

## A review of the genus *Talavera* Peckham and Peckham, 1909 (Araneae, Salticidae)

DMITRI V. LOGUNOV<sup>†1</sup> and TORBJÖRN KRONESTEDT<sup>‡</sup>

<sup>†</sup>*Siberian Zoological Museum, Institute for Systematics and Ecology of Animals, Siberian Division of the Russian Academy of Sciences, Frunze Street 11, Novosibirsk, 630091, Russia*

<sup>‡</sup>*Department of Entomology, Swedish Museum of Natural History, Box 50007, SE-104 05 Stockholm, Sweden*

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The species of the Holarctic jumping spider genus *Talavera* are reviewed. Five new species are described: *Talavera ikedai* sp. n. (♂♀) from Japan and Korea; *T. krocha* sp. n. (♂♀) from France, Ukraine and Kyrgyzstan; *T. parvistyla* sp. n. (♂♀) from central and northern Europe; *T. sharlaa* sp. n. (♀) from Tuva; and *T. tuvensis* sp. n. (♂) from Tuva. A lectotype is designated for *Euophrys monticola* Kulczyński, 1884. A key to the 14 species now encompassed in this genus, and distributional maps, are provided for all of them. Arguments are given for placing the names *Euophrys poecilopus* Thorell, 1873 and *Attus westringi* Simon, 1868 as *nomina dubia*. *Talavera aperta* Miller, 1971 is removed from synonymy with both *Talavera monticola* (Kulczyński, 1884) and *Talavera thorelli* (Kulczyński, 1891).

KEYWORDS: Salticidae, *Talavera*, review, taxonomy, new species.

### Introduction

The jumping spider genus *Talavera* was erected by Peckham and Peckham (1909), for a long time being monotypic, with the Nearctic species *T. minuta* (Banks, 1895) as its sole representative. Recently, Logunov (1992) and Logunov *et al.* (1993: footnote p. 119) found synapomorphies among six minute Palaeartic species, up to then allocated to the genus *Euophrys* C. L. Koch, for transferring them to *Talavera*: *T. aequipes*, *T. esyunini*, *T. monticola*, *T. petrensis*, *T. thorelli* and *T. trivittata*. This idea was supported by some subsequent authors (Wunderlich, 1993; Żabka, 1997; Żabka and Kupryjanowicz, 1997; Żabka and Prószyński, 1998), who added three additional species to *Talavera*, by description or formal transfer: *T. aperta*, *T. inopinata* and *T. westringi*, of which *T. aperta* was erroneously considered a junior

<sup>1</sup>Present address: The Manchester Museum, The University of Manchester, Oxford Road, Manchester M13 9PL, UK; e-mail: dmitri.v.logunov@man.ac.uk

synonym of *T. monticola* by Žabka (1997) and Žabka and Prószyński (1998). Thus, 10 species have so far been assigned to or described in the genus *Talavera*.

Besides, *Euophrys nigripalpis* Simon, 1937 described from males from southern France (Ardèche and Pyrénées-Orientales) and Corsica (Simon, 1937) has been recently assigned by Montardi (www) to *Talavera*. This opinion is based on the fact that Simon (1937) put this species into the third series of *Euophrys* (*s. lat.*; type *T. petrensis*), of which members are now in *Talavera* (Montardi, personal communication). We do not follow this proposal until the syntypes of *E. nigripalpis* have been re-examined and hence this species is excluded from further consideration.

On the basis of a single female, Miller (1971) described *Euophrys brevipes* from the Czech Republic. This name was, however, found by Brignoli (1983) to be preoccupied and a new name for this species was provided: *Euophrys milleri* Brignoli, 1983. Taking into account the original figures (Miller, 1971: pl. 20, figure 20) of the epigyne of *E. milleri*, Žabka and Prószyński (1998) assumed this species to be a member of *Talavera*. However, the spermathecae of *E. milleri*, as illustrated by Prószyński (1976: figure 142), look very similar to the groundplan in *Euophrys* (*s. str.*). Besides, Wunderlich (1995) treated this species as a true member of *Euophrys* (*s. str.*). As the holotype of *E. milleri* (like many other types of species described by Miller) seems to be lost or destroyed during the Second World War, we have been unable to re-examine it. The problem is in need of a special study and will be addressed elsewhere, and *E. milleri* is thus excluded from further consideration.

The main goal of the present paper is to provide an up-to-date synopsis of the species assigned to *Talavera*, including a re-definition of the genus, distributional data and a key to all known species. A total of 14 species, including five new, is now included in this genus.

#### Material and methods

Specimens for this study were borrowed from or distributed among the following museums and personal collections: AMNH, American Museum of Natural History, New York, USA (N. Platnick); FSCA, Florida State Collection of Arthropods FDACS, Division of Plant Industry, Gainesville, FL, USA (G. B. Edwards); GNME, Natural History Museum, Gothenburg (Göteborg), Sweden (T. von Proschwitz and T. Nordander); HNHM, Hungarian Natural History Museum, Budapest, Hungary, (S. Mahunka and T. Szuts); ITEW, Institute of Terrestrial Ecology, Furzebrook Research Station, Dorset, UK (R. G. Snazell); IZUI, Institut für Zoologie der Universität, Innsbruck, Austria (K. Thaler); MCZ, Museum of Comparative Zoology, Harvard University, Cambridge, MA, USA (L. Leibensperger and G. Giribel); MMUM, The Manchester Museum, The University of Manchester, Manchester, UK (D. V. Logunov); MNHN, Museum National d'Histoire Naturelle, Paris, France (C. Rollard); MZHF, Zoological Museum of the Helsinki University, Helsinki, Finland (J. Terhivuo); NHMB, Naturhistorisches Museum, Basel, Switzerland (A. Hänggi and I. Al Hussein); NHRS, Swedish Museum of Natural History (Naturhistoriska riksmuseet), Stockholm, Sweden (T. Kronstedt); NMPC, National Museum, Prague, Czech Republic (A. Kúrka); NSMT, National Science Museum (Nat. Hist.), Tokyo, Japan (H. Ono); PCCK, Personal collection of C. Komposch, Graz, Austria; PCCM, Personal collection of C. Muster, Dresden, Germany; PCHV, Personal collection of H. Vanuytven, Antwerpen, Belgium; PCJK, Personal collection of J. Kupryjanowicz, Białystok, Poland; PCNK, Personal collection of N. Klapkarek, Joachimsthal, Germany; PCSP, Personal collection of

S. Pekár, Prague, Czech Republic; SNMC, Museum of Natural History, Slovak National Museum, Bratislava, Slovakia (J. Svatoň); SZMN, Siberian Zoological Museum of the Institute for Systematics and Ecology of Animals, Novosibirsk, Russia (D. V. Logunov and G. N. Azarkina); ZISP, Zoological Institute, Russian Academy of Sciences, St Petersburg, Russia (V. I. Krivokhatsky); ZMPA, Institute of Zoology, Warsaw, Poland (T. Huflejt); ZMTU, Zoological Museum of the Turku University, Turku, Finland (S. Koponen and M. Saaristo); ZMUM, Zoological Museum of the Moscow State University, Moscow, Russia (K. G. Mikhailov); ZMUU, Zoological Museum of the Uppsala University, Uppsala, Sweden (M. Eriksson and T. Jaenson); ZPSU, Department of Zoology of the Perm State University, Perm, Russia (S. L. Esyunin); ZSMC, Zoologische Staatssammlung, München, Germany (B. Baehr).

Some collectors' names are abbreviated as follows: A. G., A. V. Gromov; A. Z., A. A. Zyuzin; H. L., H. Lohmander; P. L., P. T. Lehtinen; S. O., S. V. Ovtchinnikov; V. O., V. I. Ovtsharenko; Yu. M., Yu. M. Marusik.

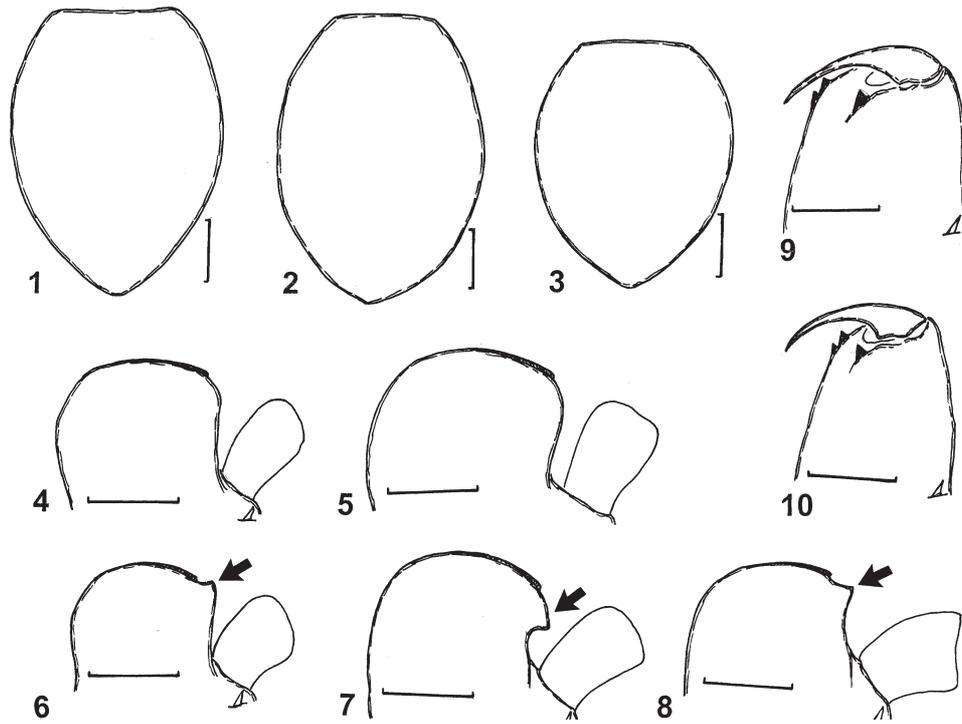
In the format of descriptions we follow Logunov (1997). For leg spination the system adopted is that used by Ono (1988); for description of body scales we follow Hill (1979). The sequence of leg segments in measurement data is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are in mm.

A more complete set of references is given for poorly known or recently described species only (e.g. *T. aperta*, *T. esyunini*, *T. inopinata*, *T. trivittata*, etc.), otherwise only important sources (original descriptions, essential synonymy, etc.) and the literature published later than 1995, which was not incorporated into the recent catalogue by Platnick (1997), are cited. For a complete set of references see Roewer (1954), Bonnet (1956, 1959), Brignoli (1983), Platnick (1989, 1993, 1997, www), Prószyński (1990, www) and Logunov and Marusik (2000).

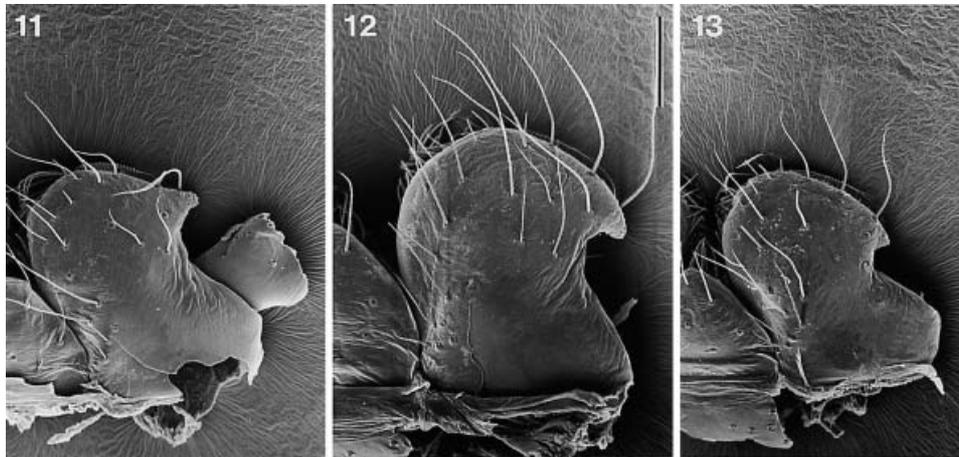
#### *Talavera* Peckham and Peckham

*Talavera* Peckham and Peckham, 1909 (type species: *Icius minutus* Banks, 1895, by original designation).

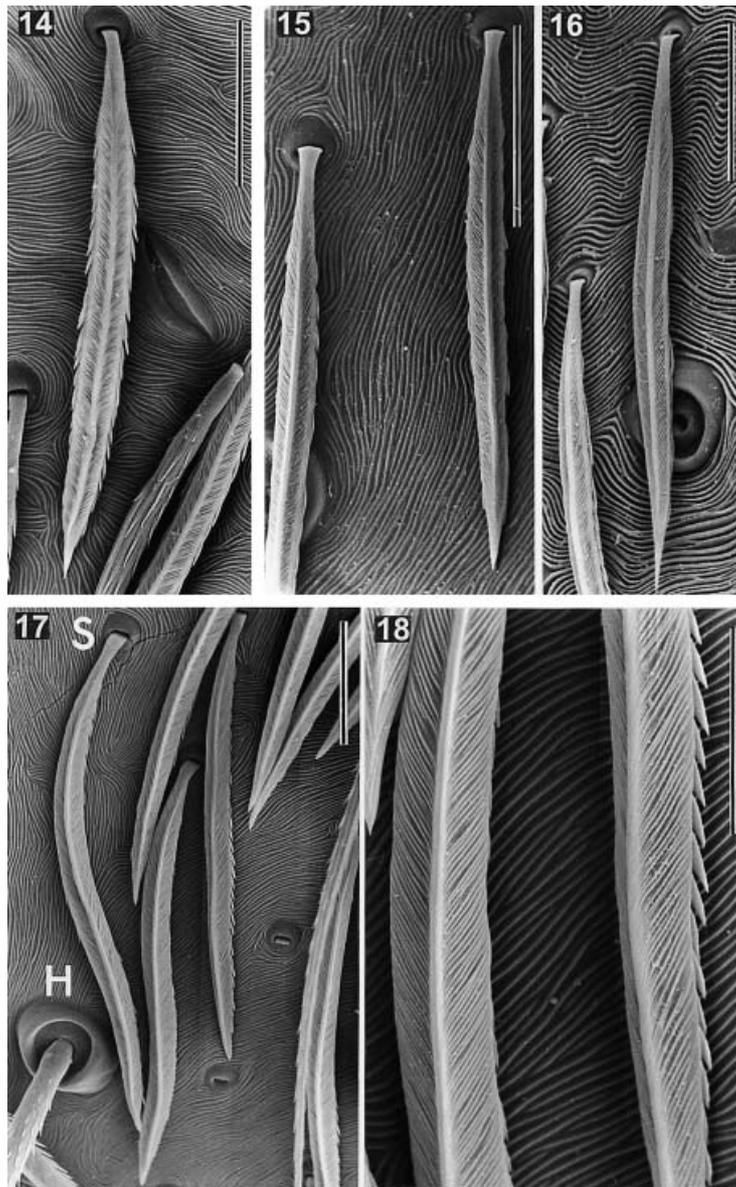
**Definition.** Small to very small unidentate spiders ranging from about 1.6 to 3.6 mm in length. Sexual dimorphism poorly marked by the males having the prolateral sides of femora, patellae and tibiae of leg I dark brown/bluish black, maxillae with a tiny tooth (figures 6–8, 11–13) and clypeus slightly wider. **Carapace:** moderately high (figure 26), usually densely covered with pale appressed scales; fovea present; carapace scales narrow and long, of a keeled, single-shafted type (*sensu* Hill, 1979; i.e. with a well-developed keel) with regular and relatively long inferior spines and distinct oblique striae on superior surface (figures 14, 15, 17, 18). **Eyes:** in three rows; AME > ALE > PLE > PME; anterior row as wide as the third one (or slightly narrower); second row midway between ALE and PLE; quadrangle transverse-rectangular, 1.5–1.7 times wider than long; quadrangle length 39–48% of carapace length. **Clypeus:** rather low, vertical; about 28–39% of AME diameter in females and 15–39% in males. **Chelicerae:** small, vertical; promargin with two small teeth; retromargin with a single medium tooth of unidentate configuration (figures 9, 10). **Maxillae:** transverse, almost square-shaped; male maxillae with tiny tooth (figures 6–8: arrows). **Labium:** subtriangular; apex rounded and directed anteriorly. **Sternum:** suboval, anterior margin usually straight (figures 1–3). **Pedicel:** short, not visible in dorsal view. **Abdomen:** oval, length 1.1–2.0 times width; males often with



FIGS 1–10. *Talavera petrensis*: (1, 7) male from Dnepropetrovsk, Ukraine; (5) female from Kazakhstan). *T. minuta*: (8) male from upper Kolyma River, Russia; (2, 9) female from Ohio, USA. *T. thorelli*: (3, 6, 10) male from Mongolia; (4) female from Tomsk, Russia. (1–3) Sternum; (4–8) left maxilla with palpal trochanter (arrows point at the tiny tooth in the males); (9, 10) left chelicera showing marginal teeth. Scale bars = 0.1 mm.



FIGS 11–13. Left maxilla of male. (11) *Talavera thorelli*, from Sweden. (12) *T. petrensis*, from Almaty area, Kazakhstan. (13) *T. aequipes*, from Byelorussia. Scale bar = 0.1 mm (applies to all).

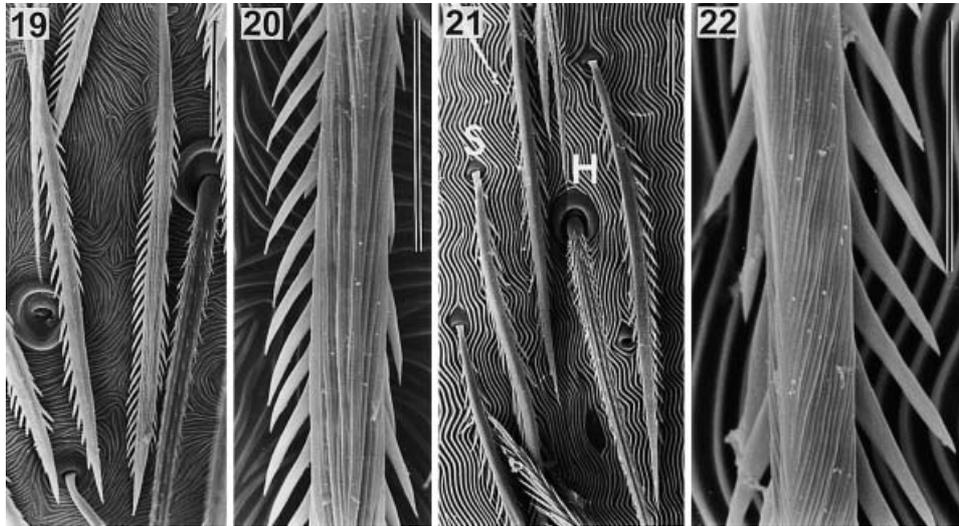


FIGS 14–18. Scales (all from dorsal side of body). (14) *T. esyunini*, female from Finland, carapace. (15, 16) *T. aequipes*, female from Byelorussia: (15) carapace; (16) abdomen. (17, 18) *T. petrensis*, male from Kazakhstan, carapace. Note difference in sockets between scales (*S*) and other setae (*H*). Scale bars = (14–17) 0.02 mm; (18) 0.01 mm.

a small ventral scutum before the spinnerets; colour markings simple and usually reticulate (often with yellowish chevron marks, e.g. figure 125) in both sexes, but sometimes dorsum striped (figures 102, 137); abdominal scales of the same type and structure as those of carapace (figure 16). *Spinnerets*: subequal in length and thickness. *Legs*: subequally developed; usually with numerous brown rings in both sexes, but femora, tibiae and metatarsi of legs I in males always dark brown/bluish black

prolaterally; trichobothria in a single row. *Leg formula*: usually IV, III, I, II in both sexes, with a few exceptions. *Leg spination*: all femora in males with dorsal spines (1-1-2/1; seldom 0-1-1/2), but in females femora usually spineless or with thick bristles of the same pattern as spines in males; all patellae always spineless; tibiae I ventrally 1-1-1/2ap; tibiae III and IV always with prolateral and retrolateral spines (0-1 or 1-1); metatarsi I and II ventrally always with 2-2ap; metatarsi III and IV always with 6ap; all tibiae and metatarsi always without dorsal spines. *Female palp*: general in shape; without apical claws. *Male palp*: cymbium of general form; tibia without apophysis, often covered with long white/red hairs situated basally; embolus with well-developed embolus-tegulum membrane (*sensu* Hormiga *et al.*, 1995; distal haematodocha seems to be a part of this membrane at least in some of the advanced salticids; DL, personal data) of a clearly exposed type (arrow in figure 30; see also Zabka and Prószyński, 1998, figure 1: dh in *T. minuta*); tegulum with distal sclerite which forms a flat or rounded convexity on the distal part of tegulum (figures 25, 96: DS); embolus connected to tegulum by a solid chitinous ligament (figure 24: SL); course of sperm duct rather complex (figures 27–29). *Female genitalia*: rather simple, weakly sclerotized with internal structures usually visible through the integument; copulatory openings very small, covered with either paired rounded discs (figures 43–45), or hidden beneath a single transverse chitinous fold (figures 39, 40); epigyne usually without median septum (poorly developed in *T. aequipes*; figure 44); insemination ducts thin, thread-like (figures 46–53), sometimes twisted at their entrances (figures 52, 118); receptacles large, ovoid/round, with lanceolate fertilization ducts (figure 58: FD).

*Diagnosis*. Among the Euophryinae, *Talavera* seems to be most closely related to *Lilliput* Wesołowska and Russell-Smith, 2000 recently described from Tanzania (see Wesołowska and Russell-Smith, 2000). Both genera are poorly separated morphologically, but have a clearly different conformation of the copulatory organs in

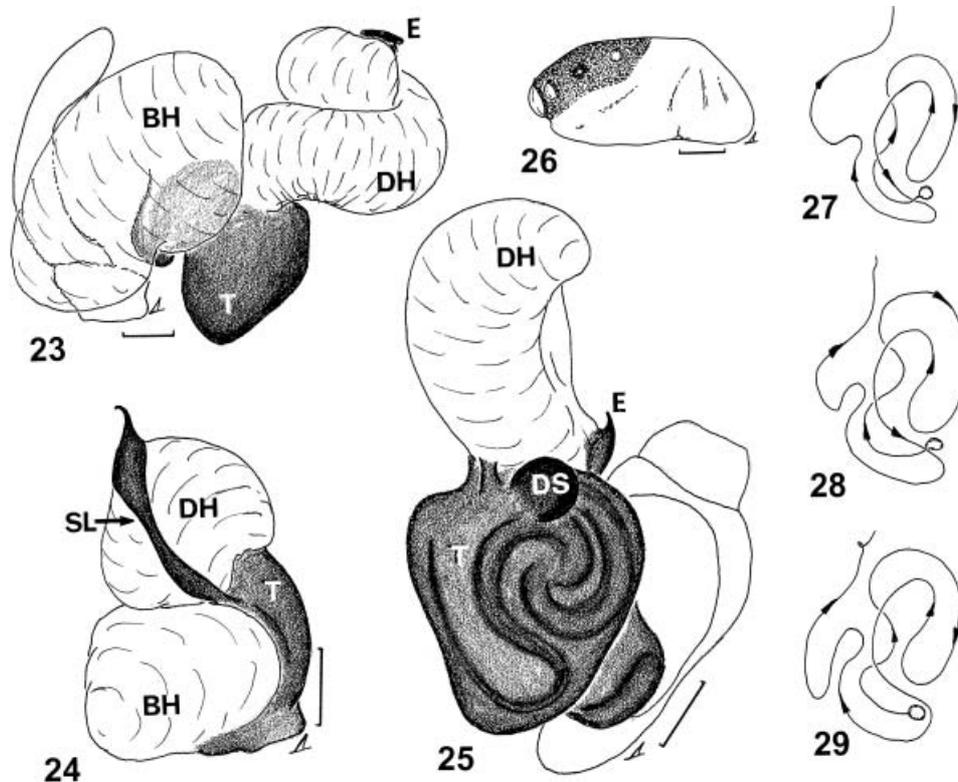


FIGS 19–22. *Euophrys frontalis*, scales (female from Sweden, all from dorsal side of body). (19, 20) Carapace. (21, 22) Abdomen. For *H* and *S*, see legend to figures 14–18. Scale bars = (19, 21) 0.02 mm; (20, 22) 0.01 mm.

both sexes. The independent taxonomic status of *Lilliput* and its relationships with *Talavera* seem to require further detailed study and confirmation.

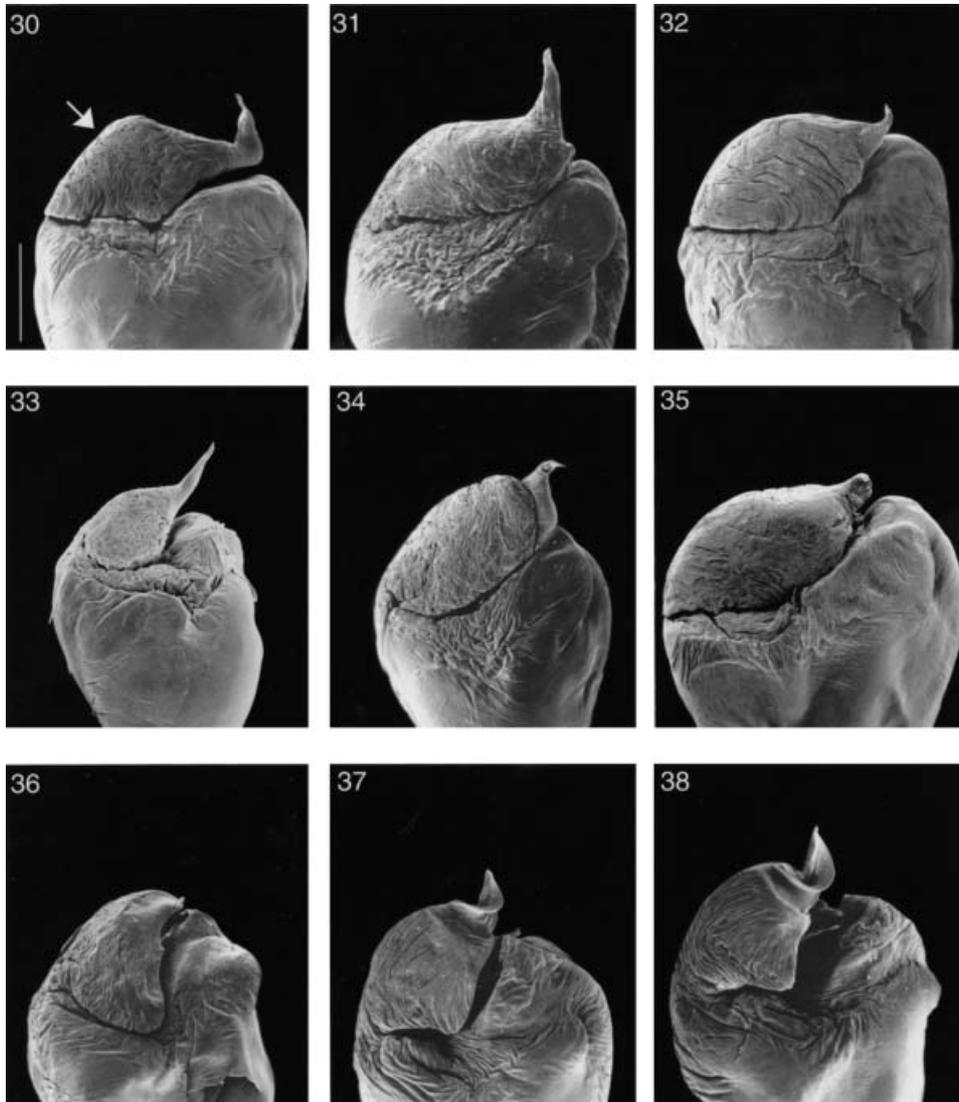
Among the Palaearctic genera, *Talavera* is closest to *Euophrys* (*s. str.*) (see Logunov, 1997; Żabka and Prószyński, 1998), but can be easily distinguished from it by the following set of characters: tibial apophysis always absent (present in all *Euophrys*); male maxilla always with endite tooth (absent in *Euophrys*); long white/red hairs situated at the base of cymbium and overhanging it (absent in *Euophrys*); embolus-tegulum membrane clearly exposed (hidden in *Euophrys*); insemination ducts thin, thread-like (tube-shaped in *Euophrys*); both carapace and abdominal scales with a well-marked keel (without a keel in *Euophrys*; cf. figures 14–18 and 19–22). Besides, all the *Talavera* species, apart from the congeners of the *petrensis* and *aequipes* groups, can also be separated from *Euophrys* by the following characters: distal sclerite of tegulum present (absent in *Euophrys*); course of sperm duct complex, showing two characteristic loops (figures 27–29) (comparatively simple in *Euophrys*; see Logunov, 1992: figures 6, 7); and embolus connected to tegulum by solid chitinous ligament (figure 24: SL) (never observed in *Euophrys*).

