



List of Scorpions Recorded For the First Time in Iraq

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Abstract

The present study is the first taxonomic study on scorpions in Iraq. The specimens were collected from regions in the middle and south of Iraq, three families, seven genera and eight species were recorded for the first time in Iraq and one new species of the world.

Key words: Scorpions, Buthidae, Bothiruridae, Scorpionidae, Iraq

Theoretical

Scorpions belong to class Arachnida ,phylum Arthropoda , class Arachnida which includes also Ticks, Spiders, and Mites. There are approximately 1,300 species of scorpions worldwide [1]. Scorpions are usually found in semiarid deserts [2]. Scorpions are easily distinguished from other Arthropods, by colors which are black, gray, brown, and yellow, and range in size from 10-90 mm long. Scorpions have two major body regions: cephalothoraxes (head and thorax) and abdomen. It has 2 to 5 pairs of eyes depending on the species; However, some species are blind. The mouthparts are made up of a pair of chelicerae for grasping prey. The cephalothoraxes(thorax) has four pairs of walking legs and pair of pedipalps, The pedipalps is modified legs that have pinchers for grasping Prey [3] . The pedipalps are covered with trichobothria, or hairs, that sense air vibrations and aid in capturing prey and mating. The cephalothoraxes is covered by the carapace, which is a hard bony outer covering. The abdomen is made up of the mesosoma and the metasoma. The mesosoma contains the book lungs, digestive organs and the pectines teeth. The metasoma is a shape that curves up and bears the telson, or stinger or venom glands.[2].

Experimental

The Samples of this study were collected from middle and South region of Iraq from 22 nd November 2013.to 4th March2014.

Collection and preservation of scorpions

The scorpions were collected from province region of Baghdad ,Diyala, Salahal-Al-Din , Najaf, Waset, Karbala, Diwanayah and DhiQar with assistance of local professional hunters, during the day from 22 nd November 2013 to 4th March2014. ,the search of scorpions during the day light under objects (Bricks, Wood, Flagstone ,Trees...etc.),while into darkness of the day and night the search was done with the aid of spot torch and UV light source.[14].

Specimens were put in box to transfere to laboratory to study them, the first step were killed by boiling water (99°C) ,then put in fixation solution (Formalin 12%,Isopropyl Alcohol 30%,Glacia Aacetic Acid 2% and Distilled Water 56%)for 24-48 hr. Then transferred to 50% isopropyl alcohol for one hour ,finely the specimens were conserved in 70% isopropyl alcohol [2,4]. All collected specimens were morphologically, identified under dissecting microscope (with camera magnification was (10) pixel) according to keys,[5,6 and7] .

Result and Discussion

The result of this study rivaled that the collected specimens belong to three families ,seven genera and eight species ,two genera (*Hottentotta* and *Bothriurs*) recorded for the first time in Iraq and seven species with one species was recorded for the first time in the world , which will be described later, the list of taxonomic results are as the following

1-Family :Buthidae The family Buthidae can be diagnosed by triangular sternum, this family is the largest and most widespread in the world and includes about half of the scorpions[8].

Androctonus crassicauda (Olivier,1807)

It was recorded in Iraq by Pringle, in Aqra ,Baquba, Mosul,Basra Hilla,[9,10].in the present study, we found it in Baghdad in region Abo Ghraib ,Al Dora ,Al-Kadhymia, Al-Sink ,Al-Topchi, Batawin ,Al-Tagi and Karbala. Figure(1) shows characters of genus and species are: Black color and brown, a piece of the tail and thick pedipalp are white color and have several names, including the black scorpion , fat tail scorpion and burrowing

scorpion because of the black color and the thickness of the subsequent blocks constituting the tail and having strong pedipalp that can burrow the soil .[11,12].

***Mesobuthus epeus* (Koch,1839).**

According to Kalaf [9] and Pringle [10] this species was found in Iraq by Penther [13] in Mosul, Shergat, Baquba and Salah Al-Din. In this research we find it in region of Diyala province (Al-Khalis, Baqubah), Baghdad province (Baladiyat, AboGhraib and Zafaraninyah) Figure (2). Most of its members live in places arid and semi-arid lives with few or no plants. It is located in east of Turkey, north of Syria, east of Iraq, Iran, Afghanistan, Pakistan and Australia, northern China. They are so-called Asian yellow scorpion have small Chela in the pedipalpes, body color was, brown or yellow with spots .

