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Checklist of insects- borne diseases in Iraq

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Abstract

This study presents an updated checklist of the dipteran-borne diseases in Iraq, together with their original name combinations and synonyms. According to this checklist, 152 species, 40 genera within 14 families. Furthermore, minor corrections were applied to some authors' names and years of publication.

Keywords: Checklist; Diptera, Iraq; Transmission; Vector

1. Introduction

The vectors "especially the insects" that can transmit the infections pathogens between humans, or from animals to humans; many of these vectors are blood -sucking, that take in disease producing micro-organisms through a blood meal from an infected hosts (human or animal) and then transfer it into a new host after the pathogens have produced. Predominantly, once a vector becomes infections, they are capable of transmitting the pathogens for the remnant of their life through every subsequent bite/blood feast [1].

Based on a database of WHO [2,3], vector-borne diseases account for more than 17% of all infectious diseases, causing more than 700 000 deaths annually; they can be caused by either parasites, viruses or bacteria. Among the most common of these diseases are: malaria, Chagas disease, dengue fever, schistosomiasis, trypanosomiasis, leishmaniasis, yellow fever, encephalitis and onchocerciasis, globally. Flies that belong to the order Diptera are considered to be one of the medically substantial insects to humans; there are more than 120,000 species of flies that have worldwide distribution [4]. In addition, Diptera contains almost all species that transmit the pathogens or are damaging to humans [5].

There are two methods of transmission of a pathogen by the insects, including: Mechanical and biological transmissions. Different species belonging to Diptera are involved in mechanical transmission; even so hematophagous members are the most important. These species become contaminated with the virus through normal feeding behavior, and the virus preserves on their mouthparts or body till the next feeding [6].

The most common diseases caused by the insects are malaria, which biological transmitted by mosquitoes that belonging to the genus *Anopheles* Meigen, 1818 involving a *Plasmodium* Marchiafava & Celli, 1885 [7].

The aim of this investigation compiles the scattered information on the dipteran species which borne diseases, or those that cause health problems themselves in Iraq, including detail related to synonyms and distribution.

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2. Materials and Methods

The list offered in this investigation is based on the literature records of Diptera in Iraq available up to October 2023. A reference to the first dependable record of every species is included.

Families, genera and species are listed in alphabetical set according to the classification used in the GBIF information [8]. The Changes in the classification status and synonyms, mostly proposed by Whitworth [9] and GBIF [9], and presently accepted in this database, have been adopted in the current list.

3. Results and Discussion

The current investigation showed 152 species belonging to 40 genera and 14 families as below:

3.1. Family: Calliphoridae

3.1.1. Genus: *Calliphora* Robineau-Desvoidy, 1830

Calliphora vicina Robineau-Desvoidy, 1830

Synonyms

Calliphora algira Macquart, 1844
Calliphora (Calliphora) erythrocephala (Meigen, 1826)
Calliphora monspeliaca Robineau-Desvoidy, 1830
Calliphora musca Robineau-Desvoidy, 1830
Calliphora nana Robineau-Desvoidy, 1830
Calliphora rufifacies Macquart, 1851
Calliphora spitzbergensis Robineau-Desvoidy, 1830
Calliphora turanica Rohdendorf, 1926
Musca aucta Walker, 1853
Musca erythrocephala Meigen, 1826

Common name: Blue bottle fly.

Distribution: Iraq [10]. World-wide distributed [11, 12].

Calliphora vomitoria (Linnaeus, 1758)

Synonyms

Calliphora affinis Macquart, 1835
Calliphora affinis (Harris, 1780)
Calliphora pseudovomitoria Baranov, 1943
Calliphora rubrifrons Townsend, 1908
Musca affinis Meigen, 1838
Musca coerulea De Geer, 1776
Musca minimus Harris, 1780
Musca obscoena Eschscholtz, 1822
Musca vomitoria Linnaeus, 1758
Volucella vomitoria Muller, 1776

Common name: Blue bottle fly, blue bottle fly, orange-bearded blue bottle, bottlebee.

Distribution: Iraq [10]. Cosmopolitan in Palaearctic and Nearctic Regions [13, 14]; Oriental Region [15], and Iran [16].

Common name: Blue bottle fly, blue bottle fly, orange-bearded blue bottle, bottlebee.

Distribution: Iraq [10]. Cosmopolitan in Palaearctic and Nearctic Regions [13, 14]; Oriental Region [15], and Iran [16].

3.1.2. Genus: *Chrysomya* Robineau-Desvoidy, 1830

Synonyms

Achoetandrus Bezzi, 1927
Pycnosoma Brauer & Bergenstamm, 1894
Pycnosomops Townsend, 1934

Chrysomya albiceps (Wiedemann, 1819)

Synonyms

Chrysomyia indica Patton & Cushing, 1934
Compsomyia flaviceps Séguy, 1927
Compsomyia mascarenhasi Séguy, 1927
Lucilia arcuata Macquart, 1851
Lucilia testaceifacies Macquart, 1851
Musca albiceps Wiedemann, 1819
Musca bibula Wiedemann, 1830
Musca elara Walker, 1849
Musca emoda Walker, 1849
Musca felix Walker, 1853
Musca himella Walker, 1849
Paracompsomyia verticalis Adams, 1905
Somomyia annulata Brauer, 1899
Somomyia arussica Corti, 1895
Somomyia nubiana Bigot, 1877

Distribution: Iraq [17]. It can be distribute from the southern Palaeartic Region to Africa [11]; Americas [18, 19]. Iberian Peninsula [12, 20]; France, Switzerland, Austria [21], and Ukraine [22].

Chrysomya bezziana Villeneuve, 1914

Common name: Old-world Screw worm fly

Distribution: Iraq [23]; Africa, Indian sub-continent, Southeast Asia [24]; Sub-Saharan Africa, Arabian Peninsula, and New Guinea [24, 25].

Chrysomya megacephala (Fabricius, 1794)

Synonyms

Chrysomya duvaucelii Robineau-Desvoidy, 1830
Chrysomya gratiosa Robineau-Desvoidy, 1830
Lucilia flaviceps Macquart, 1844
Lucilia macquartii Rondani, 1875
Musca bata Walker, 1849
Musca combrea Walker, 1849
Musca dux Eschscholtz, 1822
Musca megacephala Fabricius, 1794
Musca remuria Walker, 1849
Pollenia basalis Smith, 1876
Somomyia cyaneocincta Bigot, 1888
Somomia pfefferi Bigot, 1877
Somomyia cyaneocincta Bigot, 1888
Somomyia dives Bigot, 1888
Somomyia saffraneana Bigot, 1877

Common name: Big head myiasis fly, Oriental latrine fly.

Distribution: Iraq [9]. Africa, Palearctic Region, South and North America [11, 26]; Oriental and Australasian Regions [27].

3.1.3. Genus: *Lucilia* Robineau-Desvoidy, 1830

Synonyms

Acrophagella Ringdahl, 1942
Bufolicilia Townsend, 1914
Caesariceps Rohdendorf, 1926
Chaetophaenia Enderlein, 1936
Dasylicilia Rohdendorf, 1926
Francilia Shannon, 1924
Lucilla Gimmerthal, 1842
Phaenicia Robineau-Desvoidy, 1863
Phenicia Coquillett, 1910

Phenicia Robineau-Desvoidy, 1863

Lucilia sericata (Meigen, 1826)

Basionym: *Musca sericata* Meigen, 1826

Synonyms

Chrysomya capensis Robineau-Desvoidy, 1830
Lucilia barberi Townsend, 1908
Lucilia capensis Robineau-Desvoidy, 1830
Lucilia flavipennis Macquart, 1844
Lucilia frontalis Brauer & Bergenstamm, 1891
Lucilia giraulti Townsend, 1908
Lucilia Lagyra Walker, 1849
Lucilia latifrons Schiner, 1861
Lucilia nobilis (Meigen, 1826)
Lucilia pruniosa Meigen, 1838
Lucilia sayi Jaennicke, 1867
Musca lagyra Walker, 1849
Musca nobilis Meigen, 1826
Musca sericata Meigen, 1826
Musca tegularia Wiedemann, 1830
Phaenicia concinna Robineau-Desvoidy, 1863
Phaenicia sericata (Meigen, 1826)

Common name: blow fly, common green bottle fly, sheep blow fly.

Distribution: Iraq [17]; Holarctic, United States and southern Canada, and Australia [28].

Lucilia cuprina (Wiedemann, 1830)

Synonyms

*Lucilia argyricephal*a Macquart, 1846
Lucilia dorsalis Robineau-Desvoidy, 1830
Lucilia elegans Robineau-Desvoidy, 1830
Lucilia leucodes Frauenfeld, 1867
Lucilia nigricornis Senior-White, 1924
Lucilia pseudosericata Gaminara, 1930
Lucilia pubens Macquart, 1844
Lucilia usta Robineau-Desvoidy, 1830
Musca cuprina Wiedemann, 1830
Musca fucina Walker, 1849
Musca serenissima Walker, 1853
Musca temperata Walker, 1853
Musca varians Wiedemann, 1830
Somomya pallifrons Bigot, 1877
Strongyloneura nigricornis Senior-White, 1924

Common name: Sheep blow fly, Australian sheep blowfly.

Distribution: Iraq [17]. Africa, Europe, Australia, New Zealand, and some regions North America [29].

3.2. Family: Ceratopogonidae

Genus: *Culicoides* Latreille, 1809

Culicoides bulbostylus Khalaf, 1961

Distribution: Iraq [30], and Tajikistan [8].

Culicoides circumscriptus Kieffer, 1918

Synonyms

Culicoides albonotatus Vimmer, 1932

Culicoides albosignatus Vimmer, 1932
Culicoides algarum Kieffer, 1924
Culicoides edwardsi Goetghebuer, 1921
Culicoides kirovabadicus Dzhafarov, 1964
Culicoides nadayanus Kieffer, 1918
Culicoides pictidorsum Kieffer, 1924
Culicoides polymaculatus Vimmer, 1932
Culicoides pulcher Zilahi-Sebess, 1934
Culicoides salicola Kieffer, 1924

Distribution: Iraq [31]. Austria [32]; Tunisia and prevalent in the Palearctic Region in the countries including: Belgium, Bulgaria, Norway, Iran, and Turkey and rarely from Oriental countries of China and Taiwan [33].

Culicoides kasimi Khalaf, 1961

Distribution: Iraq [30].

Culicoides longipennis Khalaf, 1957

Distribution: Iraq [34]. Iran [35]; Algeria, Cyprus, Japan, Italy, Greece, Malaysia, Turkey, and Spain [8].

Culicoides pallidus Khalaf, 1957

Synonym: *Culicoides stackelbergi* Dzhafarov, 1962

Distribution: Iraq [34], and Turkmenistan [8].

Culicoides pseudopallidipennis Clastier, 1958

Distribution: Iraq [31]. Benin, India, Senegal, and Yemen [8].

