

Contribution to the knowledge of the Asilidae (Diptera: Brachycera) from Fars Province (Iran)

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A list of 27 species of Asilidae belonging to 6 subfamilies, 21 genera collected, in the vicinity of Shiraz in the Fars province (southwest of Iran) is given. Three new species, namely *Paramochtherus persicus*, *Andrenosoma farsicola*, *Stenopogon shirazi* and a new subspecies *Aneomochtherus ochriventris persicus* are described. The male genitalia of the described species and those of *Philodicus spectabilis* Loew 1871 are illustrated. *Polysarcodes moestes* Paramonov 1937 is recorded in the Iranian fauna and four species are recorded in the Fars province, *Aneomochtherus perplexus* (Becker 1923), *Philonicus albiceps* (Meigen 1820), *Molobratia teutonius* Linné 1767 and *Ancylorrhynchus argyrogaster* (Séguy 1932).

Keywords: Iran, Asilidae, distribution, new species, new subspecies.

Une liste de 27 espèces d'Asilidae appartenant à six sous-familles et 21 genres collectés dans le voisinage de Shiraz est fournie (province de Fars au Sud-ouest de l'Iran). Trois nouvelles espèces, *Paramochtherus persicus*, *Andrenosoma farsicola* et *Stenopogon shirazi* ainsi qu'une nouvelle sous-espèce *Aneomochtherus ochriventris persicus* sont décrites. Les illustrations des genitalia mâles des espèces nouvelles sont présentées et ceux de *Philodicus spectabilis* Loew 1871 sont illustrés pour la première fois. L'espèce *Polysarcodes moestes* Paramonov 1937 est nouvelle pour l'Iran et quatre espèces sont nouvelles pour la province de Fars, à savoir *Aneomochtherus perplexus* (Becker 1923), *Philonicus albiceps* (Meigen 1820), *Molobratia teutonius* Linné 1767 et *Ancylorrhynchus argyrogaster* (Séguy 1932).

Mots-clés: Iran, Asilidae, distribution, nouvelles espèces, nouvelle sous-espèce.

1. INTRODUCTION

The robber flies are included in the Asilidae (Brachycera), with 7,029 species (Geller-Grimm, 2008) belonging to 518 genera (Geller-Grimm, 2003) distributed throughout the world. Records of preys taken by robber flies indicate that they are often opportunistic predators, feeding upon any insect that they can catch. The majority of the larvae live in soil but those of the Laphriinae and Laphystiinae occur in decaying logs and stumps, where they feed on larvae and pupae of other insects (Geller-Grimm, 2002). Even if many entomologists ignored their role in the past (Lehr, 1958), several recent studies have been dedicated to the predation of Asilidae (Londt 1993, 1995, 2006).

Investigations on Asilidae in Iran are strongly restricted and have been conducted principally by foreign researchers. Portschinsky (1873) described 2 new species, followed by Bigot (1880), Hermann (1905), Becker and Stein (1913), Engel (1930), Oldroyd (1958), Janssens (1961), Abbassian-Lintzen (1964a, b), Tsacas (1968) and Theodor (1980) that contributed to the knowledge of Iranian fauna. More recently Timon-David (1955), Geller-Grimm & Hradsky (1999), Tomasovic (1999a, 2002) have described some new species. Nowadays 237 species were described to live in Iran (Lehr *et al.*, 2007; Ghahari *et al.*, 2007a, b; Hayat *et al.*, 2008; Saghaei *et al.* 2008).

Papers by Abbassian-Lintzen (1964a), Lehr *et al.* (2007), Ghahari *et al.* (2007b) and Hayat *et al.* (2008) constitute few faunistic reports on

Asilidae of the Fars province, but none of them focused specifically on the species from this area.

2. MATERIAL AND METHODS

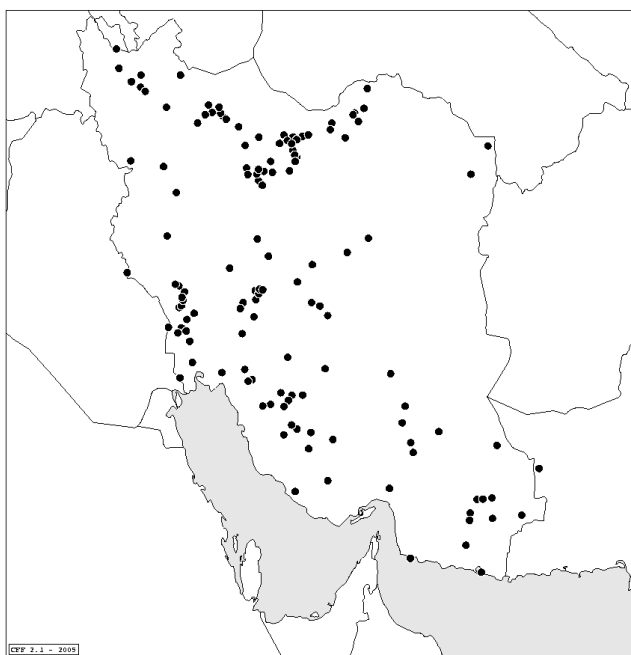
The specimens are issued from several collection trips realized by Saghaei at different localities in the Fars province (2006-2008) and determined by the first author.

