Arthropoda Selecta 32(2): 197–212

A survey of the spider genus *Ischnocolus* Ausserer, 1871 (Aranei: Theraphosidae) in Israel, with description of a new species

Обзор пауков рода *Ischnocolus* Израиля Ausserer, 1871 (Aranei: Theraphosidae) с описанием нового вида

Sergei L. Zonstein
С.Л. Зонштейн

Steinhardt Museum of Natural History, 69978 Tel-Aviv, Israel. E-mail: serzon56@gmail.com

KEY WORDS: taxonomy, Araneae, mygalomorph spiders, Ischnocolinae, Middle East.
КЛЮЧЕВЫЕ СЛОВА: таксономия, Araneae, мигаломорфные пауки, Ischnocolinae, Ближний Восток.

ABSTRACT. The genus *Ischnocolus* Ausserer, 1871 is found to include three species represented in Israel: the recently described *I. ignoratus* Guadanucci et Wendt, 2014, *I. meron* sp.n. described herein, and an additional congener inhabiting the Negev Desert and known only from a subadult specimen (most likely, belonging to *I. jickelii* L. Koch, 1875). The new species differs from *I. ignoratus* as well as from other congeners by a specific configuration of the spermathecae and by integral leg tarsi I–IV lacking the transverse suture. Regarding the type series of *I. ignoratus,* a controversial information concering the collection data is discussed in detail. *Ischnocolus meron* sp.n. and *I. ignoratus* are diagnosed, depicted and (re)described; the data on their ecology and distribution are also provided.

How to cite this paper: Zonstein S.L. 2023. A survey of the spider genus *Ischnocolus* Ausserer, 1871 (Aranei: Theraphosidae) in Israel with description of a new species // Arthropoda Selecta. Vol.30. No.2. P.197–212. doi: 10.15298/arthsel. 32.2.05

РЕЗЮМЕ. Выявлено, что род *Ischnocolus* Ausserer, 1871 представлен в Израиле тремя видами, включая недавно описанный *I. ignoratus* Guadanucci et Wendt, 2014, описываемый в настоящей статье *I. meron* sp.n., и еще один вид из пустыни Негев, известный по единственному неполовозрелому экземпляру (относящегося, скорее всего, к *I. jickelii* L. Koch, 1875). Описываемый новый вид отличается от *I. ignoratus* и остальных видов рода специфичной конфигурацией сперматек и цельными лапками I–IV без поперечных швов. Подробно рассмотрены спорные вопросы, касающиеся коллекционных данных типовой серии *I. ignoratus*. Описание *I. meron* sp.n. и переописание *I. ignoratus* сопровождаются диагнозами и иллюстрациями, приведены данные по распространению и экологии этих видов.

Introduction

The spider genus *Ischnocolus* Ausserer, 1871 is currently recognized to include eight species: six correct congeners distributed within the south Mediterranean, the African Horn, and the Middle East and two likely misplaced species known from Western and Central Africa and Brazil [WSC, 2023]. The true Western Palearctic congeners may be considered as relatively well studied due to the genus revision by Guadanucci & Wendt [2014] and three more particular surveys by Zonstein [2018], Montemor *et al*. [2020] and Korba *et al*. [2022]. However, examination of an additional material indicates that at least in some areas of its range, the genus remains unevenly and adequately studied.

The first mention of the genus name *Ischnocolus* in relation to the territory of the modern Israel belongs to Simon [1873], who noted *I. syriacus* Ausserer, 1871 from the vicinity of Nazareth. A long time afterwards, Smith [1990] described *I. jerusalemensis* Smith, 1990 from a single female collected near Jerusalem. Guadanucci & Gallon [2008], however, revealed that both these species names should fall into synonymy with the most common Levantine theraphosid *Chaetopelma olivacea* (C.L. Koch, 1841). Thus, the true representatives of *Ischnocolus* were unknown for the country until Guadanucci & Wendt [2014] described the first regional endemic species, *I. ignoratus* Guadanucci et Wendt, 2014. Zonstein [2018] noted for this species an additional collecting record near Jerusalem. The above listed data completely exhaust the information regarding the Israeli representatives of the genus published hitherto.

The examination of collected material examined for this study detected the presence in the country of at least three species belonging to *Ischnocolus*. The first of them was reliably identified the recently described *I. ignoratus*. The second species was found very similar to the preceding but nevertheless distinguishable in

some characters. Further examination allowed to conclude that it represents a new species, whose description is provided herein. Finally, the third species discovered in the material is represented by a single subadult specimen from the Negev desert. After examination, the latter has been very tentatively and questionably associated with *I. jickelii* L. Koch, 1875, the species, which range includes subarid and desert biotopes of the African Horn and the Arab Peninsula (see Montemor *et al*. [2020, fig. 8]).

Material and methods

The following institutional acronyms are used in the text: BGU — Ben-Gurion University of Negev, Be'er Sheva, Israel; HUJ — Hebrew University, Jerusalem, Israel; MNHN — Muséum National d'Histoire naturelle, Paris, France; NMW — Naturhistorisches Museum Wien, Vienna, Austria; RMCA — Royal Museum for Central Africa, Tervuren, Belgium; SMNH — Steinhardt Museum of Natural History, Tel Aviv, Israel; ZISP — Zoological Institute, St. Petersburg, Russia; ZMUT — Zoological Museum, University of Turku, Finland.

Most part of the material considered in this study was collected in 2008–2021 in the northern and central parts of Israel; these specimens are deposited in SMNH. The comparative material used in the presented work includes the following specimens:

Ischnocolus jickelii L. Koch, 1875: 1♂, ETHIOPIA: *Oromiya Region*, near Harbona, 8°44′N 39°33′E, 1200–1300 m, 16.viii.1988, A. Russel-Smith (RMCA ARA 236144); 1♂, *Somali Region*, Cherti, 5°20′N 42°05′E, 320 m, 7.iv.1898, A. Bulatovich (ZISP 46-99). 1♀, SOMALIA: Mogadishu, 2°04′N 45°22′E, i.1945, P. Accigliaro (RMCA ARA 147156).

Photographs were taken using an Olympus SZX16 stereomicroscope with a Canon EOS 80D camera and a Nikon SMZ25 stereomicroscope with a Nikon DS-Ri2 camera for the structures, or using a Canon EOS 500D camera with a Canon EF 100 mm f/2.8 macro lens for the totals, and prepared using the Helicon Focus 7.6.2 Pro (http://www.heliconsoft.com). Illustration of dissected vulva placed into a small Petri dish filled with a solution of 85% lactic acid was made after maceration of the dissected copulative organs in 10% potassium hydroxide aqueous solution and exposure for a few minutes in an alcohol solution of Chlorazol Black.

Measurements were taken through the above-mentioned stereomicroscopes to an accuracy of 0.01 mm. All measurements are given in millimetres. Total body length includes chelicerae but not spinnerets. The diameter of the AME is usually given as the diameter of a sharply edged AME circle (the "pupil"). When the AME cornea was well-separated and elevated, and its diameter could be measured, the corresponding data follow between brackets. Any eye interdistances counting this parameter are also given between brackets. The length of the sternum was measured along the straight line between the posterior tip of the sternum and the hindmost part of the labium. Lengths of leg and palp segments were measured on the dorsal side, and lengths of spinneret segments on the ventral side, from the midpoint of the anterior margin to the midpoint of the posterior margin. For palps and legs these measurements are presented as follows: total length (length of femur, patella, tibia, metatarsus and tarsus in the parentheses). Spine counts are taken from both sides of the body (from the same segments on the corresponding left and right palp or leg); when they differ from one another, the bracketed fewer number follows the larger one.

The abbreviations used in text are: ALE — anterior lateral eyes, AME — anterior median eyes, d — dorsal, PLE — posterior lateral eyes, PLS — posterior lateral spinnerets, PME — median lateral eyes, PMS — posterior median spinnerets, p — prolateral, pd — prodorsal, pv — proventral, r — retrolateral, rd — retrodorsal, rv — retroventral, v — ventral.

Taxonomy

Family Theraphosidae Thorell, 1869

Genus *Ischnocolus* Ausserer, 1871

Ischnocolus Ausserer, 1871: 185; 1875: 168; Simon, 1892: 135; 1903: 925; Guadanucci, Wendt, 2014: 389; Montemor *et al*., 2020: 77; Korba *et al*., 2022: 859.

TYPE SPECIES: *Ischnocolus holosericeus* L. Koch, in Ausserer, 1871, by subsequent designation [Simon, 1892: 136], synonymized with *Mygale valentina* Dufour, 1820 by Guadanucci and Wendt [2014: 391].

DIAGNOSTIC CHARACTERS: The genus includes predominantly small arastellate theraphosids with length of the body 10–25 mm, distinguished by moderately long apical segments of the posterior lateral spinnerets. Congeners often (but not always) are provided with a chevron-like dorsal abdominal pattern. According to Guadanucci & Wendt [2014], it differs from other genera of the Ischnocolinae: (a) by presence of the clavate tarsal trichobothria, (b) in possessing prolaterally lightened maxillae, (c) by the absence of maxillary serrula, and (d) by the absence of an unpaired claw. Males of *Ischnocolus* spp. may also be distinguished by their well-developed intercheliceral tumescence, by a sigmoid ventral furrow on the palpal tibia, by absence of any processes on tibia I, and by possessing an elongate cymbium with asymmetrical and unevenly long prolateral and retrolateral lobes. One of the characters used by Guadanucci & Wendt [2014] to distinguish congeners from other ischnocoline theraphosids, namely the cracked leg tarsi, seems to be actually valid in relation to all hitherto described *Ischnocolus* spp. However, this distinction cannot be applied to *I. meron* sp.n. as well as to an undescribed *Ischnocolus* sp. from Algeria, since these two species possess all leg tarsi integral and lacking any suture.

COMPOSITION AND DISTRIBUTION: According to WSC [2023] and the data presented herein, within its genuine range *Ischnocolus* is represented by seven species: *I. elongatus* (Simon, 1873) (Morocco), *I. ignoratus* Guadanucci et Wendt, 2014 (Syria?, Israel), *I. jickelii* L. Koch, 1875 (Ethiopia, Eritrea, Djibouti, Somalia, Yemen, Oman, UAE, Saudi Arabia, Israel?), *I. meron* sp.n. (Israel), *I. mogadorensis* Simon, 1909 (Morocco, Western Sahara), *I. valentinus* (Dufour, 1820) (Spain, Italy: Sicily, Morocco, Algeria, Tunisia, Libya), and *I. vanandelae* Montemor, West et Zamani, 2020 (Oman, Iran). There are also representatives of several evidently undescribed *Ischnocolus* spp. from North and East Africa, preserved in the MNHN and ZMUT spider collections. Three of the named species (one of them provisionally) occur in Israel.

Figs 1–6. *Ischnocolus ignoratus* Guadanucci et Wendt, 2014, male (1, 3, 5) and female (2, 4, 6) from Horbat Midras: 1, 2 — habitus, dorsal aspect; 3, 4 — cephalothorax, dorsal; 5, 6 — same, ventral. Scale bars: 1, 2 — 5 mm; 3, 4 — 2 mm; 5, 6 — 1 mm.

