New and poorly known species of Salticidae (Araneae) from Turkey and Iran

Dmitri V. Logunov

ABSTRACT Contrib. Nat. Hist. 12: 899–919.

Six new species of Salticidae are described from Turkey and Iran: *Heliophanus feltoni* sp. nov. (♂), *Heliophanus konradthaleri* sp. nov. (♂♀), *Heliophanus xerxesi* sp. nov. (♂), *Plexippus iranus* sp. nov. (♀), *Salticus insperatus* sp. nov. (♂), and *Yllenus zaraensis* sp. nov. (♀). Two species names are synonomized: *Pseudicius miriae* Prószyński, 2000 with *Pseudicius vankeeri* Metzner, 1999; *Salticus amitaii* Prószyński, 2000 with *Salticus noordami* Metzner, 1999.

Introduction

The Salticidae of Minor Asia and the Near East remain poorly studied. Recent surveys of the jumping spiders of Iran (Logunov & al. 2002; Sahra 2006; Logunov 2007) revealed 71 species from 35 genera. According to the latest checklist by Topçu & al. (2005), the Turkish salticid fauna consists of 71 valid species. In both cases, these numbers probably represent no more than half the true number of salticids occurring there. The main aim of this paper is to describe six new species of Salticidae from Turkey and Iran on the basis of newly collected material. Furthermore, during the course of this study, two new synonymies have been established and two poorly known species have been redescribed.

Material and Methods

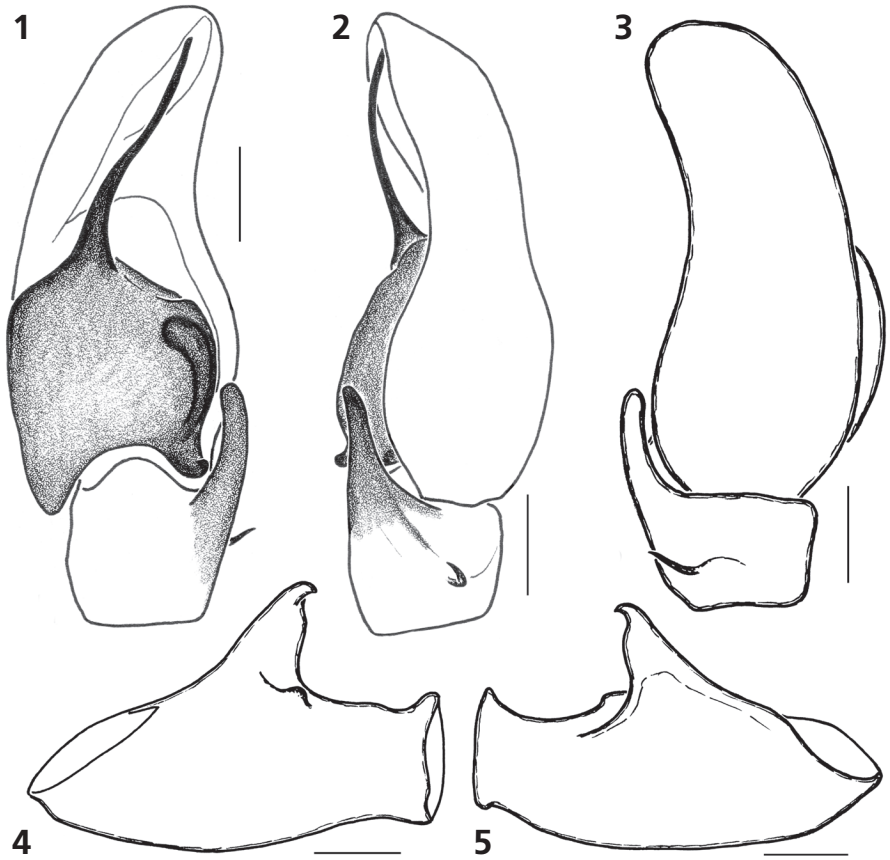
The types and comparative specimens were borrowed from or are housed in the following depositories and personal collections:

HUJI The Hebrew University of Jerusalem (Zoological Department), Jerusalem, Israel (Dr. G. Levy)
LNMC Liverpool Museum, National Museums Liverpool, Liverpool, UK (Mr. G. Knight)
MHNG Muséum d'histoire naturelle, Genève, Switzerland (Dr. P. Schwendinger)
MMUM Manchester Museum, Manchester, UK (Dr. D.V. Logunov)
NHMW Naturhistorisches Museum, Wien, Austria (Dr. J. Gruber)
NMPC National Museum of Prague, Prague, Czech Republic (Dr. A. Kůrka)
PCRG Personal collection of Mr. Richard Gallon (Llandudno, North Wales, UK)
PCMR Personal collection of Dr. Milan Řezáč (Prague, Czech Republic)
PCRS Personal collection of Dr. Anthony Russell-Smith (Kent, UK)
PCSD Personal collection of Dr. R. Snazell (Dorset, Swanage, UK)
SMFM Naturmuseum und Forschungsinstitut Senckenberg, Frankfurt am Main, Germany (Dr. P. Jäger)
SMNK Staatliches Museum für Naturkunde Karlsruhe, Germany (Dr. H. Höfer)
SZMN The Siberian Zoological Museum, Institute for Systematics and Ecology of Animals, Novosibirsk, Russia (Dr. G.N. Azarkina)

The following abbreviations are used in the text:

AME anterior median eye
ap apical
d dorsally
Fm femur
Mt metatarsus
PLE posterior median eye
pr prolateral
Pt patella
rt retrolateral
Tb tibia
v ventral

For the leg spination the system adopted is that used by Ono (1988). The sequence of leg segments in measurement data is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are in mm.



Figs. 1–5. ***Heliophanus feltoni*** **sp. nov. (paratype from Turkey: Çamardi). – 1: male palp, ventral view; – 2: ditto, retrolateral view; – 3: ditto, dorsal view; – 4: palpal femur, median view; – 5 ditto, retrolateral view. Scale: 0.1 mm.**

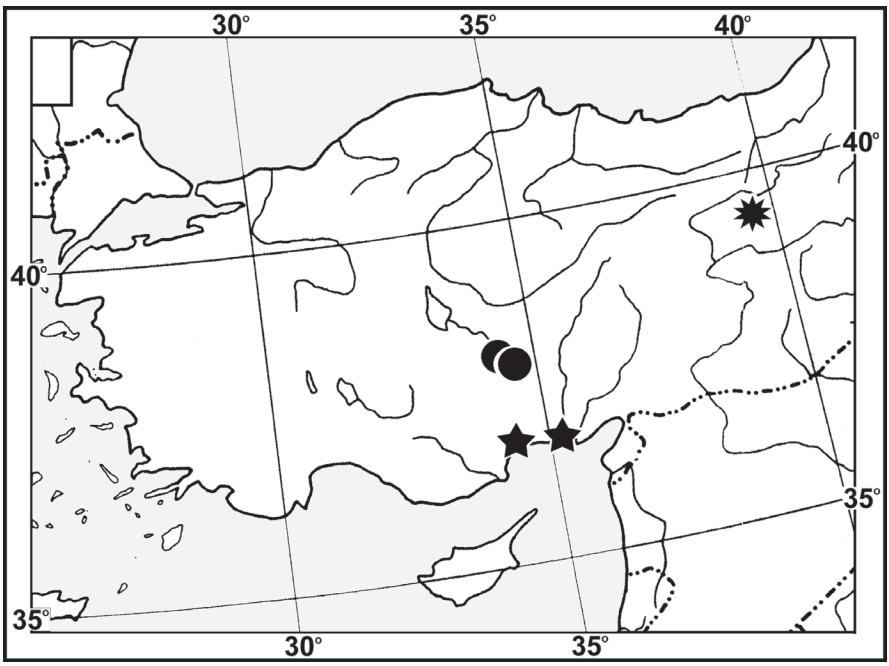
Survey of species

Heliophanus feltoni **sp. nov.** (Figs. 1–5, Map 1)

Types: The ♂ holotype (LNMC) from Turkey, Kayseri, Demirkazık (c. 37° 51‘ 33‘‘ N, 35° 5‘ 43‘‘ E), 12.–13. 06. 1993, C. Felton.