The mapping was realized with Carto Fauna Flora 2.0 (Barbier and Rasmont, 2000). Data were gathered from the literature of Oldroyd (1958), Abassian-Lintzen (1965a & b), Ghahari *et al.* (2007), Lehr *et al.* (2007) and collected specimens preserved in the collections of Gembloux Agro-Bio Tech (GxABT, Belgium) and the Royal Belgian Institute of Natural Sciences (IRSNB). The general distribution of the species was made with the references to Geller-Grimm (2008).

The whole material with the holotypes and paratypes has been deposited in the collections of Gembloux Agro-Bio Tech (GxABT, Belgium).

Cartography (map 1)

With 1107 occurrences, Asilidae, compiled in Carto Fauna Flora had a relatively good covering of the Iranian territory excepting the two large deserts, at northern *Dacht-é Kavir* (Great Salt Desert) and southeastern *Dacht-é Lut* (sandy rockery desert).



Map 1: Distribution of Asilidae compiled in Carto Fauna Flora from Iran

Area of the collection trips

Fars is located in southern Iran and the Fars nature reserve (coordinates 27°-31°N, 50°-55°E) occupies a surface of approximately 1,333,000 km², 12 % of which are occupied by oak and pistachio bushes. There are three distinct climatic regions in Fars: (1) the mountain area north and northwest, with moderate cold winters and mild summers, (2) the central region, with relatively rainy mild winters, and hot dry summers, (3) the south and southeast, with moderate winters and very hot summers (figures 1-3). The average temperature of Shiraz is 16.8 °C, ranging between 4.7° and 29.2°C. Places of catching, Simakan of Jahrom 28°19'-29°10' north 52°45'-54°4' are clay and rocky regions with low vegetation. In this area the majority of plants are locoweed (*Astragalus* spp.) and wild almond (*Amygdalus scoparia* Spach).

3. ASILIDAE COLLECTED IN 2007 AND 2008 IN FARS PROVINCE

Subfamily Apocleinae Papavero 1973.

Genus *Apoclea* Macquart 1838

On the 24 species of this genus, 4 are Oriental, 20 are Palaearctic and in the last 8 are known from Iran. The genus is absent from Western Europe.

Apoclea femoralis (Wiedemann 1828)

Studied material.- Dashte Arzhan, 1 ♂, iv.2007; Sarvastan, 1 ♂, 2.x.2007.

