

**ORIGINAL ARTICLE**

A Checklist Of Ichneumonoidea (Hymenoptera: Ichneumonidae: Braconidae) from Kingdom of Saudi Arabia

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ABSTRACT

Ichneumonoid wasps are one of the most diverse groups among the order Hymenoptera. Their economic importance as pest natural enemies is known world widely. In this paper, we have listed 58 species of Ichneumonidae spread over to 15 subfamilies from kingdom of Saudi Arabia.

Key words: Hymenoptera, Ichneumonidae, Fauna, Checklist, Distribution, Saudi Arabia

INTRODUCTION

Members of the superfamily Ichneumonoidea (Ichneumonidae and Braconidae) are parasitic in nature and kill agriculturally economic important insect pests. The superfamily Ichneumonoidea contains the families Braconidae and Ichneumonidae spread over 64 subfamilies, and an estimated 100,000 species. Family Braconidae contains approximately 40,000 and Ichneumonidae contains about 60,000 species worldwide (Wahl & Sharkey 1993; Gauld & Bolton 1988). These biologically diverse subfamilies differ significantly in many life history variables. The majority are primary parasitoids of holometabolous insects. Others, such as the ichneumonid subfamily Mesochorinae, are hyperparasites and attack other parasitoids (Salt 1968; Askew & Shaw 1986; Gauld *et al.*, 1992).

Despite their economic importance they remain taxonomically and biologically one of the most poorly known groups of insects (Quicke 1997). This situation also prevails in entire Middle East including Saudi Arabia. Only, the family Ichneumonidae has a little compressive work done by Hortsmann (1981), in which 16 species were recorded from KSA out of which four species were new to the science. Rest of Ichneumonoids record are randomly published on time to time intervals. For some families and subfamilies only few species have been recorded in Saudi Arabia. So far only 58 species spread over to fifteen subfamilies have been recorded from Saudi Arabia which is merely a fraction to the undisclosed faunal wealth of this region.

Saudi Arabia has one of the unique biodiversity countries of the world because of its varied climatic and geographical features. These features provide ample scope to sustain numerous species of insects and host plants. These animal and plant species are spread over high mountains, hot deserts, and sea and along the coasts. Though Saudi Arabia constitutes less than 1% of the total landmass of the world, but only more than 1% of the World's known animal and plant species are found in Saudi Arabia. However, the greater part of Saudi fauna is unexplored. More exploration in future will provide further knowledge of the faunal wealth of this country.

MATERIAL AND METHODS

The following checklist is based on data obtained from careful consultation of all available literature from Saudi Arabia, especially consulting of Ichneumonoidea database (Yu. *et al.*, 2013). Data pertaining to valid species recorded from Saudi Arabia are given. The list is arranged alphabetically by Subfamily, followed by genus and species. For each species, the status has been confirmed by Ichneumonoidea database and most recent combination followed by the author name). In the distribution section, apart from Saudi Arabia all extra limital occurrence included and the reference pertaining only to Saudi Arabian records are kept under a separate reference section.