It is necessary to emphasize that there are only two euophryine genera (of the



FIGS 23–29. (23–25) Expanded palp, (26) carapace profile and (27–29) course of sperm duct in male palp. (23) *Talavera petrensis* (from Kazakhstan), median view. (24, 27) *T. thorelli* (24 from Middle Urals), dorsal view. (25, 26) *T. esyunini* (male from Middle Urals), palp ventral view, carapace lateral view. (28) *T. minuta*. (29) *T. aequipes*. BH, basal haematodocha; DH, distal haematodocha; E, embolus; SL, solid ligament; T, tegulum. Scale bars = (23–25) 0.1 mm; (26) 0.25 mm.

about 50 described), apart from *Talavera*, lacking the tibial apophysis in the male palp, namely *Featheroides* Peng *et al.*, 1994 from South-East Asia (see Peng *et al.*, 1994) and *Lilliput* (see Wesołowska and Russell-Smith, 2000). Unique diagnostic characters (apparently apomorphies) of *Talavera* are: the exposed embolus-tegulum membrane (figure 30: arrow) and the distal sclerite of the tegulum (figures 25, 96: DS).



FIGS 30–38. Distal part of left bulbus, ventral view. (30) *Talavera aperta* (Miller) (from Slovakia). (31) *T. thorelli* (Kulczyński) (from Sweden). (32) *T. esyunini* Logunov (from Finland). (33) *T. minuta* (Banks) (from Russia: Magadan area). (34) *T. inopinata* Wunderlich (from France). (35) *T. monticola* (Kulczyński) (from Germany). (36) *T. parvistyla* sp. n. (from Sweden). (37) *T. trivittata* (Schenkel) (from Mongolia). (38) *T. aequipes* (O. P.-Cambridge) (from Byelorussia). Arrow points at the embolus-tegulum membrane. Scale bar = 0.1 mm (applies to all).

A total of 14 species is now included in *Talavera* (see below). According to the structure of the copulatory organs, *Talavera* can be divided into three species groups, of which two can be further subdivided into subgroups. A diagnosis and a short characteristic of each group and subgroup, respectively, is given below. The grouping of species is as follows:

the *monticola* group

the *thorelli* subgroup

*Talavera aperta* (Miller, 1971)

*T. krocha* sp. n.

*T. thorelli* (Kulczyński, 1891)

the *monticola* subgroup

*T. esyunini* Logunov, 1992

*T. inopinata* Wunderlich, 1993

*T. minuta* (Banks, 1895)

*T. monticola* (Kulczyński, 1884)

*T. sharlaa* sp. n.

the *aequipes* group

the *parvistyla* subgroup

*T. ikedai* sp. n.

*T. parvistyla* sp. n.

*T. tuvensis* sp. n.

the *aequipes* subgroup

*T. aequipes* (O. Pickard-Cambridge, 1871)

*T. trivittata* (Schenkel, 1963)

the *petrensis* group

*T. petrensis* (C. L. Koch, 1837)

*Distribution.* Holarctic, but all species except *T. minuta* are so far only known from the Palaearctic Region.

#### Key to *Talavera* species

##### *Males*

- |   |  |                      |
|---|--|----------------------|
| 1 | Dorsum striped (figures 102, 137)  | 2                    |
| – | Dorsum monochromic or with a reticulate pattern and/or yellowish chevron marks (figure 125)                                | 3                    |
| 2 | Embolus hook-shaped (figure 100), white scales around eyes of first row, eye field with yellow median stripe (figure 102)  | <i>T. ikedai</i>     |
| – | Embolus corkscrew-like (figures 37, 133, 139), red scales around eyes of first row, eye field without yellow median stripe | <i>T. trivittata</i> |
| 3 | Embolus coiled (figures 143, 147, 148)   | <i>T. petrensis</i>  |
| – | Embolus otherwise  | 4                    |
| 4 | Embolus corkscrew-like (figures 38, 122, 134)  | <i>T. aequipes</i>   |
| – | Embolus otherwise  | 5                    |
| 5 | Clypeus densely covered with yellow or red hairs   | 6                    |
| – | Clypeus sparsely covered with white hairs  | 7                    |
| 6 | Embolic tip spike-shaped (figures 36, 105, 106; magnified: 113–116)  | <i>T. parvistyla</i> |
| – | Embolic tip spine-shaped (figures 59–61)   | <i>T. krocha</i>     |

7	Embolus directed anteriad, forming a right angle with the axis of the embolus-tegulum membrane (figures 30, 31)	8
–	Axes of embolus and embolus-tegulum membrane subparallel (figures 33–35, etc.)	9
8	Embolus claw-shaped (figures 30, 54–56)	<i>T. aperta</i>
–	Embolus dagger-shaped (figures 31, 66)	<i>T. thorelli</i>
9	Embolic tip directed retrolaterad (figures 34, 77)	<i>T. inopinata</i>
–	Embolus otherwise	10
10	Embolus rather short and stout, thorn-shaped (figures 89, 120)	11
–	Embolus slender, dagger-shaped or hook-shaped (figures 33, 32)	12
11	Embolic tip directed ventrad (figures 90, 91, 97)	<i>T. monticola</i>
–	Embolic tip directed laterad (figure 120)	<i>T. tuvensis</i>
12	Embolus comparatively long, dagger-shaped (figures 33, 83)	<i>T. minuta</i>
–	Embolus comparatively short, hook-shaped (figures 32, 71)	<i>T. esyunini</i>

### Females

1	Dorsum striped (figure 138)	2
–	Dorsum monochromic or with reticulate pattern	3
2	Eye field with median yellow stripe (as in figure 102), insemination ducts relatively short, their entrances touching receptacles (figure 104)	<i>T. ikedai</i>
–	Eye field without median yellow stripe, insemination ducts relatively long, their entrances clearly separated from receptacles (figure 142)	<i>T. trivittata</i>
3	Epigyne with heavily sclerotized spiral rims (figure 145)	<i>T. petrensis</i>
–	Epigyne otherwise	4
4	Epigyne with wide, poorly developed, median septum (figures 44, 127–130), insemination ducts twisted at the entrances (figures 131, 132)	<i>T. aequipes</i>
–	Epigyne without median septum	5
5	Epigyne with central atrium and transverse sclerotized fold (figures 57, 63, 68)	6
–	Epigyne without central atrium and sclerotized fold (figures 79, 85, 92, 98)	8
6	Receptacles ovoid, longer than wide, transverse fold wider than receptacle's diameter (figures 62–64)	<i>T. krocha</i>
–	Receptacles rounded (figures 58, 69), transverse fold narrower than or equal to receptacle's diameter (figures 59, 68)	7
7	Receptacles comparatively large (figure 58), length of transverse fold about half of receptacle's diameter	<i>T. aperta</i>
–	Receptacles comparatively small (figure 69), length of transverse fold about equal to receptacle's diameter	<i>T. thorelli</i>
8	Entrances of insemination ducts directed to each other (figure 80)	<i>T. inopinata</i>
–	Entrances of insemination ducts directed laterad or inwards (figures 49–52, 99)	9
9	Entrances of insemination ducts close to anterior wall of receptacles (figures 52, 107–109)	<i>T. parvistyla</i>
–	Entrances of insemination ducts clearly separated from receptacles	10
10	Receptacles transversely elongated, insemination ducts relatively short (figures 98, 99)	<i>T. sharlaa</i>
–	Receptacles rounded, insemination ducts relatively long and subparallel (figures 75, 86, 93)	11
11	Epigyne with a pair of raised flaps covering copulatory openings (figure 42)	<i>T. monticola</i>
–	Epigyne without a pair of raised flaps	<i>T. esyunini</i> (figures 41, 73–75) and apparently <i>T. minuta</i> (figures 85–88; not examined under SEM)

**Survey of species****The *monticola* species group**

*Diagnosis.* All the species included in the *monticola* species group share the following diagnostic characters: embolus not twisted or coiled (figures 30, 31, etc.); epigyne externally not divided into two defined halves (figures 39–42); and the beginning of insemination ducts curving inwards (figures 47, 48, 80, etc.).

By the structure of the epigynal plate, the *monticola* group can be further divided into two subgroups: the *thorelli* and *monticola* subgroups.

**The *thorelli* subgroup**

*Diagnosis.* Epigynal fold present (usually markedly sclerotized) (figures 57, 62, 68); epigynal plate always forming a central atrium (shallow or deep) (figures 39–40).

*Species included.* *T. aperta*, *T. krocha* sp. n. and *T. thorelli*.

***Talavera aperta* (Miller, 1971)**

(figures 30, 39, 47, 54–58, map 1)

*Euophrys aperta* Miller, 1971: 140, figure 19 (♂ holotype from Slovakia: Turčianske Teplice, presumably deposited in the NMPC, not found, probably lost).

*Euophrys aperta*: Prószyński, 1976: t. 13, figure 120, map 59 (♂); Prószyński, 1990: 124; Kobel-Lamparski *et al.*, 1993: 32; Fuhn and Gherasim, 1995: 87, 90–91, figures 37a–c (♂♀); Hänggi *et al.*, 1995: 424; Pozzi and Hänggi, 1998: 40, figures 19, 20 (♂♀); Roberts, 1998: 212, figures (♂♀).

*Talavera aperta*: Wunderlich, 1993: 112 (transferred to *Talavera*); Hänggi, 1993: 6; Vanuytven, 1995: 25–26 (♂); Esyunin and Efimik, 1996: 190; Mikhailov, 1997: 223; Gajdoš *et al.*, 1999: 291, map 9220; Weiss and Petrișor, 1999: 102; Jäger, 2000: 53; Logunov and Marusik, 2000: 236.

*Euophrys thorelli* (misidentified): Maurer and Hänggi, 1990: 232; Prószyński, 1991: 500, figures 1339, 3–4 (♀ only); Logunov, 1992: 78, figure 18 (♀ only); Logunov *et al.*, 1993: 121, figures 18D, E (♀ only).

*Talavera thorelli* (misidentified): Logunov, 1992 (in part): figure 18 (♀ only); Danilov and Logunov, 1994: 38; Pekár, 1999: 153–154, figures 1–5 (♂♀, wrong synonymization with *T. aperta*); Prószyński, www (wrong synonymy).

*Talavera monticola* (wrong synonymization): Žabka, 1997: 103; Žabka and Prószyński, 1998: 116; Platnick, www.

*Euophrys* sp.: Weiss and Sârbu, 1977: 240, figures 6, 7 (♂♀).

*Diagnosis.* *T. aperta* is most closely related to *T. thorelli*, but can be easily separated from it by the shorter, hook-shaped ('cat claw') embolus (cf. figures 54–56 and 65–67) in males; and the shorter transverse fold of the epigyne, the shallower epigynal atrium (cf. figures 39 and 40) and the about twice larger receptacles (cf. figures 58 and 69) in females. Females of *T. aperta* are also very similar to those of *T. krocha*, but differ in having rounded rather than elongated receptacles and a shorter transverse fold of the epigyne (cf. figures 57, 58 and 62–64). Besides, males of *T. aperta* can be confused with those of *T. esyunini*, but the latter have the embolus only slightly curved (never hook-shaped) (cf. figures 54–56 and 70–72).

**Description**

*Male* (from Chelyabinsk area, Russia)

*Measurements.* Carapace 1.11 long, 0.76 wide, 0.51 high at PLE. Ocular area 0.46 long, 0.67 wide anteriorly and 0.67 wide posteriorly. Diameter of AME 0.20. Abdomen 1.06 long, 0.81 wide. Cheliceral length 0.36. Clypeal height 0.06. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.54	0.26	0.36	0.29	0.22	1.67
II	0.46	0.26	0.29	0.22	0.24	1.47
III	0.66	0.28	0.36	0.34	0.29	1.93
IV	0.59	0.26	0.37	0.40	0.31	1.93

*Leg spination.* Leg I: Fm d 1-1-2; Tb v 1-1-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb v 1-1; Mt v 2-2ap. Leg III: Fm d 1-1-1; Tb pr and rt 1-1; Mt pr, rt and v 1-2ap. Leg IV: Fm d 1-1-1; Tb pr and rt 0-1, v 1-1; Mt pr and v 2ap, rt 1-2ap.

*Coloration.* Carapace brown to dark brown, with black margins and thin yellow marginal line. Eye field black. Carapace covered with elongated appressed scales. Clypeus light brown, hairless. Sternum, maxillae, labium and chelicerae yellow-brown to brown. Abdomen light brown with reticulate colour markings of yellow spots, or completely grey-brown. Venter usually lighter (yellow-brown). Booklung covers yellow. Spinnerets brown. All legs yellow, with wide brown rings; femora, patellae and tibiae I anteriorly dark brown to black.

*Palpal structure* as in figures 30, 54–56.

*Female* (from Chelyabinsk area, Russia)

*Measurements.* Carapace 1.26 long, 0.86 wide, 0.51 high at PLE. Ocular area 0.56 long, 0.77 wide anteriorly and 0.77 wide posteriorly. Diameter of AME 0.23. Abdomen 1.54 long, 1.17 wide. Cheliceral length 0.30. Clypeal height 0.07. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.59	0.31	0.34	0.29	0.21	1.74
II	0.51	0.30	0.30	0.26	0.21	1.58
III	0.71	0.33	0.39	0.36	0.29	2.08
IV	0.71	0.29	0.49	0.44	0.32	2.25

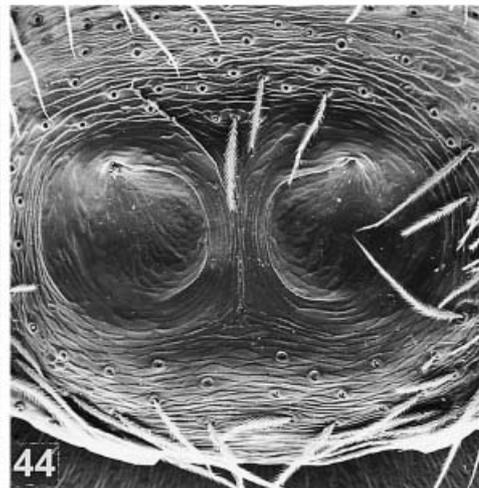
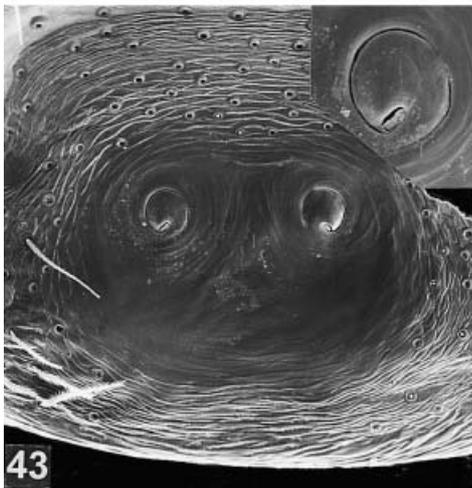
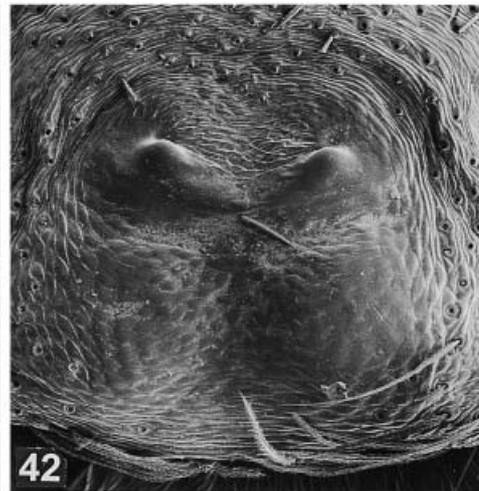
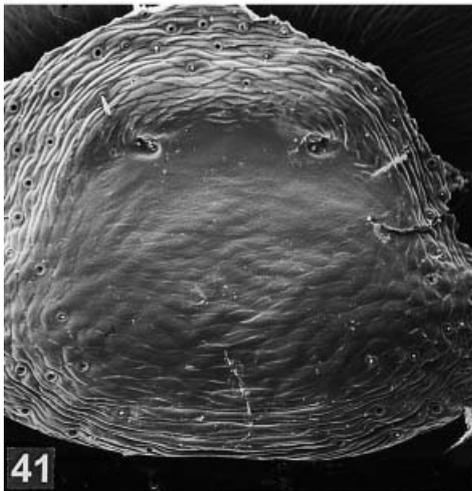
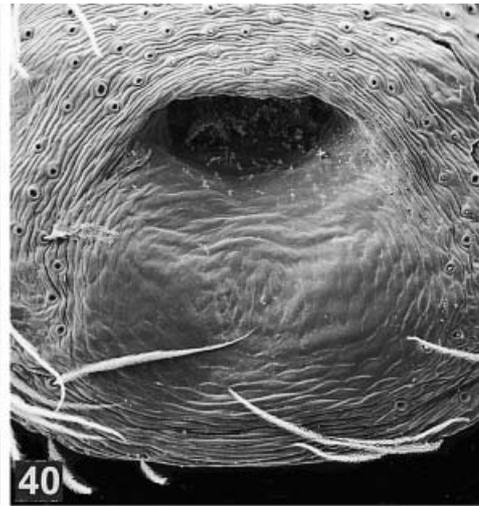
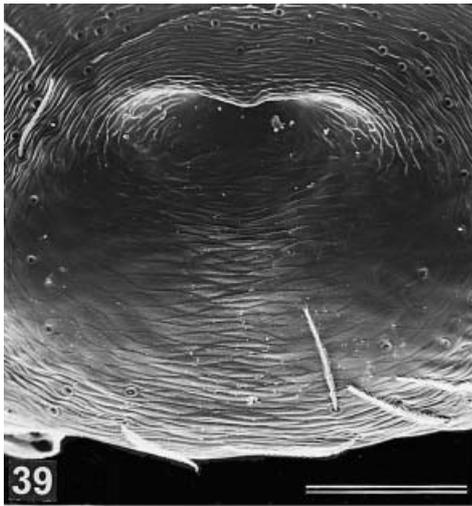
*Leg spination.* Leg I: Tb 1-2-2ap; Mt v 2-2ap. Leg II: Tb v 1-1-1; Mt v 2-2ap. Leg III: Tb pr 0-1, v 1-1ap, rt 1-1; Mt pr, rt and v 1-2ap. Leg IV: Tb pr 0-1, v 1-1ap, rt 1-1; Mt pr and rt 2ap, v 1-2ap.

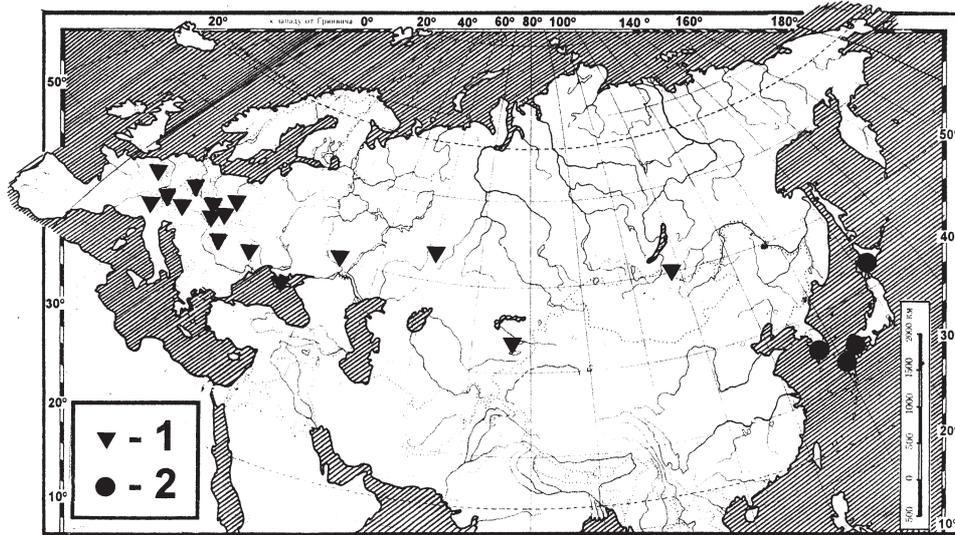
*Coloration.* As described for male, but lighter: abdomen usually light brown, with a characteristic yellow reticulate pattern. Palps yellow, with brown femora.

*Epigyne and spermathecae* as in figures 39, 57, 47, 58.

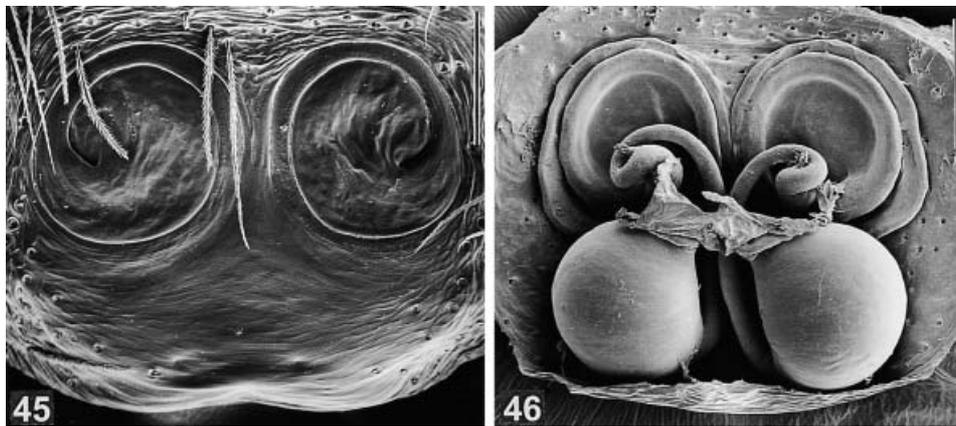
*Material examined.* **Belgium:** Namur, 16 May 1993 (H. Vanuytven, PCHV: R457), one male. **Germany:** Bavaria: Pupplinger Au, 10 August 1983 (B. Baehr, ZSMC) one female. Sachsen-Anhalt: near Dessau, Oranienbaumer Heide, 19 August 1995 (PCNK; see Klapkarek, 1998), one male. **Slovakia:** Trenčianský: Nováky, 1 July 1997 (S. Pekár, PCSP), one male, one female. **Ukraine:** Crimea: Simferopol', 19 July 1916 (Coll. ?, SZMN), one female. **Russia:** Chelyabinsk area: Troitsk Reserve, shore of Kulai Lake, 11–19 June 1993 (P. Durmanov, SZMN, ZPSU), four males, two females. Volgograd area: Frolovo, June 1993 (Yu. M., SZMN), one female.

FIGS 39–44. Epigyne. (39) *Talavera aperta* (Miller) (from Slovakia). (40) *T. thorelli* (Kulczyński) (from Sweden). (41) *T. esyunini* Logunov (from Finland). (42) *T. monticola* (Kulczyński) (from Germany). (43) *T. parvistyla* sp. n. (from Sweden). (44) *T. aequipes* (O. Pickard-Cambridge) (from Byelorussia). Scale bar=0.1 mm (applies to all).





MAP 1. Collection localities of (1) *Talavera aperta* and (2) *T. ikedai*.

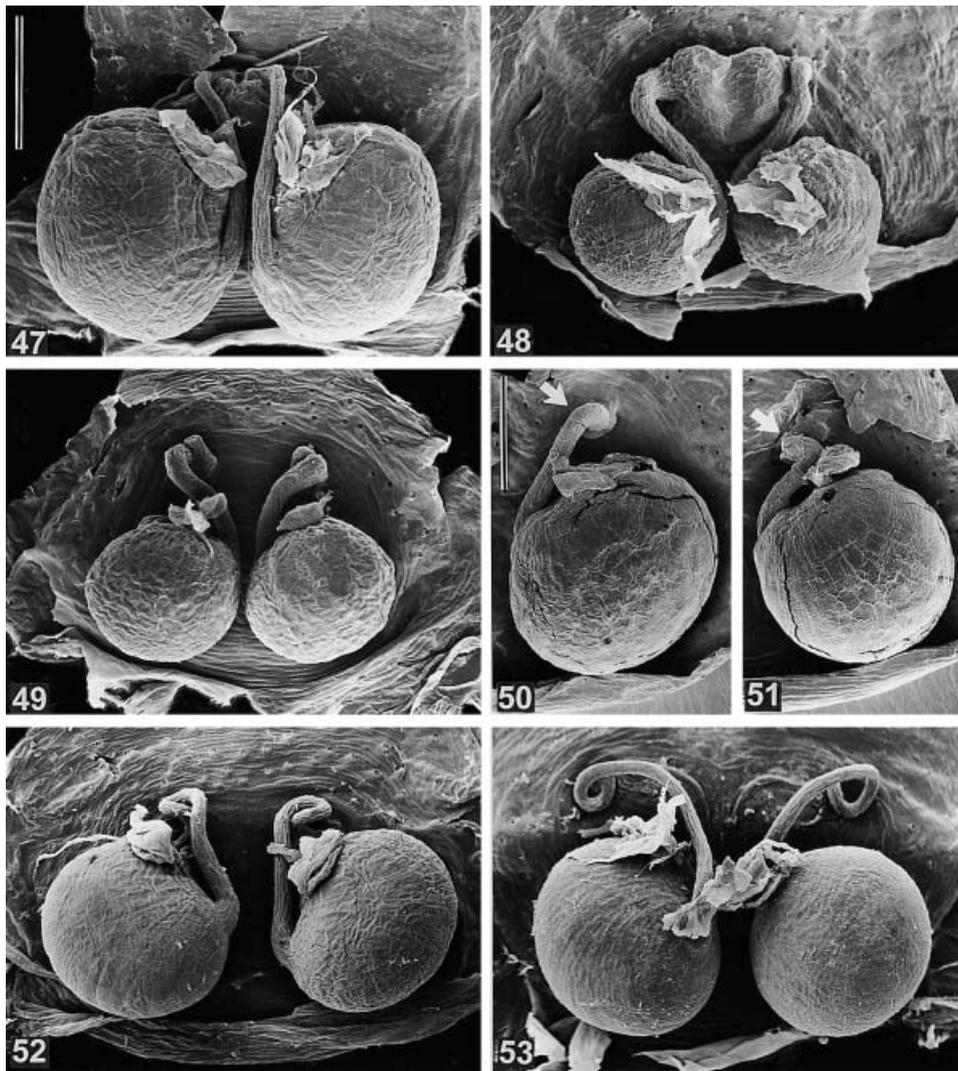


FIGS 45, 46. *Talavera petrensis* (C. L. Koch) (from Sweden). (45) Epigyne. (46) Spermathecae, dorsal view. Scale bars=0.1 mm.

**Kazakhstan:** Almaty, Akademgorodok, 28 May 1993 (A.G., SZMN), one male.  
**Uncertain locality:** 'Russia, Saratov or Sarepta, 15 May 1931' [label illegible] (Coll. ?, ZISP), one female.

For other material examined see Logunov *et al.* (1993: sub *Euophrys t.*; ♀ only).