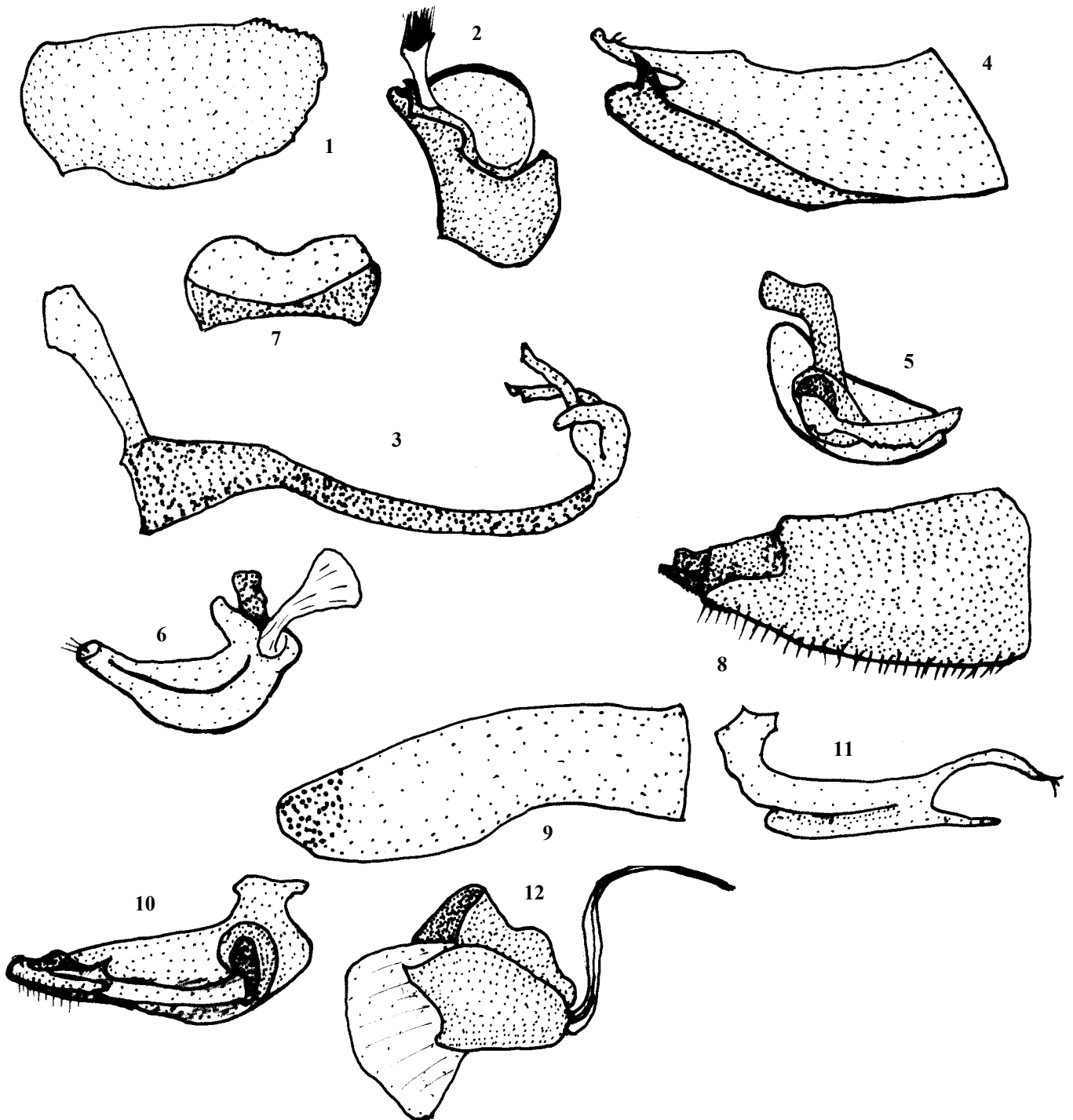
Genus *Philodicus* Loew 1847

On the 50 species of this genus 19 are Afrotropical, 1 Australian, 27 Oriental and 3 are Palaearctic. From Iran they are two species; *P. ponticus* (Bigot 1880) and *P. spectabilis* Loew 1871.

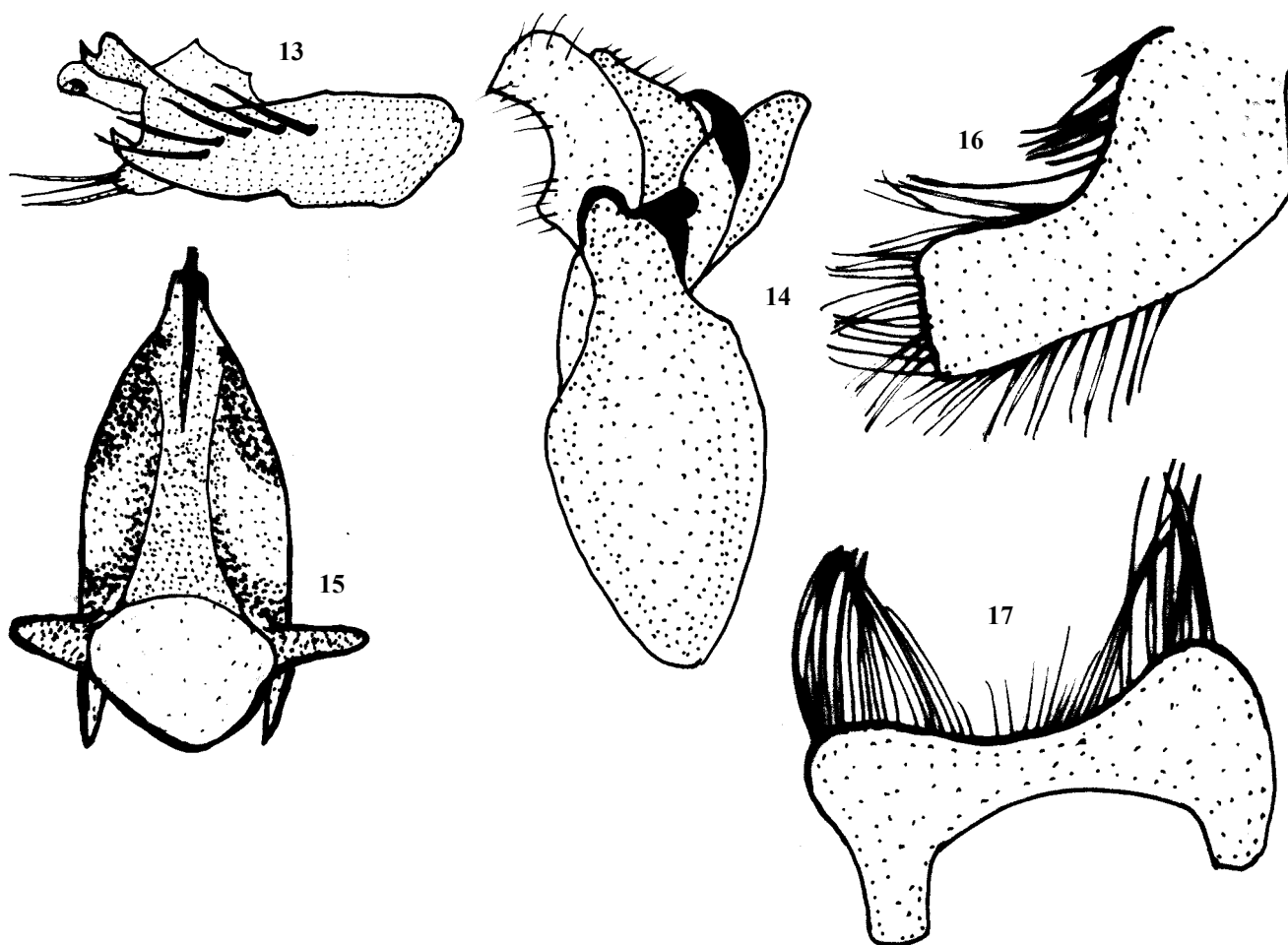
Philodicus ponticus (Bigot 1880)

The species is the most abundant in the material collected. The male genitalia were illustrated by Theodor (1980, fig. 490-494, p. 291).

