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A new species of *Auyantepuia* González-Sponga, 1978 (Scorpiones, Chactidae) from Suriname

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(with 9 Figures)



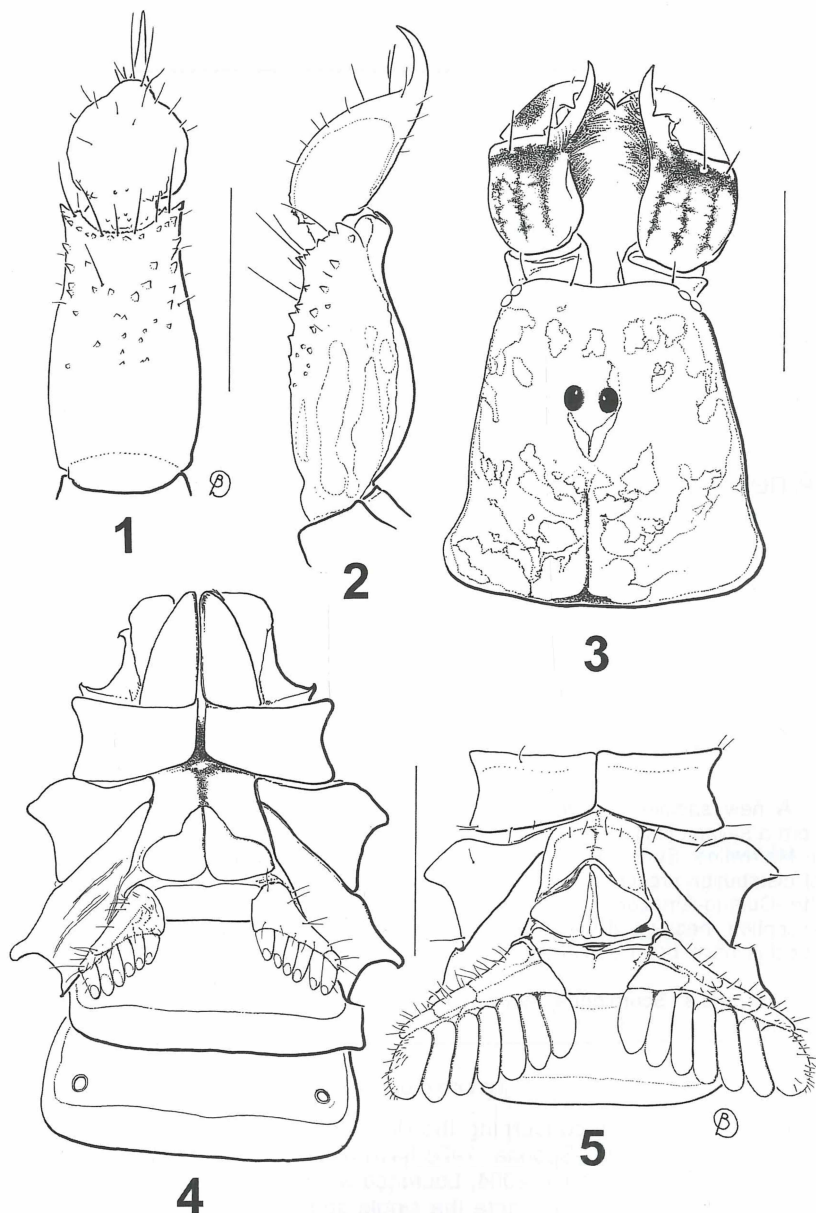
Abstract

A new species, *Auyantepuia surinamensis* sp. n. (Chactidae), is described from a savannah-like formation, located in NW Albina, between Albina and Moengo in Marowijne, Suriname. The description of the new species confirms the pattern of distribution presented by the genus *Auyantepuia*, which is basically confined to the Guiano-Amazon regions. The new species represents a first ecological exception, because it was found in a savannah-like formation, whereas all other species have been described from forested formations.

Key words: Scorpiones, *Auyantepuia*, new species, savannah-like formation, Suriname.

Introduction

Historical aspects concerning the description and validity of the genus *Auyantepuia* González-Sponga, 1978 have been discussed in recent papers (Lourenço & Souza Araújo 2004, Lourenço & Qi 2007). Originally the genus was described to accommodate the single species, *Broteochactas scorzai* Dagert, 1957, endemic to the region of the Auyantepui, a mountain formation of the Guayana region in Venezuela.