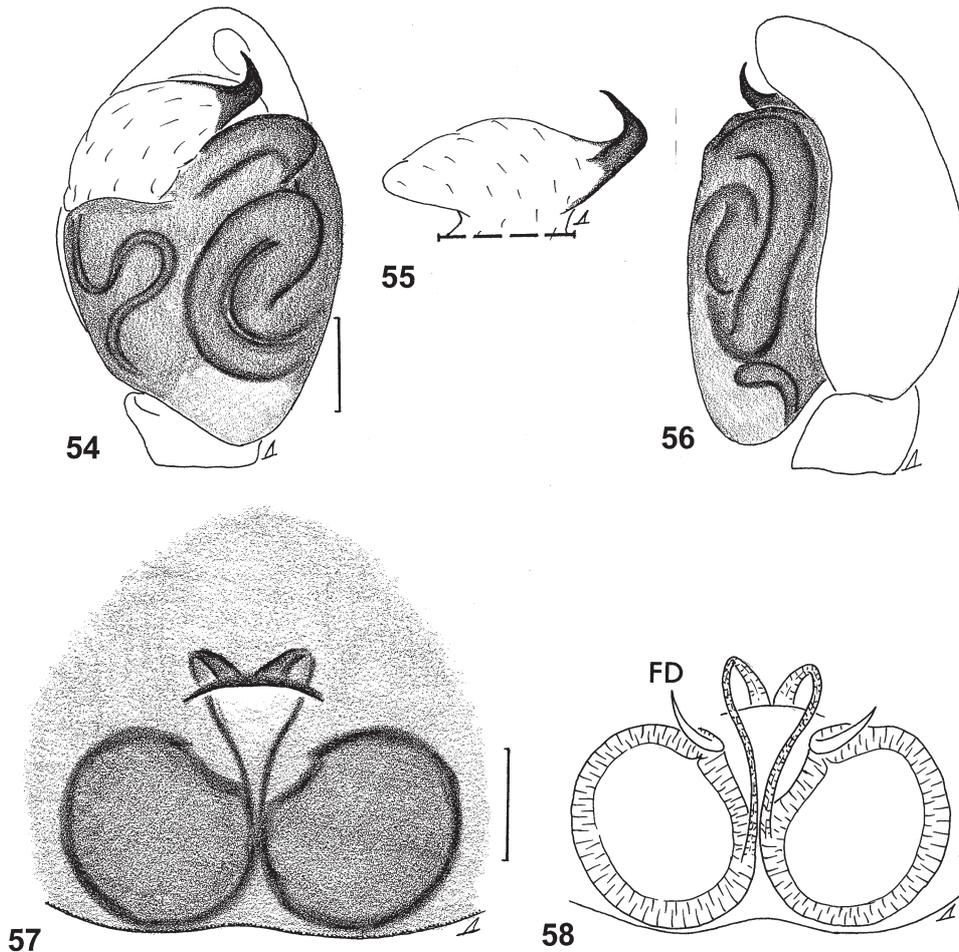
**Habitat.** In Germany, *T. aperta* has mainly been found in dry habitats, e.g. margins of cultivated fields, quarries, dry slopes, hills with vines, etc., according to Klapkarek (1998) who summarized data from Germany while reporting the finding of a single male from a moist meadow. In Belgium, *T. aperta* was found in an old quarry (Vanuytven, 1995). In Siberia, the species was recorded in different steppe habitats, including sloping shrub-stony steppes (Logunov *et al.*, 1993: sub *Euophrys thorelli*, ♀ only; Danilov and Logunov, 1994: sub *T. thorelli*; Logunov and Marusik, 2000).



FIGS 47–53. Spermathecae, dorsal view. (47) *Talavera aperta* (Miller) (from Chelyabinsk area, Russia). (48) *T. thorelli* (Kulczyński) (from Sweden). (49) *T. minuta* (Banks) (from Ohio, USA). (50, 51) *T. monticola* (Kulczyński) (from Germany), showing variation in the course of the insemination duct (arrows). (52) *T. parvistyla* sp. n. (from Sweden). (53) *T. aequipes* (O. P.-Cambridge) (from Byelorussia). Scale bars = 0.1 mm (50, 51 same scale, the rest as in 47).

*Distribution.* This species exhibits a typical European–Siberian sub-boreal range (map 1), with its westernmost localities situated in Belgium (Vanuytven, 1995), the easternmost in Chita area, Sokhondo Reserve (Danilov and Logunov, 1994: sub *T. thorelli*), and the southernmost in Kazakhstan, Almaty (present data).

The specimens reported by Pekár (1999) as *T. thorelli* from Slovakia have been re-examined by us and actually proved to belong to *T. aperta*. Moreover, we consider *T. aperta* to be a separate species rather than a junior synonym of either *T. thorelli* (see Pekár, 1999), or *T. monticola* (see Žabka, 1997). For more details see also ‘Comments’ and ‘Diagnosis’ under *T. monticola* and *T. thorelli*.



FIGS 54–58. *Talavera aperta* (Miller) (male from Chelyabinsk area, Russia; female from Ukraine). (54–56) Left male palp: (54) ventral view; (55) detail of embolus; (56) retrolateral view. (57) Epigyne. (58) Spermathecae, dorsal view. FD, fertilization duct. Scale bars = 0.1 mm.

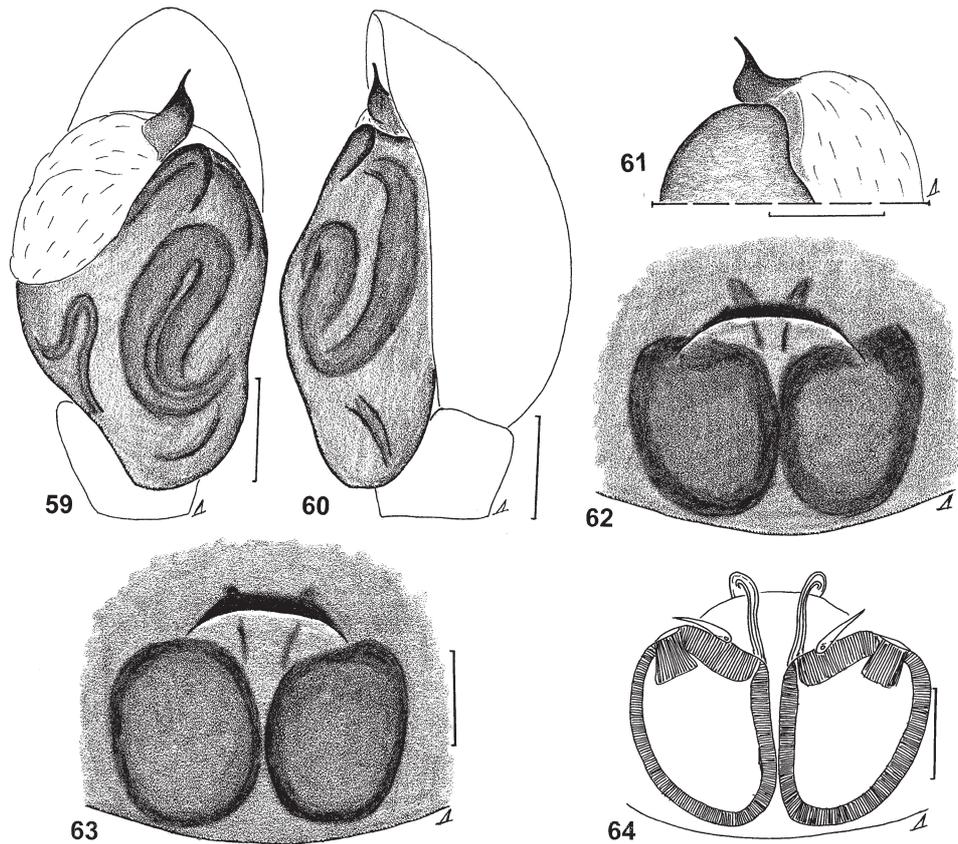
*Talavera krocha* sp. n.  
(figures 59–64, map 3)

*Euophrys thorelli* (misidentified): Nenilin, 1984b: 135 (♀); Nenilin, 1985 (in part): 130; Zonstein, 1996: 144.

*Type.* Female holotype from Kirovograd area, Ukraine, near Alexeevka, in SZMN.

*Etymology.* The specific name is derived from the Russian word ‘krokha’ (spelt as ‘krocha’ in Latin) meaning ‘very small’.

*Diagnosis.* Females of *T. krocha* are very similar to those of *T. aperta*, but differ in having elongated rather than rounded receptacles and a clearly longer transverse fold of the epigyne (cf. figures 62–64 and 57, 58). Males of *T. krocha* are most similar to those of *T. monticola*, but can easily be distinguished by the densely red haired clypeus (with sparse white hairs in *monticola*), the long, dense white hairs



FIGS 59–64. *Talavera krocha* sp. n. (59–61) Male tentatively referred to this species, from Ukraine; female, (62) holotype; (63, 64) paratype from France. (59–61) Left male palp: (59) ventral; (60) retrolateral view; (61) detail of embolus in dorsal view. (62, 63) Epigyne. (64) Spermathecae, dorsal view. Scale bars = 0.1 mm.

on the cymbium (sparse light hairs in *monticola*) and especially characteristic, spine-shaped embolic tip (hook-shaped in *monticola*) (cf. figures 59–61 and 89–91).

The male is provisionally matched with the female, as we have no samples in which both sexes were collected together.

#### Description

##### Male (paratype)

*Measurements.* Carapace 1.25 long, 0.84 wide, 0.50 high at PLE. Ocular area 0.48 long, 0.73 wide anteriorly and 0.73 wide posteriorly. Diameter of AME 0.20. Abdomen 1.13 long, 0.89 wide. Cheliceral length 0.31. Clypeal height 0.04. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.56	0.37	0.42	0.31	0.23	1.89
II	0.53	0.31	0.29	0.28	0.16	1.57
III	0.73	0.33	0.40	0.40	0.26	2.12
IV	0.71	0.29	0.46	0.43	0.43	2.22

*Leg spination.* Leg I: Fm d 1-1-1; Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb v 1-2ap; Mt v 2-2ap. Leg III: Fm d 1-1-2; Tb pr and rt 1-1, v 1-2; Mt pr, rt and v 1-2ap. Leg IV: Fm d 1-1-1-2; Tb pr and rt 1-1; Mt pr and rt 1-2ap, v 2ap.

*Coloration.* Carapace yellow-brown, with brown eye field and yellow marginal stripes. Black around eyes. Carapace covered with elongated, white appressed scales. AMEs surrounded by red scales/hairs. Clypeus densely covered with red hairs. Sternum and chelicerae yellow, tinged with brown. Maxillae and labium yellow. Abdomen: dorsum brown, with yellow reticulate colour markings; venter yellow, tinged with brown. Booklung covers yellow. Spinnerets yellow-brown. All legs: femora light brown; remaining segments yellow with brown rings. Leg I black anteriorly. Palps: femora and patellae yellow-brown; cymbium yellow, with dense basal bunch of long white hairs; bulbus brown.

*Palpal structure* as in figures 59–61.

#### Female (holotype)

*Measurements.* Carapace 1.21 long, 0.90 wide, 0.60 high at PLE. Ocular area 0.54 long, 0.73 wide anteriorly and 0.76 wide posteriorly. Diameter of AME 0.21. Abdomen 1.81 long, 1.36 wide. Cheliceral length 0.34. Clypeal height 0.06. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.56	0.31	0.33	0.30	0.26	1.76
II	0.53	0.29	0.29	0.31	0.20	1.62
III	0.70	0.34	0.36	0.33	0.30	2.03
IV	0.69	0.30	0.46	0.43	0.32	2.20

*Leg spination.* Leg I: Fm d 0-0-1; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-0-1; Tb v 1-1-1ap; Mt v 2-2ap. Leg III: Fm d 0-0-1; Tb pr 0-1-0, v 1-0; Mt pr and rt 1-2ap, v 2ap. Leg IV: Fm d 0-0-1; Tb pr and v 0-1-0; Mt pr and rt 1-2ap.

*Coloration.* Carapace brown, with dark brown radial lines and covered with elongated appressed light scales. Eye field black. Sternum and chelicerae yellowish brown. Maxillae and labium yellow-brown, with white apices. Abdomen brownish, with a reticulate colour markings of numerous yellow dots. Booklung covers yellow. Spinnerets yellowish brown. All legs yellow, with numerous wide brown rings, but all femora almost completely brown. Palps: femora dark brown, remaining segments yellow.

*Epigyne and spermathecae* as in figures 62–64.

*Material examined.* **France:** Dép. Yonne: Mailly le château, 52°80'N, 1°45'E, 200 m a.s.l., 8 May 1994 (Y. Montardi, MNHN), one female (paratype). **Ukraine:** Kirovograd area: near Alexeevka, 10 June 1996 (K. V. Evtushenko, SZMN), one female (holotype); Kherson area: Golopristsanskii Distr., near Rybachie, Chernomorskii steppe reserve, April to June 1991 (N. I. Polchaninova, MMUM), one male (paratype). **Kyrgyzstan:** near Bishkek, summer 1979 (S. L. Zonstein, ZMUM, hitherto identified as *Euophrys thorelli*), one female (paratype) (Nenilin, 1984a, 1984b, 1985: all sub *Euophrys thorelli*).

*Habitat.* The specimen from France was collected in a quarry (Y. Montardi, personal communication), and the specimen from Kyrgyzstan was reported from the litter of elm forest (Nenilin, 1984b, sub *Euophrys thorelli*).

*Distribution.* This species has so far been found in France, Ukraine and Kyrgyzstan (map 3).

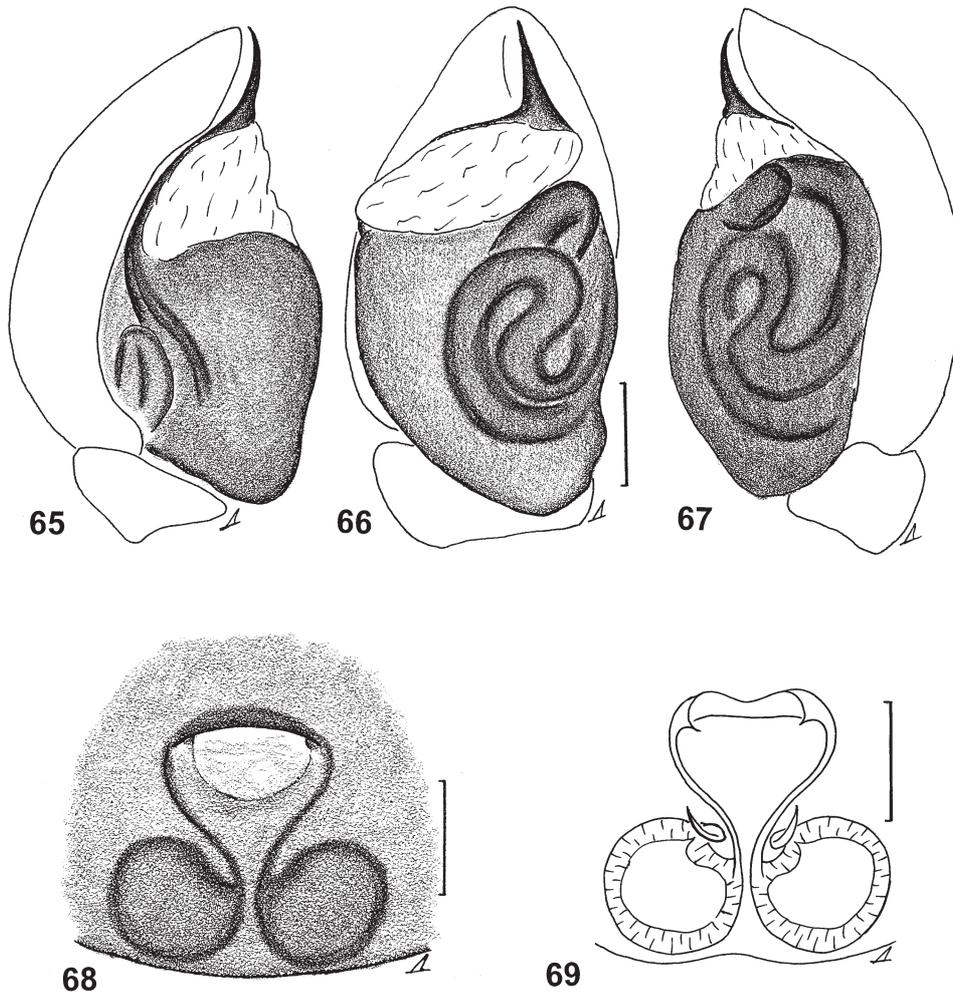
On the basis of Prószyński's figures alone (1979: figure 70), the earlier record of *Euophrys thorelli* from Kazakhstan, Almaty (Spassky and Shnitnikov, 1937; Prószyński, 1979; Nenilin, 1984a) could also belong to *T. krocha*. The problem remains open until Spassky's specimen (♀) has been re-examined.

***Talavera thorelli* (Kulczyński, 1891)**

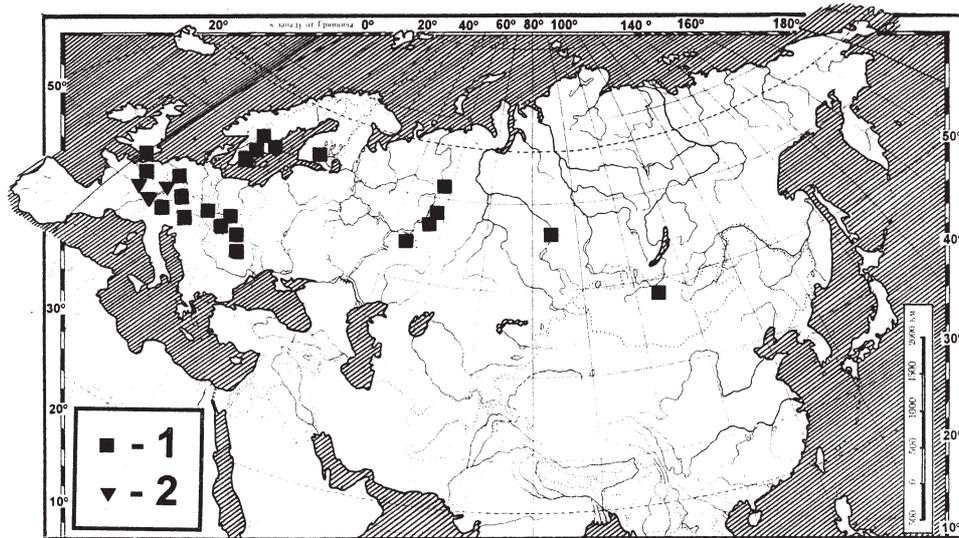
(figures 3, 4, 6, 10, 11, 24, 27, 31, 40, 48, 65–69, map 2)

*Euophrys Thorellii* Kulczyński in Chyzer and Kulczyński, 1891: 44, pl. 2, figure 4a, b (♀; type material from Poland ('Galicia'), not located, and Hungary: Sátoraljaújhely, presumed deposited in HHNM, not found, probably lost).

*Euophrys thorelli*: Lohmander, 1944: 5 (diagnosis ♀); Tullgren, 1944: 39, figure 24B (♀); Roewer, 1954: 1178; Bonnet, 1956: 1890; Prószyński, 1976: pl. 15, figure 145 (♀); Palmgren, 1977: 27, figure 3 (♂); Thaler, 1981: 124, figures 60, 68–69 (♂♀); Prószyński, 1990: 131; Prószyński, 1991 (in part): 500, figure 1339.1 (♂ only); Logunov *et al.*, 1993 (in part):



FIGS 65–69. *Talavera thorelli* (Kulczyński) (male and female from Russia: Middle Urals). (65–67) Left male palp: (65) prolateral; (66) ventral; (67) retrolateral view. (68) Epigyne. (69) Spermathecae, dorsal view. Scale bars = 0.1 mm.



MAP 2. Collection localities of (1) *Talavera thorelli* and (2) *T. inopinata*.

121, figures 18A–C (♂ only); Hänggi *et al.*, 1995: 425; Snazell, 1995: 39–40, figures 1–4 (♂♀); Roberts, 1995: 198–199, figures (♂♀); Thaler, 1997: 257; Roberts, 1998: 211–212, figures (♂♀); Weber, 1999: 67.

*Talavera thorelli*: Logunov, 1992: figures 3, 27 (♂; transferred to *Talavera*); Esiyunin and Efimik, 1996: 190; Mikhailov, 1996: 135; Žabka, 1997: 102, 105–106, figures 411–416 (♂♀); Mikhailov, 1997: 224; Weiss and Petrișor, 1999: 103; Gajdoš *et al.*, 1999: 292, map 9260; Komposch and Steinberger, 1999: 597, 609; Logunov and Marusik, 2000: 238–239; Prószyński, www (in part); Platnick, www.

For a complete set of faunistic references for northern Asia, see Logunov and Marusik (2000).

*Diagnosis.* *T. thorelli* is most closely related to *T. aperta*, but males can be easily distinguished by the comparatively long and stout embolus directed anteriorly (claw-shaped in *T. aperta*) (cf. figures 66 and 54), while females differ by having a deeper median epigynal atrium, a longer anterior transverse fold of the epigyne (cf. figures 40, 68 and 39, 57) and twice smaller receptacles (cf. figures 48, 69 and 47, 58).

#### Description

##### Male (from Mongolia)

*Measurements.* Carapace 0.96 long, 0.72 wide, 0.47 high at PLE. Ocular area 0.46 long, 0.60 wide anteriorly and 0.61 wide posteriorly. Diameter of AME 0.26. Abdomen 0.96 long, 0.76 wide. Cheliceral length 0.30. Clypeal height 0.04. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.47	0.21	0.29	0.20	0.20	1.37
II	0.43	0.23	0.24	0.21	0.19	1.30
III	0.57	0.29	0.29	0.27	0.27	1.69
IV	0.53	0.26	0.33	0.30	0.27	1.69

*Leg spination.* Leg I: Fm d 1-1-1; Tb v 1-1-1; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb pr 0-1, v 0-1-1; Mt 2-2ap. Leg III: Fm d 1-1-2; Tb pr, rt and v 1-1; Mt pr, rt and v 1-2ap. Leg IV: Fm d 1-1-2; Tb pr and rt 0-1, v 1-1; Mt pr and rt 2ap, v 1-2ap.

*Coloration.* Carapace brown, with black radial and marginal lines, and with thin yellow stripe along margins. Eye field black. Entire carapace covered with white elongated appressed scales. Clypeus yellow-brown, hairless. Sternum yellow-brown. Maxillae, labium and chelicerae yellow. Abdomen: dorsum and sides grey-brown, with yellow reticulate markings; venter yellow-brown. Booklung covers yellow. Spinnerets brown. All legs yellow, with dark brown rings, but all femora almost completely brown; femora, patellae and tibiae I anteriorly black. Proximal part of cymbium yellowish with dense pubescence of moderately long white hairs.

*Palpal structure* as in figures 31, 65–67.

*Female* (from Tomsk area, Russia)

*Measurements.* Carapace 1.09 long, 0.74 wide, 0.47 high at PLE. Ocular area 0.49 long, 0.66 wide anteriorly and 0.68 wide posteriorly. Diameter of AME 0.21. Abdomen 1.66 long, 1.04 wide. Cheliceral length 0.31. Clypeal height 0.06. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.49	0.29	0.27	0.26	0.20	1.51
II	0.43	0.27	0.24	0.24	0.20	1.38
III	0.61	0.30	0.31	0.31	0.23	1.76
IV	0.61	0.27	0.39	0.39	0.29	1.95

*Leg spination.* Leg I: Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Tb v 1-1-1; Mt v 2-2ap. Leg III: Fm d 0-0-2; Tb pr and rt 1-1, v 1-0; Mt pr, rt and v 1-2ap. Leg IV: Fm d 0-0-1-1; Tb pr and rt 0-1, v 1-0; Mt pr, rt and v 1-2ap.

*Coloration* as described for male, but lighter and leg I does not differ from remaining legs. Palps yellow, with brown femora.

*Epigyne and spermathecae* as in figures 40, 48, 68, 69.

*Material examined.* **UK:** Kent: Folkestone, Castle Hill, May 1991 (R. G. Snazell, ITEW), one male, two females. **Austria:** Tirol: Innsbruck, Martinswand, pitfall trap, 7 June to 11 August 1963 (K. Thaler, IZUI), one male. **Sweden:** Närke: Kil, 13 June 1944 (H. L., GNME), one male, one female; Kvistbro 27 and 30 June 1944 (H. L., GNME), three females; at Lake Ramsjön, 2 July 1944 (H. L., GNME), one female. Östergötland: Kristberg, 24 May 1946 (H. L., GNME), one male; Stjärnarp, 2 July 1946 (H. L., GNME), one male, three females. Uppland: Heby, Masteråsen, 9–21 June 1985 (Å. Holm, ZMUU), one male. Värmland: Bjurtjärn, 23 June 1955 (H. L., GNME), four females; Brattfors, 3 June 1955 (H. L., GNME), two males; Hammarö, 16 July 1955 (H. L., GNME), two females; Nor, 12 July 1955 (H. L., GNME), one female; Nyed, 2 and 18 June 1955 (H. L., GNME), one male, five females; Sörmon, 8 June 1941 (Å. Holm, ZMUU), one male, one female; Varnum, 2 July 1955 (H. L., GNME), one male, three females; Väse, 27 June 1955 (H. L., GNME), one female. **Finland:** South Savo: Mäntyharju, Mäkelä, 28 July 1973 (P. Palmgren, MZHF), one male; same locality, 12 May to 29 July 1975 (P. Palmgren, MZHF), two males, three females; same locality, 12 May to 4 July 1976 (P. Palmgren, MZHF), one male, one female. **Russia:** Tomsk area: Anikino, 10 June 1994 (S. Yu. Rakov, SZMN), one female. Perm area: Gornozavodsk Distr., Basegi Reserve, 9 July 1990 (S. L. Eshunin, SZMN), one male. **Mongolia:** Tov Aimak: Baga-Mukhar, 48°22'N, 106°18'E, 1100 m a.s.l., 23 June 1997 (Yu. M., SZMN), one male.

*Habitat.* In Britain, *T. thorelli* was found in different grassland communities and

pine forests (Snazell, 1995: sub *Euophrys t.*); in the Alps, it was collected in stony steppes with sparse pines (Thaler, 1981, 1997); in Sweden, it was found under lichens and mosses on solid rocks in light conifer forests (Lohmander, 1956) and in Finland in dry meadows and dry, light forests (Palmgren, 1977); in the Middle Urals, the species was collected in birch forests, mountain lichen tundra and limestone outcrops (Logunov and Marusik, 2000); in Chita area, it was collected in different steppe habitats, including sloping steppes (Logunov and Marusik, 2000); in Mongolia, it was found in litter of the pine-birch forest (Logunov and Marusik, 2000).

*Distribution.* This species has a European–Siberian temperate range (map 2), with its north-westernmost localities in Britain (Snazell, 1995), and Fennoscandia (Palmgren, 1977; present data), and southeasternmost localities in the Tomsk area (Russia) and central Mongolia (Marusik and Logunov, 1999; present data).

Besides, Ovtsharenko (1978) reported on *Euophrys thorelli* from the Caucasus Major, but his specimen turned out to belong to *T. aequipes* (one ♀, re-examined). The records of *T. thorelli* from Kyrgyzstan (Nenilin, 1984a, 1984b, 1985; Zonstein, 1996; all sub *Euophrys t.*) turned out to belong to *T. krocha* (Nenilin's specimen, one ♀, re-examined). Besides, the record of *Euophrys thorelli* from Kazakhstan, Almaty (Spassky and Shnitnikov, 1937), repeated by Prószyński (1979: figure 70) and Nenilin (1984a) may also turn out to belong to *T. krocha*. The problem remains open until Spassky's specimen (♀) has been re-examined.

### The *monticola* subgroup

*Diagnosis.* Epigyne without central atrium (figures 41, 42, 73, 87) and epigynal fold poorly marked, almost invisible (figures 73, 79, 85, etc.). The females of this species group are sometimes indistinguishable (see key to species).

*Species included.* *T. esyunini*, *T. inopinata*, *T. minuta*, *T. monticola* and *T. sharlaa* sp. n.

#### *Talavera esyunini* Logunov, 1992

(figures 14, 25, 26, 32, 41, 70–75, map 3)

*Talavera esyunini* Logunov, 1992: 80, figures 2, 8, 12–17, 24, 25 (♂♀; ♂ holotype from Russia: Perm area, Gornozavodsk Distr., Baseghi State Reserve, in ZMUM, examined).

