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New records of two families, four genera and eight species of spiders (Arachnida: Araneae) in Iraq across latitudinal gradients

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Abstract. *Najim SA, Al-Esa SM. 2025. New records of two families, four genera and eight species of spiders (Arachnida: Araneae) in Iraq across latitudinal gradients. Biodiversitas 26: 4167-4179.* Spiders (Order: Araneae) are among the most diverse and ecologically important predators worldwide, playing a critical role in maintaining ecological balance across terrestrial ecosystems. Despite Iraq's diverse landscapes, which range from arid deserts to lush mountainous regions, its spider fauna remains significantly understudied. In light of this knowledge gap, this study presents new faunistic records of spiders from three major regions of Iraq: Basrah, Baghdad, and Sulaymaniyah, spanning different latitudinal zones. Fieldwork was conducted between January 2023 and December 2024, during which specimens were collected using standard arachnological methods, including hand sampling and pitfall trapping. Specimens were identified using reliable taxonomic keys, with detailed examination of morphological features such as habitus, epigynum (female genitalia), and pedipalps (male reproductive structures). These features were photographed using high-resolution macro imaging for accurate documentation and comparison. The study records eight spider species newly reported from Iraq, representing two new families, four new genera and eight species, broadening the known arachnid diversity of the country. The newly recorded species include: *Megalepthyphantes nebulosus*,1♀, Family: Linyphiidae; *Mimetus laevigatus*,2♀, Family: Mimetidae; *Marilynia bicolor*,2♂, Family: Dictynidae; *Philodromus longipalpis*,5♀, Family: Philodromidae; *Argiope bruennichi*,1♀, *Neoscona subfusca*,1♂,1♀, Family: Araneidae; *Steatoda erigoniformis*,4♂,5♀, Family: Theridiidae; *Bassaniodes caperatus*,1♂, Family: Thomisidae. All collected specimens have been preserved and deposited in the Natural History Museum of Basrah University, Iraq. These findings not only contribute to the regional biodiversity records but also emphasize the need for continued arachnological surveys across Iraq's varied habitats to better understand species distribution and ecological interactions.

Keywords: Fauna, Iraq, Linyphiidae, Mimetidae, spider

INTRODUCTION

Spiders (Order: Araneae (Clerck, 1757)) exhibit notable diverse and worldwide distribution within 136 families, 4,444 genera and 53,281 species (WSC 2025), they occupy a key ecological niche as dominant invertebrate predators in terrestrial ecosystem, exerting top-down control over insects and other arthropod populations, which helps regulate pest outbreaks and maintain ecosystem health, consequently the study of regional spider fauna is scientifically essential and deserves focused ecological and conservation efforts. The early surveys of Iraqi spider fauna concentrated on southern regions, initially recording only a single species (Seyyar et al. 2016; Demir et al. 2017; Al-Khazali and Najim 2018; Najim 2019; Najim and Al-Hadlak 2020; Al-Yacoub and Fomichev 2023). Subsequently, some publications expanded this knowledge base by recording multiple species of spiders from south and central of Iraq (Zamani et al. 2022a; Al-Yacoub and Najim 2023; Hamid and Al-Khazali 2025).

Iraq's arachnofauna remains understudied, with limited data available from various regions. Furthermore, although some records have been collected in northern Iraq, to date only five major studies have investigated a total of 43 species of spiders (Ahmed and Ahmed 2012; Fomichev et al. 2018; Al-Khazali et al. 2021; Zamani and West 2023; Zamani et al. 2024). However, these records are considered few given the diverse ecologic habitats of Iraq, such as deserts, wetlands, plains, and mountains, the spider fauna remains poorly documented and largely localized, whereas, and according the last publishing of annotated checklist of Iraqi spiders (Al-Khazali et al. 2023) enumerated 104 species across 75 genera and 29 families, Subsequently, three additional papers conducted over the following two years extended Iraq's spider fauna, a survey in northern Iraq (Zamani et al. 2024), documented 18 additional species, while a study in central Iraq (Babil province) recorded five further species (Hamid and Al-Khazali 2025). Furthermore, a unique species new for science (*Eresus urus*) was formally described from Dhi Qar in southern Iraq, raising the total number to approximately 128 spider species recorded to date (Al-Yacoub et al. 2025).

However, compared to neighboring countries, the number of Iraqi spider species is few, since what has been recorded in Iran is estimated to be between 697 and 935, based on extensive specimen-based research and taxonomic reviews (Zamani et al. 2017). In Turkey, the latest reference list counts 1,282 species of spiders within 57 families (Danışman et al. 2024).

This substantial gap is likely indicative of insufficient taxonomic and field research, rather than an innate paucity in biological diversity, addressing this deficiency requires well-designed, large-scale biodiversity surveys, particularly in under-sampled zones such as remote deserts and the Mesopotamian marshes. So, the current study aimed to document previously unreported spider species from various habitats across Iraq, contributing to national biodiversity by new recording of two families, four genera and eight species of spiders, enhancing with images of male and female's habitus and genitalia.

MATERIAL AND METHODS

The study was conducted to 50 specimens that were collected by field sampling and observations by two researchers, Najim SA and Al-Esa SM. The fieldwork is covered 6 sites across three provinces in Iraq: Basrah, Baghdad, and Sulaymaniyah, including wetlands, agricultural lands urban areas, home gardens forests, and mountainous regions, each site was sampled twice per month from January 2023 to December 2024, during both daytime (06:00-2:00) and nighttime (10:00-2:00) sessions, for each site 4 session have been applied. During each session, both hand collecting and pitfall trapping were applied. At each sampling event, all specimens encountered were collected if in good condition; otherwise, one representative per species was retained. All captured specimens were preserved in 80% ethanol and later examined using an Optika dissecting microscope in the Ecology Department laboratory (Basrah University, Iraq) and identified according to accurate taxonomical keys (Lehtinen 1967; Levy and Amitai 1982; Levi 1983; Roberts 1987; Segers 1992; Levy 1998; Bosmans and Gavalas 2023; Mousaid and Bouihouline 2023). Photographs were taken by the co-author (Sadeq Mithal Al-Esa) by Sony a7riv camera, with Canon mp-e 65mm f 2.8 macro lens, some epigynes and pediplaps photos were taken by Sony a7riv connected to zeiss primo star microscope; the image stacking done by Helicon focus 8.1.0; brightness, sharpness, and color correction done by Adobe Photoshop CC 2024. Coordinates are measured by Global Positional System instrument. Published checklists and regional faunal surveys (e.g., Fomichev et al. 2018; Zamani and West 2023; Zamani et al. 2024) were consulted to compare the collected species with previously reported taxa in Iraq. These references were used to identify novel records and to validate the distribution range of each species observed in this study. All fieldwork and specimen collection were conducted in accordance with local environmental regulations. No endangered or protected species were sampled, and minimal impact was ensured at all sampling sites. All preserved material has been deposited at the Arachnid Collection of the Natural History Museum of Basrah University, Iraq; ensuring long-term curation and accessibility for future taxonomic studies.

RESULTS AND DISCUSSION

The results show 8 species (50 individuals) of spiders belonging to 7 families (Table 1), have been recorded for the first time from three Iraqi provinces: Basrah (southern Iraq), Baghdad (central) and Sulaimanyiah (north), as illustrated in the Figure 1.

Family: Araneidae (Clerck, 1757)

Genus: *Argiope* (Audouin, 1826)

Species: *Argiope bruennichi* (Scopoli, 1772)

Identification: According to Levi (1983)

Material examined: Figure 2. IRAQ: Sulaymaniyah Province: 1♀ (BNHM), Ranyei 36°21'17.32"N, 44°47'57.39"E, hand collected from dense grasses in forest, mountainous environment, 10 August 2023; leg: Najim SA.

