

Prószyński, J. 1962. Redescription of *Sitticus godlewskii* (Kulczyński, 1895) (Araneida, Salticidae) and remarks on its systematic position. Bulletin de l'Académie Polonaise des Sciences 10 (2): 65-68, figs. 1-5.

Spelling errors in the original are highlighted in blue. The reader can substitute *epigyne* for *epigynae* or *epigyane*, *chelicerae* for *chelicerea*, and *channels'* for *channels's*. All added text is highlighted in red.

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## Redescription of *Sitticus godlewskii* (Kulczyński, 1895) (*Araneida, Salticidae*) and Remarks on its Systematic Position

by

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Presented by T. JACZEWSKI on December 8, 1961

In the collection of *Arachnida* kept at the Institute of Zoology of the Polish Academy of Sciences in Warsaw I have been able to find the holotype of the species *Sitticus godlewskii* (Kulczyński, 1895) described [1] originally as *Attus godlewskii* Kulcz. and subsequently referred by Simon [2] to the genus *Sitticus* Simon, 1901. This holotype, a young female with a weakly sclerotized copulatory organ, is so far the only specimen of this species known to science. The specimen has been taken in the locality Darasun in Transbaikalia, Siberia, USSR, by B. Dybowski. Since Kulczyński in his description — very detailed as it was — overlooked certain essential characters, it is necessary to complete his description.

The state of preservation of the holotype has deteriorated from bad at the time of its description by Kulczyński to very bad at present. Cephalothorax, legs and abdomen are at present separated from one another, the abdomen is shrunken and shriveled,<sup>1</sup> a few legs are missing, some joints of the legs are missing, too, the colour is markedly faded. The copulatory organ (epigynae and vulvae) has fortunately been preserved. I separated it from the abdomen and placed it in a durable microscopic slide in Faure's liquid.

The following characters determine beyond doubt the species in question as belonging to the genus *Sitticus* Sim.: absence of teeth on the inner margin of the *chelicerea* and presence of a group of (four in this case) teeth, the bases of which are fused, on the external margin of the chelicerae (Fig. 1). Legs IV are longer than legs III, the relation of the length of tibia III to tibia IV being, after Kulczyński's measurements 1:1.6. Claws of tarsus IV differ from one another in the number and shape of teeth in a clear and characteristic way (Fig. 2).

The drawing of the copulatory organs made by Kulczyński [1] is not sufficient today. Kulczyński had limited himself only to the external morphology of the epigynae where he noted the hardly discernable upper margin of the common outlet of the channels. In the genus *Sitticus* Sim., however, the external morphol-

<sup>1</sup> Kulczyński received the specimen in a poor state of preservation, and its condition deteriorated even more during the subsequent 100 years. The abdomen was contracted and folded.

logy of the **epigyne** does not constitute a character warranting a sufficiently certain identification of the species. By making a microscopic slide of the copulatory organs I managed to observe their inner structure. These organs are made up of a knot of tangled sclerotized channels, the course of which is extremely complex being an exception in spiders of the genus *Sitticus* Sim. Both the complicated structure and the slight degree of sclerotization of the organs of the holotype have made it impossible to investigate the entire course of the channels. Nevertheless, the section investigated and drawn by me is sufficient to define exactly the species *S. godlewskii* (Kulcz.) and to determine its systematic position.

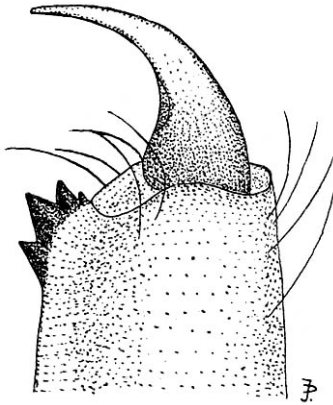


Fig. 1. Chelicera from behind

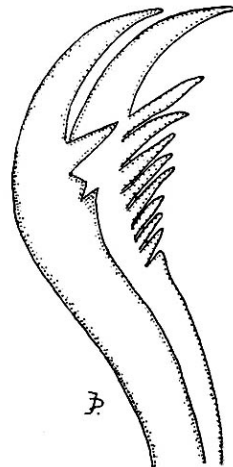


Fig. 2. Claws of tarsus IV

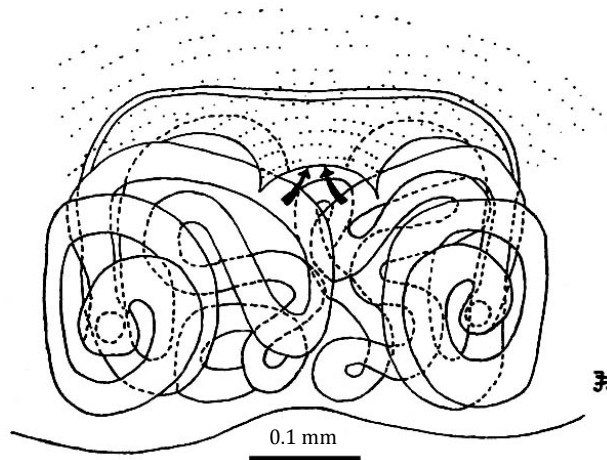


Fig. 3. Copulatory organ of female *S. godlewskii* (Kulcz.) from above (semi-schematic)

