

Scientific note

Rhopalurus caribensis, is a synonym of *Rhopalurus laticauda* (Scorpiones, Buthidae)

Rhopalurus caribensis, es un sinónimo de *Rhopalurus laticauda* (Scorpiones, Buthidae)

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Abstract: *Rhopalurus caribensis* Teruel & Roncallo, 2008 (**n. syn.**) is synonymized with *R. laticauda* Thorell, 1876, based on a review of morphological variations of characters listed by Roncallo and Teruel (2008). The biogeographic assumption presented by Teruel & Roncallo (2008) as an argument to justify the description of *R. caribensis* is refuted.

Key words: Synonymy. Taxonomy. Colombia.

Resumen: *Rhopalurus caribensis* Teruel & Roncallo, 2008 (**n. sin.**) es sinonimizado con *R. laticauda* Thorell, 1876, con base en la revisión de las variaciones morfológicas de los caracteres citados por Teruel & Roncallo (2008). Se refutan las hipótesis biogeográficas presentadas por Teruel & Roncallo (2008) como argumentos para justificar la descripción de *R. caribensis* son refutadas.

Palabras clave: Sinonimia. Taxonomía. Colombia.

Introduction

Rhopalurus laticauda Thorell, 1876 the type species of the genus, is distributed in open areas of savannas and lowlands of northern South America between Venezuela and Colombia. *R. laticauda* has been considered to be a polymorphic species due to coloration and size variations (Lourenço 1991; Manzanilla & Souza 2003).

Rhopalurus caribensis Teruel & Roncallo, 2008 was described on material from northern Colombia (Caribbean Region). The description was justified on the basis of morphological differences and a biogeographic rationale. The main arguments for the recognition of *R. caribensis* as a new species were: pattern of coloration, sculpturation, and differences in the number of pectinal teeth, which were whiter, smaller, less sculpturation and fewer pectinal tooth than specimens from the eastern Savannas ("Llanos Orientales") of Colombia. These differences, in conjunction with the fact that the new species was allopatric with populations of *R. laticauda*, (at that time considered a single taxon), led the authors to conclude that a new species *R. caribensis* should be recognized for populations of northern Colombia.

The specimens studied are deposited in the Arachnological Collection of the Instituto de Ciencias Naturales of the Universidad Nacional de Colombia, Bogotá (ICN-MHN). The material represented 12 specimens from the Caribbean Region (seven females, one male and four juveniles) and four specimens from the Eastern Savannas (three females and one male), allowed us to preliminarily evaluate the diagnostic characters used by Teruel and Roncallo (2008) for the circumscription of *R. caribensis*.

Table 1 and figures 1-2 presents data that shows variations and characters overlaps occur with respect to the characters listed by Teruel & Roncallo for both regions. The coloration, sculpturation and size characters vary both in specimens from different localities from of the eastern Savannas and among sympatric specimens from Santa Marta (Caribbean region), while number of pectinal tooth, although are more



Figure 1. A-B. Habitus of *Rhopalurus laticauda* from Orocué, Casanare, (Llanos Orientales) Colombia (ICN-As-486); A. Dorsal view. B. Ventral view. C-D. Habitus of *Rhopalurus laticauda* from National Park El Tuparro, Vichada, (Llanos Orientales) Colombia, (ICN-As-404); A. Dorsal view. B. Ventral view.

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Table 1. Comparative table of character among individuals of genus *Rhopalurus* from eastern Savannas and Colombian Caribbean region.