Distribution: Europe, Turkey, Israel, Russia (Europe to Far East), Caucasus, Iran, Central Asia to China, Korea, Japan (WSC 2025).

Comment: Within the family Araneidae, the genus *Argiope* is distributed worldwide with currently 89 valid species, it is representing the most taxonomically diverse genus within southeast Asia, encompassing New Guinea and adjacent islands (WSC 2025). In current study the species *A. bruennichi* is recorded for the first time from Iraq, which has been recorded in countries neighboring Iraq, with its first recording in Iran by Mirshamsi and Darvish (2005), and in Turkey by Danışman et al. (2024). *Argiope* is readily distinguished from other cogenera based on its distinctive morphological traits, including prominently patterned abdomens and characteristic ocular arrangement most notably, as strong procurved posterior eye row (Levi 1983).

Family: Araneidae (Clerck, 1757)

Genus: *Neoscona* (Simon, 1864)

Species: *Neoscona subfusca* (Koch, 1837)

Identification: According to Levy (1998)

Material examined: Figures 3-5. IRAQ: 1♂2♀(BNHM); Sulaymaniyah Province; Balykader, hand collected from web net found on tree, mountainous environment; 35°43'23.92"N, 46°9'18.32"E; 17 July 2023; leg: El-Esa SM.

Distribution: Southern Europe, St. Helena, Africa, Turkey, Middle East, Ukraine, Caucasus, Russia (Europe) to Central Asia (WSC 2025).

Comment: *Neoscona* is widely distributed genus with 124 valid species (WSC 2025), it has been recorded from Iran, represented by several species *N. theisi* (Walckenaer, 1841), *N. spassky* (Brignoli, 1983) and *N. isatis* (Zamani, Marusik & Šestáková, 2020) (Zamani et al. 2020). *Neoscona subfusca* was recorded from Turkey (Demircan and Topçu 2022) which had common border with Iraq. The genus was first recorded in Iraq by Hamid and Al-Khazali (2025), represented by *N. theisi* species. In current study, *N. subfusca* first recorded from north of Iraq.

Members of genus *Neoscona* were distinguished from other araneid genera primarily by the distinctive morphology of the male palpal sclerites, notably the structure of the median apophysis bearing a proximal spine

(Levy 1998). In females the genus is characterized by a uniquely smooth spatulas shape of epigyne, in addition to the morphology and arrangement of tibial spination on the second leg pair serve as additional diagnostic features for adult males (Levi 1993).

Family: Dictynidae (Pickard-Cambridge 1871)

Genus: *Marilynia* (Lehtinen, 1967)

Species: *Marilynia bicolor* (Simon, 1870)

Identification: According to Lehtinen (1967)

Material examined: Figure 6. IRAQ: 2♂ (BNHM); Baghdad Province; Al-Doura, urban gardens, hand collected from ground among the grasses; 33°13'51.91"N, 44°23'14.87"E; 2 April 2024; leg: El-Esa SM.

Distribution: Europe to Central Asia, North Africa (WSC 2025).

Comment: It is very small genus with 2 species, *M. bicolor* has been recorded from Iran (Zamani et al. 2022b) and Turkey (Lecigne 2011). The genus and species are first recorded from Iraq.

Table 1. The new records of Iraqi spiders, and their presence in Iran and Turkey

Family	Genus	Species	Locality in Iraq	Coordinates	Iran	Turkey
Araneidae	*Argiope*	*Argiope bruennichi**	Sulaymaniyah	36°21'17.32"N, 44°47'57.39"E	+	+
	Neoscona	*Neoscona subfusca**	Sulaymaniyah	35°43'23.92"N, 46°9'18.32"E	-	+
Dictynidae	*Marilynia**	*Marilynia bicolor**	Baghdad	33°13'51.91"N, 44°23'14.87 "E	+	+
Linyphiidae*	*Megalepthyphantes**	*Megalepthyphantes nebulosus**	Sulaymaniyah	35°55'47.29"N, 44°57'38.49"E	+	+
Mimetidae*	*Mimetus**	*Mimetus laevigatus**	Sulaymaniyah	35°43'23.92"N, 46°9'18.32"E	+	+
Philodromidae	*Philodromus**	*Philodromus longipalpis**	Baghdad	33°16'32.47"N, 44°23'16.62"E	+	+
Theridiidae	*Steatoda*	*Steatoda erigoniformis**	Basrah	30°36'23.55"N, 47°42'59.36"E	+	+
Thomisidae	*Bassaniodes*	*Bassaniodes caperatus**	Sulaymaniyah	35°55'47.29"N, 44°57'38.49"E	-	+

Note: Species, genus and families recorded for the first time in Iraq are marked with an asterisk (*)

