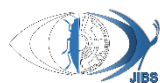


Original Article 

New data on spiders (Arachnida: Araneae) from Armenia, including a unique case of palpal teratology

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ABSTRACT. New taxonomic and faunistic data on spiders (Araneae) of Armenia and the Caucasus are presented. One new species, *Titanoeca urartica* **sp. nov.** (♂; Titanoecidae), and the previously unknown female of *Diplocephalus emiliae* (Lecigne, 2023) (Theridiidae) are described, and 21 genera (Araneidae: *Leviellus* Dahl, 1901; *Siwa* Grasshoff, 1970; Gnaphosidae: *Phaeocedus* Simon, 1893; *Sosticus* Chamberlin, 1922; Linyphiidae: *Asthenargus* Simon & Fage, 1922; *Dismodicus* Simon, 1884; *Gonatium* Menge, 1868; *Pocadicnemis* Simon, 1884; *Sauron* Eskov, 1995; *Savignia* Blackwall, 1833; *Stemonyphantes* Menge, 1866; *Trichoncus* Simon, 1884; Lycosidae: *Evipa* Simon, 1882; *Piratula* Roewer, 1960; Salticidae: *Leptorchestes* Thorell, 1870; *Sibianor* Logunov, 2001; Tetragnathidae: *Pachygnatha* Sundevall, 1823; Theridiidae: *Crustulina* Menge, 1868; *Diplocephalus* Archer, 1941; *Lasaeola* Simon, 1881; Titanoecidae: *Titanoeca* Thorell, 1870) and 39 species are recorded from Armenia for the first time. Six species (*D. emiliae*; *D. schwendingeri* (Zamani & Marusik, 2021); *Evarcha insularis* (Metzner, 1999) [Salticidae]; *Evipa luteipalpis* Roewer, 1955; *Spermophora senoculoides* Senglet, 2008 [Pholcidae]; and *Steatoda trianguloides* Levy, 1991 [Theridiidae]) are recorded from the Caucasus for the first time, with *S. senoculoides* also newly recorded from Azerbaijan. Additionally, a unique case of male palpal teratology is reported and illustrated in an unidentified species of *Pardosa* C.L. Koch, 1847 (Lycosidae). Considering the results of the present study, the spider fauna of Armenia now comprises 366 species in 189 genera and 38 families.

KEYWORDS: Azerbaijan, Caucasus, faunistics, new record, new species, Transcaucasia**Citation:** Zamani, A., Kosyan, A. & Marusik, Y.M. (2026) New data on spiders (Arachnida: Araneae) from Armenia, including a unique case of palpal teratology. *Journal of Insect Biodiversity and Systematics*, 12 (04), 725–744.

INTRODUCTION

For a long time, the spider fauna of Armenia was among the least explored in the West Palaearctic. Recent faunistic and taxonomic studies have considerably improved our knowledge of this fauna (e.g., Zarikyan et al. 2022, 2023, 2026; Kosyan et al. 2023; Marusik 2023; Zamani et al. 2026a, 2026b), bringing the total to 326 species belonging to 168 genera and 38 families currently known from the country (Nentwig et al. 2026; Zamani et al. 2026a, 2026b). Nevertheless, the spider diversity of Armenia remains insufficiently documented, and continued collecting efforts regularly reveal species and genera previously unrecorded from the country, even when they are widespread across the Palaearctic and already well documented elsewhere in the Caucasus.

The present study reports 21 genera and 39 species recorded from Armenia for the first time, including six species newly recorded from the Caucasus. In addition, a new species, *Titanoeca urartica* **sp. nov.** (Titanoecidae), and the previously unknown female of *Diplocephalus emiliae* (Lecigne, 2023) (Theridiidae) are described, and a unique case of bilateral male palpal teratology is documented in an unidentified species of *Pardosa* C.L. Koch, 1847 (Lycosidae).

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MATERIALS AND METHODS

Photographs of specimens and their copulatory organs were taken using an Olympus Camedia E-520 camera attached to an Olympus SZX16 stereomicroscope and JEOL JSM-5200 and JEOL JSM-6490LV scanning electron microscopes at the Zoological Museum of the University of Turku. Digital images from different focal planes were stacked using Helicon Focus™ 8.1.1. Epigynes were macerated in a 10% aqueous KOH solution to remove soft tissues. Leg segments were measured on the dorsal side and are given as: total (femur, patella, tibia, metatarsus, tarsus). All measurements are in millimetres. Species distribution is presented according to the information available in several databases and catalogues, including WSC (2026).

Depositories. ZMMU—Zoological Museum of Moscow State University, Russia (K.G. Mikhailov); ZMUT—Zoological Museum of the University of Turku, Finland (V. Vahtera).

RESULTS

The material examined comprises 184 specimens, representing 41 species in 38 genera and 10 families.

Class Arachnida Lamarck, 1801

Order Araneae Clerck, 1757

Family Araneidae Clerck, 1757

Cyclosa sierrae Simon, 1870

Material. ARMENIA: *Kotayk Prov.*: 4♀ (ZMMU), env. of Geghadir, 40°09'N 44°38'E, 15.5.2021 (Y.M. Marusik); *Yerevan*: 2♂♂ (ZMMU), botanical garden, 40°12'43"N 44°33'21"E, 17.5.2021 (Y.M. Marusik).

Distribution. Mediterranean (Europe) to Iran, south to Israel.

Leviellus caspicus (Simon, 1889)

Material. ARMENIA: *Ararat Prov.*: 1♂1♀1juv. (ZMMU), Garni Gorge, Azat River, 40°06'32"N 44°43'57"E, 1240 m, 17.5.2021 (Y.M. Marusik); *Vayot Dzor Prov.*: 2♀ (ZMMU), Gnishik R. canyon, rd. to Noravank Monastery, 39°41'14"N 45°13'21"E, 1400 m, 10.5.2021 (Y.M. Marusik); *Yerevan*: 1♂ (ZMMU), suburb of Yerevan, Nubarashen, 40°05'32"N 44°32'13"E, 1100 m, 12.5.2021 (Y.M. Marusik).

Distribution. Georgia to Iran and Kyrgyzstan. A new genus record for Armenia.

Siwa atomaria (O. Pickard-Cambridge, 1876)

Material. ARMENIA: *Armavir Prov.*: 1sub♂ (ZMMU), 40°04'59"N 44°11'26"E, 13.5.2021 (Y.M. Marusik).

Distribution. Egypt to Azerbaijan. A new genus record for Armenia.

Family Gnaphosidae Banks, 1892

Anagraphis pallens Simon, 1893

Material. ARMENIA: *Vayot Dzor Prov.*: 1♂1♀ (ZMMU), Shatin, 39°50'49"N 45°19'19"E, 9.5.2021 (Y.M. Marusik); 1♀ (ZMMU), Gnishik R. canyon, rd. to Noravank Monastery, 39°41'14"N 45°13'21"E, 1400 m, 10.5.2021 (Y.M. Marusik).

Distribution. Greece and Libya to Uzbekistan, south to Iran.

Berlandina apscheronica Dunin, 1984

Fig. 1A–C

Berlandina apscheronicus Dunin, 1984:49, fig. 4 (♀).

Berlandina apscheronica: Ponomarev et al. 2011:128, fig. 3a–b (♂).

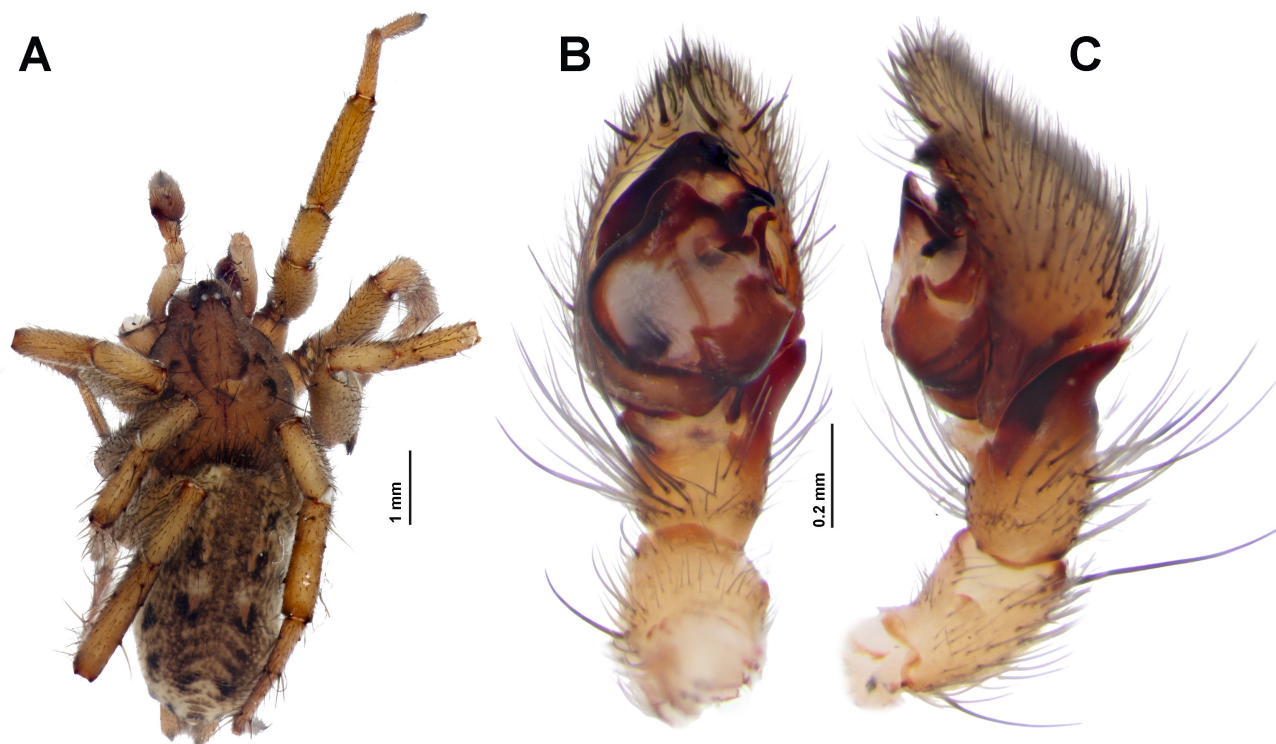


Figure 1. *Berlandina apscheronica*, male. **A.** Habitus, dorsal view; **B, C.** Palp, ventral and retrolateral views.