Culicoides pulicaris (Linnaeus, 1758)

Basionym: *Culex pulicaris* Linnaeus, 1758

Synonyms

Ceratopogon pulicaria Macquart, 1854
Culex pulicaris Linnaeus, 1758
Culicoides cinerellus Kieffer, 1919
Culicoides flavipluma Kieffer, 1924
Culicoides pullatus Kieffer, 1915
Culicoides quinquepunctatus Goetghebuer, 1921
Culicoides sawamotoi Kono & Takahasi, 1940
Culicoides setosinervis Kieffer, 1913
Culicoides stephensi Carter, 1916

Distribution: Iraq [30]. Iran [35]; Europe, including: Austria, Denmark, Jersey, Norway, France, Belgium, Slovakia, Sweden, Netherlands, and UK [8].

Culicoides puncticollis (Becker, 1903)

Basionym: *Ceratopogon puncticollis* Becker, 1903

Synonyms

Culicoides bipunctatus Vimmer, 1932
Culicoides distigma Kieffer, 1922
Culicoides donatieni Kieffer, 1922
Culicoides flavitarsis Vimmer, 1932
Culicoides griseovitatus Vimmer, 1932
Culicoides impressus Kieffer, 1918
Culicoides luteosignatus Vimmer, 1932
Culicoides luteosignatus Vimmer, 1932
Culicoides sciniphes Kieffer, 1924
Culicoides tripunctatus Vimmer, 1932
Culicoides vavrai Vimmer, 1932
Culicoides wenigi Vimmer, 1932

Distribution: Iraq [34]; Algeria, Azerbaijan, Bahrain, Belgium, Cyprus, Egypt, Greece, Jordan, KSA, Morocco, Portugal, Romania, Russia, Slovakia, Spain, Tunisia, Turkey, and UK [8].

Culicoides sahariensis Kieffer, 1923

Synonyms

Culicoides baghdadensis Khalaf, 1957

Culicoides coluzzii Callot, Krémer & Bailly-Choumara, 1970

Culicoides flavisimilis Dzhafarov, 1964

Distribution: In Iraq, it was recorded by Khalaf [34] under the name *Culicoides baghdadensis* Khalaf, 1957.

Culicoides schultzei (Enderlein, 1908)

Basionym: *Ceratopogon schultzei* Enderlein, 1908

Synonym: *Culicoides irroratus* Goetghebuer, 1948

Distribution: Iraq [35]. Algeria, Egypt, Ethiopia, Ghana, India, Malawi, Mozambique, Namibia, Niger, Nigeria, Kenya, Cabo Verde, Congo, Sierra Leone, South Africa, Sudan, Tanzania, Turkmenistan, Zambia, and Zimbabwe [8].

Culicoides shaklawensis Khalaf, 1957

Synonym: *Culicoides caspius* Gutsevich, 1959

Distribution: Iraq [34]. Algeria, Azerbaijan, Cyprus, Greece, Jordan, Italy, and Slovakia [8].

Culicoides similis Carter, Ingram & Macfie, 1920

Distribution: Iraq [34]. Bangladesh, Kenya, Pakistan, Somalia, South Africa, Thailand, Namibia, Nigeria, Senegal, Sudan, Tanzania, Egypt, Ethiopia, Gambia, India, and Yemen [8].

Genus: *Leptoconops* Skuse, 1889

Synonyms

Brachyconops Wirth, 1973

Centrotypus Grassi, 1900

Holoconops Kieffer, 1918

Megaconops Wirth & Atchley, 1973

Microconops Kieffer, 1921

Mycterotypus Noe, 1905

Palaeoconops Borkent, 2001

Proleptoconops Clastrier, 1974

Protersesthes Kieffer, 1921

Schizoconops Kieffer, 1918

Styloconops Kieffer, 1921

Tersesthes Townsend, 1893

Leptoconops mesopotamiensis (Patton, 1920)

Basionym: *Tersesthes mesopotamiensis* Patton, 1920

Distribution: Iraq (39).

3.3. Family: Chironomidae

Genus: *Chironomus* Meigen, 1803

Synonyms

Camptochironomus Kieffer, 1918

Chaetolabis Townes, 1945

Cheironomus Wollaston, 1858

Chironomus Wiedemann, 1817

Holtedahlia Kieffer, 1922

Lobochironomus Ryser, Scholl & Wülker, 1985

Tendipes Meigen, 1800

Chironomus plumosus (Linnaeus, 1758)

Basionym: *Tipula plumosa* Linnaeus, 1758

Synonym

Chironomus annularis De Geer, 1776
Chironomus cristatus Fabricius, 1805
Chironomus diplosis Kieffer, 1915
Chironomus ferrugineovittatus Zetterstedt, 1850
Chironomus fluminalis Kieffer, 1915
Chironomus fluminalis Kieffer, 1915
Chironomus grandis Meigen, 1818
Chironomus hebescens Walker, 1856
Chironomus imperator Walley, 1926
Tipula annularis De Geer, 1776
Chironomus hebescens Walker, 1856
Chironomus imperator Walley, 1926
Tendipes plumosus (Linnaeus, 1758)
Tipula annularis De Geer, 1776
Tipula plumosa Linnaeus, 1758

Distribution: Iraq [36]. Iran [37]; Canada, Costa Rica, Czech, Estonia, Finland, Hungary, Greece, Germany, Japan, France, Korea, Lithuania, Mexico, Montenegro, Norway, Portugal, Spain, Sweden, UK, Ukraine, and USA [8].

3.4. Family: Chloropidae

Genus: *Meromyza* Meigen, 1830

Synonym: *Meromyza* Stephens, 1829

Meromyza nigriventris Macqwart, 1835

Synonyms

Chlorops hordei Matsumura, 1927
Meromyza basalis von Roser, 1840
Meromyza cerealium Reuter, 1902
Meromyza hercyniae Duda, 1933
Meromyza punctifer Becker, 1912

Distribution: Iraq [38]. Afghanistan, Bulgaria, China, Estonia, Denmark, Finland, Germany, Mongolia, Netherlands, Norway, Poland, Sweden, UK, and USA [8].

Genus: *Oscinella* Becker, 1910

Synonym: *Pachychoeta* Bezzi, 1895

Oscinella frit (Linnaeus, 1758)

Basionym: *Musca frit* Linnaeus, 1758

Common name: Frit fly.

Synonyms

Chlorops aenea Roser, 1840
Chlorops albiseta Meigen, 1830
Chlorops distincta Roser, 1840
Chlorops fumipennis Meigen, 1830
Chlorops nigrimana Roser, 1840
Hydrellia rufitarsis Meigen, 1838
Musca avenae Bjerckander, 1781
Musca hordei Bjerckander, 1777
Musca nigra Linnaeus, 1764
Oscinella albiseta (Meigen, 1830)
Oscinella exigua Collins, 1946
Oscinella fumipennis (Meigen, 1830)
Oscinella granaria (Curtis, 1846)
Oscinella nigra (Linnaeus, 1764)
Oscinella nigrita (Meigen, 1838)
Oscinella plumiseta Duda, 1933

Oscinella sziladyi Duda, 1933
Oscinis brunnitarsis Macquart, 1835
Oscinis flavipes Olivier, 1813
Oscinis granarius Curtis, 1846
Oscinis nigra Olivier, 1813
Oscinis nigra Tucker, 1908
Oscinis nigripes Strobl, 1894
Oscinis nigripes Strobl, 1898
Oscinis viridescens Macquart, 1835
Sabroskyina sziladyi (Duda, 1933)

Distribution: Iraq [39]. Turkey, Iran, Russia [40], Europe [41], Arabian Peninsula [42], Spain [43].

3.5. Family: Culicidae

Genus: *Aedes* Meigen, 1818

Synonyms

Bohartius Reinert, Harbach & Kitching, 2009
Coetzeemyia Huang, Mathis & Wilkerson, 2010
Cornetius Huang, 2005
Heteraspidion Reinert, Harbach & Kitching, 2009
Huangmyia Reinert, Harbach & Kitching, 2009
Mukwaya Reinert, Harbach & Kitching, 2009
Xyele Reinert, Harbach & Kitching, 2009
Zoromorphus Reinert, Harbach & Kitching, 2009

Aedes aegypti (Linnaeus, 1762)

Basionym: *Culex aegypti* Linnaeus, 1762

Synonyms

Culex albopalposus Becker, 1908
Culex angustealatus Becker, 1908
Culex annulitarsis Macquart, 1846
Culex argenteus Poiret, 1787
Culex augens Wiedemann, 1828
Culex bancrofti Skuse, 1889
Culex calopus Meigen, 1818
Culex calopus Wiedemann, 1818
Culex elegans Ficalbi, 1889
Culex exagitans Walker, 1856
Culex excitans Walker, 1848
Culex fasciatus Fabricius, 1805
Culex frater Robineau-Desvoidy, 1827
Culex inexorabilis Walker, 1848
Culex insatiabilis Bigot, 1859
Culex kounoupi brullé, 1833
Culex kououpi brullé, 1833
Culex mosquito Robineau-Desvoidy, 1827
Culex rossii Giles, 1899
Culex sugens Wiedemann, 1828
Culex taeniatus Wiedemann, 1828
Culex toxorhynchus Macquart, 1838
Culex viridifrons Walker, 1848
Duttonia alboannulis Ludlow, 1911
Mimeteomyia pulcherrima Taylor, 1919
Stegomyia aegypti (Linnaeus, 1762)
Stegomyia atritarsis Edwards, 1920
Stegomyia canariensis Pittaluga, 1905

Stegomyia lamberti Ventrillon, 1904
Stegomyia luciensis Theobald, 1901
Stegomyia nigeria Theobald, 1901
Stegomyia queenslandensis Theobald, 1901

Common name: Yellow fever mosquito.

Distribution: Iraq [44]. Argentina, Australia, Benin, Bolivia, Botswana, Brazil, Chinese Taipei, Colombia, Congo, Cyprus, Dominican, India, Indonesia, Iran, Ecuador, Egypt, Germany, Guatemala, Honduras, Jamaica, Kenya, Mexico, Nicaragua, Pakistan, Panama, Peru, Philippines, Portugal, Saudi Arabia, Singapore, South Africa, Sudan, Tanzania, Thailand, Uganda, Uruguay, USA, Venezuela, Vietnam, and Zambia [8].

Aedes caspius (Pallas, 1771)

Basionym: *Culex caspius* Pallas, 1771

Synonyms

Aedes epsilon Seguy, 1924
Aedes hrgreavesi Edwards, 1920
Culex arabicus Becker, 1910
Culex maculiventris Macquart, 1846
Culex penicillaris Rondani, 1872
Culex punctatus Meigen, 1804
Culex siculus Robineau-Desvoidy, 1827
Grabhamia longisquamosa Theobald, 1905
Grabhamia subtilis Sergent & Sergent, 1905
Grabhamia willcocksii Theobald, 1907
Mansonia arabica Giles, 1906
Ochlerotatus caspius (Pallas, 1771)
Taeniorhynchus africanus Neveu-Lemaire, 1906

Distribution: Iraq [45]; it's widely distributed in Western Palaearctic Region [46].

Aedes detritus (Haliday, 1833)

Basionym: *Culex detritus* Haliday, 1833

Synonyms

Aedes salinus Ficalbi, 1896
Aedes terriei (Theobald, 1903)
Culex salinus Ficalbi, 1896
Culex terriei Theobald, 1903
Grabhamia maculosa Theobald, 1905
Ochlerotatus detritus (Haliday, 1833)

Distribution: Iraq [47]. Algeria, Belgium, Cyprus, Egypt, Estonia, France, Ireland, Morocco, Mongolia, Norway, Palestine, Portugal, Romania, Russia, Spain, Sweden, Tunisia, Turkey, and UK [8].

