

## Redescription of *Tagulis granulosus* (Araneae: Thomisidae) from Sierra Leone

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### Abstract

*Tagulis granulosus* Simon, 1895, from Sierra Leone, is redescribed based on the female type specimen. Morphological similarities of external and internal genitalia of *T. granulosus* and *T. mystacinus* Simon, 1895 from Sri Lanka are discussed.

**Keywords:** Biodiversity • Bominae • crab spiders • Tagulini • taxonomy

### Introduction

The genus *Tagulis* currently contains two species: *Tagulis mystacinus* Simon, 1895 from Sri Lanka, and *T. granulosus* Simon, 1895 from Sierra Leone (World Spider Catalog 2018). The latter species has never been recollected or studied since Simon's original description. Recently, Benjamin & Jalee (2007) redescribed *T. mystacinus* based on newly collected specimens from Sri Lanka. They noted that they were unable to locate the type specimen of *T. granulosus*. Thus, the monophyly and the taxonomic status of *Tagulis* remained unresolved. We have since managed to locate the type and redescribe it here. Further, the morphology of external and internal genitalia of both species is discussed.

### Materials and methods

Methodology follows Benjamin (2004). Digital images were taken with a Nikon DXM1200F camera. Images were edited using an Auto-Montage software package. Illustrations were drawn using an Olympus BX51 microscope. Species descriptions followed the format of Benjamin & Jalee (2007).

Institutional abbreviations: NIFS = National Institute of Fundamental Studies, Sri Lanka; MNHN = Muséum National d'Histoire Naturelle, Paris.

Character abbreviations: AH = atrial hood; ALE = anterior lateral eyes; AME = anterior median eyes; CD = copulatory duct; CO = copulatory opening; PLE = posterior lateral eyes; PME = posterior median eyes; S = spermatheca.

## Thomisidae Sundevall, 1833

### *Tagulis* Simon, 1895

*Type species: Tagulis granulosus* Simon, 1895

*Tagulis* Simon, 1895: 973. (type species by original designation *Tagulis granulosus* Simon, 1895). Examined.

**Diagnosis:** *Tagulis* may be separated from other thomisid genera by the following combination of characters: tibia of male palp short, RTA thin, beak-shaped, with a fine membranous border (Benjamin & Jalee 2007: figs. 3a,b), female epigynum with a prominent AH, CO originating at the posterior end of AH, CO meandering anteriorly and then switching back towards an irregularly shaped S (Figs. 2A–B; Benjamin & Jalee 2007: figs. 3c–e).

*Tagulis* may also be recognized by the presence of peculiar leaf-shaped macrosetae immediately posterior to ALE and PLE. However, similar specialized setae on the carapace are also found in other genera of the tribes Tagulini and Apyretini. A revision of the genera of Tagulini and Apyretini and related genera would be needed before a more precise diagnosis for the genus can be provided.

Accordingly, the monophyly and the taxonomic status of *Tagulis* and its affinities to other thomisid genera may be determined in the future.

### *Tagulis granulosus* Simon, 1895 (Figs. 1A,C, 2A–B)

*Tagulis granulosus* Simon, 1895: 973, fig. 1041.

**Type material:** Lectotype MNHN 13622/1455, female. Examined.

**Diagnosis:** *T. granulosus* can be separated from *T. mystacinus* by details of the female genitalia: parabolic AH, CD longer with two turns. (Figs. 2A–B). Male unknown.

**Description** (based on the type material): Total length 4.5 mm (Simon 1895). Cephalothorax round, reddish-brown, resembling the structure of leather. Markings as in Fig. 1A. In dorsal view, kite-shaped marking lined by pale brown streaks, anteriorly bordered by ALE and PLE (Fig. 1C). Carapace sides slightly granulated. Chelicera orange-brown, with strong hairs. Eyes in two recurved rows, ALE > PLE > AME > PME. Few leaf-shaped macrosetae apparently present in the specimen [note: it is difficult to be sure as the specimen is old and damaged and cannot be manipulated]. Sternum, labium pale brown, lacking modifications. Abdomen oval, yellow with wave-like white line markings (Fig. 1A). Legs I–IV brown with white rings at distal ends of femora, patellae, and tibiae. Leg formula 2143. Female genitalia as in Fig. 2A–B.