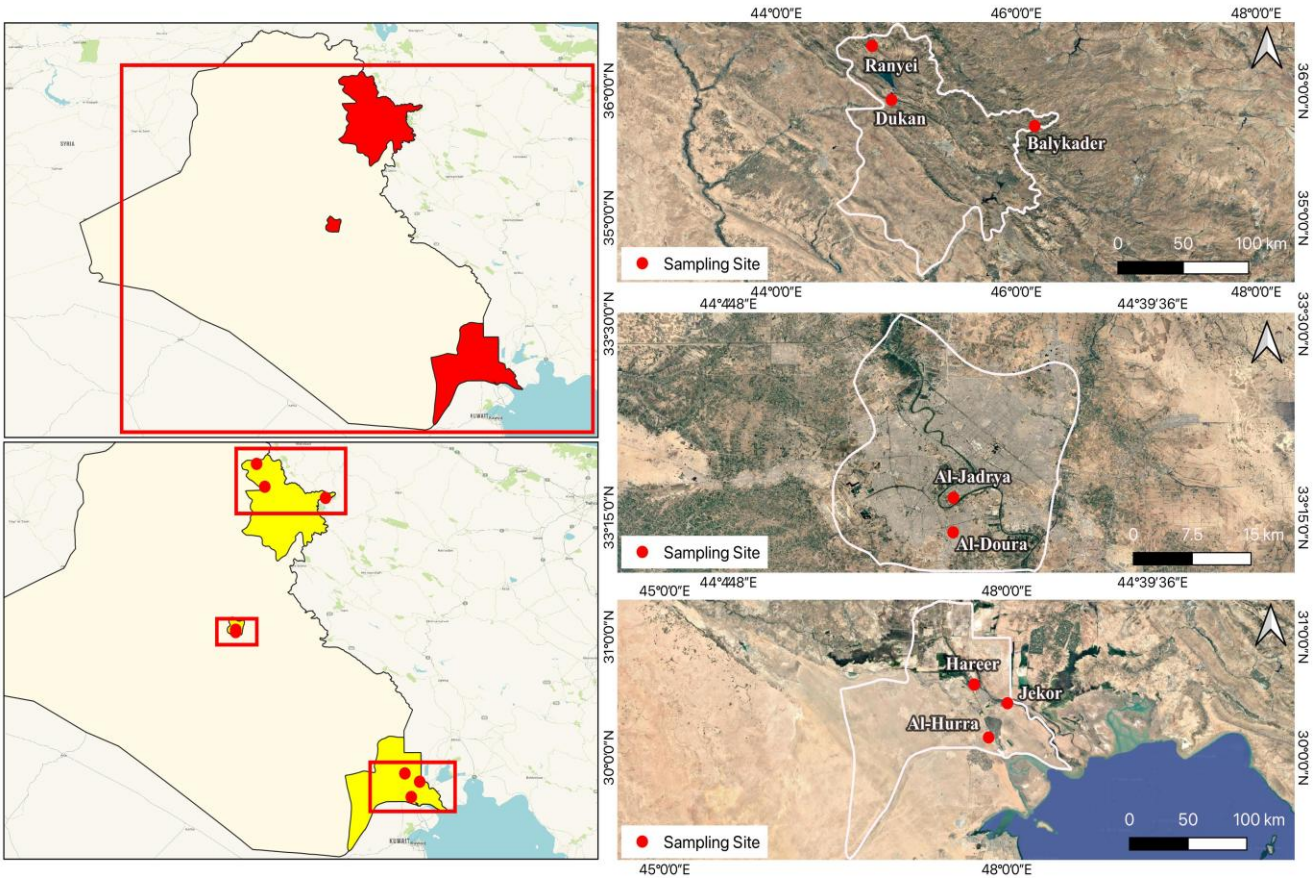

Figure 1. Location map, from three provinces in Iraq

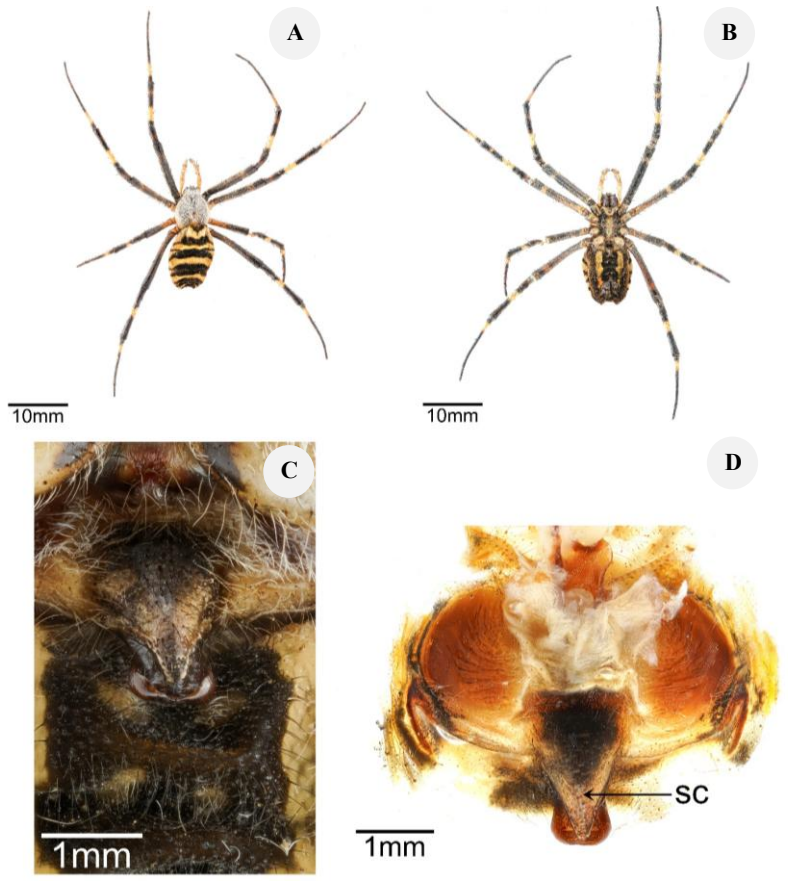

Figure 2. A-B: Habitus of *Argiope bruennichi* ♀ (A: Dorsal view; B: Ventral view), C-D: Epigyne (C: Intact; D: Ventral view). SC: Scape

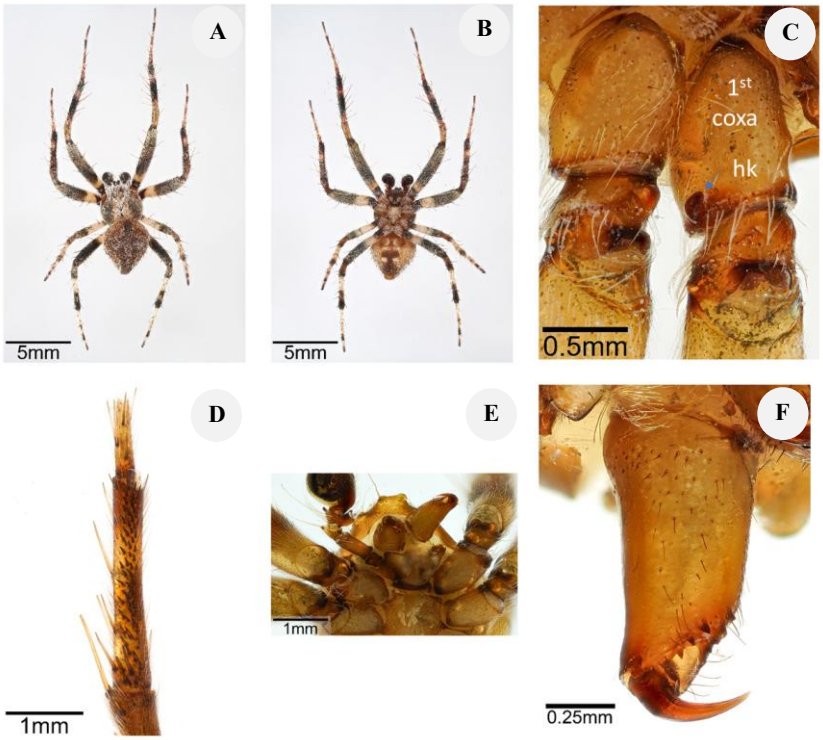

Figure 3. A-B: Habitus of *Neoscona subfusca* ♂ (A: Dorsal view; B: Ventral view), C: Hook (hk) on 1st coxa in ventral view, D: 2nd tibia with three rows of clasping spines, E: Mouth parts and chelicerae, F: Frontal view of right chelicera with retrolateral teeth

