

<https://doi.org/10.25221/fee.355.2>

<http://urn:lsid:zoobank.org:pub:AA5889C1-1D16-4879-BA4C-342208865FCA>

FIRST RECORDS OF XYLOBIONTIC PACHYGASTRINAE (DIPERA: STRATIOMYIDAE) FROM IRAN

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Summary. The subfamily Pachygasterinae, the genus *Pachygaster* Meigen, 1803 and two species, *P. atra* (Panzer, 1798) and *P. leachii* (Curtis, 1824), are newly recorded for Iran from Golestan province.

Key words: Diptera, Stratiomyidae, Pachygasterinae, fauna, new records, Iran.

Ф. Казерани, М. Е. Фарасиани. Первое указание ксилобионтных Pachygasterinae (Diptera: Stratiomyidae) из Ирана // Дальневосточный энтомолог. 2018. N 355. С. 13-17.

Резюме. Впервые для Ирана из провинции Голестан приводятся подсемейство Pachygasterinae, род *Pachygaster* Meigen, 1803 и два вида: *P. atra* (Panzer, 1798) и *P. leachii* (Curtis, 1824).

INTRODUCTION

Stratiomyid fauna of Iran has not been investigated very well; recently some studies have been done in northern parts of Iran (Kazerani & Khaghaninia, 2013; Khaghaninia & Kazerani, 2014; Kahghaninia *et al.*, 2015; Khaghaninia & Kazerani, 2016), but fauna in southern parts of Iran has been remain unknown. Pachygastrinae is a large subfamily in family Stratiomyidae that has about 600 described species in 176 genera worldwide (Woodley, 2001, 2011). This subfamily is mainly distributed in the Australian (about 200 species), Neotropical (about 130 species), Oriental (about 100 species) and Afrotropical (about 100 species) Regions. So far about 47 species in 20 genera have been found in the Palearctic Region (Woodley, 2001; Krivosheina & Rozkošný, 1985; Rozkošný & Nartshuk, 1988; Krivosheina, 2004; Krivosheina & Freidberg 2004; Woodley, 2011). Krivosheina (1977) studied 11 genera of the Palaearctic Pachygasterinae with larvae inhabiting decaying wood that were found in the former USSR. Krivosheina (2004) reviewed of the stratiomyid genera *Neopachygaster* Austen, *Eupachygaster* Kertész and *Pachygaster* from Russia and neighboring countries. Dubrovsky (2004) studied fauna of Pachygasterinae in Ukraine. Three species of subfamily Pachygasterinae have been recorded from Turkey and two species have been found in Azerbaijan.

Larvae of Pachygastrinae are described for only 48 species and they are gregarious and generally found under the bark of dead or decaying trees, rarely also in soil, at roots of plants, in decaying remains of vegetation and apparently feed on fermenting sap, fungus spores or decay-producing microorganisms (Teskey, 1976; Krivosheina, 1977).

MATERIAL AND METHODS

The specimens have been collected by standard insect net and pan traps from Shast-Kola Beech forests in Golestan province of Iran in 2017. The identifications were done using Krivosheina (2004). Pinned specimens were photographed using a 650D Canon digital camera. The specimens are deposited in the conservation and protection Insect collection, Tehran, Iran.

NEW RECORDS

Subfamily Pachygasterinae

Genus *Pachygaster* Meigen, 1803

Pachygaster atra (Panzer, 1798)

Figs 1–10

MATERIAL EXAMINED. **Iran:** Golestan province, Shast-Kola forests, 36°44'10" N, 54°24'19" E, 838 m, pan traps, 12.VIII 2017, 2♂, 3♀; Shast-Kola forests, 36°42'9" N, 54°21'18" E, 793 m, sweeping net, 12.VIII 2017, 2♀ (leg. F. Kazerani).

DIAGNOSTIC CHARACTERS. Antenna in male black (Figs. 5, 6), in female yellow (Figs. 7, 8); occiput behind eyes (lateral view) broad in female (Figs. 7, 8), female eyes distance wide (Fig. 8); wings darkened in basal half (Fig. 2 a-d), femora and tarsi black in both sex (Fig. 2 a & c), tibia yellow in female (Figs. 1–4), tibia slightly darkened in male (Fig. 1); male genitalia as in (Fig. 10), male cerci simple (Fig. 9).

DISTRIBUTION. Widespread in Western Palearctic Region, in the Northern Caucasus and Turkey (Rozkošný, 1983; Woodley, 2001; Krivosheina, 2004; Üstüner, 2012).

NOTES. Dubrovsky (2004) found larvae of *P. atra* under the decaying bark of many deciduous trees and also in the rotting leaves in forests of Ukraine.

Pachygaster leachii (Curtis, 1824)

Figs 11–20

MATERIAL EXAMINED. **Iran:** Golestan province, Shast-Kola forests, 36°44'12" N, 54°24'15"E, 814 m, pan traps, 10.VI 2017, 5♂, 4♀; Shast-Kola forests, 36°43'10" N, 54°24'17" E, 817 m, sweeping net, 10.VI 2017, 2♀; Shast-Kola forests, 36°43'00.7" N 54°23'13.7" E, 1271 m, pan traps, 12.VIII 2017, 6♀ (leg. F. Kazerani).