Studied material.- Dashte Arzhan, 1 ♀, vii.2006; 1 ♂, 1 ♀, 2008; Jahrom, 1 ♀, 4.viii. 2007; 1 ♀, 7.ix.2007; 3 ♂, 2 ♀, 23.ix.2007; 1 ♂, 24.ix.2007; Kazeron, 2 ♀, 7.ix.2007; Kohmareh, 1 ♂, 1 ♀, 19.viii.2007, 3 ♂, 1 ♀, 2.vi.2008; Shiraz, 1 ♀, vii.2006, 1 ♀, 16.ix.2007, 4 ♂, 3 ♀, 5.xi.2007, 6 ♂, 2 ♀, 24.iv.2008, 2 ♂, 3 ♀, 29.iv.2008, 4 ♂, 8 ♀, 5.v.2008, 5 ♀, 18.v.2008; Zarghan, 1 ♀, 5.v.2007.



Figs. 1-12. 1: epandrium of *Philodicus spectabilis* Loew 1871; 2: gonocoxite and dististylus of *Philodicus spectabilis*; 3: aedeagus of *Philodicus spectabilis*; 4: epandrium of *Aneomochtherus ochriventris persicus* sp. n.; 5: gonocoxite and dististylus of *Aneomochtherus ochriventris persicus* sp. n.; 6: aedeagus of *Aneomochtherus ochriventris persicus* sp. n.; 7: hypandrium of *Aneomochtherus ochriventris persicus* sp. n.; 8: Ovipositor of *Aneomochtherus ochriventris persicus* sp. n.; 9: epandrium of *Paramochtherus persicus* sp. n.; 10: gonocoxite and dististylus of *Paramochtherus persicus* sp. n.; 11: aedeagus of *Paramochtherus persicus* sp. n.; 12: aedeagus of *Andrenosoma farsicola* sp. n.



Figs. 13-17. **13:** gonocoxite and dististylus of *Andrenosoma farsicola* sp. n.; **14:** gonocoxite and dististylus of *Stenopogon shirazi* sp. n.; **15:** aedeagus of *Stenopogon shirazi* sp. n.; **16:** epandrium of *Stenopogon shirazi* sp. n.; **17:** hypandrium of *Stenopogon shirazi* sp. n.

***Philodicus spectabilis* Loew 1871**(figs. 1-2-3)

It's the first time that the genitalia of this species were illustrated.

Dashte Arzhan: 1♀, viii.2006; Shiraz: 1♀, viii.2006; Zarghan: 1♀, v. 2007; Kazon: 1♂, 7.ix.2007.

Genus *Promachus* Loew 1848

The larvae of the species of *Promachus* feed on beetle larvae. Adults prey may be bee-keeping pests (Lehr, 1958).

The genus has 223 species all over the world and distributed among; 38% Afrotropical, 27 % Oriental, 15% Palearctic, 13% New World, 7% Australasian. In the 24 Palearctic species 4 were known from Iran.

***Promachus leoninus* Loew 1848**

This species was particularly densely hairy and yellowish.

Studied material.- Shiraz, 1♀, viii. 2006.

Subfamily Asilinae Latreille 1802

Genus *Aneomochtherus* Lehr 1996

The type species was *Neomochtherus mundus micrasiaticus* Tsacas, 1968 labelled from Asia Minor. The genus contained 64 species: 57 Palearctic, 6 Afrotropical and 1 Oriental.

In Iran 6 species were actually known (Hayat *et al.*, 2008).

***Aneomochtherus ochriventris ochriventris* (Loew 1854)** (figs. 4-5-6-7-8)

Holotype: ♂, Spain, Cartagena, Murcia

The species group of *A. ochriventris* (Loew 1854) contained 5 species and 3 subspecies of medium height, with yellow antennae and epandrium with an individual distinct dorsal tongue. They differed by some details in the genitalia and the coloration of habitus and chaetotaxy, their male genitalia were illustrated by Lehr (1996, p. 84) and by Tsacas (1968).

***Aneomochtherus ochriventris persicus* n. ssp.**

Studied material.- Holotype: 1♂, Iran, Fars, Jahrom, 19.iv.2008. Rec. Nazila Saghaei.

Allotype: 1♀, Iran, Fars, Jahrom, 19.iv.2008. Rec. Nazila Saghaei. Paratypes: 1♂, Iran, Fars, Jahrom, 19.iv.2008. Rec. Nazila Saghaei

Description.- Male. Long. 20 mm. Coloration yellow and reddish brown. Wings clear with darkish distal part. Legs yellow with yellow chaetotaxy.

Head: face with white tomentum. Mystax white. Antennae yellow with the style darkish. Scape and pedicel with short, fine white hairs, scape slightly longer than the pedicel, postpedicel shorter than the scape and the pedicel together. Style with two segments, the 1st very short, the 2nd longer than the postpedicel. Ocellar tubercle not projecting very small. Palpus brown with long and fine white hairs on the ½ basal parts. Proboscis black with long and fine white hairs on the half basal face ventral. Occiput with white tomentum, setae and hairs.

Thorax: Scutum with grey yellowish tomentum and two strips darker. Setae: 2 notopleurales, 1 supra-alar, 2 post-alar. Scutellum yellowish with white, fine hairs on the disc, 2 scutellar setae. Wings clear, microtrichia on the distal ¼. Legs yellow with yellow chaetotaxy. Tarsi with yellow and black setae.

Abdomen: yellowish with brown reddish spots at the centre all the setae and the hairs yellow. Tergites I-IV with apical and lateral setae. Sternites yellow orange with setae at the distal parts.