Paratypes: 2 ♂ (SMFM), Turkey, Niğde Prov., Çamardi (c. 37° 49‘ N, 34° 58‘ E) Distr., valley of Karabük, 22. 04. 2001, K. Kunt.

Etymology: The species is named after my colleague, Mr. Chris Felton (Liverpool, UK), who collected the holotype.



Map 1. Distribution of *Heliophanus feltoni* sp. nov. (dots), *Heliophanus konradthaleri* sp. nov. (stars) and *Yllenus zaraensis* sp. nov. (asterisk). One dot may represent more than one close locality.

Diagnosis: This new species is closely related to *H. iranus* Wesolowska, 1986 described and known to date from a single locality in Iran (Wesołowska 1986: Figs. 776–781), but its males can be easily separated by the longer tibial apophysis (Figs. 1–3) and the hook-shaped tip of the femoral process (Figs. 4–5). See also comments below under 'Diagnosis' of *H. xerxesi* sp. nov.

Distribution: Two localities in Turkey (Map 1), but the species is likely to be more widespread.

Description:

Male (holotype). Measurements: Carapace 1.83 long, 1.40 wide, 0.78 high at PLE. Ocular area 0.91 long, 1.13 wide anteriorly and 1.15 wide posteriorly. Diameter of AME 0.36. Abdomen 1.93 long, 1.40 wide. Cheliceral length 0.65. Clypeal height 0.04. Length of leg segments: I 1.00+0.58+0.68+0.53+0.40; II 0.88+0.50+0.53+0.48+0.35; III 0.98+0.48+0.58+0.63+ 0.40; IV 1.15+0.50+ 0.78+0.78+0.48. Leg spination Leg I: Fm d 0-1-1-1; Tb pr 0-1, v 2-2; Mt v 2-2ap. Leg II: Fm d 0-1-2; Tb pr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 1-1-3; Tb pr and rt 1-1; Mt pr, rt and v 1-0-2ap. Leg IV: Fm d 1-1-3; Tb pr and rt 1-1, v 1-2ap; Mt pr 1-0-2ap, rt and v 2ap.

Colouration: Carapace dark brown (metallic-shining), with black eye field; 'cheeks' and clypeus brown, without hairs or scales. Sternum, labium and chelicerae brown. Maxillae yellowish brown, with white tips. Entire abdomen dark grey, but dorsum anteriorly with a white transverse stripe and two pairs of white spots in its rear half, venter with a pair of small white spots in front of spinnerets. Book-lung covers grey-yellow, spinnerets dark grey. All legs yellowish brown, but patellae and tibiae I–III, and femora III–IV, anteriorly with longitudinal stripes of white scales. Palps yellowish brownish, but clypeus dorsally with a white longitudinal stripe of scales. Palpal structure as in Figs. 1–5.

Female unknown.

***Heliophanus konradthaleri* sp. nov.** (Figs. 6–12, Map 1)

Types: The ♂ holotype (LNMC) from Turkey, Içel (= Mersin), Silifke Sand Dunes (36° 17‘ 05“ N, 33° 56‘ 08“ E), inner dunes with damp, *Salicornia* dominated, halophytic vegetation and reed bed, 5. 05. 1994, S. Judd & C. Felton.

Paratypes: 2 ♂ 4 ♀ (LNMC), together with the holotype; 3 ♂ (SMFM), Içel (= Mersin), Silifke Dunes, 16. 07. 1992, C. Felton; 1 ♀ (SMFM), Adana, Karatas (36° 32‘ 31“ N, 35° 29‘ 00“ E), 14. 07. 1992, S. Judd & C. Felton.

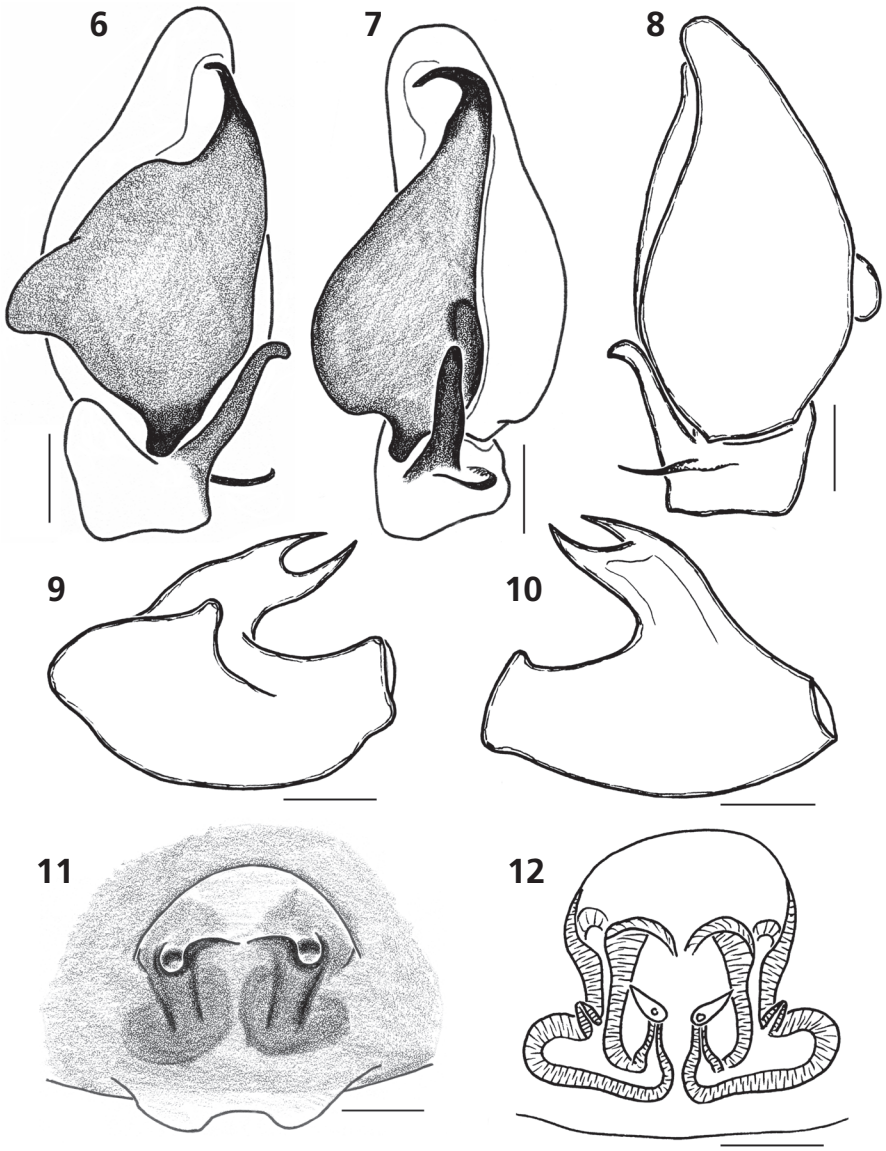
Etymology: This species is dedicated to the fond memory of Prof. Konrad Thaler (Innsbruck, Austria), who passed away in 2005.

Diagnosis: This species belongs to the *decoratus* group (sensu Wesołowska 1986), but differs from other congeners in having a strongly bifurcated femoral process in males (Figs. 9–10; cf. Wesołowska (1986): Figs. 556, 588, 592) and a different conformation of the female copulatory organs (viz. position of the copulatory pores and shape of the spermathecae, Figs. 11–12; cf. Wesołowska (1986): Figs. 569, 580, 584).

Distribution: A few localities in Turkey (Map 1), but the species is likely to be more widespread.

