

REICHENBACHIA

Staatliches Museum für Tierkunde Dresden

Band 31

Ausgegeben: 2. September 1996

Nr. 22

New species of genus *Incestophantes* TANASEVITCH, 1992 from southern Siberia and the Far East, with notes on systematics of this genus (Arachnida: Araneae: Linyphiidae: Micronetinae)

With 22 Figures

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Abstract. Six new species of the genus *Incestophantes* TANASEVITCH, 1992 are described from southern Siberia: Tuva Republic (*I. bonus* spec. nov., *I. logunovi* spec. nov., *I. tuvensis* spec. nov., *I. ancus* spec. nov.), Khakassia Republic (*I. khakassicus* spec. nov.), and the Far East: Khabarovsk Province (*I. obtusus* spec. nov.). Further two European and one Nearctic species are transferred to *Incestophantes*, i.e. *I. annulatus* (KULCZYNSKI, 1882), *I. kotulai* (KULCZYNSKI, 1904), and *I. dupli-catus* (EMERTON, 1913), all comb. nov. ex *Lepthyphantes* MENGE, 1866. Division of the genus into four species-groups is proposed.

Introduction

The genus *Incestophantes* TANASEVITCH, 1992 was created by TANASEVITCH (1992) for the *incestus*-group of *Lepthyphantes* (s. TANASEVITCH & ESKOV, 1987), and up to now the genus has been known to comprise nine species. This paper is dedicated to the description of six new species of this genus from the various parts of Russia: Tuva and Khakassian republics, southern Siberia, and Khabarovsk Province, the Far East. In addition some nomenclatorial changes are proposed.

Type material has been deposited in the collection of the Zoological Museum of the Moscow State University (ZMMU). The following abbreviations have been accepted in the text and figures: Fe—femur, Ti—tibia, Mt—metatarsus, Tm—position of the metatarsal trichobothrium. The chaetotaxy is given in the following formula: Ti I: 2–1–1–0. This stands for: tibia I has two dorsal, one pro- and one retro-lateral spine, ventral spines absent. The sequence of leg segments in measurement data is as follows: femur+patella+tibia+metatarsus+tarsus. All measurements are given hereinafter in mm. Scale—0.1 mm.

I am very grateful to Drs. D. LOGUNOV (Novosibirsk), O. LYAKHOV (Tyumen), O. BURSKY (Moscow) and G. GANIN (Khabarovsk), whose materials have served as the basis for the present paper, as well as to Dr. K. ESKOV (Moscow) who kindly gave me this material for investigation and description. I am also deeply indebted to Dr. S. GOLOVATCH (Moscow) for checking the English of the final draft. This work has been supported in part by the Soros Foundation, Biodiversity Project.

