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

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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 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.

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**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 Palaearctic 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
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. Kronestedt); NMPC, National Museum, Prague, Czech Republic (A. Kürka); NSMT, National Science Museum (Nat. Hist.), Tokyo, Japan (H. Ono); PCKK, Personal collection of C. Komposch, Graz, Austria; PCCM, Personal collection of C. Muster, Dresden, Germany; PCHV, Personal collection of H. Vanuyten, Antwerp, Belgium; PCJK, Personal collection of J. Kupryjanowicz, Białystok, Poland; PCNK, Personal collection of N. Klapkarek, Joachimsthal, Germany; PCSP, Personal collection of
S. Pekař, 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 Turku University, Turku, Finland (S. Koponen and M. Saaristo); ZPSU, Department of Zoology of the Perm State University, Perm, Russia (S. L. Esyunin); ZSMC, Zoologische Staatsammlung, München, Germany (B. Baehr).


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: *Icies 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
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).
Review of *Talavera*

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 0-1-1/1), 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 Żabka 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 Euphryini, *Talavera* seems to be most closely related to *Lilliput* Wesolowska and Russell-Smith, 2000 recently described from Tanzania (see Wesolowska and Russell-Smith, 2000). Both genera are poorly separated morphologically, but have a clearly different conformation of the copulatory organs in

![Image](image1.png)
both sexes. The independent taxonomic status of *Lilliput* and its relationships with *Talavera* seem to require further detailed study and confirmation.

Among the Palaeartic genera, *Talavera* is closest to *Euophrys* (s. str.) (see Logunov, 1997; Zabka 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

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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).

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 Palearctic 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) ............................ *T. ikedai*
   - Embolus corkscrew-like (figures 37, 133, 139), red scales around eyes of first row, eye field without yellow median stripe ........................................ *T. trivittata*

3. Embolus coiled (figures 143, 147, 148) ................................................................. *T. petrensis*
   - Embolus otherwise ......................................................................................... 4

4. Embolus corkscrew-like (figures 38, 122, 134) ....................................................... *T. aequipes*
   - Embolus otherwise ......................................................................................... 5

5. Clypeus densely covered with yellow or red hairs ............................................. 6
   - Clypeus sparsely covered with white hairs ..................................................... 7

   - Embolic tip spine-shaped (figures 59–61) ....................................................... *T. krocha*
## Embolus

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

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<td>Embolus claw-shaped (figures 30, 54–56)</td>
<td>T. aperta</td>
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<td>Embolus dagger-shaped (figures 31, 66)</td>
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<td>9</td>
<td>Embolic tip directed retrolaterad (figures 34, 77)</td>
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<td>T. minuta</td>
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<tr>
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<td>Embolus comparatively short, hook-shaped (figures 32, 71)</td>
<td>T. esyunini</td>
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## Females

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

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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.


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).
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 Zábka, 1997). For more details see also ‘Comments’ and ‘Diagnosis’ under *T. monticola* and *T. thorelli*. 

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).
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)


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

Etymology. The specific name is derived from the Russian word ‘krokhà’ (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
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:

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Leg spination. Leg I: Fm d 1-1-1; Tb v 1-2-2ap; Mt v 1-2ap. 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.


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:

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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.


Epigyne and spermathecae as in figures 62–64.


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 Thorelli* 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 HNHM, 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*.


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 anteriad (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:

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**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.

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:

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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.


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.

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**Talavera esyunini** Logunov, 1992
(figures 14, 25, 26, 41, 70–75, map 3)

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


**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:
Review of Talavera

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.

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*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 1-1-1ap, rt 2ap, v 1-2ap.


*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*.
Review of Talavera

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

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*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. Pulps yellow, with brown femora.

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


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)


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 *Ictius 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.
Review of Talavera

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:

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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:

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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, Pinéde á 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 Mailly 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).


**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:

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**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.
**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:

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<tr>
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<td>0.41</td>
<td>0.29</td>
<td>2.09</td>
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</table>

*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; palsps: 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 Bukhkalo, 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 Palaeartic, 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 bulb 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 HNHM).

*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,
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 Żabka (1997) and Żabka and Prośzyński (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.

Żabka (1997) and Żabka and Prośzyński (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 Żabka’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 Żabka’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:

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**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:

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<td>0.47</td>
<td>0.44</td>
<td>0.34</td>
<td>2.29</td>
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</table>

*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, Hafelekarspitzen, 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 Möltau, Mönchshofen, 1470 m a.s.l., 1 May 1994 (C. Komposch, PCCK), one male; NW Kotschy, Eiskogel, 1490 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, 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, 1700 m a.s.l., summer 1997 (C. Muster, PCCM), one male, one female; Allgaeu 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, Gross­tiefe­ental-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 scree’s 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 (Prośzyński and Stareńga, 1971: sub *Euophrys m.*; Žabka, 1997) (map 5).