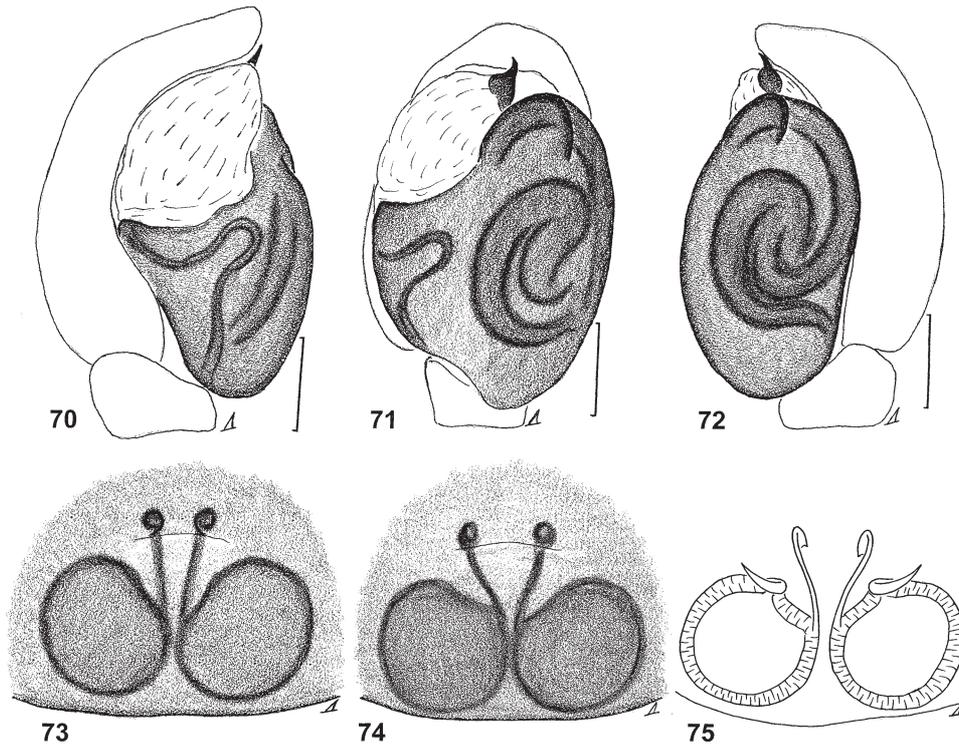
*Talavera esyunini*: Esyunin and Efimik, 1996: 190; Mikhailov, 1996: 135; Mikhailov, 1997: 223; Esyunin, 1999: 659; Logunov and Marusik, 2000: 236; Prószyński, www; Platnick, www.

*Diagnosis.* Males of *T. esyunini* are similar to those of *T. aperta* and *T. minuta*, but easily separable from them by the shape of the embolus (cf. figures 32, 71 with 30, 54 and 33, 83, respectively). Females of *T. esyunini* cannot be reliably distinguished (at least by light microscopy) from those of *T. minuta* and *T. monticola*, and accompanying males are always required for distinguishing these species. However, the females of *T. monticola* differ in having a pair of raised epigynal flaps (as seen under SEM), never observed in *T. esyunini* (cf. figures 42 and 41).

### Description

*Male* (from Kuusamo, Finland)

*Measurements.* Carapace 1.10 long, 0.77 wide, 0.51 high at PLE. Ocular area 0.46 long, 0.67 wide anteriorly and 0.66 wide posteriorly. Diameter of AME 0.19. Abdomen 1.11 long, 0.89 wide. Cheliceral length 0.33. Clypeal height 0.07. Length of leg segments:



FIGS 70–75. *Talavera esyunini* Logunov. (70–72) Male from Finland; (73) female from Sweden; (74, 75) female from Kola Peninsula, Russia. (70–72) Left male palp: (70) prolateral; (71) ventral; (72) retrolateral view. (73, 74) Epigyne. (75) Spermathecae, dorsal view. Scale bars=0.1 mm.

	Fm	Pt	Tb	Mt	Tr	Total
I	0.53	0.29	0.31	0.26	0.23	1.62
II	0.50	0.26	0.26	0.26	0.23	1.51
III	0.64	0.29	0.36	0.29	0.29	1.87
IV	0.61	0.26	0.39	0.34	0.29	1.89

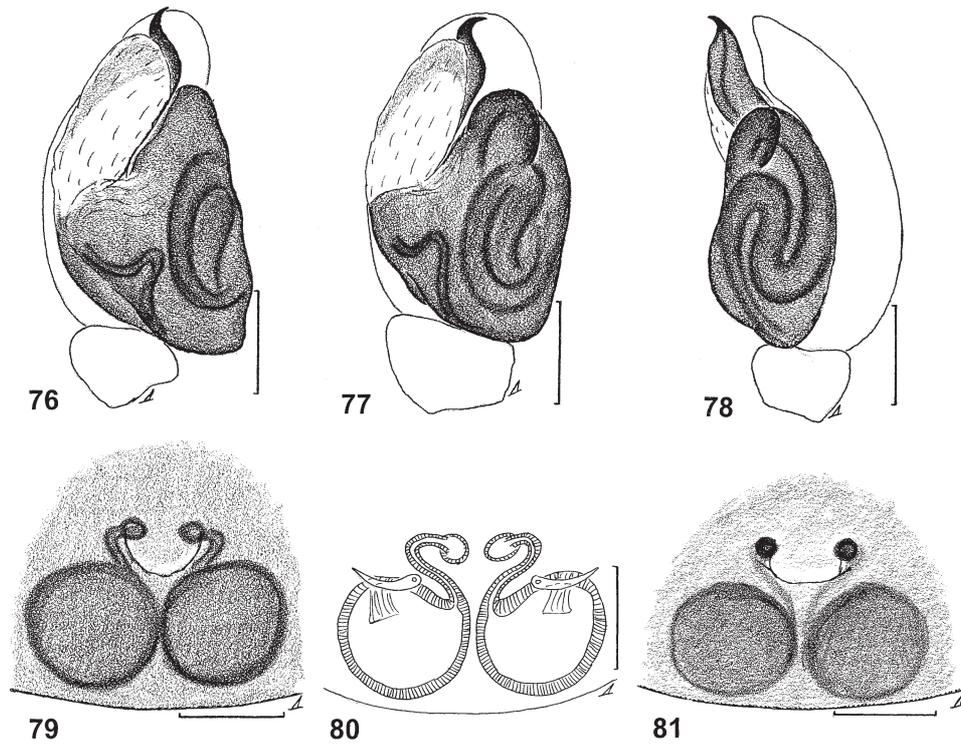
*Leg spination.* Leg I: Fm d 1-1-1; Tb v 1-1-1; Mt 2-2ap. Leg II: Fm d 1-1-1; Tb v 0-1-0; Mt v 2-2ap. Leg III: Fm d 1-1-2; Tb pr and rt 1-1, v 1-1ap; Mt pr, rt and v 1-2ap. Leg IV: Fm d 1-1-1; Tb pr, rt and v 1-2ap; Mt pr 1-1-12ap, rt 2ap, v 1-2ap.

*Coloration.* Carapace brown, with black radial and marginal lines, and with thin yellow marginal stripe. Eye field black. Entire carapace covered with white elongated appressed scales. Clypeus yellow-brown, hairless. Sternum yellow-brown. Maxillae, labium and chelicerae yellow. Abdomen: dorsum and sides grey-brown, with yellow reticulate markings; venter yellow-brown. Booklung covers yellow. Spinnerets brown. All legs yellow, with dark brown rings, but all femora almost completely brown; femora, patellae and tibiae I black anteriorly.

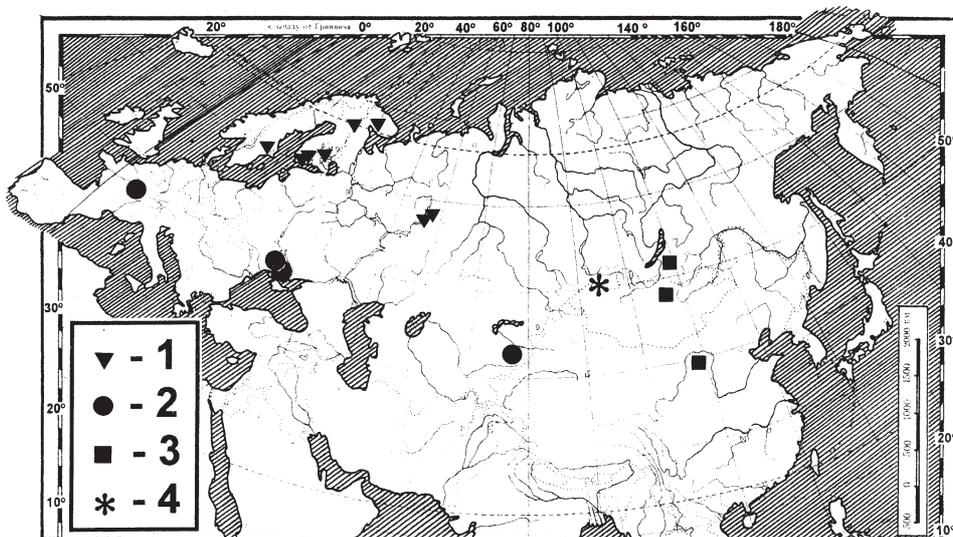
*Palpal structure* as in figures 32, 70–72.

*Female* (from Parainen, Finland)

*Measurements.* Carapace 1.10 long, 0.81 wide, 0.50 high at PLE. Ocular area 0.51 long, 0.70 wide anteriorly and 0.74 wide posteriorly. Diameter of AME 0.21.



FIGS 76–81. *Talavera inopinata* Wunderlich. (76–80) from France; (81) paratype. (76–78) Left male palp: (76) prolateral; (77) ventral; (78) retrolateral view. (79, 81) Epigyne. (80) Spermathecae, dorsal view. Scale bars=0.1 mm.



MAP 3. Collection localities of (1) *Talavera esyunini*, (2) *T. krocha*, (3) *T. trivittata* and (4) *T. sharlaa*.

Abdomen 1.61 long, 1.24 wide. Cheliceral length 0.32. Clypeal height 0.09. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.53	0.24	0.30	0.26	0.21	1.54
II	0.44	0.24	0.29	0.23	0.21	1.41
III	0.64	0.30	0.34	0.31	0.24	1.83
IV	0.64	0.30	0.41	0.40	0.29	2.04

*Leg spination.* Leg I: Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Tb v 1-1ap; Mt v 2-2ap. Leg III: Tb pr and rt 1-1, v 1-0; Mt pr and rt 1-2ap, v 2ap. Leg IV: Tb v 0-1-0; Mt pr, rt and v 2ap.

*Coloration* as described for male, but lighter and leg I as remaining legs. Palps yellow, with brown femora.

*Epigyne and spermathecae* as in figures 41, 73–75.

*Material examined.* **Sweden:** Uppland: Heby, Kroksbo, Masteråsen, 31 May 1986 (Å. Holm, ZMUU), two males; same locality, 24–28 May 1985 (Å. Holm, ZMUU), one male; same locality, 9–21 June 1985 (Å. Holm, ZMUU), one male; same locality, 18 June to 9 July 1986 (Å. Holm, ZMUU), one female; same locality, 15 May to 22 June 1987 (Å. Holm, ZMUU), one male. **Finland:** Varsinais-Suomi: Parainen, Lemlax, 9 July 1968 (P. L., ZMTU), one female; Karinen, Rakkio, 4 June 1961 (P. L., ZMTU), one female; Paimio, Hevonpää, 13 May 1968 (P. L., ZMTU), one female. South Häme: Somero, Ruunala, Palma, 2 May to 7 August 1975 (H. Hippa and R. Mannila, ZMTU), two females; Juupajoki, Hyytiälä, burnt forest, 11 May to 9 June 1969 (V. Huhta, MZHF), two females; Seitsemien Park, young forest, February 1989 (T. Pajunen, MZHF), one male. North Karelia: Rautavaara, 6 July 1949 (O. Renkonen, MZHF), one male. Uusimaa: Tvärminne, 8–16 June 1969 (P. Palmgren, MZHF), two females; Kuusamo: Posio, Riisitunturi, 14 July 1970 (Coll. ?, MZHF), one female. **Russia:** Murmansk area: Kola Peninsula, ca 41 km S of Monchegorsk, summer 1993 (M. V. Kozlov, SZMN), one female. Perm area: Gornozavodsk Distr., Baseghi State Reserve, 1 July 1984 (S. L. Esyunin, ZMUM), one male (holotype); near Perm, Verkhniya Kuriya, 22 June 1991 (V. Koz'minykh, ZPSU), one male.

For other material studied, see Logunov (1992).

*Habitat.* In the Middle Urals, the species was collected in mountain shrubby tundra (bilberry heath) (Esyunin, 1991: sub *Talavera* sp. 1; Esyunin, 1999; Logunov and Marusik, 2000). In Sweden, it was collected in pine heath with *Calluna* and lichen cover (present data).

*Distribution.* This species has so far been recorded from Fennoscandia, Kola Peninsula and the Middle Urals only (map 3).

### *Talavera inopinata* Wunderlich, 1993

(figures 34, 76–81, map 2)

*Talavera inopinata* Wunderlich, 1993: 109–112, figures 1–5 (♂♀, ♂ holotype from Switzerland: 'Im Raum Delémont bis Porrentruy' (Hänggi, 1993), in NHMB, examined).

*Talavera inopinata:* Hänggi, 1993: 8; Harms, 1994: 53; Staudt, 1996: 47–48; Hänggi and Baur, 1998: 346; Hermann, 1998: 195, 197; Prószyński, www; Platnick, www.

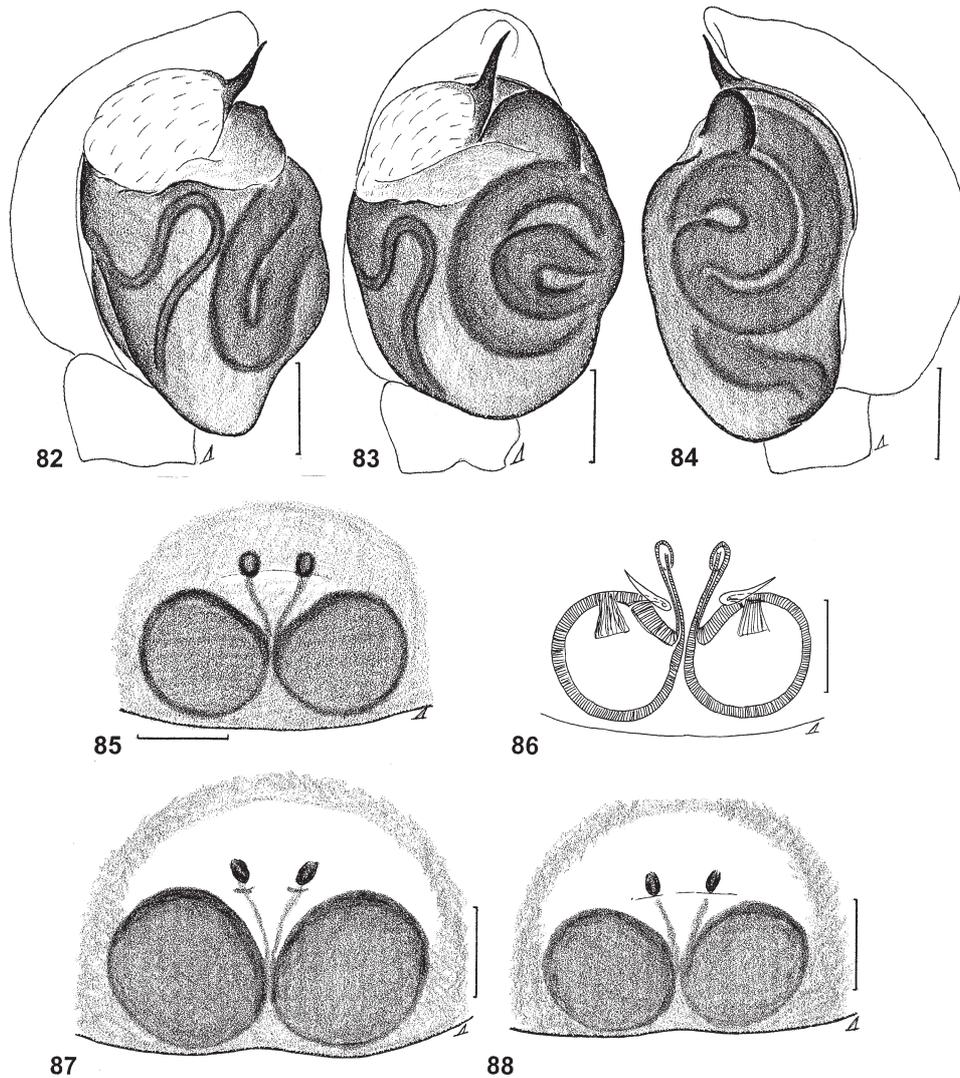
*Euophrys aperta* (misidentified): Prószyński, 1991: 500, figures 1338.1, 2 (♂).

*Euophrys inopinata:* Wunderlich, 1995: 442 (listed as *Euophrys*).

*Diagnosis.* Males of *T. inopinata* are somewhat similar to those of *T. aperta*, but

can be easily separated by the embolic tip directed retro-laterad rather than apicad (cf. figures 77 and 54). Females of *T. inopinata* are closer to those of *T. esyunini* and *T. minuta*, but can be distinguished by the curved rather than straight epigynal fold (cf. figures 79 with 73 and 85, respectively) and by the copulatory openings clearly directed to each other (cf. figures 80 with 75 and 86, respectively).

As it is obvious from Prószyński's figures (1991: figures 1338.1, 2; cf. figures 74, 75), this author actually dealt with *T. inopinata*, at least as regards the male, rather than *Euophrys aperta* as stated.



FIGS 82–88. *Talavera minuta* (Banks). Male from Washington, USA; (85, 86) female from Ohio, USA; (87) holotype of *Icius minutus* Banks; (88) syntype of *Saitis minusculus* Banks. (82–84) Left male palp: (82) prolateral; (83) ventral; (84) retrolateral view. (85, 87, 88) Epigyne. (86) Spermathecae, dorsal view. Scale bars = 0.1 mm.

*Description**Male* (from France)

*Measurements.* Carapace 0.99 long, 0.71 wide, 0.50 high at PLE. Ocular area 0.46 long, 0.59 wide anteriorly and 0.60 wide posteriorly. Diameter of AME 0.17. Abdomen 0.91 long, 0.70 wide. Cheliceral length 0.31. Clypeal height 0.04. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.46	0.26	0.29	0.24	0.20	1.45
II	0.41	0.23	0.24	0.24	0.20	1.32
III	0.58	0.27	0.33	0.27	0.26	1.71
IV	0.56	0.23	0.36	0.31	0.27	1.73

*Leg spination.* Leg I: Fm d 0-1-1-1; Tb pr 0-1-0, v 1-1; Mt v 2-2ap. Leg II: Fm d 0-1-1-2; Tb pr and v 0-1-0; Mt v 2-2ap. Leg III: Fm d 0-1-1-1; Tb pr and rt 0-1-1, v 0-1-0; Mt pr, rt and v 2ap. Leg IV: Fm d 0-1-1-1; Tb pr, rt and v 0-1-0; Mt pr and rt 1-2ap, v 2ap.

*Coloration.* Carapace yellow, tinged with brown, with black radial veins and thin black marginal line. Eye field dark brown, almost black. Carapace (including eye field) covered with elongated white appressed scales. Sternum yellow-brown (lighter in its centre). Maxillae, labium and chelicerae yellow. Abdomen: dorsum and sides grey brownish, with a typical reticulate pattern of small yellow spots and strokes; venter grey brownish, with a pair of longitudinal yellow stripes. Booklung cover yellow, tinged with brown. Spinnerets brownish grey. All legs yellow, with numerous wide brown rings. Femur, patella and tibia I prolaterally black.

*Palpal structure* as in figures 34, 76–78.

*Female* (from France)

*Measurements.* Carapace 1.06 long, 0.73 wide, 0.47 high at PLE. Ocular area 0.47 long, 0.64 wide anteriorly and 0.66 wide posteriorly. Diameter of AME 0.19. Abdomen 1.17 long, 0.89 wide. Cheliceral length 0.27. Clypeal height 0.06. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.47	0.24	0.26	0.23	0.18	1.38
II	0.41	0.23	0.23	0.21	0.17	1.25
III	0.54	0.23	0.31	0.26	0.26	1.60
IV	0.56	0.21	0.37	0.30	0.29	1.73

*Leg spination.* Leg I: Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Tb v 0-1-0; Mt v 2-2ap. Leg III: Fm d 0-0-1; Tb pr and v 0-1, rt 1-0; Mt pr, rt and v 2ap. Leg IV: Fm d 0-0-1; Tb pr, rt and v 0-1-0; Mt pr 1-2ap, rt and v 2ap.

*Coloration.* As described for male, but lighter and differs as follows: dorsum and sides with a typical reticulate pattern; venter yellow, with a pair of wide brown longitudinal stripes; femora I ventrally, with brown rings. Palps yellow, with femora ventrally black.

*Epigyne and spermathecae* as in figures 79–81.

*Material examined.* **Switzerland:** Jura: Delémont-Porrentruy area, 500 m a.s.l., April to August (Y. Gonseth, NHMB), one male (holotype) one female (paratype); Movelier, 30 June 1994 (NLU, NHMB), one male; Courrendlin La Verrerie, Pinède à molinie, 500 m a.s.l., 6 August 1988 (Coll. ?, NHMB), one female. Ticino: Cadagno

di Fuori, Quinto (Val Piora), 1915 m a.s.l., 24 July 1993 (F. Rampazzi, NHMB), one male. **France:** Dép. Yonne: ca 15 km E of Maily le château, Lucy le Bois, 52°80'N, 1°75'E, 200 m a.s.l., May 1998 (Y. Montardi, MNHN), one male, one female.

*Habitat.* In France, the species was collected from rock debris (Y. Montardi, personal communication). In Switzerland, it was found in a number of uncultivated grassy, mostly dry and warm, habitats, a few also in more moist conditions (Wunderlich, 1993; Staudt, 1996).

*Distribution.* The species is only known from France, Switzerland, Germany and Luxembourg (map 2) (Wunderlich, 1993; 1995: sub *Euophrys i.*; Harms, 1994; Staudt, 1996; Hermann, 1998; present data). This is the first record from France.

***Talavera minuta* (Banks, 1895)**

(figures 2, 8, 9, 33, 49, 82–88, map 4)

*Icius minutus* Banks, 1895: 99 (♀; holotype from USA: Washington, Olympia, in MCZ, examined).

*Saitis minusculus* Banks, 1896: 193 (♂♀; syntypes from USA: New York, Sea Cliff: 1 adult ♀ and 2 juveniles, in MCZ, examined).

*Talavera minuta*: Peckham and Peckham, 1909: 576, pl. 42, figure 7 (♀; transferred to *Talavera*); Kaston, 1948: 470–471, figures 1738–1739 (♂♀); Roewer, 1954: 1229; Bonnet, 1959: 4235; Cutler, 1965: 139; Prószyński, 1976: pl. 13, figures 123–124 (♂♀); Richman and Cutler, 1978: 100; Prószyński, 1990: 340; Logunov, 1992: figures 9–11 (♂); Marusik and Logunov, 1994: 131–132, figures 1, 2 (♂); Mikhailov, 1996: 135; Mikhailov, 1997: 223; Žabka and Prószyński, 1998: 117–118, figures 1, 2 (♂♀); Logunov and Marusik, 2000: 237; Guarisco *et al.*, 2001: 8; Prószyński, www; Platnick, www.

*Diagnosis.* Males of *T. minuta* are most similar to those of *T. thorelli* and *T. esyunini*. From the former species it can be separated by the nearly straight embolus (embolic axis subparallel with that of the embolus-tegulum membrane), while in *T. thorelli* the embolus is perpendicularly curved (cf. figures 83 and 66). From *T. esyunini* it can be easily distinguished by the longer and almost straight embolus (cf. figures 33 and 32). Females of *T. minuta* (figures 85–88) are indistinguishable by the copulatory organ from those of *T. esyunini* (figures 73–75) and *T. monticola* (figures 92–95), males are always required to distinguish these species. See also comments under 'Diagnosis' of *T. esyunini*.

