REVISTA IBÉRICA de Aracnología

POLYSPINOSA SCHMIDT, 1999 (ARANEAE, THERAPHOSIDAE, EUMENOPHORINAE) IS A SYNONYM OF *GRAMMOSTOLA* SIMON, 1892 (ARANEAE, THERAPHOSIDAE, THERAPHOSINAE)

Rogério Bertani & Caroline Sayuri Fukushima

Abstract:

The holotype of *Polyspinosa schulzei*, type species of the genus *Polyspinosa*, (Eumenophorinae) is revised. It presents spiniform setae on the coxae of legs and palpi and stridulatory setae on the coxa of leg I. The presence of this character and the information that the specimen was African were probably the reasons for including it in the Eumenophorinae. However, the discovery of type-IV urticating hair in the holotype indicates that the species should belong to the New World Theraphosinae, since the presence of this type of urticating hair is a synapomorphy of this subfamily's genera. The presence of stridulatory setae as well as the type of urticating hair found and the shape of the spermathecae are characters shared by species of the genus *Grammostola* (Theraphosinae). Thus, *Grammostola schulzei* (Schmidt, 1994) comb. n. is established and the genus *Polyspinosa* Schmidt, 1999 is considered a junior synonym of *Grammostola* Simon, 1892 syn. n.

Key words: Araneae, Theraphosidae, Eumenophorinae, Theraphosinae, *Polyspinosa*, *Grammostola*, new synonymy.

Taxonomy:

Polyspinosa Schmidt 1999 = *Grammostola* Simon,1892 syn. n.
Polyspinosa schulzei (Schmidt, 1994) = *Grammostola schulzei* (Schmidt, 1994) comb. n.

Polyspinosa Schmidt, 1999 (Araneae, Theraphosidae, Eumenophorinae) sinónimo posterior de *Grammostola* Simon, 1892 (Araneae, Theraphosidae, Theraphosinae)

Resumen:

Se ha revisado el holotipo de *Polyspinosa shulzei*, especie-tipo del género *Polyspinosa* (Eumenophorinae). El espécimen presenta cerdas espiniformes en las coxas de patas y pedipalpos, y cerdas estridulatorias en la coxa de la pata I. La presencia de estas cerdas y el dato de que el espécimen era africano fueron probablemente los motivos para su inclusión en los Eumenophorinae. Sin embargo, la presencia de pelos urticantes del tipo IV en el holotipo, que corresponde a una sinapomorfía de los géneros de Theraphosinae, indica que se trata de una especie del Nuevo Mundo. Las cerdas estridulatorias, el tipo de pelo urticante encontrado y la morfología de la espermateca son característicos del género *Grammostola* (Theraphosinae). Así, la especie se transfiere a *Grammostola schulzei* comb. n., y el género *Polyspinosa* se considera sinónimo posterior de *Grammostola* syn. n.

Palabras clave: Araneae, Theraphosidae, Eumenophorinae, Theraphosinae, *Polyspinosa*, *Grammostola*, nueva sinonimia.

Taxonomia:

Polyspinosa Schmidt 1999 = *Grammostola* Simon, 1892 syn. n.
Polyspinosa schulzei (Schmidt, 1994) = *Grammostola schulzei* (Schmidt, 1994) comb. n.

Introduction

Schmidt, 1994a described the genus *Polyspina* and its single species, *Polyspina schulzei* Schmidt, 1994 based on a single female from an unknown locality. Subsequently, the author changed the name to *Polyspinosa* Schmidt, 1999, since the generic name was preoccupied.

The genus was characterized by having two long spermathecae, with their rounded apices pointing inwards, and by the presence of a field of spiniform setae on the prolateral and retrolateral coxal surfaces of legs I-III, on prolateral coxae IV, and on the retrolateral palpal coxae. It also presents stridulatory setae on the coxa of leg I.

It was included in the Eumenophorinae, because the author believed that the material he received was probably from Equatorial Africa, Madagascar or Yemen. Since then, no other paper dealing with *Polyspinosa* has been published.

Recently, revising the Theraphosidae collection of the Senckenberg Museum, Frankfurt, the holotype was reanalyzed and its taxonomic position reinterpreted.