Description:

Male (paratype from Içel: Silifke Sand Dunes). Measurements: Carapace 1.60 long, 1.25 wide, 0.75 high at PLE. Ocular area 0.90 long, 1.00 wide anteriorly and 1.13 wide posteriorly. Diameter of AME 0.45. Abdomen 1.50 long, 1.08 wide. Cheliceral length 0.58. Clypeal height 0.08. Length of leg segments: I 0.84+0.53+0.58+0.40+0.40; II 0.68+0.40+0.43+0.35+0.38; III 0.76+0.40+0.45+0.50+0.38; IV 0.98+0.45+0.63+0.66+0.43. Leg spination. Leg I: Fm d 0-1-1-2; Tb pr 0-1, v 2-2; Mt v 2-2ap. Leg II: Fm d 0-1-1-2; Tb pr 0-1,



Figs. 6–12. ***Heliophanus konradthaleri*** **sp. nov. (paratypes from Turkey: Içel). – 6: male palp, ventral view; – 7: ditto, retrolateral view; – 8: ditto, dorsal view; – 9: palpal femur, median view; – 10: ditto, retrolateral view; – 11: epigyne; – 12: spermathecae, dorsal view. Scale: 0.1 mm.**

v 1-1; Mt v 2-2ap. Leg III: Fm d 0-1-1-3; Pt rt 0-1-0; Tb pr and rt 1-1; Mt pr and rt 1-0-2ap, v 2ap. Leg IV: Fm d 0-1-1-3; Pt rt 0-1-0; Tb pr 1-1, rt 1-1-1, v 1-0-1ap; Mt pr, rt and v 1-0-2ap.

Colouration: Carapace red-brown (metallic-shining), with black eye field; 'cheeks' and clypeus red-brown, without hairs or scales. Sternum red-brown, covered with white hairs. Maxillae and labium yellow-brown, with white tips. Chelicerae red-brown. Abdomen: dorsum and sides yellowish grey, dorsum anteriorly with a white transverse stripe and in its rear half with two pairs of white spots (sometimes poorly marked); venter yellowish, with a pair of white spots in front of spinnerets. Book-lung covers yellow, spinnerets grey. All legs brownish yellow, but femora I (sometimes also femora II) dark brown. Palpal structure as in figs. 6–10.

Female (paratype from Adana: Karatas). Measurements: Carapace 1.68 long, 1.18 wide, 0.74 high at PLE. Ocular area 0.83 long, 1.00 wide anteriorly and 1.08 wide posteriorly. Diameter of AME 0.45. Abdomen 2.50 long, 1.78 wide. Cheliceral length 0.65. Clypeal height 0.04. Length of leg segments: I 0.83+0.48+0.50+0.40+0.29; II 0.78+0.43+0.40+0.35+0.33; III 0.83+0.43+0.55+0.55+0.28; IV 1.05+0.48+0.73+0.68+0.40. Leg spination. Leg I and II: Fm d 0-1-1-1; Tb pr 0-1, v 1-2; Mt v 2-2ap. Leg III: Fm d 0-1-1-3; Pt rt 0-1-0; Tb pr and rt 1-1, v 1-1ap; Mt pr 1-2ap, rt 1and v 2ap. Leg IV: Fm d 0-1-1-1; Pt rt 0-1-0; Tb pr 1-1, rt 1-1-1, v 1-0-2ap; Mt pr and v 1-0-2ap, rt 2ap.

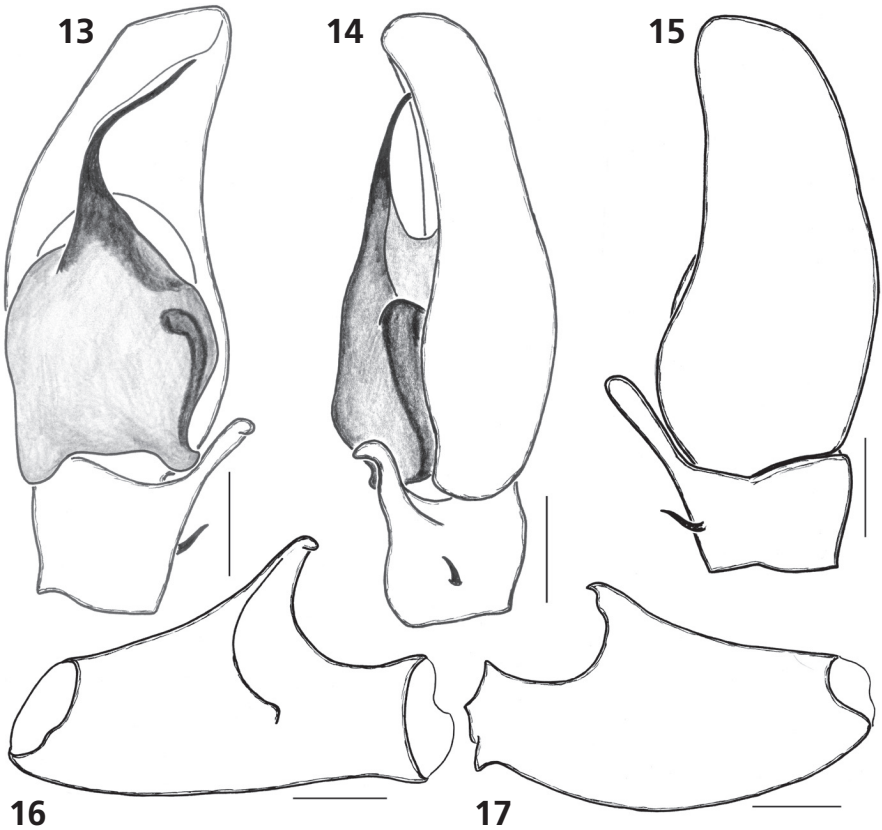
Colouration: Carapace yellowish brown, with black eye field, covered with white adjoining scales; 'cheeks' and clypeus brownish yellow, clypeus with rare white hairs/scales. Sternum yellow brownish, covered with white hairs. Maxillae and labium yellowish, with white tips. Chelicerae brown. Abdomen: dorsum grey, anteriorly with a wide transverse stripe and in its rear half with two pairs of large white spots; sides and venter yellow. Book-lung covers yellow, tinged with brown. Spinnerets dark grey. All legs and palps yellow. Epigyne and spermathecae as in figs. 11–12.

***Heliophanus xerxesi* sp. nov.** (Figs. 13–17, Map 2)

Types: The ♂ holotype (NHMW) from Iran, c. 52 km S of Sirjan [= Saidabad (c. 29° 27‘ N, 55° 40‘ E), 1733 m a.s.l.], 17. 04. 1972, K. Bilek & F. Ressl.

Etymology: This species is named after Xerxes I (reigned 485–465 BC) of the Achaemenid dynasty, the King of Persia, who marched against Greece but was defeated at Salamis.

Diagnosis: This new species is most closely related to *H. feltoni* sp. nov. from Turkey described above (cf. Figs. 1–5), but can be separated from it by the slightly shorter tibial apophysis bent ventrad at its tip (Fig. 14) and by the strongly bent embolus (almost at right angles) (Fig. 13). Another similar spe-



Figs. 13–17. ***Heliophanus xerxesi*** **sp. nov. (holotype). – 13: male palp, ventral view; – 14: ditto, retrolateral view; – 15: ditto, dorsal view; – 16: palpal femur, median view; – 17: ditto, retrolateral view. Scale: 0.1 mm.**

cies is the Iranian *H. iranus* (cf. Wesołowska 1986: Figs 776–781), from which *H. xerxesi* sp. nov. can be easily distinguished by the longer tibial apophysis (Figs. 14, 15) and the hook-shaped tip of the femoral process (Figs. 16, 17).

Distribution: The type locality only (Map 2).

