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New taxonomic and faunistic data on the gnaphosid spiders of Turkey (Aranei: Gnaphosidae)

Новые таксономические и фаунистические сведения о гнафозидах Турции (Aranei: Gnaphosidae)

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KEY WORDS: Gnaphosidae, new genus, new species, new distribution records, Turkey, Crimea.

КЛЮЧЕВЫЕ СЛОВА: Gnaphosidae, новый род, новые виды, новые находки, Турция, Крым.

ABSTRACT. From Turkey are described one new genus *Turkozelotes* Kovblyuk et Seyyar, gen.n. and four new species: *Drassodes bifidus* Kovblyuk et Seyyar, sp.n. (♂), *Echemus levyi* Kovblyuk et Seyyar, sp.n. (♂), *Haplodrassus ponomarevi* Kovblyuk et Seyyar, sp.n. (♂♀) and *Turkozelotes microb* Kovblyuk et Seyyar, sp.n. (♂). A new synonymy is established *Zelotes prishutovae* Ponomarev et Tsvetkov, 2006 syn.n. = *Camillina metellus* (Roewer, 1928). Two male forms of *Berinda ensiger* (O. Pickard-Cambridge, 1874) are recognized: with long or short retrolateral tibial apophysis. From Turkey six species are recorded for the first time: *Camillina metellus* (Roewer, 1928), *Drassyllus crimeaensis* Kovblyuk, 2003, *D. sur* Tuneva et Esyunin, 2003, *D. jubatopalpis* Levy, 1998, *Haplodrassus ovtchinnikovi* Ponomarev, 2008 and *Zelotes gracilis* (Canestrini, 1868). *C. metellus* is recorded for the first time from Crimea and Ukraine. Diagnostic drawings and distribution are provided for all species, except *Z. gracilis*. For comparison with *Echemus levyi* sp.n., diagnostic drawings of *Echemus angustifrons* (Westring, 1861) are also provided.

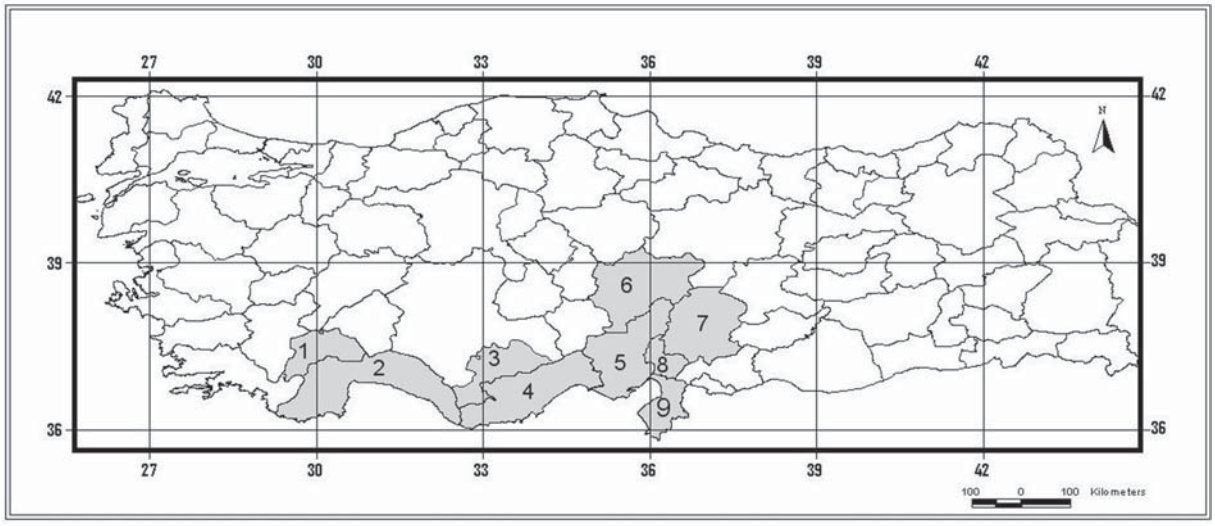
РЕЗЮМЕ. Описан монотипический род *Turkozelotes* Kovblyuk et Seyyar, gen.n. Описаны 4 новых вида: *Drassodes bifidus* Kovblyuk et Seyyar, sp.n. (♂), *Echemus levyi* Kovblyuk et Seyyar, sp.n. (♂), *Haplodrassus ponomarevi* Kovblyuk et Seyyar, sp.n. (♂♀) и *Turkozelotes microb* Kovblyuk et Seyyar, sp.n. (♂). Установлена новая синонимия: *Zelotes prishutovae* Ponomarev et Tsvetkov, 2006 syn.n. = *Camillina metellus* (Roewer, 1928). Впервые отмечен полиморфизм самцов у *Berinda ensiger* (O. Pickard-Cambridge, 1874) (2 формы — с коротким и с длинным отростком голени пальпы). Впервые в Турции обнаружены 6 видов: *Camillina metellus* (Roewer, 1928), *Drassyllus crimeaensis* Kovblyuk, 2003, *D. sur* Tuneva et Esyunin, 2003, *D. jubatopalpis* Levy, 1998, *Haplodrassus ovtchinnikovi* Ponomarev, 2008 и *Zelotes gracilis* (Canestrini, 1868). *C. metellus* впервые отмечен на Украине (в Крыму). Для всех видов, кроме хорошо известного *Z. gracilis*, приводятся диагностические рисунки копулятивных аппаратов и сведения о географическом распространении. Для сравнения с новым видом приводятся диагностические рисунки *Echemus angustifrons* (Westring, 1861).

Introduction

To date 107 gnaphosid species belonging to 26 genera are known from Turkey [Seyyar et al., 2008]. It seems that the real diversity of Turkish fauna is much higher, but it is rather poorly collected or studied. The material was recently collected by O.Seyyar and his friends in various provinces of Turkey (Map 1), and contains several interesting species new to science or to the country. The goals of this paper are to provide new data about the Gnaphosidae of Turkey, and the description of new taxa.

Material and Methods

All specimens treated in this study are deposited in (or returned to) the following collections: CP — personal collection of A.V. Ponomarev (Rostov-on-Don,



Map 1. Study area in Turkey according to provinces: 1 — Burdur Prov.; 2 — Antalya Prov.; 3 — Karaman Prov.; 4 — Mersin Prov.; 5 — Adana Prov.; 6 — Kayseri Prov.; 7 — Kahramanmaras Prov.; 8 — Osmaniye Prov.; 9 — Hatay Prov.

Карта 1. Район исследований: 1 — Burdur Prov.; 2 — Antalya Prov.; 3 — Karaman Prov.; 4 — Mersin Prov.; 5 — Adana Prov.; 6 — Kayseri Prov.; 7 — Kahramanmaras Prov.; 8 — Osmaniye Prov.; 9 — Hatay Prov.

Russia); NUAM — Arachnology Museum of the Niğde University, Niğde, Turkey (A. Topçu); TNU — Zoology Department, V.I. Vernadsky Taurida National University, Simferopol, Ukraine (M.M. Kovblyuk); ZMMU — Zoological Museum of the Moscow State University, Moscow, Russia (K.G. Mikhailov).

Terms and abbreviations for genital descriptions are adopted from Miller [1967], Platnick & Shadab [1983], Levy [1998] and Senglet [2004] with additions: *B* — bursa; *CC* — corner-cap of epigyne; *C* — conductor; *DL* — dorsal lobe of terminal apophysis; *DTA* — dorsal tegular apophysis; *E* — embolus; *EB* — embolar base; *EP* — embolar projection; *FD* — fertilization duct; *GD* — glandular duct; *H* — epigynal hood; *L* — lobe of RTA; *LD* — lateral epigynal duct; *LM* — lateral epigynal margin; *MA* — median apophysis; *MD* — median epigynal duct; *Oe* — outgrowth of embolar base; *OS* — outgrowth of subtegulum; *PB* — preening brush on metatarsi III–IV; *PM* — posterior epigynal margin; *R* — rim; *RTA* — retrolateral tibial apophysis; *S* — spermathecae; *ST* — subtegulum; *T* — tegulum; *TA* — terminal apophysis; *VL* — ventral lobe of terminal apophysis.

The following abbreviations are used in the text: a — apical; d — dorsal; pl — prolateral; rl — retrolateral; v — ventral; AM, AL, PM, PL — anterior median, anterior lateral, posterior median and posterior lateral eyes.

Illustrations were made using both reflecting- and transmitted-light microscopes. Coloration was described from specimens preserved in ethanol/water solution. Legs and palpal segments were measured after separation from the cephalothorax. All measurements are in mm. All scale bars equal 0.1 mm.

Taxonomic survey

Berinda ensiger (O. Pickard-Cambridge, 1874) Figs 1–11.

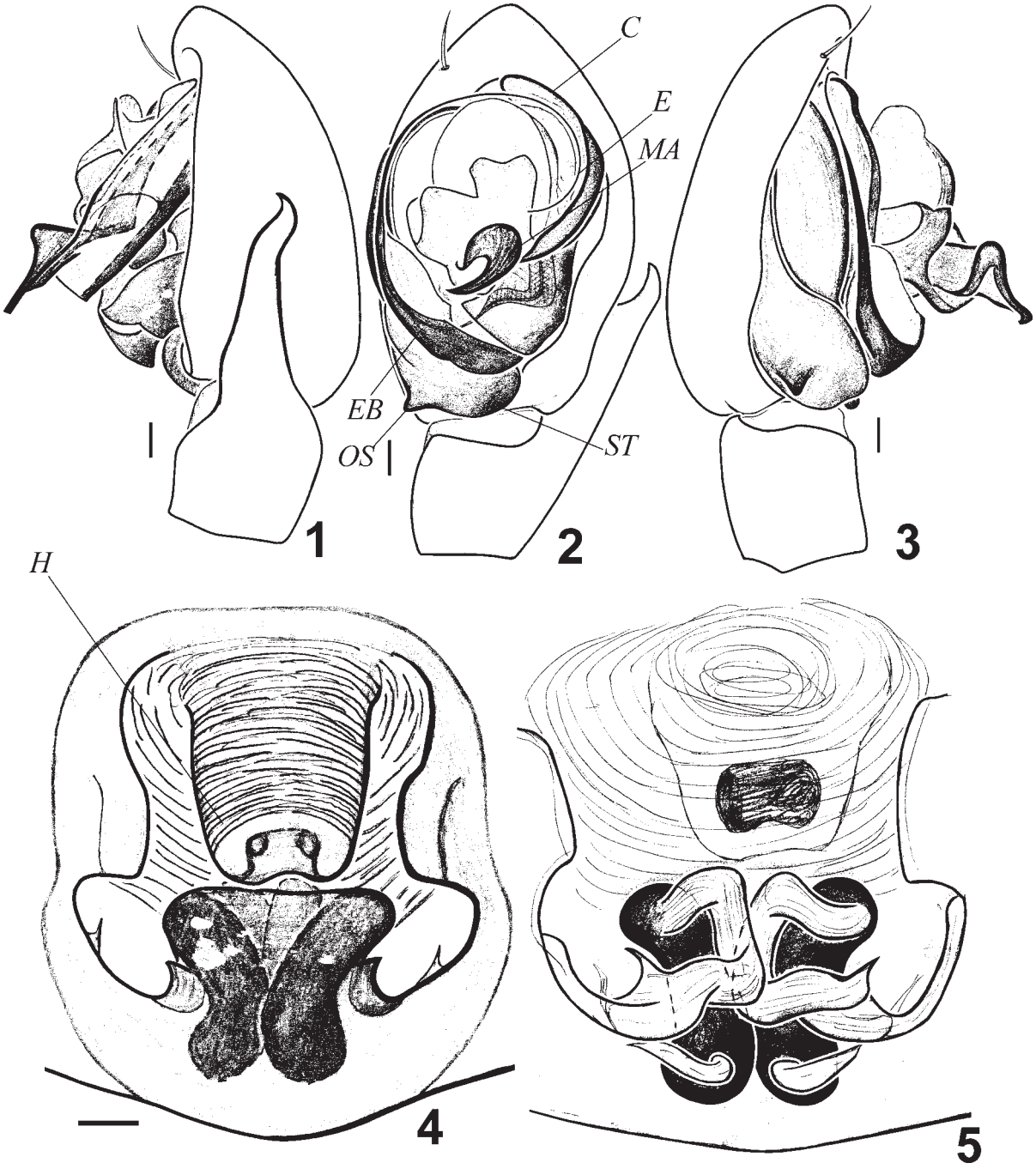
Drassus e. O. Pickard-Cambridge, 1874: 389–390, pl. 51, f. 14 (♂♀).

Drassodes reimoseri Bristowe, 1935: 779–780, f. 4–6 (♀).