DIAGNOSTIC CHARACTERS. Antenna in both sex yellow (Figs. 15, 17); frons shining (Fig. 18); occiput behind eyes (lateral view) not broad in female (Figs. 17, 18), female eyes distance moderately wide (Fig. 18); wings transparent throughout length (Figs. 11–14); legs totally yellow (Figs. 11, 13); male genitalia as in (Fig. 20), male cerci bilobed (Fig. 19).

DISTRIBUTION. Throughout Europe, Azerbaijan and Ukraine (Rozkošný, 1983; Woodley, 2001; Dubrovsky, 2004; Krivosheina, 2004).

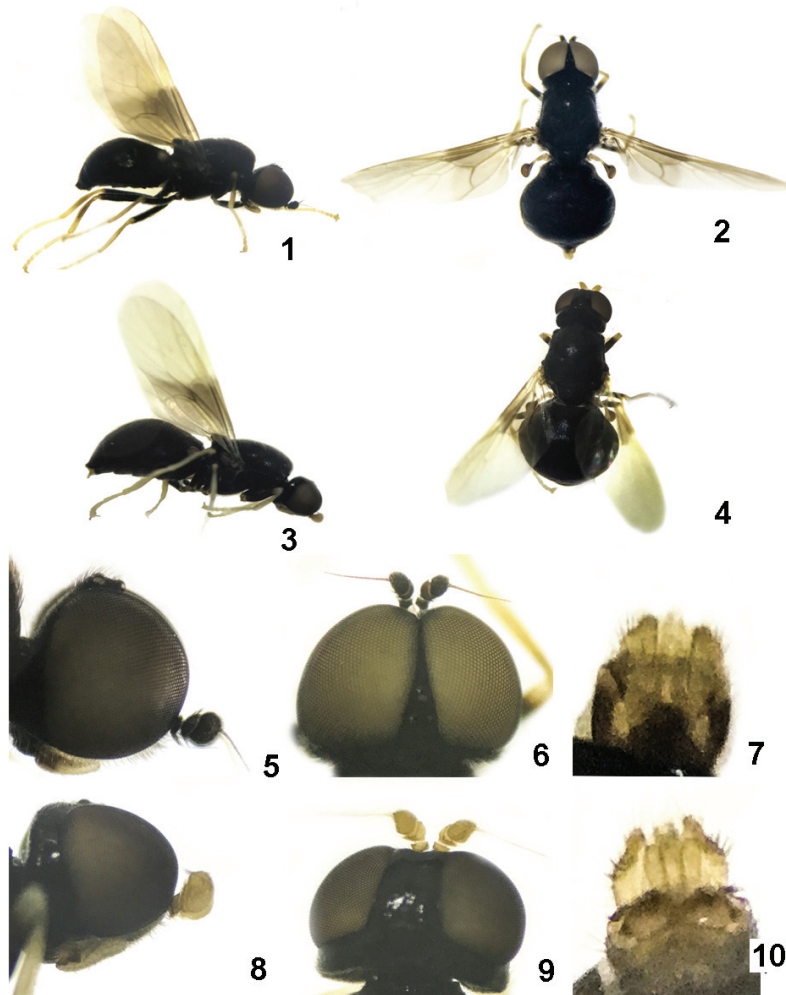
NOTES. Dubrovsky (2004) mentioned that larva of *P. leachii* have been found in *Boletus* (a genus of fungus) and in oak rotten wood.

DISCUSSION

This is first investigation of the subfamily Pachygasterinae in Iran. As our focus was on saproxylic diptera, so we put pan traps close to deciduous trees (mostly fagus), also we collected

flies by direct observing and swiping net. We found *Pachygaster atra* and *P. leachii* in yellow pan traps close to rotting wood or decaying leaves. Dubrovsky (2004) stated that in Ukraine adult appearance of *P. atra* and *P. leachii* is between May – August and June – August respectively, we collected *P. atra* in August and *P. leachii* in June and August.

These results show that flight period of both species is similar to Europe. There are some studies in adjacent countries on this subfamily also, so that 3 species, *Eupachygaster tarsalis* (Zetterstedt, 1842), *Pachygaster emerita* (Krivosheina et Freidberg, 2004) and *P. atra* from



Figs. 1–10. *Pachygaster atra* (Panzer, 1798). 1 – male habitus, lateral view; 2 – same, dorsal view; 3 – female habitus, lateral view; 4 – same, dorsal view; 5 – male head, lateral view; 6 – same, dorsal view; 7 – female head, lateral view; 8 – same, dorsal view; 9 – cerci, dorsal view; 10 – male genitalia, ventral view.

Turkey and 2 species (*P. leachii* and *E. tarsalis*) have been found in Azerbaijan. *Eupachygaster tarsalis* is very probable to be found in Iran, especially northwest parts. *Pachygaster emerita* is also another species that can be found in Iran.



Figs. 11–20. *Pachygaster leachii* (Curtis, 1824). 11 – male habitus, lateral view; 12 – same, dorsal view; 13 – female habitus, lateral view; 14 – same, dorsal view; 15 – male head, lateral view; 16 – same, dorsal view; 17 – female head, lateral view; 18 – same, dorsal view; 19 – cerci, dorsal view; 20 – male genitalia, ventral view.

ACKNOWLEDGEMENTS

We would like to thank Research Institute of Forests and Rangelands, Tehran, Iran for providing financial support for this research. Our cordial thanks are expressed to Dr. Samira Farahani (Research Institute of Forests and Rangelands, Tehran, Iran) who kindly help us in the collection of specimens which were studied in this research.

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