



## A contribution to the study of Eumeninae (Hymenoptera, Vespidae) in South-Eastern Iran

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**ABSTRACT.** In this study thirteen species of subfamily Eumeninae are recorded from the Sistan-o Baluchestan province (South East of Iran). Among the studied material, five species including *Cyrtolabulus karachiensis* Gusenleitner, 2006; *Cyrtolabulus syriacus* (Giordani Soika, 1968); *Stenancistrocerus biblicus* (Giordani Soika, 1952); *Stenodynerus trotzinai* (Morawitz, 1895) and *Tachyancistrocerus quabosi* Giordani Soika, 1979 are recorded for the first time from Iran. *Stenancistrocerus biblicus* also represents a new generic record for the fauna of Iran.

**Key words:** Potter wasps, fauna, new records, Sistan-o Baluchestan

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### Introduction

Vespidae, with more than 5000 species and 250 genera within the six subfamilies, is one of the largest families among aculeate Hymenoptera. A general review on the literatures focused on the Vespidae of Iran, was presented by Ebrahimi & Carpenter (2008) listed 51 genera and 182 species. Abbasi et al. (2008) studied the Vespidae fauna of Zanjan province and in the southern area; Khoobdel et al. (2014) collected and identified Vespidae on Iranian islands, Qeshm, Abu-Musa, Great Tunb and Lesser Tunb in the Persian Gulf. The subfamily Eumeninae (potter wasps) is

the largest and most diverse group within Vespidae, with 3579 described species in 210 genera distributed in all zoogeographical regions (Pickett & Carpenter, 2010). So far, 42 genera and 148 species of Eumeninae are recorded from Iran (Ebrahimi, 2015). Salehi Fard et al. (2013) recorded one species of Eumeninae from Mashhad. Gusenleitner et al. (2013) described two species of Eumeninae (*Pterocheilus persicus* Gusenleitner & Fallahadeh and *Eustenancistrocerus iranicus* Gusenleitner). Few Eumenine species (*Eustenancistrocerus amadanensis* (de

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Saussure), *Eustenancistrocerus askhabadensis* (Radoszkowski), *Euodynerus posticus* (Herrich-Schaeffer), *Chlorodynerus infrenis* Giordani Soika) are already recorded from Sistan-o Baluchestan (Ebrahimi & Carpenter, 2008). Here we report the results of a survey of the Eumeninae in some selected areas in Sistan-o Baluchestan province in South East of Iran.

### Material and methods

The specimens for this study were collected by Malaise traps, sweep net and pan traps in various habitats (rangelands, orchards), from different selected localities such as river sides and plains in Sistan and slopes of Taftan Mountain in Sistan-o Baluchestan province of Iran during 2014-2016. Collected specimens were kept on the Ethanol 75%, then pinned and labeled. The specimens were identified using reliable keys on the basis of their diagnostic morphological characters. Voucher specimens were deposited in the collection of Institute of Entomology & Molecular Biology, College of Life Sciences (CNU), in China.

### Results

Thirteen species from eleven genera were collected and identified; one genus and five species are first recorded for the fauna of Iran. Seven genera and eleven species are newly recorded from Sistan-o Baluchestan province. They marked with single (\*) and double (\*\*) asterisks, respectively.

### Order Hymenoptera

#### Family Vespidae

##### Subfamily Eumeninae Leach, 1815

##### Genus *Antepipona* de Saussure, 1855

##### *Antepipona deflenda* (S. S. Saunders, 1853)\*\*

**Material examined.** Iran, Sistan-o Baluchestan province, Saravan (27°22'42" N, 62°19'31" E), Malaise trap, 01.V.2015, 1♀, Leg.: F. Hamzavi.

**Distribution:** Armenia, Azerbaijan, China, Cyprus, Europe, Georgia, Iran, Iraq, Israel, Jordan, Kazakhstan, Lebanon, North Africa, Russia, Tajikistan, Turkey, Turkmenistan, Uzbekistan (Fateryga et al., 2019).

##### Genus *Cyrtolabulus* Van der Vecht, 1963

##### *Cyrtolabulus karachiensis* Gusenleitner, 2006\*

**Material examined.** Iran, Sistan-o Baluchestan province, Saravan (27°22'42" N, 62°19'31" E): Pan trap, 03.VI.2016, 1♂; Malaise trap, 03.VI.2014, 1♀; Zahedan (28°53'22" N, 60°23'28" E), swept on weeds, 12.V.2014, 1♂, Leg.: F. Hamzavi.

