

Notes on new and poorly known Palaearctic species of the genera *Neon*, *Sitticus* and *Synageles* (Araneae: Salticidae)

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Summary

Two new species are diagnosed, figured and described: *Neon kovblyuki* sp. n. (♂♀; Ukraine: the Crimea) and *Synageles persianus* sp. n. (♂♀; Azerbaijan and Iran). The male of *Sitticus rivalis* Simon, 1937 is figured for the first time; furthermore, this species is removed from synonymy with *S. striatus* Emerton, 1911. *Neon pusio* Simon, 1937 is synonymised with *Neon convolutus* Denis, 1937.

Introduction

Although the Salticidae of northern and central Europe are relatively well-known, those from southern Europe and especially the Mediterranean region remain poorly known. Almost any new collection from these regions still reveals new species (e.g. Logunov, 2001; Logunov & Kronstedt, 2003); furthermore, known species can present problems relating to the conspecificity of specimens collected from different parts of a species' range (e.g. Kronstedt & Logunov, 2003). Many of the old names by Lucas, Simon, Denis and others, especially from the genera *Euophrys*, *Neon*, *Aelurillus*, etc., of which descriptions were based on single sexes, are still known only from the original descriptions, with little understanding of how they relate to newly collected material. A thorough revision of the Mediterranean salticid fauna is clearly required. The aim of the present paper is to examine some of these taxonomic problems related to southern European jumping spiders.

Material and methods

Specimens for this study were borrowed from or are deposited in the following museums or personal collections: BMNH=Department of Entomology, Natural History Museum, London, UK (Ms J. Beccaloni); HNHM=Hungarian Natural History Museum, Budapest, Hungary (Mr T. Szűts); HECO=Hope Entomological Collections, Oxford, UK (Mr J. Hogan); HUJI=Hebrew University of Jerusalem (Zoological Department), Israel (Dr G. Levy); MCZH=Museum of Comparative Zoology, Harvard University, Cambridge, USA (Ms L. Leibensperger); MMUM=Manchester Museum, University of Manchester, Manchester, UK (Dr D. V. Logunov); MNHN=Muséum national d'Histoire naturelle, Paris, France (Dr C. Rollard); PCAM=personal collection of Dr Mark Alderweireldt (Gent, Belgium); PCKT=personal collection of Dr Konrad Thaler (Innsbruck, Austria); PCRS=personal collection of Dr Tony Russell-Smith (Kent, UK); SMNH=Swedish Museum of Natural History,

Stockholm, Sweden (Dr T. Kronstedt); YMTU=personal collection of Dr Yuri Marusik, temporarily kept in Zoological Museum, Turku University, Finland; ZMTU=Zoological Museum, University of Turku, Turku, Finland (Dr S. Koponen); ZMUM=Zoological Museum, Moscow State University, Moscow, Russia (Dr K. G. Mikhailov).

Abbreviations used in the text: AME=anterior median eyes, ap=apical, d=dorsal, Fm=femur, Mt=metatarsus, PLE=posterior lateral eyes, pr=prolateral, Pt=patella, rt=retrolateral, Tb=tibia, v=ventral. The sequence of leg segment measurements is as follows: femur+patella+tibia+metatarsus+tarsus. For the leg spination the system adopted is that used by Ono (1988). All measurements are in mm.

Neon (Dicroneon) kovblyuki sp. n. (Figs. 1–6)

Types: Holotype ♂ (ZMUM), Ukraine, the Crimea, Cape Martyan Reserve (44°30'N, 34°15'E), 1–70 m a.s.l., 10 March 2002, Y. M. Marusik. Paratypes: 4♀ (ZMUM), together with holotype.

Etymology: The species is dedicated to my colleague, Mr Nikolai M. Kovblyuk (Ukraine, Simferopol'), who has been successfully studying the Crimean spider fauna and who organised the trip during which this new species was collected.

Diagnosis: This new species belongs to the subgenus *Dicroneon* and is closest to *Neon levis* (Simon, 1871), from which it can be easily separated by the shorter embolus (cf. Fig. 2 and fig. 223 in Žabka, 1997) and the larger, round primary receptacles (Fig. 4) (long and tube-shaped in *N. levis*; see fig. 227 in Žabka, 1997).

Distribution: The type locality only.

Description: *Male* (holotype): Carapace 0.77 long, 0.59 wide, 0.40 high at PLE. Ocular field 0.54 long, 0.60 wide anteriorly, 0.64 wide posteriorly. Diameter of AME 0.19. Chelicerae 0.14 long. Clypeus 0.03 high. Abdomen 0.63 long, 0.53 wide. Length of leg segments: I 0.43+0.19+0.29+0.17+0.18; II 0.36+0.17+0.21+0.16+0.16; III 0.36+0.16+0.21+0.20+0.16; IV 0.44+0.19+0.33+0.30+0.20. Leg spination: I: Tb v 2-2-0, Mt v 2-2ap. II: Tb v 1-0, Mt v 2-2ap. III and IV spineless. Coloration: carapace yellow in centre and yellow-brown on sides and margins, with wide black areas around eyes. Clypeus narrow, brown, hairless. Sternum yellow. Maxillae and labium yellow-brown. Chelicerae yellow, with brown anterior sides. Abdomen yellow, with 3 longitudinal brown stripes on dorsum and similar brown stripe on each side; venter yellow. Book-lung covers yellow, tinged with grey. Spinnerets yellow. Leg I darkest: femora yellow, with pro- and retrolateral brown stripes; patellae, tibiae and metatarsi brown, with yellow dorsal stripes; tarsi yellow. Palps yellow-brown. Palpal structure as in Figs. 1–3.