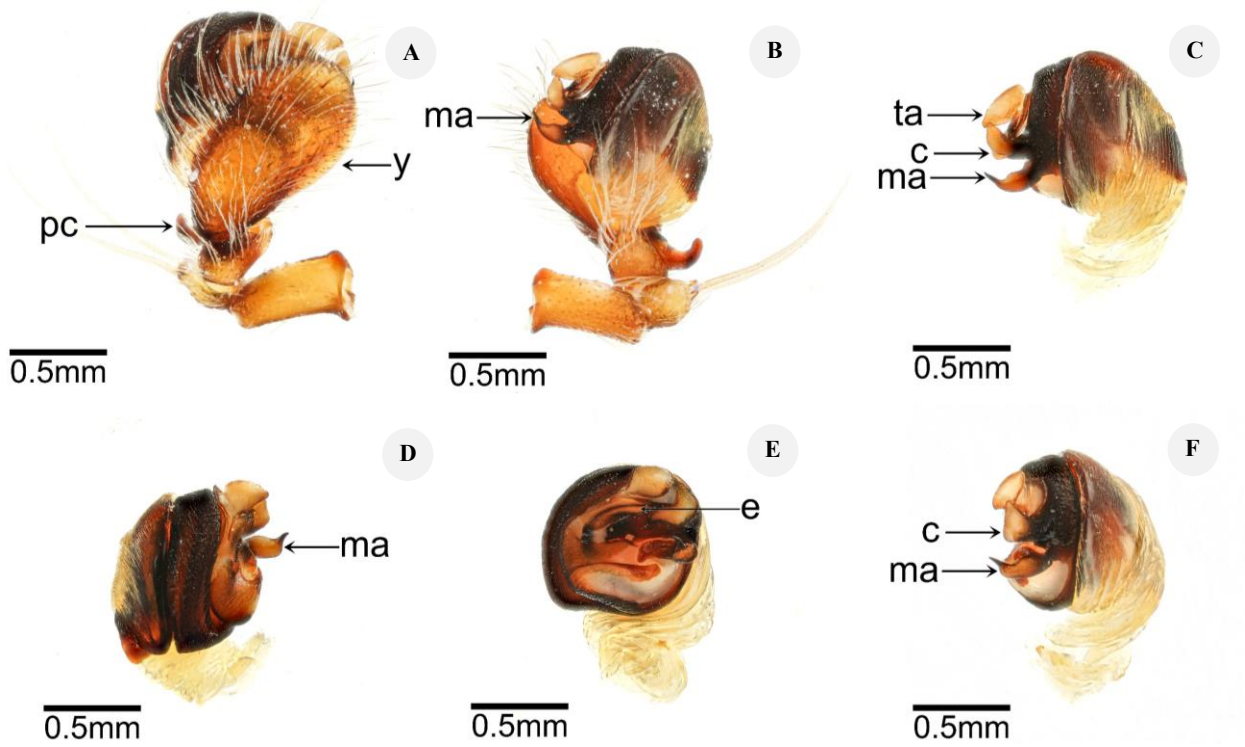

Figure 4. A-F: Pedipalp of *Neoscona subfusca* (A: Ventral view; B: Ventro-prolateral view; C: Ventro-prolateral view without cymbium; D: Retrolateral view; E: Ventro-retrolateral view; F: Prolateral view), c: Conductor, e: Embolus, ma: Median apophysis, pc: Paracymbium, ta: Terminal apophysis, y: Cymbium

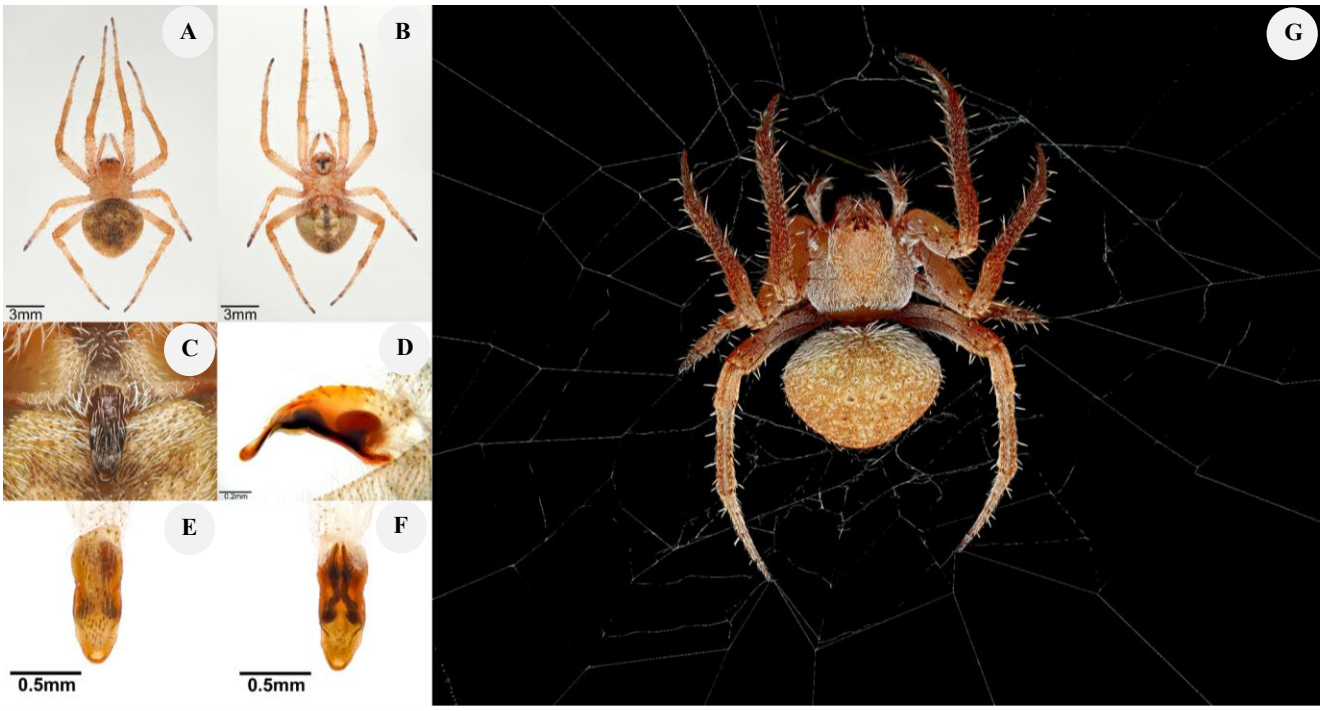

Figure 5. A-B: Habitus of *Neoscona subfusca* ♀ (A: Dorsal view; B: Ventral view), C-F: Epigyne (C: Intact; D: Lateral view; E: Ventral view; F: Dorsal view), G: Habitus of female in its web

Family: Linyphiidae (Blackwall, 1859)

Genus: *Megalepthyphantes* (Wunderlich, 1994)

Species: *Megalepthyphantes nebulosus* (Sundevall, 1830)

Identification: According to Roberts (1987).

Material examined: Figures 7 and 8. IRAQ: 1♀(BNHM); Sulaymaniyah Province; Dukan, Agricultural land; hand collected from its sheet web; 35°55'47.29"N, 44°57'38.49"E; 5 August 2023; leg: El-Esa SM.

Distribution: North America, Europe, Turkey, Caucasus, Russia (Europe to Far East) (WSC 2025).

Comment: *Megalepthyphantes* is a small genus with 20 valid species (WSC 2025). It has been recorded from neighbor countries of Iraq, several species within this genus are known to inhabit the region, including *M. nebulosus* (Sundevall, 1830), *M. pseudocollinus* (Saaristo, 1997), and *M. turkeyensis* (Tanasevitch, Kunt & Seyyar, 2005) of Iran (Zamani and Marusik 2018) and Turkey (Tanasevitch et al. 2005; Danışman and Coşar 2013; Türkeş et al. 2015). New family, genus, species records for Iraq.

Family: Mimetidae (Simon, 1881)

Genus: *Mimetus* (Hentz, 1832)

Species: *Mimetus laevigatus* (Keyserling, 1863)

Identification: According to Mousaid and Bouihouline (2023).

Material examined: Figures 9 and 10. IRAQ: 2♀(BNHM); Sulaymaniyah Province; Balykader, Agricultural land; hand collected from grasses; 35°43'23.92"N, 46°9'18.32"E; 12 July 2023; leg: El-Esa SM.

Distribution: Mediterranean, Slovakia and Hungary to Central Asia (WSC 2025).

Comment: The Mimetidae individuals are most diverse in the tropics of Central and South America (Benavides and Hormiga 2020), characterized by a distinctive row of spines on the prolateral side of the metatarsus and tibia of the first two pairs of legs in all females and most males (Cutler 1999). It is small family with eight valid genera and 79 species distributed worldwide (WSC 2025). The species was recorded in Iran (Mirshamsi et al. 2015) and Turkey (Tutar and Yağmur 2023). New family, genus, and species records for Iraq.