**Distribution:** Iran (new record), Pakistan (Gusenleitner, 2006).

##### *Cyrtolabulus syriacus* (Giordani Soika, 1968)\*

**Material examined.** Iran, Sistan-o Baluchestan province, Zahedan (28°53'22" N, 60°23'28" E), swept on weeds, 12.V.2014, 1♀, Leg.: F. Hamzavi.

**Distribution:** Iran (new record), Israel, Pakistan, Syria (Gusenleitner, 2006).

##### Genus *Delta* de Saussure, 1855

##### *Delta dimidiatipenne* (de Saussure, 1852)

**Material examined.** Iran, Sistan-o Baluchestan province: Zahedan (28°53'22" N, 60°23'28" E), swept on weeds: 02.VI.2016, 1♀; 03.VI.2016, 2♀♀; Zabol (31°01'02" N, 61°29'07" E), swept on weeds, 04.V.2015, 1♀; Saravan (27°22'42" N, 62°19'31" E), swept on weeds: 15.IX.2016, 2♀♀; 03.IV.2016, 1♀; Khash (27°34'12" N, 61°7'48" E), swept on weeds, 07.VII.2016, 2♀1♂; Zabol: Doust-Mohammad (31°08'14" N, 61°47'32" E), Malaise trap, 23.V.2016, 1♀1♂; Hirmand (31°8'52" N, 61°47'22" E), swept on weeds, 03.IV.2016, 1♂, Leg.: F. Hamzavi.

**Distribution:** Afghanistan, Algeria, Chad, Djibouti, Egypt, Eritrea, Ethiopia, India, Iran, Jordan, Mauritania, Morocco, Nepal, Niger, Oman, Pakistan, Qatar, Saudi Arabia, Spain,

Somalia, South Africa, Sudan, Syria, Tajikistan, Turkey, Turkmenistan, U.A.E., Uganda, Yemen (Rafi et al., 2017).

***Delta esuriens* (Fabricius, 1787)**

**Material examined.** Iran, Sistan-o Baluchestan province: Khash (27°34'12" N, 61°7'48" E), swept on weeds, 07.VII.2016, 1♀; Zabol (31°01'02" N, 61°29'07" E), Malaise trap, 06.VIII.2016, 1♀, Leg.: F. Hamzavi.

**Distribution:** Afrotropics, India, Indonesia, Iran, Iraq, Israel, Laos, Mauritius, Myanmar, New Caledonia, North Africa, Oman, Pakistan, Philippines, Qatar, Saudi Arabia, Sechelles, Sri Lanka, Thailand, U.A.E., Vietnam (Rafi et al., 2017).

**Genus *Euodynerus* Dalla Torre, 1904**

***Euodynerus* (*Pareuodynerus*) *enodatus* (Kostylev 1940)\*\***

**Material examined.** Iran, Sistan-o Baluchestan province: Zabol, Arbab Village (31°3'25" N, 61°35'38" E), Pan trap, 06.VII.2016, 2♀♀; Saravan (27°22'42" N, 62°19'31" E), Malaise trap, 16.VII.2016, 1♂, Leg.: F. Hamzavi.

**Distribution:** Afghanistan, Iran, Pakistan (Gusenleitner, 2013).

**Genus *Eustenancistrocerus* Bluthgen, 1938**

***Eustenancistrocerus* *jerichoensis* (von Schulthess, 1928)\*\***

**Material examined.** Iran, Sistan-o Baluchestan province, Saravan (27°22'42" N, 62°19'31" E), Pan trap, 04.VI.2016, 2♂♂, Leg.: F. Hamzavi.

**Distribution:** Azerbaijan, Jordan, Iran, Israel, Syria, Russia, Turkey (Fatoryga & Mokrousov, 2019).

**Genus *Jucancistrocerus* Bluthgen, 1938**

***Jucancistrocerus* *citrodecoratus* Giordani Soika, 1970\*\***

**Material examined.** Iran, Sistan-o Baluchestan province: Zabol (31°01'02" N, 61°29'07" E), Malaise trap, 06.VIII.2016, 1♂; Doust-

Mohammad (31°08'14" N, 61°47'32" E), Malaise trap, 23.V.2016, 1♂, Leg.: F. Hamzavi.

**Distribution:** Iran, Serbia (Gusenleitner, 2013); Turkey (Yildirim & Kojima, 1999).

**Genus *Paravespa* Radoszkowski, 1886**

***Paravespa* *grandis* (Morawitz, 1885)\*\***

**Material examined.** Iran, Sistan-o Baluchestan province, Zabol (31°01'02" N, 61°29'07" E), Malaise trap, 29.IV.2016, 2♂♂, Leg.: F. Hamzavi.