B. e.: Chatzaki, Thaler & Mylonas, 2002: 573–574, f. 14–15, 18–19 (♂♀).

MATERIAL. TURKEY. 1 ♂ with short RTA, 2 ♀♀ (TNU), Hatay Province, Kırıkhan District, Ilıkpınar village (36°11.864' N, 36°10.820' E), 113 m, 26.05.2007, O. Seyyar; 1 ♀ (NUAM), Hassa District, Akbez Town (36°50' N, 036°32' E), 450 m, under stone, 13.05.2008, H. Demir; 2 ♂♂, 3 ♀♀ (NUAM), Kayseri Province, Yahyalı District, surrounding of Kapuzbaşı waterfalls (37°46' N, 35°23' E), 691 m, under stone, 26.05.2007, O Seyyar; 1 ♂ with long RTA (TNU), Mersin Province, Demirören village (on road of Anamur-Alanya), 16.04.2008, O. Seyyar; 2 ♀♀ (NUAM), Erdemli District, Tömük, İlemin village (36°43′ N, 034°20′ E), 485 m, 21.04.2008, H. Demir; 2 ♀♀ (NUAM), Osmaniye Province, Kastabala (Hieropolis) Ruins (on road of Osmaniye-Kadirli) (37°10′ N, 036°11′ E), 100 m, under stone, 13.05.2008 and 18.06.2008, O. Seyyar; 1 ♀ (NUAM), Kahramanmaraþ Province, Andırın District, Sarımollalı village (37°35' N, 036°35' E), 1184 m, 15.05.2008, O. Seyyar; 1 ♀ (NUAM), Türkoğlu District, Şekeroba village (37°14' N, 036°46' E), 500 m, 14.05.2008, O. Seyyar.

NOTE. *Berinda* Roewer, 1928 is genus with three described species occurring from Greece and Turkey to Central Asia [Platnick, 2009]. This genus has a preening comb on metatarsi III–IV (as in *Zelotes* s.lato), in combination with a peculiar shape of bulbus and epigyne (Figs 1–5). There are peculiar conductors (*C*) (similar to one in *Tegenaria* Latreille, 1804, from Agelenidae, and in some Dictynidae) and a median apophysis (*MA*), situated on sclerotised part of tegulum (it is unusual in Gnaphosidae), which are present in the bulbus. Epigyne is similar to that in *Gnaphosa* La-



Figs 1–5. Copulatory organs of *Berinda ensiger* (from Turkey): 1 — male palp, retrolateral view; 2 — male palp, ventral view; 3 — male palp, prolateral view; 4 — epigyne, ventral view; 5 — epigyne, dorsal view.

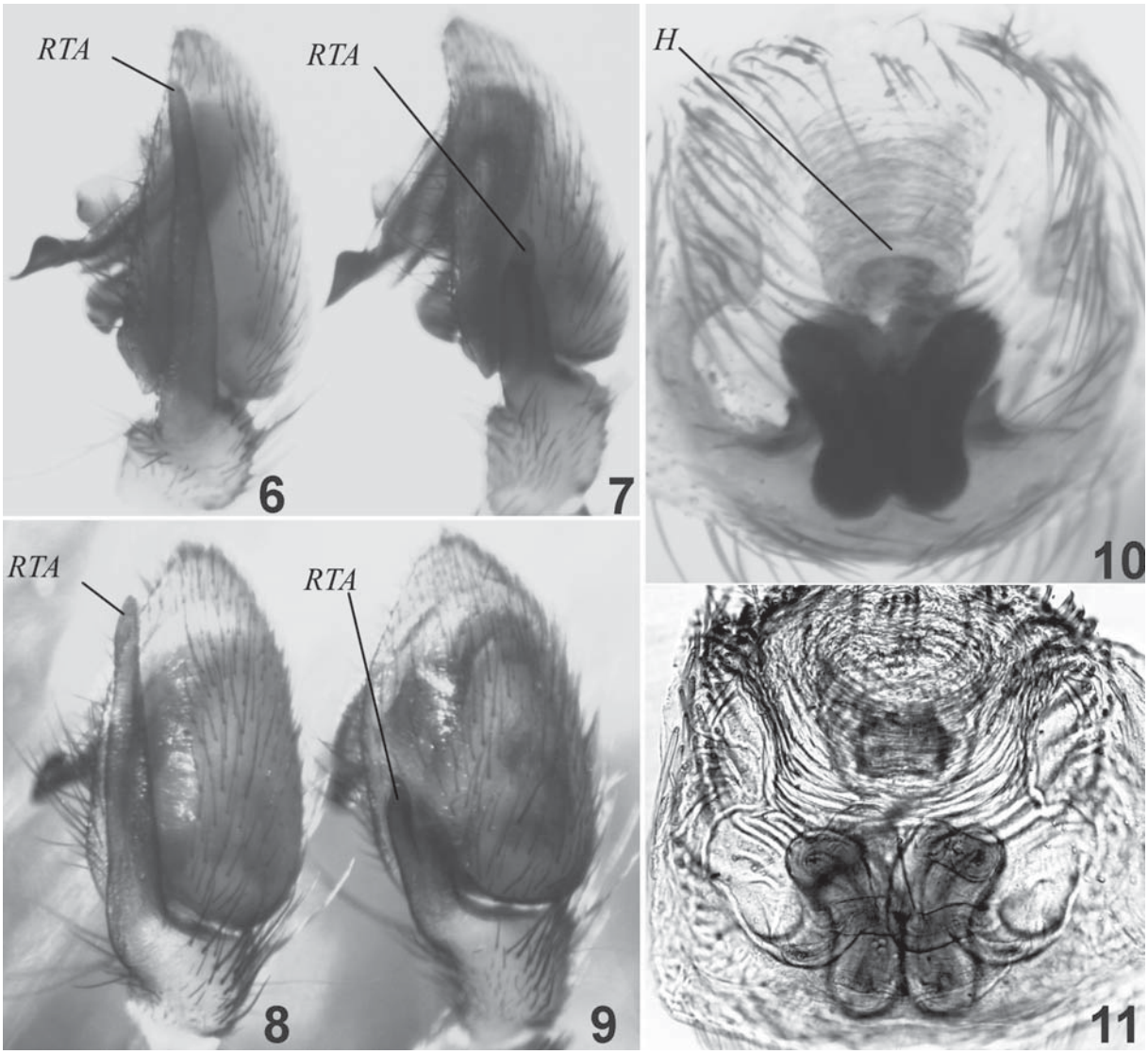
Рис. 1–5. Копулятивные органы *Berinda ensiger* (из Турции): 1 — пальпа самца, ретролатерально; 2 — пальпа самца, вентрально; 3 — пальпа самца, пролатерально; 4 — эпигина, вентрально; 5 — эпигина, дорсально.

treille, 1804, by the presence of a scape and an epigynal hood (*H*).

The shape of the RTA varies in *B. ensiger*. There are 2 male forms (with RTA long or short) that are founded in Turkey (Figs 6–9). Both forms have identical bulbs. In our opinion male dimorphism is present in *B. ensiger*.

DISTRIBUTION. Greece, Turkey [Chatzaki et al., 2002].

PHENOLOGY. ♂♂ — IV–V; ♀♀ — IV–VI.



Figs. 6–11. Copulatory organs of *Berinda ensiger* (from Turkey): 6–7 — male palp, dorso-retrolateral view (6 — specimen with long RTA; 7 — specimen with short RTA); 8–9 — male palp, retrolateral view (8 — specimen with long RTA; 9 — specimen with short RTA); 10 — epigyne, ventral view; 11 — epigyne, dorsal view.

Рис. 6–11. Копулятивные органы *Berinda ensiger* (из Турции): 6–7 — пальпа самца, дорсо-ретролатерально (6 — экз. с длинным RTA; 7 — экз. с коротким RTA); 8–9 — пальпа самца, ретролатерально (8 — экз. с длинным RTA; 9 — экз. с коротким RTA); 10 — эпигина, вентрально; 11 — эпигина, дорсально.

Camillina metellus (Roewer, 1928)
Figs 12–20.

C. m.: Chatzaki, Thaler, Mylonas, 2003: 48–50, f. 3–9 (♂♀).

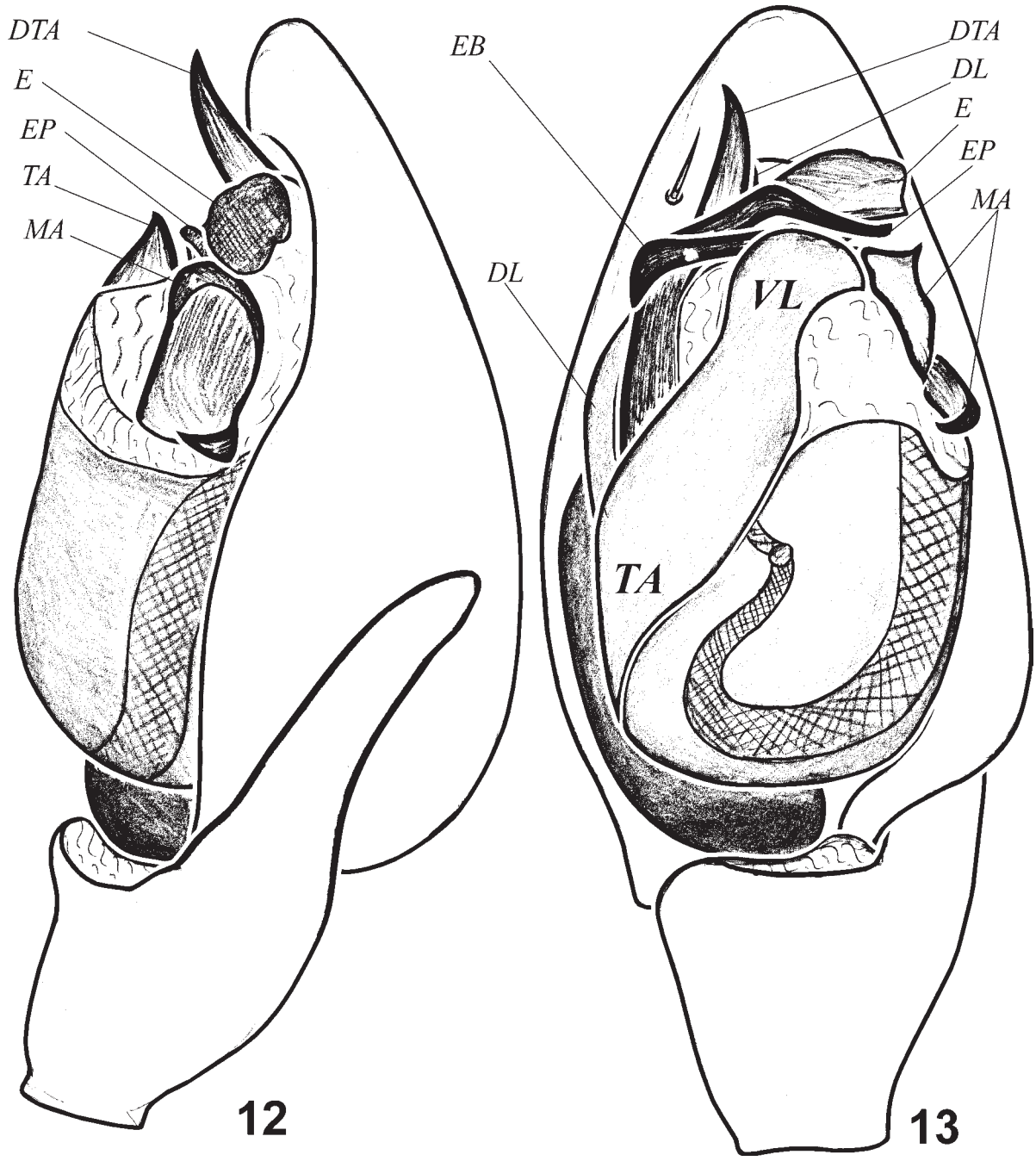
Zelotes prishutovae Ponomarev et Tsvetkov, 2006: 13, f. 25–26 (♂♀), **syn.n.**

MATERIAL. TURKEY. 1 ♂ (NUAM, No. 5), Burdur Province, Golhisar District, 12.06.2007, A. Topcu.

COMPARATIVE MATERIAL. RUSSIA, ROSTOV AREA. **Paratypes** *Zelotes prishutovae* Ponomarev et Tsvetkov, 2006: Ust'-Donetsk Distr.: 8 ♂♂, 2 ♀♀ (TNU, number 18.14.34/5), environs Razdorskaya Vil., «Pukhlyakovskye sklony», steppe meadow, 8.06.–11.08.2003, A.V. Ponomarev. **Topotypes** *Zelotes prishutovae* Ponomarev et Tsvetkov, 2006: RUSSIA, ROSTOV AREA. Ust'-Donetsk Distr.: 1 ♂, 2 ♀♀ (CP-18.14.34/7), environs Razdorskaya Vil., 9–16.07.2008, A.V. Ponomarev. **Non type material:** UKRAINE, THE CRIMEA. Feodosiya Distr.: 1 ♂ (TNU-2599/12), environs of Karadag Nature Reserve, Echky-Dagh Mt., south exposed slope, 1.06.2008, A.A. Nadolny.

REMARKS. Studied specimens of *Zelotes prishutovae* are identical with description and drawings of *C. metellus* in Chatzaki et al. [2003]. Also *Zelotes prishutovae* Ponomarev et Tsvetkov, 2006, is junior synonym for *Camillina metellus* (Roewer, 1928).