Рис. 1–6. *Ischnocolus ignoratus* Guadanucci et Wendt 2014, самец (1, 3, 5) и самка (2, 4, 6) из локалитета Хорбат Мидрас: 1, 2 — габитус, вид сверху; 3, 4 — головогрудь, сверху; 5, 6 — то же, снизу. Масштаб: 1, 2 — 5 мм; 3, 4 — 2 мм; 5, 6 — 1 мм.

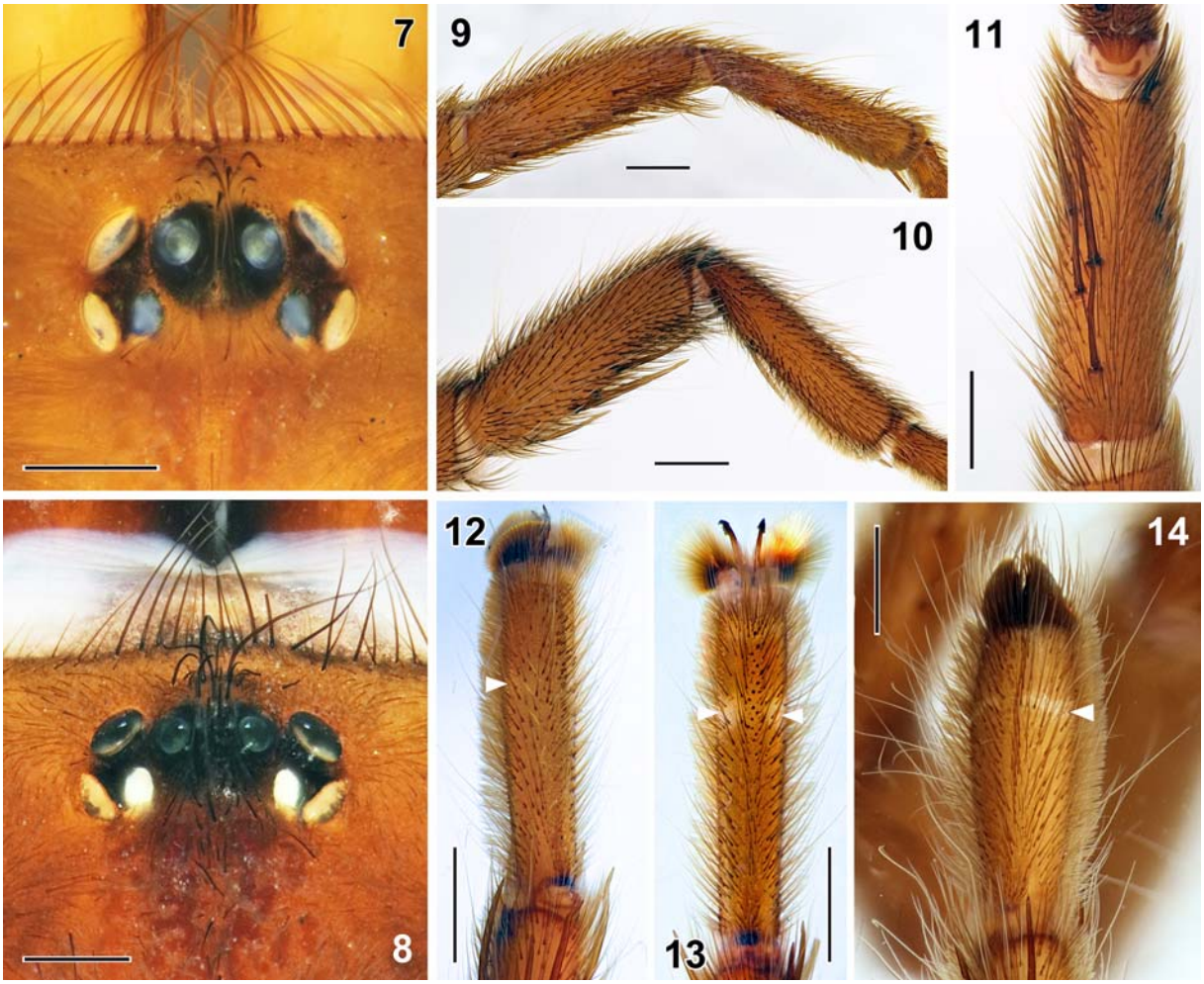
Ischnocolus ignoratus Guadanucci et Wendt, 2014
Figs 1–28.

Ischnocolus ignoratus Guadanucci, Wendt, 2014: 396, fig. 5A–C (♂♀); Zonstein, 2018: 115, figs 21–23 (♂); Montemor *et al*., 2020: 77.

TYPES: Holotype ♂ (NMW 21447; examined), SYRIA (?): no detail locality (see the discussion), 1850–1855, R. Gödl. Paratypes 2♂♂, 1♀ (NMW 21448; examined), ISRAEL: Jerusalem, prior to 1882, unnamed collector, acquired from E. Reitter's collection.

ADDITIONAL MATERIAL EXAMINED: ISRAEL: 3♂♂ (SMNH), *Judean Hills*, Adullam Nature Park, near Giv'at Yesha'ayahu Village 22 km WSW Jerusalem, 31°40.1′ N, 34°57.7′ E, 320 m, 15.11.2007, O. Skutelsky; 1♂ (SMNH), Ben Shemen Forest Park 27 km NW Jerusalem, 31°56.7′ N, 34°57.6′ E, 140 m, 14.05.2013, D. David; 2♀♀ (SMNH), Adullam Nature Park, Horbat Midras Ruins 25 km WSW Jerusalem, 31°39.3′ N, 34°56.6′ E, 330 m, 26.09.2010, S. Zonstein; 2♀♀ (SMNH), same, 11.10.2012 (SMNH); 1♀ (SMNH), same, 1 km NW Nehusha Village, 31°38.3′ N, 34°56.7′ E, 400 m, 10.09.2011; 1 juv. (SMNH), same but 0.5 km WNW Beit Jimal Monastery, 31°43.6′ N, 34°58.3′ E, 300–330 m, 21.11.2012; 2♀♀ (SMNH), same but surroundings of Tzafririm Village 24 km WSW Jerusalem, 31°39.2′ N, 34°56.5′ E, 320 m, 15.11.2014; 3♀♀ (SMNH), same, 0.5 km S Tzafririm Village 31° 39.3′ N, 34°56.5′ E, 320 m, 17.11.2016; 5? (SMNH), same, 4.02.2019; 2♀♀ (SMNH), same, 30.03.2018; 1 juv. (SMNH), *Carmel Mts*., environs of Bat Shelomo Village 20 km S Haifa, 32°35.5′ N, 34°59.7′ E, 110 m, 12.12.2011, S. Zonstein; 1♀ (SMNH), same, 17.01.2013; 1♀ (SMNH), same, 6.03.2013; 1♀ (SMNH), same but the south-westermost part of the Carmel Massive, surroundings of Ramat Ha-Nadiv Park 25 km S Haifa, 32°33.3′ N, 34°56.8′ E, 130 m, 27.03.2013.

DIAGNOSIS: In *Ischnocolus ignoratus*, the structure of the male palpal organ, with the embolus slightly bent in its preapical part, thus differs from that in other male congeners except the closely related *I. meron* sp.n. Males of these two



Figs 7–14. *Ischnocolus ignoratus* Guadanucci et Wendt, 2014, paratype male (9, 11), and male (7, 10, 12, 13) and female (8, 14) from Horbat Midras: 7, 8 — clypeus and eye tubercle, dorsal aspect; 9, 10 — tibia and metatarsus I, retrolateral; 11 — tibia I, ventral; 12, 14 — tarsus III, ventral; 13 — tarsus IV, ventral. Scale bars: 7, 8, 12–14 —0.5 mm; 9–11 — 1 mm. Pallid transverse suture indicated with white arrowhead(s).

Figs 7–14. *Ischnocolus ignoratus* Guadanucci et Wendt, 2014, самец паратип (9, 11), самец (7, 10, 12, 13) и самка (8, 14) из локалитета Хорбат Мидрас: 7, 8 — наличник и глазной бугорок, вид сверху; 9, 10 — голень и предлапка I, сбоку (снаружи); 11 — голень I снизу; 12, 14 — лапка III снизу; 13 — лапка IV снизу. Масштаб: 7, 8, 12–14 —0,5 мм; 9–11 — 1 мм. Бледный поперечный шов отмечен белой стрелкой (стрелками).

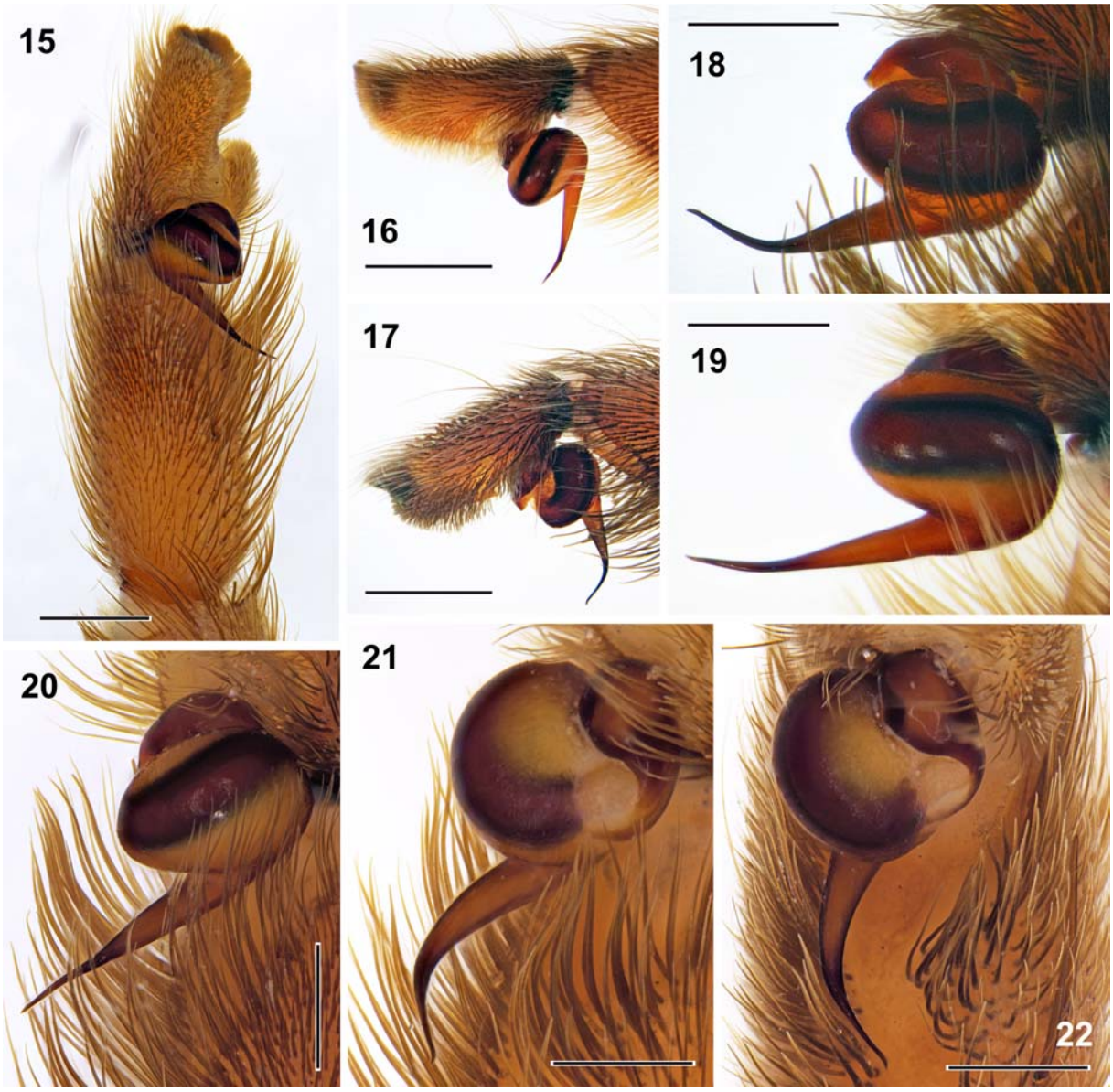
species well differ from each other in the configuration and fine structure of the embolus: narrower and more tapering in *I. ignoratus* vs. broader and less tapering in *I. meron* sp.n. (Figs 15–22 cf. Figs 42–46). This is also true for the shape of the spermathecae: unlike other *Ischnocolus* spp., females of *I. ignoratus* and *I. meron* sp.n. possess the paired spermathecal branches fairly twisted and widely spaced from one another. However, in *I. ignoratus*, these branches are convex and directed toward each other, while in *I. meron* sp.n. they are, on the contrary, diverged and directed outward from each other (Figs 23–26 cf. Figs 47–50). Like almost all *Ischnocolus* species, representatives of *I. ignoratus* possess cracked leg tarsi III–IV with pallid transverse sutures, while in *I. meron* sp.n. they are integral and lacking pallid cuticular areas (Figs 12–14 cf. Figs 39–41).

