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A survey on the Aphidiinae (Hym., Braconidae) of Hormozgan province, South of Iran

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ABSTRACT. A survey was conducted to study the fauna of the subfamily Aphidiinae (Hym., Braconidae) in Hormozgan province (Southern Iran). Specimens were collected using Malaise traps and sweep nets from various habitats during 2013–2016. A total of fiftheen species belonging to seven genera, *Aphidius* Nees, 1819 (7 species); *Diaeretiella* Starý, 1960 (1); *Ephedrus* Haliday, 1833 (2); *Binodoxys* Mackauer 1960 (1); *Lysiphlebus* Förster, 1862 (1); *Praon* Haliday, 1833 (2) and *Trioxys* Haliday, 1833 (1) were identified. All species are newly recorded from Hormozgan province (and its island). A key to the known species in Hormozgan province is provided.

Key words: Aphid parasitoid, fauna, southern Iran, new record

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Introduction

As an important group of the aphid's natural enemies, Aphidiinae (Hym., Braconidae) having an important role in control of aphid population on different crop plants (Starý, 1970; Hughes et al., 1987; Rakhshani *et al*., 2004a, 2004b, 2005a, 2005b; Mdellel et al., 2015). The subfamily comprises a number 420–505 species worldwide, mainly distributed in the Holarctic region (Žikić et al., 2017). Aphidiines have been taxonomically and faunistically investigated in several parts of Iran. Starý et al. (2000) reviewed aphidiine species from Iran and listed 49 species, which were elaborated to 78 species, belonging to 17 genera (Barahoei et al., 2014). The last up-dated list of Aphidiinae of Iran (Farahani et al., 2016) includes 73 species belonging to 15 genera, excluding some doubtful records and unidentified taxa. Despite the studies in many parts of the country, the area of southern is yet insufficiently studied and no attempts have been made on the fauna of Aphidiinae in Hormozgan province. Recent additions include first record of species from two rare genera, *Aclituus* (Farahani et al., 2017) and *Moncotonia* (Kargarian et al., 2016). The later species, *Monoctonia pistaciaecola* Starý was collected from Fars province, adjacent

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to Hormozgan. This area was already surveyed by Taheri & Rakhshani (2013).

Hormozgan province located at the southern area of Iran bordering the Perisan Gulf, a large territory with a highly complex climatic condition. More than 70% of the province is covered by mountains and hills. The natural vegetation comprises the forests, rangelands, and the deserts. Little amount of the rainfalls with hot weather resulted in domination of some native plants, which are adapted to the hot and arid climate, and to the saline soils, as well (Ameri et al., 2014).

The aim of this study was the first attempt on determination of the aphidiine fauna of Hormozgan province and its Iranian islands, to have a better understanding on the major representative elements of the southern borders.

Material and methods

The sampling was conducted using Malaise traps and sweeping nets at different locations of Hormozgan provinces from 2013 through 2016. These areas include different ecosystems such as forests, rangelands, deserts, mangroves (Avicennia marina) and fruit orchards. The captured specimens were treated with a mixture of ethanol (60%) /Xylene (40%) for two days, followed by Amyl acetate for two days (AXA method, van Achterberg, 2009) and finally placed on the filter paper to dry. The dried specimens were then card mounted and labeled. All specimens are deposited in the collection of the Department of Entomology, Tarbiat Modares University, Tehran, Iran.

Results

Fiftheen species of the aphid parasitoids belonging to seven genera were collected and identified from various regions of Hormozgan province, all of them are newly recorded from this area.

Key to Aphidiinae species (Females) of Hormozgan province

1. Forewing with seven closed cells. Forewing 2/RS present and well developed (Figs 9, 10). ……**2**

-. Forewing with four closed cells or fewer. Forewing 2/RS absent (Figs 1–8, 11–14). **3**

2. Forewing 3RSa vein distinctly shorter than 2RS vein (Fig. 9). Petiole less than 1.5X as long as wide (Figs. 34). Ovipositor sheath stout (Fig. 47). ……... ……***Ephedrus persicae*** Froggatt

-. Forewing 3RSa vein subequal or distinctly longer than 2RS vein (Fig. 10). Petiole more than 2.0–2.2X as long as wide (Fig. 35). Ovipositor sheath elongated (Fig. 48). …….…… ….……***Ephedrus plagiator*** (Nees)

3. Forewing RS+M vein present, colourless, partially (Figs 12, 13). Notaulus complete. ……..……...**4**

-. Forewing RS+M vein absent (Figs 1–8). Notaulus incomplete, only visible in ascending part of mesonotum. **5**

4. Antennae 14–15-segmented. First flagellar segment I yellow. Lateral lobes of mesonotum with large hairless areas. Forewing m-cu coloureless partially or completely effaced (Fig. 12). Stigma narrow, 3.6–4.2X as long as wide. Dorsal aspect of propodeum covered with very long hairs (Fig. 25). Ovipositor sheath stout, rounded at apex (Fig. 50). ……. ……..……..…… ***Praon necans*** Mackauer