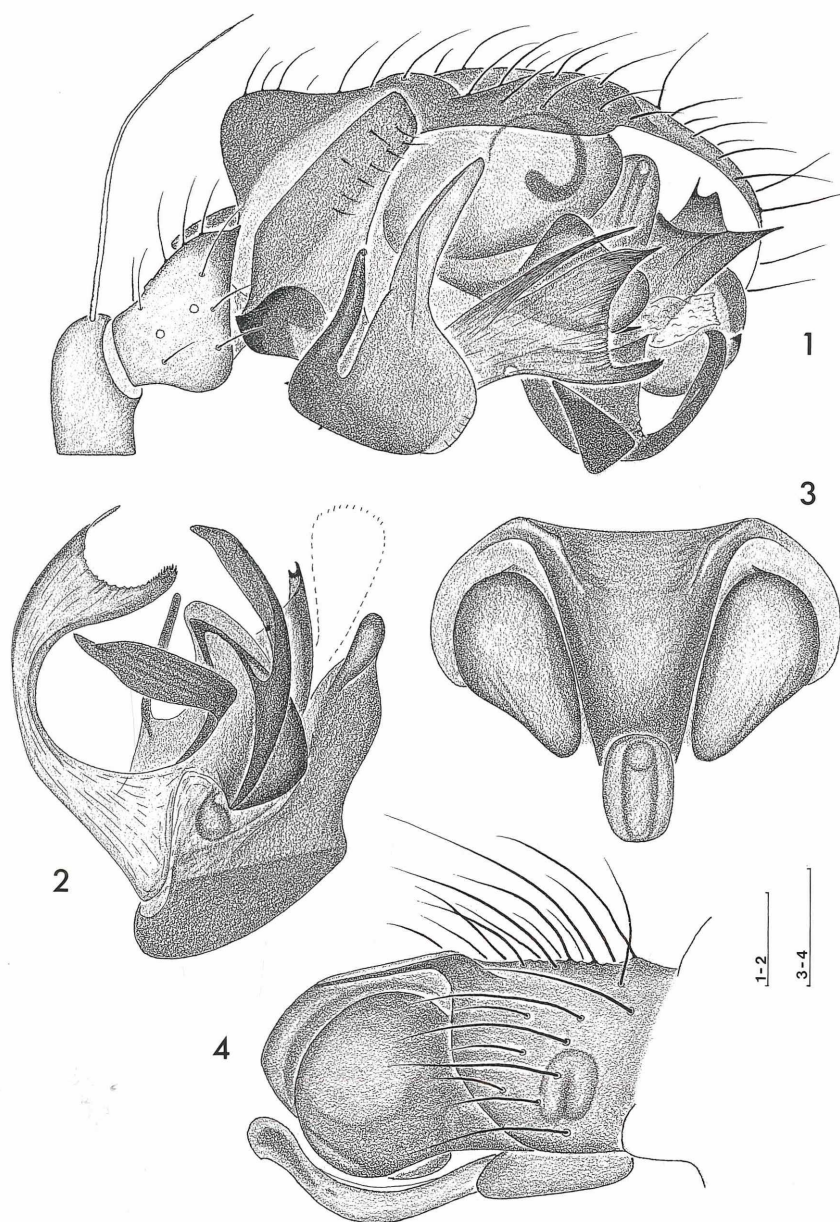
Description of new species

Incestophantes bonus spec. nov. (Figs. 1–4)

Material. Holotype male, Russia, Republic of Tuva, 4–5 km SE of Mugur-Aksy, 2000–2200 m, among stones, 7. VI. 1990, leg. O. LYAKHOV. Paratypes: 2 females, Mugur-Aksy, Khulen Mt. Ridge, 2350 m, taiga, shale plates, 25. V. 1985, leg. O. BURSKY; 1 male, 1 female, Mongun-Taiga Distr.,

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Figs. 1–4: *Incestophantes bonus* spec. nov., male and female paratypes: 1 – right palp; 2 – embolic division; 3, 4 – epigyne (ventral and lateral view, respectively).

Mugur-Aksy, floodlands of Kargy River, 1700 m, forest with *Salix*, *Populus* and *Larix*, litter, 20. V. 1990, leg. D. LOGUNOV.

Etymology. The specific name is translated from a Latin as “good”, this meaning this species is a real, good member of this genus.

Diagnosis. The new species is very closely related to the type species *I. incestus* (L. KOCH), but is well distinguishable from it by the longer upper branch of the lamella characteristica reaching almost

to its apex, some the details of the structure of the terminal apophysis, as well as by the longer "scapus", and the better developed lateral branches of the posterior median plate.

Description. Male. Total length 2.65. Carapace 1.38 long, 1.08 wide, pale brown, with a narrow dark margin and vague radial stripes. Chelicerae 0.58 long. Legs pale brown, with vague dark bands. Leg I 6.06 long (1.53 + 1.58 + 0.40 + 1.55 + 1.00), IV – 5.61 long (1.50 + 1.43 + 0.33 + 1.50 + 0.85). Chaetotaxy. Fe I: 0–1–0–0, II–IV: 0–0–0–0; Ti I: 2–1–1–2, II: 2–0–1–2(1), III–IV: 2–1–1–1; Mt I–IV: 1–0–0–1. Tm I – 0.25. Palp (Figs. 1–2): Patella with a slightly curved spine. Cymbium with two proximal outgrowths. Paracymbium with a large dentiform process on median part and two very small teeth on outer surface, these denticles sometimes disappearing in at different specimens and even different palps. Terminal apophysis complete. Lamella characteristica broad, distally with a deep serrate cut. Abdomen 1.48 long, 0.85 wide, dorsally pale, with a dark median stripe flanked by spots connected to it with bands.

Female. Total length 2.95. Carapace 1.15 long, 0.93 wide. Chelicerae 0.48 long. Leg I 5.64 long (1.53 + 1.43 + 0.38 + 1.40 + 0.90), IV – 5.54 long (1.50 + 1.38 + 0.33 + 1.45 + 0.88). Chaetotaxy. Fe I: 0–1–0–0, II–IV: 0–0–0–0; Ti I: 2–1–1–2(3), II: 2–0–1–2(1), III–IV: 2–1–1–1; Mt I–IV: 1–0–0–1. Tm I – 0.22. Abdomen 2.00 long, 1.25 wide. Epigyne as in Figs. 3–4. Body and leg coloration as in male.

***Incestophantes logunovi spec. nov.* (Figs. 5–8)**

Material. Holotype male, Russia, Republic of Tuva, 20 km W of Erzin, Onchalaan Mt. Ridge, 1200–1300 m, under stones, *Stipa* tussock, 11–12. VIII. 1989, leg. D. LOGUNOV. Paratype: 1 female, same locality, together with holotype, 11–12. VIII. 1989, leg. D. LOGUNOV.

Etymology. The species is named in honour of the Russian arachnologist, the collector of this species.

Diagnosis. According to the palpal structure, the new species is most closely related to *I. khakassicus* spec. nov. (known by the male only), but is well distinguishable from it by the structure of the paracymbium and the shape of the lamella characteristica.

