

A new transfer in the genus *Pachomius* Peckham & Peckham (Araneae: Salticidae: Aelurillini)

William Galvis¹

¹Laboratorio de Aracnología & Miriapodología (LAM-UN), Instituto de Ciencias Naturales, Departamento de Biología, Universidad Nacional de Colombia, Sede Bogotá, Colombia, *email* wlgalvisj@unal.edu.co

Abstract. *Pachomius lehmanni* (Strand, 1908), **comb. nov.** is transferred to the genus *Pachomius* Peckham & Peckham, 1896 (Salticidae: Salticinae: Aelurillini: Freyina), based on a new examination of the sexual characters of the male. This taxon is placed in the *nigrus* species group by the presence of both a spike-like lateral subterminal apophysis (LSA) and a well-developed proximal retrolateral lobe (pRL) of the male pedipalp. A map with the known distribution of the *nigrus* species group of *Pachomius* is presented.

Keywords. Colombia, jumping spiders, *Pachomius lehmanni*, *Phiale*, taxonomy

Introduction

Phiale lehmanni was originally described without any illustrations by Strand in 1908, based on a male collected in Popayan, department of Cauca (western Colombia), by the German Consul Friedrich Carl Lehmann, a plant collector who was traveling between 1850-1903 through southern Colombia to northern Ecuador (Cribb, 2010a, 2010b). This species was probably placed in *Phiale* C. L. Koch, 1846 (Salticidae: Salticinae: Aelurillini: Freyina) because its coloration was similar to other species placed in that genus. Subsequently, this species received no treatment in the partial revisions of *Phiale* (Galiano 1978, 1979, 1981a, 1981b), *Pachomius* (Galiano, 1994, 1995), and all freyines (Edwards, 2015). Edwards (2015) categorized this species as *incertae sedis* inside the genus *Phiale*.

As part of a project on the jumping spiders (Salticidae) from Colombia, the author received several pictures of the male holotype of this species, enough to find that this taxon was erroneously placed in the genus *Phiale*. In this paper, *Phiale lehmanni* Strand, 1908 is transferred to the genus *Pachomius* and included in the *nigrus* species group, based on the presence of both a spike-like lateral subterminal apophysis and a well-developed proximal retrolateral lobe of the male pedipalp (Edwards, 2015). The malp pedipalp of this species is illustrated for the first time.

Materials and methods

The male holotype that was photographed is deposited in the Arachnological Collection of the Senckenberg Forschungsinstitut und Naturmuseum (SMF, Peter Jäger), Frankfurt, Germany. Photographs were taken with a Canon EOS camera. Drawings were made by hand from photographs taken of the pedipalp of the holotype male.

Taxonomy

Salticidae Blackwall, 1841

Salticinae Blackwall, 1841

Aelurillini Simon, 1901

Freyina Edwards, 2015

***Pachomius* Peckham & Peckham, 1896**

Pachomius Peckham & Peckham, 1896: 80; type species *Attus dybowskii* Taczanowski, 1871.

Romitia Caporiacco, 1947; type species *Romitia nigra* Caporiacco, 1947. Synonymized by Edwards (2015).

Aculeobreda Caporiacco, 1955; type species *Aculeobreda hadzji* Caporiacco, 1955. Synonymized by Ruiz & Brescovit (2005).

Uspachus Galiano, 1995; type species *Uspachus misionensis* Galiano, 1995. Synonymized by Edwards (2015). This name was considered by itself a junior synonym of *Romitia* by Ruiz *et al.* (2007).

Diagnosis. Males of *Pachomius* are similar to those of *Phiale* in the general structure of the pedipalp, but they can be diagnosed by the presence of a distinctive femoral organ on distal prolateral femur of the pedipalp, with a lateral subterminal apophysis (LSA) varying from mostly membranous and lobe-like to sclerotized and spike-like, near (more or less prolateral to) the embolus, usually containing spicules. Female *Pachomius* have a rather simple epigynum with copulatory openings that are slit-like and situated in shallow atria, while in *Phiale* they are circular and placed in deeper depressions (Galiano, 1994; Edwards, 2015).

