

Three interesting species of Gnaphosidae from Crimea (Arachnida: Aranei)

Три интересных вида семейства Gnaphosidae из Крыма (Arachnida: Aranei)

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KEY WORDS: spiders, Gnaphosidae, new species, new record, Crimea.

КЛЮЧЕВЫЕ СЛОВА: пауки, Gnaphosidae, новый вид, новые находки, Крым.

ABSTRACT. *Poecilochroa senilis* (O. Pickard-Cambridge, 1872), *Trachyzelotes barbatus* (L. Koch, 1866) and *Zelotes eugenei* Kovblyuk sp.n., are recorded from Crimea. For these species and for *Trachyzelotes malkini* Platnick & Murphy, 1984, diagnostic drawings and data on distribution and phenology are provided.

РЕЗЮМЕ. В Крыму найдены *Poecilochroa senilis* (O. Pickard-Cambridge, 1872) и *Trachyzelotes barbatus* (L. Koch, 1866), а также новый для науки вид *Zelotes eugenei* Kovblyuk, sp.n. Для этих видов, приведены диагностические рисунки (как и для *Trachyzelotes malkini* Platnick & Murphy, 1984), сведения о географическом распространении и фенологии.

Ground spiders or Gnaphosidae are relatively well studied in Crimea. So far 61 gnaphosid species belonging to 16 genera have been reported from the Peninsula [Kovblyuk, 2004a, 2006]. In new material recently collected in Crimea, some addition species, including new to science, have been found. The goal of this paper is the description or redescription of species newly found in the Crimean Peninsula.

All specimens treated in this study are deposited in the following collections: PSU — Perm State University, Perm, Russia (T.K. Tuneva, Yekaterinburg, Russia); 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). The following abbreviations are used in the text: RTA — retrolateral tibial apophysis; s.p. — same place. All measurements are in mm. All scale bars are equal 0.1 mm. Illustrations were made using both reflecting and transmitted light microscopes. Microphotographs were made by SEM Jeol JSM-5200 in the Zoological

Museum, University of Turku, Finland. Coloration was described from specimens preserved in 75% ethanol/water solution with added glycerin (9:1 by volume).

Poecilochroa senilis (O. Pickard-Cambridge, 1872)
Figs 1–9.

Drassus flavo-maculatus L. Koch, 1878: 40–42, pl. 1, f. 2, 2a (♂).

P. s.: Levy, 1999: 431–433, f. 6–9 (♂♀).

P. s.: Chatzaki et al., 2002: 569–570, f. 8–11 (♂♀).

P. s.: Murphy, 2007: 370–371 (♂♀).

For a complete list of references see Platnick [2008].

MATERIAL. UKRAINE: CRIMEA. *Feodosiya Distr.*: 2 ♂♂ (TNU–1726/2), Karadag Nature Reserve, Biological station, 19–22.07.2002, I.V. Kukushkin; 1 ♂ (TNU–1985/2), s.p., 6–12.07.2005, M.M. Kovblyuk; 1 ♂ (TNU–2396/3), s.p., 6.07.2007, M.M. Kovblyuk; *Sevastopol Distr.*: 1 ♀ (PSU), Sevastopol, under stones, 16.07.2005, T.K. Tuneva.