Female (paratype): Carapace 0.89 long, 0.64 wide, 0.43 high at PLE. Ocular field 0.53 long, 0.66 wide anteriorly, 0.67 wide posteriorly. Diameter of AME 0.21. Chelicerae 0.17 long. Clypeus 0.04 high. Abdomen 0.99 long, 0.73 wide. Length of leg segments: I 0.46+0.21+0.31+0.21+0.19; II 0.41+0.21+0.21+0.19+0.17;

III 0.41+0.19+0.24+0.22+0.19; IV 0.51+0.23+0.36+0.36+0.24. Leg spination: I: Tb v 2-2-0, Mt v 2-2ap. II: Tb v 1-1, Mt v 2-2ap. III and IV spineless. Coloration as for male; general appearance as in Fig. 6. Epigyne and spermathecae as in Figs. 4–5.

Neon (Dicroneon) convolutus Denis, 1937 (Figs. 7–9)

Neon convolutus Denis, 1937: 1055, pl. 5, figs. 7–9 (D♂; ♂ holotype in MNHN; examined).

Neon pusio Simon, 1937: 1183, 1254 (D♂, ♂ syntypes in MNHN; examined). **New synonymy.**

For a complete set of taxonomic references see Platnick (2002).

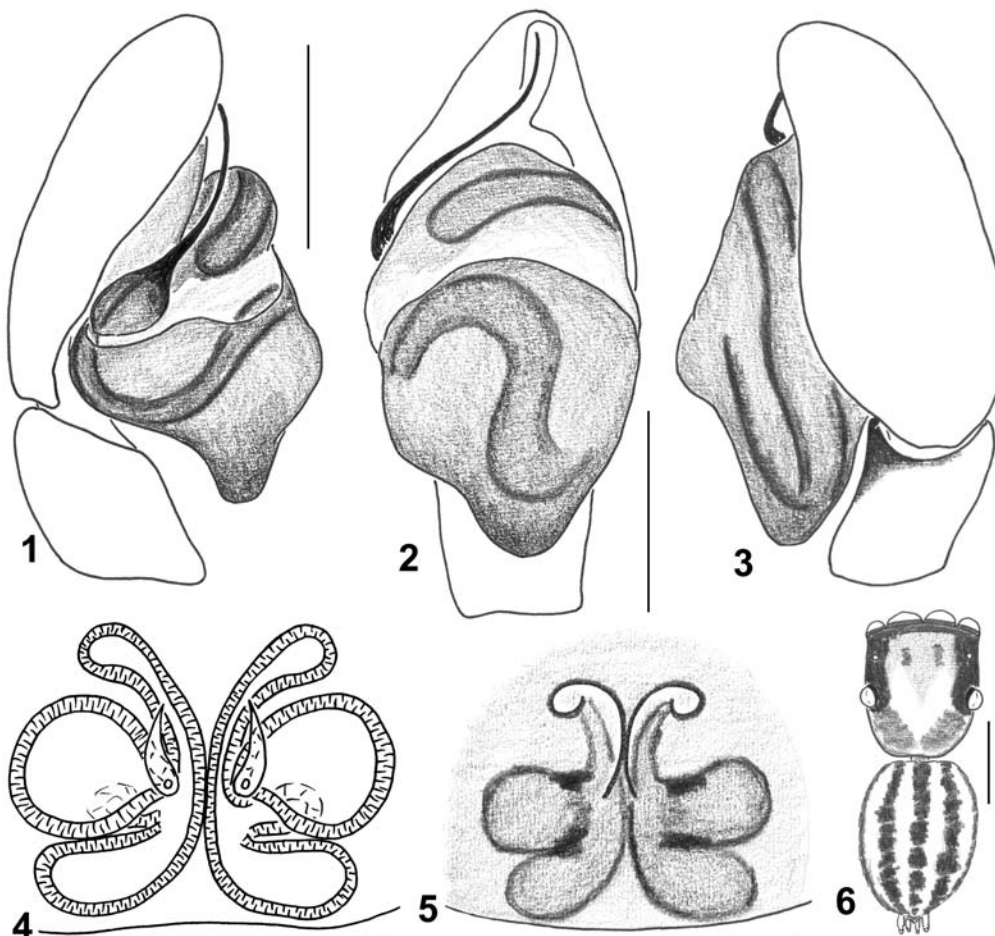
Type: Holotype ♂ (MNHN), Algeria, Zouagha forest.

Comments: Having re-examined the ♂ holotype of *N. convolutus* from Algeria (Figs. 7–8) and the two ♂ syntypes of *N. pusio* from France (Fig. 9), I came to the opinion that both species names should be synonymised. The males of both species are characterised by an identical conformation of the copulatory organs (viz. the long coiled embolus and the tibial apophysis with its tip slightly pointed and bent ventrad, cf. Figs. 8, 9). The name *N. convolutus* seems to have priority, as Denis' paper appeared in part IV of the Proceedings of the

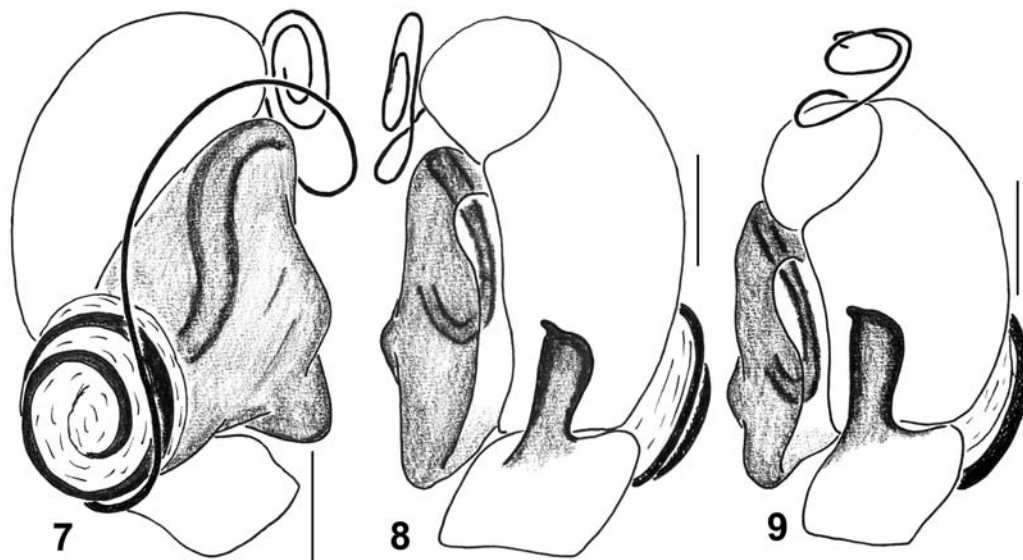
Zoological Society of London for 1936, which was published in January 1937 [apparently earlier than the posthumous work by Simon (1937)].