Aedes dorsalis (Meigen, 1830)

Basionym: *Culex dorsalis* Meigen, 1830

Synonyms

Aedes grahami Ludlow, 1920
Aedes quaylei Dyar & Knab, 1906
Culex curriei Coquillett, 1901
Culex lativittatus Coquillett, 1906
Culex onodagensis Felt, 1904
Grabhamia broquetii Theobald, 1913
Ochlerotatus curriei (Coquillett, 1901)
Ochlerotatus dorsalis (Meigen, 1830)
Ochlerotatus lativittatus (Coquillett, 1906)
Ochlerotatus onodagensis (Felt, 1904)
Ochlerotatus quaylei (Dyar & Knab, 1906)

Distribution: Iraq [48]. Albania, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech, Denmark, Estonia, Finland, France, Macedonia, Germany, Greece, Hungary, Ireland, Italy, Japan, Kazakhstan, Kosovo, Latvia, Lithuania, Mexico, Moldova, Mongolia, Netherlands, Norway, China, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Taiwan, Tajikistan, Turkestan, Turkey, Ukraine, UK, USA [46, 49].

Aedes vexans (Meigen, 1830)

Synonyms

Aedes eurochrus Howard, Dyar & Knab, 1917
Aedes montcalmi (Blanchard, 1905)
Aedimorphus vexans (Meigen, 1830)
Culex articulatus Rondani, 1872
Culex malariae Grassi, 1898
Culex montcalmi Blanchard, 1905
Culex parvus Macquart, 1834
Culex sudanensis Theobald, 1911
Culex sylvestris Theobald, 1901
Culex vexans Meigen, 1830
Culicada eruthrosops Theobald, 1910

Common name: Vexan mosquito

Distribution: Iraq [48]; it's widely distributed in Asia, Europe, North America, Parts of Africa and Pacific [50, 51].

Genus: *Anopheles* Meigen, 1818

Common name: Marshes mosquitos

Anopheles algeriensis Theobald, 1903

Synonyms

Anopheles algeriensis Theobald, 1903
Anopheles lukisii Christopher, 1916

Distribution: Iraq [52]. Asia: Afghanistan, Algeria, Europe: Austria, Bulgaria, Croatia, Cyprus, Estonia, France, N. Macedonia, Georgia, Germany, Greece, Hungary, Iran, Ireland, Italy, Jordan, Kosovo, Kyrgyzstan, Lebanon, Libya, Montenegro, Morocco, Netherlands, Portugal, Romania, Russia, Serbia, Spain, Sweden, Syria, Tajikistan, Tunisia, Turkey, Ukraine, United Kingdom [53].

Anopheles claviger (Meigen, 1804)

Basionym: *Culex claviger* Meigen, 1804

Synonyms

Anopheles amaurus Martini, 1929
Anopheles bifurcatus Meigen, 1818
Anopheles grisescens Stephens, 1828
Anopheles habibi Mulligan & Puri, 1936
Anopheles missiroli Del Vecchio, 1939
Anopheles pollutus Torres Cañamares, 1945
Anopheles turkestanii Shingarev, 1926
Anopheles villosus Robineau-Desvoidy, 1827

Distribution: Iraq [52]. Algeria, Belgium, Estonia, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Russia, Spain, Sweden, and UK [8].

Anopheles dthali Patton, 1905

Synonym: *Anopheles wardi* Leeson & Theodor, 1948

Distribution: Iraq [53]. Algeria, Djibouti, Iran, KSA, Morocco, Mauritania, Niger, and Somalia [8]. Afghanistan, Chad, Egypt, Eritrea, Ethiopia, India, Jordan, Kenya, Lebanon, Mali, Oman, Pakistan, Sudan, Syria, Tunisia, Yemen [53].

Anopheles hyrcanus (Pallas, 1771)

Basionym: *Culex hyrcanus* Pallas, 1771

Synonyms

Anopheles flerowi Portschnisky, 1910
Anopheles mahmuti Martini, 1930

Anopheles marzinovski Shingarev, 1926
Anopheles mesopotamiae Christophers & Chand, 1915
Anopheles pictus Loew, 1845
Anopheles popovi Shingarev, 1928

Distribution: Iraq [52]. Austria, Cambodia, China, Croatia, Czech, France, Greece, Hungary, India, Indonesia, Iran, Italy, Japan, Kuwait, Malaysia, Philippines, Poland, Romania, Thailand, Turkey, Ukraine, and Uzbekistan [8].

Anopheles maculipennis Meigen, 1818

Synonyms

Anopheles alexandraeschingareyi Shingarev, 1928
Anopheles basillii Falleroni, 1932
Anopheles typicus Hackett & Missiroli, 1935

Distribution: Iraq [54]. Albania, Algeria, Austria, Belgium, Canada, Croatia, Estonia, Finland, France, Georgia, Germany, Italy, Luxembourg, Mexico, Netherlands, Russia, Spain, Sweden, Tunisia, and UK [8].

Anopheles multicolor Cambouliu, 1902

Synonyms

Anopheles impunctus Dönitz, 1902
Pyretophorus chaudoyei Theobald, 1903
Pyretophorus nigrifasciatus Theobald, 1907

Distribution: Iraq [52]. Afghanistan, Albania, Algeria, Cyprus, Egypt, Iran, Jordan, Libya, Morocco, Niger, Oman, Pakistan, Portugal, Qatar, KSA, Spain, Sudan, Tunisia, Turkey, and Turkmenistan [53].

Anopheles pulcherrimus Theobald, 1902

Synonym: *Cellia atropotena* Lindtrop, 1924

Distribution: Iraq [54]. India, Iran, Pakistan, Tajikistan, and Uzbekistan [8].

Anopheles sacharovi Favre, 1903

Synonym: *Anopheles elutus* Edwards, 1921

Distribution: Iraq [55]; Algeria, Azerbaijan, Croatia, Greece, Georgia, Iran, Italy, and Turkey [8].

Anopheles sergentii (Theobald, 1907)

Synonym: *Pyretophorus sergentii* Theobald, 1907

Distribution: Iraq [52]. Albania, Algeria, Bulgaria, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Djibouti, Egypt, Eritrea, Ethiopia, Greece, Guinea, Iran, Italy, Jordan, Libya, Kenya, Mali, UAE, and Yemen [53].

Anopheles stephensi Liston, 1901

Synonyms

Anopheles folquei Mello, 1918
Anopheles metaboles Theobald, 1902
Anopheles mysorensis Sweet & Rao, 1937
Neocellia intermedia Rothwell, 1907

Distribution: Iraq [54]. South Asia, Arabian Peninsula; recently, it has been collected from Djibouti, Ethiopia, Sudan, Sri Lanka, Somalia, Nigeria and Yemen (3).

Anopheles superpictus Grassi, 1899

Synonyms

Anopheles atheniensis Cardamatis, 1931
Anopheles berestnvei Shingarev, 1926
Anopheles hellenicus Peus, 1954
Anopheles macedoniensis Cot & Hovasse, 1917
Anopheles vassilievii Portsichinsky, 1911
Pyretophorus cardamatisi Newstead & Carter, 1910
Pyretophorus nursei Theobald, 1907
Pyretophorus palestinensis Theobald, 1903

Distribution: Iraq [52]. It distributes in Eastern Europe, and into the Caucasus Region of the Western Palaearctic; also spread in South and Eastern Mediterranean basin (including northern Africa and the Middle East) [53].

Anopheles turkhudi Liston, 1901

Distribution: Iraq [56]. Algeria, Djibouti, Eritrea, India, Morocco, Somalia, and Switzerland [8].

Genus: *Culex* Linnaeus, 1758

Synonyms: *Phytotelmatomyia* Rossi & Harbach, 2008

Sirivanakarnius Tanaka, 2004

Culex apicalis Adams, 1903

Synonym: *Culex alpicalis* Adams, 1903

Distribution: Iraq [48]. Brazil, France, Mexico, and USA [8].

Culex hortensis Ficalbi, 1889

Synonyms: *Culex lavieri* Larrousse, 1925

Maillotia pilifera Theobald, 1907

Distribution: Iraq [10]. Algeria, Andorra, Belgium, Croatia, France, Germany, Iran, Italy, Morocco, Portugal, Slovenia, Spain, Tunisia and Turkey [8].

Culex mimeticus Noè, 1899

Synonym: *Culex pseudomimeticus* Sergent, 1909

Distribution: Iraq [57]; Algeria, Bhutan, China, Indonesia, Japan, Korea, Lebanon, Morocco, Pakistan, Spain, Thailand, Tunisia and Vietnam [8].

Culex pipiens Linnaeus, 1758

Synonyms

Culex agilis Bigot, 1889

Culex autogenicus Roubaud, 1935

Culex azoriensis Theobald, 1903

Culex berbericus Roubaud, 1935

Culex bicolor Meigen, 1818

Culex bifurcatus Linnaeus, 1758

Culex calcitrans Robineau-Desvoidy, 1827

Culex calloti Rioux & Pech, 1959

Culex ciliaris Walker, 1856

Culex consobrinus Robineau-Desvoidy, 1827

Culex disjunctus Roubaud, 1957

Culex doliorum Edwards, 1912

Culex domesticus Germar, 1817

Culex erectus Iglisch, 1977

Culex fasciatus Muller, 1764

Culex haematophagus Ficalbi, 1893

Culex longefurcatus Becker, 1903

Culex luteus Meigen, 1804

Culex marginalis Stephens, 1825

Culex melanorhinus Giles, 1900

Culex meridionalis Leach, 1825

Culex molestus Forsskål, 1775

Culex pallipes Macquart, 1838

Culex pallipes Meigen, 1835

Culex phytophagus Ficalbi, 1889

Culex pipines Geoffroy, 1785

Culex rufinus Bigot, 1888

Culex rufus Meigen, 1818

Culex thoracicus Robineau-Desvoidy, 1827

Culex torridus Iglisch, 1977

Culex trifurcatus Fabricius, 1794

Culex unistriatus Curtis, 1837

Culex varioannulatus Theobald, 1903

Distribution: Iraq [58]. It is native species to Africa, Asia. It distributes in temperate regions of Europe, Asia, Africa, Australia, and North and South America [45].

Culex pusillus Macquart, 1850

Distribution: Iraq [58]; Egypt, Kuwait, Qatar and Tunisia [8].

Culex theileri Theobald, 1903

Synonyms: *Culex alpha* Seguy, 1924

Culex annulata Theobald, 1913

Culex creticus Theobald, 1903

Culex understepoortensis Theobald, 1911

Culex pettigrewii Theobald, 1910

Distribution: Iraq [59]. Algeria, China, Egypt, Ethiopia, France, Iran, Kenya, Kuwait, and Madagascar [8].

