

A REVIEW OF THE *HISTRIO* GROUP OF THE SPIDER GENUS
PHILODROMUS WALCKENAER, 1826 (ARANEAE,
PHILODROMIDAE) OF THE EASTERN PALAEARCTIC REGION

SZITA, É.¹ and LOGUNOV, D.²

¹*Plant Protection Institute of the Hungarian Academy of Sciences
P. O. Box 102, H-1525 Budapest, Hungary. E-mail: szita@julia-nki.hu*

²*The Manchester Museum, The University of Manchester
Oxford Road, M13 9PL Manchester, UK. E-mail: dmitri.v.logunov@manchester.ac.uk*

The data on taxonomy, distribution and habitat preferences of 13 species of the *histrio* species group of the genus *Philodromus* the eastern Palaearctic Region (Central Asia and Siberia) are presented. Five new species, *P. ablegminus* sp. n. (♂♀; NE Kazakhstan), *P. xerophilus* sp. n. (♂♀; NE Kazakhstan and the mountains of S Siberia), *P. tuvinensis* sp. n. (♂♀; NE Kazakhstan and the mountains of S Siberia), *P. timidus* sp. n. (♂; NE Kazakhstan) and *P. angulobulbis* sp. n. (♂♀; the mountains of S Siberia), are described. The formerly unknown male of *P. triangulatus* WU et SONG, 1987 is described. *Philodromus nanjiangensis* HU et WU 1989 is synonymized with *P. pictus* KRONEBERG, 1875. An identification key to all the studied species is provided. The work is richly illustrated with 80 original drawings and 11 distributional maps.

Key words: Central Asia, Siberia, spider, new synonymy, new species, taxonomy, key.

INTRODUCTION

Philodromus histrio (LATREILLE, 1819) and closely related species (the *histrio* species group by DONDALE and REDNER 1975) of the eastern Palaearctic Region are poorly known. Most of them have been known from the original descriptions only (LATREILLE 1819, LUCAS 1846, SCHENKEL 1936, SIMON 1870, SUNDEVALL 1833, *etc.*). KRONEBERG (1875), KULCZYŃSKI (1895, 1908) and SCHENKEL (1936) were the first arachnologists who presented some data on the fauna of Siberia and Central Asia. The first regional review of the genus *Philodromus* in the fauna of Korea was done by PAIK (1979), who reported on 11 species (one of the *histrio* group) and also provided a list of all the species names of *Philodromus* known from NE Asia, 28 in total. Later, MARUSIK (1991) published a synopsis of the entire family Philodromidae of eastern Siberia (Yakutia and Magadan Region). Twenty three species, of which four (*P. alascensis*, *P. fallax*, *P. histrio* and *P. mysticus*) are relevant to the present study, were reported in that review. These data, with some additions, have been repeated in a number of regional

Siberian checklists (e.g. MARUSIK *et al.* 1992, 1993, KOPONEN *et al.* 2004). Recently, LOGUNOV (1997) has redescribed the ♀ holotype of *P. lanchowensis*. The checklist of the spiders of Tuva (LOGUNOV *et al.* 1998, MARUSIK *et al.* 2000), the mountains of South Siberia, contains 31 species of Philodromidae, of which five are from the *histrion* group. All of them are considered in the present taxonomic survey. Recent taxonomic surveys of Chinese philodromid spiders have further revealed new species of the *histrion* group (WU & SONG 1987, HU & WU 1989, SONG & ZHU 1997, SONG *et al.* 1999, 2001).

Here we present the results of taxonomic survey based on the material mostly collected from Central Asia and Siberia and retained in a number of Russian museums (see below). A unique diversity of *histrion* species group occurring in the studied area has been observed. The main aims of this paper are: (1) to study and adequately (re)describe members of the *histrion* species group from Central Asia and Siberia, (2) to describe five new species of this group, (3) to describe the previously unknown male of *P. triangulatus* WU *et al.* SONG, 1987 and (4) to summarize all the available data on their distribution and habitat preferences.

MATERIAL AND METHODS

This work is based on the collections of the following museums and a personal collection: AGC – the personal collection of A. V. GROMOV (Almaty, Kazakhstan); HECO – Hope Entomological Collection, Oxford, UK (Mr J. HOGAN); PSU – Zoological Department of the Perm State University, Perm, Russia (Dr S. L. ESYUNIN); SZMN – Siberian Zoological Museum of the Institute for Systematics and Ecology of Animals, Novosibirsk, Russia (Dr G. N. AZARKINA); ZMMU – Zoological Museum of the Moscow State University, Moscow, Russia (Dr K. G. MIKHAILOV); ZMTU – Zoological Museum of Turku University, Turku, Finland (Dr S. KOPONEN); MNHN – Musée National d'Histoire Naturelle, Paris, France (Dr C. ROLLARD); SMNH – Swedish Museum of Natural History, Stockholm, Sweden (Dr T. KRONESTEDT).

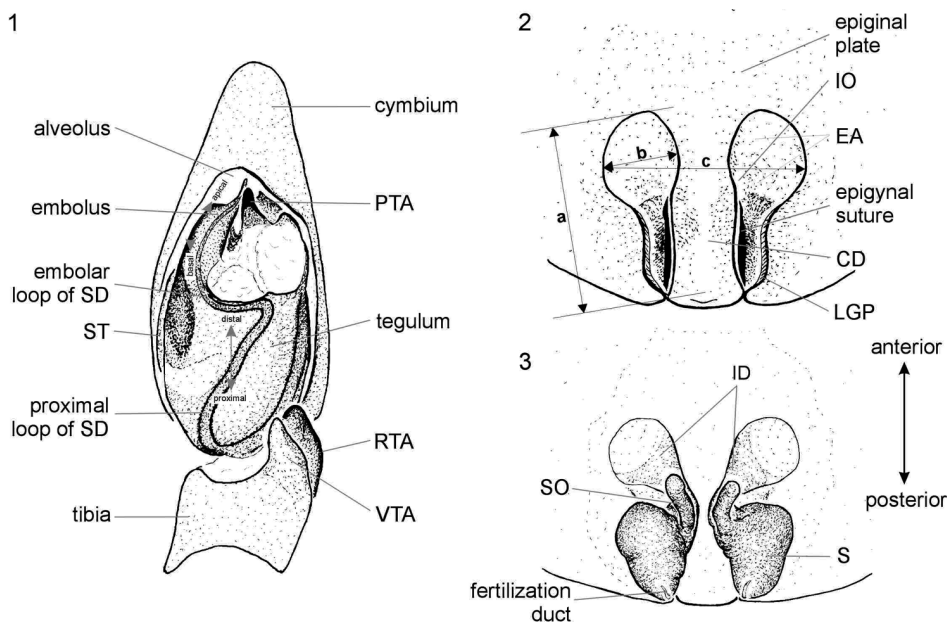
The terminology of male and female genital morphology (see Figs 1–3) mostly follows SCHICK (1965), DONDALE and REDNER (1975) and SZITA and SAMU (2000), with a few exceptions as follows: 1 – ‘insemination duct’ substitutes for ‘bursa copulatrix’; 2 – ‘philodromid tegular apophysis’ substitutes for ‘paraconductor bulbar apophysis’. The nomenclature and homology of various bulbus apophyses among various spider families remain unresolved, so that we have chosen a neutral term to deal with likely homologous structures in *Philodromus* alone. In the epigyne, the lateral guide pocket (LGP) and the subsequent rim outline the depression called by DONDALE and REDNER (1975) the epigynal atrium, which can be singular as in *P. alascensis* (Fig. 39) or subdivided by the central division (CD) as in *P. histrion* (Fig. 16) into two atria (known in some spider groups, e.g. Salticidae, as the fossae). For the pattern of leg spination the system used by ONO (1988) was adopted, with a few modifications as follows: each leg segment was subdivided into five equal sections along its length and spines were depicted and counted in each section starting from the most proximal one. The only exception is the spination pattern of the dorsal side of tibia, where all spines were situated at the borders of sections; in this case ONO's system was followed. Only references for original descriptions

are provided. For complete synonymy lists see PLATNICK (2007). All regional records for each species are given in the sections 'Distribution' and 'Habitat'. All measurements are in mm.

Abbreviations used in the text and figures (Figs 1–3): a.s.l. – above see level, CD – central division, D – described, Distr. – district, EA – epigynal atrium (a – length, b – width of each atrium, c – cumulative width), ID – insemination duct, IO – intromittent orifice, LGP – lateral guide pocket, nr. – near, Mt. – mountain, Pnsl. – peninsula, PTA – philodromid tegular apophysis, RTA – retrolateral tibia apophysis, S – spermatheca, SO – spermathecal organ, s.r. – same region, ST – subtegulum, VTA – ventral tibia apophysis. Abbreviations used in the measurement data: AME – anterior median eye, ALE – anterior lateral eye, AME-AME – distance between AMEs, AME-ALE – distance between AME and ALE, MOA – median ocular area, MOA-WA – anterior width of MOA, MOA-WP – posterior width of MOA, MOA-L – length of MOA, PME – posterior median eye, PLE – posterior lateral eye, PME-PME distance between PMEs, PME-PLE – distance between PME and PLE, PsL – length of prosoma, PsW – width of prosoma, OsL – length of opisthosoma, OsW – width of opisthosoma, FeI-IV – length of femur I-IV, PaI-IV – length of patella I-IV, TiI-IV – length of tibia I-IV, MtI-IV – length of metatarsus I-IV, TaI-IV – length of tarsus I-IV, CyL – dorsal length of cymbium, CyW – dorsal width of cymbium, PTiL – prolateral length of palpal tibia.

The *histrion* species group

This species group is basically coextensive with the genus *Rhysodromus* SCHICK, 1965 (the type species: *Thomisus histrion* LATREILLE, 1819). SCHICK (1965:



Figs 1–3. Details of the terminology used in the text. 1 = The male palp of *P. lanchowensis*, ventral view. 2–3 = Epigyne and spermathecae of *P. histrion*. Abbreviations are explained in 'Material and methods'

38, table 4) listed 9 morphological characters separating *Rhysodromus* from *Philodromus* (*s. str.*) and *Ebo*. By some of them (e.g. PME closer to PLE than to ALE, AME subequal to ALE), *Rhysodromus* seems to be closer to *Ebo*. Nevertheless, we agree with DONDALE and REDNER (1975: 371) that there is no single character distinguishing the *histrion* group from other groups of the genus. Thus, we follow the latter authors and consider the *histrion* group within *Philodromus*. The group can be diagnosed by a number of characters (SCHICK 1965, DONDALE & REDNER 1975, 1976): the stout and straight embolus that terminates at the tip of the tegulum, a maximum of 2 pairs of ventral basitarsal spines (of which the second is situated at middle of segment or more basad), PME closer to PLE than to ALE, and the dense scopula (especially in females). We don't know if either of the aforementioned characters is apomorphic or plesimorphic, as no phylogenetic analysis of the entire genus *Philodromus*, as well as any other philodromid genus, has been performed to date. This task is outside the scope of the current regional review.

Originally (DONDALE & REDNER 1975), the *histrion* group comprised four species: *P. alascensis*, *P. fallax*, *P. histrion* and *P. mysticus*. A substantial recent improvement in the state of knowledge of Palearctic *Philodromus* allows us to include at least 16 species in this group, of which 13 (five are new to science) are treated in the present paper. Most of them are clearly related to *P. histrion*, *P. alascensis*, *P. fallax* or *P. pictus*. One of the studied species, *P. xinjiangensis*, stands on itself within the group. Its male have the poorly marked embolus (Fig. 36), whereas the female's epigyne resembles that of *Thanatus* (Figs 45–46). Another species, *P. pictus*, possesses neither straight nor stout embolus. We have provisionally placed both these species in the *histrion* group and their proper assignment needs to be reconsidered in the future.

We have failed to trace and re-examine the type series of *Philodromus cinerascens* PICKARD-CAMBRIDGE, 1885 from Yarkand, which is not available in the HECO (checked by DL) and The Natural History Museum, London (pers. comm. by J. BECCALONI). This species, as PICKARD-CAMBRIDGE stated himself (1885: 74), was very close to *P. fallax*. So, it might be one of the species studied here, but on the basis of the original description alone we cannot be sure. None of other PICKARD-CAMBRIDGE's *Philodromus* described from Yarkand (see PICKARD-CAMBRIDGE 1885) belongs to the *histrion* group (most of them are from the *pulchellus* group; types are available in the HECO and have been re-examined by DL).

Two more species are absent from the material examined here. One, *P. leucomarginatus* PAIK, 1979 was described from Korea after a single male (PAIK 1979) and later also recorded from China (Inner Mongolia, Shanxi and Shandong) (TANG *et al.* 2004). Reasoning from the latest account by TANG *et al.* (2004: figs 3, A-C), who also described the female of *P. leucomarginatus*, it is safe to conclude

that this species is a true member of the *histrío* group. The second species, *P. hui* YANG et MAO, 2002 was recently described from Yunnan Province of China (YANG & MAO 2002) and is close to *P. pictus* (see below).

It is very likely that *Philodromus pelagonus* ŠILHAVÝ, 1944 described from Macedonia is a member of the *histrío* group as well. Reasoning from the original illustrations alone (ŠILHAVÝ 1944: figs 6–7), it has been impossible to assign this name to any of the new species examined in our study.

KEY TO SPECIES OF THE *PHILODROMUS HISTRIO* GROUP

Males

- | | | |
|---|---|----------------------|
| 1 | The VTA poorly developed or absent | 2 |
| – | The VTA present | 3 |
| 2 | The embolus poorly marked (Figs 36–38) | <i>xinjiangensis</i> |
| – | The embolus well-marked, flat and bent at its tip (Figs 33–35) | <i>timidus</i> |
| 3 | The VTA rounded, with ragged membranous surface | 4 |
| – | The VTA otherwise | 5 |
| 4 | The PTA clawlike; the embolus comparatively thin (Figs 27–29) | <i>tuvinensis</i> |
| – | The PTA flat, with screwed tip; the embolus comparatively thick (Figs 24–26) | <i>alascensis</i> |
| 5 | The VTA shifted retrolaterally | 6 |
| – | The VTA in ventro-medial position | 11 |
| 6 | The RTA thick | 7 |
| – | The RTA thin | 8 |
| 7 | The RTA as in Fig. 31; the PTA clawlike (Figs 30–32) | <i>mysticus</i> |
| – | The RTA as in Fig. 14; the PTA proboscis shaped (Figs 13–15) | <i>lanchowensis</i> |
| 8 | The embolus needle-shaped, hidden behind the tegulum (Figs 53, 55); the PTA swollen (Figs 53, 54) | <i>triangulatus</i> |
| – | The embolus and PTA otherwise | 9 |

9	The PTA is projected over the cymbial edge, its teeth directed laterad	10
–	The PTA is not projected over the cymbial edge, its tip directed mediad (Figs 10–12)	<i>xerophilus</i>
10	The PTA with two teeth (Figs 4–6)	<i>histrion</i>
–	The PTA with one tooth (Figs 7–9)	<i>ablegminus</i>
11	The embolus robust, curving retrolaterally (Figs 56–58)	<i>pictus</i>
–	The embolus otherwise	12
12	The VTA narrow; the embolus straight (Figs 50–52)	<i>angulobulbis</i>
–	The VTA wide; the embolus saddle-shaped (Figs 47–49)	<i>fallax</i>

Females

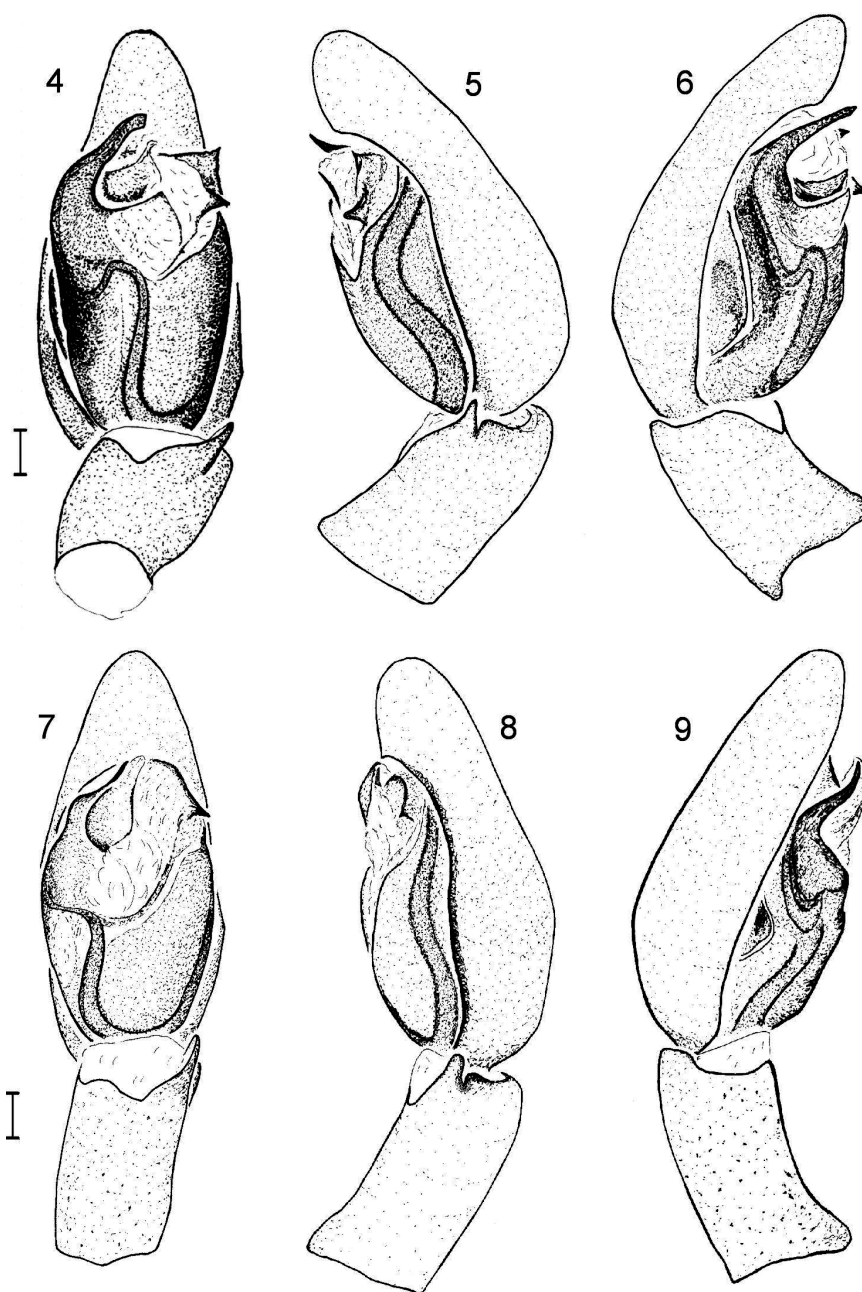
1	The IO in medial position	2
–	The IO in anterior position	8
–	The IO in posterior position (Figs 65–66)	<i>pictus</i>
2	The EA as a singular depression	3
–	Two EA separated by the CD	4
3	The epigyne and spermathecae as in Figs 41–42	<i>tuvinensis</i>
–	The epigyne and spermathecae as in Figs 39–40	<i>alascensis</i>
4	Both LGPs subparallel and conspicuously projecting upwards (Figs 63–64)	<i>triangulatus</i>
–	The epigyne flat	5
5	The EA heart-shaped (Figs 22–23)	<i>lanchowensis</i>
–	Both EA keyhole-shaped and subparallel	6
6	The CD wider anteriorly (Figs 18–19)	<i>ablegminus</i>
–	The CD subequal along its length	7
7	The epigyne and spermathecae as in Figs 16–17	<i>histrion</i>
–	The epigyne and spermathecae as in Figs 20–21	<i>xerophilus</i>

8	The length of EA three times larger than wide (Figs 45–46)	<i>xinjiangensis</i>
–	The length of EA twice or less of its width	9
9	The CD with lateral notches (Figs 43–44)	<i>mysticus</i>
–	The CD without notches	10
10	The epigyne and spermathecae as in Figs 59–60	<i>fallax</i>
–	The epigyne and spermathecae as in Figs 61–62	<i>angulobulbis</i>

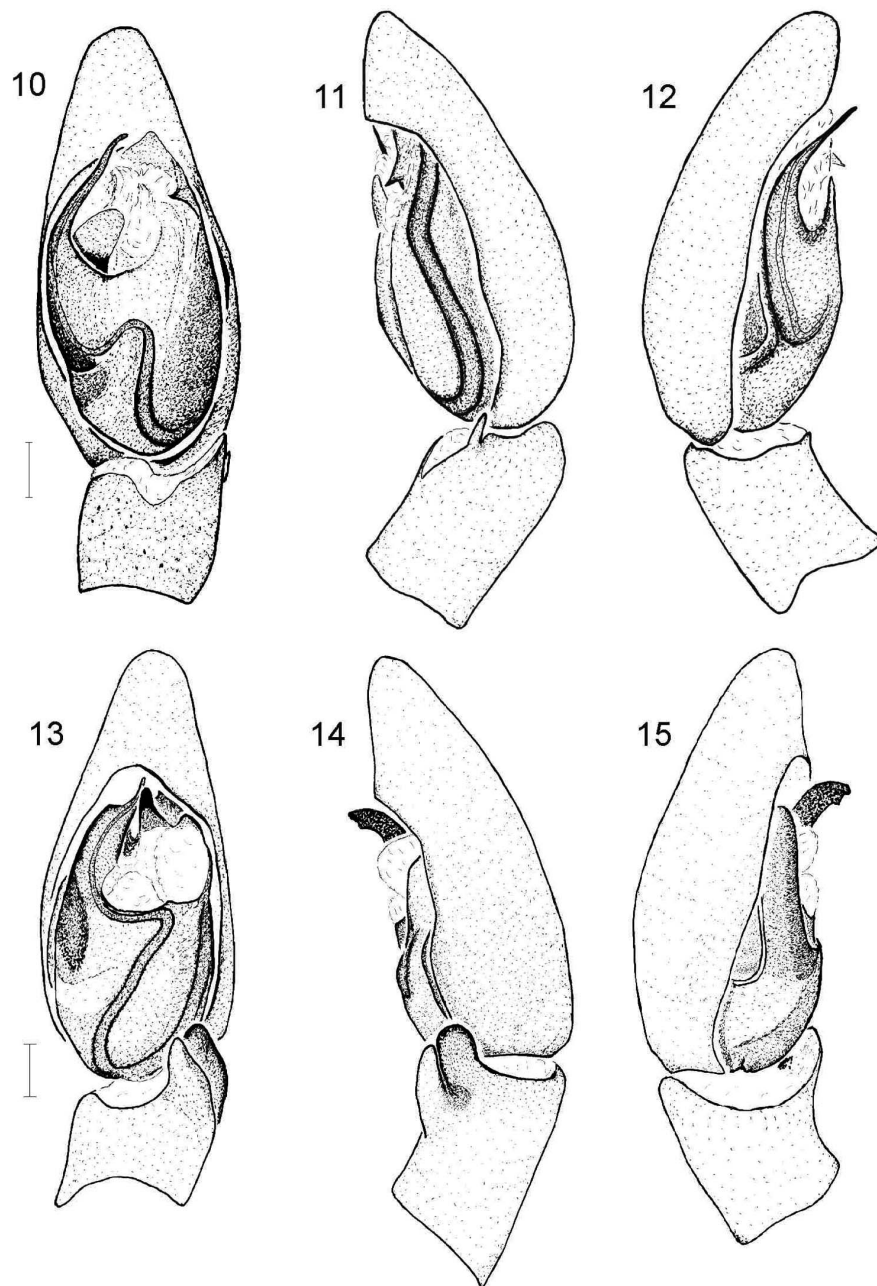
Philodromus histrio (LATREILLE, 1819)
(Figs 4–6, 16–17, 67; Map 1)

Thomisus histrio Latreille, 1819: 36 (D ♀; the ♀ holotype from France lost).