Material. ARMENIA: *Armavir Prov.*: 1♂ (ZMMU), 40°04'59"N 44°11'26"E, 13.5.2021 (Y.M. Marusik); 1♂ (ZMMU), *Jrarbi Vill.*, 40°04'46"N 44°14'27"E, saline ground, 13.5.2021 (Y.M. Marusik, V.Z. Ambardzumyan).

Distribution. Previously known from Azerbaijan, the North Caucasus, and a doubtful record from Kazakhstan.

Drassyllus jubatopalpis Levy, 1998

Material. ARMENIA: *Vayot Dzor Prov.*: 5♂♂ (ZMMU), *Shatin*, 39°50'49"N 45°19'19"E, 9.5.2021 (Y.M. Marusik).

Distribution. Greece to Israel and Azerbaijan.

Gnaphosa steppica Ovtsharenko, Platnick & Song, 1992

Material. ARMENIA: *Kotayk Prov.*: 1♂ (ZMMU), env. of Geghadir, 40°09'N 44°38'E, 15.5.2021 (Y.M. Marusik).

Distribution. Ukraine and Turkey to Iran and northeastern Kazakhstan.

Marinarozelotes jaxartensis (Kroneberg, 1875)

Material. ARMENIA: *Ararat Prov.*: 1♂ (ZMMU), *Garni Gorge*, *Azat River*, 40°06'32"N 44°43'57"E, 1240 m, 17.5.2021 (Y.M. Marusik).

Distribution. Eastern Mediterranean to western China; introduced to Hawaii, USA, Mexico, Ascension Is., Senegal, South Africa, India, China, and Japan.

Micaria pallipes (Lucas, 1846)

Material. ARMENIA: *Vayot Dzor Prov.*: 1♂ (ZMMU), *Gnishik R. canyon*, rd. to Noravank Monastery, 39°41'14"N 45°13'21"E, 1400 m, 10.5.2021 (Y.M. Marusik).

Distribution. Iberian Peninsula to Kyrgyzstan.

***Phaeocedus braccatus* (L. Koch, 1866)**

Material. ARMENIA: *Aragatsotn Prov.*: 1 sub♂ (ZMMU), foothills of Aragats Mt., 40°23'00"N 44°13'00"E, 2200 m, 16.5.2021 (Y.M. Marusik).

Distribution. Trans-Palaeartic. A new genus record for Armenia.

***Sosticus loricatus* (L. Koch, 1866)**

Material. ARMENIA: *Ararat Prov.*: 3♂♂ (ZMMU), Urtsadzor Vill., 39°55'26.0"N 44°48'53.0"E, 1040 m, 6.5.2021 (Y.M. Marusik).

Distribution. Circum-Holarctic. A new genus record for Armenia.

Family Linyphiidae Blackwall, 1859***Asthenargus caucasicus* Tanasevitch, 1987**

Fig. 2A–B

Asthenargus caucasicus Tanasevitch, 1987:338, figs 74–80 (♂♀).

Asthenargus caucasicus: Tanasevitch 1990:103, figs 21.26, 22.7, 24.32 (♂♀).

Material. ARMENIA: *Kotayk Prov.*: 1♀ (ZMMU), env. of Solak Vill., 40°28'24"N 44°42'56"E, 14.5.2021 (Y.M. Marusik); *Tavush Prov.*: 15♀♀ (ZMMU), env. of Dilijan, 40°41'04"N 44°52'07"E, 1800 m, 8.5.2021 (Y.M. Marusik).

Distribution. Caucasus. A new genus record for Armenia.

***Dismodicus bifrons* (Blackwall, 1841)**

Material. ARMENIA: *Gegharkunik Prov.*: 1♂3♀♀ (ZMMU), Sevan Lake, env. of Tsovagyugh, 40°37'12"N 44°57'55"E, 1920 m, 8.5.2021 (Y.M. Marusik, V.Z. Ambardzumyan); *Kotayk Prov.*: 1♀ (ZMMU), env. of Aghavnadzor, 40°33'56"N 44°40'43"E, 14.5.2021 (Y.M. Marusik).

Distribution. Trans-Palaeartic. A new genus record for Armenia.

***Gonatium rubens* (Blackwall, 1833)**

Material. ARMENIA: *Kotayk Prov.*: 1♀ (ZMMU), env. of Aghavnadzor, 40°33'56"N 44°40'43"E, 14.5.2021 (Y.M. Marusik).

Distribution. Trans-Palaeartic. A new genus record for Armenia.

***Microlinyphia pusilla* (Sundevall, 1830)**

Material. ARMENIA: *Ararat Prov.*: 2♀♀ (ZMMU), env. of Goravan Sands State Sanctuary, 39°53'51"N 44°43'35"E, 6.5.2021 (Y.M. Marusik).

Distribution. Circum-Holarctic; introduced to St. Helena.

***Neriere clathrata* (Sundevall, 1830)**

Material. ARMENIA: *Gegharkunik Prov.*: 2♂♂1♀ (ZMMU), Sevan Lake, env. of Tsovagyugh, 40°37'12"N 44°57'55"E, 1920 m, 8.5.2021 (Y.M. Marusik, V.Z. Ambardzumyan).

Distribution. Circum-Holarctic.

***Pocadicnemis juncea* Locket & Millidge, 1953**

Material. ARMENIA: *Kotayk Prov.*: 1♂1♀ (ZMMU), env. of Aghavnadzor, 40°33'56"N 44°40'43"E, 14.5.2021 (Y.M. Marusik).

Distribution. Ireland and Spain to the Caucasus. A new genus record for Armenia.

