, 46°48'56"E, 1869.21 m, Pan trap, 7.VII.2023, 2♀♀; Arasbaran, 38°23'20"N, 46°49'28"E, 1489.57 m, Pan trap, 26.VI.2023, 1♂; Khajeh, 38°07'28"N, 46°33'57"E, 1495.08 m, Pan trap, 2.VII.2022, 1♂; Sufian, 38°15'54"N, 46°00'06"E, 1365.61 m, Malaise trap, 24.VI.2023, 1♀; Mayan, 38°06'08"N, 46°07'18"E, 1322.25 m, Pan trap, 15.VII.2023, 1♂: leg. M. Shamsi.

Distribution in Iran. East Azerbaijan (Tortorici et al. 2019).

Zoogeographical distribution. PALAEARCTIC: China, England, Italy, Sweden, Switzerland (Tortorici et al. 2019); Russia (Kononova & Kozlov 2008).

Trissolcus colemani (Crawford, 1912)

Telenomus colemani Crawford, 1912:2. Holotype, ♀. – India, USNM.
https://zenodo.org/record/7552244

Material examined. Iran, East Azerbaijan, Arasbaran, 38°23'20"N, 46°49'28"E, 11789.43 m, Pan trap, 2.IX.2023, 1♂; Ahar, 38°26'57"N, 46°56'08"E, 1422.12 m, Pan trap, 8.VI.2023, 3♀♀; Tekmeh–Dash, 37°44'31"N, 46°57'18"E, 1883.36 m, Pan trap, 19.VI.2023, 3♂♂ 4♀♀; Khajeh, 38°08'45"N, 46°34'34"E, 1485.22 m, Pan trap, 2.VII.2022, 4♂♂ 7♀♀; Shabestar, 38°11'37"N, 45°43'11"E, 1493.27 m, Malaise trap, 15.VII.2022, 1♀; Sufian, 38°15'52"N, 45°46'30"E, 1361.42 m, Malaise trap, 3.VII.2023, 6♂♂ 13♀♀; Vayqan, 38°08'56"N, 45°42'37"E, 1338.42 m, Pan trap, 18.VII.2023, 2♀♀; Varzaqan, 38°11'15"N, 46°37'28"E, 1528.23 m, Pan trap, 9.VII.2023, 6♂♂ 7♀♀; Heris, 38°19'22"N, 46°49'27"E, 1822.85 m, Malaise trap, 16.VII.2022, 18♂♂ 14♀♀: leg. M. Shamsi.

Distribution in Iran. Kerman (Ranjbar et al. 2021).

Zoogeographical distribution. ORIENTAL: India (Masner & Muesebeck 1968); PALAEARCTIC: China, England, France (Tortorici et al. 2019); Germany (Awad et al. 2021); Greece, Italy (Tortorici et al. 2019); Kazakhstan, Korean Peninsula, Mongolia (Timokhov 2019); Pakistan (Tortorici et al. 2019).

Trissolcus oobius (Kozlov, 1972)

Aporophlebus oobius Kozlov, 1972:670. Holotype, ♀. – Russia, ZISP.

Material examined. Iran, East Azerbaijan, Heris, 38°19'15"N, 46°51'25"E, 1669.99 m, Pan trap, 21.VI.2022, 2♀♀; Sufian, 38°15'52"N, 45°56'30"E, 1361.42 m, Malaise trap, 22.VII.2023, 2♀♀: leg. M. Shamsi.

Distribution in Iran. Kerman (Hashemi Rad 1999; Hashemi Rad et al. 2000; Mohammadpour et al. 2016).

Zoogeographical distribution. PALAEARCTIC: Armenia (Talamas et al. 2017); Bulgaria (Petrov 2013); Kazakhstan (Talamas et al. 2017); Moldavia (Kozlov & Kononova 1983); Mongolia (Kozlov & Lê 1976; Talamas et al. 2017); Romania (Fabritius & Popovici 2007).

Trissolcus rufiventris (Mayr, 1907)

Telenomus rufiventris Mayr, 1907:158. Lectotype, ♀. – Russia, NHMW.
https://zenodo.org/record/7552332

Material examined. Iran, East Azerbaijan, Khajeh, 38°08'39"N, 46°35'03"E, 1766.64 m, Pan trap, 2.VIII.2022, 1♀; Heris, 38°19'27"N, 46°49'27"E, 1826.28 m, Pan trap, 7.VII.2023, 1♀; Sufian, 38°15'52"N, 45°56'30"E, 1361.42 m, Malaise trap, 22.VII.2023, 1♀; Heris, 38°20'23"N, 46°49'30"E, 1990.42 m, Pan trap, 12.VII.2022, 3♀♀; Jolfa, 38°52'33"N, 45°33'09"E, 852.51 m, Pan trap, 31.VII.2023, 1♀: leg. M. Shamsi.

Distribution in Iran. Alborz (Iranipour et al. 1998), East Azarbaijan (Lotfalizadeh 2018), Hamedan (Behdad 1982), Isfahan (Mehravar et al. 2000), Qazvin (Noori et al. 2003), Tehran (Davatchi & Shojaei 1969; Farahbakhsh 1961; Shojaei 1968; Martin et al. 1969).