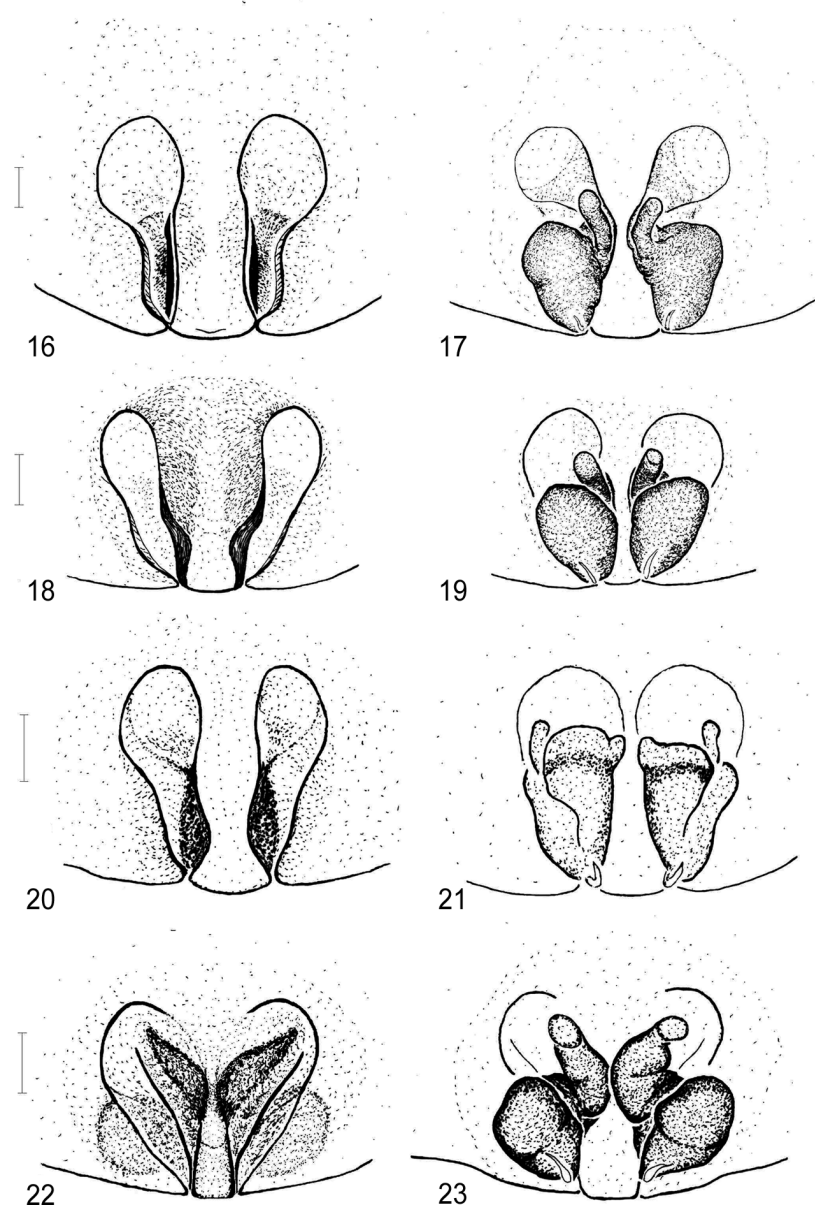
Material examined: RUSSIA: Voronezh Region: Ternovka Distr., Savala forestry, c. 51°41'N, 41°33'E, c. 150 m a.s.l., K. G. Mikhailov, ZMMU – summer 1980, 1 ♀. Rostov Region: no exact locality, T. Pravdina, ZMMU – date(?), 1 ♀. Stavropol' Territory: Levokumskoe Distr., nr. Velichaevka [=Velichaevskoe], c. 44°57'N, 45°07'E, c. 30 m a.s.l., PSU – 25/07/1915, 1 ♂. Perm Region: Kungur Distr., Sylva Riv. Valley, left riverside, c. 5 km NW of Kungur, Spasskaya Gora protected landscape, c. 57°28'40"N, 56°51'10"E, 120–173 m a.s.l., S. L. Esyunin, PSU – 6/06/1987, 3 ♀ – 21/05/1988, 1 ♂; Kishert' Distr., Sylva River Valley, right riverside, c. 2 km W of Ust'-Kishert', Predural'e Preserve, c. 57°22'N, 57°09'30"E, 140–235 m a.s.l., V. E. Efimik, PSU – 3/07/1994, 1 ♀. Chelyabinsk Region: Troitsk Distr., Ui River valley, Troitsk [=Troitskiy], c. 54°05'30"N, 61°34'30"E, c. 200 m a.s.l., A. Ovsyannikov, PSU – summer 1940, 5 ♀; same locality V. E. Efimik, PSU – 3 ♂ 12 ♀. Kurgan Region: Zverinogolovskoe Distr., Tobol River valley, Ukrainets, c. 54°23'40"N, 64°48'20"E, c. 100 m a.s.l., Smirnov, SZMN – 25/05/1990, 1 ♂. Novosibirsk Region: nr. Chany Lake, c. 55°00'N, 77°30'E, c. 110 m a.s.l., V. P. Pekin, SZMN – 16/06/1989, 1 ♀; Kargat Distr., c. 13 km ENE of Verkh-Kargat, Makar'evski, c. 55°25'N, 80°51'30"E, c. 130 m a.s.l., D. V. Logunov, SZMN – 22/07/1988, 14 ♀; Karasuk Distr., 20–25 km SW of Karasuk, c. 53°34'N, 77°50'E, c. 110 m a.s.l., V. P. Pekin, SZMN – 23/05/1989, 1 ♂ 3 ♀ – 6/06/1989, 1 ♂ 2 ♀ – 21/05/1990, 2 ♂ 7 ♀; 35–40 km SW of Karasuk, c. 53°29'N, 77°45'E, c. 110 m a.s.l., A. A. Alexeev, SZMN, 29/06/1998, 3 ♂ 2 ♀; Kochenevo Distr., nr. Chik, c. 54°59'30"N, 82°26'E, 120–140 m a.s.l., A. V. Legalov, SZMN – 6/06/1991, 1 ♀; Chistoozernoje Distr., O. E. Kosterin, SZMN – nr. Bol'shoe-Gor'koe Lake, c. 54°21'N, 75°52'E, c. 100 m a.s.l., 25/06/1994, 1 ♀ – c. 28 km W of Novokrasnoe, Zolotaya Griva Stand, c. 54°16'30"N, 75°42'E, c. 110 m a.s.l., 23/06/1994, 2 ♀ – Kulmakan Lake, c. 54°12'15"N, 75°47'15"E, c. 100 m a.s.l., 24/06/1994, 1 ♀ – E Solenoje Lake, c. 54°18'N, 76°06'E, c. 100 m a.s.l., 26/06/1994, 1 ♀. Magadan Region: no exact locality, Mosina, PSU – date(?), 1 ♀. – UKRAINE Odesa [=Odessa] Region: Bilgorod-Dnistrovs'kii [=Belgorod-Dnestrovskii] Distr., nr. Sergiivka [=Sergeevka], c. 46°01'50"N, 30°22'10"E, 0–30 m a.s.l., steppe slope, Yu. M. Marusik, ZMMU – 1–7/07/1994, 1 ♂; s.r., no exact locality, V. F. Mikityuk, SZMN – 1/07/1983, 1 ♀. Kherson Region: Chaplinka Distr., Askaniya-Nova, c. 46°27'N, 33°52'30"E, 20–27 m a.s.l., ZMMU – 30/05/1929, 1 ♂. The Crimea: nr. Dzhankoi, c. 45°43'N, 34°23'30"E, c. 20 m a.s.l., V. Kuznetsov, PSU – 2/06/1926, 2 ♂ 1 ♀. – AZERBAIJAN: 'Aresh (Elizavetopolsk)' [Bozdagh Mt. Range, c. 40°55'N, 46°41'E, 40–80 m a.s.l.], A. B. Shelkovnikov, PSU – 1892, 1 ♂ 6 ♀. Baku Region: Abşeron



Figs 4–9. Male genitalia of *Philodromus* spp. 4–6. = *P. histrio* – 4 v, 5 rl, 6 pl. 7–9. = *P. ablegminus* – 7 v, 8 rl, 9 pl. Scale bar = 0.1 mm. (v – ventral view, rl – retrolateral view, pl – proteral view). Specimens: *P. histrio*: N Kazakhstan Region, Bol’shaya-Malyshka; *P. ablegminus*: the holotype

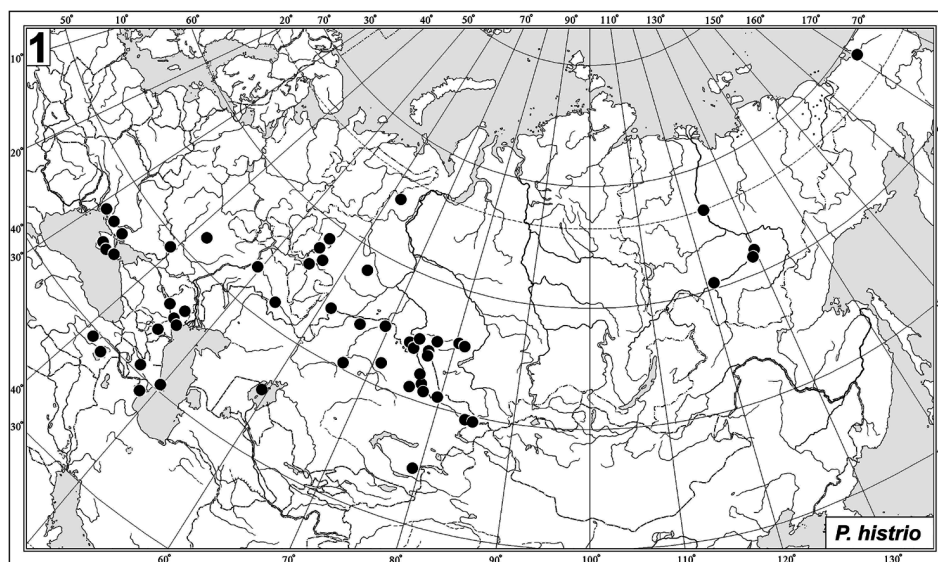


Figs 10–15. Male genitalia of *Philodromus* spp. 10–12. = *P. xerophilus* – 10 v, 11 rl, 12 pl. 13–15. = *P. lanchowensis* – 13 v, 14 rl, 15 pl. Scale bar = 0.1 mm. Specimens: *P. xerophilus*: the holotype; *P. lanchowensis*: Buryatia, Ulan-Ude



Figs 16–23. Female genitalia of *Philodromus* spp. 16–17 = *P. histrio* – 16 = epigyne, 17 = spermathecae. 18–19 = *P. ablegminus* – 18 = epigyne, 19 = spermathecae. 20–21 = *P. xerophilus* – 20 = epigyne, 21 = spermathecae. 22–23 = *P. lanchowensis* – 22 = epigyne, 23 = spermathecae. Scale bar = 0.1 mm. Specimens: *P. histrio*: N Kazakhstan Region, Bol'shaya-Malyshka; *P. ablegminus*: the paratype from Kazakhstan, Kapchagai Canyon; *P. xerophilus*: the paratype from Tuva, Onchalaan Mt.; *P. lanchowensis*: Buryatia, Ulan-Ude

[=Apscheron] Pnsl., nr. Baku, c. 40°24'N, 49°52'E, 27–160 m a.s.l., P. M. Dunin, as *Thanatus formicinus*, ZMMU – 4/05/1977, 1 ♀. – KAZAKHSTAN: Kostanai [=Kustanai] Region: Arkalyk, c. 50°14'50"N, 66°54'30"E, c. 350 m a.s.l., A. V. Gromov, SZMN – 2/06/1995, 1 ♀. Astana [=Akmola, Tselinograd] Region: Shchuchinsk Distr., c. 23.5 km ESE of Shchuchinsk, ENE foothills of Berkuty Mt., c. 1 km NE of Burevestnik, 52°53'47"N, 70°32'57"E, c. 375 m, steppe, A. V. Gromov, AGC – 4/06/2002, 1 ♂ 2 ♀. N Kazakhstan Region: Kyzylzhar [=Sokolovka] Distr., the right bank of Ischim River, nr. Bol'shaya-Malyshka, c. 55°05'30"N, 69°13'30"E, c. 100 m a.s.l., D. V. Logunov, ZMMU – 10–18/06/1986, 1 ♂ 2 ♀. Pavlodar Region: Pavlodar Distr., c. 35 km N of Pavlodar, the right bank of Irtysh River, nr. Sychevka, c. 52°35'30"N, 76°45'E, c. 105 m a.s.l., O. V. Lyakhov, SZMN – 20/06/1994, 8 ♀; Aksu [=Ermak] Distr., the left bank of Irtysh River, c. 8 km NE of Kyzylzhar, O. V. Lyakhov, ZMMU – 14/07/1990, 2 ♂ 3 ♀; nr. Malyi Kalkaman Lake, 52°04'N, 76°32'E – 52°04'N, 76°33'E, 110–130 m a.s.l., O. V. Lyakhov, SZMN – 6/06/1994, 1 ♂ 2 ♀; Malyi Kalkaman Lake (NE shore), c. 52°04'N, 76°32'20"E, c. 130 m a.s.l., A. V. Gromov, SZMN – 8/06/1998, 1 ♀; c. 1 km NE of Oshterek, 52°01'40"N, 76°49'20"E, c. 123 m a.s.l., A. V. Gromov, SZMN – 8/06/1998, 1 ♀; c. 1 km W of Aksu [=Ermak], c. 52°03'N, 76°54'E, c. 120 m a.s.l., A. V. Gromov, SZMN – 6/06/1998, 1 ♀; Lebyazh'e [=Akku] Distr., c. 3 km NW of Shoktal, c. 51°49'N, 78°58'E, c. 153 m a.s.l., O. V. Lyakhov, SZMN – 5/07/1990, 2 ♀; Bayanaul Distr., Kyzyltau Mt. Range, c. 50°25'N, 76°03'E, O. V. Lyakhov, SZMN – 11/06/1991, 3 ♀. E Kazakhstan Region: Kurchum Distr., SW foothills of Narym Mt. Range, nr. Aktobe Hill, R. Yu. Dudko, SZMN – c. 15 km NW of Kurchum, c. 48°41'N, 83°32'E, 3–4/05/1999, 1 ♂ – c. 20 km N of Kurchum, c. 48°45'N, 83°38'E, 5/05/1999, 1 ♀. N Prizaisan'e Region: Kulundzhinskies Sands, R. Yu. Dudko & I. I. Lyubechanski, SZMN – 8–10/05/1999, 1 ♀. Almaty [=Alma-Ata] Region: Kerbulak Distr., c. 37 km SSW of Konyrolen, S slope of Aktau Mt. Range, c. 43°57'20"N, 79°04'30"E, 640–680 m a.s.l., A. A. Zyuzin & A. V. Gromov, SZMN – 08–09.05.1992, 2 ♀.



Map 1. Distribution of *P. histrio* in the eastern Palearctic Region. The records from the middle reaches of River Volga (KRASNOBAEV 2004), except for Samarskaya Luka, are not shown. One dot may represent more than one close localities

Diagnosis: Embolus thick. PTA with two peaks directed laterad and projected over the cymbial edge. CD subequal in width, narrowing anteriorly. SO thin, tube-like, situated in the median position.

Male (N Kazakhstan Region: Bol'shaya-Malyshka and Pavlodar Region: Kyzyl'dzhar): Colouration and pattern is similar to female. *Measurements* (n= 3). Body length 4.1–5.65. PsL 1.85–2.4, PsW 1.75–2.25, OsL 2.25–3.25, OsW 1.3–2.1. Distances between eyes: AME 0.09–0.10, ALE 0.08–0.09, PME 0.07–0.08, PLE 0.08–0.09, AME-AME 0.11–0.13, AME-ALE 0.07–0.10, PME-PME 0.28–0.29, PME-PLE 0.15–0.19, MOA-AW 0.25–0.33, MOA-PW 0.34–0.45, MOA-L 0.32–0.33, AME-PME 0.21–0.24, ALE-PLE 0.15–0.21. Length of leg segments: FeI 2.85–3.3, PaI 1–1.35, TiI 2.5–3, MtI 1.95–2.6, TaI 1.45–1.7, FeII 3.5–4.1, PaII 1.4–1.65, TiII 3.3–4, MtII 3–3.5, TaII 1.95–2.2, FeIII 2.3–2.7, PaIII 0.8–1.2, TiIII 1.95–2.25, MtIII 1.6–2, TaIII 1–1.25, FeIV 2.75–3.3, PaIV 0.85–1.15, TiIV 2.25–2.6, MtIV 2–2.35, TaIV 1.1–1.2. Total length of legs: legI 9.75–11.95, legII 13.15–15.45, legIII 7.65–9.4, legIV 8.95–10.6. Spination of leg I: femur: d 0–0–1–0–1; pl 0–0–1–1–1 or 0–0–1–1–0; v -; rl 0–0–1–1–1 or 0–0–1–1–0. tibia: d 0–0–1; pl 0–1–0–1–0 or 1–0–1–0–1; v 2–0–2–0–0ap; rl 0–1–0–1–0 or 1–0–1–0–1. metatarsus: d -; pl 1–1–0–0–1; v 2–0–2–0–0ap; rl 1–1–0–0–1.

Palpus (Figs 4–6). CyL 0.77–0.98, CyW 0.35–0.476, PTiL 0.322–0.42. Embolus strong, proximally swollen and bent, apically narrowing and curving retro-laterad (tube-like). The PTA with two peaks, overhanging the cymbium retrolaterally. The ST is seen in ventral view (Fig. 4). The palpal tibia longer than wide. The VTA narrow and retrolaterally with a rounded tip. The RTA small and swollen.

Female (N Kazakhstan Region: Bol'shaya-Malyshka): Prosoma reddish yellow, with a dark brown pattern (Fig. 67). Opisthosoma greyish brown, with the pattern of dark brown and beige stripes. Legs reddish, with longitudinal dark brown stripes. *Measurements* (n= 8). Body length 4.65–7.5. PsL 1.9–2.55, PsW 1.85–2.45, OsL 2.75–4.95, OsW 1.65–3.65. Distances between eyes: AME 0.06–0.11, ALE 0.06–0.10, PME 0.06–0.08, PLE 0.06–0.10, AME-AME 0.13–0.15, AME-ALE 0.07–0.11, PME-PME 0.25–0.31, PME-PLE 0.15–0.20, MOA-AW 0.25–0.34, MOA-PW 0.36–0.48, MOA-L 0.34–0.42, AME-PME 0.20–0.25, ALE-PLE 0.15–0.20. Length of leg segments: FeI 2.55–3.25, PaI 0.95–1.35, TiI 2.2–2.75, MtI 1.75–2.35, TaI 1.1–1.6, FeII 3.3–4.15, PaII 1.25–1.55, TiII 3.05–3.8, MtII 2.45–2.95, TaII 1.45–1.85, FeIII 2–2.8, PaIII 0.75–1.15, TiIII 1.65–2.2, MtIII 1.4–1.7, TaIII 0.95–1.25, FeIV 2.4–3.25, PaIV 0.75–1.25, TiIV 2–2.6, MtIV 1.6–2.25, TaIV 1–1.35. Total length of legs: legI 8.8–11.3, legII 11.65–14.4, legIII 6.95–9.1, legIV 8.1–10.6. Spination of leg I: femur: d 0–0–1–0–1; pl 0–0–1–1–0 or 0–0–1–1–1; v -; rl - or 0–0–1–0–1. tibia: d 0–0–1; pl 0–1–0–1–0 or 0–0–1–0–1; v 2–0–2–0–0ap; rl 0–1–0–1–0 or 0–0–1–0–1. metatarsus: d -; pl 1–1–0–0–1; v 2–0–2–0–0ap; rl 1–1–0–0–1.

Egigyne and spermathecae as in Figs 16–17. The CD wide, slightly narrowing anteriorly and concaved posteriorly. Two EA well-marked, keyhole-shaped, subparallel; their anterior parts clearly visible in ventral view. The S ovoid, wider anteriorly. The SO tube-like, situated in the medio-posterior position.

Habitat: Various steppe-like habitats. Ukraine (including the Crimea): birch stands, shores of saline lakes, plain steppe and stony steppe slopes (POLCHANINOVA 1988, 1990, 1994; KOVBLYUK 2003); Rostov Region: plain steppe and meadows (MINORANSKI *et al.* 1980); Kalmykia: saline meadows (MINORANSKI & PONOMAREV 1984); Ulyanovsk Region: grassy-sandy biotops (KRASNOBAEV 2004); Samara Region: steppes (KRASNOBAEV 2004); Chelyabinsk Region: the stony *Festuca-Stipa* steppe, shores of steppe lakes and river valley meadows (EFIMIK & ZOLOTAREV 1998); W Siberia: the

Artemisia saline steppe, salt marshes (present data); Yakutia: woodland with steppe patches and river-side steppes (KOPONEN *et al.* 2004; KOPONEN & MARUSIK 1992); Kazakhstan (Barsakel'mes Island): sand dunes (PAVLENKO 1985; ZYUZIN *et al.* 1994). In towns, the species can occur on fences (present data). Elevations: 0–700 m a.s.l., but most of the records were made from 20 to 150 m a.s.l.

Remarks: *P. histrio* was identified on the basis of the taxonomic account by DONDALE and REDNER (1975: figs 10–25) and the illustrations by TULLGREN (1970: Plate XVI, figs 215–217). This species is most similar to *P. ablegminus* and *P. xerophilus*. Males can be distinguished by the thicker embolus and by the shape of PTA: two peaks in *P. histrio* and one peak in others (Figs 4, 7, 10); besides, the PTA is directed laterad in *P. ablegminus* and mediad in *P. xerophilus* (cf. Figs 7 and 10). The females of *P. histrio* can be easily distinguished from those of *P. ablegminus* by the narrower CD (Figs 16 and 18). The SOs of *P. histrio* are closer to each other (in the median position, as in *P. ablegminus*) than those of *P. xerophilus* (in the lateral position) (Figs 17, 19, 21).

Distribution: The circum-Holarctic temperate range; known from western Europe (PRÓSZYŃSKI & STAREGA 1971) throughout Minor Asia (ROEWER 1959, TOPÇU *et al.* 2005), the Caucasus (MINORANSKI 1988, GUSEINOV 1998) and the Urals (ESYUNIN & EFIMIK 1996) to Kazakhstan (present data), W Siberia (SPASSKY & LAVROV 1928, present data) and Yakutia (MARUSIK 1991, MARUSIK *et al.* 1993, KOPONEN *et al.* 2004, KOPONEN & MARUSIK 1992) in the east. In the Nearctic Region, the species occurs from Yukon to Nova Scotia, southward to Mexico (DONDALE *et al.* 1997). For localities in the E Palaeartic Region see Map 1.

The records of *P. histrio* from Tuva (LOGUNOV *et al.* 1998, MARUSIK *et al.* 2000) and partly from Buryatia (DANILOV 1999) are turned out to be those of *P. xerophilus* (see below). The records of this species from Buryatia (Borakchin and Zimugoi Islands, IZMAILOVA 1989), Chita Region (Dogoptchan, DANILOV 1990) and Khabarovsk Territory (the Bureinski Reserve, TRILIKAUSKAS 2000) are likely to belong either to *P. lanchowensis* or *P. xerophilus*. We have been unable to re-examine the pertinent material by those authors and therefore these records are neglected here.

Besides, it is very likely that the records of *P. histrio* from Tajikistan (Varzaminor, KRONEBERG 1885: sub *P. elegans*, ANDREEVA 1975, 1976) and the Himalayas, Karakoram (Olthingthang, Skardu, Shigar, Paju, Luglio, CAPORACCO 1935) can belong to a separate species, as all of these records were made from the high altitudes of 2200 to 3500 m a.s.l. As above all this matter requires a resolution, we have not mapped the localities by the latest authors.

Philodromus ablegminus sp. n.

(Figs 7–9, 18–19, 68, Map 2)

Type material: The ♂ holotype (ZMMU) from Kazakhstan, Almaty [=Alma-Ata] Region: Ili Distr., c. 9 km N of Kapchagai, Karaoi Plateau, Kapchagai Canyon, the left bank of Ili River, 43°56'56.3"N, 77°03'33.8"E, c. 604 m a.s.l., A. A. Feodorov – 1–3/06/1995. PARATYPES: together with the holotype, ZMMU – 1 ♀. Zhambyl [=Dzhambul, Taraz] Region: Shu [=Chu] Distr., c. 25 km SW of Shu [=Chu], the right bank of Kurgaty River, c. 0.5 km W of Aspara, c. 43°22'50"N, 73°36'30"E, c. 500 m a.s.l., A. V. Gromov, ZMMU – 24–25/03/1997, 1 ♀.

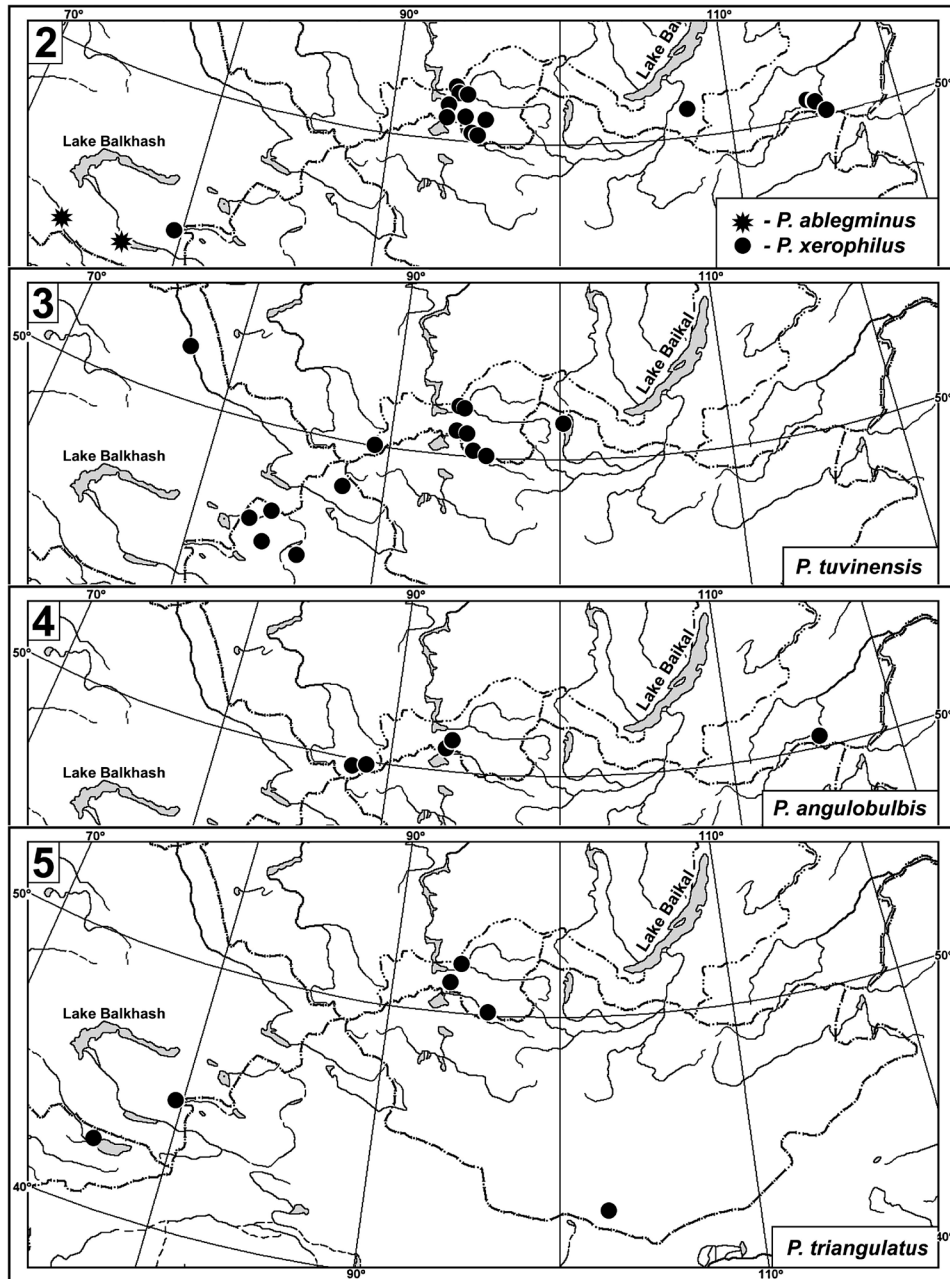
Diagnosis: Embolus hidden behind membranous structures of the bulbus. PTA with a single peak directed laterad. CD wide, narrower posteriorly; its anterior part depressed longitudinally; its posterior part saddle-shaped.

Male (the holotype): Colouration and colour pattern is similar to that of females. *Measurements*. Body length 6.00. PsL 2.6, PsW 2.35, OsL 3.4, OsW 1.9. Distances between eyes: AME 0.09, ALE 0.08, PME 0.08, PLE 0.08, AME-AME 0.18, AME-ALE 0.13, PME-PME 0.35, PME-PLE 0.21, MOA-AW 0.35, MOA-PW 0.50, MOA-L 0.43, AME-PME 0.29, ALE-PLE 0.22. Length of leg segments: FeI 4.075, PaI 1.6, TiI 3.675, MtI 3.25, TaI 1.95, FeII 5.3, PaII 1.9, TiII 5.1, MtII 4.2, TaII 2.5, FeIII 3.5, PaIII 1.35, TiIII 2.75, MtIII 2.4, TaIII 1.5, FeIV 4.2, PaIV 1.3, TiIV 3.1, MtIV 2.9, TaIV 1.65. Total length of legs: legI 14.55, legII 19, legIII 11.5, legIV 13.15. Spination of leg I: femur: d 0–0–1–0–1; pl 0–1–0–1–0; v -; rl 0–1–0–1–0. tibia: d 0–0–1; pl 1–0–0–1–0; v 2–2–0–0ap; rl 0–1–0–1–0. metatarsus: d -; pl 1–1–0–0–1; v 2–1–1–0–0; rl 1–1–0–0–1.

Palpus (Figs 7–9). CyL 1.09, CyW 0.45, PTiL 0.61. Embolus medium wide basally, sharply narrowing distally. The ventral half of PTA poorly sclerotised, lobe-shaped, the distal edge ends up with the sharp tooth-like projection directed retrolaterad. The ST is not seen in ventral view. The length of palpal tibia is approximately twice of its width. The VTA obtuse, rod-like in ventral view. The RTA small and rounded.