REDESCRIPTION: To provide completely comparable information, this redescription is based on the recently collected and therefore better preserved specimens from Horbat Midras, Israel.

MALE: Habitus as shown in Fig. 1. Body length 16.90.

Color in alcohol: carapace, chelicerae, palps and legs I–IV dorsally intensely ginger brown; eye tubercle not darkened but all eyes are embordered by fairly wide blackish brown rings partially fused each other; chelicerae medium red with orange bases, sternum, labium, palps (including maxillae) and legs I–IV (including coxae) ventrally light orange brown; most abdomen medium grayish brown with dark brown dorsal chevron-like pattern; spinnerets pale yellowish brown.

Cephalothorax as shown in Figs 3, 5. Carapace 6.47 long, 5.08 wide. Eye tubercle as shown in Fig. 7. Eye diameters and interspaces: AME 0.17(0.23), ALE 0.27, PLE 0.23, PME 0.17, AME–AME 0.15(0.09), ALE–AME 0.10(0.07), ALE–PLE 0.09, PLE–PME 0.04, PME–PME 0.42. Intercheliceral tumescence present as relatively small and distinctly pallid area. Each cheliceral furrow with 9 promarginal teeth and 2–3 mesobasal denticles. Labium with 12 cuspules; 0.51 long, 1.02 wide. Sternum 3.01 long, 2.67

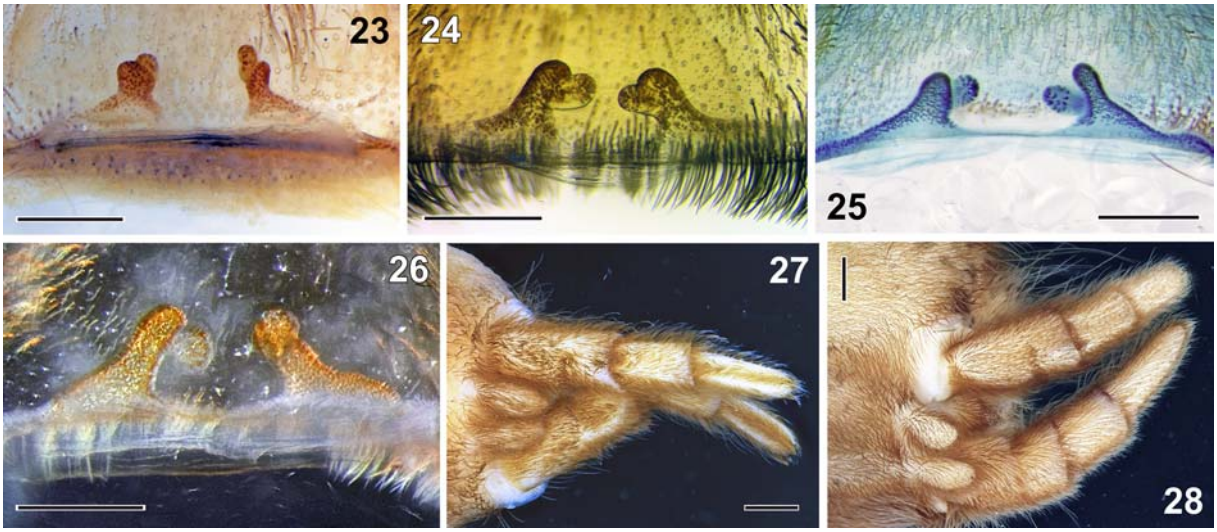


Figs 15–22. *Ischnocolus ignoratus* Guadanucci et Wendt, 2014, paratype male (15, 20–22); male from Horbat Midras (16, 19) and male from Ben Shemen (17, 18): 15–17 — distal segments of palp, retroventral (15) and retrolateral (16, 17) aspects; 18–22 — palpal organ in close up view, retrolateral (18–20), retroventral (21) and ventral (22). Scale bars: 15–17 — 1 mm; 18–22 — 0.5 mm.

Figs 15–22. *Ischnocolus ignoratus* Guadanucci et Wendt, 2014, самец паратип (15, 20–22); самцы из локалитетов Хорбат Мидрас (16, 19) и Бен Шемен (17, 18): 15 — дистальные сагменты пальпы, вид с нижнебоковой стороны; 16, 17 — то же, сбоку (снаружи); 18–20 — пальпус крупным планом, сбоку (с внешней стороны); 21, 22 —то же, соответственно с нижнебоковой и нижней стороны. Масштаб: 15–17 — 1 мм; 18–22 — 0,5 мм.

wide. Each maxilla with about 70 cuspules. Serrula indiscernible.

Palp and leg structures. Tibia and metatarsus I as shown in Figs 9, 10 (tibia I ventrally as in Fig. 11). Spines (all femora with medial row of 5–9 thickened bristles; palpal patella, patellae I and II, tarsi I–IV and cymbium aspinose). Palp: femur pd1, rd1; tibia pd1–1, pv1–1. Leg I: femur pd1–1, rd1; tibia p4 irregular, pv1, rv5 irregular; metatarsus p1, rv1–1. Leg II: femur pd1–1; tibia p1–1, v1–1–2; metatarsus p1–1, rv1–1–1. Leg III: femur pd1(0)–1, rd1; patella p1; tibia p1–1, r1–1, v2–2–3; metatarsus d0–0–2(0), p1–1–1, r0–1–1, v2–1–2–3. Leg IV: femur pd1, rd 1; tibia p1, r1(0)–1–1–1–1, v3–2(0)–2–1–3; metatarsus p1–1–1, r0–2(1)–1(2), v2–2–2–2. Metatarsal preening combs absent. Tarsi I–II integral; tarsi III–IV cracked, with pallid transverse suture (better developed on tarsus IV), as in Figs. 12, 13. Scopula entire on distalmost part of cymbium, distal 3/4 metatarsus I–II; divided on distal 2/3 metatarsi III and IV; undivided on tarsi I–II; narrowly divided on tarsus III; more widely divided on tarsus IV. Trichobothria: 2 rows of 6–7 in each row on tibiae, 16–23 on metatarsi, 25–30 (+12–15 clavate) on tarsi, 15 (+14 clavate) on cymbium. Paired claws on tarsi I–IV bipectinate, with 4–5 subapical teeth on each margin.



Figs 23–28. *Ischnocolus ignoratus* Guadanucci et Wendt, 2014, paratype female (23) and male (27), and females from Horbat Midras (24, 25, 27), and Ramat Ha-Nadiv (26): 23 — spermathecae, dorsal (inside) aspect, natural color; 24 — same, in transmitted light; 25 — same, shaded with Chlorasol Black; 26 — same, natural color with dark background; 27, 28 — spinnerets, ventral. Scale bars: 0.5 mm.

Figs 23–28. *Ischnocolus ignoratus* Guadanucci et Wendt, 2014, самка паратип (23), самец (27) и самки из локалитетов Хорбат Мидрас (24, 25, 28) и Рамат 'а-Надив (26): 23 — сперматеки, вид сверху (с внутренней стороны), естественная окраска; 24 — то же, в отраженном свете; 25 — то же, оттенено с использованием хлоразола; 26 — то же, естественный цвет на темном фоне; 27, 28 — паутинные бородавки снизу. Масштаб 0,5 мм.

Palp and leg measurements. Palp: 9.59 (3.40, 1.98, 2.44, –, 1.77). Leg I: 17.42 (4.95, 3.15, 3.48, 3.43, 2.41). Leg II: 16.06 (4.56, 2.76, 3.11, 3.17, 2.46). Leg III: 15.64 (4.31, 2.24, 2.66, 3.68, 2.75). Leg IV: 21.18 (5.39, 2.97, 4.37, 5.28, 3.17).

Copulatory organs. Palp with moderately short tibia and long cymbium (as shown in Figs 15–17). Palpal bulb with relatively long, flattened and curved tongue-shaped embolus (see Figs 18–22).

Spinnerets as shown in Fig. 27. PMS: length 0.59; diameter 0.32. PLS: maximal diameter 0.75; length of basal, medial and apical segments 1.53, 0.96, 1.15, respectively; total length 3.64; apical segment digitiform.

FEMALE: Habitus as shown in Fig. 2. Body length 21.30. Color in alcohol: as in male.

Cephalothorax as shown in Figs 4, 6. Carapace 7.66 long, 6.17 wide. Eye tubercle as shown in Fig. 8. Eye diameters and interspaces: AME 0.18(0.26), ALE 0.31, PLE 0.26, PME 0.19, AME–AME 0.27(0.19), ALE–AME 0.13(0.09), ALE–PLE 0.11, PLE–PME 0.05, PME–PME 0.59. Each cheliceral furrow with 9 promarginal teeth and 7–9 mesobasal denticles. Labium with 14 cuspules; 0.72 long, 1.45 wide. Sternum 3.79 long, 3.32 wide. Each maxilla with *ca*. 125 cuspules. Serrula indiscernible.