Zoogeographical distribution. PALAEARCTIC: [North] Africa (Kozlov & Kononova 1983; Kononova 1995); Bulgaria (Petrov 2013); Romania, Russia (Voegelé 1964); Scotland (Kieffer 1913); Turkey (Koçak & Kilincer 2003; Kivan & Kiliç 2006; Koçak 2007; Koçak et al. 2008); Ukraine (Voegelé 1964).

Trissolcus saakowi (Mayr, 1903)

Telenomus saakowi Mayr, 1903:397. Lectotype, ♀. – Russia, NHMW.
https://zenodo.org/records/7552291

Material examined. 1♂ 2♀♀, Iran, East Azerbaijan, Heris, 38°18'51"N, 46°51'00"E, 1687.14 m, Pan trap, 21.VII.2022, leg. M. Shamsi.

Distribution in Iran. Alborz (Iranipour et al. 1998); East Azarbaijan, Kerman, Tehran (Iranipour & Johnson 2010).

Zoogeographical distribution. PALAEARCTIC: Armenia, Tajikistan (Kozlov & Kononova 1983); Turkey (Kaya et al. 2009); Turkmenistan (Talamas et al. 2017); Ukraine (Kozlov & Kononova 1983); Uzbekistan (Kozlov 1978).

Trissolcus scutellaris (Thomson, 1860)

Telenomus scutellaris Thomson, 1860:171. Lectotype, ♀. – Sweden, NHRS.
https://zenodo.org/record/7552301

Material examined. Iran, East Azerbaijan, Khajeh, 38°08'39"N, 46°35'03"E, 1766.64 m, Pan trap, 2.VIII.2022, 1♀; Heris, 38°18'32"N, 46°48'56"E, 1869.21 m, Pan trap, 29.V.2023, 2♂♂ 2♀♀; Marand, 38°25'33"N, 45°51'04"E, 1334.79 m, Pan trap, 25.VIII.2023, 1♀: leg. M. Shamsi.

Distribution in Iran. Alborz (Iranipour et al. 1998), East Azarbaijan (Banamolaei 2018a, 2018b, 2018c), Isfahan (Shojaei 1968), Kerman (Mehrnejad 2013; Tavanpour et al. 2017), Tehran (Farahbakhsh 1961; Amir-Maafi et al. 2002).

Zoogeographical distribution. Widespread throughout the Palaearctic region (Talamas et al. 2017).

Trissolcus semistriatus (Nees von Esenbeck, 1834)

Teleas semistriatus Nees von Esenbeck, 1834:290. Neotype, ♀. Germany – NHMW.
https://zenodo.org/record/7552312

Material examined. Iran, East Azerbaijan, Heris, 38°18'54"N, 46°51'00"E, 1688.78 m, Pan trap, 25.VI.2023, 1♀; Khosrowshah, 37°56'42"N, 46°04'22"E, 1376.78 m, Malaise trap, 11.VII.2023, 1♂: leg. M. Shamsi.

Distribution in Iran. Alborz (Iranipour et al. 1998), Chaharmahal and Bakhtiari (Haghshenas 2004), East Azarbaijan (Iranipour et al. 2010; Nozad Bonab & Iranipour 2012; Abdi et al. 2015, Lotfalizadeh 2018), Fars (Iranipour et al. 1998), Kerman (Mohammadpour et al. 2016; Ranjbar et al. 2021), Qazvin (Radjabi 1994, Noori & Asgari 2000, Noori et al. 2003; Noori 2015), Tehran (Alexandrov 1947a, 1947b; Zomorrodi 1962; Shojaei 1968; Davatchi & Shojaei 1969; Martin et al. 1969; Amir-Maafi et al. 2002), Zanjan (Taghaddosi & Rajabi 1998).

Zoogeographical distribution. Widespread throughout the Palaearctic region (Tortorici et al. 2019).