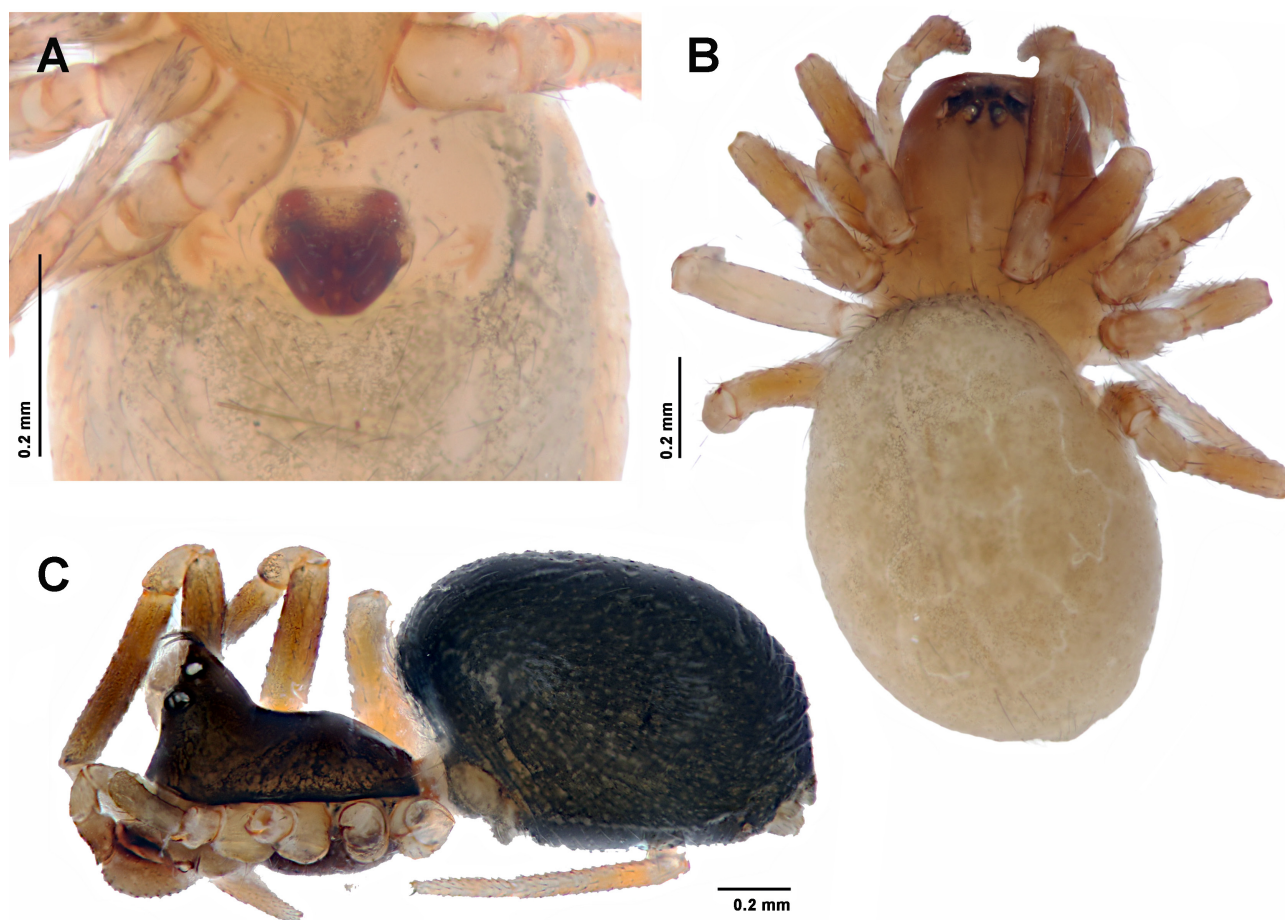


Figure 2. *Asthenargus caucasicus*, female (A, B), and *Sauron rayi*, male (C). A. Intact epigyne, ventral view; B, C. Habitus, dorsal and lateral views.

Sauron rayi (Simon, 1882)

Figs 2C, 3A–F

Metopobactrus rayi: Thaler 1993:644, figs 7–11 (♂♀).

For a list of 14 taxonomic entries, see WSC (2026).

Material. ARMENIA: *Kotayk Prov.*: 1♂ (ZMMU), 2♂♂ (ZMMU), env. of Aghveran, 40°29'54"N 44°35'24"E, 7–8.5.2021 (Y.M. Marusik); *Yerevan*: 1♂1♀ (ZMMU), botanical garden, 40°12'43"N 44°33'21"E, 17.5.2021 (Y.M. Marusik).

Distribution. France to the Caucasus. A new genus record for Armenia.

Savignia frontata Blackwall, 1833

Material. ARMENIA: *Kotayk Prov.*: 1♀ (ZMMU), env. of Aghavnadzor, 40°33'56"N 44°40'43"E, 14.5.2021 (Y.M. Marusik).

Distribution. Europe to Kazakhstan and Transbaikalia. A new genus record for Armenia.

Stemonyphantes lineatus (Linnaeus, 1758)

Material. ARMENIA: *Aragatsotn Prov.*: 1♂ (ZMMU), foothills of Aragats Mt., 40°23'00"N 44°13'00"E, 2200 m, 16.5.2021 (Y.M. Marusik); *Gegharkunik Prov.*: 1♀1juv. (ZMMU), Sevan Lake, env. of Tsovaghyugh, 40°37'12.0"N 44°57'55.0"E, 1920 m, 8.5.2021 (Y.M. Marusik, V.Z. Ambardzumyan); *Vayot Dzor Prov.*: 1♀ (ZMMU), env. Gnishik Vill., 39°40'18"N 45°17'40"E, 2030 m, 11.5.2021 (Y.M. Marusik).

Distribution. West Palaearctic. A new genus record for Armenia.

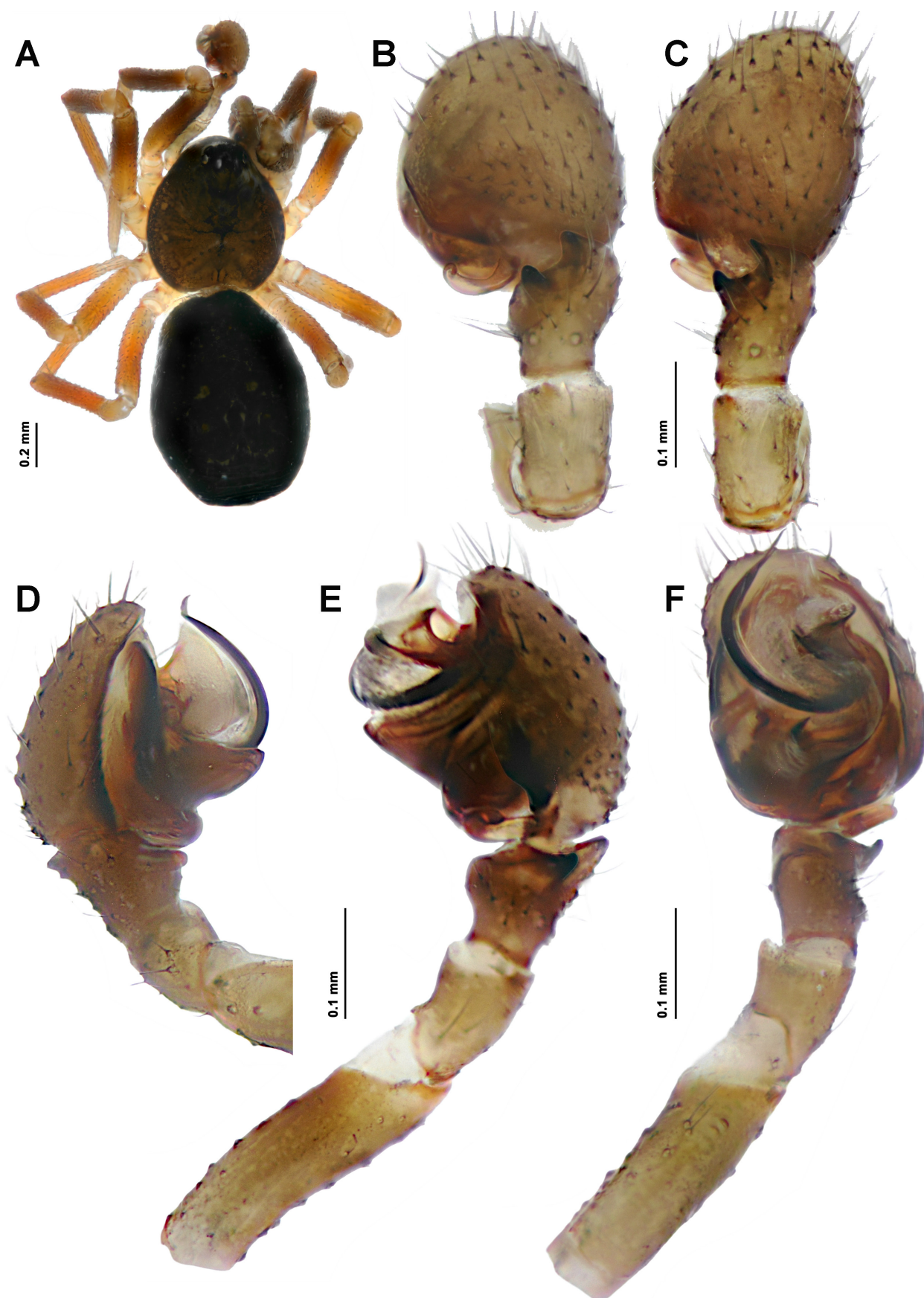


Figure 3. *Sauron rayi*, male. **A.** Habitus, dorsal view; **B, C.** Palp, dorsal view, slightly varying angles; **D–F.** Ditto, prolateral, retrolateral, and ventral views.

Trichoncus affinis Kulczyński, 1894

Material. ARMENIA: *Kotayk Prov.*: 1♂ (ZMMU), env. of Geghadir, 40°09'N 44°38'E, 15.5.2021 (Y.M. Marusik).

Distribution. Spain to the Urals. A new genus record for Armenia.

Family Lycosidae Sundevall, 1833

Evippa luteipalpis Roewer, 1955

Fig. 4A–D

Evippa luteipalpis Roewer, 1955:759, figs 5–7 (♂♀).

Evippa luteipalpis: Zamani et al. 2022:370, figs 56–59 (♂♀).

Material. ARMENIA: *Armavir Prov.*: 1♂2♀ (ZMMU), Jrarbi Vill., 40°04'46"N 44°14'27"E, saline ground, 13.5.2021 (Y.M. Marusik, V.Z. Ambardzumyan).

Comment. Slight variation in the shape of the epigynal septum was observed among the two female specimens examined and the paratype female (cf. Fig. 4C–D; Zamani et al. 2022:fig. 59).

Distribution. Previously known only from Iran. A new record for the Caucasus and a new genus record for Armenia.