Palp and leg structures. Spines (all femora with medial row of 6–9 thickened bristles; palpal patella, tibia and cymbium, patellae I and II, tarsi I–IV and palpal tarsus aspinose). Palp: femur pd1, tibia p1, v0–1–3. Leg I: femur pd1; tibia v1–1–1; metatarsus v1–0–1. Leg II: femur pd1–1; tibia p1(0), v1–1–1; metatarsus v1–0–1. Leg III: femur pd1, rd1; patella p1; tibia p1–1, r1–1, v2–2–3(2); metatarsus p1–1–1, r1–1, v2–2–3. Leg IV: femur r1; tibia r1–1–0, v2–2(1)–2; metatarsus p0–1–1, r0–1–1, v2–2–3. Metatarsal preening combs absent. Tarsi I–III integral, tarsus IV distinctly cracked (Fig. 14). Scopula entire on palpal tarsus and metatarsi I–II; widely divided by setae on metatarsus III and distal 5/6 metatarsus IV; very narrowly divided on tarsi I–II (by one row of very small setae); more widely divided on tarsus III, ever more widely divided on tarsus IV (approximately by one and two irregular rows of thick setae, respectively). Trichobothria: 2 rows of 6–7 in each row on tibiae, 14–16 on metatarsi, 25–30 (+22–31 clavate) on tarsi, 14–15 (+26–27 clavate) on palpal tarsus. Palpal tarsal claw bare. Paired claws on tarsi I–IV narrow and lacking teeth.

Palp and leg measurements. Palp: 12.09 (4.19, 2.53, 2.60, –, 2.77). Leg I: 18.30 (5.64, 3.65, 3.40, 3.16, 2.45). Leg II: 16.34 (4.95, 3.04, 3.01, 2.97, 2.37). Leg III: 15.54 (4.60, 2.63, 2.60, 3.46, 2.25). Leg IV: 20.98 (6.04, 3.27, 4.12, 4.72, 2.83).

Copulatory organs. Paired spermathecal branches widely spaced, twisted, folded apically and directed toward each other, as shown in Figs 23–26.

Spinnerets as shown in Fig. 28. PMS: length 0.79; diameter 0.37. PLS: maximal diameter 1.02; length of basal, medial and apical segments 1.58, 0.91, 1.43, respectively; total length 3.92; apical segment digitiform.

VARIATION: Carapace length (measured in all examined specimens) varies from 5.95 to 7.20 in males, and from 5.81 to 7.87 in females. Number of labial cuspules in these specimens varies from 5 to 23, the same of maxillary cuspules ranges from 70 to about 130. The variation in shape of the spermathecae (n = 4) is shown in Figs. 23–26.

DISTRIBUTION: Syria (?) and Israel (where it is reliably known only from the Jerusalem area and the south part of Carmel Mts.).

ECOLOGY: *Ischnocolus ignoratus* is a burrowing species inhabiting low foothills covered with a tall and fairly dense shrubland (Eastern Mediterranean maquis with *Quercus calliprinos* Webb, *Phillyrea latifolia* L., *Ceratonia siliqua* L., etc.) southwestern of Jerusalem and south of Haifa, or in open pine tree woodland (mostly planted and dominated with *Pinus halepensis* Mill.) to the north-west of Jerusalem. See Figs 53–61.

NOTE: The collection data of the type specimens are considered herein (see discussion).

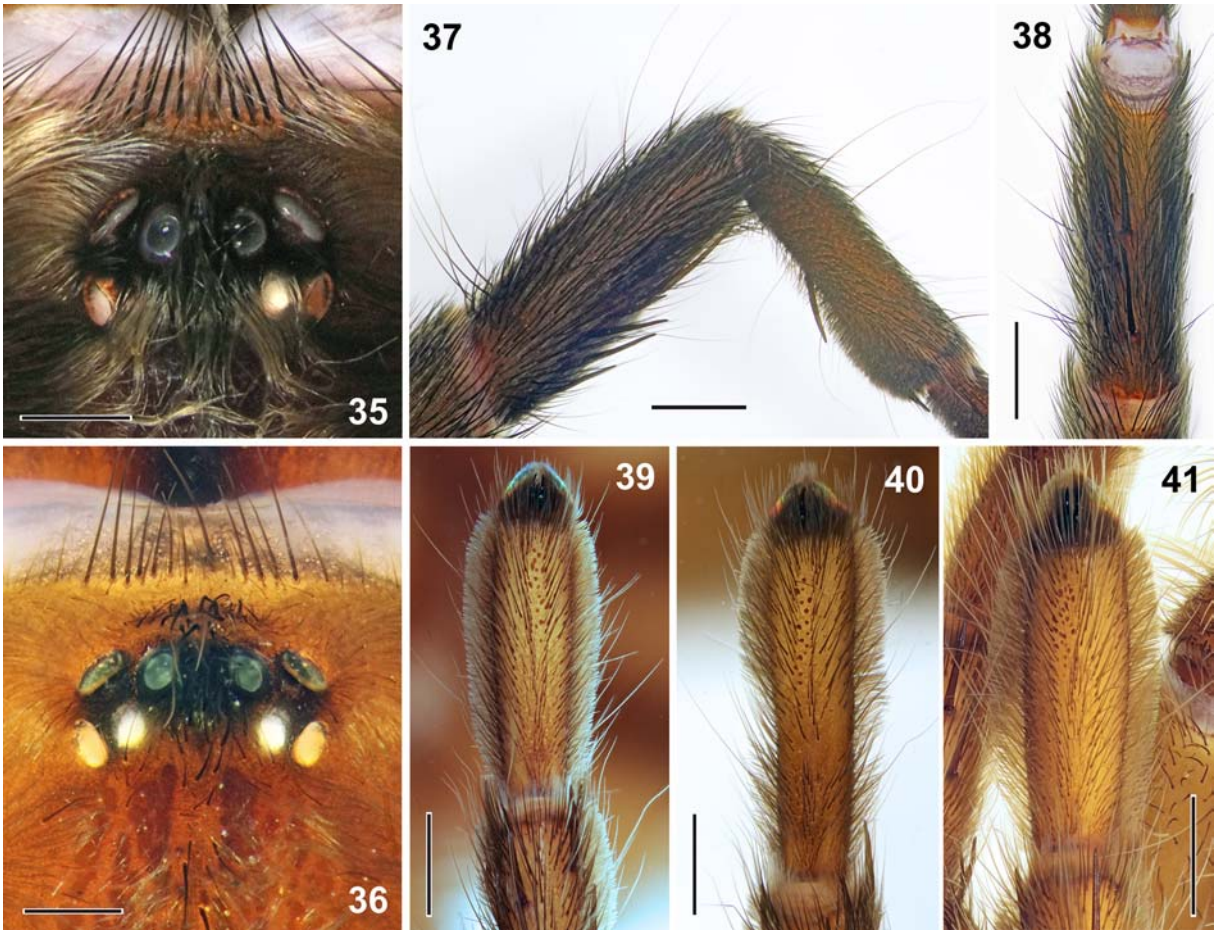
Figs 29–34. *Ischnocolus meron* sp.n., holotype male (29, 31, 33) and paratype female (30, 32, 34): 29, 30 — habitus, dorsal aspect; 31, 32 — cephalothorax, dorsal; 33, 34 — same, ventral. Scale bars: 29, 30 — 5 mm; 31, 32 — 2 mm; 33, 34 — 1 mm.

Figs 29–34. *Ischnocolus meron* sp.n., самец голотип (29, 31, 33) и самка паратип (30, 32, 34): 29, 30 — габитус, вид сверху; 31, 32 — головогрудь сверху; 33, 34 — то же, снизу. Масштаб: 29, 30 — 5 мм; 31, 32 — 2 мм; 33, 34 — 1 мм.

Ischnocolus meron **sp.n.**
Figs 29–52.

TYPES: Holotype ♂ (SMNH), ISRAEL: *Upper Galilee*, 0.5 km SSE summit of Mt. Meron, 32°59.6' N, 35°24.9' E, 1120 m, collected from burrow, 16.06.2020, S. Zonstein. Paratypes 1♂, 20♀♀ (all SMNH), ISRAEL: 1♂, *Upper Galilee*, northwestern slope of Mt. Meron, near Meron field school, 33°00.6′ N, 35°23.3′ E, 930 m, 20–29.07.2008 (acquired in November 2019), T. Levanony; 1♀, close to summit of Mt. Meron, 32°59.7′ N, 35°24.7′ E, 1140 m, 25.05.2012, S. Zonstein (SMNH); 1♀, Mt. Meron, 32°01.0′ N, 35°25.0′ E, 900 m, 25.04.2013, S. Zonstein; 2♀♀, same, 32°59.8′ N, 35°24.7′ E, 1100 m, 26.04.2013; 1♀, same, 32°59.5′ N, 35°24.8′ E, 1130 m, 1.11.2013; 3♀♀, same, 32°59.8′ N, 35°24.7′ E, 1100 m; 1♀, same, 32°33.0' N, 35°25.0' E; 1♀, same, 2.04.2018; 2♀♀, same, 32°59.6′ N, 35°24.9′ E, 1120 m, 16.06.2020; 4♀♀, same, 1100–1150 m, 23.06.2020; 3♀♀, same, 2.05.2021; 1♀, same, 2 km ESE Hurfeish Town, 33°00.7′ N, 35°22.3′ E, 800 m, 22.04.2013.

DIAGNOSIS: *Ischnocolus meron* sp.n. differs from other described congeners in possessing integral leg tarsi lacking a pallid transverse suture (see Figs 39–41), while within the latter group at least tarsi IV (often also other leg tarsi) are cracked, as in Figs 12–14. In addition, females of the new species can be distinguished by a characteristic shape of the spermathecae, which are diverged and directed outward from each other, while in other *Ischnocolus* spp. they are configured dissimilarly (Figs 47–50 cf. Figs 23–26; Guadanucci, Wendt, 2014, figs 3D, 4A–B, fig. 5C; Montemor *et al*., 2020, figs 4A, 5A–D). The male differs from other congeners in having a relatively broad and weakly tapering embolus, which seems to be narrower and more tapering in other species (Figs 43–46 cf. Figs 18–22; Guadanucci, Wendt [2014, figs 2D, 3B, C, 5A, B]; Zonstein [2018, Figs 5–7, 14–16, 18–23]; Montemor *et al*. [2020, figs 2B–F, 4B–F, 9A, C, E]).



Figs 35–41. *Ischnocolus meron* sp.n., holotype male (35, 37–41) and paratype female (36, 41): 35, 36 — clypeus and eye tubercle, dorsal aspect; 37 — tibia and metatarsus I, retrolateral; 38 — tibia I, ventral; 39, 41 — tarsus III, ventral; 40 — tarsus IV, ventral. Scale bars: 35, 36, 39–41 — 0.5 mm; 37, 38 — 1 mm.

Figs 35–41. *Ischnocolus meron* sp.n., самец голотип (35, 37–41) и самка паратип (36, 41): 35, 36 — наличник и глазной бугорок, вид сверху; 37 — голень и предлапка I, сбоку (снаружи); 38 — голень I снизу; 39, 41 — лапка III снизу; 40 — лапка IV снизу. лапка IV снизу. Масштаб: 35, 36, 39–41 — 0,5 мм; 37, 38 — 1 мм.