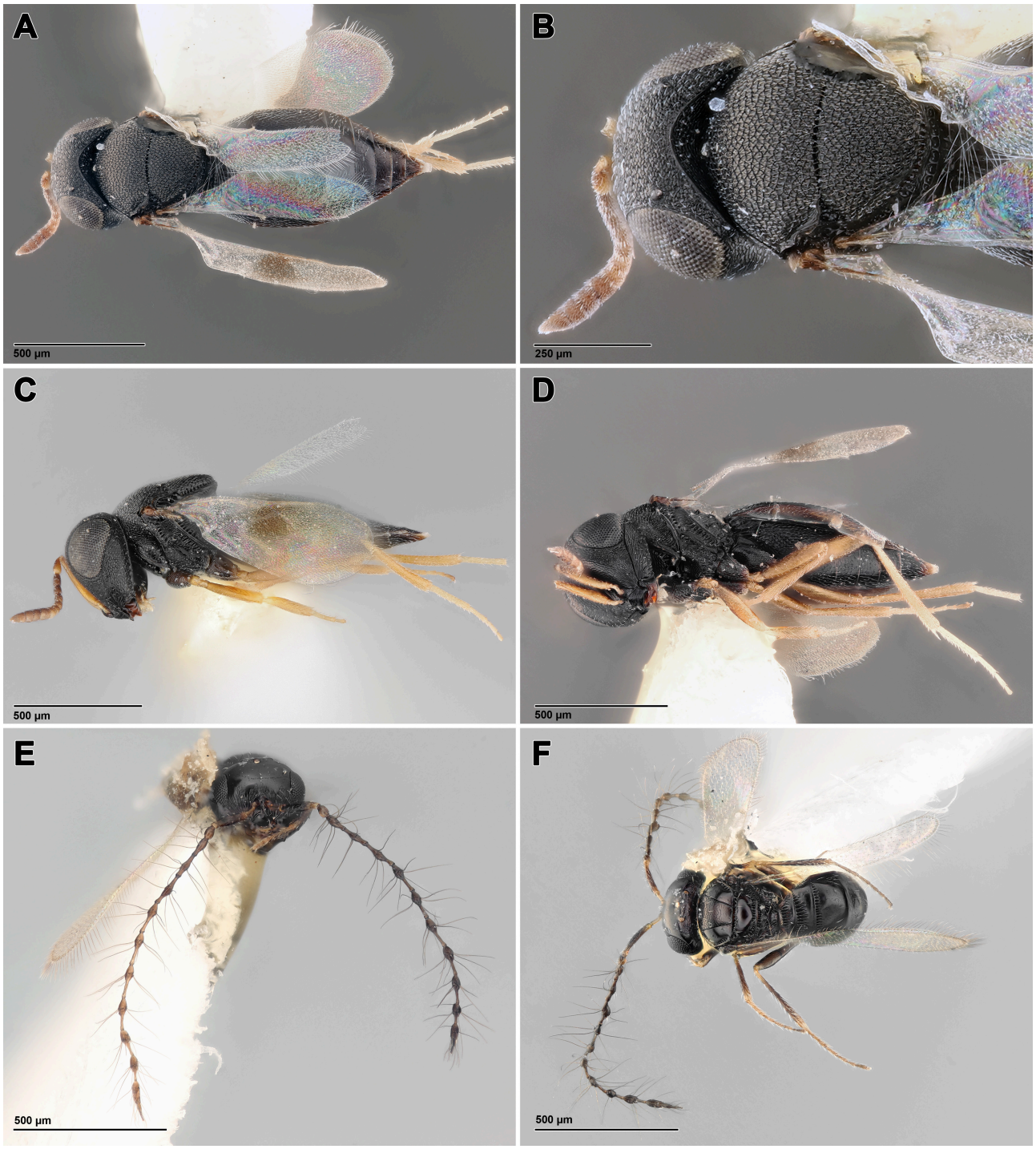

Figure 1. The newly recorded species. **A–D.** *Gryon szelenyii* (Szabó, 1966). **A** & **B.** Habitus, dorsal view; **C.** Habitus, lateral view; **D.** Habitus, latero-ventral view; **E & F**. *Xenomerus canariensis* Huggert, 1979. **E.** Head, frontal view; **F.** Habitus, dorsal view.

Subfamily Teleasinae Ashmead, 1893

Genus *Xenomerus* Walker, 1836

Xenomerus Walker, 1836:356. Type species: *Xenomerus ergenna* Walker, 1836.

Xenomerus canariensis Huggert, 1979

Xenomerus canariensis Huggert, 1979:68. Holotype, ♀. – Spain, NHRS.

[Fig 1E–F]

Material examined. 1♂ (ICHMM), Iran, East Azerbaijan, Ahar, 38˚25'37"N, 46˚54'34"E, 1517.33 m, Pan trap, 26.VI.2023, leg. M. Shamsi.

Diagnostic characters (male). Head 1.5× as wide as its height, antennomeres A3–A11 bottle-shaped, with a ring of long hairs on the antennomeres A6–A11 (Fig. 1E). The hind and forewings slender, with long marginal cilia on the hindwing (Fig. 1F) (Miko et al. 2010).

Zoogeographical distribution. PALAEARCTIC: Canary Islands, France, Ireland, Italy, Kenya, Portugal, Russia, Ukraine, Hungary, Netherlands (Miko et al. 2010); Iran **(New record)**.

Remarks. Occurrence of *Xenomerus canariensis* Huggert, 1979 represents the first record of the genus *Xenomerus* in Iran.

DISCUSSION

Specimens of Scelionidae have been collected and recorded worldwide in various habitats, including moist forests, vineyards, orchards, pastures, and fields (Johnson 1992). In our study, we collected specimens from fields, orchards, pastures, and forests. Miko et al. (2010) and Managanoi et al. (2017) reported the presence of *Xenomerus canariensis* in various regions, from temperate regions in Europe, such as Croatia, France, and Italy, to tropical and subtropical regions including Kenya, South Africa, and South Asia. The discovery of *X. canariensis* in Iran fills in the gap between the Palaearctic and African distributions reported by Mikó et al. (2010) and is consistent with Iran's position at the crossroads of the Palaearctic region. *Xenomerus canariensis* is a parasitoid of the eggs of the genus *Dromius* Bonelli, 1810 (Carabidae) (Miko et al. 2010). Similarly, the presence of *Gryon szelenyii* in Iran is consistent with its known pattern in eastern Europe and western Asia (Kozlov & Kononova 1990; Kononova & Kozlov 2008; Fabritius & Popovici 2007). The initial documentation of the genus *Xenomerus* and *G. szelenyii* highlights that some of the unexplored Iranian fauna can be identified using existing taxonomic resources. Most species of *Gryon* lack host records, but some species are known to attack the eggs of Pentatomidae (Hemiptera) (Martel et al. 2019) and Erebidae (Lepidoptera) (Masner 1958). In addition to the report of these two new species for Iran, we report several other species of the family Scelionidae, some of which (e.g., *Psix saccharicola* (Mani, 1941)) are the first records for East Azerbaijan province and help to complete the faunal list of parasitoid wasps in Iran.

