

UDC 595.44(567)

ON A SMALL COLLECTION OF SPIDERS (ARACHNIDA, ARANEAE) FROM IRAQ, WITH NEW SPECIES AND RECORDS

A. Zamani^{1*}, Y. M. Marusik²

¹Zoological Museum, Biodiversity Unit, University of Turku, FI-20014, Finland

²Department of Zoology & Entomology, University of the Free State, Bloemfontein 9300, South Africa

E-mail: zamani.alireza5@gmail.com

E-mail: yurmar@utu.fi

A. Zamani (<https://orcid.org/0000-0002-8084-9666>)

Y. M. Marusik (<https://orcid.org/0000-0002-4499-5148>)

urn:lsid:zoobank.org:pub:BF98DF15-FF3C-45F1-B770-FC563A4BE16E

On a Small Collection of Spiders (Arachnida, Araneae) from Iraq, with New Species and Records.

Zamani, A., Marusik, Y. M. — The results of an investigation on a small collection of spiders from Najaf Province in southern Iraq are reported. Four species are described: *Hersiliola babylonica* **sp. n.** (♂, ♀; Hersiliidae), *Liocranoeca deserticola* **sp. n.** (♂; Liocranidae), *Talanites sumericus* **sp. n.** (♀; Gnaphosidae) and *Zelotes jakesi* **sp. n.** (♀; Gnaphosidae). Two families (Liocranidae; Miturgidae), five genera (*Evippa* Simon, 1882; *Heriaeus* Simon, 1875; *Liocranoeca* Wunderlich, 1999; *Prochora* Simon, 1886; *Talanites* Simon, 1893) and five species (*Enoplognatha gershomi* Bosmans & Van Keer, 1999; *Evippa amitaii* Armiaich Steinpress et al., 2021; *Heriaeus buffoni* (Audouin, 1826); *Prochora lycosiformis* (O. Pickard-Cambridge, 1872); *Thanatus vulgaris* Simon, 1870) are recorded in Iraq for the first time; for *E. gershomi*, the epigyne is described for the first time, the male is redescribed and the species is newly reported also from Turkmenistan, Kazakhstan and Uzbekistan.

Key words: Aranei, Central Asia, fauna, Middle East, Najaf, redescription, taxonomy.

Introduction

Despite its relatively large area and interesting array of nine terrestrial ecoregions (Olson et al., 2001), Iraq remains as one of the least studied countries in regard to its spider fauna. Currently, there are only 79 spider species belonging to 46 genera and 24 families known from the country (Zamani et al., 2022 a; Al-Khazali, pers. comm.). The majority of species have been discovered/reported during the recent years (Zamani & El-Hennawy, 2016; Fomichev et al., 2018), with the bulk of the publications dealing with spiders of Iraq reporting or describing only singleton species (e. g. Al-Khazali, 2018, 2021; Al-Khazali & Jäger, 2019; Al-Yacoub et al., 2021; Seyyar et al., 2016). Recently, we had the opportunity to study a small collection of Iraqi spiders collected in a single locality in Najaf Province during the 1970s. Most of the species found in the material are described and reported here; its gnaphosids (with the exception of two species described here) are reported in another publication (Zamani et al., 2022 a).

Material and methods

Specimens were photographed using a Canon EOS 7D camera attached to an Olympus SZX16 stereomicroscope, an Olympus UPlanSApo 20x objective mounted on a Sony A9 II camera, and a SEM JEOL JSM-5200 scanning electron microscope at the Zoological Museum of the University of Turku. Illustrations of internal genitalia were made after clearing them in a 10 % KOH aqueous solution and, if needed, a few minutes of treatment in Chlorazol Black. Digital images were montaged using CombineZP and edited using CorelDraw graphic design softwares. Measurements of legs are listed as: total length (femur, patella, tibia, metatarsus, tarsus). All measurements are given in millimeters. The distribution ranges are modified after WSC (2022).

Abbreviations:

Eyes: ALE — anterior lateral eye; AME — anterior median eye; PLE — posterior lateral eye; PME — posterior median eye.

Leg segments: Fe — femur; Mt — metatarsus; Pa — patella; Ta — tarsus; Ti — tibia.

Spination: d — dorsal; pl — prolateral; rl — retrolateral; v — ventral.

Depositories (curators' names, if available, in parentheses):

MMB — Moravian Museum Brno, Brno, Czech Republic (Petr Baňar).

ZISP — Zoological Institute, St. Petersburg, Russia.

ZMMU — Zoological Museum of the Moscow State University, Moscow, Russia (Kirill G. Mikhailov).

Results

Family **Gnaphosidae** Banks, 1892

Genus **Talanites** Simon, 1893

Comments. *Talanites* is a relatively well studied genus due to the revision by Platnick & Ovtsharenko (1991) and other smaller taxonomic contributions. However, five species remain known only from a single sex (two from females, three from males) and one species is described based on a juvenile specimen (WSC, 2022). The genus currently comprises 17 species distributed in the Nearctic and the Mediterranean (or southern West Palaearctic). At least three species appear to be misplaced in the genus: *T. atscharicus* Mcheidze, 1946 (Georgia), *T. tibialis* Caporiacco, 1934 (Pakistan, India) and *T. cavernicola* Thorell, 1897, a species lacking any illustrations and described from Myanmar (WSC, 2022). The new species described herein represents the first record of *Talanites* in Iraq.

Talanites sumericus sp. n. (fig. 1, A–C)

urn:lsid:zoobank.org:pub:BF98DF15-FF3C-45F1-B770-FC563A4BE16E

Material examined. Type. **Holotype** ♀: Iraq: Najaf Province: Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N, 43°39' E], 260 m, 11.07.1978 (O. Jakeš) (MMB).

Etymology. The specific epithet refers to Sumer, the earliest known civilization in the historical region of southern Mesopotamia (south-central Iraq).

Diagnosis. The new species is very similar to the genotype *T. fervidus* Simon, 1893, a species known from Egypt and Israel (Levy, 1999: figs 14, 15). Both species have an almost identical shape of receptacles, but differ in the shape of the anterior epigynal hood (subtriangular in the new species vs. semicircular in *T. fervidus*), and the proportions of the fovea (wider than long in the new species vs. longer than wide in *T. fervidus*).

Description. Female. Habitus as in fig. 1, A. Total length 5.73. Carapace 2.46 long, 1.74 wide. Eye sizes: AME: 0.09, ALE: 0.10, PME: 0.08, PLE: 0.11. Carapace, sternum, chelicerae, labium and maxillae light brown. Legs slightly lighter than carapace, without annulations. Abdomen beige, with faint cardiac mark and 2 pairs of sigilla. Spinnerets uniformly light yellowish brown. Measurements of legs: I: 6.84 (1.91, 1.10, 1.68, 1.24, 0.91), II: 5.87 (1.61, 1.00, 1.31, 1.13, 0.82), III: 5.38 (1.45, 0.85, 1.02, 1.30, 0.76), IV: 7.10 (1.90, 1.00, 1.48, 1.81, 0.91).



Fig. 1. Female of *Talanites sumericus* sp. n.: A — habitus, dorsal view; B — epigyne, ventral view; C — vulva, dorsal view. Abbreviations: *Ah* — anterior hood, *Ar* — anterior receptacle, *Pr* — posterior receptacle. Scale bars = 0.2 mm, unless stated otherwise.

Epigyne as in fig. 1, B–C; fovea wider than long; anterior hood (*Ah*) arrowhead-shaped, wider than long; posterior receptacles (*Pr*) round, contiguous and heavily sclerotized; anterior receptacles (*Ar*) less sclerotized, oval.

Male. Unknown.

Distribution. Currently known only from the type locality in Najaf Province, southern Iraq.

Comments. Levy (1999) is the only publication that has illustrated the female of *T. fervidus*, and our decision to treat the Iraqi specimen as belonging to a different species is based on the comparison with the figures provided in that paper. Still, considering that the drawings of Levy are sometimes not accurate, it is possible that in future the Iraqi species would fall into the synonymy of *T. fervidus*. This matter can be revisited once the female of *T. fervidus* is re-illustrated, preferably based on topotype material.

