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A further contribution to the fauna of Iranian Elampini (Hymenoptera: Chrysididae, Chrysidinae)

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Abstract

The Chrysididae are a large, cosmopolitan and diverse family of wasps commonly known as cuckoo wasps or gold wasps that consists of over 3000 known species in 84 genera and many more to be discovered. In this study, the tribe Elampini (Hymenoptera: Chrysididae) was studied in the Fars Province of Iran during 2013-2017. The specimens were collected using a standard Malaise trap from different vegetation at different places (i.e. Fasa, Lasrestan, Shiraz and Jahrom) in southern part of Fars province. The collected specimens dried, pinned, labeled, and put into collection boxes, subsequently. Eighteen species belonging to 9 genera (i.e. *Colpopyga* Semenov, 1954, *Elampus* Spinola, 1806, *Haba* Semenov, 1954, *Hedychridium* Abeille de Perrin, 1878, *Hedychrum* Latreille, 1802, *Holopyga* Dahlbom, 1845, *Omalus* Panzer, 1801, *Philoctetes* Abeille de Perrin, 1879, *Pseudomalus* Ashmead, 1902) were collected and identified. Three species: *Haba colonialis* (Mocsáry, 1911), *Hedychridium hofferi* Balthasar, 1953 and *Holopyga inaurata* Mocsáry, 1914 are new records for Iranian insect fauna. The total number of Iranian Elampini now increased to 98 species and subspecies in 10 genera.

Key words: Hymenoptera, cuckoo wasp, Iran, Middle East, new record

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Introduction

The Elampini is the second largest tribe in the subfamily Chrysidinae. Although found worldwide, the majority of genera and species occur in the arid sections of the Holarctic Region (Kimsey & Bohart, 1991). The Iranian cuckoo wasp fauna is receiving an increasing interest in the past years, compensating for the long dated lack of knowledge (Pourrafei *et al*., 2011; Rosa *et al*., 2013; Rosa & Lotfalizadeh, 2013; Torabipour *et al.,* 2013a, 2013b; Strumia & Fallahzadeh, 2015; 2016; Strumia *et al*., 2016a; 2016b; Farzaneh *et al*., 2017; Iranmanesh *et al.,* 2017; Farhad *et al*., 2015; 2016; 2017; 2018).

The main objective of present study was to improve and update the information on Iranian Elampini.

Materials and methods

The specimens were collected using Malaise traps in different locations of Fars Province, southern Iran. The voucher specimens are deposited in Department of Entomology, Jahrom Branch, Islamic Azad University, Jahrom, Iran (JIAU) and the Franco Strumia Collection, Pisa, Italy (FSC). Nomenclature follows Bohart & Kimsey (1982) and Kimsey & Bohart (1991).

Results

A total of 18 species belonging to 9 genera, *Colpopyga* Semenov, 1954, *Elampus* Spinola, 1806, *Haba* Semenov 1954, *Hedychridium* Abeille de Perrin, 1878, *Hedychrum* Latreille, 1802, *Holopyga* Dahlbom, 1845, *Omalus* Panzer, 1801, *Philoctetes* Abeille de Perrin, 1879 and *Pseudomalus* Ashmead, 1902 were identified, of which three species, *Haba colonialis* (Mocsáry, 1911), *Hedychridium hofferi* Balthasar, 1953 and *Holopyga inaurata* Mocsáry, 1914 are newly recorded from Iran.

Subfamily Chrysidinae

Tribe Elampini

Genus *Colpopyga* Semenov, 1954

Colpopyga flavipes rugulosa (Linsenmaier, 1959)

Material examined: 4♀♀: Iran, Fars, Jahrom (28°30′31″N; 53°35′21″E), 25.v.2015, leg. B. Jahromi; 1♂: Fars, Larestan (27°39′12.6″N; 54°16′50″E), 4.vi.2017, leg. A. Falahatpisheh.

General distribution: Iran: East-Azerbaijan (Linsenmaier, 1959; Rosa *et al.*, 2013; Torabipour *et al*., 2013b); Fars (Strumia *et al.,* 2016b; Farzaneh *et al.,* 2017), Hormozgan (Farhad *et al.,* 2016). – Cyprus, Palestine (Linsenmaier, 1959; 1968), Turkey (Strumia & Yildirim, 2011), Uzbekistan, Kazakhstan, Kyrgyzstan, Turkmenistan (Rosa, 2017).