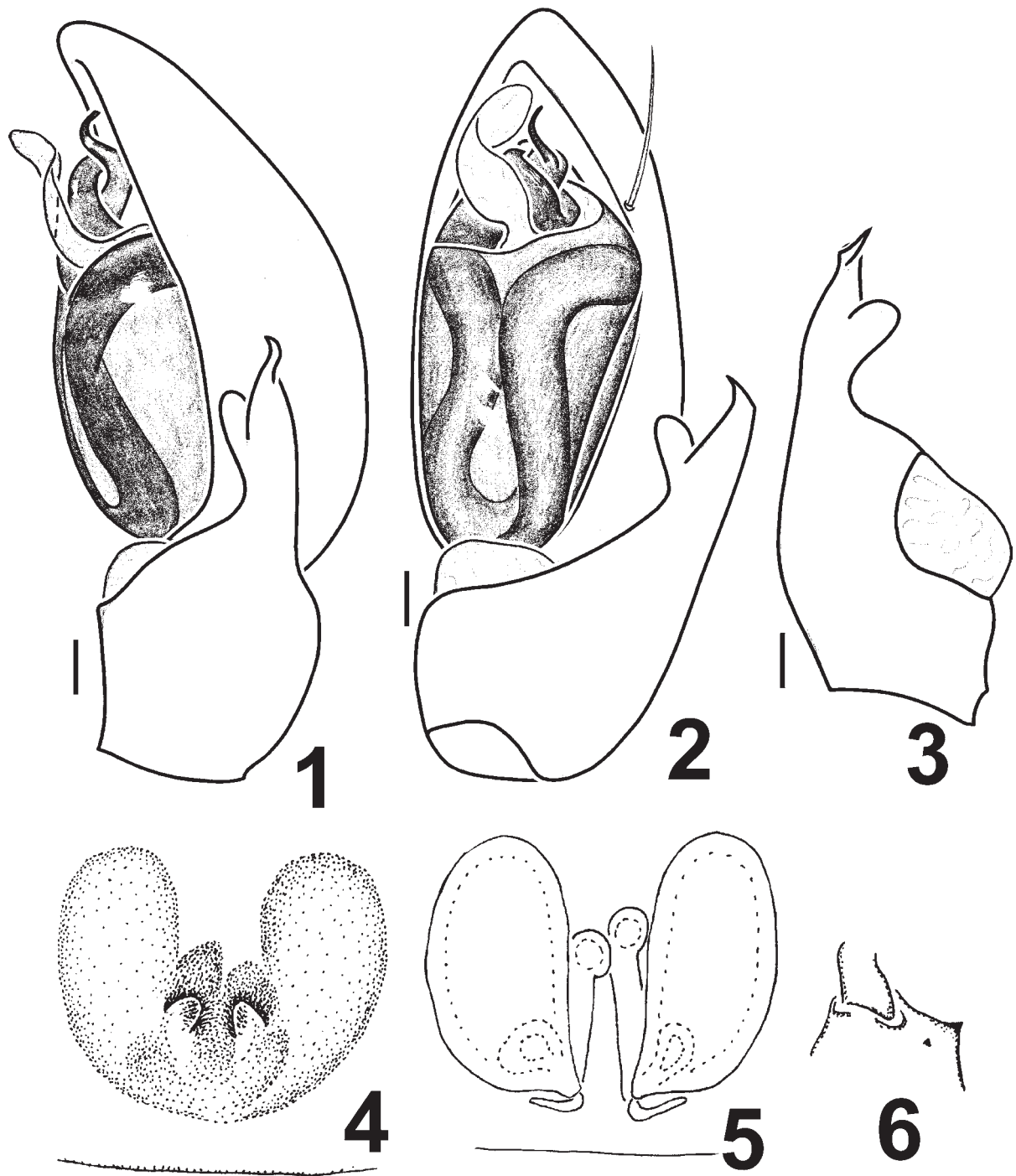
DISTRIBUTION. Ancient Mediterranean — from western Mediterranean to Turkmenistan: Corsica, Sicily, Crete, Cyprus, Libya, Egypt, Palestine, Syria, Anatolia, Turkmenistan [L. Koch, 1878; Levy, 1999; Di Franco, 2002; Chatzaki et al., 2002; Seyyar et al., 2006; Murphy, 2007; Platnick, 2008].

NOTE. *P. senilis* is a species new to Crimea and Ukraine. It is the only species of the genus *Poecilochroa* Westring, 1874, occurring in the Crimea.

PHENOLOGY. ♂♀ — VII. In Israel this cursorial araneophagic spider is found all year round [Levy, 1999]. On Crete adults are present in spring and summer, a peak of activity is in early summer [Chatzaki et al., 2002]. In Anatolia ♀♀ — IV–VII [Seyyar et al., 2006].