Female (the paratypes): Prosoma and opisthosoma sandy coloured, with dark brown, greyish brown and reddish brown pattern (Fig. 68). Legs reddish yellow, gently dotted and with longitudinal darker stripes. *Measurements* (n= 2). Body length 5.9–6.6. PsL 2.3–2.4, PsW 2.15–2.25, OsL 3.5–4.3, OsW 2.2–2.5. Distances between eyes: AME 0.08–0.10, ALE 0.07–0.08, PME 0.07–0.08, PLE 0.07–0.08, AME-AME 0.14–0.15, AME-ALE 0.10–0.11, PME-PME 0.31–0.32, PME-PLE 0.18–0.20, MOA-AW 0.32–0.33, MOA-PW 0.45, MOA-L 0.39–0.41, AME-PME 0.25–0.29, ALE-PLE 0.18–0.21. Length of leg segments: FeI 3.2–3.6, PaI 1.1–1.25, TiI 2.75–3.05, MtI 2.25–2.58, TaI 1.45–1.65, FeII 4.3–4.3, PaII 1.5–1.7, TiII 3.95–4.2, MtII 3.1–3.7, TaII 1.95–1.95, FeIII 2.9–2.95, PaIII 1.1–1.15, TiIII 2.15–2.25, MtIII 1.8–2.1, TaIII 1.2–1.25, FeIV 3.35–3.9, PaIV 1.13–1.2, TiIV 2.6–3.05, MtIV 2.2–2.45, TaIV 1.2–1.3. Total length of legs: legI 10.75–12.125, legII 14.8–15.85, legIII 9.15–9.7, legIV 10.575–11.8. Spination of leg I: femur: d 0–0–1–0–1; pl 0–1–0–1–0 or 0–0–1–1–1; v -; rl -. tibia: d 0–0–1; pl 1–0–0–1–0; v 2–0–2–0–0ap; rl 0–1–0–1–0. metatarsus: d -; pl 1–1–0–0–1; v 2–1–1–0–0ap or 2–1–1–0–0ap; rl 1–1–0–0–1.

Epigyne and spermathecae (Figs 18–19). The CD wide, narrowing posteriorly. The posterior part of CD concaved as a saddle, its anterior part concaved longitudinally. Two EA well-marked, keyhole-shaped, subparallel; their anterior parts clearly visible in ventral view. The S wider anteriorly, the SO and ID relatively small, tube-like structures, situated medio-posteriorly.



Maps 2–5. Distribution of *P. ablegminus* (2, asteriks), *P. xerophilus* (2, dots), *P. tuvinensis* (3), *P. angulobulbis* (4) and *P. triangulatus* (5). One dot may represent more than one close localities

Remarks: This species is most similar to *P. histrio* and *P. xerophilus*. Males can be distinguished by the position of the embolus hidden under membranous structures of the bulbus (cf. Figs 7 & 4, 10) and by the shape and position of the PTA, of which tooth is directed laterad (mediad in *P. xerophilus*, and with two teeth in *P. histrio*) (cf. Figs 8 & 5, 11). The females of *P. ablegminus* can be easily distinguished by the visibly wider CD (cf. Figs 18 & 16, 20). The SOs of *P. ablegminus* are closer to each other (in the median position, as in *P. histrio*) than those of *P. xerophilus* (in the lateral position) (Figs 17, 19, 21).

Habitat: No data. Elevations: 500–600 m a.s.l.

Distribution: A few localities in E Kazakhstan, Map 2.

Etymology: The species epithet is derived from the Latin word ‘*ablegmina*’, which is known from the mythology as the best parts of the sacrificial animal slated for gods.

***Philodromus xerophilus* sp. n.**

(Figs 10–11, 20–21, 69, Map 2)

Type material: The ♂ holotype (ZMMU) from Russia, Tuva, Erzin Distr., slopes of Onchalaan [=Ondzhilan] Mt., c. 16.5 km W of Erzin, c. 50°16'N, 94°55'E, sandy plots, 1200–1300 m a.s.l., D. V. Logunov, earlier det. as *P. histrio*, 28/05/1989. PARATYPES: together with the holotype, ZMMU – 1 ♀; Pii-Khem Distr., Uyk River mouth, c. 52°04'30"N, 94°21'20"E, sloping steppe, 670–700 m a.s.l., D. V. Logunov, earlier det. as *P. histrio*, 25/05/1989, ZMMU – 1 ♂ 1 ♀.

Other material examined: RUSSIA: Tuva: Pii-Khem Distr., SE foothills of Uyk Mt. Range, Sesarlig River valley, SE vicinities of Sesarlig, c. 51°52'20"N, 94°16'E, 920–960 m a.s.l., D. V. Logunov, SZMN – 2/05/1990, 1 ♂; same distr., Uyk River mouth, c. 52°04'30"N, 94°21'20"E, D. V. Logunov & Yu. M. Marusik, 3–5/06/1995, 5 ♀; Ulug-Khem Distr., c. 10–15 km SW of Shagonar, c. 51°27'30"N, 92°47'20"E, 560–580 m a.s.l., D. V. Logunov, earlier det. as *P. histrio*, SZMN – 8/05/1990, 1 ♂ 8 ♀; Ulug-Khem Distr., N slope of East Tannu-Ola Mt. Range, c. 8 km S of Torgalyg, Torgalyg River canyon, c. 51°14'30"N, 92°49'50"E, c. 1000 m a.s.l., D. V. Logunov, earlier det. as *P. histrio*, SZMN – 9/05/1990, 1 ♂; Kyzyl Distr., Verkhni Enisei [=Verkhni Yenisey, Ulug-Khem] River valley, left riverside, 6–7 km WSW of Kyzyl, c. 51°40'25"N, 94°17'30"E, 610–620 m a.s.l., D. V. Logunov, SZMN – 29/05/1989, 3 ♀; Ovyurskii Distr., S foothills of East Tannu-Ola Mt. Range, Irbitei River valley, c. 13 km WNW of Ak-Chyraa [=Ak-Chira], 50°44'20"N, 93°08'30"E, 960–1000 m a.s.l., S. Koponen, ZMTU – 14/06/1995, 1 ♂; Tes-Khem Distr., S slope of East Tannu-Ola Mt. Range, c. 4.5 km E of Khol'-Oozhu [=Khol'-Ozhu], Ayskannyg-Khem River canyon, c. 50°45'N, 94°29'E, c. 1200 m a.s.l., D. V. Logunov & Yu. M. Marusik, SZMN – 15–16/07/1993, 1 ♀, 16–18/06/1995, 1 ♀; Erzin Distr, slopes of Onchalaan [=Ondzhilan] Mt., c. 16.5 km W of Erzin, c. 50°16'N, 94°55'E, 1200–1300 m a.s.l., Yu. M. Marusik, SZMN – 7–10/06/1995, 1 ♂; Erzin Distr., Tes-Khem River valley, 3–5 km S of Erzin, c. 50°13'10"N, 95°09'20"E, c. 1100 m a.s.l., D. V. Logunov, earlier det. as *P. histrio*, SZMN – 14/08/1989, 1 ♀. Buryatia: Zaigraevo Distr., Uda River valley, S foothills of Ulan-Burgasy Mt. Range, c. 40 km ENE of Ulan-Ude, c. 51°57'N, 108°03'E, 600–680 m a.s.l., S. N. Danilov, SZMN – 26/05/1990, 2 ♀. Chita Region: Tsasuchei Distr., Onon River valley, right riverside, nr. Kubukhai, c. 50°29'40"N, 114°48'20"E, 630–660 m a.s.l., S. N. Danilov, SZMN – 26/06/1984, 1 ♀; Tsasuchei Distr., the right bank of Onon River, nr. Nizhni-

Tsasuchei, c. 50°30'30"N, 115°08'E, 610–670 m a.s.l., V. V. Dubatolov, R. Yu. Dudko, I. I. Lyubchanski & V. Smirnova, SZMN – 1–2/06/1995, 2 ♂ 2 ♀; Dahurian Reserve, Kuku-Khadan Mt., N shore of Zun-Torei Lake, c. 50°08'30"N, 115°53'50"E, 600–745 m a.s.l., R. Yu. Dudko, SZMN – 8–13/06/1995, 1 ♀. – KAZAKHSTAN: Almaty [=Alma-Ata] Area, Kerbulak Distr., c. 37 km SSW of Konyrolen, S slope of Aktau Mt. Range, c. 43°57'20"N, 79°04'30"E, 640–680 m a.s.l., A. A. Zyuzin, SZMN – 07/05/1992, 3 ♀.

Diagnosis: Embolus thin, stiletto-shaped. PTA with a single peak directed mediad. CD thin, subequal, narrowing posteriorly. SO in the lateral position.

Male (the holo- and paratypes): Prosoma reddish yellow, with the reddish brown and sandy pattern. Opisthosoma sandy coloured, with dark brown and greyish brown pattern (Fig. 69). Legs reddish yellow, gently dotted and with longitudinal darker stripes. *Measurements* (n = 2). Body length 4.45–5.45. PsL 1.85–2.2, PsW 1.75–2.05, OsL 2.6–3.25, OsW 1.5–2.15. Distances between eyes: AME 0.09–0.10, ALE 0.08–0.09, PME 0.07–0.08, PLE 0.08, AME-AME 0.11–0.13, AME-ALE 0.07–0.09, PME-PME 0.25–0.27, PME-PLA 0.18–0.19, MOA-AW 0.29–0.30, MOA-PW 0.38–0.41, MOA-L 0.38–0.40, AME-PME 0.22–0.25, ALE-PLA 0.19–0.20. Length of leg segments: FeI 3.2, PaI 1.15, TiI 2.95, MtI 2.25, TaI 1.2, FeII 4.3–4.5, PaII 1.4–1.5, TiII 4.05–4.35, MtII 3.45–3.5, TaII 2–2.1, FeIII 2.8–3.1, PaIII 0.9–1, TiIII 2.2–2.3, MtIII 1.85–1.9, TaIII 1.2–1.4, FeIV 3.45–3.85, PaIV 1.05–1.4, TiIV 2.65–3, MtIV 2.3–2.48, TaIV 1.35–1.4. Total length of legs: legI 10.75, legII 15.3–15.85, legIII 9–9.65, legIV 10.98–11.95. Spination of leg I: femur: d 0–0–1–0–1; pl 0–1–0–1–0; v -; rl -. tibia: d 0–0–1; pl 0–1–0–1–0; v 2–0–2–0–0ap; rl 0–1–0–1–0. metatarsus: d -; pl 1–1–0–0–1; v 2–1–1–0–0ap; rl 1–1–0–0–1.

Palpus (Figs 10–12). CyL 0.85–1.02, CyW 0.38–0.46, PTiL 0.35–0.42. Embolus slender and slightly curved. The ventral half of PTA poorly sclerotised, like a short lobe; the distal edge overhangs the alveolus and has a retrolateral sharp projection bent ventrad. The ST is not seen in ventral view. The VTA triangular in ventral view, rod-like in retrolateral view, with a fine tip. The RTA poorly marked, small and rounded.

Female (the paratypes): Colouration and colour pattern as in males (Fig. 69). *Measurements* (n=2). Body length 5.25–6.25. PsL 1.75–2.45, PsW 1.7–2.3, OsL 3.5–3.8, OsW 2.4–2.65. Distances between eyes: AME 0.09–0.11, ALE 0.08–0.10, PME 0.08–0.09, PLE 0.08–0.10, AME-AME 0.12–0.15, AME-ALE 0.08–0.10, PME-PME 0.24–0.29, PME-PLA 0.18–0.22, MOA-AW 0.27–0.33, MOA-PW 0.36–0.46, MOA-L 0.35–0.42, AME-PME 0.22–0.25, ALE-PLA 0.17–0.18. Length of leg segments: FeI 2.65–3.9, PaI 1.1–1.5, TiI 2.3–3.28, MtI 1.9–2.73, TaI 1.2–1.75, FeII 3.63–5.1, PaII 1.2–1.7, TiII 3.3–4.65, MtII 2.65–3.75, TaII 1.55–2.1, FeIII 2.2–3.5, PaIII 0.85–1.15, TiIII 1.8–2.55, MtIII 1.55–2, TaIII 1.05–1.33, FeIV 2.65–4.1, PaIV 0.9–1.3, TiIV 2.25–3.23, MtIV 1.95–2.6, TaIV 1.05–1.5. Total length of legs: legI 9.15–13.15, legII 12.33–17.3, legIII 7.45–10.53, legIV 8.8–12.73. Spination of leg I: femur: d 0–0–1–0–1 or 0–0–1–1–1; pl 0–1–0–1–0; v -; rl -. tibia: d 0–0–1; pl 0–1–0–1–0; v 2–0–2–0–0ap; rl 0–1–0–1–0. metatarsus: d -; pl 1–1–0–0–1; v 2–1–1–0–0ap; rl 1–1–0–0–1.

Epigyne and spermathecae (Figs 20–21). The CD wide, slightly widened in the middle and concaved anteriorly and posteriorly. Two EA well-marked, keyhole-shaped, subparallel; their anterior parts clearly visible in ventral view. The S wider anteriorly, The ID as a wide lobe-like structure in medio-posterior position, the SO laterally of it.

Remarks: This species is most similar to *P. histrio* and *P. ablegminus*. Males can be distinguished by the stiletto-shaped embolus (cf. Figs 10 & 4, 7) and by the shape of the PTA, of which tooth is directed mediad (laterad in *P. ablegminus*, and

with two teeth in *P. histrio*) (cf. Figs 11 & 5, 8). The females of *P. xerophilus* can be easily distinguished by the position of the SOs (in the lateral position; in the median position in *P. histrio* and *P. ablegminus*) (Figs 17, 19, 21). Besides, the CD of *P. xerophilus* is much narrower than those of the related species (cf. Figs 20 & 16, 18).

Habitat: Various (semi)arid habitats. Tuva: the saz (*Achnatherium splendens*) steppe, sloping stony shrub steppe, dry shrub-grass (*Caragana-Stipa-Artemisia*) steppe, dry nanophanerophyte steppe, with *Nanophyton erinaceus* (LOGUNOV *et al.* 1998, MARUSIK *et al.* 2000, both sub *P. histrio*, present data). Elevations: 550–1350 m a.s.l.

Distribution: The species is known from the mountains of South Siberia (Buryatia, Chita Region, Tuva) and from NE Kazakhstan; for the collection localities see Map 2. Earlier, this species was reported from Tuva (LOGUNOV *et al.* 1998, MARUSIK *et al.* 2000) and Buryatia (DANILOV 1999) under the name of *P. histrio* (see above).

Etymology: The species was named after its preferred habitat, based on the Greek words ‘ξηρος’ dry and ‘φιλία’ – friendship.

Philodromus lanchowensis SCHENKEL, 1936
(Figs 13–15, 22–23, 70; Map 7)

Philodromus lanchowensis SCHENKEL, 1936: 280, fig. 94 (D ♀; the ♀ holotype in SMNH; examined).

Type material: The ♀ holotype (SMNH) from China, Kansu [=Gansu, Ganxu] Prov., Lanzhou Prefecture, Huang He [=Yellow] River valley, Lanchow [=Lanzhou], c. 36°03'30"N, 103°47'E, 1500–1600 m a.s.l., G. Söderbom, – 27/04/1928.

Other material examined: Material: RUSSIA: Tomsk Area: Kargasok Distr., Vasyugan River valley, nr. Maisk, c. 57°48'40"N, 77°13'E, 90–100 m a.s.l., I. Sokolov, PSU – 3–5/06/1927, 2 ♀. Tuva: ‘Zukuam’, PSU – 1 ♀; Chaatyg River, S. N. Danilov, earlier det. as *P. alascensis*, SZMN – 8/05/1990, 1 ♀; Kyzyl Distr., Verkhniy Enisei [=Verkhniy Yenisey, Ulug-Khem] River valley, left riverside, 6–7 km WSW of Kyzyl, c. 51°40'25"N, 94°17'30"E, 610–620 m a.s.l., O. V. Lyakhov, SZMN – 19–22/05/1990, 2 ♀. Buryatia: Ulan-Ude, the left bank of Selenga [=Selenge] River, c. 51°50'10"N, 107°33'50"E, c. 500 m a.s.l., S. N. Danilov, earlier det. as *P. alascensis*, SZMN – 05/1989, 1 ♀; Ulan-Ude Distr., Ulan-Ude, c. 51°50'N, 107°35'E, 500–700 m a.s.l., S. N. Danilov, ZMMU – 12/09/1992, 1 ♂; same locality, S. N. Danilov, earlier det. as *P. alascensis*, ZMMU – 12/06/1983, 1 ♀; Selenga [=Selenge] Distr., NE of Zhirim, S. N. Danilov, earlier det. as *P. alascensis*, SZMN – 18/05/1983, 1 ♀; c. 40 km SW of Ulan Ude, Bryanka River, nr. Iva, S. N. Danilov, ZMMU – 9/06/1990, 1 ♀. Amur Region: Arkhara Distr., Kundurka River valley, Kundur, c. 49°06'N, 130°45'E, 160–200 m a.s.l., A. Streltsov & E. Malikova, SZMN – 1/08/1996, 1 ♀. Khabarovsk Territory: Komsomol'sk-na-Amure Distr., no exact locality, Tereshko, PSU – 17/05/1987, 1 ♂; Baturinka – 21/05/1987, 1 ♀. Maritime Territory: Khasan Distr., Kedrovaya Pad' Reserve, Kedrovaya River valley, c. 43°05'30"N, 131°33'40"E, 40–80 m a.s.l., B. P. Zakharov,

SZMN – 7/03/1976, 1 ♀. – CHINA: Qinghai Prov., Haidong Prefecture, Ledu [=Nianbai] Co., Qilian Shan [=Nan Shan] Mts., SW foothills of Dabang Shan Mt. Range, Sining He [=Xining, Huang Shui] River valley, left riverside, Lan-wha-sja [=Lowacheng, Laoyacheng], c. 36°25'20"N, 102°39'E, c. 1920 m a.s.l., G. N. Potanin, MNHN – 19/04/1885, 1 ♀.

Diagnosis: PTA proboscis-shaped. RTA thick, with a rounded tip. EA heart-shaped. Spermathecae thick, S-shaped.

Male (Buryatia: Ulan-Ude): Colour pattern as in females. *Measurements* (n= 1). Body length 4.65. PsL 2.15, PsW 2.3, OsL 2.5, OsW 1.75. Distances between eyes: AME 0.08, ALE 0.07, PME 0.07, PLE 0.07, AME-AME 0.14, AME-ALE 0.07, PME-PME 0.29, PME-PL 0.17, MOA-AW 0.32, MOA-PW 0.43, MOA-L 0.34, AME-PME 0.24, ALE-PL 0.14. Length of leg segments: FeI 3.35, PaI 1.35, TiI 3.25, MtI 3.15, TaI 1.95, FeII 3.93, PaII 1.4, TiII 3.95, MtII 3.7, TaII 2.25, FeIII 3.2, PaIII 1.15, TiIII 2.6, MtIII 2.75, TaIII 1.55, FeIV 3.15, PaIV 1.05, TiIV 2.65, MtIV 2.7, TaIV 1.5. Total length of legs: legI 13.05, legII 15.23, legIII 11.25, legIV 11.05. Spination of leg I: femur: d 0–1–1–0–1; pl 0–0–1–1–1; v –; rl 0–0–1–1–1. tibia: d 1–0–1–1–0; pl 1–1–0–1–0; v 2–2–0–2ap; rl 1–1–0–1–0. metatarsus: d –; pl 1–1–0–0–1; v 2–1–1–0–0; rl 1–1–0–0–1.

Palpus (Figs 13–15). CyL 0.98, CyW 0.46, PTiL 0.41. Embolus wide basally, with a concave at about two-thirds of its length, with a sharp tip. The PTA robust, proboscis-shaped. The ST is poorly visible in ventral view. The VTA poorly sclerotized. Both VTA and RTA with obtuse tips, joint each other (seen in retrolateral view).

Female (Buryatia: Ulan-Ude and Iva): Colour pattern as in Fig. 70. *Measurements* (n= 2). Body length 4.95–5.85. PsL 1.95–2.2, PsW 1.95–2.15, OsL 3–3.65, OsW 1.75–2.4. Distances between eyes: AME 0.08–0.09, ALE 0.08, PME 0.07–0.08, PLE 0.08, AME-AME 0.14, AME-ALE 0.06, PME-PME 0.25–0.27, PME-PL 0.15–0.18, MOA-AW 0.31, MOA-PW 0.39–0.55, MOA-L 0.35–0.39, AME-PME 0.21–0.23, ALE-PL 0.13–0.20. Length of leg segments: FeI 2.65–2.8, PaI 0.95–1.08, TiI 2.45–2.5, MtI 2–2.1, TaI 1.33–1.4, FeII 3.1–3.1, PaII 1.15–1.23, TiII 2.75–2.85, MtII 2.4–2.45, TaII 1.45–1.6, FeIII 2.45–2.7, PaIII 0.95–1.1, TiIII 1.95–2.08, MtIII 1.7–1.75, TaIII 1.2–1.25, FeIV 2.45–2.85, PaIV 0.9–1.1, TiIV 2.05–2.15, MtIV 1.85–1.95, TaIV 1.05–1.15. Total length of legs: legI 9.43–9.83, legII 10.85–11.23, legIII 8.3–8.83, legIV 8.4–9.1. Spination of leg I: femur: d 0–0–1–0–1; pl 0–1–0–1–1; v –; rl 0–0–1–0–1 or 0–0–0–0–1. tibia: d 1–0–1–1–0; pl 1–1–0–1–0; v 2–0–2–0–2ap; rl 1–1–0–1–0. metatarsus: d –; pl 1–1–0–0–1; v 2–1–1–0–0ap; rl 1–1–0–0–1.

Epigyne and spermathecae (Figs 22–23). The CD narrow, slightly widening anteriorly (handle-shaped), its middle part with a saddle-like concave. The EA heart-shaped. The S ovoid. The ID as robust sack-like structures, visibly bent laterally.

Remarks: The structure of male and female copulatory organs of *P. lancho-wensis* is somewhat similar to those of *P. histrio*, *P. ablegminus* and *P. xerophilus*. The male is easily recognisable by the proboscis-shaped PTA (Fig. 13) and by the thicker and stronger RTA (Fig. 14). The female differs in having the heart-shaped EA, the well-marked epigynal sutures (Fig. 22) and the thick, S-shaped spermathecae and SO (Fig. 23).

Habitat: Tuva and Buryatia: shrubby steppe, birch-poplar and pine forests (present data), larch forest (DANILOV, 1995: sub *P. alascensis*). Elevations: 40–1600 m a.s.l.

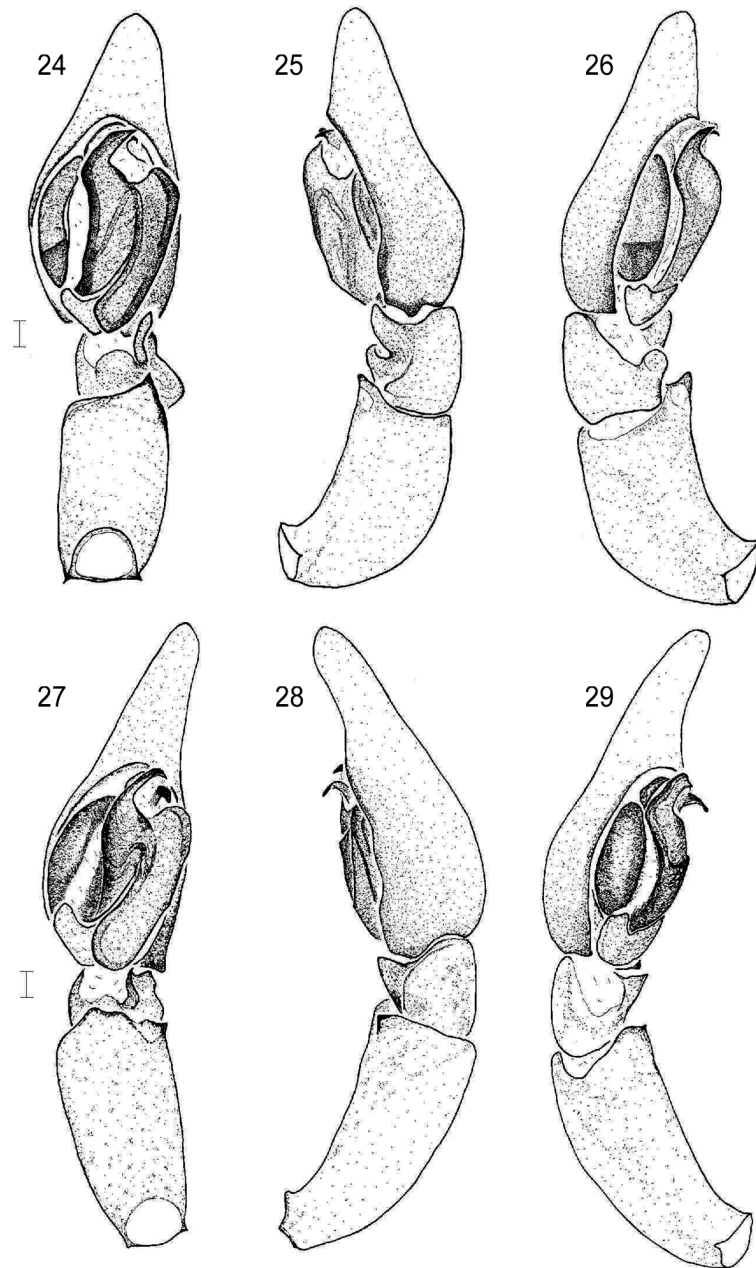
Distribution: The Siberio-Far Eastern subboreal range; known from Tomsk Region in the west to Maritime Territory in the east (present data). For collecting localities see Map 7.

This species was hitherto reported from Buryatia under the name *P. alasensis* (DANILOV 1995, 1999). It is very likely that the undetermined *Philodromus* species reported from Japan by YAGINUMA (1986: fig. 11) and CHIKUNI (1989: 136, fig. 12) is actually *P. lanchowensis*. As we have been unable to re-examine any comparative material from Japan, the matter needs further attention in the future.

