

The genus *Ananteris* Thorell, 1891 (Scorpiones, Buthidae) in the Guayana region and a description of a new species from Guyana

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(with 12 figures)

Abstract

A new species of the genus *Ananteris* Thorell, 1891 has been discovered in Guyana. *Ananteris michaelae* sp. n. is described from a single male collected in the region South of Mount Roraima, NE of the town of Normandia, located in the border between the state of Roraima in Brazil and Guyana. This is the first species of the genus described from Guyana and the second record of an *Ananteris* species from this country. This new description brings the total number of *Ananteris* species described or recorded from the Guayana region to nine.

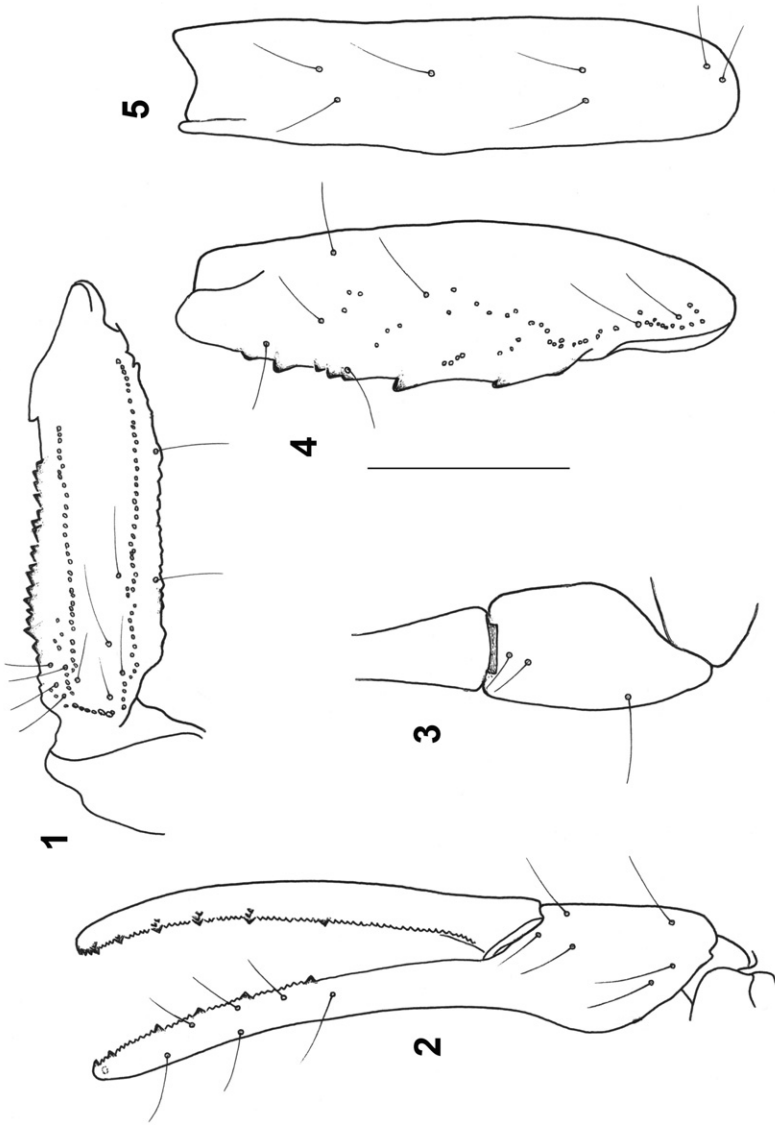
Key words: Scorpions, Buthidae, *Ananteris*, new species, Guayana region, Guyana.

Introduction

As discussed in recent papers (Lourenço 2012 a,b,c, Lourenço & Duhem 2010, Lourenço *et al.* 2013), the genus *Ananteris* Thorell, 1891 was created for *Ananteris balzanii* Thorell, 1891, a species discovered in the state of Mato Grosso, Brazil (Thorell 1891). The number of new species described within the genus steadily increased since it was revised by Lourenço (1982). This pace of new descriptions was even more accelerated in recent years, with descriptions of species from Venezuela and Colombia (e.g. Rojas-Runjaic 2005, Gonzalez-Sponga 2006, Rojas-Runjaic & Sousa 2007, Botero-Trujillo & Flórez 2011).

Only a rather limited number of species were described from the Guayana region in recent years. Moreover, most of the newly described species were from French Guiana (Lourenço 1982, 1983, 2001, 2003; Lourenço & Monod 1999), with one exception from Suriname (Lourenço 2012c). The pace of descriptions from the Guayana region was much less intense than in other regions mainly because the inventory work with the area is practically non-existent.