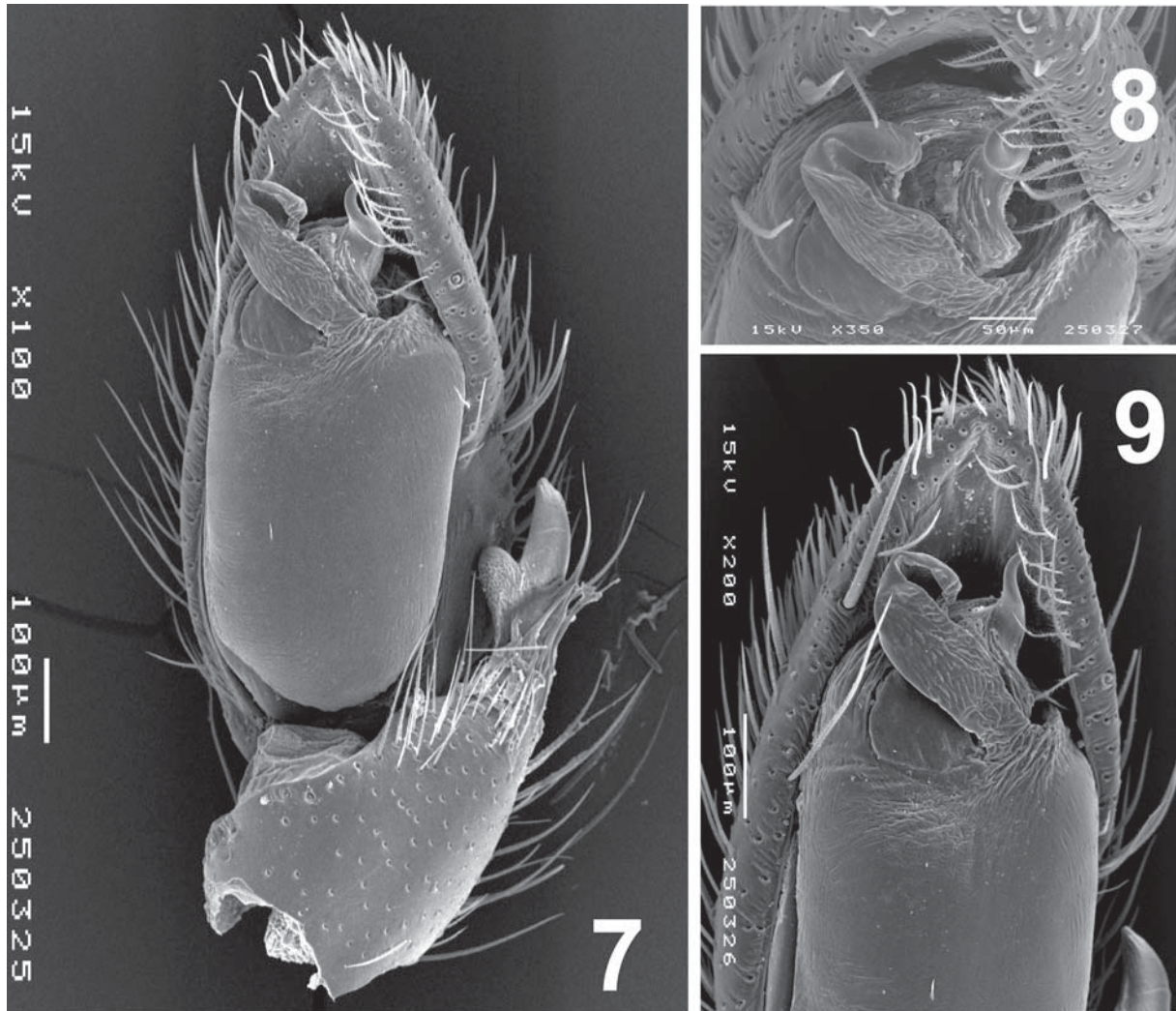
Trachyzelotes barbatus (L. Koch, 1866)
Figs 10–16.

Melanophora b. L. Koch, 1866: 161–163, pl. 6, f. 101–103 (♂♀).



Figs 1–6. Copulatory organs of *Poecilochroa senilis*: 1 — male palp, retrolateral view; 2 — male palp, ventral view; 3 — tibia of male palp, prolateral view; 4 — epigyne, ventral view; 5 — epigyne, dorsal view; 6 — basal segment of female chelicerae, apical part, anterior view.

Рис. 1–6. Копулятивные органы *Poecilochroa senilis*: 1 — палпа самца, ретролатерально; 2 — палпа самца, вентрально; 3 — голень палпы самца, пролатерально; 4 — эпигина, вентрально; 5 — эпигина, дорсально; 6 — хелицера самки, вершина базального сегмента, спереди.



Figs 7–9. Male palp of *Poecilochroa senilis*: 7 — ventral view; 8 — apical view; 9 — bulbus, ventral view.

Рис. 7–9. Пальпа самца *Poecilochroa senilis*: 7 — вентрально; 8 — апикально; 9 — бульбус, вентрально.

Prosthesima b.: Chyzer & Kulczynski, 1897: 208, pl. 7, f. 46, pl. 8, f. 23 (♂♀).

T. b.: Platnick & Murphy, 1984: 15, f. 27–30 (♂♀).

T. b.: Chatzaki et al., 2003: 53, f. 20–21, 26–27 (♂♀).

For a complete list of references see Platnick [2008].

FAUNISTIC RECORDS FROM CRIMEA: Spassky, 1927; Charitonov, 1932; Tyshchenko, 1971; Ovtsharenko, 1982 — all as *Zelotes barbatus* (L. Koch, 1866); Mikhailov, 1997 — as *Trachyzelotes*; Kovblyuk, 2003, 2004a, b — as misidentification by previous authors.

NOTE. Figures of *Trachyzelotes barbatus* by F. Miller [1967: pl. III, f. 17–18, pl. VI, f. 5 (♂♀)] in fact refer to *Trachyzelotes malkini* Platnick & Murphy, 1984.

