



First Record of Banded Garden Spider *Argiope trifasciata* Forskal, 1775 (Araneae: Araniedae) in Baghdad, Iraq

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Abstract

This study presented the first recorded of the banded garden spider *Argiope trifasciata* and described for the first time in Baghdad city, Iraq. The specimens were collected from Al-Rashidiya sub-district north of Baghdad city on 26/ November/ 2021 (7:00 am- 6:00 pm) from fruit gardens (orange and apricot trees) and agriculture lands (palm trees, crops of wheat and vegetables). The spider "*Argiope trifasciata*" species is a member of the orb-weaving spider genus. It belongs to the Araniedae family, widespread worldwide, and has four pairs of long legs covered with spines and eight eyes arranged in two rows. The females of *Argiope trifasciata* spiders are yellow and covered with silvery and shiny hairs on the carapace that are relatively low. The abdomen of described spider is usually oval and elongated with pale yellow and black stripes. The legs are yellowish brown with dark rings.

Keywords: Banded, Araniedae, Spiders, Silk, Orb-weaving, Zig-zag.

1.Introduction

The spider's family Araniedae is commonly known as "orb-weaver spiders." This family has 183 genera and 3089 species [1]. It is the most diverse family in the world [2-3]. Orb-weave spiders are relatively medium to giant spiders, considered one of the biological indicators [3-4]. The common name (orb weavers) comes from its ability to build the classic orb "round" web [5]. *Argiope* Audouin, 1826 is one of the genera that belong to this family, which contains 89 species worldwide. Most divers of this genus are found in southeast Asia [6]. *A. trifasciata* is reported worldwide [7]. The word "Argiope" comes from Greek and means "bright" [8]. The males of this genus are much smaller than the females. It can be 1/3 of the length of females.

2. Material and methods

Study site

The spiders *Argiope trifasciata* were collected from Baghdad, Al-Rashidiya sub-district 36°25'N 44°19'E 2021, 26, Nov. Specimens were collected (7:00 am- 6:00 pm). The collection site was a fruit garden (orange and apricot trees) and agriculture lands (palm trees, crops of wheat and vegetables) with a temperature of 18-23 °C and humidity of 21%. The best way to capture the spiders is by the net or putting the bottle beside the spider when its stopper pushes into the spider [9].

Identification

Firstly, kill the spiders by freezing for six hours, then it was preserved the specimens in 70-80% ethyl alcohol, later identical by using a dissecting microscope (20x) in a laboratory at the biology department, College of Education for Pure Science (Ibn Al- Haitham), University of Baghdad. The specimens identified by the keys [10-12]. The picture was photographed by using a camera resolution of 40 pixels.

3. Results and Discussion

In this study, nine specimens of Araniedae were collected from one site. All specimens were females belonging to the genus *Argiope* Audouin, 1826, and species *A. trifasciata* Forskal, 1775 [13].

Taxonomy

Kingdom: Animalia

Phylum: Arthropoda

Subphylum: Chelicerata

Class: Arachnida

Order: Araneae

Family: Araniedae Clarck, 1757

Genus : *Argiope* Audouin,1826

Species : *A. trifasciata* Forskal,1775

The specimens were brightly colored, large spiders (14.9- 20.2) mm in length. Prosoma is the white, oval abdomen, in dorsal view, yellow to brown with many dark "black" lines (**Figure 1**). The ventral side is black, with four pairs of white patches (**Figure 2**). We can easily distinguish the banded garden spider by the striking abdomen marking, eight equal eyes in two rows (**Figure 3**), and the posterior row of eyes is slightly curved [14-15]. Eight deep orange legs with "dark" rings and three claws "unequal" on all of the legs help the spiders build their webs, which are shaped like a zig-zag (**Figure 5**). They have six spinnerets with calculus (**Figure 4**).