In *C. metellus* the intercalary sclerite is lacking (Fig. 13, 16), while it is presented in *Zelotes* Gistel, 1848 [Platnick, Shadab, 1983]. This fact has made it impossible to put this species in the genus *Zelotes*. *C. metellus* is not a congener with *Urozelotes* Mello-Leitao, 1938, because it does not have an elongate triangular median plate

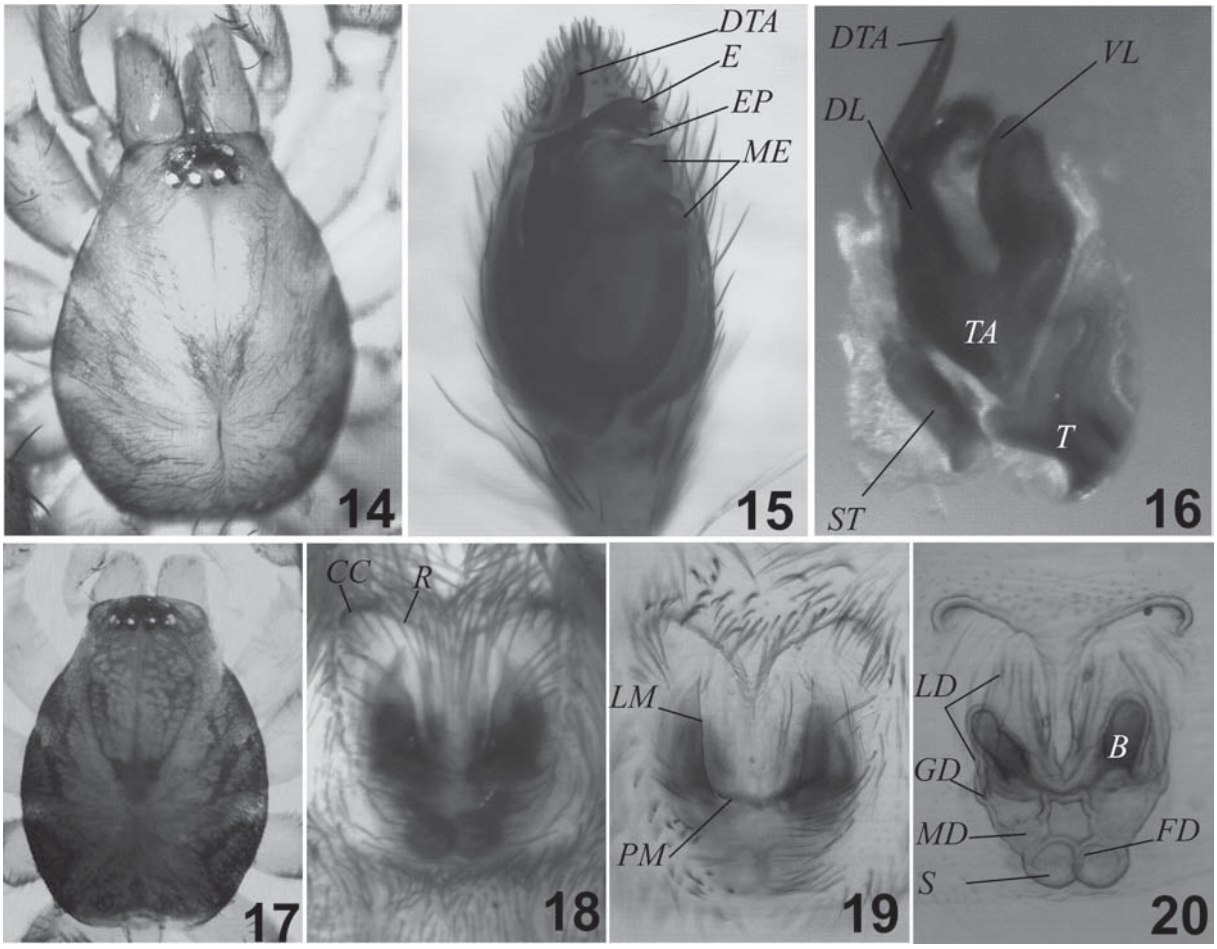


Figs 12–13. Male palp of *Camillina metellus* (topotype of *Zelotes prishutovae* syn.n.): 12 — retrolateral view; 13 — ventral view.
Рис. 12–13. Пальпа самца *Camillina metellus* (топотип *Zelotes prishutovae* syn.n.): 12 — ретролатерально; 13 — вентрально.

in the epigyne, as in *U. rusticus* (L. Koch, 1872), type species of *Urozelotes* [Platnick, Murphy, 1984: f. 55, 57], and it has different conformation of embolar division in the male palp. This species has a bifid terminal apophysis (*TA*), recessed embolar base (*EB*), and configuration of epigyne as in *Camillina* Berland, 1919 [Platnick, Shadab, 1982]. For these reasons we agree with the placement of *C. metellus* to the genus *Camillina.*

From 75 *Camillina* species, most of which are distributed in the Neotropics, and Africa, including Madagascar [Platnick, 2008], only 2 species occur in Europe: *C. europaea* Dalmas, 1922 in southern Italy and *C. metellus* [Chatzaki et al., 2003].

DISTRIBUTION. Greece (Crete, Karpathos), Ukraine (Crimea), Russia (Rostov Area), Turkey [Chatzaki et al., 2003; Ponomarev & Tsvetkov, 2006 — sub *Z. prishuto-*



Figs 14–20. Details of structure of *Camillina metellus*: 14 — male carapace, dorsal view (topotype of *Zelotes prishutovae*); 15 — male palp, ventral view (from Turkey); 16 — bulbus, prolateral view (subtegulum is break off) (topotype of *Z. prishutovae*); 17 — female carapace, dorsal view (topotype of *Z. prishutovae*); 18 — epigyne, ventral view (topotype of *Z. prishutovae*); 19 — epigyne, ventral view (after maceration) (topotype of *Z. prishutovae*); 20 — epigyne, dorsal view (after maceration) (topotype of *Z. prishutovae*).

Рис. 14–20. Детали строения *Camillina metellus*: 14 — карапакс самца, сверху (топотип *Zelotes prishutovae*); 15 — пальпа самца вентрально (из Турции); 16 — бульбус пролатерально (субтегулюм отломан) (топотип *Z. prishutovae*); 17 — карапакс самки, дорсально (топотип *Z. prishutovae*); 18 — эпигина, вентрально (топотип *Z. prishutovae*); 19 — эпигина вентрально (после мацерации) (топотип *Z. prishutovae*); 20 — эпигина дорсально (после мацерации) (топотип *Z. prishutovae*).

vae; present data]. *C. metellus* is a new species for Crimea and for Ukraine respectively, and for Turkey.

Drassodes bifidus Kovblyuk et Seyyar, **sp.n.**
Figs 21–22.

MATERIAL. TURKEY. **Holotype:** 1 ♂ (NUAM, No. 8), Antalya Province, Alanya district, Belpınarı pass, 15.08.2008, A. Topçu.

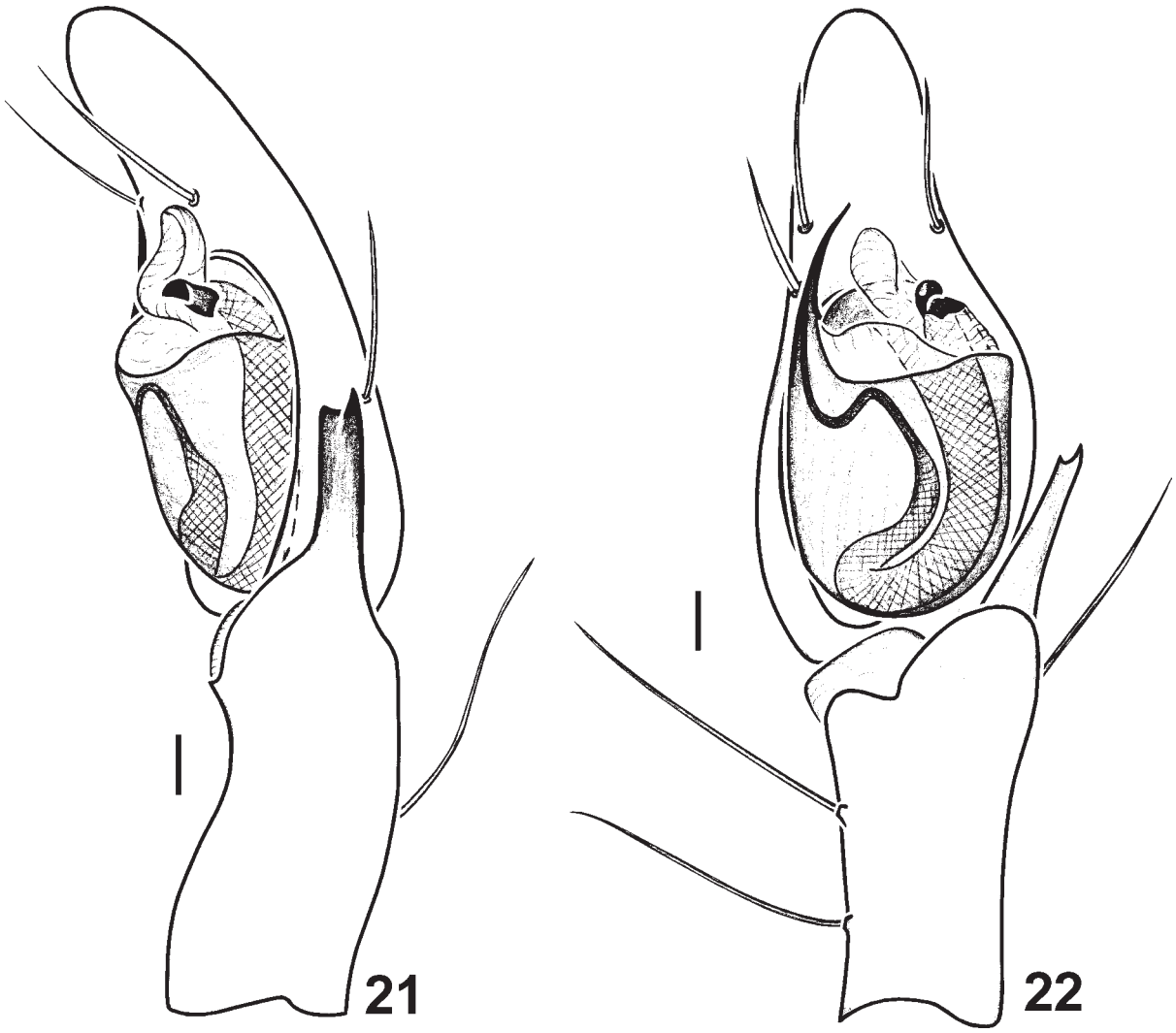
DIAGNOSIS. Males of *D. bifidus* sp.n. diagnosed by peculiar bifid shape of RTA. By the shape of RTA *D. bifidus* sp.n. is similar to *D. parauritus* Song, Zhu & Zhang, 2004 [Song et al., 2004: 315–316, figs. 36A–E (♂♀)] from Xinjiang and Qinghai Provinces of China, but differs by much longer and thinner embolus and smallest median apophysis. The presence of a row of long and thin setae on the palpal tibia *D. bifidus* sp.n. is similar to that of *D. rostratus* Esyunin & Tuneva, 2002 [Esyunin, Tuneva, 2002: 175, figs. 33–37 (♂); Piterkina, Ovtsharenko, 2007: 1427–1429, figs. 2.*1–5* (♂♀)] from Rostov Area, West Kazakhstan and Orenburg Area, but differs by having a much thicker and bifid RTA (RTA in *D. rostratus* is thin and narrowed).

DESCRIPTION. Measurements (♂ holotype): total length 7.6; carapace 3.6 long, 2.4 wide. Length of leg segments:

	femur	patella	tibia	metatarsus	tarsus
I	2.7	1.5	2.4	2.1	1.6
II	2.7	1.5	2.2	1.9	1.5
III	2.5	1.2	1.8	2.0	1.4
IV	3.2	1.5	2.6	3.2	1.6

Chelicerae with one little posterior tooth and three anterior teeth (central tooth larger than two lateral). Length of base cheliceral segment 1.5. Abdomen length 4.0.

Male leg spination. Femur: I — d 1-1, pl 1-1; II — d 1-1, pl 1-1; III — d 1-1-1, pl 1-1, rl 1-1; IV — d 1-1-



Figs 21–22. Male palp of *Drassodes bifidus* sp.n. (holotype): 21 — retrolateral view; 22 — ventral view.
Рис. 21–22. Пальпа самца *Drassodes bifidus* sp.n. (голотип): 21 — ретролатерально; 22 — вентрально.

1, pl 1-1, rl 1-1. Tibia: I — v 1-2; II — pl 1, v 2; III — d 1, pl 2-1, rl 2-1, v 1(pl)-2-2(a); IV — d 1-1, pl 2-1, rl 2-1, v 2-2-2(a). Metatarsus: I — v 1; II — v 2; III — pl 1-2-2, rl 2-2-2, v 2-2-2(a); IV — pl 1-2-2, rl 2-2-2, v 2-2-2(a).

Coloration pale yellow-gray. Chelicerae brown.

Male palp: Figs. 21-22. A row of long thin setae present on the palpal tibia. RTA as long as half of tibia. End of RTA bifurcate. Conductor well developed. Median apophysis not large. Short filamentous part of embolus issues at upper part of tegulum. Embolus longer than conductor.

Female unknown.