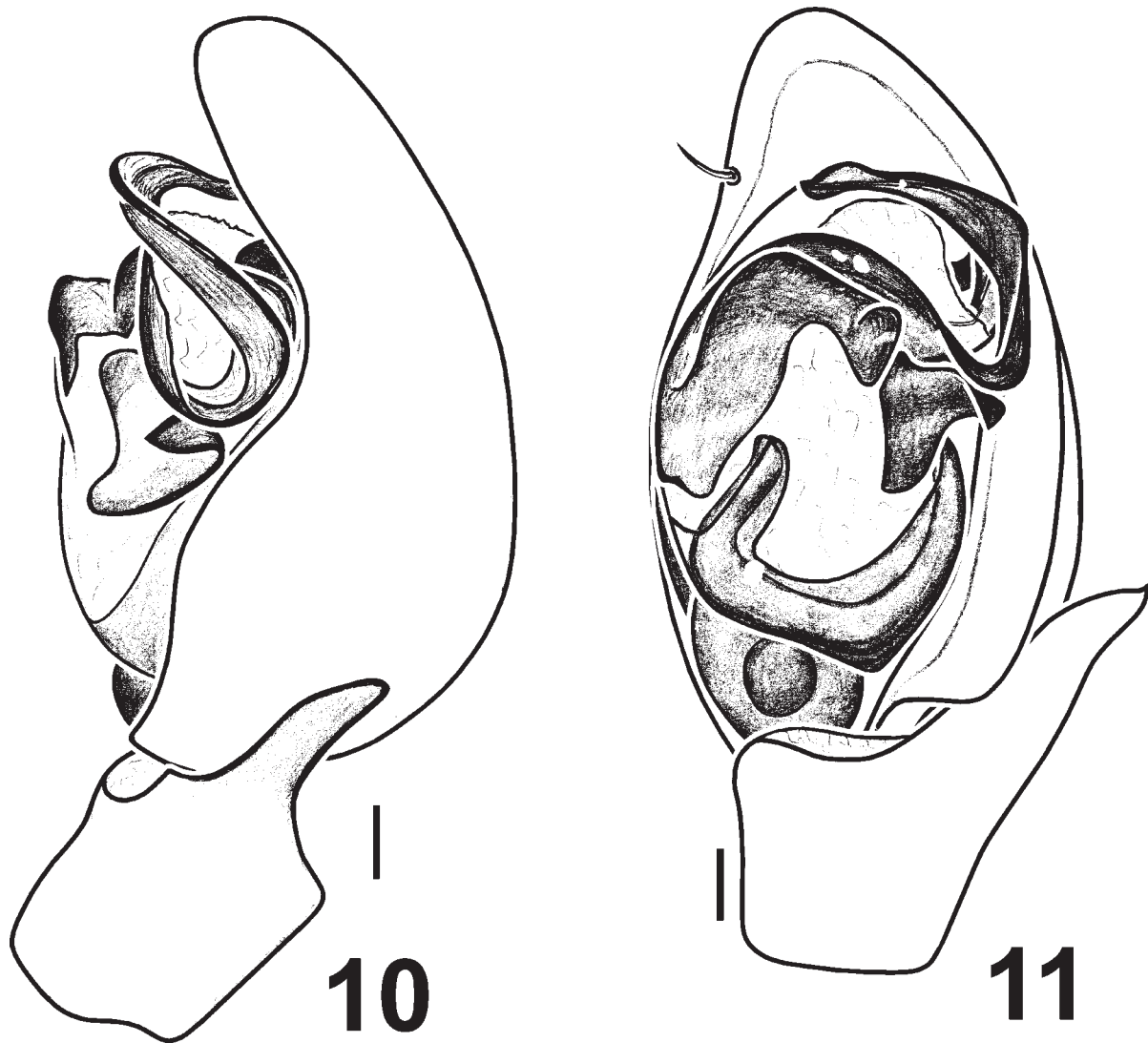
MATERIAL. UKRAINE: CRIMEA. Feodosiya Distr.: 1 ♂ (TNU–2382/3), Karadag Nature Reserve, Biological station, 31.05.–10.06.2007, O.V. Kukushkin; 1 ♀ (TNU–2385/13), s.p., 11–30.06.2007, O.V. Kukushkin; 1 ♀ (TNU–2396/4), s.p., 6.07.2007, M.M. Kovblyuk; 2 ♀♀ (TNU–2401/2), s.p., 07.2007, O.V. Kukushkin.

COMPARATIVE MATERIAL. *Trachyzelotes malkini* Platnick & Murphy, 1984 — see material in Kovblyuk [2004b] and Kovbly-

uk et al. [2008] and also additional material: UKRAINE: CRIMEA, Feodosiya Distr., Karadag Nature Reserve: 1 ♂ (TNU–1822/6), ?06.2003, O.V. Kukushkin; 1 ♂ (TNU–2034/5), Biological station, *Quercus pubescens* forest, 2.07.2004; 1 ♀ (TNU–2009/9), s.p., 15–30.07.2004, O.V. Kukushkin; 1 ♂ (TNU–1972/5), Biological station, 20–30.05.2005, O.V. Kukushkin; 1 ♂ (TNU–1978/5), s.p., ?06.2005, O.V. Kukushkin; 1 ♂ (TNU–2562/5), s.p., 18–23.05.2008, O.V. Kukushkin.