This study emphasizes the importance of conserving the biodiversity of Iranian parasitoid wasps, including Scelionidae. These wasps play a crucial role in biological control and help fill knowledge gaps regarding the distribution of this family in the Middle East. Some of the species identified in this study are parasitoids of important insect pests (Mahendra et al. 2024). Future research should focus on identifying specific host species, assessing regional distribution patterns, and evaluating the effectiveness of these parasitoids within integrated pest management frameworks to optimize their application in agricultural ecosystems.

AUTHOR'S CONTRIBUTION

The authors confirm their contribution to the paper as follows: M. Shamsi Agha–Ali: collecting the examined material, primary identification, and drafting the manuscript; S. Khaghaninia: Supervising, reviewing, and editing; S. Iranipour: revising and editing; E.J. Talamas: taxonomic identification, macrophotography, revising and editing the manuscript. All authors read and approved the final version of the manuscript.

FUNDING

This research received no specific grant from any funding agencies.

AVAILABILITY OF DATA AND MATERIAL

The specimens listed in this study are deposited in the Insect Collection of Professor Hassan Maleki Milani and are available from the curator upon request.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study only included arthropod material, and all required ethical guidelines for the treatment and use of animals were strictly adhered to in accordance with international, national, and institutional regulations. No human participants were involved in any studies conducted by the authors for this article.

CONSENT FOR PUBLICATION

Not applicable.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest regarding the publication of this paper.

GENERATIVE AI STATEMENT

No generative AI tools were used in the preparation of this paper.

ACKNOWLEDGMENTS

The authors would like to express their sincere gratitude for the valuable comments and insights provided by the anonymous reviewers, as well as the subject editor. Their contributions have significantly enhanced the quality of this manuscript.

REFERENCES

Abdi, F., Iranipour, Sh. & Hejazi, M. (2015) Effect of mating and previous parasitism on functional response of *Trissolcus djadetshkoe* (Hymenoptera: Scelionidae), an egg parasitoid of *Eurygaster integriceps* (Hemiptera: Scutelleridae). *Iranian Journal of Plant Protection Science,* 46 (1), 131–140.

Alexandrov, N. (1947a) *Eurygaster integriceps* Put. a Varamine et ses parasites (1). *Applied Entomology and Phytopathology,* 6–7, 28–47.

Alexandrov, N. (1947b) *Eurygaster integriceps* Put. a Varamine et ses parasites (2). *Applied Entomology and Phytopathology,* 8, 16–52.

Amir-Maafi, M., Kharrazi Pakdel, A., Sahragard, A. & Rasoulian, G. (2002) Efficiency and regulation mechanisms of sunn pest population, *Eurygaster integriceps* Put. (Het. Scutelleridae), by egg parasitoids in Varamin. *Journal of Entomological Society of Iran,* 22 (1), 29–47.

Asadi-Farfar, M. (2020) *A Faunistic Study of the Superfamily Platygastroidea (Hymenoptera) in the Northwestern Part of Iran*. Ph.D. Thesis. University of Urmia, Urmia, Iran. 198 pp.

Austin, A.D., Johnson, N.F. & Dowton, M. (2005) Systematics, evolution, and biology of scelionid and platygastrid wasps. *Annual Review of Entomology*, 50, 553–582. https://doi.org/10.1146/annurev.ento.50.071803.130500

Awad, J., Vasilita, C., Wenz, S., Alkarrat, H., Zimmermann, O., Zebitz, C., & Krogmann, L. (2021) New records of German Scelionidae (Hymenoptera: Platygastroidea) from the collection of the State Museum of Natural History Stuttgart. *Biodiversity Data Journal*, 9, e69856. https://doi.org/10.3897/BDJ.9.e69856

Banamolaei, P., Iranipour, S. & Asgari, S. (2018a) Functional response of two populations of *Trissolcus vassilievi* (Mayr) on sunn pest eggs (Eurygaster integriceps Puton). *Journal of Applied Research in Plant Protection*, 6 (4), 89–106.

Banamolaei, P., Iranipour, S. & Asgari, S. (2018b) Host preference and switching of two populations of *Trissolcus vassilievi* between two host populations. *Biocontrol in Plant Protection*, 5 (2), 27–42.

Banamolaei, P., Iranipour, S. & Asgari, S. (2018c) Time allocation by female parasitoid *Trissolcus vassilievi* (Mayr) encountering with sunn pest eggs (Eurygaster integriceps Puton). *Journal of Applied Research in Plant Protection*, 7 (2), 1–11.