Remarks: Recently, Rosa (2017) revised and keyed out Palaearctic *Colpopyga* and described a new species.

Genus *Elampus* Spinola, 1806

Elampus kashmirensis Nurse, 1902

Material examined: 1♂: Iran, Fars, Larestan (27°39′12.6″N; 54°16′50″E), 4.vi.2017, leg. A. Falahatpisheh.

General distribution: Iran: Kerman (Iranmanesh *et al*., 2017), Fars (new record). – Pakistan, Kashmir (Bingham, 1903).

Genus *Haba* Semenov, 1954

***Haba colonialis* (Mocsáry, 1911)**

Material examined: 1♀: Iran, Fars, Larestan (27°39′ 54″N; 54°16′39″E), 26.v.2017, leg. A. Falahatpisheh; 1♀: Jahrom (28°30′31″N; 53°35′21″E), 05.v.2015, leg. B. Jahromi.

General distribution: Iran: Fars (new record). – Eritrea, UAE, Saudi Arabia, appears widespread in the Arabian Peninsula (Strumia, 2016).

Remarks: Strumia (2016) and Strumia & Fallahzadeh (2016) revised and keyed out all species of *Haba* and described a new species.

Genus *Hedychridium* Abeille de Perrin, 1878

***Hedychridium biskranum* Linsenmaier, 1999**

Material examined: 1♂: Iran, Fars, Larestan (27°39′12.6″N; 54°16′ 50″E), 13.iv.2014, leg. A. Falahatpisheh.

General distribution: Iran: Fars (Strumia *et al*., 2016b). – Algeria, Turkey.

***Hedychridium femoratum* (Dahlbom, 1854)**

Material examined: 1♀: Iran, Fars, Larestan (27°39′12.6″N; 54°16′50″E), 13.iv.2014, leg. A. Falahatpisheh; 2♂♂: Larestan (27°39′54″N; 54°16′39″E), 26.v.2017, leg. A. Falahatpisheh; 1♀: same data, 26.v.2017; 1♀: same data, 31.v.2017; 2♀♀: Larestan (27°39′8.39″N; 54°16′50″E), 10.v.2015, leg. A. Falahatpisheh; 1 ♀: same data, 4.vi.2017; 2 ♀♀: Larestan (27°31′55.4 ″N; 54°26′1.36 ″E), 03.iv.2014, leg. A. Falahatpisheh; 2♀♀ Jahrom (28°30′31″N; 53°35′21″E), 22.vi.2015, leg. B. Jahromi; 2♀♀: same data, 01.vi.2015; 1♀: same data 05.v.2015; 1♂: same data, 12.v.2015; 1♀: same data, 10.v.2015.

General distribution: Iran: Hormozgan (Farhad *et al.,* 2016), Fars (new record). – Anatolia, Europe, North Africa, Turkey (Linsenmaier, 1959; Kimsey & Bohart, 1991; Yildirim & Strumia, 2006).

***Hedychridium hofferi* Balthasar, 1953**

Material examined: 1♀: Iran, Fars, Jahrom (28°30′31″N; 53°35′21″E), 04.v.2015, leg. B. Jahromi; 1♀: Larestan (27°39′12.6″N; 54°16′50″E), 6.vi.2017, leg. A. Falahatpisheh; 1♀: same data, 4.vi.2017.

General distribution: Iran: Fars (new record). – Jordan (Kimsey & Bohart, 1991).

***Hedychridium monochroum farsensis* Strumia & Fallahzadeh, 2016**

Material examined: 1♂, 6♀♀: Iran, Fars, Jahrom (28°30′31″N; 53°35′21″E), 15.vi.2015, leg. B. Jahromi; 2♀♀: same data, 05.v.2015; 2♀♀: same data, 25.v.2015; 1♀: same data, 12.v.2015; 1♀: same data, 08.vi.2015; 16♀♀: same data, 21.v.2013; 3♀♀: Larestan (27°39′8.39″N; 54°16′50″E), 10.v.2015, leg. A. Falahatpisheh; 2♀♀: same data, 20.v.2015; 1♀: same data, 14.v.2015; 3♀♀: Larestan (27°39′12.6″N; 54°16′50″E), 31.v.2017, leg. A. Falahatpisheh; 2♀♀: same data, 6.vi.2017; 19♀♀, 1♂: same data, 4.vi.2017; 1♀: Shiraz (29°59′6.65″N; 52°39′38.5′E), 14.v.2016, leg. B. Jahromi.