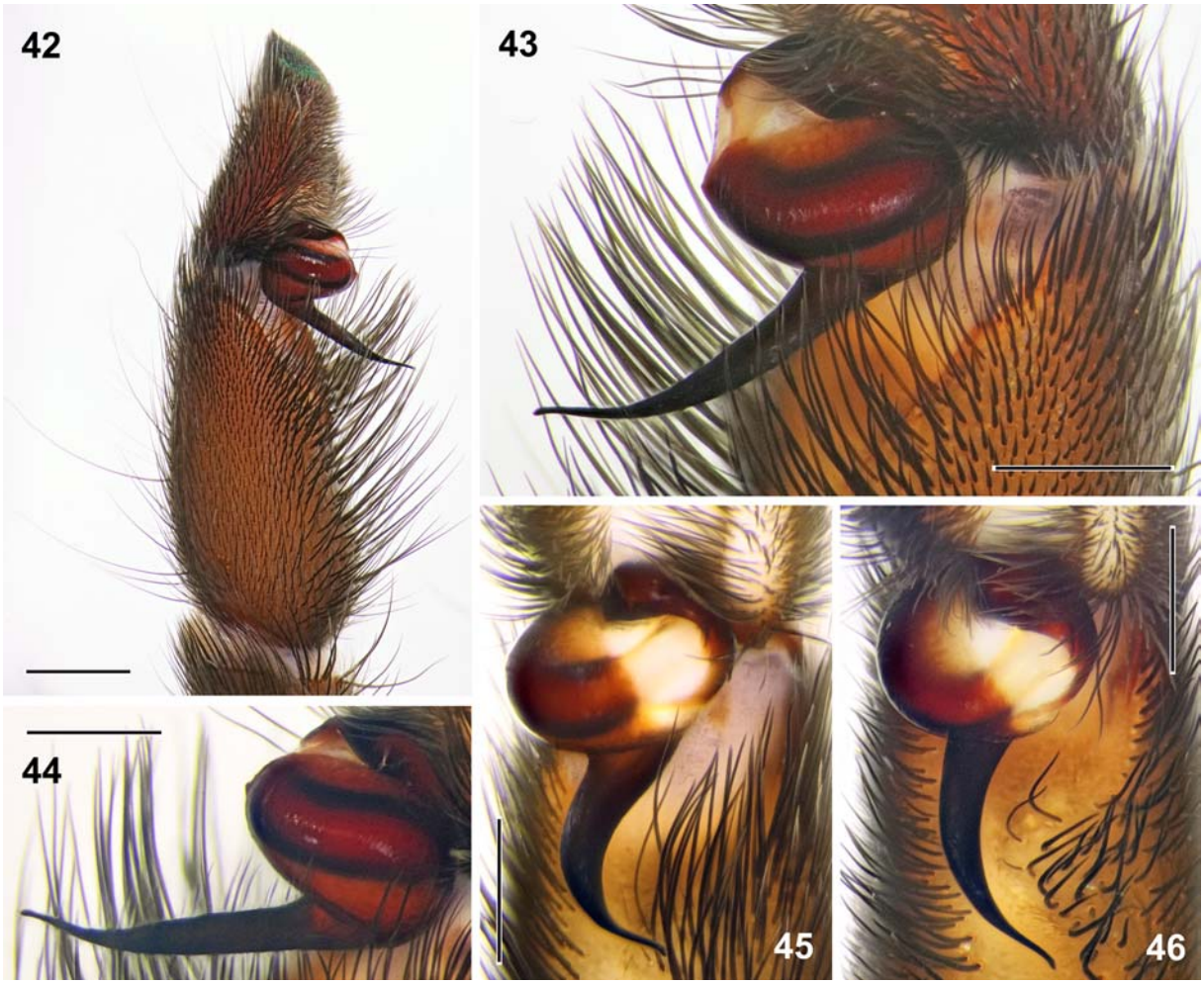
ETYMOLOGY: The specific epithet is a toponym (and a noun in apposition to the genus name) referring to the type locality.

DESCRIPTION. MALE: Habitus as shown in Fig. 29. Body length 18.50.

Color in alcohol: carapace, chelicerae, palps and legs I–IV dorsally very dark reddish brown; eye tubercle blackish brown; cheliceral bases orange, sternum, labium, palps (including maxillae) and legs I–IV (including coxae) ventrally medium sepia brown with dark orange tint; abdomen mostly medium grayish brown with dark brown dorsal chevron-like pattern; spinnerets pale yellowish brown.

Cephalothorax as shown in Figs 31, 33. Carapace 7.39 long, 6.26 wide. Eye tubercle as shown in Fig. 35. Eye diameters and interspaces: AME 0.17(0.25), ALE 0.29, PLE 0.21, PME 0.19, AME–AME 0.22(0.14), ALE–AME 0.13(0.09), ALE–PLE 0.13, PLE–PME 0.04, PME–PME 0.46. Intercheliceral tumescence small pallid area. Each cheliceral furrow with 9 promarginal teeth and 2–3 mesobasal denticles. Labium with 7 cuspules; 0.69 long, 1.28 wide. Sternum 3.19 long, 3.09 wide. Each maxilla with 95–100 cuspules. Serrula indiscernible.

Palp and leg structures. Tibia and metatarsus I as shown in Fig 37, tibia I ventrally as in Fig. 38. Spines (all femora with medial row of 5–7 thickened bristles; palpal patella, tibia and cymbium, patellae I and II, and tarsi I–IV aspinose). Palp: femur pd1. Leg I: femur pd1–1; tibia p9 irregular, r9(8) irregular, pv1; metatarsus p1, rv1–1. Leg II: femur pd1–1; tibia p1–1, v1(2)–1; metatarsus p1–1, rv1–1. Leg III: femur pd1, rd1; patella p1; tibia p1–1, r1–1–1, v2–2–3; metatarsus p1–1–1, r1–2, v2–2–3. Leg IV: femur pd1; tibia r1–1–1–1, v2–2–1–2; metatarsus p1–1–1–1, r1–1–1–1, v2–2–3. Metatarsal preening combs absent. Leg tarsi III–IV integral (not cracked, without pallid transverse suture), as in Figs 39, 40. Scopula entire on distalmost part of cymbium, distal 1/2 metatarsus I and 2/3 metatarsus II; mixed with setae and mostly proventral on distal 2/3 metatarsi III and IV; very narrowly divided on tarsi I–III; more widely divided on tarsus IV. Trichobothria: 2 rows of 5–6 in each row on tibiae, 9–15 on metatarsi, 17–24 (+11–16 clavate) on tarsi, 18–20 (+14 clavate) on cymbium. Paired claws on tarsi I–IV asymmetrically bipectinate, with 1–2 and 4–5 subapical teeth on inner and outer margin, respectively.



Figs 42–46. *Ischnocolus meron* sp.n., holotype male: 42 — distal segments of palp, retrolateral aspect; 43, 44 — palpal organ in close up view, retrolateral; 45, 46 — same, retroventral and ventral, respectively. Scale bars: 42 — 1 mm; 43–46 — 0.5 mm.

Figs 42–46. *Ischnocolus meron* sp.n., самец голотип: 42 — дистальные сагменты пальпы, вид снизу; 43, 46 — пальпус крупным планом, сбоку (с внешней стороны); 45, 46 —то же, соответственно с нижнебоковой и нижней стороны. Масштаб: 15–17 — 1 мм; 18–22 — 0,5 мм.

Palp and leg measurements. Palp: 10.58 (3.85, 2.04, 2.80, –, 1.89). Leg I: 20.00 (5.90, 3.62, 3.74, 4.03, 2.71). Leg II: 18.23 (5.54, 2.91, 3.52, 3.76, 2.50). Leg III: 17.95 (5.12, 2.77, 3.20, 4.07, 2.79). Leg IV: 23.19 (6.58, 3.14, 4.78, 5.61, 3.08).

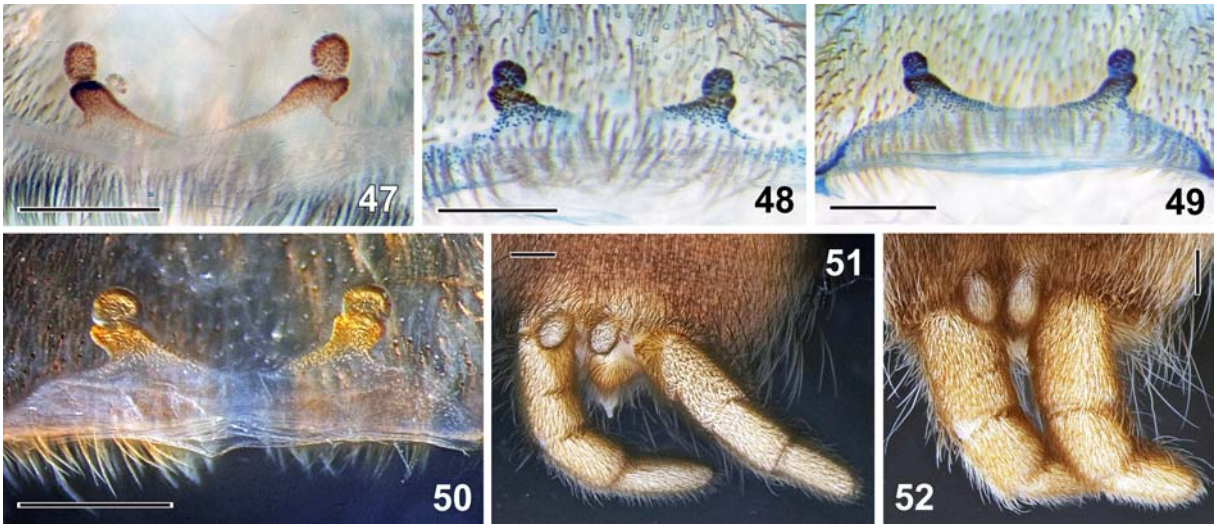
Copulatory organs. Palp with relatively short tibia and moderately long cymbium (Fig. 42). Palpal bulb with relatively long, flattened and curved tongue-shaped embolus (Figs 43–46).

Spinnerets as shown in Fig. 51. PMS: length 0.60; diameter 0.36. PLS: maximal diameter 0.74; length of basal, medial and apical segments 1.47, 0.99, 1.25, respectively; total length 3.71; apical segment digitiform.

FEMALE: Habitus as shown in Fig. 30. Body length 20.30. Color in alcohol: as in male.

Cephalothorax as shown in Figs 32, 34. Carapace 8.28 long, 6.39 wide. Eye tubercle as shown in Fig. 36. Eye diameters and interspaces: AME 0.18(0.26), ALE 0.26, PLE 0.23, PME 0.17, AME–AME 0.26(0.18), ALE–AME 0.13(0.09), ALE–PLE 0.13, PLE–PME 0.04, PME–PME 0.55. Each cheliceral furrow with 9 promarginal teeth and 7–9 mesobasal denticles. Labium with 8 cuspules; 0.75 long, 1.42 wide. Sternum 3.74 long, 3.62 wide. Each maxilla with 120–130 cuspules. Serrula indiscernible.