Figs 1-5. *Auyantepuia surinamensis* sp. n., 1-4, female holotype. 1-2. metasomal segment V and telson, ventral and lateral aspects. 3. chelicera and carapace, dorsal aspect; 4. ventral aspect showing coxapophysis, sternum, genital operculum, pectines and tergites III-IV; 5. idem, male paratype. (Scale bars: 2 mm).

Subsequently, the validity of *Auyantepuia* was questioned by different authors. Some rejected its validity and placed it in the synonymy of the genus *Broteoactas* Pocock, 1893 (Francke & Boos 1986). Others initially accepted its validity (Lourenço 1983), but subsequently considered it to represent only a group of species within *Broteoactas* (Lourenço 1986). The question of the validity of this genus remains contentious and divergent opinions continue to be expressed (Soleglad & Fet 2003, Lourenço & Souza Araújo 2004, Soleglad & Fet 2005, Prendini & Wheeler 2005, Lourenço & Qi 2007).

One new species is described here from savannah-like formations in Suriname. The disrupted and relictual pattern of geographical distribution presented by the species of *Auyantepuia* is confirmed, with a strong concentration of species in the Guayana floristic province (Mori 1991). The new species is the first to be described from a savannah-like formation, since all the other species have been described from forested formations.

Methods

Measurements and illustrations were made using a Wild M5 stereo-microscope with a drawing tube (camera lucida) and an ocular micrometer. Measurements follow Stahnke (1970) and are given in mm. Trichobothrial notations are those developed by Vachon (1974) and the morphological terminology mostly follows Hjelle (1990).

Taxonomic account

Family Chactidae Pocock, 1893

Genus *Auyantepuia* González-Sponga, 1978

REVISED DIAGNOSIS FOR THE GENUS: Scorpions of small size with a total length of 19 to 28 mm. General coloration reddish-brown to dark brown. Tegument smooth overall. Pedipalp chelal fingers very short, with trichobothria *db* and *esb* almost always at the same level; in some species these can be basal to trichobothrium *Et*₅. Trichobothrial pattern of type C; neobothriotaxic 'majorante' (Vachon 1974). Ventral aspect of metasomal segment V with strong granulations distally, which can form an arc.

Composition of the genus *Auyantepuia*

Auyantepuia amapaensis Lourenço & Qi, 2007 (Brazil)

Auyantepuia scorzai (Dagert, 1957) (Venezuela)

Auyantepuia fravalae Lourenço, 1983 (French Guiana)

Auyantepuia gaillardi Lourenço, 1983 (French Guiana)

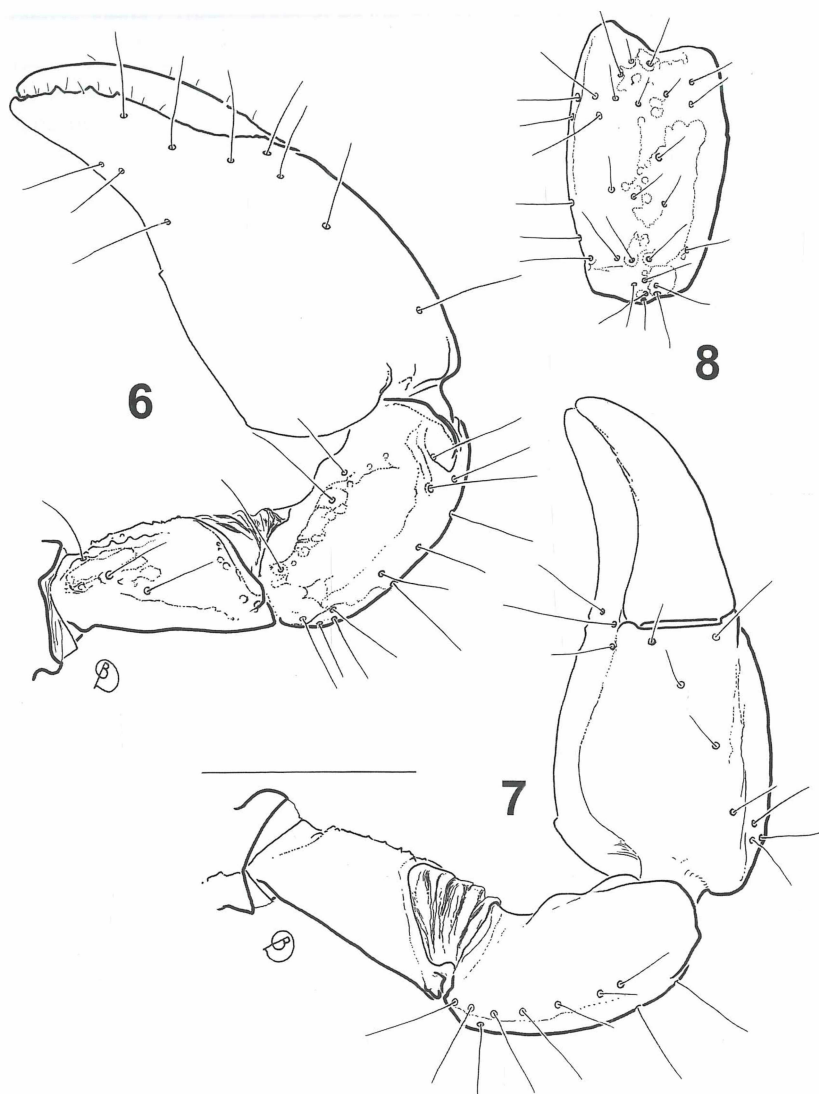
Auyantepuia sissomi Lourenço, 1983 (French Guiana)