Male genitalia: Hypopygium reddish-brown with fine and short yellow hairs.

Female: similar to male. Ovipositor dark brown, large and relatively short with short, stiff black hair

Derivatio nominis.- The species is named after the region where it occurs.

***Aneomochtherus perplexus* (Becker 1923)**

The species was collected in Iran, Azerbaijan, Russia and Turkey. Tsacas (1968, p. 270) has illustrated the genitalia male and noted that it's probably a species from forest by opposition to the other species, inhabiting steppe or desert.

Studied material.- Kazeron, 2♂, 7.ix.2007.

Genus *Antiphrisson* Loew 1849

The species of *Antiphrisson* are inhabitants of areas with compact soils and lay eggs in the ground.

The genus with 30 species was solely Palaearctic, among them 25 were in Soviet Union and only one *A. adpressus* in Iran.

***Antiphrisson adpressus* (Loew 1849),**

Studied material.- Kazeron, 1♂, iv.2007; Shiraz, 1♀, vi.2006.

Genus *Erax* Scopoli 1763

The genus contained 27 species: 21 Palaearctic, 3 Afrotropical, 2 Australasian and 1 Oriental. One species *E. grootaerti* in Iran.

***Erax grootaerti* Tomasovic 2002**

Studied material.- Shiraz, 1♀, 5.v.2008.

Genus *Machimus* Loew 1849

The genus contained 181 species: 44% Palaearctic, 26% Oriental, 16% Nearctic, 9% Neotropical and 5% Afrotropical.

Four species: *M. aradensis* Theodor 1980; *M. idiorrhythmicus* Janssens 1960; *M. nahalalensis* Theodor 1980 and *M. rusticus* (Meigen 1820) are known from Fars province (Saghaei, 2008).

***Machimus rusticus* (Meigen 1820)**

Studied material.- Sarvastand, 1♂, 2.x.2007.

***Machimus* sp.**

Studied material.- Shiraz, 1♂, 1♀, 16.ix.2007; 1♂, 11.x.2007; Jahrom, 1♂, 16.ix.2007.

***Machimus* sp.**

Studied material.- Kazeron, 1♂, 7.ix.2007; Marvdasht, 2♂, 13.x.2007; Shiraz, 1♀, 16.ix.2007. The genitalia of these two species are very close to the species from Israel pictured by Theodor (1980).

Genus *philonicus* Loew 1849

The genus contained 22 species: 8 Palaearctic, 6 Nearctic, 4 Neotropical, 3 Oriental and 1 Afrotropical.

***Philonicus albiceps* (Meigen 1820)**

This species has a very large Palaearctic distribution. It is the sole species of Iranian Fauna. The species is psammophilous with a preference for the damp biotopes, sea sandy, bed river and torrents, on the sandy Musso (1978). Only two specimens were known from Iran: 1 female from Enzeli in 1930 and 1 male from Kordestan, Bijar, in 2003, Hayat *et al.* (2008).

Studied material.- Shiraz, 1♂, 5.xi.2007; Sarvastan, 1♀, 2.x.2007.

Genus *Paramochtherus* Theodor 1980

The genus contained four species: *P. fraternus* Theodor 1980 (Israel), *P. haubrugei* Tomasovic,

2005 (Tibet), *P. hierochonticus* Theodor, 1980 (Israel) and *P. tinctus* Theodor, 1980 (Israel).

***Paramochtherus persicus* n. sp.** (figs 9-10-11)

Materiel studied.- Holotype: 1♂, Kohmareh, 2.vi.2008. Paratypes: 2♀, Kohmareh, 2.vi.2008.

Description.- Male: long 15 mm. Coloration black greyish with white chaetotaxy. Wings clear at veins brown clear.

Head: chaetotaxy fully white. Face, frons, vertex and occiput with whitish tomentum. Antennae, scape and pedicel black of same length, pospedicel like the length of scape and pedicel together, style slightly shorter than the pospedicel. Proboscis black. Palpi black with long hairs.

Thorax: chaetotaxy fully white. Scutum covered with short hairs. Setae: 2 notopleurales, 2 supra-alars, 2 post-alars. Scutellum with long fine hairs on the disc, 2 scutellars setae. Pleurae with whitish tomentum, anepisternum with a strip of short hairs on the upper side, katatergal setae long, 2 long metepisternal setae. Legs: femora black with large brown strip, the anterior and median with setae in the basal part, posterior with several row of setae. Tibia reddish-brown, anterior and median with longer setae than the tibia posterior. Tarsus with white and black setae.

Abdomen: chaetotaxy white. Tergites with greyish tomentum and with relatively fine, long hairs, tergite I with one tuft of long hairs laterally. On the other tergites 2 setae in the lateral posterior corner. Sternite with greyish tomentum and fine, long hairs, one straight posterior margin.

Genitalia male: hypopygium brown with pale brown hairs.

Aedeagus like in *Pogoniofferia pogonias* (Wiedemann, 1821) (Theodor, 1976, p. 151), *Erax barbatus* Scopoli, 1763 (Lehr, 1992, p. 143), *Tolmerus unicus* (Becker, 1910) and *T. socotrae* Geller-Grimm, 2002, (Geller-Grimm, 2002, p. 481).

Derivatio nominis.- The species was named after the region where it occurs.

Genus *Polysarcodes* Paramonov 1937

The genus contained a sole species, type locality: Ashabad Turkmenia (Lehr, 1988).