DIAGNOSIS. The shape of embolus and epigynal ducts easily distinguish *T. barbatus* from all other *Trachyzelotes* species. *T. barbatus* may be confused with *T. malkini* (Figs. 17–21), but can be distinguished by the male palps, epigyne and coloration. General coloration of carapace *T. barbatus* is red to brown, while in *T. malkini* it is black.

DISTRIBUTION. From West Mediterranean to Central Asia and USA (introduced): Sahara, “Oase Bisera” (perhaps it is Biskra, in Algeria); Spain; France; Italy; Croatia; Crete; Hungary; Ukraine; Rostov Area of Russia; California [L. Koch, 1866; Chyzer & Kulczynski, 1897; Platnick & Murphy, 1984; Chatzaki et al., 2003; Ponomarev & Tsvetkov, 2004; Platnick, 2008].



Figs 10–11. Male palp of *Trachyzelotes barbatus*: 10 — retrolateral view; 11 — ventral view.

Рис. 10–11. Пальпа самца *Trachyzelotes barbatus*: 10 — ретролатерально; 11 — вентрально.

PHENOLOGY: ♂♂ — VI; ♀♀ — VI–VII. In Rostov Area phenology is as in Crimea: ♂♂ — VII; ♀♀ — VI [Ponomarev & Tsvetkov, 2004]. In California ♂♂ — IV; ♂♀ — VI–VIII [Platnick & Murphy, 1984]. On Crete ♂♀ — IV–VIII; ♀♀ — V–IX [Chatzaki et al., 2003].

NOTE. Earlier Kovblyuk [2003, 2004a, b] doubted previous identifications of *T. barbatus* from Crimea. There are four species of *Trachyzelotes* Lohmander, 1944, in Crimea: *T. barbatus*; *T. malkini*; *T. lyonneti* (Audouin, 1826) and *T. pedestris* (C. L. Koch, 1837) [Kovblyuk, 2003, 2004a, b, and this article].

Zelotes eugenei Kovblyuk, **sp.n.**

Figs 22–28.

MATERIAL. UKRAINE: CRIMEA. Lenin Distr.: holotype ♂ and paratypes 2 ♀♀ (ZMMU and TNU), Arabatskaya strelka, 2 km south of Schastlivtsevo Vil., coast of Azov Sea, 9–13.09.2003, E.M. Zhukovets.

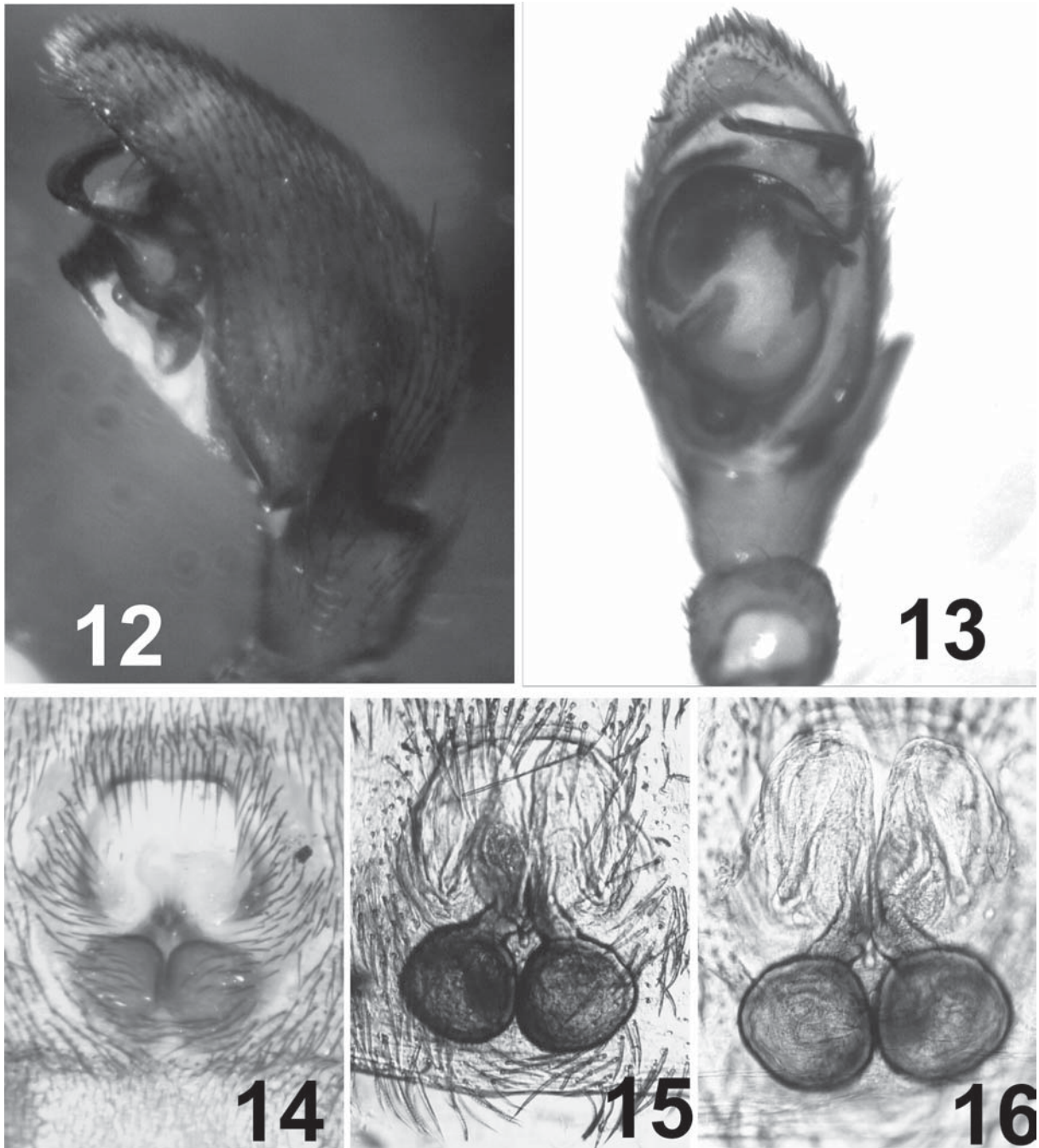
DIAGNOSIS. The new species belongs to *Zelotes subterraneus*-group. *Z. eugenei* sp.n. can be easily distinguished from congroupers by the shape of embolus and epigyne. The thick embolus is recurved and directed retrolaterally. RTA longer than tibia. Fovea of epigyne with diagonally directed grooves.