***Othochirus scrobiculosus* (Grube,1873)**

This species was firstly recorded in Iraq by Penther [13] it was found in (Shergat) Mosul province and (Hilla) Babylon province, [10]. Latter the species was recorded in Baghdad province ,Salah Al-Din province ,and (Baquba) Diyala province [9], but in this study we found it in (AboGraib) Baghdad province. Figure (3).

***Hottentotta zagrosensis* (Kovarik,1997)**

First recording of the genus and species in Iraq by the present study, we founded in Baghdad province (Al-Topchi, Al-Sink) and Diyala province (Al-Kales, Baquba). Figure(4) shows the characters of genus and species which are one of the races dating back to the family Buthidae and most prevalent, as some types exist in Egypt, Sudan, India, Pakistan, Iran and Saudi Arabia [9]. Body color was dark except Chela is brown in color and sometimes the end piece of legs (tarsomeres first and second) would be yellow pectin teeth .

***Hottentotta judaicus* (Simon,1872)**

This species was recorded for the first time by the present study, It was collected from Diyala province (Al-Ahoiesh) Figure(5) shows the characters of genus and species which are : Body color was black or dark brown, except Chela are brown or yellow, the ends of the first legs and the second legs are brown [6].

2-Family: Bothriuridae

This family has one or three characters back to the family Buthidae , and some types were found in Egypt, Sudan, India, Pakistan, Iran, Saudi Arabia and Iraq. High domination in South Africa and South America, Australia and Asia in the forests and in the desert. It is sometimes called Burrows Scorpions , Wood Scorpions or Forest Scorpions [14].

***Bothriurus nendai* (Affilastro and Mauro,2010)**

The genus and species are recorded for the first time in Iraq of the present study .We collected the specimens from Baghdad province (in AboGhraib, Al-Nairiyaha, Figure(6) shows the characters of genus and species which are: Overall length between 27-33 mm , this species can be found under the soil to a depth of 40 cm and under rocks, body color usually is blackish brown or yellowish-brown , legs with a light brown color.

3-Family: Scorpionidae

Family scorpionidae has poison gland and it is a complex structure with distinct lobes in the tail called subacular tubercle, claws are round, and coxosternal region is sternum pentagonal, the legs have only one basitarsal spure , these characters can be the diagnostic feature of this family [14].

***Scorpio maurus* (Linnaeus,1758)**

Firstly recorded from Mosul province in Iraq by Penther [13] and Kalaf [9], In this study we found it in Najaf province (Mishkab region) Figure(7) shows the morphological characters which are: Chela diagnosed is very widely and the color is golden to yellow, known as the Gold Scorpion.

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Figure (1):*Androctonus crassicauda*(82.44mm Total Length)
A-Dorsal View
B-Ventral View

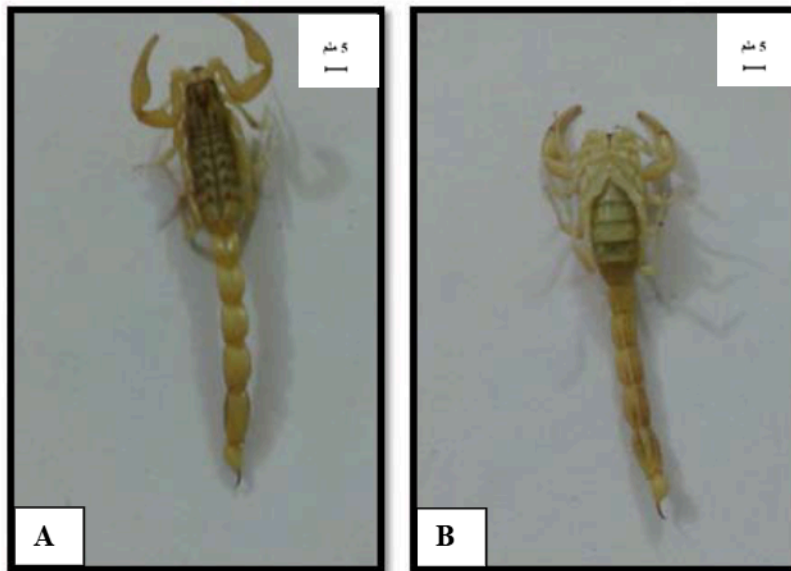


Figure (2):*Mesobuthus epeus* (35.83mm Total Length)
A-Dorsal View
B-Ventral View