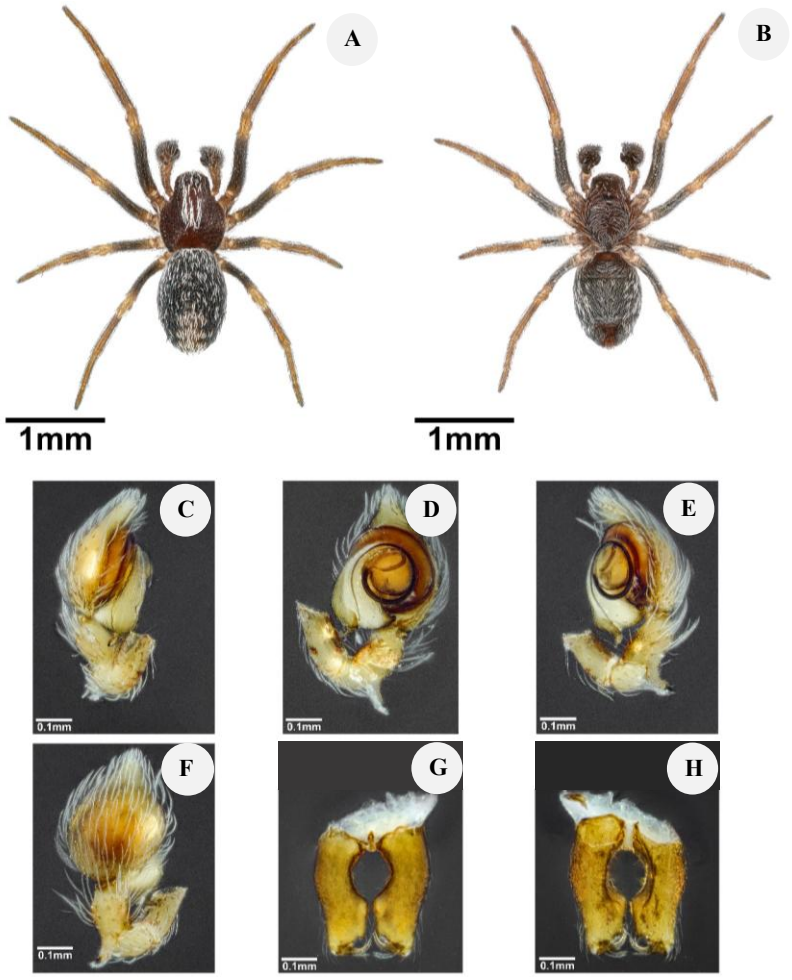

Figure 6. A-B: habitus of *Marilynia bicolor* ♂ (A: Dorsal view; B: Ventral view), C-F: Right pedipalp (C: Retrolateral view; D: Ventral view; E: Prolateral view; F: Dorsal view), G-H: Chelicerae (G: Anterior view; H: Posterior view)

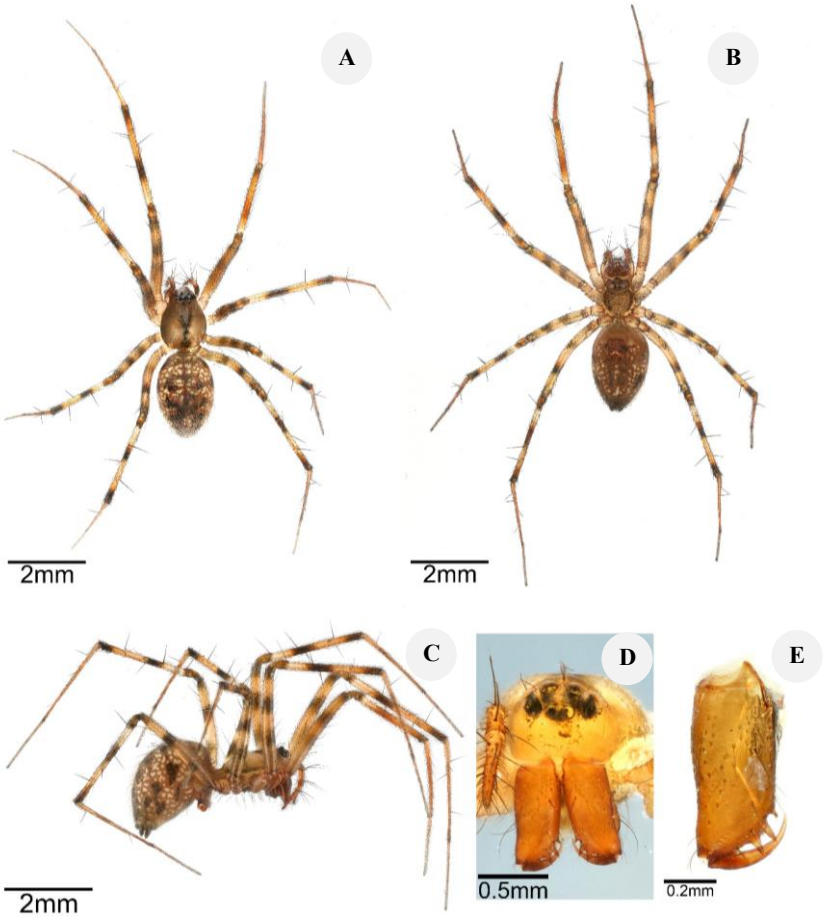

Figure 7. A-C: Habitus of *Megalepthyphantes nebulosus*♀ (A: Dorsal view; B: Ventral view; C: Lateral view), D: Arrangement of eyes, E: Chelicera prolateral view

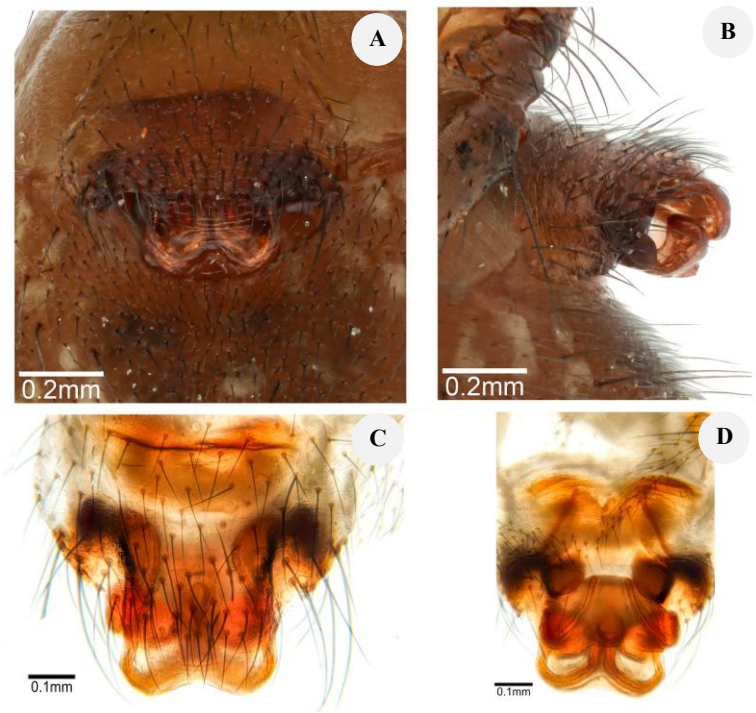

Figure 8. A-D: Female genitalia of *Megalepthyphantes nebulosus* (A: Intact epigyne; B: Intact epigyne lateral view; C: Ventral view; D: Vulva)