**Distribution:** Sierra Leone.

### Discussion

*T. granulosus* and *T. mystacinus* are widely separated geographically from each other. *T. granulosus* is known only from Sierra Leone whereas *T. mystacinus* is known only from Sri Lanka. However, their very similar habitus and

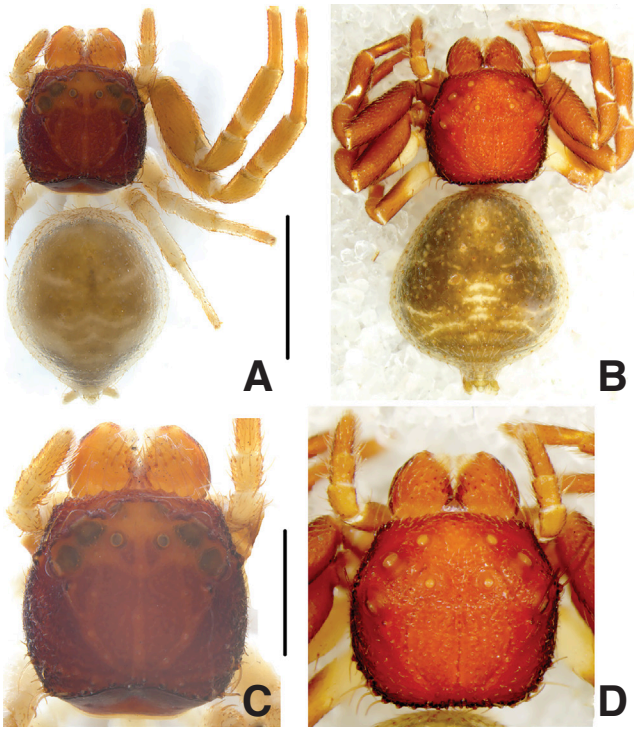


Fig. 1: Females of *Tagulis granulatus* (A, C) and *T. mystacinus* (B, D). **A** habitus, dorsal view; **B** habitus, dorsal view; **C** carapace, dorsal view; **D** carapace, dorsal view. Scale bars = 2 mm (A, B), 1 mm (C, D).

female genitalia (female epigynum with a prominent AH, CO originating at the posterior end of AH, CO meandering anteriorly and then switching back towards S) suggest they are closely related.

According to Simon's descriptions, the genus is diagnosed by "Oculi medii a lateralibus quam inter se multo remotiores. Oculi quatuor medii aream subquadrata occupant" (Simon 1895: 973): eyes are placed more distantly

themselves, also median four eyes occupied under the square in middle area. Simon correctly placed *T. granulatus* and *T. mystacinus* in the same genus, possibly due to the prominent character: presence of peculiar leaf-shaped macrosetae immediately posterior to ALE and PLE. The relevance of these two character systems in thomisid phylogenetics is still not clear (Benjamin 2011). Unfortunately, the rather simple genitalia harbour insufficient information to place *Tagulis* in the thomisid tree of life. Thus, its affinities to other thomisid genera remain unresolved.

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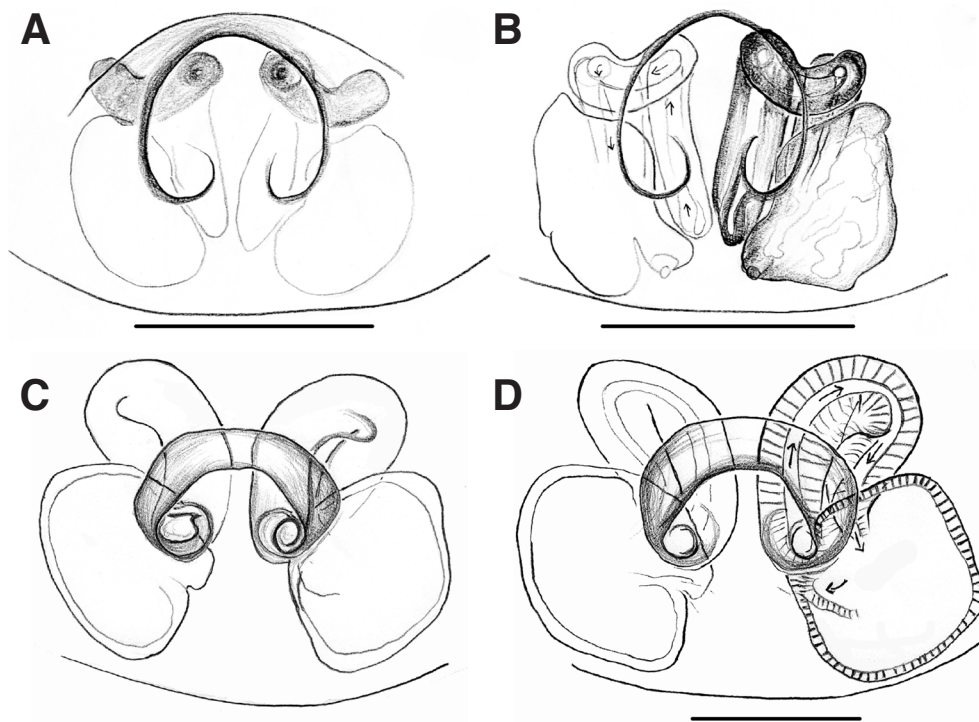


Fig. 2: Female epigynum, ventral view, of *Tagulis granulatus* (A, B) and *T. mystacinus* (C, D). AH = atrial hood; CD = copulatory duct; CO = copulatory opening; S = spermatheca. Scale bars = 0.2 mm (A, B), 0.1 mm (C, D).