Both *N. convolutus* and *N. pusio* could also be junior synonyms of the well-known Euro-Central Asian species *Neon rayi* (Simon, 1875), but the tiny differences in the structure of the tip of the tibial apophysis shown recently by some authors (e.g. Roberts, 1998: 207) and the absence of adequate comparative material do not allow me to confirm this assumption. Nevertheless, it should be noted that the ♂ illustrated by Roberts (1998) under the name *N. pusio* is slightly different from the type of this species (cf. Fig. 9) and from that of *N. convolutus* (cf. Figs. 7, 8) in having a larger distal coil of the embolus and a larger distal embolic groove of the cymbium, which occupies nearly half of the cymbial length (no more than a third in *N. convolutus*, as in true *N. rayi*), and hence it may belong to a different species (whereas *N. convolutus* itself may be a junior synonym of *N. rayi*). Being short of comparative material of *N. rayi*, I cannot evaluate the variation of these characters and thus prove or reject the above suggestion. The problem should be addressed later when more material becomes available.

Also, it is worth noting the rather surprising fact that Denis (1937: 1055) described *N. convolutus* from a single



Figs. 1–6: *Neon kovblyuki* sp. n. (♂ holotype, ♀ paratype). **1** Male palp, mesal view; **2** Ditto, ventral view; **3** Ditto, retrolateral view; **4** Spermathecae, dorsal view; **5** Epigyne, dorsal view; **6** Female, general appearance. Scale lines=0.1 mm (1–5), 0.5 mm (6).



Figs. 7–9: 7–8 *Neon convolutus* Denis, 1937 (♂ holotype). 7 Male palp, mesal view; 8 Ditto, retrolateral view. 9 *Neon pusio* Simon, 1937 (♂ syntype), male palp, retrolateral view. Scale lines=0.1 mm.

male collected together [i.e. from the same locality (Djebel Daya), the same habitat (*Quercus* forest; op. cit.: 1027) and on the same date] with two females identified by him as *N. rayi*, but did not pay any attention to this fact. Both these females probably should be assigned to *N. convolutus* as well.

The record of *N. convolutus* from a single ♀ from the Azores (Wunderlich, 1992) should be disregarded, judging by the original figure by the latter author (op. cit.: fig. 854); the recorded ♀ seems to belong to an undescribed species. This problem requires special attention in the future.

Material examined: ALGERIA: 1♂ (MNHN; holotype of *N. convolutus*; both palps separated from body), “Algérie: Forêt de Zouagha” [according to Denis (1937: 1027, 1055), the specimen was collected in the Zouagha forest: the locality Djebel Daya in the immediate neighbourhood of Bir-Chouchen; *Quercus* forest]. FRANCE: 2♂ (MNHN, 23793; syntypes of *N. pusio*), “Vallon. B.s. Andéol.” [label is torn into two pieces and illegible; Simon (1937: 1254) provided two localities: Ardèche: vallée du Rhône, au Theil et au Bourg Saint-Andéol; and Bouches-du-Rhône: les Martigues (but the ♂ syntypes both came from the first locality)].

Sitticus rivalis Simon, 1937 (Figs. 10–13, 17–21)

Sitticus rivalis Simon, 1937: 1190, 1193, 1256 (D♂♀; type series in MNHN; apparent ♀ syntype examined).

S. lineatus Denis, 1950: 86, figs. 10–12 (D♀; holotype in MNHN; examined). Synonymised with *S. striatus* Emerton, 1911 by Prószyński (1980: 27).

S. striatus (nec Emerton, 1911; misidentified): Prószyński, 1975: 216, 219, fig. 1f; 1976 (in part, records from Pyrénées only): map 192; 1980 (in part, records from Pyrénées only): 27, figs. 91–93; 1983 (in part, records from Pyrénées only): 176, fig. 13; Bosmans & De Keer, 1985: 53; Alderweireldt, 2001: 6.

Type: Syntype ♀ (MNHN, 22191), “Pyrénées”.

Diagnosis: By the structure of its copulatory organs, *S. rivalis* is closest to *S. striatus*, of which it has been

considered a junior synonym for a long time. This is hardly surprising, since the females of both species have virtually identical epigynes and spermathecae (see Figs. 17–19 and 22–24) and differ only in body coloration (cf. Figs. 20 and 25), whereas the male of *S. rivalis* has remained unknown until now, apart from the description without figures in Simon (1937). The males of both species are similar, but that of *S. rivalis* can be distinguished by its body coloration (light yellow with brownish bands and patches; cf. brown, with poorly marked yellow pattern in *S. striatus*; see Figs. 12 and 16), and additionally by the absence of a dorsal abdominal scutum (well-developed in *S. striatus*). The position of the small loop of the sperm duct is also a reliable diagnostic character (cf. Figs. 10 and 14). Although I have been unable to examine the variation of this character in *S. rivalis*, as only 1♂ is available, I studied 9♂ of *S. striatus* and the position of the small loop was quite stable (at 11–12 hours in *S. striatus*; at c. 10 hours in *S. rivalis*); the general proportions of the tegulum are also slightly different (cf. Figs. 10 and 14).

Distribution: France (Hautes-Pyrénées, Avignon and massif Lozère) (Fig. 13).

Habitat: In France (massif Lozère), a high mountain *Sphagnum* bog with abundant *Gentianella* and *Comarum palustre* and scattered *Pinus* trees (Alderweireldt, 2001).

