

## A SURVEY OF EAST PALAEARCTIC GNAPHOSIDAE (ARANEAE). 7. REVIEW OF THE *PARASYRISCA VINOSA*-GROUP

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A new species of ground spider, *Parasyrisca golyakovi* sp. n. is described based on female from the Altai Mountains. A previously unknown female of *P. ulykpani* Ovtsharenko, Platnick & Marusik, 1995 is described for the first time.

**Key words:** Aranei, new species, taxonomy, Altai, Tuva, Mongolia.

### INTRODUCTION

*Parasyrisca* Schenkel, 1963 is a large genus of ground spiders with 50 valid species distributed in the Palaearctic except for *P. orites* (Chamberlin & Gertsch, 1940) known from the Western Nearctic (WSC, 2016). The genus has high species diversity in the mountains of Central Asia (Kyrgyzstan, Tajikistan), South Siberia (Altai and Tuva regions of Russia), Mongolia and in the Caucasus (Ovtsharenko et al., 1995; Mikhailov, 2013). Several species are known from the mountainous regions of Europe. The genus is well studied due to the revision by Ovtsharenko et al. (1995) and several regional studies (Fomichev, 2016; Kovblyuk, 2003; Marusik & Fomichev, 2010; Marusik & Fritzen, 2009; Szinetar et al., 2009; Tang & Zhao, 1998). Most of the species have limited ranges (Ovtsharenko et al., 1995).

Ovtsharenko et al. (1995) recognized four species groups in *Parasyrisca*, namely *potanini*, *vinosa*, *guzeripli* and *breviceps*. The smallest group *vinosa* had only two species: *P. vinosa* (Simon, 1878) and *P. ulykpani* Ovtsharenko, Platnick et Marusik, 1995. Later, one more species *P. marusiki* Kovblyuk, 2003 was assigned to this group. *Parasyrisca vinosa* and *P. marusiki* are known by both sexes and *P. ulykpani* is known only from the males. While studying South Siberian and Mongolian Gnaphosidae we found samples containing males of *P. ulykpani* together with previously unknown females as well as an undescribed species belonging to the *vinosa* group. The goals of this paper are as follows: 1) to provide illustrated redescriptions of three species; 2) to describe a new species and a previously unknown female of *P. ulykpani*, and 3) to demonstrate variations of epigyne in *P. vinosa*.

### MATERIAL AND METHODS

Specimens were photographed with a Canon EOS 7D camera attached to an Olympus SZX16 stereomicroscope at the Zoological Museum, University of Turku, Finland and with an AxioCamMRc 5 (Zeiss) camera attached to a Stemi 2000 – C stereomicroscope at the Institute of Systematics and Ecology of Animals, Novosibirsk, Russia. Digital images were montaged using “CombineZP” and “Helicon focus

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3.10" image stacking software. Epigynes were cleared in a KOH/water solution until soft tissues were dissolved. Photographs were taken in dishes with paraffin on the bottom to hold the specimens in position. All measurements are given in millimeters. Length of leg segments were measured on the dorsal side. Data about spination based on examination of one specimen of each species (one side of the body). Apical spines on metatarsi III and IV were not counted. We followed terminology of the part of the copulatory organs and the standard of descriptions used in Ovtsharenko et al. (1995).

### List of abbreviations

#### Museums

ISEA Museum of the Institute of Systematics and Ecology of Animals (Novosibirsk, Russia).

MNHN National Museum of Natural History (Paris, France).

ZISP Zoological Institute, Sankt-Petersburg (Russia).

ZMMU Zoological Museum of the Moscow State University (Russia).

ZMUT Zoological Museum, University of Turku (Finland).

*Leg segments*: Fe – femur, Mt – metatarsus, Pt – patella, Ta – tarsus, Ti – tibia.

*Spination*: d – dorsal, p – prolateral, r – retrolateral, v – ventral.

## DESCRIPTIONS

### *Parasyrisca vinosa* group

*Parasyrisca vinosus* group: Ovtsharenko et al., 1995: 39.