Culex tritaeniorhynchus Giles, 1901

Synonym: *Culex biroii* Theobald, 1905

Distribution: Iraq [57]. Afghanistan, Albania, Angola, Azerbaijan, Bangladesh, Benin, Borneo, Brunei, Cambodia, Cameroon, Djibouti, Egypt, Ethiopia, Fiji, Gabon, Gambia, Georgia, Ghana, Greece, Guam, Hong Kong, India, Indonesia, Iran, Japan, Jordan, Kenya, Kuwait, Laos, Lebanon, Liberia, Madagascar, Malaysia, Maldives, Mauritius, Micronesia, Mozambique, Myanmar, Nepal, Nigeria, Oman, Pakistan, Papua New Guinea, China, Philippines, Reunion, Russia, Saudi Arabia, Senegal, Singapore, Somalia, South Korea, Sri Lanka, Syria, Taiwan, Tanzania, Thailand, Timor, Togo, Turkey, Turkmenistan, Uzbekistan, Vietnam, and Yemen [53].

Culex univittatus Theobald, 1901

Synonyms: *Culex ataeniata* Theobald, 1911

Heptaphlebomyia montforti Ventrillon, 1905

Heptaphlebomyia simplex Theobald, 1903

Distribution: Iraq[60]; Algeria, Angola, Benin, Bulgaria, Burkina Faso, Cameroon, Congo, Djibouti, Egypt, Ethiopia, Gabon, Gambia, Ghana, India, Iran, Kenya, Kuwait, Lebanon, Liberia, Madagascar, Mali, Mauritania, Morocco, Mozambique, Namibia, Niger, Nigeria, Oman, Pakistan, Qatar, South Africa, KSA, Senegal, Somalia, Sudan, Syria, Tanzania, Tunisia, Turkmenistan, Uganda, Yemen, Zambia, and Zimbabwe [53].

Culex vishnui Theobald, 1901

Distribution: Iraq [61]. According to WRBU [53], this species was recorded in: Bangladesh, Borneo, Cambodia, India, Indonesia, Japan, Laos, Malaysia, Maldives, Myanmar, Nepal, Papua New Guinea, Pakistan, China, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand, Timor, and Vietnam [8].

Genus: *Culiseta* Felt, 1904

Synonym: *Theobaldia* Neveu-Lemaire, 1902

Culiseta annulata (Schrank, 1776)

Basionym: *Culex annulatus* Schrank, 1776

Synonyms

Culex affinis Stephens, 1825

Culex annulatus Fabricius, 1787

Culex annulatus Geoffroy, 1785

Culex annulatus Schrank, 1776

Culex calopus Stephens, 1828

Culex nicaensis Leach, 1825

Culiseta affinis (Stephens, 1825)

Culiseta calopus (Stephens, 1828)

Theobaldia annulata (Schrank, 1776)

Distribution: Iraq [48]. It distributes in Belarus, Estonia, Finland, Latvia, Lithuania, Nepal, North Korea, Norway, Sweden, UK, Belgium, Denmark, Netherlands, Russia, Transcaucasia, Kazakhstan, Central Asia, Asia Minor, and North Africa [62].

Culiseta subochrea (Edwards, 1921)

Basionym: *Theobaldia subochrea* Edwards, 1921

Synonyms

Culex penetrans Robineau-Desvoidy, 1827

Theobaldia ferruginata Martini, 1924

Distribution: Iraq [45]. Belgium, China, Egypt, France, Ireland, Morocco, Netherlands, Sweden, Spain, and UK [8].

Genus: *Uranotaenia* Lynch Arribálzaga, 1891

Uranotaenia unguiculata Edwards, 1913

Distribution: Iraq [44] Austria, China, Egypt, France, Germany, Hungary, Iran, Morocco, Portugal, Romania, Spain, and Tunisia [8].

3.6. Family: Fanniidae

Genus: *Fannia* Robineau-Desvoidy, 1830

Synonyms

Dasyphyma Bigot, 1882

Homalomya Bigot, 1887

Homalomyia P.F.Bouché, 1834

Homolamyia Bouché, 1834

Parhomalomyia Coquillett, 1901

Parmalomyia Bigot, 1882

Philinta Robineau-Desvoidy, 1830

Steinomyia Malloch, 1912

Fannia canicularis (Linnaeus, 1761)

Synonyms

Aminta rivularis Robineau-Desvoidy, 1830

Anthomyia canicularis Cobbold, 1879

Anthomyia chilensis Macquart, 1844

Anthomyia constantina Macquart, 1844

Anthomyia fulvomaculata Roser, 1840

Anthomyia hilaris Zetterstedt, 1845

Anthomyia introducta Walker, 1853

Anthomyia ischiaca Harris, 1835

Anthomyia isura Walker, 1849

Anthomyia muscoides Walker, 1871

Anthomyia tuberosa Curtis, 1845

Fannia lateralis (Linnaeus, 1758)

Fannia socio (Harris, 1780)

Fannia sociominor (Harris, 1780)

Homalomyia fraxinea Hutton, 1898

Homalomyia prunivora Walsh, 1870

Musca canicularis Linnaeus, 1761

Musca cunicularis Curtis, 1849

Musca lateralis Linnaeus, 1758

Musca minor Harris, 1780

Musca socio Harris, 1780

Musca sociominor Harris, 1780

Distribution: Iraq [55]. World-wide distribution [69].

3.7. Family: Hippoboscidae

Genus: *Hippobosca* Linnaeus, 1758

Synonyms

Hippoboscus Gray, 1832

Hyppobosca Guerin, 1831

Zoomyia Bigot, 1885

Hippobosca longipennis Fabricius, 1805

Synonyms

Hippobosca canina Drensky, 1926

Hippobosca canina Rondani, 1878

Hippobosca capensis Olivers, 1816

Hippobosca chinensis Giglioli, 1864

Hippobosca fossulata Macquart, 1844

Hippobosca fracilloni Leach, 1817

Hippobosca orientalis Macquart, 1844

Ornithomyia chinensis Giglioli, 1864

Distribution: Iraq [63]. Afghanistan, Botswana, Chile, Egypt, France, Greece, India, Italy, Japan, Kenya, Korea, KSA, Morocco, Poland, Portugal, Romania, Spain, Syria, Sri Lanka, South Africa, and Tanzania [69].

Genus: *Lipoptena* Nitzsch, 1818

Synonyms

Haemobora Curtis, 1824

Leptoptena Walker, 1849

Leptoptenys Schiner, 1868

Leptotaena Blanchard, 1840

Lipoptera Siebold, 1845

Lipotena Latreille, 1829

Lipotepna Latreille, 1829

Ornithobia Meigen, 1830

Lipoptena cervi (Linnaeus, 1758)

Common name: Deer Ked

Basionym: *Pediculus cervi* Linnaeus, 1758

Synonyms

Haemobora pallipes Curtis, 1824

Hippobosca cervi Olivier, 1792

Hippobosca cervina Nitzsch, 1818

Hippobosca moschi Pallas, 1779

Lipoptena alcis Schnabl, 1881

Lipoptena cervina (Nitzsch, 1818)

Lipoptena moschi (Pallas, 1779)

Lipoptena nigrirostris (Roser, 1840)

Lipoptena pallida (Meigen, 1830)

Lipoptena pallipes (Curtis, 1824)

Lipoptena subulata Coquillett, 1907

Lipoptena trifasciata (Olfers, 1816)

Melophaga moschi Wiedemann, 1830

Melophagus trifasciata Olfers, 1816

Ornithobia pallida Meigen, 1830

Ornithomyia nigrirostris Roser, 1840

Pediculus capreoli Olivers, 1816

Pediculus cervi Linnaeus, 1758

Distribution: Iraq [64]. Korea[65]; Austria, Belarus, Belgium, Bulgaria, Croatia, Czech, Denmark, Estonia, Finland, France, Germany, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Russia, Slovakia, Sweden, UK, Ukraine, and USA [8].

Genus: *Lynchia* Weinbergh, 1881

Lynchia maura (Bigot, 1885)

Common name: bird-fly

Distribution: Iraq [39]. Chile [66].

Genus: *Melophagus* Latreille, 1802

Melophagus ovinus (Linnaeus, 1758)

Synonyms

Hippobosca ovina Linnaeus, 1758

Melophaga hirtella Olfers, 1816

Melophagus bolivianus Bau, 1930

Melophagus fera Speiser, 1908

Melophagus hirtella Olfers, 1816

Melophagus montanus Ferris & Cole, 1922

Distribution: Iraq [49]. Argentina, Austria, Australia, Brazil, Canada, China, Czech, Denmark, Finland, France, Germany, Hungary, Mexico, Morocco, Nepal, Netherlands, Russia, South Africa, Sweden, and USA (8).

Genus: *Ornithomyia* Latreille, 1805

Synonym: *Ornithymia* Bezzi, 1905

Ornithomyia avicularia Linnaeus, 1758

Basionym: *Hippobosca avicularia* Linnaeus, 1758

Synonyms

Hippobosca corvi Scopoli, 1763

Ornithomyia corvi (Scopoli, 1763)

Ornithomyia viridis Latreille, 1805

Ornithomyia viridula Meigen, 1830

Ornithomyia avicularia (Linnaeus, 1758)

Ornithomyia viridis Latreille, 1805

Ornithomyia viridula Meigen, 1830

Distribution: Iraq [64]. Austria, Australia, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Japan, Luxembourg, Netherlands, Norway, Poland, Russia, South Africa, Sweden, and UK [69].

3.8. Family: Muscidae

Genus: *Haematobia* Lepeletier & Serville, 1828

Synonyms:

Haemathobia Neave, 1939

Haematobia Robineau-Desvoidy, 1830

Hematobia Rondani, 1862

Hoematobia Lepeletier & Serville, 1828

Hoematobia Rondani, 1856

Lyparosia Becker, 1908

Priophora Robineau-Desvoidy, 1863

Haematobia exigua Meijer, 1903

Synonyms

Haematobia australis Malloch, 1932

Lyperosia flavohirta Brunetti, 1910

Distribution: Iraq [68]. Australia, Japan, Thailand, Hanguria, and Indonesia [69].

Haematobia irritant (Linnaeus, 1758)

Synonyms

Conops irritans Linnaeus, 1758

Haematobia serrate Robineau-Desvoidy, 1930

Distribution: Iraq [68]. Nicaragua [70]; Paraguay [71]; Iran [72], and Saudi Arabia [73].

Haematobia minuta (Bezzi, 1892)

Synonyms

Glossinella potrix Enderlein, 1928
Lyperosia longipalpis Roubaud, 1906
Lyperosia minuta Bezzi, 1892

Distribution: Iraq [68]. Saudi Arabia [74], and India [75].

Genus: *Musca* Linnaeus, 1758

Synonyms

Biomye Robineau-Desvoidy, 1826
Biomyia Williston, 1908
Byomya Robineau-Desvoidy, 1830
Byomyia Agassiz, 1846
Eumusca Townsend, 1911
Placomyia Agassiz, 1846
Plaxemya Robineau-Desvoidy, 1830
Plaxemyia Schiner, 1862

Musca crassirostris Stein, 1903

Synonyms

Musca inconstans Wiedemann, 1830
Musca modesta Meijere, 1904
Philaematomyia insignis Austen, 1909

Distribution: Iraq [48]. Turkey, Cyprus, [76]]; Saudi Arabia [74]]; India [75]; Namibia [77]; Iran [72]; Malaysia [78].