***Polysarcodes moestes* Paramonov 1937**

This specimen has been discovered in the collections of the Royal Belgian Institute of Natural Sciences. Hull (1962, p. 492) translate the Paramonov's description in English.

Studied material.- 1♀, Iran, Prov. Fars, fort Sine-Sefid, route Shiraz-Kareroum, alt. 220 m.,

25.iv.1937. Rec. Brandt. IRSNB, Belgium. New record for Iran.

Genus *Satanas* Jacobson 1908

The genus contained 6 species to distribution Palearctic.

***Satanas gigas* (Eversmann 1855)**

The northern populations of *Satanas gigas* are only found on sands, while the southern ones also occur in loess deserts. The larvae are predaceous on scarabeid larvae Lehr (1987).

Studied material.- Kazeron, 1♂, vii.2006; Zarghan, 1♀, v.2007.

Subfamily Dasypogoninae

Genus *Dasypogon* Meigen 1893

The habitats of this species are deserts and steppes. A comprehensive report on the biology of *D. diadema* one of the most common robber flies in Central Europe has been made by Geller-Grimm (1998).

The genus contained 58 species: 24 Palearctic 19 Neotropical, 6 Afrotropical, 6 Australasian, 2 Nearctic and 1 Oriental.

***Dasypogon magisi* Tomasovic 1999**

Studied material.- Marvdasht, 1♀, v. 2006; Ali Abad, 1♂, vi. 2007; Lar, 1♂, 27.ix.2007.

Genus *Molobratia* Hull 1958

The genus contained 15 species: 11 Palearctic, 4 Oriental.

***Molobratia teutonius* Linné 1767**

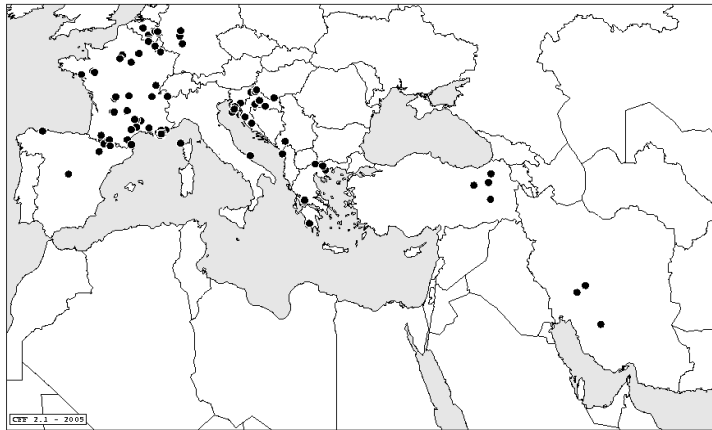
It was the species of the genus that has the largest distribution (map 1) and has been given for the first time from Iran by Hayat *et al.* (2008). There was little information on the biology of *M. teutonius*. Musso (1978) notes that in France the species look up after the dank stations in particular the seaside grasslands and Hayat (1997) noticed that this species was caught in a feeding position with *Andrena* sp. (Hymenoptera: Andrenidae) and it has been recorded like predator of some hymenopterous species, especially *Apis mellifera* L.

In Belgium, which was the north limit of the distribution for this species during more than eighty years (8.vi.1917 to 28.vi.1998), none of this species has been collected (Tomasovic, 1999b).

Studied material.- Arsajan, 1♀, 17.ix.2007.

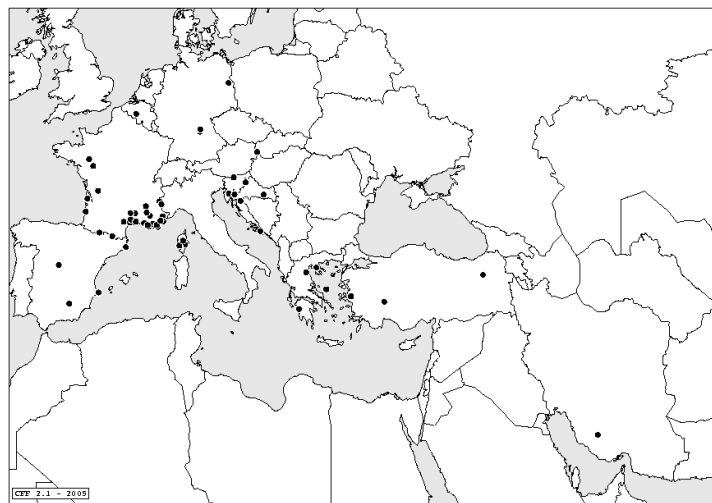
Subfamily Laphriinae Macquart 1838

There were 14 species of Laphriinae in Iran; they are inhabitants of the woods of temperate and



MOLOBRATIA TEUTONUS 207 specimens

Map 2: Distribution of *Molobratia teutonius*



Genus Andrenosoma 194 specimens

Map 3: Distributions of *Andrenosoma*

tropical zones, very rare in deserts and steppes where they stay to wooded bushy thickets (Lehr, 1958). The adult flies are capable of catching a considerable number of insect pests such as bark beetles, weevil and click beetles. The larvae of all the species observed are predators living beneath bark and in the timber of trunks and branches, in fallen dead wood (Lehr, 1977).

