

## Two new *Stemonyphantes* Menge, 1866 from Kazakhstan (Aranei: Linyphiidae: Stemonyphantinae)

### Два новых вида *Stemonyphantes* Menge, 1866 из Казахстана (Aranei: Linyphiidae: Stemonyphantinae)

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КЛЮЧЕВЫЕ СЛОВА: пауки, Linyphiidae, Stemonyphantinae, новый вид, Казахстан

ABSTRACT. Two new species of the linyphiid spider genus *Stemonyphantes* Menge, 1866 are described: *S. karatau* sp.n. from the West Tien-Shang Mts, Kazakhstan, and *S. taiganoides* sp.n. from eastern Kazakhstan and the southern part of western Siberia. *S. karatau* sp.n. is similar to *S. curvipes* Tanasevitch, 1989, known from the northern Tien-Shang Mts; *S. taiganoides* sp.n. is close to the southern Siberian *S. taiganus* (Ermolajev, 1930). The latter species is recorded for the first time since its description, with detailed figures of the genitalia of both sexes provided.

РЕЗЮМЕ. Из Восточного Казахстана и юга Западной Сибири описаны два новых вида пауков семейства Linyphiidae: *Stemonyphantes karatau* sp.n., близкий к *S. curvipes* Tanasevitch, 1989 и *S. taiganoides* sp.n., близкий к *S. taiganus* (Ermolajev, 1930). Последний впервые найден после его описания, приведены новые данные по его распространению, гениталии обоих его полов подробно проиллюстрированы.

### Introduction

The small linyphiid spider genus *Stemonyphantes* Menge 1866, which has rather recently been allocated into a subfamily of its own [Wunderlich, 1986], is known to comprise only 16 species [Platnick, 2012], almost all of them being restricted to the Palaearctic. The independence of a single representative from the Nearctic, *S. blauveltiae* Gertsch, 1951, as compared to the Siberian *S. sibiricus* (Grube, 1861) raises serious doubts [Tanasevitch, 2007]. The presence of two main centres of *Stemonyphantes* species diversity is apparent: one is restricted to the mountains of Central Asia, with *S. altaicus* Tanasevitch, 2000, *S. curvipes* Tanasevitch,