-. Antennae 17–18(19)-segmented. First flagellar segment brown, only yellowish at base. Lateral lobes of mesonotum densely pubescent. Forewing m-cu complete and coloured throughout (Fig. 13). Stigma thickened, 3.3–3.5X as long as wide. Dorsal aspect of propodeum covered with short hairs (Fig. 26). Ovipositor sheath elongated, pointed at apex (Fig. 51). … ***Praon volucre*** (Haliday)

5. Terminal metasomal sternum with a pair of prongs (Figs 45, 52). ….……**6**

-. Terminal metasomal sternum without prongs (Figs 38–44, 46, 49). ....……**7**

6. Petiole with primary and secondary tubercles (Fig. 33). Ovipositor sheath rounded apically. Prongs with a pair of simple bristles at apex (Fig. 45). …… ..……..….***Binodoxys angelicae*** (Haliday)

-. Petiole with only primary tubercles (Fig. 37). Ovipositor sheath slightly pointed apically. Prongs with single claw shaped bristle (Fig. 52). ……. ……. ***Trioxys complanatus*** Quilis

7. Dorsal aspect of propodeum smooth (Fig. 24). Petiole sub-triangular (Fig. 36). Ovipositor sheath sub-triangular, pointed at apex (Fig. 49). ……..… ……...***Lysiphlebus fabarum*** (Marshall)

-. Dorsal aspect of propodeum carinated, areola complete or incomplete (Figs 15–21). Ovipositor sheath sub-quadrate, truncated at apex (Figs 38–44, 46). ....…**8**

8. Forewing r-m and M+m-cu veins absent (Fig. 8). ….***Diaeretiella rapae*** (M'Intosh)

-. Forewing r-m vein present, M+m-cu complete (Figs 1–7). …….……**9**

9. Anterolateral area of petiole rugose (Fig. 28). ..……..… ***Aphidius ervi*** Haliday

-. Anterolateral area of petiole costate (Figs 27, 30), or costulate (Figs 29, 31, 32). ……...…**10**

10. Anterolateral area of petiole costate (Figs 27, 30). …….……**11**

-. Anterolateral area of petiole costulate (Figs 29, 31, 32). …..……..…**12**

11. Antenna 17–18-segmented. Labial palpus with three palpomeres. ……..……..… …….. ***Aphidius avenae*** Haliday

-. Antenna 15–16-segmented. Labial palpus with two palpomers. ……..…… ……..… ***Aphidius platensis*** Brèthes

12. Antennae 14–15-segmented. Maxillary palpus with 3 palpomeres, if one palpus is with 4 palpomeres then the last palpomere indicate trace of two segments. ……..***Aphidius matricariae*** Haliday

-. Antennae with more than 16 segments. Maxillary palpus clearly 4-segmented. ……**13**

13. Antenna 19–20-segmented. ……..…… …***Aphidius smithi*** Sharma & Subba Rao

-. Antenna 16–17-segmenetd. ……..…**14**

14. Forewing stigma vein elongate triangular, 3.30–3.90X as long as wide (Fig. 5). Anterolateral aspect with 10–12 straight costulae extended over posterior half (Fig. 31). ……..……... …….***Aphidius rhopalosiphi*** De Stefani

-. Forewing stigma vein widely triangular, 2.80–3.10X as long as wide (Fig. 7). Anterolateral area with aspect with 10–14 curved costulae, limited to the anterior half (Fig. 32). ….……..…….. …… ***Aphidius uzbekistanicus*** Luzhetzki

Genus: ***Aphidius*** **Nees,1819**

Aphidius avenae **Haliday 1834**

Material examined: Iran, Hormozgan province, Zakin, Bahne (27°51′51.50″ N, 56°18′34.17″ E, 1630 m a.s.l), 27-05-2014, 3♀, Leg.: A. Ameri.

Distribution in Iran: Fars (Farahani et al., 2016).

General distribution: Holarctic, Oriental.

Aphidius ervi **Haliday, 1834**

Material examined: Iran, Hormozgan province, Haji Abad, Tezerj (27°17′51.81″ N, 55°45′14.76″ E, 867 m a.s.l.), 17-08-2014, 3♀, 04-09-2014, 3♀, 17-09-2015, 3♀, A. Ameri leg; Roodan, Faryab (27° 28′ 5.32″ N, 57° 4′25.42″E, 313 m a.s.l), 17-09-2104, 1♀, A. Ameri leg; Bandar Abbas (27°51′51.50″ N,

56°18′34.17″ E, 1630 m a.s.l.0), 01-06-2014, 1♀, 10-06-2013, 1♀; Leg.: A. Ameri.Zakin 1♀; Bandar Abbas, Geno (27°28′53.23″ N, 56°18′27.03″ E, 680 m a.s.l.), 25-05-2014, 1♀; Leg.: A. Ameri.

Distribution in Iran: Kermanshah, Qazvin, Tehran (Farahani et al., 2016).

General distribution: Cosmopolitan.

Aphidius matricariae Haliday, 1834

Material examined: Roodan, Farayab (27° 28′ 5.32″ N, 57° 4′25.42″E, 313 m a.s.l), 06-04-2103, 2♀,1♂, Leg.: A. Ameri.

Distribution in Iran: Alborz, Fars, Hamadan, Isfahan, Kerman, North Khorasan, Khuzestan, Tehran, Zanjan (Farahani et al., 2016).

General distribution: Cosmopolitan.