Description:

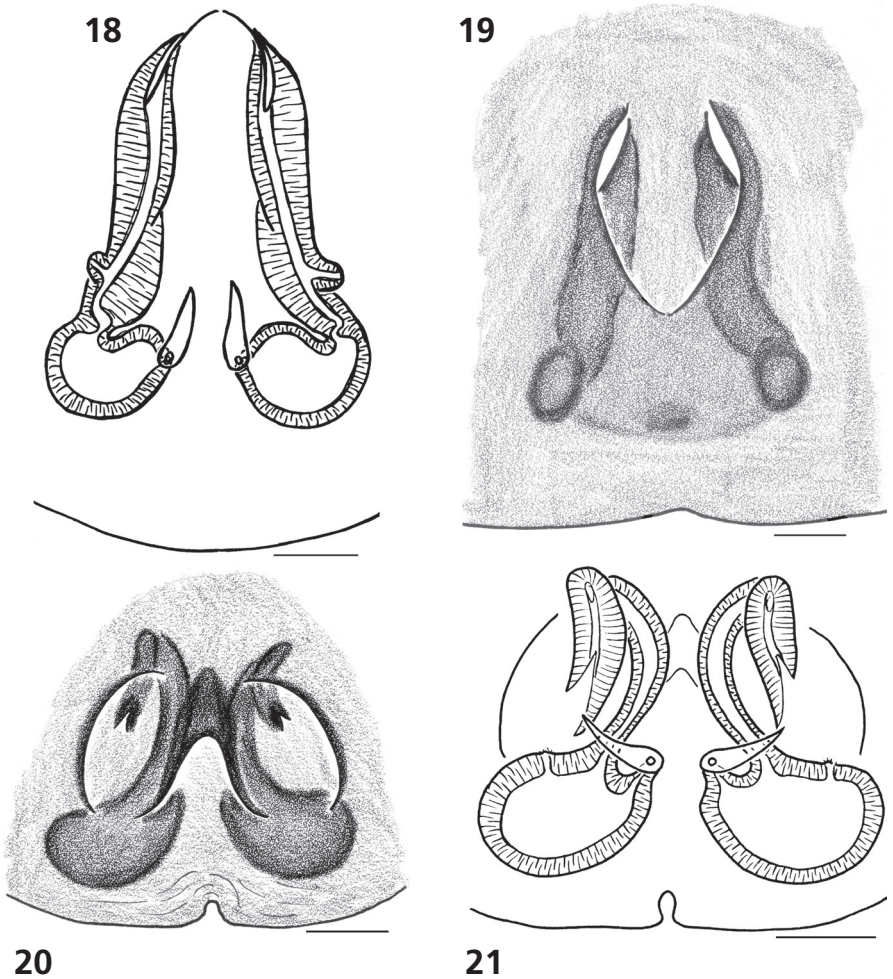
Male (holotype). Measurements: Carapace 1.73 long, 1.13 wide, 0.71 high at PLE. Ocular area 0.80 long, 0.95 wide anteriorly and 1.00 wide posteriorly. Diameter of AME 0.30. Abdomen 1.63 long, 1.25 wide. Cheliceral length 0.55. Clypeal height 0.03. Length of leg segments: I 0.86+0.51+ 0.58+0.50+0.40; II 0.80+0.45+0.45+0.45+0.38; III 0.89+0.43+0.51+0.60+ 0.40; IV 1.05+0.49+ 0.69+0.73+0.40. Leg spination. Leg I: Fm d 1-1-2ap; Tb pr 0-1, v 2-0; Mt v

Map 2. Distribution of *Heliophanus xerxesi* sp. nov. (dot) and *Plexippus iranus* sp. nov. (asterisk).

2-2ap. Leg II: Fm d 1-1ap; Tb pr 0-1, v 1-0; Mt v 2-2ap. Leg III: Fm d 1-1-3ap; Tb pr and rt 1-1-1ap; Mt pr and rt 1-0-2ap. Leg IV: Fm d 1-1-1; Tb pr and rt 1-0-1ap, v 1-1-1ap; Mt pr and rt 1-0-2ap, v 2ap.

Colouration: Carapace light brown, sparsely covered with whitish adpressed scales. Black around eyes. Clypeus light brown, naked. Sternum light brown, with sparse white hairs. Maxillae, labium and chelicerae yellow-brown. Entire abdomen grey-brown, without colour pattern. Book-lung covers and spinnerets yellow-brown. All legs and palps brownish yellow. Palpal structure as in Figs. 13–17.

Female unknown.



Figs. 18–21. ***Plexippus iranus*** **sp. nov. (18, 19; holotype) and** ***Yllenus zaraensis*** **sp. nov. (20, 21; holotype). – 19, 20: epigyne; – 18, 21: spermathecae, dorsal view. Scale: 0.1 mm.**

Plexippus iranus **sp. nov.** (Figs. 18, 19, Map 2)

Types: The ♀ holotype (NHMW) from Iran, c. 38 km N of Bandarabass [= Bandar-e 'Abbas (c. 27° 11‘ N, 56° 16‘ E)], 28. 03. 1972, K. Bilek & F. Ressl.

Etymology: The species is named after the country of origin, Iran.

Diagnosis. The female of this new species is similar to those of *P. bhutani* Żabka, 1990 from Bhutan and China (cf. Żabka 1990: Figs. 32, 33) and *P. clemens* (O. Pickard-Cambridge, 1872) from the Near East and Arabian Penin-

sula (cf. Prószyński 2003: Figs. 592, 593), but differs from both in having much narrower and longer insemination ducts (Fig. 18) and in the absence of a marked central pocket of the epigyne (Fig. 19).

Distribution: The type locality only (Map 2).

Description:

Male unknown.

Female (holotype). Measurements: Carapace 2.90 long, 2.10 wide, 1.31 high at PLE. Ocular area 1.55 long, 1.95 wide anteriorly and 1.93 wide posteriorly. Diameter of AME 0.63. Abdomen 3.88 long, 2.63 wide. Cheliceral length 0.95. Clypeal height 0.10. Length of leg segments: I 1.60+0.96+1.05+0.79+0.63; II 1.55+0.88+0.95+0.76+0.63; III 1.70+0.93+1.00+1.08+0.75; IV 1.83+0.90+1.28+1.38+0.78. Leg spination. Leg I: Fm d 0-1-1-4; Tb pr 0-1, v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-1-5; Pt pr 0-1-0; Tb pr 0-1, v 1-2-2ap; Mt v 2-2ap. Leg III: Fm d 0-1-2-4; Pt pr and rt 0-1-0; Tb pr and rt 1-1-1, v 2-2ap; Mt pr 1-0-2ap, rt and v 2-0-2ap. Leg IV: Fm d 1-1-4; Pt pr and rt 0-1-0; Tb pr and rt 1-1-1, v 1-0-2ap; Mt pr and rt 1-1-2ap, v 2-0-2ap.

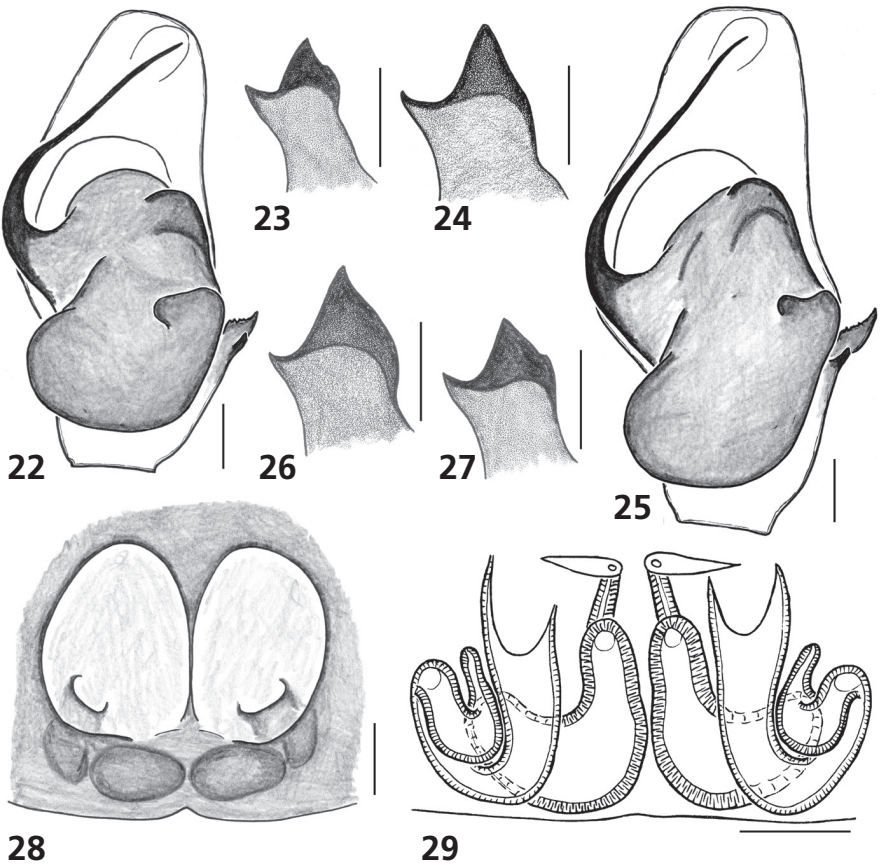
Colouration: Carapace brownish yellow, dark brown around eyes. Clypeus yellow, with long white hairs. Sternum, maxillae and labium yellow. Chelicerae brownish yellow. Abdomen yellow, with dorsal pattern of two wide longitudinal brownish bands and an oval brown spot in front of the anal tubercle. Book-lung covers yellow. Spinnerets brownish yellow. All legs and palps yellow, but their tibiae, metatarsi and tarsi slightly darker (brownish yellow). Epigyne and spermathecae as in figs. 18, 19.

