

A REVISED CHECKLIST OF THE ROBBER FLY GENERA (DIPTERA, ASILIDAE) FROM IRAQ

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ABSTRACT

A revised checklist of the robber fly genera (Diptera, Asilidae) was given during this study in Iraq. The investigation showed (21) genera belonging to seven subfamilies, two genera new recorded to entomofauna of Iraq (*Promachus* Loew, 1848 and Genus: *Dysmacus* Loew, 1860). Eight genera showed in this investigation and eleven genera were recorded previously to Iraq.

Key words: Asilidae, Brachycera, Diptera, Genera, Iraq, Robber fly.

INTRODUCTION

Asilidae is one of the most important families of order Diptera and called robber flies which belonging to super family Asiloidea likely originated close to 200 million years ago (Wiegmann *et al.*, 2003). Adults of this family attack insects of the most orders, such as: bees, other flies, Odonata, dragonflies and Homoptera, grasshoppers; even some spiders are eaten by the robber flies (Lavigne *et al.*, 1978; Lavigne, 2001).

Robber flies are particularly abundant in space, dry and sunny shining localities, which get best conditions in which to show their many forms and behaviors (Shurovnekov, 1962). Females deposit egg, white / yellow and brown on low-lying plants and some weeds, in the sand, bark or wood. The larval growth is good in hottest regions but many asilid members live no longer than one year (Cannings, 1998; Geller-Grimm, 2005).

The species belonging to this family are cosmopolitan (worldwide distributed), with more than 7187 described species in eleven subfamilies and 821 genera, and one of the most largest family belonging to order Diptera (Geller-Grimm, 2008).

Papavero (1973) proposed eight subfamilies: "Apocleinae, Asilinae, Dasypogoninae, Laphriinae, Laphystiinae, Ommatiinae, Stenopogoninae, and Trigonimiminae". According to the taxonomist, up to an additional four subfamilies were added by the early 2000s: "Atomosinae, Dioctriinae, Megapodinae and Stichopogoninae" (Artigas and Papavero, 1988; Bybee *et al.*, 2004; Dikow and Geller- Grimm, 2004; Geller-Grimm, 2003a and 2004; Lehr, 1969, 1977 and 1996).

The diagnosis characters of Asilidae are: vertex usually distinctly excavated between eyes; ocellar tubercle below the dorsal level of compound eyes; compound eyes never holoptic. Face relatively long, with a cluster or row of long bristles. Proboscis stout and polished;

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labella reduced and inconspicuous; hypopharynx protrusible, strongly developed for piercing, the previous characters accepted by the authors (Essig, 1947; Comstock, 1948; Curran, 1965; Cole, 1969. Oldroyd, 1970; Unwin, 1981; Scudder and Cannings, 2006).

MATERIAS AND METHODS

Many specimens of robber flies were collected by sweeping net in various habitats from several regions of Iraq during 2016; also I used the unidentified species that stored in Iraq Natural History Museum. Then the flies were killed by freezing for 24 hours. Specimens were mounted with insect pin and kept in insect collection boxes till diagnosed. Used several taxonomic keys identification and diagnosed genera such as: Engel, 1930; Curran, 1965; Geller Grimm 2003b, 2008; Londt, 2005; Lehr *et al.* 2007 and Hayat *et al.* 2008. The specimens were deposited in Department of Entomology and Invertebrates, Iraq Natural History Research Center and Museum, University of Baghdad.

RESULTS AND DISCUSSION

In this study the survey showed 10 genera belonging to 6 subfamilies; also the other genera that have not been gotten throughout the period of the current work were referred to them and global distribution had been as follow:

1. Subfamily: Apocelinae Papavero, 1973

Genus: *Apoclea* Macquarit, 1838

In Iraq this genus represented as *Apoclea femoralis* (Wiedemann, 1828) recorded by Janssens (1961) and El- Haidari *et al.* (1972) as *Apoclea* sp.