**Comments.** The name of the species and species-group in Ovtsharenko et al. (1995) follow original Simon's spelling (*vinosus*), and was not coordinated with the feminine gender of the genus (*Parasyrisca*) after transferring from *Drassodes* Westring, 1851. The ending was corrected by Platnick (1998).

**Diagnosis.** The group can be easily defined and recognized due to two anterior pockets of the epigynal atrium (other species groups have only one), high base of septum with short pocket, opened (not hidden) large embolus (partly or entirely hidden by tegulum in other species groups) and weakly sclerotized membranous "conductor" (well sclerotized in other species groups).

**Composition.** So far only four species belong to this genus: *P. golyakovi* sp. n. (Altai), *P. marusiki* Kovblyuk, 2003 (Crimea), *P. vinosa* (Alps and Pyrenees) and *P. ulykpani* (South Siberia and Mongolia).

### *Parasyrisca vinosa* (Simon, 1878)

(Figs 1–3, 25–27)

*Drassus vinosus* Simon, 1878: 123 (♀).

*Drassodes vinosus*: Lessert, 1910: 52, f. 44 (most likely misidentified, ♀); Simon, 1914: 130, 207, f. 212–214 (♂♀); Grimm, 1985: 126, f. 123–125 (♂♀); Heimer & Nentwig, 1991: 418, f. 1102 (reproduced from Grimm, 1985, ♂♀).

*Parasyrisca vinosus*: Ovtsharenko et al., 1995: 39, f. 139–143 (♂♀);

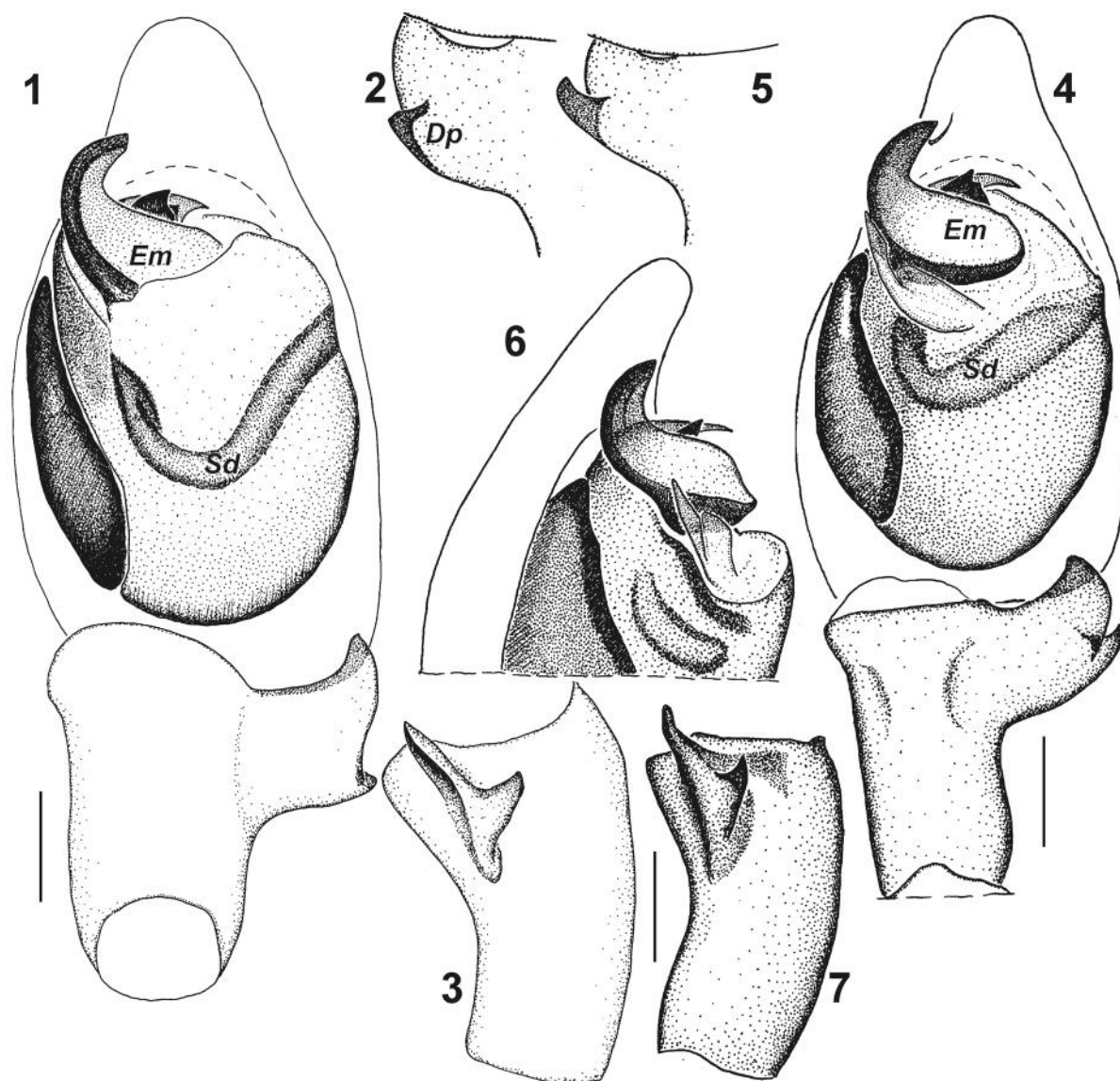
*Parasyrisca vinosa* Trotta, 2005: 166, f. 302–303 (reproduced from Ovtsharenko et al., 1995, ♂♀); Wunderlich, 2011: 41, f. 70–71 (reproduced from Ovtsharenko et al., 1995, ♂♀).