DESCRIPTION. (♂ / ♀; n = 1 / 1): Measurements. Total length 6.8 / ? (female is not measured because abdomen and cephalothorax are separated). Carapace: 3.0 / 2.8 long, 2.4 / 2.2 wide. Eye sizes and legs segments are not measured because only one male/one female are available.

Coloration: Carapace, chelicerae, sternum, labium, palps, legs, book-lungs, scutum on male's abdomen dark brown. Abdomen dark grey.

Palp as in Figs 22–24, 26, thick embolus is recurved and directed retrolaterally. RTA straight, longer than tibia.

Epigyne as in Figs 25, 27–28, with two unfused apical pockets; width of fovea smaller than distance between pockets; foveal grooves diagonally directed; insemination ducts



Figs 12–16. Copulatory organs of *Trachyzelotes barbatus*: 12 — male palp, retrolateral view; 13 — male palp, ventral view; 14–15 — epigyne, ventral view; 16 — epigyne, dorsal view.

Рис. 12–16. Копулятивные органы *Trachyzelotes barbatus*: 12 — палпы самца, ретролатерально; 13 — палпы самца, вентрально; 14–15 — эпигина, вентрально; 16 — эпигина, дорсально.

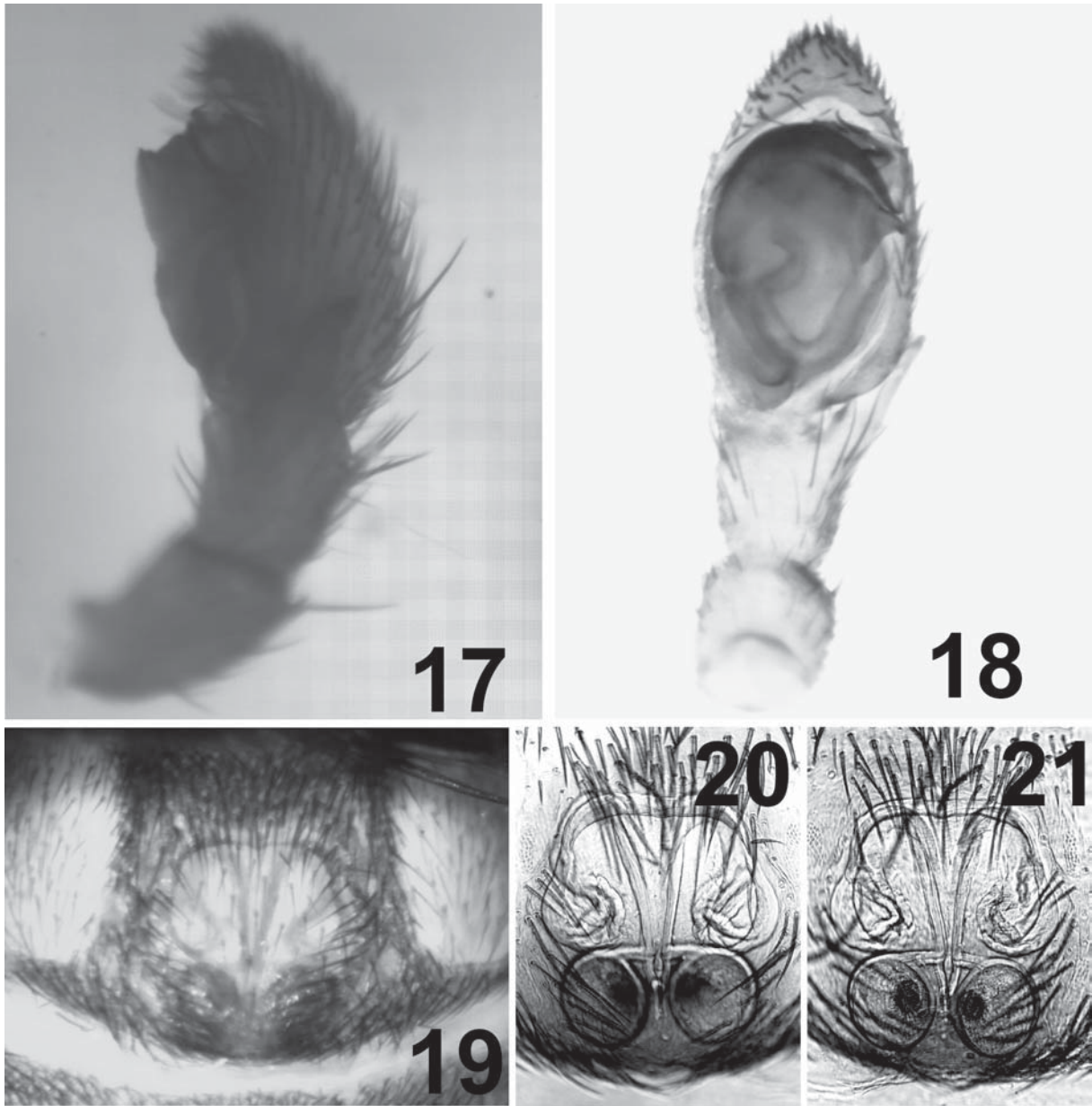
make half circle loop; accessorial gland round shaped and in mid part of loop.

