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Recording some spider species in Al- Najaf, Iraq

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ABSTRACT

A total of 93 Individuals of wild spiders were collected from June through September 2019, from different regions of Al-Najaf Province, Iraq. Five spider species were recorded, four belong to Araneae order: *Plexippus paykulli* (Audouin, 1825), *Habronttus aestus* Maddison, sp. n., *Artema doriae* (Thorell, 1881) and *Loxosceles rufescens* (Dufour 1820). One species belonging to order Solifugae is *Galeodes arabs* C.L. Koch, 1842. This is the first record of species *H. aestus* in Iraq. The results also showed that the highest rate of the appearance of *H. aestus* was 61.3%, while the lowest belonged to *G. arab* (4%).

Keywords: Araneae, Solifugae, First record, *Habronttus aestus*, Iraq.
Article type: Research Article.

INTRODUCTION

Due to the wide spread of spiders and their adaptation to live in different environments, many studies have been conducted to find them. Individuals of recluses or camel spiders inhabit wasteland deserts separately studied and observations of their behavior in living, feeding, breeding, and ways of attacking enemies was recorded (Cloudsley-Thompson 1977; Hruskova-Martisova *et al*. 2008 and Erdek & Kayhan 2016). In Iran, 562 species of spiders belonging to 46 families and over 1013 species belonging to 53 families have been identified (Zamani *et al*. 2016). Spiders in Iraq remained neglected and rarely studied until the past few years when some Iraqi authors entered this work (Abdul-Rassoul *et al.* 2012; Ahmed & Ahmed, 2013; Al-Hadlag & Najim, 2015; Najam *et al.* 2015; Al-Khazali & Najim, 2018 and Baker & Ali, 2020). Zamani and Al-Hennawy (2016) indicated that there are 16 families recorded in Iraq and Fomicheva *et al*. (2018) added six new families, while Al-Kazali (2018) recorded one new family, and also Al-Kazali & Najim (2018) added another new family. Thus, there are 24 families recorded in Iraq, and most of these studies were conducted in Baghdad, Basrah, Dhi Qar and Ninawah provinces. Due to the lack of studies of spiders in the middle Euphrates region, including Al- Najaf Province, the current study came to identify spider species present in Al-Najaf Province for adding new information about biological diversity in the Iraqi environment.

MATERIALS AND METHODS

Samples were collected manually from different areas of Al-Najaf Province, including Al-Naft neighborhood, Al-Wafa neighborhood, Al-Amir neighborhood, Abbasiya district, Al-Hurriya district from June through September 2019. Samples were preserved in the field using 75% alcohol, adding drops of 4% formalin. On the plastic containers, the locality and date of sampling and also temperature were recorded. The methodology of Jocque & Dippenaar-Schoeman (2007), El-Hennawy (2014), Zamani & El-Hennawy (2016) and Al-khazali & Najim (2018) were adopted for the purpose of classifying samples.

RESULTS AND DISCUSSION

During the period from June to September 2019, 93 individuals of wild spiders were collected from home gardens, (Table 1). As a result of the examination, five spider species were identified and exhibited the taxonomic position of these species.