**Material examined.** 1♂ 5♀ (MNHN), no locality data, Simon collection # 2057. Females from the studied sample most likely represent the syntypes that came from the localities shown on Fig. 31.

**Diagnosis.** Male differs from sibling *P. ulykpani* by longer sperm duct (*Sd*) and wider and shorter dorsal process (*Dp*) of tibial apophysis (cf. Figs 1–2 and 4–5). Females differs from these of *P. golyakovi* sp. n. by wider anterior pockets (*Ap*) and wider and posteriorly located septal pocket (*Sp*) (cf. Figs 25–27 and 15–16, 28). Females of *P. vinosa* and *P. ulykpani* are almost indistinguishable. The former species have longer receptacles reaching anterior pockets (fig. 143 in Platnick et al., 1995), while the later species have receptacle heads posteriorly from the pockets (Fig. 20).

**Description.** Male was described by Simon (1914) and female, by Simon (1878).

**Note.** Male and females of this species were illustrated long time ago by YM while preparing revision of the genus made by Ovtsharenko et al. (1995).



**Figures 1–7.** Male palp of *Parasyrisca vinosa* (1–3) and *P. ulykpani* (4–7). 1, 4 ventral; 2, 5 tibial apophysis, dorsal; 3, 7 tibia, retrolateral; 6 terminal part of palp, prolateral. Scale = 0.2 mm. Abbreviations: *Em* embolus, *Dp* dorsal process of tibial apophysis, *Sd* sperm duct.

**Distribution.** The species is known from Pyrenees and Western Alps (Nentwig et al., 2016). Simon (1878) mentioned that all syntypes were collected from elevation above 2000 m. Records of this species in Ukraine: Kharkiv (Kirilenko & Legotay, 1981) and Zakarpattia regions (Legotay, 1989) are considered as misidentifications (Mikhailov, 1997; Polchaninova & Prokopenko, 2013). Records of mountain-dwelling *P. vinosa* from the lowland Voronezh (Panteleeva, 2007) and Lipetsk (Panteleeva, 1982) Provinces of Russia is undoubtedly based on misidentifications.

***Parasyrisca ulykpani* Ovtsharenko, Platnick & Marusik, 1995**

(Figs 4–10, 17–21, 31)

*Parasyrisca ulykpani* Ovtsharenko et al., 1995: 40, f. 144–146 (♂); Logunov et al., 1998: 133; Marusik et al., 2000: 34; Marusik & Logunov, 2000: 240; Azarkina & Trilikauskas, 2013: 202.