***Pachomius lehmanni* (Strand, 1908), comb. nov.**

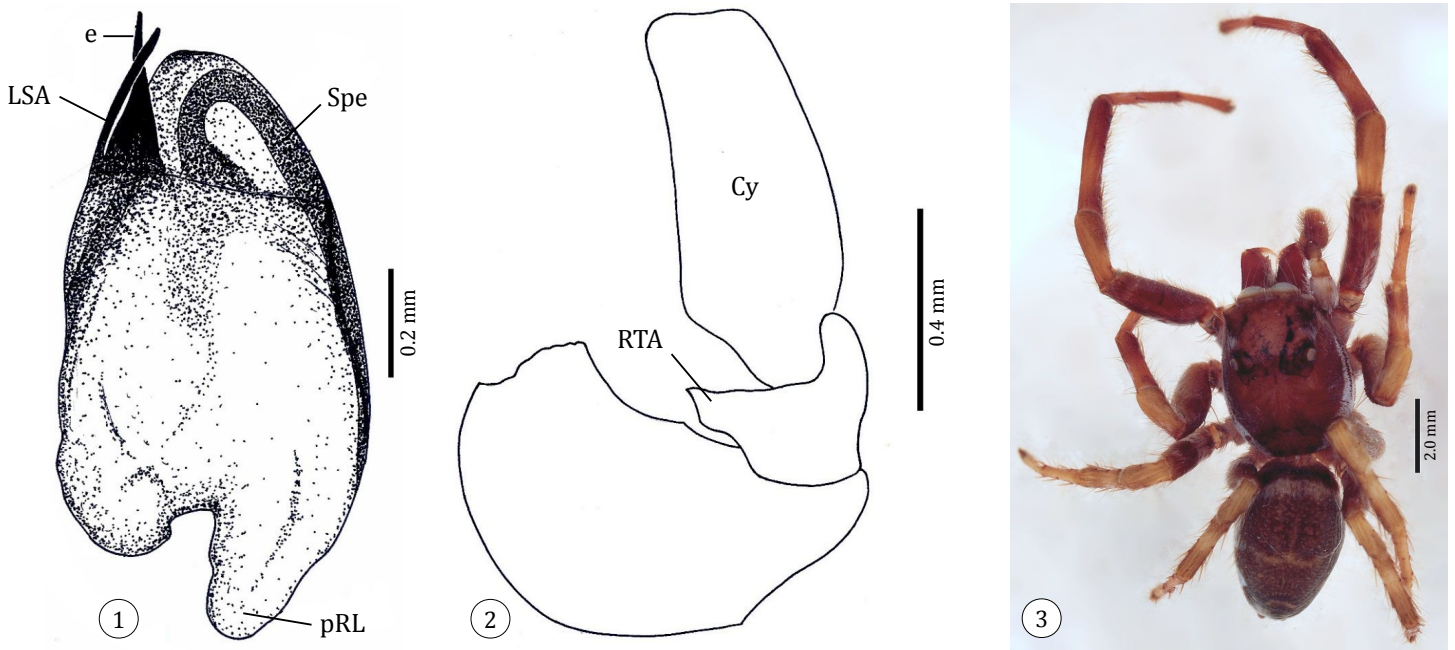
Figures 1-4

Phiale lehmanni Strand, 1908: 7 (description without illustrations of the male holotype from Popayan, Cauca, Colombia, [coordinates and altitude based on locality: 2.44°N, 76.61°W, 1750 m asl], collected by Friedrich Carl Lehmann, deposited in SMF 2377-141, photographs examined); Mello-Leitão, 1941: 299; Flórez & Sánchez, 1995: 363; World Spider Catalog, 2018.

Diagnosis. Placement in the *nigrus* species group of *Pachomius* is indicated by the presence of both a sclerotized (spike-like) lateral subterminal apophysis (LSA) and a well-developed proximal retrolateral lobe (pRL) of the male pedipalp. In this group, *P. lehmanni* can be distinguished from *P. nigrus* (Caporiacco, 1947) by its more slender LSA and embolus, narrower tegulum with a more slender pRL, and RTA with a wider base (Figures 1-2; see Figures 6-9 in Ruiz *et al.*, 2007).

Comments. The holotype male that was examined is well preserved and has a brown carapace with lateral and longitudinal stripes of white hairs, and eyes on black marks. The abdomen has an anterior and lateral white stripe, two transverse light-brown lines, and two lateral and posterior white spots (Figure 3).