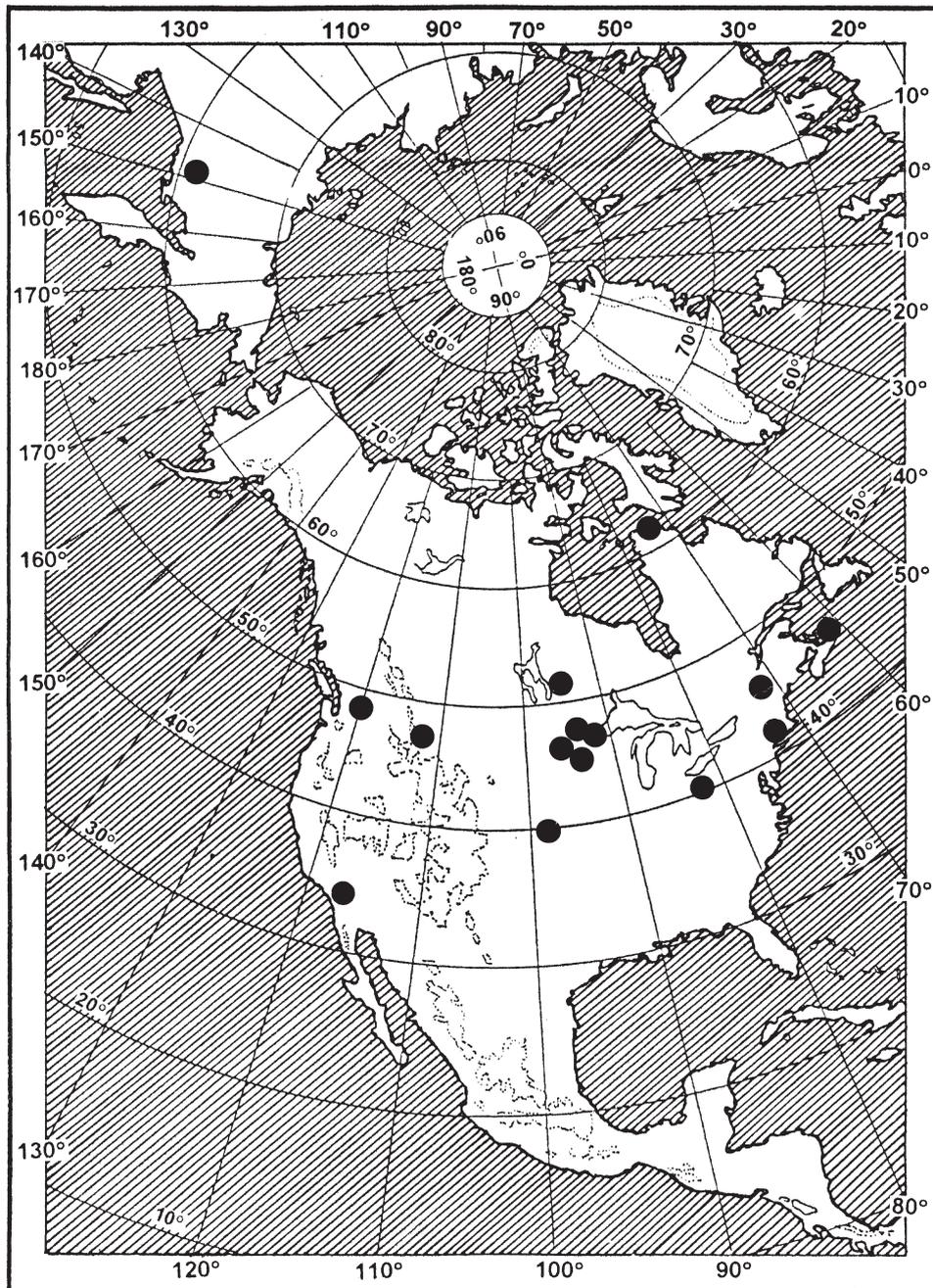
*Description*

*Male* (from Canada)

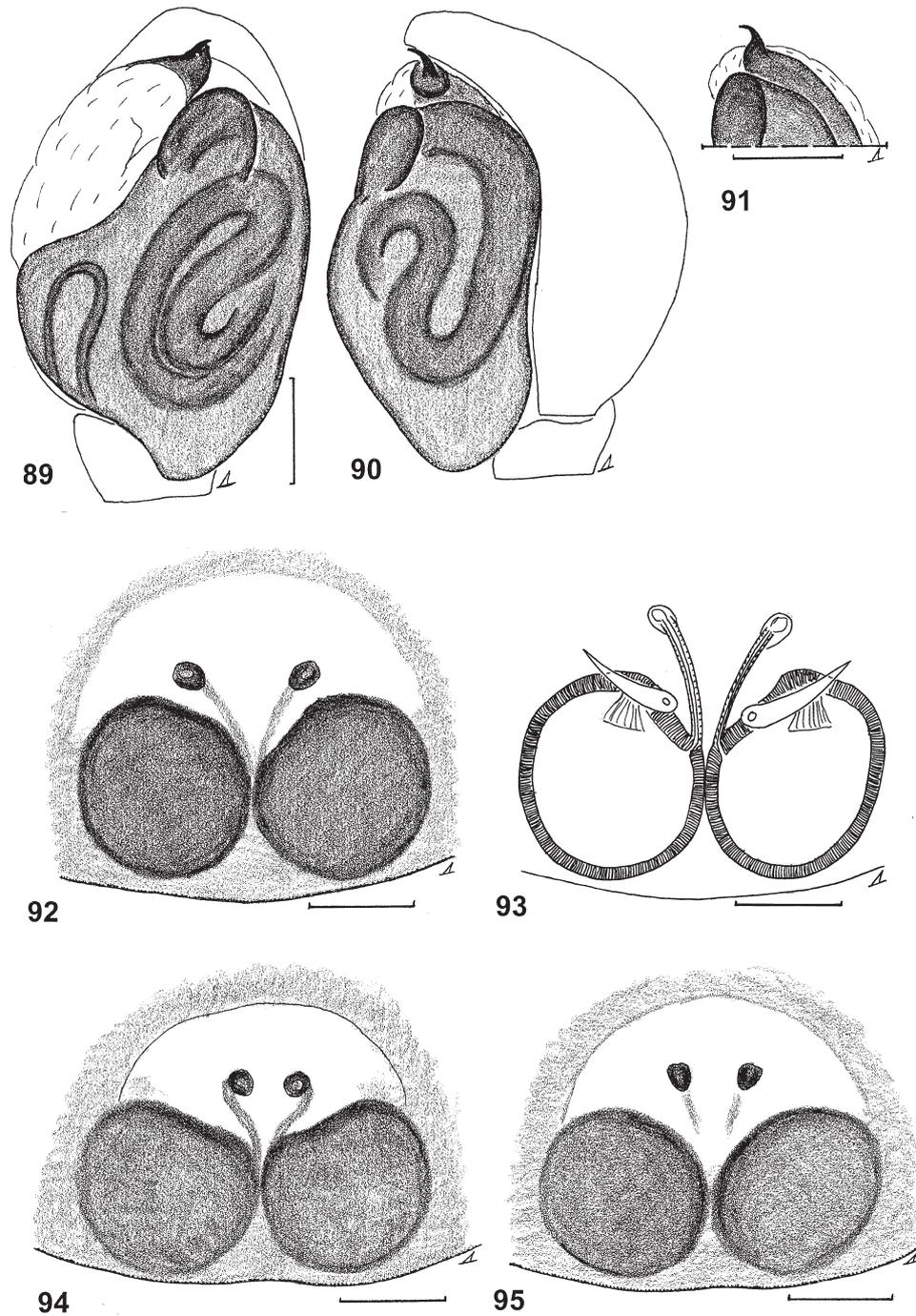
*Measurements.* Carapace 1.20 long, 0.81 wide, 0.54 high at PLE. Ocular area 0.49 long, 0.71 wide anteriorly and 0.69 wide posteriorly. Diameter of AME 0.21. Abdomen 1.07 long, 0.79 wide. Cheliceral length 0.30. Clypeal height 0.07. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.59	0.30	0.39	0.31	0.24	1.83
II	0.53	0.30	0.28	0.24	0.23	1.58
III	0.71	0.31	0.43	0.36	0.28	2.09
IV	0.67	0.30	0.46	0.43	0.33	2.19

*Leg spination.* Leg I: Fm d 1-1-2; Tb v 1-1-1; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb pr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 1-0-1-1; Pt pr 0-1-0; Tb pr and rt 1-1, v 1-1ap; Mt pr and v 1-2ap, rt 1-1-2ap. Leg IV: Fm d 1-0-1-1; Pt pr 0-1-0; Tb pr, rt and v 0-1-0; Mt pr and rt 1-2ap, v 1-0.

MAP 4. Collection localities of *Talavera minuta*.

*Coloration.* Carapace brown, covered with elongated appressed light scales. Eye field black. Clypeus light brown, hairless. Sternum and chelicerae yellow, tinged with brown. Maxillae and labium yellow with white apices. Abdomen: dorsum grey-brown, lacking colour markings, and with a large brown scutum; sides grey-brown;



FIGS 89–95. *Talavera monticola* (Kulczyński). (89–94) Male and females from the Bavarian Alps; (95) syntype of *Euophrys monticola*. (89–91) Left male palp: (89) ventral view; (90) retrolateral view detail; (91) dorsal view. (92, 94, 95) Epigyne. (93) Spermathecae, dorsal view. Scale bars = 0.1 mm.

venter brown-yellow. Booklung covers and spinnerets yellow-brown. Leg I yellow with brown rings, but its femur, patella and tibia ventrally and anteriorly black. Remaining legs yellow, with numerous brown rings.

*Palpal structure* as in figures 33, 82–84.

*Female* (from Ohio, USA)

*Measurements.* Carapace 1.14 long, 0.78 wide, 0.48 high at PLE. Ocular area 0.47 long, 0.70 wide anteriorly and 0.70 wide posteriorly. Diameter of AME 0.21. Abdomen 1.20 long, 0.87 wide. Cheliceral length 0.31. Clypeal height 0.06. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.53	0.29	0.29	0.29	0.21	1.61
II	0.46	0.27	0.29	0.21	0.20	1.43
III	0.66	0.30	0.36	0.31	0.29	2.09
IV	0.66	0.29	0.44	0.41	0.29	2.09

*Leg spination.* Leg I: Tb v 1-2-2; Mt 2-2ap. Leg II: Tb v 1-1; Mt v 2-2ap. Leg III: Tb pr, rt and v 0-1-0; Mt pr 1-2ap, rt and v 2ap. Leg IV: Tb v 0-1-0; Mt pr 1-2ap, rt 2ap.

*Coloration* as described for male, but lighter and differs as follows: abdomen yellow, with characteristic brown reticulate colour markings; all legs yellow, with numerous brown rings; palps: femora brown with yellow distal tips, remaining segments yellow.

*Epigyne and spermathecae* as in figures 49, 85–88.

*Material examined.* **Canada:** Nova Scotia: Cape Breton Highlands National Park, Paquette Lake, 1 July 1983 (R. Vockeroth, SZMN), three males. **USA:** Ohio: Franklin Co., Sharon Woods Metropolitan Park, ca 6 km S of Park Rd entrance, 5 June to 10 July 1973 (A. J. Penniman, AMNH), seven males, seven females. Washington: Olympia, no date (T. Kincaid, MCZ) one female (holotype of *Icius minutus*); Chelan Co., Fish Lake bog, 588 m a.s.l., 48°N, 121°W, 19 May 1996 (Yu. M., SZMN), two males. New York: Sea Cliff, no date (Coll. ?, MCZ), one female, two juveniles (syntypes of *Saitis minusculus*; one labelled *Habronattus m.*). **Russia:** Magadan area: The upper reaches of Kolyma River, Sibit-Tyellakh, 10–20 June 1984 (Yu. M., SZMN), two males; Dukcha River, mixed forest, pitfall trap, 10–20 July 2000 (Bragina and Bukhkalov, MMUM), one male.

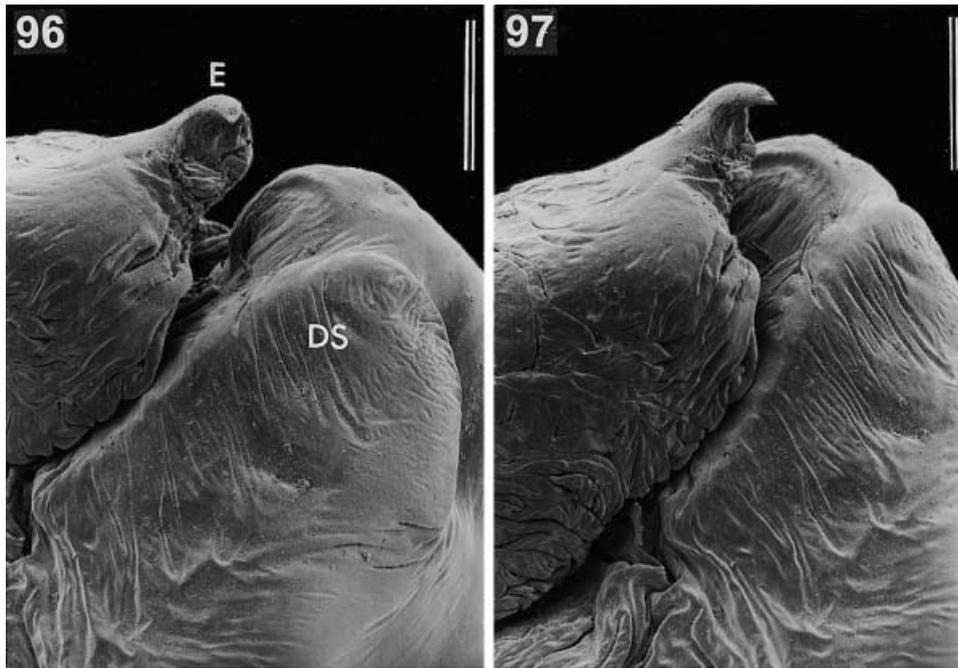
*Habitat.* In Siberia, *T. minuta* was collected in sedge-moss peat bogs with sparse larch trees (Marusik and Logunov, 1994). In the USA (Minnesota and Kansas), the species was found in leaf litter, often in disturbed open areas, less commonly by sweeping low vegetation (males more frequently collected by sweeping). Besides, in Minnesota males were observed in May ballooning off fence and sign posts (B. Cutler, personal communication).

*Distribution.* *T. minuta* displays a typical Siberian–American temperate(?) distributional pattern; in Palaearctic, Magadan area (the upper reaches of Kolyma River); in Nearctic, Yukon to Massachusetts, south to California (Dondale *et al.*, 1997). Most known records of this species are shown in map 4.

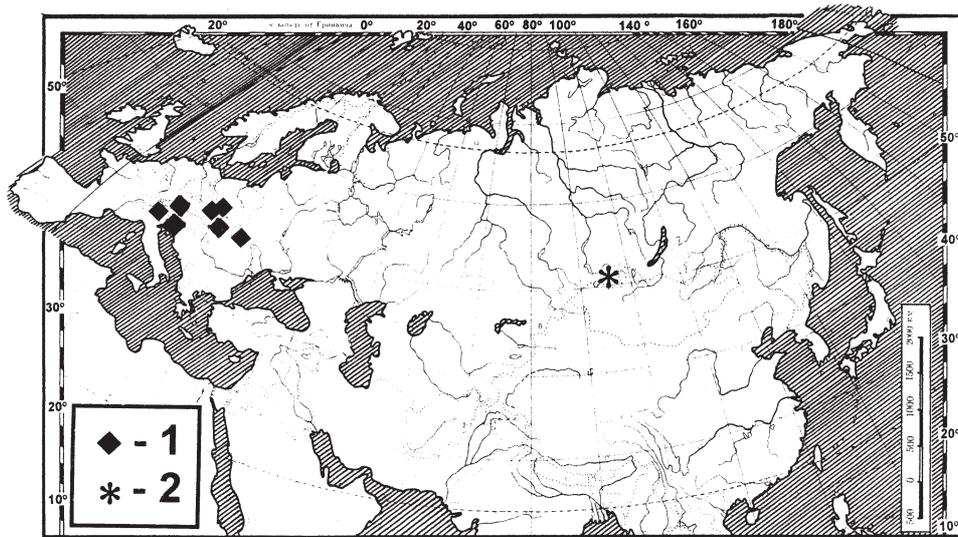
***Talavera monticola* (Kulczyński, 1884)**

(figures 35, 50, 51, 89–97, map 5)

*Euophrys monticola* Kulczyński, 1884: 227, pl. 8, figure 22 (♀; syntypes from Poland: Babia



FIGS 96, 97. *Talavera monticola* (Kulczyński). Male from Bavaria, Germany. Apical part of left bulbus with embolus in different views. (96) Ventral view. (97) Ventro-prolateral view. DS, distal sclerite; E, embolus. Scale bars = 0.05 mm.



MAP 5. Collection localities of (1) *Talavera monticola* and (2) *T. tuvensis*.

Góra and Roztoka (Tatra Mts), and Slovakia: Kriváň (Tatra Mts); ♀ lectotype from Slovakia: Kriváň, designated here, in HHNM).

*Euophrys monticola*: Roewer, 1954: 1176; Bonnet, 1956: 1883; Prószyński, 1976: pl. 13, figure 121, pl. 15, figure 139 (♂♀); Thaler, 1981: 124, figures 61, 66, 70 (♂♀); Prószyński,

1990: 128; Maurer and Hänggi, 1990: 213; Prószyński, 1991: 500, figures 1337, 1–4 (♂♀); Hänggi *et al.*, 1995: 424; Thaler, 1997: 256; Mikhailov, 1996: 131; Mikhailov, 1997: 210; *Talavera monticola*: Logunov, 1992: 78 (transferred to *Talavera*); Žabka, 1997: 102–104, figures 399–404 (♂♀); Žabka and Prószyński, 1998: 116; Gajdoš *et al.*, 1999: 291–292, map 9240; Prószyński, www; Platnick, www (in part).

**Diagnosis.** Males of *T. monticola* can be easily separated from all known *Talavera* species, except for *T. tuvensis*, by having the stoutest embolus, of which the tip is clearly curved ventrad (figures 35, 89–91, 96, 97; also Thaler, 1981: figure 70). Females of *T. monticola* (figures 92–95) cannot be readily distinguished from those of *T. esyunini* (figures 73–75) and *T. minuta* (figures 85–88) by the copulatory organ, though clear differences in the microsculpture occur (cf. figures 42 and 41, *T. minuta* not examined). See also comments under ‘Diagnosis’ of *T. krocha* and *T. tuvensis*.

From the structure of the male copulatory organs (cf. figures 35, 89–91 and 30, 54–56), it is obvious that *T. monticola* cannot be a senior synonym of *T. aperta*, as was assumed by Žabka (1997) and Žabka and Prószyński (1998).

A variability in the female copulatory organ has been found. Some of the females from the Bavarian Alps (Königsberg-Alm and Ammergau Alps) have the entrances of the insemination ducts clearly directed to each other (figures 51, 94). We have not paid taxonomic attention to this difference, as these females were collected together with typical specimens of *T. monticola* of both sexes (see also Thaler, 1981: figure 61).

**Comments.** *T. monticola* was described by Kulczyński (1884) from a few females, one of which is deposited in the HNHN (and apparently the only original specimen by W. Kulczyński being available for study). Therefore, in order to stabilize the use of the name *T. monticola*, we designate this specimen as lectotype.

Žabka (1997) and Žabka and Prószyński (1998) reported *T. monticola* as occurring in both mountain and lowland habitats. However, they erroneously considered *Euophrys aperta* to be a synonym of *T. monticola* and hence their lowland records from Poland might belong to *T. aperta* or some other *Talavera* species, leaving *T. monticola* as a true montane dweller. Furthermore, based on Žabka’s (1997: figures 400–404) figures alone, it is very likely that this author actually dealt with *T. esyunini* rather than *T. monticola*. We have been unable to re-examine Žabka’s specimens, hence the matter is in need of further study.

### Description

*Male* (from Tyrol, Austria)

**Measurements.** Carapace 1.23 long, 0.87 wide, 0.54 high at PLE. Ocular area 0.54 long, 0.76 wide anteriorly and 0.72 wide posteriorly. Diameter of AME 0.22. Abdomen 1.19 long, 0.90 wide. Cheliceral length 0.33. Clypeal height 0.08. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.66	0.33	0.41	0.31	0.29	2.00
II	0.57	0.28	0.32	0.29	0.24	1.70
III	0.74	0.33	0.40	0.39	0.26	2.12
IV	0.71	0.27	0.47	0.46	0.33	2.24

**Leg spination.** Leg I: Fm d 1-1-2; Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb v 1-1; Mt v 2-2ap. Leg III: Fm d 1-1-2; Tb pr and rt 1-1ap, v 0-1-0; Mt pr, rt and v 1-2ap. Leg IV: Fm d 1-1-1; Tb pr 0-1, rt and v 1-1; Mt pr, rt and v 1-2ap.

*Coloration.* Carapace yellow brownish, with black radial lines and dark brown (almost black) eye field. Entire carapace covered with light elongated appressed scales. Clypeus yellowish, covered with light (yellowish) hairs. Sternum, maxillae, labium and chelicerae yellow, slightly tinged with brown. Abdomen grey-brown, with poorly marked yellow reticulate colour markings. Two (dorsal and ventral) scuta. Booklung covers yellow. Spinnerets brown. All legs yellow, with numerous brown rings; femora, patellae and tibiae I anteriorly bluish brown. Palp yellow, with brownish tegulum; cymbium yellowish, evenly covered with long white hairs.

*Palpal structure* as in figures 35, 89–91, 96, 97.

*Female* (from Germany)

*Measurements.* Carapace 1.23 long, 0.86 wide, 0.49 high at PLE. Ocular area 0.56 long, 0.77 wide anteriorly and 0.79 wide posteriorly. Diameter of AME 0.23. Abdomen 1.64 long, 1.14 wide. Cheliceral length 0.36. Clypeal height 0.07. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.61	0.33	0.36	0.30	0.20	1.80
II	0.54	0.30	0.27	0.27	0.26	1.64
III	0.71	0.33	0.40	0.36	0.30	2.10
IV	0.73	0.31	0.47	0.44	0.34	2.29

*Leg spination* (spines on femora as thick bristles). Leg I: Fm d 1-1-2; Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb v 1-2ap; Mt v 2-2ap. Leg III: Fm d 1-1-2; Tb pr and rt 1-1, v 1-1ap; Mt pr, rt and v 1-2ap. Leg IV: Fm d 1-1-2; Tb pr 1-0, v 0-1-0; Mt pr, rt and v 1-2ap.

*Coloration.* Carapace brownish yellow (with dark brown radial veins), with black eye field and yellow marginal stripe; carapace covered with appressed elongated white scales. Clypeus brownish yellow, hairless. Sternum yellow-brown. Maxillae, labium and chelicerae yellow. Abdomen: dorsum and sides grey, with a reticulate pattern of small yellow spots and strokes; venter grey, with a pair of yellow, longitudinal stripes. Booklung covers and spinnerets yellow-grey. All legs yellow, with numerous brown rings. Palps yellow.

*Epigyne and spermathecae* as in figures 42, 50, 51, 92–95.

*Material examined.* **Austria:** Northern Tirol: Innsbruck surroundings, Hafelekar, pitfall traps, 2200 m a.s.l., summer 1978 (Geiler, IZUI), three males; Salzburg: Tennengebirge, Eiskogel, 1780–1880 m a.s.l., 26 May to 19 September 1999 (C. Muster, PCCM), four males, one female; Tennengebirge, Samer Alm, 1520 m a.s.l., 26 May to 15 June 1999 (C. Muster, PCCM), one male. Carinthia: Oberes Mölltal, Mönchsberg SW, N Apriach, SE Heiligenblut (47°01'N, 12°52'E), 1490 m a.s.l., 1 May 1994 (C. Komposch, PCCK), one male; NW Kötschach-Mauthen (46°42'N, 12°55'E), 1770 m a.s.l., 15 September 1999 (C. and B. Komposch, PCCK), one female; same locality, 1800 m a.s.l., 26 August 2000 (C. and B. Komposch, PCCK), one female. **Germany:** Bavaria: Chiemgau Alps, Schreck-Alm, Nardetum, ca 1470 m a.s.l., summer 1997 (C. Muster, PCCM), three males, one female; same Alps, Geigelstein, 1650–1780 m a.s.l., summer 1997 (C. Muster, PCCM), five males, three females; same Alps, Ross-Alm, ca 1700 m a.s.l., summer 1997 (C. Muster, PCCM), one male, one female; Allgau Alps, Ponten, 1900–2000 m a.s.l., summer 1997 (C. Muster, PCCM), one male, one female; Ammergau Alps, Hochplatte, 1840–1920 m a.s.l., summer 1997 (C. Muster, PCCM), one male, one female;

Mangfallgebirge, Grosstiefental-Alm, 1600 m a.s.l., summer 1997 (C. Muster, PCCM), one male; Berchtesgaden Alps, Hohes Brett, 1950 m a.s.l., summer 1997 (C. Muster, PCCM), one male, one female; Berchtesgaden Alps, Königsberg-Alm, subalpine Almweide, ca 1550 m a.s.l., summer 1997 (C. Muster, PCCM), two females. **Slovakia:** 'Tatra: Křiván' (Coll. ?, HNHM; lectotype, designated here), one female.

*Habitat.* In Central Europe, *T. monticola* is a typical (sub)alpine dweller occurring in *Calamagrostis* alpine meadows, alpine steppes (Thaler, 1981, 1997; Gajdoš, 1993: sub *Euophrys m.*), alpine screes and dwarf pine forests (present data).

*Distribution.* This species is restricted to the mountains of Central Europe (the Alps and the Tatras) (Thaler, 1981: sub *Euophrys m.*; Thaler, 1997: sub *Euophrys m.*; Gajdoš 1993: sub *Euophrys m.*; Žabka, 1997; Muster and Leipold, 1999) and the Carpathians (Prószyński and Staręga, 1971: sub *Euophrys m.*; Žabka, 1997) (map 5).

Krasnobajev (1990) reported this species from the Zhighuli Reserve (Samara area of Russia), but his record turned out to belong to *Sitticus distinguendus* (Krasnobajev's specimen re-examined).

***Talavera sharlaa* sp. n.**

(figures 98, 99, map 3)

*Talavera* sp. 2 (cf. *trivittata*): Logunov *et al.*, 1998: 142 (the record for locality 63).

*Talavera* sp. 3: Marusik *et al.*, 2000: 102.

*Talavera* sp. 2: Logunov and Marusik, 2000: 241.

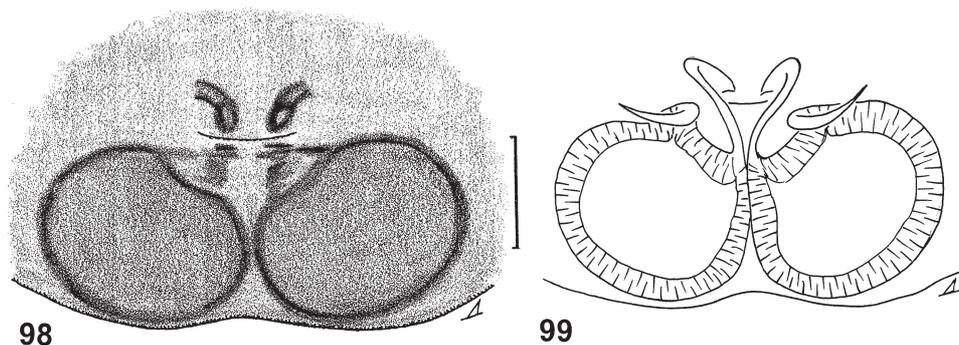
*Type.* Female holotype from Russia: Tuva, Tere-Khol' Lake, Sharlaa Stand, in SZMN.

*Etymology.* The species is named after the type locality.

*Diagnosis.* The species is easily distinguishable from all the *Talavera* species of the *monticola* group by the large, elongated and transversely orientated receptacles (figures 98, 99).

*Description*

*Male* unknown.



FIGS 98, 99. *Talavera sharlaa* sp. n. (female holotype). (98) Epigyne. (99) Spermathecae, dorsal view. Scale bars = 0.1 mm.

*Female (holotype)*

*Measurements.* Carapace 1.26 long, 0.90 wide, 0.61 high at PLE. Ocular area 0.56 long, 0.80 wide anteriorly and 0.81 wide posteriorly. Diameter of AME 0.23. Abdomen 1.23 long, 1.04 wide. Cheliceral length 0.29. Clypeal height 0.06. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.61	0.29	0.36	0.31	0.24	1.81
II	0.54	0.30	0.29	0.29	0.21	1.63
III	0.74	0.31	0.40	0.39	0.31	2.15
IV	Absent					

*Leg spination.* Leg I: Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-0-2; Tb v 1-1; Mt v 2-2ap. Leg III: Fm d 0-0-1; Tb pr and r 1-1, v 1-0; Mt pr, rt and v 1-2ap. Leg IV absent.

*Coloration.* Carapace yellow-brown, with black radial and marginal lines, and with thin yellow marginal stripes. Eye field dark brown. Entire carapace covered with white elongated appressed scales. Clypeus yellow-brown, hairless. Sternum yellow, tinged with brown. Maxillae, labium and chelicerae yellow. Abdomen brownish, with yellow reticulate markings. Booklung covers yellow, tinged with brown. Spinnerets brown. All legs yellow, with dark brown rings. Palps yellow, with brown femora.

*Epigyne and spermathecae* as in figures 98, 99.

*Material examined.* **Russia:** Tuva: Tere-Khol' Lake, Sharlaa Stand, 50°01'N, 95°03'E, 1050 m a.s.l., 6–14 July 1996 (Yu. M., SZMN), one female (holotype).

*Habitat.* The holotype was collected in the urema, flood plain forest of *Populus laurifolia*—*Betula microphylla*—*Salix* spp. (Logunov *et al.*, 1998: sub *Talavera* sp. 2; Logunov and Marusik, 2000).

*Distribution.* The type locality only (map 3).

**The *aequipes* species group**

*Diagnosis.* All species included in the *aequipes* species group share the following diagnostic characters: embolus twisted (twisted condition can be seen in high SEM magnification: figures 113–116) or screw-like (figures 122, 133, 134, 139); epigyne flat and rather smooth, median septum sometimes slightly marked, i.e. epigyne externally divided in two halves (figures 43, 44); epigynal discs small, rounded and often clearly marked (figure 44).

By the structure of the copulatory organs, the *aequipes* groups can be further divided into two subgroups: the *parvistyla* and *aequipes* subgroups.

**The *parvistyla* subgroup**

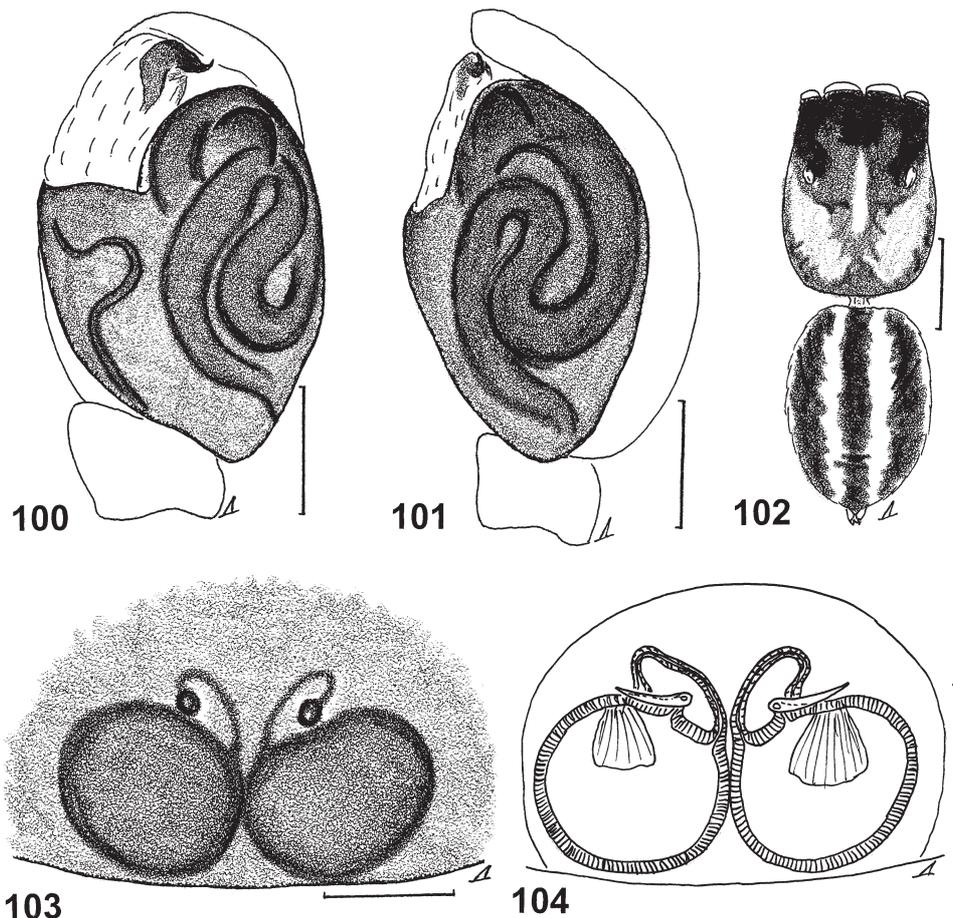
*Diagnosis.* Embolus small, its twisted condition only visible in high SEM magnifications (*T. parvistyla*: figures 113–116); copulatory openings close to receptacles (figures 104, 109).