Code	Sex	Locality	Region	Coloration	Sculpturation	Size (mm)	Pectinal tooth
ICN-AS-192	♀	Meta, La Macarena	Llanos*	Yellowish	Fine	51	21 -21
ICN-AS-486	♀	Casanare, Orocué	Llanos	Yellowish	Fine	53	22 -21
ICN-AS-404	♀	Vichada, PN Tuparro	Llanos	dark brownish	coarse	50	22 -22
ICN-AS-105	♂	Arauca	Llanos	yellow-brownish	Fine	43	-
ICN-AS-440	♀	Atlántico, Salgar	Caribe	Yellowish	Fine	45	21 -21
ICN-AS-487.1	♀	Magdalena, Santa Marta	Caribe	Yellowish	Fine	49	19 -20
ICN-AS-487.2	♀	Magdalena, Santa Marta	Caribe	Yellowish	Fine	48	20 -21
ICN-AS-487.3	♀	Magdalena, Santa Marta	Caribe	Yellowish	Fine	49	21 -21
ICN-AS-487.4	♀	Magdalena, Santa Marta	Caribe	Yellowish	Fine	48	21 -21
ICN-AS-487.5	juvenile	Magdalena, Santa Marta	Caribe	Yellowish	Fine	-	20 -20
ICN-AS-487.6	juvenile	Magdalena, Santa Marta	Caribe	Yellowish	Fine	-	22 -23
ICN-AS-487.7	juvenile	Magdalena, Santa Marta	Caribe	Yellowish	Fine	-	22 -22
ICN-AS-430	juvenile	Magdalena, Santa Marta	Caribe	reddish brown	moderate	-	21 -21
ICN-AS-488.1	♀	Magdalena, Santa Marta	Caribe	Yellowish	Fine	40	20 -20
ICN-AS-488.2	♀	Magdalena, Santa Marta	Caribe	Yellowish	Fine	46	21 -21
ICN-AS-669	♂	Magdalena, Santa Marta	Caribe	brown yellowish	moderate	54	21 -20

* Eastern savannas.

homogeneous than Teruel and Roncallo (2008) specimens and Botero-Trujillo and Fagua (2007), show overlap between the two regions, reaching the highest numbers in specimens from Caribbean region, it is in contradiction to what was observed and postulated by Teruel and Roncallo (2008).



Figure 2. A-B. Habitus of *Rhopalurus laticauda* from Santa Marta, Magdalena (Caribbean region) Colombia (ICN-As-669); A. Dorsal view. B. Ventral view. C-D. Habitus of *Rhopalurus laticauda* from Santa Marta, Magdalena (Caribbean region) Colombia, (ICN-As-487); C. Dorsal view. D. Ventral view.

On the other hand, the biogeographic argument outlined on the Roncallo and Teruel (2008) paper is a misconception of Kattan *et al.* (2004) study, since they consider a supposed biota separation between Caribbean region and Eastern Savannas correspond to subregions called in Kattan *et al.* (2004) as “Perijá-Sierra Nevada de Santa Marta” and the “eastern slope of the Andes”, respectively. They overlooked the fact that Kattan *et al.* (2004) biogeographical analysis focused exclusively on the recognition of biogeographic patterns of the Andean regions (mountain) in Colombia, therefore not included the lowlands where are located the Eastern Savannas and the Caribbean region. The map 1 presented in Kattan *et al.* (2004), illustrates a precise biogeographical demarcation reported.

The information presented is congruent with by Lourenço (1993), Flórez (2001), and Botero-Trujillo and Fagua (2007), considering these disjoint populations as belonging to the same species, and therefore synonymize *R. caribensis* under *R. laticauda*.

Material examined

COLOMBIA. 1 ♀, Atlántico, Salgar, 400 m. 25-feb-2002, G. Amat *leg* [ICN-AS-440]. 1 juvenile, Magdalena, PN Tayrona, Neguanje, 155 m. 6-sep-1996, C. Valderrama *leg* [ICN-AS-430]. 4 ♀, 3 juveniles, Magdalena, Santa Marta, 2 m. 17-sep-2002. G.J. Parra *leg* [ICN-AS-487]; 2 ♀, Mismos datos, Taganga. 1 m. 15-oct-2002. G. J. Parra *leg* [ICN-AS-488]; 1 ♂, Mismos datos, Sierra Nevada de Santa Marta, Hacienda La Victoria, sector Jabalí. 1100 m. 29-abr-2006. J. C. Aguirre *leg* [ICN-AS-669]. 1 ♂, Arauca, La Conquista, Finca Macanguaro, 120 m. s.f., F. Ortiz, *leg* [ICN-AS-105]. 1 ♀, Meta, Angostura, Parque Nacional La Macarena, s.a., ene-1997. J. O. Lemke, *leg* [ICN-AS-192]. 1 ♀, Casanare, Orocué. San Pablo, 130 m. 7-mar-1979. M. Barreto *leg* [ICN-AS-486]. 1 ♀, Vichada, PN El Tuparro, El Tapón. s.a. abr-1980. T. Defler, *leg* [ICN-AS-404].

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