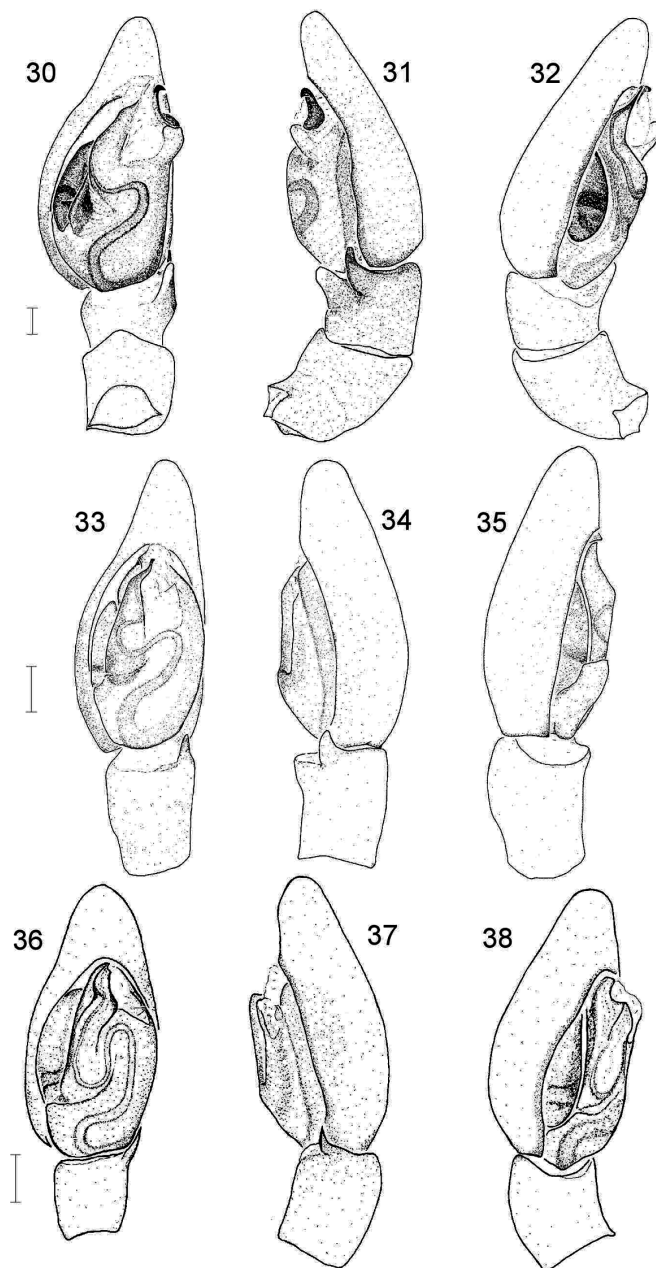
Philodromus alasensis KEYSERLING, 1884
(Figs 24–26, 39–40, 71–72, Map 6)

Philodromus alasensis KEYSERLING, 1884: 674, plate 21, fig. 22 (D ♀; the ♀ holotype in the American Museum of Natural History, New York, USA; not examined).

Material examined: RUSSIA: Tyumen Region: Yamalo-Nenets Autonomous Region, Yamal Distr., S part of Yamal Pnsl., Khadita-Yakha [=Kadytayakha] River valley, c. 67°09'N, 69°59'E, 3–30 m a.s.l., S. L. Esyunin, earlier det. as *P. fallax*, PSU – 1/07/1985, 1 ♀. Gorno-Altai Republic: Kosh-Agach Distr., Taltura [=Chagan-Uzun] River canyon, c. 55 km W of Kosh-Agach, c. 25 km W of Bel'tir [=Kyzyl-Many], c. 49°55'50"N, 87°50'50"E, 2100–2300 m a.s.l., D. V. Logunov, SZMN – 25–30/06/1999, 2 ♀. Tuva: Erzin Distr., Shara-Nur Lake, c. 37 km W of Erzin, c. 50°14'10"N, 94°37'40"E, 900–920 m a.s.l., D. V. Logunov, SZMN – 10/05/1989, 2 ♂ 1 ♀; Kyzyl Distr., Verkhni Enisei [=Verkhni Yenisey, Ulug-Khem] River valley, c. 51°46'N, 94°27'E, c. 3 km W of Kyzyl, 650–900 m a.s.l., D. V. Logunov, SZMN – 20/05/1989, 3 ♀; Tes-Khem Distr., S slope of East Tannu-Ola Mt. Range, c. 4.5 km E of Khol'-Oozhu [=Khol'-Ozhu], Aryskannyg-Khem River canyon, c. 50°45'N, 94°29'E, c. 1200 m a.s.l., D. V. Logunov, SZMN – 15–16/07/1993, 1 ♀; Ovyurskii Distr., S foothills of East Tannu-Ola Mt. Range, Irbitei River valley, c. 43 km WNW of Oo-Shyanaa, c. 13 km WNW of Ak-Chyraa [=Ak-Chira], 50°44'20"N, 93°08'30"E, 960–1000 m a.s.l., D. V. Logunov, SZMN – 18–19/07/1993, 1 ♀; same locality, S. Koponen, ZMTU – 11–15/06/1995, 2 ♀; Mongun-Taiga Distr., Barlyk River canyon, c. 50°29'10"N, 90°44'E, 1800–2000 m a.s.l., O. V. Lyakhov, SZMN – 6/06/1990, 1 ♂ 2 ♀. Irkutsk Region: Slyudyanka Distr., Khamar-Daban Mts., S part of Komarinskii Mt. Range, NW slope of Cherskogo Mt., nr. Khamar-Daban meteorological station, c. 51°31'50"N, 103°35'10"E, c. 1440 m a.s.l., K. G. Mikhailov, ZMMU – 27/07/1990, 1 ♀. Buryatia: nr. Ulan-Ude, Vakhmistrovo [=Nizhni Sayantui], c. 51°44'10"N, 107°30'50"E, 500–520 m a.s.l., S. N. Danilov, SZMN – 31/05/1983, 1 ♀. Magadan Region: Yagodnoe Distr., upper reaches of Kolyma River, E slope of Bol'shoi Annachag [=Bol'shoi Anngachak] Mt. Range, 'Aborigen' Natural Station, c. 61°56'40"N, 149°36'50"E, c. 520 m a.s.l., Yu. M. Marusik, ZMMU – summer 1986, 4 ♂ 11 ♀; Yagodnoe Distr., Sibiktelyakh River valley, nr. Sibit-Tyellakh [=Sibik-Tyellakh], c. 61°56'10"N, 149°40'30"E, c. 460 m a.s.l., Yu. M. Marusik, SZMN – summer 1986, 6 ♀; 'Nalobo', Mosina, PSU – 18/07/1987, 1 ♀. – USA: Washington State: no exact locality, P. Tikhmenev, ZMMU – 15/06/1905, 1 ♀.



Figs 24–29. Male genitalia of *Philodromus* spp. 24–26. = *P. alascensis* – 24 v, 25 rl, 26 pl. 27–29. = *P. tuvinensis* – 27 v, 28 rl, 29 pl. Scale bar = 0.1 mm. Specimens: *P. alascensis*: Magadan Region, the upper reaches of Kolyma; *P. tuvinensis*: the holotype



Figs 30–38. Male genitalia of *Philodromus* spp. 30–32. = *P. mysticus* – 30 v, 31 rl, 32 pl. 33–35. = *P. timidus* – 33 v, 34 rl, 35 pl. 36–38. = *P. xinjiangensis* – 36 v, 37 rl, 38 pl. Scale bar = 0.1 mm. Specimens: *P. mysticus*: Chita Region, Sokhondo State Reserve; *P. timidus*: the holotype; *P. xinjiangensis*: Uzbekistan, ‘Bukhara Dzheiran Nursery’

Diagnosis: Embolus wide. PTA flat, with a screwed tip. VTA large and rounded, with the ragged membranous surface. RTA horn-like in retrolateral view. EA thin and peaky in dorsal view.

Male (from Magadan Region: the upper reaches of Kolyma): Colouration and pattern is similar to those of females (Fig. 71). *Measurements* (n= 4). Body length 4.75–5.50. PsL 2.1–2.35, PsW 2.05–2.25, OsL 2.65–3.15, OsW 1.55–1.75. Distances between eyes: AME 0.10–0.11, ALE 0.09–0.10, PME 0.08–0.09, PLE 0.08–0.09, AME-AME 0.10–0.13, AME-ALE 0.06–0.07, PME-PME 0.24–0.27, PME-PLE 0.13–0.17, MOA-AW 0.29–0.32, MOA-PW 0.39–0.44, MOA-L 0.36–0.40, AME-PME 0.21–0.25, ALE-PLE 0.13–0.17. Length of leg segments: FeI 3.4–3.75, PaI 1.25–1.45, TiI 3.65–3.9, MtI 3.35–3.7, TaI 2.2–2.4, FeII 4.05–4.1, PaII 1.4–1.45, TiII 4.35–4.4, MtII 3.95–4.05, TaII 2.55–2.65, FeIII 3–3.4, PaIII 1.05–1.2, TiIII 3.05–3.45, MtIII 2.75–3, TaIII 1.65–1.85, FeIV 3.2–3.55, PaIV 1–1.2, TiIV 2.95–3.5, MtIV 2.95–3.2, TaIV 1.65–1.85. Total length of legs: legI 14.1–15.2, legII 16.35–16.6, legIII 11.65–12.85, legIV 11.8–13.28. Spination of leg I: femur: d 0–1–1–0–1; pl 0–0–1–1–1; v -; rl 0–0–1–1–1. tibia: d 0–0–1; pl 1–0–1–1–0; v 2–0–2–0–2ap; rl 1–0–1–1–0. metatarsus: d -; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–1.

Palpus (Figs 24–26). CyL 1.13–1.18, CyW 0.53–0.56, PTiL 0.28–0.32. Embolus arises ventro-medially, with the wide base and the slender apical part, which is slightly bent disto-retrolaterad. The PTA claw-shaped, situated proximally of the embolus. A large part of the ST is easily seen in ventral view. The VTA spheric, with the ragged membranous surface. The RTA large, in retrolateral view, like a rhinoceros horn; in ventral view swollen proximally, with a fine, curved tip. The tibia with a shallow hollow proximo-ventrally of the RTA, widened retrolaterally. The palpal patella has a pointed vento-retrolateral projection at its distal end.

Female (from Magadan Region: the upper reaches of Kolyma): Prosoma reddish brown, with dark brown and sandy pattern (Fig. 72). Opisthosoma greyish brown or reddish brown, with the pattern of dark brown and beige stripes. Legs reddish brown, gently dotted. *Measurements* (n= 11). Body length 5.65–7.45. PsL 2.1–2.55, PsW 2.05–2.5, OsL 3.4–4.9, OsW 2.1–3.4. Distances between eyes: AME 0.09–0.11, ALE 0.08–0.10, PME 0.07–0.09, PLE 0.07–0.09, AME-AME 0.13–0.18, AME-ALE 0.06–0.10, PME-PME 0.24–0.31, PME-PLE 0.17–0.22, MOA-AW 0.31–0.34, MOA-PW 0.39–0.47, MOA-L 0.39–0.43, AME-PME 0.22–0.29, ALE-PLE 0.14–0.24. Length of leg segments: FeI 2.85–4, PaI 1.05–1.4, TiI 2.5–3.75, MtI 2.15–3.1, TaI 1.45–2.1, FeII 3.35–4.6, PaII 1.18–1.65, TiII 3.2–4.5, MtII 2.55–3.7, TaII 1.15–2.3, FeIII 2.6–3.6, PaIII 0.95–1.3, TiIII 2.15–3.3, MtIII 1.65–2.6, TaIII 1.15–1.7, FeIV 2.6–3.75, PaIV 0.95–1.3, TiIV 2.3–3.25, MtIV 1.9–2.75, TaIV 1.2–1.6. Total length of legs: legI 10.25–14.35, legII 11.53–16.75, legIII 8.55–12.5, legIV 8.95–12.65. Spination of leg I: femur: d 0–1–1–0–1 or 0–1–2–0–1; pl 0–0–1–1–1 or 0–0–2–1–1; v -; rl - or 0–0–1–0–1 or 0–0–1–1–1. tibia: d 0–0–1 or 0–0–2; pl 1–1–0–1–0 or 1–1–2–2–0; v 2–0–2–0–2ap; rl 1–0–1–0–1 or 1–0–1–1–1. metatarsus: d -; pl 1–0–1–0–1 or 1–1–2–1–1; v 2–0–2–0–0ap; rl 1–0–1–0–1 or 1–0–1–1–1.

Epigyne and spermathecae (Figs 39–40). The CD narrow, poorly marked, its middle part slightly arched longitudinally. The EA singular, bulb-shaped. The S robust, sac-shaped. The SO is situated antero-laterally, the ID anteriorly.

Remarks: *P. alascensis* was identified on the basis of the taxonomic account by DONDALE and REDNER (1975: figs 30–40). This species is most similar to *P. tuvinensis*. Males can be distinguished by the shape of PTA (the flat plate with screwed tip in *P. alascensis* and clawlike in *P. tuvinensis*; cf. Figs 24, 25 and 27,

28) and by the shape and thickness of embolus (relatively thicker in *P. alascensis* and thinner in *P. tuvinensis*). Females of both species are poorly separable (almost identical), but the shape of the EA is different (cf. Figs 39 & 41).

Habitat: Evenkia: pebble riverbanks and mountain tundra (ESKOV 1988). Yakutia: river-side meadows with *Salix viminalis* (KOPONEN & MARUSIK 1992), fine-gravel mine-hill covered with mixed herbs, larch forest without undergrowth and ice-field in creek valley (MARUSIK *et al.* 2004). Tuva: mountain stony and dry nanophanerophyte steppes (present data). Elevations: 0–2300 m a.s.l.

Distribution: The Siberio-American temperate range; known from the Polar Urals in the west (present data), east-southward to Evenkia (ESKOV 1988) and the mountains of South Siberia (present data), throughout Yakutia (MARUSIK 1991, KOPONEN & MARUSIK 1992, MARUSIK *et al.* 1992, 1993, 2004) to northern Cisokhotia (MARUSIK 2005) in the east. In the Nearctic Region, the species occurs from Alaska to Newfoundland, south to Arizona and New Mexico (DONDALE & REDNER 1978); for collection localities in the eastern Palaearctic Region see Map 6.

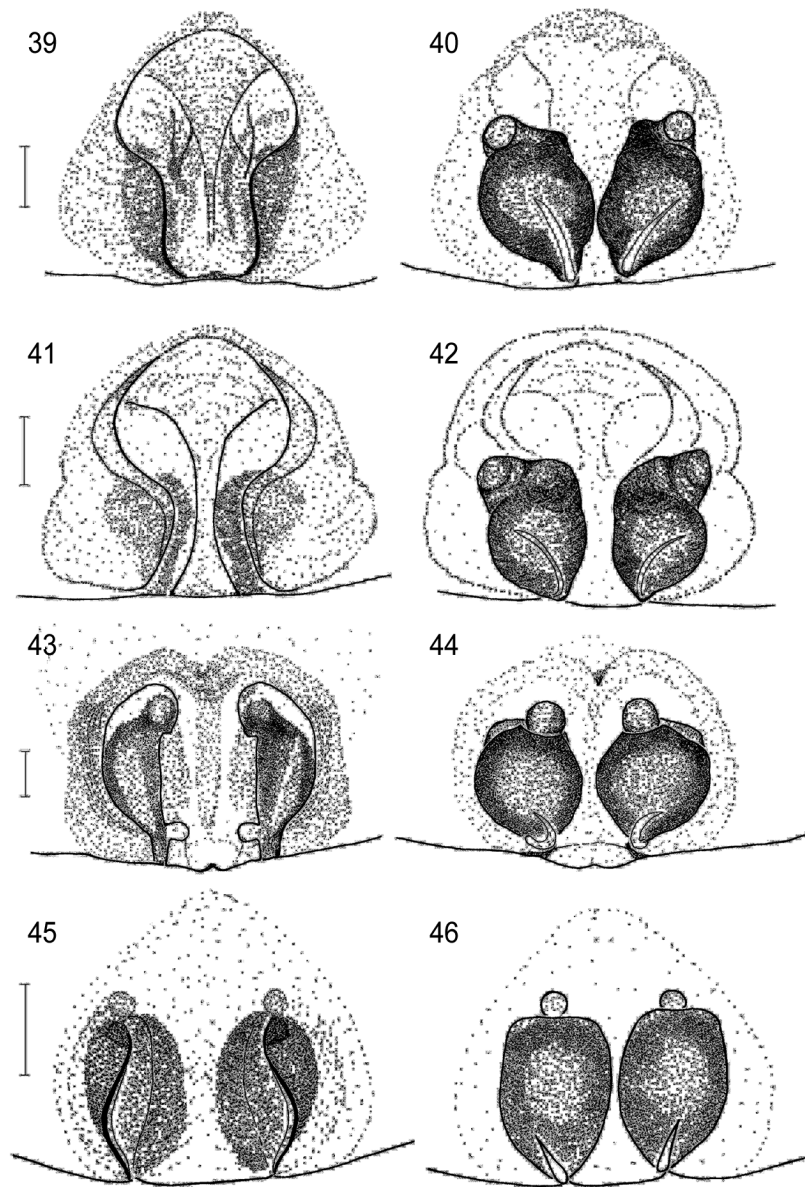
The record of *P. fallax* from the Polar Urals (ESYUNIN & EFIMIK 1996) was found to actually belong to *P. alascensis* (Esyunin's material re-examined). The records of *P. alascensis* from Buryatia (DANILOV 1995, 1999) are turned out to belong to *P. lanchowensis* (see above). The records of *P. alascensis* from Tuva (LOGUNOV *et al.* 1998, MARUSIK *et al.* 2000) partly belong to *P. tuvinensis* (see below). Based on the original figures alone (HU & WU 1989: figs 251.1–4), the records of *P. alascensis* from China (Xinjiang) should also be assigned to *P. tuvinensis*.

MARUSIK *et al.* (1996) reported on *P. alascensis* from the Altai Mts (c. 10 km W of Katanda), but they also noticed that it would be likely to be a closely related unknown species occurring in the Altai and China. Thus, we suspect these authors might have actually dealt with *P. tuvinensis*. As we have been unable to re-examine the pertinent specimens, we have neglected this record of *P. alascensis*.

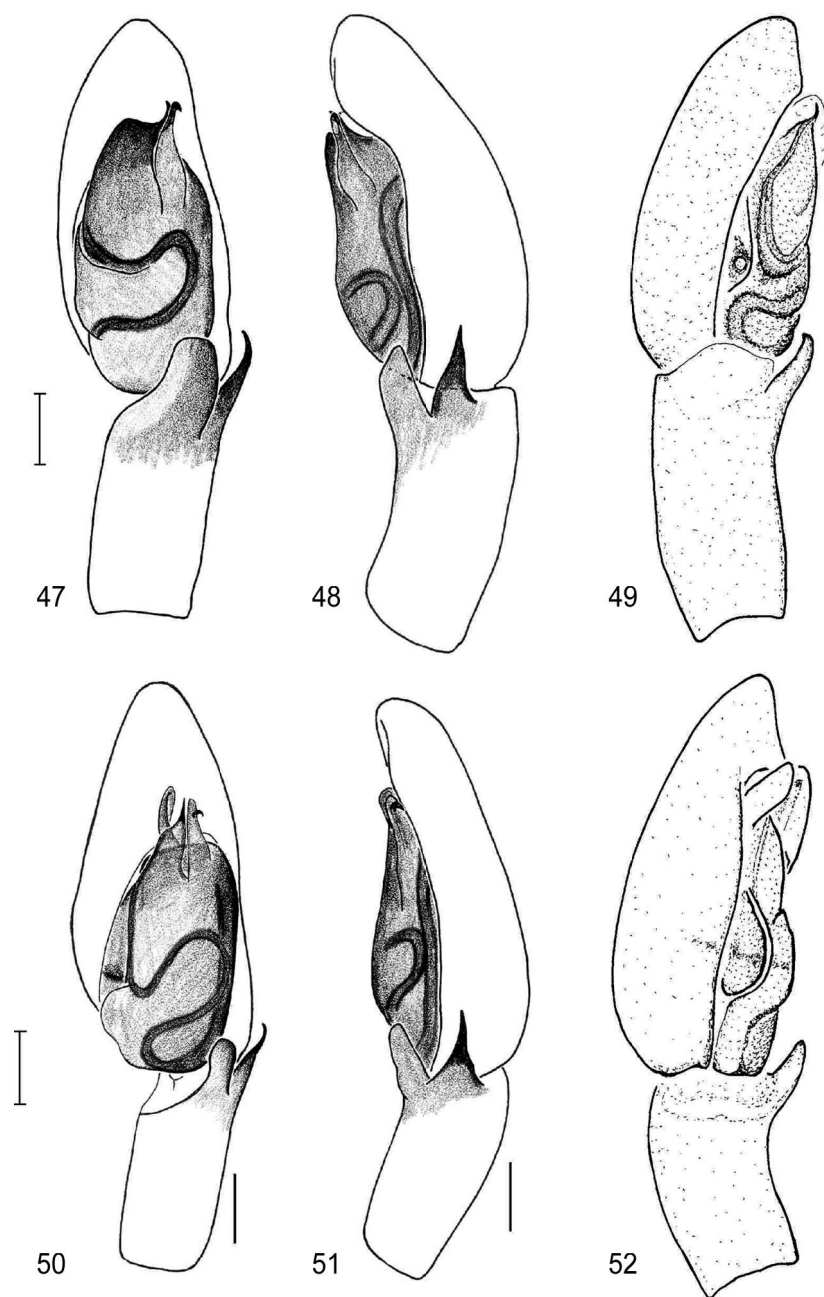
***Philodromus tuvinensis* sp. n.**
(Figs 27–29, 41–42, 73–74, Map 3)

Type material: The ♂ holotype (ZMMU) from Russia, Tuva, Erzin Distr., SE shore of Tere-Khol' [=Tore-Khol'] Lake, Eder-Elezin Sands, Sharaa Stand, poplar-birch forest nr. lake shore (crowns and trunks), 50°01'50"N, 95°05'10"E, c. 1150 m a.s.l., D. V. Logunov – 11–12/06/1995. PARATYPES: together with the holotype, ZMMU – 2 ♂ 4 ♀.

Other material examined: RUSSIA: Gorno-Altai Republic: Kosh-Agach Distr., Sailyugem Mt. Range, NW slope, c. 40 km E of Kosh-Agach, c. 20 km NE of Kokorya [=Kokoryu], 50°01'10"N, 89°13'30"E, 2160–2280 m a.s.l., D. V. Logunov, SZMN – 24–25/06/1999, 2 ♀. Tuva: Kyzyl Distr., Verkhonii Enisei [=Verkhonii Yenisey, Ulug-Khem] River valley, left riverside, 6–7 km WSW of



Figs 39–46. Female genitalia of *Philodromus* spp. 39–40 = *P. alascensis* – 39 = epigyne, 40 = spermathecae. 41–42 = *P. tuvinensis* – 41 = epigyne, 42 = spermathecae. 43–44 = *P. mysticus* – 43 = epigyne, 44 = spermathecae. 45–46 = *P. xinjiangensis* – 45 = epigyne, 46 = spermathecae. Scale bar = 0.1 mm. Specimens: *P. alascensis*: Magadan Region, the upper reaches of Kolyma; *P. tuvinensis*: the paratype; *P. mysticus*: Chita Region, Sokhondo State Reserve; *P. xinjiangensis*: Uzbekistan, ‘Bukhara Dzheiran Nursery’



Figs 47–52. Male genitalia of *Philodromus* spp. 47–49. = *P. fallax* – 47 v, 48 rl, 49 pl. 50–52. = *P. angulobulbis* – 50 v, 51 rl, 52 pl. Scale bar = 0.1 mm. Specimens: *P. fallax*: 47–48 = Azerbaijan, Lenkoran, 49 – E Kazakhstan Region, c. 5 km ESE of Tugyl; *P. angulobulbis*: the holotype

Kyzyl, c. 51°40'25"N, 94°17'30"E, 610–620 m a.s.l., O. V. Lyakhov, SZMN – 19–22/05/1990, 2 ♂ 1 ♀; Kyzyl Distr., SE foothills of Uyuk Mt. Range, Verkhni Enisei [=Verkhni Yenisey, Ulug-Khem] River valley, right riverside, NW vicinities of Kyzyl, 51°43'45"N, 94°24'20"E, 620–700 m a.s.l., D. V. Logunov, SZMN – 17/05/1989, 1 ♀; Ovyurskii Distr., S foothills of East Tannu-Ola Mt. Range, Irbitei River valley, c. 43 km WNW of Oo-Shynaa, c. 13 km WNW of Ak-Chyraa [=Ak-Chira], 50°44'20"N, 93°08'30"E, 960–1000 m a.s.l., D. V. Logunov, SZMN – 16/06/1995, 1 ♀; Tandinskii Distr., N foothills of East Tannu-Ola Mt. Range, E shore of Chagytai Lake, 50°01'20"N, 94°46'40"E, 1005–1015 m a.s.l., D. V. Logunov, SZMN – 29/06/1989, 1 ♀; Tes-Khem Distr., S slope of East Tannu-Ola Mt. Range, c. 4.5 km E of Khol'-Oozhu [=Khol'-Ozhu], Aryskannyg-Khem River canyon, c. 50°45'N, 94°29'E, c. 1200 m a.s.l., Yu. M. Marusik, earlier det. as *P. alascensis*, SZMN – 16–18/06/1995, 1 ♀; Erzin Distr., c. 24 km WNW of Erzin, S shore of Bai-Khol' [=Dus-Khol'] Lake, c. 50°22'25"N, 94°52'05"E, c. 1000 m a.s.l., D. V. Logunov, earlier det. as *P. alascensis*, SZMN – 31/05/1989, 1 ♂; Erzin Distr., c. 13 km NW of Erzin, S shore of Dus-Khol' Lake, c. 50°19'50"N, 95°00'35"E, c. 1040 m a.s.l., D. V. Logunov, SZMN – 06/1995, 2 ♀; Erzin Distr., SE shore of Tere-Khol' [=Tore-Khol'] Lake, Eder-Elezin Sands, Sharaa Stand, 50°01'50"N, 95°05'10"E, c. 1150 m a.s.l., S. Koponen & Yu. M. Marusik, ZMTU & SZMN – 11–12/06/1995 1 ♂ 2 ♀. – KAZAKHSTAN: Pavlodar Area: Pavlodar (town center, Kataeva street), Irtysh River valley, 52°16'50"N, 76°58'20"E, 131–132 m a.s.l., A. V. Gromov, SZMN – 6/06/1998, 1 ♀. – MONGOLIA: Hövsgöl [=Khubsugul] Aimak, Hövsgöl [=Khubsugul] Lake, Ardagiin-Gol, V. G. Shilenkov, SZMN – 25/07/1977, 1 ♀.

Diagnosis: Embolus thin. PTA clawlike. VTA small, with the ragged membranous surface. RTA triangular. EA wide, rounded in dorsal view.

Male (the holo- and paratypes): Colouration and pattern as in females (Fig. 73). *Measurements* (n = 3). Body length 4.70–5.20. PsL 2.15–2.3, PsW 2.15–2.3, OsL 2.55–2.9, OsW 1.65–1.8. Distances between eyes: AME 0.10–0.11, ALE 0.09–0.11, PME 0.08–0.10, PLE 0.08–0.10, AME-AME 0.13, AME-ALE 0.06, PME-PME 0.25, PME-PLE 0.15, MOA-AW 0.31–0.34, MOA-PW 0.41–0.43, MOA-L 0.37–0.42, AME-PME 0.20–0.22, ALE-PLE 0.13–0.14. Length of leg segments: FeI 4.15–4.28, PaI 1.2–1.48, TiI 3.95–4.2, MtI 3.6–4.05, TaI 2.25–2.6, FeII 4.55–4.9, PaII 1.28–1.5, TiII 4.7–4.9, MtII 4.25–4.7, TaII 2.55–2.95, FeIII 3.45–3.65, PaIII 1.15–1.3, TiIII 3.4–3.45, MtIII 2.95–3.25, TaIII 1.75–2, FeIV 3.75–3.85, PaIV 1.05–1.15, TiIV 3.5–3.6, MtIV 3.15–3.45, TaIV 1.7–1.9. Total length of legs: legI 15.15–16.50, legII 17.33–18.95, legIII 12.70–13.65, legIV 13.30–13.85. Spination of leg I: femur: d 0–1–0–1–1; pl 0–0–1–1–1; v -; rl 0–0–1–1–1. tibia: d 0–0–1; pl 1–0–1–0–1; v 2–0–2–0–2ap; rl 1–0–1–0–1. metatarsus: d -; pl 1–0–1–0–1; v -; rl 1–0–1–0–1.