Previously described species from French Guiana were: *Ananteris coineaui* Lourenço 1982, *Ananteris guyanensis* Lourenço & Monod 1999, *Ananteris sabineae* Lourenço 2001, *Ananteris elisabethae* Lourenço 2003 and *Ananteris intermedia* Lourenço 2012 (Lourenço 1982, 2001, 2003, 2012b, Lourenço & Monod 1999). Another new species, *Ananteris roraima* Lourenço



Figs 1-5. *Ananteris michaelsae* sp. n., male holotype. Trichobothrial pattern. **1.** femur, dorsal aspect; **2-3.** chela, dorso-external and ventral aspects; **4-5.** patella, dorsal and external aspects (scales bars = 1 mm).

& Duhem 2010 was also described from the Brazilian state of Roraima which is also part of the Guayana region (Lourenço & Duhem 2010). Finally, another new species, *Ananteris surinamensis* Lourenço 2012 was recently described from Suriname (Lourenço 2012c), and represented the first confirmed record of the genus in this country.

The new species described here, *Ananteris michaelae* sp. n., is the second confirmed record of this genus from Guyana. The first record being *Ananteris venezuelensis* González-Sponga 1972. This new taxon is, however, the first *Ananteris* species described from this country. This new description brings the total number of known *Ananteris* species described from the Guayana region to nine.

Methods

Illustrations and measurements were made with the aid of a Wild M5 stereomicroscope with an attached drawing tube (camera lucida) and an ocular micrometer. Measurements follow Stahnke (1970) and are given in mm. Trichobothrial notations follow Vachon (1974) and morphological terminology primarily follows Vachon (1952) and Hjelle (1990).

Taxonomic treatment

Family Buthidae C. L. Koch, 1837

Genus *Ananteris* Thorell, 1891

Ananteris michaelae sp. n.

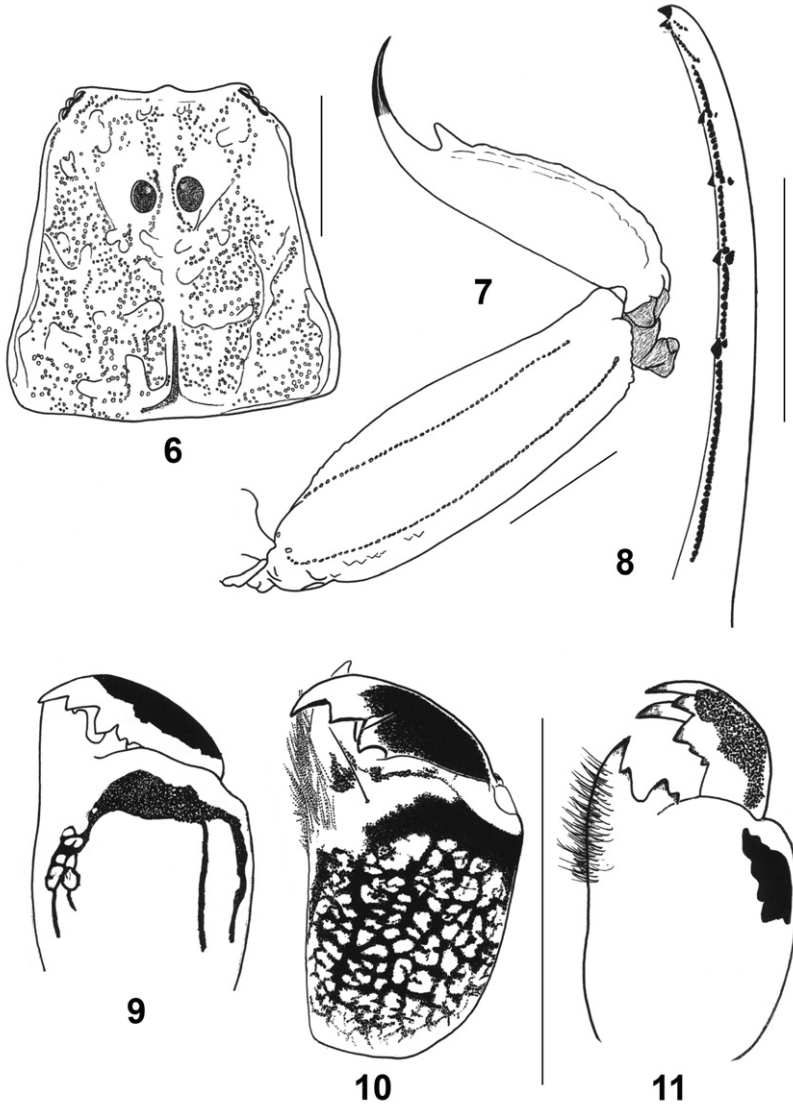
(Figs 1-11)

TYPE MATERIAL: Holotype, male (ZMH Acc. No. A22/13), Guyana, S of Mt. Roraima, NE of the town of Normandia, in the border between the state of Roraima in Brazil and Guyana. Collected by local Indians (Christian Mission leg.), June 1998, savannah type formation. Holotype deposited in the Zoologisches Museum, Hamburg.