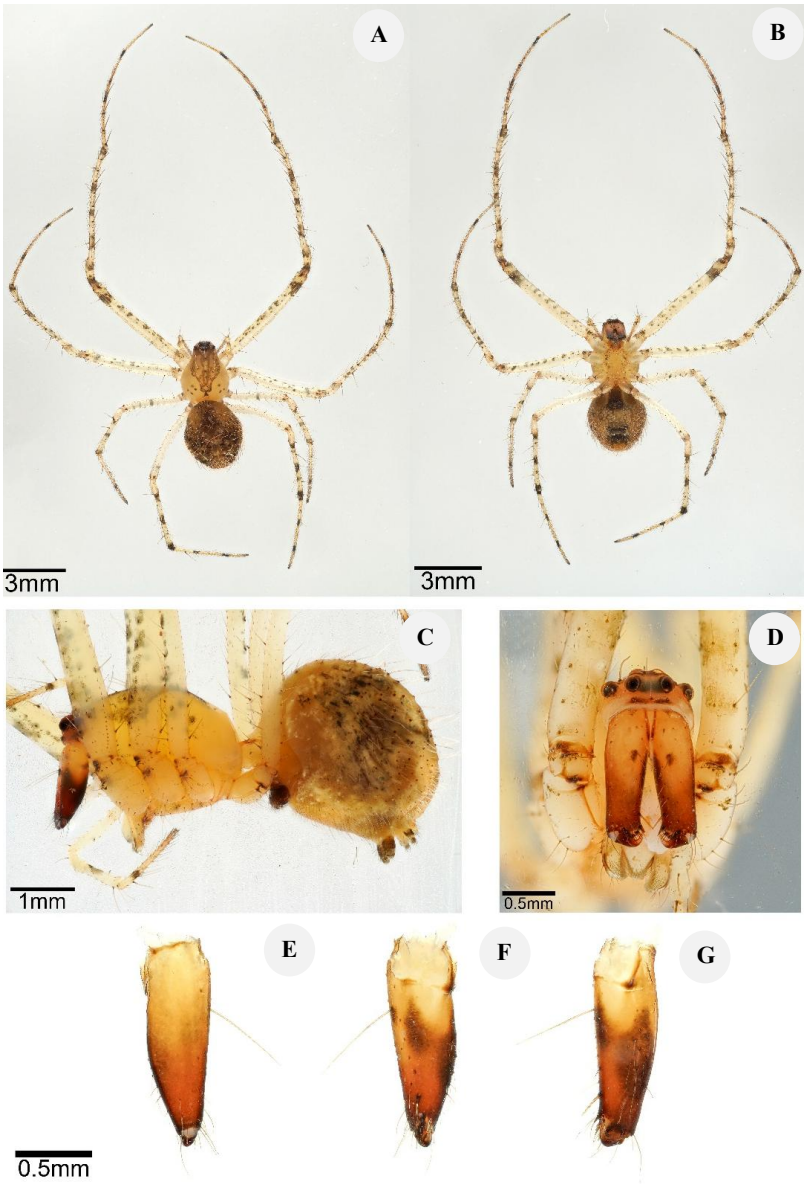

Figure 9. A-C: Habitus of *Mimetus laevigatus* ♀ (A: Dorsal view; B: Ventral view; C: Lateral view), D-G: Chelicera

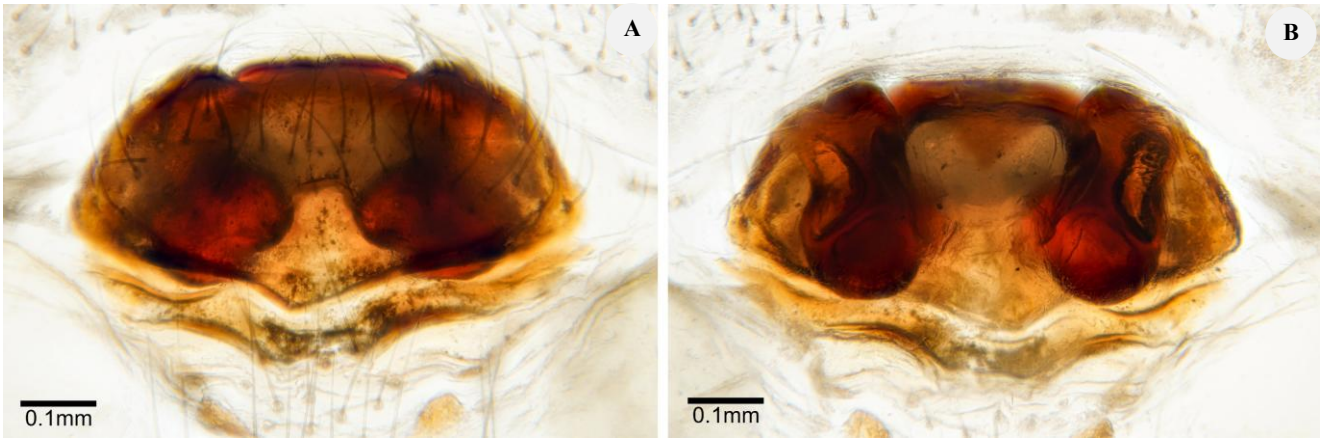

Figure 10. A-B: Epigyne of *Mimetus laevigatus* (A: Ventral view; B: Dorsal)

Family: Philodromidae (Thorell, 1869)

Genus: *Philodromus* (Walckenaer, 1826)

Species: *Philodromus longipalpis* (Simon, 1870)

Identification: According to Segers (1992)

Material examined: Figure 11. IRAQ: 5♀(BNHM); Baghdad Province; Al-Jadrya, urban gardens, hand collected from ground among the grasses; 33°16'32.47"N, 44°23'16.62"E; 3 April 2024; leg: El-Esa SM.

Distribution: Europe, Iran, Azerbaijan, and Turkey (WSC 2025).

Comment: Five species belonging to this genus (*P. dispar* (Walckenaer, 1826), *P. emarginatus* (Schrank, 1803), *P. marginalis* (Banks, 1901), *P. longipalpis,* and *P. cespitum* (Walckenaer, 1802)) have all been recorded from Iran in published checklists (Mirshamsi et al. 2015), *P. fuscolimbatus* (Lucas, 1846) was recorded in Turkey (Danışman et al. 2024). New genus, and species records for Iraq.

Family: Theridiidae (Sundevall, 1833)

Genus: *Steatoda* (Sundevall, 1833)

Species: *Steatoda erigoniformis* (Pickard-Cambridge, 1872)

Identification: According to Levy and Amitai (1982)

Material examined: Figures 12 and 13. Iraq, Basrah Province; 4♂5♀(BNHM); Garmat Ali, Hareer village; wetland environment, hand collected from soil; 30°36'23.55"N, 47°42'59.36"E; 14 May 2024; leg: Najim SA.

Distribution: North Africa, Greece, Cyprus, Turkey, Azerbaijan, Middle East, India, China, Korea, Japan. Introduced to USA, Caribbean, Venezuela, Cape Verde, South Africa (WSC 2025).

Comment: The genus has a worldwide distribution, comprising 120 valid species (WSC 2025), It has previously been recorded from neighboring countries, including Iran (Van Keer et al. 2024) and Turkey (Coşar and Danışman 2022), New species records for Iraq.

Family: Thomisidae (Sundevall, 1833)

Genus: *Bassaniodes* (Pocock, 1903)

Species: *Bassaniodes caperatus* (Simon, 1875)

Identification: According to Bosmans and Gavalas (2023)

Material examined: Figure 14. IRAQ: 2♂ (BNHM); Sulaymaniyah Province; Dukan, Agricultural land; hand collected; 35°55'47.29"N, 44°57'38.49"E; 5 August 2023; leg: El-Esa SM.

Distribution: Mediterranean, Turkey, Ukraine, Russia (Europe, Caucasus) (WSC 2025).

Comment: *Bassaniodes caperatus* originally described as *Xysticus caperatus* (Simon, 1875). It has been described through different combinations, such as *Proxysticus* and *Xysticus* and recently placed in *Bassaniodes* by Breitling (2019). The species was recorded in Turkey by Demir et al. (2009) under the name *X. caperatus*. New species records for Iraq.

Discussion

The inclusion of the Araniedae family via the first confirmed Iraqi records of *A. bruennichi* and *N. subfusca* is a landmark faunistic milestone for the country, these orb-weavers are pioneer taxa within Araniedae, and their documentation emphasizes the presence of the spider guilds that rely on stable grassland edge ecosystem and function as a key ecological predators, their investigation in northern Iraq not only bridges distributional gaps between Iraqi localities and neighboring spider communities in Turkey and Iran (Mirshamsi and Darvish 2005; Danışman et al. 2024), but also signals the existence of intact biomes suitable for diverse Araniedae species.