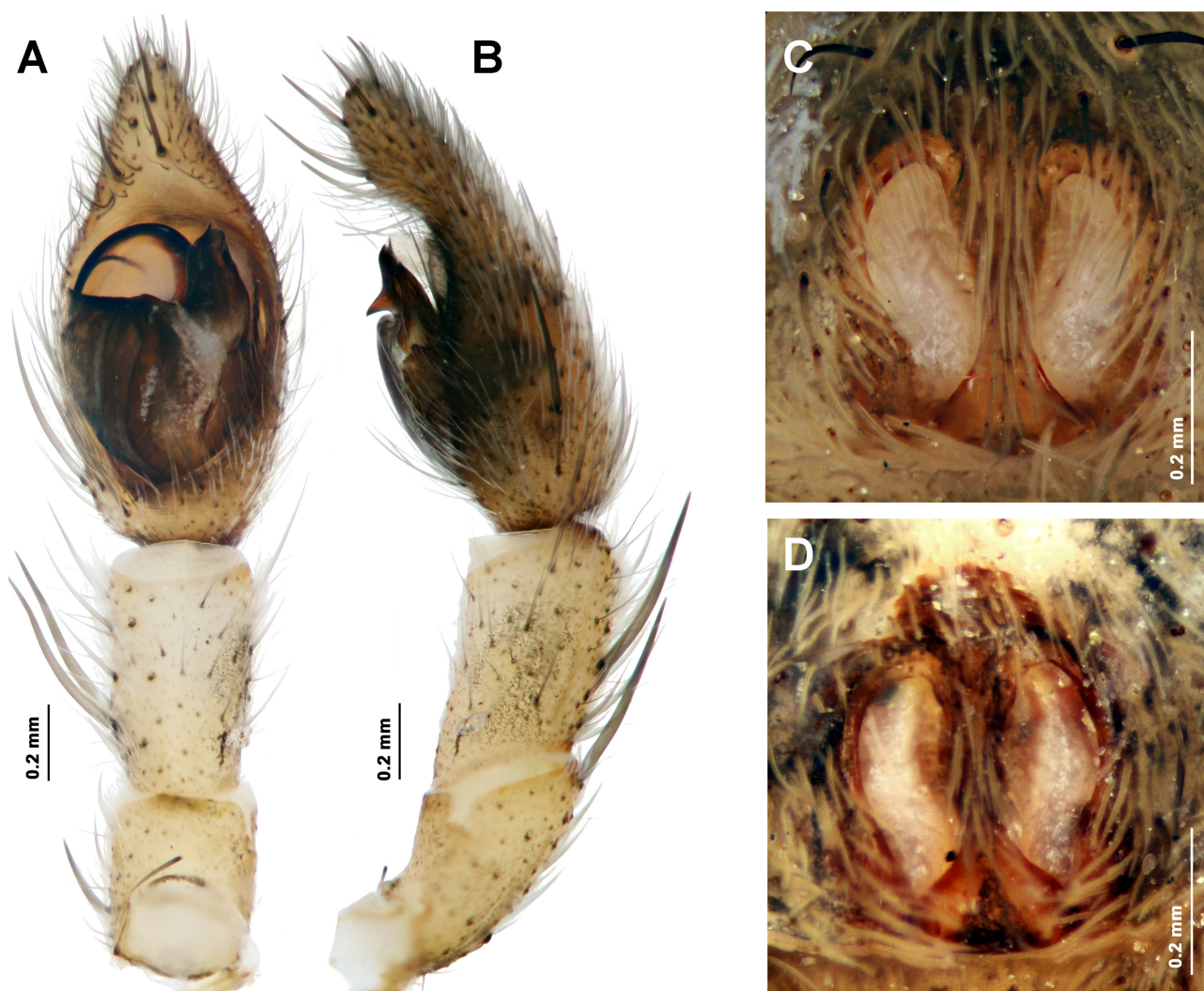


Figure 4. *Evippa luteipalpis*, male (A, B) and female (C, D). A, B. Palp, ventral and retrolateral views; C, D. Intact epigyne, ventral view.

Pardosa paludicola (Clerck, 1757)

Material. ARMENIA: Kotayk Prov.: 1♂2♀♀ (ZMMU), env. of Aghavnadzor, 40°33'56"N 44°40'43"E, 14.5.2021 (Y.M. Marusik).

Distribution. Trans-Palaeartic.

Pardosa sp.

Fig. 5A–B

Material. ARMENIA: Gegharkunik Prov.: 1♂ (ZMMU), Sevan Lake, env. of Tsovagyugh, 40°37'12"N 44°57'55"E, 1920 m, 8.5.2021 (Y.M. Marusik, V.Z. Ambardzumyan).

Comment. This specimen exhibits bilateral palpal teratology (see Discussion).

Piratula latitans (Blackwall, 1841)

Material. ARMENIA: Armavir Prov.: 1♂ (ZMMU), 40°04'59"N 44°11'26"E, 13.5.2021 (Y.M. Marusik).

Distribution. Europe to Iran and the Urals. A new genus record for Armenia.



Figure 5. *Pardosa* sp., teratologic male. **A.** Right palp, retrolateral view; **B.** Habitus, dorsal view.

Family Philodromidae Thorell, 1869***Rhysodromus xinjiangensis* (Tang & Song, 1987)****Fig. 6A–C**

Philodromus xinjiangensis: Szita & Logunov 2008:53, figs 36–38, 45–46, 77 (♂♀).

For a list of 12 taxonomic entries, see WSC (2026).

Material. ARMENIA: Armavir Prov.: 1♂ (ZMMU), Jrarbi Vill., 40°04'46"N 44°14'27"E, saline ground, 13.5.2021 (Y.M. Marusik).

Distribution. Caucasus to Xinjiang.

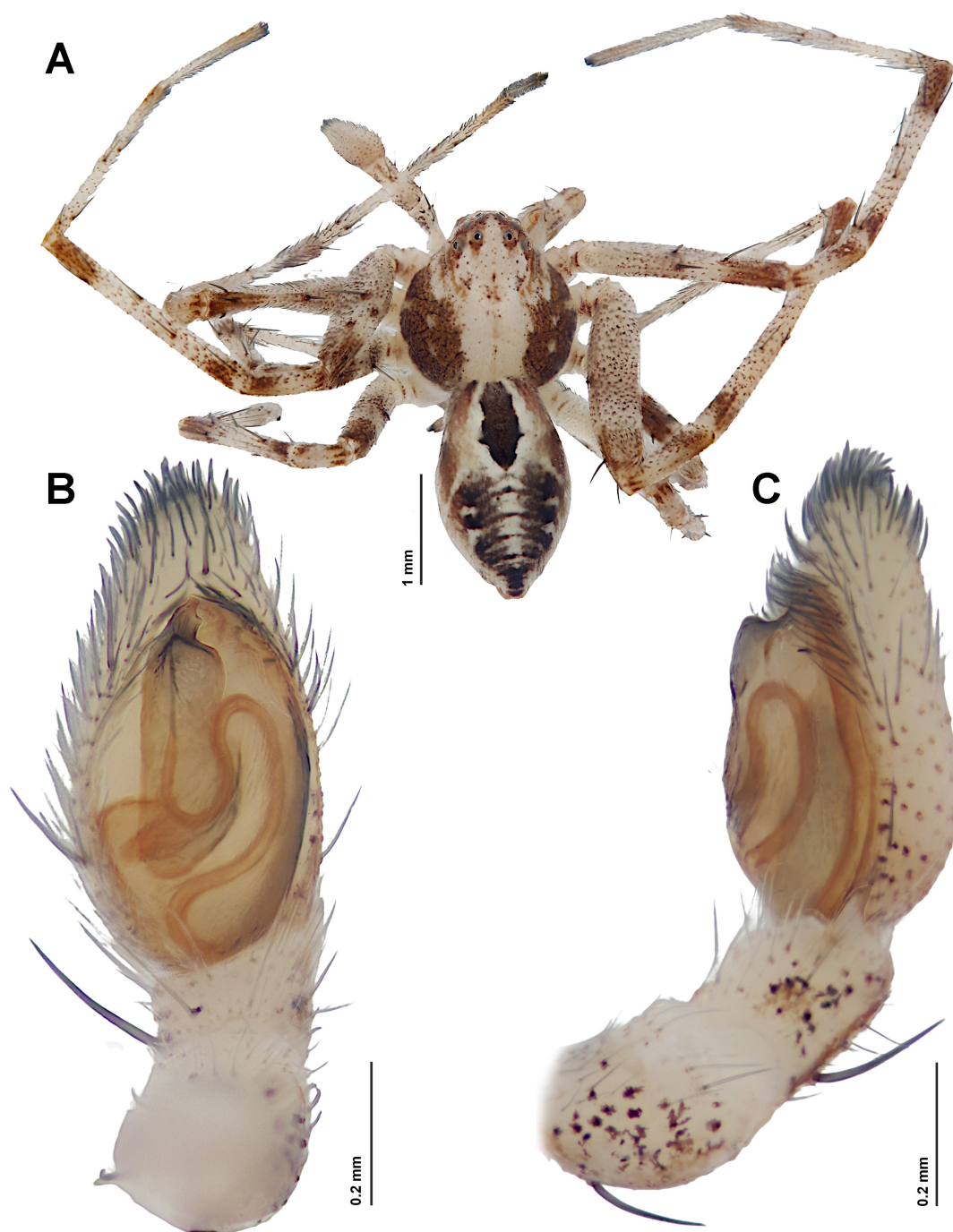


Figure 6. *Rhysodromus xinjiangensis*, male. **A.** Habitus, dorsal view; **B, C.** Palp, ventral and retrolateral views.

Family Pholcidae C.L. Koch, 1850

Spermophora senoculatoides Senglet, 2008

Figs 7A–H, 11A–D

Spermophora senoculatoides Senglet, 2008:370, figs 96–105 (♂♀).

