

Remarks on the Ural spider fauna, 8. New and unidentified species from steppe landscapes of the South Urals (Arachnida: Aranei)

Заметки по фауне пауков Урала, 8. Новые и неопределенные виды из степных ландшафтов Южного Урала (Arachnida: Aranei)

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KEY WORDS: spider, new species, South Urals.

КЛЮЧЕВЫЕ СЛОВА: пауки, новые виды, Южный Урал.

ABSTRACT. A new genus and three new species are described from Ural steppes: *Aituaria nataliae* gen.n., sp.n., *Enoplognatha aituarca* sp.n. (close to *E. jacksoni* Schenkel, 1927 and *E. diversa* (Blackwall, 1859)), and *Pardosa masurae* sp.n. (from the *proxima* group). Based on material from the Caucasian coast of the Black Sea, *Aituaria pontica* (Spassky, 1932), comb.n. ex *Nesticus*, is redescribed. *Carpathonesticus birsteini* (Charitonov, 1947) is ejected from *Carpathonesticus* and returned into *Nesticus*. Three closely unidentified species (only one female of each species available) are illustrated and described from the South Urals: *Cheiracanthium* sp. (cf. *punctorium* (Villers, 1789)), *Ozyptila* sp. (from the *rauda* group), and "*Ozyptila*" sp. (close to "*Ozyptila*" *lugubris* (Kroneberg, 1875)).

РЕЗЮМЕ. Из уральских степей описаны новый род и три новые виды: *Aituaria nataliae* gen. et sp.n., *Enoplognatha aituarca* sp.n. (близкий к *E. jacksoni* Schenkel, 1927 и *E. diversa* (Blackwall, 1859)) и *Pardosa masurae* sp.n. (из группы *proxima*). Для переописанной по материалам с черноморского побережья Кавказа *Aituaria pontica* (Spassky, 1932) comb.n. установлена новая комбинация. *Carpathonesticus birsteini* (Charitonov, 1947) выведен из рода *Carpathonesticus* и возвращен в род *Nesticus*. С Южного Урала прорисованы и описаны три не определенные вида (все представлены по одной самке): *Cheiracanthium* sp. (похожий на *punctorium* (Villers, 1789)), *Ozyptila* sp. (из группы *rauda*) и "*Ozyptila*" sp. (близкий к "*Ozyptila*" *lugubris* (Kroneberg, 1875)).

Introduction

This paper continues our series devoted to the study of the spider fauna of the Urals. The present article deals with a part of rich material deriving from the steppe zone of the South Urals. The

majority of the samples treated below were collected by Miss N.S. Mazura (NSM) and S. Esyunin (SE). Type material has been deposited in the collections of the Zoological Museum of the Moscow State University (ZMMU) and the Department of Zoology of the Perm State University (PSU).

The following abbreviations are accepted: a — apical, d — dorsal, AME and ALE — anterior median and lateral eyes, PME and PLE — posterior median and lateral eyes. All measurements are in mm.

Description of new taxa

Aituaria gen.n.

Type species: *Aituaria nataliae* sp.n.

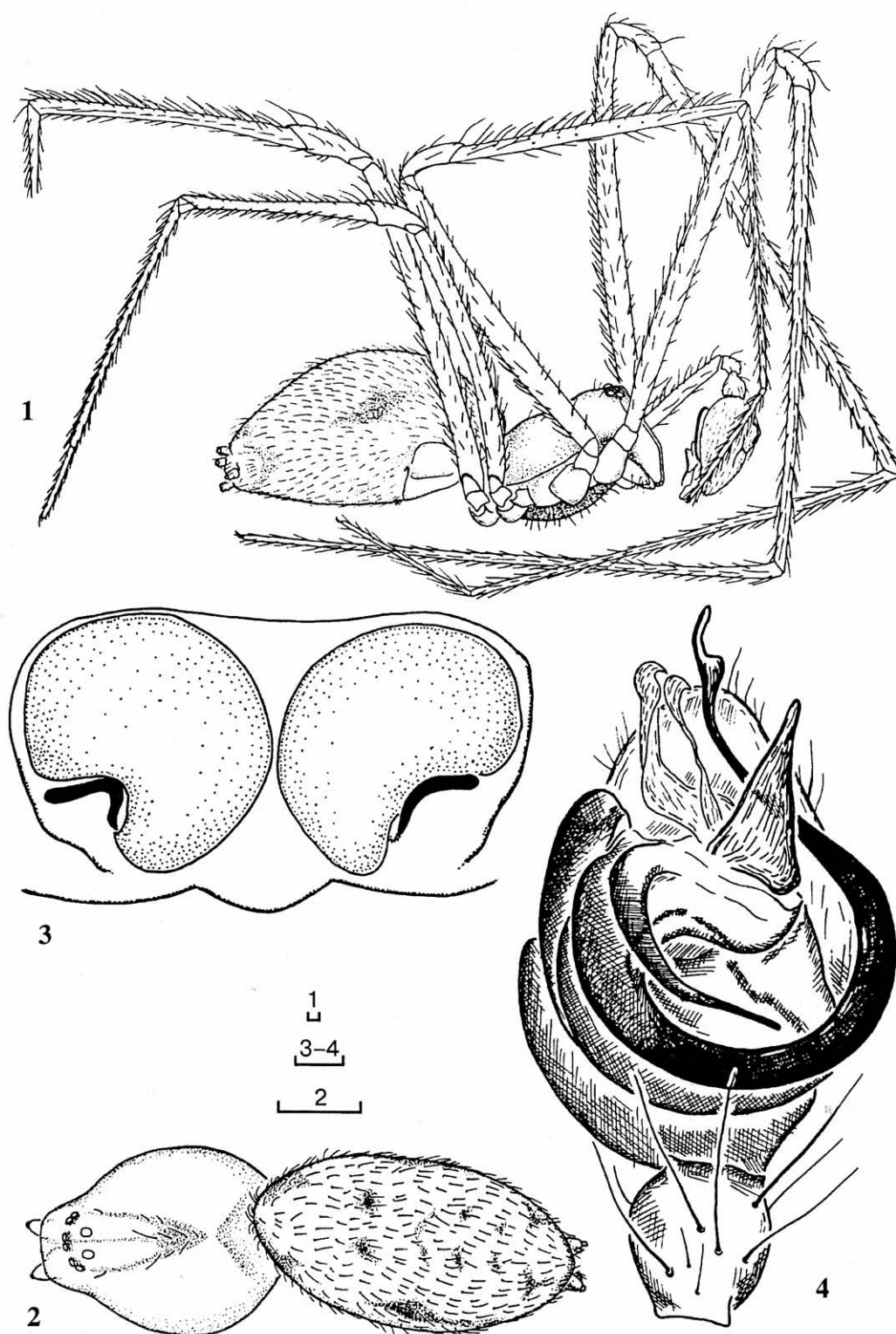
Etymology. The generic name refers to the terra typica of the type species.

