ЗООЛОГИЧЕСКИЙ ЖУРНАЛ, 2016, том 95, № 5, с. 540–544

УДК 595.44

A REDESCRIPTION OF THE TYPE SPECIES OF *TRICALAMUS* WANG 1987 (ARANEI, FILISTATIDAE)

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Received September 16, 2015

A redescription of a poorly known filistatid spider *Tricalamus tetragonius* Wang 1987 (whose types are probably lost), the type species of the widespread Asian genus, is provided on the base of the conspecific series collected in south China. The considered species differs from other members of the genus by structure of a moderately long, flattened, gently curved and apically slightly dilated embolus, as well as by details in configuration of the receptacles. *T. albidulus* Wang 1987, similar to *T. tetragonius* in the majority of aspects and described practically from the same type locality, is considered here as a very probable junior synonym of the latter species.

Keywords: spiders, Araneae, Prithinae, new record, China, Yunnan
DOI: 10.7868/S0044513416050159

The present study is based on the examination of small series of filistatids from southern China kept at the Senckenberg Museum, Frankfurt on Main, Germany (SMF) which was found to belong to *Tricalamus tetragonius* Wang 1987, the type species of the genus, whose types were not found in the spider collection of Hunan Normal University (Shuqiang Li, pers. comm.). *Tricalamus* Wang 1987 is currently known to include 15 species distributed in Afghanistan, China, Japan and the Palau Isles (World Spider Catalog, 2015).

Photographs were taken using an Olympus SZX16 stereomicroscope with an Olympus E-520 camera, and prepared using CombineZP software. All measurements are given in millimeters. Abbreviations other than used for eyes (ALE – anterior lateral, AME – anterior median, PLE – posterior lateral, PME – posterior median), and position of spines (d – dorsal, p – prolateral, r – retrolateral, v – ventral) are explained in the text and in the legend to Fig. 2.

Tricalamus tetragonius Wang 1987
(Figs. 1, 2)

Tricalamus tetragonius Wang 1987: 142, figs. 1A–K, 2A–M (♂♀), holotype ♀ from Yugi (Yuxi) County, 24°21′ N, 102°33′ E, Yunnan Province, China, types probably lost from collection of the Hunan Normal University; Song et al., 1999: 48, figs. 18K, 19G–H (♂♀, figures reproduced from Wang (1987).

M a t e r i a l. 2♂♂, 3♀♀ (SMF), China, Yunnan Province, Dali (25°34′ N, 100°18′ E), 5.04.1999, P. Jäger.

D i a g n o s i s. *Tricalamus tetragonius* is easily recognisable due to its moderately long, flattened, gently curved and apically slightly dilated embolus, having a different configuration in other species of the genus (*cf.* Figs. 2*A–D*, Wang, 1987: figs. 1F, G, K, 6H, I, M, and Song et al., 1999: figs. 18S–X, 19A–F, I, J; Hu, 2001: figs. 4.1–3; Zhang et al., 2009: figs. 10, 11; Ono, 2011: figs. 9–11; 2013: figs. 1–3). The shape of the receptacles is more variable (Wang, 1987: figs. 1F, 2D–M, 6E–G); nevertheless, it certainly differs by the form of the main stalk from that of its congeners (*cf.* Song et al., 1999: figs. 18F–J, L; Hu, 2001: fig. 3.6; Zhang et al., 2009: fig. 5; Ono, 2011: fig. 8; 2013: fig. 9; Zonstein et al., 2013: figs. 14, 15).

R e d e s c r i p t i o n. Male. Body length 4.42. Colour in alcohol: carapace light reddish-brown with darker brownish large reticular spot behind eye tubercle and margins; clypeus light brown with lighter reddish-brown median spot; chelicerae, maxillae, labium and sternum reddish-brown, whereas leg coxae paler,

Fig. 1. *Tricalamus tetragonius*, somatic characters of conspecific male (*A*–*C*, *F*) and female (*D*, *E*, *G*, *H*). *A* – habitus, lateral; *B*, *D* – habitus, dorsal; *C*, *E* – carapace, dorsal; *F*, *H* – spinnerets, ventral; *E* – calamistrum, dorsal. Scale bar (mm): *A* – 1.0; *B*, *D* – 0.5; *C*, *E* – 0.25; *F*–*G* – 0.2.