*Species included.* *T. ikedai* sp. n., *T. parvistyla* sp. n. and *T. tuvensis* sp. n.

***Talavera ikedai* sp. n.**

(figures 100–104, map 1)

*Euophrys trivittata* (misidentified): Paik, 1986: 20–21, figures 1–10 (♂♀).



FIGS 100–104. *Talavera ikedai* sp. n. (male holotype and female paratype). (100, 101) Left male palp: (100) ventral; (101) retrolateral view. (102) Male habitus. (103) Epigyne. (104) Spermathecae, dorsal view. Scale bars = (102) 0.5 mm, others 0.1 mm.

*Euophrys trivittatus* (misidentified): Shinkai and Takano, 1987: 119; Seo, 1990: 145, figures 16, 17 (♂♀).

*Talavera trivittata* (misidentified): Ikeda, 1996: 37–40, figures 29–34 (♂♀).

*Talavera* sp. 4: Logunov and Marusik, 2000: 241.

For a complete set of faunistic references, see Logunov and Marusik (2000: sub *Talavera* sp. 4).

*Type*. Male holotype from Japan: Hiroshima Prefecture, Toyota-gun, Osaki-chô, in NSMT.

*Diagnosis*. By the body coloration (striped abdomen: figure 102), *T. ikedai* can be easily separated from all known *Talavera* species except for *T. trivittata*, from which it differs in having a yellow median stripe on the eye field (figure 102) (absent in *T. trivittata*), white hairs/scales around eyes of the first row (red in *T. trivittata*) and completely brown tibiae III (yellow with brown distal halves/tips in *T. trivittata*), as well as clearly different structure of the copulatory organs (cf. figures 100–104 and 139–142).

*Etymology*. The species is named in honour of Dr H. Ikeda (Kanagawa, Japan),

who has been successfully studying the salticids of Japan and who provided the specimens for this study.

### Description

#### Male (holotype)

*Measurements.* Carapace 1.17 long, 0.86 wide, 0.50 high at PLE. Ocular area 0.53 long, 0.73 wide anteriorly and 0.71 wide posteriorly. Diameter of AME 0.20. Abdomen 1.17 long, 0.83 wide. Cheliceral length 0.37. Clypeal height 0.06. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.64	0.30	0.39	0.31	0.25	1.89
II	0.53	0.30	0.33	0.27	0.21	1.64
III	0.71	0.31	0.40	0.41	0.21	2.04
IV	0.71	0.30	0.44	0.41	0.29	2.15

*Leg spination.* Leg I: Fm d 0-1-2; Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-2; Tb v 1-1ap; Mt v 2-2ap. Leg III: Fm d 1-1-1; Tb pr and rt 1-1, v 1ap; Mt pr, rt and v 1-2ap. Leg IV: Fm d 1-1-1; Tb pr 0-1, rt 1-1, v 1-1ap; Mt pr, rt and v 1-2ap.

*Coloration.* Carapace yellow, with brown side stripes, brown eye field and a clear yellow longitudinal stripe on eye field. Carapace covered with white longitudinal appressed scales. Black around eyes. Clypeus yellow, covered with white hairs. Eyes of the first row bordered with white scales/hairs. Sternum yellow, tinged with brown. Maxillae and labium yellow. Abdomen yellow; dorsum with three longitudinal brown stripes (figure 102); venter with two longitudinal brown stripes. Booklung covers and spinnerets yellow, slightly tinged with brown. All legs yellow, with dark brown rings, but femora of all legs almost completely brown (with yellow dorsal sides). Besides, prolateral sides of patella and tibia I dark brown.

*Palpal structure* as in figures 100, 101.

#### Female (paratype)

*Measurements.* Carapace 1.33 long, 0.90 wide, 0.53 high at PLE. Ocular area 0.54 long, 0.79 wide anteriorly and 0.80 wide posteriorly. Diameter of AME 0.23. Abdomen 1.47 long, 1.06 wide. Cheliceral length 0.34. Clypeal height 0.09. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.63	0.28	0.39	0.31	0.21	1.82
II	0.54	0.28	0.34	0.27	0.23	1.66
III	0.71	0.34	0.41	0.36	0.26	2.08
IV	0.72	0.32	0.37	0.43	0.27	2.11

*Leg spination.* Leg I: Fm d 0-0-1, Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-0-1, Tb v 1-2-2ap; Mt v 2-2ap. Leg III: Fm d 0-0-1-1; Tb pr and rt 1-1, v 1-1ap; Mt pr, rt and v 1-2ap. Leg IV: Fm d 0-0-1-1; Tb pr, rt and v 0-1; Mt pr, rt and v 1-2ap.

*Coloration.* As described for male, but lighter and differs in yellow leg tibiae with brown rings (rather than completely brown).

*Epigyne and spermathecae* as in figures 103, 104.

*Material examined.* **Japan:** Hiroshima Prefecture: Toyota-gun, Osaki-chô, 17 June 1993 (Y. Ihara, NSMT—Ar 3374), one male (holotype); same locality, 16 June

1993 (Y. Ihara, NSMT—Ar 3374; one female (without abdomen), two females (paratypes)).

*Habitat.* No data.

*Distribution.* Japan and S-Korea (map 1) (Paik, 1986: sub *Euophrys trivittata*; Ikeda, 1996: sub *Talavera trivittata*). Occurrence in the Russian Far East is quite probable as well.

***Talavera parvistyla* sp. n.**

(figures 36, 43, 52, 105–117, map 6)

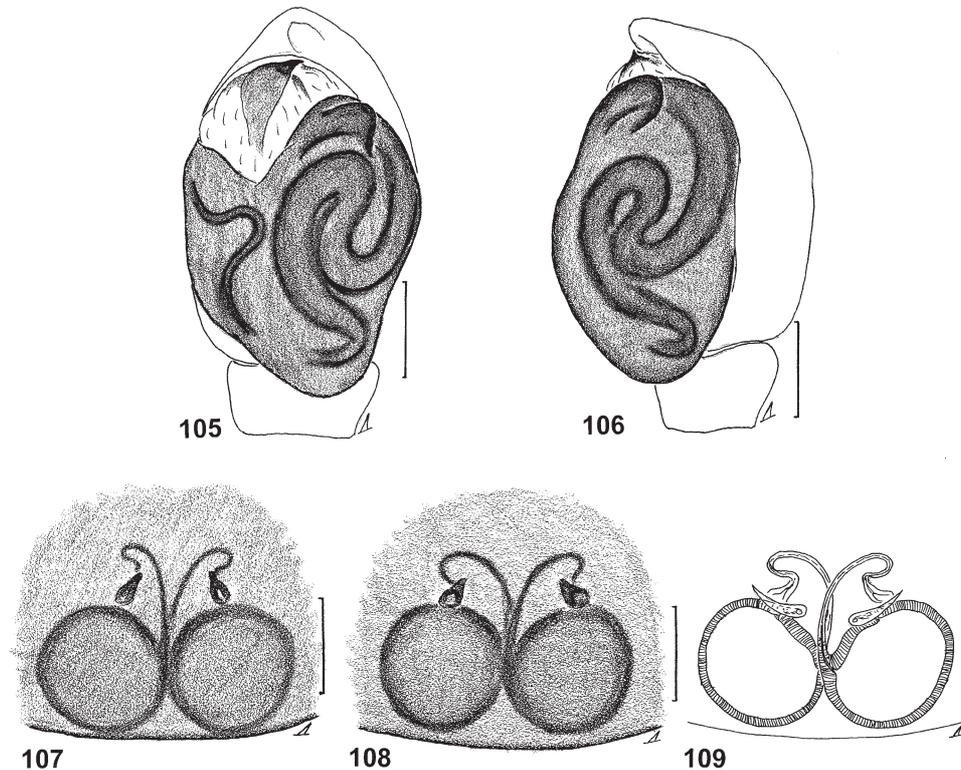
*Euophrys poecilopus*: Lohmander, 1943: 17; Lohmander, 1944: 5 (diagnoses ♂♀); Tullgren, 1944: 37–38, figures 24A, pl. 3, figures 52–55 (♂♀); Roewer, 1954: 1177; Maurer and Hänggi, 1990: 213; Hänggi *et al.*, 1995: 425.

*Euophrys westringi*: Roewer, 1954: 1178; Bonnet, 1956: 1891; Miller, 1971: 139 (♂) and 140 (♀), pl. 20 figure 16 (♂); Prószyński, 1976: t. 13, 15 figures 122, 138 (♂♀); Prószyński, 1990: 132; Prószyński, 1991: 500, figures 1340, 1–4 (♂♀); Fuhn and Gherasim, 1995: 87, 105–107, figures 46c (♀ only); Gajdoš *et al.*, 1999: 274, map 8610.

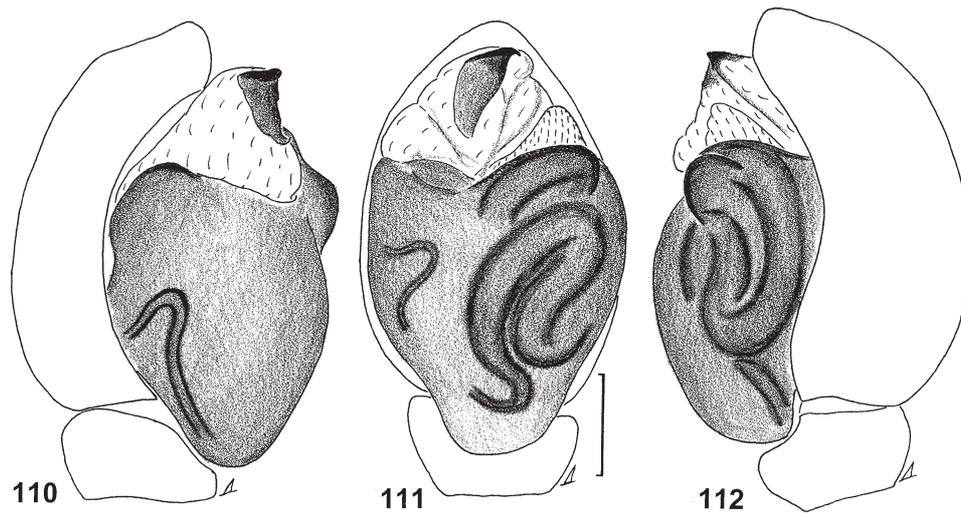
*Talavera westringi*: Żabka and Kupryjanowicz, 1997: 169, figures 1–4 (♂; transferred to *Talavera*); Żabka, 1997: 101, 106–107, figures 417–421 (♂♀); Żabka and Prószyński, 1998: 116; Prószyński, www; Platnick, www.

*Talavera* sp.: Svatoň and Pridavka, 2000: 98, 102.

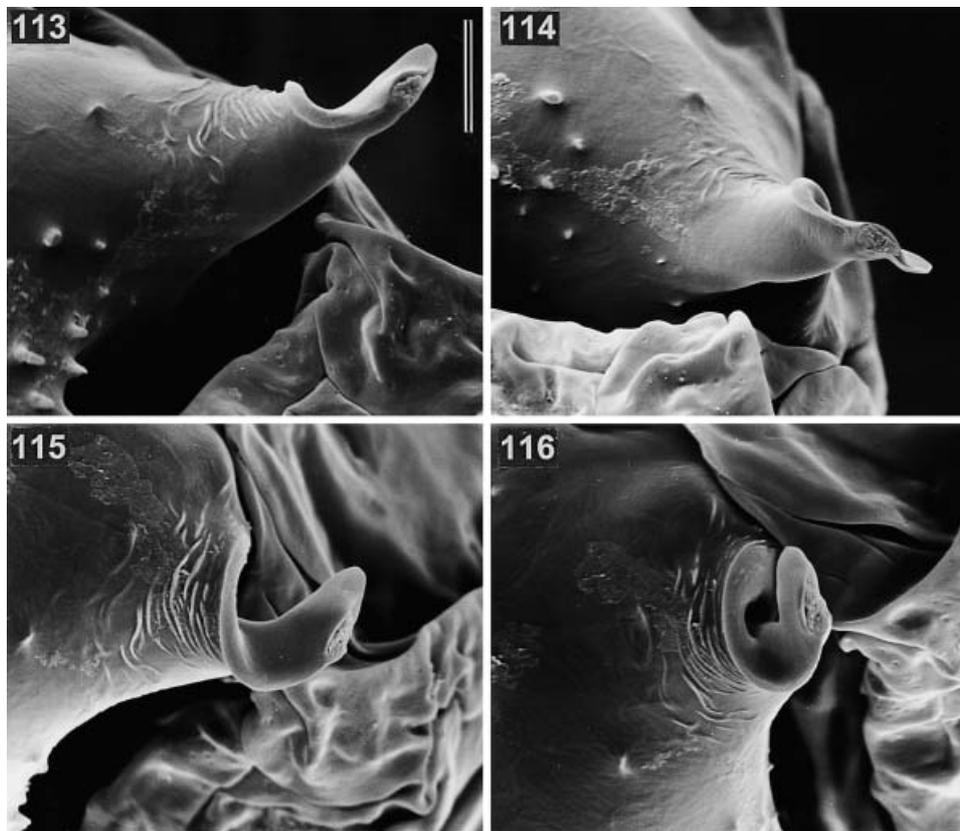
*Type.* Male holotype from Södermanland, Sweden, V. Vingåker, in GNME.



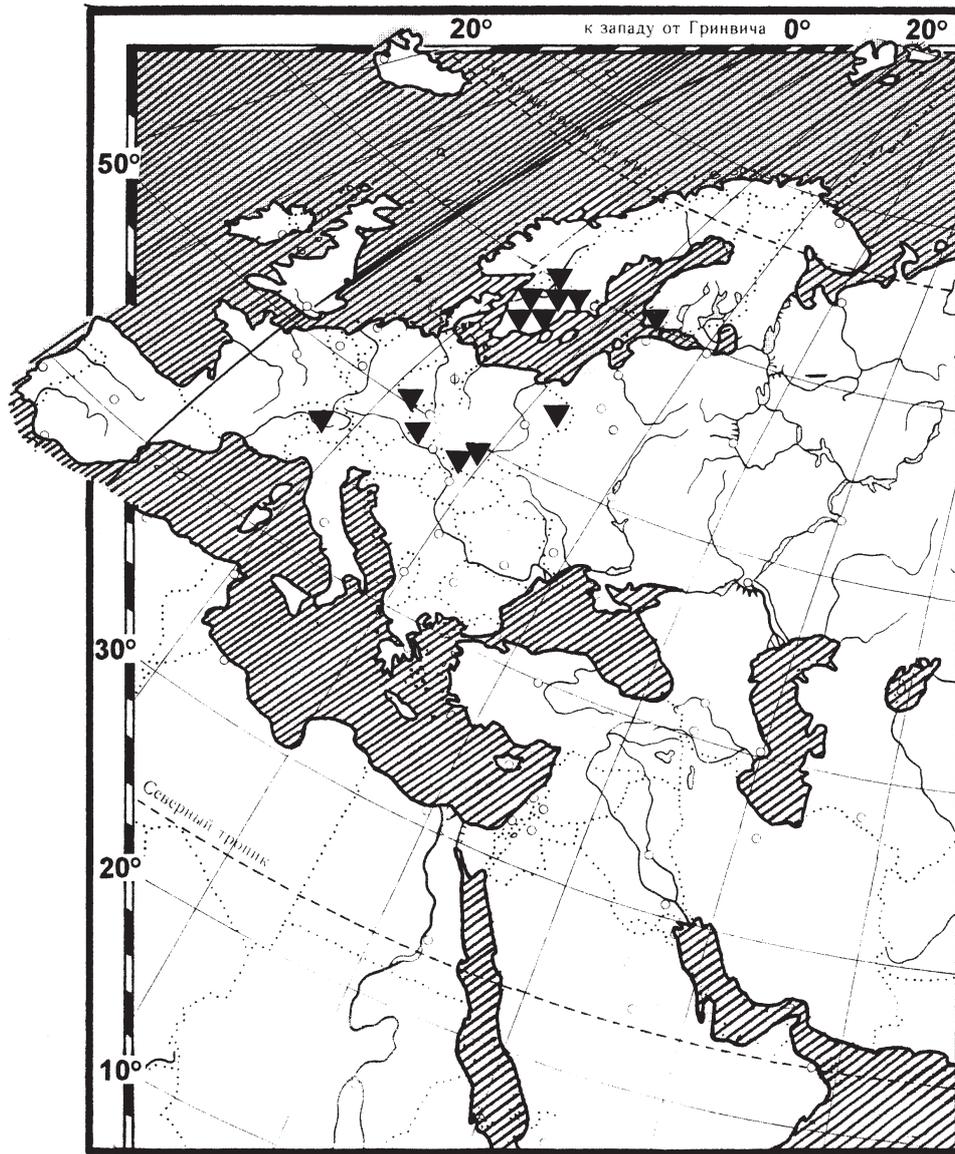
FIGS 105–109. *Talavera parvistyla* sp. n. (male paratype and female paratypes from Sweden). (105, 106) Left male palp: (105) ventral; (106) retrolateral view. (107, 108) Epigynes. (109) Spermathecae, dorsal view. Scale bars = 0.1 mm.



FIGS 110–112. *Talavera parvistyla* sp. n. (male from Slovakia). Left palp: (110) prolateral; (111) ventral; (112) retrolateral view. Scale bar = 0.1 mm.



FIGS 113–116. *Talavera parvistyla* sp. n. (male from Sweden), left embolus in different views. (113) Ventral view. (114–116) Same from various angles in retrolatero-anterior view. Scale bar = 0.01 mm (applies to all).



МАР 6. Collection localities of *Talavera parvistyla*.

*Etymology.* The specific name is derived from Latin *parvus*, small, and *stylus*, style, referring to the shape of the embolus.

*Diagnosis.* Males of *T. parvistyla* are most similar to those of *T. tuvensis*, but differ in the structure of the embolic tip, which is thorn-shaped (as seen under a light microscope) in *T. tuvensis* and otherwise in *T. parvistyla* (cf. figures 105 and 120). Females of *T. parvistyla* can be easily separated from those of *T. aequipes* by the elongate copulatory openings (rounded in *T. aequipes*) (cf. figures 43 (inset), 107–109 and 127–132), by the presence of a pair of rounded, poorly visible epigynal discs (figure 43) (absent in *T. aequipes*) and by the insemination ducts lacking a

spiral twist at the beginning (clearly twisted in *T. aequipes*) (cf. figures 52, 109, 117 and 53, 118, 131, 132).

*Comments.* The nomenclatorial history of this species, currently catalogued as *Talavera westringi* (Simon), is intricate. Westring (1861: 586) described a juvenile female under the name '*Attus laetabundus* (Koch?)'. A few years later, Simon (1868: 605) described the female of what he thought was *Attus laetabundus sensu* Westring (1861) as *Attus westringi*. The '3¼ mill.' long female of *A. westringi* was said to resemble '*frontalis*', i.e. *Attus frontalis* Walckenaer (presently in *Euophrys*). Later, Simon (1876: 196) placed *A. westringi* as a doubtful species. He admitted that originally he thought that he had recognized Westring's species, but had reached the opinion that the type of *A. westringi*, no longer in his possession, seemed to be a juvenile *Hasarius* (Simon, 1876: 197). Later, Simon (1937: 1271) stated that his *A. westringi* was described from a female *Euophrys* in the *frontalis* group.

In the meantime, Thorell (1873: 403) commented on *Attus laetabundus sensu* Westring, stating that it is quite different from *Euophrys laetabunda* C. L. Koch (presently = *Evarcha laetabunda*) and also different from *Attus westringi* Simon, and at the same time applied a name for the species described by Westring: *Euophrys poecilopus* Thorell. The name *Euophrys poecilopus* was reintroduced by Lohmander (1943: 17) in a faunistic report on his fieldwork in southern Sweden in 1942, as follows: '... a still not fully investigated *Euophrys* species, several times found on raised bogs, and which to all appearances is identical with the species first treated by Westring under the name *Attus laetabundus* C. Koch and later described as a new species by Thorell under the name *Euophrys poecilopus*. Both mentioned authors only knew of a single juvenile specimen of this species; their descriptions are therefore very incomplete' [translated from Swedish]. A very short diagnosis based on the configuration of the copulatory organs in both sexes was given by Lohmander (1944). Lohmander's view was followed by Tullgren (1944) and Palmgren (1972). However, Miller (1971) placed *Euophrys poecilopus* Thorell as junior synonym of *Euophrys westringi* without any further comments.

The specimen, on which Westring based his description, and which is the holotype of *Euophrys poecilopus* Thorell, is still in existence in NHRS (recently transferred from Westring's dry collection to alcohol). As the specimen is a juvenile, we find it impossible to ascribe it to any specific species. Consequently, no neotype can be designated for taxonomic stability. *A. westringi* cannot formally be treated as a new replacement name for *A. laetabundus sensu* Westring because Westring's mentioning of '*Attus laetabundus* (Koch?)' was merely a misidentification (as shown by Thorell, 1873).

From the above reasoning we find it best to place both *Attus westringi* Simon, 1868 and *Euophrys poecilopus* Thorell, 1873 as *nomina dubia*.

### Description

#### Male (from Slovakia)

*Measurements.* Carapace 1.23 long, 0.86 wide, 0.54 high at PLE. Ocular area 0.57 long, 0.76 wide anteriorly and 0.77 wide posteriorly. Diameter of AME 0.21. Abdomen 1.17 long, 0.91 wide. Cheliceral length 0.33. Clypeal height 0.06. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.63	0.32	0.40	0.31	0.26	1.92
II	0.54	0.27	0.31	0.29	0.24	1.65
III	0.70	0.31	0.38	0.37	0.30	2.06
IV	0.69	0.21	0.46	0.43	0.36	2.15

*Leg spination.* Leg I: Fm d 1-1-1; Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb pr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 1-1-2; Tb pr and rt 0-1, v 1-2ap; Mt pr and rt 1-2ap, v 2-2ap. Leg IV: Fm d 1-1-1; Tb pr 0-1, rt 1-1, v 1-1ap; Mt pr and rt 2ap, v 1-2ap.

*Coloration.* Carapace orange, with thin black marginal line. Eye field dark brown, with black around eyes. Entire carapace covered with light elongated appressed scales. Clypeus yellow, densely covered with yellow hairs. Sternum yellow, tinged with brown. Labium, maxillae and chelicerae yellow-orange. Abdomen brownish, with yellow reticulate colour markings. Two (dorsal and ventral) scuta. Booklung covers yellow, slightly tinged with brown. Spinnerets brown. Legs: femora brownish, remaining segments yellow with numerous rings; femora, patellae and tibiae I anteriorly bluish black. Palps light brownish, femora with a few blackish patches, tibiae dorsally with long white hairs reaching over basal part of cymbium, also yellowish basal part of cymbium with white hairs.

*Palpal structure* as in figures 36, 105, 106, 110–112, embolus twisted as shown in figures 113–116.

#### Female (from Sweden)

*Measurements.* Carapace 1.20 long, 0.83 wide, 0.51 high at PLE. Ocular area 0.54 long, 0.74 wide anteriorly and 0.76 wide posteriorly. Diameter of AME 0.21. Abdomen 1.44 long, 1.04 wide. Cheliceral length 0.34. Clypeal height 0.06. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.57	0.31	0.33	0.27	0.27	1.75
II	0.50	0.26	0.26	0.23	0.23	1.48
III	0.66	0.31	0.35	0.33	0.27	1.92
IV	0.69	0.29	0.43	0.43	0.31	2.15

*Leg spination.* Leg I: Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Tb v 1-1; Mt v 2-2ap. Leg III: Tb rt and v 0-1-0; Mt pr and rt 2ap, v 1-2ap. Leg IV: Tb v 0-1-0; Mt pr and rt 2ap, v 1-2ap.

*Coloration.* Carapace yellow, with light yellow stripe along margins and thin black marginal line. Eye field brown, with black around eyes. Entire carapace covered with light elongated appressed scales. Clypeus yellow, hairless. Sternum yellow, slightly tinged with brown. Abdomen light brown, with yellow reticulate colour markings. Booklung covers and spinnerets yellow, tinged with brown. All legs yellow, with numerous brown rings. Palps yellow, with brown femora.

*Epigyne and spermathecae* as in figures 43, 52, 107–109, 117.

*Material examined* (holotype, paratypes). **Sweden:** Närke: Nysund, 7 July 1944 (H. L., GNME), two females; Skagerhult, 17 July 1944 (H. L., GNME), one female; Skagershultamossen, 23 June 1944 (H. L., GNME), one female; Kvistbro, 30 June 1944 (H. L., GNME), one female; Ramundeboda, 13 July 1944 (H. L., GNME), one female. Östergötland: Vretakloster, 1 June 1948 (H. L., GNME), two males. Småland: Angerdshestra, NE of Fagerhult, 14 July 1950 (H. L., GNME), one male. Södermanland: V. Vingåker, 11 July 1954 (H. L., GNME), one male (holotype). Uppland: Bälinge, Ryggmossen, 24 May to 1 July 1961 (Å. Holm, ZMUU), one male. Värmland: Kroppa, 3 July 1955 (H. L., GNME), one female. Västergötland: Håcksvik, W of Lake Mogasjön, 5 June 1942 (H. L., GNME), one male; Härja, Alekärrsmossen, 9 June 1950 (H. L., GNME), one male. **Finland:** Uusimaa:

Tvärminne, 18 June 1965 (P. Palmgren, MZHF), one female. **Poland:** Biebrza National Park, Suieblewo, 1 June 1994 (J. Kupryjanowicz, PCJK), one male. **Czech Republic:** Jihočeský: Šumava Mts, Mrtvý Luh, 10 July 1981 (A. Kůrka, NMPC), one male. **Slovakia:** Žilinský: Liptovská kotlina, Švihrovské rašelinisko, 9 August 1995 (J. Svatoň, SNMC), two males.

*Habitat.* Most of the specimens from Sweden were collected on bogs with *Sphagnum*, often at the edge of the bog. Also in Finland (Palmgren, 1972: sub *Euophrys poecilopus*), Poland (Żabka, 1997; Żabka and Kupryjanowicz, 1997: sub *T. westringi*), Czech Republic (Kůrka, 1990: sub *Euophrys westringi*), Slovakia (Svatoň and Prídavka, 2000: sub *Talavera* sp.; their material re-examined), Germany (Hiebsch, 1985: sub *Euophrys westringi*) and Switzerland (Maurer and Hänggi, 1989: sub *Euophrys poecilopus*), this species is said to occur on peat bogs [a record from xerothermic vegetation in Poland (Żabka and Kupryjanowicz, 1997: sub *T. westringi*) needs further confirmation]. Kupryjanowicz *et al.* (1998: sub *T. westringi*) even characterized this species as a tyrphobiont, i.e. confined to *Sphagnum* bogs.