Genus *Zelotes* Gistel, 1848

Comments. With 398 valid species, *Zelotes* is the most speciose genus of the family (WSC, 2022). Although it has never been the subject of a global revision, over the last five decades more than 200 species previously classified in this genus have been transferred to other genera, including new ones: *Aponetius* Kamura, 2020, *Civizelotes* Senglet, 2012, *Heser* Tuneva 2004, and *Marinarozelotes* Ponomarev, 2020. Still, judging by the shape of the copulatory organs, the genus remains polyphyletic. One of the more distinct species groups that does not bear much similarity to the generotype is the *puritanus* group, which accommodates at least ten species known primarily from the Palaearctic (one species has

a Holarctic range) (Fomichev & Marusik, 2021): *Z. anatolyi* Fomichev & Marusik, 2021, *Z. gussakovskiy* Charitonov, 1951, *Z. khatlonicus* Fomichev & Marusik, 2021, *Z. mikhailovi* Marusik, 1995, *Z. parascrutatus* Levy, 1998, *Z. potanini* Schenkel, 1963, *Z. puritanus* Chamberlin, 1922, *Z. scrutatus* O. Pickard-Cambridge, 1872, *Z. zin* Levy, 1998 and possibly *Z. hummeli* Schenkel, 1963. This group is characterized by solid, anteriorly rounded wide epigynal pockets (= hoods), elongate epigynal fovea rounded posteriorly, blunt tibial apophysis, and embolus covered by the “intercalary” sclerite (= part of embolic division). The new species described herein belongs to this species-group.

***Zelotes jakesi* sp. n.** (fig. 2, A–D)

urn:lsid:zoobank.org:act:E3C7D40C-129A-48BE-9927-0572A2696B50

Material. Type. **Holotype** ♀: Iraq: Najaf Province: Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N, 43°39' E], 260 m, 11.07.1978 (O. Jakeš) (MMB).

Etymology. This species is named after Oldřich Jakeš, who collected the holotype.

Diagnosis. The new species is most similar to *Z. khatlonicus* Fomichev & Marusik, 2021 from Tajikistan, but differs by the accessorial glands directed mesally (vs. laterally), shape of the copulatory ducts (cf. fig. 2, B–D and Fomichev & Marusik, 2021: figs 47–49), and wider receptacles (receptacle as wide as anterior hood vs. hood wider than receptacle).

Description. Female. Habitus as in fig. 2, A. Total length 7.05. Carapace 2.53 long, 1.94 wide. Eye sizes: AME: 0.09, ALE: 0.11, PME: 0.08, PLE: 0.09. Carapace, sternum, chelicerae, labium and maxillae dark reddish brown. Legs slightly lighter than carapace, without annulations. Abdomen beige. Spinnerets dark greyish brown, lighter distally. Measurements of legs: I: 6.16 (1.82, 1.11, 1.34, 1.13, 0.76), II: 5.53 (1.63, 0.91, 1.16, 1.06, 0.77), III: missing, IV: 6.56 + missing Ta (1.91, 1.03, 1.61, 2.01, missing).

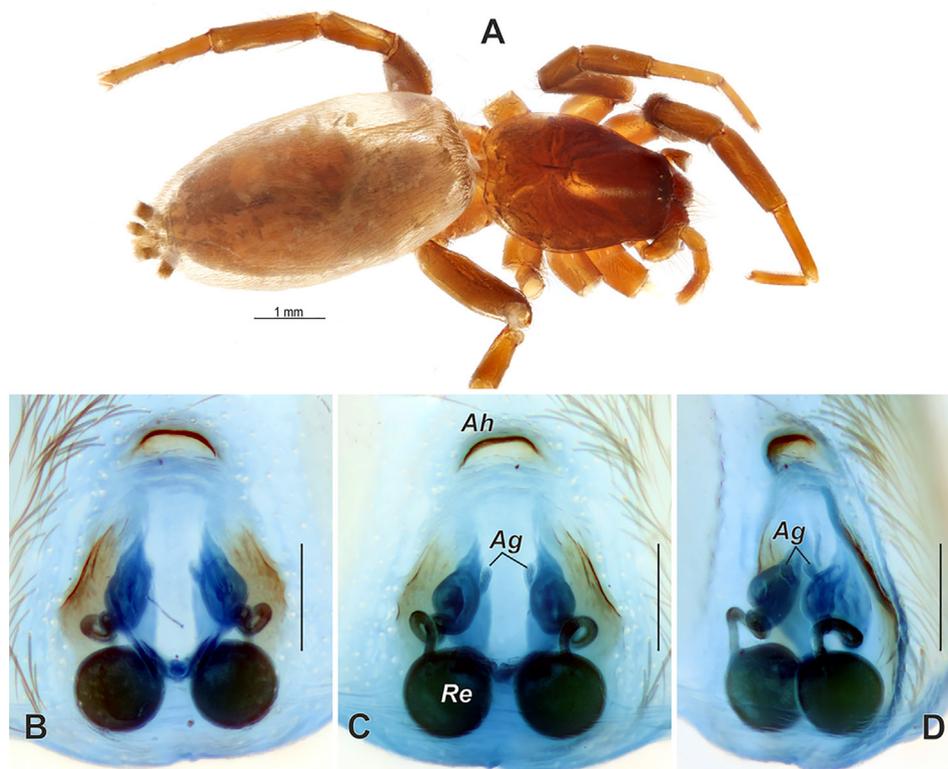


Fig. 2. Female of *Zelotes jakesi* sp. n.: A — habitus, dorsal view; B — epigyne, ventral view; C — vulva, dorsal view; D — same, dorsolateral view. Abbreviations: Ah — anterior hood, Ag — accessorial gland, Re — receptacle. Scale bars = 0.2 mm, unless stated otherwise.

Epigyne as in fig. 2, B–D; epigynal plate about 1.4 times longer than wide; fovea long, 3 times longer than wide; anterior hood (*Ah*) short, as wide as receptacle (*Re*); accessory glands (*Ag*) directed antero-mesally.

Male. Unknown.

Distribution. Currently known only from the type locality in Najaf Province, southern Iraq.

Family **Hersiliidae** Thorell, 1870

Genus **Hersiliola** Thorell, 1870

Comments. The genus is rather well studied in the Middle East thanks to several regional revisions and smaller taxonomic contributions (e. g. Foord & Dippenaar-Schoeman, 2005; Danişman et al., 2012; Marusik & Fet, 2009; Mirshamsi et al., 2016; Zamani et al., 2017). Six species are currently known from the Middle East (WSC, 2022). The new species described herein represents the first record of *Hersiliola* in Iraq.

***Hersiliola babylonica* sp. n.** (figs 3, A–F; 4, A–C)

urn:lsid:zoobank.org:act:22200C36-52CB-49F6-B27B-86405575532E

Material. Type. **Holotype** ♂: Iraq: Najaf Province: Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N, 43°39' E], 260 m, 15.01.1978 (O. Jakeš) (MMB).

Paratypes: MMB, 2 ♀; same data as the holotype.

Etymology. The specific epithet refers to the ancient Babylonian Empire.

Diagnosis. The male of *H. babylonica* sp. n. differs from all of its congeners by the short embolus forming a loop of 225° and embolus originating at a 2:30 o'clock position (vs. loop > 270° and embolus originating at about 12 o'clock position). The epigyne of the new species is most similar to that of *H. sternbergi* Marusik & Fet, 2009 known from Turkmenistan, Uzbekistan and Iran (cf. fig. 3, C–F and Marusik & Fet, 2009: fig. 7.7) but differs by the endogyne with copulatory duct not making a whole loop around the receptacle. The endogyne of *H. babylonica* sp. n. is similar to that of *H. foordi* Marusik & Fet, 2009 known from southern Iran by having short copulatory ducts, but differs by the relatively larger receptacles (receptacles wider than copulatory ducts vs. as wide as copulatory ducts; cf. fig. 3, C, F and Marusik & Fet, 2009: fig. 8.7).

Description. Male. Habitus as in fig. 3, A. Total length 4.80. Carapace 1.95 long, 2.05 wide. Eye sizes: AME: 0.19, ALE: 0.09, PME: 0.12, PLE: 0.12. Carapace, sternum, chelicerae, labium and maxillae light reddish brown; carapace with darker median, marginal and radial markings. Legs slightly lighter than carapace, with faint annulations. Abdomen greyish brown and covered with long sparse setae, with faint cardiac mark and 2 pairs of sigilla. Spinnerets uniformly light yellowish brown. Measurements of legs: I: 10.98 (2.83, 0.89, 2.72, 3.03, 1.51), II: 12.19 (3.13, 1.00, 3.02, 3.52, 1.52), III: 6.93 (1.89, 0.70, 1.63, 1.79, 0.92), IV: 13.28 (3.45, 0.88, 3.51, 4.22, 1.22).