Aphidius platensis Brethes, 1913

Material examined: Queshm island, Ramkan (26°52′25.27″ N, 56°01′7.33″ E, 34 m a.s.l.), 24.05.2015, 2♀, Leg.: A. Ameri.

Distribution in Iran: Qazvin, Sistan & Baluchestan, Fars, Tehran, Alborz, Golestan, Qom, Kermanshah, Kordestan, Isfahan, North Khorasan, Khorasan-e Razavi, Khuzestan, Ilam (Farahani et al., 2016).

General distribution: Eastern Palaearctic (Middle East), Neotropical (Chile), Oriental.

Aphidius rhopalosiphi de Stefani-Perez, 1902

Material examined: Iran, Hormozgan province, Haji Abad, Tezerj (27°17′51.81″ N, 55°45′14.76″ E, 867 m a.s.l.), 02-05-2014, 1♀; Bandar abbas, Zakin (27°51′51.50″ N, 56°18′34.17″ E, 1630 m a.s.l), 30-03-2013, 1♀, 1♂; Zakin, Bahne (27°53′7.32″ N, 56°19′58.34″ E, 1020 m), 12.04.2013, 1♀; Roodan, Rahbari (27°28′57.28″ N, 57°05′29.28″ E, 312 m a.s.l.), 30-03-2013, 1♀, Leg.: A. Ameri.

Distribution in Iran: Fars, Hamadan, Kermanshah, Isfahan, Markazi, Qom, Golestan, Khorasan-e Razavi, Kordestan, Khuzestan, Sistan-o Baluchestan (Farahani et al., 2016).

General distribution: Holarctic, Neotropical, Oceanic, Oriental.

Aphidius smithi Sharma & Subba Rao, 1959

Material examined: Iran, Hormozgan province, Roodan, Rahbari (27°28′57.28″ N, 57°05′29.28″ E, 312 m a.s.l.), 30-03-2013, 10♀, 12 ♂; Haji Abad, Tezerj (27°17′51.81″ N, 55°45′14.76″ E, 867 m a.s.l.), 26-05-2013, 18♀, 4♂, 24-04-2013, 2♀, 6♂; Bandar abbas, Zakin (27° 28′ 53.23″ N, 56° 18′ 27.03″ E, 680 m a.s.l), 19-07-2013, 1♀, 18-04-2013, 2♀; Bandar abbas, Banglayan (27°28′53.23″ N, 56°18′27.03″ E, 685 m a.s.l.), 01-04-2013, 1♀; Bandar Abbas, Geno (27°28′53.23″ N, 56°18′27.03″ E, 680 m a.s.l.), 13-03-2014, 2♀; Leg.: A. Ameri.

Distribution in Iran: Alborz, Fars, Guilan, Hamadan, Kermanshah, Kordestan, Isfahan, Kerman, North Khorasan, Sistan-o Baluchestan (Farahani et al., 2016).

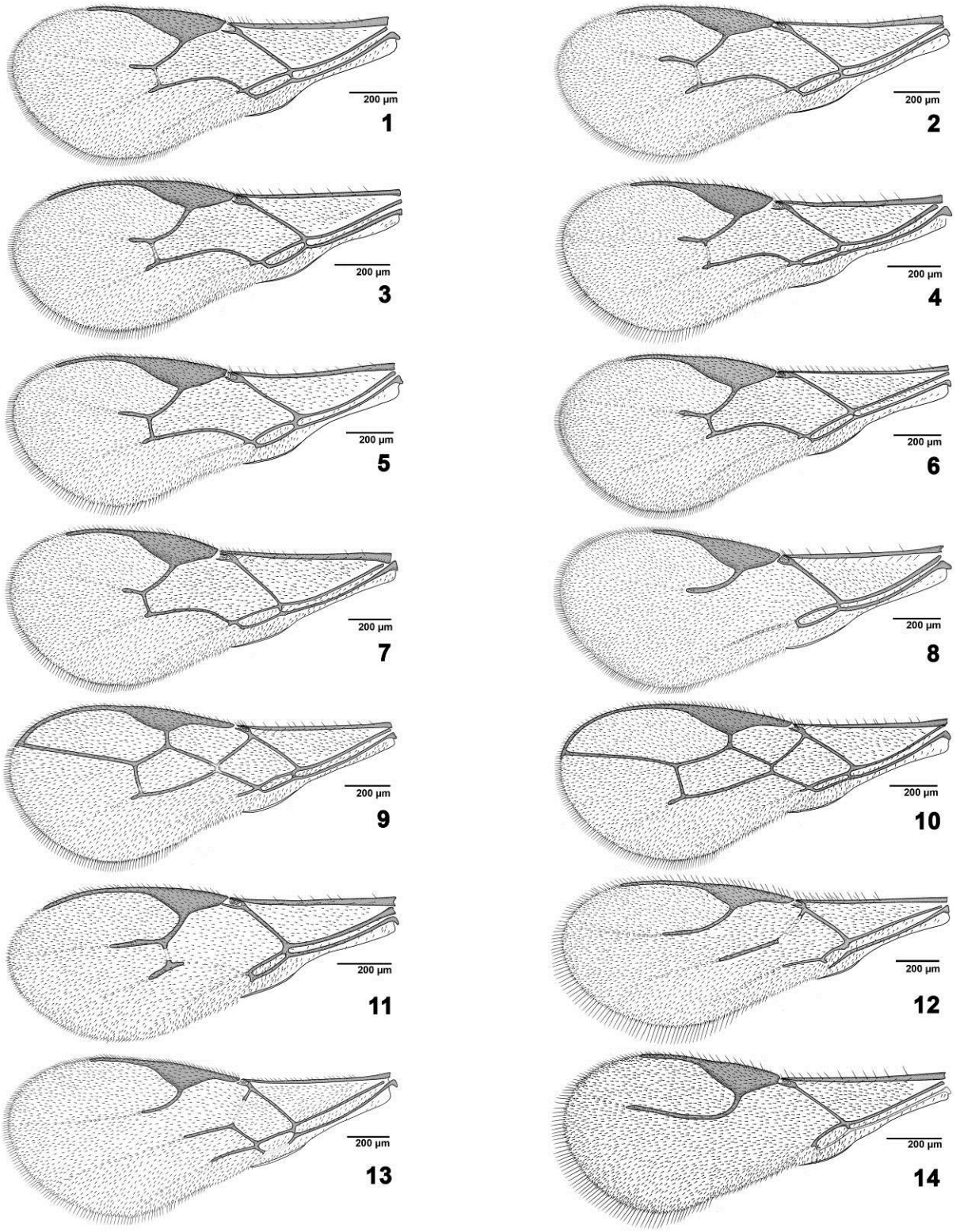
General distribution: Australasian, Holarctic, Neotropical, Oceanic, Oriental.