*Distribution.* *T. parvistyla* is presently known as restricted to Fennoscandia and Central Europe (map 6). Occurrence in the European part of Russia and in Ukraine is quite plausible.

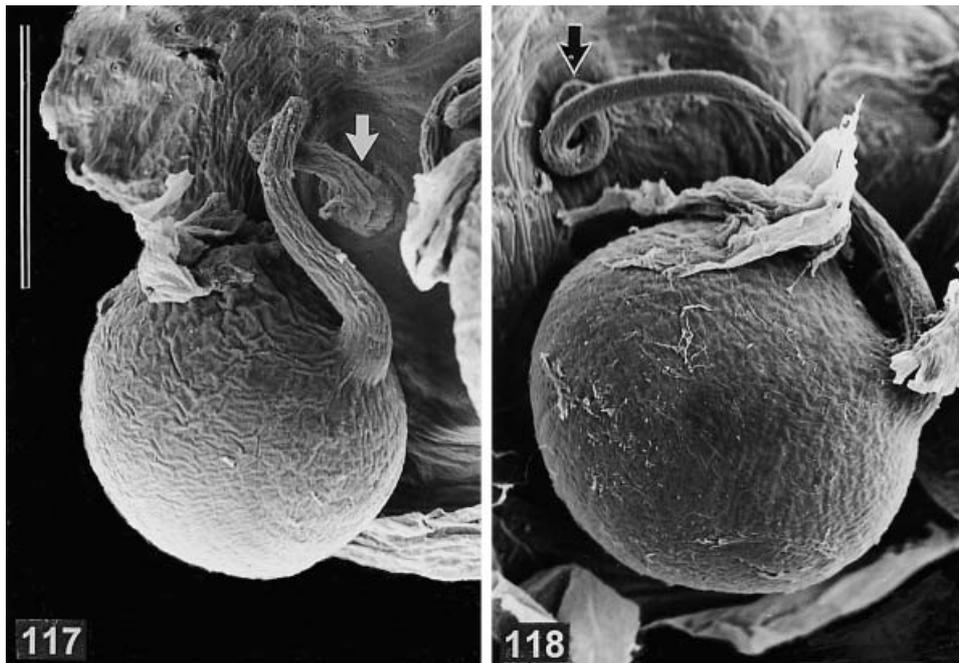
*Talavera tuvensis* sp. n.

(figures 119–121, map 5)

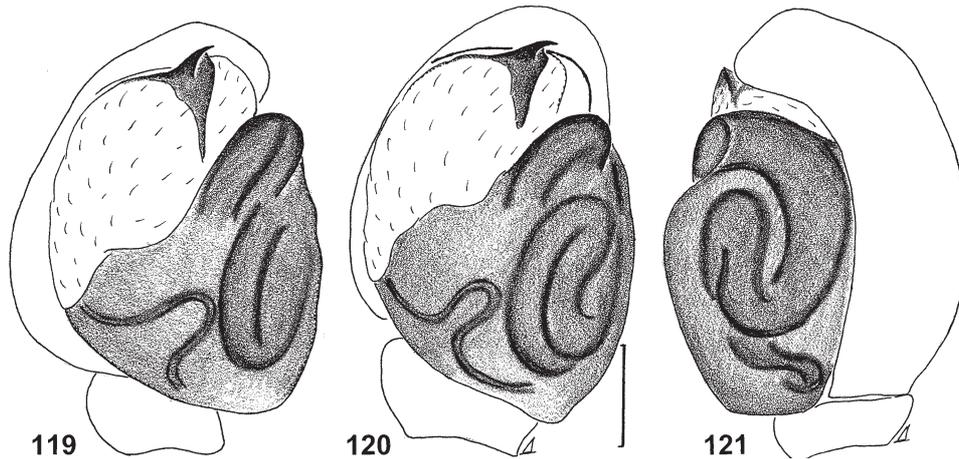
*Talavera* sp. 2 (cf. *trivittata*): Logunov *et al.*, 1998: 142 (the record for locality 54).

*Talavera* sp. 2: Marusik *et al.*, 2000: 102.

*Talavera* sp. 3: Logunov and Marusik, 2000: 241.



FIGS 117, 118. Spermatheca with insemination duct (arrow). (117) *Talavera parvistyla* (from Sweden). (118) *T. aequipes* (from Byelorussia). Scale bar = 0.1 mm (applies to all).



Figs 119–121. *Talavera tuvensis* sp. n. (male holotype). Left palp, prolateroventral (119), ventral (120), and retrolateral view (121). Scale bar = 0.1 mm.

*Type.* Male holotype from Sanghelen Mt Range, Tuva, Russia, in SZMN.

*Etymology.* The species is named after the terra typica: Tuva, Russia.

*Diagnosis.* Males of *T. tuvensis* are most similar to those of *T. parvistyla* and *T. monticola*, but from the former species differ in the thorn-shaped embolus (otherwise as in *T. parvistyla*) (cf. figures 120–121 and 89, 90), while from the latter species differ in the proportion and direction of the embolic tip (laterad in *T. tuvensis* and ventrad in *T. monticola*) (cf. figures 120 and 89, 96).

#### *Description*

##### *Male* (holotype)

*Measurements.* Carapace 1.14 long, 0.84 wide, 0.46 high at PLE. Ocular area 0.50 long, 0.66 wide anteriorly and 0.70 wide posteriorly. Diameter of AME 0.20. Abdomen 1.19 long, 0.87 wide. Cheliceral length 0.31. Clypeal height 0.04. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.59	0.30	0.34	0.29	0.23	1.75
II	0.51	0.27	0.28	0.26	0.21	1.53
III	0.67	0.30	0.36	0.36	0.23	1.92
IV	0.64		(remaining segments absent)			

*Leg spination.* Leg I: Fm d 1-1-1; Tb v 1-2-2; Mt 2-2ap. Leg II: Fm d 1-1-2; Tb 1-1ap; Mt v 2-2ap. Leg III: Fm d 1-1-2; Tb pr, rt and v 1-1; Mt pr and v 1-2ap, rt 2ap. Leg IV: Fm d 1-1-1; remaining segments absent.

*Coloration.* This specimen is in poor condition and faded. Carapace brown, with black radial and marginal lines, and with thin yellow stripe along margins. Eye field black. Entire carapace covered with white elongated appressed scales. Clypeus yellow-brown, hairless. Sternum yellow, tinged with brown. Maxillae, labium and chelicerae yellow. Abdomen: dorsum and sides grey-brown, with yellow reticulate markings; venter yellow-brown. Booklung covers yellow. Spinnerets brown. All legs

yellow, with dark brown rings, but all femora almost completely brown; femora, patellae and tibiae I anteriorly black.

*Palpal structure* as in figures 119–121.

*Female unknown.*

*Material examined.* **Russia:** Tuva: Sanghelen Mt Range, pass between Naryn and Balyktyg-Khem Rivers, 50°18'N, 96°25'E, 2400 m a.s.l., 26 June to 5 July 1996 (Yu. M. and D. V. Obydov, SZMN), one male (holotype).

*Habitat.* The holotype was collected in the mountain moss-lichen-stony tundra (Logunov *et al.*, 1998: sub. *Talavera* sp. 2; present data).

*Distribution.* The type locality only (map 5).

### The *aequipes* subgroup

*Diagnosis.* Embolus conspicuous, clearly like a cork-screw (figures 134–135); tegulum with poorly marked, rounded distal sclerite (figure 122, 139); copulatory openings far apart from receptacles (figures 131–132, 142).

*Species included.* *T. aequipes* and *T. trivittata*.

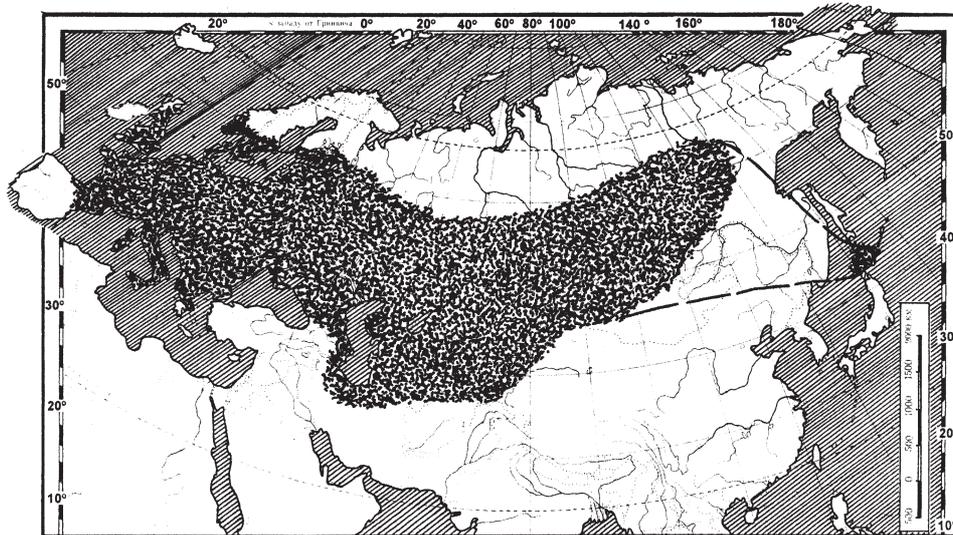
### *Talavera aequipes* (O. Pickard-Cambridge, 1871)

(figures 13, 15, 16, 29, 38, 44, 53, 122–132, 134–136, map 7)

*Salticus aequipes* O. Pickard-Cambridge, 1871: 399, pl. 54, figure 4 (♂; holotype from Britain: Paisley, not examined).

*Euophrys aequipes:* Roewer, 1954: 1172; Bonnet, 1956: 1870; Maurer and Hänggi, 1990: 212; Prószyński, 1991: 498, 500, figures 1330, 1–4 (♂♀); Pesarini, 1994: 57; Fuhn and Gherasim, 1995: 87–90, figure 36a–f (♂♀); Roberts, 1995: 197, figures (♂♀); Hänggi *et al.*, 1995: 167; Kropf and Horak, 1996: 92; Thaler, 1997: 255; Roberts, 1998: 210, figures (♂♀).

*Talavera aequipes:* Logunov, 1992: 78, figures 21, 32–34 (♂♀, transferred to *Talavera*); Mikhailov, 1996: 135; Esyunin and Efimik, 1996: 190; Zonstein, 1996: 144; Žabka, 1997: 101–103, figures 393–398 (♂♀); Mikhailov, 1997: 223; Žabka and Prószyński, 1998: 116; Esyunin, 1999: 659; Metzner, 1999: 64–65, pl. 29a–g (♂♀); Gajdoš *et al.*, 1999: 291, map



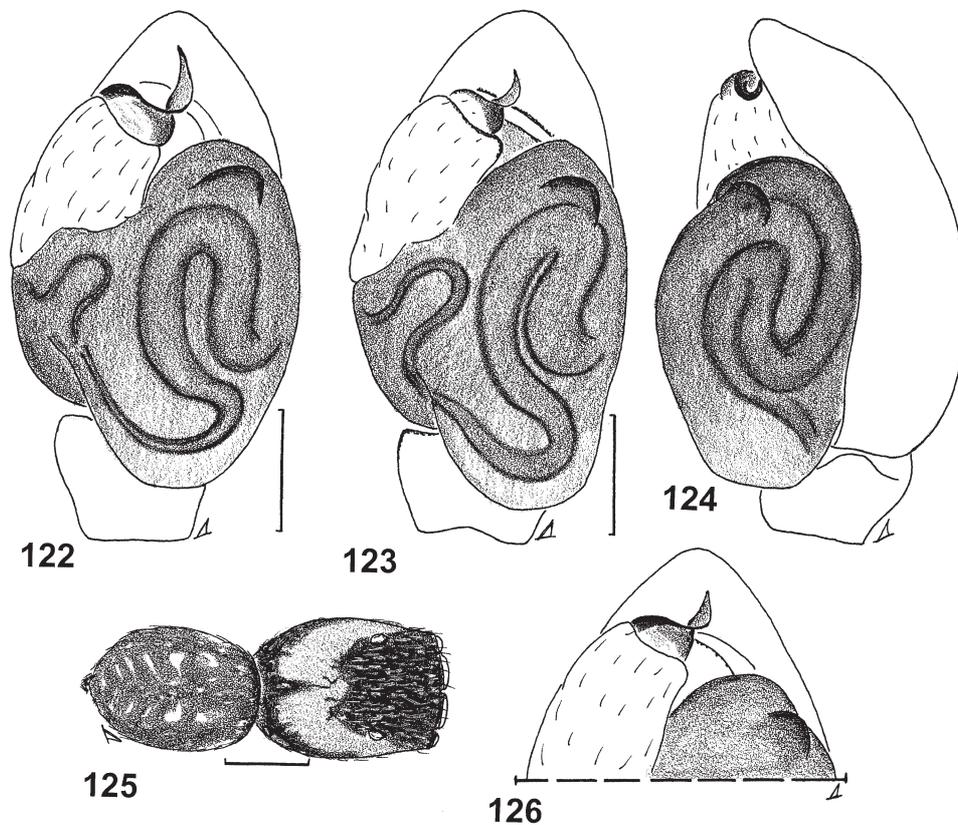
MAP 7. Distribution of *Talavera aequipes*.

9210; Marusik *et al.*, 2000: 102; Logunov and Marusik, 2000: 234–235; Prószyński, *www*; Platnick, *www*.

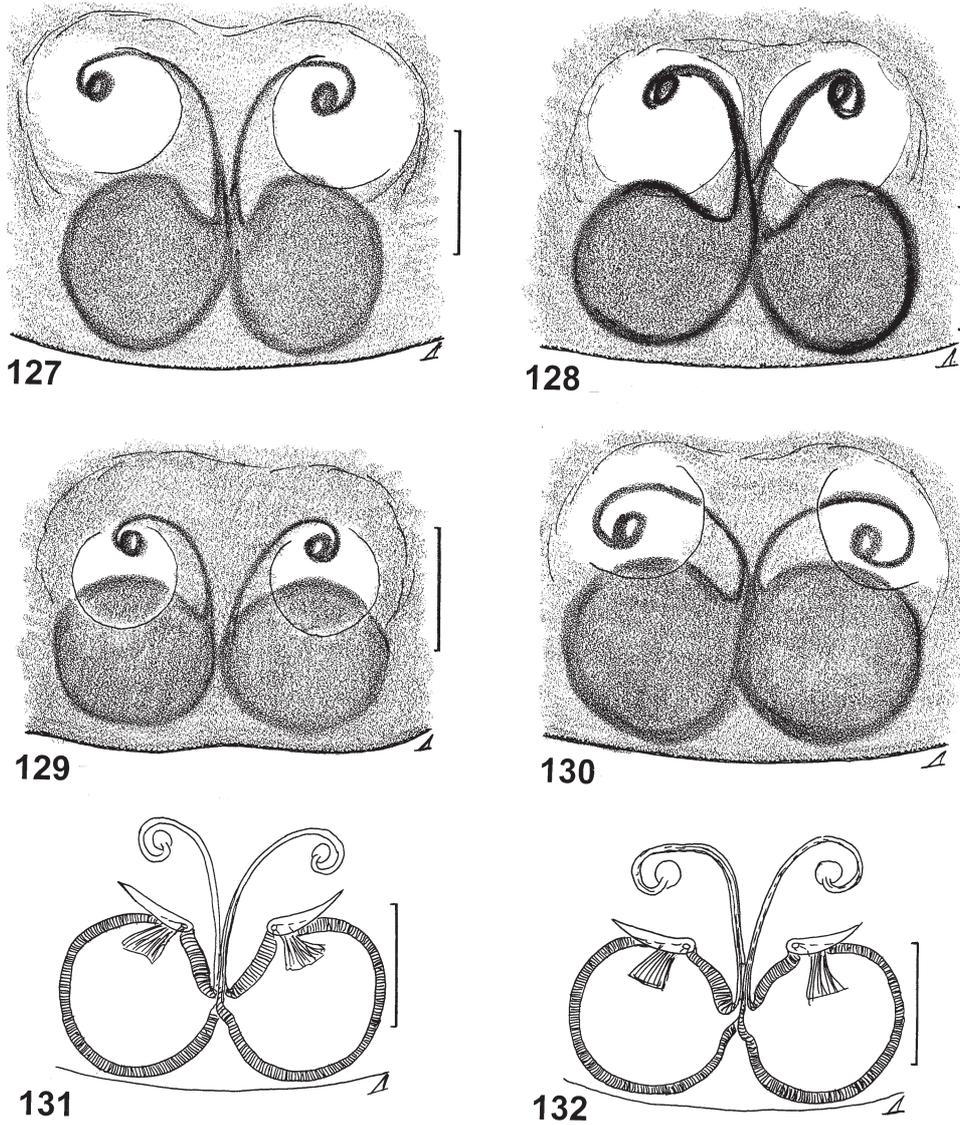
For a complete set of faunistic references in northern Asia, see Logunov and Marusik (2000).

**Diagnosis.** By the structure of the copulatory organs, *T. aequipes* is closely related to *T. trivittata* (cf. figures 122–124, 126–132 and 139–142), but both males and females can be easily separated by body coloration (figures 125 and 137, 138), as well as males having clearly different proportions of the embolus as seen under high magnification (cf. figures 133 and 134).

**Comments.** This species strongly varies in coloration over its range. The male clypeus in most specimens is covered with white hairs/scales, with same scales around eyes of the first row. Sometimes, the clypeus in males is covered with either yellow (one male from Naryn River, Tuva), or even orange (one male from Corse, France) hairs. Sternum coloration in both males and females varies from yellow to yellow with brown margins and to completely brown. Venter of abdomen in both males and females can be yellow, yellow with brown stripes or completely brown. Leg femora can be yellow, with brown rings at all articulations, but sometimes completely brown. Female palpal femora can be yellow to brown. As we have been unable to



FIGS 122–126. *Talavera aequipes* (O. P.-Cambridge), male. (122) From Byelorussia; (123, 124) from Tajikistan; (125) from Kabardino-Balkarskaya Republic, Kavkazskiy Reserve, Russia; (126) from Corse, France. (122–124) Left palp in (122, 123) ventral and (124) retrolateral view. (125) Habitus. (126) Distal portion of left palp. Scale bars = (125) 0.25 mm, others 0.1 mm.



FIGS 127–132. *Talavera aequipes* (O. P.-Cambridge), female. (127) From Tadjikistan; (128) from Corse, France; (129) from Byelorussia; (130) from Chita area, Russia; (131) from Khakassia, Russia; (132) from Ukraine. (127–130) Epigyne. (131, 132) Spermathecae, dorsal view. Scale bars = 0.1 mm.

find either differences in the copulatory organs between these colour variants, or to attribute them to particular regions (although darker forms predominate in the southern parts of the species range, e.g. in Central Asia, the Caucasus and France), we have given no taxonomic significance to colour differences in *T. aequipes*. Besides, it is very likely that *Attus ludio* Simon, 1871 (= *Euophrys aequipes ludio sensu* Simon, 1937) described from Corsica [the holotype not examined, as it has not been found in MNHN; C. Rollard, personal communication] is a dark variant of *T. aequipes*. The matter requires a further study.

*Description**Male* (from Tuva, Russia)

*Measurements.* Carapace 1.31 long, 0.94 wide, 0.54 high at PLE. Ocular area 0.54 long, 0.77 wide anteriorly and 0.77 wide posteriorly. Diameter of AME 0.30. Abdomen 1.23 long, 0.94 wide. Cheliceral length 0.29. Clypeal height 0.04. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.66	0.37	0.44	0.31	0.27	2.05
II	0.57	0.30	0.36	0.31	0.23	1.77
III	0.74	0.34	0.40	0.41	0.31	2.20
IV	0.77	0.36	0.50	0.44	0.34	2.41

*Leg spination.* Leg I: Fm d 1-1-2; Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb v 0-1-0; Mt v 2-2ap. Leg III: Fm d 1-1-3; Pt rt 0-1-0; Tb d 1-0, pr and rt 1-1, v 1-1ap; Mt pr and rt 1-2ap, 2-2ap. Leg IV: Fm d 1-1-1; Tb pr and rt 0-1, v 1-1ap; Mt pr and rt 1-2ap, 2ap.

*Coloration.* Carapace orange, with brownish margins and dark brown eye field. Clypeus yellow/orange, covered with white hairs. Eyes of the first row bordered with white scales. Sternum brown, with large anterior yellow spot. Maxillae, labium and chelicerae yellow. Abdomen: dorsum dark brown, with more or less chevron-like pattern of longitudinal yellowish spots (figure 125); venter yellow, with brownish spots. Booklung covers yellow. Spinnerets brownish. Coxae of legs yellow, the remaining segments yellow, with brown rings at articulations. Leg I darkest, the prolateral sides of all segments bluish black. Palp yellow, bulb brownish.

*Palpal structure* as in figures 38, 122–124, 126, embolar details in figures 134–136.

*Female* (from Khakassia, Russia)

*Measurements.* Carapace 1.21 long, 0.80 wide, 0.47 high at PLE. Ocular area 0.51 long, 0.69 wide anteriorly and 0.69 wide posteriorly. Diameter of AME 0.20. Abdomen 1.44 long, 1.04 wide. Cheliceral length 0.31. Clypeal height 0.04. Length of leg segments:

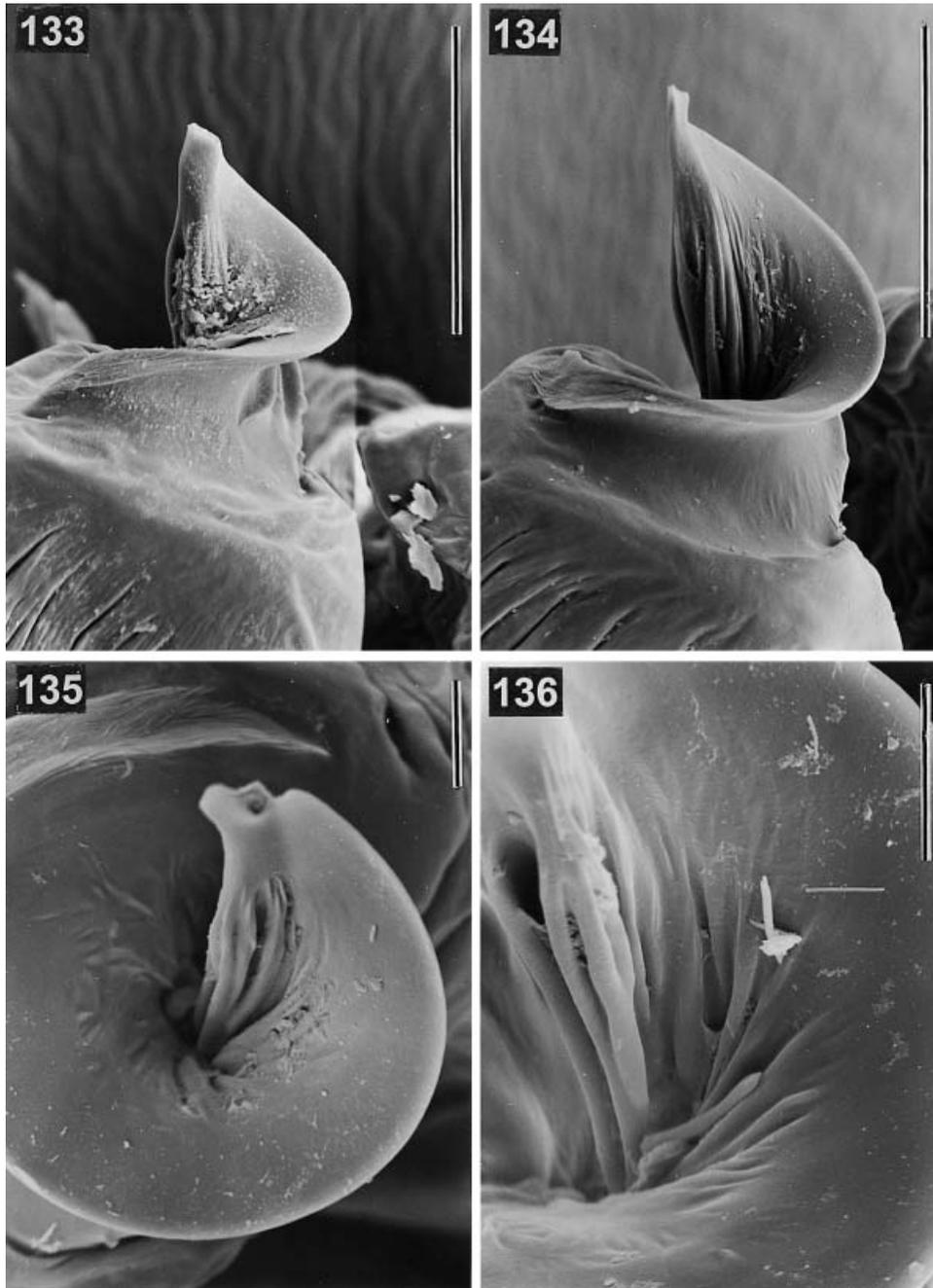
	Fm	Pt	Tb	Mt	Tr	Total
I	0.56	0.30	0.33	0.29	0.21	1.69
II	0.49	0.29	0.27	0.20	0.19	1.44
III	0.67	0.30	0.36	0.33	0.21	1.87
IV	0.69	0.27	0.44	0.43	0.27	2.10

*Leg spination.* Leg I: Fm d 1-1-2; Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-1; Tb v 0-1; Mt v 2-2ap. Leg III: Tb pr and rt 0-1, v 0-1-0; Mt pr and v 1-2ap, rt 2ap. Leg IV: Fm d 0-0-1-1; Tb pr and rt 0-1, v 0-1-0; Mt pr, rt and v 1-2ap.

*Coloration.* As described for male, but lighter: sternum and venter yellow; brown rings on legs thinner; palps entirely yellow.

*Epigyne and spermathecae* as in figures 44, 53, 118, 127–132.

*Material examined.* **UK:** Dorset: Purbeck, Headbury Quarry, 12 June 1968 (R. G. Snazell, ITEW), three males, one female. Hampshire: Winchester, Twyford Down, Summer 1998 (R. G. Snazell, ITEW), six males, five females. **France:** 'Angl. Gallia' (MNHN, 842 and 844), 12 males, eight females. Corse: Forêt de l'Asco, 20 May 1996 (Y. Montardi, MNHN), one male, one female. **Germany:** Bavaria: Hadau, Ingolstadt, 7 June 1982 (M. Baehr, ZSMC) three males, one female; Munich,



FIGS 133–136. Embolus. (133) *Talavera trivittata* (male from Mongolia). (134–136) *T. aequipes* (male from Byelorussia). Scale bars=(133, 134) 0.05 mm; (135, 136) 0.01 mm.