DIAGNOSIS. Species of *Aituaria* share the following combination of characters: embolic apex shallow and bifurcated, tegular apophysis I long, pointed and holding parallel to embolus, tegular apophysis II reduced; epigyne with a short, median, vulval gland, epigynal plate wide anteriorly, receptacula subglobular.

The new genus is closely related to *Carpathonesticus* Lehtinen et Saaristo, 1980, especially so the females to species of the *borutzkyi* group. The main differences between them are presented below:

	<i>Aituaria</i>	<i>Carpathonesticus</i>
Embolus	wide, flat in section	thin, round in section
Embolic apex	modified	simple*
Paracymbium:		
— central modification	rounded projection or tooth	barbed or teeth*
— apex	wide blade, more pointed*, or less sharply transformed to point	steady narrow
Tegular apophysis (I)	long, pointed	small hook*
Terminal apophysis	long	compact*

* after Lehtinen & Saaristo [1980].



Figs 1-4. General aspect and genitalia of *Aituaria nataliae* gen.n., sp.n. (1-2, 4) and *Aituaria pontica* (Spassky, 1932) (3): 1 — general aspect, lateral view; 2 — cephalotorax and abdomen, dorsal view; 3 — epigyne, dorsal view; 4 — male palp, ventral view. Scale 0.1 mm.

Рис. 1-4. Общий вид и гениталии *Aituaria nataliae* gen. et sp.n. (1-2, 4) и *Aituaria pontica* (Spassky, 1932) (3): 1 — общий вид сбоку, 2 — головогрудь и брюшко сверху, 3 — эпигина вид изнутри, 4 — палец самца вид снизу. Масштаб 0.1 мм.

DESCRIPTION. Medium size Nesticidae. Carapace with a medial oblong fovea in posterior part. Position of metatarsal trichobotrium 0.90. Male paracymbium with two zones of modification. Tegular apophyses I long, pointed, holding parallel to embolus; tegular apophyses II reduced to a tiny knob. Conductor bipartite; larger branch lamellate, wide and concave, smaller narrow in basal part, broadened at apex. Epigyne with anteriorly wide median plate and lateral copulatory pockets. Seminal receptacles subglobose.

COMPOSITION. *Aituaria* gen. n. includes two species: *A. nataliae* sp. n. from the South Urals, and *A. pontica* (Spassky, 1932), **comb. n.** from *Nesticus*, from the Krasnodar Province, Northwest Caucasus.

REMARKS. Kharitonov [1947: 23] wrote that "*Nesticus caucasicus* is very closely related to *N. ponticus* by the type of structure of the copulatory apparatus". Unfortunately, adult specimens of "*Nesticus*" *caucasicus* Charitonov, 1947 are absent from our collection, so we cannot argue if this species is actually to be referred to the new genus. *Nesticus ljevushkini* Pichka, 1965, described from Cave Shakaliya near Ashe, Krasnodar Province, Caucasus [Pichka, 1965], is another possible candidate *Aituaria*, though this question is doomed unresolved until the male of this species has been described.

Aituaria natali sp. n.

Figs 1–2, 4–7.

MATERIAL. Holotype♂ (ZMMU), Orenburg Area, Kuvandyk Distr., Aituar, in building, IX.1996, leg. NSM.

NAME: Honours Miss Natalia Mazura, our apprentice, the collector of this species.

DESCRIPTION. Male. Total length 4.0. Carapace 1.8 long, 1.5 wide. Length of leg segments:

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	3.95	0.80	4.25	4.10	1.65
II	3.15	0.70	3.05	2.90	1.25
III	2.55	0.60	2.00	2.20	0.90
IV	3.50	0.70	3.00	—	—

Tibial index (IV) 1.71. TmI 0.90. General coloration yellow with dark lateral patches on abdomen (Figs 1, 2). Palp as in Figs 4–6, embolic apex as in Fig. 7, paracymbium snuggle to cymbium.