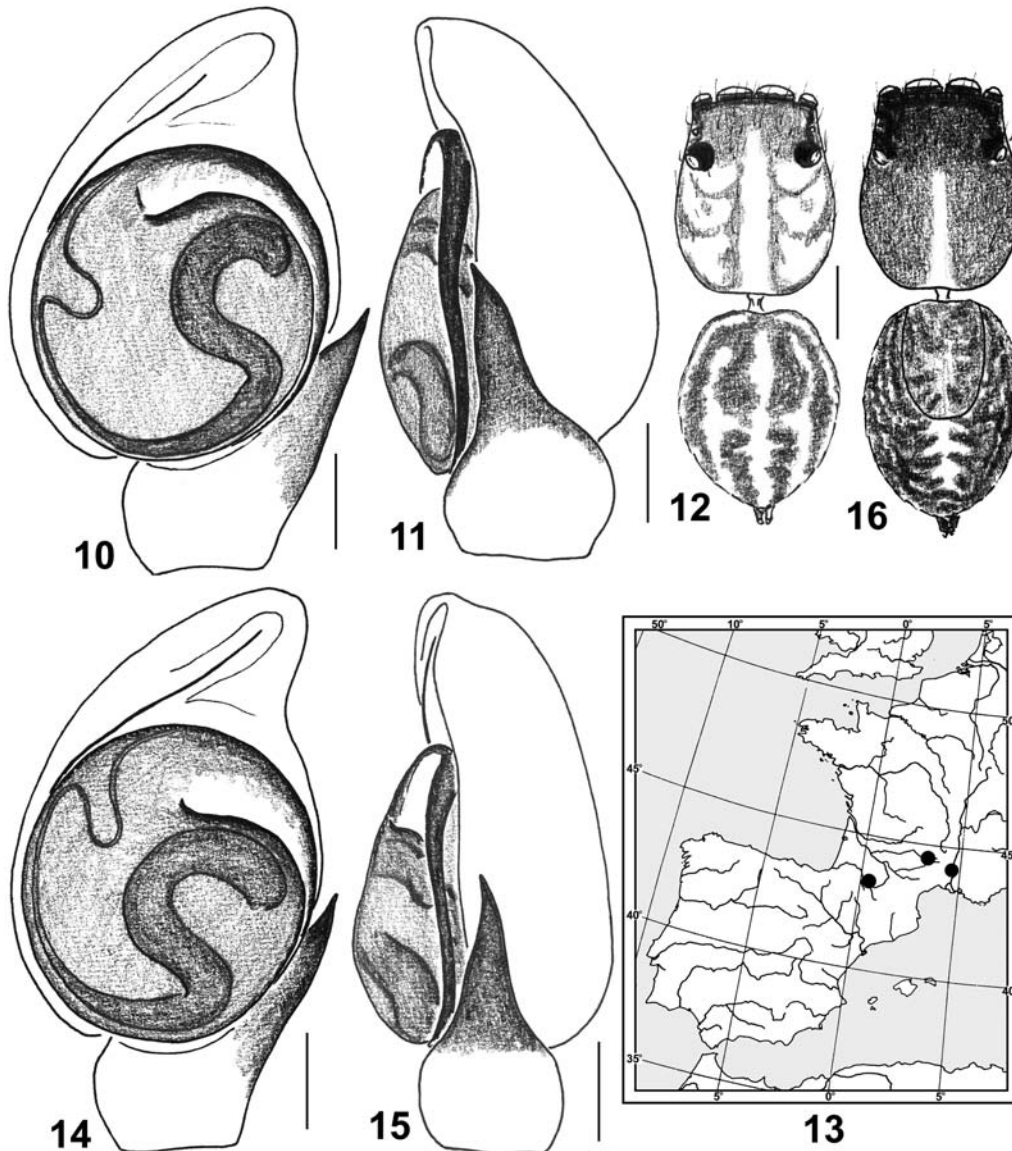
Comments: *Sitticus rivalis* was described from both sexes from two localities in France, from the banks of the river Durance near Avignon and from an unknown locality in the Pyrénées (Simon, 1937: 1256); Simon provided no figures for this species. Tube 25251 in the MNHN containing the label “*Sitt. rivalis* E. S. Durance près Avignon (type)” was re-examined by Prószyński (1980: 27), who found it to be empty. Therefore, both Prószyński (1980: figs. 91–92) and myself were only able to re-examine the ♀ kept in the MNHN (tube 22191), studied by Simon and apparently belonging to the original syntype series (reported by him from the unknown locality in the Pyrénées). This female is

described below, but I have been unable to illustrate the spermathecae, as the preparation is very pale and poorly visible apparently due to overexposure in potassium hydroxide (the course of the insemination ducts is virtually invisible). Nevertheless, after a careful comparison of this preparation with that of the holotype of *Sitticus lineatus*, I came to the conclusion that both are identical and the latter name should be considered a junior synonym of *S. rivalis*. Therefore, I illustrated the spermathecae of the ♀ holotype of *S. lineatus* (Figs. 18–19), as it is well preserved and provides all the diagnostic characters of this species.

The newly collected ♂ is well matched with the ♀ syntype of *S. rivalis*; both have an identical colour pattern (yellow bodies with brownish stripes and patches, see Figs. 12, 20), and this ♂ and the ♀ holotype of *S. lineatus* (and probably also the ♀ syntype of *S. rivalis* from the Pyrénées) were collected from altitudes above 1600 m in southern France. Massif Lozère where M. Alderweireldt collected the ♂ is also only c. 100 km

from Simon's type locality near Avignon. Thus, it seems safe to treat the newly collected male and the ♀ syntype of *S. rivalis* as belonging to the same species. As both sexes can easily be distinguished from true *S. striatus* (see above), the name *S. rivalis* is here revalidated and used for the European montane species (thus leaving *S. striatus* as its North American counterpart).