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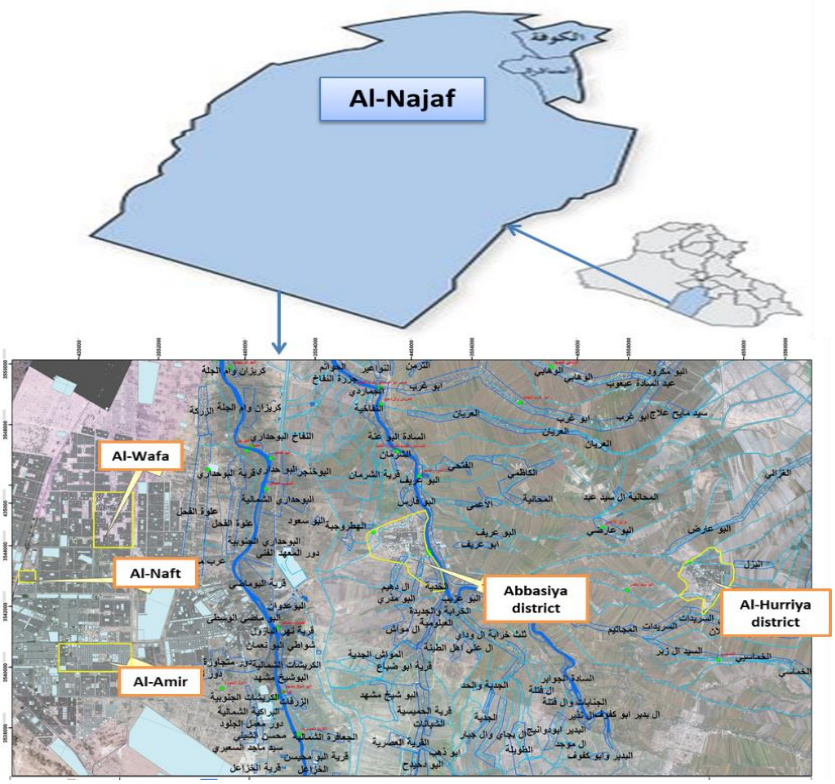

Fig. 1. Map of Iraq showing the collecting locality of spiders in Al-Najaf Province, Iraq.

Cellar spiders *Artema doriae* (Thorell, 1881)

Specimens were collected from two areas: Al-Wafa neighborhood in Al-Najaf and Al-Hurriya sub-district in Kufa districts. All Specimens were males, matching the description mentioned by Al-Kazali & Najim (2018) were collected from Dhi Qar Province. Aharon *et al*. (2017) indicated that members of the genus *Artema* Walckenaer, 1837 can be distinguished from the rest of the Pholsids family by their strong legs, large body and the presence of dark spots on the dorsal side that are arranged in lines from the dorsal to sides of opisthosoma, sometimes these lines lose. The colour of the Iraqi samples is similar to the samples or individuals found in Palestine (Aharon *et al.* 2017; Fig. 2).

Jumping spider *Habronattus aestus* Maddison, sp. n.

A total of 57 specimens were collected from four districts in Al-Najaf Province. Specimens were divided into 39 males and 18 females. This species is recorded for the first time in Iraq and neighbouring countries when compared to the spiders list in Zamani & El-Hennawy (2016), Mirshamsi *et al.* (2015) and El-Hennawy (2014). The descriptions of *H. aestus* male and female specimens were in agreement with the same species which was first described in North America by Maddison (2017; Fig. 3)

Jumping spider *Plexippus paykulli* (Audouin 1825)

A total of 15 specimens collected were divided into 11 females and 3 males. *Plexippus paykulli* (Audouin, 1825) which was recorded for the first time from Erbil Province by Ahmed and Ahmed (2013) and misidentified as *Saitis leighii,* then recorded in Ashur (Salaheddin Province), Baghdad and Basrah (Zamani and El- Hennawy 2016). Male body length was about 9 mm, normal spiders like habitus with black and white vertical strip coloration; the palpus was brown with black hairs and had retro-laterally tibial apophysis. Current specimen is consistent with the species reported in El-Hennawy *et al*. (2015; Fig. 4).

Recluse spider *Loxosceles rufescens* (Dufour 1820)

Thirteen specimens of this species were collected. This species is characterized by its toxicity that may sometimes lead to death. Mirshamsi *et al*. (2013) reported that an Iranian woman was exposed to symptoms of poisoning by the bite of *L. rufescens* in Mashhad, northwest Iran. This species is spread all over the world and was recorded in Iraq for the first time by Reimoser in 1913 from the Mount Sinjar in Nineveh Province, then recoded for second

time in Basrah Province by Najim & Al-Fayyadh (2019). It was also recorded in Saudi Arabia for the first time by El-Hennawy & Desouky (2012; Fig. 5).