Allacher Forst, 3 July 1983 (B. Baehr, ZSMC), 14 males, seven females. **Sweden:** Närke: Nysund, 24 July 1955 (H. L., GNME), one female; Ramundeboda, 13 July 1944 (H. L., GNME), one female. Öland: Gårdby, 14 June 1978 (T. Kronstedt,

NHRS), one female; Resmo, Möckelmossen, 28 June to 5 July 1977 (T. Kronstedt, NHRS), one male. Skåne: Äspinge, 20 July 1949 (H. L., GNME), one female; Lyngsjö, 21 July 1949 (H. L., GNME), one female; Sjöbo, 8 July 1949 (H. L., GNME), one female. Södermanland: Utö, 3 July 1953 (Å. Holm, ZMUU), one female. Uppland: Bälinge, Ryggmossen, 12 May 1961 (Å. Holm, ZMUU), one female. Värmland: Brattfors, 4 June 1955 (H. L., GNME), one male; Karlskoga, 29 June 1955 (H. L., GNME), one male; Visnums-Kil, 22 June 1955 (H. L., GNME), one male; Varnum, 22 June 1955 (H. L., GNME), three females; Ölme, 28 May 1955 (H. L., GNME), one female; Östra Fågelvik, 16 June 1955 (H. L., GNME), one male, one female. Västergötland: Björkäng, 19 July 1944 (H. L., GNME), one male, one female; Essunga, 26 August 1944 (H. L., GNME), one female; Undenäs, 31 July 1944 (H. L., GNME), one male; Utvängstorp, 2 June 1950 (H. L., GNME), one female. **Finland:** Åland: Finström, Bjurström, 22 May 1963 (P. L., ZMTU), one male. South Häme: Seitsemien Park, young forest, February 1989 (T. Pajunen, MZHF), one female. South Savo: Joutseno, Konnunsuo, 30 April 1941 (E. Thuneberg, MZHF), one female. **Ukraine:** Odessa area: Sergeevka, 1–7 July 1994 (Yu. M., SZMN), three females. Voroshilovgrad area: Melovsky Distr., near Velikotsk, 'Streletskaya Steppe' Reserve, 12 June to 2 July 1984 (N. Yu. Polchaninova, SZMN), one female. **Byelorussia:** Brest area: Ivantsevo Distr., Panki, 27 May 1985 (Y. A. Shostak, SZMN), one male, one female; same locality, 10–20 July 1984 (E. Zhukovets, SZMN), one male. Minsk area: Glebovichi, 23 May to 2 June 1988 (E. Zhukovets, SZMN), one male. **Azerbaijan:** Saatly Distr., Dzhafarkhan, 27 July 1982 (P. M. Dunin, SZMN), two males; Lenkoran' Distr., near Avrora (38°40'N, 48°52'E), 23–28 April 2001 (Yu. M., MMUM), one female. **Russia:** Kabardino-Balkarian Republic: Cheget, ~2700 m a.s.l., 1 July 1976 (V. O., ZISP), one female; Prielbrusie, Azau, 2300 m a.s.l., 30 June 1976 (V. O., ZISP), one female; Kavkazskiy Reserve, 1900–2500 m a.s.l., 16–24 July 1976 (V. O., ZISP), four males, 13 females; same locality, 3–13 July 1975 (V. O., ZISP), seven females. North Osetiya: Kabardino-Sunzhenski Mt Range, 1.5 km N of Kardzhyn, 450 m a.s.l., 5 July 1985 (K. G. Mikhailov, ZMUM), one female. Volgograd area: Frolovo, June 1993 (Yu. M., SZMN), two females. Chelyabinsk area: Troitski Forestry, date and collector (?) (ZPSU), 14 males, seven females. The Altai: SW-Altai, Kurchumsky Mt Range, the upper reaches of Topolevka River, 2100–2200 m a.s.l., 4–5 July 1997 (R. Yu. Dudko, SZMN), one female. Khakassia: Altai Distr., ca 40 km SE of Belyi Yar, 15–17 km E of Novorossiyskoe, 380–400 m a.s.l., 23–24 June 1990 (D. V. Logunov, SZMN), one female. Tuva: Mongun-Taiga Distr., ca 5 km SE of Mugur-Aksy, 2000 m a.s.l., 11 June 1990 (O. V. Lyakhov, SZMN), one male; Erzin Distr., the upper reaches of Naryn River, 50°12'N, 95°39'E, 1540 m a.s.l., 22–24 June 1996 (Yu. M., SZMN), one male. Yakutia: Byadi, 21–23 June 1993 (A. V. Alekseev, SZMN), one female. **Iran:** Tehran Province: Latian Dam, 35°48'N, 51°08'E, 6–19 June 2000 (Yu. M., MMUM), one female; Tehran, Plant-Protection-Organisation, 36°40'N, 51°25'E, 7–22 June 2000 (Yu. M., MMUM), three females (Yu. M., NHRS), two females. Mazandaran Province: near Barseh, 36°37'N, 50°41'E, ca 2000 m a.s.l., 10 June 2000 (Yu. M., MMUM), one female. **Tajikistan:** Garavuti, Vakhsh River, 9 June 1973 (A. P. Kononenko, ZMPA), one male, one female; Khozratisho, 17 June 1966 (E. M. Andreeva, ZMPA), one female; Shaarguz, shore of Chernysh Lake, 24 April 1974 (A. P. Kononenko, ZMPA), one female. **Kazakhstan:** Astana area: Kokshetau Mt, 13 June 1957 (V. P. Tyshchenko, ZISP), one male. **Japan:** Hokkaido: Sapporo (University campus), litter under deciduous trees, 16 May 2001 (Yu. M., MMUM), one female.

For other material studied see Logunov *et al.* (1993: sub *Euophrys a.*)

*Habitat.* In Central Europe, the species is most abundant in grasslands, raised bogs and coastal dunes, for other habitats see Hänggi *et al.* (1995). Also in Sweden, occurrence in seemingly contrasting habitats has been reported (coastal sand dunes: Almquist, 1973; steppe-like vegetation on limestone: Kronstedt, 1983; lichen spots on raised bogs: Lohmander, 1956). In Siberia, the species was collected in sloping stony steppes (Logunov *et al.*, 1993: sub *Euophrys a.*), valley shrub bogs (alder-yernik) (Danilov and Logunov, 1994), high-mountain (cryophyte) steppes (Logunov *et al.*, 1998) and mountain shrubby tundra (bilberry heath) (Esyunin, 1999). *T. aequipes* has been characterized as thermophilic (Buchar, 1975).

*Distribution.* This species displays a trans-Eurasian temperate range (map 7), with the westernmost localities lying in France, Britain (Prószyński, 1976) and SW Norway (Alvseike, 1991), the presently easternmost localities in Yakutia (Logunov and Marusik, 1994) and Hokkaido (present data), and the presently southernmost localities lying in Italy: Sicily (Alicata and Cantarella 2000), Greece (Metzner, 1999), Iran (present data) and Tajikistan (present data). The species has not yet been found in Transbaikalia and the Russian Far East. The records of *Euophrys aequipes* from China (Xinjiang and Jilin) actually belong to *Euophrys* sp. from the *frontalis* group (for further details see Logunov and Marusik, 2000: 235).

### ***Talavera trivittata* (Schenkel, 1963)**

(figures 37, 133, 137–142, map 3)

*Euophrys trivittata* Schenkel, 1963: 401–402, figure 231 (♀; holotype from China: Ordos, 'Kloster Schine ... Sume' [= Mu Us Shamo; ca 40°10'N, 110°55'E], in MNHN, not examined; probably lost).

*Euophrys trivittata*: Wesołowska, 1981: 130–131, figures 8, 9 (♀); Hu and Wu, 1989: 363–366, figures 285, 3, 4, 287 (♀); Prószyński, 1990: 131.

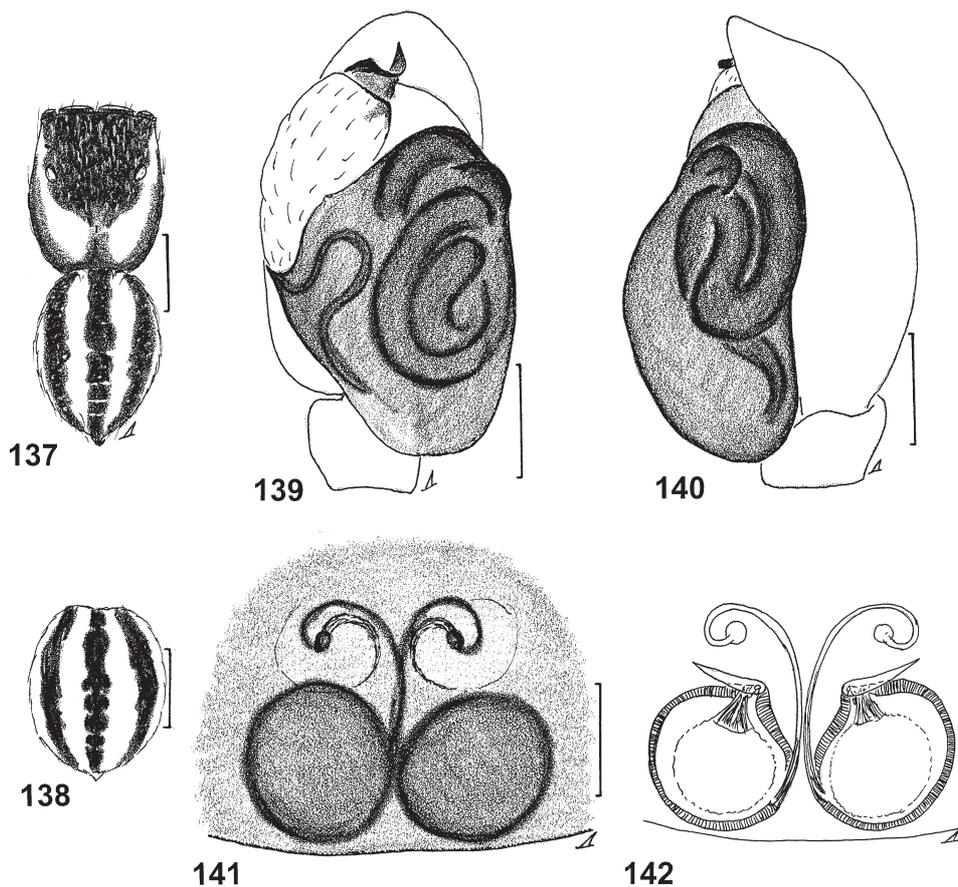
*Talavera trivittata*: Logunov, 1992: 78 (transferred to *Talavera*); Marusik and Logunov, 1999: 250; Song *et al.*, 1999: 561, figure 321F (♀); Logunov and Marusik, 2000: 239–240; Prószyński, www (in part); Platnick, www (in part).

*Diagnosis.* By the structure of the copulatory organs, *T. trivittata* is closest to (and almost indistinguishable from) *T. aequipes* (cf. figures 139–142 and 122–124, 126–132), but both males and females can be easily separated by the striped body colour pattern (cf. 137, 138 and 125), and males by clearly different proportions of the embolus, being visible at high magnifications (cf. figures 133 and 134). In the body coloration (striped abdomen, figures 137, 138), *T. trivittata* is similar to *T. ikedai* (see figure 102), from which it can be separated by the following characters: no yellow longitudinal stripe on the eye field (present in *T. ikedai*, figure 102), red hairs/scales around eyes of the first row (white in *T. ikedai*) and yellow tibiae III with brown distal halves/tips (completely brown in *T. ikedai*), as well as both species having clearly different copulatory organs (cf. figures 139–142 and 100, 101, 103, 104).

### *Description*

#### *Male* (Buryatia)

*Measurements.* Carapace 1.16 long, 0.81 wide, 0.57 high at PLE. Ocular area 0.50 long, 0.68 wide anteriorly and 0.70 wide posteriorly. Diameter of AME 0.20.



FIGS 137–142. *Talavera trivittata* (Schenkel) (male and female from Russia: Buryatia). (137, 138) Habitus: (137) male body and (138) female abdomen. (139, 140) Left palp in (139) ventral and (140) retrolateral view. (141) Epigyne. (142) Spermathecae, dorsal view. Scale bars = (137, 138) 0.25 mm, others 0.1 mm.

Abdomen 0.87 long, 0.76 wide. Cheliceral length 0.34. Clypeal height 0.03. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.61	0.30	0.38	0.30	0.21	1.80
II	0.53	0.23	0.29	0.26	0.21	1.52
III	0.71	0.30	0.38	0.36	0.24	1.99
IV	0.69	0.23	0.43	0.40	0.27	2.02

*Leg spination.* Leg I: Fm d 1-1-1; Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-1; Tb v 1-1ap; Mt v 2-2ap. Leg III: Fm d 1-2-2; Tb pr and rt 1-1, 1-1ap; Mt pr, rt and v 1-2ap. Leg IV: Fm d 1-1-1; Tb pr and rt 0-1, v 1-1ap; Mt pr and rt 1-2ap, v 2ap.

*Coloration.* Carapace yellow, with dark brown eye field, three wide longitudinal brown stripes (figure 128) and thin black marginal line. Black around eyes. Clypeus yellow, covered with yellow hairs and yellow scales around eyes of the first row. Sternum yellow, with thin dark brown marginal line. Maxillae, labium and chelicerae yellow. Abdomen yellow, but dorsum with three longitudinal brown stripes and

each side with an additional brown stripe. Booklung covers yellow. Spinnerets brown. All legs yellow, with numerous brown rings, but legs I anteriorly bluish black. Palps yellow, with brown bulbs.

*Palpal structure* as in figures 37, 133, 139, 140.

#### *Female (Buryatia)*

*Measurements.* Carapace 1.20 long, 0.83 wide, 0.46 high at PLE. Ocular area 0.49 long, 0.73 wide anteriorly and 0.73 wide posteriorly. Diameter of AME 0.21. Abdomen 1.07 long, 0.93 wide. Cheliceral length 0.29. Clypeal height 0.04. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.54	0.30	0.36	0.29	0.23	1.72
II	0.50	0.29	0.30	0.27	0.20	1.56
III	0.73	0.31	0.39	0.36	0.27	2.06
IV	0.71	0.29	0.46	0.43	0.29	2.18

*Leg spination.* Leg I: Tb 1-2-2ap; Mt v 2-2ap. Leg II: Tb v 1-1ap; Mt v 2-2ap. Leg III: Fm d 1-1-1; Tb pr and rt 1-1, v 0-1-0; Mt pr, rt and v 1-2ap. Leg IV: Fm d 1-1-1; Tb pr and rt 0-1, v 0-1-0; Mt pr and rt 1-2ap, v 2ap.

*Coloration.* As described for male but paler (figure 138). Palps completely yellow; clypeus yellow-brown, hairless; leg I as remaining legs, i.e. yellow, with brown rings.

*Epigyne and spermathecae* as in figures 141, 142.

*Material examined.* **Mongolia:** Tov Aimak: 48°22'N, 106°18'E, 1100 m a.s.l., 23 June 1997 (Yu. M., SZMN), two males. **Russia:** Buryatia: ca 40 km NE of Ulan-Ude, Bryanka River, 9 June 1990 (S. N. Danilov, SZMN), one male, one female.

*Habitat.* In Mongolia, the species was collected in a meadow along a birch stand (Marusik and Logunov, 1999).

*Distribution.* The species has so far been recorded from Ordos (China) (Schenkel, 1963), Mongolia (Marusik and Logunov, 1999) and Buryatia (Russia) (present data) (map 3). The records from South Korea (Paik, 1986) and Japan (Shinkai and Takano, 1987; Ikeda, 1996) are proven to actually belong to *T. ikedai* sp. n. (see above).

#### **The *petrensis* species group**

*Diagnosis.* So far only one species assigned to this group. For its diagnosis see below.

*Species included.* *T. petrensis*.

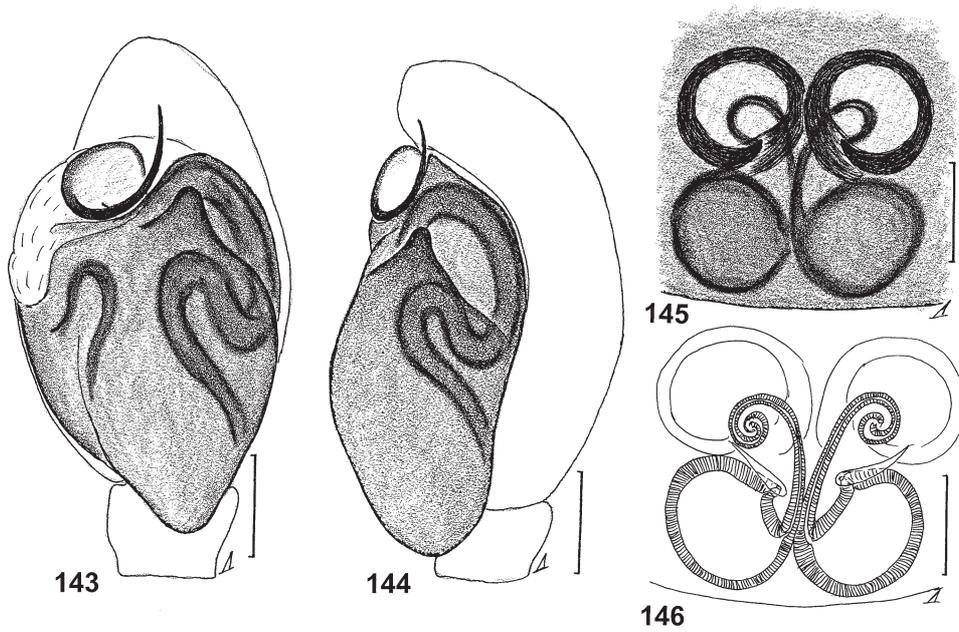
#### ***Talavera petrensis* (C. L. Koch, 1837)**

(figures 1, 5, 7, 12, 17, 18, 23, 45, 46, 143–148, map 8)

*Euophrys petrensis* C. L. Koch, 1837: 34 (♀; type material from Germany: Oberpfalz, not located, probably lost).

*Euophrys petrensis:* Roewer, 1954: 1176; Bonnet, 1956: 1885; Maurer and Hänggi, 1990: 213; Prószyński, 1991: 498, 500, figures 1329, 1–4 (♂♀); Pesarini, 1994: 57; Fuhn and Gherasim, 1995: 87, 98–100, figure 42a–f (♂♀); Hänggi *et al.*, 1995: 424–425; Roberts, 1995: 196, figures (♂♀); Esyunin and Efimik, 1996: 182; Kropf and Horak, 1996: 93; Mikhailov, 1996: 131; Zonstein, 1996: 142; Oliger, 1996: 30 (♂); Thaler, 1997: 257; Mikhailov, 1997: 210; Roberts, 1998: 209–210, figures (♂♀).

*Talavera petrensis:* Logunov *et al.*, 1993: 120–121, figures 1, 17A–E (transferred to *Talavera*); Žabka, 1997: 101, 104–10, figures 405–410 (♂♀); Gajdoš *et al.*, 1999: 292, map 9250; Song



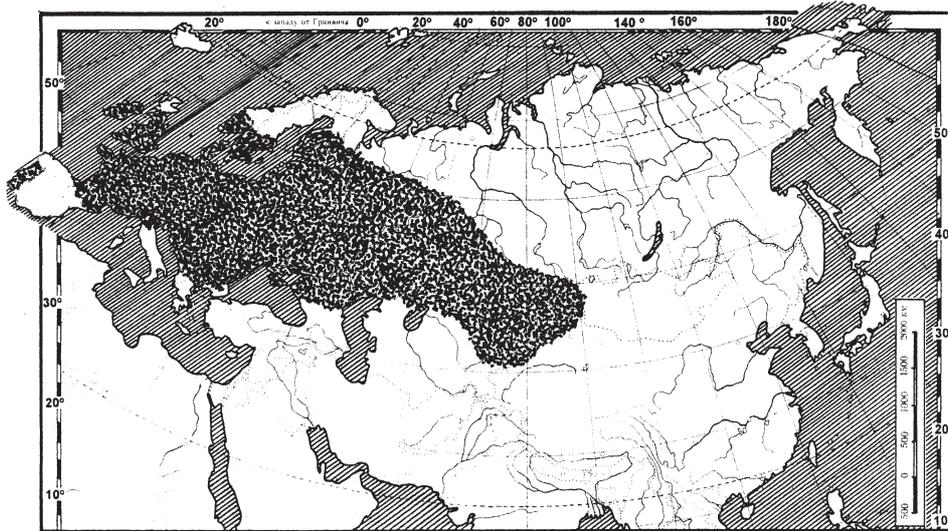
FIGS 143–146. *Talavera petrensis* (C. L. Koch) (male and female from Kazakhstan). (143, 144) Left male palp in (143) ventral and (144) retrolateral view. (145) Epigyne. (146) Spermathecae, dorsal view. Scale bars = 0.1 mm.



FIGS 147, 148. *Talavera petrensis* (C. L. Koch) (male from Sweden). (147) Bulbus in ventral view. (148) Embolus in retrolateral view. Scale bars = 0.1 mm.

*et al.*, 1999: 561, figures 321D, E, 330A (♀); Logunov and Marusik, 2000: 237; Prószyński, www; Platnick, www.

For a complete set of faunistic references for northern Asia, see Logunov and Marusik (2000).

MAP 8. Distribution of *Talavera petrensis*.

*Diagnosis.* Males differ in having the margin of the distal sclerite slightly pointed rather than widely rounded (figures 143, 144); the embolus coiled (like in *Euophrys*) (figures 143, 144, 147, 148); females can be distinguished by the long, heavily sclerotized spiral rims of the epigyne (figures 45, 145).

#### Description

*Male* (Almaty area, Fabrichnyi, Kazakhstan)

*Measurements.* Carapace 1.53 long, 1.01 wide, 0.63 high at PLE. Ocular area 0.61 long, 0.80 wide anteriorly and 0.80 wide posteriorly. Diameter of AME 0.23. Abdomen 1.24 long, 0.94 wide. Cheliceral length 0.50. Clypeal height 0.09. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.79	0.43	0.56	0.44	0.29	2.51
II	0.70	0.51	0.41	0.37	0.29	2.28
III	0.93	0.41	0.51	0.49	0.33	2.67
IV	0.86	0.37	0.55	0.51	0.46	2.75

*Leg spination.* Leg I: Fm d 1-1-1; Tb 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 1-1-2; Tb pr 0-1, v 1-1ap; Mt v 2-2ap. Leg III: Fm d 1-0-2-2; Tb pr and rt 1-1, v 1-2ap; Mt pr, rt and v 1-2ap. Leg IV: Fm d 1-2-2; Tb pr 1-1, rt 0-1, v 1-1ap; Mt pr and rt 1-1-2ap, v 2ap.

*Coloration.* Carapace greyish yellow, sides slightly tinged with brown, with dark brown eye field and black around eyes. Entire carapace covered with elongated light appressed scales. Clypeus yellow, densely covered with orange-red hairs. Sternum yellow, tinged with brown. Maxillae, labium and chelicerae yellow. Abdomen grey-brown, with white short stripes before spinnerets on each side. Booklung covers yellowish, tinged with brown. Spinnerets brown. Coxae of all legs bright greyish yellow to yellow, with all femora brown and all tarsi greyish yellow (Ta III and IV with basal ring). Patellae, tibiae and metatarsi I and II brown, but patellae, tibiae

and metatarsi III and IV yellowish, with brown rings. Palps: femora brown, remaining segments yellowish to brownish; cymbium yellowish to brownish, with long dense white hairs in basal part.

*Palpal structure* as in figures 143, 144, 147, 148.

*Female* (Kuturga, Kyrgyzstan)

*Measurements.* Carapace 1.44 long, 1.09 wide, 0.67 high at PLE. Ocular area 0.66 long, 0.81 wide anteriorly and 0.89 wide posteriorly. Diameter of AME 0.23. Abdomen 2.10 long, 1.46 wide. Cheliceral length 0.46. Clypeal height 0.09. Length of leg segments:

	Fm	Pt	Tb	Mt	Tr	Total
I	0.74	0.39	0.46	0.39	0.29	2.27
II	0.64	0.37	0.40	0.33	0.29	2.03
III	0.96	0.50	0.50	0.47	0.34	2.77
IV	0.93	0.41	0.60	0.57	0.40	2.91

*Leg spination.* Leg I: Fm d 1ap; Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 2ap; Tb v 1-2-2ap; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr and rt 1-1, v 1-1ap; Mt pr, rt and v 1-2ap. Leg IV: Fm d 1ap; Tb pr and rt 0-1, v 1-0; Mt pr, rt and v 1-2ap.

*Coloration.* Carapace brown, with black eye field and yellow marginal stripes on each side. Entire carapace covered with elongated light appressed scales. Clypeus light brown, hairless. Sternum, maxillae, labium and chelicerae yellow-brown. Abdomen grey-brown, with poorly marked yellow reticulate colour markings. Booklung covers and spinnerets light brown. All legs: femora brown, remaining segments yellowish, with brown rings. Palps: femora brown, remaining segments bright yellow.

*Epigyne and spermathecae* as in figures 45, 46, 145, 146.

*Material examined.* **UK:** without locality (Cambridge, in Coll. Thorell, NHRS), one male, one female. **Germany:** Bavaria: Kreis Weissenburg-Gunzenhausen, 1.5 km N Plenfeld, 20 April to 5 July 1995 (B. Baehr, ZSMC), two males, one female; Gerolfing, w. Ingolstadt, 2 September 1983 (M. Baehr, SZMN), one male, two females. Nordrhein-Westfalen: Münster (Karsch, in Coll. Thorell, NHRS), one male, two females. **Sweden:** Gotland: Ardre, Västerby, 11 August 1934 (H. L., GNME), one female; Eksta, Kronvall, 16 September 1943 (H. L., GNME), six females; Fröjel, 14 July 1943 (H. L., GNME), one female; Linde, Myrungs, 8 July 1943 (H. L., GNME), six females. Öland: Gräsgård alvar, 28 June 1928 (H. L., GNME), six females; Högsrum, 4 July 1941 (H. L., GNME), 25 females; Resmo alvar, Möckelmossen, 30 May 1928 (H. L., GNME), five males, three females; Resmo alvar, Möckelmossen, 15 June 1983 (T. Kronstedt, NHRS), two males, one female; Vickelby alvar, 16 June 1977 (T. Kronstedt, NHRS), one male. Skåne: Gladsax, 16 June 1949 (H. L., GNME), one female; Simrishamn, 3 July 1949 (H. L., GNME), three females. **Finland:** Kainuu: Vaala, Säräisniemi, 23 June 1909 (Vuorentaus, MZHF), one male. North Karelia: Pielisjärvi, Koli, 10 July 1962 (H. Harhmaa, MZHF), one female. South Häme: Hyytiälä, April 1989 (T. Pajunen, MZHF), one female. **Byelorussia:** Brest area: Ivantsevo Distr., Panki, 10–20 July 1984 (E. Zhukovets, SZMN), one male. **Ukraine:** Dnepropetrovsk area: Pyatikhasky Distr., near Zhovte, 25 May 1996 (K. V. Evtushenko, FSCA, SZMN), three males, two females. **Russia:** Volgograd area: Frolovo, June 1993 (Yu. M., SZMN), three males, three females. **Kazakhstan:** Akmola area: Kent Mt, 25 July 1957

(V. P. Tyshchenko, ZISP), one female. Almaty area: Dzhungarian Alatau Mt Range, 4 km NE of Topolyovka, 7 June 1957 (N. Kerzhner, ZISP), one female; Almaty, Akademgorodok, 19–20 May 1996 (A. G., SZMN), one male; same locality, 8 June 1997 (A. G., SZMN), one female; near Almaty, 19–20 May 1996 (A. G., ZMUM), one male; Almaty area, Zhambyl Distr., Targap, 13 May 1991 (S. I. Ibraev, SZMN), one female; Zhambyl area, Georgievka, 22 May 1984 (S. O., SZMN), one male; same area and distr., Fabrichnyi, 29 April to 1 May 1995 (A. Z., ZMUM), one male, (A. Z. SZMN), one male; same locality, 11 May 1996 (A.Z., SZMN), two males; same area and district, ca 80 km NW of Uzunagach, E part of Aktau Mts, 12 May 1992 (A. Z., SZMN), one female. **Kyrgyzstan:** ca 20 km S of Bishkek, Malinovoye Canyon, 28 July 1984 (S. O., SZMN), two females; Kuturga, 19 July 1977 (S. L. Zonstein, ZMUM), one female; Issyk-Kul' Lake, Kungei Ala-Too Mt Range, Chon-Uryukty Mt Range, 2000–2500 m a.s.l., 22 June 1983 (S. O., ZMUM), one female; foothills of Kirghizski Mt Range, Tash-Moinok, 1200 m a.s.l., 23 April 1983 (S. O., ZMUM), one female.

*Habitat.* In Central Europe, *T. petrensis* has been found in heathland (Lisken-Kleinmans, 1997), subalpine stony steppes, grasslands and pebble fields (Bosmans *et al.*, 1986: sub *Euophrys p.*; Thaler, 1997). In Siberia, this species has been collected in screes and mountain shrubby tundra (bilberry heath), mixed forest and dry stony *Artemisia*–*Salsola* steppes (Logunov and Marusik, 2000).

*Distribution.* *T. petrensis* displays a European–Central Asian range (map 8), with the westernmost localities lying in Ireland (Prószyński, 1976) and Portugal (Cardoso, 2000), the easternmost localities lying in East Kazakhstan (Logunov *et al.*, 1993: sub *Euophrys p.*), the northwesternmost locality lying in south-west Norway (Hauge, 1989) and the southeasternmost localities lying in Kyrgyzstan and South Kazakhstan (present data).

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