Aphidius uzbekistanicus Luzhetzki, 1960

Material examined: Iran, Hormozgan province, Zakin (27°28′53.23″ N, 56°18′27.03″ E, 680 m a.s.l), 28-03-2013, 2♀, 18-07-2015, 3♀; Bandar Abbas, Geno (27°28′53.23″ N, 56°18′27.03″ E, 680 m a.s.l.), 25-05-2014, 1♂; Haji Abad, Tezerj (27°17′51.81″ N, 55°45′14.76″ E, 867 m a.s.l.), 25-04-2014, 4♀; Leg.: A. Ameri.

Distribution in Iran: Alborz, Fars, Golestan, Hamadan, Khuzestan, Qom, Isfahan, Kermanshah, North Khorasan, Khorasan-e Razavi, Kordestan, Markazi, Mazandaran, Sistan-o Baluchestan, Tehran (Farahani et al., 2016).

General distribution: Holarctic, Neotropical, Oriental.



Figures 1–14. Forewing (female): **1.** *Aphidius avenae*; **2.** *Aphidius ervi*; **3**. *Aphidius matricariae*; **4.** *Aphidius platensis*; **5.** *Aphidius rhopalosiphi*; **6.** *Aphidius smithi*; **7.** *Aphidius uzbekistanicus*; **8.** *Diaeretiella rapae*; **9.** *Ephedrus persicae*; **10.** *Ehedrus plagiator*; **11.** *Lysiphlebus fabarum*; **12.** *Praon necans*; **13.** *Praon volucre*; **14.** *Trioxys complanatus*.

Genus *Binodoxys* Mackauer, 1960

***Binodoxys angelicae* (Haliday, 1833)**

Material examined: Iran, Hormozgan province, Bandar abbas, Banglayan (27°28′53.23″ N, 56°18′27.03″ E, 685 m a.s.l.), 27-04-2013, 2♀; Leg.: A. Ameri.

Distribution in Iran: Kermanshah, Khorasan-e Razavi (Farahani et al., 2016).

General distribution: Palaearctics, Oriental.

Genus: *Diaeretiella* Starý, 1960

***Diaeretiella rapae* (Curtis, 1860)**

Material examined: Iran, Hormozgan province, Haji Abad, Tezerj (27°17′51.81″ N, 55°45′14.76″ E, 867 m a.s.l.), 26-04-2014, 11♀, 1♂, 27.02.2014, 1♀; Zakin (27°28′53.23″ N, 56°18′27.03″ E, 680 m), 18-07-2015, 2♀; Leg.: A. Ameri.

Distribution in Iran: Alborz, Fars, Golestan, Kordestan, Hamadan, Guilan, Semnan, Mazandaran, Isfahan, Kerman, Kermanshah, North Khorasan, Khorasan-e Razavi, Khuzestan, Markazi, Qom, Qazvin, Sistan-o Baluchestan, Tehran (Farahani et al., 2016).

General distribution: Cosmopolitan.

Genus: *Ephedrus* Haliday, 1833

***Ephedrus persicae* Froggatt, 1904**

Material examined: Iran, Hormozgan province, Zakin, Bahne (27°51′51.50″ N, 56°18′34.17″ E, 1630 m a.s.l), 12-05-2014, 3♀, 07-05-2014, 1♂; Roodan, Faryab (27° 28′ 5.32″ N, 57° 4′25.42″E, 313 m a.s.l), 17-09-2104, 1♀; Haji Abad, Tezerj (27°17′51.81″ N, 55°45′14.76″ E, 867 m a.s.l.), 19-03-2013, 1♀; Bandar abbas, Banglayan (27°28′53.23″ N, 56°18′27.03″ E, 685 m a.s.l.), 06-04-2013, 1♀; Queshm island, Ramkan (26°52′25.27″ N, 56°01′7.33″ E, 34 m a.s.l.), 29-10-2013, 1♀, Leg.: A. Ameri.