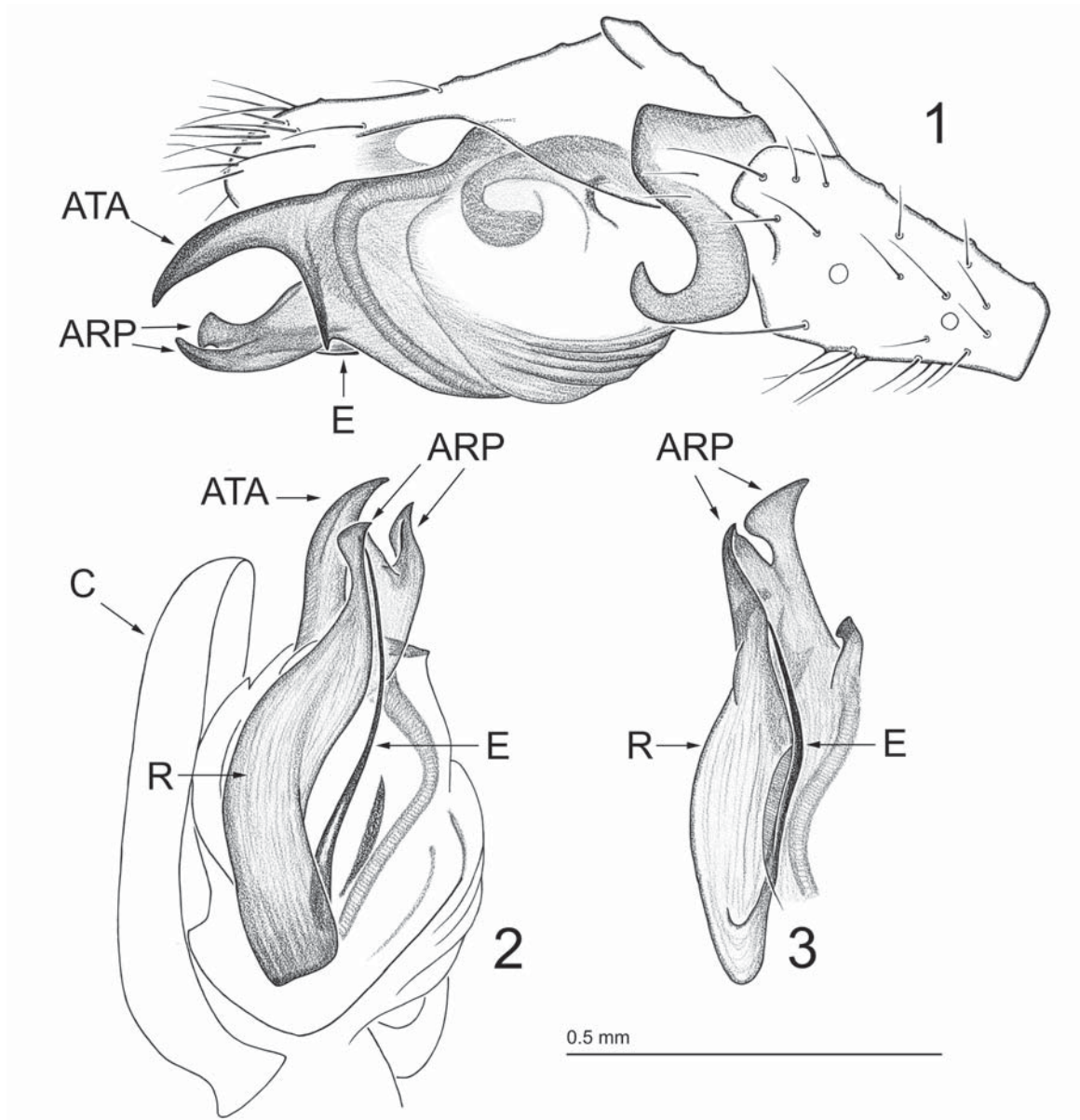
1989, *S. griseus* (Schenkel, 1937), *S. grossus* Tanasevitch, 1985, *S. solitudus* Tanasevitch, 1994 and *S. taiganus* (Ermolajev, 1930) being involved, while the second one is confined to the mountain systems of Anatolia and the Caucasus, i.e. *S. abantensis* Wunderlich, 1978, *S. agnatus* Tanasevitch, 1990, *S. serratus* Tanasevitch, 2011 and *S. montanus* Wunderlich, 1978. Only three species, *S. lineatus* (Linnaeus, 1758), *S. sibiricus* (Grube, 1861) and *S. conspersus* (L. Koch, 1879), are widespread in the Palaearctic, and one more, somewhat disjunct species, *S. parvipalpus* Tanasevitch, 2007, is known from the Russian Far East. The assignment of the Tibetan *S. menyuanensis* Hu, 2001 to the genus is highly doubtful.

In Karatau Mts, the NW outcrop of the West Tien-Shang Mts, a new species of *Stemonyphantes* has been found. One more new species has been discovered in the western foothills of Altai Mts and in the south of western Siberia. Both species appear to belong to the group of Central Asia origin. Their descriptions, as well as new information on *S. taiganus*, are the subject of the presented paper.

### Material and methods

This paper is based on the spider collections of the Zoological Museum of the Moscow State University, Moscow, Russia (ZMMU), of the Perm State University, Perm, Russia (PSU), and of the Institute of Systematics and Ecology of Animals, Novosibirsk, Russia, (ISEA), as well as on the personal collection of Andrei Tanasevitch (CAT).

Type specimens are shared between the collections of ZMMU, PSU, ISEA and the Muséum d'histoire naturelle, Geneva, Switzerland (MHNG). Some more samples used here are also housed in MHNG.



Figs 1–3. Male palp of *Stemonyphantes karatau* Tanasevitch et Esyunin, sp.n., holotype: 1, 2 — palp, retrolateral and ventral views, respectively; 3 — embolus division, ventro-retrolateral view.