Description: Male (from France: massif Lozère): Carapace 1.48 long, 1.13 wide, 0.56 high at PLE. Ocular field 0.63 long, 0.89 wide anteriorly, 0.98 wide posteriorly. Diameter of AME 0.25. Chelicerae 0.45 long. Clypeus 0.08 high. Abdomen 2.15 long, 1.50 wide. Length of leg segments: I 0.80+0.49+0.59+0.48+0.36; II 0.61+0.36+0.40+0.30+0.30; III 0.61+0.30+0.38+0.34+0.30; IV 0.95+0.38+0.59+0.53+0.35. Leg spination: I: Fm d 1-1-1; Tb pr 0-1, v 1-1; Mt v 2-2ap. II: Fm d 1-1-2; Tb pr 0-1, v 1-1; Mt v 2-2ap. III: Fm d 1-1-3; Pt pr and rt 0-1-0; Tb pr 1-1, rt 0-1, v 1-0; Mt pr, rt and v 1-2ap. IV: Fm d 1-0-1-2; Pt rt 0-1-0; Tb pr 1-1-1, rt 1-1, v 1-0-2ap; Mt pr and rt 1-1-2ap, v 2ap. Coloration:



Figs. 10–16: **10–13** *Sitticus rivalis* Simon, 1937 (♂ from France: massif Lozère). **10** Male palp, ventral view; **11** Ditto, retrolateral view; **12** General appearance; **13** Known distribution. **14–16** *Sitticus striatus* Emerton, 1911 (♂ from Canada: Cape Breton Highlands National Park). **14** Male palp, ventral view; **15** Ditto, retrolateral view; **16** General appearance. Scale lines=0.1 mm (10–11), 0.5 mm (12, 16).

carapace yellow, with brownish eye field and brownish longitudinal stripes (Fig. 12); clypeus yellow, covered with white hairs. Sternum yellow, with brownish margins. Labium, maxillae and labium yellow. Abdomen yellow, with brownish longitudinal bands and patches; dorsum as in Fig. 12; venter yellow, with two white longitudinal bands. Book-lung covers yellow, tinged with grey. Spinnerets brownish yellow. All legs yellow. Palps yellow, but cymbium pale brown. Palpal structure as in Figs. 10–11.

Female (syntype): Carapace 1.88 long, 1.48 wide, 0.78 high at PLE. Ocular field 0.78 long, 1.10 wide anteriorly, 1.20 wide posteriorly. Diameter of AME 0.33. Chelicerae 0.60 long. Clypeus 0.13 high. Abdomen 2.25 long, 1.73 wide. Length of leg segments: I 0.88+0.55+0.55+0.48+0.36; II 0.80+0.50+0.46+0.39+0.33; III 0.83+0.41+0.43+0.40+0.38; IV 1.30+0.58+0.88+0.73+0.44. Leg spination: I: Fm d 1-1-1; Tb v 2-2; Mt v 2-2ap. II: Fm d 1-1-1; Tb pr 0-1, v 1-1; Mt v 2-2ap. III: Fm d 1-1-2; Tb pr and rt 1-1, v 1-0; Mt pr and rt 2-2ap. IV: Fm d 1-0-1-1; Pt rt 0-1-0; Tb pr and rt 1-1-1, v 1-0-2ap; Mt pr and rt 1-1-2ap, v 2ap. Coloration as for male, including clypeus covered with white hairs; general appearance as in Fig. 20. Epigyne and spermathecae as in Figs. 17–19, 21.

Material examined: FRANCE: 1♀ (MNHN, 229191; apparent syntype of *S. rivalis*; ♀ in vial and corresponding slide with epigyne), “Pyrande (?)” (label illegible) [according to Prószyński (1980: 27), this is Pyrénées]; 1♀ (MNHN; holotype of *S. lineatus*; slide no. 18 with

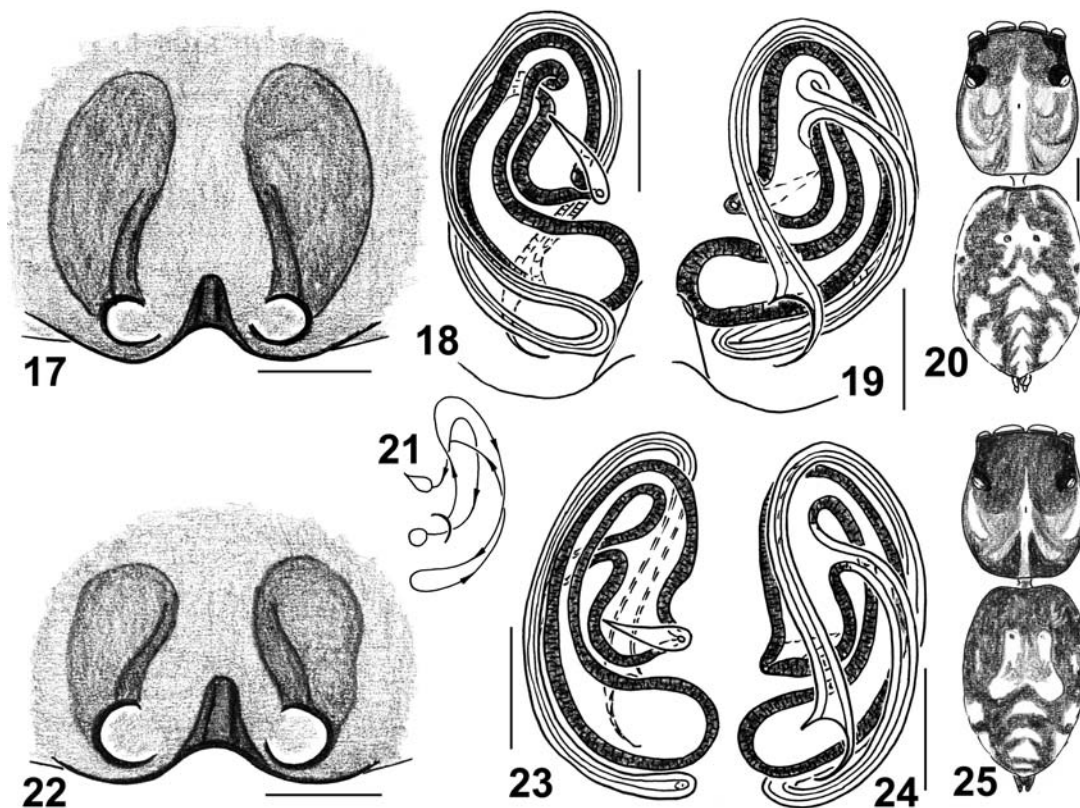
epigyne), “Hautes-Pyrénées, Lac Superieur d’Estibère, 2320 m a.s.l., 9.07.1949” [according to Bosmans & De Keer (1985), this is the locality Orédon]; 1♂ (PCAM) [this vial lacks a geographic label, but according to Alderweireldt (2001: 6), the locality is Col de Finiel, Monts Lozère, in the northern part of “Les Cévennes” National Park, 1600 m a.s.l., 20 August 2000, M. Alderweireldt].