**Material examined.** RUSSIA: **Altai Republic:** 1♂ (ISEA), Ukok Plateau, Muzdy-Bulak Lake, 49°16'N 87°39'E, 2400–3000 m, 2.07.2005 (V.S. Sorokina). **Tuva:** holotype ♂ (ISEA), Tes-Khemskii Dist., Kangai-Kyry Mt., 20 km NW from Khol-Oozhu Village, 50°48'N 94°18'E, 2100–2173 m, moss-shrub tundra, 08–09.07.1989 (D.V. Logunov); 1 ♂ (ZMUT) Eastern Tannu-Ola Mt. Range, S slope, 50°48'N



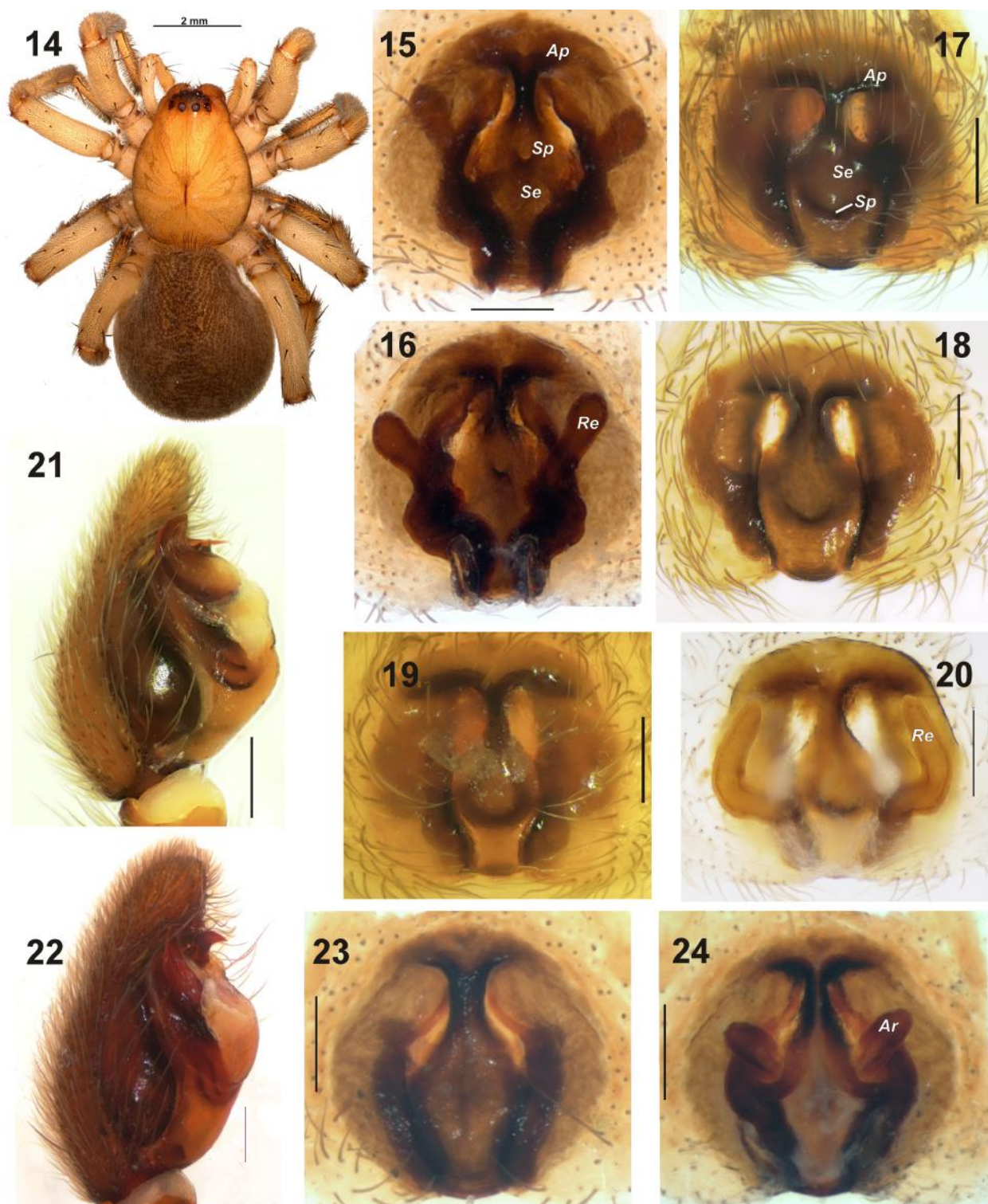


**Figures 8–13.** Male palp of *Parasyrisca ulykpani* (8–10) and *P. marusiki* (11–13). 8, 11 ventral; 9, 12 retrolateral; 10, 13 dorsal. Scale = 0.2 mm.

Abbreviations: *Aa* anterior part of tibial apophysis; *Dp* dorso-posterior part of tibial apophysis, *Em* embolus.

94°18'E, 2100 m, *Pinus sibirica*-*Larix* sp. forest, 08–17.06.1995 (S. Koponen). MONGOLIA: **Arkhangai** Aimag: 2♂ 2♀ (ZMMU) Ondrer-Ulaan, Tsakhir, Chulut Gorge, 48°07'N 100°22'E, 2100 m, larch forest and meadow, 10–13.06.1997 (Y.M. Marusik); **Khövsgöl** Aimag: 2♂ (ZISP), Bayangol, 70 km from S apex of Khubsugul Lake, mountain tundra, 04–16.07.1986 (K. Ulykpan); 1♀ (ZMMU), **Övörkhangai** Aimag: Zuunbayan-Ulaan S., Zamtyн Davaa, 46°43'N 102°51'E, 2000 m, 14–18.06.1997 (Y.M. Marusik).