Behdad, E. (1982) *Pests of Field Crops in Iran*. Neshat Publication Co., Isfahan, Iran. 589 pp. [in Persian]

Buhl, P.N., Broad, G.R. & Notton, D.G. (2016) Checklist of British and Irish Hymenoptera Platygastroidea. *Biodiversity data journal*, (4), e7991. https://doi.org/10.3897/BDJ.4.e7991

Caron, V., Yonow, T., Paull, C., Talamas, E.J., Avila, G.A. & Hoelmer, K.A. (2021) Preempting the arrival of the brown marmorated stink bug, *Halyomorpha halys*: Biological control options for Australia. *Insects*, 12 (7), 581. https://doi.org/10.3390/insects12070581

Chen, H.Y., Masner, L. & Johnson, N.F. (2017) New World species of the genus *Calliscelio* Ashmead (Hymenoptera, Platygastridae, Scelioninae). *ZooKeys*, 648, 1–136. https://doi.org/10.3897/zookeys.648.10935

Chen, H.Y., Zachary, L., Talamas, E.J., Valerio, A.A., Popovici, O.A., Musetti, L., Klompen, H., Polaszek, A., Masner, L., Austin, A.D. & Johnson, N.F. (2021) An integrated phylogenetic reassessment of the parasitoid superfamily Platygastroidea (Hymenoptera: Proctotrupomorpha) results in a revised familial classification. *Systematic Entomology,* 46 (4), 1088–1113. https://doi.org/10.3897/jhr.52.8488

Dangerfield, P., Austin, A. & Baker, G. (2001) *Biology, Ecology and Systematics of Australian Scelio: Wasp Parasitoids of Locust and Grasshopper Eggs*. CSIRO Publishing, Australia. 265 pp. https://doi.org/10.1071/9780643100763

Davatchi, A. & Shojaei, M. (1969) *Les Hymenopteres Entomophages de l'Iran (Etudes Faunestiques).* University of Tehran, Faculty of Agriculture, Tehran. 88 p.

Fabritius, K. & Popovici, O.A. (2007) A catalogue of Scelionidae from Romania (Hymenoptera, Platygastroidea). *Entomologica Romanica*, 12, 133–161.

Farahbakhsh, G. (1961) *A Checklist of Economically Important Insects and other Enemies of Plants and Agricultural Products in Iran.* Ministry of Agriculture Department Plant Protection, Tehran. 153 p.

Gholamalizadeh, Z., Ziaaddini, M. & Jalali, M. (2020) Influence of female mating and age on reproduction attributes of *Psix* saccharicola (Hymenoptera: Scelionidae), egg parasitoid of pistachio green-stink bugs. *Biological Control of Pests and Plant Diseases*, 8 (2), 75–85.

Haghshenas, A. (2004) Protection and conservation of sunn pest tachinid parasitoids in the Chahar Mahal va Bakhtiari province. In: Niknam, Gh. (ed.) *Proceedings of 16th Iranian Plant Protection Congress.* August 28–September 1, 2004. Tabriz, Iran. University of Tabriz, Vol I, p. 5.

Hashemi Rad, H. (1999) *Identification of Egg Parasitoid Wasps of the Green Stink Bugs (Brachynema spp. and Acrosternum spp.) and Study of Biology of Trissolcus agriope (Hym: Scelionidae) in Rafsanjan*. M.Sc. Thesis. Shahid Chamran University of Ahvaz, Ahvaz, Iran. 217 pp.

Hashemi Rad, H., Soleyman Nejadian, E. & Radjabi, Gh. (2000) Population fluctuation of the pistachio green stink bugs (*Brachynema* spp. & *Acrosternum* spp.) and their egg parasitoids in Rafsanjan. In: Behdad, E. (ed.) *Proceedings of the 14th Iranian Plant Protection Congress*. September 5–8, 2000. Isfahan University of Technology, Isfahan, Vol I, p. 107.

Iranipour, S. & Johnson, N.F. (2010) *Trissolcus radjabii* n.sp. (Hymenoptera: Platygastridae), an egg parasitoid of the shield bug, *Apodiphus amygdali* (Heteroptera: Pentatomidae) and the sunn pest, *Eurygaster integriceps* (Heteroptera: Scutelleridae). *Zootaxa*, 2515, 65–68. https://doi.org/10.11646/zootaxa.2515.1.4

Iranipour, S., Kharrazi–Pakdel, A., Esmaili, M. & Radjabi, G. (1998) Introduction of two species of egg parasitoids of pentatomid bugs from genus *Trissolcus* (Hym.: Scelionidae). In: Izadyar, M. (ed.) *Proceedings of the 13th Iranian Plant Protection Congress*, August 23, 1998, University of Tehran, Karaj, Vol I, p. 4.

Iranipour, S., Nozad Bonab, Z. & Michaud, J.P. (2010) Thermal requirements of *Trissolcus grandis* (Hymenoptera: Scelionidae), an egg parasitoid of sunn pest. *European Journal of Entomology,* 107 (1), 47–53. https://doi.org/10.14411/eje.2010.005

Kaya, E., Koçak, E., Yilmaz, E. & Güven, B. (2009) Sunn pest egg parasitoids (Hymenoptera: Scelionidae) and population changes in cereal areas of Manisa province. *Proceedings of the 3rd Plant Protection Congress of Turkey*. July 15–18, 2009. Van, Turkey, p. 369.

Johnson, N.F. (1992) Catalog of world Proctotrupoidea excluding Platygastridae. *Memoirs of the American Entomological Institute*, 51, 1–835. https://doi.org/10.5281/zenodo.23657

Johnson, N.F. & Masner, L. (1985) Revision of the genus *Psix* Kozlov & Lê (Hymenoptera: Scelionidae). *Systematic Entomology*, 10, 33–58. https://doi.org/10.1111/j.1365-3113.1985.tb00562.x

Kieffer, J.J. (1913) Description de nouveaux microhyménoptères. *Broteria* (Ser. Zool.), 11, 177–197. https://doi.org/10.5962/bhl.part.16290

Kivan, M. & Kiliç, N. (2006) A comparison of the development times of *Trissolcus rufiventris* (Mayr) and *Trissolcus simoni* Mayr (Hym.: Scelionidae) at three constant temperatures. *Turkish Journal of Agriculture and Forestry*, 30 (5), 383–386.