Musca domestica Linnaeus, 1758

Synonyms

Musca aurifacies Robineau-Desvoidy, 1830
Musca contigua Walker, 1853
Musca flavifacies Bigot, 1888
Musca harpyia Harris, 1869
Musca taitensis Macquart, 1843
Musca vicina Macquart, 1851

Distribution: Cosmopolitan [69].

Musca larvipara Portschinsky, 1910

Synonyms

Musca corvinooides Schnabl & Dziedzicki, 1911
Musca mesopotamiensis Patton, 1920
Musca vivipara Bezzi, 1911

Distribution: Iraq [17]. Armenia [79]; Palaearctic Region, [80]; Iran [72]; Belarus [81].

Musca sorbens Wiedemann, 1830

Synonyms

Byomya alba Malloch, 1929
Musca bivittata Thomson, 1869
Musca dichotoma Bezzi, 1911
Musca effatouni Salem & EL-Sherif, 1960
Musca efflatouni Salem & EL-Sherif, 1960
Musca eutaeniata Bigot, 1888
Musca humilis Wiedemann, 1830
Musca mediana Wiedemann, 1830
Musca niveisquama Thomson, 1869

Musca primitiva Walker, 1849
Musca promisca Awati, 1916
Musca pusilla Macquart, 1851
Musca spectanda Wiedemann, 1830
Musca stuckenbergi Zielke, 1971

Distribution: Iraq [17]. India [75]; Namibia [77]; Saudi Arabia [73]; Egypt [82].

Genus: *Muscina* Robineau-Desvoidy, 1830

Muscina stabulans (Fallén, 1817)

Synonyms

Anthomyia cinerascens Wiedemann, 1817
Curtonevra vicina Macquart, 1844
Cyrtonevra australis Macquart, 1847
Musca prodeo Harris, 1780
Musca stabulans Fallén, 1817
Musca tibialis Walker, 1836
Muscina grisea Robineau-Desvoidy, 1830
Muscina picaena Robineau-Desvoidy, 1830
Mydaea vomiturionis Robineau-Desvoidy, 1849

Distribution: Iraq [10]. Kuwait [83]; Iran [84]; Finland [85]; Morocco [86]; Armenia [79]; Namibia [77]; Egypt [82]; Betarus [81].

Genus: *Stomoxys* Geoffroy, 1762

Synonyms

Stomoxys Schaeffer, 1766
Stomoxys Fabricius, 1775

Stomoxys calcitrans (Linnaeus, 1758)

Basionym: *Conops calcitrans* Linnaeus, 1758

Synonyms

Musca calcitrans Harris, 1780
Musca occidentis Walker, 1853
Musca pungens De Geer, 1776
Stomoxys aculeata Robineau-Desvoidy, 1830
Stomoxys aurifacies Robineau-Desvoidy, 1863
Stomoxys chrysocephala Robineau-Desvoidy, 1863
Stomoxys aculeata Robineau-Desvoidy, 1830
Stomoxys aurifacies Robineau-Desvoidy, 1863
Stomoxys chrysocephala Robineau-Desvoidy, 1863
Stomoxys claripennis Robineau-Desvoidy, 1863
Stomoxys cunctans Robineau-Desvoidy, 1863
Stomoxys dira Robineau-Desvoidy, 1830
Stomoxys flavescens Robineau-Desvoidy, 1863
Stomoxys infesta Robineau-Desvoidy, 1830
Stomoxys inimica Robineau-Desvoidy, 1830
Stomoxys libatrix Robineau-Desvoidy, 1830
Stomoxys minuta Robineau-Desvoidy, 1863
Stomoxys plurinotata Bigot, 1888
Stomoxys praecox Robineau-Desvoidy, 1863
Stomoxys pungens Robineau-Desvoidy, 1830
Stomoxys rubrifrons Robineau-Desvoidy, 1863
Stomoxys sugullatrix Robineau-Desvoidy, 1830
Stomoxys vulnerans Robineau-Desvoidy, 1863
Stomoxys aculeata Robineau-Desvoidy, 1830
Stomoxys aenos Walker, 1849
Stomoxys bouffardi Picard, 1907
Stomoxys chrysocephala Robineau-Desvoidy, 1863

Stomoxys cybira Walker, 1849
Stomoxys dacnusa Speiser, 1908
Stomoxys geniculata Macquart, 1846
Stomoxys geniculatus Bigot, 1860
Stomoxys griseiceps Becker, 1908
Stomoxys hovas Brauer, 1899
Stomoxys infesta Robineau-Desvoidy, 1830

Distribution: Iraq [39]. Saudi Arabia [74]; Armenia [79]; India [75]; Paraguay [71]; Finland [85]; Iran [72]; Malaysia [84]; Belarus [81]; Morocco [86].

3.9. Family: Oestridae

Genus: *Gasterophilus* Leach, 1817

Synonyms

Enteromyza Rondani, 1857
Enteromyza Rondani, 1857
Gastrophilus Agassiz, 1847
Gastrus Meigen, 1824

Gasterophilus intestinalis (De Geer, 1776)

Basionym: *Oestrus intestinalis* De Geer, 1776

Synonyms

Gasterophilus equi (Clark, 1797)
Gasterophilus magnicornis Bezzi, 1916
Gastrophilus asininus Brauer, 1863
Oestrus bengalensis Macquart, 1844
Oestrus equi Clark, 1797
Oestrus gastrophilus Gistel, 1848
Oestrus major Schwab, 1840
Oestrus schwabianus Gistel, 1848

Distribution: Iraq [63]. Morocco [86]; Egypt, and Saudi Arabia [87]; India [88].

Genus: *Hypoderma* Latreille, 1818

Synonyms

Aedemagena Latreille, 1818
Hedemagna Rondani, 1856
Marmaryga Gistel, 1848
Oedamagena Williston, 1896
Oedemagena Latreille, 1818
Oedemagenus Berthold, 1827
Oedematogena Agassiz, 1846
Oedemegena Latreille, 1818

Hypoderma bovis (Linnaeus, 1758)

Synonyms

Oestrus bovis (Linnaeus, 1758)
Hypoderma bellieri Bigot, 1862

Common name: Northern Cattle Grub

Distribution: Iraq [63]. Morocco [86], and Egypt [87].

Hypoderma lineatum (Villers, 1789)

Synonyms

Hypoderma bonassi Brauer, 1875
Hypoderma ericetorum (Clark, 1815)
Hypoderma ericetorum (Leach, 1818)
Hypoderma vernalis (Clark, 1815)
Oestrus ericetorum Clark, 1815
Oestrus ericetorum Leach, 1818

Oestrus lineatus Villers, 1789
Oestrus supplens Walker, 1849
Oestrus vernalis Clark, 1815

Distribution: Iraq [63]. India [88]; Saudi Arabia [87], and Morocco [86].

3.10. Family: Piophilidae

Genus: *Piophila* Fallen, 1810

Synonyms

Prophila Hutton, 1904
Tyrophaga Kirby & Spence, 1826

Piophila casei (Linnaeus, 1758)

Basionym: *Musca casei* Linnaeus, 1758

Synonyms

Musca atrata Fabricius, 1781
Piophila atrata (Fabricius, 1781)
Piophila meridionalis Hendel, 1933
Piophila pusilla Meigen, 1838
Piophila smithii Hutton, 1901
Piophila viridicollis Macquart, 1843

Distribution: Iraq [89]. Morocco [86]; Australia, Argentina, Argentina, Japan, Germany, Canada, Spain, Portugal, and South Africa [90].

3.11. Family: Psychodidae

Genus: *Phlebotomus* Rondani & Berté, 1840

Synonyms

Cyniphes Costa, 1843
Flebotomus Rondani & Berte, 1840
Haemason Loew, 1844
Hebotomus Rondani, 1843
Hemasson Bigot, 1854
Legeromyia Rahola, Depaquit & Paupy, 2013

Phlebotomus alexandri Sinton, 1928

Synonym: *Phlebotomus marismortui* Theodor, 1947

Distribution: Iraq [91]. Morocco [86], and Romania [92].

Phlebotomus papatasi (Scopoli, 1786)

Basionym: *Bibio papatasi* Scopoli, 1786

Synonyms

Ciniphes molesta Costa, 1840
Cyniphes molesta Costa, 1843
Haemasson minutus Loew, 1844
Phlebotomus breviventris Ristorcelli, 1941

Distribution: Iraq [93]. Morocco [86]; Romania [92]; India, Ethiopia, Jordon, and Afghanistan [69].

Phlebotomus perfiliewi Parrot, 1930

Synonym: *Phlebotomus macedonicus* Adler & Theodor, 1931

Distribution: Iraq [94]. Romania [92]; Tunisia, Azrebegan, and Algeria [69].

Phlebotomus sergenti Parrot, 1917

Distribution: Iraq [91], and Morocco [86].

Phlebotomus wenyoni Adler & Theodor, 1930

Distribution: Iraq [91], and Morocco [86].

Genus: *Psychoda* Latreille, 1797

Synonyms

Phychoda Gimmerthal, 1832

Psicoda Rondani, 1856

Psychodes Dumeril, 1823

Psychota Gimmerthal, 1846

Psychoda alternata Say, 1824

Synonyms

Psychoda albimaculata Welch, 1912

Psychoda bengalensis Brunetti, 1908

Psychoda conspicillata Hutton, 1881

Psychoda dakotensis Dyar, 1926

Psychoda floridica Haseman, 1907

Psychoda marginepunctata Roser, 1840

Psychoda marmarosa Santos Abreu, 1930

Psychoda nocturnalata Haseman, 1907

Psychoda schizura Kincaid, 1899

Psychoda sexpunctatus Eaton, 1898

Psychoda tripunctata Macquart, 1838

Tinearia alternata (Say, 1824)

Tinearia marginepunctata (von Roser, 1840)

Tinearia marmosa (Abreu, 1930)

Tinearia sexpunctata (Curtis, 1839)

Tinearia sexpunctata (Haliday, 1839)

Tinearia tripunctata (Macquart, 1838)

Tineria alternata (Say, 1824)

Distribution: Iraq [64]. Portugal, Spine, China, Sweden, and Bulgaria [69].

Genus: *Sergentomyia* Franca & Parrot, 1920

Synonyms: *Newsteadia* Franca, 1919

Prophlebotomus Franca & Parrot, 1921

Vattieromyia Depaquit, Léger & Robert, 2008

Sergentomyia baghdadis (Adler & Theodor, 1929)

Basionym: *Phlebotomus baghdadis* Adler & Theodor, 1929

Distribution: Iraq [95].

Sergentomyia clydei (Sinton, 1928)

Basionym: *Phlebotomus clydei* Sinton, 1928

Synonyms

Phlebotomus vagus Parrot & Martin, 1939

Phlebotomus viator Parrot & Martin, 1939

Sergentomyia latiterna Theodor, 1958

Distribution: Iraq [91], and Iran [96].

Sergentomyia dentata (Sinton, 1933)

Synonyms

Phlebotomus arpaklensis Perfiliev, 1933

Phlebotomus bruchoni Parrot, 1935

Phlebotomus dentata Sinton, 1933

Phlebotomus medinensis Pringle, 1953

Distribution: Iraq [91], and Iran [96].