Description. Male. Total length 2.85. Carapace 1.35 long, 1.00 wide, pale brown, with a narrow dark margin. Chelicerae 0.65 long. Legs pale brown, with vague bands. Leg I 6.69 long (1.73 + 1.75 + 0.38 + 1.75 + 1.08), IV – 6.14 long (1.60 + 1.58 + 0.33 + 1.68 + 0.95). Chaetotaxy. Fe I: 0–1–0–0, II–IV: 0–0–0–0; Ti I–II: 2–1–1–2, III–IV: 2–1–1–1; Mt I–IV: 1–0–0–1. Tm I – 0.19. Palp as in Figs. 5–6. Abdomen 1.63 long, 1.08, wide, dorsally pale, with a dark median stripe flanked by spots connected to it with bands.

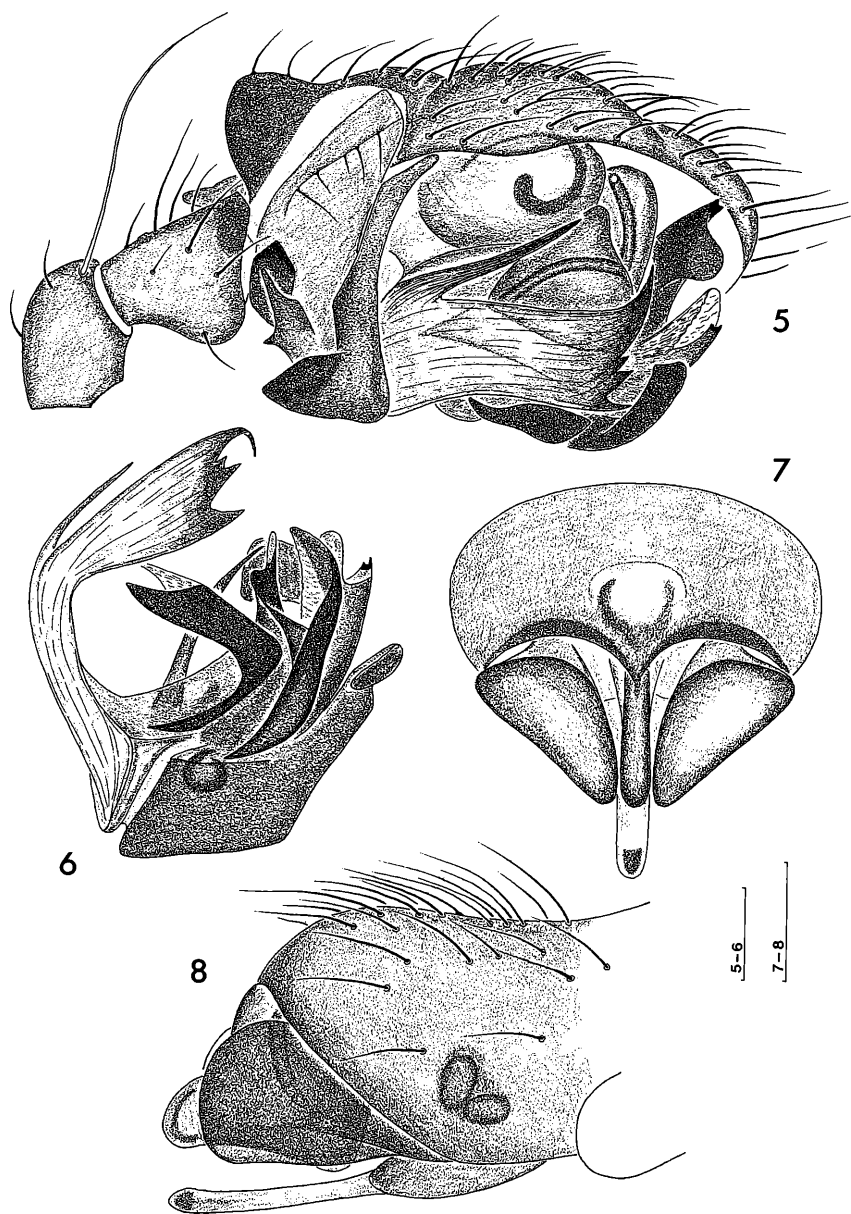
Female. Total length 2.48. Carapace 1.13 long, 0.88 wide. Chelicerae 0.53 long. Leg I – 5.45 long (1.43 + 1.43 + 0.38 + 1.33 + 0.88), IV – 4.99 long (1.38 + 1.28 + 0.30 + 1.25 + 0.78). Chaetotaxy. Fe I: 0–1–0–0, II–IV: 0–0–0–0; Ti I: 2–1–1–2, II: 2–1–1–2(1), III–IV: 2–1–1–1; Mt I–IV: 1–0–0–1. Tm I – 0.21. Abdomen 1.75 long, 1.25 wide. Epigyne as in Figs. 7–8. Body and leg coloration as in male.