Auyantepuia parvulus (Pocock, 1893) (Brazil)

Auyantepuia kelleri (Lourenço, 1997) (French Guiana)

Auyantepuia mottai Lourenço & Araújo, 2004 (Brazil)

***Auyantepuia surinamensis* sp. n.** (Suriname)



Figs 6-8. *Auyantepuia surinamensis* sp. n., female holotype. 6-7. right and left pedipalps, showing trichobothrial pattern; 8. patella, external aspect. (Scale bars: 2 mm).

Note: Further analysis of *Broteochactas skuki* Lourenço & Pinto da Rocha, 2000, described from Southern Brazilian Amazonia, led us to reconsider the generic position of this species. This species was assumed to belong to the 'Auyantepuia' group of species within the genus *Broteochactas* (Lourenço 2002), and subsequently transferred to the genus *Auyantepuia* (Lourenço & Araujo 2004). It is here returned to the genus *Broteochactas*, mainly because of its larger size and distinct position of trichobothria.

Auyantepuia surinamensis sp. n.
(Figs 1-8)

TYPE MATERIAL. Holotype ♀, paratype ♂. Suriname, Marowijne, NW Albina, between Albina and Moengo, savannah-like formation (collected by local people: J. Davis leg.), September 1986. Deposited in the Zoologisches Museum Hamburg [ZMH Acc. No. A21/10 (holotype) and A22/10 (paratype)].

ETYMOLOGY. The specific name refers to Suriname, the country where the new species was collected.

DIAGNOSIS. Small scorpions, 19 to 21 mm in total length. Coloration reddish to reddish-brown, with chelicerae, carapace and legs intensely spotted. Body and appendages weakly granulated or smooth, with minute punctation; dorso-internal carina of chela inconspicuous; ventral posterior granulations on metasomal segment V weakly marked. Pectines with 7-7 teeth on male, 6-6 on female. Trichobothrial pattern of type C neobothriotaxic 'majorante'.

DESCRIPTION based on female holotype and male paratype.

Coloration. Basically reddish to reddish-brown. Carapace reddish, intensely marked with brownish variegated spots. Tergites reddish, with confluent brownish spots. Metasomal segments reddish, intensely marked with variegated brownish spots; vesicle reddish with a darker aculeus. Chelicerae reddish-yellow, with variegated blackish spots; fingers reddish-yellow with reddish teeth. Pedipalps reddish, with dark brown spots; femur darker than patella and chela. Legs yellowish, intensely marked with dark brown spots. Venter and sternites yellowish to reddish-yellow; pectines paler than sternites.

MORPHOLOGY. Carapace lustrous and acarinate, with some minute punctations; furrows shallow; anterior edge emarginate. Sternum pentagonal, wider than long. Tergites acarinate, almost smooth and shiny, with only minute granulations on their posterior edges. Pectinal tooth count 6-6 (7-7), fulcra absent. Sternites smooth and shiny, VII acarinate; spiracles rounded in shape. Only metasomal segments IV and V longer than wide; metasomal tegument almost lustrous, without granulation, and with a few punctations; segment V with spinoid granulation ventrally, weakly marked. Carinae on segments I-V vestigial or absent; only dorso-lateral carinae are weakly marked on segments I to IV. Pedipalp femur with dorsal internal, dorsal external and ventral internal carinae weakly marked; internal face weakly granular; other faces smooth. Patella smooth, with