General distribution: Iran: Fars (Strumia *et al.,* 2016b), Kerman (Iranmanesh *et al.,* 2017).

***Hedychridium palestinense* Balthasar, 1953**

Material examined: 1♀: Iran, Fars, Larestan (27°39′12.6″N; 54°16′ 50″E), 13.iv.2014, leg. A. Falahatpisheh; 1♀: Jahrom (28°30′ 31″N; 53°35′21″E), 10.v.2015, leg. B. Jahromi; 1♀: same data, 21.v.2013; 1♀: Larestan (27°39′54″N; 54°16′39″E), 26.v.2017, leg. A. Falahatpisheh; 1♀: same data, 31.v.2017; 1♂: Larestan (27°31′55.4 ″N; 54°26′1.36 ″E), 25.v.2014, leg. A. Falahatpisheh.

General distribution: Iran: Qazvin, Markazi (Rosa et al. 2013), Fars (new record). – Eastern Mediterranean, Middle East (Linsenmaier, 1959; Arens, 2010).

Remarks. *Hedychridium palestinense* was described fro Palestine by Balthasar (1953). This species belong to the *Hedychridium sculpturatum* species-group. The taxonomy of this group is not yet assessed and the distinctive species features subtle and variable. Linsenmaier (1959) proposed *Hedychridium maculiventre* as a name in replacement of *H. sculpturatum* var. *palestinense* Balthasar, 1953, and described a new subspecies *H. maculiventre sculpturatissimus.* Later, Linsenmaier (1997) described the subspecies *H. maculiventre raucum* from Turkey. In a recent revision of the *Hedychridium roseum* species-group, Arens (2010) proposed *maculiventre* as a subspecies of *Hedychridium scutellare* (Tournier, 1878). In presence of such complex taxonomy, and being our material well in agreement with the original Balthasar description, we consider the name *palestinense* to avoid further ambiguity.

Genus *Hedychrum* Latreille, 1802

***Hedychrum mavromoustakisi* Trautmann, 1929**

Material examined: 1♂: Iran, Fars, Larestan (27°39′ 12.6″N; 54°16′50″E), 4.vi.2017, leg. A. Falahatpisheh.

General distribution: Iran: Fars, Mazandaran (Linsenmaier, 1987; Rosa *et al*., 2013). – Bulgaria, Cyprus, Greece, Palestine (Linsenmaier, 1959; 1968).

Genus *Holopyga* Dahlbom, 1845

***Holopyga ignicollis* Dahlbom, 1854**

Material examined: 3♀♀: Iran, Fars, Jahrom (28°30′31″N; 53°35′21″E), 05.v.2015, leg. B. Jahromi; 1♀: same data, 25.v.2015; 1♀: Larestan (27°31′55.4 ″ N; 54°26′1.36 ″ E), 03.iv.2014, leg. A. Falahatpisheh.

General distribution: Iran: Fars (Farzaneh *et al*., 2017), Alborz, Mazandaran, Hormozgan, Kerman (Farhad *et al*., 2017). – Cyprus, Greece, Middle and South Europe, North Africa, Palestine, Turkey, West Palaearctic to Middle Asia (Linsenmaier, 1959; 1968; 1999; Strumia & Yildirim, 2009).

***Holopyga inflammata inflammata* (Förster, 1853)**

Material examined: 1♀: Iran, Fars, Jahrom (28°30′ 31″N; 53°35′21″E), 25.v.2015, leg. B. Jahromi.

General distribution: Iran: Alborz (Farhad et al. 2017), Fars (new record). – Europe, Turkey (Linsenmaier, 1959; Strumia & Yildirim, 2011).

***Holopyga inaurata* Mocsáry, 1914**

Material examined: 1♂: Iran: Fars: Mian Jangal Fasa (29°10′12″N- 53°22′50″E), 7.v.2016, leg. D. Gianasso.