ARTÍCULO:

***Polyspinosa* Schmidt, 1999 (Araneae, Theraphosidae, Eumenophorinae) is a Synonym of *Grammostola* Simon, 1892 (Araneae, Theraphosidae, Theraphosinae)**

Rogério Bertani
Laboratório de Artrópodes,
Instituto Butantan.
Av Vital Brazil, 1500.
CEP 05503-900. São Paulo, SP
Brasil.
rbert@butantan.gov.br

& Caroline Sayuri Fukushima
Instituto de Biociências,
Universidade de São Paulo.
Rua do Lago, Travessa 14, 321.
CEP 05508-900. São Paulo, SP
Brasil.
carolsayuri@butantan.gov.br

Revista Ibérica de Aracnología
ISSN: 1576 - 9518.
Dep. Legal: Z-2656-2000.
Vol. **9**, 30-VI-2004
Sección: Artículos y Notas.
Pp: 329–331.

Edita:
Grupo Ibérico de Aracnología (GIA)
Grupo de trabajo en Aracnología de la Sociedad Entomológica Aragonesa (SEA)
Avda. Radio Juventud, 37
50012 Zaragoza (ESPAÑA)
Tef. 976 324415
Fax. 976 535697
C-elect.: amelic@telefonica.net
Director: A. Melic

Información sobre suscripción, índices, resúmenes de artículos *on line*, normas de publicación, etc. en:

Indice, resúmenes, abstracts vols. publicados:
http://entomologia.rediris.es/sea/publicaciones/ria/index.htm

Página web GIA:
http://entomologia.rediris.es/gia

Página web SEA:
http://entomologia.rediris.es/sea

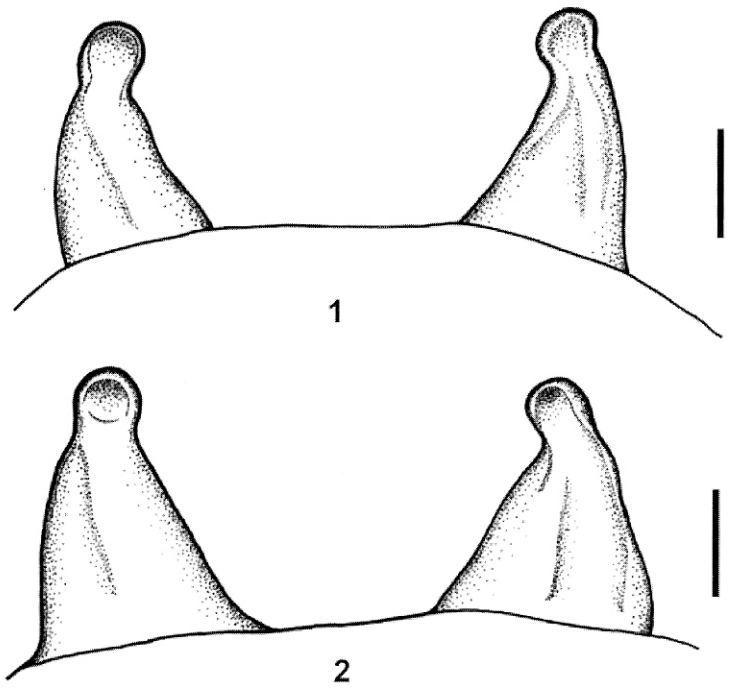

Fig.1. *Polyspinosa schulzei*, female holotype, spermathecae. Scale line = 1mm.

Fig.2. *Grammostola* sp., female from Argentina (IBSP 8277), spermathecae. Scale line = 1mm.

Material and methods

Specimens are deposited in the following institutions: Instituto Butantan São Paulo (IBSP, Rogério Bertani); Senckenberg Museum, Frankfurt (SMF, Peter Jäger).

A Wild M8 dissecting microscope was used for illustrations (with a camera lucida attachment). Urticating hairs were observed with a Zeiss Axioscop 20 compound microscope.

Types of urticating hairs follows Cooke *et al.* (1972).

Taxonomy

***Grammostola* Simon**

Grammostola Simon 1892:163; type species *Eurypelma pulchripes* Simon, 1891.

Sorata Strand 1907:554, type species *Sorata monticola* Strand, 1907. First synonymized by Raven, 1985: 159.

Lasiopelma Simon, 1892:169, type species *Lasiopelma grossum* (Ausserer, 1871). First synonymized by Schmidt, 1994b:5

Polyspinosa Schmidt, 1999:14; type species *Polyspinosa schulzei* (Schmidt, 1994) by original designation; holotype female (SMF 37537) from unknown locality, Schulze, examined. Syn. nov.

OTHER MATERIAL EXAMINED. - *Grammostola* sp. Argentina: 1 female, IBSP 10391, Cordilheira dos Andes, 20.VIII. 88, L. Colonel col.; 1 female, IBSP 8277, Tandil, 14.XI.90, L. Colonel col.