***Pseudicius vankeeri* Metzner, 1999** (Figs. 22–29, Map 3)

Pseudicius vankeeri; Metzner (1999): 95, 214, tab. 60a–h, map 66 (D♂; the ♂ holotype in SMNK, examined).
Pseudicius miriae Prószyński, 2000; Prószyński (2000): 259–261, figs. 104–109 (D♂♀; the ♂ holotype in HUJI, examined). **New Synonymy.**

Types: The ♂ holotype of *P. vankeeri* (SMNK, 2187; Figs. 22, 23) from Greece, Rhodes, Faliraki, 17.–23. 05. 1996, J. van Keer. – The ♂ holotype of *P. miriae* (HUJI, 14959; Figs. 24, 25) from Israel, near Ar'ara (c. 32° 29' N, 35° 5' E), 23. 11. 1992, M. Halevy. – The ♀ paratype of *P. miriae* (HUJI, 15489) from Israel, Tarom, on *Pinus brutia*, 12. 03. 1991, M. Halevy.

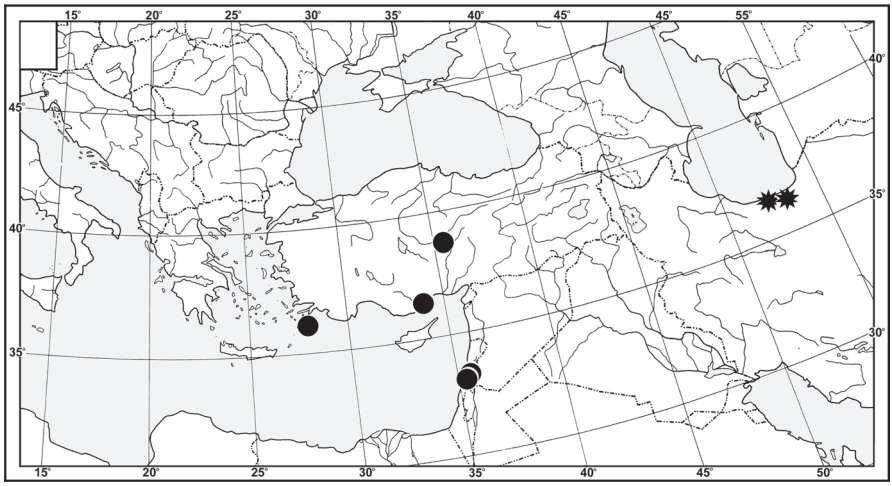
Material: Turkey: 2 ♂ 1 ♀ (LNMC), Içel (= Mersin), Narlikuyu (36° 26' 35'' N, 34° 04' 44'' E), garrigue-type vegetation on limestone outcrop, under pine



Figs. 22–29. ***Pseudicius vankeeri*** **Metzner, 1999 (22, 23: holotype; 24, 25: holotype of** ***P. miriae*****; 26–29: specimens from Turkey: Narlikuyu). – 22, 25: male palp, ventral view; – 23, 24, 26, 27: tibial apophysis, retrolateral view; – 28: epigyne; – 29: spermathecae, dorsal view. Scale: 0.1 mm.**

needles and scattered short herbs, 9. 06. 1993, S. Judd & C. Felton; 4 ♀ (LNMC), same locality, 15. 07. 1992, C. Felton; 2 ♂, 3 ♀ (LNMC), same locality, 29. 06. 1995, S. Judd & C. Felton; 1 ♂ (LNMC), Kayseri, ca 31 km W of Develi, Bakırdağı Gorge (38° 15‘ 09‘‘ N, 35° 45‘ 42‘‘ E), 3. 07. 1995, S. Judd & C. Felton.

Diagnosis: The males of *P. vankeeri* are most similar to those of *P. delesserti* Caporiacco, 1941 from Ethiopia, of which the male holotype was well illustrated by Prószyński (1987: p. 50), but differ in the thinner embolus, slightly different proportions of the bulbus (Figs. 22, 25) and the shape of the tibial apophysis (bifurcated in *P. delesserti* and different in *P. vankeeri*, cf. Figs. 23, 24, 26, 27). The females of *P. vankeeri* are similar to those of *P. courtauldi* Bristowe, 1935 from Central Asia, but differ in having longer and more meandered insemination ducts (Fig. 29; cf. figs 4e–f in Logunov 1993).



Map 3. Distribution of *Pseudicius vankeeri* Metzner, 1999 (dots) and *Salticus insperatus* sp. nov. (asterisks). One dot may represent more than one close locality.

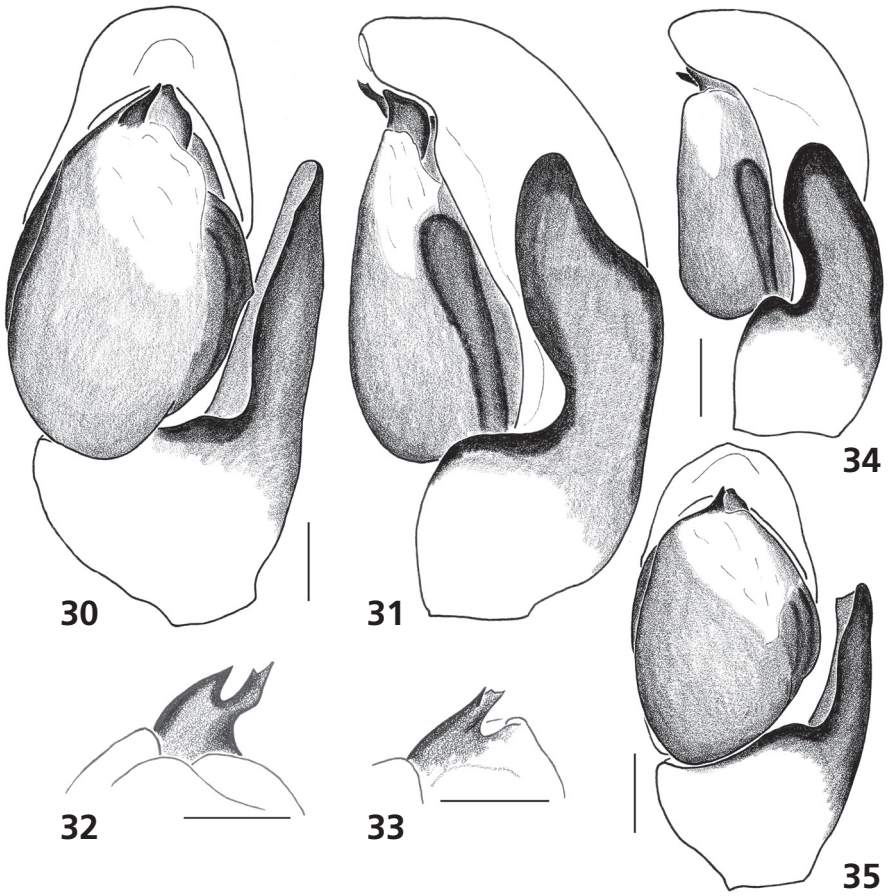
A direct comparison of the male holotypes of *P. vankeeri* and *P. miriae* has revealed their identity (Figs. 22, 25), except for a minor difference in the structure of the tibial apophysis (Figs. 23, 24). I have examined at least 5 males from Turkey, compared them to the two aforementioned holotypes and come to the conclusion that the observed tiny differences in the tibial apophysis are nothing more than individual variation, which is common in Salticidae. For instance, two males from Turkey collected together (Figs. 26, 27) demonstrated both variants, i.e. one of them was identical to the holotype of *P. vankeeri* (Fig. 23), another to that of *P. miriae* (Fig. 24). Thus, it is safe to conclude that the latter name should be synonymized with the former one.