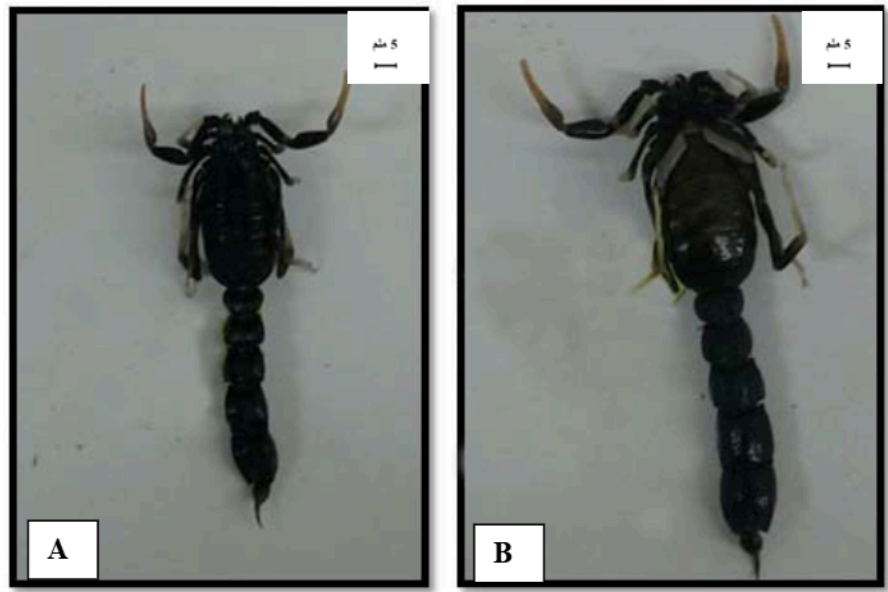


Figure (3): *Orthochirus* (32.07mm Total Length)

scrobiculosus

A-Dorsal View

B-Ventral View

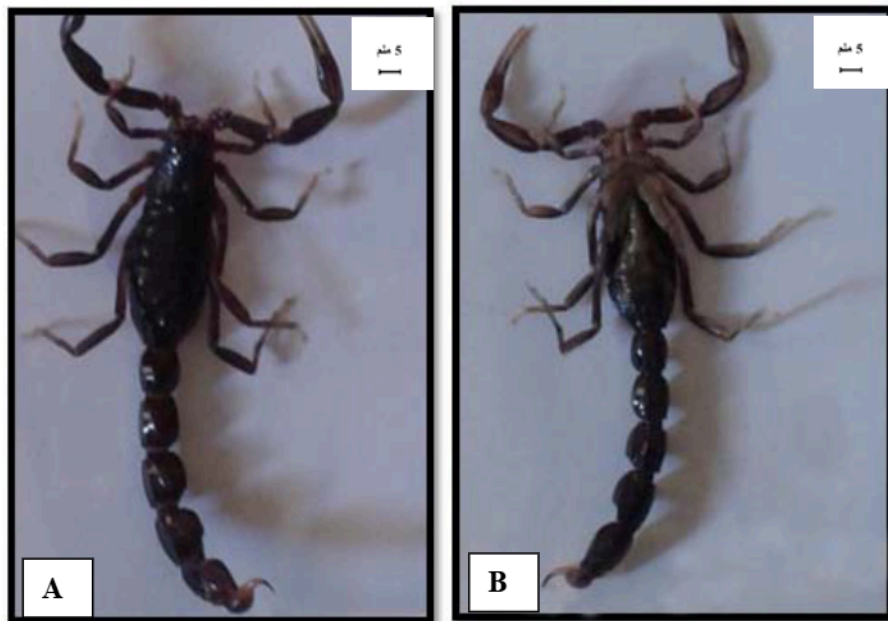


Figure (4): *Hottentotta zagrosensis* (47.07mm Total Length)