General distribution: Iran: Fars (new record). – Armenia, Palestine, Egypt.

Remarks: *Holopyga inaurata* Mocsáry, 1914, was originally described as color variety of *Holopyga mlokosiewitzi* Radoszkovsky, 1876. Later, Linsenmaier (1959) considered *H. inaurata* as a valid species.

***Holopyga jurinei* Chevrier, 1862**

Material examined: 1♀: Iran, Fars, Jahrom (28°30′ 31″N; 53°35′21″E), 08.vi.2015, leg. B. Jahromi.

General distribution: Iran: Alborz, Qazvin (Farhad et al., 2017), Fars (new record). – Middle and south of Europe, North India, Palestine, Turkey (Linsenmaier, 1959; 1968; Strumia & Yildirim, 2009).

***Holopyga numidica* (Lucas, 1849)**

Material examined: 1♀: Iran, Fars, Jahrom (28°30′ 31″N; 53°35′21″E), 25.v.2015, leg. B. Jahromi; 1♀: same data, 21.v.2013.

General distribution: Iran: Fars (Strumia *et al*., 2016b). – Algeria, Morocco, Egypt, Palestine (Linsenmaier, 1999).

Genus *Omalus* Panzer, 1801

***Omalus aeneus* (Fabricius, 1787)**

Material examined: 1♀: Iran, Fars, Jahrom (28°30′31″N; 53°35′21″E), 22.vi.2015, leg. B. Jahromi; 1♀: same data, 21.v.2013.

General distribution: Iran: Fars (Strumia *et al*., 2016b; Farzaneh *et al.,* 2017), Golestan, Alborz, Mazandaran (Farhad *et al*., 2018). – Widespread in Palaearctic, Nearctic (Kimsey & Bohart, 1991).

Genus *Philoctetes* Abeille de Perrin, 1879

***Philoctetes deflexus* (Abeille de Perrin, 1878)**

Material examined: 2♀♀: Iran, Fars, Jahrom (28°30′ 31″N; 53°35′2 ″E), 25.v.2015, leg. B. Jahromi; 2♀♀: same data, 01.vi.2015; 3♀♀: same data, 15.vi.2015; 1♀: same data, 22.vi.2015; 5♀♀: same data, 21.iv.2013; 2♀♀: Larestan (27°39′12.6″N; 54°16′50″E), 13.iv.2014, leg. A. Falahatpisheh; 1♀: same data, 6.vi.2017; 1♀: same data, 4.vi.2017; 7♀♀: same data, 4.vi.2017; 3♀♀: Shiraz (29°59′6.65″ N; 52°39′38.5″E), 22.v.2016, leg. B. Jahromi; 3♀♀: same data, 12.vi.2016; 1♀: same data, 14.v.2016.

General distribution: Iran: Fars (Strumia *et al*., 2016b). – Northern Africa, Palestine, Syria, Saudi Arabia (Linsenmaier, 1959; 1994).

***Philoctetes sareptanus* (Mocsáry, 1889)**

Material examined: 1♀: Iran, Fars, Jahrom (28°30′31″N; 53°35′21″E), 01.vi.2015, leg. B. Jahromi; 1♀: Shiraz (29°59′6.65 ″ N; 52°39′38.5 ″E), 14.v.2016, leg. B. Jahromi; 1♀: same data, 17.v.2016.

General distribution: Iran: Golestan (Mocsáry, 1890; Buysson, 1892; Rosa *et al*., 2013), Fars (new record). – Russia (Linsenmaier, 1959).