**Figures 14–24.** *Parasyrisca golyakovi* sp. n. (14–16), *P. ulykpani* (17–21) and *P. marusiki* (22–24). 14 female habitus, dorsal; 15, 18, 23 macerated epigyne, ventral; 16, 20, 24 macerated epigyne, dorsal; 17, 19 intact epigyne, ventral; 21–22 male palp, prolateral. Abbreviations: *Ap* anterior pocket, *Ar* anterior part of receptacles, *Re* receptacles, *Se* septum, *Sp* septal pocket. Scale = 0.2 mm if not otherwise indicated.

**Diagnosis.** Female of this species can be separated from *P. golyakovi* sp. n. by the converging terminal parts of receptacles (diverging in sibling species), as well as by wider anterior pockets, wider septal pocket located in posterior half of septum (pit like pocket located in anterior half of septum in *P. golyakovi* sp. n.). From *P. vinosa* it differs by shorter receptacles not reaching anterior pockets (cf. Fig. 20 and fig.

143 in Ovtsharenko et. al., 1995). Male of this species can be separated from sibling *P. vinosa* by thinner and longer dorsal process (*Dp*) of tibial apophysis, shorter and more highly located sperm duct (cf. Figs 1–3 and 4–10).

**Description.** Male. Described by Ovtsharenko et al. (1995). Female. Total length 9.0. Carapace: 3.1 long, 2.4 wide. Eye sizes and interdistances: AME 0.14, ALE 0.16, PME 0.14, PLE 0.11, AME – AME 0.11, AME – ALE 0.06, PME – PME 0.14, PME – PLE 0.19, ALE – PLE 0.14; MOQ length 0.46, front width 0.41, back width 0.43. Coloration. Carapace, chelicerae, maxillae, legs and palps light-brown. Labium and sternum dark-brown. Abdomen and spinnerets cream-colored.