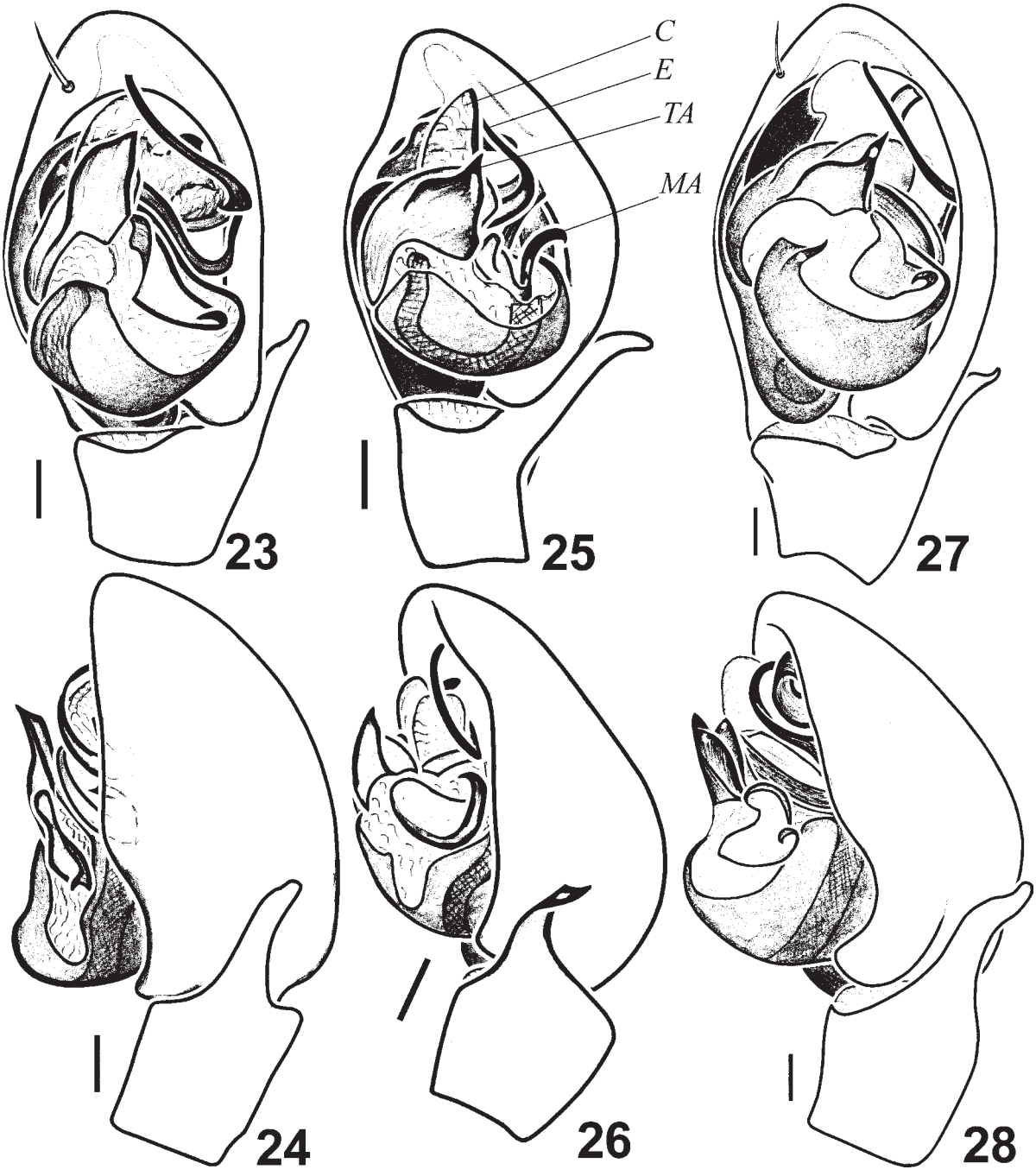
DISTRIBUTION. Type locality only.

ETYMOLOGY. The species epithet *bifidus* refers to the unusually bifid RTA.

Drassyllus crimeaensis Kovblyuk, 2003
Figs 23–24.

D.c. Kovblyuk, 2003: 24–25, f. 1–3, 5, 10, 13, 16 (♂♀).

MATERIAL. TURKEY. 3 ♂♂, 5 ♀♀ (TNU, NUAM, ZMMU), Kahramanmaras Province, Andırın District, Deðirmendere village (37°53' N, 036°27' E), 1518 m, 15.05.2008, O. Seyyar; 4 ♀♀ (NUAM), Cukurgoz village (37°37' N, 036°24' E), 1281 m, 17.06.2008, O. Seyyar; 1 ♀ (NUAM), Sarımollalı village (37°35' N, 036°35' E), 1184 m, 15.05.2008, O. Seyyar; 2 ♂♂ (NUAM), Adana Province, Tufanbeyli District, Guzelim village (38°07' N, 036°09' E), 1367 m, 12.05.2008, O. Seyyar; 1 ♂, 1 ♀ (NUAM), Bozgüney village (38°15' N, 036°19' E), 1442 m, 12.05.2008, O. Seyyar; 1 ♀ (NUAM), İğdebel village, Kaan Pass (38°16' N, 036°21' E), 1568 m, 12.05.2008, O. Seyyar; 1 ♂ (NUAM), Feke District, Akkaya village (37°42' N, 035°53' E), 870 m, 12.05.2008, O. Seyyar; 3 ♂♂, 3 ♀♀ (NUAM), Pozantı District, Akçatekir (37°22' N, 034°49' E), 974 m, 20.04.2008, O.Seyyar & H. Demir.



Figs 23–28. Male palps of *Drassyllus* species from Turkey: *D. crimeaensis* (23–24), *D. jubatopalpis* (25–26), *D. sur* (27–28): 23, 25, 27 — ventral view; 24, 26, 28 — retrolateral view.

Рис. 23–28. Пальпы самцов *Drassyllus* spp. из Турции: *D. crimeaensis* (23–24), *D. jubatopalpis* (25–26), *D. sur* (27–28): 23, 25, 27 — вентрально; 24, 26, 28 — ретролатерально.

DISTRIBUTION. Ukraine (Crimea, Donetsk Area), Russia (Rostov Area), Azerbaijan (Naxçivan), Turkey [Kovblyuk, 2003; Marusik et al., 2005; Ponomarev, 2008b; present data]. *D. crimeaensis* is new to Turkey.

PHENOLOGY. ♂♂ — IV–V; ♀♀ — IV–VI.

Drassyllus jubatopalpis Levy, 1998
Figs 25–26.

D. j. Levy, 1998: 154–155, f. 133–137 (♂♀).

MATERIAL. TURKEY. 1 ♂ (NUAM, No. 7), Mersin Province, Ovacık town (36°08’ N, 033°23’ E), 206 m, open area which upper part of field of *Citrus* trees, on soil, 22.04.2008, O. Seyyar.

COMPARATIVE MATERIAL. *D. pumilus* (C.L. Koch, 1839) from Crimea [see the data in: Kovblyuk, 2003].

DIAGNOSIS. *D. jubatopalpis* is closely related to *D. pumilus* and *D. pumiloides* Chatzaki, 2003 [Chatzaki et al., 2003: 51–53, f. 10, 12, 14–15 (♂♀)], but differs by the extremely long hook of the median apophysis, by a pointed terminal apophysis, and by the shape of RTA.

DISTRIBUTION. Israel, Turkey [Levy, 1998; present data]. *D. jubatopalpis* is a new species for Turkey.

Drassyllus sur Tuneva et Esyunin, 2003
Figs 27–28.

D.s. Tuneva, Esyunin, 2003: 223–225, f. 1–4 (♂♀).

MATERIAL. TURKEY. 1 ♂ (NUAM, No. 6), Adana Province, Feke District, Akkaya village (37°42' N, 035°53' E), 870 m, border of arable field, on soil, 12.05.2008, O. Seyyar.

DISTRIBUTION. Russia (Rostov, Astrakhan and Orenburg Areas), West Kazakhstan, Turkey [Tuneva, Esyunin, 2003; Ponomarev & Tsvetkov, 2004; Ponomarev et al., 2008; Piterkina, 2009; present data]. *D. sur* is new to Turkey.

Echemus levyi Kovblyuk et Seyyar, **sp.n.**
Figs 29–33, 37, 39–41.

MATERIAL. TURKEY. **Holotype:** 1 ♂ (NUAM, No. 11), Burdur Province, Bozcayazılı District, Hacılar town, steppe habitat, under stone, 28.07.2006, A. Topçu.

COMPARATIVE MATERIAL. *Echemus angustifrons* (Westring, 1861). GERMANY: 1 ♂ (TNU), Nature Reserve «Ahrschleife bei Altenahr» (50,5110° N 7,0034° E), 200 m, xerothermic rocky area with shrubbery of *Amelanchier ovalis* and *Cotoneaster integerrimus*, pitfall traps, 27.05.–21.06.1988, leg. W. Buechs, det. T. Blick [Blick, Slembrouck, 2003]. CZECH REPUBLIC: 1♂, 1♀ (TNU), South Moravia, Vranov, 27.05.1992–26.06.1992, leg. et det. V. Růžička [Růžička, 1996] (Figs 34–36, 38).

DIAGNOSIS. The new species is most similar to *E. angustifrons* (Westring, 1861) but differs by the obtuse RTA with a flat end (in *E. angustifrons* RTA pointed), a longer conductor (*C*), and different shape of embolar division with an outgrowth (*Oe*) of embolar base (*EB*) (*E. angustifrons* lacks an outgrowth of embolar base) (Figs. 32–39).

DESCRIPTION. Measurements (♂ holotype): total length 5.0; carapace 2.1 length, 1.6 width. Dorsal scutum of abdomen 0.7 length, 0.8 width. Length of leg segments:

	femur	patella	tibia	metatarsus	tarsus
I	1.6	1.0	1.2	1.0	0.6
II	1.5	0.9	1.1	0.9	0.6
III	1.3	0.8	0.9	0.9	0.6
IV	1.6	0.9	1.4	1.6	0.7

Male leg spination. Femur: I — d 1-1, pl 1; II — d 1-1, pl 1; III — d 1-1, pl 1-1, rl 1-1; IV — d 1-1, pl 1-1, rl 1. Patella: III — pl 1, rl 1; IV — rl 1. Tibia: II — v-pl 1; III — d 1, pl 2-1, rl 2-1, v 2-2-2(a); IV — pl 2-1, rl 2-1, v 2-2-2(a). Metatarsus: II — v-pl 1; III — pl 1-2, rl 1-2, v 2; IV — pl 1-2-2, rl 1-2-2, v 2-2. Tarsi I–IV with scopula well developed. Metatarsi III–IV with preening brush (*PB*) (Figs. 40–41) and without preening comb (characteristic for *Zelotes* sensu lato).

Carapace, sternum, legs, palps and chelicerae yellow brown. Abdomen yellow grey with yellow brown dorsal scutum. Dorsal pattern absent.

Male palp: Figs. 29–33, 37, 39. Short RTA with flat end. Base of embolus with thin ventral outgrowth. Distal end of embolus bifid. Conductor longer than embolus.

Female unknown.

DISTRIBUTION. Type locality only.

ETYMOLOGY. The new species is named in memory of the late famous arachnologist Gershom Levy, who made great contributions to study Mediterranean Gnaphosidae and some other spider families.

Haplodrassus ovtchinnikovi Ponomarev, 2008
Figs 42–50.

H. o. Ponomarev, 2008a: 57, f. 26–28 (♂♀).

MATERIAL. TURKEY. 1 ♂, 1 ♀ (NUAM, No. 10), Adana Province, Tufanbeyli District, Bozguney village (38°15.521' N, 036° 19.152' E), 1442 m, steppe, under stones, 12.05.2008, H. Demir.

COMPARATIVE MATERIAL. *H. ovtchinnikovi* Ponomarev, 2008 from KAZAKHSTAN: **paratypes** 2 ♂♂, 1 ♀ (CP-18.24.6/1), Atyrauskaya Area, 11 km to SSW from Inderborsky Vil., left coast of Ural river, *Artemisia* sp., 14.05.1987, A.V. Ponomarev.

DISTRIBUTION. Western Kazakhstan, Turkey [Ponomarev, 2008a and present data]. *H. ovtchinnikovi* is new to Turkey.

Haplodrassus ponomarevi Kovblyuk et Seyyar, **sp.n.**
Figs 51–62.