Palpus (Figs 27–29). CyL 1.26–1.37, CyW 0.50–0.52, PTiL 0.31–0.32. Cymbium elongated distally. Embolus arises ventro-medially, with the wide base and the slender apical part, which is slightly bent disto-retrolaterad; embolic tip pointed and curved. The PTA as a large plate with the screwed tip situated retrolaterally of the embolus. The large part of the ST is easily seen in ventral view. The VTA small, with the ragged membranous surface. The RTA large, flat and triangular-shaped (Fig. 28). The proximo-retrolateral part of tibia widened. The palpal patella has a pointed vento-retrolateral projection at its distal end.

Female (the paratypes): Prosoma yellowish brown, with the pattern of reddish and beige stripes (Fig. 74); opisthosoma greyish beige, with the pattern of dark brown and greyish brown stripes. Legs sandy coloured, with dark brown pattern. *Measurements* (n = 4). Body length 6.3–6.45. PsL 2.15–2.35, PsW 2.15–2.35, OsL 4.05–4.15, OsW 2.9–3.1. Distances between eyes: AME 0.10–0.11, ALE 0.09–0.10, PME 0.08–0.10, PLE 0.08–0.10, AME-AME 0.14–0.15, AME-ALE

0.06–0.07, PME-PME 0.28–0.29, PME-PLE 0.15–0.18, MOA-AW 0.32–0.35, MOA-PW 0.44–0.46, MOA-L 0.37–0.39, AME-PME 0.20–0.22, ALE-PLE 0.17–0.18. Length of leg segments: FeI 3.05–3.4, PaI 1.2–1.25, TiI 2.675–2.95, MtI 2.15–2.55, TaI 1.4–1.65, FeII 3.3–4, PaII 1.05–1.45, TiII 3.2–3.55, MtII 2.65–2.9, TaII 1.65–1.9, FeIII 2.5–3.1, PaIII 1.05–1.15, TiIII 2.25–2.5, MtIII 1.8–2.1, TaIII 1.1–1.25, FeIV 2.8–3.45, PaIV 0.95–1.1, TiIV 2.45–2.75, MtIV 2.05–2.3, TaIV 1.15–1.35. Total length of legs: legI 10.48–11.55, legII 11.85–13.8, legIII 8.7–10, legIV 9.4–10.95. Spination of leg I: femur: d 0–1–0–1–1 or 0–0–1–0–1; pl 0–0–1–1–1; v -; rl 0–0–1–1–1 or 0–0–1–0–1. tibia: d 0–0–1; pl 1–0–1–0–1 or 1–1–0–1–0; v 2–0–2–0–2ap; rl 1–0–1–0–1 or 1–1–0–1–0. metatarsus: d -; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–1.

Epigyne and spermathecae (Figs 41–42). The distal part of CD narrow, the anterior one wide and depressed. The EA singular. The S robust, sac-shaped. The SO is situated antero-laterally, the ID anteriorly.

Remarks: This species is most similar to *P. alascensis*. Males can be distinguished by the shape of PTA (clawlike in *P. tuvinensis* and the flat plate with screwed tip in *P. alascensis*; cf. Figs 27, 28 and 24, 25) and by the shape and thickness of embolus (relatively thinner in *P. tuvinensis* and thicker in *P. alascensis*). Females of both species are poorly separable (almost identical), but the shape of the EA is different (cf. Figs 41 and 39).

Habitat: Tuva: mountain and semidesert steppes, dry shrub-grass (*Caragana*-Poaceae) steppe, *Carex*-swamps, and also in crowns and on trunks in river valley poplar-birch forests. Elevations: 130–2300 m a.s.l.

Distribution: N Kazakhstan, the mountain Altai, Tuva and NW Mongolia; for collection localities see Map 3.

A part of the earlier records of *P. alascensis* (see above) from Tuva (LOGUNOV *et al.* 1998, MARUSIK *et al.* 2000) turned out belong to *P. tuvinensis*. The same holds true for the records of *P. alascensis* from China, Xinjiang. Based on the original figures alone (HU & WU 1989: figs 251.1–4), it is safe to conclude these authors actually dealt with *P. tuvinensis*.

Etymology: The species is named after the area, from where most of the studied specimens were collected.

Philodromus mysticus DONDALE et REDNER, 1975
(Figs 30–32, 43–44, 75, Map 9)

Philodromus mysticus Dondale & Redner, 1975: 377, figs 26–29 (D ♂♀; the ♂ holotype in the Canadian National Collection, Ottawa, Canada; not examined).

Material examined: RUSSIA: without label, PSU – 1 ♂. Tuva: Mongun-Taiga Distr., Barlyk River canyon, c. 50°29'10"N, 90°44'E, 1800–2000 m a.s.l., O. V. Lyakhov, SZMN – 6/06/1990, 5 ♀; Tandinskii Distr., N foothills of East Tannu-Ola Mt. Range, Elegest River valley, nr. Khovu-Aksy, c.

51°07'30"N, 93°41'30"E, c. 1000 m a.s.l., S. N. Danilov, SZMN – 5/05/1990, 1 ♀. Buryatia: Kabansk Distr., Khamar-Daban Mts., central part of Khamar-Daban Mt. Range, upper reaches of Pravaya Mishikha River, c. 26 km NNE of Tazhnii (c. 30 km by the road), c. 51°23'50"N, 105°53'40"E, 1110–1120 m a.s.l., S. N. Danilov, SZMN – 10/06/1981, 1 ♀. Chita Region: Ulety Distr., Sokhondo State Reserve, confluence of Ubur-Ashaglei and Ingoda Rivers, c. 49°54'20"N, 111°07'10"E, 1350–1400 m a.s.l., D. V. Logunov, ZMMU – 8–9/06/1991, 1 ♂ 1 ♀.

Diagnosis: PTA like a rounded clockwise claw. Distal part of the tegulum swollen retrolaterally. VTA and RTA large. CD with lateral notches.

Male (Chita Region: Sokhondo State Reserve): Colouration and pattern is similar to those of females. *Measurements* (n= 1). Body length 6.5. PsL 2.4, PsW 2.3, OsL 4.05, OsW 2.5. Distances between eyes: (the ocular area is damaged, no measurements were possible. Length of leg segments: FeI 3.25, PaI 1.25, TiI 3.15, MtI 3.2, TaI 2.1, FeII 4, PaII 1.45, TiII 4.05, MtII 3.7, TaII 2.2, FeIII 2.6, PaIII 0.9, TiIII 2.7, MtIII 2.4, TaIII 1.55, FeIV 2.55, PaIV 0.95, TiIV 2.85, MtIV 2.45, TaIV 1.4. Total length of legs: legI 12.95, legII 15.4, legIII 10.15, legIV 10.2. Spination of leg I: femur: d 0–1–1–0–1; pl 0–0–1–1–1; v -; rl 0–0–1–1–1. tibia: d 1–0–0–1–0; pl 1–1–0–1–0; v 2–0–2–0–2ap; rl 1–0–1–0–1. metatarsus: d -; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–1.

Palpus (Figs 30–32). CyL 1.02, CyW 0.5, PTiL 0.28. Embolus medium wide basally, steadily narrowing to its straight tip directed retro-laterad and hidden underneath the membranous, basal part of PTA. The distal part of PTA conspicuous, claw-shaped. The ST is clearly seen in ventral view. The VTA and RTA well-developed, joint each other at bases but their tips (pointed in the RTA and obtuse in the VTA) diverge (Fig. 31).

Female (Chita Region: Sokhondo State Reserve): Prosoma sandy coloured, with the pattern of beige and reddish brown stripes (Fig. 75). Opisthosoma beige, with light and dark brown pattern. *Measurements* (n= 1). Body length 8.15. PsL 3, PsW 2.9, OsL 5.15, OsW 3.35. Distances between eyes: AME 0.11, ALE 0.10, PME 0.10, PLE 0.11, AME-AME 0.22, AME-ALE 0.11, PME-PME 0.38, PME-PL 0.22, MOA-AW 0.41, MOA-PW 0.56, MOA-L 0.44, AME-PME 0.27, ALE-PL 0.25. Length of leg segments: FeI 4.35, PaI 1.2, TiI 4.05, MtI 3.38, TaI 2.2, FeII 5.05, PaII 1.8, TiII 4.8, MtII 3.95, TaII 2.55, FeIII 3.95, PaIII 1.45, TiIII 3.23, MtIII 2.63, TaIII 1.75, FeIV 4.1, PaIV 1.38, TiIV 3.5, MtIV 2.8, TaIV 1.73. Total length of legs: legI 15.18, legII 18.15, legIII 13, legIV 13.5. Spination of leg I: femur: d 0–1–1–0–1; pl 0–1–0–1–1; v -; rl 0–0–1–0–1. tibia: d 1–0–0–1–0; pl 1–1–0–1–0; v 2–0–2–0–2ap; rl 1–0–1–0–1. metatarsus: d -; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–1.

Epigyne and spermathecae (Figs 43–44). The CD wide, with a distal notch on each side. Two bean-shaped EA. The S round. The SO is situated antero-medially, the ID anteriorly.

Remarks: *P. mysticus* was identified on the basis of the taxonomic account by DONDALE and REDNER (1975: figs 26–29). This species differs from the rest of species in the *histrion* group known to us in having the strong, rounded clockwise PTA in males (Figs 30, 31) and the clear notch of the CD in females (Fig. 43). The RTA of Siberian specimens (Fig. 31) is visibly narrower than that of N-American males of *P. mysticus* (cf. DONDALE & REDNER 1978: fig. 185), but the rest of characters supports our identification.

Habitat: Tuva and Chita Region: coniferous and mixed forests, in the Sokhondo Reserve it was collected from crowns of birch trees (present data). Yakutia:

cambric cliffs, rive-side beds (KOPONEN & MARUSIK 1992). Elevations: 1100–2000 m a.s.l.

Distribution: The Siberio-American temperate range; known from Tuva (present data) in the west, eastward to Chita Region, and via Yakutia (MARUSIK *et al.* 1992: sub *P. musticus*, 1993, KOPONEN & MARUSIK 1992) north-eastward to Magadan Region (MARUSIK 1991) in the east. In the Nearctic Region, the species occurs from Mackenzie to Nova Scotia, southward to Utah and Colorado (DONDALE & REDNER 1978); for the collection localities in Siberia see Map 9.

***Philodromus timidus* sp. n.**

(Figs 33–35, 76, Map 10)

Type material: The ♂ holotype (ZMMU) from Kazakhstan, Almaty [=Alma-Ata] Region: Ili Distr., c. 9 km N of Kapchagai, Karaoi Plateau, Kapchagai Canyon, left riverside of Ili River, 43°56'56.3"N, 77°03'33.8"E, c. 604 m a.s.l., A. A. Zyuzin, ZMMU – 9/11/1995. PARATYPES: KAZAKHSTAN: Almaty [=Alma-Ata] Region: Talgar Distr., S slope of Itzhon Plateau, c. 3 km NE of Kulan-Tobe station, c. 43°58'10"N, 77°17'50"E, c. 680 m a.s.l., steppe, A. A. Zyuzin, ZMMU – 28/10/1988, 1 ♂. Atyrau [=Gur'ev] Region: Zhylyoiskii [=Emba] Distr., Zhem [=Emba] River valley, nr. Kul'sary, c. 46°57'40"N, 54°01'E, 8–13 m a.s.l., A. D. Sheikin, ZMMU – 1/06/1989, 1 ♂.

Diagnosis: Embolus thin, flat, bent at its tip. PTA small, triangular. RTA wide, triangular.

Male (the holotype and two paratypes): Prosoma is whitish, with the pattern of reddish brown and beige stripes (Fig. 76). Opisthosoma beige, with dark brown and yellowish brown pattern. Legs sandy coloured, with poorly visible longitudinal dark stripes and dark splashes around spines. *Measurements* (n= 3). Body length 3.25–4.25. PsL 1.45–1.8, PsW 1.35–1.78, OsL 1.8–2.45, OsW 1.15–1.4. Distances between eyes: AME 0.09–0.10, ALE 0.08, PME 0.06–0.07, PLE 0.06–0.07, AME-AME 0.10–0.11, AME-ALE 0.04–0.06, PME-PME 0.18–0.21, PME-PLE 0.11–0.15, MOA-AW 0.26–0.29, MOA-PW 0.31–0.34, MOA-L 0.32–0.34, AME-PME 0.16–0.19, ALE-PLE 0.12–0.15. Length of leg segments: FeI 2.35–3.35, PaI 0.83–0.9, TiI 2.25–3.2, MtI 2–2.9, TaI 1.25–1.65, FeII 3–4.2, PaII 0.9–1.25, TiII 3–4.25, MtII 2.65–3.75, TaII 1.5–2.05, FeIII 2–2.9, PaIII 0.65–0.9, TiIII 1.8–2.4, MtIII 1.55–2.15, TaIII 0.85–1.2, FeIV 2.35–3.3, PaIV 0.75–0.95, TiIV 2.05–3, MtIV 1.95–2.7, TaIV 0.85–1.3. Total length of legs: legI 8.68–12, legII 11.05–15.5, legIII 6.85–9.55, legIV 7.95–11.25. Spination of leg I: femur: d 0–0–1–0–1; pl 0–0–1–1–0 or 0–0–1–1–1; v -; rl 0–0–1–0–1. tibia: d 0–0–1; pl 1–1–0–1–0; v 2–0–2–0–2ap; rl 0–0–1–0–1. metatarsus: d -; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–0.

Palpus (Figs 33–35). CyL 0.67–0.73, CyW 0.31–0.34, PTiL 0.31–0.34. Embolus medium wide basally, narrowing and curved toward its tip. The PTA sclerotised on its prolateral side, with a poorly visible triangular projection (claw) on its retrolateral view. The VTA flat and poorly sclerotised. The RTA narrow, bent and directed apically and sharply pointed in ventral view.

Female unknown.

Remarks: Compared to other species of the *histrion* group, *P. timidus* seems to possess a unique position and shape of the embolus (Figs 33, 34). The embolus is flat, narrowed and bent at its tip, with no PTA marked. The latter character relates this species to *P. xinjiangensis*, from which it can be separated the well-marked embolus and the slender RTA (cf. Figs 36, 37). The female of *P. timidus* remains unknown.

Habitat. No data. Elevations: 8–680 m a.s.l.

Distribution: A few records in Kazakhstan; for the collection localities see Map 10.

Etymology: The name of the species means shy, timid.

Philodromus xinjiangensis TANG et SONG, 1987

(Figs 36–38, 45–46, 77, Map 11)

Philodromus xinjiangensis Tang & Song, in Wu & Song, 1987: 33, fig. 13A-B (D ♀; the ♀ holotype in the Institute of Zoology, Beijing, China; not examined).

Material examined: AZERBAIJAN: Abşeron [=Apscheron] Pnsl., Baku, Ganly-Gel Lake, 40°21.46'N, 49°48.36'E, Yu. M. Marusik, ZMMU – 20/05–6/06/2003, 1 ♂; Ali Bayramli [=Ali-Bairamly] Distr., Kur-Aras [=Kura-Araks] Depression, SE Shirvan' Plain, Shirvan' Reserve, c. 39°33'40"N, 49°07'45"E, 1–25 m a.s.l., E. F. Guseinov, ZMMU – 28–30/05/2000, 2 ♀; no exact locality, P. M. Dunin, SZMN – 16/06/1977, 1 ♀. – KAZAKHSTAN: Kzyl-Orda Region: Zhanakorgan [=Yanykurgan] Distr., Kyzylkum Desert, c. 28 km SW of Zhanakorgan [=Yanykurgan], c. 43°43'20"N, 66°58'50"E, 165–169 m a.s.l., sands, A. A. Zyuzin, SZMN – 14/06/1989, 1 ♂. Almaty [=Alma-Ata] Region: Ili Distr., E slope of Karaii Plateau, N vicinities of Kapchagai Town, c. 43°54'10"N, 77°05'E, 520–540 m a.s.l., M. V. Zarko & A. A. Zyuzin, ZMMU – 27/05/1988, 1 ♀. – TURKMENISTAN: Lebap [=Charzhev, Chardzhou] Region, Farap [=Farab] Distr., Amudarya Nature Reserve, Amudarya River valley, right riverside, Nargyz [=Nargiz] Isl., c. 39°38'45"N, 62°53'E, 166–168 m a.s.l., S. K. Alekseev, ZMMU – 17/04/1983, 2 ♀. – UZBEKISTAN: Bukhoro [=Bukhara] Region, Bukhoro [=Bukhara] Distr., c. 28.5 km SE of Bukhoro [=Bukhara], nr. the office of 'Bukhara Dzheiran Nursery', 39°34'25"N, 64°42'50"E, c. 222 m a.s.l., A. A. Zyuzin, ZMMU – 19/06/1994, 3 ♂ 2 ♀.

Diagnosis: Embolus poorly marked, basal part flat with a dorsal ridge. PTA small, clawlike. RTA thin, peaky. EA thin. CD wide, short.

Male (Uzbekistan: 'Bukhara Dzheiran Nursery'): Prosoma reddish brown, with the pattern of whitish and brown stripes (Fig. 77). Opisthosoma whitish or beige, with dark brown and greyish brown pattern. *Measurements* (n= 3). Body length 3–3.8. PsL 1.25–1.55, PsW 1.30–1.55, OsL 1.75–2.25, OsW 1.10–1.45. Distances between eyes: AME 0.08–0.09, ALE 0.07–0.08, PME 0.06–0.07, PLE 0.06–0.07, AME-AME 0.1–0.12, AME-ALE 0.4–0.6, PME-PME 0.18–0.2, PME-PLE 0.12–0.13, MOA-AW 0.28–0.29, MOA-PW 0.29–0.34, MOA-L 0.28–0.3, AME-PME 0.15–0.17, ALE-PLE 0.11–0.13. Length of leg segments: FeI 2.10–2.40, PaI 0.70–0.75, TiI

1.80–2.20, MtI 1.68–2.08, TaI 1.00–1.25, FeII 2.55–3.35, PaII 0.85–1.03, TiII 2.75–3.30, MtII 2.50–2.85, TaII 1.20–1.65, FeIII 1.70–2.00, PaIII 0.60–0.70, TiIII 1.45–1.65, MtIII 1.30–1.55, TaIII 0.73–0.90, FeIV 1.90–2.28, PaIV 0.60–0.65, TiIV 1.60–1.75, MtIV 1.50–1.80, TaIV 0.75–0.85. Total length of legs: leg1 7.275–8.575, leg2 9.85–12.075, leg3 5.775–6.8, leg4 6.35–7.325. Spination of leg I: femur: d 0–1–1–0–1; pl 0–0–1–1–1; v -; rl 0–0–0–0–1 or 0–0–1–0–1 or 0–0–1–1–1. tibia: d 0–0–1; pl 1–1–0–1–0 or 0–0–1–0–1; v 2–0–2–0–2ap; rl 1–0–1–0–1 or 1–1–0–1–0. metatarsus: d -; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–1.

Palpus (Figs 36–38). CyL 0.57–0.62, CyW 0.29–0.34, PTiL 0.22–0.25. Embolus medium wide basally, widened medially and with a ventral curved rib; embolic tip inconspicuous. The PTA small, claw-shaped, poorly seen. The VTA flat and membranous. The RTA triangular, with the pointed tip.

Female (Uzbekistan: 'Bukhara Dzheiran Nursery'): Colouration and colour pattern as in males. *Measurements* (n= 2). Body length 4.38–4.55. PsL 1.58–1.75, PsW 1.55–1.70, OsL 2.80–2.80, OsW 2.00–2.10. Distances between eyes: AME 0.08–0.09, ALE 0.07–0.08, PME 0.06–0.07, PLE 0.06–0.07, AME-AME 0.1–0.13, AME-ALE 0.5–0.7, PME-PME 0.22–0.23, PME-PLE 0.13–0.15, MOA-AW 0.27–0.3, MOA-PW 0.33–0.36, MOA-L 0.29–0.32, AME-PME 0.17–0.19, ALE-PLE 0.11–0.13. Length of leg segments: FeI 2.00–2.35, PaI 0.65–0.85, TiI 1.70–2.03, MtI 1.40–1.60, TaI 0.60–0.95, FeII 3.05, PaII 1.05, TiII 2.75, MtII 2.10, TaII 1.25, FeIII 1.75–2.00, PaIII 0.55–0.70, TiIII 1.35–1.65, MtIII 1.20–1.45, TaIII 0.70–0.78, FeIV 1.90–2.30, PaIV 0.63–0.90, TiIV 1.55–1.75, MtIV 1.40–1.60, TaIV 0.80. Total length of legs: legI 6.35–7.78, legII 0.00–10.20, legIII 5.60–6.58, legIV 6.28–7.35. Spination of leg I: femur: d 0–0–1–0–1; pl 0–0–1–1–1; v -; rl 0–0–0–0–1. tibia: d 0–0–1; pl 1–1–0–1–0; v 2–0–2–0–2ap; rl 1–0–1–0–1. metatarsus: d -; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–1.

Epigyne and spermathecae (Figs 45–46). The posterior part of CD slightly concaved. The EA poorly-marked, almost invisible. The S elongated, receding anteriorly. The SO is in anterior position.

Remarks: *P. xinjiangensis* was identified on the basis of the illustrations by SONG and ZHU (1997: fig. 142). Compared to other species of the *histrion* group, *P. xinjiangensis* differs in having the poorly seen embolus, which looks like an elongated plate with the dorsal chitinous ridge on it (Fig. 36). The PTA is not visible either. The latter character relates this species to *P. timidus*, from which it differs in the wider RTA (cf. Figs 37 and 34). The female of *P. xinjiangensis* possesses the poorly-marked EA and the wide and short CD, resembling that of *Thanatus striatus* C. L. KOCH, 1845 (cf. Figs 45, 46 and figs 231–233 in LOGUNOV 1996).

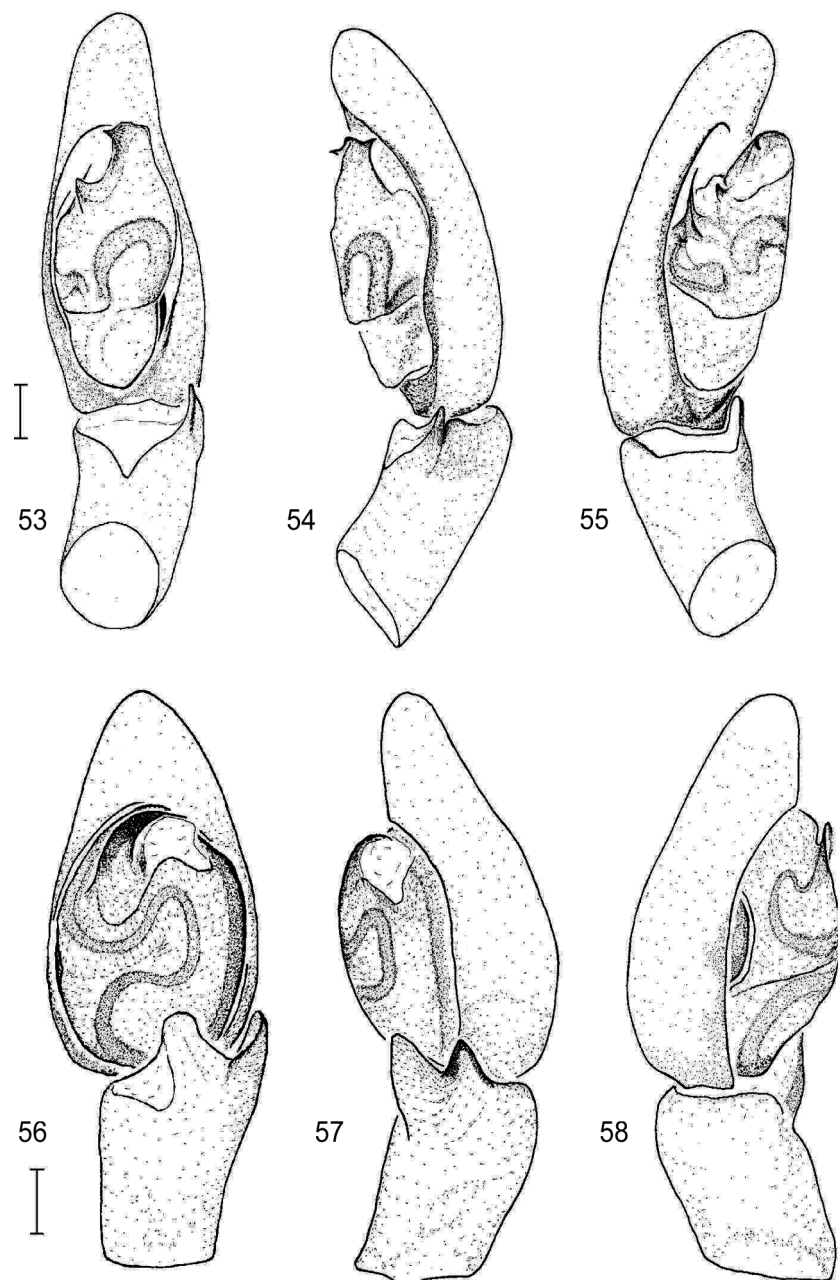
Habitat: Kazakhstan: shrubby stony desert (present data). This species often occurs together with *P. fallax* (see below). Elevations: 0–540 m a.s.l.

Distribution: The Central Asian subboreal range; known from Azerbaijan (present data) in the west, throughout Middle Asia (present data) to NW China, Xinjiang and Inner Mongolia (TANG & SONG 1989, SONG *et al.* 1999) in the east; for the collection localities see Map 11.

Philodromus fallax SUNDEVALL, 1833
(Figs 47–49, 59–60, 78, Map 9)

Philodromus fallax Sundevall, 1833: 226 (D ♀; the ♀ holotype in SMNH; not examined).