Female unknown.

DIAGNOSIS. *Aituaria nataliae* sp. n. can be distinguished from *A. pontica* (Spassky, 1932) by the shape of the basal and central modifications of the paracymbium (cf Kharitonov, 1947, figs 4, 5) and the position of the paracymbium in relation to the cymbium: in *A. pontica*, the paracymbium is widely separated from the cymbium. Both species are close to *Nesticus birsteini* Charitonov, 1947* by the long tegular apophysis I, but can easily be distinguished by the unmodified embolic apex [cf Pichka, 1965: fig. 2a] and the existence of a tegular apophysis II.

Aituaria pontica (Spassky, 1932), **comb. n.**

Fig. 3.

Nesticus ponticus Spassky, 1932: 975, figs 7–8 (palp, epigyne).

* Recently, *Nesticus birsteini* Charitonov, 1947 has been transferred to the genus *Carpathonesticus* by Marusik (in Mikhailov [1996]). However, we are inclined to return it to *Nesticus*, i.e. *Nesticus birsteini* Charitonov, 1947, **comb. revalid.**, because of the male palpal structure typical of *Nesticus*: two tegular apophyses, tripartite distal part of conductor, long and tapering terminal apophysis.

N. ponticus: Kharitonov, 1947: 19, figs 3–5 (paracymbium, vulva).

MATERIAL. 1 ♂, 2 ♀♀ (PSU), "Caucasian coast of the Black Sea", [Krasnodar Prov.], Verkhne-Mzimtinskaya Cave, 12.XI.1943, leg. Ya.A. Birstein, det. D.E. Kharitonov; 1 ♀ (PSU), "Caucasian coast of the Black Sea", [Krasnodar Prov.], Tarkiladze Cave, date?, leg. Ya.A. Birstein, det. D.E. Kharitonov.

DESCRIPTION. Measurements (male/female) (mean (min–max)). Total length 4.6/4.9(3.7–5.9). Carapace 2.0/2.1(1.9–2.4) long, 1.7/1.9(1.7–2.2) wide. Length of leg segments:

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	5.2 4.8 (3.6–6.3)	0.9 1.0 (0.8–1.2)	5.6 5.3 (3.6–6.5)	5.7 4.8 (3.4–6.3)	1.6 1.7 (1.2–2.1)
II	4.3 3.8 (3.0–5.1)	0.8 — (0.7–?)	4.2 — (2.6–?)	4.1 — (2.6–?)	1.3 — (1.1–?)
III	3.5 3.0 (2.3–4.1)	0.7 0.7 (0.6–1.0)	2.8 2.3 (1.6–3.1)	3.1 2.5 (1.9–3.4)	1.2 1.1 (0.9–1.3)
IV	4.7 4.3 (3.1–5.6)	0.8 — (0.8–?)	4.1 — (2.5–?)	4.1 — (2.4–?)	1.3 — (0.9–?)

Tibial index (IV) 2.05/1.52. TmI 0.93/0.94.

Palp as in fig. 7 in Spassky [1932], paracymbium as in fig. 4–5 in Kharitonov [1947]. Epigyne as in fig. 8 in Spassky [1932], vulva as in Fig. 3. Abdomen with a dark dorsal pattern as drawn by Pichka [1965: fig. 2b].

DIAGNOSIS. See *Aituaria nataliae* sp. n.

DISTRIBUTION. Krasnodar Province: environs of Khosta [Spassky, 1932: as *Nesticus*; Pichka, 1965: as *N.*], caves of the Caucasian coast of the Black Sea [Kharitonov, 1947: as *N.*].

Enoplognatha aituarca sp. n.

Figs 8–11.

MATERIAL. Holotype♂ (ZMMU), Orenburg Area, Kuvandyk Distr., "Aituarskaya Steppe" plot of Orenburgskii Nature Reserve, stony steppe, pitfall traps, 16–20.V.1996, leg. NSM.

NAME: The species epithet refers to the terra typica.

DESCRIPTION. Measurements: Total length 2.0. Carapace 0.83 long, 0.68 wide. Length of leg segments:

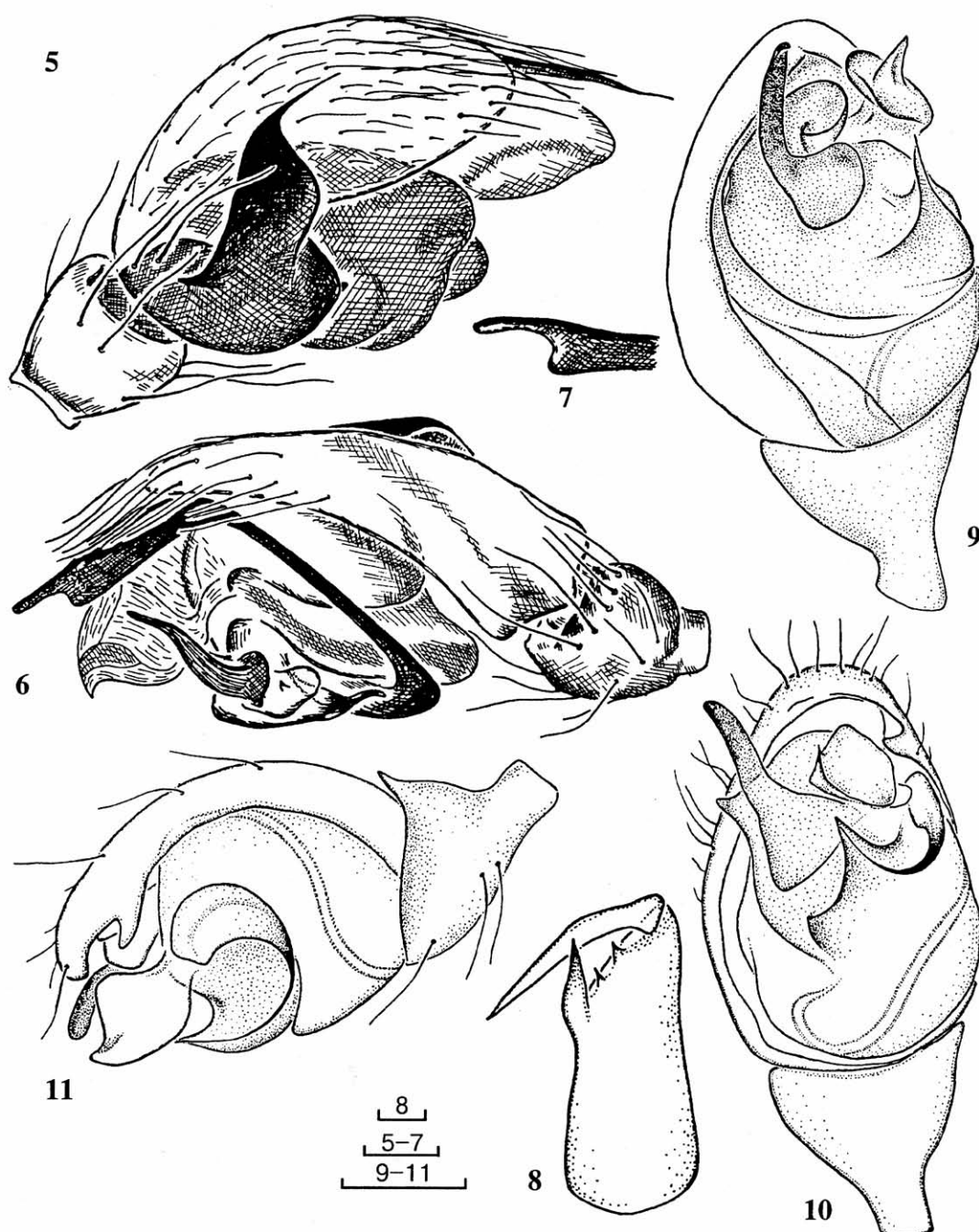
	Femur	Patella	Tibia	Metatarsus	Tarsus
I	0.98	0.35	0.93	0.75	0.43
II	0.73	0.30	0.63	0.55	0.40
III	0.60	0.25	0.45	0.45	0.33
IV	1.03	0.35	0.83	0.75	0.43

Tibial index (I) 1.12. TmI 0.47. Chelicerae 0.40 long with one big tooth (Fig. 8).

Coloration: Carapace and legs dirty yellow; abdomen (poor preservation) with a white-black pattern dorsally and two white bands ventrally, dark before genital groove. Palp as in Figs 9–11.

Female unknown.

DIAGNOSIS. *Enoplognatha aituarca* sp. n. is similar to the European *E. jacksoni* Schenkel, 1927 (see figs 32–33 in Wunderlich [1976]) and the Mediterranean *E. diversa* (Blackwall, 1859) [cf. Wunderlich, 1987: fig. 529; 1995: fig. 11] by the shape of the conductor and accessory apophysis of the male palp, but it can be distinguished from them by the smaller size (carapace length 0.8 versus 1.0–1.3) and the armament of the chelicerae.



Figs 5–11. Male palps and chelicera of *Aituaria nataliae* gen.n., sp.n. (5–7) and *Enoplognatha aituarca* sp.n. (8–11): 4, 11 — male palp, prolateral view; 6, 9 — same, retrolateral view; 10 — same, ventral view; 7 — embolic apex; 8 — chelicera, ventral view. Scale 0.1 mm.

Рис. 5–11. Пальпы самцов и хелицера *Aituaria nataliae* gen. et sp. n. (5–7) и *Enoplognatha aituarca* sp.n. (8–11): 4, 11 — пальп самца вид спереди сбоку; 6, 9 — то же вид сбоку сзади; 10 — то же вид снизу; 7 — вершина эмболюса; 8 — хелицера вид снизу. Масштаб 0,1 мм.