DISTRIBUTION. Northern Crimea only.

HABITATS. Sandy steppe with of *Elaeagnus* sp. trees; under stone.

PHENOLOGY: ♂♀ — IX.

ETYMOLOGY. The species is named in honour of our colleague and first teacher of M.K. in arachnology, Eugene Mikhailovich Zhukovets (Minsk, Belarus), who collected the type specimens.

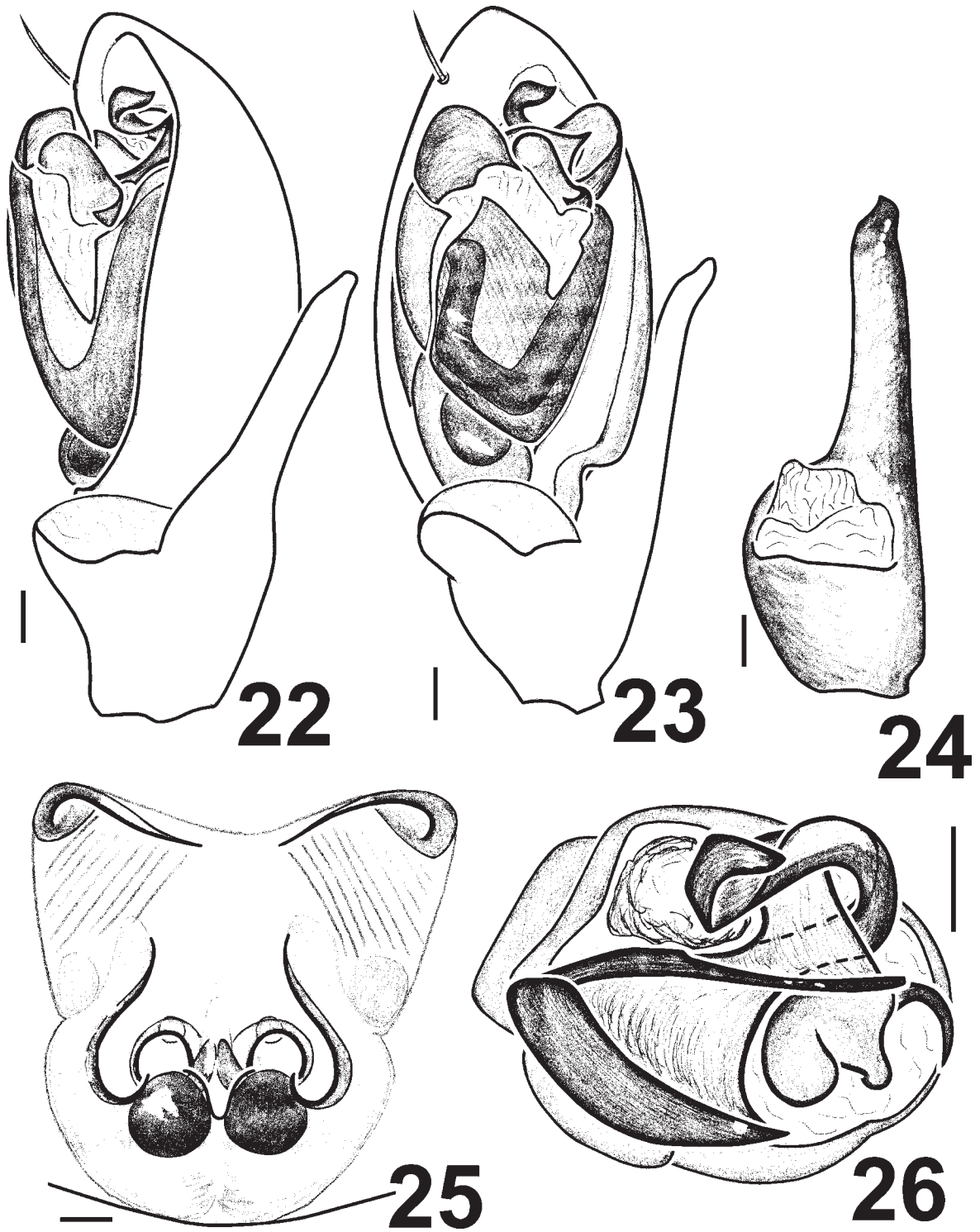


Figs 17–21. Copulatory organs of *Trachyzelotes malkini*: 17 — male palp, retrolateral view; 18 — male palp, ventral view; 19–20 — epigyne, ventral view; 21 — epigyne, dorsal view.

Рис. 17–21. Копулятивные органы *Trachyzelotes malkini*: 17 — палпы самца, ретролатерально; 18 — палпы самца, вентрально; 19–20 — эпигина, вентрально; 21 — эпигина, дорсально.