Genus *Laphria* Meigen 1803

The genus contained approximately 220 species: 34% Oriental 26%Nearctic, 19% Palearctic 13% Australasian, 8% Neotropical. Among the 42 species Palearctic 2 are in Iran: *L. flava* (Linnaeus 1761) largely widespread in the Western Europe and *L. dizonias* with a distribution in southeast Europe (map 2). Although *Laphria* are always being referenced in the Afrotropical region, it is unlikely that this

genus is present in that geographical area (Tomasovic, 2007).

Laphria dizonias Loew 1847

Studied material.- Shira, 1♂, iv.2006.

Genus *Andrenosoma* Rondani 1856

Most species of *Andrenosomini* and *Laphrinae* in general were found in forest, where they typically occurred in a specific habitat, on fallen trees in small clearings. This habitat specificity was especially apparent in the lowland tropical forests of the New World (Fisher, 1986). In Europe Musso (1967, 1970, 1971 and 1972) has extensively contributed to the behaviour and ecology knowledge of *A. bayardi* Seguy 1952.

The genus contained 64 species: 37 Neotropical, 14 Palearctic, 4 Australasian, 4 Nearctic, 3 Afrotropical and 2 Oriental.

The genus *Andrenosoma* has been mentioned for the first time in the Iranian fauna by Hayat *et al.* (2008) with a male of *A. atrum* (Linnaeus 1758) collected at Ardabil, vii.2002; Col H. Ghahari. This specimen was collected with Colorado potato beetle, *Leptinotarsa decemlineata* Say (Coleoptera: Chrysomelidae) as prey. *Andrenosoma farsicola* n.sp (figs. 12-13) Studied material.- Holotype, 1♂, Iran, Jahrom, 19.iv.2008.

Allotype, 1 ♀, Iran, Jahrom, 19.iv.2008.

Description.- Male: long 19 mm.

Coloration black with greyish tomentum and chaetotaxy majority white.

Head: face with white tomentum. Mystax formed by some long and fine black wrapped by long and fine white setae. Antennae, scape black with white hairs and a stout setae in the face, short distinctly more stout than the pedicel, pedicel same longer than the scape with long black setae in the apex, postpedicel little longer than the scape and pedicel together, base reddish and wider and black apically. Palpi flattened with short and fine hairs. Proboscis black concave, dorsoventrally compressed and narrower at the apex.

Thorax: scutum with greyish tomentum. Bristles white, 1 notopleurale, 1 supra-alar, 6 postalar, 10 very fine scutellars. Pleurae with greyish tomentum and with numerous long and fine white hairs. Wings brownish, R5 closed and stalked at the margin. Legs black with white hairs and black setae.



Photo 1: Biotope where the Asilidae have been collected in Shiraz (by Nazila Saghaei).

Abdomen: shiny black, the tergites; I-II with laterally long, fine and white hairs, the other tergites with laterally short white hairs, all tergites with short fine black hairs at the middle.

Male genitalia: (figs. 12-13). Epanthrium brown with some black and robust setae online at the middle, 2 pointed processes and a deep concavity at the apex. Dististylus with long, brown and fine setae at the distal part and a small excrescence on the other part Aedeagus with 3 long, fine and curved endophallus.

Female: like the male but with laterally spots of greyish tomentum at the tergites.

This new species of *Andrenosoma* stand out easily of the other species by the characteristic epanthrium of the male.

Derivatio nominis.- The species is named after the region where it occurs.

Remark: the small excrescence on the dististylus was perhaps the remnant of the stout claw on the dististylus of the species of *Proagoniste* Loew 1857, genus limited to Africa (Tomasovic & Kwadjo, 2007) and close to genus *Andrenosoma* (Oldroyd, 1970) (carte).

Subfamily Leptogastrinae Schiner 1862

They colonized grassy thickets of thin sparse deciduous forests, meadows and steppes, few species found in desert zones, in tugay and in saltwort thickets (Lehr, 1958). The other features of the Leptogastrinae are also their slender shape, their inclination to capture resting prey, their peculiar egg-laying habits, their helicopter-like flight, and their propensity to inhabit grassy habitats (Artigas & Papavero, 1988).

Genus *Leptogaster* Meigen 1803

This genus had more than 260 species in the world: 28% Afrotropical, 23% Palaeartic, 17 Neotropical, 13 Oriental, 10% Nearctic and 9% Australasian. Five species were known in Iran (Hayat, 2008).

***Leptogaster* sp.**

Studied material.- Kohmareh, 1♀, vi.2007.

This specimen belong to the group of *L. cylindrical* De Geer 1776 where there is very little morphological distinction between the subspecies and in practice only males can be distinguished

validly by the structure of the hypopygium (Lehr, 1961).

Subfamily Stenopogoninae Hull 1962

Genus *Ancylorhynchus* Berthold 1827

Species of this genus are characterized by a distinctive proboscis, to which there is no analogy in the family, it's curved like the beak of a predatory bird. The specimens were uncommon in the collections and never more than some invidious.

The genus contained 46 species: 25 Afrotropical, 16 Palearctic, 3 Australasian and 2 Oriental. Only one species *A. glaucius* has at the contrary of the other species a large distribution: Austria, Albania, France, Greece, Italy, Rumania, Turkey, Yugoslavia, South Soviet Union, Kazakhstan, Turkistan, Syria and Palestine (Geller-Grimm, 2008). *A. glaucius* was represented by a profusion of forms over such an extensive area. It's known from steppes and deserts almost throughout Eurasia. It was found individually over large territories and bears a resembles in form and coloration to small blister beetles of the genus *Mylabris*, found in same places, on upper parts of vegetation (Lehr, 1958; 1969)

Three species of this genus have been mentioned from Iran: *A. argyrogaster* (Séguy 1932), *A. bicolor* (Becker 1913) and *A. farinosus* (Becker 1913). None of these three species had ever been collected before.