Sergentomyia fallax (Parrot, 1921)

Basionym: *Phlebotomus fallax* Parrot, 1921

Distribution: Iraq [95]. Morocco [86], and Iran [96].

Sergentomyia palestinensis (Adler & Theodor, 1927)

Basionym: *Phlebotomus palestinensis* Adler & Theodor, 1927

Distribution: Iraq [91].

Sergentomyia squamipleuris (Newstead, 1912)

Basionym: *Phlebotomus squamipleuris* Newstead, 1912

Synonyms

Phlebotomus haseebi Qutubuddin, 1962

Phlebotomus horgani Lewis & Kirk, 1946

Phlebotomus iraqi Adler & Theodor, 1929

Phlebotomus squamipleuris Newstead, 1912

Distribution: Iraq [91]. Kenya, China, and South Africa [69].

3.12. Family: Sarcophagidae

Genus: *Sarcophaga* Meigen, 1826

Synonyms: *Bulbostyla* Giroux and Wheeler, 2010

Caledonicesa Koçak and Kemal, 2010

Devriesia Lehrer, 1995

Erichsonia Robineau-Desvoidy, 1863

Heteronychia Brauer and von Bergenstamm, 1889

Lehrera Koçak and Kemal, 2009

Listeria Robineau-Desvoidy, 1863

Pierretia Robineau-Desvoidy, 1863

Sarcophaga africa (Wiedemann, 1824)

Common name: Common flesh fly

Synonyms

Bellieria miniticauda Zumpt, 1953

Bercaea agilis Robineau-Desvoidy, 1863

B. agraria Robineau-Desvoidy, 1863

B. cruenta (Meigen, 1826)

B. crventata Kano, Field & Shinonaga, 1967

B. haemathura Robineau-Desvoidy, 1863

B. haematura Verves, 1986

B. meditata Robineau-Desvoidy, 1863

B. oralis Robineau-Desvoidy, 1863

Mesothysia madagascariensis Enderlein, 1928

Lioplacella helicivora Verves, 1986

L. helicivorax Enderlein, 1933

Myophora aestivalis Robineau-Desvoidy, 1830

M. albicans Robineau-Desvoidy, 1830

M. contempta Robineau-Desvoidy, 1830

M. riparia Robineau-Desvoidy, 1830

Distribution: Iraq [97]. Cosmopolitan [98].

Sarcophaga carnaria (Linnaeus, 1758)

Common name: Common flesh fly

Synonyms

Musca carnaria Linnaeus, 1758

Sarcophaga camaria Villeneuve, 1905

S. cannaria Doleschall, 1858

S. carinaria Suzuki, 1915

S. dolosa Lehrer, 1967

S. mehrina Enderlein, 1928

S. schulzi Müller, 1922

Distribution: Iraq [10]; Palaearctic Region [97, 98]; Gorgia [99].

Sarcophaga haemarrhoa Baranov, 1929

Synonyms

Sarcophaga haemorrhoea Jacentkovsky, 1934

S. helicivoris Baranov, 1942

S. sanguinolenta Macquart, 1835

Distribution: Iraq [100]; Austria, Croatia, Czech Republic, France, Germany, Hungary, Italy, Serbia, Slovakia, Spain, Sweden, and Ukraine [101].

Genus: *Wohlfahrtia* Brauer & Bergenstamm, 1889

Wohlfahrtia magnifica (Schiner, 1861)

Basionym: *Sarcophila magnifica* Schiner, 1861

Synonyms

Sarcophila wohlfahrti Portschinsky, 1875

Wohlfahrtia hirtiparafacialis Chao & Zhang, 1996

Distribution: Iraq [39]. Ukraine, Egypt, Germany, France, and Greece [69].

3.13. Family: Simuliidae

Genus: *Simulium* Latreille, 1802

Synonyms

Asiosimulium Takaoka & Choochote, 2005

Bakerina Bory de St Vincent, 1827

Choporus Gistel, 1848

Simulia Bigot, 1854

Simulia Latreille, 1802

Simulia Olfers, 1816

Simulium bezzii Corti, 1914

Synonyms

Friesia crinita Rubtsov, 1956

Friesia obscura Enderlein, 1924

Melusina bezzii Corti, 1914

Nevermannia tristrigata Enderlein, 1921

Odagmia kondici Baranov, 1926

Simulium atlas Séguy, 1930

Simulium delphinense Villeneuve, 1918

Simulium vittatum subsp. *Delphinense* Villeneuve, 1918

Tetisimulium goriense Dinulescu, 1966

Tetisimulium graium Couvert, 1967

Distribution: Iraq [102]. Iran [103], and Turkey [104].

Simulium buxtoni Austen, 1923

Synonyms

Simulium bipunctatum Austen, 1923

Simulium irakae Smart, 1944

Distribution: Iraq [105], and Iran [103].

3.14. Family: Tabanidae

Genus: *Atylotus* Osten-Sacken, 1876

Synonyms

Abatylotus Philip, 1948

Baikalia Surcouf, 1921

Baikalomyia Stackelberg, 1926

Dasystypia Enderlein, 1922

Ochrops Sziládi, 1915
Surcoufiella Bequaert, 1924

Atylotus agrestis (Wiedemann, 1828)

Basionym: *Tabanus agrestis* Wiedemann, 1828

Synonyms

Tabanus albicans Macquart, 1834
Tabanus bipunctatus Wulp, 1885
Tabanus ditoeniatus Macquart, 1838
Tabanus lacustris Ghidini, 1938
Tabanus pyrrhus Walker, 1850

Distribution: Iraq [106]; Bangladesh, China, Egypt, France, India, Kenya, Madagashgr, Mali, Mauritius, Mozambique, Pakistan, Portugal, Réunion, Saudi Arabia, Senegal, Sri Lanka, South Africa, Tanzania, Togo, and Zimbabwe [8].

Atylotus albopruinosus (Szilády, 1923)

Basionym: *Tabanus albopruinosus* Szilády, 1923

Distribution: Iraq [106]

Atylotus loewianus (Villeneuve, 1920)

Basionym: *Ochrops loewianus* Villeneuve, 1920

Synonym: *Tabanus znojkoii* Olsufiev, 1937

Distribution: Iraq [64]. Austria, Bulgaria, Croatia, France, Germany, Italy, Korea, Kyrgyzstan, Poland, Portugal, and Spain [8].

Atylotus pulchellus (Loew, 1858)

Basionym: *Tabanus pulchellus* Loew, 1858

Synonyms

Ochrops karybenthinus Szilády, 1915
Tabanus cyprianus Ricardo, 1911

Distribution: Iraq [106]. Algeria, Cyprus, and Iran [8].

Atylotus quadrifarius (Loew, 1874)

Basionym: *Tabanus quadrifarius* Loew, 1874

Synonyms

Atylotus afghanistanicus Moucha & Chvála, 1959
Tabanus lattesica Strand, 1925
Tabanus rufipes Szilády, 1915

Distribution: Iraq [106]; Afghanistan, Iran, Morocco, Portugal, and Spain [8].

Atylotus rusticus (Linnaeus, 1767)

Basionym: *Tabanus rusticus* Linnaeus, 1767

Synonyms

Atylotus parallelliformis (Szilády, 1923)
Atylotus ruralis (Zetterstedt, 1838)
Tabanus hungaricus Strand & Kröber, 1925
Tabanus ochraceus Olsufiev & Melnikova, 1962
Tabanus parallelifrons Szilády, 1923
Tabanus parallelliformis Szilády, 1923
Tabanus ruralis Zetterstedt, 1838
Tabanus strobli Strand & Kröber, 1925

Distribution: Iraq [64] Austria, Belgium, Croatia, Czech, Denmark, Estonia, Finland, France, Germany, Latvia, Netherlands, Norway, Poland, Russia, Sweden, UK, and Ukraine [8].

Genus: *Chrysops* Meigen, 1803

Synonyms

Chrysopsis Duméril, 1805
Crysops Rondani, 1844

Euops Gistel, 1848
Heterochrysops Kröber, 1920
Neochrysops Szilády, 1922
Psilochrysops Kröber, 1929
Psylochrysops Szilády, 1926

Chrysops caecutiens (Linnaeus, 1758)

Basionym: *Tabanus caecutiens* Linnaeus, 1758

Common name: Splayed Deerfly

Synonyms

Chrysops clarus Goffe, 1931
Chrysops coecutiens (Linnaeus, 1758)
Chrysops crudelis Wiedemann, 1828
Chrysops fulvus Goffe, 1931
Chrysops hermanni Kröber, 1920
Chrysops hyalinatus Goffe, 1931
Chrysops ludens Loew, 1858
Chrysops lugubris (Linnaeus, 1761)
Chrysops maritimus (Scopoli, 1763)
Chrysops meridionalis Strobl, 1906
Chrysops niger Goffe, 1931
Chrysops nigrescens Goffe, 1931
Chrysops nubilosus (Harris, 1782)
Chrysops obsolescens Goffe, 1931
Chrysops obsoletus Goffe, 1931
Chrysops trifenestratus Kröber, 1920
Crysops obsoletus Goffe, 1931
Tabanus coecutiens Müller, 1775
Tabanus lugubris Linnaeus, 1761
Tabanus maritimus Scopoli, 1763
Tabanus nubilosus Harris, 1782

Distribution: Iraq [64]. Eurasia, from Europe to Turkey and Iran, through Russia to Mongolia and China; also present in Jordan [107].

Chrysops dimidiatus Wulp, 1885

Distribution: In Iraq, it was recorded by Kaddou [64] under the name *Chrysops dimidiate*. Cameron, and Central African Republic [8].

Chrysops flavipes Meigen, 1804

Synonyms

Chrysops abdominalis Kröber, 1920
Chrysops askhabadensis Szilády, 1919
Chrysops beckeri Kröber, 1920
Chrysops gedrosiana Abbassian-Lintzen, 1964
Chrysops maculiventris Becker, 1913
Chrysops perspicillaris Loew, 1856
Chrysops punctifer Loew, 1856
Chrysops simillima Austen, 1923

Distribution: Iraq [106]. Algeria, Bulgaria, France, Greece, Portugal, Romania, Russia, Turkey, Turkmenistan, and Ukraine [8].

Chrysops viduatus (Fabricius, 1794)

Common name: Square-spot Deerfly

Basionym: *Tabanus viduatus* Fabricius, 1794

Synonyms

Chrysops intermedius Goffe, 1931
Chrysops lineatus Goffe, 1931

Chrysops minor Szilády, 1919
Chrysops minor Szilády, 1917
Chrysops minutus Kröber, 1920
Chrysops novus Schiner, 1868
Chrysops obsoletus Goffe, 1931
Chrysops pictus Meigen, 1820
Chrysops quadratus Meigen, 1820

Distribution: Iraq [64] Austria, Belarus, Belgium, Bulgaria, Croatia, Czech, Denmark, Estonia, Finland, France, Germany, Greenland, Hungary, Italy, Latvia, Lithuania, Moldova, Netherlands, Norway, Poland, Portugal, Russia, Slovakia, Spain, Sweden, Switzerland, UK, and Ukraine [8].