The first record of family Mimetidae and Linyphiidae in Iraq represents important additions to country's arachnofaunal diversity. Mimetidae with roughly 166 species in genera like *Mimetus* and *Ero* (C.L.Koch, 1837), and Linyphiidae the world's second largest spider family with 4949 described species, 640 genera are renowned predators of other spiders and serve a critical role in environmental balance (WSC 2025).

Recording these families in the northern region of Iraq, a biogeographic frontier flanked by Turkey and Iran, both known to support representatives of Mimetidae and Linyphiidae underscores continuity with regional spider faunas and highlights Iraq's position within a broader West Palearctic-Middle Eastern ecological network. Beyond expanding the national species list, these findings establish new family-level presence, signifying that entire predatory guilds previously unrecorded in Iraq are extant and possibly widespread. This taxonomic breakthrough reinforces the necessity for intensified fieldwork and integrative taxonomic studies (molecular and morphological), particularly in the underexplored Kurdistan and northern Mesopotamian zones, to uncover overlooked diversity and evaluate ecological relationships across adjacent countries.

The current study reports the first confirmed record of *M. bicolor* in Iraq, marking the inaugural documentation of the genus *Marilynia* within the country. This species, belonging to the family Dictynidae, is widely distributed across Europe, North Africa, and Central Asia. Its presence in Iraq not only extends the known range of the genus but also underscores the underexplored diversity of Iraq's microarachnofauna. Neighboring countries, including Iran and Turkey (Lecigne 2011; Zamani et al. 2022b), have documented this species, highlighting the potential for further discoveries in Iraq's arachnid fauna.

The recent first record of *P. longipalpis* in Iraq, previously known only from Europe, Iran, Azerbaijan, and Turkey (WSC 2025), extends its known range into central Mesopotamia. This finding highlights Iraq's underappreciated spider biodiversity, suggests ecological connectivity and dispersal corridors across the Middle East, and underscores the species' role as an effective generalist predator. As a hunting spider that preys on small insects, its presence may offer natural pest control benefits and indicate healthy semi-natural habitats like shrubs or tree canopies, ecosystems essential for sustainable ecological balance.

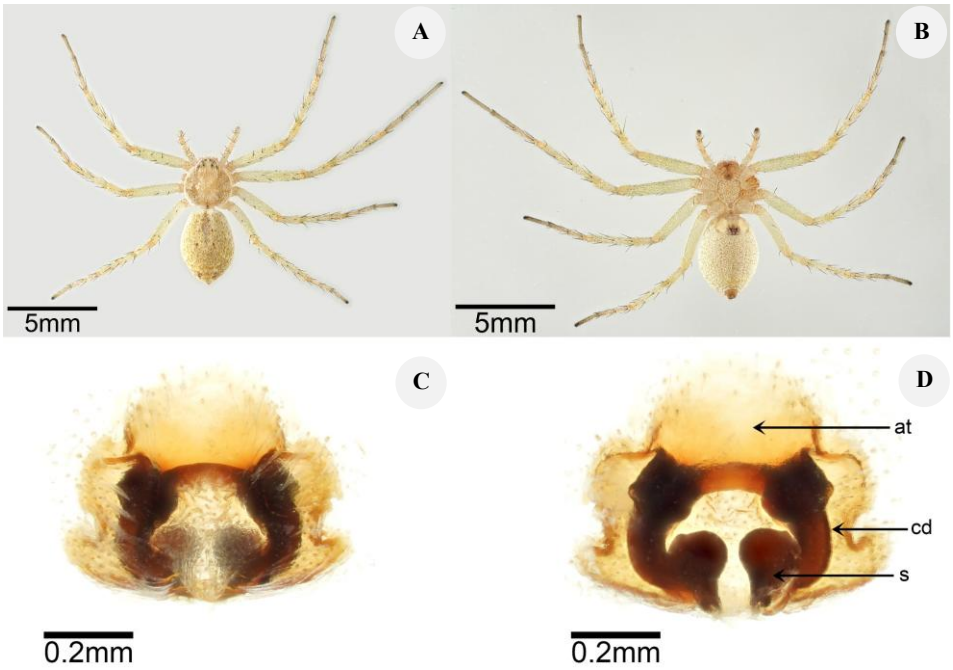

Figure 11. A-B: Habitus of *Philodromus longipalpis* ♀ (A: Dorsal view; B: Ventral view), C-D: Epigyne (C: Dorsal view; D: Vulva), at: Atrium, cd: Copulatory duct, s: Spermatheaca

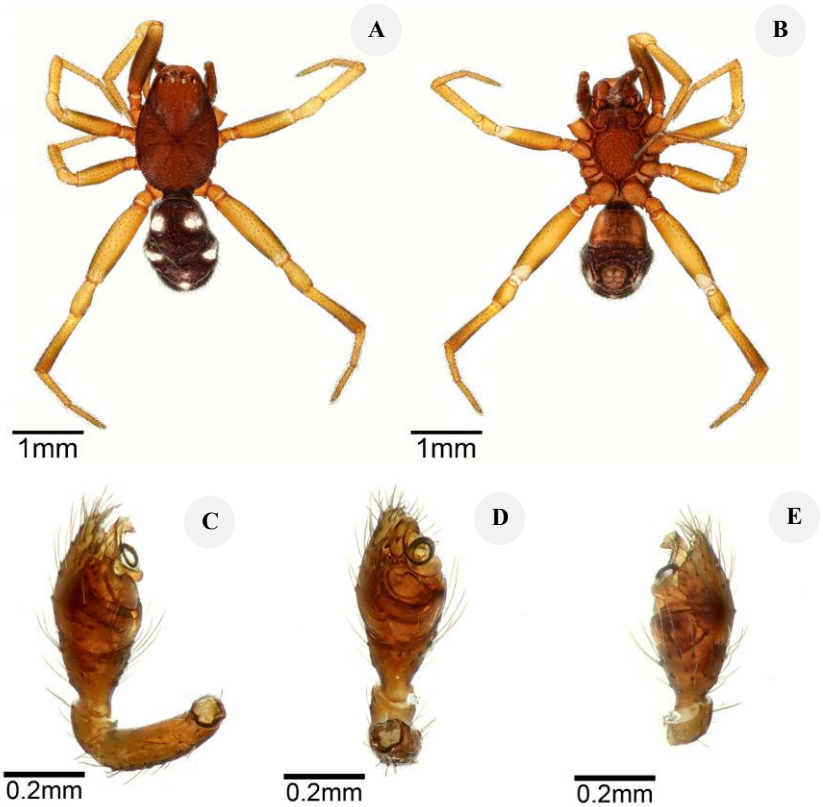

Figure 12. A-B: Habitus of *Steatoda erigoniformis* ♂ (A: Aorsal view; B: Ventral view), C-E: Pedipalp (C: Prolateral view; D: Ventral view; E: Retrolateral view)