ETYMOLOGY: The specific name honors Michael M. Webber (University of Nevada, Las Vegas) for her constant interest in scorpion studies.

DIAGNOSIS: Species of relatively small size compared to the average sizes of other species within the genus *Ananteris* (20.8 mm in total length for male holotype; see Table I). General coloration is yellow to pale yellow, strongly marked with brownish variegated spots. Pedipalps are moderately short; fingers with 6 rows of granules; male pectines with 17-17 teeth. Carinae and granulation are moderately marked. Trichobothria *db* and *est* of fixed finger situated at the same level.

DESCRIPTION: Coloration. Generally yellow to pale yellow, with brown to light brown variegated pigmented zones on the body and its appendages. Prosoma: carapace is yellow, with anterior, central, and lateral brown spots; eyes surrounded by black pigment. Mesosoma yellowish with three longitudinal brownish stripes on the tergites. Metasomal segments I to V yellow; all segments moderately marked with brown spots. Vesicle yellow without spots; base of aculeus yellowish, with reddish tip. Venter yellow to pale yellow without any infuscations except on sternite VII. Chelicerae



Figs 6-11. *Ananteris michaelae* sp. n., male holotype. **6.** carapace, dorsal aspect, showing granulation; **7.** metasomal segment V and telson, lateral aspect; **8.** cutting edge of pedipalp chela movable finger with rows of granules. **9-11.** Chelicera, dorsal aspect, showing the pigmentation patterns. **9.** *Ananteris michaelae* sp. n.; **10.** *A. roraima*; **11.** *A. surinamensis* (scales bars = 1 mm).

yellowish without variegated spots covering the totality of the dorsal surface; dark spots are only slightly marked on anterior, external and internal edges; fingers with brown spots; teeth reddish. P e d i p a l p s: yellow to pale yellow; femur, patella and chela hand marked with diffused brown spots; fingers yellow; rows of granules on the cutting edge pale red. L e g s yellow, with brown spots.

MORPHOLOGY. P r o s o m a: Carapace with moderately to strongly marked granulation; anterior margin slightly convex. All carinae weak or absent: furrows moderate to weak. Median ocular tubercle distinctly anterior to centre of carapace; median eyes moderate in size separated by approximately one ocular diameter. Three pairs of lateral eyes. Sternum subpentagonal. M e s o s o m a: tergites with moderately marked granulations, similar to the carapace. Median carina moderately to weakly marked on all tergites. Tergite VII pentacarinata. Venter: genital operculum divided longitudinally, each plate more or less suboval in shape. Pectines: pectinal tooth count 17-17 in male holotype; basal middle lamellae of pectines not dilated; fulcra absent. Sternites smooth; only VII with some vestigial granulations; spiracles weakly elongate, almost semi-oval; setation weak; sternite VII with four weakly marked carinae. M e t a s o m a l segments I and II with 10 carinae, moderately crenulate; segments III and IV with 8 carinae, moderately crenulate; segment V with 5 carinae; intercarinal spaces weakly granular to smooth. Telson moderately elongate and almost smooth; aculeus short and weakly curved; subaculear tooth moderately marked and spinoid. C h e l i c e r a l dentition characteristic of family Buthidae (Vachon 1963); fixed finger with two strong basal teeth; movable finger with two weak basal teeth, almost fused; ventral surface of both finger and manus with long, dense setae. P e d i p a l p s: femur pentacarinata; patella and chela with weak to vestigial carinae; internal face of patella with 3-4 spinoid granules; all faces weakly granular, almost smooth. Fixed and movable fingers with 6, almost linear, rows of granules; two small external and one internal accessory granule present at base of each row; three granules at extremity of the fingers. Trichobothriotaxy; orthobothriotaxy *A-β-beta* (Vachon 1974, 1975); trichobothria *db* and *est* of fixed finger situated at same level. L e g s: Tarsus with very numerous, fine, ventral median setae. Tibial spurs moderately developed on legs III and IV.

REMARKS: The new species shows affinities with *Ananteris mariaterezae* Lourenço, 1982 and *Ananteris franckei*, 1982, species described from Brazil (see Lourenço 1982) as evidenced by the pigmentation pattern of the chelicerae. *Ananteris michaelae* sp. n. may be distinguished from *A. roraima* and *A. surinamensis* (species geographically distributed in Roraima and Suriname, respectively) by the following distinct morphological traits: (i) chelicerae with a distinct pattern of variegated spots, (ii) global smaller size with distinct morphometric values in relation to *A. roraima* - see Table 1, (iii) pectines with 17-17 teeth in male; female of *A. surinamensis* has 18-19, (v) anterior margin of carapace not emarginated but slightly convex. Finally, the new species is a possible endemic element of the savannah-like formations of Guyana, whereas *A. roraima* inhabits semi-wet forests in the Maracá Island in Roraima and *A. surinamensis* is an element of the wet forests of Suriname.