Chrysops relictus Meigen, 1820

Common name: Twin-lobed Deerfly

Synonyms

Chrysops chlorosis Goffe, 1931
Chrysops conspicuus Goffe, 1931
Chrysops inconspicuus Goffe, 1931
Chrysops melanopleurus Wahlberg, 1848
Chrysops morio Zetterstedt, 1849

Distribution: Iraq[64] ;Austria, Belarus, Belgium, Czech, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Lithuania, Netherlands, Norway, Poland, Russia, Sweden, Switzerland, UK, and Ukraine [8].

Chrysops sejunctus Szilády, 1919

Synonym: *Chrysops interruptus* Kröber, 1920

Distribution: Iraq [55], and USA [8].

Genus: *Haematopota* Meigen, 1803

Synonyms

Austenia Surcouf, 1909
Chrysopota Travassos S.Dias & Sousa, 1958
Chrysozona Meigen, 1800
Haematopata Bigot, 1891
Haematopata Gimmerthal, 1832
Haematopoda Berthold, 1827
Holcoceria Grünberg, 1906
Parahaematopota Grünberg, 1906
Potisa Surcouf, 1909
Ricardomsia Travassos S.Dias, 1958
Sterrhocera Enderlein, 1922
Tylopelma Enderlein, 1922

Haematopota ocelligera (Kröber, 1922)

Basionym: *Chrysozona ocelligera* Kröber, 1922

Synonyms

Chrysozona maculata Ghidini, 1935
Chrysozona ocelligera Kröber, 1922
Haematopota belligera Austen, 1925
Haematopota hispanica Szilády, 1923

Distribution: Iraq [64] Bulgaria, France, Greece, Italy, Portugal, Spain, and Turkey [8].

Haematopota grandis Meigen, 1820

Common name: Long-horned Cleg

Synonyms

Chrysozona grandis (Meigen, 1820)
Haematopota fraseri Austen, 1925
Tabanus sangisuga Harris, 1776
Tabanus sanguisiga Harris, 1776

Distribution: Iraq [64]. Austria, Croatia, Denmark, France, Iran, Italy, Greece, Portugal, Romania, and Turkey, and UK [8].

Haematopota italica Meigen, 1804

Synonyms

- Haematopota argyrophora* Kröber, 1922
- Haematopota elongata* Le Peletier & Audinet-Serville, 1828
- Haematopota gymnonota* Brullé, 1833
- Haematopota longicornis* Macquart, 1834
- Haematopota lusitanica* Guérin, 1835
- Haematopota tenuicornis* Macquart, 1834
- Hoematopota nigricornis* Gobert, 1880

Distribution: Iraq [64]. Austria, Belarus, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovakia, Spain, and Sweden [8].

Haematopota masseyi Austen, 1908

Distribution: Iraq [64], and Congo [8].

Haematopota pallens Loew, 1871

Synonyms

- Chrysozona caucasica* Kröber, 1922
- Haematopota araxis* Szilády, 1923
- Haematopota obscura* Bigot, 1880
- Haematopota obscurata* Bigot, 1891

Distribution: Iraq [106]. Afghanistan, Iran, Romania, South Africa, and Turkey [8].

Haematopota rotundata Szilády, 1923

Synonyms

- Chrysozona pandazisi* Kröber, 1936
- Haematopota pandazisi* (Kröber, 1936)
- Haematopota romanica* Dinulescu, 1953

Distribution: Iraq [64]. Bulgaria, Croatia, France, Greece, Italy, and Portugal [8].

Haematopota pluvialis (Linnaeus, 1758)

Common name: horse fly

Basionym: *Tabanus pluvialis* Linnaeus, 1758

Synonyms

- Chrysozona minima* Ghidini, 1935
- Chrysozona pluvialis* (Linnaeus, 1758)
- Haematopota equorum* (Fabricius, 1794)
- Haematopota hyetomantis* (Schrank, 1803)
- Haematopota ioffi* Olsufiev, 1972
- Haematopota marginula* Meigen, 1820
- Haematopota minima* (Ghidini, 1936)
- Haematopota ocellata* Meigen, 1820
- Haematopota pleuralis* Matsumura, 1931
- Haematopota sakhalinensis* Shiraki, 1918
- Haematopota tristis* Bigot, 1891
- Tabanus arcticus* Müller, 1764
- Tabanus equorum* Fabricius, 1794
- Tabanus hyetomantis* Schrank, 1803

Distribution: Iraq [64]. Austria, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Lithuania, Luxembourg, Netherlands, Norway, Poland, Russia, Sweden, UK, and Ukraine [8].

Genus: *Hybomitra* Enderlein, 1922

Synonyms

- Aplococera* Enderlein, 1933
- Dasyommia* Enderlein, 1922
- Didymos* Szilády, 1923

Sipala Enderlein, 1923
Sziladynus Enderlein, 1925
Tylostypia Enderlein, 1922
Tylostypina Enderlein, 1923

Hybomitra astur (Erichson, 1851)

Basionym: *Tabanus astur* Erichson, 1851

Synonyms

Tabanus pilopterus Loew, 1858
Theriopectes guttipennis Enderlein, 1925

Distribution: Iraq [64]. Korea, Magnolia, Russia, and Zambia [8].

Hybomitra auripila (Meigen, 1820)

Basionym: *Tabanus auripilus* Meigen, 1820

Synonyms

Hybomitra lugubris (Zetterstedt, 1838)
Tabanus aethiops Ljungh, 1823
Tabanus auripilus Meigen, 1820
Tabanus lugubris Zetterstedt, 1838
Tabanus nigerrima Zetterstedt, 1842
Theriopectes auripilus (Meigen, 1820)

Distribution: Iraq [64]. Austria, Estonia, Finland, France, Germany, Norway, Poland, Slovakia, Sweden, Switzerland, Russia, and Zambia [8].

Hybomitra decora (Loew, 1858)

Basionym: *Tabanus decorus* Loew, 1858

Synonyms

Tabanus amani Szilády, 1926
Tabanus defasciatus Szilády, 1923

Distribution: Iraq [64]. East Mediterranean [108]; Jordan [109].

Hybomitra distinguenda (Verrall, 1909)

Common name: Bright Horsefly

Basionym: *Tabanus distinguendus* Verrall, 1909

Synonyms

Hybomitra contigua Olsufiev, 1972
Hybomitra parva (Goffe, 1931)
Hybomitra rufa (Goffe, 1931)
Tabanus parva Goffe, 1931
Tabanus rufa Goffe, 1931
Theriopectes parvus Goffe, 1931
Theriopectes rufus Goffe, 1931
Theriopectes rufus Verrall, 1909

Distribution: Iraq [64]. Most of Europe and in China, Japan, Mongolia, and Russia [110].

Hybomitra expollicata (Pandellé, 1883)

Common name: Striped Horsefly

Basionym: *Tabanus expollicatus* Pandellé, 1883

Synonyms

Hybomitra nigrivitta (Olsufjev, 1937)
Hybomitra orientalis Leclercq, 1970
Hybomitra orientalis Olsufiev, 1970
Hybomitra pseuderberi Philip & Aitken, 1958
Tabanus andreae Szilády, 1922
Tabanus expollicatus Pandellé, 1883
Tabanus nigrivitta Olsufiev, 1936

Distribution: Iraq [64]. Austria, Croatia, Czech, Denmark, Finland, France, Netherlands, Sweden, and UK [8].

Hybomitra glabra (Bigot, 1892)

Distribution: In Iraq, it was recorded as *Tabanus glaber* Bigot, 1892 [48].

Hybomitra lasiophthalma (Macquart, 1838)

Basionym: *Tabanus lasiophthalmus* Macquart, 1838

Synonyms

Tabanus fretus Stone, 1938

Tabanus guttiferus Harris, 1925

Tabanus notabilis Walker, 1848

Tabanus punctipennis Macquart, 1847

Tabanus redactus Walker, 1850

Distribution: Iraq [64]. Canada, and USA [8].

Hybomitra lundbecki Lyneborg, 1959

Synonyms

Hybomitra sibirica Olsufiev, 1970

Hybomitra sibiriensis Olsufiev, 1972

Distribution: Iraq [64]. Austria, Finland, France, Germany, Latvia, Netherlands, Norway, Poland, Russia, Sweden, and Ukraine [8].

Hybomitra mendica (Villeneuve, 1912)

Basionym: *Tabanus mendica* Villeneuve, 1912

Synonym: *Hybomitra mendica* (Villeneuve, 1912)

Distribution: Iraq and Syria [106].

Hybomitra micans (Meigen, 1804)

Common name: Black-legged Horsefly

Basionym: *Tabanus micans* Meigen, 1804

Synonyms

Hybomitra austriacus (Fabricius, 1805)

Hybomitra niger (Donovan, 1813)

Hybomitra nigerrimus (Gravenhorst, 1807)

Hybomitra nigra (Donovan, 1813)

Pangonia flava Meigen, 1820

Tabanus austriacus Fabricius, 1805

Tabanus niger Donovan, 1813

Tabanus nigerrima Gravenhorst, 1807

Tabanus nigra Donovan, 1813

Tabanus signatus Meigen, 1820

Distribution: Iraq [64]. Austria, Belgium, Czech, Denmark, Estonia, France, Germany, Luxembourg, Netherlands, Poland, Switzerland, and UK [8].

Hybomitra peculiaris (Szilády, 1914)

Basionym: *Tabanus peculiaris* Szilády, 1914

Synonyms

Hybomitra kashmirianus Szilády, 1926

Tabanus inaequatus Austen, 1923

Tabanus kroeberi Szilády, 1926

Distribution: It was recorded in Iraq under the name *Tabanus inaequatus* Austen, 1923 by Leclercq [106]

Hybomitra tarandina (Linnaeus, 1758)

Basionym: *Tabanus tarandinus* Linnaeus, 1758

Synonyms

Hybomitra karafutonis (Matsumara, 1911)

Tabanus karafutonis Matsumura, 1911

Distribution: Iraq [106]. Estonia, Finland, Germany, Latvia, Norway, Russia, and Sweden [8].

Hybomitra tropica (Linnaeus, 1758)

Basionym: *Tabanus tropicus* Linnaeus, 1758

Synonyms

Hybomitra bryanensis Leclercq & French, 1966
Hybomitra tropica (Panzer, 1794)
Hybomitra tuxeni Lyneborg, 1959
Tabanus lateralis Geoffroy, 1785

Distribution: Iraq [64]. Belgium, Finland, France, Germany, Luxembourg, Netherlands, Norway, Russia, and Sweden [8].

Genus: *Nemorius* Rondani, 1856

Nemorius irritans (Ricardo, 1901)
Basionym: *Silvius irritans* Ricardo, 1901
Synonym: *Silvius unicolor* Becker, 1913
Distribution: Iraq [106], and Afghanistan [8].

Genus: *Pangonius* Latreille, 1802

Pangonius haustellatus (Fabricius, 1781)
Basionym: *Tabanus haustellatus* Fabricius, 1781
Synonyms
Bombylius haustellatus Olivier, 1789
Pangonia basiargentatus Szilády, 1923
Pangonia cellulatus Brullé, 1833
Pangonia marginata Fabricius, 1805
Pangonia medioargentatus Szilády, 1923
Pangonia tenuipalpis Kröber, 1921
Tanyglossa mauritanicus Meigen, 1804

Distribution: Iraq [106]. Algeria, Bulgaria, Germany, Morocco, and Portugal [8].