brownish-yellow; palps and legs I–II light reddish-orange; legs III–IV light brownish-yellow; femora, patellae and tibiae III–IV with wide though diffuse and weak darker brownish fasciae; abdomen brown, dorsally with median bunch of pale coloured hairs and few pairs of inclined pale brownish-yellow chevrons; spinnerets pale yellowish-brown. Habitus as in Figs. 1*A*, *B*. Carapace (Fig. 1*C*) 2.17 long, 1.59 wide. Eye sizes and interdistances: AME 0.10, ALE 0.18, PLE 0.12, PME 0.10, AME–AME 0.05. Leg spination. Femora: I–II: d0–1–0, p0–1–0; III–IV: d1–1–1. Tibiae: I: p1–1–1, r1–1–1, v2–2–2; II: p1–1–1, r1–1–1, v0–2–2. Metatarsi I–IV: v0–0–2. Other segments aspinose. Tibiae and metatarsi with 4–5 relatively long trichobothria (as long as 0.7–1.2 of segment diameter). Paired tarsal claws with *ca*. 10 long dense teeth. Cribellum underdeveloped with paired cribellar areas narrower than apical segment of anterior lateral spinnerets (Fig. 1*F*).

Leg measurements:

	Palp	I	II	III	IV
Femur	0.79	2.05	1.58	1.63	1.79
Patella	0.45	0.74	0.71	0.70	0.74
Tibia	0.66	2.06	1.55	1.11	1.68
Metatarsus	–	2.14	1.52	1.47	1.64
Tarsus	0.23	1.08	0.83	0.71	0.98
Total	2.13	8.07	6.19	5.62	6.03

Palp as in Figs. 2*A*–2*D*. Femur as long as patella+tibia; patella longer than wide; tibia slightly swollen and wider than tibia. Cymbium shorter than patella, semi-circular in dorsal view, covered with long hairs (longer than cymbial height); cymbium with deep excavation (*De*) in terminal part; prolateral terminal part of cymbium with extension (*Ce*). Bulbus conical, as long as tibia; basal part of spermophor (*Sp*) wide almost as wide as "tegular" part, sharply tapering, makes one distinct coil; basal part of embolus with fine longitudinal ridges; embolus straight, its tip slightly widened.

F e m a l e. Body length 7.08. Colour in alcohol as in male, but with paler coloured carapace, palps and legs I; carapace mostly light red and darkened only in anterior quarter, legs I only slighter darker than legs II–IV. Habitus as in Fig. 1*D*. Carapace (Fig. 1*E*) 2.71 long, 1.88 wide. Eye sizes and interdistances: AME 0.11, ALE 0.19, PLE 0.14, PME 0.11, AME–AME 0.06. Palp thickened with very short robust tibia (Fig. 2*E*). Metatarsi I–IV with 2 ventroapical spines. Other segments aspinose. Number, length and arrangement of trichobothria, and dentition of paired tarsal claws as in male. Calamistrum with setae distinctly arranged in three rows (Fig. 1*G*). Cribellum (Fig. 1*H*) with relatively large paired cribellar areas (which are wider than apical segment of anterior lateral spinnerets).

Leg measurements:

	Palp	I	II	III	IV
Femur	1.26	2.07	1.78	1.51	1.87
Patella	0.65	0.80	0.77	0.74	0.81
Tibia	0.69	2.08	1.45	1.27	1.79
Metatarsus	–	1.94	1.41	1.28	1.69
Tarsus	0.99	1.19	0.96	0.75	0.92
Total	3.59	8.08	6.37	5.55	7.08

Endogyne as in Figs. 2*F*–2*H*, with one pair of receptacles located in endogynal fold (*Ef*). Fold pentagonal with sharp angles, variable in size. Receptacles complex, consisting of membranous subcylindrical main stalk (*Ms*) bent on right angle in middle part, and droplet-shaped lateral reservoir (*Lr*); stalks of receptacles separated by 2/3 of their width. Stalk and lateral reservoir covered with fine pores. Cilia originate from almost invisible pores and can be observed in high magnification (Fig. 2*H*).