Material examined: without label, SZMN – 1 ♂. FRANCE: no exact locality, MNHN 661 – 1 ♂ 8 ♀. – TURKEY: Ankara Prov., Şereflikoçhisar Distr., N part of Tuz Lake, c. 39°08'40"N, 33°20'30"E, c. 900 m a.s.l., on reed heads, G. P. Lampel, HECO – 29/07/1956, 1 ♀. – AZERBAIJAN: Lenkoran Reserve, 38°38.5'N, 48°47.5'E, E. F. Guseinov, ZMMU – 23/05/2003, 1 ♂ 1 ♀; Abşeron [=Apsheron] Pnsl., Baku, Ganly-Gel Lake, 40°21.46'N, 49°48.36'E, Yu. M. Marusik & E. F. Guseinov, ZMMU – 20/05–6/06/2003, 5 ♀; same pnsl., nr. Baku, Mardakyan, 40°29.26'N, 50°09.06'E, Yu. M. Marusik, ZMMU – 18/06/2003, 3 ♂ 5 ♀; same pnsl., Gyurgyan, E. F. Guseinov, ZMMU – 1/05/2001, 4 ♂ 1 ♀; Ali Bayramli [=Ali-Bairamly] Distr., Kur-Aras [=Kura-Araks] Depression, SE Shirvan' Plain, Shirvan' Reserve, c. 39°33'40"N, 49°07'45"E, 1–25 m a.s.l., E. F. Guseinov, ZMMU – 28/05/2000, 2 ♀. – RUSSIA: Novosibirsk Region: Karasuk Distr., c. 4 km W of Troitskoe, the shore of Solenoe Lake, c. 53°43'10"N, 77°44'E, c. 110 m a.s.l., A. E. Kozlov, SZMN – 1/06/1988, 1 ♀; same distr., the shore of Astrodyrn Lake, c. 53°38'30"N, 77°47'E, c. 110 m a.s.l., A. E. Kozlov, SZMN – 12/06/1988, 2 ♀. Tuva: Erzin Distr., Tes-Khem River valley, left riverside, c. 14 km NW of Erzin, c. 50°21'30"N, 95°02'20"E, 1040–1080 m a.s.l., D. V. Logunov, SZMN – 4/06/1989, 1 ♀; same distr., shore of Shara-Nur Lake, c. 37 km W of Erzin, c. 50°14'10"N, 94°37'40"E, 900–920 m a.s.l., D. V. Logunov, ZMMU – 10/05/1989, 2 ♀. – UKRAINE: Dnipropetrovsk'k [=Dnepropetrovsk] Region: Pavlograd Distr., Samara River valley, left riverside, c. 3 km N of Bulakhivka [=Bulakhovka], c. 48°38'N, 35°41'E, 57–65 m a.s.l., L. Yu. Khodinsk, SZMN – 25/05/1975, 1 ♀; Zaporizhzhya [=Zaporozh'e] Region, Berdyans'k [=Berdyansk] Distr., N shore of Azov Sea, Berdyans'k [=Berdyansk], c. 46°45'N, 36°48'20"E, 0–50 m a.s.l., V. Nikolaev, PSU – 1/05/1937, 2 ♂ 4 ♀. – Kazakhstan: Kyzyl-Orda Region: Aral'sk Distr., Aral Sea, Barsakel'mes Nature Reserve, Barsakel'mes Isl., c. 45°40'25"N, 59°55'E, wet sand, 50–60 m a.s.l., T. V. Pavlenko, ZMMU – 14/05/1982, 1 ♀. Pavlodar Region: Maiskoe Distr., S shore of Alkamergen Lake, c. 51°04'50"N, 76°38'45"E, c. 190 m a.s.l., O. V. Lyakhov, SZMN – 7/05/1990, 1 ♀. E Kazakhstan Region: Tarbagatai [=Tarbagatay] Distr., S shore of Zaisan Lake, c. 10 km NW of Tugyl [=Priozernyi], c. 47°47'50"N, 84°06'20"E, 390–398 m a.s.l., R. Yu. Dudko & V. K. Zinchenko, ZMMU – 10/06/1997, 1 ♀; Tarbagatai [=Tarbagatay] Distr., c. 5 km ESE of Tugyl [=Priozernyi], c. 47°42'05"N, 84°17'45"E, 390–400 m a.s.l., R. Yu. Dudko & V. K. Zinchenko, SZMN – 11/06/1997, 1 ♂ 2 ♀; Kurchum Distr., SW foothills of Naryn Mt. Range, nr. Aktobe Hill, c. 15 km NW of Kurchum, c. 48°41'N, 83°32'E, 440–480 m a.s.l., R. Yu. Dudko, SZMN – 3–4/05/1999, 1 ♂; Kokpekti [=Kokpekty] Distr., c. 1–2 km W of Kokpekti [=Kokpekty], c. 48°45'10"N, 82°21'E, 540–580 m a.s.l., hills, A. A. Zyuzin, ZMMU – 7/08/1988, 1 ♂. Almaty [=Alma-Ata] Region: Alakol' Distr., E shore of Balkhash Lake, N environs of Ayakoz [=Ayaguz] River mouth, nr. Karatas ruins, c. 46°41'20"N, 79°14'E, 342–360 m a.s.l., A. A. Zyuzin, ZMMU – 3/08/1988, 3 ♂ 5 ♀. – UZBEKISTAN: Syrdarya Region: Golodnaya Steppe, c. 40°30'20"N, 68°24'E, c. 270 m a.s.l., G. G. Yakobson, PSU – 1–6/05/1903, 1 ♀. – TURKMENISTAN: Balkan [=Krasnovodsk] Region: Turkmenbashi [=Krasnovodsk] Distr., Krasnovodsk Nature Reserve, E shore of Caspian Sea, Krasnovodskaya Kosa Pnsl., Gyzylsuv [=Kyzyl-Su, Kizyl-Su], c. 39°47'45"N, 53°00'45"E, 23–28 m a.s.l., ZMMU – 9/07/1929, 2 ♂. Dashkhovuz [=Tashauz] Region: Boldumsaz [=Kalinin] Distr., the shore of Sarykamysh Lake, c. 41°53'55"N, 57°47'45"E, 5–20 m a.s.l., L. A. Mitroshina, ZMMU – 1/05/1986, 1 ♀. – KYRGHYZSTAN: Chui [=Chu, Chüy] Region: Alamedin [=Alamüdüin] Distr., N slope of Kirgiz Mt. Range, c. 20 km S of Bishkek [=Frunze], Malinovoe [=Malinovka] River canyon,



Figs 53–58. Male genitalia of *Philodromus* spp. 53–55. = *P. triangulatus* – 53 v, 54 rl, 55 pl. 56–58. = *P. pictus* – 56 v, 57 rl, 58 pl. Scale bar = 0.1 mm. Specimens: *P. triangulatus*: Tuva, Kyzyl; *P. pictus*: Almaty Region, Butakovka

c. 42°41'10"N, 74°32'50"E, 1380–1500 m a.s.l., S. V. Ovtchinnikov, ZMMU – 22/06/1984, 1 ♂ 1 ♀.
– TADJIKISTAN: Vakhsh River, nr. Tarkti, A. P. Kononenko, SZMN – 30/03/1973, 1 ♀.

Diagnosis: Embolus saddle-shaped. VTA as long as wide, angular. Epigynal plate onioncup-shaped. Distance between EA larger than their length.

Male (E Kazakhstan Region: Tarbagatai Distr., c. 5 km ESE of Tugyl): Prosoma light brown, with the pattern of brown and beige stripes and patches (Fig. 78). Opisthosoma beige, with the light greyish brown to dark brown pattern. Legs gently speckled. *Measurements* (n= 1). Body length 6.4. PsL 2.8, PsW 2.75, OsL 3.6, OsW 2.3. Distances between eyes: AME 0.1, ALE 0.1, PME 0.1, PLE 0.1, AME-AME 0.2, AME-ALE 0.1, PME-PME 0.4, PME-PLE 0.2, MOA-AW 0.4, MOA-PW 0.6, MOA-L 0.5, AME-PME 0.3, ALE-PLE 0.2. Length of leg segments: Fel 3.65, Pal 1.4, Tii 3, Mti 2.7, Tai 1.45, FeII 4.5, PaII 1.65, TiII 4.15, MtII 3.8, TaII 1.95, FeIII 3.1, PaIII 1.2, TiIII 2.3, MtIII 2.25, TaIII 1.2, FeIV 3.4, PaIV 1.2, TiIV 2.45, MtIV 2.25, TaIV 1.35. Total length of legs: legI 12.2, legII 16.05, legIII 10.05, legIV 10.65. Spination of leg I: femur: d 0–0–1–0–1; pl 0–1–0–1–0; v -; rl 0–0–1–0–0. tibia: d 0–0–1; pl 1–1–0–1–0; v 2–0–2–0–0ap; rl 1–1–0–1–0. metatarsus: d -; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–1.

Palpus (Figs 47–49). CyL 0.73, CyW 0.34, PTiL 0.53. Cymbium rounded, two times longer than wide. The tegulum elongated, not overhanging the alveolus. The tegular suture conspicuous. The ST is seen in ventral view. The embolus wide, but its tip is sharply narrowed, forming a kind of distal 'saddle' ended up with a pointed tip. The embolic tip is usually hidden beneath the membranous PTA. The PTA with a small distal claw directed retro-laterad. The length of palpal tibia is twice of its width, ca. of the same length as the cymbium. In ventral view, the VTA is as long as wide, slightly angular, the prolateral side of its distal end is slightly receded and weakly sclerotised. The RTA triangular in retrolateral view (Fig. 48), its tip slightly curved ventro-medial.

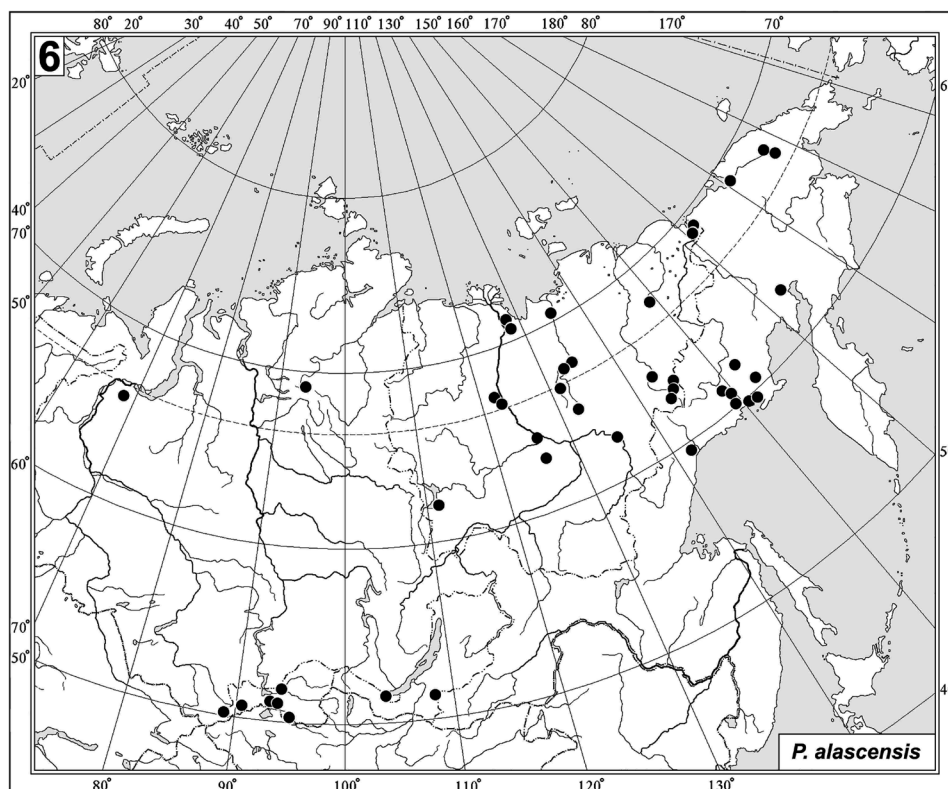
Female (E Kazakhstan Region: Tarbagatai Distr., c. 5 km ESE of Tugyl): Colouration and colour pattern as in males. *Measurements* (n= 2). Body length 5.75–6.85. PsL 2.1–2.6, PsW 2.05–2.5, OsL 3.65–4.25, OsW 2.75–3.2. Distances between eyes: AME 0.10–0.11, ALE 0.07–0.09, PME 0.07–0.08, PLE 0.07–0.08, AME-AME 0.16–0.16, AME-ALE 0.08–0.11, PME-PME 0.30–0.36, PME-PLE 0.17–0.21, MOA-AW 0.35–0.38, MOA-PW 0.44–0.53, MOA-L 0.36–0.42, AME-PME 0.22–0.25, ALE-PLE 0.18–0.21. Length of leg segments: Fel 2.4–2.9, Pal 1.1–1.25, Tii 2–2.9, Mti 1.75–1.85, Tai 1–1.4, FeII 3.15–3.68, PaII 1.25–1.5, TiII 2.75–3.15, MtII 2.2–2.65, TaII 1.35–1.6, FeIII 2.15–2.5, PaIII 0.9–1, TiIII 1.65–1.9, MtIII 1.25–1.7, TaIII 0.8–0.95, FeIV 2.4–2.9, PaIV 0.9–1.1, TiIV 1.75–2.23, MtIV 1.4–1.9, TaIV 0.85–1. Total length of legs: legI 8.3–10.3, legII 10.7–12.58, legIII 6.75–8.05, legIV 7.3–9.13. Spination of leg I: femur: d 0–0–1–0–1; pl 0–1–0–1–0 or 0–1–0–1–1; v -; rl 0–1–0–0–0. tibia: d 0–0–1; pl 1–1–0–1–0 or 1–0–1–1–0; v 2–0–2–0–0ap; rl 1–1–0–1–0 or 0–0–1–1–0 or 1–0–1–1–0. metatarsus: d -; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–1.

Epigyne and spermathecae (Figs 59–60). The epigynal atrium as an onion-cupola. The CD medium wide, but visibly widened anteriorly. The distance between EA is larger than their length. The S oval, its posterior end slightly narrowed. The ID and SO are in the anterior position.

Remarks: *P. fallax* was identified on the basis of the illustrations by TULLGREN (1970: Plate XVI, Fig. 214) and ROBERTS (1995: 172, Plate 11). This species greatly resembles *P. angulobulbis*. The male can be distinguished by the embolic shape (almost saddle-shaped distally in *P. fallax*, and more or less straight in *P. angulobulbis*) and by the wider VTA (cf. Figs 47 and 50); the latter difference is

not always obvious. The female of *P. fallax* have the visibly wider EA (cf. Figs 59 and 61) and the different configuration of S and SO (cf. Figs 60 and 62).

Habitat: Central Europe: sandy beaches and coastal dunes (HÄNGGI *et al.* 1995). Kalmykia: meadows, saline meadows and plavni (MINORANSKI & PONOMAREV 1984). Rostov Region: meadows (MINORANSKI *et al.* 1980). Chelyabinsk Region: shores of steppe lakes and river valley meadows (EFIMIK & ZOLOTAREV 1998). Tyumen Region (Yuganski Reserve): riam, i.e. the risen bog surrounded by sparse pine forest (ESYUNIN 1996). Tuva: saline and stony shores of lakes, *Acnatherium splendens* stands, reed swamps (LOGUNOV *et al.* 1998: *pro parte*, present data). It seems that habitat preferences of *P. fallax* in the eastern part of its range are more diverse, and this fact was recently discussed by DUFFEY (2005). Elevations: 0–1500 m a.s.l.



Map 6. Distribution of *P. alascensis* in the eastern Palearctic Region. One dot may represent more than one close localities

Distribution: The trans-Palaeartic temperate range; known from Portugal and France in the west (URONES 1995; present data), eastward throughout European part Russia (MINORANSKI *et al.* 1980, ESYUNIN 1996, ESYUNIN & EFIMIK 1996, etc.), the Caucasus (present data) and Central Asia (KRONEBERG 1885, PAVLENKO 1985, FET 1993, ZYUZIN *et al.* 1994, MIKHAILOV & FET 1994) to China (Xinjiang and Inner Mongolia; ZHOU & SONG 1985, SONG & ZHU 1997, SONG *et al.* 1999), Yakutia (MATUSIK *et al.* 1992, 1993) and Chukotka (MATUSIK 1991) in the east; for the collection localities in the eastern Palaerctic Region see Map 9.

The record of *P. fallax* from the Polar Urals (ESYUNIN & EFIMIK 1996) turned out to be that of *P. alascensis* (ESYUNIN's material re-examined). The records of *P. fallax* by TSELLARIUS (1993) from the 'Kivach' Reserve were made on the basis of immature specimens, and therefore are neglected here.

***Philodromus angulobulbis* sp. n.**

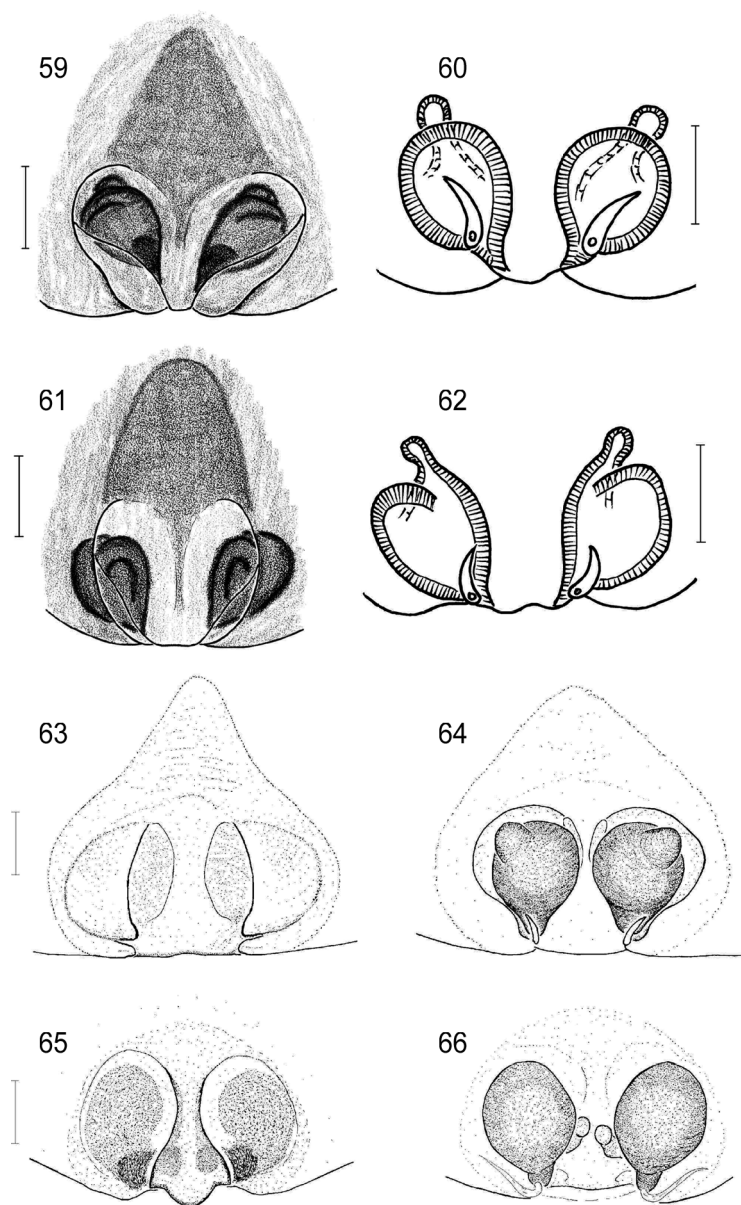
(Figs 50–52, 61–62, 79, Map 4)

Type material: The ♂ holotype (ZMMU) from Russia, Tuva, Ovyurskii Distr., NE shore of Ubsu-Nur [=Uvs-Nuur, Uspa-Khol'] Lake, c. 50°39'05"N, 93°01'20"E, dry *Nanophyton erinaceus* stony steppe, 759–765 m a.s.l., D. V. Logunov – 14/06/1995. Paratype: together with the holotype – 1 ♀.

Other material examined: RUSSIA: Gorno-Altai Republic: Kosh-Agatch Distr., Chaganka River valley, right riverside, nr. Kosh-Agatch, c. 49°59'40"N, 88°39'40"E, c. 1750 m a.s.l., SZMN – A. P. Kononenko, 1/07/1972, 1 ♀; Kosh-Agach Distr., Taltura [=Chagan-Uzun] River canyon, c. 55 km W of Kosh-Agach, c. 25 km W of Bel'tir [=Kyzyl-Many], c. 49°55'50"N, 87°50'50"E, 2100–2300 m a.s.l., D. V. Logunov, ZMMU – 25–30/06/1999, 2 ♀. Tuva: Erzin Distr., c. 13 km NW of Erzin, S shore of Dus-Khol' Lake, c. 50°19'50"N, 95°00'35"E, c. 1040 m a.s.l., D. V. Logunov, 1/06/1993, 1 ♀; Ovyurskii Distr., NE shore of Ubsu-Nur [=Uvs-Nuur, Uspa-Khol'] Lake, c. 50°39'05"N, 93°01'20"E, 759–765 m a.s.l., D. V. Logunov, SZMN – 18/07/1993, 6 ♀; same locality, D. V. Logunov, SZMN – 14/06/1995, 1 ♂ 1 ♀; Ovyurskii Distr., S foothills of East Tannu-Ola Mt. Range, Irbitei River canyon, c. 43 km WNW of Oo-Shynaa, c. 13 km WNW of Ak-Chyraa [=Ak-Chira], c. 50°44'50"N, 93°08'45"E, 960–1100 m a.s.l., S. Koponen, ZMTU – 11–15/06/1995, 1 ♂. Chita Region: Borzya Distr., Dahurian Reserve, Kuku-Khadan Mt., N shore of Zun-Torei Lake, c. 50°08'30"N, 115°53'50"E, 600–745 m a.s.l., R. Yu. Dudko, SZMN – 8–13/06/1995, 2 ♀.

Diagnosis: Embolus straight. VTA narrow, rounded at its tip. Epiginal plate oval. Distance between EA equal to their length.

Male (the holotype): Colouration and colour as in females. *Measurements*. Body length 3.45. PsL 1.5, PsW 1.55, OsL 1.95, OsW 1.25. Distances between eyes: AME 0.10, ALE 0.08, PME 0.08, PLE 0.08, AME-AME 0.11, AME-ALE 0.06, PME-PME 0.22, PME-PLE 0.14, MOA-AW 0.28, MOA-PW 0.36, MOA-L 0.34, AME-PME 0.20, ALE-PLE 0.15. Length of leg segments: FeI 2.55, PaI 0.85, TiI 2.43, MtI 2.05, TaI 1.15, FeII 3.25, PaII 1, TiII 3, MtII 2.6, TaII 1.4, FeIII 2.38, PaIII 0.65, TiIII 1.95, MtIII 1.9, TaIII 1, FeIV 2.45, PaIV 0.78, TiIV 2.1, MtIV 1.75, TaIV 1.15. Total



Figs 59–66. Female genitalia of *Philodromus* spp. 59–60. = *P. fallax* – 59 = epigyne, 60 = spermathecae. 61–62. = *P. angulobulbis* – 61 = epigyne, 62 = spermathecae. 63–64. = *P. triangulatus* – 63 = epigyne, 64 = spermathecae. 65–66. = *P. pictus* – 65 = epigyne, 66 = spermathecae. Scale bar = 0.1 mm. Specimens: *P. fallax*: from E Kazakhstan Region: Tarbagatai Distr., c. 5 km ESE of Tugyl; *P. angulobulbis*: the paratype from Tuva: Dus-Khol' Lake; *P. triangulatus*: Tuva, Kyzyl; *P. pictus*: Almaty Region, Butakovka

length of legs: legI 9.03, legII 11.25, legIII 7.88, legIV 8.23. Spination of leg I: femur: d 0–0–1–0–1; pl 0–1–0–1–0; v -; rl - . tibia: d 0–0–1; pl 1–1–0–1–0; v 2–0–2–0–0ap; rl 1–1–0–1–0. metatarsus: d -; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–0.

Palpus (Figs 50–52). CyL 0.52, CyW 0.24, PTiL 0.31. The cymbium two times longer than wide, widened proximally. The ST is seen in ventral view. The tegulum elongated, its projections overhang the alveolus. Embolus wide at base, abruptly sharpening at its tip. The membranous PTA does not hide the embolic tip. The PTA with a small distal claw directed retro-laterad. The palpal tibia is considerably shorter than the cymbium. The VTA two times longer than wide, its distal part rounded and membranous prolaterally. The tip of RTA strong, claw-shaped curved ventro-mediad.

Female (the paratype and Russia, Gorno-Altai Republic: nr. Kosh-Agatch): Prosoma light brown, with the pattern of dark brown, white and beige stripes and patches (Fig. 79). Opisthosoma beige, with the light greyish brown and dark brown pattern. Legs strongly dotted, occasionally dots compose stripes. *Measurements* (n= 2). Body length 4.7–6.05. PsL 1.55–1.95, PsW 1.55–1.9, OsL 3.15–4.1, OsW 2.3–3.2. Distances between eyes: AME 0.10–0.11, ALE 0.08–0.09, PME 0.08–0.09, PLE 0.08–0.09, AME-AME 0.13–0.15, AME-ALE 0.07–0.08, PME-PME 0.25–0.28, PME-PLE 0.15–0.17, MOA-AW 0.30–0.32, MOA-PW 0.38–0.43, MOA-L 0.28–0.38, AME-PME 0.21–0.23, ALE-PLE 0.15–0.15. Length of leg segments: FeI 1.75–2.45, PaI 0.8–1, TiI 1.4–2.18, MtI 1.2–1.95, TaI 0.75–1.2, FeII 2.35–3.3, PaII 0.95–1.2, TiII 2.05–2.9, MtII 1.55–2.4, TaII 1.15–1.6, FeIII 1.65–2.35, PaIII 0.65–0.95, TiIII 1.2–1.93, MtIII 1–1.7, TaIII 0.8–1.15, FeIV 1.75–2.65, PaIV 0.65–0.9, TiIV 1.3–2.1, MtIV 1.15–1.95, TaIV 0.7–1.15. Total length of legs: legI 5.9–8.78, legII 8.05–11.4, legIII 5.3–8.08, legIV 5.55–8.75. Spination of leg I: femur: d 0–0–1–0–1; pl 0–1–0–1–0; v -; rl - . tibia: d 0–0–1; pl 1–1–0–1–0 or 1–1–0–1–0 or 0–0–0–1–0; v 2–0–2–0–0ap; rl 1–1–0–1–0 or 1–1–0–1–0 or 0–0–0–1–0. metatarsus: d -; pl 1–0–1–0–1 or 1–0–1–0–0; v 2–0–2–0–0ap; rl 1–0–1–0–0.

Epigyne and spermathecae (Figs 61–62). The epigynal plate ovoid and rounded anteriorly. The CD narrow, the distance between EA is equal to their length. The anterior arch of EA semicircular. The S rounded, narrowing posteriorly. The ID and SO are on the anterior position.

Remarks: This species greatly resembles *P. fallax*. The male can be distinguished by the embolic shape (more or less straight in *P. angulobulbis* and almost saddle-shaped distally in *P. fallax*) and by the narrower VTA (cf. Figs 50 & 47). The female of *P. angulobulbis* have the visibly narrower EA (cf. Figs 61 & 59) and the different configuration of S and SO (cf. Figs 60 & 62).

Habitat: Tuva: dry nanophanerophyte (*Nanophyton erinaceus*) stony steppe (present data). Elevations: 600–2300 m a.s.l.

Distribution: The mountains of South Siberia; for the collection localities see Map 4.

Etymology: The species was named after the angular shape of the tegulum (Fig. 50).

Philodromus triangulatus WU et SONG, 1987
(Figs 53–55, 63–64, Map 5)

Philodromus triangulatus Wu & Song, 1987: 32, fig. 12A-B (D ♀; the ♀ holotype in the Institute of Zoology, Beijing, China; not examined).