RESULTS AND DISCUSSION

1. Agathidinae>*Coccygidium arabicum* Ghamrh,2011
Distribution: Saudi Arabia (Ghamrh, 2011)
2. Agathidinae>*Coccygidium hebabi* Ghamrh,2013
Distribution: Saudi Arabia (Ghamrh, 2013)
3. Agathidinae>*Camptothipsis arabica*, Ghamrh,2012
Distribution: Saudi Arabia (Ghamrh, 2012)
4. Agathidinae>*Cremnops testaceus* Pérez,1907
Distribution: Saudi Arabia (Pérez,1907)
5. Anomaloninae>*Sphaeromanus metatarsator* (Shaumar,1966)
Distribution: Algeria, Egypt, Sudan, Saudi Arabia (Shaumar,1966)
6. Aphidiinae>*Aphidius colemani* Viereck, 1912
Distribution: Saudi Arabia; Worldwide (Ahmad and Bakr, 2013)
7. Aphidiinae>*Aphidius ervi* Haliday,1834
Distribution: Saudi Arabia; Worldwide (Ahmad and Bakr, 2013)
8. Aphidiinae>*Aphidius matricariae* Haliday, 1834
Distribution: Saudi Arabia; Worldwide (Ahmad and Bakr, 2013)
9. Aphidiinae>*Diaeretiella rapae* (McIntosh,1855)
Distribution: Saudi Arabia, Worldwide (Ahmad and Bakr, 2013)
10. Aphidiinae>*Praon exsoletum* (Nees, 1811)
Distribution: Saudi Arabia, Worldwide (Ahmad and Bakr, 2013)
11. Braconinae>*Bathyaulax fritzeni* Kaartinen & Quicke,2007
Distribution: Saudi Arabia (Kaartinen & Quicke,2007)
12. Braconinae>*Bathyaulax juhai* Kaartinen & Quicke,2007
Distribution: Saudi Arabia (Kaartinen & Quicke,2007)
13. Braconinae>*Bathyaulax olliae* Kaartinen & Quicke,2007
Distribution: Saudi Arabia (Kaartinen & Quicke,2007)
14. Braconinae>*Bathyaulax ruber* (Bingham,1902)
Distribution: Ivory Coast; Kenya; Malawi; Saudi Arabia; Sudan; Uganda; Zimbabwe (Kaartinen & Quicke,2007)
15. Braconinae>*Bathyaulax striolatus* (Szépligeti,1914)
Distribution: Egypt; Morocco; Saudi Arabia; Sierra Leone; Sudan; Tanzania (Kaartinen & Quicke,2007)
16. Braconinae>*Bracon urinator* (Fabricius,1798)
Distribution: Holarctic (Tobias, 1985; Papp, 2015)
17. Braconinae>*Glyptomorpha egyptiaca* Sarhan & Quicke,1989
Distribution: Egypt, Pakistan, India, Saudi Arabia, Yemen (Sarhan & Quicke,1989)
18. Braconinae>*Glyptomorpha irreptor* (Klug,1817)
Distribution: Holarctic (Tobias, 1985; Papp, 2015)
19. Braconinae>*Habrobracon hebetor* (Say,1836)
Distribution: Holarctic (Tobias, 1985; Papp, 2015)
20. Braconinae>*Iphiaulax agnatus* Kohl,1906
Distribution: Egypt; Israel; Niger; Saudi Arabia; Sudan; Yemen; Yemen-main
21. Braconinae>*Iphiaulax sculpturatus* (Walker,1871)
Distribution: Saudi Arabia (Kaartinen & Quicke,2007).
22. Braconinae>*Odontoscapus kriechbaumeri* Kohl,1906
Distribution: Saudi Arabia; Yemen (Kaartinen & Quicke,2007).
23. Braconinae>*Stenobracon unifasciatus* (Brullé,1846)
Distribution: Algeria; Congo; Democratic Republic of Congo; Ivory Coast; Kenya; Libya; Madagascar; Malawi; Mali; Morocco; Mozambique; Niger; Nigeria; Saudi Arabia; Senegal; Sierra Leone; South Africa; Sudan; Tanzania; Uganda; Yemen; Yemen-main; Zimbabwe (Kaartinen & Quicke, 2007).
24. Campopleginae>*Diadegma albipes* Horstmann, 1981
Distribution: Saudi Arabia (Horstmann,1981)