Palp as in fig. 4, A–C; tibia 2 times longer than wide, about 1.6 times shorter than cymbium; cymbium about 2.3 times longer than wide; tegulum round; tegular apophysis thin, its tip 1.5 times longer than its base; embolus originating at ca. 2:30 o'clock position and terminating at 11 o'clock position.

Female. Habitus as in fig. 3, B. Total length 6.40. Carapace 2.15 long, 2.34 wide. Eye sizes: AME: 0.18, ALE: 0.09, PME: 0.12, PLE: 0.10. Colouration as in male. Measurements of legs (unlisted segments missing): Fe I: 3.10, Pa I: 1.17, Fe II: 3.18, Pa II: 1.07, III: 7.20 (2.18, 0.85, 1.60, 1.78, 0.79), Fe IV: 3.64, Pa IV: 0.90.

Epigyne as in fig. 3, C–F; epigynal plate about 2 times wider than long; septum short and wide, stem (*Ss*) about as wide as “window” (*Wi*), base of septum (*Sb*) thin, about half of window length; copulatory ducts short, C-shaped (left one), not forming whole loop

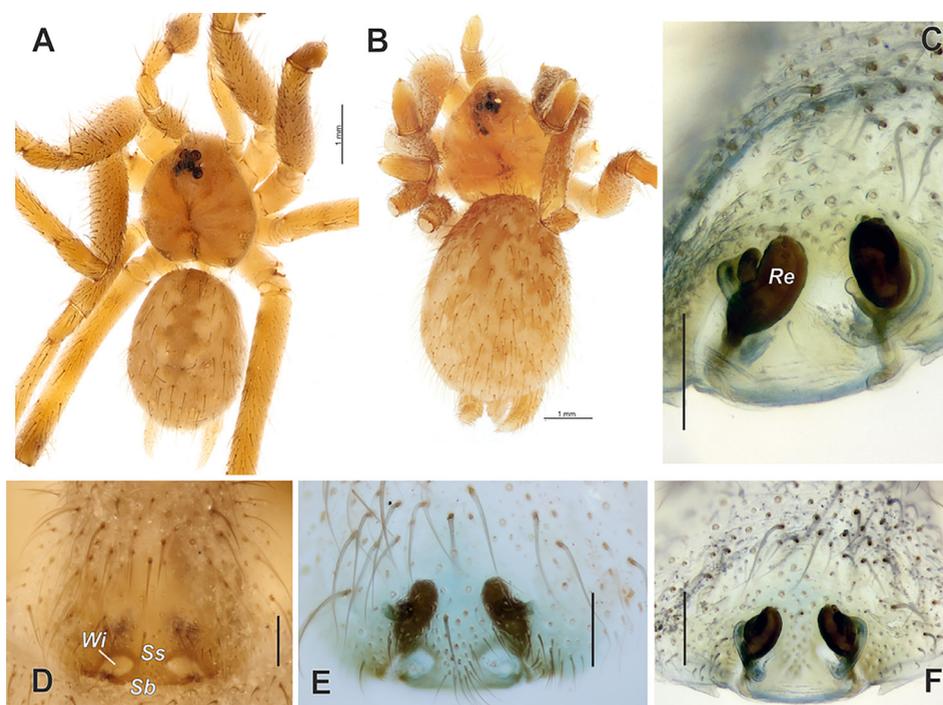


Fig. 3. Male (A) and female (B–F) of *Hersiliola babylonica* sp. n.: A, B — habitus, dorsal view; C — vulva, anterodorsolateral view; D — intact epigyne, ventral view; E — macerated epigyne, ventral view; F — vulva, dorsal view. Abbreviations: *Re* — receptacle, *Sb* — septal base, *Ss* — septal stem, *Wi* — window. Scale bars = 0.2 mm, unless stated otherwise.

around receptacle; receptacle longer (ca. 1.5 times) than wide, separated anteriorly by about their width; accessory glands indistinct.

Distribution. Currently known only from the type locality in Najaf Province, southern Iraq.

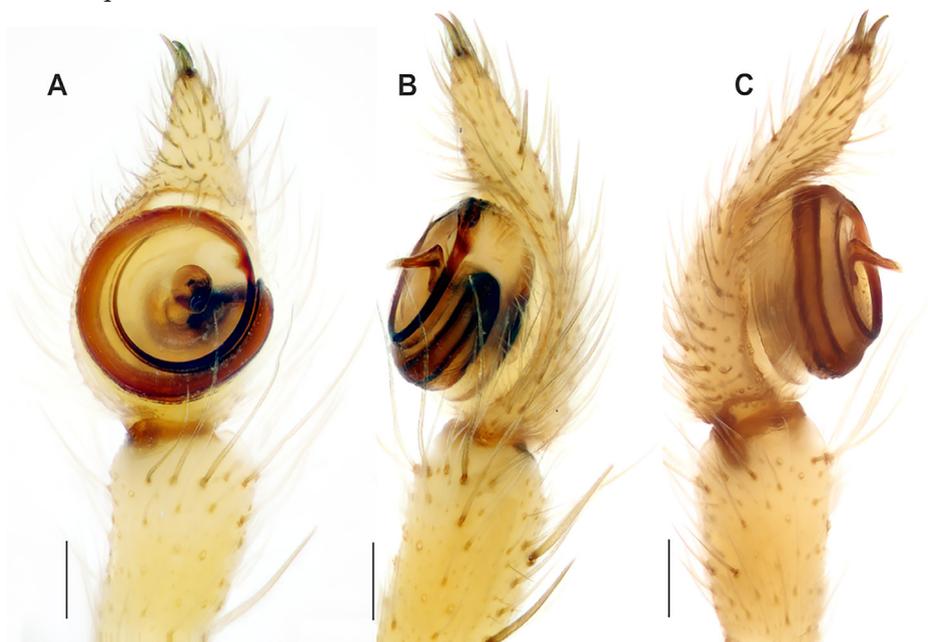


Fig. 4. Male palp of *Hersiliola babylonica* sp. n.: A — ventral view; B — retrolateral view; C — prolateral view. Scale bars = 0.2 mm.

Family **Liocranidae** Simon, 1897

Genus **Liocranoeca** Wunderlich, 1999

Comments. A small genus currently comprising four species, one in the Nearctic and three in the West Palaearctic (WSC, 2022). Although the genus has never been revised, it is relatively well studied and all species are properly illustrated. The new species described herein represents the first record of *Liocranoeca* in Iraq (and the whole Middle East) and its southernmost locality in its known range.

***Liocranoeca deserticola* sp. n.** (fig. 5, A–D)

urn:lsid:zoobank.org:act:FB6C653C-447D-4ACC-BD34-24F99D8D125F

Material. Type. **Holotype** ♂: Iraq: Najaf Province: Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N, 43°39' E], 260 m (O. Jakeš) (MMB).