***Incestophantes khakassicus spec. nov.* (Figs. 9–11)**

Material. Holotype male, Russia, Republic of Khakassia, 5 km E of Shira, Itkul Lake, stony slope, 21. VII. 1991, leg. D. LOGUNOV.

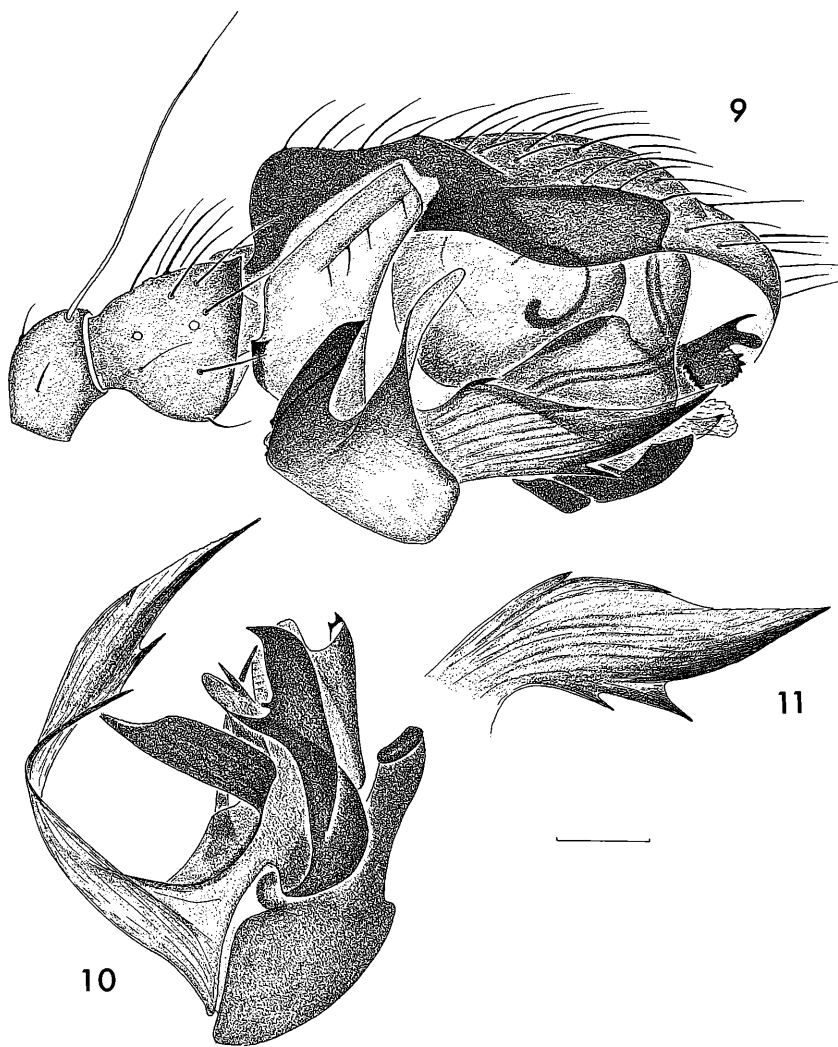
Etymology. The specific name is an adjective referring to the locality of this species.

Diagnosis. This species is most closely related to *I. logunovi* spec. nov. (see above).



Figs. 5–8: *Incestophantes logunovi* spec. nov., male holotype and female paratype: 5 – right palp; 6 – embolic division; 7, 8 – epigyne (ventral and lateral view, respectively).

Description. Male (female unknown). Total length 2.95. Carapace 1.50 long, 1.13 wide, greyish-brown with a narrow dark margin. Chelicerae 0.63 long. Legs pale brown, with vague median bands. Leg I 6.74 long ($1.75 + 1.78 + 0.43 + 1.75 + 1.03$), IV – 6.34 long ($1.70 + 1.58 + 0.38 + 1.70 + 0.98$). Chaetotaxy. Fe I: 0–1–0–0, II–IV: 0–0–0–0; Ti I: 2–1–1–2, II: 2–0–1–2, III–IV: 2–1–1–1. Mt I–IV: 1–0–0–1. Tm I – 0.24. Palp as in Figs. 9–11. Abdomen 1.70 long, dorsally pale, with a dark median stripe flanked by spots connected to it with bands.