Рис. 1–3. Детали пальпы самца *Stemonyphantes karatau* Tanasevitch et Esyunin, sp.n., голотип: 1, 2 — пальпы, соответственно ретролатерально и вид снизу; 3 — эмболиосный отдел, вентро-ретролатерально.

The sequence of leg segments in measurement data is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are given in mm.

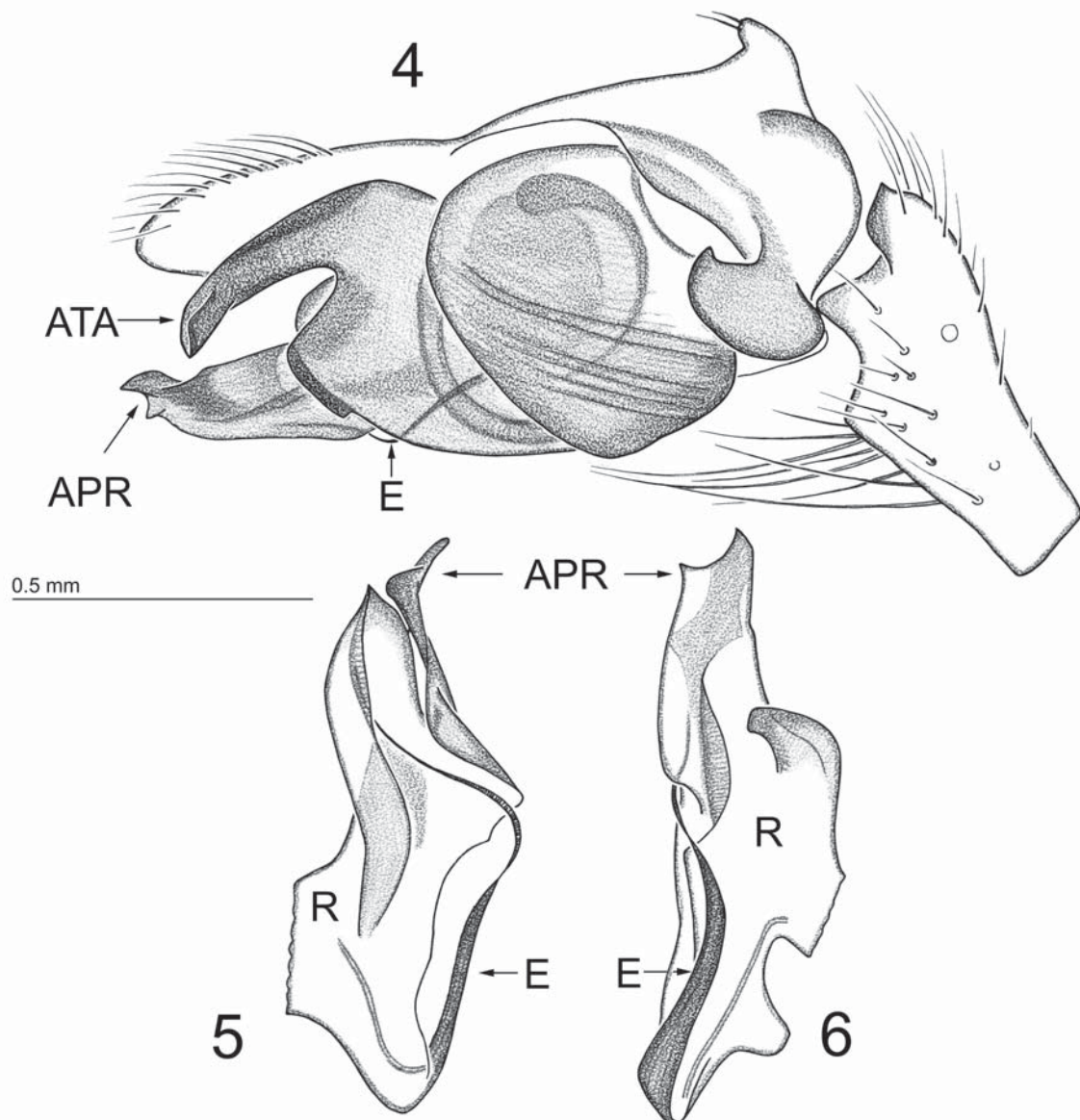
Abbreviations used in the text and figures: ATA — anterior tegular apophysis, APR — anterior part of “radix”, ARP — anterior radical process (modifications of APR), C — cymbium, CP — “cap peak”, E — embolus, Fe — femur, MP — mesal plate [after Helsdingen, 1968], R — “radix” [after Merrett, 1993] (= radical part of the embolus division), Ti — tibia, TmI — position of trichobothrium on metatarsus I.