Leg measurements:

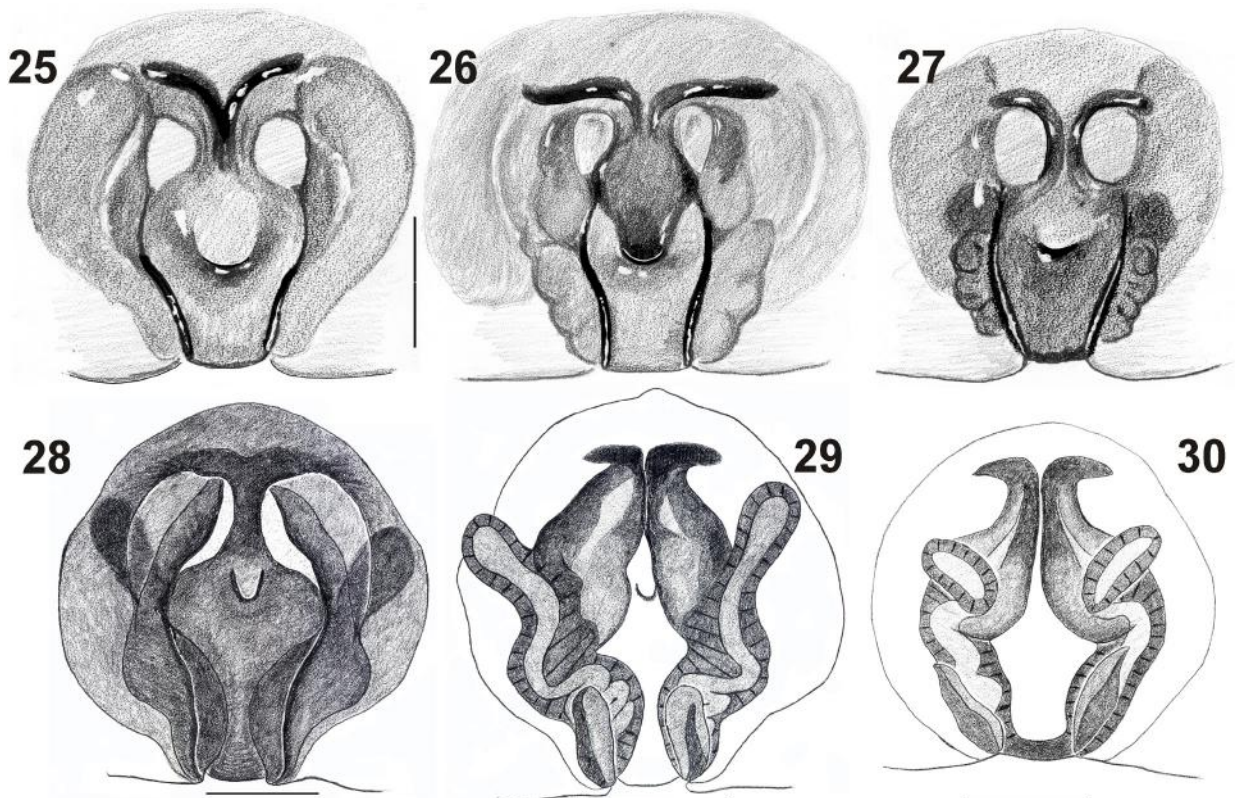
	Fe	Pt	Ti	Mt	Ta	Total
I	2.4	1.35	1.7	1.35	1.3	8.1
II	2.2	1.25	1.55	1.25	1.2	7.45
III	2.1	1.15	1.4	1.2	1.15	7.0
IV	2.8	1.3	2.25	1.95	1.4	9.7

Leg spination:

	Fe	Ti	Mt
I	d1-1-0, p0-0-1	v2-2-0	v2-0-0
II	d1-1-0, p0-0-1	v1-2-0	v2-0-0
III	d1-1-0, p0-1-0, r0-0-1	p1-0-1, r1-0-1, v1-1-2	d0-1-0, p0-1-0, r0-1-0, v2-0-0
IV	d1-1-0, r0-0-1	p1-0-1, r1-0-1, v1-2-2	d2-0-0, p0-1-0, r0-1-0, v1-1-0

Epigyne as in Figs 17–20; span of anterior pockets (*Ap*) wider than atrium, basal part of septum with relatively wide septal pocket (*Sp*). Lateral margins of atrium subparallel. Receptacles (*Re*) long cylindrical, not clavate on the top, terminal halves of receptacles converging.