Distribution: Afrotropical, Oriemntal and Palearctic regions (Geller-Grimm, 2003a).

Material Examined: Two male specimens were collected from Baghdad on 15 April 2016.

Genus: *Philodicus* Loew, 1847

In Iraq this genus represented as *Philodicus ponticus* (Bigot, 1880), is recorded to Iraq by Khalaf and Al-Omar, 1974.

Distribution: Afrotropical , Oriental , and Palearctic regions (Geller-Grimm, 2003a).

Material examined: One male specimen was collected from Baghdad on 7 August 2016.

The species *Philodicus bimaculatus* Beck., recorded to Iraq by El- Haidari *et al.*(1972).

Genus: *Promachus* Loew, 1848

Distribution: Australian, Afrotropical, Neotropical, Nearctic, Oriental and Palearctic regions (Geller-Grimm, 2003a).

Material Examined: as *Promucus* sp. two male specimens examined which collected from Dohuk province and stored in Iraq Natural History on August 2013. This genus as new record for Iraq.

2-Subfamily: Asilinae Latreile, 1802

Genus: *Aneomochtherus* Lehr, 1996

Distribution: Afrotropical, Oriental and Palearctic regions (Geller-Grimm, 2003a).

The species *Aneomochtherus mesopotamicus* (Janssens, 1961), recorded to Iraq by (Janssens, 1961; Lehr, 1988).

Genus: *Dysmacus* Loew, 1860

Distribition: Neotropical and Palearctic Regions (Geller-Grimm, 2003a)

Material examined: There were two male specimens which collected from Baghdad at June 2016, this genus as a new record to Iraq.

Genus: *Eccoctopus* Loew, 1860.

In Iraq this genus represented as *Eccoctopus longitarsis* (Macquart, 1838) recorded by Khalaf and Al-Omar, (1974).

Distribution: Palearctic region (Geller-Grimm, 2003a).

Material examined: Three specimens were collected from Baghdad during 16 June 2016.

Genus: *Eutolmus* Loew, 1848

Distribution: Palearctic region (Geller-Grimm, 2003a).

Eutolmus mordax (Loew, 1848) this species was recorded to Iraq by (Khalaf and Al-Omar, 1984).

Genus: *Machimus* Loew, 1849

In Iraq this genus represented as *Machimus* sp. by El- Haidari *et al*, 1974

Distribution: Afrotropical, Nearctic, Neotropical, Oriental and Palearctic Regions (Geller-Grimm, 2003a).

Material examined: One samples was collected from Messan at 6, June 2016 as *Machimus* sp. According to Jannens (1961), the species *Machimus chaldaeus*, Jannens 1961 was found to insect fauna of Iraq.

Genus: *Neomochtherus*, Osten Sacken, 1878

Distribution: Palearctic, Nearctic, Oriental and Afrotropical regions (Insectoid Info.).

The species *Neomochtherus mesopotamicus* Janssens, 1961 was found of Iraq (Jannens, 1961).

Genus *Turkiella* Lehr, 1996

Distribution: Palearctic Region (Geller-Grimm, 2003a).

The genus was represented as *Turkiella cervinus* (Loew, 1850) in Iraq (Insectoid Info.).

3- Subfamily: *Dasyopogoninae* Macquart, 1838

Genus: *Dasyopogon* Meigen, 1803

Distribution: Palearctic and Oriental regions (Geller-Grimm, 2003a).

Material examined: One specimen was collected from Diyala province at 4May 2016 as *Dasyopogon* sp.

Previously, Ghahari *et al.* (2014) was referred to the species *Dasyopogon magisi* Tomasovic 1999 was found in Iraq.

Genus: *Saropogon* Loew, 1847

Distribution: Palearctic, Nearctic, Afrotropical and Neotropical Regions (Geller-Grimm, 2003a).

The species of *Saropogon albicans* Janssens, 1961 was found in Iraq (Janssens, 1961).