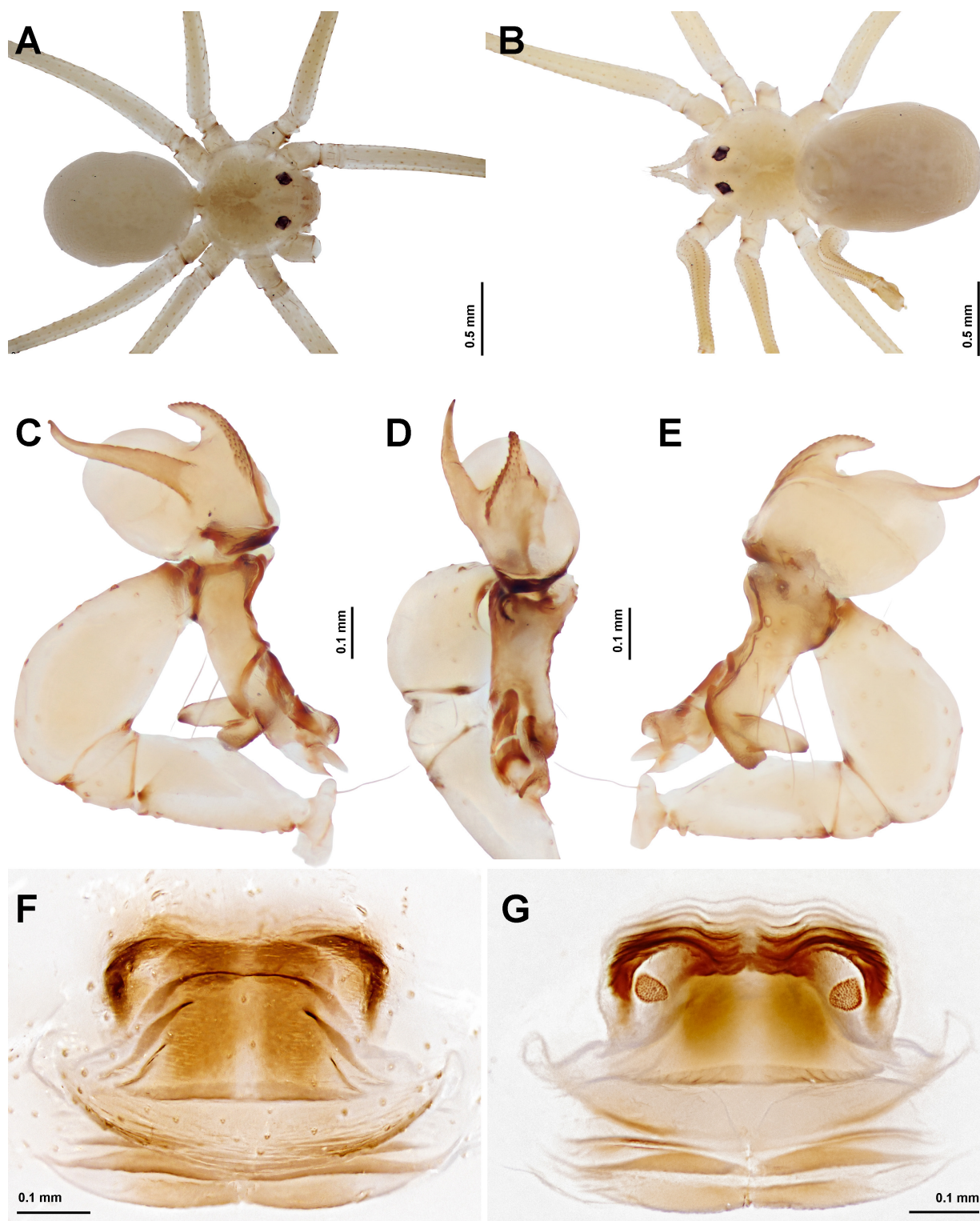


Figure 7. *Spermophora senoculatoides*, male (A, C–E) and female (B, F, G), from Azerbaijan. A, B. Habitus, dorsal view; C–E. Palp, prolateral, dorsal, and retrolateral views; F, G. Epigyne, ventral and dorsal views.

Material. ARMENIA: *Vayot Dzor Prov.*: 2♂♂2♀♀ (ZMMU), Gnishik R. canyon, rd. to Noravank Monastery, 39°41'14"N 45°13'21"E, 1400 m, 10.5.2021 (Y.M. Marusik); AZERBAIJAN: *Nakhchivan Autonomous Republic*: 1♂6♀♀ (ZMUT), ca 3 km east of Akhura Vill., 39°34'39"N 45°11'39"E, 1400 m, 2.6.2003 (Y.M. Marusik).

Distribution. Previously known only from two nearby localities in Kermanshah Province, western Iran (Senglet 2008). The previous Armenian record of *Spermophora* Hentz, 1841 was based on material identified only to genus level (Zarikian et al. 2022). A new record for the Caucasus.

Family Salticidae Blackwall, 1841

Attulus relictarius (Logunov, 1998)

Fig. 8A–C

Sitticus relictarius Logunov, 1998:78, figs 7–10 (♂♀).

For a list of four taxonomic entries, see WSC (2026).

Material. ARMENIA: *Kotayk Prov.*: 1♂ (ZMMU), env. of Solak Vill., 40°28'24"N 44°42'56"E, 14.5.2021 (Y.M. Marusik); 1♂ (ZMMU), env. of Aghveran, 40°29'54"N 44°35'24"E, 7–8.5.2021 (Y.M. Marusik).

Distribution. North Caucasus to northern Iran.

Evarcha insularis (Metzner, 1999)

Material. ARMENIA: *Vayot Dzor Prov.*: 1♂ (ZMMU), Gnishik R. canyon, rd. to Noravank Monastery, 39°41'14"N 45°13'21"E, 1400 m, 10.5.2021 (Y.M. Marusik).

Distribution. Greece to Iran. A new record for the Caucasus.

Leptorchestes berolinensis (C.L. Koch, 1846)

Material. ARMENIA: *Ararat Prov.*: 2♂♂3♀♀ (ZMMU), env. of Urtsalanj Vill., 39°49'N 44°59'E, 1800 m, 11.5.2021 (Y.M. Marusik).

Distribution. West Palaearctic, east to Turkmenistan. A new genus record for Armenia.

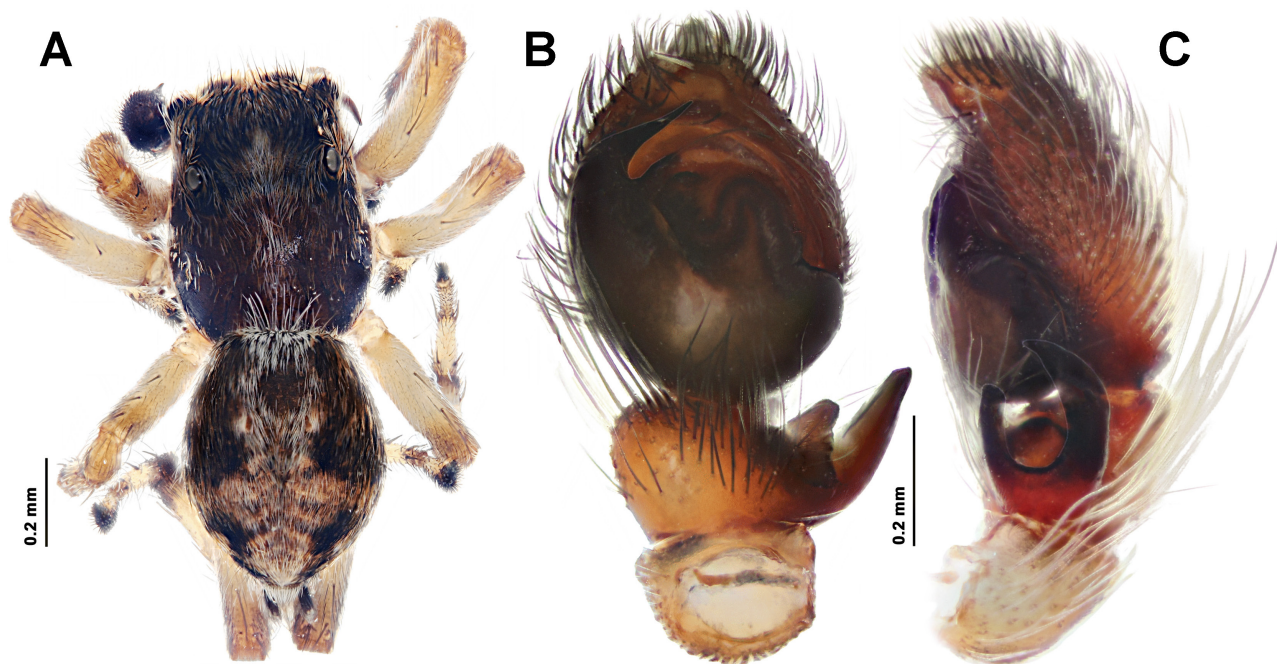


Figure 8. *Attulus relictarius*, male. **A.** Habitus, dorsal view; **B, C.** Palp, ventral and retrolateral views.

Sibianor aurocinctus (Ohlert, 1865)

Material. ARMENIA: Armavir Prov.: 1♂ (ZMMU), 40°04'59"N 44°11'26"E, 13.5.2021 (Y.M. Marusik).

Distribution. West Palaearctic. A new genus record for Armenia.