Size variation. Total length 6.3–9.0; carapace 2.7–3.1 long and 2.1–2.4 wide (n=2).



**Figures 25–30.** Epigyne of *Parasyrisca vinosa* (25–27), *P. golyakovi* sp. n (28–29) and *P. marusiki* (30). 25–28 intact epigyne, ventral; 29–30 macerated epigyne, dorsal. Scale = 0.2 mm.



**Distribution.** The species was recorded from the Russian Altai (Azarkina & Trilikauskas, 2013), Tuva, Northern and Central Mongolia (Khövsgöl, Arkhangai and Övörkhongai Aimags) (Ovtsharenko et al., 1995; Marusik et al., 2000; Marusik & Logunov, 1999) (Fig. 31).

***Parasyrisca marusiki* Kovblyuk, 2003**

(Figs. 11–13, 22–24, 30–31)

*Parasyrisca marusiki* Kovblyuk, 2003a: 882, f. 2.1-6 (♂♀); Kovblyuk, 2003b: 242, f. 2.1-6 (♂♀; reproduced from Kovblyuk, 2003a).

**Material examined.** Holotype ♂ (ZMMU), Crimea, Crimean Nature Reserve, Nikitskaya Yaila [=Plateau], >1000 m, steppe (*Festuca* sp., *Rosa* sp.), pitfall traps, 22.04–4.05.2001 (M.M. Kovblyuk). Paratype: 1♀ (ZMMU), same locality as holotype, 2–12.06.2001 (M.M. Kovblyuk).

**Diagnosis.** Males of *P. marusiki* well differ from other congeners by bifurcate posterior-dorsal part of tibial apophysis (*Dp*) larger than anterior (*Aa*) (other species have anterior part of tibial apophysis larger and posterior part not bifurcate) and broad embolus almost as wide as high (other species have embolus wider than high). Females of *P. marusiki* can be distinguished from other species by lack of septal pocket (present in all other congeners) and bent (twisted) anterior part of receptacles (*Ar*) (straight in other species).

**Description.** Described by Kovblyuk (2003a,b, in Russian and in English).

**Distribution.** Species is known from the highlands of the Crimean Reserve.

***Parasyrisca golyakovi* sp. n.**

(Figs. 14–16, 28–29, 31)

**Type.** RUSSIA: *Altai* Krai: holotype ♀ (ISEA) Tigirek Nature Reserve, 6 km NW from Tigirek Village, 51°11'N 82°58'E, 800 m, stony meadow, 06.2015 (T.M. Krugova, E.V. Nosova, Y.B. Ostanina).

**Etymology.** The specific name is a patronym in honor of Pavel V. Golyakov, the director of the Tigirek Nature Reserve, who helped a lot in the organization of field trips in the reserve for collecting spiders and insects.

**Diagnosis.** The new species is closely related to *P. vinosa* and *P. ulykpani*, but can be distinguished from them by the diverging receptacles (Figs 17, 30) and converging lateral margins of atrium (Figs 16, 29). Sibling species has converging receptacles (Fig. 20 and figs 142–143 in Ovtsharenko et al., 1995) and subparallel lateral margins of atrium (Figs 18–20, 26–28). *Parasyrisca golyakovi* sp. n. also differs by thinner span (less than atrium width) of anterior pockets and septal pocket located in anterior half of septum (Figs 15–16, 28–29). Two other species have anterior pockets span wider than fovea and septal pocket located in posterior half of septum (Figs 17–20, 25–27).