Distribution in Iran: Alborz, Fars, Guilan, Kerman, Kermanshah, North Khorasan, Khorasan-e Razavi, Kordestan, Qazvin, Khuzestan, Markazi, Qom (Farahani et al., 2016).

General distribution: Cosmopolitan.

***Ephedrus plagiator* (Nees, 1811)**

Material examined: Iran, Hormozgan province, Minab, Goleshvar (27°58′30.57″ N, 56°59′53.55″ E, 14 m a.s.l.), 22-06-2013, 2♀, Leg.: A. Ameri.

Distribution in Iran: Alborz, Khorasan-e Razavi, East Azarbaijan, Golestan, Guilan, Isfahan, Khuzestan, Sistan-o Baluchestan, Tehran (Farahani et al., 2016).

General distribution: Australasian, Eastern and Western Palaearctics, Neotropical. Oceanic, Oriental.

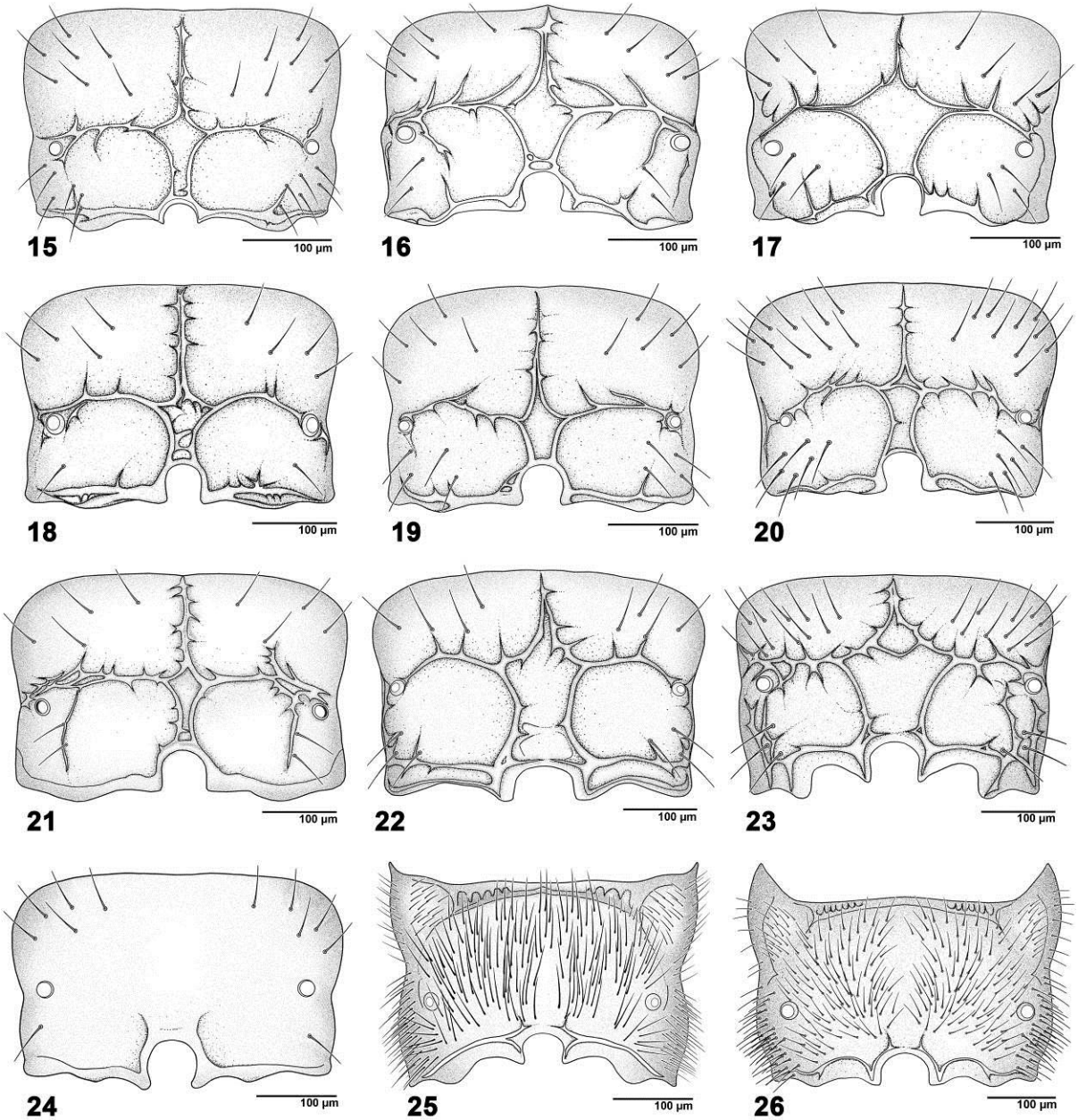
Genus: *Lysiphlebus* Förster, 1862

***Lysiphlebus fabarum* (Marshall, 1896)**

Material examined: Iran, Hormozgan province, Zakin, Bahne (27°51′51.50″ N, 56°18′34.17″ E, 1630 m a.s.l), 31-03-2013, 1♂, 15-02-2013, 1♀, 27-04-2013, 1♀; Roodan, Faryab (27° 28′ 5.32″ N, 57° 4′25.42″E, 313 m a.s.l), 12.05.2103, 1♀, 27.04.2103, 1♀; Queshm island, Ramkan (26°52′25.27″ N, 56°01′7.33″ E, 34 m a.s.l.), 05.05.2015, 2♀, Leg.: A. Ameri.