Distribution: The eastern Mediterranean (Map 3).

Description:

Male (from Turkey: Narlikuyu). Measurements: Carapace 1.90 long, 1.33 wide, 0.75 high at PLE. Ocular area 0.88 long, 1.03 wide anteriorly and 1.13 Wide posteriorly. Diameter of AME 0.33. Abdomen 2.15 long, 1.33 wide. Cheliceral length 0.53. Clypeal height 0.06. Length of leg segments: I 0.93+0.56+0.68+0.43+0.33; II 0.75+0.43+0.48+0.40+0.28; III 0.80+0.40+0.50+0.55+0.38; IV 1.00+0.50+0.65+0.66+0.38. Leg spination. Leg I: Fm d 0-1-1-2; Tb v 0-1; Mt v 2-2ap. Leg II: Fm d 0-1-1-2; Mt v 2-2ap. Leg III: Fm d 0-1-1-2; Mt 4ap. Leg IV: Fm d 0-1-1-1; Mt 4ap.

Colouration: Carapace yellowish brownish, covered with long white adpressed scales, which additionally form two wide white marginal bands;



Figs. 30–35. Male palps of *Salticus insperatus* sp. nov. (30–32; Iran: Mazandaran) and *Salticus zebraneus* (C. L. Kosh, 1837) (33–35; Turkey: Isparta). – 30, 35: ventral view; – 31, 34: retrolateral view; – 32, 33: embolic division, dorsal view. Scale: 0.1 mm.

black around eyes. Clypeus densely covered with white hairs. Sternum yellow, tinged with brown. Maxillae, labium and chelicerae brown. Abdomen: dorsum yellow with three longitudinal stripes of brown scales (one median and two marginal) and an irregular pattern of brownish patches and broken transverse stripes (see Metzner 1999: plate 60, a); venter greyish yellow. Book-lung covers yellow. Spinnerets yellow-brown. Legs I stronger and darker than other legs, brown to dark brown. Legs II–IV light brown, with yellow patches. Palps brownish. Palpal structure as in Figs. 22, 25.

Female (from Turkey: Narlikuyu). Measurements: Carapace 2.45 long, 1.65 wide, 0.88 high at PLE. Ocular area 1.10 long, 1.29 wide anteriorly and 1.43 wide posteriorly. Diameter of AME 0.40. Abdomen 3.25 long, 1.88

wide. Cheliceral length 0.85. Clypeal height 0.08. Length of leg segments: I 1.13+0.68+0.75+0.55+0.38; II 1.00+0.58+0.60+0.50+0.35; III 1.10+0.60+0.63+0.70+0.45; IV 1.40+0.75+0.93+0.95+0.45. Leg spination. Leg I: Fm d 0-1-1-2; Tb v 0-1; Mt v 2-2ap. Leg II: Fm d 0-1-1-2; Mt v 2-2ap. Leg III: Fm d 0-1-1-2; Mt 4ap. Leg IV: Fm d 0-1-1-1; Mt 4ap.

Colouration as in male, but lighter and differs as follows: No white marginal bands on carapace; dorsum without longitudinal stripes, but with a closely placed group of five dark brown spots at the posterior end as illustrated by Prószyński (2000: fig. 104, sub *P. miriae*); venter yellow; and all legs and palps yellow. Epigyne and spermathecae as in Figs. 28, 29.

***Salticus insperatus* sp. nov.** (Figs. 30–35, Map 3)

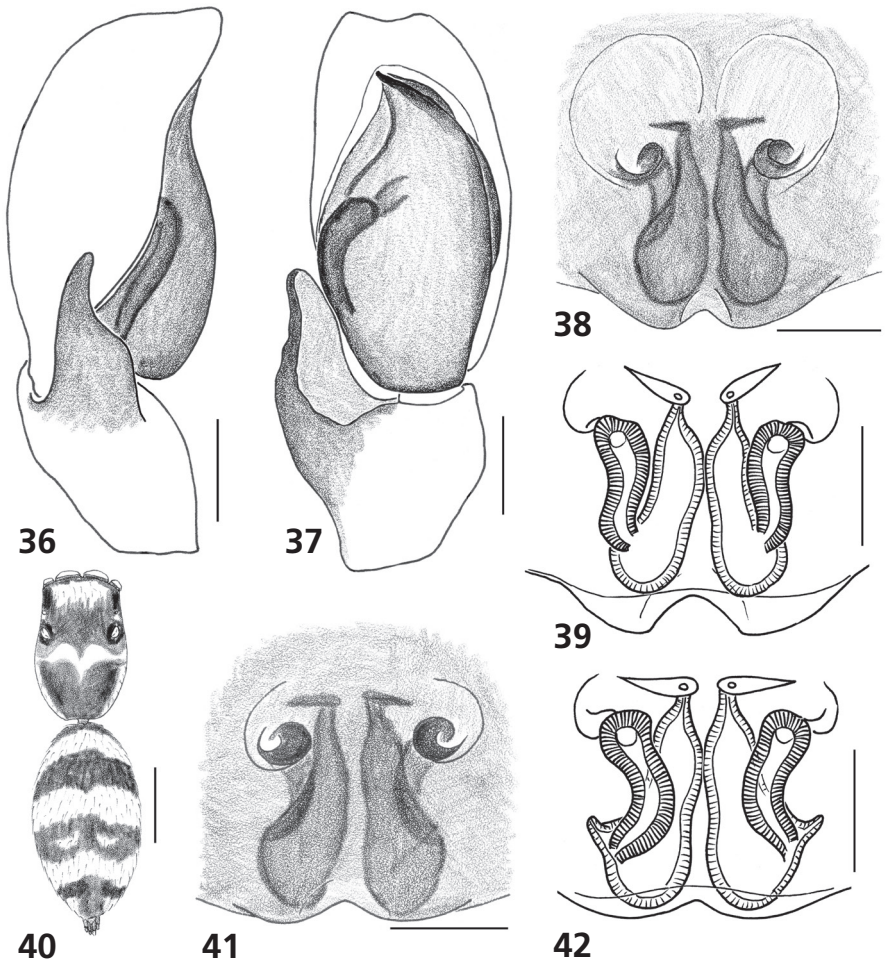
Types: The ♂ holotype (SMFM) from Iran, Mazandaran, Klard, c. 20 km S of Amol (c. 36° 28‘ N, 52° 21‘ E), Alborz (Elburz) Mts, 500 m a.s.l., 24. 05. 1978, J. Martens & H. Pieper. – Paratype: 1 ♂ (SMFM), Iran, Mazandaran, E of Suledeh, Caspian coast, 'Masandowen Noor – Reservat b. Noor', 29. 06. 1978, J. Martens & H. Pieper.

Comparative material of *S. zebraneus* (C. L. Koch, 1837) (Figs. 33–35): Turkey: 1 ♂ (MMUM), Isparta, Kovada Gölu, beating *Tamarix*, 20. 06. 1993, C. Felton; 1 ♂ (PCMR), Egirdir, shore of Lake Egirdir (c. 37° 52‘ N, 30° 50‘ E), 6. 07. 2003, M. Řezáč; 1 ♂ (PCSD, 41), Gulf of Gorkova, behind beach Akyaka, 27. 05. 1997, R. Snazell; 1 ♂ (PCSD, 72), nr. Dalyan, saltmarsh below Caunos, 18. 05. 1997, R. Snazell; 1 ♂ (NHMW), Amasya (c. 40° 39‘ N, 35° 49‘ E), c. 400 m a.s.l., town park, 4. 06. 1967, J. Gruber, F. Ressl & A. Radda; 1♂ (NHMW), Konya (c. 37° 51‘ N, 32° 28‘ E), 21. 05. 1960, F. Ressl. – Greece: 2 ♂ 2 ♀ (SMFM), Crete, Canea, 'u. Umgebung', 06. 1926, F. Roewer; 1 ♂ (PCRG), Thasos, Thasos valley plane woodland (40° 39’ N, 24° 40’ E), A. Fowles.