Comparative material: *Sitticus striatus* Emerton, 1911 (Figs. 14–16, 22–25): CANADA: 7♂ (MMUM), Ontario, Oliver Bog, 3 km S of Galt, pitfall traps, May–June 1987, D. Blades; 1♂ 3♀ (ZMTU), 4♀ (MMUM), Cape Breton Highlands National Park (60°41’W, 46°48’N), 400 m a.s.l., 1 June 1983, H. Goviet; 3♀ (MCZH, 37560), Ontario, Thunder Bay Distr., 7 km E of Nipigon on Hwy 17, black spruce, juniper, larch and sphagnum, 29 May 1986, W. Maddison. USA: 1♂ (MCZH, 37564), “Nantucket, 22.06.1929”.

Synageles persianus sp. n. (Figs. 26–29, 33–35)

Synageles dalmaticus (nec Keyserling, 1863; misidentified): Nenilin, 1985 (in part): 130; Logunov *et al.*, 2002: 163; Logunov & Guseinov, 2002: 257.

Type: Holotype ♂ (MMUM), Iran, Tehran Prov., Latian Dam (35°48’N, 51°08’E), 6–19 June 2000, Y. Marusik.



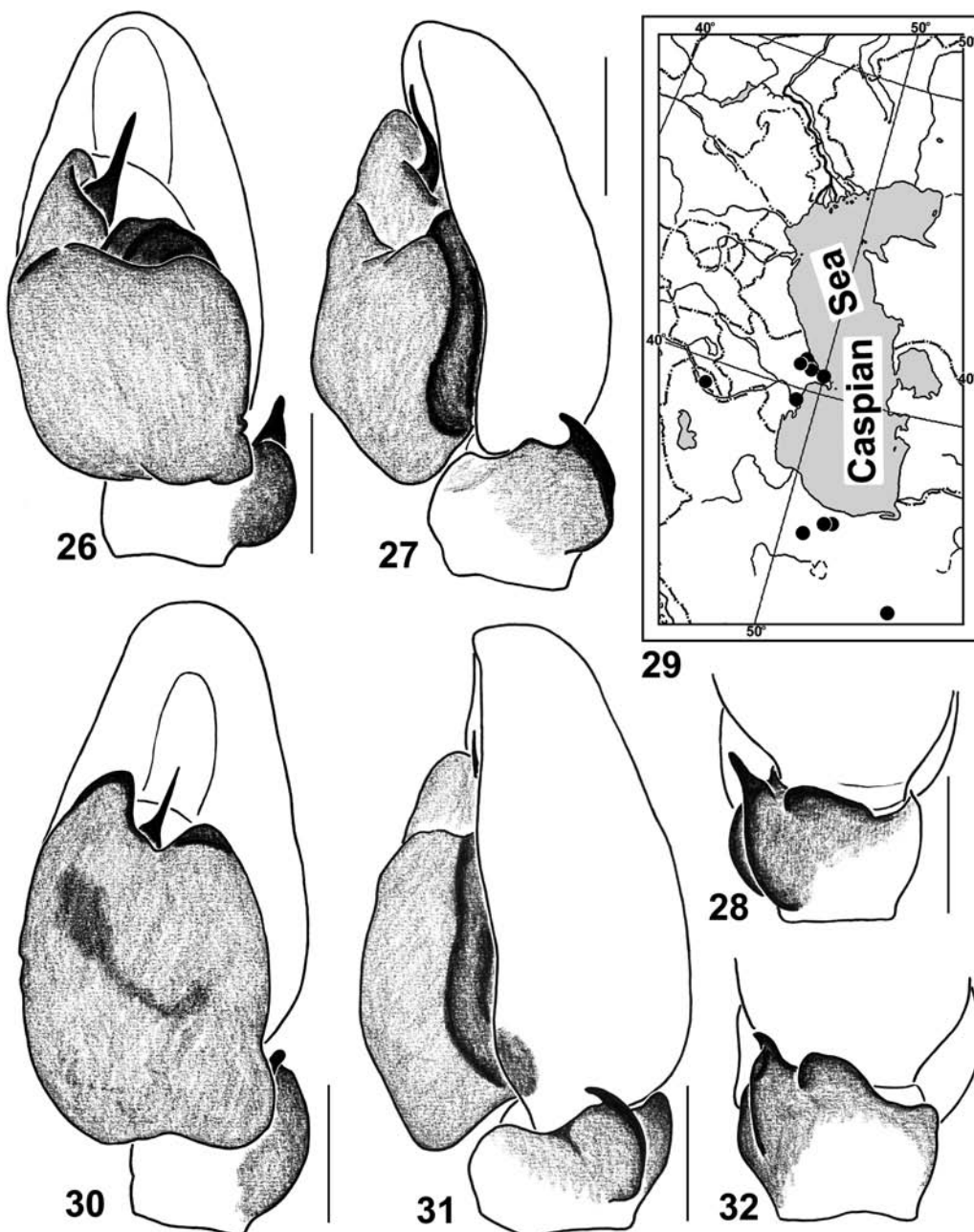
Figs. 17–25: 17–21 *Sitticus rivalis* Simon, 1937 (17–19, 21, ♀ holotype of *S. lineatus* Denis, 1950; 20, ♀ syntype of *S. rivalis*). 17 Epigyne, ventral view; 18 Spermathecae, dorsal view; 19 Ditto, ventral view; 20 Female, general appearance; 21 Diagrammatic course of insemination ducts. 22–25 *Sitticus striatus* Emerton, 1911 (♀ from Canada: Cape Breton Highlands National Park). 22 Epigyne, ventral view; 23 Spermathecae, dorsal view; 24 Ditto, ventral view; 25 Female, general appearance. Scale lines=0.1 mm (17–19, 22–24), 0.5 mm (20, 25).