The main channels (Figs. 3, 4) end in a common outlet on the surface of the epigynae, situated in the central upper part of the epigynae. The upper

margin of this outlet, which probably had been of the shape of a gate perpendicular to the surface of the epigynae, is very indistinctly visible, and only so under a very good microscope. The lower margin is, however, completely invisible. Starting at the outlet, both channels diverge horizontally to turn later backwards, proceed from below under the entangled knot of the channels, and further emerge in two spirals onto the surface of the knot. In the middle of the spiral the channel bends inwards into the knot and passes forwards through the middle layer of the knot and later forms a large, characteristic loop. So far the two channels, both left and right, followed similar and almost symmetrical courses; but, starting from the large loop onwards, the courses of the two channels lose their similarity. The large loops formed by the course of the two channels differ essentially in their respective shapes while their further courses falling into a pattern of a sequence of complicated and irregular loops are quite different in each channel. These further sections, from the large loops onwards, run on different levels being mutually inter-twisted. The further course of the channels and their initial sections — at least on the specimen in my possession — could not be followed.

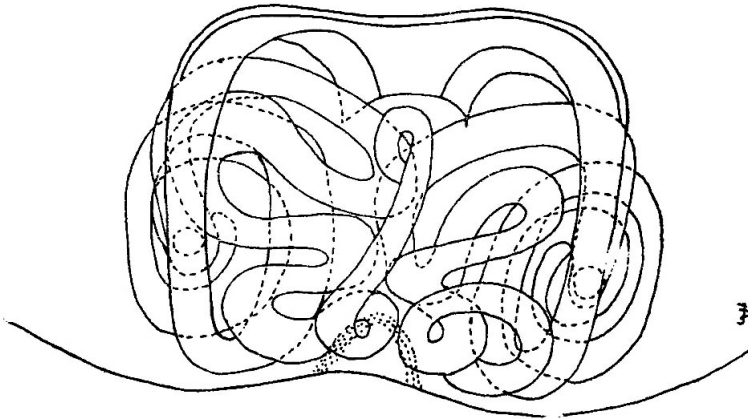


Fig. 4. Copulatory organ of female *S. godlewskii* (Kulcz.) from below (semi-schematic)

It should be added that both channels, on a considerable part of their length, are not round but rather elliptical in their cross-section. Since the channels' certain sections do not run on one plane but turn around their axis, the thickness of the channels seemingly changes: now they appear to be very wide and then — narrow.<sup>1</sup>

This type of structure of the female copulatory organ is exceptional in the genus *Sitticus* (Sim.), only in *S. terebratus* (Clerck, 1758) its structure is similar: the common outlet from which two channels branch, first horizontally and then perpendicularly to enter later into a tangled knot which is slightly less complicated but also difficult, especially in its central part, to follow.

The similarity of the organs is illustrated in the annexed scheme of the female copulatory organs of *S. terebratus* (Cl.) (Fig. 5), which I have drawn after Tullgren

<sup>1</sup> The coils of the ducts are not flat but spherical, running in various planes, and thus appear distorted in the drawing.

[3]. In other species of the genus *Sitticus* Sim. the channels have separate outlets and their courses are much simpler and quite different. It seems thus that *S. godlewskii* (Kulcz.) and *S. terebratus* (Cl.) constitute a separate group which is closely related within the genus *Sitticus* Sim. *S. terebratus* (Cl.) occurs almost in the whole of Europe and in Siberia as far as the Ussuri and the Turkmen Soviet Socialist Republic<sup>1</sup> while *S. godlewskii* (Kulcz.) is so far known from Transbaikalia only.

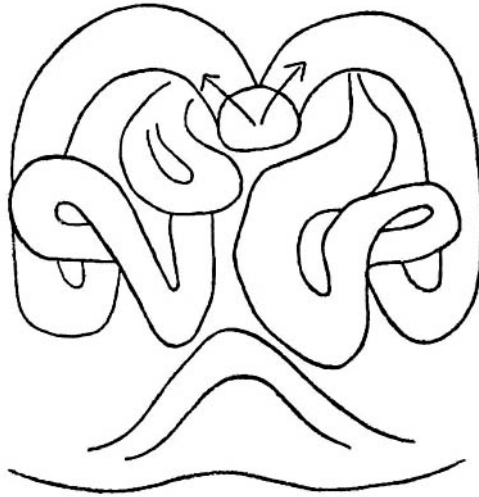


Fig. 5. Scheme of the structure of the copulatory organ of female *S. terebratus* (Cl.), after Tullgren [3]

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#### REFERENCES

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- [2] E. Simon, *Histoire naturelle des Araignées*, Paris, 2 (1901), No. 3, 381—668.
- [3] A. Tullgren, *Svensk spindelfauna*, Stockholm, 3 (1944), Nos. 1—4, 1—138.

<sup>1</sup> Turkmenia (Туркмения), or Türkmenistan.