4- Subfamily: *Laphriinae* Macquart, 1838

Genus: *Laphria* Meigen ,1803

Distribution: Nearctic, Neotropical and Palearctic Regions (Geller-Grimm, 2003a).

Material examined: One specimen was collected from Wasit province, Kut at 7 June 2016 as *Laphria* sp.

Ghahari *et al.* (2014.) referred to the species *Laphria dizonias* Loew, 1847 found in Iraq.

Genus: *Nusa* Walker, 1851

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Distribution: Indo-Australian Region, Afrotropical, Oreintal, Palearctic and Neotropical regions (Geller-Grimm, 2003a).

Nusa ramica Loew, 1971 (Ghahari *et al.*, 2014).

Genus: *Psilocurus* Loew, 1874

Distribution: Nearctic, Neotropical and Palearctic Regions (Insectoid Info.).

In Iraq the species of *Psilocurus hypoogyialis* (Paramonov, 1930) (Ghahari *et al.*, 2014).

5- Subfamily: Laphystiinae Hendel, 1936

Genus *Laphystia* Loew, 1847

Distribution: Oriental, Nearctic, Neotropical, Afrotropical and Palearctic Regions (Geller-Grimm, 2003a).

Material examined: The specimens as *Laphystia erberi* Schiner, 1866; one from Al Tagi, Baghdad on 5 April 2016, one from AL-Hussaynia, Karbala province on 10 May 2016 and one from Al-Najaf at 15 April 2016. This species recorded to Iraq by (El-Haidary *et al.*, 1971).

Furthermore, the species of *Laphystia kuehlhorni* Janssens, 1961 was recorded by Janssens (1961) for Iraq.

Genus: *Perasis* Hermann, 1906

Distribution: Afrotropical, Nearctic, Neotropical and Palearctic Regions (Geller-Grimm, 2003a).

This genus was founded in Iraq as *Perasis* sp. (El-Haidarei *et al.*, 1971)

6- Subfamily: Stichopogoninae Hardy, 1930

Genus: *Rhadinus* Loew, 1856

Distribution: Palearctic and Afrotropical Regions (Geller-Grimm, 2003a); this genus represented as the species *R. megalonix* Loew, 1865 was found in Iraq (Insectoid Info.).

Genus: *Stichopogon* Loew, 1847

Distribution: Afrotropical, Australian, Nearctic, Neotropical and Palearctic Regions (Geller-Grimm, 2003a).

Material examined: Two specimens as *Stichopogon scaliger* Loew, 1847 were collected from Mayssan at 14 July 2016 (Khalaf and Al-Omar, 1974 showed to the species in Iraq).

7- Subfamily: Stenopogoninae Hull, 1962

Genus: *Galactopogon* Engel, 1928

Distribution: Palearctic Region (Insectoid Info.).

The species of *G. fumipennis* Janssens, 1961 was found in Iraq (Janssens, 1961).

Genus: *Stenopogon* Loew, 1847

Distribution: Palearctic, Neotropical, Indo-Australian region and Afrotropical Regions.

In Iraq, according to references the species of *S. junceus* Wide. 1820 was recorded by El-Haidari (1972), and *S. abdulrassuli* Lehr, 1984 was listed by Insectoid Info.

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مراجعة لقائمة اجناس عائلة الذباب السارق في العراق *Asilidae*

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الخلاصة

ان المراجعة لقائمة اجناس عائلة الذباب السارق Family *Asilidae* خلال هذه الدراسة أظهرت (٢١) جنسا تعود الى سبع عويلات. سجل جنسين جديان الى المجموعة العراقية و هما:

(*Promachus* Loew, 1848 and *Dysmacus* Loew, 1860)

تمت دراسة ثمانية اجناس تعود الى العائلة فضلا عن احد عشر جنسا تسجلها مسبقا لدراسات سابقة للعراق . تم جمع العينات من مناطق مختلفة من العراق.