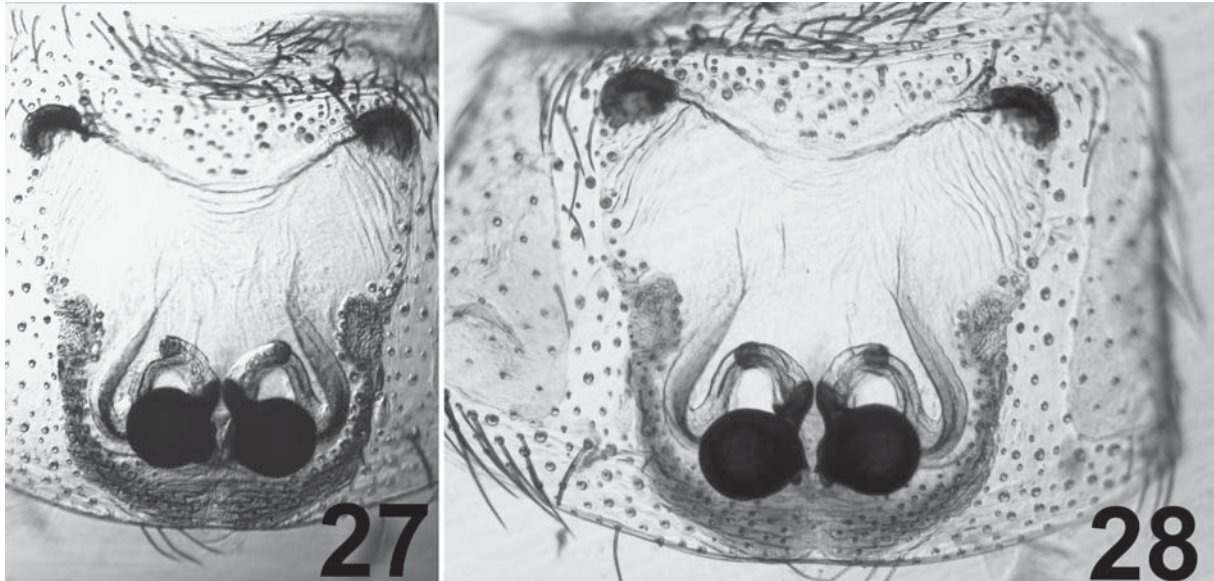
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Figs 22–26. Copulatory organs of *Zelotes eugenei* sp.n.: 22 — male palp, retrolateral view; 23 — male palp, ventral view; 24 — RTA, prolateral view; 25 — epigyne, ventral view; 26 — bulbus, apical view.

Рис. 22–26. Копулятивные органы *Zelotes eugenei* sp.n.: 22 — пальпа самца, ретролатерально; 23 — пальпа самца, вентрально; 24 — отросток голени пальпы, пролатерально; 25 — эпигина, вентрально; 26 — бульбус, апикально.



Figs 27–28. Epigyne of *Zelotes eugenei* sp.n.: 27 — ventral view; 28 — dorsal view.

Рис. 27–28. Эпигина *Zelotes eugenei* sp.n.: 27 — вентрально; 28 — дорсально.

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