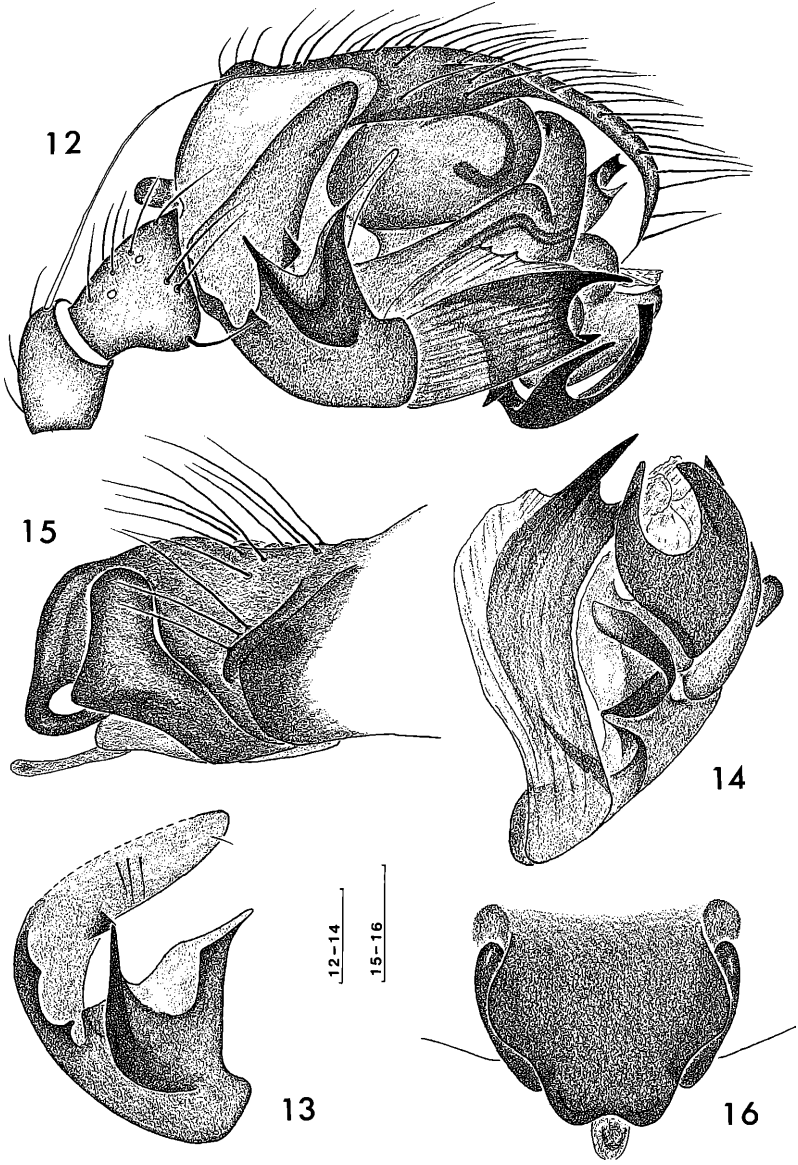


Figs. 9–11: *Incestophantes khakassicus* spec. nov., male holotype: 9 – right palp; 10 – embolic division; 11 – lamella characteristic.

***Incestophantes tuvensis* spec. nov. (Figs. 12–16)**

Material. Holotype male, Russia, Republic of Tuva, Tes-Khemsy Distr., near Khol-Ookhu, floodlands of Aryskinny-Khem River, 900 m, *Populus* forest, 14. VII. 1989, leg. D. LOGUNOV. Paratypes: 1 male, 10 females, Russia, Republic of Tuva, near Erzin, floodlands of Tes-Khem River, 1000 m, 14. VIII. 1989, leg. D. LOGUNOV; 2 females, Tuva Republic, Mongun-Toichinsky Distr., 8–9 km NE of Mugun-Aksy, subalpine belt, 2500–2700 m, under stones, 19. V. 1990, leg. D. LOGUNOV & O. LYAKHOV; 7 females, Tuva Republic, Pit-Khemsy Distr., near Sesarlig, Uyuksky Mt. Ridge, 1200 m, *Larix* taiga, 24. VII. 1990, leg. D. LOGUNOV.

Diagnosis. The new species seems to be most closely related to both *I. frigidus* (SIMON, 1884) and *I. annulatus* (KULCZYNSKI, 1882). From the former, *I. tuvensis* spec. nov. is distinguishable by the