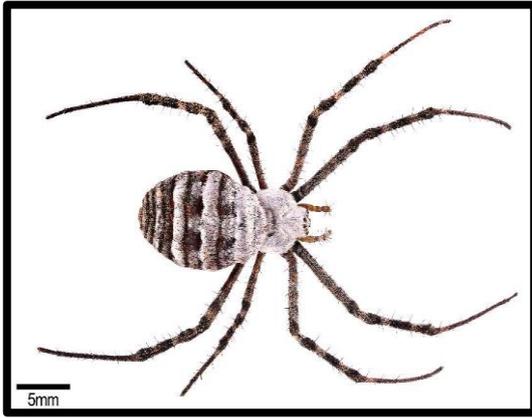


Figure 1: *A. trifasciata*
Dorsal view, Female

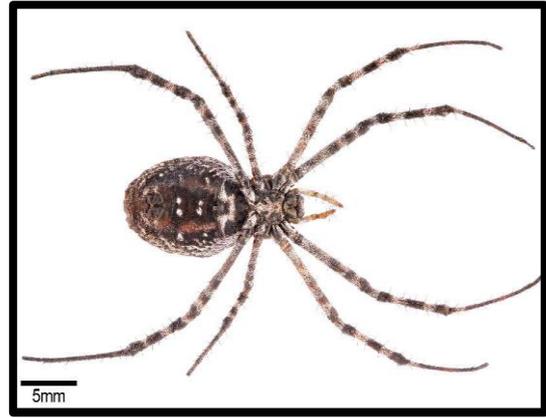


Figure 2: *A. trifasciata*
Ventral view, Female



Figure 3: *A. trifasciata*
Eye arrangement



Figure 4: *A. trifasciata*
Spinnerets

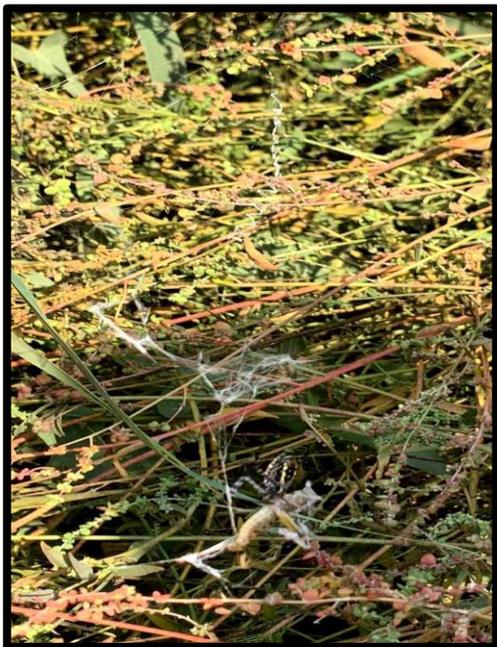


Figure 5a: *A. trifasciata*
The web

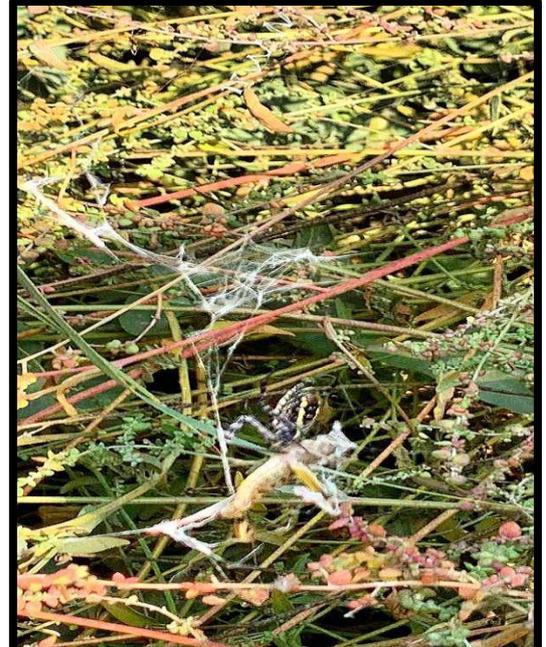


Figure 5b: *A. trifasciata*
The web

4. Conclusions

The spider species *Argiope trifasciata* has four pairs of long legs covered with spines and eight eyes arranged in two rows. The abdomen of described spider is usually oval and elongated with pale yellow and black stripes, and the legs are yellowish brown with dark rings. The females of the *Argiope trifasciata* species are yellow and covered with silvery and shiny hairs on the carapace that are relatively low. This spider was the first recorded in Baghdad, Iraq.

References

1. Abel, C.; Schneider, J. M.; Kuntner, M.; Harms, D. Phylogeography of the ‘cosmopolitan’ orb-weaver *Argiope trifasciata* (Araneae: Araneidae). *Biol. J. Linn. Soc.* **2020**, *131*, 1, 61-75.
2. Baker, I.M.; Ali, H.B. (2020). Taxonomical Study of Spiders (Order, Araneae) from Different Localities of Iraq. *Iraq Nat. Hist. Mus. Publ.* **2020**, *38*, 51.
3. Dentici, A. The genus *Argiope* Audouin, 1826 (Araneae Araneidae). *Biodivers. J.* **2018**, *9*, 3, 169-320
4. Jäger P. A review on the spider genus *Argiope* Audouin, 1826 with special emphasis on broken emboli in female epigynes (Araneae: Araneidae: Argiopinae). *Beiträge zur Araneologie*, **2012**, *7*, 272-331.
5. Jocque, R; Dippenaar-Schoman, A.S. *Spider Families of the World*. 2nd ed. Royal Museum for Central Africa. Belgium, **2007**.
6. Kaston, B.J. *How to know the spiders*. WC Brown Co, **1978**.
7. Levi, H.W. Comments and new records for the American genera *Gea* and *Argiope* with the description of new species (Araneae: Araneidae). *Bull. Museum Compar. Zool.*, **2004**, *158*: 47–65.
8. Levi, H.W. Keys to the Genera of *Araneid orbweavers* (Araneae, Araneidae) of the Americas. *J. Arachnol.*, **2002**, *30*, 557-562.
9. Marc, P.A., Canard, A. ; Ysnel, F. 1999. Spiders (Araneae) useful for pest limitation and bioindication. *Agric., Ecosyst. Environ.*, **1999**, *74*, 1-3, 229-273.
10. Nentwig, W.; Blick, T.; Bosmans, R.; Gloor, D.; Hänggi, A.; Kropf, C. *Spiders of Europe*. Version {no. of month, **2022**, Online at <https://www.araneae.nmbe.ch>, accessed on <https://doi.org/10.24436/1>
11. Pearce, J.L.; Venier, L.A., 2006. The use of ground beetles (Coleoptera: Carabidae) and spiders (Araneae) as bioindicators of sustainable forest management: a review. *Ecolog. Indicators*, **2006**, *6*, 4, 780-793.
12. Platnick, N.I. *The World Spider Catalog*, version 11.5. American Museum of Natural History, **2011**, online at <http://research.amnh.org/entomology/spiders/catalog>.
13. Roberts, M.J. *Spiders of Britain & Northern Europe*. London, HarperCollins, **1995**.
14. World Spider Catalog. *World Spider Catalog*. Version 23.0. Natural History Museum Bern, **2022**, online at <http://wsc.nmbe.ch>, accessed on . doi: 10.24436/2
15. WSC. *World Spider Catalog*. Natural History Museum Bern. **2020**, <http://wsc.nmbe.ch> (<http://wsc.nmbe.ch/>) [version 21.5 (accessed on 2020-9-16)].