Etymology: The specific name is the Latin word '*insperatus*', meaning unexpected.

Diagnosis: This species is most closely related to *S. zebraneus*, from which it can be separated by the larger size of the bulbus, the different shape of the tibial apophysis (cf. Figs. 30, 31 and 34, 35), and the structure of the embolar division (as seen dorsally, cf. Figs. 32 and 33). Another similar species *S. iteacus* Metzner, 1999 was recently described from Greece, but it can be separated by the wider, ovoid tibial apophysis (cf. Metzner 1999: plate 78c).

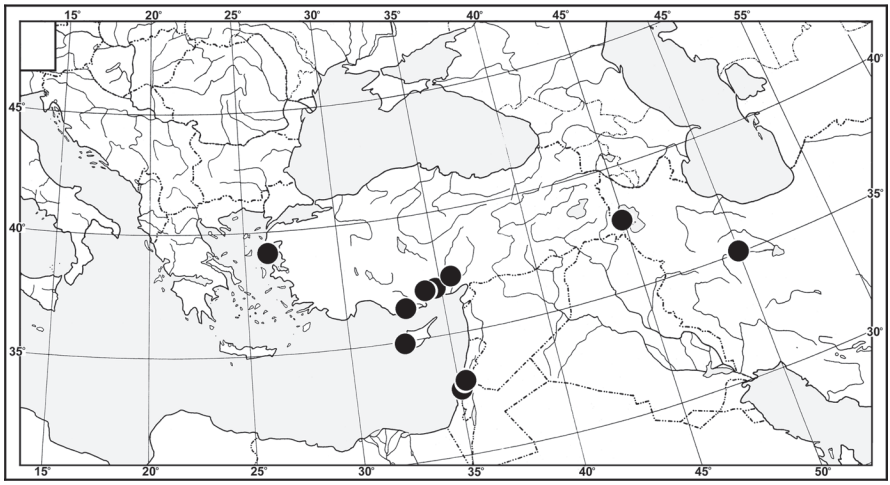
Distribution: Two close localities in Mazandaran Province of Iran (Map 3).



Figs. 36–42. ***Salticus noordami*** **Metzner, 1999 (36, 37: specimens from Iran: Orumiyeh; 38, 39: specimens from Iran: Saveh; 40–42: specimens from Turkey: Akyaka). – 36: male palp, retrolateral view; – 37: ditto, ventral view; – 40: ♀ general appearance; – 38, 41: epigyne; – 39, 42: spermathecae, dorsal view. Scale: (36–39, 41, 42) 0.1 mm, (40) 1 mm.**

Description:

Male (paratype from Iran: Suldeh). Measurements: Carapace 1.80 long, 1.28 wide, 0.73 high at PLE. Ocular area 0.88 long, 1.00 wide anteriorly and 1.03 wide posteriorly. Diameter of AME 0.45. Abdomen 2.55 long, 1.28 wide. Cheliceral length 1.20. Clypeus is not marked. Length of leg segments: I 0.95+ 0.50+0.58+0.50+0.35; II 0.78+0.43+0.45+0.43+0.35; III 0.80+0.38+ 0.51+0.55+ 0.43; IV 1.00+0.48+0.55+0.63+0.40. All legs without spines, but Mt III and IV with 3ap.



Map 4. Distribution of *Salticus noordami* Metzner, 1999. One dot may represent more than one close locality.

Colouration: The specimen is visibly shabby. Carapace yellowish brown, black around eyes and with white marginal bands of scales. Sternum and maxillae yellowish brown. Labium yellow. Chelicerae orange. Abdomen yellowish grey, the dorsal colour pattern of an anterior transverse white stripe and two pairs of white semi-transverse stripes in the rear half is poorly marked, as the specimen is shabby. Book-lung covers and spinnerets yellowish grey. All legs yellow, with grey brownish patches and semi-rings. Palps yellowish brown. Palpal structure as in Figs. 30–32.

Female unknown.

***Salticus noordami* Metzner, 1999** (Figs. 36–42, Map 4)

Salticus noordami; Metzner (1999): 115, 233, tab. 79a–f, map 87 (D♂; the ♂ holotype in SMNK, examined).
Salticus amitaii Prószyński, 2000; Prószyński (2000): 261–262, figs. 110–112 (D♀; the ♀ holotype in HUJI, examined). **New Synonymy**.

Types: The ♂ holotype of *S. noordami* (SMNK, 2171) from Greece, Lesbos, N of Parakila, bridge over a small stream, 15. 05. 1994, A. Noordam. – The ♀ holotype of *S. amitaii* (HUJI, 15211) from Israel, Nahal Shir, 23. 06. 1981, P. Amitai.

Material: Cyprus: 1 ♂ (MHNG), nr. Paphos (Coral Bay), 20 m a.s.l., 26. 03. 1997, C. Lienhard. – Turkey: 1 ♀ (PCRS), Akyaka, on rocks behind Cinan Beach, 30. 05. 1996, A. Russell-Smith; 1 ♀ (LNMC), Içel (= Mersin), Silifke Sand Dunes (36° 17‘ 05“ N, 33° 56‘ 08“ E), inner dunes with damp, *Salicornia* dominated, halophytic vegetation and red bed, 5. 05. 1994, S. Judd & C. Felton; 2 ♀ (LNMC), Içel, Narlıkuyu (36° 26‘ 04“ N, 34° 06‘ 44“ E), garrigue vegetated limestone dominated by *Pinus*, 5. 06. 1994, M. Blamore; 1 ♂ (NHMW), Namrun (W of Pozanti), 30. 05. 1964, F. Ressl. – Iran: 1 ♂ (MMUM), W. Azerbayjan, Orumiyeh, Moskabad Vil., apple orchards, 10. 05. 1997, A. Khalil Aria; 1 ♀ (MMUM), W. Azerbayjan, Tala tapeh, apple orchards, 4. 07. 1998, A. Khalil Aria; 2 ♀ (MMUM), Markazi Prov., Saveh, Yal abad, pomegranade orchard, 6. 06. 1998, F. Mozaffarian. – Israel: 1 ♀ (SZMN), c. 15 km S of Haifa, Nahal Oren Canyon, 20. 05. 1995, T. Pavlicek.

Comparative material of *S. propinquus* Lucas, 1846 (sensu Metzner 1999): Italy: 1♂ (SMFM, 9578), Sardinia, b. Alghero, 100 m a.s.l., 5. 04. 1955, H. Kahmann; 1♂ (SMFM, 9577), Sardinia, 'Flussgebiet d. Ozieri', 230 m a.s.l., 24. 04. 1955, H. Kahmann.

Diagnosis: This species is close to *S. propinquus* (sensu Metzner 1999: plate 81), but males differ in the shape of the bulbus (Fig. 37) and the tibial apophysis, the latter is visibly bent ventrad (Fig. 36). Females of *S. noordami* have a unique configuration of the spermathecae (Figs. 39, 42; cf. fig. 81e in Metzner 1999) and the V-shaped white figure on carapace (Fig. 31).

I did not have a sample in which both males and females were collected together, but I have examined both sexes collected from the apple orchards in NW Iran, which undoubtedly matched each other in size and visible colour pattern. The male was identical to the holotype of *S. noordami*, the female to that of *S. amitaii*. Therefore, I have concluded that the two specific names should be synonymized.

Distribution: The eastern Mediterranean and Asia Minor (Map 4).

Description

Male (from Iran: Moskabad Vil.). Measurements: Carapace 1.51 long, 0.93 wide, 0.53 high at PLE. Ocular area 0.81 long, 0.81 wide anteriorly and 0.71 wide posteriorly. Diameter of AME 0.29. Abdomen is absent. Cheliceral length 0.86. Clypeus is not marked. Length of leg segments: leg I is absent; II 0.60+0.30+0.38+0.35+0.25; III 0.65+0.28+0.38+0.40+0.38; IV 0.78+0.40+0.50+0.50+0.35. The specimens is badly damaged and therefore almost all legs are without spines, but Fm III and IV d 1-1, Tb IV rt 0-1, and Mt III and IV with 5ap.