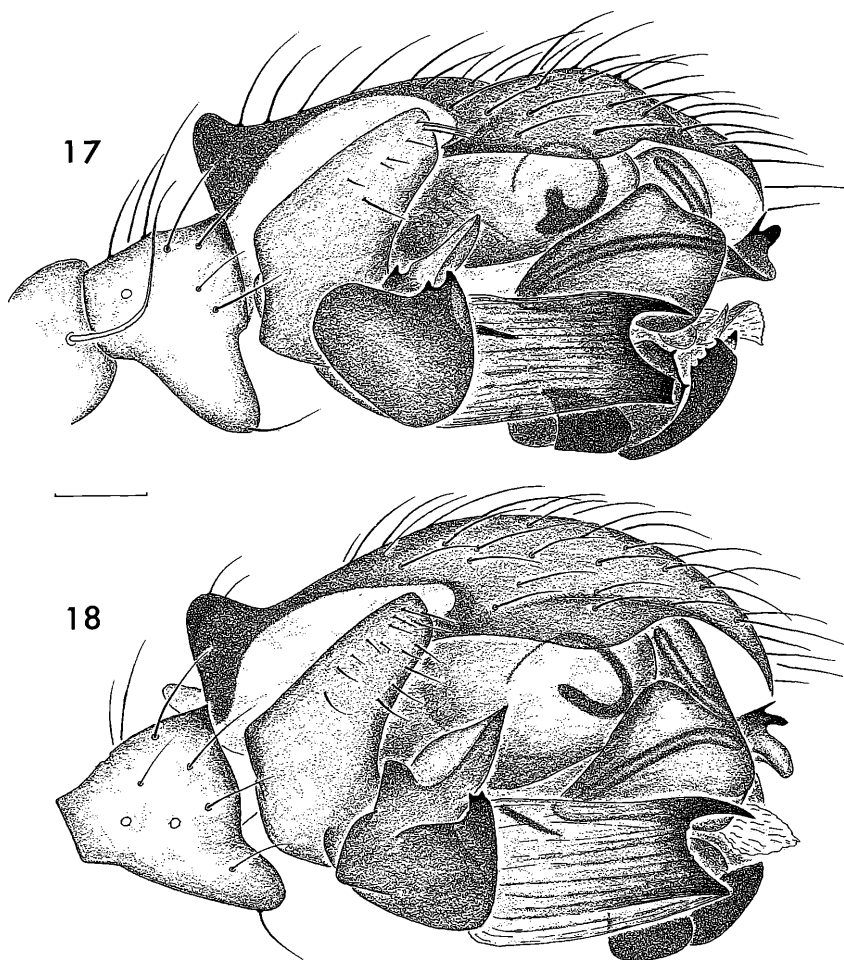


Figs. 12–16: *Incestophantes tuvensis* spec. nov., male holotype: 12 – right palp; 13 – paracymbium; 14 – embolic division; 15, 16 – epigyne (lateral and frontal view, respectively).

shape of the distal part of the lamella characteristic, pointed apophysis of the distal part of the paracymbium; from the latter, by the presence of a dark tooth on the proximal part of the paracymbium; from both, by the presence of rounded outgrowths on the sides of the “scapus”

Etymology. The specific name is an adjective referring to the terra typica of this species.

Description. Male. Total length – 2.37. Carapace 1.15 long, 0.90 wide, pale brown (almost yellow), with dark median stripe and dark margin. Chelicerae 0.63 long. Legs pale brown (almost yellow), with



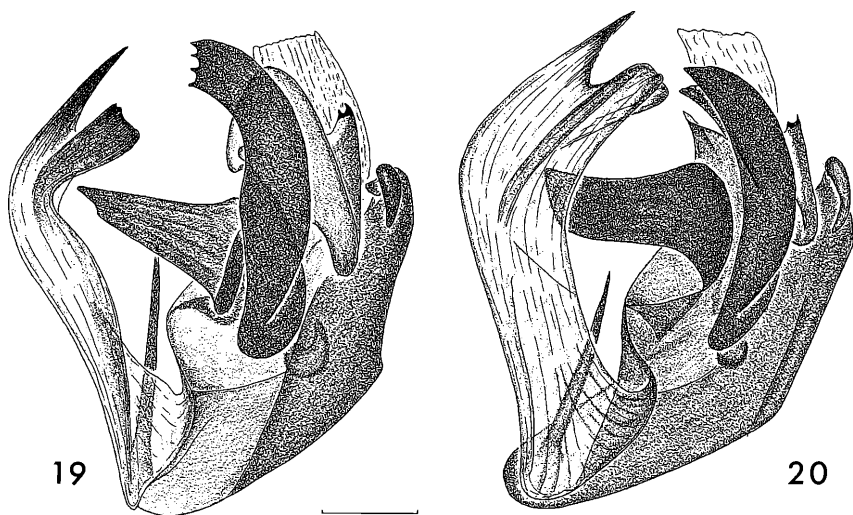
Figs. 17–18: Right palp of *Incestophantes obtusus* spec. nov.: 17 – male holotype; 18 – *I. kochielus* (STRAND), specimen from Russia, Komi Republic.

numerous dark bands. Leg I 4.58 long ($1.35 + 0.35 + 0.65 + 1.33 + 0.90$), IV – 4.83 long ($1.30 + 0.30 + 1.20 + 1.28 + 0.75$). Chaetotaxy. Fe I: 0–1–0–0, II–IV: 0–0–0–0; Ti I: 2–1–1–1, II: 2–0–1–1, III: 2–1(0)–0(1)–1, IV: 2–1–0(1)–1; Mt I–IV: 1–0–0–0. Tm I – 0.21. Palp as in Figs. 12–14. Abdomen 1.40 long, 0.93 wide, dorsally pale, with a dark median stripe flanked by spots connected to it with narrow bands.

Female. Total length 2.60. Carapace 1.00 long, 0.78 wide. Chelicerae 0.50 long. Leg I 4.86 long ($1.25 + 0.33 + 1.20 + 1.18 + 0.90$), IV – 4.59 long ($1.25 + 0.28 + 1.13 + 1.15 + 0.78$). Chaetotaxy. Fe I: 0–1–0–0, II–IV: 0–0–0–0; Ti I: 2–1–1–1, II: 2–0–1–1, III–IV: 2–1–0–1; Mt I–IV: 1–0–0–0. Tm I – 0.21. Abdomen 1.80 long, 1.13 wide. Epigyne as in Figs. 15–16. Body and leg coloration as in male.