- 25.** Campopleginae>*Enythus arabicus* (Horstmann,1981)
Distribution: Saudi Arabia (Horstmann,1981)
- 26.** Campopleginae>*Hyposoter albipes* (Hedwig,1957)
Distribution: Afghanistan; Iran; Saudi Arabia(Yu et al., 2013)
- 27.** Campopleginae>*Leptoperilissus areolaris* (Hedwig,1957)
Distribution: Egypt; Iran; Saudi Arabia(Yu et al., 2013)
- 28.** Campopleginae>*Leptoperilissus nitidus* Horstmann,1981
Distribution: Oman; Saudi Arabia (Horstmann,1981)
- 29.** Campopleginae>*Leptoperilissus oculator* Aubert,1974
Distribution: Algeria; Egypt; Israel; Morocco; Saudi Arabia; Tunisia(Yu et al., 2013)
- 30.** Campopleginae>*Sinophorus xanthostomus* (Gravenhorst,1829)
Distribution: Saudi Arabia; Palearctic region(Yu et al., 2013)
- 31.** Cheloninae>*Phanerotoma arabica* Ghramh,2011
Distribution: Saudi Arabia (Għramh,2011)
- 32.** Cheloninae>*Phanerotoma graciloides* van Achterberg,1990
Distribution: Saudi Arabia (van Achterberg,1990)
- 33.** Cheloninae>*Phanerotoma leucobasis* Kriechbaumer,1894
Distribution: Saudi Arabia; Palearctic region (van Achterberg,1990)
- 34.** Cheloninae>*Phanerotoma masiana* Fahringer,1934
Distribution: Egypt; Iran; Libya; Saudi Arabia (van Achterberg,1990)
- 35.** Cheloninae>*Phanerotoma robusta* Zettel,1988
Distribution: Saudi Arabia (Zettel,1988)
- 36.** Cremastinae>*Temelucha persicator* Horstmann & Yu,1999
Distribution: Iran; Saudi Arabia (Horstmann & Yu,1999)
- 37.** Cryptinae>*Osprynchotus pulcherrimus* (Kirby,1900)
Distribution: Saudi Arabia; Yemen; Yemen-Socotra
- 38.** Cryptinae>*Synechocryptus sanguinolentus* (Gravenhorst,1829)
Distribution: Canary Islands; Egypt; Germany; Iran; Israel; Italy (country); Italy-main; Jordan; Morocco; Oman; Saudi Arabia; Sudan; Tunisia; Turkey; United Arab Emirates(Yu et al., 2013)
- 39.** Doryctinae>*Rhaconotus arabicus* Belokobylskij,2001
Distribution: Saudi Arabia (Belokobylskij,2001)
- 40.** Doryctinae>*Zombrus anisopus* Marshall,1897
Distribution: Egypt; Morocco; Saudi Arabia (Belokobylskij and Samartsev, 2011)
- 41.** Euphorinae>*Meteorus arabica* Ghramh,2012
Distribution: Saudi Arabia (Għramh,2012)
- 42.** Euphorinae>*Zele nigricornis* (Walker,1871)
Distribution: Egypt; Eritrea; Ethiopia; Kenya; Saudi Arabia; Tanzania (van Achterberg, C. 1979)
- 43.** Homolobinae>*Homolobus arabicus* Ghramh, 2012
Distribution: Saudi Arabia (Għramh,2012)
- 44.** Homolobinae>*Homolobus truncatoides* van Achterberg,1979
Distribution: Afrotropical, Palearctic region (van Achterberg,1979)
- 45.** Ophioninae>*Enicospilus brevicornis* (Masi,1939)
Distribution: Democratic Republic of Congo; Egypt; Ethiopia; Kenya; Madagascar; Saudi Arabia; South Africa; Sudan; Uganda; Yemen; Yemen-main(Yu et al., 2013)
- 46.** Ophioninae>*Enicospilus capensis* (Thunberg,1822)
Distribution: Saudi Arabia; Kenya; South Africa(Yu et al., 2013)
- 47.** Ophioninae>*Enicospilus nervellator* Aubert,1966
Distribution: Algeria; Egypt; Saudi Arabia(Yu et al., 2013)
- 48.** Ophioninae>*Enicospilus oculator* Seyrig,1935
Distribution: Kenya; Saudi Arabia; South Africa(Yu et al., 2013)
- 49.** Ophioninae>*Enicospilus perlatus* Shestakov,1926
Distribution: Afghanistan; Canary Islands; Egypt; Iran; Israel; Morocco; Saudi Arabia; Spain; Spain-main; Turkmenistan(Yu et al., 2013)
- 50.** Ophioninae>*Enicospilus psammus* Gauld & Mitchell,1978

Distribution: Saudi Arabia; Sudan(Yu et al., 2013)

51. Ophioninae>*Eremotylus boguschi* (Meyer,1935)

Distribution: Afghanistan; Algeria; Armenia; Azerbaijan; Egypt; Iran; Jordan; Kyrgyzstan; Morocco; Saudi Arabia; Tunisia; Turkmenistan; Ukraine; Uzbekistan(Yu et al., 2013)

52. Ophioninae>*Simophion calvus* Viktorov,1961

Distribution: Iran; Israel; Saudi Arabia; Turkmenistan(Yu et al., 2013)

53. Opiinae>*Desmiostoma parvulum* (Wesmael,1835)

Distribution: Palearctic region(Fischer,1958)

54. Orgilinae>*Orgilus priesneri* Fischer,1958

Distribution: Egypt; Israel; Jordan; Kazakhstan; Saudi Arabia (Fischer,1958)

55. Tryphoninae>*Netelia arabator* Delrio,1971

Distribution: Saudi Arabia (Delrio,1971)

56. Tryphoninae>*Netelia arabs* (Strand,1911)

Distribution: Algeria; Canary Islands; Egypt; Iran; Israel; Kuwait; Libya; Morocco; Saudi Arabia; Somalia; Sudan; Tunisia(Delrio,1971)

57. Tryphoninae>*Netelia nigricornis* Horstmann,1981

Distribution: Iran; Saudi Arabia(Delrio,1971)

58. Tryphoninae>*Netelia testacea* (Gravenhorst,1829)

Distribution: Oriental region; Palearctic region(Delrio,1971)

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