Material examined: Tuva: Kyzyl Distr., Verkhniï Enisei [=Verkhniï Yenisey, Ulug-Khem] River valley, left riverside, 6–7 km WSW of Kyzyl, c. 51°40'25"N, 94°17'30"E, 610–620 m a.s.l., D. V. Logunov, ZMMU – 29/05/1989, 1 ♂ 1 ♀; Kyzyl Distr., SE foothills of Uyük Mt. Range, SW slope of Tuge Mt., c. 2 km NNW of Kyzyl, c. 51°44'30"N, 94°24'30"E, 630–900 m a.s.l., D. V. Logunov, ZMMU – 20/05/1989, 3 ♀; Ovyurskii Distr., S foothills of East Tannu-Ola Mt. Range, Irbitei River canyon, c. 43 km WNW of Oo-Shynaa, c. 13 km WNW of Ak-Chyraa [=Ak-Chira], c. 50°44'50"N, 93°08'45"E, 960–1100 m a.s.l., SZMN, 13–16/06/1995 – D. V. Logunov, 1 ♀ – Yu. M. Marusik, 2 ♀; Ovyurskii Distr., S foothills of East Tannu-Ola Mt. Range, 37–40 km WNW of Oo-Shynaa, 7–10 km WNW of Ak-Chyraa [=Ak-Chira], 50°43'40"N, 93°11'15"E – 50°43'N, 93°13'30"E, 800–940 m a.s.l., D. V. Logunov, SZMN – 18–19/07/1993, 2 ♀; Erzin Distr, SE shore of Tere-Khol' [=Tore-Khol'] Lake, Eder-Elezin Sands, Sharaa Stand, 50°01'50"N, 95°05'10"E, c. 1150 m a.s.l., D. V. Logunov, SZMN, 12/07/1993, 1 ♀; same locality, S. Koponen, ZMTU, 11–12/06/1995, 1 ♀. – KAZAKHSTAN: Almaty [=Alma-Ata] Region: Zharkent [=Panfilov] Distr., c. 37 km SSW of Konyrolen, S slope of Aktau Mt. Range, c. 43°57'20"N, 79°04'30"E, 640–680 m a.s.l., A. A. Zyuzin, SZMN – 7/05/1992, 1 ♀. – KYRGHYZSTAN: Issyk-Kul' [=Ysyk-Köl] Region: Issyk-Kul' [=Ysyk-Köl] Distr., S foothills of Kungei-Ala-Too [=Kungei-Alatau, Kühggöy Ala-Too] Mt. Range, Ter-Aigyr River Valley, nr. Toru-Aigyr [=Toru-Agyr], c. 42°29'40"N, 76°25'30"E, 1610–1800 m a.s.l., A. P. Kononenko, earlier det. as *P. histrio*, SZMN – 19/06/1970, 1 ♀. – MONGOLIA: Ösmnögovd' [=South-Gobi] Aimak, Bayandalai [=Bayan-Dalai, Dalay] Somon, SE foothills of Zoolen SZMNI [=Dzoleniin-Nuru, Zoolengiin-Nuru] Mt. Range, c. 4 km E of Tsagan-Dersnii-Khurlyn-Tur' [=Tsagaan Deresenii Hural] ruins, Bayan-Khutel [=Bayan Khotol] Stand, 43°21'10"N, 103°13'E, 1670–1700 m a.s.l., Yu. M. Marusik, earlier det. as *P. xinjiangensis*, SZMN – 27–30/05/1997, 1 ♀.

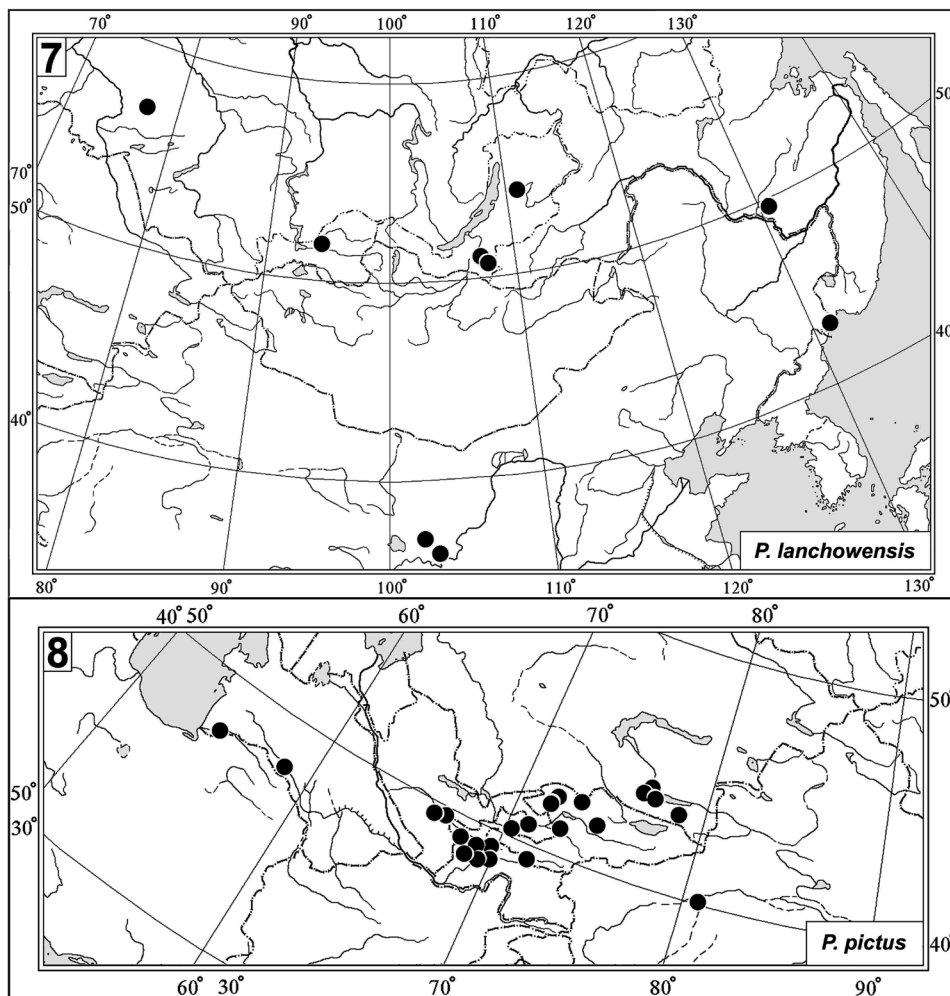
Diagnosis: Embolus small, needle-shaped. PTA swollen, elongated distally. LGPs wide, projecting upwards.

Male (Tuva: Kyzyl): Colouration and colour pattern as in females. *Measurements* (n= 1). Body length 4.7. PsL 1.9, PsW 1.75, OsL 2.8, OsW 1.85. Distances between eyes: AME 0.08, ALE 0.07, PME 0.07, PLE 0.07, AME-AME 0.13, AME-ALE 0.07, PME-PME 0.25, PME-PLE 0.15, MOA-AW 0.28, MOA-PW 0.36, MOA-L 0.34, AME-PME 0.22, ALE-PLE 0.20. Length of leg segments: FeI 3.13, PaI 1.1, TiI 2.7, MtI 2.2, TaI 1.4, FeII 4.05, PaII 1.33, TiII 3.9, MtII 3.1, TaII 1.78, FeIII 2.5, PaIII 0.8, TiIII 2, MtIII 1.75, TaIII 1. Total length of legs: legI 10.53, legII 14.15, legIII 8.05. Spination of leg I: femur: d 0–0–1–0–1; pl 0–1–0–1–1; v -; rl -. tibia: d 0–0–1; pl 1–0–1; v 2–0–2–0ap; rl 0–0–1–0–1. metatarsus: d -; pl 1–0–1–0–0; v 2–2–0–0ap; rl 1–0–1–0–0.

Palpus (Figs 53–55). CyL 0.80, CyW 0.28, PTiL. 0.39. Embolus short and thin, hidden beneath the large membranous PTA. Distally, the PTA with two torn-shaped claws, one directed mediad, another dorsad (Fig. 54). The palpal tibia longer than wide. The VTA narrow in ventral view, triangular with the rounded tip in retrolateral view. The RTA small and almost invisible.

Female (Tuva: Kyzyl): Prosoma beige, with the pattern of reddish brown stripes and patches. Opisthosoma pale beige, with the pattern of dark brown and beige stripes. *Measurements* (n= 4). Body length 5.45–6.05. PsL 2–2.3, PsW 1.85–2.18, OsL 3.45–4, OsW 2.25–2.65. Distances between

eyes: AME 0.11–0.12, ALE 0.08–0.09, PME 0.08–0.09, PLE 0.08–0.09, AME-AME 0.14–0.15, AME-ALE 0.07–0.08, PME-PME 0.25–0.29, PME-PLE 0.17–0.20, MOA-AW 0.34–0.36, MOA-PW 0.39–0.46, MOA-L 0.39–0.41, AME-PME 0.23–0.26, ALE-PLE 0.17–0.21. Length of leg segments: FeI 2.65–3.25, PaI 1–1.25, TiI 2.35–2.7, MtI 1.98–2.55, TaI 1.3–1.65, FeII 3.2–3.85, PaII 1.2–1.38, TiII 2.9–3.55, MtII 2.45–3, TaII 1.35–1.6, FeIII 2.45–3, PaIII 0.95–1.2, TiIII 1.95–2.45, MtIII 1.75–2.25, TaIII 1.08–1.45, FeIV 2.8–3.4, PaIV 0.95–1.15, TiIV 2.3–2.73, MtIV 2.2–2.6, TaIV 1.05–1.35. Total length of legs: legI 9.28–11.4, legII 11.25–13.23, legIII 8.25–10.35, legIV 9.45–11.05. Spination of leg I: femur: d 0–0–1–0–1; pl 0–0–1–1–1; v -; rl 0–0–0–0–1 or –0–1–0–1. tibia: d 0–0–1; pl 1–1–0–1–0; v 2–0–2–0–2ap; rl 1–1–0–1–0. metatarsus: d -; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–1.



Maps 7–8. Distribution of *P. lanchowensis* (7) and *P. pictus* (8). One dot may represent more than one close localities

Epigyne and spermathecae (Figs 63–64). The area between LGPs, including the CD, concaved; the CD is poorly-marked. The LGPs conspicuously arose. The latero-posterior part of S cone-shaped, the SO is situated medio-posteriorly, the ID runs laterally and anteriorly around the S.

Remarks: *P. triangulatus* was identified on the basis of the illustrations by SONG and ZHU (1997: fig. 141). This species displays a unique conformation of the copulatory organs in both sexes: the diminutive, needle-shaped embolus is shifted backward and is almost invisible from the ventral view (Figs 53 & 55); the PTA is swollen and strongly elongated distally (Fig. 53); the LGPs wide, subparallel and conspicuously projecting upwards (Fig. 65). The male of this species is described herein for the first time.

Habitat: Tuva: dry nanophanerophyte (*Nanophyton erinaceus*) stony steppe (present data). Elevation: 600–1800 m a.s.l.

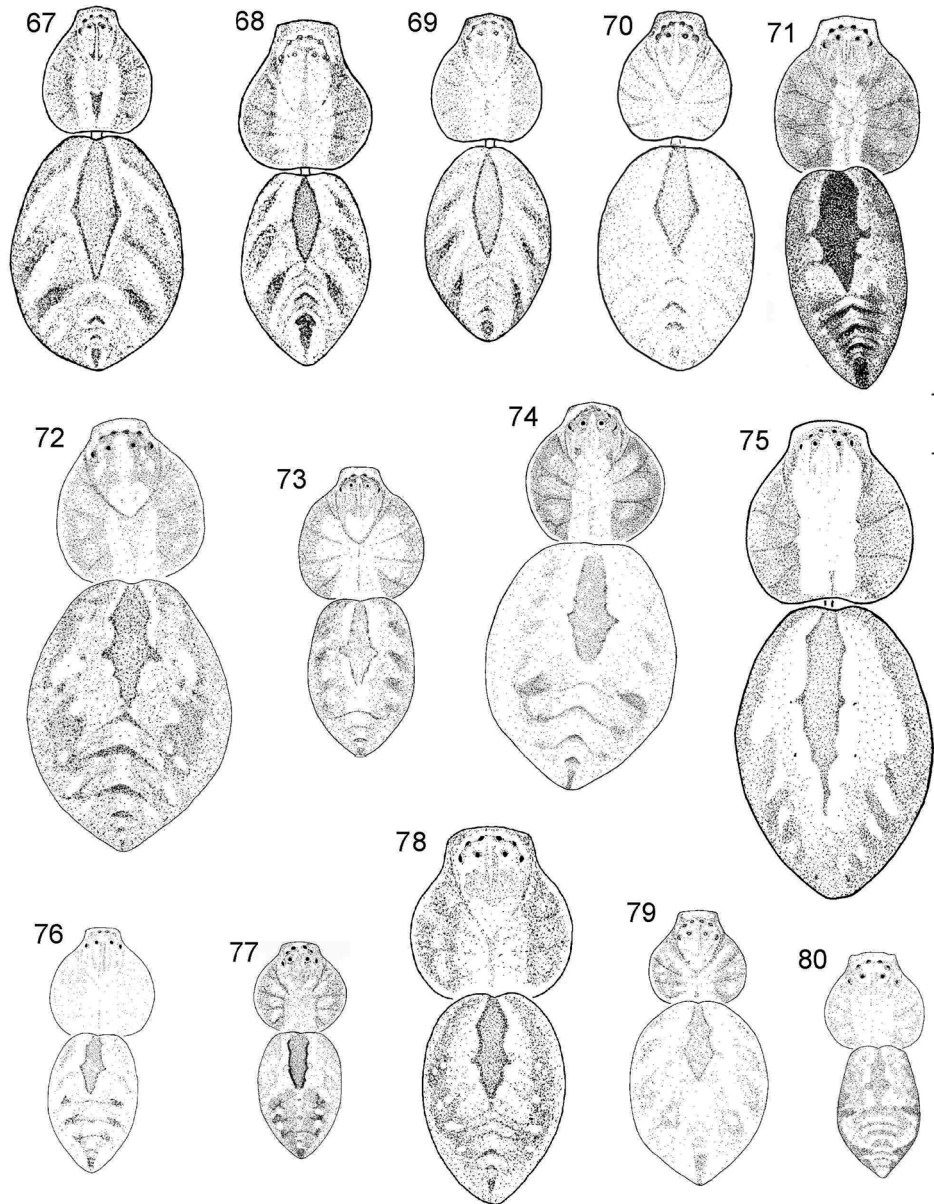
Distribution: The Central Asian subboreal range; known from NE Kazakhstan and Kirghizia (present data) in the west, eastward throughout Tuva and Mongolia (present data) to NW China (Inner Mongolia; WU & SONG 1987, SONG & ZHU 1997, SONG *et al.* 1999) in the east; for the collection localities see Map 5.

Philodromus pictus KRONEBERG, 1875
(Figs 56–58, 65–66, 80, Map 8)

Philodromus pictus Kroneberg, 1875: 30, plate 3, fig. 21 (D ♂♀; the ♀ holotype in ZMMU; not located and examined).

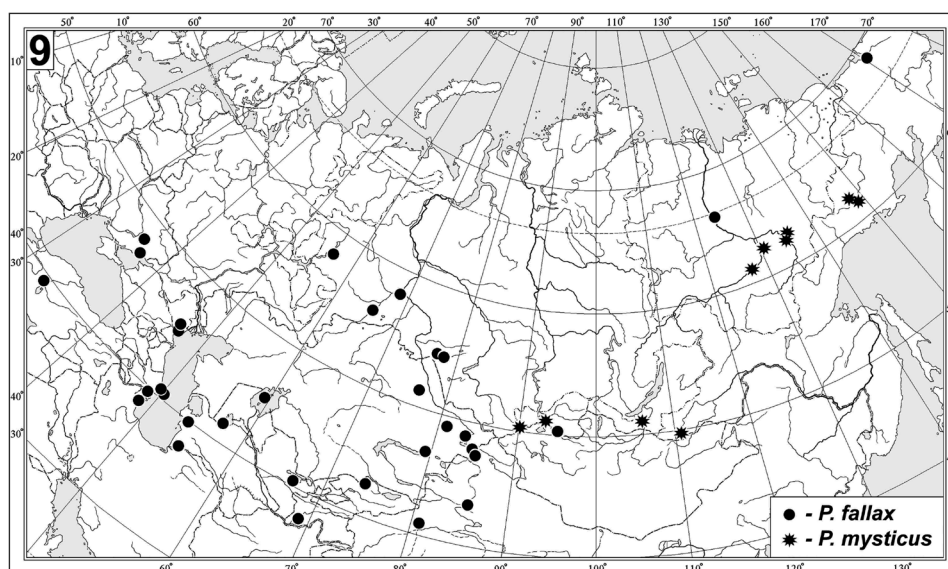
Philodromus nanjiangensis Hu & Wu, 1989: 320, fig. 254.1–3 (D ♂; the ♂ holotype in the Biology Department of the Shandong University, China; not examined). **syn. n.**

Material examined: without label, PSU – date(?), 2 ♀ – without label, SZMN – date(?), 3 ♀. – KAZAKHSTAN: Almaty [=Alma-Ata] Region: Karasai Distr., N foothills of Transili [=Zailiiskii] Alatau Mt. Range, W vicinities of Vesna, Aksai River valley, right riverside, c. 43°10'20"N, 76°47'40"E, 960–970 m a.s.l., A. M. Tleppaeva, SZMN – 13/06/1995, 1 ♂; s.r., Karasai Distr., N foothills of Transili [=Zailiiskii] Alatau Mt. Range, S vicinities of Almaty, Alatau [=Vtoraya Pyatiletka], c. 43°10'35"N, 76°55'E, 1050–1150 m a.s.l., from the nest of *Sceliphron deforme*, E. A. Tleuberdina, SZMN – 1/07/1997, 6 ♀; s.r., Almaty [=Alma-Ata], Bostandyk [=Kalinin] Distr., N foothills of Transili [=Zailiiskii] Alatau Mt. Range, Botanical Garden and Akademgorodok [=Al-Farabi av.], 43°13'05"N, 76°54'40"E – 43°12'30"N, 76°55'E, fences, 870–925 m a.s.l., SZMN, A. N. Ponomarenko – 29/06/1995, 1 ♀; same locality, A. V. Gromov, SZMN – 13/04/1997, 1 ♂; same locality, A. V. Gromov, SZMN – 7–27/06/1997, 26 ♀; same locality, A. V. Gromov, SZMN – 9–19/05/1997, 1 ♂; same locality, A. V. Gromov, SZMN – 26/05/1997, 1 ♀; same locality, A. V. Gromov, SZMN – 5/08/1998, 12 ♀; s.r., Almaty [=Alma-Ata], Medeu [=Medeo] Distr., N foothills of Transili [=Zailiiskii] Alatau Mt. Range, Kamenskoe Plato, c. 43°11'15"N, 76°57'35"E, 1100–1250 m a.s.l., M. Ya. Folkina, SZMN, 6/08/1985, 2 ♀; s.r., Talgar Distr., N foothills of Transili [=Zailiiskii] Alatau Mt. Range, c. 6 km SE of Almaty, nr. Butakovka, c. 43°10'30"N, 77°01'10"E, c. 1400 m a.s.l., A. V. Gromov, ZMMU – 3/06/1997, 4 ♂ 1 ♀; s.r., Talgar Distr., N foothills of Transili [=Zailiiskii] Alatau



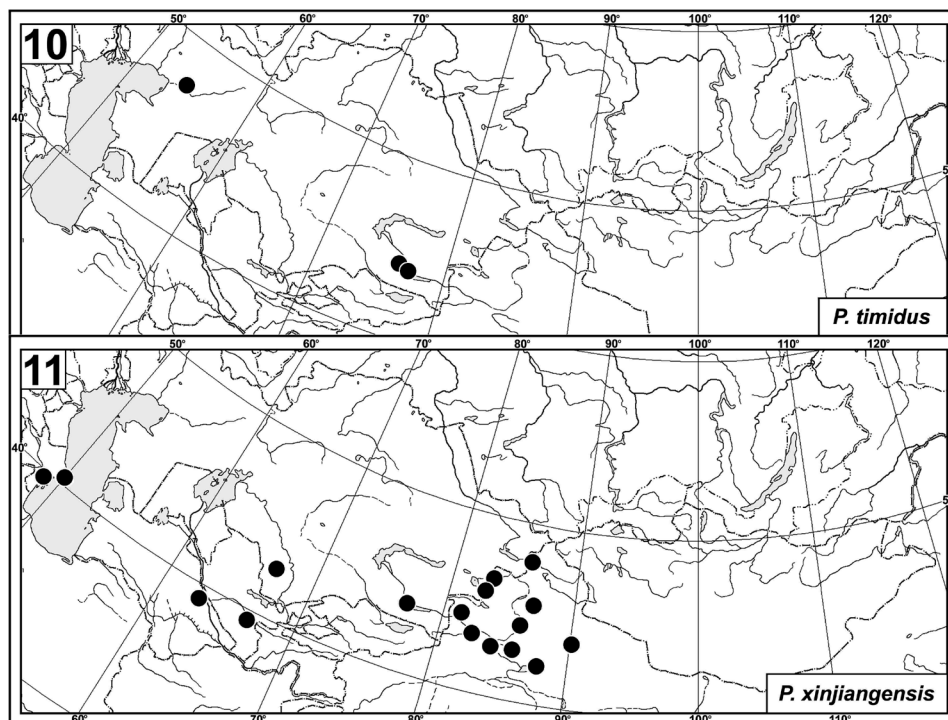
Figs 67–80. Body patterns of *Philodromus* spp. 67 = *P. histrio* ♀, 68 = *P. ablegminus* ♀, 69 = *P. xerophilus* ♀, 70 = *P. lanchowensis* ♂, 71 = *P. alascensis* ♂, 72 = ditto ♀, 73 = *P. tuvinensis* ♂, 74 = ditto ♀, 75 = *P. mysticus* ♀, 76 = *P. timidus* ♂, 77 = *P. xinjiangensis* ♂, 78 = *P. fallax* ♂, 79 = *P. angulobulbis* ♀, 80 = *P. pictus* ♂. Scale bar = 1 mm

Mt. Range, c. 0.3 km W of Medeu [=Medeo], NNE slope of Mokhnatka Mt., c. 43°09'25"N, 77°03'20"E, *Picea* forest, 1800–1850 m a.s.l., A. V. Gromov, SZMN– 3–28/07/1997, 4 ♀; s.r., Talgar Distr., N foothills of Transili [=Zailiiskii] Alatau Mt. Range, c. 3–3.7 km SSE of Medeu [=Medeo], nr. Shymbulak [=Chimbulak], 43°08'05"N, 77°04'35"E – 43°07'40"N, 77°04'55"E, meadows, 2150–2300 m a.s.l., A. V. Gromov, SZMN, 29–30/06/1997, 1 ♀; s.r., Talgar Distr., N foothills of Transili [=Zailiiskii] Alatau Mt. Range, c. 6 km SE of Medeu [=Medeo], Talgar Pass, c. 43°06'58"N, 77°06'47"E, c. 3200 m a.s.l., alpine zone, A. V. Gromov, ZMMU– 19/06–1/07/1997, 2 ♀; s.r., Paiymbek [=Kegen] Distr., NE foothills of Kyungei-Ala-Too [=Kungei-Alatau, Kühggöy Ala-Too] Mt. Range, c. 6 km NNW of Zhaidakbulak, Kegen River canyon, left riverside, c. 43°03'15"N, 78°47'E, c. 1600 m, E. E. Kopydkbaev, SZMN – 20/08/1992, 1 ♀. – UZBEKISTAN: Samarkand Region: Urgut Distr., Zeravshan Mt. Range, c. 38 km S of Samarkand, c. 18 km N of Kitab, Aman-Kutan Pass, c. 39°17'35"N, 66°54'35"E, 1650–1670 m a.s.l., A. A. Zyuzin, SZMN – 17/05/1994, 1 ♂. – TURKMENISTAN: Balkan [=Krasnovodsk] Region: Garrygala [=Kara-Kala] Distr., SW Kopetdagh Mts, Syunt-Khasardagh Nature Reserve, c. 6.5 km NNE of Kara-Kala, Parkhai cordon, c. 38°29'50"N, 56°19'E, c. 680 m a.s.l., A. A. Zyuzin, SZMN – 29/03/1993, 1 ♂. Akhal [=Ashkhabad, Ashgabat] Region: Gekdepe [=Geok-Tepe] Distr., Central Kopet-Dagh Mts, Germab part of Kopetdagh Nature Reserve, Kurkulab River canyon, Mergenul'ya Stand, nr. Mergenul'ya ruins, c. 38°01'30"N, 57°32'50"E, c.1140 m a.s.l., V. Parshultov, ZMMU – 23/06/1987, 1 ♀. – KYRGHYZSTAN: Chui [=Chu, Chüy] Region: Kant Distr., N slope of Kirgiz Mt. Range, Uch-Emchek, c. 41°41'45"N, 74°46'35"E, c. 1450 m a.s.l., S. V. Ovchinnikov, SZMN – 22/07/1994, 1 ♂ 1 ♀. Dzhahal-Abad [=Jalal-Abad] Region: Aksy Distr., SE slope of Chatkal Mt. Range, Sary-Chelek Reserve, Aflatun River canyon, nr. Batyrakan ruins, c. 41°49'10"N, 71°51'55"E, c. 1550 m a.s.l., K. G. Mikhailov, SZMN– 30/07/1983, 1 ♀; s.r., Aksy Distr., SE slope of Chatkal Mt. Range, Sary-Chelek Reserve, Kechkil' River canyon, left riverside, Bakai Stand, c. 41°51'30"N, 71°56'50"E, c. 1600 m



Map 9. Distribution of *P. fallax* (dots) and *P. mysticus* (asteriks) in the eastern Palaearctic Region. One dot may represent more than one close localities

a.s.l., walnut forest, K. G. Mikhailov, SZMN– 14/07/1983, 1 ♀. Dzhahal-Abad [=Jalal-Abad] Region, Aksy Distr., SE slope of Chatkal Mt. Range, Sary-Chelek Reserve, Temin'yak [=Tumen'yak] River canyon, c. 41°49'45"N, 71°56'15"E, 1520–1680 m a.s.l., K. G. Mikhailov, ZMMU – 12/07/1983, 1 ♀; s.r., Aksy Distr., SE slope of Chatkal Mt. Range, Sary-Chelek Reserve, E shore of Kyle-Kel' [=Kyla-Kol', Koly-Kul'] Lake, c. 41°51'45"N, 71°59'50"E, c. 1850 m a.s.l., T. Tillaev, SZMN – 23/07/1983, 1 ♀; s.r., Üch-Terek [=Sargata] Distr., Kochkartyube [=Kochkor-Debe] Mt. Range, Kek-Bel' [=Kökbel] Pass, c. 20 km ENE of Kara-Kul' [=Kara-Köl], c. 41°42'35"N, 72°55'40"E, c. 1450 m a.s.l., A. A. Zyuzin & A. A. Feodorov, SZMN – 3/06/1992, 1 ♂ 1 ♀; s.r., Bazar-Korgon [=Bazar-Kurgan] Distr., S slope of Baubashata [=Baobashata] Mt. Range, 3–4 km ENE of Arslanbob, Dashman Botanical Reserve, Yarodar [=Dzharadar] River canyon, c. 41°21'10"N, 72°58'40"E, 1720–1760 m a.s.l., S. V. Ovchinnikov, SZMN – 14/07/1991, 1 ♀. Osh Region: Lyailyak [=Leylek] Distr., c. 32 km W of Shurab [=Shorab, Shorob] (35–40 km by the road), c. 40°01'50"N, 70°09'30"E, c. 1740 m a.s.l., A. P. Rasnitsin, ZMMU – 30/06/1959, 1 ♂. Fargona [=Fergana] Region, Besharyk [=Kirovo] Distr., Besharyk [=Kirovo], center, park, ca. 375 m, 40°26'21"N, 70°36'30"E – 40°26'14"N, 70°36'33"E, c. 375 m a.s.l., fences, A. V. Gromov, ZMMU – 17/05/2002, 1 ♂ 1 ♀. – TAJIKISTAN: Dushanbe Distr., S slope of Hissar [=Hisor, Gissar] Mt. Range, Varzob River valley, Kondara River canyon, Kvak Stand, c. 38°49'20"N, 68°47'40"E, c. 1900 m a.s.l., A. P. Kononenko, SZMN – 27/06/1976, 1 ♀.