## Results

*Stemonyphantes karatau* Tanasevitch et Esyunin, sp.n.

Figs 1–3.

HOLOTYPE. ♂ (ZMMU), KAZAKHSTAN, South Kazakhstan (= Shymkent) Area, Algasbas Distr., West Tien-Shang Mts, Karatau Mts, W slope of Boraldaitau (= Buruldai) Mt. Ridge, Boraldai River Canyon, 7 km NE of Terekty Village, 42°52′N 69°51′E, 11–13.V.2010, leg. T. Tunea.



Figs 4–6. Male palp of *Stemonyphantes taiganoides* Tanasevitch, Esyunin et Stepina, sp.n., paratype from Topikha: 4 — palp, retrolateral view; 5, 6 — embolic division, different views.

Рис. 4–6. Детали строения пальпы самца *Stemonyphantes taiganoides* Tanasevitch, Esyunin et Stepina, sp.n., паратип из Топихи: 4 — пальпа, ретролатерально; 5, 6 — эмболюсный отдел.

**ETYMOLOGY.** The species name refers to the locality name, a noun in apposition.

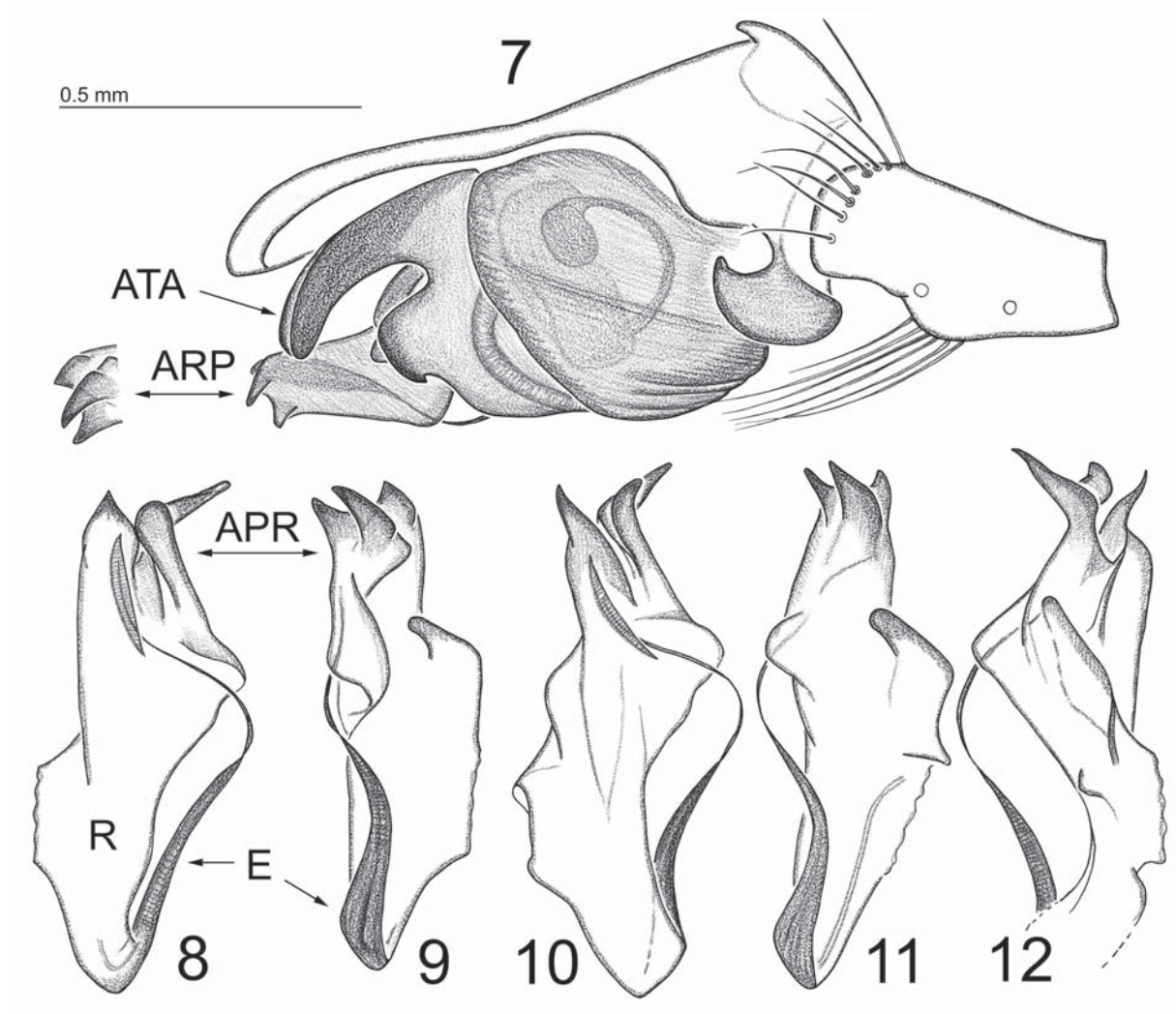
**DESCRIPTION.** Male. Total length 3.60. Carapace 1.75 long, 1.30 wide, pale brownish yellow. Chelicerae 0.65. Anterior margin with three teeth of different size, posterior margin with two small teeth. Legs pale. Leg I, 8.15 (2.25 + 0.60 + 2.10 + 2.05 + 1.15), leg IV, 7.90 (2.10 + 0.55 + 2.10 + 2.15 + 1.00). Chaetotaxy. Spines mostly broken off. Each femur with one dorsal spine, femur I in addition with 2–3 prolateral spines. Each of metatarsi I–IV with a trichobothrium. TmI, 0.61. Palp as in Figs 1–3: Palpal tibia devoid of a group of long and strong ventro-apical spines. Cymbium with a small,

posterodorsal, conical outgrowth. Anterior tegular apophysis long and pointed, gradually curved. Paracymbium L-shaped, with a wide proximal part. Embolic division with a long, narrowed, flattened, radical part (= “radix”) bifurcated into short branches anteriorly (= anterior radical processes). Embolus thin and long, whip-shaped, its apex covered by a retrolateral branch of radix. Abdomen 2.00 long, pale grey.

Female unknown.

**TAXONOMIC REMARKS.** The new species looks most similar to *S. curvipes* Tanasevitch, 1989, known from the northern Tien-Shang Mts [Tanasevitch, 1989], but is clearly distinguished by the longer and claw-





Figs 7–12. Male palp of *Stemonyphantes taiganus* (Ermolajev, 1930): 7 — palp, retrolateral view; 8–12 — embolic division, different views. 7–9 — specimen from Tuu-Gaya; 10–12 — specimen from Suuchak.

Рис. 7–12. Детали строения пальпы *Stemonyphantes taiganus* (Ermolajev, 1930): 7 — пальпа, ретролатерально; 8–12 — эмболюсный отдел. 7–9 — экземпляр из Туу-Гая; 10–12 — экземпляр из Суучака.

shaped anterior tegular apophysis, as well as by the shape of the radical part of the embolic division: in contrast to *S. karatau* sp.n., both anterior radical processes in *S. curvipes* taper continuously into a point.