Family Tetragnathidae Menge, 1866

Pachygnatha degeeri Sundevall, 1830

Material. ARMENIA: Gegharkunik Prov.: 1♂ (ZMMU), Sevan Lake, env. of Tsovaghyugh, 40°37'12"N 44°57'55"E, 1920 m, 8.5.2021 (Y.M. Marusik, V.Z. Ambardzumyan).

Distribution. Trans-Palaearctic. A new genus record for Armenia.

Family Theridiidae Sundevall, 1833

Crustulina guttata (Wider, 1834)

Material. ARMENIA: Aragatsotn Prov.: 11♂♂19♀♀ (ZMMU), foothills of Aragats Mt., 40°23'00"N 44°13'00"E, 2200 m, 16.5.2021 (Y.M. Marusik).

Distribution. Trans-Palaearctic. A new genus record for Armenia.

Dipoenoides emiliae (Lecigne, 2023)

Fig. 9A–I

Euryopis emiliae Lecigne, 2023:21, fig. 15A–H (♂).

For a list of three taxonomic entries, see WSC (2026).

Material. ARMENIA: Ararat Prov.: 1♂2♀♀ (ZMMU), Garni Gorge, Azat River, 40°06'32"N 44°43'57"E, 1240 m, 17.5.2021 (Y.M. Marusik).

Diagnosis. This species differs from other “Hadrotarsinae” known from the West Palaearctic by the opisthosomal pattern, with a pair of white oval spots; dark tibiae I–II; and the shape of the copulatory organs. The epigyne differs from that of the type species, *D. scriptipes* (Banks, 1908), by the closely spaced primary receptacles, separated by less than their radius (vs. separated by their diameter; cf. Fig. 9I vs. Levi 1954:fig. 97).

Description. Female. Habitus as in Figure 9A. Total length 2.20. Carapace 0.75 long, 0.65 wide. Carapace, chelicerae, maxillae, labium, sternum, and palps (predominantly) dark chestnut brown; carapace light brown posteriorly. Legs yellowish brown; tibiae I and II, and partially metatarsi I and patellae I and II dark brown. Opisthosoma chestnut brown, dorsally with pair of white patches, ventrally with large pale beige middle area. Spinnerets uniformly pale beige, with white patch posteriorly. Measurements of legs: I: 1.85 (0.55, 0.3, 0.4, 0.35, 0.25); II: 1.65 (0.5, 0.25, 0.35, 0.35, 0.2); III: 1.75 (0.5, 0.25, 0.35, 0.4, 0.25); IV: 2.25 (0.65, 0.3, 0.5, 0.5, 0.3).

Epigyne as in Figure 9G–I; plate almost as long as wide, subquadrangular, central part weakly sclerotized; copulatory openings (Co) indistinct, most likely located at anterolateral corners of plate; medially with ‘septum’ (Se); primary receptacles (Pr) globular, almost touching; secondary receptacles (Sr) sac-like, weakly sclerotized, ovoid, 1.8× longer than wide, separated by less than half their width.

Male. See Lecigne (2023). Habitus as in Figure 9B–C. Palp as in Figure 9D–F.

Distribution. Previously known only from Corfu, Greece. A new record for the Caucasus and a new genus record for Armenia.

Dipoenoides quinqueguttatus (Thorell, 1875)

Material. ARMENIA: Ararat Prov.: 2♂♂ (ZMMU), env. of Urtsalanj Vill., 39°49'N 44°59'E, 1800 m, 11.5.2021 (Y.M. Marusik).

Distribution. France to Egypt and Turkmenistan.

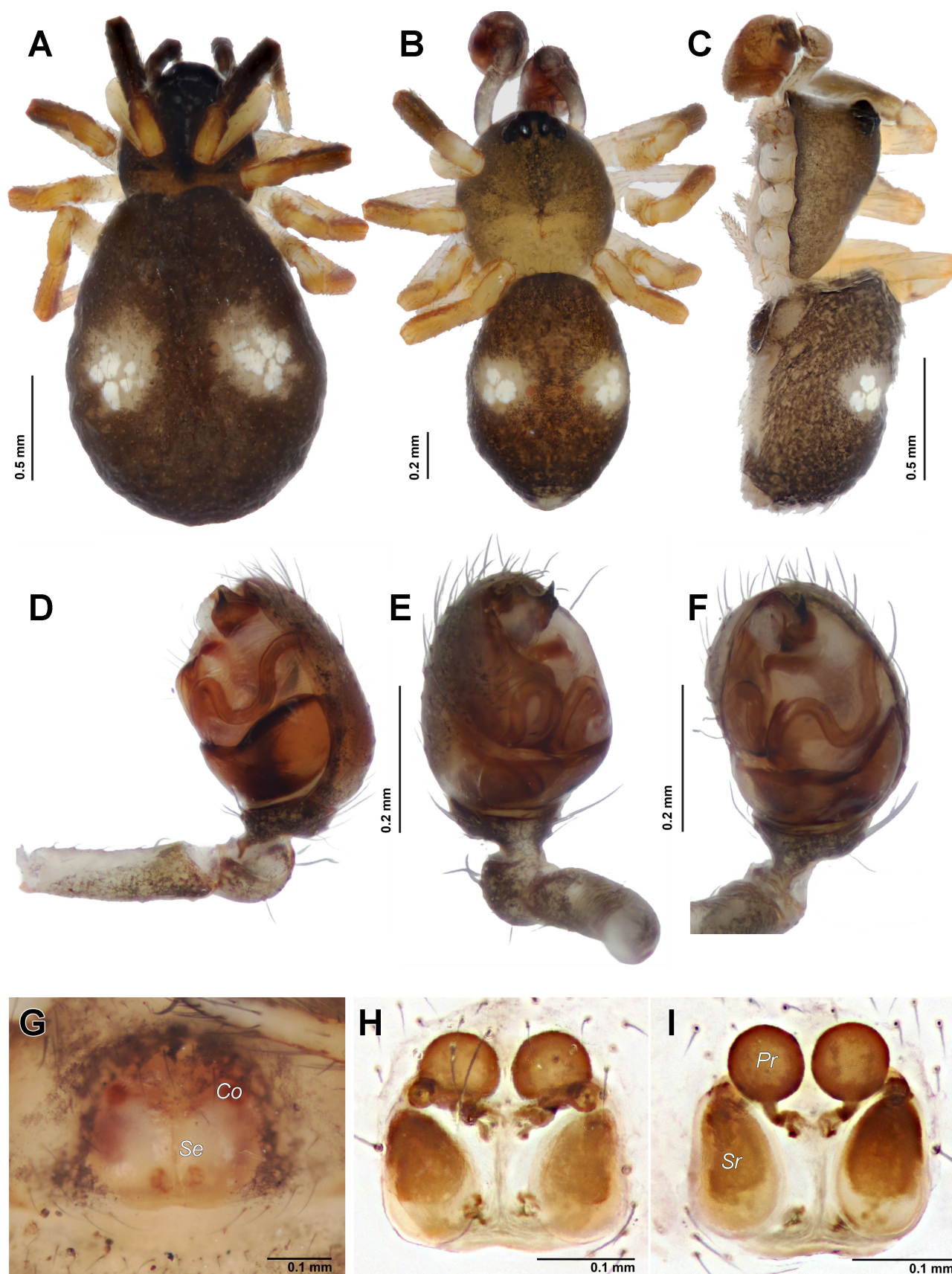


Figure 9. *Dipoenoides emiliae*, female (A, G–I) and male (B–F). A, B. Habitus, dorsal view; C. Ditto, lateral view; D–F. Palp, retrolateral, prolateral, and ventral views; G. Intact epigyne, ventral view; H, I. Macerated epigyne, ventral and dorsal views. Abbreviations: Co–copulatory opening; Pr–primary receptacle; Se–septum; Sr–secondary receptacle.

***Dipoenoides schwendingeri* (Zamani & Marusik, 2021)**

Material. ARMENIA: *Vayot Dzor Prov.*: 3♀♀ (ZMMU), Shatin, 39°50'49"N 45°19'19"E, 9.5.2021 (Y.M. Marusik).

Distribution. Turkey to southwestern Iran. A new record for the Caucasus.

***Enoplognatha parathoracica* Levy & Amitai, 1981**

Material. ARMENIA: *Ararat Prov.*: 2♂♂3♀♀ (ZMMU), Garni Gorge, Azat River, 40°06'32"N 44°43'57"E, 1240 m, 17.5.2021 (Y.M. Marusik); *Vayot Dzor Prov.*: 3♂♂ (ZMMU), Gnishik R. canyon, rd. to Noravank Monastery, 39°41'14"N 45°13'21"E, 1400 m, 10.5.2021 (Y.M. Marusik); 3♂♂1juv. (ZMMU), Shatin, 39°50'49"N 45°19'19"E, 9.5.2021 (Y.M. Marusik); *Yerevan*: 28♂♂/♀♀/juv. (ZMMU), botanical garden, 40°12'43"N 44°33'21"E, 17.5.2021 (Y.M. Marusik).

Distribution. Greece to Israel and the Caucasus.

***Lasaeola tristis* (Hahn, 1833)**

Material. ARMENIA: *Yerevan*: 1♂ (ZMMU), botanical garden, 40°12'43"N 44°33'21"E, 17.5.2021 (Y.M. Marusik).