***Pardosa masurae* sp.n.**

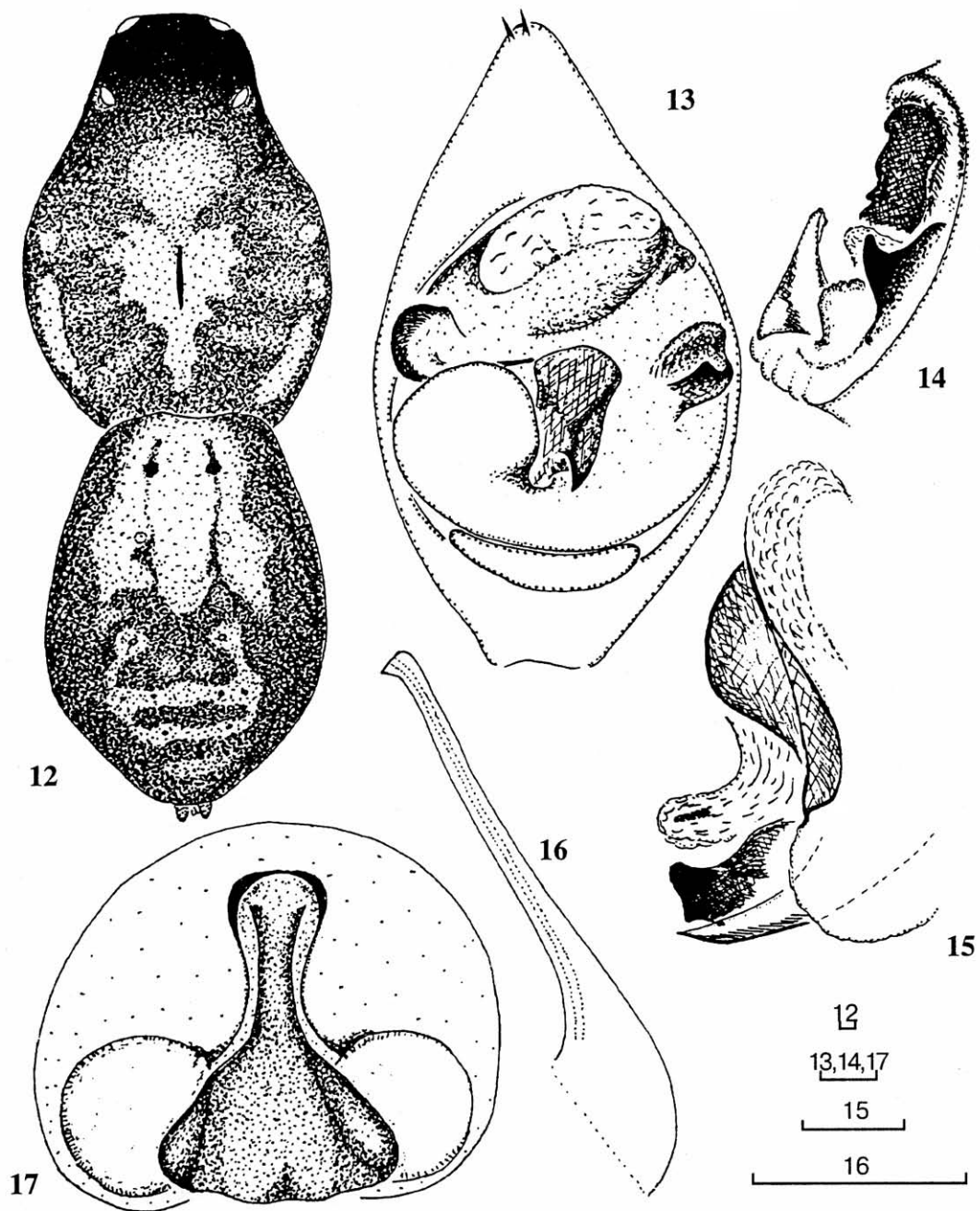
Figs 12–18.

MATERIAL. Holotype ♂ (ZMMU), Orenburg Area, Kuvandyk Distr., bank of Aituarca River, pitfall traps, 15–20.V.1996, leg. NSM. — Paratypes: 1 ♂ (ZMMU), together with holotype; 1 ♀

(ZMMU), 1 ♀ (PSU), same locality and biotope, 16.V.1996, leg. NSM; 1 ♂ (PSU), same locality and biotope, pitfall traps, 15–24.V.1997, leg. SE.

NAME: Honours Miss N.S. Mazura, our apprentice and the main collector of this species.

Measurements (male/female) (mean (min–max)): Total length 5.5(5.2–5.7)/6.7–9.5. Carapace 2.7(2.5–



Figs 12-17. General aspect and genitalia of *Pardosa masurae* sp.n.: 12 — cephalothorax and abdomen of male, dorsal view; 13 — palp, ventral view; 14 — terminal and tegular apophyses, lateral view; 15 — terminal part of bulb, frontolateral view; 16 — embolus; 17 — epigyne, ventral view. Scale 0.1 mm.

Рис. 12-17. Общий вид и гениталии *Pardosa masurae* sp.n.: 12 — головогрудь и брюшко самца сверху, 13 — палец снизу, 14 — терминальный и тегулярный отростки сбоку, 15 — вершинная часть бульбуса сбоку-спереди, 16 — эмболюс, 17 — эпигина вид снизу. Масштаб 0,1 мм.