Distribution. The *nigrus* species group of *Pachomius* is comprised of two species from northern South America (Figure 4). *P. lehmanni* is endemic to Colombia (Cauca), known from an elevation of approximately 1750 m above sea level. *P. nigrus* is known from Guyana (Potaro-Siparuni) and French Guiana (Saint-Élie) from an elevation between 150-270 m above sea level.



Figures 1-3. *Pachomius lehmanni* (Strand, 1908), male holotype (SMF 2377-141). **1**, Left pedipalp, ventral view, detail of the bulb. **2**, Same, retrolateral view. **3**, Dorsal view. Abbreviations: Cy = cymbium; e = embolus; pRL = proximal retrolateral lobe of the tegular basal division; RTA = retrolateral tibial apophysis; Spe = spermatheca.



Figure 4. Known distribution of the *nigrus* species group of *Pachomius* (Salticidae: Salticinae: Aelurillini: Freyina) in northern South America. Map by Mapswire.com (<https://mapswire.com>) used and modified under a Creative Commons Attribution 4.0 International (CC BY 4.0) License.

Acknowledgments

I thank Peter Jäger (SMF) for providing facilities to examine the type specimen of the species and especially Ricardo Pinto-da-Rocha (Universidade de São Paulo) for taking photographs of this specimen.

References

- Cribb, P. 2010a.** The itineraries of F. C. Lehmann in Colombia and Ecuador 1876-1899, compiled from F. C. Lehmann's collecting notes and herbarium collections. *Lankesteriana* 10 (2-3): 31-52.
- Cribb, P. 2010b.** The orchid collections and illustrations of consul Friedrich C. Lehmann. *Lankesteriana* 10 (2-3): 1-222.
- Flórez-D., E. and H. Sánchez-C. 1995.** La diversidad de los Arácnidos en Colombia. In: Rangel-Ch., J. O. (ed.), Colombia - Diversidad Biótica I. Editorial Guadalupe LTDA. Universidad Nacional de Colombia, Instituto de Ciencias Naturales, Bogotá, Colombia, pp. 1-442.
- Galiano, M. E. 1978.** Revisión del género *Phiale* Koch, C.L., 1846. (Araneae, Salticidae). I. Redescrición de *Phiale gratiosa*, *P. mimica* y *P. rufoguttata*. *Physis*, Revista de la Sociedad Argentina de Ciencias Naturales (C) 37: 161-167.
- Galiano, M. E. 1979.** Revision of the genus *Phiale* C.L. Koch, 1846 (Araneae, Salticidae). II. *Phiale guttata* (C. L. Koch, 1846) new combination. *Bulletin of the British Arachnological Society* 4: 345-348.
- Galiano, M. E. 1981a.** Revision del genero *Phiale* C.L. Koch, 1846 (Araneae, Salticidae) III. Las especies polimorficas del grupo *mimica*. *Journal of Arachnology* 9: 61-85.
- Galiano, M. E. 1981b.** Revision of the genus *Phiale* C.L. Koch, 1846 (Araneae, Salticidae). IV. The polymorphic species of the *gratiosa* group. *Bulletin of the British Arachnological Society* 5: 205-216.
- Galiano, M. E. 1994.** Revision of the genus *Pachomius* (Araneae, Salticidae). *Bulletin of the British Arachnological Society* 9: 214-220.
- Galiano, M. E. 1995.** Descripción de *Uspachus*, nuevo género (Araneae, Salticidae). *Physis*, Revista de la Sociedad Argentina de Ciencias Naturales, Sección C 50: 121-142.
- Mello-Leitão, C.F. de. 1941.** Catalogo das aranhas da Colombia. *Anais da Academia Brasileira de Ciencias* 4 (13): 233-300
- Ruiz, G. R. S. and A. D. Brescovit. 2005.** Notes on the Venezuelan jumping spiders described by Caporiacco (Araneae, Salticidae). *Revista Brasileira de Zoologia* 22: 753-760.
- Ruiz, G. R. S., A. D. Brescovit and A. A. Lise. 2007.** On the taxonomy of some neotropical species of jumping spiders described by Caporiacco (Araneae, Salticidae). *Revista Brasileira de Zoologia* 24: 376-381.
- Strand, E. 1908.** Neue außereuropäische Spinnen. *Zoologischer Anzeiger* 33: 5-7.