Genus: *Silvius* Meigen, 1820

Silvius variegatus (Fabricius, 1805)
Basionym: *Haematopota variegata* Fabricius, 1805
Synonyms
Chrysops singularis Meigen, 1835
Diachlorus maroccanus Bigot, 1892
Distribution: Iraq [64]. Algeria, India, and Portugal [8].

Genus: *Tabanus* Linnaeus, 1758

Common name: True Horse Flies

Synonyms

Alliomma Borgmeier, 1934
Astigmatophthalmus Kröber, 1931
Ballardia Rondani, 1863
Bellaria Strand, 1928
Brachypsalidia Enderlein, 1922
Callotabanus Szilády, 1926
Chelommia Enderlein, 1922
Chelotabanus Lutz, 1913
Gymnochela Enderlein, 1925
Hybostraba Enderlein, 1923
Lophotabanus Szilády, 1926
Macrocormus Lutz, 1913
Neotabanus Lutz, 1909
Odontotabanus Lutz, 1918
Phyrta Enderlein, 1922
Straba Enderlein, 1923
Styporhamphis Enderlein, 1922
Taeniotabanus Kröber, 1931

Tabanus arabicus Macquart, 1839

Synonym: *Tabanus tinnunculus* Szilády, 1923

Distribution: Iraq [106], and Saudia Arabia [111].

Tabanus autumnalis Linnaeus, 1761

Common name: Large Marsh Horsefly

Synonyms

Tabanus anthracinus Walker, 1851

Tabanus auctumnalis Zeller, 1842

Tabanus bovinus Harris, 1776

Tabanus brunnescens Szilády, 1914

Tabanus leucophilus Walker, 1848

Tabanus molestans Becker, 1913

Distribution: Iraq [106]. Austria, Czech, Denmark, France, Germany, Greece, Italy, Netherlands, Portugal, Russia, Spain, Sweden, UK, and Ukraine [8].

Tabanus bromius Linnaeus, 1758

Common name: Band-eyed Brown Horsefly

Synonyms

Straba simplex Muschamp, 1939

Tabanus anthophilus Loew, 1858

Tabanus atricornis Walker, 1851

Tabanus bronicus Gimmerthal, 1847

Tabanus connexus Walker, 1856

Tabanus glaucescens Schiner, 1860

Tabanus glaucus Meigen, 1820

Tabanus maculatus De Geer, 1776

Tabanus nigricans Szilády, 1914

Tabanus scalaris Meigen, 1820

Tabanus scalaris Wiedemann, 1820

Distribution: Iraq [48]. Austria, Belgium, Czech, Estonia, Finland, France, Germany, Italy, Lithuania, Netherlands, Norway, Russia, Sweden, Switzerland, UK, and Ukraine [8].

Tabanus cordiger Meigen, 1820

Common name: Plain-eyed grey horsefly

Synonyms

Tabanus atricornis Meigen, 1835

Tabanus braueri Jaennicke, 1866

Tabanus fortunatus Frey, 1936

Tabanus latifrons Zetterstedt, 1842

Tabanus megacephalus Jaennicke, 1866

Tabanus vicinus Egger, 1859

Distribution: Iraq [107]. Most of Europe, Armenia, Azerbaijan, Canary Island, China, Georgia, Iran, Islands, Japan, Morocco, Russia, and Turkey [8].

Tabanus eggeri Schiner, 1868

Synonyms

Phyrta speciosa Kröber, 1931

Tabanus intermedius Egger, 1859

Distribution: Iraq [10]. Bulgaria, Croatia, France, Greece, Lebanon, Portugal, Spain, and Turkey [8].

Tabanus exclusus Pandellé, 1883

Distribution: Iraq [64]. Bulgaria, Croatia, Czech, France, Greece, and Portugal [8].

Tabanus fraternus Macquart, 1846

Synonyms

Tabanus bipartitus Walker, 1856

Tabanus trisignatus Loew, 1858

Distribution: Iraq [64]. Côte d'Ivoire, Kenya, Malawi, Mozambique, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe [8].

Tabanus fumidus Austen, 1923

Synonym: *Tabanus turpis* Bogatchev & Samedov, 1949

Distribution: Iraq [106].

Tabanus glaucopis Meigen, 1820

Common name: Downland horsefly

Synonyms

Straba rubra Muschamp, 1939

Tabanus castellanus Strobl, 1906

Tabanus chlorophthalmus Meigen & Wiedemann, 1820

Tabanus cognatus Loew, 1858

Tabanus flavicans Zeller, 1842

Tabanus lunulatus Meigen, 1820

Tabanus rubra Muschamp, 1939

Distribution: Iraq [64]. Austria, Bulgaria, Croatia, Czech, France, Greece, Hungary, Italy, Lithuania, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, Turkey, and UK [8].

Tabanus miki Brauer, 1880

Common name: Plain-eyed brown horsefly

Synonyms

Tabanus australis Hauser, 1960

Tabanus glaucus Verrall, 1909

Tabanus graecus Meigen, 1820

Tabanus postvelutinus Moucha, 1962

Tabanus velutinus Kröber, 1936

Distribution: In Iraq, it was recorded under the name *Tabanus graecus* Meigen, 1820 [64]. Bulgaria, Croatia, Czech, Denmark, Estonia, France, Germany, Hungary, Italy, Morocco, Netherlands, Poland, Portugal, Spain, Sweden, Turkey, UK, and Ukraine [8].

Tabanus leleani Austen, 1920

Synonym: *Tabanus turkestanicus* Olsufiev, 1970

Distribution: Iraq [106]. Afghanistan, Algeria, Mongolia, and Pakistan [8].

Tabanus laetetinctus Becker, 1913

Synonymys

Tabanus assuetus Hauser, 1960

Tabanus cinereus Hauser, 1960

Tabanus sordes Bogatchev and Samedov, 1949

Distribution: It was recorded to Iraq under the name *Tabanus assuetus* Gauzer by [106]. Iran and Pakistan [8].

Tabanus lineola Fabricius, 1794

Common name: Striped Horse Fly

Distribution: Iraq [64]. Brazil, Canada, Costa Rica, Mexico, Peru, and USA [8].

Tabanus lunatus Fabricius, 1794

Synonyms

Tabanus algiricus Thunberg, 1827

Tabanus danubicus Dinulescu, 1953

Tabanus farinosus Szilády, 1923

Tabanus politus Szilády, 1923

Tabanus syriacus Szilády, 1923

Tabanus wideri Jaennicke, 1866

Distribution: Iraq [106]. Greece, Italy, Norway, Portugal, and Russia [8].

Tabanus maculicornis Zetterstedt, 1842

Common name: Narrow-winged horsefly

Synonyms

Tabanus glaucus Walker, 1851

Tabanus nigricans Egger, 1859

Distribution: Iraq [64]. Austria, Belgium, Croatia, Denmark, Finland, Germany, Lithuania, Netherlands, Norway, Poland, Portugal, Sweden, and UK [8].

Tabanus pallidipes Austen, 1920

Distribution: Iraq [106].

Tabanus polygonus Walker, 1854

Synonyms

Atylotus polyzonatus Bigot, 1892

Tabanus strictus Surcouf, 1912

Distribution: Iraq [106].

Tabanus pulvifer Walker, 1854

Synonym: *Tabanus persis* Ricardo, 1911

Distribution: Iraq [106]; Iran [8].

Tabanus quadrisignatus Ricardo, 1908

Distribution: Iraq [64]. Angola, Mali, Mozambique, and Zambia [8].

Tabanus regularis Jaennicke, 1866

Distribution: Iraq [64]. Iran [113]; France, Czech, Greece, Portugal, and Spain [8].

Note: The subspecies of *T. regularis rufus* Szilady was recorded to Iraq by [106]

Tabanus rubidus Wiedemann, 1821

Synonyms

Atylotus lacrymans Bigot, 1892

Tabanus albimediis Walker, 1850

Tabanus lageniferus Macquart, 1838

Tabanus priscus Walker, 1848

Tabanus umbrosus Walker, 1850

Distribution: Iraq [64]. Afghanistan, Bangladesh, India, Indonesia, Pakistan, and Thailand [8].

Tabanus secedens Walker, 1848

Synonyms

Atylotus camaronensis Bigot, 1892

Tabanus blanchardi Surcouf, 1907

Tabanus brunnescens Ricardo, 1908

Tabanus claripes Ricardo, 1908

Tabanus gabonensis Macquart, 1855

Tabanus ignotus Surcouf & Ricardo, 1909

Tabanus kingsleyi Ricardo, 1908

Tabanus regnaulti Surcouf, 1912

Tabanus tibialis Walker, 1848

Distribution: Iraq [64]. Cameroon, Congo, Gabon, Guinea, Liberia, Republic of Central Africa, Tanzania, and Uganda [8].

Tabanus spectabilis Loew, 1858

Synonyms

Tabanus albivittatus Macquart, 1834

Tabanus aspahanicus Rondani, 1873

Tabanus humeralis Brauer, 1880

Tabanus lateralis Brullé, 1833

Distribution: Iraq [64]. Asia Minor, Central Asia, Caucasus, Iran, North Africa, Southern Europe, and Ukraine [113].

Tabanus strix Szilady, 1923

Distribution: Iraq [106].

Tabanus sudeticus Zeller, 1842

Common name: Dark giant horsefly

Synonyms

Tabanus confusus Goffe, 1931

Tabanus distinctus Goffe, 1931

Tabanus meridionalis Goffe, 1931

Tabanus perplexus Verrall, 1909

Tabanus verralli Oldroyd, 1939

Distribution: Iraq [48]. Austria, Belgium, Czech, Denmark, Finland, France, Germany, Hungary, Italy, Luxemburg, Netherlands, Norway, Poland, Russia, Sweden, Switzerland, UK, and USA [8].

Tabanus sufis Jaennicke, 1867

Distribution: Iraq [106]. Ethiopian Region, Egypt, Palestine, Iran, and India [112].

Tabanus tergestinus Egger, 1859

Distribution: Iraq [48]. Caucasus, Iran and Ukraine [112]; Austria, Bulgaria, Croatia, France, Greece, Hungary, Italy, Poland, and Slovenia [8].

Tabanus thoracinus Palisot de Beauvois, 1806

Synonym: *Atylotus notarum* Bigot, 1891

Distribution: Iraq [64]; Angola, Benin, Cameroon, Gabon, Kenya, Liberia, Mozambique, Sudan, and Uganda [8].

Tabanus tinctus Walker, 1850

Synonym: *Tabanus mixtus* Szilády, 1914

Distribution: Iraq [64]. Bulgaria, Cyprus, and Greece [8].

Tabanus zimini Olsufiev, 1937

Synonym: *Tabanus loxomaculatus* Wang, 1981

Tabanus luppovae Baratov, 1961

Distribution: Iraq [106]. Russia and Iran [113].

4. Conclusion

Due to the spread of diseases transmitted by insects especially flies (Order, Diptera) in the last years throughout the world in general and Iraq in particular, it has become necessary to gain attention to preparing updated lists that include the species belonging to this group, which facilitates their study, avoids diagnostic errors, and knows the actual number of these species spread in Iraq.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors have no conflicts of interest to declare.

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