Distribution. Europe to West Siberia. A new genus record for Armenia.

***Steatoda trianguloides* Levy, 1991**

Material. ARMENIA: *Vayot Dzor Prov.*: 1♀ (ZMMU), env. of Shatin, 39°51'44"N 45°20'19"E, 9.5.2021 (Y.M. Marusik).

Distribution. Iberian Peninsula to Iran. A new record for the Caucasus.

***Theridion uhligi* Martin, 1974**

Material. ARMENIA: *Ararat Prov.*: 1♂1♀ (ZMMU), env. of Goravan Sands State Sanctuary, 39°53'51"N 44°43'35"E, 6.5.2021 (Y.M. Marusik).

Distribution. France to the Caucasus.

Family Titanoecidae Lehtinen, 1967***Titanoeca urartica* sp. nov.**

<https://zoobank.org/urn:lsid:zoobank.org:act:FB744565-E976-4173-B543-A9879E43CFA3>

Figs 10A–I, 11E–F

Type material. **Holotype** ♂ (ZMUT) and **paratype** 1♂ (ZMMU), ARMENIA: *Kotayk Prov.*: env. of Geghadir, 40°09'N 44°38'E, 15.5.2021 (Y.M. Marusik).

Etymology. The specific epithet refers to Urartu, the ancient kingdom centred in the Armenian Highlands.

Diagnosis. In the shape of the tibial complex and bulb, particularly the tegular outgrowth (TO) and embolic pocket (EP), the new species is similar to *T. caspia* Ponomarev, 2020 (cf. Figs 10B–I, 11E–F vs. Ponomarev & Shmatko 2020:figs 9–15). It can be distinguished by the different shape of the interior intermediate tibial apophysis (ITA), the pointed tegular outgrowth (vs. blunt), and the distinctly less bulging embolic pocket.

Description. — **Male** (holotype). Habitus as in Figure 10A. Total length 3.50. Carapace 1.65 long, 1.35 wide. Prosoma dark reddish brown. Palps dark reddish brown; legs brown, gradually lighter distad. Opisthosoma black. Measurements of legs: I: 5.45 (1.6, 0.7, 1.35, 1.1, 0.7); II: 4.65 (1.4, 0.6, 1.05, 1.0, 0.6); III: 4.15 (1.3, 0.5, 0.95, 0.9, 0.5); IV: 5.15 (1.6, 0.55, 1.25, 1.15, 0.6).

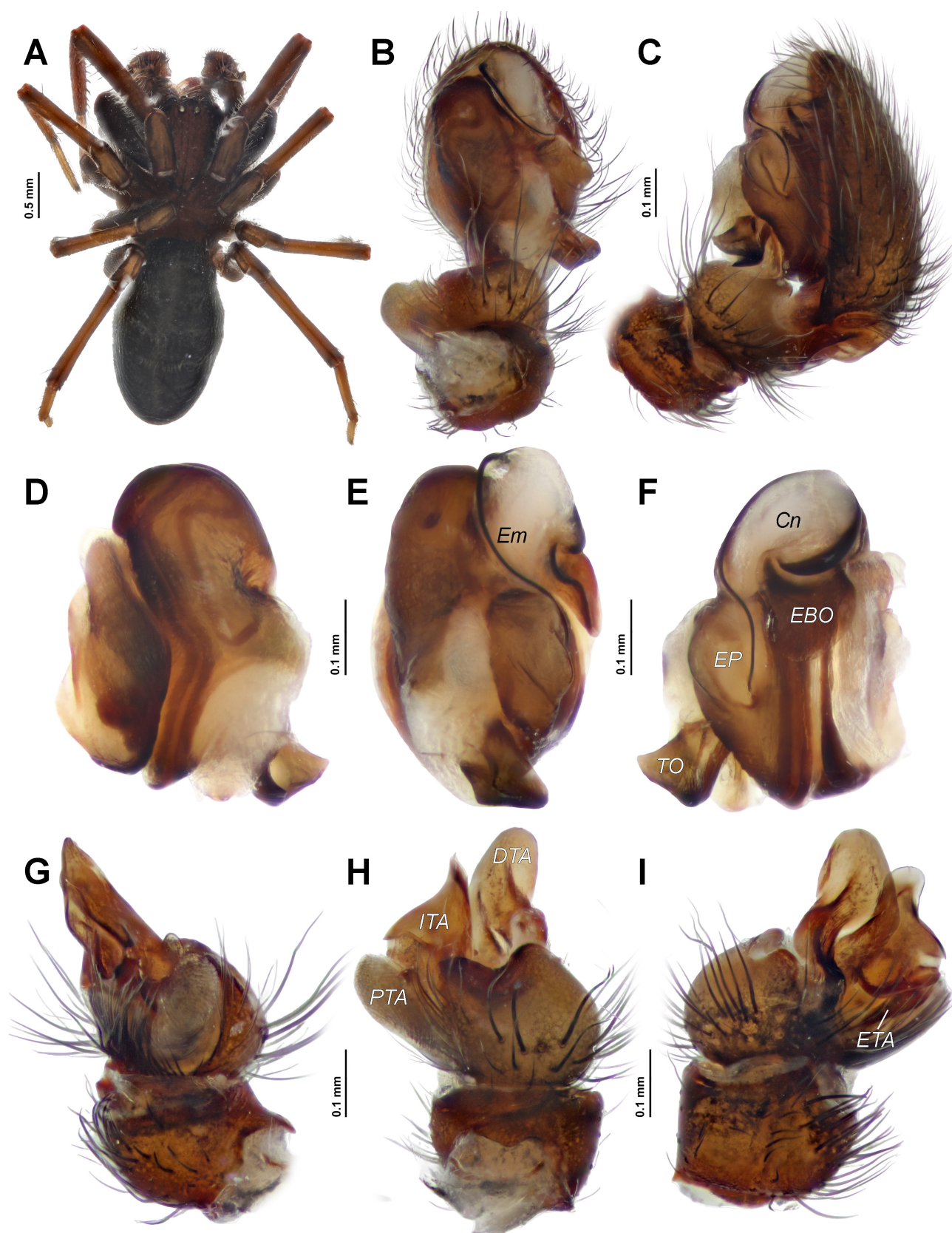


Figure 10. *Titanoeca urartica* sp. nov., male. **A.** Habitus, dorsal view; **B, C.** Palp, ventral and retrolateral views; **D–F.** Bulb, prolateral, ventral, and retrolateral views; **G–I.** Palpal patella and tibia, prolateral, ventral, and retroventral views. Abbreviations: Cn—conductor; DTA—dorsal tibial apophysis; EBO—outgrowth of the embolic base; Em—embolus; EP—embolic pocket; ETA—exterior intermediate tibial apophysis; ITA—interior intermediate tibial apophysis; PTA—prolateral tibial apophysis; TO—tegular outgrowth.