Camel Spider (Sun Spider) *Galeodes arabs* C.L. Koch 1842

4 specimens of this species were collected from the Wadi Al-Salam cemetery. El-Hennawy (2014) indicated the presence of *G. cyrus* in Al-Faw, Basrah Province, Southern Iraq while Hussen & Ahmed (2017) recorded *G. caspius subfuscus* Birula1937 for the first time in Erbil Province, Iraq. *G. arabs* differs from both species in cheliceral and opisthosomal size and morphology. Harvey (2003) reported that this species spread in Algeria, Ethiopia, Egypt, Djibouti, Iran, Iraq, Palestine, Kenya, Libya, Morocco, Nigeria, Oman, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, Turkey, and Yemen (Fig. 6).

Table 1. Number and percentage of spider species collected from different areas of Najaf Governorate.

Types of Spiders	No.	Appearance (%)
Cellar spiders *Artema doriae* (Thorell 1881)	**5**	**5.4**
Jumping spider *Habronattus aestus* Maddison sp. n.	57	61.3
Jumping spider *Plexippus paykulli* (Audouin 1825)	14	15.05
Recluse spider *Loxosceles rufescens* (Dufour 1820)	13	13.9
Camel Spider (Sun Spider) *Galeodes arabs* C.L. Koch 1842	4	4.3
Total	93	100

The taxonomic position of the recorded spiders in the current study

1. Order: Araneae
a. Family: Pholcidae
Genus: *Artema*
Species: *A. doriae*
b. Family: Salticidae
1. Genus: *Habronattus*
Species: *H. aestus*
2. Genus: *Plexippus*
Species: *P. paykulli*
c. Family: Sicariidae
3. Genus: *Loxoseles*
Species: *L. rufescens*
2. Order: Solifugae
a.Family: Galeodidae
Genus: *Galeodes*
Species: *G. arabs*

Fig. 2. *Artema doriae* (Thorell 1881) habitus; Dorsal view.

Fig. 3. *Habronattus aestus* Maddison, sp. n. habitus; (a) Dorsal view of male (b) Dorsal view of female.

Fig. 4. *Plexippus paykulli* (Audouin 1825) habitus; (a) Dorsal view of male; (b) Dorsal view of female.

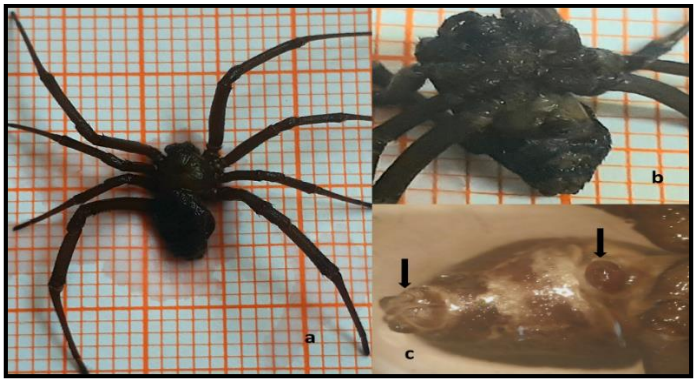

Fig. 5. *Loxosceles rufescens* (Dufour 1820); (a) Dorsal view (b) Ventral view (c) Venter of opisthosoma, spinnerets and genitalia.

Fig. 6. *Galeodes arabs* C.L. Koch, 1842 habitus; Dorsal view.

CONCLUSION

There are many spider species in the Iraqi environment that need to be diagnosed morphologically and genetically, in addition to studying their behaviour in feeding and reproduction.

REFERENCES

Abdul Rassoul, MS, Basman, H, Al Jalely, BH, Al Nuaimi, KT & Al Ani, LK 2012, First record of red-back spider *Latrodectus scelio* thorell, 1870 (Araneae: Theridiidae) in Baghdad, Iraq. *Bulletin of the Iraq Natural History Museum*, 12: 1-5.

Aharon, S, Huber, BA & Gavish Regev, E 2017, Daddy-long-leg giants, revision of the spider genus *Artema* Walckenaer, 1837 (Araneae: Pholcidae). *European Journal of Taxonomy*, 376: 1–57.

Ahmed, SM & Ahmed, ST 2013, First record of three jumping spiders (Araneae: Salticidae) in Mergasor (Erbil-Iraq). *International Journal of Molecular Zoology*, 3: 20-23.