Koçak, E. (2007) Egg parasitoids of sunn pest in Turkey: A review. In: Parker, B.L., Skinner, M., Bouhssini, M.E. & Kumari, S.G. (eds) *Proceedings of Second International Conference on Sunn Pest, Sunn Pest Management, A Decade of Progress, 1994–2004*. July 19–22, 2004. The Arab Society for Plant Protection, Beirut, Lebanon, Aleppo, Syria, pp. 225–235.

Koçak, E. & Kılınçer, N. (2003) Taxonomic studies on *Trissolcus* sp. (Hymenoptera: Scelionidae), egg parasitoids of the sunn pest (Hemiptera: Scutelleridae: Eurygaster sp.), in Turkey. *Turkish Journal of Zoology*, 27 (4), 301–317.

Koçak, E., Kodan, M. & Gökdoğan, A. (2008) Investigations on the effects of the some insecticides on the egg parasitoid *Trissolcus rufiventris* Mayr (Hymenoptera: Scelionidae) of wheat stink bug *Aelia rostrata* Boh. (Het.: Pentatomidae). *Süleyman Demirel Üniversitesi Ziraat Fakültesi Dergisi*, 3 (2), 52–59.

Kononova, S.V. (1992) [*Fauna of Ukraine. Volume 11. Parasitic Hymenoptera. Part 10. Proctotrupoid scelionid parasitoids of the subfamilies Scelioninae and Telenominae*]. Naukova Dumka, Kyiv. 255 pp.

Kononova, S.V. (1995) Family Scelionidae. In: Lehr P.A. (ed.) Key to insects of Russian Far East. Vol. 4. Neuropteroidea, Mecoptera, Hymenoptera. Part 2. Hymenoptera. Dal'nauka, Vladivostok, pp. 57–121.

Kononova, S.V. & Kozlov, M.A. (2008) *Scelionids of the Palaearctic (Hymenoptera, Scelionidae): keys to genera and species*. KMK Scientific Press Ltd, Saint Petersburg. 489 pp.

Kozlov, M.A. (1978) Superfamily Proctotrupoidea. In: Medvedev, G.S. (ed.) *Key to insects of the European portion of the USSR*. Vol III, Part II: Hymenoptera. Nauka Publisher, Leningrad, pp. 538–664. [in Russian]

Kozlov, M.A. & Kononova, S.V. (1983) [Telenominae of the Fauna of the USSR (Hymenoptera, Scelionidae, Telenominae]. Nauka Publisher, Leningrad. 336 p. [in Russian]

Kozlov, M.A. & Lê, X.H. (1976) Palearctic species of the *Trissolcus flavipes* Thomson group (Hymenoptera, Proctotrupoidea, Scelionidae). *Entomologicheskoye Obozreniye*, 55 (3), 657–667. [in Russian]

Kozlov, M.A. & Kononova, S.V. (1990) *Scelionids of the fauna of the USSR (Hymenoptera, Scelionidae, Scelioninae).* Opredeliteli po Faune SSSR, 161, 344 pp.

Lotfalizadeh, H. (2018) Four subfamilies of Platygastroidea (Hymenoptera) in the northwest of Iran with new report of Sceliotrachelinae. *North–Western Journal of Zoology,* 14 (2), 237–242.

Mahendra, K.R., Chaitanya, M., Karthik, R., Lakshmi, K.S. & Balaji, B.N. (2024) Egg parasitoids of hemipteran insects: a special account on Scelionidae (Platygastroidea: Hymenoptera). *Journal of Advances in Biology and Biotechnology*, 27(9), 1384–1396. https://doi.org/10.9734/jabb/2024/v27i91412

Martel, G., Augé, M., Talamas, E., Roche, M., Smith, L. & Sforza, R.F.H (2019) First laboratory evaluation of *Gryon gonikopalense* (Hymenoptera: Scelionidae), as potential biological control agent of *Bagrada hilaris* (Hemiptera: Pentatomidae). *Biological Control*, 135, 48–56. https://doi.org/10.1016/j.biocontrol.2019.04.014

Martin, H., Javaheri, M. & Radjabi, G. (1969) Note la punaise des cereals, *Eurygaster intergriceps* Put. Et de ses parasites du genre Asolcus en Iran. *Applied Entomology and Phytopathology,* 28, 56–65.

Masner, L. (1958) A new egg–parasite of gipsy moth *Lymantria dispar* (L.). *Entomophaga,* 3, 39–44. https://doi.org/10.1007/BF02372198

Masner, L. (1980) Key to genera of Scelionidae of the Holarctic region, with descriptions of new genera and species (Hymenoptera: Proctotrupoidea). *Memoirs of the Entomological Society of Canada*, 113, 1–54. https://doi.org/10.4039/entm112113fv

Masner, L. (1993) Superfamily Proctotrupoidea. In Goulet, H. & Huber, J. (eds) *Hymenoptera of the World: an identification guide to families.* Research Branch, Agriculture Canada, Ottawa, Canada, pp. 537–557.