Palp and leg structures. Spines (all femora with medial row of 6–9 thickened bristles; palpal patella, tibia and cymbium, patellae I and II, tarsi I–IV and palpal tarsus aspinose). Palp: femur pd1, tibia p1, v0–1–1. Leg I: femur pd1; tibia v1–1; metatarsus p1, v0–1–1. Leg II: femur pd1–1; tibia p1, v0–1–1; metatarsus v0–1–1. Leg III: femur pd1, rd1; patella p1; tibia p1, r1–1–1, v2–2–2; metatarsus p1–1–1, r1–1, v2–2–3. Leg IV: femur r1(0); tibia r1–1–0, v2–2–1–2; metatarsus p1(0)–1–1, r0–1–1, v2–1–2–3. Metatarsal preening combs absent. Tarsi I–IV integral as in male, tarsus IV lacking pallid transverse suture as shown in Fig. 41. Scopula entire on palpal tarsus and metatarsi I–II; widely divided by setae on metatarsus III and distal 5/6 metatarsus IV; very narrowly divided on tarsi I–II (by one row of small setae); more widely divided on tarsus III, ever more widely divided on tarsus IV (approximately by two and four irregular rows of thick setae, respectively). Trichobothria: 2 rows of 6 in each row on tibiae, 10–15 on metatarsi, about 30



Figs 47–52. *Ischnocolus meron* sp.n., paratype females (47–50, 52) and holotype male (51): 47 — spermathecae, dorsal (inside) aspect, natural color; 48, 49 — same, shaded with Chlorasol Black; 50 — same, natural color with dark background; 51, 52 — spinnerets, ventral. Scale bars: 0.5 mm.

Figs 47–52. *Ischnocolus meron* sp.n., самки паратипы (47–50, 52) и самец голотип (51): 47 — сперматеки, вид сверху (с внутренней стороны), естественная окраска; 48, 49 — то же, оттенено с использованием хлоразола; 50 — то же, естественный цвет на темном фоне; 51, 52 — паутинные бородавки снизу. Масштаб 0,5 мм.

(+14–17 clavate) on tarsi, 14–15 (+18 clavate) on palpal tarsus. Palpal tarsal claw bare. Paired claws on tarsi I–IV narrow and lacking teeth.

Palp and leg measurements. Palp: 11.22 (3.87, 2.51, 2.17, –, 2.67). Leg I: 17.02 (5.44, 3.35, 3.13, 2.94, 2.16). Leg II: 14.38 (4.56, 2.57, 2.56, 2.66, 2.03). Leg III: 14.08 (4.27, 2.43, 2.35, 2.89, 2.14). Leg IV: 19.44 (5.86, 3.05, 3.75, 4.23, 2.55).

Copulatory organs. Paired spermathecal branches widely spaced, twisted, folded apically and directed outward from each other (as shown in Figs 47–50).

Spinnerets as in Fig. 52. PMS: length 0.72; diameter 0.40. PLS: maximal diameter 0.98; length of basal, medial and apical segments 1.51, 1.03, 1.32, respectively; total length 3.86; apical segment digitiform.

VARIATION: Carapace length in male paratype 7.33, in paratype females (n = 20) it varies from 7.42 to 8.86. Number of labial cuspules varies in all examined specimens from 1 to 17, the same for maxillary cuspules ranges from 85 to about 140. Unlike the holotype, the paratype male possesses a few spines on the palpal patella (p1) and tibia (p1, pv1–1) and more numerous prolateral spines on patella III (3 vs. 1). The variation in shape of the spermathecae (n = 4) is shown in Figs 45–48.

DISTRIBUTION: Israel (Upper Galilee).

ECOLOGY: Unlike the preceding species, *Ischnocolus meron* sp.n. is a mesophilic congener, which certainly prefers to inhabit mid-mountain slopes covered with a dense maquis and broad-leaved oak woodlands dominated with *Quercus calliprinos* Webb and *Q. ithaburensis* Decne. Spiders occur mainly at the edge of the forested areas, on the periphery of the low-grassland forest glades, and on the grassless scarps under the forest canopy where their burrows form small aggregations. See Figs 62–70.

Ischnocolus jickelii L. Koch, 1875 (?)

Ischnocolus jickelii L. Koch, 1875: 5, pl. VI, fig. 2 (♀); Guadanucci, Gallon, 2008: 42; Guadanucci, Wendt, 2014: 395, fig. 4B (♀); Zonstein, 2018: 110, figs 9–17 (♂); Montemor *et al*., 2020: 78, figs 1A–F, 2A–F, 5A–B, 6A–C, 9E–F, 10A–D (♂♀); Zamani *et al*., 2022: 379, figs 78–81.

MATERIAL EXAMINED: ISRAEL: 1♀ subad., *Central Negev*, Har Horesha, 30°31.2' N 34°34.9' E, 800–1000 m, 13.10.1992, Y. Lubin (HUJ).

DISTRIBUTION: The species was previously known from the countries of the African Horn, the Arab Peninsula and Iran [WSC, 2023].

ECOLOGY: In northern Oman and the UAE, *Ischnocolus jickelii* is known to occur in the retatively xeric habitats where the spiders can be found amongst low shrubs close to wadis, in the natural crevices and the self-digged retreats under large rocks [Montemor *et al*., 2020]. The presumed sole representative from Negev was collected with pitfall trap in the mountain stony desert biotope.

Discussion

The issues concerning the Israeli representatives of *Ischnocolus* come down mainly to the questions regarding the origin and identification of the material included into the type series of *I. ignoratus*. To a lesser extent, it may concern also the specimens belonging to two other considered species.

Guadanucci & Wendt [2014] described in detail a discovery of the previously forgotten specimens that became the types of *Ischnocolus ignoratus*. However, in this description, they honestly reproduced the museum collection data, obviously not suspecting that these can be misleading and not always corresponding to reality.

It should be noted that according to the practice prevailing in NMW in the second half of the 19th – the first half of the 20th centuries, the label data did not record the actual time of the specimen collecting, but only the date of its registration as the museum material.

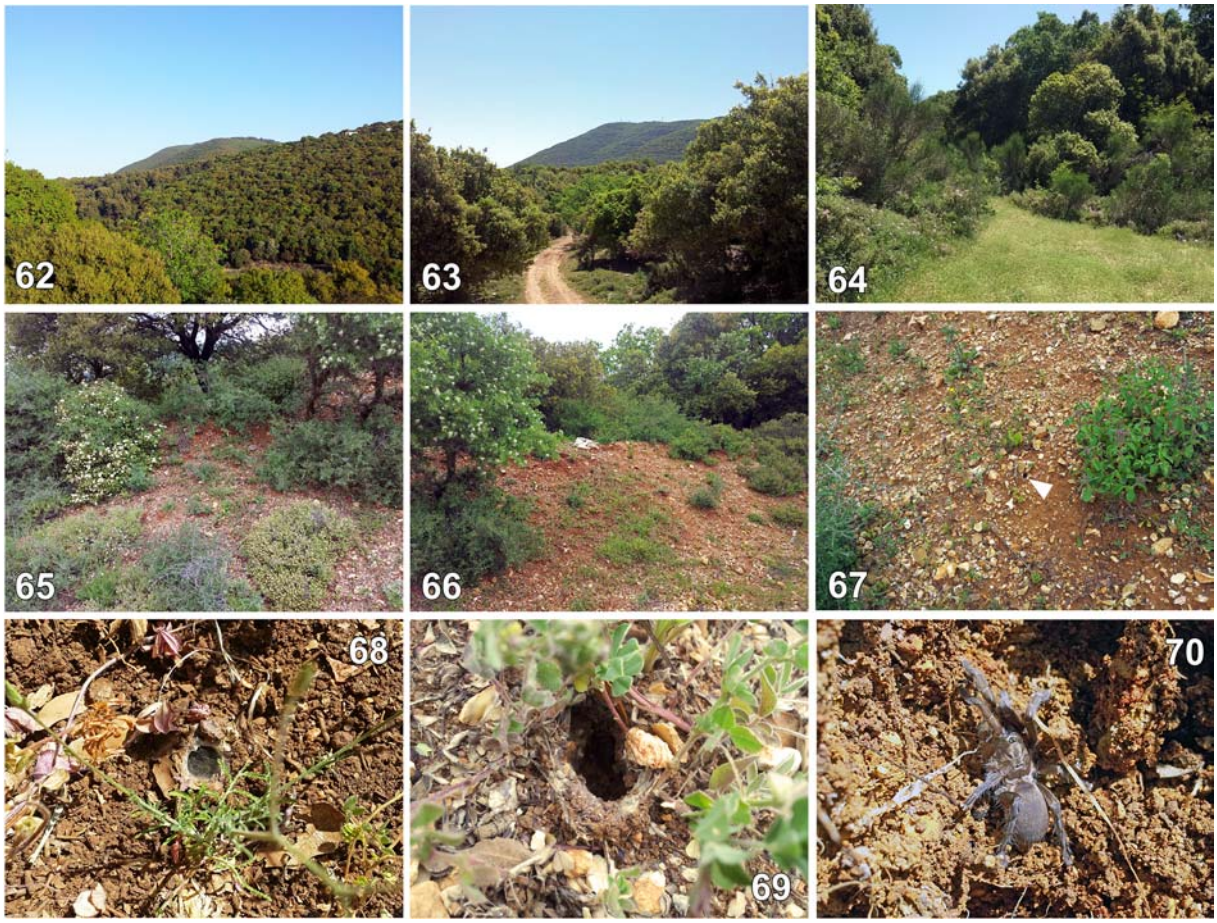
Figs 53–61. *Ischnocolus ignoratus* Guadanucci et Wendt 2014, spider habitats: 53–54 —Adullam Nature Park, eastern-Mediterranean maquis near Horbat Midras Ruins; 55 — same, surroundings of the Beit Jimal Monastery; 56 — dense maquis in the southern part of Carmel Ridge, image courtesy of G. Pisanty (SMNH); 57 —surroundings of Bat Shelomo, Carmel Ridge; 58, 59 — Ben Shemen Forest Park, general view and ground vegetation in a close up view, images courtesy of E. Margulis and A.L.L. Friedman (SMNH), respectively; 60, 61 — vicinity of Horbat Midras Ruins, individual burrow entrances.

Figs 53–61. *Ischnocolus ignoratus* Guadanucci et Wendt 2014, местообитания пауков: 53–54 — природный парк Адуллам, восточно-средиземноморский маквис вблизи руин Хорбат Мидрас; 55 — то же, окр. монастыря Бейт Джимал; 56 — густой маквис в южной части хр. Кармель, снимок G. Pisanty (SMNH); 57 —окрестности Бат Шломо на хр. Кармель; 58, 59 — природный парк Бен Шемен, общий вид леса и растительность под пологом вблизи, снимки соответственно E. Margulis и A.L.L. Friedman (SMNH); 60, 61 — окр. руин Хорбат Мидрас, входные отверстия нор пауков.