*Stemonyphantes taiganoides* Tanasevitch, Esyunin et Stepina, **sp.n.**

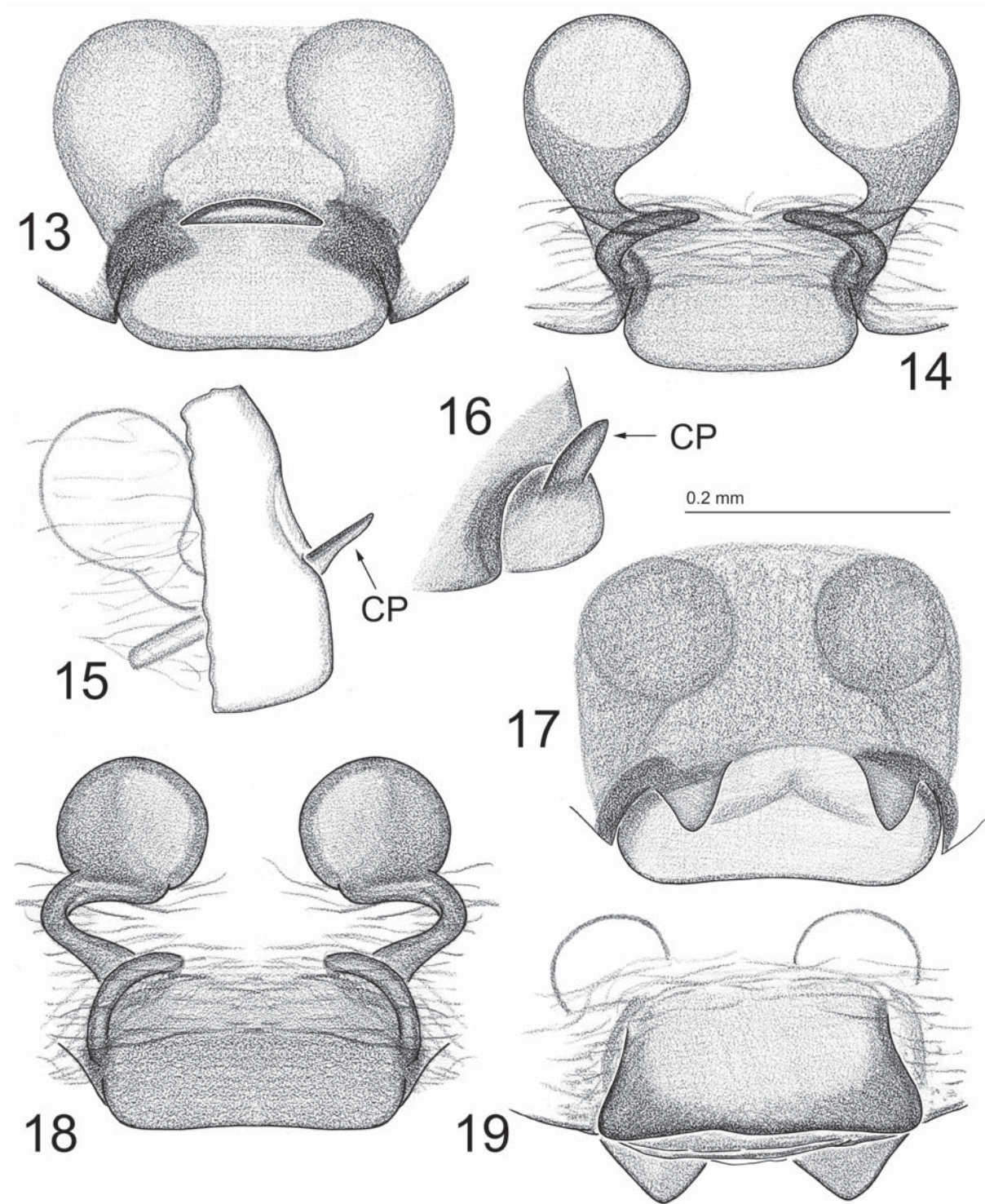
Figs 4–6, 13–16.