***Incestophantes obtusus* spec. nov. (Figs. 17, 19)**

Material. Holotype male, Russia, Khabarovsk Area, Ulchinsky Distr., Skalisty Mt. Ridge, near Sofiyskoye, 350 m, *Picea* forest, litter, VII. 1990, leg. G. GANIN.



Figs. 19–20: Embolic division of *Incestophantes obtusus* spec. nov.: 19 – male holotype; 20 – *I. kochiellus* (STRAND), specimen from Russia, Komi Republic.

Etymology. The specific name describes the shape of the lower branch of the lamella characteristic.

Diagnosis. This species (known by the male only) is very closely related to *I. kochiellus* (STRAND) (compare Figs. 17 & 18), but differs by some minor details of the paracymbium, shape of both terminal apophysis and the lower branch of the lamella characteristic.

Description. Male (female unknown). Total length 2.50. Carapace 1.15 long, 1.00 wide, greyish-brown with darker margin. Chelicerae 0.50 long. Legs yellow, without median bands. Chaetotaxy. Fe I: 0–1–0–0, II–IV: 0–0–0–0; Ti I, IV –?, II: 2–0–1–2, III: 2–1–1–1; Mt II: 1–0–0–0(?), III: 1–0–0–1. Tm II (not I!) – 0.20. Leg II (not I!) 6.32 long (1.63 + 1.55 + 0.38 + 1.73 + 1.03), Fe IV – 1.65 long. Palp as in Figs. 17, 19. Abdomen 1.30 long, dorsally pale, with a dark median stripe flanked by large spots connected to it with bands.

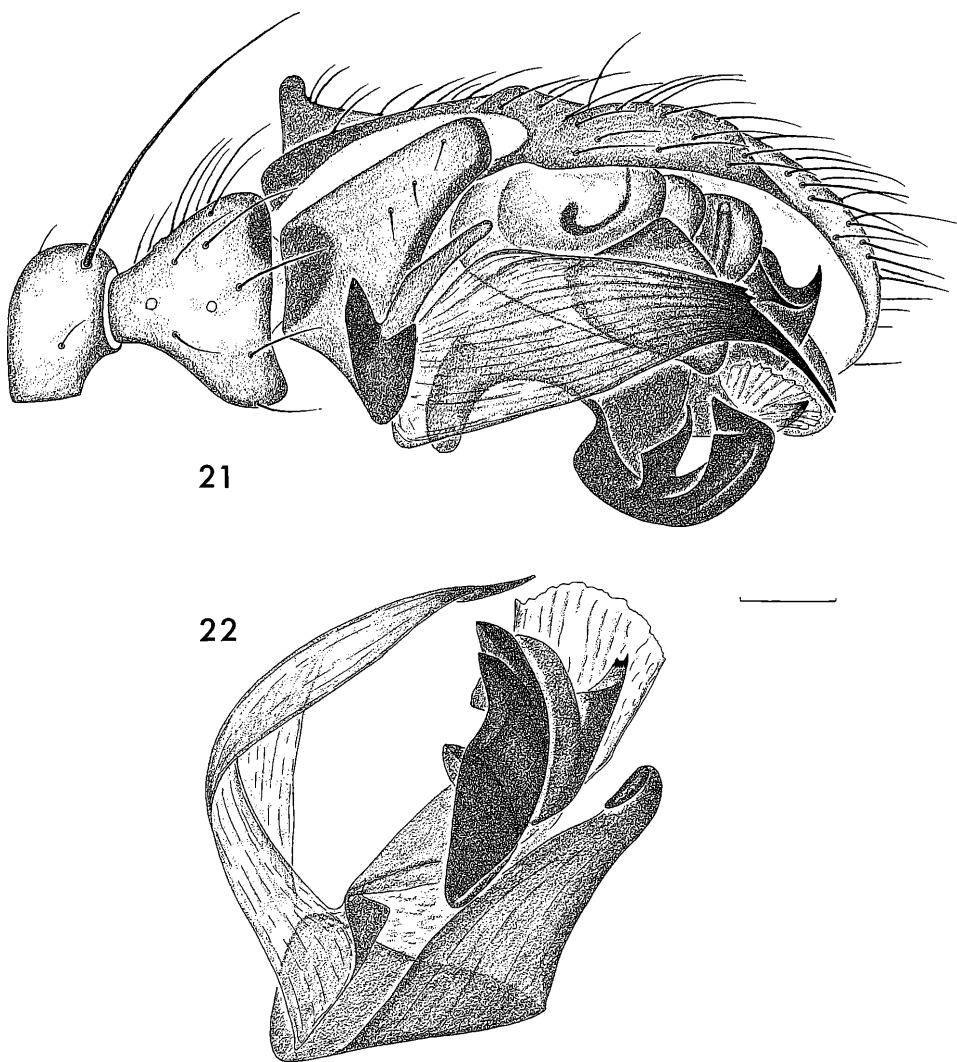
***Incestophantes ancus* spec. nov. (Figs. 21–22)**

Material. Holotype male, Russia, Republic of Tuva, Pit-Khem Distr., near Sesarlig, 1300 m, *Larix* forest, 29. VI. 1990, leg. D. LOGUNOV.