Colouration: The specimen is badly damaged (without abdomen and first legs) and markedly shabby. Carapace brown, black around eyes; colour pattern poorly visible. Sternum, maxillae, labium and chelicerae yellowish brown. All legs yellow, with brown rings. Palps yellowish brown. Palpal structure as in Figs. 36, 37.

Female (from Turkey: Akyaka). Measurements: Carapace 1.90 long, 1.25 wide, 0.63 high at PLE. Ocular area 0.91 long, 1.05 wide anteriorly and 1.08 wide posteriorly. Diameter of AME 0.38. Abdomen 2.40 long, 1.34 wide. Cheliceral length 0.63. Clypeal height 0.20. Length of leg segments: I 0.80+0.53+0.48+0.39+0.30; II 0.73+0.43+0.40+0.38+0.29; III 0.85+0.48+0.45+0.50+0.40; IV 1.08+0.53+0.64+0.60+0.40. Leg spination. Leg I and II: Fm d 0-1-1-2. Leg III: Fm d 0-1-1-3; Tb 1ap; Mt 5ap. Leg IV: Fm d 0-1-1-1; Tb rt 0-1, v 2ap; Mt 5ap.

Colouration: Carapace yellowish brown, black around eyes and with wide marginal white bands of scales; eye field anteriorly with a transverse white band of scales; in the centre of the carapace there is a V-shaped white figure of scales (Fig. 40). Sternum brown, densely covered with white hairs. Labium, maxillae and chelicerae yellowish brown. Abdomen: dorsum and sides with 3 white and 4 brown transverse stripes (Fig. 31); venter greyish yellow. Booklung covers yellow. Spinnerets yellow-brown. All legs yellow, with pale brown rings. Palps yellow. Epigyne and spermathecae as in Figs. 38, 39, 41, 42.

***Yllenus zaraensis* sp. nov.** (Figs. 20, 21, Map 1)

Types: The ♀ holotype (NMPC) from Turkey, Sivas Prov., Demiryurt env., Lake Tödürge Gölü, c. 13 km W of Zara (39° 53‘ N, 37° 37‘ E), 25.–28. 06. 2002, M. Řezáč.

Etymology: The species is named after the type locality, Zara, W of Lake Tödürge Gölü in Turkey.

Diagnosis: This species is similar to *Y. nurataus* Logunov & Marusik, 2003 from Uzbekistan and *Y. zhilgaensis* Logunov & Marusik, 2003 from South Kazakhstan. From the former, *Y. zaraensis* sp. nov. (Figs. 20, 21) differs in the shape of the epigynal pocket and the narrower insemination ducts (cf. Logunov & Marusik 2003: figs. 216–217), and from the latter it differs in the shape of the epigynal pocket (cf. Logunov & Marusik 2003: figs. 297–299).

Distribution: The type locality only (Map 1).

Description:

Male unknown.

Female (holotype). Measurements: Carapace 2.18 long, 1.93 wide, 1.13 high at PLE. Ocular area 1.08 long, 1.33 wide anteriorly and 1.60 wide posteriorly. Diameter of AME 0.40. Abdomen 2.88 long, 2.10 wide. Cheliceral length 0.63. Clypeal height 0.20. Length of leg segments: I 1.25+0.73+0.70+0.40+0.43; II 1.05+0.63+0.58+0.35+0.38; III 1.23+0.58+0.55+0.58+0.45; IV 1.78+0.78+0.88+0.76+0.55. Leg spination. Leg I: Fm d 0-0-1-2; Tb v 2-2-2; Mt v 2-2ap. Leg II: Fm d 0-0-1-2; Pt pr 0-1-0; Tb pr 0-1, v 1-1-2ap; Mt v 2-2ap. Leg III: Fm d 2ap; Pt pr 0-1-0; Tb pr and rt 1-1, v 1ap; Mt pr and rt 1-0-2ap, v 1ap. Leg IV: Fm d 1ap; Pt pr and rt 0-1-0; Tb pr 1-1, rt 1-1-1; Mt pr and rt 1-0-2ap, v 1ap.

Colouration: Carapace brown, with two pale yellow longitudinal stripes on thorax; eye field black. Entire carapace densely covered with white and reddish adpressed scales. Clypeus and 'cheeks' yellow, densely covered with white hairs. Sternum brownish yellow, with dark grey margin, covered with white hairs. Maxillae and labium brownish yellow, with white tips. Chelicerae dark brown. Abdomen: dorsum and sides yellowish brown, venter yellow; dorsal pattern is poorly marked, as the specimen is visibly shabby, but a median longitudinal dark brown stripe bordered on each side by a white stripe is clearly seen. Book-lung covers and spinnerets yellow. All legs yellow, with brown semi-rings and patches on segment joints. Palps yellow. Epigyne and spermathecae as in Figs. 20, 21.

Acknowledgements

I wish to express my warmest thanks to Mr. Richard Gallon (North Wales, UK), Dr. H. Hoefer (of the SMNK), Dr. J. Gruber (of the NHMW), Dr. P. Jäger (of the SMFM), the late Dr. G. Levy (of the HUJI), Mr. G. Knight (of the LNMC), Dr. M. Řezáč (Prague, Czech Republic), Dr. A. Russell-Smith (Kent, UK), Dr. R. Snazell (Dorset, UK), and Dr. P. Schwendinger (of the MHNG) for giving access to their collections. Dr. A. Russell-Smith (Kent, UK) is thanked for his kind help in editing the English of the final draft. Two anonymous referees are thanked for their critical comments on a first draft of the manuscript.

References

Logunov, D. V. (1993): Notes on two salticid collections from China (Araneae, Salticidae). — Arthropoda Selecta 2(1): 49–59.

Logunov, D. V. (2007): A new species of the genus *Pseudicius* Simon, 1885 (Araneae: Salticidae) from SW Iran. — Acta Arachnologica 56(1): 21-23.

Logunov, D. V. & Marusik, Yu. M. (2003): A revision of the genus *Yllenus* Simon, 1868 (Arachnida, Araneae, Salticidae). — 167 pp. KMK Scientific Press, Moscow.

Logunov, D. V., Marusik, Yu. M. & Mozaffarian, F. (2002; for 2001): Faunistic review of the jumping spiders of Iran (Aranei: Salticidae). — Arthropoda Selecta 10(2): 155–167.

Metzner, H. (1999): Die Spingspinnen (Araneae, Salticidae) Griechenlands. — Andrias 14: 1–279.

Ono, H. (1988): A revisional study of the spider family Thomisidae (Arachnida, Araneae) of Japan. — 252 pp. National Science Museum, Tokyo.

Prószyński, J. (1987): Atlas rysunkow diagnostycznych mniiej znanych Salticidae 2. — 172 pp., Zeszyty Naukowe WSRP, Siedlce.

Prószyński, J. (2000; for 1999): On mostly new species of Salticidae (Aranei) from Levant. — Arthropoda Selecta 8(4): 231–262.

Prószyński, J. (2003): Salticidae (Araneae) of the Levant. — Annales zoologici, Polska Akademia Nauk 53(1): 1–180.

Sahra, G. (2006): Renewed Checklist of spiders (Aranei) of Iran. — Pakistan Journal of Biological Sciences 9(10): 1839-1851.

Topçu, A., Demir, H. & Seyyar, O. (2005): A checklist of the spiders of Turkey. — Serket 9(4): 109–140.

Wesołowska, W. (1986): A revision of the genus *Heliophanus* C. L. Koch, 1833 (Aranei: Salticidae). — Annales zoologici, Polska Akademia Nauk 40(1): 1–254.

Żabka, M. (1990): Salticidae from the Nepal and Bhutan Himalayas. Genera *Pancorius* Simon, 1902, *Plexippus* C. L. Koch, 1846, and *Pseudamycus* Simon, 1885 (Arachnida: Araneae). — Senckenbergiana biologica 70: 161–178.

Address of the author:

Dr. Dmitri V. Logunov
The Manchester Museum, The University of Manchester
Oxford Road
Manchester M13 9PL, UK

E-mail: dmitri.v.logunov@manchester.ac.uk