D i s t r i b u t i o n. China: Yunnan (Wang, 1987).

N o t e s. *Tricalamus tetragonius* and one of the congeners described in the same study, *T. albidulus* Wang 1987, have an identical configuration of the bulb including the embolus, and a very similar shape of the male tibia and metatarsus I (*cf*. Figs. 2*A*–2*D*; Wang, 1987: figs. 1F–H, K, 6H–J, M). A shape of the receptacles in *T. albidulus* does not differ essentially from that in the type species. The majority of variants, shown by Wang (1987: figs. 1F, 2D–M) for *T. albidulus*, match more or less with the variant given in Fig. 2*F*, whereas the construction attributed to the former (Wang, 1987: figs. 6E–G) is consistent with the variant demonstrated in Fig. 2*G*. Moreover, judging from the coordinates both species were described practically from the same place, the distance between both type localities is less than five kilometres. We thus consider that *T. albidulus* may be synonymised with *T. tetragonius*.

The air distance between Yuxi, the type locality of *T. tetragonius*, and Deli is about 250 km. However, all other named species of *Tricalamus* occurred in Yunnan, except for its possible synonym *T. albidulus*, are known from far more distant from Yuxi localities (see Wang, 1987). If it would be found that the original type series is reliably lost, one of conspecific specimens mentioned here might be designated the neotype.

It is worth noting that endogyne in the studied species is relatively large, it is 2.5 times larger (wider) than in *Sahastata sinuspersica* Marusik, Zamani et Mirshamsi 2014, although *T. tetragonius* is 1.7 times smaller (cf. Marusik et al., 2014). Cilia, if present, are not recognizable on receptacles in different genera of Filistatinae (cf. Marusik, Zamani, 2015). Unlike in those Filistatinae genera studied by us in detail (*Filistata* Latreille 1810, *Sahastata* Benoit 1968 and *Zaitunia* Leht-