**Distribution:** Afghanistan, Azerbaijan, Iran (Morawitz, 1885); Lebanon (Gusenleitner, 2013); Turkey (Yildirim & Kojima, 1999).

**Genus *Pseudodontodynerus* Bluthgen, 1939**

***Pseudodontodynerus* *peculiariventris* (Giordani Soika, 1952)\*\***

**Material examined.** Iran, Sistan-o Baluchestan province, Zabol (31°01'02" N, 61°29'07" E), Malaise trap, 02.VIII.2016, 1♀1♂; Arbab Village (31°3'25" N, 61°35'38" E), Pan trap, 25.VIII.2016, 1♀, Leg.: F. Hamzavi.

**Distribution:** Iran, Israel (Gusenleitner, 2013).

**Genus *Stenancistrocerus* De Saussure 1863\***

***Stenancistrocerus* (*Paratropancistrocerus*) *biblicus* (Giordani Soika, 1952)\***

**Material examined.** Iran, Sistan-o Baluchestan province: Zabol, Arbab Village (31°3'25" N, 61°35'38" E), Pan trap, 06.VII.2016, 1♀; Zahedan (29°31'37" N, 60°53'41" E), swept on weeds, 03.VI.2016, 1♂, Leg.: F. Hamzavi.

**Distribution:** Iran (new record), Israel (Gusenleitner, 2013).

**Genus *Stenodynerus* De Saussure, 1863**

***Stenodynerus* *trotzinai* (Morawitz, 1895)\***

**Material examined.** Iran, Sistan-o Baluchestan province, Zabol (31°01'02" N, 61°29'07" E), Malaise trap, 02.08.2016, 1♀; Hirmand (31°8'52" N, 61°37'22" E), swept on weeds: 03.IV.2016, 1♀; 15.VII.2016, 1♀, Leg.: F. Hamzavi.

**Distribution:** Iran (new record), Pakistan, Turkey, Turkmenistan (Gusenleitner, 2006; Yildirim & Gusenleitner, 2012).

**Genus** *Tachyancistrocerus* Giordani Soika, 1952

*Tachyancistrocerus quabosi* Giordani Soika, 1979\*

**Material examined.** Iran, Sistan-o Baluchestan province, Zabol (31°01'02" N, 61°29'07" E), Malaise trap, 02.VIII.2016, 1♂, Leg.: F. Hamzavi.

**Distribution:** Iran (new record), Oman, U-A- E. (Gusenleitner, 2013).

### Discussion

In this study thirteen Eumeninae species were collected and identified. Seven genera with eleven species are first recorded from Sistan-Baluchestan province. The total number of Iranian Vespidae and subfamily Eumeninae was 190 and 148 species, respectively (Ebrahimi, 2015; Ghahari et al. 2016), which is now raised to 195 and 153 species, respectively. Two species, *Antepipona deflenda* and *Delta dimidiatipenne* are widely distributed in Central and Western Asia (Yildirim & Kojima, 1999; Khan et al., 2018). On the other hand, some species (*Pseudodontodynerus peculiariventris*, *Stenancistrocerus biblicus* and *Tachyancistrocerus quabosi*) are not reported from the neighboring countries, i.e. Pakistan and Turkey (Yildirim & Kojima, 1999; Khan et al., 2018). A large area in Sistan-o Baluchestan province (Chabahar, Nicshahr and Iranshahr) are not explored yet, so that occurrence of many more Eumeninae species is expected.

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### Conflict of Interests

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

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## زنبورهای زیرخانواده Eumeninae (Hymenoptera, Vespidae) در جنوب شرق ایران

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**چکیده:** در این مطالعه ۱۳ گونه از زنبورهای زیرخانواده Eumeninae از استان سیستان و بلوچستان واقع در جنوب شرق ایران ثبت شدند. در بین نمونه‌های جمع‌آوری شده، پنج گونه *Cyrtolabulus*، *Cyrtolabulus karachiensis* Gusenleitner, 2006، *Stenancistrocerus biblicus* (Giordani) *syriacus* (Giordani Soika, 1968) و *Stenodynerus trozinae* (Morawitz, 1895) Soika, 1952 و *Tachyancistrocerus quabosi* Giordani Soika, 1979 برای اولین بار از ایران گزارش می‌شوند. گونه *Stenancistrocerus biblicus* نیز گزارشی از یک جنس جدید برای فون ایران است.

**واژگان کلیدی:** زنبورهای کوزه‌گر، فون، گزارش جدید، سیستان و بلوچستان