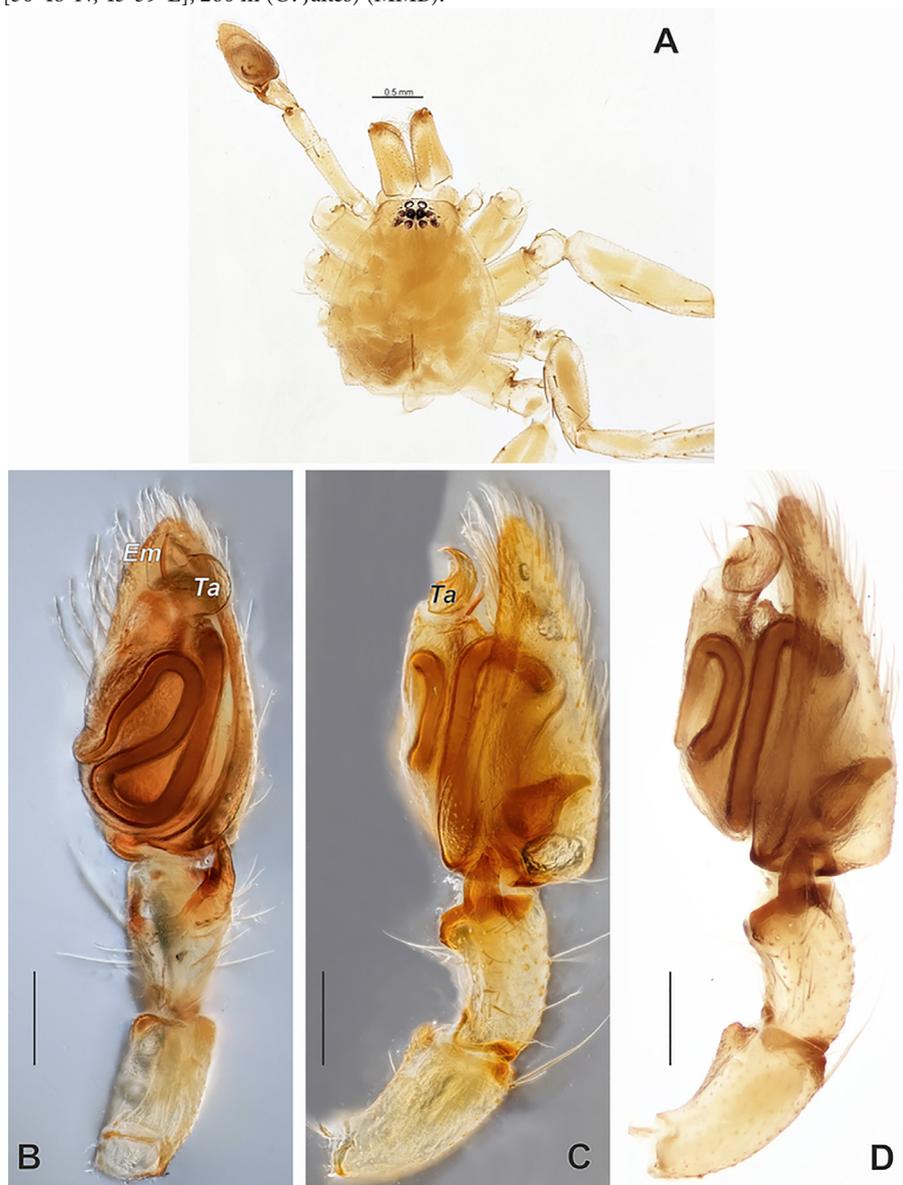


Fig. 5. Male of *Liocranoeca deserticola* sp. n.: A — prosoma, dorsal view; B — palp, ventral view; C, D — same, retrolateral view. Abbreviations: *Em* — embolus, *Ta* — tegular apophysis. Scale bars = 0.2 mm, unless stated otherwise.

Etymology. The specific epithet refers to the occurrence of the species in desert habitats.

Diagnosis. The new species differs from its congeners by the large and wider than long tegular apophysis (*Ta*) covering the base of embolus (*Em*) (*vs.* tegular apophysis longer than wide and not covering the base of embolus), and long sperm duct forming loops contiguous in two spots (*vs.* sperm duct U-shaped and loops not contiguous).

Description. Male. Habitus as in fig. 5, A. Carapace 1.95 long, 1.60 wide. Eye sizes: AME: 0.10, ALE: 0.07, PME: 0.06, PLE: 0.06. Carapace, sternum, chelicerae, labium and maxillae yellowish. Chelicera with 3 pro- and 2 retromarginal teeth. Legs slightly lighter than carapace, without annulations. Abdomen missing. Measurements of legs: I: missing, II: 6.13 (1.63, 0.95, 1.45, 1.27, 0.83), III: 5.56 (1.55, 0.77, 1.09, 1.37, 0.78), IV: 7.48 (1.92, 0.90, 1.58, 2.11, 0.97). Spination: I: missing; II: Fe: 5d, Ti: 2pl, 6v, Mt: 4v; III: Fe: 6d, Ti: 2d, 2pl, 2rl, 6v, Mt: 1d, 3pl, 3rl, 6v; IV: Fe: 5d, Ti: 3d, 1pl, 2rl, 6v, Mt: 1d, 3pl, 3rl, 6v.

Palp as in fig. 5, B–D; patella ca. 1.2 times longer than tibia; tibia almost 2 times longer than wide with broad, gradually tapering RTA, length/width ratio ca. 1.33; cymbium more than 2 times longer than wide, basal part forming almost right angle; tegulum oval, ca. 1.33 times longer than wide, with long sperm duct forming 2 loops in ventral view; tegular apophysis large, wider than long, covering base of embolus; embolus spine-like, originating at about 12:30 o'clock position and terminating at 12.

Female. Unknown.

Comment. The generic assignment of this species is tentative, as it is likely to belong to an undescribed genus; unfortunately, the holotype male is in very poor condition and lacks the leg I, spination pattern of which is important in the classification of liocranids. This matter shall be revisited once more material of both sexes are collected.

Distribution. Currently known only from the type locality in Najaf Province, southern Iraq.

Family **Lycosidae** Sundevall, 1833

Genus ***Evippa*** Simon, 1882

Evippa amitaii Armiach Steinpress, Alderweireldt, Cohen, Chipman & Gavish-Regev, 2021 (fig. 6, A–C)

Evippa amitaii Armiach Steinpress et al., 2021: 104, figs 4A, 5A, 6A, 7A, 8A, 9, 10A, 11A, 12A–D, 13A, C (♂, ♀)
Evippa amitaii: Zamani et al., 2022 c: 368, figs 37–55 (♂, ♀).

Material examined. 1 ♂: **Iraq**: Najaf Province, Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N 43°39' E], 260 m, 16.05.1972 (O. Jakeš) (MMB).

Distribution. Previously known from Israel and Iran (Armiach Steinpress et al., 2021; Zamani et al., 2022 c).

Comment. This is the first record of the genus *Evippa* in Iraq.

Genus ***Hogna*** Simon, 1885

Hogna effera (O. Pickard-Cambridge, 1872)

Hogna effera: Logunov, 2020: 355, figs 30–43 (♂, ♀).

For complete list of taxonomic references see WSC (2022).

Material examined. 1 ♀: **Iraq**: Najaf Province, Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N 43°39' E], 260 m, 10.01.1972 (O. Jakeš) (MMB).

Distribution. East Mediterranean to Iran, south to Yemen.

Comment. Previously recorded in Iraq from Dhi Qar Province by Al-Khazali (2020) (sub *H. radiata*; misidentified per Zamani et al., 2020).

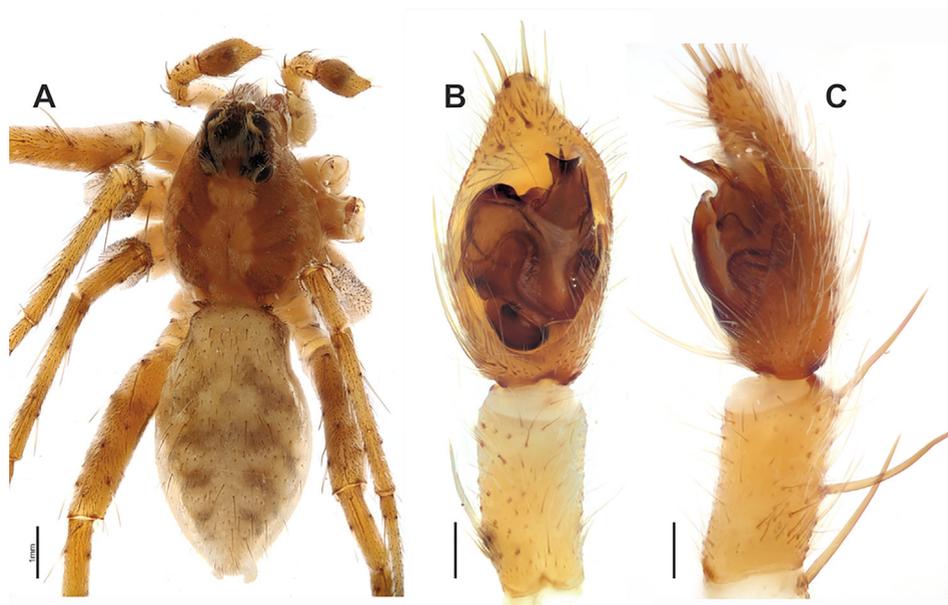


Fig. 6. Male of *Evippa amitaii*: A — prosoma, dorsal view; B — palp, ventral view; C — same, retrolateral view. Scale bars = 0.2 mm, unless stated otherwise.