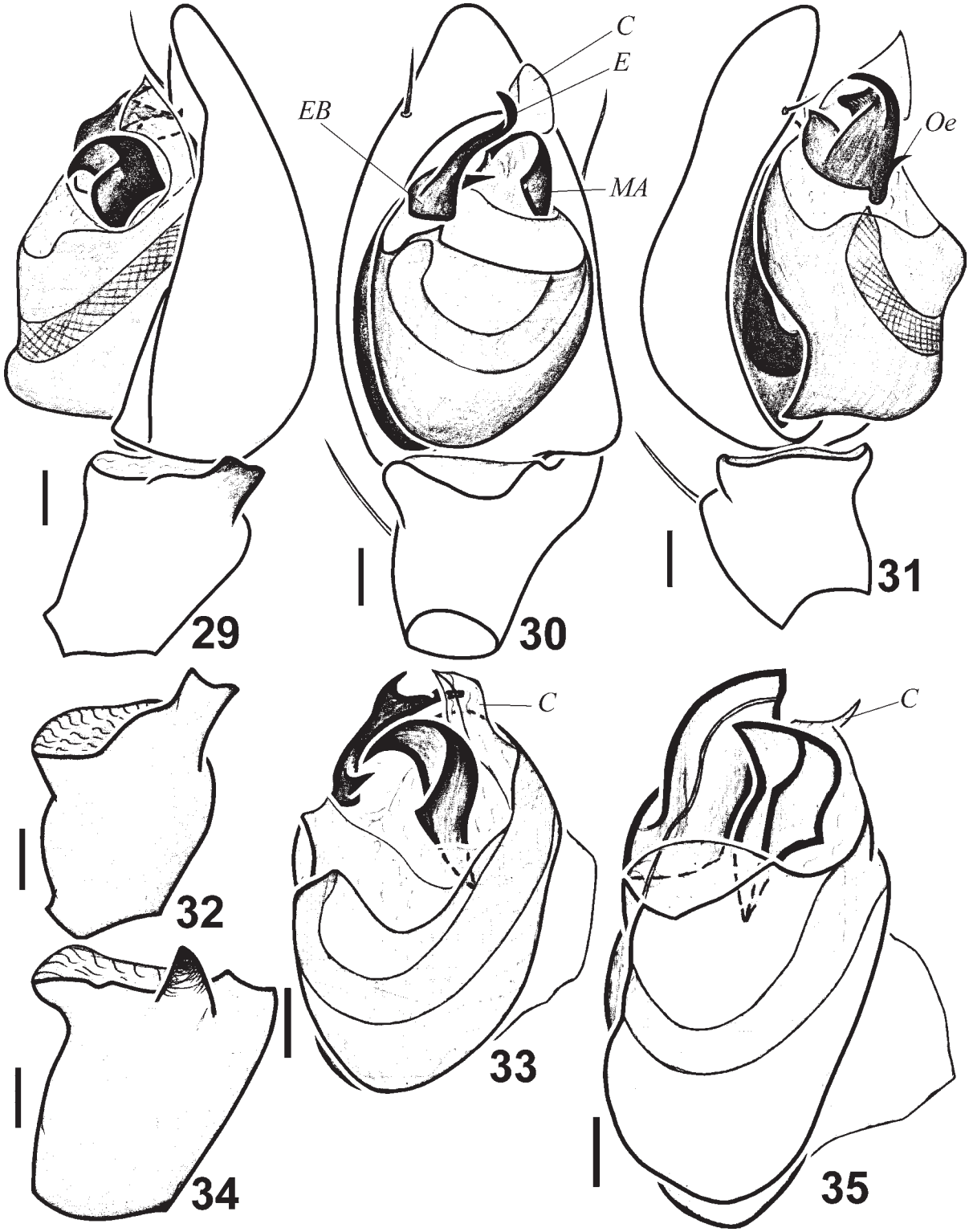
MATERIAL. TURKEY. **Holotype:** 1 ♂ (NUAM, No. 3), Adana Province, Saimbeyli District, surrounding to Obruk waterfall (37°59' N, 36°05' E), 1050 m, *Platanus* & *Pinus* mixed forest, under stone, 19.10.2008, O. Seyyar. **Paratypes:** 1 ♂, 1 ♀ (TNU, No. 4), Adana Province, Aladağ District, Meydan plateau (37°30' N, 35°23' E), 1200 m, *Pinus* & *Juniperus* mixed forest, under stones, 20.10.2008, O. Seyyar.

DIAGNOSIS. Males and females of *H. ponomarevi* sp.n. has a dorsal pattern on abdomen (Figs 56, 59) — this is extremely rare character for *Haplodrassus* Chamberlin, 1922, species (usually dorsal pattern is absent). Copulatory organs of *H. ponomarevi* sp.n. is similar to well known *H. silvestris* (Blackwall, 1833), but differs by smaller size, shape of terminal apophysis (*TA*) and RTA, and by spaced spermathecae (in *H. silvestris* spermathecae are close to each other).

DESCRIPTION. Measurements (♂ holotype / ♀ paratype): total length 4.7 / 4.5; carapace 2.2 / 2.1 length, 1.8 / 1.5 width. Length of leg segments (male / female):

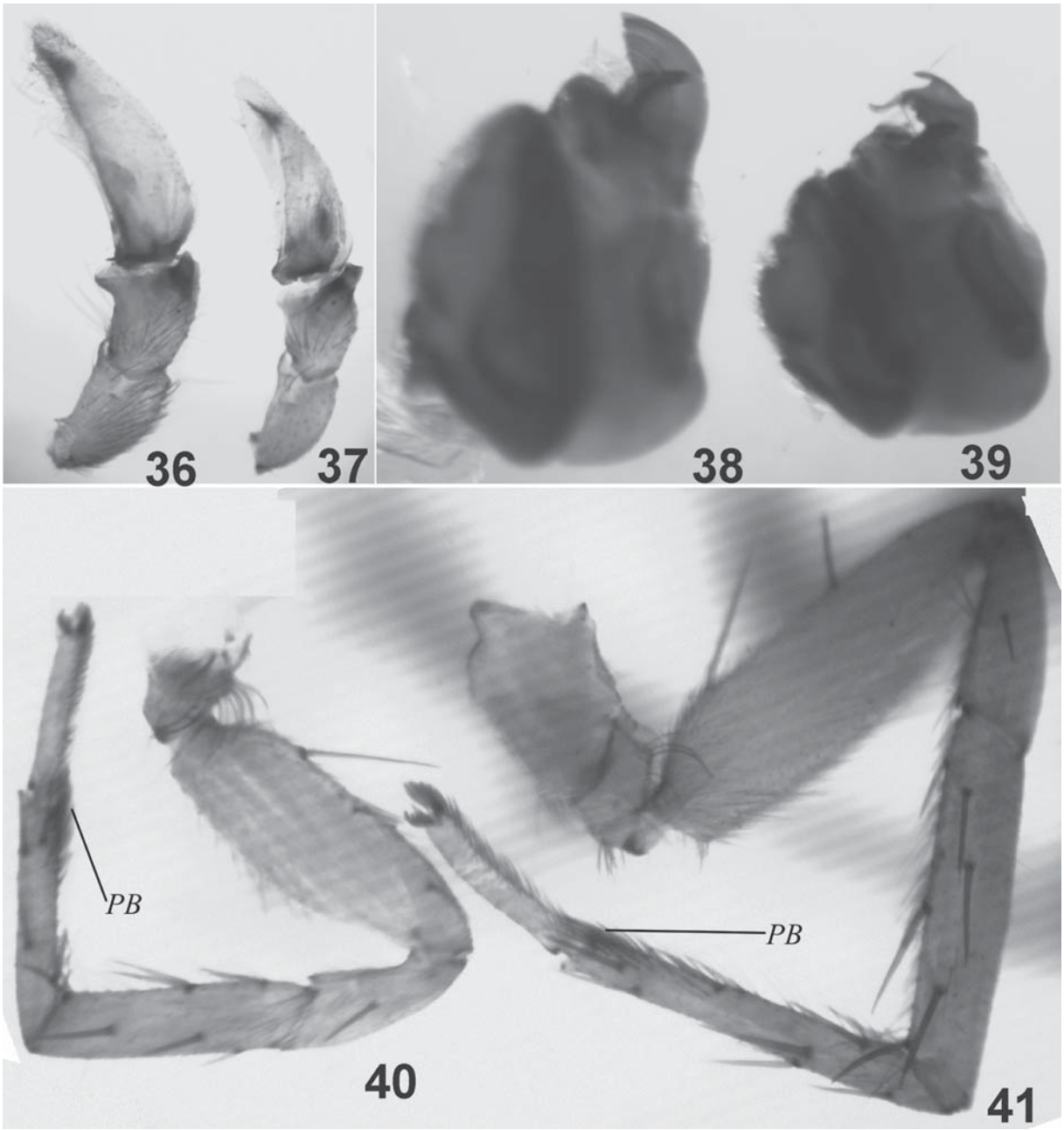
	femur	patella	tibia	metatarsus	tarsus
I	1.6/1.4	1.0/0.8	1.2/1.0	1.0/0.8	0.8/0.8
II	1.4/1.2	0.9/0.8	1.0/0.8	0.9/0.8	0.8/0.7
III	1.2/1.0	0.8/0.6	0.8/0.7	0.9/0.8	0.6/0.6
IV	1.7/1.5	0.9/0.8	1.4/1.2	1.6/1.3	0.9/0.8

Male leg spination. Femur: I — pl 1; II — d 1-1, pl 1; III — d 1-1, pl 1, rl 1; IV — d 1-1, rl 1. Tibia: III — pl 2-1, rl 1-1, v 2-2-2(a); IV — pl 1-1, rl 1-1-1, v 2-2-2(a). Metatarsus: I — v 2; II — v 2; III — pl 2-2, rl 2, v 2-1(a); IV — pl 2-2, rl 2-2, v 2-1(pl)-2(a).



Figs 29–35. Male palps of *Echemus* species: holotype *E. levyi* sp.n. (29–33), *E. angustifrons* from Czech Republic (34–35): 29 — palp, retrolateral view; 30 — palp, ventral view; 31 — palp, prolateral view; 32, 34 — palpal tibia, retrolateral view; 33, 35 — bulbus, ventro-retrolateral view.

Рис. 29–35. Пальпы самцов *Echemus* spp.: голотип *E. levyi* sp.n. (29–33), *E. angustifrons* из Чехии (34–35): 29 — пальпа, ретролатерально; 30 — пальпа, вентрально; 31 — пальпа, пролатерально; 32, 34 — голень пальпы, ретролатерально; 33, 35 — бульбус, вентро-ретролатерально.



Figs 36–41. Details of structure of males *Echemus* species (37, 39–41 — holotype *E. levyi* sp.n.; 36, 38 — *E. angustifrons* from Czech Republic): 36–37 — palp, retrolateral view; 38–39 — bulbus, prolateral view; 40 — leg III, retrolateral view; 41 — leg IV, retrolateral view.

Рис. 36–41. Детали строения самцов *Echemus* spp. (37, 39–41 — голотип *E. levyi* sp.n.; 36, 38 — *E. angustifrons* из Чехии): 36–37 — пальпа, ретролатерально; 38–39 — бульбус, пролатерально; 40 — нога III, ретролатерально; 41 — нога IV, ретролатерально.

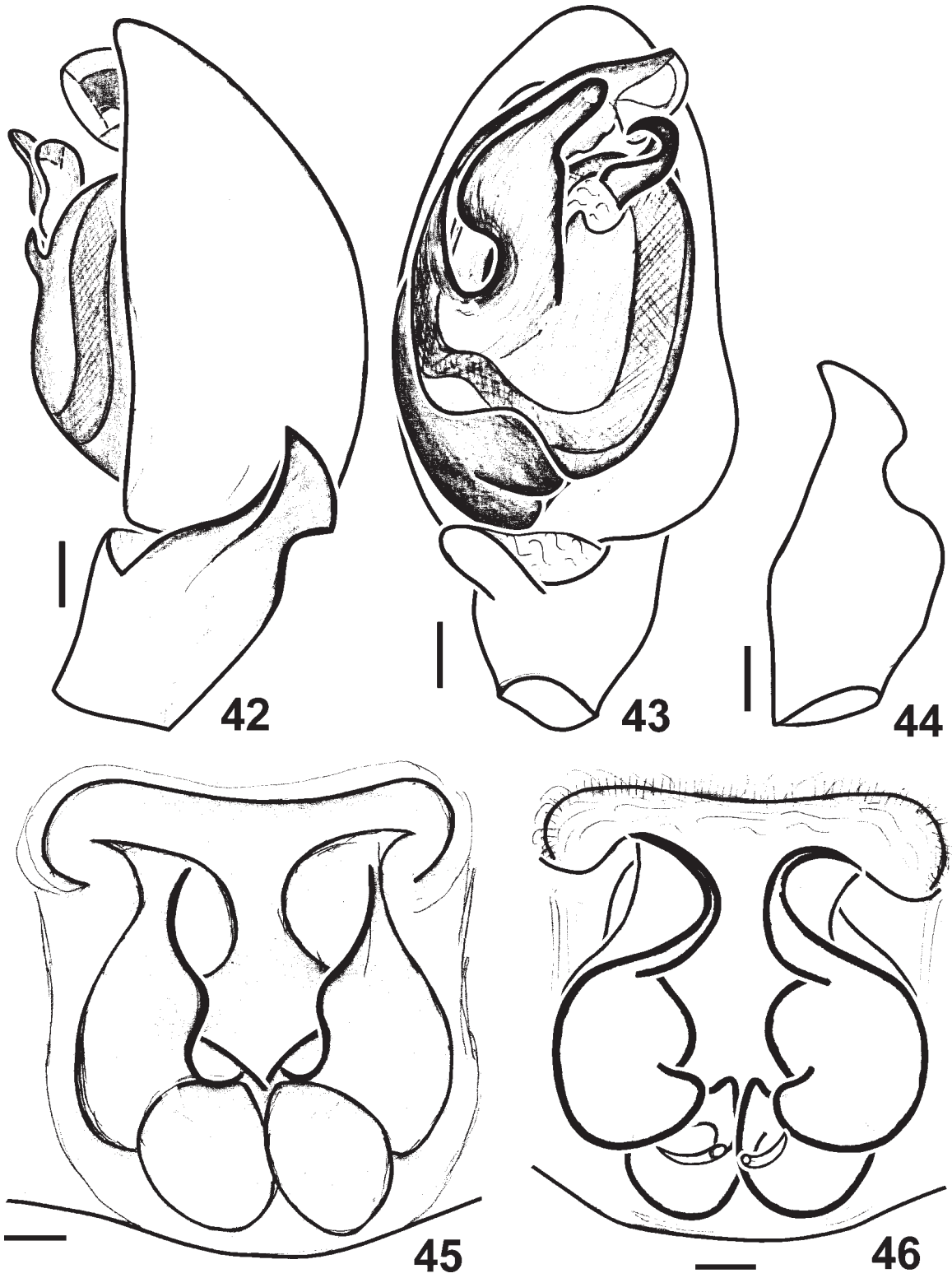
Female leg spination. Femur: III — pl 1, rl 1; IV — rl 1. Tibia: III — pl 2-1, rl 1-1, v 2-2-2(a); IV — pl 1-1, rl 1-1-1, v 2-2-2(a). Metatarsus: I — v 2; II — v 2; III — pl 2-2, rl 1-2, v 2-2(a); IV — pl 2-2, rl 2-2, v 1-2-2(a).