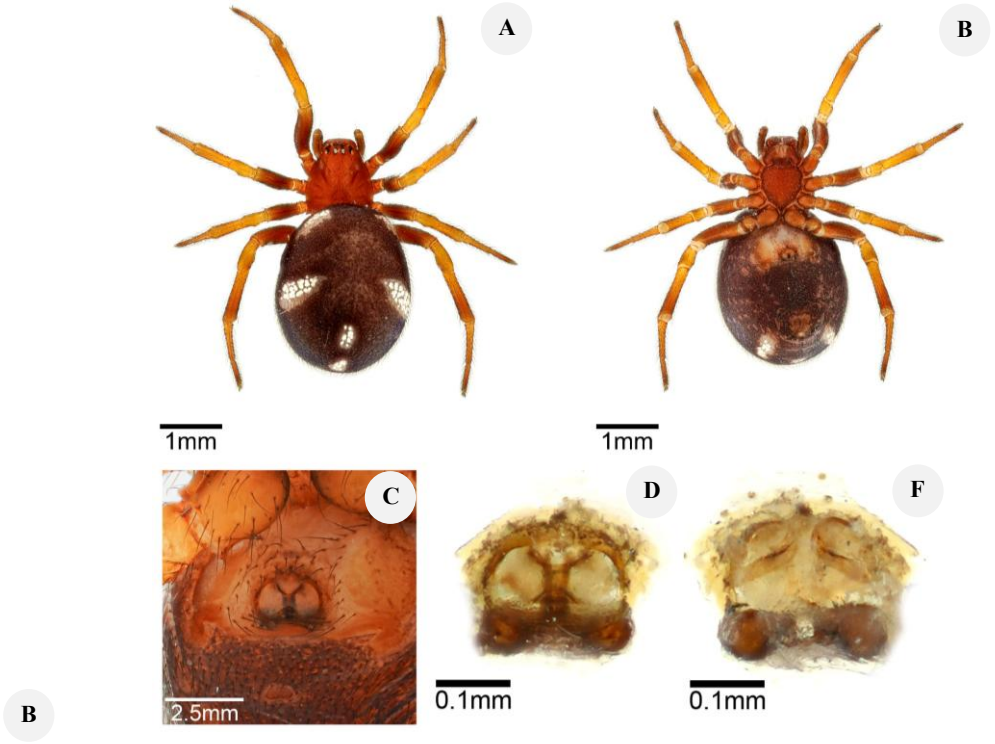

Figure 13. A-B: Habitus of *Steatoda erigoniformis* ♀ (A: Dorsal view; B: Ventral view), C-E: Epigyne (C: Intact; D: Ventral view; E: Vulva)

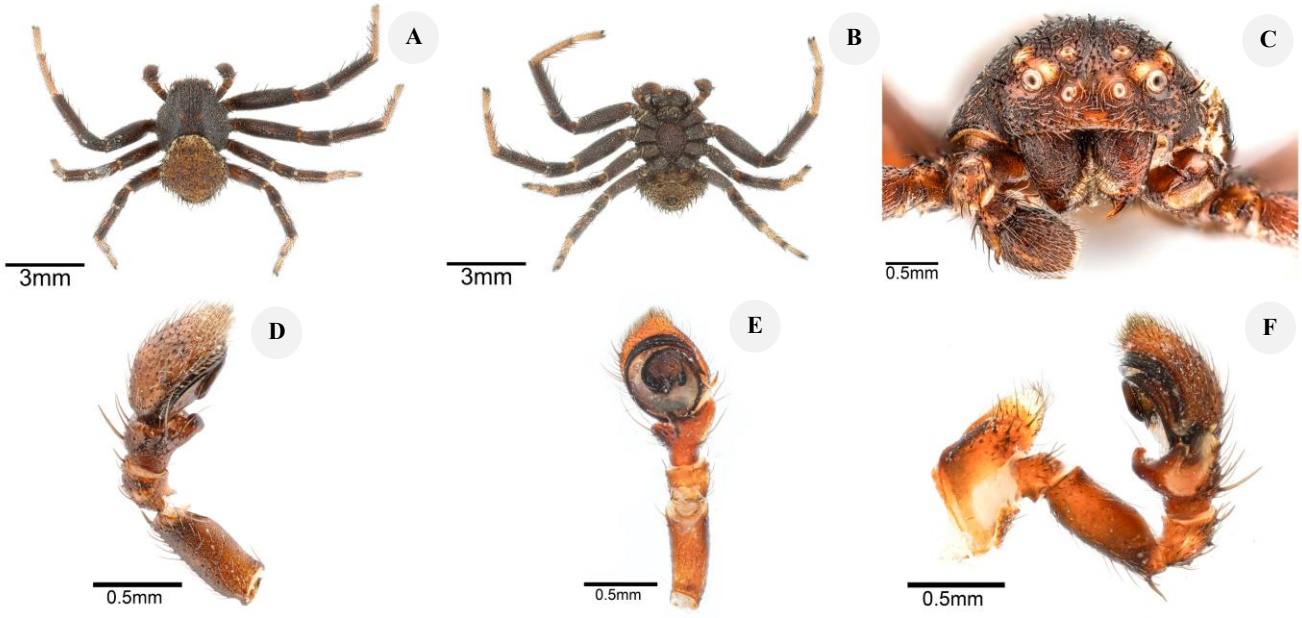

Figure 14. A-B: Habitus of *Bassaniodes caperatus* ♂ (A: Dorsal view; B: ventral view), C: Arrangement of eyes, D-F: Left pedipalp (D: Retrolateral view; E: Ventral view; F: Prolateral view)

The members of the genus *Steatoda* have been recorded by Zamani et al. (2024), according to seven females found in Sulaymaniyah province as the first record of genus in Iraq, the genus was recorded in broader regions of Turkey and Iran (Danışman et al. 2024; Van Keer et al. 2024), represented by species *Steatoda nobilis* (Thorell, 1875). The presence of Mediterranean-Middle eastern *Steatoda* species like *S. paykulliana* (Walckenaer, 1806), *S. albomaculata* (De Geer, 1778), *S. grossa* (C.L.Koch, 1838) across neighboring countries (WSC 2025) suggests additional species may be present in Iraq but undetected till now.

Two species of this genus had been recorded from north of Iraq, *Bassaniodes tristrami* (O.Pickard-Cambridge, 1872) (Al-Khazali et al. 2021), *Bassaniodes loeffleri* (Roewer, 1955) (Zamani et al. 2024), the current record arises the total species of Bassaniodes in Iraq to three; the collecting of three species within same genus from north of Iraq indicate that the structural diversity of plants and terrestrial habitats in the region is sufficient to provide the specific ecological requirements of each species.

The recent new records of spider families and species in Iraq including the first confirmations of *A. bruennichi*, *N. subfusca* (Araneidae), *M. bicolor* (Dictynidae), *M. laevigatus* (Mimetidae), and *P. longipalpis* (Philodromidae) and others, reflect the country's underexplored arachnofauna and point to several key factors driving these discoveries. Iraq's geographic position, situated between Turkey and Iran, offers ecological continuity that enables the dispersal and establishment of diverse spider taxa across shared habitats such as grasslands, shrub lands, and forest edges. However, Iraq has long remained under-sampled in terms of arachnological surveys due to limited taxonomic infrastructure and lack of long-term biodiversity monitoring. In contrast, neighboring countries have conducted extensive fieldwork and maintain comprehensive faunal checklists, with Iran reporting between 697 to 935 species (Zamani et al. 2017) and Turkey listing 1,282 species across 57 families (Danışman et al. 2024). The comparatively low number of recorded species in Iraq, currently around 128, likely reflects historical research gaps rather than true lower diversity. The detection of entire families like Mimetidae and Linyphiidae for the first time suggests that critical predatory guilds have been previously overlooked, and the recent additions of genera such as *Philodromus, Marilynia*, and *Bassaniodes* emphasize the ecological richness of northern regions like Sulaymaniyah These findings illustrate the need for broader, standardized field surveys and integrative taxonomic approaches, especially in biogeographically significant areas like Kurdistan and Mesopotamian wetlands. They also underline Iraq's important role within the West Palearctic-Middle Eastern spider distribution and the potential for future discoveries that could reshape our understanding of regional biodiversity patterns.

In conclusion, the current study presents significant new contributions to the knowledge of Iraq's arachnofauna by documenting, for the first time, eight spider species across three provinces within a single comprehensive survey. Notably, the first confirmed records of two families (Mimetidae and Linyphiidae) and four genera, underscore the rich but underexplored diversity of northern Iraq. These taxa fulfill critical ecological roles as predators and bioindicators of habitat integrity, reflecting the persistence of diverse semi-natural ecosystems within the country.

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