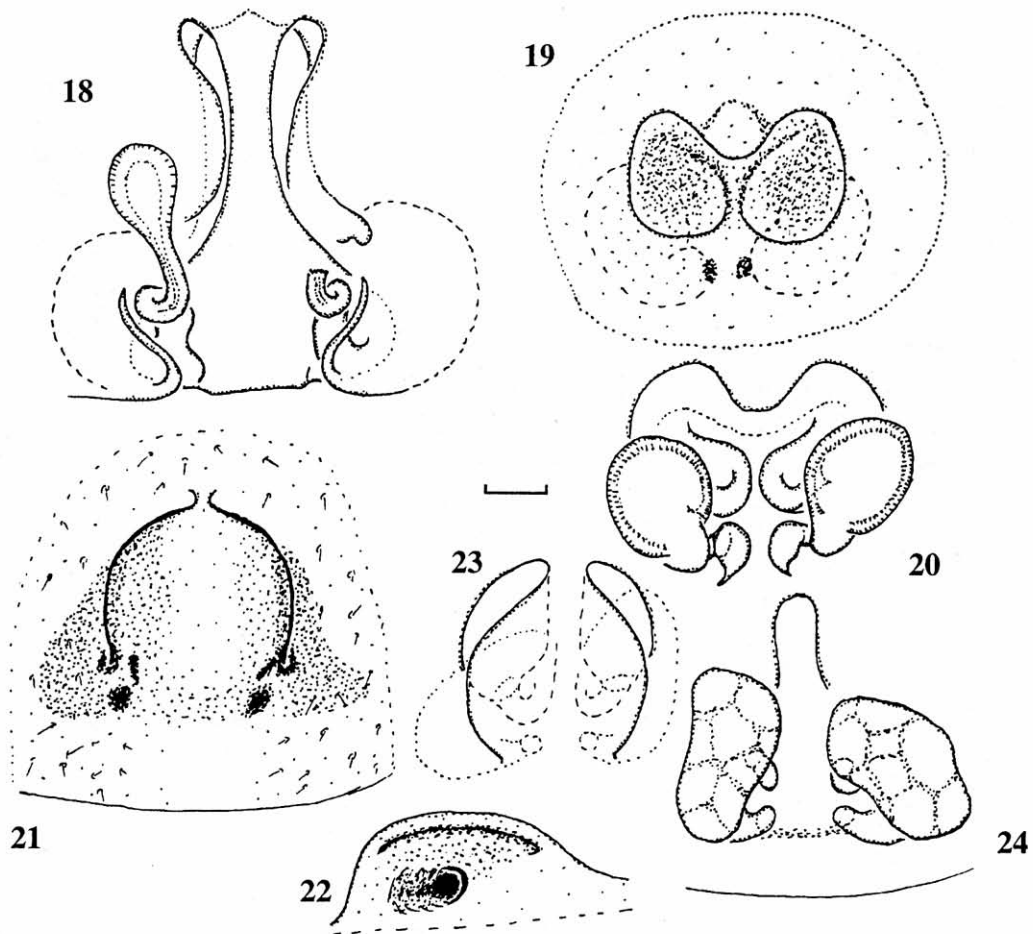
2.9)/3.4-4.0 long, 2.1(2.0-2.2)/2.7-3.1 wide. Length of leg segments:

	Femur	Patella+Tibia	Metatarsus	Tarsus
I	2.0(1.9-2.1)	2.7(2.6-2.9)	2.0(1.9-2.1)	1.4(1.4-1.5)
	2.7-3.0	3.5-4.0	2.5-2.7	1.6-1.8
II	2.0(1.9-2.2)	2.5(2.3-2.7)	1.9(1.8-2.0)	1.3(1.2-1.4)
	2.4-2.7	3.3-3.9	2.3-2.7	1.7-1.7

III 2.0(1.9-2.1)2.4(2.3-2.5) 2.0(1.9-2.2) 1.2(1.2-1.3)
2.7-2.8 3.2-4.9 2.7-3.1 1.5-1.6

IV 2.5(2.4-2.7)3.0(2.9-3.2) 3.2(3.0-3.4) 1.6(1.5-1.7)
3.4-3.9 4.2-5.0 4.6-5.0 2.0-2.2

DESCRIPTION. Male. Carapace dark brown with light brown median star-shaped band, two broken submarginal bands and clypeus (Fig. 12). Eye field



Figs 25–28. Genitalia of *Cheiracanthium* sp. (27–28) and *Cheiracanthium punctorium* (Villers, 1789) (25–26, from Troitskii Nature Reserve, Chelyabinsk Area): 25, 27 — epigyne, ventral view; 26, 28 — epigyne, dorsal view. Scale 0.1 mm.

Рис. 18–24. Гениталии *Pardosa masurae* sp.n. (18), *Ozyptila* sp. (19–20) и "*Ozyptila*" sp. (21–24): 18, 20, 24 — эпигина, вид сверху, 19, 21, 23 — эпигина, вид снизу, 22 — эпигина, вид сбоку. Масштаб 0,1 мм.

blackish. Sternum uniform dark brown. Chelicerae reddish-yellow in basal part, brown anteriorly with a yellow band across furrow. Palpus dark brown with lighter dorsal patches and a black cymbium. Coxae dark brown with a yellow basal patch ventrally. Remaining podomeres mottled with alternating dark brown and reddish-yellow patches and stripes. Abdomen dorsally dark brown with a brown pattern (Fig. 12), ventrally brown with a dark middle patch. Palp as in Fig. 13, tegular apophysis triangular, terminal apophysis with one big tooth (Figs 14, 15), embolus as in Fig. 16.

Female. Coloration similar to that of male. Coloration of palp same as in legs. Epigyne as in Figs 17 & 18, with two large, round, posterior pockets.