***Ancylorhynchus argyrogaster* (Séguy 1932)**

For the determination we have taken the key of Séguy (1932). But the author draws attention that "A revision of the genus, by using the anatomical characters would allow to establish a new definition of the species". We are still waiting for it.

Studied material.- Jahrom: 1♂, 24.ix.2007.

Genus *Crobilocerus* Loew 1847

The genus contained 5 species, all Palearctic.

***Crobilocerus spinosus persianus* Geller-Grimm 1999**

Studied material.- Shiraz, 1♂, 1♀, v. 2006.

Genus *Galactopogon* Engel 1929

The genus contained 2 species all Palearctic.

***Galactopogon hispidus* Engel, 1929**

Studied material.- Arsanjan, 1♂, ix. 2006; Firozabad, 1♀, vi.2006; Jahrom, 1♂, 3♀, 24.ix.2007, 3♂, 4♀, 3.xi.2007; Kohmareh, 2♀, 19.ix.2007; Shiraz, 1♀, v.2006, 1♂, 3♀, 16.ix.2007.

Genus *Heteropogon* Loew 1847

Nearly all of the species of these genera inhabited dry places on steppes and deserts (Lehr, 1958).

The genus contained 56 species: 25 Nearctic, 24 Palearctic, 6 Neotropical and 1 Oriental.

Two species have been mentioned from Iran: *H. lugubris mesasiaticus* Lehr 1970 and *H. pyrinus* Hermann 1906 (Lehr, 1988).

***Heteropogon pyrinus* Hermann 1906**

Lehr (1970) gave a good view of the biology of the species and he observed that the predatory behaviour of *H. pyrinus* focused on 82.7% ants of which 77.1% are wingless (Apterygota).

For the determination, the key of Lehr (1970) translated in German by Geller-Grimm (2008), was used. The genitalia are illustrated by Theodor (1980, p. 128-130).

Studied material.- Shiraz: 1♂, 16. ix. 2007.

It was the first time that one male of this species was collected in Iran.

Efflatoun (1934-1937) wrote for this species in Egypt "*it appears to be fairly common in April and May*" and Theodor (1980) cited only April for the time of collect.

Genus *Stenopogon* Loew 1847

The greatest number of species inhabits mountain slopes characterized by dry steppes or semi-deserts, which is probably not accidental. Even in most harsh periods of the glacial epoch, the South slopes, at least of Kazakhstan and Central Asia could be inhabited by contemporary forms (Lehr, 1963).

The genus contained 169 species: 47% Palearctic, 32% Nearctic, 12% Oriental, 8% Neotropical and 1% Afrotropical.

***Stenopogon junceus* (Wiedemann 1820)**

Studied material.- Kazeron, 1♂, vi.2007.

***Stenopogon sciron* (Loew 1873)**

Studied material.- Shiraz. 1♀, vi.2006.

***Stenopogon shirazi* sp. n. (figs 14, 15, 16, 17)**

This new species entered in the *Stenopogon* with the 5th radial cell closed and stalked. This group contains 10 species of which 6 are present in Iran: *S. avus*, *S. heteroneurus*, *S. porcus*, *S. rufipilis*, *S. sciron* and *S. sciron superbus*. It is principally established on the basis of comparison of the genitalia of the other species of *Stenopogon* illustrated by Lehr (1963).

Studied material.- Holotype, 1♂, Iran, Fars province, Sidan, vi.2006.

Paratypes, 1♂, Iran, Fars province, Shiraz, vii.2007.

Description.- Male: Long 20-22 mm. Coloration greyish with white chaetotaxy.

Head: face with yellowish tomentum. Mystax white. Antennae reddish, scape slightly longer than the pedicel, postpedicel same length as the scape and pedicel together, style longer than the half of the postpedicel. Palpi brown with white setae.

Thorax: Scutum with greyish tomentum. Bristles: 12-15 postpronotal, 10 notopleurals, 9-10 supra-alar, 6 postalar, 2 rows of dorso-centrales postsutural, 8 scutellar bristles. Pleurae tomented. Wing without microtrichia, emboss, clear, r5 closed with a short stalk, costa with a white short brush of hairs at the beginning. Legs yellowish. Femora with a greyish stripe. Front and mid tibia yellow the posterior with a black brown stripe.

Abdomen: Tergite with greyish tomentum and the posterior margin bare and yellow. All the tergites with short hairs, the tergites I-II-III with lateral setae. Sternites read yellow, the third and following with thin hairs.

Male genitalia: Epandrium with the distal part rectangular and with numerous long setae. Gonocoxite with only a few setae, dististylus relatively large, pointed apical part, hook long, thick, black. Aedeagus without distinct shoulders. Hypandrium rectangular, distal part slightly bent with numerous long setae.

This species was close to *S. avus* (Loew 1874) which has been observed in Iran and perhaps confused with it. But it is clearly differentiated from *S. avus* by the genitalia of the male which have been illustrated by Lehr (1963, fig. 21).

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