Masner, L. & Muesebeck, C.F. (1968) The types of Proctotrupoidea (Hymenoptera) in the United States National Museum. *United States National Museum Bulletin*, 270, 1–156. https://doi.org/10.5479/si.03629236.270

Mehravar, M., Radjabi, Gh. & Shojai, M. (2000) Introduction of species of egg parasitoids of Eurygaster integriceps Put. in the region of Isfahan. In: Behdad, E. (ed.) P*roceedings of the 14th Iranian Plant Protection Congress*. September 5–8, 2000. Isfahan University of Technology, Isfahan, Vol I, p. 220.

Mehrnejad, M.R. (2013) Abundance of parasitoids associated with two major stink bugs on pistachio trees. *Applied Entomology and Phytopathology*, 81 (1), 83–84.

Mikó, I., Masner, L. & Deans, A.R. (2010) World revision of *Xenomerus* Walker (Hymenoptera: Platygastroidea, Platygastridae). *Zootaxa*, 2708 (1), 1–73. https://doi.org/10.11646/zootaxa.2708.1.1

Minab, F., Rakhshani, E., Talamas, E.J. & Moghaddam, M.G. (2023) A checklist of Platygastridae and Scelionidae (Hymenoptera, Platygastroidea) of Iran. *Journal of Insect Biodiversity and Systematics,* 9 (2), 343–383. https://doi.org/10.52547/jibs.9.2.343

Modarres Awal, M. (1997) *List of Agricultural Pests and their Natural Enemies in Iran.* Ferdowsi University Press, Mashhad. 429 pp.

Mohammadpour, M., Ziaaddini, M., Jalali, M.A., Hashemi Rad, H. & Mohammadi–Khoramabadi, A. (2016) Egg parasitoids of the pistachio green stink bug, *Brachynema germari* (Hemiptera: Pentatomidae) in Kerman province, Iran. *Zoology and Ecology*, 26 (1), 28–34. https://doi.org/10.1080/21658005.2015.1120544

Noori, H. (2015) Demographic study of sunn pest egg parasitoids in Qazvin province. *Applied Entomology and Phytopathology,* 83 (1), 63–72.

Noori, H. & Asgari, S. (2000) Study and identification of sunn pest egg parasitoid in Qazvin province. In: Behdad, E. (ed.) *Proceedings of the 14th Iranian Plant Protection Congress*. September 5–8, 2000. Isfahan University of Technology, Isfahan, Vol I, p. 218.

Noori, H., Asgari, S. & Moslehi-Rad, H. (2003) Study and Identification on *Eurygaster integriceps* Put., egg parasitoids in Ghazvin province. *Journal of Agricultural Sciences* (IAU), 9 (2), 141–150.

Noyes, J.S. (1982) Collecting and preserving chalcid wasps (Hymenoptera: Chalcidoidea). *Journal of Natural History*, 16 (3), 315–334. https://doi.org/10.1080/00222938200770261

Noyes, J.S. (1989) A study of five methods of sampling Hymenoptera (Insecta) in a tropical rainforest, with special reference to the Parasitica. *Journal of Natural History*, 23 (2), 285–298. https://doi.org/10.1080/00222938900770181

Nozad Bonab, Z. & Iranipour, S. (2012) Development of *Trissolcus grandis* (Thomson) (Hymenoptera: Scelionidae) on two factitious hosts *Graphosoma lineatum* (L.) and *G. semipunctatum* (F.) (Hemiptera: Scutelleridae) at three constant temperatures. *Journal of Applied Research in Plant Protection,* 1 (1), 41–55.

Petrov, S.D. (2013) Three new species of *Trissolcus* Ashmead (Hymenoptera: Platygastroidea: Scelionidae) from Bulgaria. *Biologia* (Bratislava), 68 (2), 324–329. https://doi.org/10.2478/s11756-013-0151-0

Qiu, L.F., Yang, Z.Q. & Tao, W.Q. (2007) Biology and population dynamics of *Trissolcus halyomorphae*. *Scientia Silvae Sinicae*, 43 (11), 62–65. https://doi.org/10.11707/j.1001-7488.20071111

Radjabi, G. (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 the Entomological Society of Iran,* 14, 1–7.

Ramirez Ahuja, M.D.L. (2021) *Identificación Taxonómica de las Especies de Telenominae (Platygastroidea: Scelionidae) en México*. Doctoral dissertation. Universidad Autonoma de Nuevo Leon. 151 pp.

Ranjbar, F., Jalali, M.A., Ziaaddini, M., Gholamalizade, Z. & Talamas, E.J. (2021) Stink bug egg parasitoids (Hymenoptera, Scelionidae) associated with pistachio in Iran and description of a new species: *Trissolcus darreh* Talamas. *Journal of Hymenoptera Research*, 87, 291–308. https://doi.org/10.3897/jhr.87.72838

Shamsi, M., Lotfalizadeh, H. & Iranipour, Sh. (2014) A review of species of the genus *Idris* (Hym.: Platygasteridae, Scelioninae) in Iran. *The first conference on Traditional Medicine, Medicinal Plants and Organic Agriculture*. November 29, 2014. Shahid Mofatteh University. Hamadan, pp. 1–8.

Shojaei, M. (1968) Resultats de létude faunestiques des Hyménopteres parasites (Terebrants) en Iran importance de leur utilization des la lute biologique. *First National Congress of Plant Medicine of Iran.* University of Tehran, Tehran. pp. 25–35.