DIAGNOSIS. The new species belongs to the *proxima* group sensu Zyuzin [1979]. The ♂ of *P. masurae* sp.n. is similar to that of the *saltuaria* group by the shape of the tegular apophysis, but it can be separated by the size and coloration of the body. The ♀ of *P. masurae* sp.n. is well distinguished from all other species by the size and shape of the posterior pockets of the epigyne.

Unidentified species

Cheiracanthium sp.

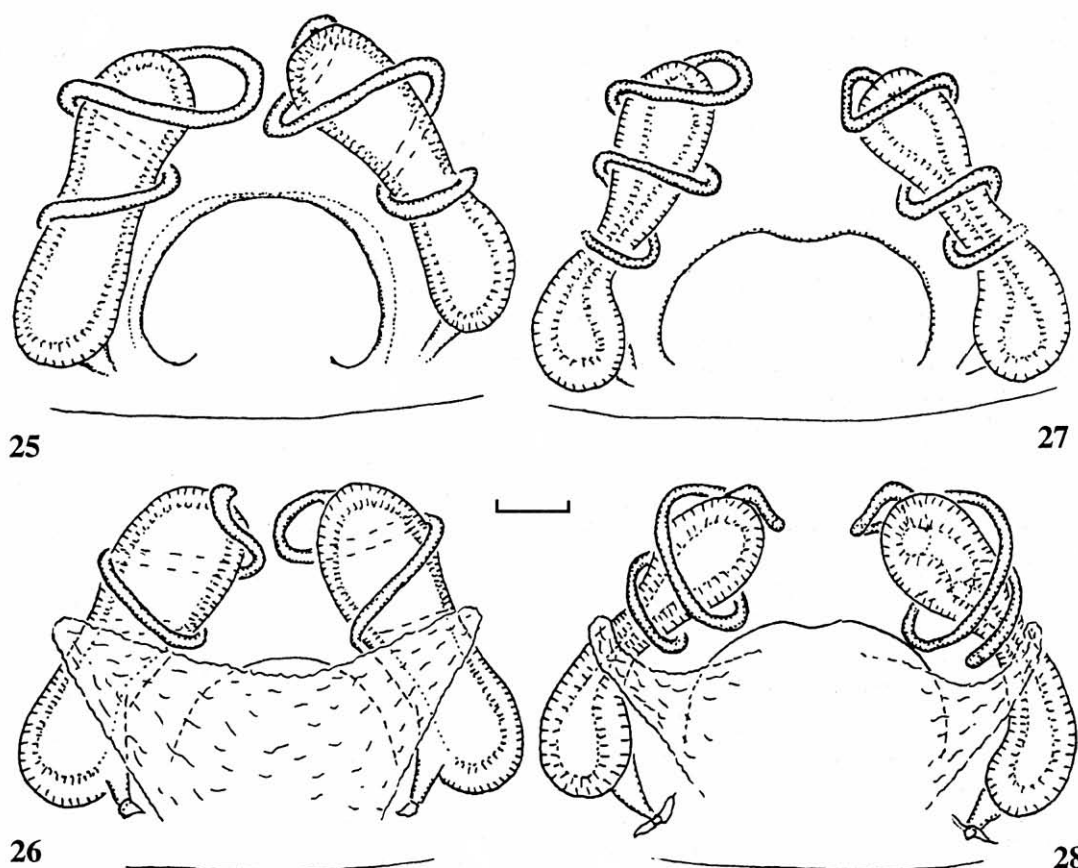
Figs 27–28.

MATERIAL. 1 ♀ (PSU), Chelyabinsk Area, Troitsk Distr., Troitskii Nature Reserve, steppe, sweeping from vegetation, 09.VI.1987, leg. SE.

DESCRIPTION. Measurements: Total length 10.3. Carapace 4.5 long, 3.9 wide, l/w ratio 1.15. Chelicerae 2.5 long. Length of leg segments:

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	5.6	2.0	5.9	5.1	2.0
II	4.2	1.6	3.5	3.6	1.4
III	3.2	1.3	2.3	2.9	1.2
IV	4.3	1.8	3.5	4.4	1.3

Coloration: Carapace and sternum yellow. Chelicerae reddish-yellow with a dark top. Pedipalp and legs straw-colored, only top of tarsus blackish. Leg armature: femora I-II 0+1+1(2) prolaterally, III 0+1+1 pro- and retrolaterally, IV 0+0+1 pro- and retrolaterally; tibia I ventrally



Figs 25–28. Genitalia of *Cheiracanthium* sp. (27–28) and *Cheiracanthium puncturium* (Villers, 1789) (25–26, from Troitskii Reserve, Chelyabinsk Area): 25, 27 — epigyne, ventral view; 26, 28 — epigyne, dorsal view. Scale 0.1 mm.

Рис. 25–28. Гениталии *Cheiracanthium* sp. (27–28) и *Cheiracanthium puncturium* (Villers, 1789) (25–26, Троицкий заказник Челябинской области): 25, 27 — эпигина, вид снизу, 26, 28 — эпигина, вид сверху. Масштаб 0,1 мм.

0+1+0, II prolaterally 0+0+1, III–IV 0+1+0 prolaterally and 0+0+1 retrolaterally; metatarsi I–II ventrally 2+0+0+1a, III 1+1+1d+1a prolaterally 0+1+1d+1a retrolaterally and 2+0+0+1a ventrally, IV 0+1+1d+1a pro- and retrolaterally and 2(3)+2(1)+0+1a ventrally. Abdomen white. Epigyne as in Figs 27 & 28, with three turns of thin copulatory tubes.