**Other species collected with the holotype of
A. michaelae sp. n.**

Some other scorpion species (ZMH Acc. No. A23/13) were also collected in the same region with the holotype of *Ananteris michaelae* sp. n. These are:

Rhopalurus crassicauda Caporiaco, 1947 (Buthidae): female, June 1998. Collected by local Indians: in savannah-like formation, under bark on tree.

Hadrurochactas schaumii (Karsch, 1880) (Chactidae): female, June 1998. Collected by local Indians: in more wet gallery forest, under surface litter.

Table 1. Morphometric values (in mm) of *Ananteris michaelae* sp. n. (holotype ♂), compared to *A. surinamensis* Lourenço (holotype ♀) and *A. roraima* Lourenço (holotype ♂ and paratype ♀): the most geographically related species.

	<i>A. michaelae</i> sp. n.		<i>A. surinamensis</i>		<i>A. roraima</i>	
	♂	♀	♂	♀	♂	♀
Total length*	20.8	18.8	23.4	29.8		
Carapace:						
- length	2.4	2.2	2.6	3.5		
- anterior width	1.6	1.5	1.6	2.3		
- posterior width	2.3	2.3	2.5	3.6		
Mesosoma length	4.6	5.1	5.7	7.4		
Metasomal segment I:						
- length	1.3	1.2	1.5	1.8		
- width	1.4	1.4	1.6	2.1		
Metasomal segment V:						
- length	3.5	2.9	3.9	5.1		
- width	1.1	1.2	1.3	1.8		
- depth	1.2	1.2	1.3	1.6		
Telson						
- length	3.2	2.6	3.2	4.2		
- width	0.8	0.7	0.8	1.0		
- depth	0.7	0.6	0.8	1.1		
Pedipalp:						
- femur length	2.2	2.0	2.3	2.9		
- femur width	0.6	0.6	0.7	0.9		
- patella length	2.5	2.5	2.8	3.6		
- patella width	0.8	0.8	0.9	1.2		
- chela length	3.5	3.2	3.5	4.7		
- chela width	0.5	0.5	0.7	0.9		
- chela depth	0.4	0.4	0.6	0.9		
Movable finger:						
- length	2.5	2.4	2.6	3.5		

(* including telson)

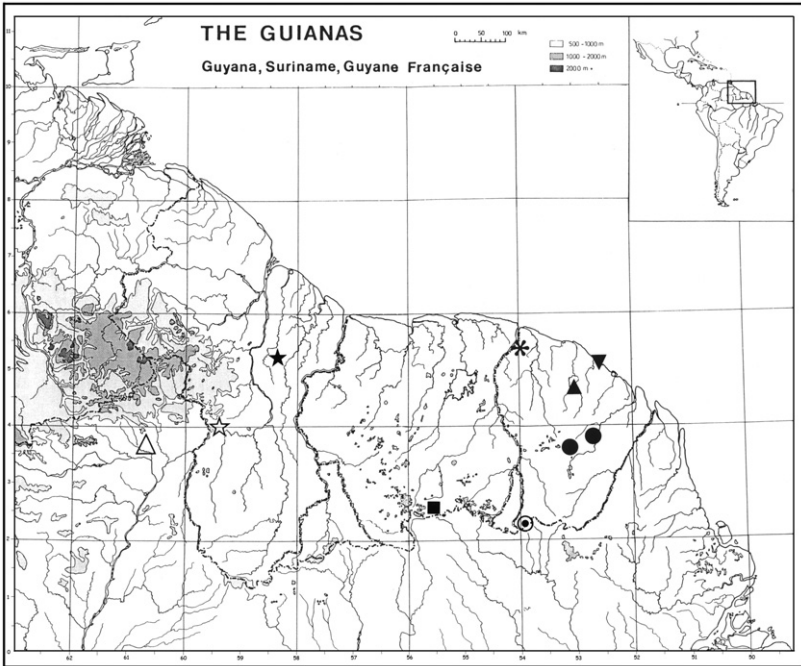


Fig. 12. The Guayana region with records of *Ananteris* species: *A. venezuelensis* González-Sponga (black star), *A. coineaui* Lourenço (black circle), *A. guyanensis* Lourenço & Monod (black triangle), *A. sabineae* Lourenço (open circle with black dot), *A. elizabethae* Lourenço (inverted black triangle), *A. intermedia* Lourenço (asterisk), *A. roraima* Lourenço & Duhem (open triangle), *A. surinamensis* Lourenço (black square), *A. michaelae* sp. n. (white star).

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