Family **Miturgidae** Simon, 1886

Genus ***Prochora*** Simon, 1886

Prochora lycosiformis (O. Pickard-Cambridge, 1872) (fig. 7, A–B)

Prochora lycosiformis: Wunderlich, 2011: 116, figs 13–15 (♂, ♀); Boucherit et al., 2020: 65, fig. 4a–k (♂, ♀).

For complete list of taxonomic references see WSC (2022).

Material examined. 1 ♀: **Iraq**: Najaf Province, Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N 43°39' E], 260 m, 10.01.1972 (O. Jakeš) (MMB).

Distribution. Algeria, Italy (mainland, Sicily), Israel, Iran.

Comment. This is the first record of Miturgidae in Iraq.

Family **Philodromidae** Thorell, 1870

Genus ***Thanatus*** C. L. Koch, 1837

Thanatus vulgaris Simon, 1870 (fig. 8, A–C)

Thanatus vulgaris: Logunov, 1996: 196, figs 194–197, 204–206 (♂, ♀); Logunov, 2011: 449, figs 21–22 (♂, ♀); Kastyrgina & Kovblyuk, 2013: 251, figs 7, 11, 22, 30, 38, 47, 56, 61 (♂, ♀).

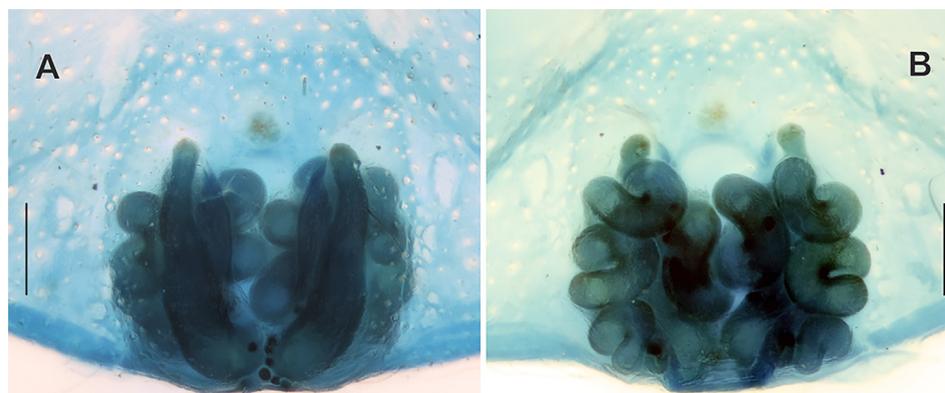


Fig. 7. Epigyne of *Prochora lycosiformis*: A — ventral view; B — dorsal view. Scale bars = 0.2 mm.

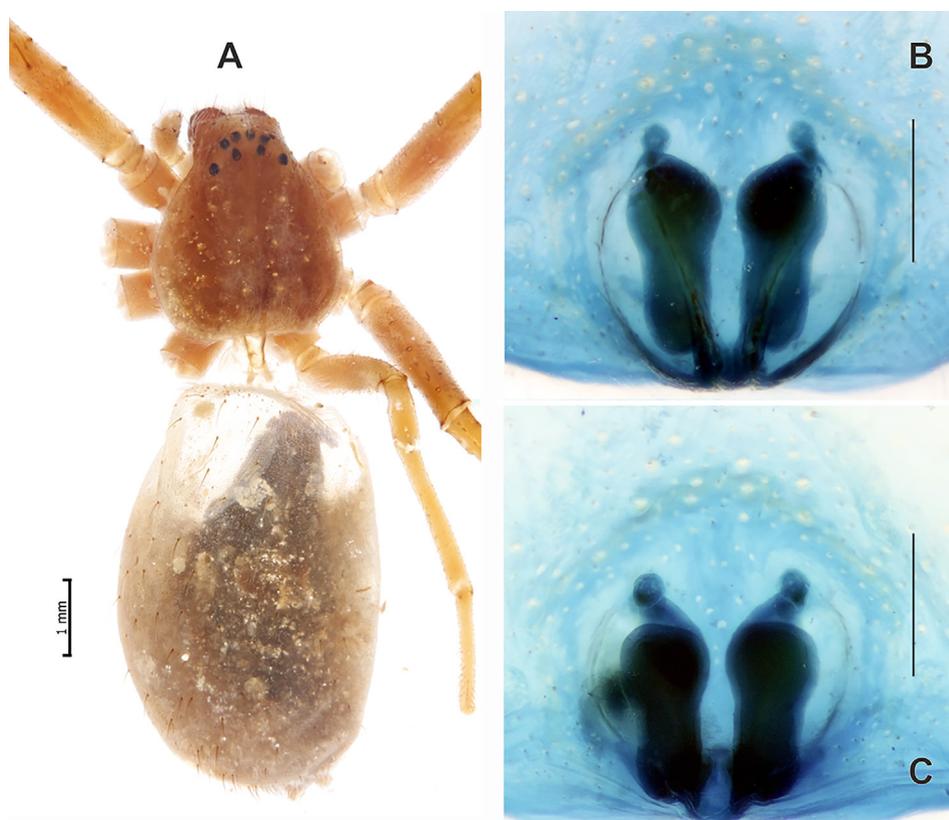


Fig. 8. Female of *Thanatus vulgaris*: A — habitus, dorsal view; B — epigyne, ventral view; C — vulva, dorsal view. Scale bars = 0.2 mm, unless stated otherwise.

For complete list of taxonomic references see WSC (2022).

Material examined. 1 ♀: **Iraq**: Najaf Province, Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N 43°39' E], 260 m, 11.07.1978 (O. Jakeš) (MMB).

Distribution. Trans-Palaeartic. Introduced to North America, South Africa and Australia.

Comment. New record for Iraq.

Family **Pholcidae** C. L. Koch, 1850

Genus **Artema** Walckenaer, 1837

Artema doriae (Thorell, 1881)

Artema doriae: Aharon et al., 2017: 30, figs 90–120, 205, 212 (♂, ♀).

For complete list of taxonomic references see WSC (2022).

Material examined. 1 ♀: **Iraq**: Najaf Province, Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N 43°39' E], 260 m, 10.01.1997 (O. Jakeš) (MMB).

Distribution. Turkey to Afghanistan, south to United Arab Emirates. Introduced to Japan.

Comment. Previously recorded in Iraq from Basrah and Dhi Qar provinces by Al-Khazali & Najim (2018).

Family **Theridiidae** Sundevall, 1833

Genus **Enoplognatha** Pavesi, 1880

Enoplognatha gershomi Bosmans & Van Keer, 1999 (figs 9, A–F; 10, A–G; 11, A–F; 12, A–E)

Enoplognatha gershomi: Bosmans & Van Keer, 1999: 231, figs 118–120 (♂).

Material examined. 1 ♂: **Iraq**: Najaf Province, Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N 43°39' E], 260 m, 15.01.1999 (O. Jakeš) (MMB). 2 ♂, 1 ♀: **Turkmenistan**: Mary Province, Badkhyz Plateau, Kyzyl dzhar, 17.02–12.03.1978 (V. A. Krivokhatsky) (ZISP); 2 ♂, 1 ♀: Balkan Province, Krasnovodsk, under stones, 21–24.01.1981, 1 juv. (K. G. Mikhailov) (ZMMU); 2 ♂: Daşoguz Province, Kankakyr, takyr, 13.04.1985 (O. S. Soyunov) (ZMMU).

Emended diagnosis. *Enoplognatha gershomi* is similar to *E. iraqi* Najim, Al-Hadlak & Seyyar, 2015 by having similar male palp and epigyne. The male differs by thicker chelicera with 2 small denticles on the large tooth (*vs.* lacking denticles) (cf. figs 11, D–E; 12, D–E and Najim et al., 2015: fig. 4, B), and the different shape of conductor (cf. fig. 10, A, D and Najim et al., 2015: fig. 3, B). The female differs by shorter receptacles and longer span of copulatory ducts (almost as wide as span of receptacle *vs.* shorter) (cf. figs 12, B–C and Najim et al., 2015: fig. 3, C–D).