AL Hadlag, KS & Najim, SA 2015, First record of Red-Back Spider *Latrodectus hasselti* Thorell, 1870 (Araneae : Theridiidae) from Basrah, South of Iraq. *Journal of Purity, Utility Reaction and Environment*, 4: 91-98.

Al Khazali, AM 2018, The first record of family Agelenidae from Iraq (Arachnida: Araneae). *Serket*, 16: 60-65.

Al khazali, AM & Najim, SA 2018, First records of Pholcidae (Arachnida: Araneae) from Iraq. *Bulletin of the Iraq Natural History Museum*, 15: 179-187.

Baker, IM & Ali, HB 2020, Taxonomical study of spiders (Order Araneae) from different localities of Iraq. *Bulletin of the Iraq Natural History Museum*, 38: 51.

Desouky, MMA & El Hennawy, HK 2012, Molecular Phylogenetic Relationships of Exemplars of Four Spider Families from Ha'il Region, Northern Saudi Arabia and a Preliminary List of Spiders of Ha'il. Egypt. *Egyptian Academic Journal of Biological Sciences*, 4: 87-102.

El Hennawy, HK, Mohafez, MA & El Gendy, AA 2015, The first record of *Plexippus clemens* (O.P.-Cambridge, 1872) (Araneae: Salticidae) in Egypt. *Serket*, 14: 128-133.

El Hennawy, HK 2014, Preliminary list of spiders and other arachnids of Saudi Arabia (except ticks and mites). *Serket*, 14: 22-58.

Erdek, M & Kayhan, NY 2016, Observation on burrowing behaviour, oviposition and external egg morphology of *Gylippus* (*Gylippus*) *syriacus* (Simon, 1872) (Arachnida: Solifugae: Gylippidae). *Acta Zoologica Bulgarica*, 68: 535-540.

Fomicheva, AA, Marusikb, YM & Koponend, S 2018, New data on spiders (Arachnida: Araneae) of Iraq. *Zoology in the Middle East*: 1-11.

Goudsley Thompson, JL 1977, Adaptational biology of Solifugae (Solpugida). *Bulletin of the British Arachnological Society*, 4: 61-71.

Harvey, MS 2003, Catalogue of the smaller arachnid orders of the world: Amblypygi, Uropygi, Schizomida, Palpigradi, Ricinulei and Solifugae. Canberra CSIRO Publishing, 399 p.

Hrusˇkova´ Martisˇova´, M, Peka´r, S & Gromov, A 2008, Short communication biology of *Galeodes caspius subfuscus* (Solifugae: Galeodidae). *The Journal of Arachnology*, 35: 546-550.

Hussen, FSh & Ahmed, ShT 2017, First record of *Galeodes caspius subfuscus* Birula1937 (Solifugae, Galeodidae) in Iraq with additional notes on *Rhagodixa kurdistanica*, Birula 1936 (Solifugae: Rhagodidae). *ZANCO Journal of Pure and Applied Sciences*, 29: 90-97.

Jocqué, R & Dippenaar Schoeman, AS 2007, Spider families of the world. 2ed Edition, Royal Museum for Central Africa, 336 p.

Maddison, WP 2017, New species of *Habronattus* and *Pellenes* jumping spiders (Araneae: Salticidae, Harmochirina). *Zookeys*, 646: 45-72.

Mirshamsi, O, Marusik, YM, Zamani, A, Moradmand, M & Kashefi, R 2015, Annotated checklist of the spiders of Iran (Arachnida: Araneae). *Iranian Journal of Animal Biosystematics*. 1: 1-108. (In Persian).

Najim, SA & Al Fayyadh, MJ 2019, Second record of *Loxosceles rufescens* (Dufour, 1820) (Araneae: Sicariidae) from Iraq. *Serket*, 17: 7-9.

Zamani, A, Mirshamsi, O, Rashidi, P, Marusik, YM, Moradmand, M & Bolzern, A 2016, New data on the spider fauna of Iran (Arachnida: Aranei), part III, *Arthropoda Selecta*, 25: 99-114.

Zamani, A & El Hennawy, H 2016, Preliminary list of the spiders of Iraq (Arachnida: Araneae). *ARACHNIDA Rivista Aracnologica Italiano*, 6: 12-20.

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