Distribution in Iran: Alborz, East Azarbaijan, West Azarbaijan, Fars, Golestan, Guilan, Hamadan, Isfahan, Kerman, North Khorasan, Khorasan-e Razavi, Khuzestan, Kordestan, Mazandaran, Qazvin, Qom, Sistan-o Baluchestan, Tehran, Zanjan (Farahani et al., 2016).

General distribution: Australasian, Palaearctic, Oceanic, Oriental.



Figures 15–26. Dorsal aspect of propodeum (female): **15.** *Aphidius avenae*; **16.** *Aphidius matricariae*; **17.** *Aphidius platensis*; **18.** *Aphidius rhopalosiphi*; **19.** *Aphidius smithi*; **20.** *Aphidius uzbekistanicus*; **21.** *Diaeretiella rapae*; **22.** *Ephedrus persicae*; **23.** *Ehedrus plagiator*; **24.** *Lysiphlebus fabarum*; **25.** *Praon necans*; **26.** *Praon volucre*.

Genus: *Praon* Haliday, 1833

***Praon necans* Mackauar, 1959**

Material examined: Iran, Hormozgan province, Zakin (27°51′51.50″ N, 56°18′34.17″ E, 1630 m a.s.l), 06-04-2103, 1♂, Roodan, Faryab (27° 28′ 5.32″ N, 57° 4′25.42″E, 313 m a.s.l), 11-05-2103, 13♀, 06-04-2103, 2♀, Haji Abad, Tezerj (27°17′51.81″ N, 55°45′14.76″ E, 867 m a.s.l.), 15-05-2013, 2♀, 11-05-2013, 2♀, 26-06-2013, 2♀, Queshm island, Ramkan (26°52′25.27″ N, 56°01′7.33″ E, 34 m a.s.l.), 21.02.2013, 1♀, Leg.: A. Ameri.

Distribution in Iran: Kermanshah, Khuzestan (Farahani et al., 2016).

General distribution: Eastern and Western Palaearctics, Oriental.

***Praon volucre* (Haliday, 1833)**

Material examined: Iran, Hormozgan province, Geno (27°28′53.23″ N, 56°18′27.03″ E, 680 m a.s.l.), 05-04-2013, 1♂; Roodan, Faryab (27° 28′ 5.32″ N, 57° 4′25.42″E, 313 m a.s.l) 06-04-2103, 1♀, 11-05-2103, 3♀,1♂; Queshm island, Ramkan (26°52′25.27″ N, 56°01′7.33″ E, 34 m a.s.l.), 22.04.2013, 2♀, Haji Abad, Tezerj (27°17′51.81″ N, 55°45′14.76″ E, 867 m a.s.l) Leg.: A. Ameri.

Distribution in Iran: Alborz, West Azarbaijan, Fars, Golestan, Hamadan, Isfahan, Kerman, Kermanshah, Khorasan-e Razavi, North Khorasan, Kordestan, Markazi, Qom, Qazvin, Sistan-o Baluchestan, Tehran, Zanjan (Farahani et al., 2016).

General distribution: Eastern and Western Palearctic, Neotropical, Oriental.