Fig. 9. Male (A–C, F) and female (D–E) of *Enoplognatha gershomi*: A–B, D — habitus, dorsal view; C, E — same, ventral view; F — same, lateral view. Scale bars = 2 mm, unless stated otherwise. A specimen from Iraq, B–F specimens from Turkmenistan (Kankakyr).

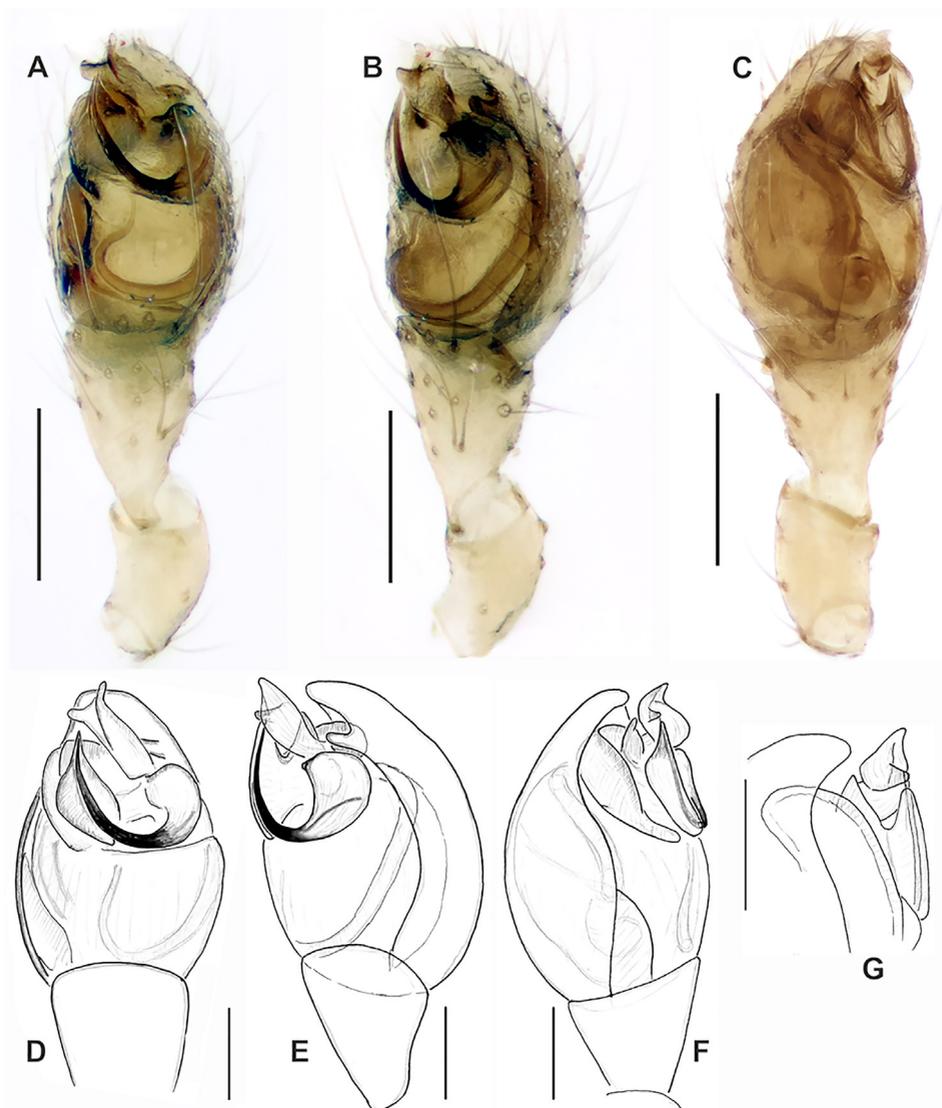


Fig. 10. Male palp of *Enoplognatha gershomi*: A, D — ventral view; B, E — retrolateral view; C, F — prolateral view, G — apical portion, dorsopro-lateral view. A–C specimen from Iraq, D–G specimen from Turkmenistan (Kankakyr). Scale bars = 0.2 mm.

Description. Male. Habitus as in fig. 9, A–C, F. Total length 3.00. Carapace 1.25 long, 0.98 wide. Eye sizes: AME: 0.08, ALE: 0.09, PME: 0.08, PLE: 0.08. Carapace, sternum, chelicerae, labium and maxillae light reddish brown; carapace with faint radial markings. Chelicerae with 2 teeth, the basal one very large and bearing 2 additional denticles (figs 11, D–E; 12, D–E). Legs slightly lighter than carapace, without annulations. Abdomen beige, with faint cardiac mark and sparse long setae, ventrally mottled with white spots. Spinnerets uniformly light beige. Measurements of legs: I: 4.38 (1.28, 0.50, 1.13, 0.94, 0.53), II: 3.60 (1.08, 0.43, 0.87, 0.73, 0.49), III: 3.23 (0.90, 0.40, 0.72, 0.73, 0.48), IV: 4.50 (1.29, 0.46, 1.12, 1.00, 0.63).

Palps as in figs 10, A–G; 11, A–C, F; tibia 1.3–1.6 times longer than wide; bulb ca. 1.1 time longer than wide; radix (sensu Levi, 1957) as long as conductor; median apophysis as long as radix (in ventral view); embolus thick, about as long as bulb's width.

Female. Habitus as in fig. 9, D–E. Epigyne as in fig. 12, A–C; fovea distinct, with arched anterior margin; fovea ca. 1.5 times less wide than receptacles; copulatory ducts almost straight and span almost to width of receptacles; endogyne as wide as long.

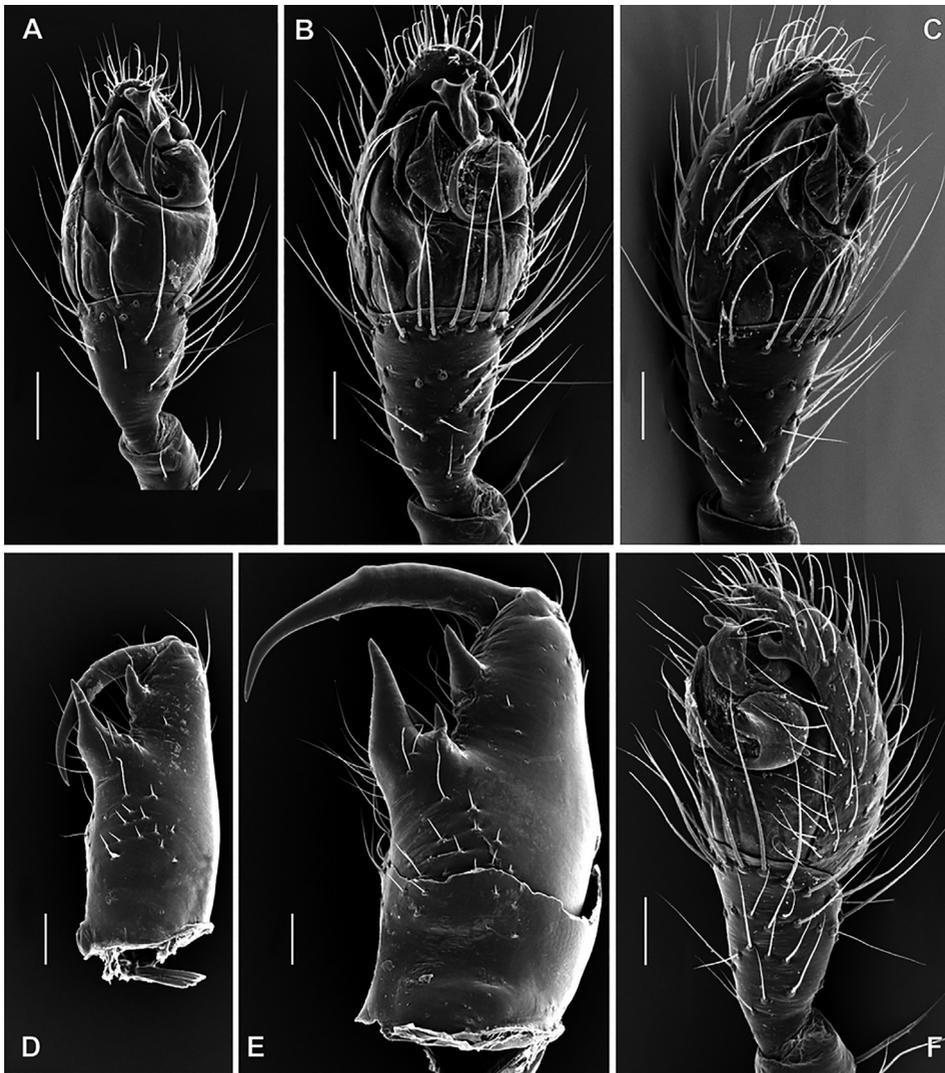


Fig. 11. Male of *Enoplognatha gershomi* from Turkmenistan (Kankakyr): A–B — palp, ventral view; C — same, prolateral view; D–E — chelicera, posterior view; F — palp, retrolateral view. Scale bars = 0.1 mm.