Discussion

The holotype presents a field of spiniform setae on prolateral and retrolateral coxal surfaces of legs I-III, prolateral coxae IV and retrolateral palpal maxilla. Besides this, it presents feathered setae on prolateral coxae I. The presence of modified setae on coxae I and II (and rarely on coxae III) is a character found in many Eumenophorinae species. This feature combined with the information that the specimen was African was probably the reason for including the species in the Eumenophorinae subfamily.

However, stridulatory and sometimes spiniform setae are found on the coxae of New World theraphosid species of *Grammostola*, *Theraphosa*, *Lasiodora* and *Phormictopus* (Pérez-Miles *et al.*, 1996). The morphology and distribution of these structures in the holotype of *P. schulzei* are similar to that found in some *Grammostola* species, such as *Grammostola gossei* Pocock, which has, apart the normal stridulatory setae over and below the suture, the basal area of the coxae covered with spiniform setae.

Moreover, the spermathecae presenting two separate long tubes pointing inwards, with rounded apices, are also similar to *Grammostola* species (figs.1-2).

Additionally, a bare dorso-central area on the holotype's abdomen suggests a former presence of urticating hairs. Because these structures are nonexistent in Old World theraphosids (Cooke *et al.*, 1972), their presence would be important to define the taxono-

mic position of the species. Examining the edge of this area, a small amount of type IV urticating hair (Cooke *et al.*, 1972) was located. The presence of type III urticating hair is considered a synapomorphy to the genera of Theraphosinae (Pérez-Miles *et al.*, 1996) and the presence of types I or IV alone or associated with type III is considered apomorphic to more inclusive groups. Thus, the presence of type IV urticating hair in the holotype of *P. schulzei* indicates that it belongs to this subfamily.

Since the presence of stridulatory setae in association with type IV urticating hair and spermathecae morphology are diagnostic characters of the genus *Grammostola*, the species is transferred to this genus and the comb. n. *Grammostola schulzei* (Schmidt, 1994) is established. The genus *Polyspinosa* Schmidt is considered a junior synonym of *Grammostola* Simon syn. n.

The origin of the holotype from the pet trade, where mislabeling and inexact collection data are commonplace, would explain why a South American genus was identified as belonging to an African subfamily.

Due to taxonomical difficulties in identifying *Grammostola* species, only a revision of the genus would indicate whether *G. schulzei* is a valid species.

Acknowledgements

Thanks are due to Peter Jäger, Senckenberg Museum, for the loan of the type. Richard Gallon and Volker von Wirth are thanked for their helpful comments on earlier draft of the manuscript.

References

AUSSERER, A. 1871. Beiträge zur Kenntniss der Arachniden-Familie der Territelariae Thorell (Mygalidae Autor). *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien,* **21:** 117-224.

COOKE, J.A.L., V. D. ROTH & F. H. MILLER 1972. The urticating hairs of theraphosid spiders. *American Museum Novitates*, **2498**: 1-43.

PÉREZ-MILES, F., S. M. LUCAS, P.I. DA SILVA JR. & R. BERTANI 1996. Systematic revision and cladistic analysis of Theraphosinae (Araneae: Theraphosidae). *Mygalomorph*, **1**: 33-68.

RAVEN, R.J. 1985. The spider infraorder Mygalomorphae (Araneae): cladistics and systematics. *Bulletin of the American Museum of Natural History*, **182**: 1-180.

SCHMIDT, G. 1994a. Eine neue Eumenophorine (Araneida: Theraphosidae: Eumenophorinae). *Arachnologisches Magazin*, **2**(1): 3-7.

SCHMIDT, G. 1994b. Das Männchen von *Tapinauchenius gigas* di Caporiacco, 1954 (Araneida: Theraphosidae: Aviculariinae). *Arachnologisches Magazin*, **2**(5): 2-8.

SCHMIDT, G. 1999. Neuer name für *Polyspina schulzei* Schmidt, 1994 (Araneae: Theraphosidae: Eumenophorinae). *Arachnologisches Magazin*, **7**(7/8): 14.

SIMON, E. 1891. Descriptions d'espéces et de genres nouveaux de la famille des Aviculariidae. *Annales de la Société Entomologique de France*, **60**: 300-312.

SIMON, E. 1892. *Histoire naturelle des araignées*. Paris, **1**: 1-256.

STRAND, E. 1907. Vorläufige Diagnosen afrikanischer und südamerikanischer Spinnen. *Zoologischer Anzeiger*, **31**: 525-558.