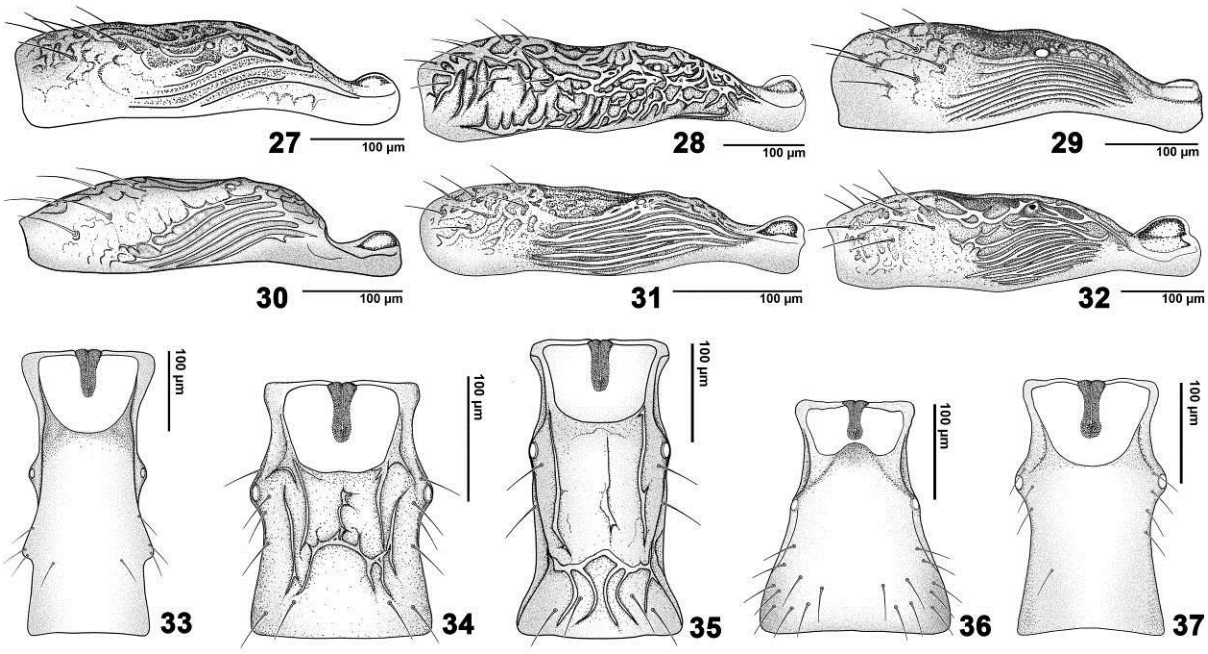
Genus: *Trioxys* Haliday 1833

***Trioxys complanatus* Quilis, 1931**

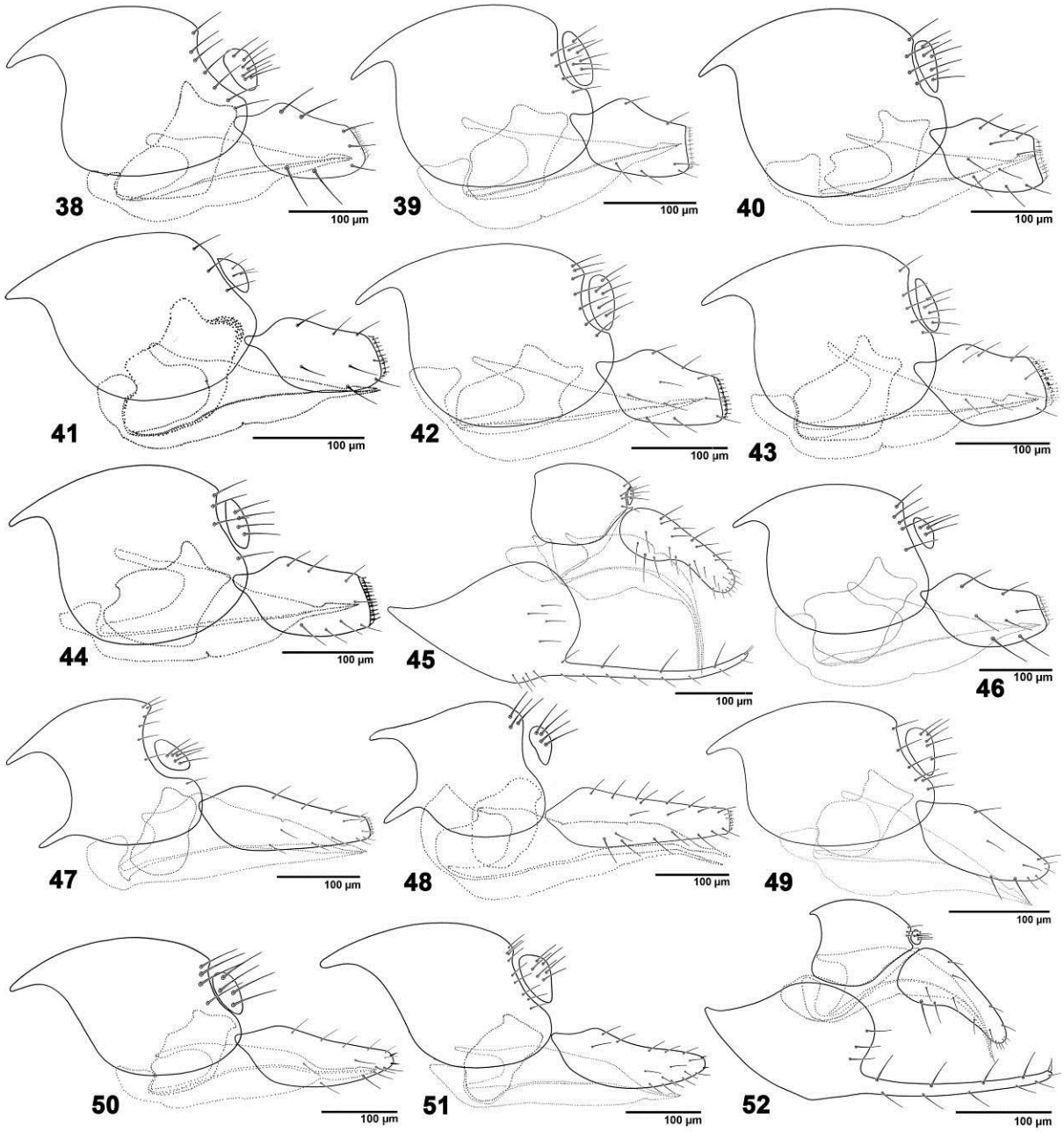
Material examined: Iran, Hormozgan province, Haji Abad, Tezerj (27°17′51.81″ N, 55°45′14.76″ E, 867 m a.s.l.), 26-04-2013, 1♀; Zakin (27° 28′ 53.23″ N, 56° 18′ 27.03″ E, 680 m a.s.l.), 26-04-2013, 1♀, 1♂; Leg.: A. Ameri.