Distribution. Israel (Bosmans & Van Keer, 1999), south Kazakhstan, Uzbekistan (A. Gromov & Y. M. Marusik, unpublished data), Turkmenistan and Iraq (current data).

Comment. New records for Iraq, Turkmenistan, Kazakhstan and Uzbekistan. The male specimens collected across the whole range are very variable in the body size and chelicera, but also to a lesser degree in the size of palps (cf. fig. 11, D and 11, E; fig. 11, A and 11, B). The material from Central Asia listed above were previously studied by YMM and Alexander V. Gromov; although we were not able to re-examine them for the present paper, we have included the previously unpublished illustrations made by YMM.

Genus *Latrodectus* Walckenaer, 1805

Latrodectus dahli Levi, 1959

Latrodectus dahli: Levy, 1998: 108, figs 198–202 (♂, ♀); Knoflach & van Harten, 2002: 333, figs 3, 12–19 (♂, ♀).

For complete list of taxonomic references see WSC (2022).

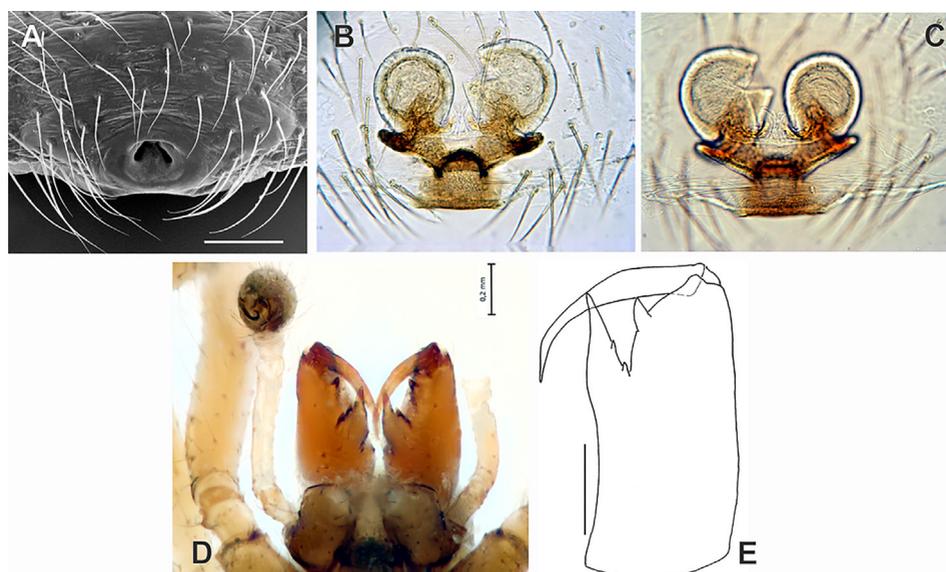


Fig. 12. Female (A–C) and male (D–E) of *Enoplognatha gershomi*: A–B — epigyne, ventral view; C — vulva, dorsal view; D — anterior region of prosoma, ventral view, E — chelicera, posterior view. A–C, E specimens from Turkmenistan (Kankakyr), D specimen from Iraq. Scale bars = 0.1 mm (A), 0.2 mm (D–E).



Fig. 13. Female of *Heriaeus buffoni*: A — habitus, dorsal view; B — vulva, dorsal view; C — epigyne, ventral view. Scale bars = 0.2 mm, unless stated otherwise.

Material examined. 1 ♀: **Iraq**: Najaf Province, Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N 43°39' E], 260 m, 10.01.1997 (O. Jakeš) (MMB).

Distribution. Mediterranean to Tajikistan.

Comment. Previously recorded in Iraq from Basrah Province by Najim & AL-Hadlag (2020).

Family **Thomisidae** Sundevall, 1833

Genus ***Heriaeus*** Simon, 1875

Heriaeus buffoni (Audouin, 1826) (fig. 13, A–C)

Heriaeus buffonii: Loerbroks, 1983: 125, figs 21, 73–76 (♂, ♀)

Heriaeus buffoni: Levy, 1985: 51, figs 67–70 (♂, ♀).

For complete list of taxonomic references see WSC (2022).

Material examined. 1 ♂: **Iraq**: Najaf Province, Ash Shabakah camp, 150 km SW of Najaf, stone desert, [30°48' N 43°39' E], 260 m (O. Jakeš) (MMB).

Distribution. Canary Is., North Africa to Iran, north to Turkey.

Comment. This is the first record of the genus *Heriaeus* in Iraq.

Conclusions

Accounting the results of this paper, there are 88 species of 51 genera and 26 families of spiders known from Iraq. The number of known Iraqi spider species remains quite low in comparison to those of the neighbouring Turkey (≈ 1260) and Iran (≈ 920), but is higher than those of Saudi Arabia (≈ 80), Jordan (56) and Kuwait (3) (Amr, 2021; Danişman et al., 2022; El-Hennawy, 2014; Shakhathreh et al., 2021; Zamani et al., 2022 b); the exact number of species known from Syria is unclear, as no checklist has ever been published for this country.

Even though the Iraqi material treated here comprise a small number of specimens (15) all collected in a single locality, it included four species new to science as well as two families, five genera and five species new to Iraq; only two species were previously reported from the country. Furthermore, our results clearly demonstrate the importance of studying old museum material collected in countries that may not be easily accessible to foreign researchers today. Finally, it is hoped that more in depth taxonomic and faunistic investigations will be carried out in different regions of Iraq by local researchers, as the country has a high potential for harbouring a large number of interesting and currently undescribed species.

Acknowledgements. We are grateful to Petr Baňar (MMB) for providing us with a loan of material, and Kari M. Kaunisto (University of Turku) for helping with photography of some of the specimens.

References

- Aharon, S., Huber, B. A., 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. <https://doi.org/10.5852/ejt.2017.376>
- Al-Khazali, A. M. 2018. The first record of family Agelenidae from Iraq (Arachnida: Araneae). *Serket*, **16** (2), 60–65.
- Al-Khazali, A. M. 2020. Genus *Hogna* Simon, 1885 (Araneae: Lycosidae), a new record to the spider fauna of Iraq. *Serket*, **17** (2): 101–104.
- Al-Khazali, A. M. 2021. *Stenochilus hobsoni* (Araneae: Stenochilidae): first record of the family in Iraq and the Middle East. *Arachnologische Mitteilungen*, **62**, 4–6.
- Al-Khazali, A. M., Jäger, P. 2019. *Cebrennus sumer* sp. nov. (Araneae: Sparassidae): first record of the genus in Iraq. *Arachnology*, **18** (1), 37–39. <https://doi.org/10.13156/ arac.2018.18.1.37>
- Al-Khazali, A. M., Najim, S. A. 2018. First records of Pholcidae (Arachnida, Araneae) from Iraq. *Bulletin of the Iraq Natural History Museum*, **15** (2), 179–187. <https://doi.org/10.26842/binhm.7.2018.15.2.0179>
- Al-Yacoub, G. A. A., Al-Abbad, M. Y. M., Kareem, D. K. 2021. *Pterotricha esyunini* Zamani, 2018 (Araneae: Gnaphosidae), a new record for Iraqi spiders. *Serket*, **18** (1), 31–35.
- Amr, Z. S. 2021. *The state of biodiversity in Kuwait*. Gland, Switzerland: IUCN; the State of Kuwait, Kuwait: Environmental Public Authority.
- Armiaich Steinpress, I., Alderweireldt, M., Cohen, M., Chipman, A., Gavish-Regev, E. 2021. Synopsis of the Evippinae (Araneae, Lycosidae) of Israel, with description of a new species. *European Journal of Taxonomy*, **733**, 87–124. <https://doi.org/10.5852/ejt.2021.733.1225>
- Bosmans, R., Van Keer, J. 1999. The genus *Enoplognatha* Pavesi, 1880 in the Mediterranean region (Araneae: Theridiidae). *Bulletin of the British Arachnological Society*, **11**, 209–241.
- Boucherit, S., Bouragba, N., Douaoui, A., Bosmans, R. 2020. Araignées de la plaine alluviale du Haut-Chélif (Algérie), avec la citation de quelques espèces nouvelles ou rares pour l'Algérie (Araneae: Gnaphosidae, Miturgidae). *Nieuwsbrief van de Belgische Arachnologische Vereniging*, **35** (1–2), 60–70.
- Danişman, T., Sancak, Z., Erdek, M., Coşar, İ. 2012. A new species of the genus *Hersiliola* Thorell, 1870 from Turkey (Araneae: Hersiliidae). *Zoology in the Middle East*, **55**, 85–88. <https://doi.org/10.1080/09397140.2012.10648922>

