

Two Parasitic Wasp Species: *Ichneumon sarcitorius* and *I. ostentator* in IraqAli A. Kareem<sup>1\*</sup>, Ayad Alsendi<sup>2</sup>, Siena Al-Zurfi<sup>1</sup>, Alaa Alamri<sup>1</sup> and Raad K. Aljaafari<sup>1</sup>

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## Abstract

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This study was carried out in Karbala and Najaf cities in June 2020. A sweeping net was used to collect the specimens during the survey. Results obtained indicated that the samples collected belong to the Ichneumonidae family (Order: Hymenoptera), one of the large and long *Ichneumon* wasps. This is the first report on the occurrence of two *Ichneumon* species, *Ichneumon sarcitorius* (Linnaeus, 1758) and *I. ostentator* (Heinrich, 1978), in the Al-Husayniya district of Karbala and Najaf provinces in Iraq. However, more survey is needed to identify their hosts in Iraq.

**Keywords:** *Ichneumon sarcitorius*, *Ichneumon ostentator*, Taxonomy, Iraq.

## Introduction

The Ichneumonidae is the second largest family in the order Hymenoptera which includes around 4300 defined insect species in almost 440 genera (Townes, 1969; Yu *et al.*, 2005). The adults search for food during the daytime by visiting flowers and honeydew, which is considered the most active stage of looking out for a host (Schmidt & Schmidt, 2011). The *Ichneumon* wasps are larval or pupal endoparasitoids of moths and butterflies. Many parasitic wasp species are newly identified in Iraq (Al-Zurfi *et al.*, 2020; Kareem *et al.*, 2020a, 2020b; 2022; Khadim & Kareem, 2021; Polaszek *et al.*, 2019). Recently, they have been effectively used as bio-control agents against many pests to become an important component of integrated pest management strategy (Gupta, 1991). The present work aims to identify and report the biodiversity of *Ichneumon* species in Iraq.

## Materials and Methods

Samples *Ichneumon ostentator* and *I. sarcitorius* were collected by sweeping net from orchards in the Al-Husayniya district of Karbala and Najaf province in June 2020. Specimens are pin-mounted, examined with a stereomicroscope at 80x, and identified using the taxonomic key described by Hilpert (1992). Identification was then confirmed by Dr Gavin Broad (Broad, 2018) and placed in the Insect Collection, University of Kerbala, Iraq.

## Results and Discussion

Collected specimens were identified as *Ichneumon ostentator* (Heinrich, 1978) in Karbala province (Figure 1) and *I. sarcitorius* (Linnaeus, 1758) in Najaf province (Figure 2).

*Ichneumon ostentator* (Heinrich, 1978)

**Collected specimens** - Iraq, Karbala Governorate, Al Husayniya district, 32°31'08.00" N 45°36'31.00" E, collected in June 2020 by A. A. Kareem and R. K. Aljaafari, 2♂♂.

**Diagnosis** - The body of the species is shiny black and yellow and rich white drawing, apical streaks covering the lateral margin of the reach tergites 1-4, a narrower one spot on tergite 5, as well as medioapical spots on tergite 6 and 7, and spot on CoIII dorsally (Hinz, 1972).

**Host** - Unknown in Iraq, but *I. sarcitorius* is a parasitoid of immature stages of species of Lepidoptera.

**Note** - Based on the available records and personal communication with the Iraq Natural History Research Center and Museum, University of Baghdad, this species is not reported, but it commonly occurs in the Afrotropical, Palaearctic, oriental, and Nearctic areas.

*Ichneumon sarcitorius* (Linnaeus, 1758)

**Synonyms** - *Euichneumon sarcitorius* Heinrich, 1929; *I. ruficornis* Kiss, 1929; *I. farctor* Dalla Torre, 1901; *I. niger* Scopoli, 1786

**Collected specimens** - Iraq, Najaf Province, 32°05'02.9"N+44°19'50.6"E, collected in June 2020 by A. A. Kareem and R. K. Aljaafari, 2♀♀ and 2♂♂.

**Diagnosis** - Female and male sizes are around 10 and 14 mm, respectively. The body of the species is black and yellow. The adult female has wide red and narrower black bands shadowed by a band, followed by the narrower red and black band till the white spot at the tip. The male is longer and includes wide-ranging white bands around the abdomen at the hind edges of the segments, with visible indentations on the 2<sup>nd</sup> and 3<sup>rd</sup> segments. The bands on the 1<sup>st</sup> and 4<sup>th</sup> segments are typically fragmented. Males and females have hind femurs tipped by black.