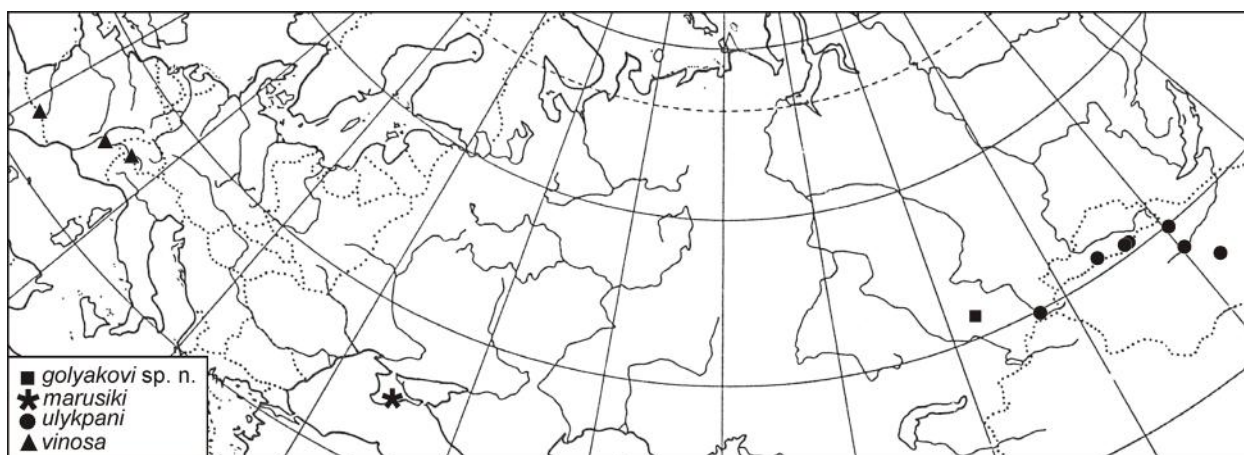
**Description.** Male unknown. Female. Total length 7.7. Carapace: 3.65 long, 2.8 wide. Eye sizes and interdistances: AME 0.29, ALE 0.16, PME 0.17, PLE 0.16, AME – AME 0.07, AME – ALE 0.03, PME – PME 0.14, PME – PLE 0.19, ALE – PLE 0.14; MOQ length 0.59, front width 0.57, back width 0.5. Coloration. Carapace light-brown with dark edges. Chelicerae and maxillae brown. Sternum and labium dark-brown. Legs and palps yellow, Mt-Ta light-brown. Abdomen and spinnerets yellow-gray.

Leg measurements:

	Fe	Pt	Ti	Mt	Ta	Total
I	2.95	1.5	2.25	1.75	1.6	10.05
II	2.85	1.4	2.05	1.65	1.55	9.5
III	2.6	1.35	1.8	1.55	1.45	8.75
IV	3.45	1.5	2.85	2.45	1.8	12.05

Leg spination:

	Fe	Ti	Mt
I	d1-1-0, p0-0-1	v2-2-0	v2-0-0
II	d1-1-0, p0-0-1	v1-2-0	v2-0-0
III	d1-1-0, p0-1-1, r0-0-1	p1-0-1, r1-0-1, v1-1-2	d0-2-0, p0-1-0, r0-1-0, v2-0-0
IV	d1-1-0, p0-0-1, r0-0-1	p1-0-1, r1-0-1, v1-2-2	d2-0-0, p0-1-0, r1-0-0, v1-1-0



**Figure 31.** Distribution of species belonging to *Parasyrisca vinosa*-group: square, *P. golyakovi* sp.n., star, *P. marusiki*, circle, *P. ulykpani*, triangle, *P. vinosa* (only specimens mentioned by Simon, 1878, 1914 are shown).

Epigyne as in Figs 15–16, 28–29 with elongated atrium and long lateral margins, converging posteriorly. Atrium wider than span of anterior pockets (*Ap*), lateral margins converging; septal pocket (*Sp*) small, pit like, located in anterior half of septum (*Se*). Endogyne with long and bent receptacles slightly clavate on the tips, anterior part of receptacles diverging.

**Biology.** Unlike most of other Siberian *Parasyrisca* species, which inhabit mainly highlands (mountain tundras, cryo-xerophyllous steppes) the new species was found in low mountains on altitude about 800 m in the meadow.

**Distribution.** Known only from the type locality.

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