Genus *Pseudomalus* Ashmead, 1902

***Pseudomalus turkestanicus* (Mocsáry, 1889)**

Material examined: 5♀♀: Iran, Fars, Jahrom (28°30′31″N; 53°35′2″E), 05.v.2015, leg. B. Jahromi; 1♀: same data, 20.v.2015; 2♀♀: same data, 12.v.2015; 1♀: same data, 10.v.2015; 11♀♀: same data, 08.v.2015; 1♀: same data, 25.v.2015; 2♀♀: same data, 01.vi.2015; 6♀♀: same data, 15.vi.2015; 4♀♀: same data, 22.vi.2015; 2♂♂, 19♀♀: same data, 21.v.2013; 4♀♀: Shiraz (29°59′6.65″ N; 52°39′38.5″E), 14.v.2016, leg. B. Jahromi; 1♀: same data, 22.v.2016; 1♀: Larestan (27°39′8.39″N; 54°16′54″E), 6.vi.2017, leg. A. Falahatpisheh; 1♀: same data, 4.vi.2017; 1♀: same data, 10.v.2015; 11♀♀ Larestan (27°39′12.6″N; 54°16′50″E), 4.vi.2017, leg. A. Falahatpisheh; 2♀♀: same data, 6.vi.2017; 2♀♀: same data, 31.v.2017; 1♀: Larestan (27°39′54″N; 54°16′39″E), 31.v.2017, leg. A. Falahatpisheh.

General distribution: Iran: Alborz, Fars, Khuzestan (Strumia & Fallahzadeh, 2015; Strumia *et al*., 2016b; Farzaneh *et al*., 2017), Kerman (Iranmanesh *et al*., 2017), Alborz, Guilan, Mazandaran, Qazvin, Hormozgan (Farhad *et al*., 2018). – Turkey, Uzbekistan (Strumia & Yildirim, 2011).

Discussion

Prior to our study, Rosa *et al*. (2013) provided a list of Iranian Elampini including 53 species and subspecies from 7 genera. Later, Strumia et al. (2016b) updated the number of Elampini taxa from Iran to 86 species and subspecies in 8 genera. With the present study and previous works (Farzaneh *et al*., 2017; Iranmansh *et al.,* 2017; Farhad *et al.,* 2017; 2018), the total number of Iranian Elampini now increased to 98 species and subspecies in 10 genera. It is clear that the cuckoo wasp fauna of Iran requires extensive investigations, especially in relation to their biology and diversity.

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فصلنامه تخصصی تحقیقات حشره‌شناسی
(علمی- پژوهشی)
جلد ۱۱، شماره۱، سال ۱۳۹۸، (۹-۱)

معرفی بخش بیشتری از زنبورهای طایفه Elampini ایران (Hymenoptera: Chrysididae, Chrysidinae)

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چکیده

خانواده Chrysididae یکی از خانواده‌های بسیار متنوع از زنبورها می‌باشد که به نام زنبورهای فاخته یا طلایی مشهور هستند که تا به حال بیش از ۳۰۰۰ گونه از ٨٤ جنس از آن‌ها در سراسر جهان شناسایی شده است و این در حالی است که بسیاری از آنها، هنوز کشف نشده‌اند. در بررسی حاضر، فون زنبورهای طایفه(Elampini (Hymenoptera: Chrysididae در طی سال های ۱۳۹۲ تا ۱۳۹٦ در استان فارس مورد مطالعه قرار گرفت. نمونه‌برداری به‌وسیله تله مالیز از مناطق شیراز، فسا، جهرم و لارستان در جنوب استان صورت گرفت. پس از خارج کردن نمونه‌ها از تله، مراحل خشک کردن، سوزن زدن و نصب برچسب اطلاعات انجام و نمونه‌ها در جعبه‌های نگهداری حشرات قرار داده شد. شناسایی گونه با استفاده از کلیدهای شناسایی معتبر و توصیف های اصلی انجام گردید. در مجموع ۱۸ گونه متعلق به ۹ جنس (*Colpopyga* Semenov, 1954, *Elampus* Spinola, 1806, *Haba* Semenov, 1954, *Hedychridium* Abeille de Perrin, 1878, *Hedychrum* Latreille, 1802, *Holopyga* Dahlbom, 1845, *Omalus* Panzer, 1801, *Philoctetes* Abeille de Perrin, 1879, *Pseudomalus* Ashmead, 1902) جمع‌آوری و شناسایی شد. سه گونه *Haba colonialis* (Mocsáry 1911)، *Hedychridium hofferi* Balthasar 1953 و *Holopyga inaurata* Mocsáry 1914 برای اولین‌بار از ایران گزارش می‌شوند. مجموع تاکساهای گزارش شده این طایفه از ایران به ۹۸ گونه و زیرگونه از ۱۰ جنس افزایش یافت.

واژه‌های کلیدی: بال غشاییان، زنبورهای فاخته، ایران، خاورمیانه، گزارش جدید

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