A-Dorsal View

B-Ventral View

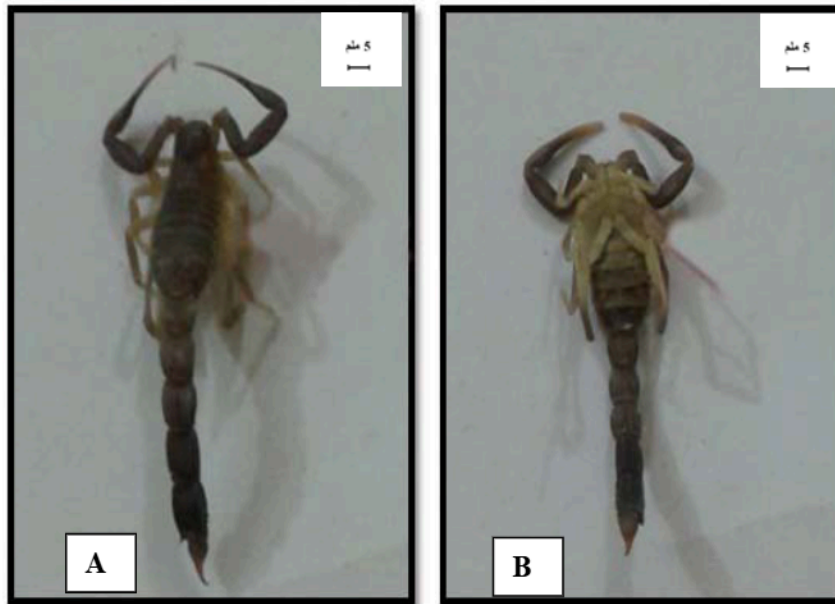


Figure (5):*Hottentotta judaicus* (31.03mm Total Length)

A-Dorsal View

B-Ventral View

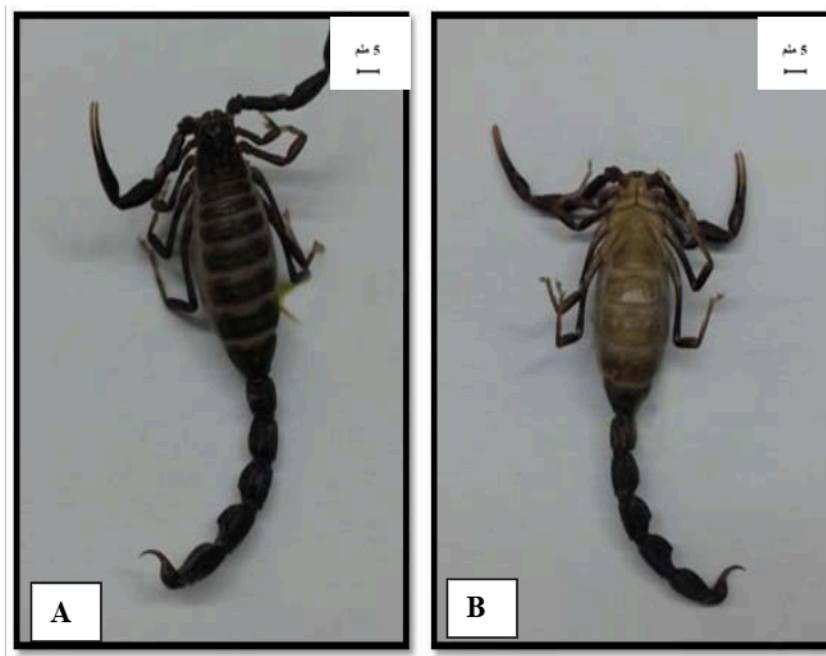


Figure (6):*Bothriurus nendai* (46.21mm Total Length)

A-Dorsal View

B-Ventral View



Figure(7):*Scorpio maurus* (49.02mm Total Length)

A-Dorsal View

B-Ventral View



قائمة بالعقارب المسجلة لأول مره في العراق

زينة نبيل نصيف العزاوي

قسم علوم الحياة / كلية التربية للعلوم الصرفة ابن الهيثم / جامعة بغداد

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الخلاصة

الدراسة الحالية هي أول دراسة تصنيفية للعقارب في العراق ،تم جمع العينات من مناطق وسط العراق وجنوبه ، تم تسجيل ثلاث عوائل وسبعة أجناس وثمانية أنواع سجلت لأول مره في العراق ونوع واحد سجل لأول مرة في العالم .

الكلمات المفتاحية: العقارب ، البوثييدية ،البوثيريدية ،السكورينيدية، العراق