Carapace, sternum, legs and palps yellow-brown. Chelicerae dark brown. Abdomen grey with light dorsal pattern (Figs 56, 59).

Male palp: Figs. 51–53, 57–58; epigyne: Figs. 54–55, 60–62. Terminal apophysis (*TA*) wider, than embolus (*E*). Median apophysis (*MA*) long and reaching more retrolaterally, than embolus (*E*). Spermathecae (*S*) small. Spermathecae interdistance about half of its diameter.

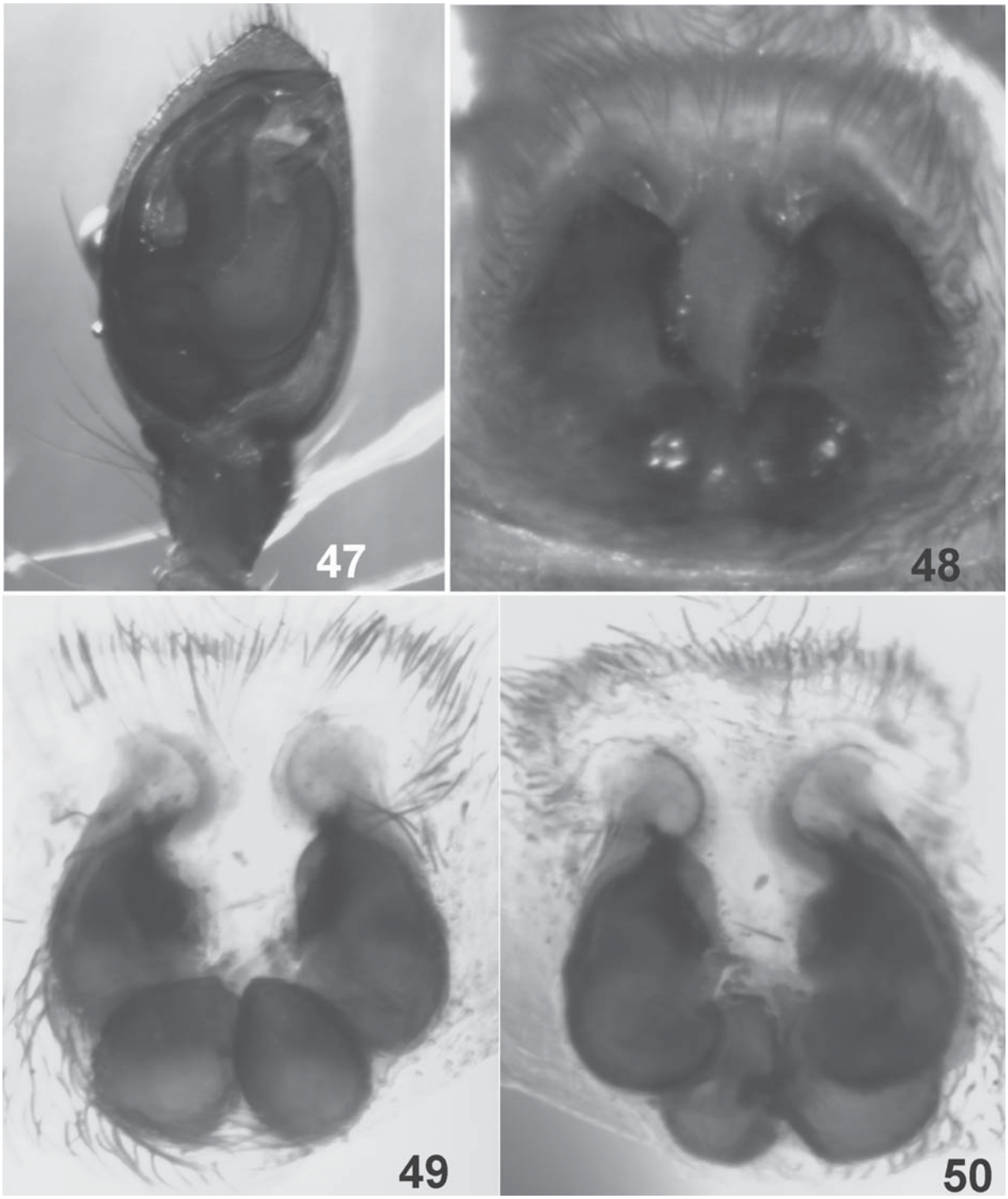
PHENOLOGY. ♂♀ — X.

ETYMOLOGY. The species is named in honor of Aleksandr Viktorovich Ponomarev (Rostov-on-Don,



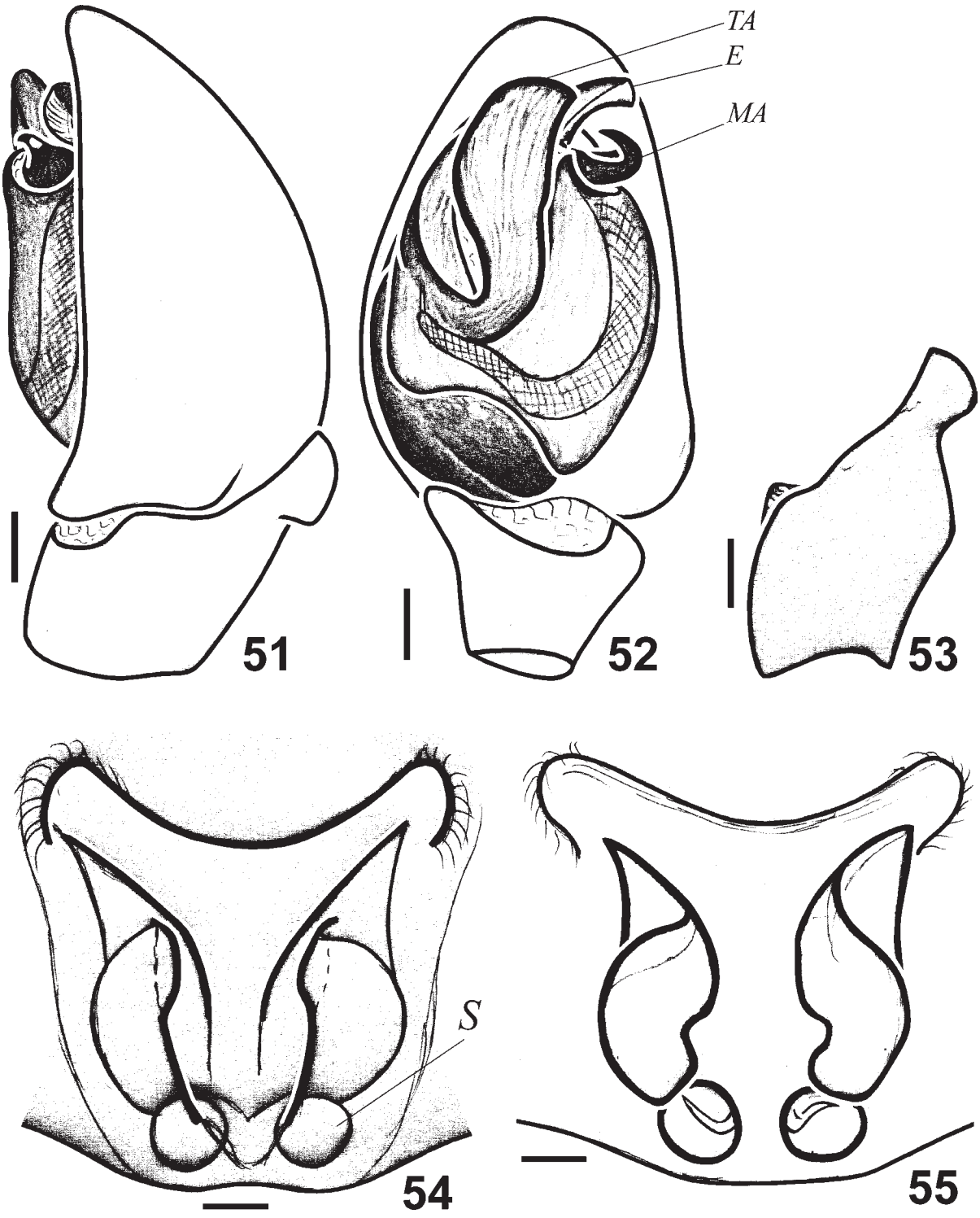
Figs 42–46. Copulatory organs of *Haplodrassus ovtchinnikovi*: 42 — male palp, retrolateral view (paratype); 43 — male palp, ventral view (paratype); 44 — tibia of male palp, dorso-retrolateral view (paratype); 45 — epigyne, ventral view (from Turkey); 46 — epigyne, dorsal view (from Turkey).

Рис. 42–46. Копулятивные органы *Haplodrassus ovtchinnikovi*: 42 — пальпа самца, ретролатерально (паратип); 43 — пальпа самца, вентрально (паратип); 44 —голень пальпы самца, дорсо-ретролатерально (паратип); 45 — эпигина, вентрально (из Турции); 46 — эпигина, дорсально (из Турции).



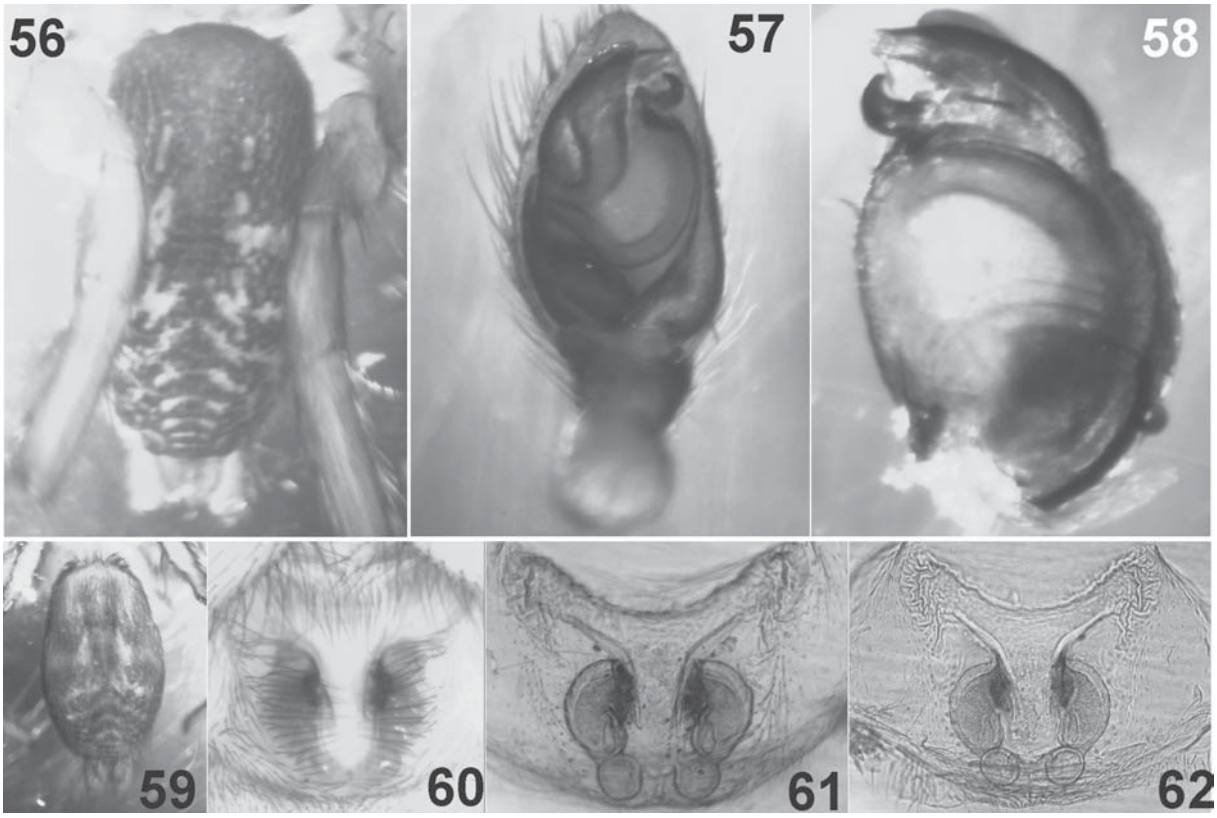
Figs 47–50. Copulatory organs of *Haplodrassus ovtchinnikovi*: 47 — male palp, ventral view (paratype); 48 — epigyne, ventral view (paratype); 49 — epigyne, ventral view (after maceration) (from Turkey); 50 — epigyne, dorsal view (after maceration) (from Turkey).