- El-Hennawy, H. K. 2014. Preliminary list of spiders and other arachnids of Saudi Arabia (except ticks and mites). *Serket*, **14** (1), 22–58.
- Fomichev, A. A., Marusik, Y. M., Koponen, S. 2018. New data on spiders (Arachnida: Araneae) of Iraq. *Zoology in the Middle East*, **64** (4), 329–339. <https://doi.org/10.1080/09397140.2018.1484018>
- Foord, S. H., Dippenaar-Schoeman, A. S. 2005. A revision of the Afrotropical species of *Hersiliola* Thorell and *Tama* Simon with the description of a new genus *Tyrotama* (Araneae: Hersiliidae). *African Entomology*, **13**, 255–279.
- Kastrygina, Z. A., Kovblyuk, M. M. 2013. A review of the spider genus *Thanatus* C. L. Koch, 1837 in Crimea (Aranei: Philodromidae). *Arthropoda Selecta*, **22** (3), 239–254. <https://doi.org/10.15298/arthsel.22.3.07>
- Knoflach, B., van Harten, A. 2002. The genus *Latrodectus* (Araneae: Theridiidae) from mainland Yemen, the Socotra Archipelago and adjacent countries. *Fauna of Arabia*, **19**, 321–361.
- Levi, H. W. 1957. The spider genera *Enoplognatha*, *Theridion*, and *Paidisca* in America north of Mexico (Araneae, Theridiidae). *Bulletin of the American Museum of Natural History*, **112**, 1–124.
- Levy, G. 1985. Araneae: Thomisidae. In: *Fauna Palaestina, Arachnida II*. Israel Academy of Sciences and Humanities, Jerusalem, 1–115.
- Levy, G. 1998. Araneae: Theridiidae. In: *Fauna Palaestina, Arachnida III*. Israel Academy of Sciences and Humanities, Jerusalem, 1–228.
- Levy, G. 1999. Spiders of the genera *Anagraphis* and *Talanites* (Araneae, Gnaphosidae) from Israel. *Israel Journal of Zoology*, **45**, 215–225.
- Loerbroks, A. 1983. Revision der Krabbspinnen-Gattung *Heriaeus* Simon (Arachnida: Araneae: Thomisidae). *Verhandlungen des Naturwissenschaftlichen Vereins in Hamburg (NF)*, **26**, 85–139.
- Logunov, D. V. 1996. A critical review of the spider genera *Apollophanes* O. P.-Cambridge, 1898 and *Thanatus* C. L. Koch, 1837 in North Asia (Araneae, Philodromidae). *Revue Arachnologique*, **11** (13), 133–202.
- Logunov, D. V. 2011. Notes on the Philodromidae (Araneae) of the United Arab Emirates. *Proceedings of the Zoological Institute of the Russian Academy of Sciences*, **315**, 441–451.
- Logunov, D. V. 2020. On three species of *Hogna* Simon, 1885 (Aranei: Lycosidae) from the Near East and Central Asia. *Arthropoda Selecta*, **29** (3), 349–360. <https://doi.org/10.15298/arthsel.29.3.08>
- Marusik, Y. M., Fet, V. 2009. A survey of east Palearctic *Hersiliola* Thorell, 1870 (Araneae, Hersiliidae), with a description of three new genera. *ZooKeys*, **16**, 75–114. <https://doi.org/10.3897/zookeys.16.229>
- Mirshamsi, O., Zamani, A., Marusik, Y. M. 2016. A survey of Hersiliidae (Arachnida: Araneae) of Iran with description of one new genus and two new species. *Journal of Natural History*, **50** (23–24), 1447–1461. <https://doi.org/10.1080/00222933.2015.1113318>
- Najim, S. A., Al-Hadlag, K. S. 2020. First record of *Latrodectus dahli* Levi, 1959 (Araneae: Theridiidae) from Iraq. *Journal of Animal Diversity*, **2** (1), 141–145. <https://doi.org/10.29252/JAD.2020.2.1.6>
- Najim, S. A., Al-Hadlag, K. S., Seyyar, O. 2015. A new species of the genus *Enoplognatha* Pavesi, 1880 (Araneae: Theridiidae) from Iraq. *Serket*, **14** (4), 184–188.
- Olson, D. M., Dinerstein, E., Wikramanayake, E. D., Burgess, N. D., Powell, G. V. N., Underwood, E. C., D'Amico, J. A., Itoua, I., Strand, H. E., Morrison, J. C., Loucks, C. J., Allnutt, T. F., Ricketts, T. H., Kura, Y., Lamoreux, J. F., Wettengel, W. W., Hedao, P., Kassem, K. R. 2001. Terrestrial ecoregions of the world: a new map of life on Earth. *BioScience*, **51** (11), 933–938.
- Platnick, N. I., Ovtsharenko, V. I. 1991. On Eurasian and American *Talanites* (Araneae, Gnaphosidae). *Journal of Arachnology*, **19**, 115–121.
- Seyyar, O., Demir, H., Najim, S. A. 2016. A new spider record of the genus *Thomisus* Walckenaer, 1805 (Araneae: Thomisidae) from Iraq. *Biological Diversity and Conservation*, **9** (2), 221–223.
- Shakhathreh, M. R., Amr, Z. S., Abu Baker, M. R. 2021. Spiders of Jordan: A preliminary Study. *Turkish Journal of Bioscience and Collections*, **5** (1), 1–11. <https://doi.org/10.26650/tjbc.2021822162>
- WSC. 2022. World Spider Catalog. Version 23.0. Natural History Museum Bern, online at <http://wsc.nmbe.ch> (accessed on 18.05.2022). <https://doi.org/10.24436/2>
- Wunderlich, J. 2011. Extant and fossil spiders (Araneae). *Beiträge zur Araneologie*, **6**, 1–640.
- Zamani, A., Al-Yacoub, G. A. A., Najim, S. A. 2022 a. New data on Gnaphosidae (Arachnida: Araneae) of Iraq. *Evolutionary Systematics* [In press].
- Zamani, A., Dimitrov, D., Weiss, I., Alimohammadi, S., Rafiei-Jahed, R., Esyunin, S. L., Moradmand, M., Chatzaki, M., Marusik, Y. M. 2020. New data on the spider fauna of Iran (Arachnida: Araneae), part VII. *Arachnology*, **18** (6), 569–591. <https://doi.org/10.13156/arac.2020.18.6.569>
- Zamani, A., El-Hennawy, H. K. 2016. Preliminary list of the spiders of Iraq (Arachnida: Araneae). *Arachnida — Rivista Aracnologica Italiana*, **6**, 12–20.
- Zamani, A., Mirshamsi, O., Marusik, Y. M. 2017. Description of a new species of *Hersiliola* and the male of *Duninia rheimsae* Marusik & Fet, 2009 from Iran (Araneae: Hersiliidae). *Turkish Journal of Zoology*, **41** (4), 624–629. <https://doi.org/10.3906/zoo-1609-53>
- Zamani, A., Nadolny, A. A., Dolejš, P. 2022 b. New data on the spider fauna of Iran (Arachnida: Araneae), Part X. *Arachnology*, **19** (2), 551–573.
- Zamani, A., Nadolny, A. A., Esyunin, S. L., Marusik, Y. M. 2022 c. New data on the spider fauna of Iran (Arachnida: Araneae), part IX. *Arachnology*, **19** (Special Issue), 358–384.

Received 8 July 2022

Accepted 3 August 2022