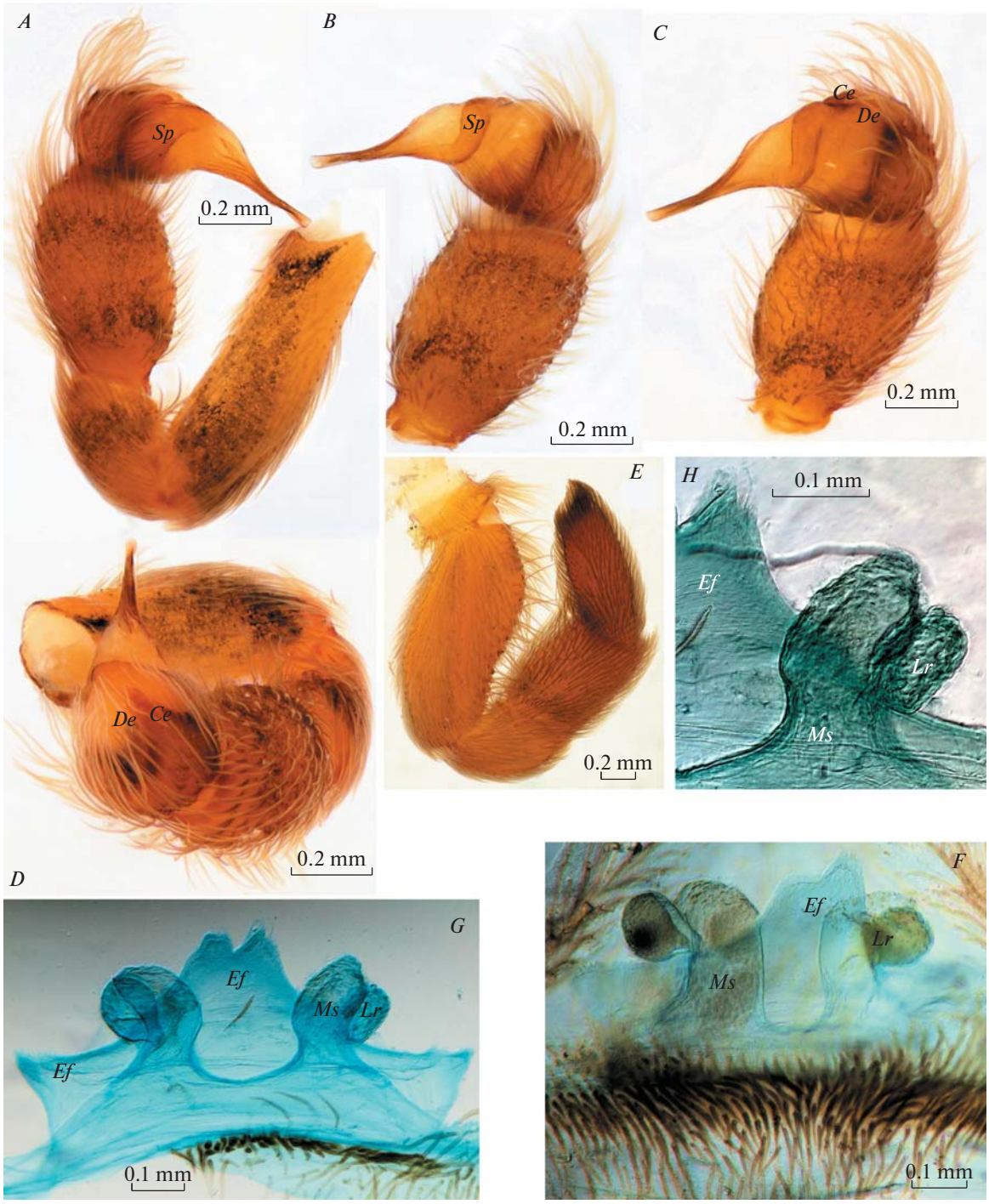

Fig. 2. *Tricalamus tetragonius*, somatic characters and copulative organs of conspecific male (*A*–*D*) and females (*E*–*H*). *A*, *D* – whole palp, prolateral and apical; *B*, *C* – terminal part of palp, retrolateral and retro-subapical; *E* – palp, retrolateral; *F* – endogyne with sperm in *Ms* and *Lr*, dorsal; *G* – endogyne, ventral (epigastral cuticle removed); *H* – left receptacle, ventral; *Ce* – cymbial extension; *De* – dorsal excavation; *Ef* – endogynal fold; *Ms* – main stalk; *Lr* – lateral reservoir; *Sp* – spermophor. Scale bar (mm): *A*–*E* – 0.2; *F*–*G* – 0.1.

inen 1967) the endogynal fold in *T. tetragonius* and *T. lindbergi* (Roewer 1962) (*cf.* fig. 15 in Zonstein et al., 2013) is not semicircular or trapezoidal with rounded angles but wide pentagonal with sharp angles (Fig. 2G). The endogynal fold was not previously reported in any other Prithinae.

ACKNOWLEDGEMENTS

We thank Peter Jäger and Julia Altmann for the opportunity to examine the material, and Shiquang Li for providing us with important information about the types. English of the early draft was kindly checked by Don Buckle. Special thanks are to Seppo Koponen who provided us with museum facilities and later reviewed and edited the final version of the manuscript. The study was supported in part by the Ministry of Absorption, Israel.

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ПЕРЕОПИСАНИЕ ТИПОВОГО ВИДА РОДА *TRICALAMUS* WANG 1987 (ARANEI, FILISTATIDAE)

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По серии конспецифичных экземпляров из Южного Китая произведено переописание слабоизученного паука-филистатида *Tricalamus tetragonius* Wang 1987 (чьи типы по всей вероятности были утрачены) – типового вида широкораспространенного азиатского рода. Рассматриваемый вид отличается от других членов этого рода строением умеренно длинного, уплощенного, слабоизогнутого и слегка расширенного на вершине эмболюса, а также деталями строения рецептакул. *T. albidulus* Wang 1987, сходный с *T. tetragonius* по большинству признаков и описанный практически из того же самого типового местообитания, рассматривается в статье как весьма вероятный младший синоним переописываемого вида.

Ключевые слова: паук, Araneae, Prithinae, новая находка, Китай, Юньнань