**HOLOTYPE.** ♂ (ZMMU), KAZAKHSTAN, East Kazakhstan Area, 25 km NE of Ust'-Kamenogorsk (= Øskemen), Altai Mts, Ulba River, Topikha, 300–400 m a.s.l., 11–13.VIII.1997, leg. R. Dudko & V. Zinchenko.

**PARATYPES:** 8 ♂♂ (ZMMU), 3 ♂♂ (MHNG), same date and locality, together with holotype; 1 ♀ (ZMMU), KAZAKHSTAN, near Pavlodar, leg. O. Lyakhov; 1 ♂, 1 ♀ (PSU), RUSSIA, Tyumen Area, environs of Tobolsk, Ermak Garden (58°11'733"N 68°51'104"E), slope with Gramineae and miscellaneous herbs, pitfall traps, 18–28.V.2009, leg. S. Bukhhalo.

**ETYMOLOGY.** The species name refers to the affinity of the new species to *Stemonyphantes taiganus* (Ermolajev, 1930).

**DESCRIPTION.** Male (holotype). Total length 5.30. Carapace 2.60 long, 1.90 wide, pale brown. Chelicerae 1.30 long, anterior margin with three teeth, posterior margin with two small teeth. Legs pale brown. Chaetotaxy. FeI with two or one dorsal spine and with two or one prolateral spine, FeII–IV each with two dorsal spines. Each tibia with two dorsal and several lateral and ventral spines. TiI slightly expanded in middle part, carrying a few spines and numerous straight hairs ventrally. TiII with ventral spines only, TiIII–IV each with a few dorsal, lateral and ventral spines. Leg I, 11.0 long (2.90 + 9.00 + 2.60 + 3.10 + 1.50), IV, 10.30 long (2.70 + 0.80 + 2.80 + 2.80 + 1.20). Metatarsus I–IV each with a trichobothrium. TmI, 0.69.



Figs 13–19. Epigyne of *Stemonyphantes taiganoides* Tanasevitch, Esyunin et Stepina, sp.n., paratype from Pavlodar (13–16), and *S. taiganus* (Ermolajev, 1930) (17–19), specimen from Tuu-Gaya: 13, 17 — ventral view, 14, 18 — dorsal view, 15 — lateral view, 16 — ventro-lateral view, 19 — posterodorsal view.

Рис. 13–19. Детали строения эпигины *Stemonyphantes taiganoides* Tanasevitch, Esyunin et Stepina, sp.n. (13–16), паратип из Павлодара, и *S. taiganus* (Ermolajev, 1930), экземпляр из Туу-Гая (17–19): 13, 17 — вид снизу, 14, 18 — вид сверху, 15 — вид сбоку, 16 — вид внизу и сбоку, 19 — вид сверху и сзади.



Palp as in Figs 4–6: Palpal tibia with a group of long and strong ventro-apical spines. Cymbium with a small, posterodorsal, conical outgrowth. Paracymbium L-shaped, with a wide proximal part. Anterior tegular apophysis long and gradually curved. Embolic division with a long, narrowed, flattened, radical part (= “radix”) with a notch anteriorly. Embolus thin and long, whip-shaped, its apex hidden inside a pocket of anterior part of “radix”. Abdomen 3.00 long, 1.80 wide, grey.

Female (paratype from Pavlodar). Total length 4.80. Carapace 2.20 long, 1.60 wide, pale brown, almost yellow. Chelicerae 0.70 long, anterior margin with tree teeth, posterior margin with two small teeth. Legs yellow. FeI with 2–3 dorsal and two prolateral spines. FeII–IV each with two dorsal spines. Tibiae and metatarsi with numerous spines. Leg I, 7.40 long (2.00 + 0.70 + 1.80 + 1.80 + 1.10), IV, 7.80 long (2.10 + 0.60 + 2.00 + 2.00 + 1.10). Metatarsi I–IV each with a trichobothrium. TmI, 0.65. Epigyne as in Figs 13–16: A weak and flexible “cap peak” above mesal plate. Receptacles spherical, moved apart by less than their diameter. Abdomen 2.70 long, 1.60 wide, grey.