REMARKS. By both somatic and epigynal characters, this species is most similar to *Cheiracanthium puncturium* (Villers, 1789), but *Cheiracanthium* sp. is distinguished by the number of copulatory tube turns and the interior structure of the receptacles (cf Figs 25, 26). Yet it seems possible that the above female is a disjunct, aberrant specimen of *C. puncturium* (Villers, 1789). More material is necessary to resolve this question.

Ozyptila sp.

Figs 19–20.

MATERIAL. 1 ♀ (PSU), Chelyabinsk Area, Troitsk Distr., Troitskii Nature Reserve, salina, pitfall traps, ?1989, leg. NSM.

Measurements: Total length 4.0. Carapace 2. long, 1.9 wide. Length of leg segments:

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	1.5	0.8	1.1	0.9	0.6
II	1.5	0.8	1.0	1.0	0.7

III	1.1	0.6	0.7	0.6	0.5
IV	1.2	0.6	0.8	0.7	0.6

DESCRIPTION. Coloration: Carapace brown with a white median pattern. Clypeus with six macrosetae. Sternum yellow-brown with a yellow median pattern. Legs dirty yellow with dark and white patches. Legs spination: femur I 1+1+0 prolaterally, II–III dorsally 0+1+0, IV unarmed; tibia I–II ventrally 0+2+2, III 0+1+0 dorsally and ventrally, IV dorsally 0+1+0; metatarsus I–II 0+1+0 pro- and retrolaterally, 2+2+2 ventrally, III–IV prolaterally 0+1+0. Abdomen injured. Epigyne as in Figs 19 & 20.

REMARKS. The above *Ozyptila* sp. belongs to the *rauda* group and is closely related to *Ozyptila rauda* Simon, 1875 [cf Hippa et al., 1986: fig. 2A] by the shape of the medial septum of the epigyne. Yet it is nicely distinguished from the latter species by the oval receptacles. The species identification is doomed to remain obscure until the male is found and described.

"*Ozyptila*" sp.

Figs 21–24.

MATERIAL. 1 ♀ (PSU), Orenburg Area, Kuvandyk Distr., "Aituarskaya Steppe" plot of Orenburgskii Nature Reserve, stony steppe, under stone, 13.V.1996, leg. NSM.

DESCRIPTION. Measurements: Total length 7.0.

Carapace 3.0 long, 3.0 wide. Eye sizes and interdistances: ALE 0.08, AME 0.13, PLE 0.10, PME 0.05, AME-ALE 0.23, AME-AME 0.39, PME-PLE 0.48, PME-PME 0.43, length of median ocular area (MOA) 0.63, anterior width of MOA 0.85, posterior width of MOA 1.40. Length of leg segments:

	Femur	Patella	Tibia	Metatarsus	Tarsus
I	2.9	1.3	2.2	2.1	1.0
II	2.8	1.3	2.0	2.0	1.0
III	1.8	0.8	1.1	1.2	1.0
IV	2.0	0.8	1.3	1.4	1.0

Coloration: Carapace brown with a white basal band and two pairs of white knobs in a triangle formed by anterolateral and posterior eyes. Cephalic part of cephalothorax elevated above thorax. Dorsally, carapace beset with numerous semi-transparent clavate setae. Sternum and coxae ventrally white with brown clavate setae, latter thinner than dorsal ones. Chelicerae white and, distally, brown with a row of thick brown spines in front. Legs dirty white with numerous dark brown specks and bands (marble in color); tarsi dark yellow basally and blackish apically. All podomeres covered numerous clavate setae, only metatarsus with usual spines located 2+2+2(1)+2 ventrally and 6(5) apically. Abdomen trapeziform, broadest in rear half. Dorsum of abdomen grey-white, uneven with cuticular folds covered with numerous semi-transparent setae, latter similar to ones on carapace and legs. Ventrally, abdomen with dark brown, usual spines. Epigyne as in Figs 21–24, with two concealed epigynal pockets and an oval "septum".

REMARKS. The above specimen seems to represent the poorly studied group of species which "belong neither to *Oxyptila* nor to *Xysticus*" [Marusik & Logunov, 1990: 52]. It slightly resembles *Oxyptila lutulenta* Schenkel, 1963 (see fig. 115 in Schenkel [1963]), *Xysticus* cf. *inaequalis* Kulczyński, 1901 [sensu Marusik & Logunov, 1995: figs 49–51] and "*Oxyptila*" *lugubris* (Kroneberg, 1875) (see figs 54–56 in Marusik & Logunov [1990]) by the general shape of the epigyne. Yet it is distinguished by certain details of septum texture, the ratios of cephalothorax parts and/or coloration. In addition, "*Oxyptila*" sp. seems to be closely related to *Oxyptila pseudooblitea* Simon, 1880 (= *Xysticus bonneti* Schenkel, 1963) (see fig. 129b–c in Schenkel [1963], and fig. 214 in Song [1987]), but is well distinguishable by availability of knobs in the eye triangle of the carapace. It can be noted that species of this group resemble the genus *Runcinia* by the shape of the cephalothorax. No closer determination seems possible until the male has been captured and described.

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