The first time I faced this was when I tried to find the collection date and the name of the collector, as well as to clarify the localization of the specimens from NMW, belonging to *Brachythele chinensis* Kulczyński, 1901 sensu Kritscher [1957]. Formally, according to the labels and the registration museum documents, this record has been attributed to E. Reimoser who simply first registered the specimens in the NMW spider collection (15.10.1938) and did not collect these spiders. Kritscher [1957] correctly noted that the date and the name of the collector remain unknown. A lot of time and many efforts have passed until finding these spiders were actually collected by M. Kreyenberg in 1905 [Zonstein, in prep.].

The question is then: how and when the considered types of *I. ignoratus* were actually obtained. To get an answer on this question, we have to pay attention to some details of the biography and life activity of the collectors.

Baron Rudolf von Gödl (1814–1883; full name — Rudolf Oskar Freiherr von Gödel-Lannoy) started his official carrier as Austro-Hungarian Consul-General in Syria and Palestine in 1850–1855, with a residence in Beirut [Hamernik, 2006; Hollier *et al*., 2017]. Since October of 1855, he continued his diplomatic carrier in Turkey proper and Egypt. Fortunately, he was also a very gifted person, a nature lover (with main interests in zoology, archeology, geography and meteorology) and a practicing collector. The insect and spider specimens collected by him are deposited in the Naturhistorishes Museum in Vienna, the Oberosterreichische Landesmuseum Linz, Austria, and the Hungarian Natural History Museum in Budapest, respectively. It should be thus concluded that the specimen designated later



Figs 62–70. *Ischnocolus meron* sp.n., spider habitats on the forested northwestern slopes of Mt. Meron: 62, 63 — general view, with the summit of Mt. Meron (1208 m) on the background; 64 — one of the preffered local habitats, a transite zone between open grasslands and woodlands, image courtesy of A.L.L. Friedman (SMNH); 65, 66 — some types of grassless scarps under the forest canopy; 67 — one of those scarps in close up view, the detected spider burrow (close to the image center) is indicated with a white arrowhead; 68, 69 — individual burrow entrances; 70 — a live female digged from its burrow out.

Figs 62–70. *Ischnocolus meron* sp.n., местообитания пауков на лесистых северозападных склонах г. Мерон: 62, 63 — общий вид с вершиной г. Мерон (1208 м) на заднем плане; 64 — один из предпочитаемых биотопов, переходная зона между травянистой и древесной растительностью, автор снимка A.L.L. Friedman (SMNH); 65, 66 — некоторые типы оголенных откосов под пологом леса; 67 — один из таких откосов крупным планом, показанная близко к центру снимка нора паука отмечена белой стрелкой; 68, 69 — входные отверстия нор пауков; 70 — выкопанная из норы самка.

the holotype of *Ischnocolus ignoratus* could not be collected prior to 1850 nor after 1855. The date 1896 corresponds only to its first record in NMW materials.

According to Kasparek [2018] who listed and commented the distribution records of *Trachusa verhoeffi* (Mauromastakis, 1955) (Hymenoptera, Apoidea) which extend from south Turkey to Jerusalem, but with a complete gap in the modern Syria, "Gödl gave only 'Syria' as the location for this and for other collected insect material, without further specifications. It cannot be ruled out that the specimen was collected in the area which is nowadays in Turkey or Lebanon" [Op. cit., p. 135].

Zonstein & Marusik [2013] noted that in the second half of the 19th century the territory then named Palestine was considered a "part of Ottoman Syria and territories now belonging to Lebanon were then also considered as part of Palestine. Several species listed in Platnick's [2012] catalogue as occurring in Israel and Syria were actually described and known only from Israel" [Op. cit., p. 9].

Hence, concerning the holotype of *Ischnocolus ignoratus*, at least the name of the collector can be considered undoubtedly known and the date of sampling can be calculated approximately, as shown above. In this case, only the detailed sampling locality cannot be clarified. As for the paratypes, the situation is exactly the opposite. There is no doubt about their locality (Jerusalem), but there is a gap regarding the sampling date and the collector. Anyway, Reitter who has been noted as the collector of these paratypes in 1882, had actually no direct relation to their finding and sampling.

Edmund Reitter (1845–1920), the famous Austro-Hungarian entomologist branded from his long-time

activity and numerous publications on the Coleoptera, was also known as a private collection holder and one of the founders of the commercial entomology, i.e. he had a possibility to sell and purchase the materials obtained by both him and other collectors. All these and most part of the below-listed data related to Reitter are taken from his detail biography by Heikentinger [1920]. In 1879, Reitter moved to Vienna where he opened an insects and entomological books store. Two years later, he removed his shop to the neighboring Mödling and stayed there until his retourning to Moravia (a historical region of the modern Czech Republic) in 1891.

According to Hetschko [1915], in 1882–1884 Reitter published three studies, one shortly after other, based chiefly on the materials from Ottoman Syria (see [Reitter, 1882, 1884a, b]). Neither before nor after did he pay so close and special attention to this region. It could thus be concluded that this attention was prompted by his acquisition of a fairly substantial amount of material from the Middle East. For this assumed reason, in 1882 he truly had possibility to donate (or to sell) the spider specimens to the Naturhistorishes Museum.

It is known, however, that Reitter has never undertaken any long distance trips. His personal field collecting trips provided in 1870–1896 were limited only to the territory of Austro-Hungarian Empire and the adjacent area: Austrian Alps including Tirol, Slovak Tatra Mts, Hungary and western Carpathian Mts, Slovenia, Croatia, Dalmatia, Montenegro, Corfu and Zante Islands, and southern mainland Italy. It is also known that he has never visited the Middle East. Although regarding this region, Reitter was sometimes mentioned as a sampler, e.g. by Fürsch *et al*. [1967], but this is misleading, because his own descriptions of regional species were entirely based on the materials obtained by other collectors.

Reitter did not always indicate their names. Nevertheless, among the persons having collected insects in Ottoman Syria he noted Bruck [Reitter, 1875], Appl and Lange [Reitter, 1882 and 1884a, respectively]. Bruck collected in vicinity of Jerusalem, but before 1875. Appl collected closer to 1882 (in 1878, according to [Pilleri, 1954]), but mostly around Beirut. Therefore, the Lange's collecting activity seems to merit a greater attention.

The insect material from Haifa acquired by Reitter in the beginning of 1880s was then labeled and listed as "Haifa, in Syrien, von Lange entdeckt" [Reitter, 1884a] or "Syrien: Haifa" [Qubaiová *et al*., 2015]. Completely uncertain, however, which namely person Reitter has meant, introducing the name of collector. Lange is a widespread German last name, and Reitter could equally mean one of two different persons bearing the same surname.

First, the collected material might in principle have relation to Friedrich Lange (1840–1923), a head of the Temple community in Haifa. Lange was appointed to Haifa in 1874, where he became a community leader and headed a primary school. Having settled in Haifa, Friedrich Lange lived there until the end of his life in a city quarter called the German Colony (that still exists now). He also was known as a historian and the author of a comprehensive survey describing the origin and development of the Temple society from 1845 to 1884 [Goldman, 2003]. On the contrary, very little is known regarding his interest to natural history and to his field collecting activity that was nevertheless noted by Böttger [1880]: "Dank gebührt aber auch Herrn Fr. Lange in Haifa, dessen unermüdliche Thätigkeit im Sammeln ich nicht genug lobend hervorheben kann… (Thanks also go to Mr. Fr. Lange in Haifa, whose tireless work in collecting I cannot praise enough…)" [Op. cit., S. 132]. There is no evidence, however, of direct correspondence to Reitter or even if he knew Reitter at all.

On the other hand, Reitter could mean Carl Friedrich Lange (1844–1913; sometimes spelled as Karl Friedrich Lange), a merchant and insect collector in Annaberg (now Annaberg-Buchholz), Germany. Already interested in science at a young age, he mainly collected beetles, bugs, cicadas, flies and hymenopterans [Arnold, 1978; Oehlke, Horstmann, 1987]. Later, he became known as a collections supplier for some German museums, as well as for several private collection holders (see Arnold [1978]; Ebert *et al*. [1986]; Krell [1995]; Dietrich [2013]). Johnson [2017] mentioned Carl Friedrich Lange as one of Reitter's provisioners. Judging by label data, some insect specimens from Jerusalem were also collected by Lange [Lackner, 2014]. Therefore, it would not be surprising if the considered spider specimens were sampled by this particular collector. In this case, not only the noted location, but also the implied years of collecting coincide with the NMW collection records.

However, C.F. Lange himself is known as a collections reseller [Johnson, 2017]. Krell [1995] noted a number of specimens as collected by C.F. Lange concurrently (all dated by May of 1897) from several countries of Central, Eastern and South Europe, and on the side from "Syria", that looks evidently unfeasible. In the above case, as probably in many others, C.F. Lange simply accumulated the material he acquired before it appeared under his collectorship in different museum collections. Hence, even if Reitter has actually obtained these specimens from C.F. Lange, this does not mean that the latter undoubtedly was the original collector. Conversely, Reitter may well have acquired this material from an unnamed little-known collector.

Soon after the revision by Guadanucci and Wendt [2014] was published, the differences between representatives of *Ischnocolus* from the vicinity of Jerusalem (i.e., *I. ignoratus*) and from the Upper Galilee were considered sufficient to identify these latter as belonging to an undescribed species (see Table 1). Its description was, however, postponed until adult males could be found. Unexpectedly and contrary to *I. ignoratus*, these males were sampled during the hot and dry summer period (see the above-listed collection data

Table 1. Diagnostic characters of *Ischnocolus* spp. occurring within the Middle East (according to Montemor *et al*. [2020, figs 1–5, 9], and including the data first presented herein).
Таблица 1. Дианостические признаки видов *Ischnocolus*, встречающихся на Ближнем Востоке (по Montemor *et al*. [2020, figs 1–5, 9] и оригинальным данным).

Character/Species	*I. meron* sp.n.	*I. ignoratus*	*I. jickelii*	*I. vanandelae*
Dorsal abdominal pattern in adults	contrast dark chevrons	contrast dark chevrons	diffuse darker chevrons – faded	darker chevrons undeveloped
Clypeus	wide	normal	normal	normal
Sternum	wide	normal	normal	normal
Leg tarsus IV	integral	cracked, with pallid transverse suture(s)	cracked, with pallid transverse suture(s)	cracked, with pallid transverse suture(s)
Male tibia I	short and swollen	long cylindrical	long cylindrical	long cylindrical
Male metatarsus I	relatively short	normal	normal	normal to long
Male palpal tibia	fairly swollen	subcylindrical	subcylindrical	subcylindrical
Retrolateral setae on male palpal tibia	uniform, equally small and thin, and evenly dense	heterogeneous, larger, thicker and denser distally	heterogeneous, larger, thicker and denser distally	(no data)
Cymbium	moderately long	long	long	long
Retrolateral cymbial lobe	about 1.3 times as long as prolateral lobe	about 1.5 times as long as prolateral lobe	about 1.5 times as long as prolateral lobe	(no data)
Embolus	broadly tapering	narrowly tapering	narrowly tapering	narrowly tapering
Subapical flexure of embolus	well-developed	well-developed	weakly developed	weakly developed
Slothead tip of embolus	well-developed	well-developed	weakly developed	well-developed
Spermathecae	widely spaced, twisted and folded	widely spaced, twisted and folded	broadly sack-shaped	broadly sack-shaped
Spermathecal branches directed	outwards from each other	toward each other	certainly outwards from each other	fairly outwards from each other
Distribution	Israel	Syria (?), Israel	Ethiopia, Eritrea, Djibouti, Somalia, Yemen, Saudi Arabia, Oman, United Arab Emirates, Iran [WSC, 2023], Israel (?)	Oman, Iran (WSC, 2023)
Preferred biotopes	mesophilic	sub-humid	xeric – sub-humid	xeric – sub-humid
Adult males	Jun., Jul.	May, Nov.	Feb., Apr., Jun. Aug., Sep., Oct.	Jun., Sep., Oct.

of both species; also see Table 1). The discovery of a new congener in northern Israel, halfway between Jerusalem and the nearest part of the nowadays Syria, makes an initially questionable information about the occurrence of *I. ignoratus* in Syria (understood in the current narrow sense) even less reliable.