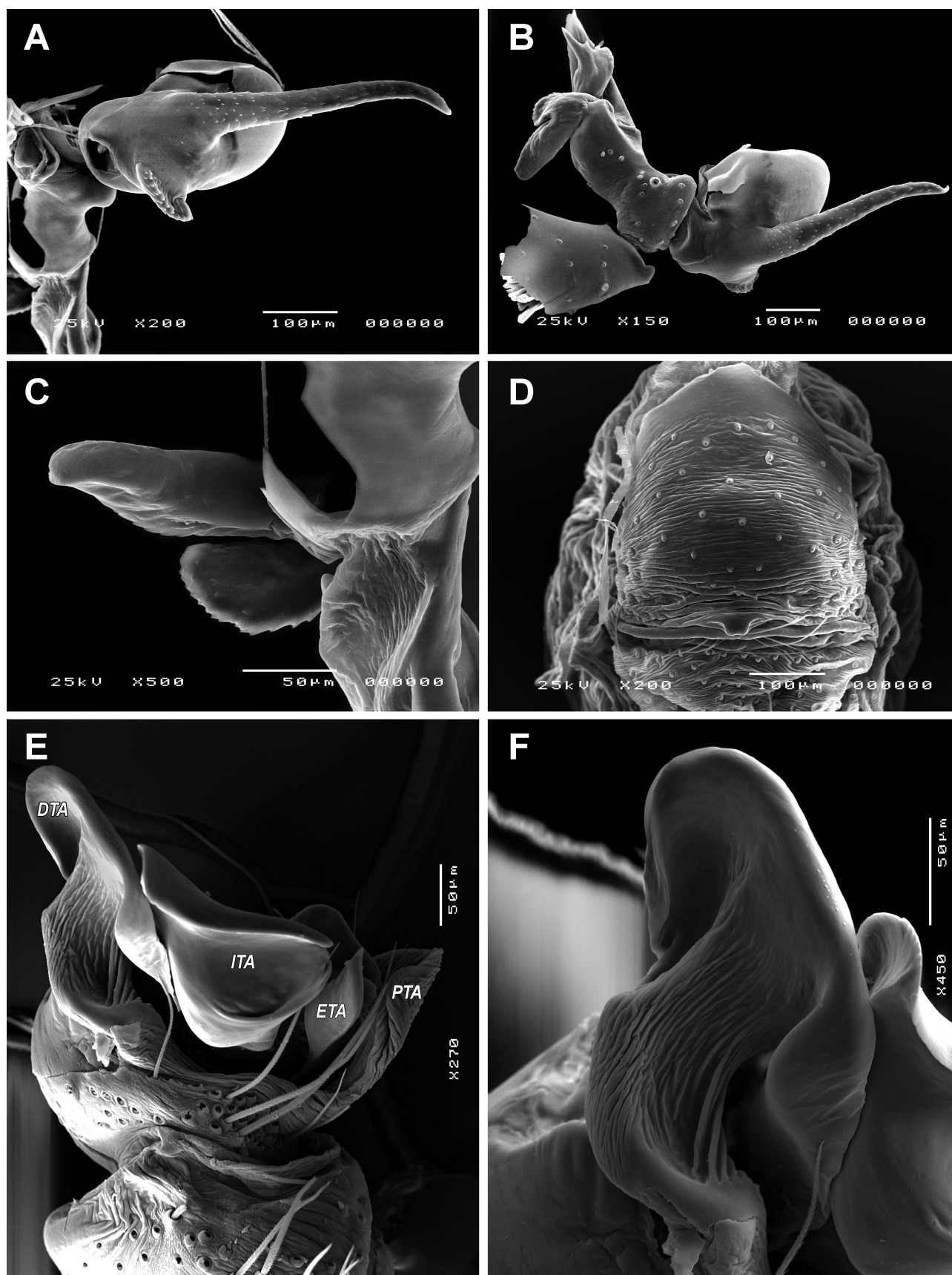


Figure 11. *Sperophora senoculatoides*, male (A–C) and female (D) from Armenia, and *Titanoecca urartica* sp. nov., male (E, F). **A.** Bulb, dorsal view; **B.** Palp, retrolateral view; **C.** Procurus, prolateral view; **D.** Epigyne, ventral view; **E.** Palpal patella and tibia, dorsal view; **F.** Dorsal tibial apophysis, retrodorsal view. Abbreviations: DTA—dorsal tibial apophysis; ETA—exterior intermediate tibial apophysis; ITA—interior intermediate tibial apophysis; PTA—prolateral tibial apophysis.

Palp as in [Figures 10B–I, 11E–F](#); tibial complex composed of large, terminally blunt, slightly curved and folded dorsal apophysis (DTA), lobe-like, membranous prolateral apophysis (PTA), and 2 intermediate apophyses: small, lanceolate exterior apophysis (ETA) and large, concave, retroapically expanded interior apophysis (ITA); tegulum with broad, retrobasal outgrowth (TO) composed of 2 diverging parts forming V-shaped figure; embolic base with concave linguiform outgrowth (EBO); embolus (Em) coursing around conductor (Cn) and terminating at ca. 3 o'clock position within embolic pocket (EP).

Female. Unknown.

Distribution. Known only from the type locality in Kotayk Province, central Armenia. A new genus record for Armenia.

DISCUSSION

In this paper, we presented new data on the spider fauna of Armenia, including 21 genera and 39 species recorded from the country for the first time. Six species, *Diplocephalus emiliae*, *D. schwendingeri*, *Evarcha insularis*, *Evippa luteipalpis*, *Spermophora senoculatoidea*, and *Steatoda trianguloides*, were recorded from the Caucasus for the first time, with *S. senoculatoidea* also newly recorded from Azerbaijan. The new records of *D. emiliae*, *E. luteipalpis*, *S. senoculatoidea*, and *Theridion uhligi* represent the easternmost, northwesternmost, northernmost, and southernmost limits of their known distributions, respectively. In addition, a new species of *Titanoeca* Thorell, 1870 and the previously unknown female of *D. emiliae* were described.

We also documented a case of bilateral palpal teratology in an adult male of an unidentified species of *Pardosa* ([Fig. 5B](#)). In this specimen, the cymbium appears to have been replaced by a leg femur, patella, and partial tibia ([Fig. 5A](#)). Furthermore, all legs are deformed and curled. To our knowledge, this represents the first documented case of this type of abnormality in spiders. No similar deformity was reported in the synopsis of male palpal teratologies by Sherwood et al. (2025), and the present case cannot be assigned to any of the categories included in their proposed classification of palpal deformities. Such abnormalities are most likely the result of a homeotic mutation involving the *labial* (*lab*) gene, which is primarily responsible for determining palpal identity during development (McGregor et al. 2008), although the involvement of other genes regulating appendage patterning cannot be ruled out.

Considering the results of the present study, the spider fauna of Armenia currently comprises 366 species belonging to 189 genera and 38 families. However, this fauna remains poorly explored, as clearly illustrated by the fact that, among the 39 species newly recorded from the country herein, three have circum-Holarctic ranges, six have trans-Palaeartic ranges, three have West Palaeartic ranges, and 30 were already recorded elsewhere in the South Caucasus, yet all had remained undocumented in Armenia until now. Further systematic surveys, particularly in poorly investigated regions and habitats, are needed to provide a more complete picture of the country's spider diversity.

AUTHOR CONTRIBUTIONS

The authors confirm their contribution to the paper as follows: A. Zamani: Conceptualization, Visualization, Writing – original draft, Writing – review and editing; A. Kosyan: Conceptualization, Funding acquisition, Writing – original draft; Y.M. Marusik: Conceptualization, Resources, Visualization, Writing – original draft. The authors read and approved the final version of the manuscript.

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AVAILABILITY OF DATA AND MATERIAL

The specimens listed in this study are deposited in the Zoological Museum of Moscow State University (Russia) and the Zoological Museum of the University of Turku (Finland) and are available from the respective curators upon request.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study only included arthropod material, and all required ethical guidelines for the treatment and use of animals were strictly adhered to in accordance with international, national, and institutional regulations. No human participants were involved in any studies conducted by the authors for this article.

CONSENT FOR PUBLICATION

Not applicable.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest regarding the publication of this paper.

GENERATIVE AI STATEMENT

The authors accept full responsibility for the content of the manuscript, including the disclosure of any use of AI. No AI tools were used in the preparation of this manuscript.

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داده‌های جدید از عنکبوت‌های ارمنستان، شامل گزارشی از یک مورد منحصربه‌فرد از ناهنجاری ریخت‌شناختی پالپ

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ویراستار علمی
احسان رخشانی

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ویرایش: ۱۰ شهریور ۱۴۰۵

پذیرش: ۱۳ شهریور ۱۴۰۵

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چکیده: در این مقاله، یافته‌های جدید تاکسونومیک و فونستیک از عنکبوت‌های ارمنستان و قفقاز ارائه شده است. یک گونه جدید، *Titanoeca urartica* sp. nov. (Titanoecidae)، و جنس ماده پیش‌تر ناشناخته *Leviellus* Dahl، (Araneidae) جنس ۲۱ توصیف شدند و ۱۹۰۱ و ۱۹۰۲: *Dipoenoides emiliae* (Lecigne, 2023) Theridiidae) توصیف شدند و ۱۹۰۱ و ۱۹۰۲: *Phaeocedus* Simon, 1893: Gnaphosidae؛ *Siwa* Grasshoff, 1970 و ۱۹۰۱: *Sosticus* Chamberlin, 1922 و ۱۸۶۸: *Gonatium* Menge، ۱۸۶۸: *Dismodicus* Simon, 1884؛ *Asthenargus* Simon & Fage, 1922: Linyphiidae؛ *Stemonyphantes* Menge، ۱۸۳۳: *Savignia* Blackwall، ۱۸۳۳: *Sauron* Eskov, 1995: Pocadicnemis Simon, 1884؛ *Trichoncus* Simon, 1884 و ۱۸۶۶: *Piratula* Roewer, 1960؛ *Evippa* Simon, 1882: Lycosidae؛ *Pachygnatha* Sundevall, 1823: Tetragnathidae؛ *Sibianor* Logunov, 2001 و ۱۸۷۰: *Leptorchestes* Thorell، ۱۸۷۰: *Crustulina* Menge, 1868؛ *Dipoenoides* Archer, 1941 و ۱۸۸۱: *Lasaeola* Simon، ۱۸۸۱: *Titanoecidae*؛ *Titanoeca* Thorell, 1870 و ۳۹ گونه برای نخستین بار از ارمنستان گزارش شدند. شش گونه، شامل *D. emiliae* (Zamani & Marusik, 2021)؛ *D. schwendingeri* (Metzner, 1999)؛ *Evippa luteipalpis* Roewer, 1955؛ *Spermophora senoculatoidea* Senglet, 2008 [Pholcidae]؛ *Steatoda trianguloides* Levy, 1991 [Theridiidae]؛ *S. senoculatoidea* برای نخستین بار از جمهوری آذربایجان نیز گزارش شد. افزون بر این، یک مورد منحصربه‌فرد از ناهنجاری ریخت‌شناختی پالپ نر در یک گونه شناسایی نشده از جنس *Pardosa* C.L. Koch, 1847 (Lycosidae) گزارش و تصاویر آن ارائه شد. با توجه به نتایج مطالعه حاضر، فون عنکبوت‌های ارمنستان اکنون شامل ۳۶۶ گونه در ۱۸۹ جنس و ۳۸ خانواده است.

واژگان کلیدی: جمهوری آذربایجان، گزارش جدید، گونه جدید، قفقاز، فونستیک، ماورای قفقاز