Etymology. The specific name *ancus* is a Latin adjective meaning “curved”, this referring to the shape of the distal part of the lamella characteristic.

Diagnosis. This species is diagnosed by the shape of the paracymbium and structure of the embolic division, with some parts of the terminal apophysis, including the characteristic long and slender part, being reduced.

Description. Male (female unknown). Total length 3.05. Carapace 1.50 long, 1.10 wide, greyish-brown. Chelicerae 0.70 long. Legs pale brown with very vague median bands. Leg I 8.19 long (2.03 + 2.20 + 0.45 + 2.13 + 1.38), IV – 7.03 long (2.00 + 1.70 + 0.35 + 1.93 + 1.05). Chaetotaxy. Fe I: 0–1–0–0, II–IV: 0–0–0–0; Ti I–II: 2–1–1–2, III–IV: 2–1–1–2(1); Mt I: 1(?)–1–0–1, II–IV: 2–1–0–1. Tm I – 0.22. Palp as in Figs. 21–22. Abdomen 1.75 long, 1.03 wide, dorsally pale, with a dark median stripe flanked by large spots connected to it with bands.



Figs. 21–22: *Incestophantes ancus* spec. nov., male holotype: 21 – right palp; 22 – embolic division.

Taxonomic remarks

Originally the *incestus* species-group of *Lepthyphantes* MENGE, 1866 included four species: *Lepthyphantes incestus* (L. KOCH, 1879), *L. incestoides* TANASEVITCH et ESKOV, 1987, *L. distichus* TANASEVITCH, 1986, and *L. kochiellus* (STRAND, 1900). Later, *L. cymbialis* TANASEVITCH, 1987 (TANASEVITCH, 1987), *L. camtschadalicus* TANASEVITCH, 1988, *L. triramus* CHAMBERLIN & IVIE, 1947 (TANASEVITCH, 1988), *L. amotus* TANASEVITCH, 1990, and *L. frigidus* SIMON, 1884 joined this species-group (TANASEVITCH, 1990).

The genus *Incestophantes* TANASEVITCH, 1992 was created by TANASEVITCH (1992) for this *incestus*-group (except for *distichus*), with *Linyphia incesa* L. KOCH, 1879 as the type-species. In addition one new member, *I. washingtoni* (ZORSCH, 1937), was incorporated there as well. Taking this opportunity, I transfer here two European species, i.e. *I. annulatus* (KULCZYNSKI, 1882) and *I. kotulai*

(KULCZYNSKI, 1904), both **comb. nov.** ex *Lepthyphantes*, and both especially closely related to *I. frigidus* and *I. amotus* (s. THALER et al., 1994).

The genus *Incestophantes* does not seem to be homogeneous. It can be further split into four species-groups:

- I. The ***incestus***-group: *I. incestus* (L. KOCH, 1879), *I. incestoides* (TANASEVITCH et ESKOV, 1987), *I. bonus* spec. nov., *I. logunovi* spec. nov., *I. khakassicus* spec. nov., *I. frigidus* (SIMON, 1884), *I. amotus* (TANASEVITCH, 1990), *I. tuvensis* spec. nov., *I. annulatus* (KULCZYNSKI, 1882), comb. nov., and *I. kotulai* (KULCZYNSKI, 1904), comb. nov.
- II. The ***kochiellus***-group, with two subgroups, the *kochiellus*-subgroup: *I. kochiellus* (STRAND, 1900), *I. obtusus* spec. nov., and *I. duplicatus* (EMERTON, 1913), comb. nov. ex *Lepthyphantes* [= *Lepthyphantes tiramus* CHAMBERLIN & IVIE, 1947 (AITCHISON-BENELL & DONDALE, 1990)]; and the *washingtoni*-subgroup: *I. camtchadalicus* (TANASEVITCH, 1988), *I. washingtoni* (ZORSCH, 1937).
- III. The ***cymbialis***-group: *I. cymbialis* (TANASEVITCH, 1987).
- IV. The ***ancus***-group: *I. ancus* spec. nov.

The *incestus* species-group is composed of ten very closely related species, all forming *Incestophantes* sensu stricto. The species of the *kochiellus* species-group are distinguishable by the peculiar shape of the paracymbium, less complex of the terminal apophysis, as well as by the shape of the epigyne, in particular by the structure of the "scapus" and the posterior median plate. The species *cymbialis* and *ancus* are isolated from other congeners, each warranting a separate species-group.

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(Received on 17. III. 1995)

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