Maps 10–11. Distribution of *P. timidus* (10) and *P. xinjiangensis* (11). One dot may represent more than one close localities

Diagnosis: Embolus robust, curving retrolaterad. VTA wide. Ventral edge of RTA serrated. CD narrow, handle-shape posteriorly. SO in the posterior position.

Reasoning from the original figures (HU & WU 1989: figs 254.1–3) and from the re-description by SONG & ZHU (1997: figs 136, A-B), it obvious that the male palp of *P. nanjiangensis* described and known from Xinjiang (China) after a single male is identical to that of *P. pictus*. Thus, the name *P. nanjiangensis* should be synonymized with *P. pictus*.

Male (Almaty Region: Butakovka): Prosoma yellowish red, with the pattern of lighter and rusty blurry stripes and patches (Fig 80). Opisthosoma brown, with the pattern of beige and dark brown stripes. Legs yellowish red, with dark brown patches around spines. *Measurements* (n= 4). Body length 4.05–4.35. PsL 1.7–1.95, PsW 1.65–1.85, OsL 2.2–2.4, OsW 1.4–1.5. Distances between eyes: AME 0.08–0.09, ALE 0.07–0.08, PME 0.06–0.07, PLE 0.08–0.09, AME-AME 0.13–0.15, AME-ALE 0.08–0.08, PME-PME 0.25–0.27, PME-PLE 0.18–0.21, MOA-AW 0.27–0.28, MOA-PW 0.38–0.39, MOA-L 0.30–0.31, AME-PME 0.17–0.20, ALE-PLE 0.17–0.20. Length of leg segments: FeI 2–2.5, PaI 0.9–0.98, TiI 1.9–2.18, MtI 1.75–1.9, TaI 1–1.05, FeII 2.9–3.05, PaII 1.1–1.2, TiII 2.65–2.9, MtII 2.33–2.6, TaII 1.25–1.4, FeIII 2–2.3, PaIII 0.7–0.85, TiIII 1.7–1.85, MtIII 1.45–1.65, TaIII 0.8–0.9, FeIV 2–2.25, PaIV 0.7–0.85, TiIV 1.6–1.8, MtIV 1.55–1.7, TaIV 0.8–0.9. Total length of legs: legI 7.6–8.5, legII 10.23–11.05, legIII 6.8–7.5, legIV 6.75–7.5. Spination of leg I: femur: d 0–1–1–0–1; pl 0–1–1–0–1; v -; rl 0–0–1–1–1 or 0–0–1–1–0. patella: d 1–0–1. tibia: d 1–0–0–1–0 or 0–0–1; pl 1–1–0–1–0; v 2–0–2–0–0ap or 0–2–2–0–0ap; rl 1–1–0–1–0. metatarsus: d - or 1–0–0–0–0; pl 1–0–1–0–1; v 2–0–2–0–0ap; rl 1–0–1–0–1.

Palpus (Figs 56–58). CyL 0.62–0.67, CyW 0.31–0.34, PTiL 0.28–0.35. The ST is not seen in ventral view. Embolus robust, bending retro-laterad; its tip is often hidden behind the membranous conductor. The palpal tibia longer than wide. The VTA wide at its base, with the rounded tip. The ventral edge of RTA serrated.

Female (Almaty Region: Butakovka and Medeo): Colouration and colour pattern as in males but paler. *Measurements* (n= 3). Body length 4.8–5.8. PsL 1.8–2.1, PsW 1.8–2.05, OsL 3–3.7, OsW 2.25–2.75. Distances between eyes: AME 0.08–0.09, ALE 0.07–0.08, PME 0.07, PLE 0.08, AME-AME 0.15–0.20, AME-ALE 0.09–0.11, PME-PME 0.29–0.34, PME-PLE 0.21–0.22, MOA-AW 0.29–0.34, MOA-PW 0.43–0.46, MOA-L 0.32–0.34, AME-PME 0.20–0.22, ALE-PLE 0.19–0.22. Length of leg segments: FeI 2.15–2.5, PaI 1–1.1, TiI 1.75–1.8, MtI 1.5–1.6, TaI 0.9–0.95, FeII 2.45–2.85, PaII 1.1–1.2, TiII 2.25–2.3, MtII 1.8–1.95, TaII 1.05–1.1, FeIII 2–2.2, PaIII 0.8–0.95, TiIII 1.6–1.65, MtIII 1.3–1.45, TaIII 0.8–0.95, FeIV 1.95–2.2, PaIV 0.8–0.8, TiIV 1.5–1.55, MtIV 1.3–1.45, TaIV 0.7–0.85. Total length of legs: legI 7.4–7.95, legII 8.7–9.35, legIII 6.7–7, legIV 6.25–6.8. Spination of leg I: femur: d 0–0–1–0–1; pl 0–1–1–0–1; v -; rl 0–0–1–0–1 or -. patella: d 1–0–0. tibia: d 0–0–1; pl 1–1–0–1–0; v 2–0–2–0–0ap; rl 1–1–0–1–0. metatarsus: d -; pl 1–0–1–0–1 or 1–0–1–0–0; v 2–0–2–0–0ap; rl 1–0–1–0–1 or 1–0–1–0–0.

Epigyne and spermathecae (Figs 65–66). The CD narrow in the middle, widening posteriorly (handle-shaped). The IOs are situated anteriorly. The distance between EA is almost twice of their length. The apical part of EA rounded. The S rounded, slightly longer than wide, narrowing anteriorly. The SO is in the medio-posterior position.

Remarks: *P. pictus* was identified on the basis of SPASSKY's description (SPASSKY & SHNITNIKOV 1937: figs 7–8), as we have been unable to locate and re-examine the type series of this species. This species is most similar to *P. hui*

YANG et MAO, 2002 described recently from Yunnan Province of China (YANG & MAO 2002: figs 1–4), but differs in the shorter and wider VTA and RTA in males (Figs 56, 57) and the narrower and concave CD in females (Fig. 65).

Habitat: Tajikistan: *Acer-Crataegus-Cotoneaster* associations (ANDREEVA 1976). Kazakhstan: pine forests (present data). Kirghizia: walnut forests (in grass) (ZONSTEIN 1984; present data); in Tian-Shan, the species occurs from meadow or forestry foothills to alpine meadows (present data). Elevations: 370–3200 m a.s.l.

This spider species was also collected from nests of the Asian mud dauber, *Sceliphron deforme* SMITH, 1856 (Sphecidae) (present data).

Distribution: The Central Asian (Turanian) subboreal range; known from the SW Kopedagh (present data) in the south-west, eastward to Tajikistan (KRONEBERG 1875, 1885, ANDREEVA 1975, 1976), northward to Kirghizia and NE Kazakhstan (SPASSKY & SHNITNIKOV 1937, ZONSTEIN 1984), and eastward to China, Xinjiang (HU & WU 1989, SONG & ZHU 1997, SONG *et al.* 1999; all sub *P. nanjiangensis*); for the collection localities see Map 8.

The records from Tajikistan (Kondara Canyon) by KHARITONOV (1951) were based on juveniles and are therefore neglected here. The record of *P. pictus* from Turkey (TOPÇU *et al.* 2005) needs a confirmation, for we are not sure in the accuracy of this identification. As we have been unable to re-examine the pertinent material, we have neglected this record in the current account.

*

Acknowledgements – We would like to express our thanks to G. N. AZARKINA (of the SZMN), S. L. ESYUNIN (of the PSU), J. HOGAN (of the HECO), A. V. GROMOV (Almaty, Kazakhstan), K. G. MIKHAILOV (of the ZMMU), S. N. DANILOV (Ulan-Ude, Russia), S. KOPONEN (of the ZMTU), C. ROLLARD (of the MNHN) and T. KRONESTEDT (of the SMNH) for giving access to the specimens under their care. Mr J. GÁL (Budapest, Hungary) is thanked for his valuable technical help. Dr Q.-J. MENG (Manchester, UK) is cordially obliged for translating Chinese records for some *Philodromus* species. Our sincere thanks go to Mr A. V. GROMOV (Almaty, Kazakhstan) for his kind and priceless help in revising locality data for all the studied species. Finally, we wish to thank Drs. CS. SZINETÁR (Szombathely, Hungary) and F. SAMU (Budapest, Hungary) for their helpful criticism and discussions. TAMÁS SZŰTS (Budapest, Hungary) and an anonymous referee are thanked for their critical comments helping to improve the MS.

REFERENCES

- ANDREEVA, E. M. (1975) Distribution and ecology of spiders (Aranei) in Tajikistan. *Fragmenta Faunistica* **20**(19): 323–352.
- ANDREEVA, E. M. (1976) [*The Spiders of Tajikistan*]. ‘Donish’, Dushanbe. 195 pp. [in Russian]
- CAPORIACCO, L. di. (1935) Arachnidi dell’Himalaia e del Karakoram, raccolti dalla Missione italiana al Karakoram. *Memorie Società entomologica italiana* **13**: 161–263.

- CHIKUNI, Y. (1989) *Pictorial encyclopedia of spiders in Japan*. 'Kaisei-sha Publ. Co.', Tokyo. 310 pp. [In Japanese]
- DANILOV, S. N. (1990) [Spider fauna of Transbaikalia]. Pp. 75–92. In TSYRENOV, V. Z. (ed.): *Fauna i ekologiya chlenistonogikh Zabaikal'ya i Pribaikal'ya*. Ulan-Ude. [in Russian]
- DANILOV, S. N. (1995) [Spiders of the Dzherghinskii Reserve]. Pp. 53–64. In ELAEV, N. N. (ed.): *Biodiversity of Transbaikalian ecosystems. Trudy zapovednika Dzherghinskii 1*, Ulan-Ude. [in Russian]
- DONDALE, C. D. & REDNER, J. H. (1975) The fuscomarginatus and histrio groups of the spider genus *Philodromus* in North America (Araneida, Thomisidae). *The Canadian Entomologist* **107**: 369–384.
- DONDALE, C. D. & REDNER, J. H. (1976) A review of the spider genus *Philodromus* in the Americas (Araneida, Philodromidae). *The Canadian Entomologist* **108**: 127–157.
- DONDALE, C. D. & REDNER, J. H. (1978) *The crab spiders of Canada and Alaska. Araneae: Philodromidae and Thomisidae*. The Insects and Arachnida of Canada, Part 5, Canada, 1–255 pp.
- DONDALE, C. D., REDNER, J. H. & MARUSIK, YU. M. (1997) Spiders of the Yukon. Pp. 73–113. In: DANKS, H. V. (ed.): *Insects of the Yukon*. Ottawa.
- DUFFEY, E. (2005) Regional variation of habitat tolerance by some European spiders (Araneae) – a review. *Arachnologische Mitteilungen* **29**: 25–34.
- EFIMIK, V. E. & ZOLOTAREV, M. P. (1998) [Additional data on the spider fauna and ecology (Arachnida: Aranei) of Chelyabinsk Region]. Pp. 140–145. In UTKIN, N. A. (ed.): *Bespozvonochnyye Zhivotnye Yuzhnogo Zauraliya i sopredelnykh territorii*. Kurgan. [in Russian]
- ESKOV, K. YU. (1988) [Spiders of Middle Siberia]. Pp. 101–155. In ROGACHEVA, E. V. (ed.): *Materialy po faune Srednei Sibiri i prilozhashikh raionov Mongolii*. Moscow. [in Russian with English summary]
- ESYUNIN, S. L. (1996) [The spider fauna of the Yugansk Nature Reserve]. Pp. 67–79. In STREL'NIKOVA, O. G. (ed.): *Ekosistemy Srednego Priob'ya, No.1*. Ekaterinburg. [in Russian]
- ESYUNIN, S. L. & EFIMIK, V. E. (1996) *Catalogue of the spiders (Arachnida, Aranei) of the Urals*. 'KMK Scientific Press Ltd.', Moscow. 229 pp. [in English and Russian]
- FET, V. Ya. (1983) [The spider fauna (Aranei) of the South-West Kopetdagh]. *Entomologicheskoe Obozrenie* **62**(4): 835–845. [in Russian]
- GUSEINOV, E. F. (1998) [The spider fauna of Lenkoran natural zone and Abşeron Pnsl. of Azerbaijan]. Institute of Zoology, Baku, 17 pp. [in Russian]
- HÄNGGI, A., STÖCKLI, E. & NENTWIG, W. (1995) *Habitats of Central European spiders. Characterisation of the habitats of the most abundant spider species of Central Europe and associated species*. Neuchatel: CSCF. 460 pp.
- HU, J. L. & WU, W. G. (1989) *Spiders from agricultural regions of Xinjiang Uygur Autonomous Region, China*. Shandong Univ. Publ. House, Jinan, 435 pp. [in Chinese]
- IZMAILOVA, M. V. (1989) [The spider fauna of southern East Siberia]. 'Irkutsk University Press'. Irkutsk. 180 pp. [in Russian]
- KEYSERLING, E. (1884). Neue Spinnen aus America. V. *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien*. **33**: 649–684.
- KHARITONOV, D. E. (1951) [Spiders and Harvestmen]. Pp. 209–216. In PAVLOVSKI, E. N. & V. I. ZHADIN (eds): *Ushelie Kondara (Opyt Biologicheskoi Monografii)*. Moscow-Leningrad. [in Russian]
- KOPONEN, S. & MARUSIK, YU. M. (1992) Spiders (Araneae) from Central Yakutia, Siberia. *Entomologica Fennica* **3**: 163–166.
- KOPONEN, S., MARUSIK, YU. M. & POTAPOVA, N. K. (2004) Spiders (Araneae) from Lena and Yana Rivers, Yakutia (Sakha Republic). *Entomologica Fennica* **15**: 113–118.

- KOVBLIYUK, M. M. (2003) [Catalogue of the Crimean spiders (Arachnida: Aranei)]. Pp. 211–262. In BOKOV, V. A. *et al.* (eds): *Voprosy Razvitiya Kryma*, 15, Simferopol. [in Russian]
- KRASNOBAEV, YU. P. (2004) [Catalogue of the spiders (Aranei) of the middle reaches of River Volga]. Zhiguli Reserve, Samara. 212 pp. [in Russian]
- KRONEBERG, A. I. (1875) Araneae. Pp. 1–58. In: FEDCHENKO, A. P. (ed.): *Puteshestvie v Turkestan. (Reise in Turkestan.)* Moscow.
- KRONEBERG, A. I. (1885) Appendix A – Araneae (Spiders). Pp. 47–51. In: LANSDELL, H. (ed.): *Russian central Asia, including Kuldja, Bokhara, Khiva, and Merv*. London.
- KULCZYŃSKI, L. (1895) Araneae a Dre G. Horváth in Bessarabia, Chersoneso Taurico, Transcaucasia et Armenia Russica collectae. *Természettudományi Füzetek, Temesvár* **18**: 3–38.
- KULCZYŃSKI, L. (1908) Araneae et Oribatidae. Expeditionum rossicarum in insulas Novo-Sibiricas annis 1885–1886 et 1900–1903 susceptarum. *Zapiski imeratorskoi Akademii nauk* **18**: 1–97.
- LATREILLE, P. A. (1819) [Articles sur les Araignées] Thomise. *Nouveau Dictionnaire d'Histoire Naturelle* **34**: 26–42.
- LOGUNOV, D. (1996) A critical review of the genera Apolophanes O. P. – Cambridge, 1898 and Thanatus C. L. Koch, 1837 in North Asia. *Revue Arachnologique* **11**(13): 133–202.
- LOGUNOV, D. (1997) Taxonomic notes on some Central Asian philodromid species (Aranei Philodromidae). *Arthropoda Selecta* **6**(1–2): 99–104.
- LOGUNOV, D., MARUSIK YU. M. & KOPONEN, S. (1998) A check-list of the spiders in Tuva, South Siberia, with analysis of their habitat distribution. *Berichte des naturwissenschaftlich-medizinischen Vereins Innsbruck* **85**: 125–159.
- LUCAS, H. (1846) Histoire naturelle des Animaux Articulés. (Aranéides, Tome 1). Pp. 89–271. In: *Exploration scientifique de l'Algérie pendant les années 1840, 1841, 1842, publiée par ordre du Gouvernement et avec le concours d'une commission académique. Sciences physiques, Zoologie*.
- MARUSIK, YU. M. (1991) [The crab-spiders of the family Philodromidae of eastern Siberia]. *Zoologicheskii Zhurnal* **70**(10): 48–58. [in Russian with English summary]
- MARUSIK, YU. M. (2005) [Arachnids (Arachnida: Aranei, Opiliones) of northern Cisokhotia]. *Euroasian Entomological Journal* **4**(3): 187–208. [in Russian with English summary]
- MARUSIK, YU. M., ESKOV, K. YU. & KIM, J. P. (1992) A check-list of spiders (Aranei) of Northeast Asia. *Korean Arachnology* **8**(1–2): 129–158.
- MARUSIK, YU. M., ESKOV, K. YU., KOPONEN, S. & VINOKUROV, N. N. (1993) A check-list of the spiders (Aranei) of Yakutia, Siberia. *Arthropoda Selecta* **2**(2): 63–79.
- MARUSIK, YU. M., HIPPA, H. & KOPONEN, S. (1996) Spiders (Araneae) from the Altai area, southern Siberia. *Acta Zoologica Fennica* **201**: 11–45.
- MARUSIK, YU. M., LOGUNOV, D. & KOPONEN, S. (2000) *Spiders of Tuva, South Siberia*. IBPN, Magadan. 252 pp.
- MARUSIK, YU. M., KOPONEN, S. & POTAPOVA, N. K. (2004) Spiders (Aranei) from Oymyakon, the cold pole of the northern hemisphere (Yakutia, Siberia). *Arthropoda Selecta*, **13**(1–2): 69–75.
- MIKHAILOV, K. G. & FET, V. (1994) Fauna and zoogeography of spiders (Aranei) of Turkmenistan. Pp. 499–524. In: FET, V & ATAMURADOV, K. I. (eds): *Biogeography and ecology of Turkmenistan*, Kluwer Academic Press, the Netherlands.
- MINORANSKI, V. A. (1988) [Materials on the spider fauna (Aranei) of Checheno-Ingushetia]. Pp. 34–42. In: UTOTCHKIN, A. S. (ed.): *Fauna i ekologiya paukoobraznykh*. 'PGU press', Perm. [in Russian]
- MINORANSKI, V. A. & PONOMAREV, A. V. (1984) [Materials on the spider fauna of Kalmykia]. Pp. 82–92. In: UTOTCHKIN, A. S. (ed.): *Fauna i ekologiya paukoobraznykh*. 'PGU press', Perm. [in Russian]

- MINORANSKI, V. A., PONOMAREV, A. V. & GRAMOTENKO, V. P. (1980) [Spiders (Aranei) of Rostov Region]. Pp. 145–158. *In: Fauna, Ekologiya i Okhrana zhivotnykh Severnogo Kavkaza*. Nalchik. [in Russian]
- ONO, H. (1988) *A revisional study of the spider family Thomisidae (Arachnida, Araneae) of Japan*. National Science Museum, Tokio, 1–252 pp.
- PAIK, K. Y. (1979) Korean spiders of the genus *Philodromus* (Araneae: Thomisidae). *Research Review of Kyungpook National University* **28**: 421–452.
- PAVLENKO, T. V. (1985) [Distribution of spiders over the natural complexes of Barsakel' mes Island (Aral Sea)]. Pp. 129–134. *In: OVTSHARENKO, V. I. (ed.): Fauna i ekologiya paukov SSSR. Trudy Zoologicheskogo Instituta AN SSSR*, Vol. 139. ZIN, Leningrad. [in Russian with English summary]
- PICKARD-CAMBRIDGE, O. (1885) *Araneida. Scientific results of the second Yarkland mission*. Calcutta, 1–115 pp.
- PLATNICK, N. I. (2007) The World Spider Catalog, Version 7.0. American Museum of Natural History, New York. Philodromidae page was last updated on November 2, 2006; online at <http://research.amnh.org/entomology/spiders/catalog/>.
- POLCHANINOVA, N. YU. (1988) [Spiders of the Chernomorski State Reserve]. Pp. 42–51. *In: UTOTCHKIN, A. S. (ed.): Fauna i ekologiya paukoobraznykh*. 'PGU press', Perm. [in Russian]
- POLCHANINOVA, N. YU. (1990) [Spiders of the Provalskaya steppe]. Pp. 98–104. *In: OVTSHARENKO, V. I. (ed.): Fauna i ekologiya paukov, skorpionov i lozhnoskorpionov SSSR. Trudy Zoologicheskogo Instituta AN SSSR*, 226. ZIN, Leningrad. [in Russian with English summary]
- POLCHANINOVA, N. YU. (1994) [Spiders (Arachnida, Aranei) of the 'Askania-Nova' Reserve]. Pp. 89–98. *In: PAKHORUKOV, N. M. (ed.): Fauna i ekologiya paukov*. 'PGU press', Perm. [in Russian]
- PRÓSZYŃSKI, J. & STAREGA, W. (1971) Pajaki-Aranei. *Kat. Fauny polski* **33**: 1–382.
- ROBERTS, M. J. (1995) *Spiders of Britain and northern Europe*. London: Harper Collins Publishers, 383 pp.
- ROEWER, C. F. (1959) Die Araneae, Solifuga und Opiliones der Sammlungen des Herrn Dr. K. Lindberg aus Griechenland, Creta, Anatolien, Iran und Indien. *Göteborgs Kungl. Vetenskaps- och vitterhets-Samhälles Handlingar* **8**(4): 1–47.
- SCHENKEL, E. (1936) Schwedisch-chinesische wissenschaftliche Expedition nach den nordwestlichen Provinzen Chinas, unter Leitung von Dr. Sven Hedin und Prof. Sü Ping-Chang. Araneae gesammelt vom schwedischen Arzt der Expedition Dr. David Hummel 1927–1930. *Arkiv för zoologi*, Stockholm **29A**: 1–314.
- SCHICK, R. X. (1965) The crab spiders of California (Araneida, Thomisidae). *Bulletin of the American Museum of Natural History* **129**: 1–180.
- ŠILHAVÝ, V. (1944) Pavouci čeledi Thomisidae ze západního Balkánu. *Sbornik Klubu prirod. Brne* **25**: 90–95. [in Czech]
- SIMON, E. (1870) Araneides nouveaux ou peu connus du midi de l'Europe. *Mémoires de la Société royale des sciences de Liège* **2**: 271–358.
- SONG, D. X. & ZHU, M. S. (1997) *Arachnida: Araneae: Thomisidae, Philodromidae*. Science Press, Beijing, viii+259 pp.
- SONG, D. X., ZHU, M. S. & CHEN, J. (1999) *The Spiders of China*. Hebei Science and Technology Publishing House, Shijiazhuang, 640 pp.
- SONG, D. X., ZHU, M. S. & CHEN, J. (2001) *Araneae*. Hebei Science and Technology Publishing House, Shijiazhuang, 510 pp.

- SPASSKY, S. A. & LAVROV, S. D. (1928) [Materials to the spider fauna of Western Siberia]. *Trudy Sibirskogo instituta sel'skogo khozyaistva i lesovodstva (Omsk)* **10**(2): 203–213. [in Russian with French summary]
- SPASSKY, S. A. & SHNITNIKOV, V. N. (1937) [Materials on the spider fauna of Kazakhstan]. *Trudy Kazakhskogo filiala AN SSSR* **2**: 265–300. [in Russian]
- SUNDEVALL, J. C. (1833) Svenska Spindlarmes beskrifning Fortsättning och slut. *Nova Acta regié Societatis scientiarum Upsaliensis. Stockholm*. **1932**:171–272.
- SZITA, É. & SAMU, F. (2000) Taxonomical review of *Thanatus* species (Philodromidae, Araneae) of Hungary. *Acta Zoologica Academiae Scientiarum Hungaricae* **46**: 155–179.
- TANG, G. M., SONG, D. X. & ZHU, M. S. (2004) [Two new recorded species and a new discovery of the male of the genus *Philodromus* from China (Araneae: Philodromidae)]. *Journal of Hebei University (Natural Science Edition)* **24**(4): 394–398. [in Chinese with English summary]
- TANG, L. R. & SONG, D. X. (1989) [Two new species of the family Philodromidae from China]. *Acta Zootaxonomica Sinica* **14**(4): 420–423. [in Chinese with English summary]
- TOPÇU, A., DEMİR, H. & O. SEYYAR (2005) A checklist of the spiders of Turkey. *Serket* **9**(4): 109–140.
- TRILIKAUSKAS, L. A. (2000) Notes on the spider fauna (Aranei) of the upper reaches of Bureya River (Khabarovsk Province). *Arthropoda Selecta* **9**(3): 215–220.
- TULLGREN, A. (1970) *Svensk Spindelfauna. 3. Egentliga spindlar. Araneae. Fam. 1–4. Salticidae, Thomisidae, Philodromidae och Eusparassidae*. England, Hampton Middlesex, E. W. Claxsey Ltd. 138 pp.
- TSELLARIUS, A. YU. (1993) [*Spiders of the 'Kivach' Reserve (an annotated check-list of species)*]. ESKOV, K. YU. (ed.): Flora i Fauna Zapovednikov SSSR, 51. Moscow. 31 pp. [in Russian]
- URONES, C. (1995) Catálogo y atals de las Arañas de la familia Philodromidae Thorell, 1870 de la Península Ibérica e Islas Baleares. *Graellsia* **51**: 55–81.
- WU, L. T. & SONG, D. X. (1987) Notes on Inner Mongolian spiders of the family Philodromidae. *Journal of Inner Mongolia Teacher's University* **1987**: 28–37.
- YAGINUMA, T. (1986) *Spiders of Japan in color*. New Edition. 'Hoikusha Publishing Co., Ltd.', Osaka. 305 pp. [in Japanese]
- YANG, Z. Z. & MAO, B. Y. (2002) [A new species of the genus *Philodromus* from China (Araneae: Philodromidae)]. *Acta Arachnologica Sinica* **11**(2): 77–79. [in Chinese with English summary]
- ZONSTEIN, S. L. (1984) [On the fauna and ecology of spiders (Aranei) of lower storeys of the walnut-fruit-tree forests of South Kirghizia]. Pp. 144–151. In: PROCHENKO, A. I. (ed.): *Entomologicheskie Issledovaniya v Kirgizhii*, 17. Bishkek, Ilym. [in Russian]
- ZHOU, N. & SONG, D. X. (1985) [Six new records of spiders from China]. *La Animala Mondo* **2**(3–4): 271–276. [in Chinese]
- ZYUZIN, A. A., TARABAEV, C. K. & FYODOROV, A. A. (1994) [The spider fauna (Arachnida: Araneae) of the East part of Kyzylkum Desert and the eastern surroundings of Aral Sea]. *Selevinia* **1**: 3–11. [in Russian]

Revised version received November 28, 2006, accepted May 24, 2007, published February 25, 2008