Etymology: The species epithet refers to the ancient name Persia, the country which existed approximately within the borders of the present-day Iran and part of Azerbaijan.

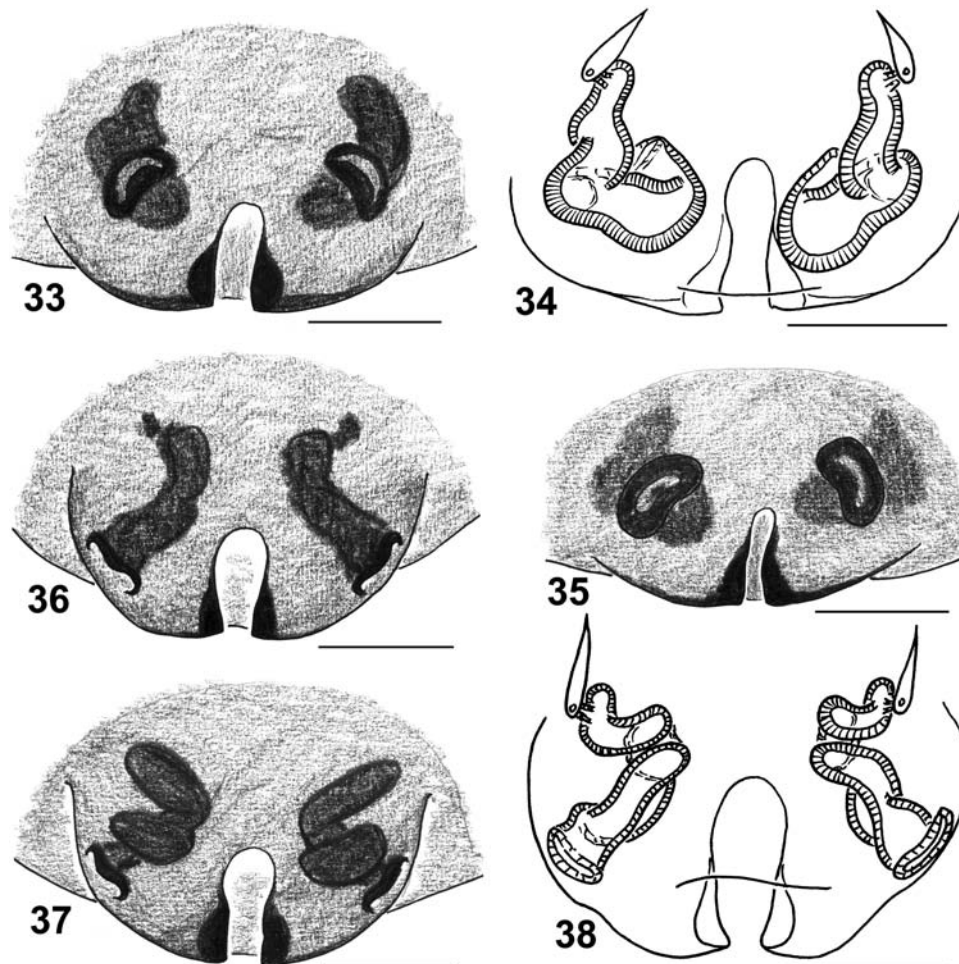
Diagnosis: This new species is most closely related to *S. dalmaticus*, with which it has been confused several times (e.g. Logunov *et al.*, 2002; Logunov & Guseinov, 2002), but can be distinguished by the following characters: the longer and stronger embolus (cf. Figs. 26 and 30), the less pronounced dorsal outgrowth on the male palpal tibia (cf. Figs. 28 and 32), and the position of the copulatory openings (central in *S. persianus* sp. n. and marginal in *S. dalmaticus*) (cf. Figs. 33 and 36).

Distribution: Several localities in Iran and Azerbaijan (Fig. 29), but the distribution may be wider.

Description: *Male* (holotype): Carapace 1.22 long, 0.75 wide, 0.39 high at PLE. Ocular field 0.74 long, 0.66 wide anteriorly, 0.63 wide posteriorly. Diameter of AME 0.23. Chelicerae 0.19 long. Clypeus 0.03 high. Abdomen 1.43 long, 1.93 wide. Length of leg segments: I 0.61+0.38+0.42+0.33+0.23; II 0.50+0.29+0.37+0.33+0.23; III 0.46+0.23+0.34+0.33+0.22; IV 0.64+0.34+0.54+0.43+0.26. Leg spination: I: Fm d 1-1-1; Tb v 1-2-2ap; Mt v 2-2ap. II: Fm d 1-1; Tb v 1-1-1ap; Mt v 2-2ap. III: Fm d 1-1; Tb v 1ap; Mt v 2ap. IV: Fm d 1-1; Tb v 1ap; Mt v 2ap. Coloration: carapace brownish yellow, with black around eyes and a transverse line or spot of white scales in foveal area. Clypeus very narrow, brownish yellow, without scales. Abdomen dark, grey brownish, with white transverse band and two white scaly patches in



Figs. 26–32: **26–29** *Synageles persianus* sp. n. (♂ holotype). **26** Male palp, ventral view; **27** Ditto, retrolateral view; **28** Palpal tibia, dorsal view; **29** Known distribution. **30–32** *Synageles dalmaticus* (Keyserling, 1863) (♂ from Egypt: Alexandria). **30** Male palp, ventral view; **31** Ditto, retrolateral view; **32** Palpal tibia, dorsal view. Scale lines=0.1 mm.