Рис. 47–50. Копулятивные органы *Haplodrassus ovtchinnikovi*: 47 — пальпа самца, вентрально (паратип); 48 — эпигина, вентрально (паратип); 49 — эпигина, вентрально (после мацерации) (из Турции); 50 — эпигина, дорсально (после мацерации) (из Турции).



Figs 51–55. Copulatory organs of *Haplodrassus ponomarevi* sp.n. (paratypes): 51 — male palp, retrolateral view; 52 — male palp, ventral view; 53 — tibia of male palp, dorso-retrolateral view; 54 — epigyne, ventral view; 55 — epigyne, dorsal view.

Рис. 51–55. Копулятивные органы *Haplodrassus ponomarevi* sp.n. (паратипы): 51 — пальпа самца, ретролатерально; 52 — пальпа самца, вентрально; 53 — голень пальпы самца, дорсо-ретролатерально; 54 — эпигина, вентрально; 55 — эпигина, дорсально.



Figs 56–62. Details of structure of *Haplodrassus ponomarevi* sp.n. (paratypes): 56 — male abdomen, dorsal view; 57 — male palp, ventral view; 58 — bulbus, dorsal view; 59 — female abdomen, dorsal view; 60 — epigyne, ventral view; 61 — epigyne, ventral view (after maceration); 62 — epigyne, dorsal view (after maceration).

Рис. 56–62. Детали строения *Haplodrassus ponomarevi* sp.n. (паратипы): 56 — брюшко самца, дорсально; 57 — пальпа самца, вентрально; 58 — бульбус, дорсально; 59 — брюшко самки, дорсально; 60 — эпигина, вентрально; 61 — эпигина, вентрально (после мацерации); 62 — эпигина, дорсально (после мацерации).

Russia), who made contributions to study of spiders of South-Eastern Europe and donated some important material for our research.

Turkozelotes Kovblyuk et Seyyar **gen.n.**

TYPE SPECIES. *Turkozelotes microb* Kovblyuk & Seyyar, sp.n.

COMPOSITION. *Turkozelotes microb* Kovblyuk & Seyyar, sp.n. only.

ETYMOLOGY. The generic name refers to Turkey- and the related genus *Zelotes*. The gender is masculine.

DIAGNOSIS. *Turkozelotes* gen.n. belongs to *Zelotes* sensu lato by the presence of a preening comb on metatarsi III–IV. *Turkozelotes* gen.n. most close to *Heser* Tuneva, 2005, and *Zelominor* Snazell & Murphy, 1997, owing to a lack of both median apophysis and intercalary sclerite of the bulbus, and particularly to *Zelominor* by the presence of stiff hairs on the male palpal tibia. *Turkozelotes* gen.n. can be distinguished from these genera by presence the membranous lobe on the RTA, and by very thin and long embolus recurved around dorsal side of the bulbus. In addition, *Turkozelotes* gen.n. can be distinguished from *Heser* by the presence of the male abdominal scutum, and by lack of a furrow on the bulbal mesal side, in which the embolus lies [Tuneva, 2005]; and from *Zelominor* — by the lack of a pointed membranous structure on the tegulum, in which the tip of the embolus lies [Snazell, Murphy, 1997].

Main differences between males of the genus *Turkozelotes* gen.n. and other Zelotinae genera (*Camillina* Berland, 1919; *Drassyllus* Chamberlin, 1922; *Heser* Tuneva, 2005; *Setaphys* Simon, 1893; *Trachyzelotes* Lohmander, 1944; *Urozelotes* Mello-Leitão, 1938; *Zelominor* Snazell & Murphy, 1997; *Zelotes* Gistel, 1848) are given in the Table 1 (by some literature data and personal observations).

DISTRIBUTION. Turkey only.

Turkozelotes microb Kovblyuk et Seyyar, **sp.n.**
Figs 63–71.

MATERIAL. TURKEY. **Holotype:** 1 ♂ (NUAM, No. 9), Adana Province, Feke Distr., Koleli village (37°49' N, 35°56' E), 860 m, open area in *Cedrus*, *Pinus* and *Juniperus* mixed forest, under stones, 12.05.2008, O. Seyyar. **Paratype:** 1 ♂ (ZMMU), same data as for holotype.

Table 1. Main differences between males of the genus *Turkozelotes* gen.n. and other Zelotinae genera.
Таблица 1. Основные различия между самцами рода *Turkozelotes* gen.n. и другими родами подсемейства Zelotinae.

	Turkozelotes gen.n.	***Camillina***	***Drassyllus***	***Heser***	***Setaphys***	***Trachyzelotes***	***Urozelotes***	***Zelominor***	***Zelotes***
Lobe of RTA	present	absent							
Intercalary sclerite	absent								present
Coiled distal end of embolus	absent				present	absent			
Median apophysis	absent	present		absent	present			absent	present
Scutum of male abdomen	present			absent	present				
Stiff anterior setae of chelicerae	absent					present	absent		
Stiff hairs of palpal tibia and patella	present	absent						present	absent or present

DIAGNOSIS. Males of *Turkozelotes microb* sp.n. are diagnosed by a peculiar palpal conformation with lobe on the RTA, a long and thin embolus situated on dorsal side of the bulbus, and the lack of median apophysis.

DESCRIPTION. Measurements (♂ holotype): total length 3.2; carapace 1.6 long, 1.1 wide. Eye diameters and interdistances: AM 0.04, AL 0.075, PM 0.075, PL 0.075, AM–AM 0.04, AM–AL 0.01, PM–PM 0.05, PM–PL 0.03, AM–PM 0.04, AL–PL 0.03. Distances between anterior eyes and clypeal margin: AM-clypeus 0.05, AL-clypeus 0.03. Length of leg segments:

	femur	patella	tibia	metatarsus	tarsus
I	1.08	0.68	0.87	0.69	0.57
II	0.90	0.57	0.69	0.60	0.52
III	0.78	0.45	0.54	0.60	0.45
IV	1.17	0.66	0.96	1.00	0.60

All legs segments with hairs as long as segments diameter. Cheliceral teeth (anterior + posterior): 4 + 3, length of base cheliceral segment 0.48. Sternum with stiff hairs on perimeter (Fig. 69). Length of basal segments of spinnerets: anterior 0.40, median 0.18, posterior 0.22. Abdomen with a scutum on dorsal side and without stiff denticles on ventral side (such denticles are present in some *Drassyllus, Trachyzelotes* and *Urozelotes* species). Abdomen length 1.7. Scutum length 0.7.

Male leg spination. Femur: I — d 1-1, pl 1; II — d 1-1, pl 1; III — d 1-1, pl 1-1, rl 1-1; IV — d 1-1, pl 1, rl 1-1. Patella: III — rl 1. Tibia: III — pl 2-1, rl 1-1, v 2-2-2(a); IV — pl 1-2, rl 1-2, v 2-2-2(a). Metatarsus: II — v 2-2; III — pl 2-2, rl 1-2-2, v 2-1; IV — pl 1-2-2, rl 1-2-2, v 2-2-1(a).

Coloration light yellow-gray. Scutum light brown, book-lungs light yellow.

Male palp: Figs. 63–67, 70–71. Patella and tibia with stiff hairs (not show in the drawings) as in *Drassyllys* and some *Zelotes* species (*Z. erebeus* (Thorell, 1871) and *Z. khostensis* Kovblyuk & Ponomarev, 2008, for example). The RTA recalls *Haplodrassus* species but with a peculiar membranous lobe (*L*). Median apophysis and intercalary sclerite absent. Embolar projection (*EP*) hook-shaped in ventral view. Embolus (*E*) thin, long and recurved around bulbus on dorsal side. Embolus not visible in ventral view of male palp. Terminal apophysis (*TA*) light-colored and poorly sclerotized.

Female unknown.

DISTRIBUTION. Type locality only.

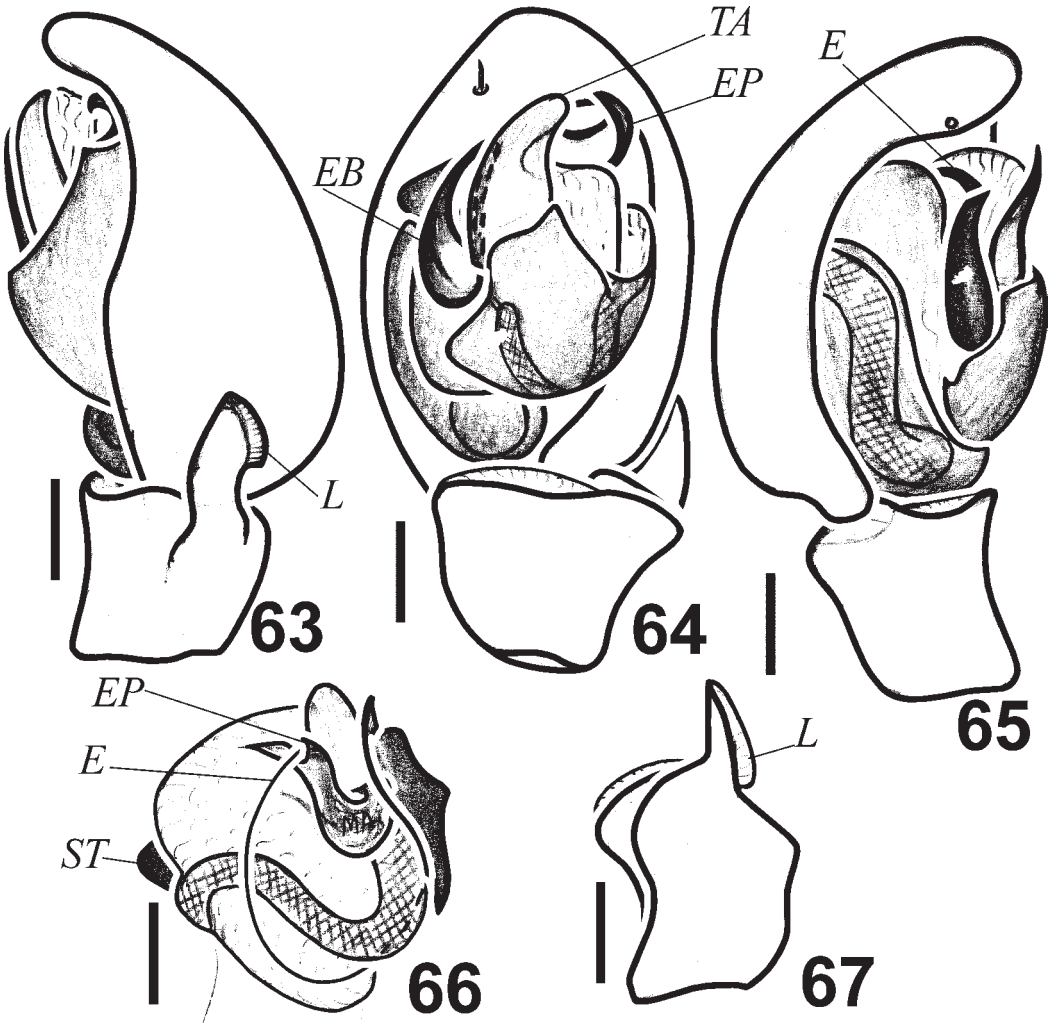
ETYMOLOGY. The species epithet is derived from Russian "*microb*" meaning "microbe, very small animal".

Zelotes gracilis (Canestrini, 1868)

Z. g. Miller, 1967: 269, pl. IV, f. 1–4, pl. VII, f. 7 (♂♀).
Z. g. Grimm, 1985: 283–284, f. 233, 238–239 (♂♀).
Z. g. Thaler & Noflatscher, 1990: 176–177, f. 35–36 (♂).
For all references see Platnick [2008].

MATERIAL. TURKEY. 1 ♂ (NUAM, No. 13), Burdur Province, Korkuteli District, Tefenni town, 17.05.2007, A. Topcu; 1 ♂ (TNU, No. 12), Karaman Province, Ermenek District, Yellibel town (İhsaniye), 13.06.2008, T. Turkes.

NOTE. *Z. gracilis* and *Z. pygmaeus* Miller, 1943 are two closely related species or forms of one species (individual or geographical variations). This problem was mentioned by K. Thaler and M.-T. Noflatscher [1990] and should be properly addressed in the future.



Figs 63–67. Male palp of *Turkozelotes microb* gen. et sp. n. (holotype): 63 — palp, retrolateral view; 64 — palp, ventral view; 65 — palp, prolateral view; 66 — bulbus, dorso-retrolateral-apical view; 67 — tibia, retrolateral view.

Рис. 63–67. Пальпа самца *Turkozelotes microb* gen. et sp. n. (голотип): 63 — пальпа, ретролатерально; 64 — пальпа, вентрально; 65 — пальпа, пролатерально; 66 — бульбус, дорсо-ретролатерально-апикально; 67 — голень, ретролатерально.

DISTRIBUTION. Italy, Slovenia, Croatia, Hungary, Slovakia, Czech Republic, Bulgaria, Romania, Moldova, Ukraine (including Crimea), Rostov Area of Russia, Caucasus, Turkey [Miller, 1967; Grimm, 1985; Thaler & Noflatscher, 1990; Mikhailov, 1997; Deltshev, Blagoev, 2001; personal and present data]. *Z. gracilis* is new to Turkey.