Regarding the third regional *Ischnocolus* species found near the Egypt-Israeli border, the logical sequence looks as follows. The Negev Desert adjoins the northwestern edge of the Arabian Peninsula. Since the desert biotopes of the entire region are rather monotonous, the occurrence of an isolated and formerly undescribed *Ischnocolus* sp. seems unlikely. Among the congeners, *I. jickelii* looks as the most likely contender since it is: (a) the geographically closest described species recorded also in several localities within the Arab Peninsula, and (b) certainly known to inhabit desertous biotopes. Nonetheless, this assignment should be considered provisional until the conspecific adults from Negev are found.

Acknowledgements. I thank Christoph Hörweg (NMW), Rudi Jocqué and Arnaud Henrard (RMCA), Yael Lubin (the Jacob Blaustein Institutes for Desert Research at BGU, Sede Boqer, Israel), Efrat Gavish-Regev and Ariel Chipman (HUJ), Alireza Zamani (ZMUT), and Vladimir Ovcharenko (the excurator of ZISP spider collection), for the possibility to examine the corresponding types and the comparative material. Thanks go to Daniela Sherwood (The Natural History Museum, London, UK) and an anonymous reviewer for their comments and recommendations, which helped to improve the submitted version of the manuscript and to Ariel-Leib-Leonid Friedman, Elisabeth Morgulis and Gidi Pisanti (SMNH) for providing me with some photos of the landscapes.

The study was enabled through the financial help generously provided by the Ministry of Absorption, Israel.

References

Arnold K. 1978. Fragliche Arten der Heteropteren-Fauna von Sachsen aus der coll. v. C. Lange aus dem Erzgebirgsmuseum Annaberg (Revision coll. Lange, I.) (Hemiptera, Heteroptera). 1. Beiträg zur Heteropteren-Fauna Sachsens // Entomologische Nachrichten. Bd.22. S.49–54.

Ausserer A. 1871. Beiträge zur Kenntniss der Arachniden-Familie der Territelariae Thorell (Mygalidae Autor.) // Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien. Bd.21. S.117–224.

Ausserer A. 1875. Zweiter Beitrag zur Kenntniss der Arachniden-Familie der Territelariae Thorell (Mygalidae Autor.) // Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien. Bd.25. S.125–206.

Böttger O. 1880. Die Reptilien und Amphibien von Syrien, Palaestina und Cypern // Bericht über die Senckenbergische naturforschende Gesellschaft. S.132–272.

Dietrich W. 2013. Nachweise von Arten der Scarabaeoidea (Coleoptera) im Erzgebirge und angrenzenden Regionen // Veröffentlichungen Museum für Naturkunde Chemnitz. Bdl.36. S.55–68.

Ebert W., Rohlfien K., Petersen G., Friese G. 1986. Einhundert Jahre Deutsches Entomologisches Institut // Beiträge zur Entomologie. Bd.36. H.1. S.5–52.

Fürsch H., Kreissl E., Capra F. 1967. Revision einiger europäischer *Scymnus* (s.str.)-Arten (Col., Coccinellidae) // Mitteilungen der Abteilung für Zoologie und Botanik am Landesmuseum Joanneum Graz. Bd.28. S.1–53.

Goldman D. 2003. The architecture of the Templers in their colonies in Eretz-Israel, 1868–1948, and their settlements in the United States, 1860–1925. PhD Thesis. The Graduate College. School of the Interdisciplinary Arts and Sciences. Cincinnati, Ohio. 562 pp.

Guadanucci J.P.L., Gallon R.C. 2008. A revision of the spider genera *Chaetopelma* Ausserer 1871 and *Nesiergus* Simon 1903 (Araneae, Theraphosidae, Ischnocolinae) // Zootaxa. Vol.1753. P.34–48.

Guadanucci J.P.L., Wendt I. 2014. Revision of the spider genus *Ischnocolus* Ausserer, 1871 (Mygalomorphae: Theraphosidae: Ischnocolinae) // Journal of Natural History. Vol.48. No.7/8. P.387–402.

Hamernik G. 2006. Rudolf von Gödel-Lannoy: Auf den Spuren eines vergessenen Sammlers // Holaubek J., Navrátilová H., Oerter W.B. (eds.). Egypt and Austria: II. Proceedings of the Prague Symposium October 5th to 7th, 2005. Czech Institute of Egyptology, Praha. P.55–64.

Heikertinger F. 1920. Edmund Reitter. Ein Nachruf // Wiener Entomologische Zeitung. Bd.38. S.1–16.

Hetschko A. 1915. Verzeichnis der Schriften von Edmund Reitter // Wiener Entomologische Zeitung. Bd.34. S.221–270.

Hollier J., Schiller E., Akkari N. 2017. An annotated list of the Diplopoda described by Aloïs Humbert alone and with Henri de Saussure, and the Diplopoda from Saussure's Mexico expedition // Revue suisse de Zoologie. Tl.124. Fasc.2. P.203–224.

Johnson P.J. 2017. A new species of *Dodecacius* Schwarz (Coleoptera: Elateridae) from Madre de Dios, Peru // Revista peruana de biología. Vol.24. No.3. P.243–248. http://dx.doi.org/10.15381/rpb.v24i3.13903

Kasparek M. 2018. Taxonomic revision proves *Trachusa pubescens* (Morawitz, 1872) sensu lato to be a complex of allopatric and sympatric species in South-Eastern Europe and Western Asia (Hymenoptera, Apoidea, Anthidiini) // ZooKeys. Vol.764. P.111–144.

Koch L. 1875. Aegyptische und abyssinische Arachniden gesammelt von Herrn C. Jickeli. Nürnberg: Verl. Bauer & Raspe. 96 S.

Korba J., Opatova V., Calatayud-Mascarell A., Enguídanos A., Bellvert A., Adrián S., Sánchez-Vialas A., Arnedo M.A. 2022. Systematics and phylogeography of western Mediterranean tarantulas (Araneae: Theraphosidae) // Zoological Journal of the Linnean Society. Vol.196. No.2. P.845–884.

Krell F.-T. 1995. Die Lamellicornia (Coleoptera) der Käfersammlung Dr. Theodor Hüeber in den Naturkundlichen Sammlungen der Stadt Ulm, Bundesrepublik Deutschland // Mitteilungen des Vereins für Naturwissenschaft und Mathematik Ulm/Donau. Bd.36/37. S.49–87.

Kritscher E. 1957. Bisher unbekannt gebliebene Araneen-Männchen und -Weibchen des Wiener Naturhistorischen Museums (1. Teil) // Annalen des Naturhistorischen Museums in Wien. Bd.61. S.254–272.

Lackner T. 2014. Revision of the genus *Hemisaprinus* Kryzhanovskij, 1976 (Coleoptera, Histeridae, Saprininae) // ZooKeys. Vol.429. P.101–130.

Montemor V.M., West R.C., Zamani A., Moradmand M., Wirth V. von, Wendt I., Huber S., Guadanucci J.P.L. 2020. Taxonomy of the genus *Ischnocolus* in the Middle East, with description of a new species from Oman and Iran (Araneae: Theraphosidae) // Zoology in the Middle East. Vol.66. No.1. P.76–90.

Oehlke J., Horstmann K. 1987. Die Hymenopterensammlung C.F. Lange /Annaberg und Revision seiner Ichneumoniden-Typen // Beiträge zur Entomologie. Bd.37. S.147–157.

Pilleri G. 1954. Studien über die Gattung *Anisoplia* Serv. (Scarabaeidae, Rutelini). Eine neue Rasse aus Thessalien und Beiträge zur geographischen Verbreitung einiger bekannter *Anisoplia*-Acten // Eos. Vol.80. S.47–57.

Platnick N.I. 2012. The world spider catalog. Version 13.0. Natural History Museum, Bern. https://wsc.nmbe.ch/resources/archive/catalog_13.0/ (accessed 25.09.2022).

Qubaiová J., Růžička J., Šípková H. 2015. Taxonomic revision of genus *Ablattaria* Reitter (Coleoptera, Silphidae) using geometric morphometrics // ZooKeys. Vol.477. P.79–142.

Reitter E. 1875. Revision der europäischen Cryptophagiden // Deutsche Entomologische Zeitschrift. Bd19. H.3. S.1–88.

Reitter E. 1882. Zur Pselaphiden- und Scydmaeniden-Fauna Syriens // Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien. Bd.31. S.331–336.

Reitter E. 1884a. Neue Coleopteren aus Syrien und Marocco // Deitsche Entomologische Zeitschrift. Bd.28. H.2. S.251–254.

Reitter E. 1884b. Über die syrischen Arten der Gattung *Anemia* Lap. // Deutsche Entomologische Zeitschrift. Bd.28. S.259–260.

Simon E. 1873. Aranéides nouveaux ou peu connus du midi de l'Europe (2e mémoire) // Mémoires de la Société Royale des Sciences de Liège. Ser.2. Vol.5. P.187–351 [1–174, in the available separate reprint cited here].

Simon E. 1892. Histoire naturelle des araignées. Vol.1. Pt.1. Paris: Roret. P.1–256.

Simon E. 1903. Histoire naturelle des araignées. Vol.2. Pt.4. Paris: Roret. P.669–1080.

Smith A.M. 1990. Baboon spiders: Tarantulas of Africa and the Middle East. London: Fitzgerald Publishing. 142 p.

WSC [World Spider Catalog]. 2023. World Spider Catalog. Version 24. Natural History Museum, Bern. http://wsc.nmbe.ch (accessed 25.02.2023).

Zamani A., Nadolny A.A., Esyunin S.L., Marusik Yu.M. 2022. New data on the spider fauna of Iran. Part IX // Arachnology (special issue). Vol.18. P.358–384.

Zonstein S. 2018. Complementary data on the genus *Ischnocolus* (Araneae: Theraphosidae) // Israel Journal of Entomology. Vol.48. No.1. P.105–118.

Zonstein S., Marusik Yu.M. 2013. Checklist of the spiders (Araneae) of Israel // Zootaxa. Vol.3671. No.1. P.1–127.

Responsible editor K.G. Mikhailov