Figs. 33–38: **33–35** *Synageles persianus* sp. n. (♀ paratype from Iran: Tehran Prov.). **33, 35** Epigyne, ventral view; **34** Spermathecae, dorsal view. **36–38** *Synageles dalmaticus* (Keyserling, 1863) (♀ from Egypt: Alexandria). **36, 37** Epigyne, ventral view; **38** Spermathecae, dorsal view. Scale lines=0.1 mm.

area of constriction; anterior part of dorsum in front of white transverse band completely covered with light brown, shiny scutum. Males from Azerbaijan (Khyzy Distr.) have lighter, yellow-orange abdomens in their anterior halves, with two white scaly patches surrounded by brown margins and looking like “eyes”. Leg I stronger and markedly thicker than other legs, light brown, with white metatarsi and tarsi and pale black prolateral line on tibiae. Legs II and III yellow (but femora brownish), each with prolateral longitudinal black line on femur, patella and tibia. Leg IV as legs II–III, but with black longitudinal line on retrolateral side of femur, patella and tibia. Book-lung covers and spinnerets brownish yellow. Palps brownish yellow. Palpal structure as in Figs. 26–28.

Female (paratype from Iran: Tehran Prov.): Carapace 1.26 long, 0.79 wide, 0.40 high at PLE. Ocular field 0.89 long, 0.82 wide anteriorly, 0.74 wide posteriorly. Diameter of AME 0.25. Chelicerae 0.26 long. Clypeus 0.04 high. Abdomen 1.93 long, 1.07 wide. Length of leg segments: I 0.61+0.39+0.37+0.34+0.21; II 0.59+0.31+0.39+0.35+0.23; III 0.57+0.26+0.39+0.34+0.26; IV 0.77+0.37+0.66+0.49+0.29. Leg spination: I: Tb v 1-2-2ap; Mt v 2-2ap. II: Tb v 0-1; Mt v 2-2ap. III and IV: Fm d 1-1. Coloration as in male, except: white transverse band on dorsum much wider, often looking like M-shaped letter; anterior dorsum much narrower (half

carapace width); leg IV also with prolateral longitudinal black line on tibia and metatarsus. Females from Azerbaijan (Khyzy Distr.) lighter and with dorsal abdominal pattern as in Azerbaijanian males (see above). Epigyne and spermathecae as in Figs. 33–35.

Material examined: Paratypes: IRAN: 1♀ (MMUM), together with holotype; 1♂ (MMUM), 3♀ (SMNH), Tehran Prov., Plant Pests and Diseases Research Institute park (36°40'N, 51°25'E), leaf and grass litter and tree trunks, 7–22 June 2000, Y. M. Marusik. AZERBAIJAN: 1♂ (MMUM), Absheron Peninsula, Mardakyan, 16 June 1996, E. F. Guseinov; 4♂ 1♀ (YMTU), 4♂ 2♀ (MMUM), 3♂ 2♀ (ZMUM), Khyzy Distr., c. 75 km N of Baku, W of Kilyazi, 40°51.5'N, 49°11.5'E, 260 m a.s.l., relic poplar stand, in drift litter (brought by flood) under trees and on tree bark, 7 June 2003, Y. M. Marusik; 3♂ 1♀ (ZMUM), same distr., c. 12 km SW of Kilyazi, 7 June 2003, E. F. Guseinov; 1♂ (YMTU), Nakhchevan Area, c. 3 km E of Akhura, 39°33.5'N, 45°11.4'E, 1370 m a.s.l., 2 June 2003, Y. M. Marusik.

For other material examined see Logunov *et al.* (2002: sub *S. dalmaticus*) and Logunov & Guseinov (2002: sub *S. dalmaticus*).

Comparative material: *Synageles dalmaticus* (Keyserling, 1863) (Figs. 30–32, 36–38): HUNGARY: 1♂

(HNHM; coll. Chyzer 1187), “Buccari”. CROATIA: 1♀ (PCKT), Rovinj, 27 July 1965, coll.? YUGOSLAVIA: 4♀ (BMNH, 1891/365; apparently syntypes of *Salticus dalmaticus*), “Dalmatia, Keys. coll. 91.8.1-5.04.3”. GREECE: 1♂ (ZMTU), Rhodos, Kritika, from litter of maquis, 22 May 1973, P. T. Lehtinen; 1♂ (PCRS), NE Corfu, Kerasia beach, Agios Stephanos, 29 May 1999, A. Russell-Smith; 1♂ (PCKT), Crete, Ida Mts, 1500 m a.s.l., 30 April 1980, Heiss. TURKEY: 5♂ 6♀ (PCRS), vicinities of Yalikavak, near Bodrum, in lush grass near spring, under stones in grassland and maquis, 25 May–7 June 1997, A. Russell-Smith; 1♀ (PCRS), c. 8 km W of Koycegiz, sycamore woodland, 5 June 1996, A. Russell-Smith; 1♂ 1♀ (PCRS), Akyaka, near Cinan beach, under stone in pine wood, 30 May 1996, A. Russell-Smith. EGYPT: 7♂ 4♀ (HECO, b.1732), “*Salticus todillus* (Sim) Alexra” [Alexandria] (labelled as ‘types’ in card index). ISRAEL: 5♂ 6♀ (HECO, b.1793), “*Salticus todillus* Sim Palestine, tube label 21”; 1♀ (HUJI, 14951), Negev Desert, Be’er Mash’abbim, sands, 25 June 1992, Y. Lubin; 1♂ (HUJI, 15353), Jerusalem, 10 May 1977, G. Levy; 1♀ (HUJI, 15355), Dead Sea area, Nahal Arugot, near nests of ant *Polyrachis simplex*, 23 March 1985, Y. Ofer; 1♂ (HUJI, 15356), same locality, 2 April 1989, G. Levy; 1♂ (HUJI, 15352), northern part of Sea of Galilee, Big’at Bet Zayad, 20 April 1966, G. Tsabar; 1♀ (HUJI, 15354), Moz’a, near spring, 3 June 1979, G. Levy; 2 ♂ 1♀ (HUJI, 15357), foothills of Judaea, Sedot Mikha, 14 May 2002, Y. Madelik.

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