Singh, L.R.K., Johnson, N.F. & Ramamurthy, V.V. (2012) New species of the genus *Psix* Kozlov & Le (Hymenoptera: Platygastridae). *Zootaxa*, 3530 (1), 35–42. https://doi.org/10.11646/zootaxa.3530.1.3

Taghaddosi, M. & Rajabi, G. (1998) Sunn Pest Egg Parasitoids in Zandjan Province. In: Izadyar, M. (ed.) *Proceedings of the 13th Iranian Plant Protection Congress.* August 23–27, 1998. University of Tehran, Karaj, Vol I., p. 10.

Talamas, E.J., Buffington, M.L. & Hoelmer, K. (2017) Revision of Palearctic *Trissolcus* Ashmead (Hymenoptera, Scelionidae). *Journal of Hymenoptera Research*, 225, 3–186. https://doi.org/10.3897/jhr.56.10158

Talamas, E.J., Bremer, J.S., Moore, M.R., Bon, M.C., Lahey, Z., Roberts, C.G., Combee, L.A., McGathey, N., Van Noort, S., Timokhov, A.V. & Hougardy, E. (2021) A maximalist approach to the systematics of a biological control agent: *Gryon aetherium* Talamas, sp. nov. (Hymenoptera, Scelionidae). *Journal of Hymenoptera Research*, 87, 323–480. https://doi.org/10.3897/jhr.87.72842

Tavanpour, T., Mehrnejad, M.R., Sarafrazi, A. & Imani, S. (2017) Distribution modelling of four scelionid egg parasitoids of green stink bugs (Hemiptera: Pentatomidae). *Biologia*, 72 (1), 53–61. https://doi.org/10.1515/biolog-2017-0010

Timokhov, A.V. (2019) Superfamily Platygastroidea. In: Belokobylskij, S.A, Lelej, A.S. (eds) Annotated catalogue of the Hymenoptera of Russia. Volume II. Apocrita: Parasitica. *Proceedings of the Zoological Institute, Russian Academy of Sciences*. Supplement, Saint Petersburg, pp. 42–57.

Tortorici, F., Talamas, E.J., Moraglio, S.T., Pansa, M.G., Asadi-Farfar, M. & Tavella, L. (2019) A morphological, biological, and molecular approach reveals four cryptic species of *Trissolcus* Ashmead (Hymenoptera, Scelionidae), egg parasitoids of Pentatomoidea (Hemiptera). *Journal of Hymenoptera Research*, 73, 153–200. https://doi.org/10.3897/jhr.73.39052

Tortorici, F., Orru, B., Timokhov, A.V., Bout, A., Bon, M.C., Tavella, L. & Talamas, E.J. (2024) *Telenomus* Haliday (Hymenoptera, Scelionidae) parasitizing Pentatomidae (Hemiptera) in the Palearctic region. *Journal of Hymenoptera Research*, 97, 591–620. https://doi.org/10.3897/jhr.97.127112

Townes, H. (1972) A light-weight Malaise trap. *Entomological News*, 83, 239–247.

Voegelé, J. (1964) Contribution a la connaissance des stades larvaires des especes du genre *Asolcus* Nakagawa (*Microphanurus* Kieffer) (Hymenoptera, Proctotrupoidea). *Al Awamia*, 10, 19–31.

Zomorrodi, A. (1962) Les experiences et observation sur la lutte biologique d' *Eurygaster integriceps* Put. *Applied Entomology and Phytopathology,* 20, 16–23.

یافته‌های جدید از زنبورهای خانواده Scelionidae (Hym.; Platygastroidea) در استان آذربایجان‌شرقی، ایران

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دریافت: ۰۸ آبان ۱۴۰۴
ویرایش: ۲۳ خرداد ۱۴۰۵
پذیرش: ۲۵ خرداد ۱۴۰۵
انتشار: ۲۴ تیر ۱۴۰۵

چکیـده: این مطالعه در سال‌های ۱۴۰۱ و ۱۴۰۲ به منظور شناسایی فون زنبورهای این خانواده در نواحی شمالی استان آذربایجان‌شرقی انجام گرفت. نمونه‌های مورد مطالعه با استفاده از تله مالیز و تله تشتک آبی جمع‌آوری شده و براساس منابع معتبر تفکیک و شناسایی شدند. در مجموع، تعداد ۵۷۴ نمونه با ۲۹۶ نمونه توسط تله تشتکی و ۲۷۸ نمونه با تله مالیز جمع‌آوری شدند. در این بررسی، سه زیرخانواده Scelioninae، Telenominae و Teleasinae، پنج جنس شامل *Gryon* (دو گونه)، *Psix* (یک گونه)، *Telenomus* (یک گونه)، *Trissolcus* (هفت گونه) و *Xenomerus* (یک گونه) و در مجموع ۱۲ گونه متعلق به این خانواده شناسایی شدند که جنس *Xenomerus* (Walker, 1836) و دو گونه *Xenomerus canariensis* (Huggert, 1979) و *Gryon szelenyii* (Szabo, 1966) برای اولین‌بار از ایران گزارش تصاویر آنها ارایه شد.

واژگـان کلیدی: پارازیتوییدهای تخم، گزارش فونستیک، *Gryon*، پالئارکتیک، *Xenomerus*