Krasnobajev (1990) reported this species from the Zhiguli 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).

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.

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:

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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.


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 (5%).
Review of *Talavera*


*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:

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*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:

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<td>III</td>
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<td>2.11</td>
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*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-chō, 17 June 1993 (Y. Ihara, NSMT—Ar 3374), one male (holotype); same locality, 16 June
Review of Talavera

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

Habitat. No data.


Talavera parvistyla sp. n.

(figures 36, 43, 52, 105–117, map 6)


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.


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).
**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 ‘3% 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:

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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 basalt 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:

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<td>0.27</td>
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<tr>
<td>IV</td>
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<td>0.29</td>
<td>0.43</td>
<td>0.43</td>
<td>0.31</td>
<td>2.15</td>
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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.

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

Tvärminne, 18 June 1965 (P. Palmgren, MZH), one female. **Poland**: Biebrza National Park, Suiblewo, 1 June 1994 (J. Kupryjanowicz, PCJK), one male. **Czech Republic**: Jihoceský: Súmava Ms, Mrtvý Luh, 10 July 1981 (A. Kůrka, NMPC), one male. **Slovakia**: Žilinský: Liptovská kotlina, Švírovské rašelinisko, 9 August 1995 (J. Svatohn, 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 (Zabka, 1997; Zabka and Kupryjanowicz, 1997: sub *T. westringi*), Czech Republic (Kůrka, 1990: sub *Euophrys westringi*), Slovakia (Svatohn and Pridavka, 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 (Zabka 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.

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).
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. parvistyyla* and *T. monticola*, but from the former species differ in the thorn-shaped embolus (otherwise as in *T. parvistyyla*) (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:

<table>
<thead>
<tr>
<th>Leg</th>
<th>Fm</th>
<th>Pt</th>
<th>Tb</th>
<th>Mt</th>
<th>Tr</th>
<th>Total</th>
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</thead>
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<tr>
<td>III</td>
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<td>IV</td>
<td>0.64</td>
<td></td>
<td></td>
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<td>1.28</td>
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</tbody>
</table>

(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 Balyktg-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).

![Map 7. Distribution of _Talavera aequipes_.](image-url)
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.](image)
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:

<table>
<thead>
<tr>
<th></th>
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<th>Tb</th>
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<tr>
<td>IV</td>
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<td>0.50</td>
<td>0.44</td>
<td>0.34</td>
<td>2.41</td>
</tr>
</tbody>
</table>

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:

<table>
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<tr>
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<td>III</td>
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<td>1.87</td>
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<tr>
<td>IV</td>
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<td>0.27</td>
<td>0.44</td>
<td>0.43</td>
<td>0.27</td>
<td>2.10</td>
</tr>
</tbody>
</table>

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 0-1-0; 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.


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. Kronestedt,
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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: Kronestedt, 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) (Eyunin, 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).

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

<table>
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<th>Tb</th>
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<td>1.99</td>
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<td>IV</td>
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<td>0.43</td>
<td>0.40</td>
<td>0.27</td>
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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:

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<th>Tb</th>
<th>Mt</th>
<th>Tr</th>
<th>Total</th>
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<td>1.56</td>
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<tr>
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<td>0.27</td>
<td>2.06</td>
</tr>
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<td>IV</td>
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<td>0.46</td>
<td>0.43</td>
<td>0.29</td>
<td>2.18</td>
</tr>
</tbody>
</table>

**Leg spination.** Leg I: Tb v 1-2; Mt v 2-2ap. Leg II: Tb v 1-1; 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.


**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).


**Talavera petrensis**: Logunov et al., 1993: 120–121, figures 1, 17A–E (transferred to *Talavera*); Zabka, 1997: 101, 104–10, figures 405–410 (♀); Gajdos et al., 1999: 292, map 9250; Song...
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For a complete set of faunistic references for northern Asia, see Logunov and Marusik (2000).
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:

<table>
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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:

<table>
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<td>2.91</td>
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</table>

Leg spination. Leg I: Fm d 1ap; Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 2ap; Tb v 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.


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

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Habitat. In Central Europe, *T. petrens*is has been found in heathland (Lisken-Kleinmanns, 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 Kyrghyzstan and South Kazakhstan (present data).

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