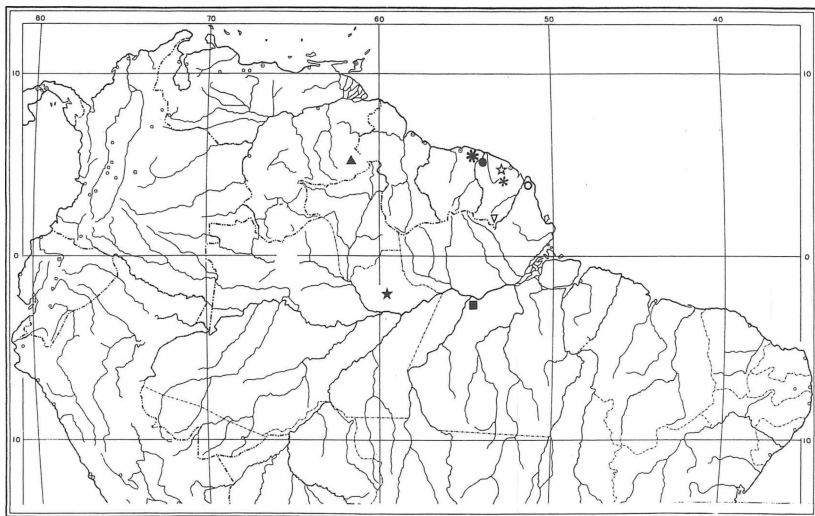


Fig. 9. Records of *Auyantepuia* species in Guiano-Amazon regions, tropical South America: *A. scorzai* (black triangle). *A. fravalae* (black flower). *A. gaillardi* (black circle). *A. sissomi* (inverted triangle). *A. parvulus* (black square). *A. kelleri* (star). *A. mottai* (black star). *A. amapaensis* (circle). *A. surinamensis* sp. n. (black asterisk).

vestigial carinae. Chela with dorso-internal carina weakly marked and some fine granulation. Dentate margins on fixed and movable fingers with 5-6 rows of granules. Chelicerae with dentition typical of the family Chactidae (Vachon 1963), and with dense setation ventrally and internally. Trichobothriotaxy of type C; neobothriotaxic 'majorante' (Vachon 1974).

REMARKS. *Auyantepuia surinamensis* sp. n. can be distinguished from other species of the genus *Auyantepuia* and, in particular, from *A. gaillardi* Lourenço, described from the nearby frontier region of French Guiana, by the following features: (i) a much darker general coloration, reddish to reddish-brown with intensely marked spots on chelicerae, carapace and legs, (ii) smaller size (see Table 1), (iii) dorso-internal carina of chela inconspicuous, (iv) anterior edge of carapace more strongly emarginated, (v) ventral posterior granulations on metasomal segment V weakly marked. Moreover, the new species is found in a savannah-like open vegetation habitat, the 'Amazon terra firme savannahs' (Murça Pires & Prance 1985), whereas *A. gaillardi* is found in forest formations.

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Table 1. Morphometric values (in mm) of *Auyantepuia gaillardii* Lourenço (male holotype and female paratype) and *A. surinamensis* sp. n. (female holotype and male paratype).

	<i>A. gaillardii</i>		<i>A. surinamensis</i> sp. n.	
	♂	♀	♀	♂
Total length*	25.2	26.9	20.8	19.0**
Carapace:				
- length	3.5	4.1	3.6	3.2
- anterior width	2.2	2.7	2.3	2.1
- posterior width	3.6	4.1	3.7	3.3
Mesosma length	6.4	7.5	6.0	5.7
Metasomal segment I:				
- length	1.8	1.8	1.2	1.2
- width	2.4	2.6	2.2	2.1
Metasomal segment II:				
- length	2.0	2.1	1.4	1.3
- width	2.1	2.2	1.9	1.9
Metasomal segment III:				
- length	2.2	2.5	1.6	-
- width	2.0	2.2	1.8	-
Metasomal segment IV:				
- length	2.3	2.4	1.9	-
- width	1.9	2.0	1.7	-
Metasomal segment V:				
- length	3.5	3.4	2.9	-
- width	1.8	1.9	1.5	-
- depth	1.4	1.6	1.3	-
Telson:				
- length	3.5	3.1	2.2	-
- width	2.7	2.4	1.2	-
- depth	1.8	1.6	0.9	-
Pedipalp:				
- femur length	2.2	2.5	2.1	1.9
- femur width	1.0	1.2	1.2	1.1
- patella length	2.7	3.0	2.6	2.6
- patella width	1.3	1.6	1.3	1.2
- chela length	4.9	5.8	4.7	4.4
- chela width	1.8	2.2	1.7	1.7
- chela depth	2.6	3.1	2.0	2.2
Movable finger:				
- length	2.6	3.0	2.3	2.3

* including telson

** extrapolated value

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