**Host** - Unknown in Iraq, but *I. sarcitorius* is a parasitoid of immature stages of many species of Lepidoptera, such as *Helicoverpa armigera* (Masnadi & Jussila, 2008; Mojeni & Sedivy, 2001).

Based on available literature and personal contact with the Iraq Natural History Research Center and Museum, University of Baghdad, this species has not been reported from Iraq. In contrast, it is reported from Europe, Cyprus, Turkey, Middle Asia, Kazakhstan, Russia, Caucasus, and Iran (Kolarov & Ghahari, 2005).

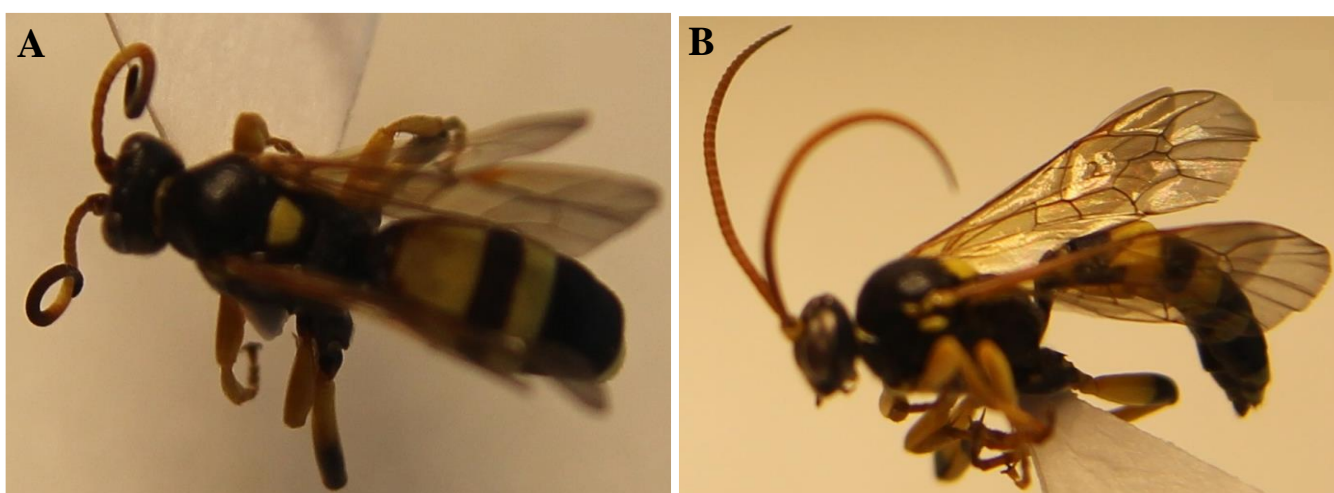
This is the first report of *I. sarcitorius* and *I. ostentator* (family Ichneumonidae) in the Al-Husayniya district of Karbala and Najaf provinces, Iraq.

### Acknowledgement

We want to thank Dr Gavin Broad (Natural History Museum, UK) for confirming the identity of the two species.



**Figure 1.** Male of *Ichneumon ostentator* (Heinrich, 1978): (A) head view, (B) dorsal view, and (C) lateral view.



**Figure 2.** *Ichneumon sarcitorius* (Linnaeus, 1758): (A) female, and (B) male.

### المخلص

كريم، علي عبد الحسين، إياد السندي، سينا الزرفي، علاء العامري واعد كريم الجعفري. 2024. نوعان من أنواع الدبابير الطفيلية *Ichneumon*

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نفذت هذه الدراسة في مدينتي كربلاء والنجف في شهر حزيران/يونيو 2020. وتم استخدام شبكة صيد لجمع الحشرات خلال عملية المسح. أشارت النتائج المتحصّل عليها إلى أن الحشرات التي تمّ جمعها تنتمي إلى عائلة Ichneumonidae ورتبة غشائية الأجنحة Hymenoptera، وهي واحدة من الزنابير الكبيرة والطويلة. تعدّ هذه الدراسة هي الأولى لتسجيل وجود نوعين من أنواع *Ichneumon sarcitorius* L. و *I. ostentator* (Heinrich, 1978) في محافظتي كربلاء والنجف في العراق، وثمة حاجة إلى مزيد من المسح لتحديد عوائل هذه الزنابير في العراق.

**كلمات مفتاحية:** *Ichneumon ostentator*، *Ichneumon sarcitorius*، تصنيف.

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