Distribution in Iran: Markazi, Qazvin, Semnan, Sistan-o Baluchestan, Zanjan, West Azarbaijan, Isfahan, Kerman, Hamadan, Kermanshah, Kordestan, North Khorasan, Tehran (Farahani et al., 2016).

General distribution: Cosmopolitan.



Figures 27–38. Petiole (female): 27–32. Antero-lateral aspect: **27.** *Aphidius avenae*; **28.** *Aphidius ervi*; **29.** *Aphidius matricariae*; **30.** *Aphidius platensis*; **31.** *Aphidius rhopalosiphi*; **32.** *Aphidius uzbekistanicus*; 33–38. Dorsal aspect: **33.** *Binodoxys angelicae*; **34.** *Ephedrus persicae*; **35.** *Ehedrus plagiator*; **36.** *Lysiphlebus fabarum*; **37.** *Trioxys complanatus*.



Figures 38–39. Lateral aspect of female genitalia: **38.** *Aphidius avenae*; **39.** *Aphidius ervi*; **40.** *Aphidius matricariae*; **41.** *Aphidius platensis*; **42.** *Aphidius rhopalosiphi*; **43.** *Aphidius smithi*; **44.** *Aphidius uzbekistanicus*; **45.** *Binodoxys acalephae*; **46.** *Diaeretiella rapae*; **47.** *Ephedrus persicae*; **48.** *Ehedrus plagiator*; **49.** *Lysiphlebus fabarum*; **50.** *Praon necans*; **51.** *Praon volucre*; **52.** *Trioxys complanatus*.

Discussion

The present study is the first taxonomic work of the subfamily Aphidiinae (Hymenoptera: Braconidae) in Hormozgan province. The previous faunistic studies on Iranian Aphidiinae have been conducted in northern, north-western and central parts of Iran (Farahani et al., 2016). The Aphidiinae fauna in this region consists of fiftheen species belonging to seven genera. Majority of the recorded species are widely distributed in the Western and also in the Eastern Palaearctic regions. The whole complex of aphid parasitoids in Hormozgan province represents well known and widely distributed species in south and southeastern part of the country (Barahoei et al., 2013; Taheri & Rakhshani, 2013). A single species, *Praon necans*, as a parasitoid of aphids occurring in wetlands, has recently been recorded from western provices (Nazari et al. 2012).

Most of the species are numerous and abundant in various ecosystems (Nazari et al., 2012; Alikhani et al., 2013; Rakhshani et al., 2013). Several species like *A. matricariae*, *A. colemani*, *L. fabarum*, *E. persicae*, *P. volucre* and *D. rapae* were found in associations with more than 10 aphid species on various cultivated plants (Farahani et al., 2016). Furthermore many species of aphidiine wasps have been used in biological control programs and they play an important role in aphid population control, including the reduction in populations of these pests on different crop plants. Some biotypes of E. *persicae* have also been used as classical biocontrol agents, for example from Lebanon to California (Boivin et al., 2011; Mackauer & Starý, 1967; Rakhshani et al., 2015).

The diverse range of the vegetation and isolated nature of the Hormozgan province and its islands (Mozaffarian, 1991; Zaeifi, 2001), are two major reasons which provide a diversity hot spot for the parasitoids. Further faunistic research, as well as studies on the host association of subfamily Aphidiinae, is necessary to reveal the true diversity of this small group of insect parasitoids. However, some areas still remained unexplored in the Hormozgan province and Iranian islands of Persian Gulf (Parsian, Sirik, Senderk, Bashagard County and nature protected areas).

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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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مطالعه زیرخانوادهٔ Aphidiinae (Hym., Braconidae) در استان هرمزگان، جنوب ایران

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چکیــده: این تحقیق جهت شناسایی فون بال غشاییان زیرخانوادهٔ Aphidiinae (Hym., Braconidae) در استان هرمزگان انجام شد. نمونه‌ها با نصب تله‌های مالیز طی سال‌های ۱۳۹۴-۱۳۹۱ در اکوسیستم‌های مختلف جمع‌آوری شدند. در مجموع ۱۵ گونه متعلق به هفت جنس شامل *Aphidius* Nees, 1819 (هفت گونه)، *Diaeretiella* Starý, 1960 (یک گونه)، *Ephedrus* Haliday, 1833 (دو گونه)، *Binodoxys* Mackauer 1960 (یک گونه)، *Lysiphlebus* Förster, 1862 (یک گونه)، *Praon* Haliday, 1833 (دو گونه) و *Trioxys* Haliday, 1833 (یک گونه) شناسایی شدند. همه گونه‌ها برای اولین بار از استان هرمزگان گزارش می‌شوند. یک کلید مصور برای شناسایی گونه‌ها ارایه شد.

واژگــان کلیدی: پارازیتویید شته، فون، جنوب ایـران، گـزارش جدید