VARIABILITY. Specimens vary in size from 4.20 to 5.50, as well as in TmI, which range in males from 0.62 to 0.69, in females from 0.65 to 0.69, whereas the male palpal structures are stable enough.

TAXONOMIC REMARKS. The new species is very close to *S. taiganus* (Ermolajev, 1930), but is clearly distinguished by the shape of the anterior part of the “radix” (Figs 5, 6 cf. Figs 8–12). Females can easily be separated by the presence a “cap peak” in the epigyne of *S. taiganoides* sp.n., while the epigyne of *S. taiganus* carries two small triangular outgrowths above the mesal plate (Figs 13, 15, 16 cf. Figs 17, 19).

*Stemonyphantes taiganus* (Ermolajev, 1930)  
Figs 7–12, 17–19.

1930 *Narcissius taiganus*. — Jermolajev, 217, figs 1–3 (♂, ♀).

MATERIAL. 1 ♂ (ZMMU), RUSSIA: Novosibirsk Area, Toguchin District, near Kotorovo, *Populus* forest, litter, 3.V–8.VI.1986, leg. V. Bakurov & R. Dudko; 1 ♂ (ZMMU), same locality, near Mirnyi, *Abies sibirica* & *Populus* forest, VIII.1984, leg. V. Bakurov; 2 ♂♂ (ZMMU), Republic of Altai, Altai Mts, Gorno-Altaysk, 300–400 m a.s.l., Tuu-Gaya, meadow, pitfall traps, 22 & 28.VIII.2001; 1 ♀ (MHNG), same locality, *Pinus* plantation, 7.VII.2001; 2 ♂♂ (ZMMU), same locality, *Betula* forest, 28.VII.2001; 2 ♀♀ (ZMMU), same locality, *Betula* forest, 28.VIII.2001; 2 ♂♂, same locality, meadow, 28.VIII.2001, all leg. N. Levina; 1 ♂ (ISEA: SZM 001.0509), Turochakskiy Distr., 30 km of logach, environs of Suuchak Village, Pyzha River, *Betula* & *Populus* stands in burnt *Abies sibirica* & *Pinus sibirica* forest, 27.V–1.VI.2003; 1 ♂ (ISEA: SZM 001.0192), same locality, 20.VI–6.VII.2003; 5 ♂♂ (MHNG), same locality, 11–22.VI.2004; 2 ♂♂ (ISEA: SZM 001.0610), same locality, 9–24.VII.2004; 3 ♂♂ (ISEA:

SZM 001.0246), same locality, 22.VI–9.VII.2004; 3 ♂♂ (ISEA: SZM 001.0426), Turochakskiy Distr., environs of Verkhne-Biysk, Ishpa River, *Betula* & *Populus* forest, 20.V–5.VI.2004; 2 ♂ (ISEA: SZM 001.0140), same locality, 5–19.VI.2004; 1 ♂ (ISEA: SZM 001.0522), same locality, 17–27.V.2003; 1 ♂ (ISEA: SZM 001.0057), same locality; 13–31.VIII.2003; 1 ♂ (ZMMU), Turochakskiy Distr., near Kebezen Village, *Pinus* & *Betula* forest, 7–19.VI.2004, all leg. S. Ivanov; 1 ♂ (ZMMU), Altai Mts, Ust'-Kan, upper reaches of Charysh River, 1400 m a.s.l., *Larix* & *Picea* forest, rotten wood, litter, 27.VII.1994, leg. S. Golovatch & A. Ryvkin (all new localities).

TAXONOMIC REMARKS. See under *S. taiganoides*.

REMARKS. This species was originally described from the Tomsk Area, southern West Siberia [Jermolajev, 1930], having been found never since. The type material is lost (Kirill Mikhailov, pers. comm.). The original description of this species is poor and provided only vague figures, making it really difficult to recognize. However, the shape of the anterior radical process of the embolic division, as well as the presence of two small triangular outgrowths above the mesal plate allow for an unequivocal identification of the above specimens to be made. This species is here reported from the Altai for the first time.

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