ACKNOWLEDGEMENTS. The authors sincerely thank A.V. Ponomarev (Rostov-on-Don, Russia), who donated type material and some literature to us, and for the valuable comments; V. Růžička (Ceske Budejovice, Czech Republic) and T. Blick (Hummeltel, Germany) for the comparative material of *Echemus angustifrons* and literature; J. Wunderlich (Hirschberg, Germany) for the usefully discussion; Yu.M. Marusik (Magadan, Russia) and S.L. Esyunin (Perm, Russia) for the help with literature; T. Türkeş (Niğde University, Turkey), who collected some of the material presented in this paper; A.A. Nadolny (Simferopol, Ukraine), who collected specimen of *Camillina metellus* from Crimea; and other colleagues for references search. We thank Yu.M. Marusik for improving the English of the earlier draft and some remarks and corrections, and Ch. Deltshev (Sofia, Bulgaria) and K.B. Kunt (Ankara, Turkey) for review of final manuscript and some corrections. English of the final draft was checked by Robin Leech (Edmonton, Canada).

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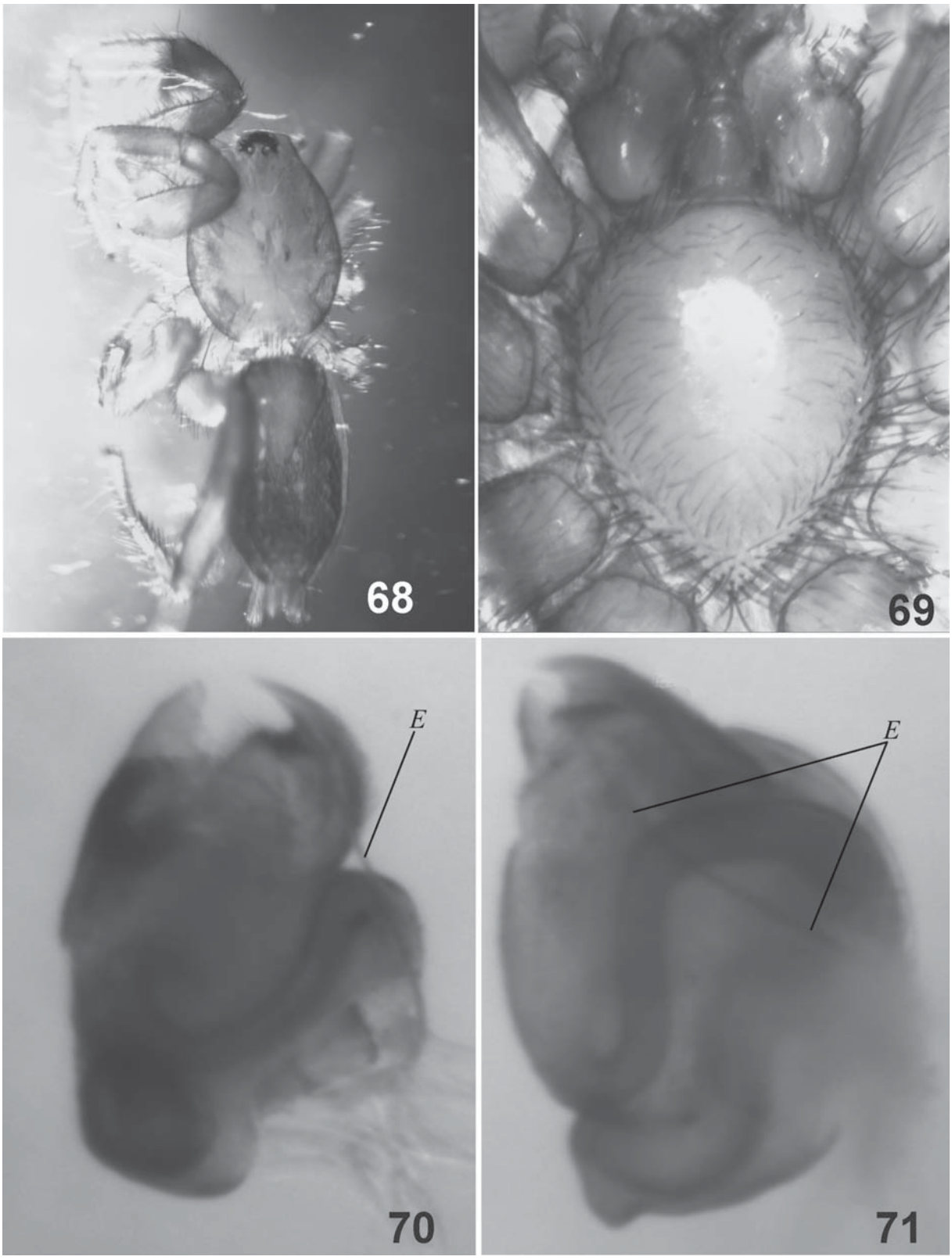

Figs 68–71. Details of structure of male *Turkozelotes microb* gen. et sp. n. (holotype): 68 — habitus, dorsal view; 69 — sternum, ventral view; 70 — bulbus, ventro-retrolateral view; 71 — bulbus, dorso-retrolateral view.

Рис. 68–71. Детали строения самца *Turkozelotes microb* gen. et sp. n. (голотип): 68 — габитус, дорсально; 69 — стернум, вентрально; 70 — бульбус, вентро-ретролатерально; 71 — бульбус, дорсо-ретролатерально.

References

Blick T., Slembrouck V. 2003. Die Spinnen (Arachnida: Araneae) im Naturschutzgebiet «Ahrschleife bei Altenahr» und auf angrenzenden Weingergsbrachen // Beitrage Landespflege Rheinland-Pfalz. 17. S.247–275.

Bristowe W. S. 1935. The spiders of Greece and the adjacent islands // Proc. zool. Soc. Lond. 1934. P.733–788.

Chatzaki M., Thaler K., Mylonas M. 2002. Ground spiders (Gnaphosidae; Araneae) of Crete (Greece). Taxonomy and distribution. I. // Revue Suisse de Zoologie. T.109. Fasc.3. P.559–601.

Chatzaki M., Thaler K., Mylonas M. 2003. Ground spiders (Gnaphosidae; Araneae) from Crete and adjacent areas of Greece. Taxonomy and distribution. III. *Zelotes* and allied genera // Revue Suisse de Zoologie. T.110. Fasc.1. P.45–89.

Deltshev Ch., Blagoev G. 2001. A critical check list of Bulgarian spiders (Araneae) // Bull. Br. Arachnol Soc. Vol.12. Pt.3. P.110–138.

Esyunin S.L., Tuneva T.K. 2002. A review of the family Gnaphosidae in the fauna of the Urals (Aranei), 1. Genera *Drassodes* Westring, 1851 and *Sidydrassus* gen.n. // Arthropoda Selecta. Vol.10. No.2. P.169–180.

Grimm U. 1985. Die Gnaphosidae Mitteleuropas (Arachnida, Aranei). Hamburg and Berlin: Verlag Paul Parey. 318 S.

Heimer S., Nentwig W. 1991. Spinnen Mitteleuropas: ein Bestimmungsbuch. Berlin and Hamburg: Parey. 543 S.

Kovblyuk M.M. 2003. The spider genus *Drassyllus* Chamberlin, 1922 in the Crimean fauna, with description of a new species (Aranei: Gnaphosidae) // Arthropoda Selecta. Vol.12. No.1. P.23–28.

Levy G. 1998. The ground-spider genera *Setaphis, Trachyzelotes, Zelotes,* and *Drassyllus* (Araneae: Gnaphosidae) in Israel // Israel Journal of Zoology. Vol 44. P.93–158.

Marusik Yu.M., Guseinov E.F., Aliev H.A. 2005. Spiders (Arachnida: Aranei) of Azerbaijan. 4. Fauna of Naxcivan // Arthropoda Selecta. Vol.13. No.3. P.135–149.

Mikhailov K.G. 1997. Catalogue of the spiders of the territories of the former Soviet Union (Arachnida, Aranei). Moscow: Zoological Museum of the Moscow State University. 416 pp.

Miller F. 1967. Studien uber die kopulationsorgane der spinnengattung *Zelotes, Micaria, Robertus* und *Dipoena* nebst beschreibung einiger neuen oder unvollkommen spinnenarten // Acta scientiarum Academiae scientiarum bohemoslovacae. T.7. No.1. P.251–298.

Pickard-Cambridge O. 1874. On some new species of Drassides // Proc. zool. Soc. Lond. 1874. P.370–419.

Piterkina T.V. 2009. Spiders (Arachnida, Aranei) of Dzhanybek Research Station, West Kazakhstan: a local fauna in a biogeographical aspect // S.I. Golovatch, O.L. Makarova, A.B. Babenko, L.D. Penev (eds.). Species and communities in extreme environments. Festschrift towards the 75th anniversary and a laudatio in honour of academician Yuri Ivanovich Chernov. Sofia-Moscow: Pensoft Publishers & KMK Scientific Press. P.335–356.

Piterkina T.V., Ovtsharenko V.I. 2007. [Interesting findings of spiders of the family Gnaphosidae and Liocranidae (Aranei) from semi-desert of the Northern Caspian Lowland] // Zoological Journal. T. 86. No. 12. P.1425–1432 [in Russian].

Platnick N.I. 2009. The World Spider Catalog, version 10.0. (Fam. Gnaphosidae Pocock, 1898). American Museum of Natural History. Online: http://research.amnh.org/entomology/spiders/catalog/index.html

Platnick N.I., Shadab M.U. 1982. A revision of the American spiders of the genus *Camillina* (Araneae, Gnaphosidae) // American Museum Novitates. No.2748. P.1–38.

Platnick N.I., Shadab M.U. 1983. A revision of the American spiders of the genus *Zelotes* (Araneae, Gnaphosidae) // Bulletin of the American Museum of Natural History. Vol.174. Article 2. P.97–192.

Platnick N.I., Murphy J.A. 1984. A revision of the spider genera *Trachyzelotes* and *Urozelotes* (Araneae, Gnaphosidae) // American Museum Novitates. No.2792. P.1–62.

Ponomarev A.V. 2008a. [Additions to fauna of spiders (Aranei) of the south of Russia and Western Kazakhstan: new taxa and finds] // Caucasian Entomological Bulletin. Vol.4. No.1. P.49–61 [in Russian].

Ponomarev A.V. 2008b. [The additional data to the spider fauna (Aranei) of the south-east of Russian Plain] // Vestnik Yuzhnogo nauchnogo tsentra RAN. T.4. No.3. P.78–86 [in Russian].

Ponomarev A.V., Tsvetkov A.S. 2004. [The generalized data on spiders (Aranei) of the Nature Reserve «Rostovski»] // Trudy gosudarstvennogo prirodnogo zapovednika «Rostovsky». Vol.3. P.84–104 [in Russian].

Ponomarev A.V., Tsvetkov A.S. 2006. [New and rare spiders of family Gnaphosidae (Aranei) from a southeast of Europe] // Caucasian Entomological Bulletin. Vol.2. No.1. P.5–13 [in Russian].

Ponomarev A.V., Belosludtsev E.A., Dvadnenko K.V. 2008. [Spiders (Aranei) of the Lower Volga Region (Astrakhan and Volgograd areas of Russia) with the description of new taxa] // Caucasian Entomological Bulletin. Vol.4. No.2. P.163–185 [in Russian].

Růžička V. 1996. Species composition and site distribution of spiders (Araneae) in a gneiss massif in the Dyje river valley // Revue suisse de Zoologie. Vol. hors série (Proceeding of the 13-th International Congress of Arachnology, Geneva). P.561–569.

Senglet A. 2004. Copulatory mechanisms in *Zelotes, Drassyllus* and *Trachyzelotes* (Araneae, Gnaphosidae), with addition faunistic and taxonomic data on species from Southwest Europe // Bulletin de la Societe Entomologique Suisse. T.77. P.87–119.

Seyyar O., Ayyildiz N., Topçu A. 2008. Updated checklist of ground spider (Aranae: Gnaphosidae) of Turkey, with zoogeographical and faunistic remarks // Entomological News. Vol.119. No.5. P.509–520.

Snazell R., Murphy J.A. 1997. *Zelominor* (Araneae, Gnaphosidae), a new genus of zelotine spider from the Western Mediterranean region // Bull. Br. arachnol. Soc. Vol.10. Pt.7. P.260–264.

Song D., Zhu M., Zhang F. 2004. Fauna Sinica: Invertebrata Vol. 39: Arachnida: Araneae: Gnaphosidae. China, Beijing: Science Press. 362 pp.

Thaler K., Noflatscher M.-T. 1990. Neue und bemerkenswerte Spinnenfunde in Sudtirol (Arachnida: Aranei) // Veroffentlichungen des Museum Ferdinandeum Innsbruck. Bd.69. S.169–190.

Tuneva T.K. 2005. A contribution on the gnaphosid spider fauna (Araneae: Gnaphosidae) of east Kazakhstan // Arthropoda Selecta. Special Issue No.1 (Proceedings of the 21st European Colloquium of Arachnology, St.-Petersburg, 4–9 August 2003). P.319–332.

Tuneva T.K., Esyunin S.L. 2003. A review of the Gnaphosidae fauna of the Urals (Aranei), 3. New species and new records, chiefly from the South Urals // Arthropoda Selecta. Vol.11. No.3. P.223–234.